COMPONENTS REFURBISHMENT AND CHEMICAL ANALYSIS FACILITY, HOT SPOT 1
SWMU #041
YEAR 2 ANNUAL PERFORMANCE MONITORING REPORT
KENNEDY SPACE CENTER, FLORIDA

Prepared for:

National Aeronautics and Space Administration
Kennedy Space Center, Florida

January 2022

Revision 0

Prepared by:

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FOR
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Prepared for:
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National Aeronautics and Space Administration
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January 2022

PROFESSIONAL ENGINEER CERTIFICATION

I hereby certify that I have supervised preparation of this report, in accordance with Florida Rules and Regulations. As a registered professional engineer, as authorized by Chapters 492 or 471, Florida Statutes, I certify that I am a qualified groundwater professional, with knowledge and experience in groundwater contamination assessment and cleanup. To the best of my knowledge, the information summarized in this Year 2 Performance Monitoring Report, Revision 0, are true, accurate, complete and in accordance with applicable State Rules and Regulations including Chapter 62-780, Florida Administrative Code (F.A.C.) and other rules of the Florida Department of Environmental Protection according to Rule 62-780.400(1), F.A.C.

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ABBREVIATIONS AND ACRONYMS

ADP	advance data package
AQTESOLV	2-dimensional aquifer test analysis software by Hydrosolve, Inc.
AS	air sparging
BART	Biological Activity Reaction Test
bls	below land surface
cell/mL	cell per milliliter
COC	contaminant of concern
CRCA	Components Refurbishment and Chemical Analysis
CVOC	chlorinated volatile organic compound
DFP	2H,3H-decafluoropentane
Dhc	*Dehalococcoides*
DPT	direct push technology
ENCO	Environmental Conservation Laboratories, Inc.
EPA	United States Environmental Protection Agency
EQ Tank	Equalization Tank
EW	extraction well
FDEP	Florida Department of Environmental Protection
ft/ft	feet per foot
GCTL	Groundwater Cleanup Target Level
gpm	gallon per minute
HCP	high concentration plume
HCS	hydraulic containment system
HDPE	high-density polyethylene
HMI	human machine interface
hp	horsepower
HPT	hydraulic profiling tool
HS	Hot Spot
HS1	Hot Spot 1

ABBREVIATIONS AND ACRONYMS (CONTINUED)

I	Between the laboratory method detection limit and the practical quantitative limit
IDIQ	Indefinite Delivery Indefinite Quantity
IDW	investigation derived waste
IM	Interim Measure
IMWP	Interim Measure Work Plan
ISCO	in-situ chemical oxidation
IW	injection well
IWP	Implementation Work Plan
KSC	Kennedy Space Center
KSCRT	KSC Remediation Team
LCP	low concentration plume
MDL	method detection limit
MEE	methane, ethane, and ethene
mg/L	milligram per liter
MNA	monitored natural attenuation
MODFLOW	USGS Modular Three-Dimensional Finite-Difference Flow Model
msl	mean sea level
mV	millivolt
NADC	National Attenuation Default Concentration
NASA	National Aeronautics and Space Administration
NTU	Nephelometric Turbidity Unit
O&M	operations and maintenance
OM&M	operations, maintenance, and monitoring
ORP	oxidation-reduction potential
OSHA	Occupational Safety and Health Administration
PCE	tetrachloroethene
PEL	Permissible Exposure Limit
PFAS	per- and poly-fluoroalkyl substances

ABBREVIATIONS AND ACRONYMS (CONTINUED)

PLC	programmable logic
PMR	Performance Monitoring Report
PQL	practical quantitation limit
RAE	Remedial Alternatives Evaluation
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
SA	SWMU Assessment
SVE	soil vapor extraction
SWMU	Solid Waste Management Unit
tDCE	trans-1,2-dichloroethene
TOC	total organic carbon
µg/L	microgram per liter
µS/cm	microSiemens per centimeter
USGS	United States Geological Survey
V	volt
VC	vinyl chloride
VISL	Vapor Intrusion Screening Level
VMP	vapor monitoring pin

EXECUTIVE SUMMARY

This Year 2 Annual Performance Monitoring Report (PMR) presents the operations, maintenance, and monitoring activities for the Hydraulic Containment System (HCS) interim measure (IM) at the Components Refurbishment and Chemical Analysis (CRCA) Facility located at John F. Kennedy Space Center (KSC), Florida. The primary objective of the HCS is to attain hydraulic control of the dissolved-phase chlorinated volatile organic compound (CVOC) plume, with the secondary objective to reduce concentrations of CVOCs in Hot Spot 1 and the high-concentration plume in support of the transition to monitored natural attenuation (MNA). CRCA has been designated Solid Waste Management Unit 041 under the KSC Resource Conservation and Recovery Act Corrective Action Program.

The timeframe for activities documented in this PMR extends from June 2019 through August 2021, with an emphasis on Year 2 HCS system performance and operations. Baseline sampling activities were completed in June 2019, and full-scale startup of the HCS IM was completed in July-August 2019. The operational run time of the HCS from September 2020 to August 2021 (Year 2) was approximately 92%, with operation, maintenance, and monitoring activities accounting for the majority of shutdown days. This percentage is higher than that of the Year 1 runtime of 85%. To help reduce downtime, an anti-scaling amendment, Redux 390, has continued to be used to reduce scaling and has helped maintain system design parameters. Over eight million gallons of groundwater were treated during Year 2 of HCS operations, and concentrations of the site's contaminants of concern (trans-1,2-dichloroethene and vinyl chloride) have been reduced by over 93%.

This PMR describes the activities that were performed during Year 2 to operate and monitor the HCS IM, which includes three extraction wells, seven injection wells, and conveyance piping to a modular structure containing the control panel and an air stripper. Influent and effluent sampling results from the air stripper show that the system is operating as designed and is reducing all contaminants to below detection limits. In addition to HCS operation, this PMR also discusses the results of performance monitoring that has been implemented to assess the progress of the HCS IM through scheduled groundwater (quarterly and semi-annual) and sub-slab soil gas (quarterly) sampling and analysis. Ambient air in the vicinity of the modular structure is also

sampled quarterly during routine operation and maintenance activities to ensure safe breathing zone air quality for on-site personnel. All sub-slab soil gas and ambient air sampling conducted during the Year 2 operational period show results below applicable regulatory air screening limits.

The extensive data collected at CRCA was applied to construct and calibrate a three-dimensional groundwater computer model for the simulation of site subsurface conditions and the prediction of groundwater remediation progress under pumping and non-pumping conditions. After one year of HCS operation, the model predicted that transition to MNA may be possible in 4 to 5 years with continuous HCS operation. After two years of continuous HCS operation, the updated plume information was input into the calibrated model and run under pumping and non-pumping conditions. These results are in concurrence with Year 1's simulation and suggest a more accelerated transition to MNA after 2 to 3 years of continuous HCS operation.

SECTION I
INTRODUCTION

This Performance Monitoring Report (PMR) presents the Year 2 operations, maintenance, and monitoring (OM&M) activities for the hydraulic containment system (HCS) Interim Measures (IM) at the Components Refurbishment and Chemical Analysis (CRCA) Facility located at John F. Kennedy Space Center (KSC), Florida (see Figure 1-1). The CRCA facility has been designated Solid Waste Management Unit (SWMU) 041 under KSC's Resource Conservation and Recovery Act (RCRA) Corrective Action Program. This PMR was prepared by Tetra Tech, Inc. for the National Aeronautics and Space Administration (NASA) under Indefinite Delivery Indefinite Quantity (IDIQ) Contract 80KSC019D0011-80KSC019F0066.

The Year 2 operational timeframe for HCS IM activities documented in this PMR extends from September 2020 through August 2021. The following activities were completed during the Year 2 operational timeframe:

- Full-scale operation and maintenance of the HCS IM from September 2020 to August 2021;
- Quarterly and semi-annual performance monitoring (October 2020, January 2021, April 2021, and July 2021);
- Sub-slab soil gas sampling and ambient air sampling (conducted quarterly); and
- Update of the site's groundwater model with Year 2 performance monitoring data (Appendix A).

Site events leading to this Year 2 PMR include the HCS IM which was implemented in 2018 and 2019. In 2019 the CRCA Implementation Work Plan (IWP) for the CRCA Hot Spot (HS) 1 (HS1) (NASA, 2019b) was prepared based on the IM Work Plan (IMWP) (NASA, 2018c) presented to the KSC Remediation Team (KSCRT) in June 2018. Consensus was reached on the HS1 IMWP during the June 2018 KSCRT meeting (Meeting Minute 1806-M02, Decision 1806-D02). The IWP outlined the design and implementation of a HCS to: 1) attain hydraulic control

of dissolved-phase chlorinated volatile organic compounds (CVOCs); 2) reduce concentrations of trans-1,2-dichloroethene (tDCE) detected at concentrations greater than the Florida Groundwater Cleanup Target Level (GCTL); and 3) reduce vinyl chloride (VC) detected at concentrations greater than the Florida Department of Environmental Protection (FDEP) Natural Attenuation Default Concentration (NADC). The goal of the HCS IM is to support the transition from active remediation to monitored natural attenuation (MNA) (Meeting Minute 1806-M01, Decision 1806-D01).

Construction of the HCS was completed in 2019 and documented in an IM Implementation Report (NASA, 2019c). Once HCS installation was complete and start-up initiated, operation and maintenance (O&M) activities were implemented. The initial year of O&M activities (August 2019 through August 2020) are outlined in the Year 1 PMR (NASA, 2021a), including the recording of monthly extraction well (EW) and injection well (IW) flow rates, system pressure readings, runtime readings, and the repair/maintenance of the HCS components (as needed).

Following the collection of baseline groundwater monitoring and synoptic water level data, Year 1 performance monitoring was implemented, including sampling of groundwater, sub-slab soil gas, and ambient air to monitor site conditions and HCS progress. Consensus was reached during the October 2020 KSCRT meeting to remove eight monitoring wells (MW0003 and MW0020 through MW0026) from the performance sampling program, change two wells from semi-annually to quarterly sampling (MW0027 and MW0029), and transition one well (MW0028) to semi-annual sampling. In addition, sulfate, sulfide, nitrate, nitrite, carbon dioxide, iron, dissolved iron, and RCRA metals analyses were discontinued from the groundwater sampling events (Meeting Minute 2010-M02, Decisions 2010-D02 through D04). These modifications were incorporated into the performance monitoring of Year 2 HCS operation, as documented in this report.

1.1 SITE LOCATION

The CRCA facility is located east of Contractors Road, approximately 1,500 feet south of the intersection of Contractors Road and Saturn Causeway, in Section 18, Township 22 South, and

Range 37 East at KSC, Florida (Figure 1-1). The Vehicle Assembly Building is approximately 0.75 miles north of CRCA and the Shuttle Landing Facility is about 2.3 miles to the northwest. Launch Complex 39 is situated approximately 3.5 miles northeast of CRCA, while the KSC Industrial Area is approximately 3.5 miles to the south. KSC is located on Merritt Island, part of a barrier island complex bordered to the east by the Banana River and to the west by the Indian River. Cape Canaveral Space Force Station comprises the eastern boundary of this barrier island complex known collectively as the Indian River Lagoon; a brackish estuarine environment connected to the Atlantic Ocean by natural tributaries and dredged navigational waterways.

1.2 SITE DESCRIPTION AND LAYOUT

The CRCA buildings and structures were constructed in 1998 in support of the NASA space program. The property is an approximately three-acre rectangular parcel, primarily paved, and houses numerous support structures and buildings. Operations performed at CRCA include the cleaning and refurbishment of mechanical and operation parts in the main building (Building K6-1696), the storage of hydrogen gas cylinders (Building K6-1697A), decontamination of parts contaminated with fuel or oxidizers (Building K6-1747), solvent reclamation (Building K6-1696B), a satellite accumulation area for hazardous waste (Building K6-1748A), and storage of miscellaneous goods, pallets, and spent chemical totes (Building K6-1748D). The solvent used for cleaning at CRCA is Vertrel™ MCA, a mixture of tDCE and 2H,3H-decafluoropentane (DFP), and is stored in Building K6-1696A. Figure 1-2 presents the CRCA site layout.

Detailed descriptions of the site background, area setting, site history, RCRA Facility Investigation (RFI) findings, and other pre-IM data are presented in the March 2015 CRCA RFI Progress Report (NASA, 2015) and the November 2018 CRCA RFI Progress Report Revision 1 (NASA, 2018d). The November 2018 Progress Report also includes site information dating from the initial SWMU Assessment (SA) in October 2004.

To further describe site conditions, the following sections present a general description of the soil stratigraphy, surface water features, and groundwater flow at CRCA.

1.2.1 Soil Stratigraphy. Soil boring data collected during subsurface investigations from June 2006 to March 2019 at 21 locations, to a maximum depth of 80 feet below land surface (bls),

were studied to classify the varying stratigraphic layers found beneath the study area. This information was used to differentiate and collate soil layers for a better understanding of site stratigraphy and hydrogeologic trends at CRCA.

At CRCA, clayey and silty sands were encountered near the surface in the vicinity of the main building (Building K6-1696) to a depth of approximately five feet bls. Below this depth, the site stratigraphy consists of fine to very fine sand with trace of silt grading into medium to very fine sand and the introduction of shell fragments at about 10 feet bls. Fine to very fine sand with varying amounts of shell fragments and silt are found to about 25 feet bls. Shell fragments exist in greater abundance to about 60 feet bls, interspersed with layers predominated by fine to very fine and coarse to very fine sands. Generally, the occurrence of shell fragments increases to the west of the study area. The soils become more clayey at approximately 60 feet bls, where fine to very fine sand with trace to some shell, clay and trace to little shell were found. A homogeneous clay with trace to some silt, very fine sand, and shell was consistently encountered from approximately 70 to 80 feet bls, the vertical extent of soil borings conducted at CRCA. A more detailed discussion and graphical illustration of the site stratigraphy is presented in the CRCA Year 2 Groundwater Flow and Solute Transport Model Construction and Calibration Report (groundwater modeling report) in Appendix A.

1.2.2 Surface Water Features. The CRCA study area is a relatively flat (less than 10 feet of total relief) predominantly paved area with a relatively shallow water table. Surface elevations decrease to the west of the CRCA facility toward a densely wooded area. Drainage swales are located on both the eastern and western sides of Contractors Road, west of CRCA. There are no surface water bodies on or immediately adjacent to CRCA. The swales and wooded area west of Contractors Road periodically have ephemeral standing water during the wet season.

The Turning Basin, which connects to the Banana River and ultimately Port Canaveral by an approximately 300-foot wide dredged canal system, is located approximately 0.75 miles to the northeast of CRCA. This roughly circular water body, constructed to transport large space-related parts such as rocket boosters, is south of a meandering water body which runs roughly east-west and is situated approximately 1.0-mile northwest of the study area. Regionally, the

Indian River is located approximately four miles west of CRCA and the Banana River is approximately five miles to the east. Refer to Figure 1-3 for an aerial map showing surface water features in the vicinity of the study area.

1.2.3 Groundwater Flow. Since start-up of the HCS, fluctuations in the water table at CRCA range from about 0.5 feet to 3.5 feet above mean sea level (msl). The hydraulic gradient generally slopes to the west at shallow, intermediate, and deep intervals within the surficial aquifer, typically mimicking site topography. Fluctuations in flow direction are primarily observed in the vicinity of the main building at shallow depths, becoming more radial as extraction well pumping continues. General flow remains to the west, likely discharging to surface water features such as drainage ditches, wetlands, and ultimately the Indian River. A more detailed discussion of the potentiometric surface at shallow, intermediate, and deep intervals within the surficial aquifer at CRCA prior to and during HCS operation is presented in Section V of this report.

1.3 CONTAMINANTS OF CONCERN

Historically, the contaminants of concern (COCs) in the groundwater at CRCA were identified as tDCE, cis-1,2-dichloroethene (cDCE), and VC. At the time of the HCS implementation in May 2019, VC and tDCE were observed with the highest concentrations in groundwater. cDCE has not been observed above the Florida GCTL since 2014. VC was observed with concentrations exceeding the 100 micrograms per liter (µg/L) FDEP NADC, and tDCE was observed with concentrations exceeding the 100 µg/L Florida GCTL. These CVOCs were detected in the groundwater in the vicinity of the CRCA Solvent Reclamation Area. The study area is defined based on contaminant concentrations and presented in the March 2018 Site Characterization advance data package (ADP) (NASA, 2018a):

- HS1 – defined as the area where CVOC concentrations exceed 10 times FDEP NADC;
- High Concentration Plume (HCP) – defined by CVOC concentrations exceeding the FDEP NADC; and

- Low Concentration Plume (LCP) – defined by CVOC concentrations exceeding the Florida GCTL.

HS1 is defined in the March 2018 Site Characterization ADP as a 0.8-acre area with a maximum contaminant depth of 57 feet bls. The HCP is described as an area encompassing 2.07-acres, with a maximum depth of 57 feet bls, and the LCP is defined as a 6.54-acre area, with a maximum depth of 62 feet bls. The vertical extent of HS1, HCP, and LCP are marked by the clayey layer found consistently across the site at these depths. The majority of the contaminant mass resides within the fine sand to shelly zone, 40 to 52 feet bls. Extraction well screen interval placement was selected to target the majority of the groundwater contaminant mass. Deeper samples were not pursued to avoid creating a preferential pathway for further vertical migration. The footprints of the CRCA HS1, HCP, and LCP as identified in the 2018 site characterization are presented on Figure 1-4.

1.4 REMEDIAL APPROACH

This hydraulic containment IM consists of extracting groundwater through deep zone EWs (screened from 43 to 63 feet bls), treating recovered groundwater via an air stripper, and discharging groundwater upgradient of the HCP via deep zone IWs (screened from 41 to 61 feet bls). Figure 1-4 presents the layout of the resulting HCS installation with an overlay of the groundwater plume, as identified in the 2018 Site Characterization ADP (NASA, 2018a). The HCS was primarily implemented to mitigate the migration of groundwater CVOCs by positioning EWs downgradient of HS1 and the HCP. Extracted groundwater is then treated through a treatment system consisting primarily of an air stripper that aerates the groundwater, volatilizing the CVOCs, and as a secondary benefit, promote aerobic degradation of the HS and HCP via recirculation of the aerobic water. The treated groundwater is injected upgradient and side-gradient of the HS and HCP via a network of deep zone IWs.

The treatment timeframe to reduce VC to concentrations appropriate for transition MNA was initially estimated to be 35 years based on preliminary pumping calculations, as stated in the April 2019 CRCA HS1 IWP (NASA, 2019b). However, aquifer testing, lithologic and geochemical data collection within the target treatment zone, and the Year 1 performance

evaluations of the HCS were used to re-evaluate treatment of the HS and HCP. These data were processed and analyzed via 3-dimensional groundwater modeling, predicting a transition to MNA after 12 years. This treatment timeframe was re-visited following Year 2 of HCS operation and presented in the groundwater modeling section of this report (Section V and Appendix A).

To determine whether DFP needed to be addressed by active remediation, in August 2018 groundwater samples were collected from eight monitoring wells and analyzed for DFP and other VOCs. The monitoring wells sampled were selected by targeting different lithologic layers and depths relative to the existing groundwater plume and proximity to different operational rooms within and adjacent to Building K6-1696. The maximum groundwater DFP concentration was 23.2 µg/L, below the GCTL of 1,800 µg/L derived by the University of Florida on behalf of FDEP. In February 2019, vapor samples were collected from four sub-slab locations and analyzed for DFP and other VOCs. DFP was detected in two samples in concentrations below the calculated commercial vapor intrusion screen level (VISL). Based on these findings, DFP was not carried forward as a standard analyte for the IM project.

1.5 SITE CHARACTERIZATION AND REMEDIAL ACTIVITIES

This section summarizes previous investigations and remedial activities conducted at CRCA leading up to current COC identification (tDCE and VC), remedial approach discussions, HCS design, and system OM&M. KSCRT meeting highlights are presented to chronicle the progression of site characterization and remedial activities. The complete KSCRT Meeting Minutes Summary Reports are presented in Appendix B. A detailed report of the remedial activities at CRCA is provided in the RFI Progress Report (NASA, 2018d).

1.5.1 HS1 Site Characterization ADP. The Site Characterization ADP for CRCA HS1 was presented at the March 2018 KSCRT Meeting. This ADP summarized field investigations that began with the initial SA in June 2004 and discussed the results of HS, HCP, and LCP delineation via direct push technology (DPT) data collected from September 2016 through February 2018. Based on these data, the HS was defined as the area of the groundwater plume with COC concentrations greater than 10 times FDEP NADCs. The HCP and LCP were also characterized, which are defined as areas of groundwater with concentrations of COCs greater

than FDEP NADCs and Florida GCTLs, respectively. Groundwater samples and lithologic cores collected and analyzed during the DPT studies, along with monitoring well sampling results, were presented as part of the Site Characterization. A total of 512 DPT groundwater samples and eight monitoring well samples were collected between September 2016 and February 2018. Team consensus was reached for the delineation of CRCA HS1 and the HCP and LCP (Meeting Minute 1803-M05, Decision 1803-D23).

The Site Characterization for CRCA HS1 also proposed the screening of technologies for the HS and HCP. Team consensus was reached for the following technologies to be evaluated in the Remedial Action Evaluation (RAE) (Meeting Minutes 1803-M05, Decision 1803-D24):

- Air sparging (AS) curtain for the HCP, including soil vapor extraction (SVE) to mitigate potential vapor issues, and in-situ chemical oxidation (ISCO) for the HS;
- AS for the HCP, including SVE to mitigate potential vapor issues, and biostimulation for the HS;
- Hydraulic control for the HCP, including air stripping, and ISCO for the HS; and
- Hydraulic control for the HCP, including air stripping, and biostimulation for the HS.

1.5.2 HS1 Remedial Alternatives Evaluation ADP. The CRCA HS1 RAE was presented at the May 2018 KSCRT Meeting. The medium of concern, COCs, and cleanup criteria were included in the RAE. The IM objectives identified in the RAE included reducing concentrations within the HS and HCP via an IM to support transition to MNA, mitigating plume migration, and minimizing risk to workers in Building K6-1696 by preventing vapor intrusion. Team consensus was reached to proceed to an IMWP for HS1 and to implement hydraulic containment. Consensus included the need for additional data collection via aquifer tests, total organic carbon (TOC) analysis, and further lithologic characterization in the target treatment zone (Meeting Minute 1805-M08, Decision 1805-D22). The additional data collected was to be used to evaluate the potential application of additional amendments to enhance treatment of the HS.

1.5.3 HS1 IMWP. The CRCA HS1 IMWP was presented at the June 2018 KSCRT Meeting, providing details of the proposed hydraulic containment IM. An overview of the design of the HCS and supporting construction details and calculations were included in the IMWP. Additionally, the IM objective was modified from the RAE to the following:

- Primary IM objective: obtain hydraulic control of the dissolved phase CVOC plume;
- Secondary objective: reduce concentrations of CVOCs in HS1 and the HCP via an IM to support transition to MNA; and
- Deferred: the portion of the objective involving the need to minimize risk to workers in Building K6-1696 by preventing vapor intrusion and will be evaluated based on the results of Air Sampling Plan results (addressed in Section II of this PMR).

Team consensus was reached for the design of the HCS (Meeting Minute 1806-M02, Decision 1806-D02). An IMWP, including supplemental information, was approved by FDEP on October 30, 2018.

1.5.4 HS1 IWP. The CRCA HS1 IWP for air sampling activities was presented at the April 2019 KSCRT Meeting. This meeting presented information summarizing the Phase I (January 2018) and Phase II (August 2018) air monitoring events. Based on the Phase II sub-slab soil gas sampling results, it was determined that ambient air sampling was not necessary as the CVOC groundwater plume beneath Building K6-1696 is not presenting a vapor intrusion risk to the workers present. This meeting discussed that the IWP for the HCS IM was in development, including a provision to include the sub-slab sampling at VMP01 through VMP04 as part of the quarterly monitoring plan. Team consensus was reached that the air monitoring evaluation was complete and further ambient air samples within Building K6-1696 were not needed at that time (Meeting Minute 1804-M16, Decision 1806-D40). It was agreed that an Air Monitoring Report should be sent to the FDEP documenting the Phase I and Phase II results and that the quarterly soil gas sampling should be part of the performance monitoring program.

1.5.5 HS1 IM. The CRCA HS1 IM was presented at the June 2019 KSCRT Meeting. This meeting discussed IM field activities including the installation of 12 monitoring wells (MW0021

to MW0032), installation of three EWs (EW0001 to EW0003), seven IWs (IW0001 to IW0007), and associated infrastructure including treatment system, hydraulic profile tooling (HPT) data collection, slug testing, a step pump test at EW0002, constant rate tests, and IW testing. Based on injection test results, anticipated capacities for IW0001, IW0002, and IW0007 were discussed. The HCS was deemed complete and system commissioning, startup, and baseline sampling were proposed (Meeting Minute 1906-M09).

1.5.6 HS1 PMR Mid-Year Update ADP. The HS1 PMR Mid-Year Update was presented at the June 2020 KSCRT Meeting. The groundwater IM, HCS startup and O&M for the treatment of CVOCs were summarized at this meeting. This meeting documented the initial startup activities of July 22 to 26, 2019 including an overview of the HCS testing, IW flow rates, and HCS maintenance. Troubleshooting activities involving scaling issues with the system effluent bag filters, and anti-scaling measures including biological activity reaction test (BART) and Redux 390 injection pilot tests were presented. Since tDCE was not detected in concentrations above its GCTL from June 2019 to April 2020, VC continues as the targeted analyte for groundwater plume remediation. The groundwater, soil-gas, and ambient air baseline sampling results were presented and discussed. KSCRT agreed that the path forward for the HCS was continued operation and evaluation to maintain hydraulic control of the groundwater plume and further reduce VC concentrations; continue the quarterly sampling of four monitoring wells and the semi-annual sampling of 16 monitoring wells; and the preparation and submittal of the groundwater model in conjunction with the Year 1 PMR (Meeting Minute 2006-M02).

1.5.7 HS1 Annual PMR ADP. The Annual PMR was presented at the October 2020 KSCRT Meeting. The purpose of this briefing was to present the progress of the HCS system after one year of operation. The following topics were discussed: baseline sampling results; one year of performance monitoring results; an overview of HCS O&M; HCS performance milestones; and the groundwater model. During this meeting, the path forward for performance monitoring was discussed, with monitoring well sampling locations and sampling frequency adjusted accordingly (Meeting Minute 2010-M02, Decisions 2010-D02 to D04). The contents of this ADP are included in the Year 1 PMR.

1.5.8 HS1 Year 2 Annual PMR ADP. The Year 2 Annual PMR was presented at the November 2021 KSCRT Meeting. The purpose of this meeting was to present the progress of the HCS system after two years of operation. The following topics were discussed: one year of performance monitoring results; an overview of HCS O&M; HCS performance milestones; and the results of the groundwater model after two years of HCS operation. During this meeting, the path forward for performance monitoring was discussed, with monitoring well sampling locations and sampling frequency modified in anticipation of Year 3 HCS operation.

1.6 INTERIM MEASURES OBJECTIVE

The primary IM objective for CRCA HS1 is to obtain and maintain hydraulic control of the dissolved-phase CVOC plume. The secondary objective is to reduce concentrations of CVOCs in HS1 and the HCP (defined as VC greater than 100 µg/L) to support transition to MNA. The objectives were developed to provide a flexible treatment train approach where certain metrics such as remedial performance, plume dynamics, and natural attenuation characteristics can be evaluated to determine whether the remediation objectives have been met and ultimately reach an endpoint to the IM. Based on the treatment performance of the HS1 IM, HCS operations may be modified, as appropriate, to achieve IM objectives.

1.7 REPORT ORGANIZATION

The remainder of the PMR is organized as follows:

Section II: Process Description – presents a general summary of the components of the treatment train of the HCS.

Section III: System Operation, Maintenance, and Monitoring – details the O&M plan, which was implemented for system operation, discusses maintenance activities conducted, and evaluates the overall HCS performance.

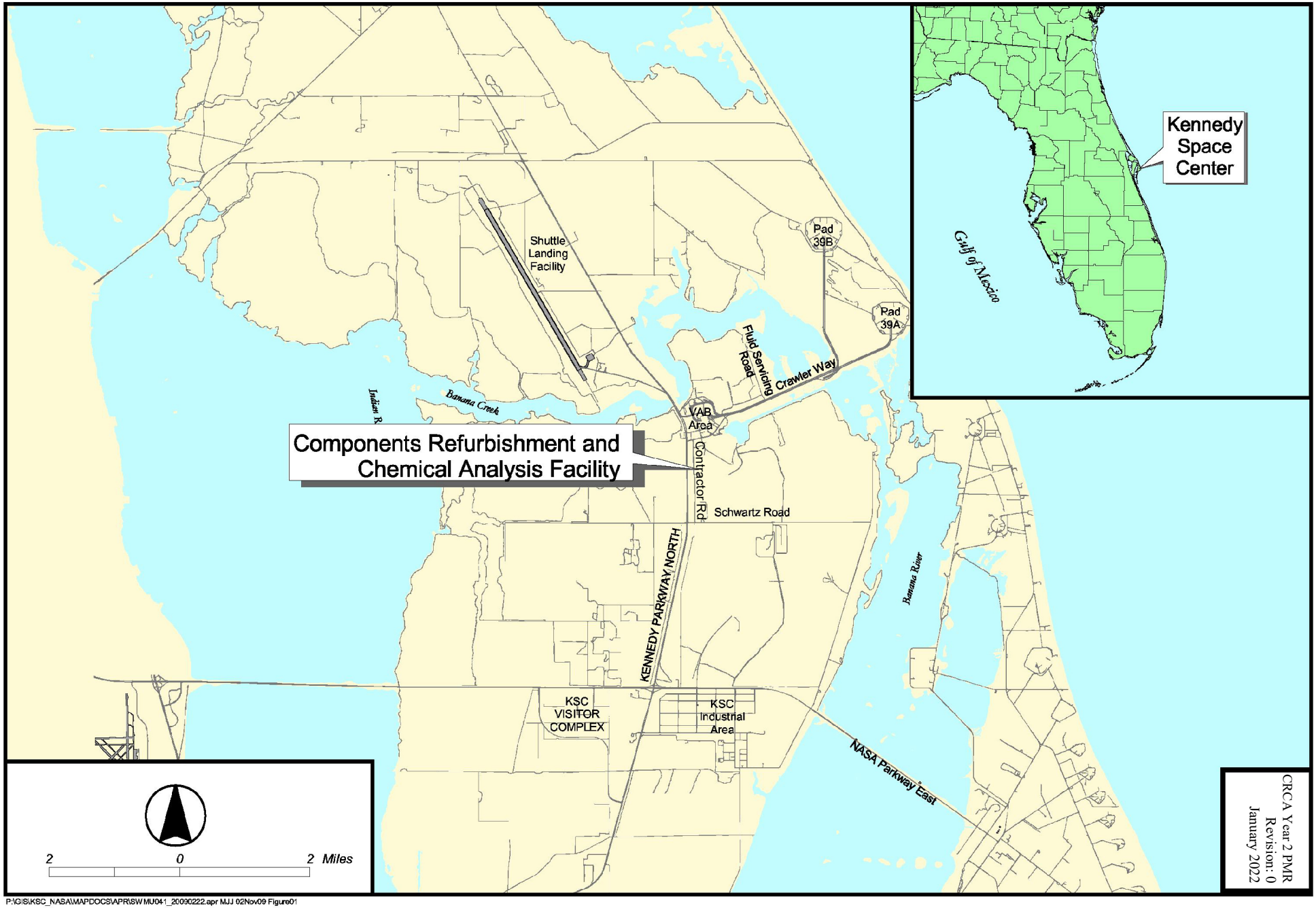
Section IV: Performance Monitoring Results and Discussion – presents the strategy for and summarizes the results of the groundwater sampling, groundwater level surveys, field measurements, sub-slab vapor monitoring analysis and air monitoring

Section V: Groundwater Model – provides a summary of the Groundwater Flow and Solute Transport Model Construction and Calibration Report.

Section VI: Conclusions and Recommendations – summarizes the findings of this PMR and discusses further options based on this information.

Section VII: References – provides a list of references cited in this report.

FIGURE 1-1 LOCATION OF KENNEDY SPACE CENTER AND CRCA
SWMU 41, KENNEDY SPACE CENTER, FLORIDA



P:\GIS\KSC_NASA\MAPDOCS\APR\SWMU041_20090222.apr MJJ 02Nov09 Figure01

FIGURE 1-2 CRCA SITE LAYOUT MAP

SWMU 041, KENNEDY SPACE CENTER, FLORIDA

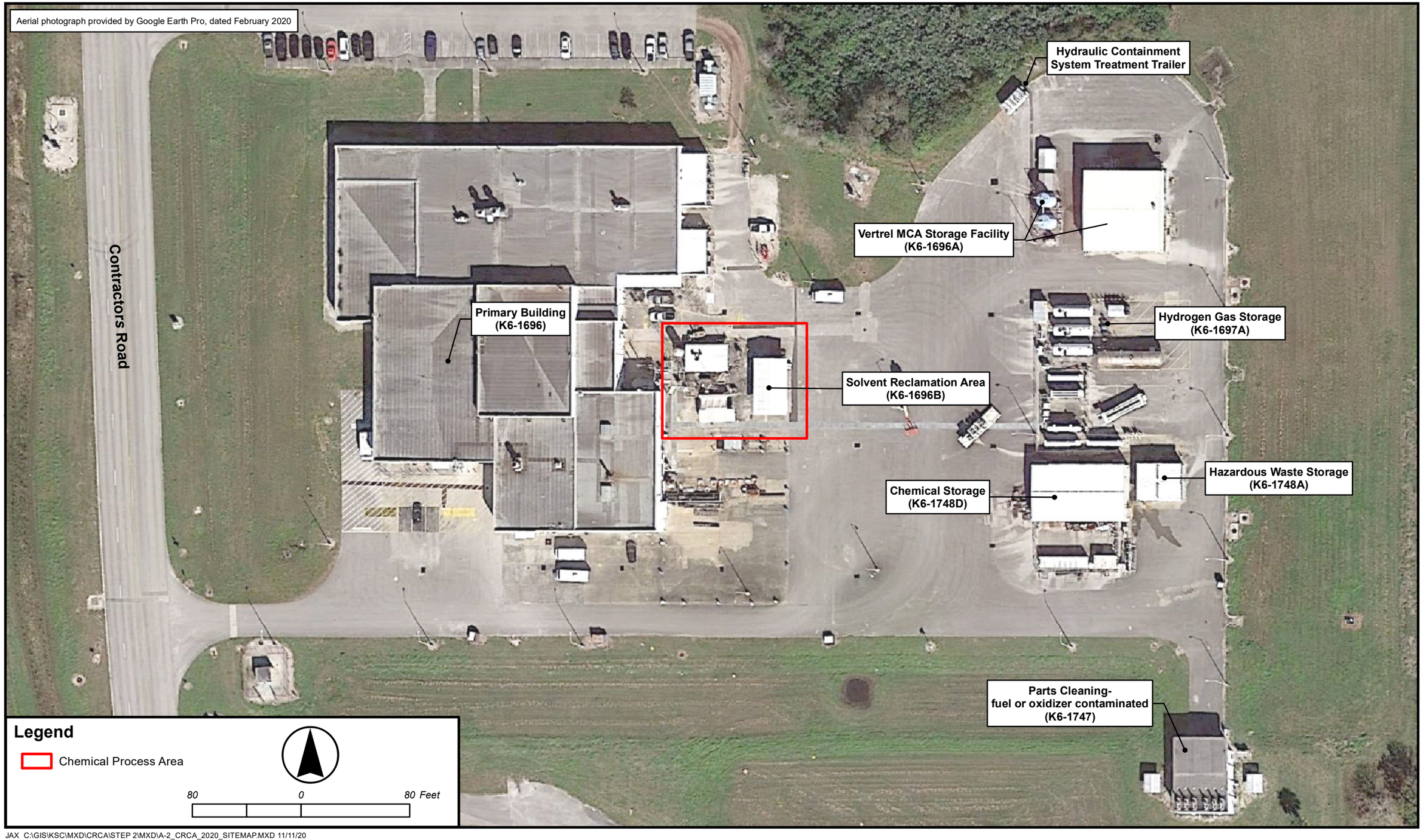


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FIGURE 1-3 CRCA REGIONAL MAP

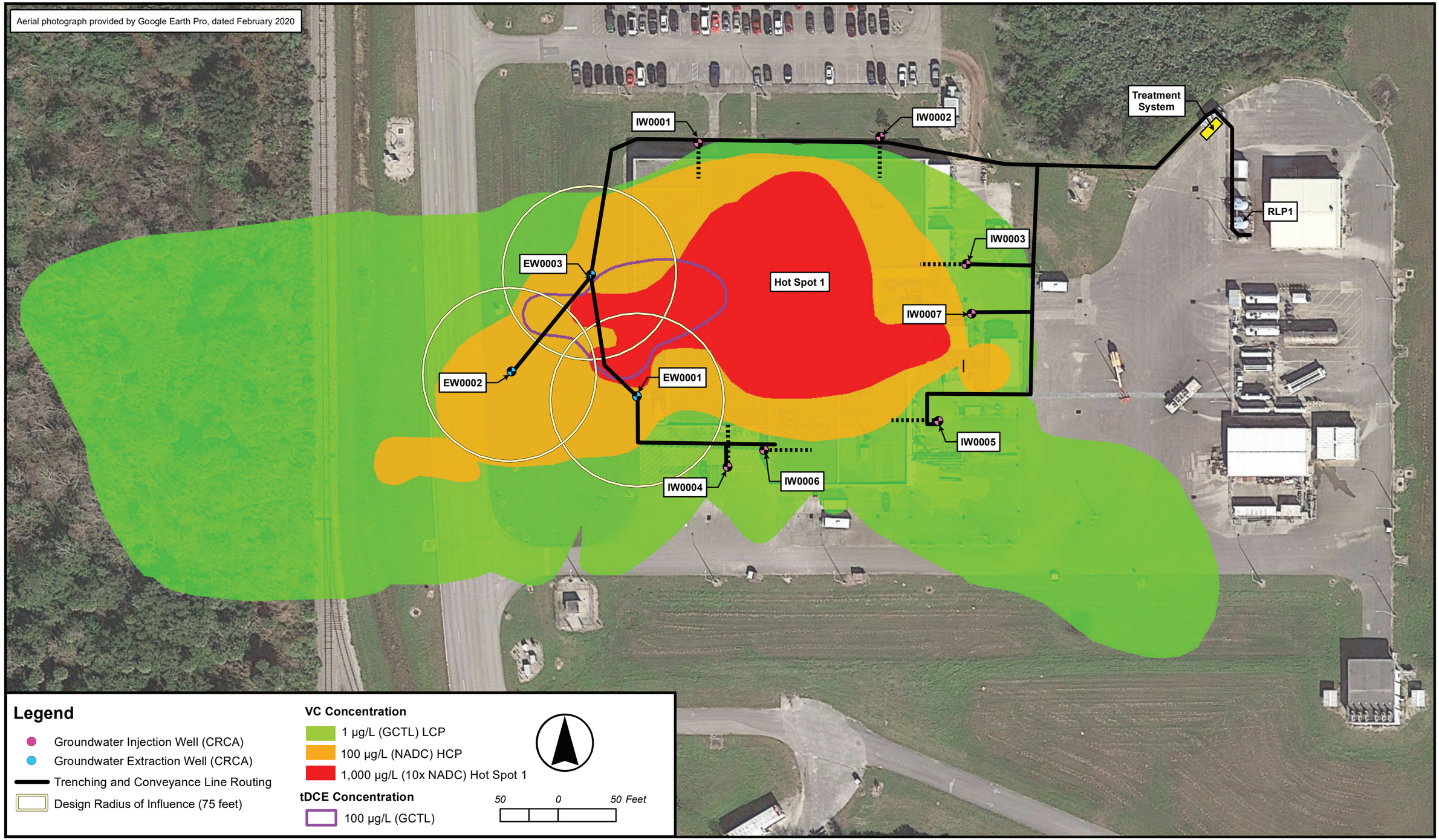
SWMU 041, KENNEDY SPACE CENTER, FLORIDA

CRCA Year 2 PMR
Revision: 0
January 2022

JAX C:\GIS\KSC\MXD\CRCA\STEP 2\MXD\1-3_CRCA_SITEREGIONAL.MXD 01/07/21

FIGURE 1-4 CRCA 2018 HOT SPOT 1 GROUNDWATER PLUME AND HCS LAYOUT

SWMU 041, KENNEDY SPACE CENTER, FLORIDA



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SECTION II
PROCESS DESCRIPTION

The HCS was installed during a series of events between November 2018 and May 2019 in accordance with the October 2018 HS1 IMWP and the April 2019 HS1 IWP. As part of the HCS, three EWs, seven IWs, a network of conveyance piping, and a treatment trailer were installed at CRCA. Additionally, 12 monitoring wells were installed as part of this implementation and were sampled at quarterly or semi-annual frequency (described in Sections IV and V) to monitor the performance of the HCS system. HCS installation activities were documented in the IM Implementation Report (NASA, 2019c).

Three EWs (EW0001, EW0002, EW0003) were installed to depths of 63-feet bls in strategic locations downgradient from HS1 with overlapping radii of influence (see Figure 1-4). Groundwater is extracted from the three-deep zone EWs using dedicated 230-volt (V), two-horsepower (hp), single-phase, electric Grundfos 10E5 submersible pumps with a pump range of zero to 15 gallons per minute (gpm). EWs draw contaminated water with a design flow rate of 7.0 gpm. Extracted water is conveyed through dedicated one-inch high-density polyethylene (HDPE) piping installed approximately 24-inches bls. Flow rates of extracted fluids from individual extraction wells are individually totalized. Two 25-micron bag filters, plumbed in parallel arrangement, remove sediment from the water prior to entry into a 500-gallon polyurethane equalization tank (EQ tank). A three-hp 460-V pump transfers groundwater from the equalization tank into a QED E-Z Tray Model 4.4 SS air stripper with a three-phase, 460-V three-hp blower. The treated water from the air stripper sump is pumped by a three-hp 460-V transfer pump through two 50-micron bag filters plumbed in parallel.

Treated water is conveyed away from the HCS to dedicated one-inch HDPE piping installed approximately 24-inches bls to the IWs. Seven IWs (IW0001 through IW0007) were installed at strategic locations upgradient of HS1 to encourage contaminated water to migrate towards the extraction wells. The injection wells were designed to accept treated groundwater at a flow rate of 3.0 gpm.

SECTION III
SYSTEM OPERATION, MAINTENANCE, AND MONITORING

This section identifies the activities conducted and results obtained during full-scale Year 2 HCS OM&M activities at CRCA from September 2020 to August 2021.

3.1 SITE VISITS

From September 2020 to August 2021, system O&M was conducted at least monthly by a field technician, per the 2019 CRCA HS1 IWP (NASA, 2019b). During each O&M visit, the system was checked for abnormal conditions (noises, leaks, temperature and vibration). The HCS was inspected for leaks at each connection to the conveyance lines and in the bag filters, EQ tank and air stripper. The HCS was also checked for excessive vibration, noise or temperature at each pump, the conveyance lines, the air stripper and the bag filters. Lubrication was inspected as applicable; differential pressures and flow rates across bag filter units and process equipment were assessed; system operation data was recorded and compared to the previous month's data; and filter bags, tanks and strippers were inspected for solids build-up.

The system was shut down or partially shut down for a total of 28 days from September 1, 2020 through August 31, 2021. The shutdowns were associated with groundwater sampling events, maintenance events, and a facility power outage not associated with the HCS system. The system experienced minimal downtime due to performance monitoring sampling conducted in October 2020, January 2021, April 2021, and July 2021, as well as for maintenance. Maintenance events are summarized in Section 3.4.

3.2 REMOTE MONITORING

The system was evaluated in person via monthly site visits (Section 3.1) and remotely by reviewing telemetry daily reports. Flow rates in each EW were monitored and average flowrates ranged from 6.94 to 7.01 gpm during operation, slightly less than or generally consistent with the design criteria of 7.0 gpm per extraction well pump. Flow rates in each IW were monitored. Average flow rates ranged from 3.52 to 7.60 gpm per IW during operation, exceeding the minimum design criteria of 3.0 gpm for IW pumps as presented in the IMWP. As water is

extracted from the EWs, it accumulates in the EQ tank and then is pumped via a transfer pump through the treatment system into the IWs. The IWs have shown to be able to take on enough water to not allow the treatment system to back up. Additionally, the area around the IWs is consistently monitored for groundwater mounding to ensure that increased flowrates do not cause over-saturation.

3.3 OPERATIONAL SUMMARY

The following summarizes the O&M activities conducted for the HCS IM at CRCA during the Year 2 operating period from September 1, 2020 to August 31, 2021. Details related to commissioning, startup, and prove-out of the system are provided in the Year 1 Annual PMR (NASA, 2021a). System operational data for September 1, 2020 to August 31, 2021 are included in Table 3-1. Laboratory analytical aqueous results are summarized in Table 3-2 for recovery influent and air stripper effluent. System laboratory analytical reports are included in Appendix C. The O&M field notes are included in Appendix D.

The full-scale O&M phase of the system was initiated on August 16, 2019. The prove-out O&M phase initially involved weekly influent and effluent sampling and daily system monitoring. System sampling frequency transitioned to monthly after September 2019, and this frequency has been maintained throughout the two-year operational period. All effluent samples had tDCE and VC concentrations below the method detection limits, demonstrating complete or near-complete removal of COCs.

The following summarizes the chemical analyses results of the influent and effluent samples collecting during the Year 2 operating period:

- Influent tDCE concentrations were detected slightly above the method detection limit (MDL), but below the practical quantitation limit (PQL) from September 2020 through December 2020 at 1 I µg/L to 1.3 I µg/L. After four months of tDCE concentrations below MDL, April 2021 and May 2021 showed concentrations slightly above the MDL, but below the PQL at 0.81 I µg/L and 0.76 I µg/L. From June 2021 through August 2021, the tDCE concentrations were below the MDL. All effluent tDCE concentrations were below MDL until August 2021 when 2.9 µg/L tDCE was detected. With undetected

tDCE concentrations in the influent during the August 2021 sampling, the origin of this slight detection is anomalous based on the associated influent result and prior effluent results, but still meets the treatment system objective of reducing COCs to concentrations below the Florida GCTL.

- Vinyl chloride concentrations going into the HCS system during Year 2 of operation range from 9.8 µg/L in August 2021 to 23 µg/L in November 2020. All effluent concentrations remained below the 1 µg/L Florida GCTL throughout the Year 2 operational period.

- Other constituents detected in the influent samples during Year 2 of HCS operation include o-xylene at 0.60 I µg/L during the November 2020 sampling and again at 3.2 µg/L during the August 2021 sampling. Acetone was also detected in the August 2021 influent sample. With acetone being a common laboratory cleaning agent, this slight detection may be attributed to cross-contamination occurring during sample analysis. These compounds were below the laboratory MDL in the effluent samples collected during Year 2 HCS operation. Results for these other constituents are included in the laboratory reports included in Appendix C.

The results of the air stripper influent and effluent tDCE and VC concentrations sampled from initial HCS startup through Year 2 of HCS operation, provided in Table 3-2.

Table 3-3 presents significant maintenance events, operational issues, and corrective actions associated with operations, which are further discussed in Section 3.4 of this report. Table 3-4 presents run time data for the Year 2 operation of the HCS. From September 1, 2020 to August 31, 2021 the cumulative run time was 92% for the HCS. Based on the totalizers from EW001, EW0002 and EW0003, a total of 7,733,879 gallons of groundwater have been treated from September 202 through August 2021, and a cumulative total of 16,416,577 gallons of groundwater have been treated since system startup. Groundwater recovery volumes are provided on Table 3-1.

3.4 MAINTENANCE ACTIVITIES

Routine maintenance and inspection activities were conducted while the system was operating, in a manner that minimized emergencies or unscheduled shutdowns. O&M was performed in accordance with the 2019 CRCA IWP (NASA, 2019b).

3.4.1 System General Maintenance Activities. In general, routine operation and monitoring consists of observing and adjusting process conditions and checking the system for abnormal conditions (e.g., noise, leaks, temperature, and vibration). During each site visit, the following routine activities were performed:

- Inspection of the HCS for leakage and excessive vibration noise, or temperature;
- Inspection of lubrication, as applicable;
- Assessment of differential pressure and flow rates across bag filter units and process equipment;
- Recording of system operation data and comparing data to design conditions and previous operating data;
- Observing and noting solids build-up in filter bags, the EQ tank, and the air stripper; and
- Cleaning of air stripper trays, replacement of bag filters (if necessary), and replacement of pump seals (if necessary).

All equipment was depressurized and drained prior to conducting maintenance activities.

3.4.2 System Modifications. System modifications implemented during Year 2 HCS operation include:

Emergency High Level Alarm - On January 17, 2021, the EQ tank's emergency high level alarm float was triggered and shut-down the system, as designed. No water leakage or overflow occurred. The sensors were checked, and the system restarted, with the determination that the

alarm was caused by a delay in EQ pump startup, accounting for one day of system shutdown.

EQ Tank Switch Malfunction – On June 30, 2021 the EQ dead man switch malfunctioned due to a broken float snap ring. A new float snap ring was installed, and the system was put back into operation. One day of system downtime was attributed to this malfunction.

HMI Malfunction – From August 24-25, 2021 the system was shut down due to a human machine interface (HMI) malfunction. It was determined that the memory capacity was reached, so the flash drive was replaced to fix the problem.

3.5 EVALUATION OF MAJOR TREATMENT COMPONENTS

The evaluations discussed in this section were completed to confirm achievement of the IM objective, proper functioning of the system process components, and treatment system performance. Operations over the initial startup and prove-out period required system troubleshooting and modification. The following provides an overview of the current operational status of major system process components:

Extraction Wells - EWs are performing at the intended groundwater extraction rates.

Groundwater Extraction Pumps- The Grundfos RediFlo 10E5 submersible pumps have operated effectively since initial startup. No evidence of sediment, mineral, or biological pump head fouling has been observed.

Bag Filters- There are two influent bag filters upstream of the EQ tank and two bag filters downstream of the air stripper. The influent bag filters are replaced approximately monthly, and the bag filters downstream of the air stripper are replaced approximately monthly now that the scaling reduction amendment, Redux 390, has been applied to the system (bag filters were replaced weekly or bi-weekly prior to amendment).

Equalization Tank- The double-walled, 500-gallon, EQ tank has operated reliably since initial startup with the exception of the original level-sensor installation, and the overflow event, as documented in the Year 1 PMR. Subsequently, the pump controls within the tank have operated without issue. Typical maintenance of the equalization tank includes cleaning and replacement of

floats and the totalizer. Future removal of settled solids from the tank may be required if sediments accumulate to a level that interferes with process operations.

Air Stripper- The QED air stripper has operated as designed since installation. Factors influencing treatment efficiency, such as biofouling, is being controlled to the maximum extent possible to maintain removal efficiencies. The trays are washed monthly to remove solids.

Transfer Pumps- The transfer pumps from the EQ tank and air stripper are in acceptable condition and can be operated without modification. Ongoing maintenance activities will include replacement of pump and stator seals as required for normal operations.

Injection Wells- IWs have functioned adequately during the period of performance. Discharges to the IWs are adjusted to maintain discharges of 2 to 3 gpm per well. However, based on site conditions, higher flowrates were achieved during the first and second years of operation. Groundwater mounding is consistently monitored around IWs to ensure increased flowrates do not cause over-saturation. Slight increases in injection pressures have been recorded from the 2019 startup through the first year of HCS operation and continue to increase during the second year, with no action required at this time.

3.6 PROCESS SYSTEM SAMPLING RESULTS

Samples of combined influent of extracted groundwater are collected prior to being treated by the air stripper to analyze system efficacy. During Year 2 of HCS system operation, sampling of the combined influent was conducted monthly from September 2020 to August 2021. Overall, influent concentrations have continued to decrease during the second year of HCS operation. Since system startup, the combined influent concentration of VC has decreased from 130 µg/L in July 2019 to 9.8 µg/L in August 2021. The VC concentration increased after startup, with the highest result of 260 µg/L in August 2019, but this was not unexpected as the system is designed to hydraulically draw in more contamination based on placement of EWs and IWs. Influent concentrations of tDCE have remained relatively constant during the second year of operation (2.3 µg/L in July 2019 to undetected in August 2021). During the second year of HCS operation, the highest tDCE influent concentration was 1 µg/L in October 2020, well below its GCTL of 100 µg/L. Results of influent data for the site's COCs (tDCE and VC) from baseline through the

second year of HCS operation are presented in Table 3-2.

Aqueous samples are also collected from the effluent of the aqueous discharge point of the air stripper and analyzed for VOCs by U.S. Environmental Protection Agency (EPA) Method 8260B during each monthly O&M event. Each effluent sample collected during Year 2 of HCS operation was found to be below the detection limit for the primary contaminants of concern, tDCE and VC, with the exception of the August 2021 sampling event. In August 2021, tDCE was detected at a concentration of 2.9 µg/L in the effluent, but the influent showed undetected values. Results of effluent data for the site's COCs (tDCE and VC) are also presented in Table 3-2.

Table 3-1. Hydraulic Containment System Year 2 Operational Details

Date	PID Air Stripper outlet	Blower Pressure	After Damper Pressure	Air Stripper Differential Pressure	Equalization Tank Pump			Air Stripper Pump		
					Totalizer	Pressure	Flow Rate	Totalizer	Pressure	Flow Rate
	ppmv	in wc	in wc	in wc	gal	psi	gpm	gal	psi	gpm
09/15/20	0	20	20	20	2,022,664	28	27.27	1,861,104	38	33.33
10/21/20	0	20	20	20	2,789,727	28	27.27	2,534,399	38	31.58
11/23/20	0	20	20	20	3,666,572	28	30.00	3,427,715	38	35.29
12/15/20	0	20	20	20	4,247,200	20	30.00	4,034,244	35	35.29
01/18/21	0	20	20	20	5,453,518	26	28.57	5,031,544	32	40.00
02/16/21	0	20	20	20	6,239,511	26	30.00	5,734,532	36	35.29
03/14/21	0	20	20	20	7,076,134	26	30.00	6,564,836	34	35.29
04/17/21	0	20	20	20	7,912,757	26	28.57	7,395,140	40	37.50
05/18/21	0	20	20	20	8,749,381	26	30.00	8,225,445	32	35.29
06/14/21	0	20	20	20	9,532,960	26	30.00	9,023,440	34	37.50
07/30/21	0	20	20	20	10,316,540	26	30.00	9,821,436	30	37.50
08/19/21	0	20	20	20	10,577,807	26	30.00	10,095,354	30	37.50

Table 3-1. Hydraulic Containment System Year 2 Operational Details (continued)

Date	Injection wells									
	IW0001		IW0002		IW0003		IW0004		IW0005	
	Pressure	Flow Rate	Pressure	Flow Rate	Pressure	Flow Rate	Pressure	Flow Rate	Pressure	Flow Rate
	psi	gpm	psi	gpm	psi	gpm	psi	gpm	psi	gpm
09/15/20	18	6.00	17	5.00	17	5.00	20	5.00	18	5.45
10/21/20	16	6.00	17	6.00	15	6.00	19	5.45	17	6.00
11/23/20	20	7.50	19	7.50	16	10.00	23	6.00	22	6.00
12/15/20	20	7.50	19	7.50	16	10.00	23	6.00	22	6.00
01/18/21	20	7.50	20	7.50	16	10.00	20	6.00	18	5.00
02/16/21	24	7.50	22	7.50	22	7.50	24	5.45	22	8.57
03/14/21	22	7.50	19	7.50	18	8.57	22	5.00	20	5.45
04/17/21	24	7.50	18	7.50	16	7.50	22	4.62	18	6.67
05/18/21	20	7.50	18	7.50	19	8.57	20	6.00	19	6.00
06/14/21	18	7.50	16	7.50	18	6.00	18	6.00	18	5.00
07/30/21	16	7.50	14	7.50	16	6.00	18	6.00	18	5.00
08/19/21	16	7.50	12	7.50	18	6.00	18	6.00	18	5.00
Average	19.50	7.25	17.58	7.17	17.25	7.60	20.58	5.63	19.17	5.85

Table 3-1. Hydraulic Containment System Year 2 Operational Details (continued)

Date	Injection Wells				Extraction Wells					
	IW0006		IW0007		EW0001		EW0002		EW0003	
	Pressure	Flow Rate	Pressure	Flow Rate	Pressure	Flow Rate	Pressure	Flow Rate	Pressure	Flow Rate
	psi	gpm	psi	gpm	psi	gpm	psi	gpm	psi	gpm
09/15/20	18	6.00	20	0.01	25	6.82	28	6.98	25	6.90
10/21/20	14	5.00	18	0.01	25	6.82	29	6.98	22	6.90
11/23/20	24	2.14	20	5.00	24	6.82	32	6.98	38	6.90
12/15/20	23	2.14	20	5.00	22	7.06	28	6.98	26	6.98
01/18/21	22	3.00	18	4.00	24	7.06	24	7.06	28	7.06
02/16/21	20	3.33	16	6.00	30	7.06	34	7.06	28	7.06
03/14/21	22	2.86	18	4.00	28	7.06	32	7.06	28	6.98
04/17/21	22	2.86	18	4.00	26	6.98	32	6.98	28	7.06
05/18/21	21	3.00	18	3.75	26	6.98	32	6.98	30	6.98
06/14/21	18	3.33	14	3.75	24	6.98	34	7.14	30	6.98
07/30/21	14	4.29	12	4.29	22	6.90	34	7.14	30	6.98
08/19/21	14	4.29	12	4.29	24	6.74	33	6.82	28	6.82
Average	19.33	3.52	17.00	3.67	25.00	6.94	31.00	7.01	28.42	6.96

Table 3-1. Hydraulic Containment System Year 2 Operational Details (continued)

Date	(1) Total Extracted	Avg extraction rate	Bag filters			
			Influent		Effluent	
			First Filter	Second Filter	First Filter	Second Filter
	gallons	gpm	psi	psi	psi	psi
09/15/20	8,682,698	11.01	2	1	25	25
10/21/20	9,351,141	12.94	2	1	25	25
11/23/20	10,193,242	17.83	1	1	25	25
12/15/20	10,745,038	17.29	1	1	25	25
01/18/21	11,666,772	18.78	1	1	25	25
02/16/21	12,337,511	16.04	1	1	25	25
03/14/21	13,116,556	20.84	1	1	25	25
04/17/21	13,895,603	15.85	1	1	25	25
05/18/21	14,674,651	17.55	1	1	25	25
06/14/21	15,419,385	19.13	1	1	25	25
07/30/21	16,164,120	11.26	1	1	25	25
08/19/21	16,416,577	8.77	1	1	25	25

Notes: 7,733,879

(1) Based on totalizers from EW0001, EW0002 and EW0003

PID = Photoionization Detector

gpm = gallons per minute

psi = pounds per square inch

gal = gallon

in wc = inches of water column

ppmv = parts per million by volume

Table 3-2. trans-1,2-Dichloroethene and Vinyl Chloride Influent and Effluent Analytical Results

Date	tDCE		VC	
	Influent	Effluent	Influent	Effluent
07/23/2019	**2.3**	0.73 U	**130**	0.71 U
07/24/2019	**4.1**	0.73 U	**160**	0.71 U
07/25/2019	0.73 U	0.73 U	**160**	0.71 U
07/29/2019	**3.2**	0.73 U	**150**	0.71 U
07/30/2019	**4.3**	0.73 U	**160**	0.71 U
08/12/2019	**3.9**	0.73 U	**260**	0.71 U
08/13/2019	**6.8**	0.73 U	**220**	0.71 U
08/20/2019	**7.6**	0.73 U	**230**	0.71 U
08/26/2019	**9.2**	0.73 U	**220**	0.71 U
09/11/2019	**6.3**	0.73 U	**200**	0.71 U
10/02/2019	**7.4**	0.73 U	**170**	0.71 U
11/05/2019	**4.5**	0.73 U	**110**	0.71 U
12/10/2019	**3.5**	0.73 U	**97**	0.71 U
01/14/2020	**3.3**	0.73 U	**79**	0.71 U
02/13/2020	**4.6**	0.73 U	**87**	0.71 U
03/12/2020	**3.2**	0.73 U	**54**	0.71 U
04/09/2020	**2.8**	0.73 U	**48**	0.71 U
05/14/2020	**3.1**	0.73 U	**70**	0.71 U
06/08/2020	**1.7 I**	0.73 U	**42**	0.71 U
07/14/2020	**2.1**	0.73 U	**50**	0.71 U
08/13/2020	**1.1 I**	0.73 U	**26**	0.71 U
9/16/2020	**1.2 I**	0.73 U	**18**	0.71 U
10/27/2020	1	0.73 U	**20**	0.71 U
11/11/2020	**1.2 I**	0.73 U	**23**	0.71 U
12/21/2020	**1.3 I**	0.73 U	**16**	0.71 U
1/19/2021	0.73 U	0.73 U	**13**	0.71 U
2/17/2021	0.73 U	0.73 U	**19**	0.71 U
3/18/2021	0.73 U	0.73 U	**13**	0.71 U
4/22/2021	**0.81 I**	0.73 U	**19**	0.71 U
5/20/2021	**0.76 I**	0.73 U	**13**	0.71 U
6/17/2021	0.73 U	0.73 U	**12**	0.71 U
7/23/2021	0.73 U	0.73 U	**12**	0.71 U
8/24/2021	0.73 U	**2.9**	**9.8**	0.71 U

Notes:
Concentrations in µg/L
tDCE = trans-1,2-dichloroethene
VC = vinyl chloride
I = Value was reported above the laboratory method detection limit, but below the practical quantitation limit
U = Value was reported as below the method detection limit, therefore the detection limit is shown.
Shading indicates State of Florida Groundwater Cleanup Target Level (GCTL) exceedance, tDCE = 100 µg/L, VC = 1 µg/L
Bolding indicates a concentration is greater than the method detection limit

Table 3-3. CRCA Year 2 Hydraulic Containment System Runtime

Month	Days System Down	Days in Month	Operational Run Time	Primary Downtime Contributing Factor
Sep-20	1	30	97%	Monthly Operation and Maintenance event.
Oct-20	1	31	97%	Monthly Operation and Maintenance event.
Nov-20	0.25	30	99%	Monthly Operation and Maintenance event.
Dec-20	0.25	31	99%	Monthly Operation and Maintenance event.
Jan-21	5.75	31	81%	Monthly Operation and Maintenance event. PFAS sampling by others; equilibrium tank high level alarm; air stripper high level alert.
Feb-21	1.5	28	95%	Monthly Operation and Maintenance event. PFAS sampling by others.
Mar-21	1	31	97%	Monthly Operation and Maintenance event.
Apr-21	1	30	97%	Monthly Operation and Maintenance event.
May-21	0.5	31	98%	Monthly Operation and Maintenance event.
Jun-21	9	30	70%	Monthly Operation and Maintenance event. Scheduled power outages at facility; equilibrium tank dead man switch malfunctioned.
Jul-21	2.5	31	92%	Monthly Operation and Maintenance event. Power Outage.
Aug-21	4	31	87%	Monthly Operation and Maintenance event. HMI/PLC temporary malfunction; memory capacity reached on flash drive causing freezing of HMI; flash drive was replaced.
Total	27.75	365	92%	

Notes:
PFAS = per- and poly-fluoroalkyl substances
HMI = human machine interface
PLC = programmable logic

Table 3-4. CRCA Year 2 Hydraulic Containment System Maintenance Events

System Component	Issue	Issue Date	Resolution	Resolution Date
Flowmeter	IW7 dirty	10/30/2020	Flowmeter cleaned	10/30/2020
Recovery Well	RW02 routine maintenance	6/21/2021	Routine maintenance performed on RW02 all week	6/21/2021
High EQ float switch	Malfunctioned	6/30/2021	Repaired	6/30/2021
HMI/PLC	Memory capacity reached	8/19/2021	Flash drive replaced	8/24/2021

Notes:
IW = injection well
RW = recovery well
EQ = equalization
HMI = human machine interface
PLC = programmable logic

SECTION IV
PERFORMANCE MONITORING RESULTS AND DISCUSSION

4.1 GROUNDWATER SAMPLING

Monitoring was implemented at CRCA to ensure that hydraulic containment of the groundwater plume is maintained during HCS operation and to evaluate overall plume extent and how it is changing over time. CVOC concentration reduction is monitored to support transition to MNA once IM objectives are achieved. Refer to Figure 4-1 for the Year 2 sampling plan, as well as monitoring well, IW, and EW locations. Groundwater sampling and analyses were performed in accordance with the KSC Sampling and Analysis Plan for the RCRA Program (NASA, 2017), KSC Decision Process Document (NASA, 2019d), and FDEP Standard Operating Procedure FS 2200 (FDEP, 2017). A total of 32 groundwater sampling sets from 12 locations (four sampled quarterly and semi-annually; eight sampled semi-annually only) were collected during four groundwater performance sampling events, as summarized in Table 4-1.

Year Two Monitoring Plan

Date of Groundwater Sampling	Number of Monitoring Wells Sampled
October 15, 2020	4
January 19-20, 2021	12
April 14, 2021	4
July 26, 2021	12

Quarterly performance monitoring wells (MW0018, MW0019, MW0031 and MW0032) were sampled and analyzed by a fixed base laboratory (ENCO) for VOCs in accordance with EPA Method 8260D. Three of these wells (MW0018, MW0019, and MW0031) were also sampled quarterly for the suite dissolved gases (methane, ethylene, and ethane [MEE]), analyzed in accordance with RSK 175 methods by ENCO. The same three wells were sampled quarterly and analyzed for dechlorinating bacteria *Dehalococcoides* (Dhc) and VC reductase by Microbial Insights. These sampling locations, analyzed for Dhc, VC reductase, and MEE were selected

along the plume centerline to evaluate whether microbial reductive dechlorination is occurring or may occur, independent of the HCS.

Semi-annual sampling of 12 groundwater monitoring wells (MW0002, MW0012, MW0013, MW0015, MW0015, MW0018, MW0019, MW0027, MW0028, MW0029, MW0030, MW0031, and MW0032) were sampled for the analytes of EPA Method 8260D.

Field forms and the associated notes for each sampling event are provided in Appendix E. Purge water collected during the groundwater sampling activities was treated as investigation derived waste (IDW) and managed in accordance with the KSC IDW Management Plan (NASA, 2006). Miscellaneous trash and personal protective equipment generated during sampling activities were disposed of in an appropriate container.

4.2 SUB-SLAB SOIL GAS SAMPLING

As part of the performance monitoring, sub-slab soil gas samples were collected from four pre-installed vapor monitoring pins (VMPs) located beneath, or near, the foundation of the main building (Building K6-1696), as shown on Figure 4-2. The purpose of the sub-slab soil gas sample collection is to evaluate the potential for VOC vapors to migrate into the occupied building due to the operation of the HCS system. Baseline samples were collected in accordance with the CRCA IWP (NASA, 2019b), followed by sub-slab soil gas sampling as part of the performance monitoring once HCS operation was initiated. The sampling dates for the Year 2 reporting period were October 15, 2020, January 20, 2021, April 14, 2021 and July 26, 2021 at locations VMP01, VMP02, VMP03, and VMP04. SUMMA® canisters were used to capture the samples for transport to the SGS North America, Inc. laboratory (SGS) in Dayton, New Jersey for baseline sampling and at ENCO in Jacksonville, Florida for quarterly events. These soil gas samples were analyzed for the VOCs included in EPA Method TO-15. Refer to Appendix C for the complete laboratory reports. The sub-slab soil gas results are discussed in Section 4.8 of this report.

4.3 AMBIENT AIR SAMPLING

Ambient air samples were collected at the designated sample location adjacent to the HCS treatment building as part of the on-going performance monitoring efforts at the location shown on Figure 4-2. The purpose of the ambient air sample collection is to evaluate the potential for VOC vapors to impact the field engineers and technicians during maintenance activities from operation of the HCS system. These samples were passively collected using SUMMA® canisters over an 8-hour period to determine if contaminants are present in the ambient air surrounding the treatment system. These samples were collected in concert with the sub-slab air sampling on October 15, 2020, January 20, 2021, April 14, 2021, and July 26, 2021. Like the sub-slab air samples, these air samples were analyzed for VOCs via EPA Method TO-15. The ambient air analytical results are further discussed in Section 4.9 of this report.

4.4 WATER LEVELS

Water levels were measured at 35 permanent monitoring wells as a baseline in June 2019 and then quarterly after HCS start-up in conjunction with groundwater performance monitoring activities. These synoptic measurements were converted to groundwater elevations (see Table 4-2), organized into shallow (5 to 15 feet bls), intermediate (25 to 40 feet bls), and deep (53 to 63 feet bls) zones based on the screened intervals of the wells, and interpreted onto groundwater contour maps. During Year 2 of HCS operation, the same 35 permanent monitoring wells were measured quarterly, in October 2020, January 2021, April 2021, and July 2021, to continually monitor groundwater level fluctuations. The resulting potentiometric surface maps, presented as Figures 4-3 through 4-14, were used to illustrate the behavior of groundwater flow specific to each zone and measurement event and how flow may be affected by HCS operation.

The slope of the water table continues to vary with depth within the surficial aquifer, well location, and time lapsed relative to system operation. The observations made during the Year 2 synoptic events are presented below. Hydrogeologic conditions at the site are further discussed in the groundwater modeling report, attached to this document as Appendix A.

4.4.1 Potentiometric Surface of Shallow Zone. During Year 2 of HCS operation, groundwater flow in the shallow zone of the surficial aquifer shows a westward flow in October

2020 toward the lower-lying areas west of the main building, which is consistent with previous events. In the asphalted area between the main building and the solvent reclamation area, mounding is observed, with flow directed to the southeast, north, and northeast away from this area. A steep hydraulic gradient of approximately 0.03 feet per foot (ft/ft) is noted east of the solvent reclamation area toward MW0010, probably attributed to the re-introduction of groundwater at upgradient injection wells. In January 2021, the mounding becomes more developed in the vicinity of MW0009, but flow directions converge from the north and to the south in the vicinity of MW0003 at a hydraulic gradient of roughly 0.001 ft/ft. As compared to October 2020 conditions, the hydraulic gradient decreases from MW0005/MW0005A toward MW0010. West of the main building, flow directions become more westward at a hydraulic gradient of approximately 0.002 ft/ft in the direction of extraction wells EW0001, EW0002, and EW0003 and the low-lying areas west of Contractors Road. In April 2021, mounding continues to occur in the vicinity of MW0009, with a hydraulic gradient of approximately 0.001 ft/ft and converging flow maintained between MW0009 and MW0011 to the north. West of the main building, flow continues to the west at a hydraulic gradient of approximately 0.001 ft/ft. In July 2021, mounding remains in the vicinity of MW0009, with a converging trend continuing to the north and an increased hydraulic gradient to the east in the direction of MW0010, consistent with injection well operations. These shallow flow patterns appear to be highly influenced by the timing of groundwater extraction and re-injection activities and as observed during baseline conditions continue to be affected by surface drainage features.

4.4.2 Potentiometric Surface of the Intermediate Zone. During Year 2 of HCS operation, intermediate groundwater flow in October 2020 is generally westward with a northwestern component at a hydraulic gradient of approximately 0.002 ft/ft beneath the southeastern corner of the main building. A slight southwestern component occurs beneath the northern half of the building at 0.0007 ft/ft, toward the extraction wells to the west. In January 2021, flow becomes more consistent toward the west, with a decreased hydraulic gradient of approximately 0.001 ft/ft. A well-developed mounding trend prevails in April 2021, with MW0013, located beneath the center of the main building, marking the center of the mound. Radial flow is noted at a hydraulic gradient of approximately 0.005 ft/ft. Conversely, a depression is noted in the vicinity of MW0012, approximately 100 feet east of MW0013. In July 2021, groundwater flow resolves

to a uniform pattern, predominantly to the west and northwest, at a gradient of approximately 0.002 ft/ft. As compared to pre-pumping, intermediate baseline conditions (June 2019), intermediate groundwater flow after two years of HCS operation shows a more uniform northwestern flow in the general direction of the extraction wells, in contrast to the northern and northeastern flow components observed in June 2019.

4.4.3 Potentiometric Surface of the Deep Zone. During the second year of HCS operation, the October 2020 deep potentiometric surface shows a flow orientation to the west with a northwest trend in the area of the main building at a gradient of approximately 0.0005 ft/ft, then continuing a westward flow at an increased gradient of approximately 0.004 ft/ft toward MW0032, located west of the railroad tracks. In January 2021, groundwater flow within the deep zone continues a westward trend, with more uniform flow gradient of approximately 0.001 ft/ft beneath the main building. In April 2021, groundwater flow shows a westward flow pattern in the vicinity of the main building at a gradient of approximately 0.002 ft/ft. The hydraulic flow becomes steeper toward MW0032 at about 0.004 ft/ft but maintains westward flow toward this low-lying area. In July 2021 flow is generally to the west at a hydraulic gradient of approximately 0.002 ft/ft, with a northwest turn toward extraction well EW0003. West of Contractors Road, flow becomes more westward and at a hydraulic gradient of approximately 0.002 ft/ft, a more gradual hydraulic gradient as compared to April 2021 synoptic event conditions. Generally, after two years of HCS operation, groundwater flow within the deep zone is observed to occur more uniformly to the west and northwest, as compared to pre-pumping conditions which included northern and northeastern flow.

4.5 FIELD MEASUREMENTS

Temperature, pH, specific conductance, dissolved oxygen, turbidity, and oxidation reduction potential (ORP) were measured and recorded in the field during monitoring well sampling activities. These field measurements, compiled from baseline sampling in July 2019 to the Year 2 groundwater sampling, and conducted through July 2021 are summarized on Table 4-3. The sample log sheets prepared in the field are presented in Appendix E. Specifically, groundwater was pumped from each performance monitoring well, samples were collected at given time intervals, and these samples were checked for each of the field measurement parameters. Once

the samples had reached the desired readings, a groundwater sample was collected and retained for chemical analysis. The field measurements were collected to ensure that the groundwater conditions were fully stabilized in accordance with FDEP's Standard Operating Procedures for Field Sampling (FS 2200) before groundwater sample collection, ensuring samples that are representative of surficial aquifer conditions. The water pumped from each well was collected and managed as IDW. The field measurements collected during baseline and the Year 1 HCS sampling events are discussed in the CRCA Year 1 Annual PMR Report, (NASA, 2021a). The following presents a summary of field measurements taken prior to each of the quarterly sampling and semi-annual events conducted during Year 2 of HCS operation at CRCA.

During the October 2020 quarter one groundwater sampling event, groundwater temperatures in the four wells sampled ranged from 18.80 to 27.60°C, with an average of 23.72°C. Readings of pH ranged from 6.93 to 7.08, with an average of 7.03. Specific conductance ranged from 972 to 2,604 µS/cm, with an average of 1542 microSiemens per centimeter (µS/cm). Dissolved oxygen values varied from 0.11 to 7.08 milligrams per liter (mg/L), with an average of 2.56 mg/L. Turbidity readings ranged from 3.54 to 5.74 nephelometric units (NTU), with an average value of 4.95 NTU. ORP readings ranged from -48.0 to 5.5 millivolts (mV), with an average reading of -31.0. Note, groundwater samples were collected at elevated dissolved oxygen levels in monitoring wells MW0018 and MW0019 (2.43 and 7.08 mg/L, respectively) during this sampling event. The dissolved oxygen parameters had stabilized to these respective values while purging, and these elevated values are attributed to the release of treated water relative to the sampling event.

The second quarter and first semi-annual round of groundwater sampling in January 2021, exhibited groundwater temperatures in the 12 wells sampled ranging from 22.50 to 26.60°C, with an average of 24.99 °C. Readings of pH ranged from 6.09 to 7.33, with an average of 6.93. Specific conductance ranged from 357 to 1,722 µS/cm, with an average of 1,072.84 µS/cm. Dissolved oxygen values varied from 0.11 to 10.00 mg/L, with an average of 1.05 mg/L. Turbidity readings ranged from 0.10 to 36.40 NTUs, with an average value of 8.51 NTUs. The 36.4 NTU reading occurred at MW0032, where the initial turbidity reading exceeded 800 NTUs. After purging, stabilization was achieved after three consecutive readings, although oscillating

from 32.6 to 36.4 NTUs. ORP values ranged from -166.7 to -36.1 mV, with an average reading of -106.5 mV. Note, a groundwater sample was collected from MW0029 and MW0032 while the dissolved oxygen and turbidity, respectively, were outside the range provide in FS2200. The elevated dissolved oxygen reading in monitoring well MW0029 is attributed to the release of treated water relative to the sampling event. The elevated turbidity in monitoring well MW0032 had stabilized within 10% of each consecutive reading and is considered an anomaly.

During the third quarterly sampling event in April 2021, groundwater temperatures at the four wells sampled ranged from 19.30 to 26.60 °C, with an average of 21.58 °C. Readings of pH ranged from 6.82 to 7.08, with an average of 6.96. Specific conductance ranged from 609 to 1339 µS/cm, with an average of 940 µS/cm. Dissolved oxygen values varied from 0.15 to 1.17 mg/L, with an average of 0.78 mg/L. Turbidity readings ranged from 3.13 to 20.30 NTU, with an average value of 12.03 NTU and ORP values ranged from -42.4 to 32.0 mV, with an average reading of -18.2 mV.

For the fourth quarter and second semi-annual sampling event in July 2021, groundwater temperatures in the four wells sampled ranged from 22.80 to 28.20 °C, with an average of 26.33 °C. Readings of pH ranged from 6.54 to 7.67, with an average of 6.93. Specific conductance ranged from 523 to 2,851 µg/cm, with an average of 962 µS/cm. Dissolved oxygen values varied from 0.04 to 0.42 mg/L, with an average of 0.15 mg/L. Turbidity readings ranged from 0.67 to 18.00 NTU, with an average value of 5.65 NTU and ORP values ranged from -106.1 to 89.8 mV, with an average reading of -25.2 mV.

Overall, the field measurements for Year 2 were consistent with the readings taken during Year 1 of HCS operation. As expected, initial DO readings generally increased after the implementation of HCS operations, as compared to values observed during the 2019 baseline sampling event.

4.6 GROUNDWATER ANALYTICAL RESULTS

The quarterly and semi-annual performance monitoring groundwater samples were collected and analyzed in accordance with the prescribed schedule and analyte list. A summary of results for baseline and all performance monitoring events to date for the site's primary COCs (tDCE and VC) are presented in Table 4-4 and a summary of microbial analysis and other non-VOC

parameters is presented in Table 4-5. Laboratory analytical reports are provided in Appendix C. The groundwater sampling log sheets and chain-of-custody forms are provided in Appendix E. The VOC data are interpolated on Figures 4-15 and 4-16, for the intermediate and deep zones, respectively and on Figure 4-17 for the combined intermediate and deep plumes.

This section presents a summary of the Year 2 data. The Year 2 data reflects a modified sampling schedule and reduced analyte list. Specifically, sulfate, sulfide, nitrate, nitrite, carbon dioxide, iron, dissolved iron, alkalinity, TOC, and RCRA metals were removed from the sampling schedule following Year 1 operations.

4.6.1 Year 2 October 2020 Groundwater Sampling. October 8, 2020 marks the initial round of quarterly sampling for Year 2 HCS operation. During this sampling event, four samples were collected from October 14 through October 18, 2020 at MW0018, MW0019, MW0031 and MW0032 and analyzed for VOCs. Three of these wells (MW0018, MW0019, and MW0031) were also analyzed for Dhc, VC reductase, and MEE. All four wells have a screened interval from 53-63 feet bls. There were detections of VC in four samples, with results ranging from 3.3 to 81 µg/L, exceeding the GCTL of 1 µg/L at all locations. The results of these analyses showed no tDCE detected. Dhc levels ranged from 79.6 to 114 cells/mL. No VC reductase enzymes were detected.

The results of these analyses showed oscillating VC concentrations at MW0018 and MW0019 in the vicinity of the main building and the EW and IW system. To the west of the railroad tracks, MW0032 shows a steady increase of VC levels from undetected during baseline, 8.9 µg/L in July 2020 and 17 µg/L in October 2020. Monitoring well MW0031 indicates a steady decline of VC concentrations from 680 µg/L encountered during baseline to 28 µg/L in October 2020.

4.6.2 Year 2 January 2021 Groundwater Sampling. The second round of quarterly sampling for Year 2 HCS operation as well as the initial semi-annual round of sampling were conducted on January 19, 2021. During this sampling event, four quarterly samples were collected from deep wells MW0018, MW0019, MW0031 and MW0032 and analyzed for VOCs. Three of these wells (MW0018, MW0019, and MW0031) were analyzed for Dhc, VC reductase, and MEE. The eight semi-annual wells (MW0002, MW0012, MW0013, MW0015, MW0027,

MW0028, MW0029, and MW0030) were sampled for VOCs only (EPA Method 8260D). The results of these analyses continue to show no tDCE detected. Detected VC levels ranged from 2.1 µg/L I at intermediate well MW0013 to 97 µg/L at deep well MW0018. No VC concentrations were detected at deep well MW0032 and intermediate wells MW0012, MW0015, MW0028, MW0029, and MW0030. Dhc levels ranged from 119 to 233 cells/mL. No VC reductase enzymes were detected.

These results indicate a continued detection at MW0013 (2.1 µg/L I), slightly lower than the 4.6 µg/L detected in July 2020 but increased since HCS operation from the non-detect baseline levels. The highest VC concentration within the intermediate zone was found at MW0027, downgradient from the main building and east of Contractors Road. This is the first occurrence of a positive VC value since baseline at this location and will warrant further observation during future sampling events. Interestingly, the deep well at this location (MW0028) showed decreasing VC concentrations from 23 µg/L at baseline to non-detect during this sampling event. MW0002, located east of the main building and within the HCS capture zone, with a VC concentration of 3.1 µg/L, shows a slight increase from the July 2020 value of 1.8 I µg/L, but remains lower than the 28 µg/L baseline concentration. The deep wells sampled show non-detect VC results west of the railroad tracks at MW0032, reduced from 17 µg/L in October 2020. The highest VC concentrations within the deep zone were detected at MW0018, slightly increasing from the previous sampling event three months prior from 81 µg/L to 97 µg/L. Concentrations remain steady at MW0019 and MW0031, located beneath and to the west of the main building, respectively.

4.6.3 Year 2 April 2021 Groundwater Sampling. The third set of quarterly sampling for Year 2 HCS operation occurred from April 14, 2021 to April 15, 2021. During this sampling event, 4 samples were collected from deep wells MW0018, MW0019, MW0031 and MW0032 and analyzed for VOCs. Three of these wells (MW0018, MW0019, and MW0031) were analyzed for Dhc, VC reductase, and MEE. The results of these analyses still show no tDCE detected. During this sampling event, VC levels ranged from 2.8 µg/L to 63 µg/L within this deep zone. Dhc levels ranged from 74 to 148 cells/mL. No VC reductase enzymes were detected.

These results continue to show a decreased VC reduction at MW0018 from 97 µg/L in January 2021 to 63 µg/L during this April 2021 sampling event. Beneath the main building at MW0019, VC levels remain constant at 2.8 µg/L. The VC concentrations at MW0031, west of the main building have slightly reduced from 29 µg/L in January 2021 to 13 µg/L in April 2021. West of the railroad tracks, VC levels increased from non-detect in January 2021 to 6 µg/L three months later, indicating an oscillating trend at this location since baseline.

4.6.4 Year 2 July 2021 Groundwater Sampling. The final round of quarterly and semi-annual sampling for Year 2 HCS operation was implemented on July 26, 2021. Four quarterly samples were collected from deep wells MW0018, MW0019, MW0031 and MW0032 and analyzed for VOCs. Three of these wells (MW0018, MW0019, and MW0031) were analyzed for Dhc, VC reductase, and MEE. The eight semi-annual wells (MW0002, MW0012, MW0013, MW0015, MW0027, MW0028, MW0029, and MW0030) were sampled for VOCs (EPA Method 8260D). The results of these analyses show one tDCE detection at MW0002 (0.71 µg/L I). VC detections ranged from 1.4 µg/L I to 7.4 µg/L within the intermediate zone and from 1.4 µg/L I to 55 µg/L within the deep zone. Dhc levels ranged from 1 to 57.8 cells/mL. No VC reductase enzymes were detected.

The only tDCE detection during Year 2 HCS operation at CRCA occurred at MW0002, screen from 30-35 feet bls during the July 2021 sampling within the intermediate zone. This slight exceedance of 0.71 µg/L I was above the MDL, but below the PQL and significantly below the GCTL of 70 µg/L for this contaminant.

At the conclusion of Year 2 HCS operation, the only VC exceedance within the intermediate zone (ranging from 25-40 feet bls) remains at MW0002, located east of the main building within the HCS capture zone. This detection of 7.4 µg/L is slightly higher than the previous January 2021 detection of 3.1 µg/L, showing a decreasing VC trend from baseline (28 µg/L) to July 2020 (1.8 µg/L I), then increasing to the July 2021 concentration. Slight detections remain at MW0013, located beneath the building, with a VC concentration of 1.4 µg/L I and continued un-detected laboratory results at MW0012 approximately 100 feet to the northwest of MW0002. The deep zone (53-63 feet bls) shows a general decrease in VC concentrations at MW0018 since baseline from 140 µg/L to 55 µg/L, representing the highest VC concentration of this July 2021

sampling event. At MW0019, located beneath the building, VC concentrations have decreased to 1.4 µg/L I from its baseline concentration of 250 µg/L. Monitoring well locations MW0031 and MW0032 remain within VC GCTL exceedances (18 µg/L and 11 µg/L), with a slight upward trend in VC concentrations at both locations. MW0032, located downgradient from Contractors Road and west of the railroad tracks, represents the westernmost extent of the Year 2 performance monitoring well plan. At MW0030 and MW0028, VC concentrations remain undetected.

4.7 HCS PERFORMANCE AND PLUME CONDITIONS EVALUATION

In summary, there was only one tDCE detection in the intermediate zone of the surficial aquifer at CRCA from the baseline sampling of June 2019 to the conclusion of Year 2 HCS performance monitoring in July 2021. This tDCE detection occurred during the final sampling event of Year 2 HCS operation at MW0002, screened from 30-35 feet bls within the intermediate zone. This slight detection of 0.71 I µg/L was above the MDL, but below the PQL and significantly below the GCTL of 70 µg/L for this contaminant.

From baseline to Year 2 of performance monitoring, VC was detected above regulatory limits within both the intermediate and deep zones of the surficial aquifer at CRCA. These results are illustrated on maps depicting the horizontal extent of the VC intermediate plume at 25-40 feet bls (Figure 4-15) and the VC deep plume at 53-63 feet bls (Figure 4-16).

During the June 2019 baseline sampling event, tDCE was detected in the deep zone of the surficial aquifer in concentrations between the method detection limit and the practical quantitative limit at monitoring wells MW0019, MW0030, and MW0031, but remained undetected during the Year 1 and Year 2 sampling events.

Based on performance monitoring well data presented on Figure 4-15, the intermediate VC plume at the conclusion of Year 2 HCS system operations consists of the LCP, with concentrations in exceedance of GCTL, but significantly below NADC. The intermediate VC plume has decreased in horizontal extent since the first year of HCS operation, with the only GCTL exceedance found at MW0002 (30-35 feet bls), detected at the conclusion of the second year and located approximately 50 feet east of the main CRCA building. This location was the

highest level detected during the baseline sampling event of June 2019 at 28 µg/L, steadily declining until the July 2020 sampling (1.81µg/L) and increasing to 7.4 µg/L in July 2021. At MW0013, centrally located beneath the main building, there were slight increases in VC from undetected during the baseline sampling in June 2019 to 4.6 µg/L during Year 1, then the concentration decreased to 1.4 µg/L I in July 2021. These fluctuations in VC concentrations may be attributed to the effect of EW and IW operation on groundwater flow patterns with EWs creating depressions and IWs inducing mounding with the re-introduction of treated groundwater. At the end of the second year of HCS operation, the intermediate LCP plume no longer includes this area beneath the building. Similarly, MW0012 (25-30 feet bls) exhibited a steady decrease of VC concentrations from 2.6 µg/L during baseline to undetected in January 2021 and is no longer contained within the intermediate LCP.

After two years of HCS operation, the deep VC plume has been reshaped with a reduced east to west areal extent and a narrower north to south footprint. As shown on Figure 4-16, the low concentration portion of the deep plume continues to have a western component, potentially extending beyond MW0032, located in the low-lying area west of the railroad tracks, parallel to Contractors Road. Here, concentrations ranged from undetected during the baseline sampling to 9.2 µg/L in January 2020 and steadily increased to 17 µg/L in October 2020, decreasing to undetected in January 2021, then increasing again to above GCTL levels during the April 2021(6 µg/L) and July 2021(11 µg/L) sampling events. After two years of system operation, the HCP element of the Year 1 HCS operation plume at MW0018 was reduced to 81 µg/L by October 2020 and oscillated within VC GCTL concentrations to 55 µg/L in July 2021. The highest baseline VC concentration encountered was 680 µg/L in the deep sampling zone at location MW0031, downgradient from main building. This VC concentration dropped to below the NADC after one year of HCS operation; however, from January 2020 to July 2020 these concentrations continued to hover at just below NADC, but ultimately decreased to 18 µg/L by July 2021. At deep wells MW0018 and MW0019, concentrations decreased through April 2020, but increased slightly in July 2020. Within the deep zone, slight increases in VC concentrations are observed to the west, toward the extraction wells.

From the June 2019 baseline sampling event to July 2021, the plume has continued to decrease in size and in concentration. Overall, the plume centerline concentrations of tDCE have decreased to non-detect concentrations (going from 1.45 µg/L in June 2019 to non-detect in July 2021) and the plume centerline concentration of VC has decreased by 93% (with the geomean going from 152 µg/L in June 2019 to 5.6 µg/L in July 2021). The VC mass reductions are summarized on Table 4-6.

Additional information on the CRCA groundwater plume was obtained by analyzing groundwater samples collected from monitoring wells MW0018, MW0019, MW0028, and MW0031 during the baseline (June 2019), Year 1 performance monitoring (October 2019, January 2020, April 2020, July 2020), and Year 2 performance monitoring (October 2020, January 2021, April 2021, and July 2021) sampling events. These samples were analyzed for Dhc and VC reductase. The purpose of these analyses was to determine if conditions are favorable for bioremediation of the COCs through these bacterial cultures that have been shown to utilize tDCE and VC as growth supporting electron acceptors. Quantities encountered for the Dhc strain for VC reductase gene were compared. The presence of these compound-specific strains shows that under anaerobic conditions, the potential for bioremediation through the reduction of chlorine atoms from the COCs is likely. Dhc concentrations ranged from 1 cell per milliliter (cell/mL) in July 2021 to 233 cells/mL in January 2021. At all three locations tested, Dhc concentrations increased in January 2021, then decreased in April 2021, and decreased again in July 2021. These concentrations indicate that biological reductive dechlorination may not proceed at a predictable rate. The variation in these target enzymes observed over time indicate a fluctuation in reductive dechlorination conditions for the site COCs during HCS operation. Further, the VC reductase gene and the BAV1 VC reductase genes were not detected in groundwater samples collected during the Year 2 sampling events. The absence of these compound-specific bacterial groups indicates that the passive anaerobic dechlorination of VC may not be appreciable.

To provide additional background information on the favorability of bioremediation conditions during Year 2 of HCS operation, groundwater samples were analyzed for MEE, alkalinity, and TOC. These parameters are indicators of special conditions with respect to microbial activity in

the subsurface. For instance, methane is an indicator of strongly reducing conditions. Monitoring and measuring changes in groundwater chemistry at CRCA will allow an understanding of the fluctuation of site conditions and the potential for COC reduction via natural attenuation. Having this data will enable the capability of geochemical trending analysis over the duration of HCS system operation. Specifically, if contaminant stagnation were to occur during HCS operation, these parameters may be taken into consideration for further amendment evaluation.

4.8 SUB-SLAB VAPOR MONITORING ANALYTICAL RESULTS

During Year 1 of HCS operation, tetrachloroethene (PCE), TCE, tDCE, and VC were detected in sub-slab soil gas samples. PCE was only detected at location VMP02 at a concentration of 2.7 $\mu g/m^3$ in February 2019. tDCE was detected at sub-slab sampling locations VMP01, VMP02, VMP03, and VMP04. VC was only detected at one location (VMP03) at 0.24 $\mu g/m^3$, in February 2019.

During Year 2 of HCS operation, no PCE was detected in any of the sub-slab soil gas samples. Low levels of tDCE were encountered at all VMP locations during varying sampling events, with the highest detection of 6.2 $\mu g/m^3$ occurring in July 2021 at VMP02. Specifically, tDCE levels detected in October 2020 include 4.2 $\mu g/m^3$ at VMP01, 8.8 $\mu g/m^3$ I at VMP02, and 4.5 $\mu g/m^3$ I at VMP04. In January 2021, 5.5 $\mu g/m^3$ I at VMP02 was the only tDCE detection. In April 2021, tDCE was detected at all four VMP locations between MDL and PQL, with concentrations ranging from 0.52 $\mu g/m^3$ I to 1.8 $\mu g/m^3$ I. The July 2021 sampling event resulted in two positive tDCE concentrations, with 0.56 $\mu g/m^3$ I detected at VMP04 and the highest concentration detected during the Year 2 HCS operation sampling event at 6.2 $\mu g/m^3$ (VMP02).

Analytical results were compared to EPA Vapor Intrusion Screening Levels (VISLs) for Year 1 and Year 2 HCS operation sub-slab soil gas sampling events. All CVOC concentrations in sub-slab soil gas samples were significantly less than their respective commercial VISLs. VC, the primary COC in the groundwater plume beneath Building K6-1696, was detected at a concentration (0.24 $\mu g/m^3$ I) in one of the sub-slab monitoring locations (VMP03) during the initial year of HCS operation (October 19, 2019) and has not been detected since. CVOC analytical results from sub-slab soil gas sampling are summarized in Table 4-7.

4.9 AIR MONITORING ANALYTICAL RESULTS

During the Year 1 and Year 2 quarterly performance monitoring events, air quality samples were taken approximately 50 feet from the outlet of the HCS trailer containing the air stripper. Air samples were collected over an 8-hour period and analyzed for VOCs via EPA Method TO-15. Concentrations detected in the air samples were compared to Operational Safety and Health Administration (OSHA) Permissible Exposure Levels (PELs).

During the first year of HCS operation, the concentrations of contaminants in each air sample collected were observed to either be not detected, below OSHA PELs, or OSHA has not established PELs for the analyte. VC was detected at maximum concentrations of 5 $\mu g/m^3$ in August 2019, below the OSHA PEL of 2,560 $\mu g/m^3$. tDCE was detected at a maximum concentration of 49 $\mu g/m^3$ in July 2020, and TCE was detected at 2.1 $\mu g/m^3$ in August 2019, below the OSHA PEL of 537,000 $\mu g/m^3$. Similarly, during the second year of HCS operation performance sampling, all results were significantly below the OSHA PEL for the respective parameters tested. For full analytical results of ambient air samples, refer to Table 4-8**.**

Table 4-1. Year Two Monitoring Plan

Montoring Well	Screen Interval	Monitoring Function	October 2020	January 2021	April 2021	July 2021
(CRCA-)	(ft bls)		Sample for VOCs via EPA Method 8260B			
MW0002	[30-35]	Monitor east region of the LCP.	-	X	-	X
MW0012	[25-30]	Monitor beneath building footprint. Northern edge of LCP.	-	X	-	X
MW0013	[25-30]	Monitor beneath building footprint. Northern edge of LCP.	-	X	-	X
MW0015	[25-30]	Monitor downgradient of LCP.	-	X	-	X
MW0018	[53-63]	Monitor treatment performance in HS. Monitor LCP.	X	X	X	X
MW0019	[53-63]	Monitor treatment performance in HS. Monitor LCP.	X	X	X	X
MW0027	[30-40]	Provide coverage in western portion of the site downgradient of the LCP.	-	X	-	X
MW0028	[53-63]	Provide coverage in western portion of the site at the leading edge of the LCP.	-	X	-	X
MW0029	[30-40]	Provide coverage at northwestern portion of the site.	-	X	-	X
MW0030	[53-63]	Provide coverage at northwestern portion of the site.	-	X	-	X
MW0031	[53-63]	Central location to extraction wells for performance monitoring.	X	X	X	X
MW0032	[53-63]	Monitor west region of the LCP.	X	X	X	X

Notes:
VOC = volatile organic compounds.
VC = vinyl chloride.
ft bls = feet below land surface.
Gray shading means sampled for DHC, VC reductase, and MEE in addition to VOCs
HCP = High Concentration Plume
HS = Hot Spot.
HCS = Hydraulic Containment System.
LCP = Low Concentration Plume

Table 4-2 CRCA Year 2 HCS Operation Groundwater Elevations

Well ID (CRCA-)	TOC	Screened Interval (ft bls)	Oct-20		Jan-21		Apr-21		Jul-21	
			DTW (ft bls)	GW Elevation	DTW (ft bls)	GW Elevation	DTW (ft bls)	GW Elevation	DTW (ft bls)	GW Elevation
MW0001	6.11	5-15	2.45	3.66	4.23	1.88	3.31	2.80	1.84	4.27
MW0002	6.14	30-35	2.44	3.70	4.28	1.86	3.32	2.82	1.83	4.31
MW0003	6.99	5-15	3.40	3.59	5.24	1.75	4.29	2.70	2.87	4.12
MW0004	6.30	5-15	2.60	3.70	4.4	1.90	3.49	2.81	2.07	4.23
MW0005	6.69	5-15	3.05	3.64	4.95	1.74	3.98	2.71	2.57	4.12
MW0005A	6.55	5-10	4.30	2.25	4.68	1.87	3.8	2.75	2.45	4.10
MW0005B	6.69	12-17	3.04	3.65	4.9	1.79	3.94	2.75	2.51	4.18
MW0005C	6.85	2-7	2.95	3.90	4.85	2.00	4.04	2.81	2.36	4.49
MW0006	6.58	5-15	2.90	3.68	4.77	1.81	3.8	2.78	2.28	4.30
MW0007	6.54	5-15	2.83	3.71	4.73	1.81	3.76	2.78	2.33	4.21
MW0008	7.36	5-15	3.72	3.64	5.38	1.98	4.6	2.76	3.11	4.25
MW0009	6.84	5-15	3.04	3.80	4.8	2.04	3.91	2.93	2.44	4.40
MW0010	6.66	5-15	5.18	1.48	4.82	1.84	3.86	2.80	2.98	3.68
MW0011	7.40	5-10	3.40	4.00	5.26	2.14	4.4	3.00	3.06	4.34
MW0012	7.07	25-30	3.45	3.62	5.22	1.85	4.41	2.66	3.01	4.06
MW0013	7.46	25-30	3.98	3.48	5.92	1.54	4.16	3.30	3.53	3.93
MW0014	6.86	5-10	3.30	3.56	5.1	1.76	4.16	2.70	2.59	4.27
MW0015	6.82	25-30	3.45	3.37	5.26	1.56	4.4	2.42	2.6	4.22
MW0016	6.18	5-10	2.53	3.65	4.3	1.88	3.42	2.76	1.91	4.27
MW0017	6.16	25-30	1.85	4.31	4.36	1.80	3.43	2.73	1.86	4.30
MW0018	7.05	53-63	3.41	3.64	5.21	1.84	4.42	2.63	2.93	4.12
MW0019	7.13	53-63	3.69	3.44	5.43	1.70	5.87	1.26	3.2	3.93
MW0020	7.27	53-63	4.01	3.26	5.67	1.60	4.9	2.37	3.44	3.83
MW0021	7.54	30-40	3.98	3.56	5.85	1.69	5.01	2.53	3.67	3.87
MW0022	6.44	30-40	2.75	3.69	4.58	1.86	3.67	2.77	2.26	4.18
MW0023	6.50	53-63	2.75	3.75	4.62	1.88	3.7	2.80	2.33	4.17
MW0024	6.22	53-63	2.49	3.73	4.4	1.82	3.45	2.77	1.88	4.34
MW0025	6.91	53-63	3.40	3.51	5.28	1.63	4.42	2.49	2.8	4.11
MW0026	4.45	5-15	1.10	3.35	3.04	1.41	2.01	2.44	0.45	4.00
MW0027	4.33	30-40	1.00	3.33	3.03	1.30	2.04	2.29	0.59	3.74
MW0028	4.34	53-63	1.00	3.34	3.01	1.33	2.1	2.24	0.71	3.63
MW0029	4.79	30-40	1.41	3.38	3.54	1.25	2.56	2.23	1.14	3.65
MW0030	4.77	53-63	1.43	3.34	3.5	1.27	2.65	2.12	1.22	3.55
MW0031	6.92	53-63	3.45	3.47	5.55	1.37	4.57	2.35	3.12	3.80
MW0032	4.70	53-63	2.59	2.11	NM	NM	3.52	1.18	1.61	3.09

Notes:
All elevations are in feet above mean sea level (North American Vertical Datum of 1988).
ft bls = feet below land surface.
TOC = Top of casing (elevation).
DTW = Depth to water in feet below TOC.
NM = Not measured.

Table 4-3. CRCA Field Measurements, Year 2

Well ID (CRCA-)	Sample Date	pH (S.U.)	Temp. (°C)	Cond. (µS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)
MW0002	Jan-21	6.50	25.50	1,210	0.19	4.66	-84.2
	Jul-21	6.54	27.40	1,016	0.26	5.09	27.9
MW0012	Jan-21	6.44	25.00	1,247	0.21	14.30	-94.3
	Jul-21	6.51	27.80	1,050	0.12	6.65	2.7
MW0013	Jan-21	6.34	22.60	1,365	0.24	0.57	-84.2
	Jul-21	6.47	23.00	1,061	0.14	4.34	-3.4
MW0015	Jan-21	6.85	26.20	965	0.28	14.70	-76.0
	Jul-21	7.07	27.90	775	0.17	1.26	89.8
MW0018	Oct-20	7.04	24.50	1,573	2.43	5.21	-42.1
	Jan-21	6.09	24.90	1,722	0.37	8.56	-106.6
	Apr-21	7.00	23.60	1,339	0.15	3.13	-41.9
	Jul-21	7.02	28.20	1,313	0.16	2.29	-55.3
MW0019	Oct-20	7.08	18.80	972	7.08	5.33	-48.0
	Jan-21	6.76	22.50	1,113	0.21	8.76	-163.0
	Apr-21	6.92	19.30	885	1.17	20.30	-42.4
	Jul-21	6.97	22.80	803	0.14	18.00	-60.9
MW0027	Jan-21	7.33	26.10	357	0.11	1.57	-145.2
	Jul-21	7.67	26.60	2,851	0.06	11.90	-106.1
MW0028	Jan-21	6.84	24.90	795	0.19	2.36	-91.7
	Jul-21	6.97	26.80	825	0.04	1.22	-36.1
MW0029	Jan-21	6.95	25.00	665	10.00	0.10	-166.7
	Jul-21	7.08	26.60	523	0.11	0.67	-48.1
MW0030	Jan-21	6.80	24.80	1,036	0.23	5.10	-139.9
	Jul-21	6.99	27.00	878	0.42	2.35	-44.7
MW0031	Oct-20	6.93	24.00	1,021	0.11	3.54	-39.6
	Jan-21	6.84	25.80	1,204	0.33	5.03	-36.1
	Apr-21	6.82	21.30	929	0.93	11.60	32.0
	Jul-21	6.93	26.70	901	0.04	1.88	-23.0
MW0032	Oct-20	7.07	27.60	2,604	0.64	5.74	5.5
	Jan-21	6.37	26.60	1,195	0.23	36.40	-90.3
	Apr-21	7.08	22.10	609	0.86	13.10	-20.7
	Jul-21	6.90	25.20	2,406	0.11	12.20	-45.1

Notes:
Field measurements displayed are final stablized measurements collected before sampling.
SC = Specific conductance in microSiemens per centimeter (µS/cm).
DO = Dissolved oxygen in milligrams per liter (mg/L).
Turb. = Turbidity in nephelometric turbidity units (NTUs).
ORP = Oxidation/reduction potential in millivolts (mV).
NM = Not measured.

Table 4-4. Contaminants of Concern Performance Monitoring Analytical Results

Sample Location	Screened Interval (feet bls)	Sample Date	tDCE	VC
MW0002	30-35	06/14/2019	0.73 U	**28**
		01/14/2020	0.73 U	**22**
		07/17/2020	0.73 U	**1.8 I**
		1/19/2021	0.73 U	**3.1**
		7/26/2021	**0.73 I**	**7.4**
MW0003	5-15	06/14/2019	0.73 U	0.71 U
		01/13/2020	0.73 U	0.71 U
		07/17/2020	0.73 U	0.71 U
MW0012	25-30	06/14/2019	0.73 U	**2.6**
		01/13/2020	0.73 U	**1.4 I**
		07/17/2020	0.73 U	**1.7 I**
		1/19/2021	0.73 U	0.71 U
		7/26/2021	0.73 U	0.71 U
MW0013	25-30	06/14/2019	0.73 U	0.71 U
		01/14/2020	0.73 U	**1.4 I**
		07/20/2020	0.73 U	**4.6**
		1/19/2021	0.73 U	**2.1 I**
		7/26/2021	0.73 U	**1.4 I**
MW0015	25-30	06/14/2019	0.73 U	0.71 U
		01/13/2020	0.73 U	**0.77 I**
		07/17/2020	0.73 U	0.71 U
		1/19/2021	0.73 U	0.71 U
		7/26/2021	0.73 U	0.71 U
MW0018	53-63	06/17/2019	0.73 U	**140**
		10/15/2019	1.5 U	**130**
		01/14/2020	0.73 U	**100**
		04/09/2020	0.73 U	**84**
		07/22/2020	0.73 U	**110**
		10/15/2020	0.73 U	**81**
		1/19/2021	0.73 U	**97**
		4/14/2021	0.73 U	**63**
		7/26/2021	0.73 U	**55**
MW0019	53-63	06/17/2019	**1.9 I**	**250**
		10/15/2019	1.5 U	**110**
		01/14/2020	0.73 U	**34**
		04/09/2020	0.73 U	**9.4**
		07/22/2020	0.73 U	**20**
		10/15/2020	0.73 U	**3.3**
		1/19/2021	0.73 U	**2.8**
		4/14/2021	0.73 U	**2.8**
		7/26/2021	0.73 U	**1.4 I**
MW0020	53-63	06/14/2019	0.73 U	0.71 U
		01/24/2020	0.73 U	0.71 U
		07/16/2020	0.73 U	0.71 U
MW0021	30-40	06/14/2019	0.73 U	0.71 U
		01/13/2020	0.73 U	0.71 U
		07/16/2020	0.73 U	0.71 U
MW0022	30-40	06/14/2019	0.73 U	0.71 U
		01/13/2020	0.73 U	0.71 U
		07/15/2020	0.73 U	0.71 U
MW0023	53-63	06/14/2019	0.73 U	0.71 U
		01/13/2020	0.73 U	0.71 U
		07/15/2020	0.73 U	0.71 U
MW0024	53-63	06/14/2019	0.73 U	0.71 U
		01/13/2020	0.73 U	0.71 U
		07/15/2020	0.73 U	0.71 U
MW0025	53-63	06/14/2019	0.73 U	0.71 U
		01/13/2020	0.73 U	0.71 U
		07/16/2020	0.73 U	0.71 U
MW0026	5-15	06/13/2019	0.73 U	0.71 U
		01/13/2020	0.73 U	0.71 U
		07/16/2020	0.73 U	0.71 U
MW0027	30-40	06/13/2019	0.73 U	0.71 U
		01/13/2020	0.73 U	0.71 U
		07/16/2020	0.73 U	0.71 U
		1/19/2021	0.73 U	**7**
		7/26/2021	0.73 U	0.71 U
MW0028	53-63	06/17/2019	0.73 U	**23**
		10/15/2019	0.73 U	**16**
		01/14/2020	0.73 U	**1.5 I**
		04/09/2020	0.73 U	**0.9 I**
		7/22/2020	0.73 U	**1.2 I**
		1/19/2021	0.73 U	0.71 U
		7/26/2021	0.73 U	0.71 U
MW0029	30-40	06/13/2019	0.73 U	0.71 U
		01/13/2020	0.73 U	0.71 U
		07/15/2020	0.73 U	0.71 U
		1/19/2021	0.73 U	0.71 U
		7/26/2021	0.73 U	0.71 U
MW0030	53-63	06/13/2019	**0.97 I**	**90**
		01/13/2020	0.73 U	**0.87 I**
		07/15/2020	0.73 U	0.71 U
		1/19/2021	0.73 U	0.71 U
		7/26/2021	0.73 U	0.71 U
MW0031	53-63	06/17/2019	**4.4 I**	**680**
		10/15/2019	3.6 U	**310**
		01/14/2020	0.73 U	**87**
		04/09/2020	0.73 U	**62**
		07/16/2020	0.73 U	**71**
		10/15/2020	0.73 U	**28**
		1/19/2021	0.73 U	**29**
		4/14/2021	0.73 U	**13**
		7/26/2021	0.73 U	**18**
MW0032	53-63	06/13/2019	0.73 U	0.71 U
		01/14/2020	0.73 U	**9.2**
		07/20/2020	0.73 U	**8.9**
		10/15/2020	0.73 U	**17**
		1/19/2021	0.73 U	0.71 U
		4/14/2021	0.73 U	**6**
		7/26/2021	0.73 U	**11**

Notes:
Concentrations in µg/L.
bls = below land surface.
tDCE = trans-1,2-dichloroethene.
VC = vinyl chloride.
U = Value was reported as below the method detection limit, therefore the detection limit is shown.
I = Value is between method detection limit and practical quantitation limit.
Shading indicatesState of Florida Groundwater Cleanup Target Level (GCTL) exceedance, tDCE = 100 µg/L, VC = 1 µg/L.
Bolding indicates a concentration is greater than the method detection limit.

Table 4-5. Miscellaneous Parameter Performance Monitoring Analytical Results

Monitoring Well (Screened Interval in feet bls)	MW0018 (53-63)								
Sample Date	**Jun-19**	**Oct-19**	**Jan-20**	**Apr-20**	**Jul-20**	**Oct-20**	**Jan-21**	**Apr-21**	**Jul-21**
Volatile Gases (µg/L)									
Carbon Dioxide	**128,000**	**82,800**	**75,200**	**71,900**	**70,500**	**65100**	--	--	--
Ethane	1.3 U	1.3 U	U	1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U
Ethene	**94.2**	**42.3**	**25.2**	**25.7**	**23.7**	**17.5**	**21.6**	**15.6**	**8.42**
Methane	**2,980**	**689**	**531**	**732**	**2,700**	**1960**	**2090**	**178**	**1410**
Metals (µg/L)									
Arsenic	8 U	8 U	--	--	--	--	--	--	--
Barium	**10.8**	**14.8 V**	--	--	--	--	--	--	--
Cadmium	0.45 U	0.45 U	--	--	--	--	--	--	--
Chromium	1.8 U	1.8 U	--	--	--	--	--	--	--
Iron	**2,120 V**	**2,240**	**1,980**	**1,990**	**1,960**	--	--	--	--
Lead	3.8 U	3.8 U	--	--	--	--	--	--	--
Mercury	0.023 U	0.023 U	--	--	--	--	--	--	--
Selenium	10 U	10 U	--	--	--	--	--	--	--
Silver	0.74 U	0.74 U	--	--	--	--	--	--	--
Metals Filtered (µg/L)									
Iron	**1,970 V**	**1,900**	**1,870**	**2,020**	**1,830**	--	--	--	--
Microbiological (cells/mL)									
BAV1 VC Reductase	0.5 U	0.5 U	**0.1** J	0.5 U	0.5 U	0.5 U	0.5 <	0.5 U	0.5 U
Dehalococcoides	**394**	**236**	**105**	**35.5**	**61.9**	79.6	119 =	74	57.8
TCE A Reductase*	0.5 U	0.5 U	**2.6**	0.5 U	0.5 U	0.5 <	0.5 U	0.5 U	0.5 U
Vinyl Chloride Reductase Gene	0.5 U	0.5 U	**1.5**	0.5 U	0.5 U	0.5 U	0.5 <	0.5 U	0.5 U
Miscellaneous (µg/L)									
Alkalinity	**356,000**	**357,000**	**380,000**	**355,000**	**362,000**	--	--	--	--
Nitrate	52 U	52 U	52 U	52 U	52 U	--	--	--	--
Nitrite	35 U	35 U	35 U	35 U	35 U	--	--	--	--
Sulfate	**1,100 I**	**1,200 I**	**1,300 I**	**660 I**	**1,100 I**	--	--	--	--
Sulfude	450 U	**810 I**	**930 I**	**460 I**	**960 I**	--	--	--	--
Total Organic Carbon	**6,800**	**8,600**	**9,500**	**8,000**	**9,200**	--	--	--	--

Table 4-5. Miscellaneous Parameter Performance Monitoring Analytical Results (continued)

Monitoring Well (Screened Interval in feet bls)	MW0019 (53-63)								
Sample Date	**Jun-19**	**Oct-19**	**Jan-20**	**Apr-20**	**Jul-20**	**Oct-20**	**Jan-21**	**Apr-21**	**Jul-21**
Volatile Gases (µg/L)									
Carbon Dioxide	**216,000**	**145,000**	**162,000**	**124,000**	**102,000**	**82800**	--	--	--
Ethane	1.3 U	**1.42 I**	1 U	1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U
Ethene	**329**	**230**	**22.3**	1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U
Methane	**2,130**	**1,920**	**2,640**	**950**	**1,260**	**829**	**510**	**386**	**203**
Metals (µg/L)									
Arsenic	8 U	8 U	--	--	--	--	--	--	--
Barium	**24.9**	**25.2 V**	--	--	--	--	--	--	--
Cadmium	0.45 U	0.45 U	--	--	--	--	--	--	--
Chromium	**1.93 I**	**4.14 I**	--	--	--	--	--	--	--
Iron	**4,120 V**	**3,260**	**2,770**	**2,290**	**1,770**	--	--	--	--
Lead	3.8 U	3.8 U	--	--	--	--	--	--	--
Mercury	0.023 U	0.023 U	--	--	--	--	--	--	--
Selenium	10 U	10 U	--	--	--	--	--	--	--
Silver	0.74 U	0.74 U	--	--	--	--	--	--	--
Metals Filtered (µg/L)									
Iron	**3,730 V**	**2,870**	**2,570**	**1,930**	**1,670**	--	--	--	--
Microbiological (cells/mL)									
BAV1 VC Reductase	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 <	0.5 U	0.5 U
Dehalococcoides	**361**	**137**	**152**	**156**	**68.5**	**97.4**	**233 =**	**134**	**50.1**
TCE A Reductase*	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 <	0.5 U	0.5 U
Vinyl Chloride Reductase Gene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 <	0.5 U	0.5 U
Miscellaneous (µg/L)									
Alkalinity	**474,000**	**522,000**	**444,000**	**415,000**	**393,000**	--	--	--	--
Nitrate	**400 I**	52 U	52 U	52 U	52 U	--	--	--	--
Nitrite	35 U	35 U	35 U	35 U	35 U	--	--	--	--
Sulfate	**1,100 I**	**550 I**	**4,800 I**	**80 I**	**4,200 I**	--	--	--	--
Sulfide	**480 I**	**1,600**	**1,100**	**780 I**	**1,300**	--	--	--	--
Total Organic Carbon	**16,000**	**21,000**	**17,000**	**12,000**	**17,000**	--	--	--	--

Table 4-5. Miscellaneous Parameter Performance Monitoring Analytical Results (continued)

Monitoring Well (Screened Interval in feet bls)	MW0028 (53-63)								
Sample Date	**Jun-19**	**Oct-19**	**Jan-20**	**Apr-20**	**Jul-20**	**Oct-20**	**Jan-21**	**Apr-21**	**Jul-21**
Volatile Gases (µg/L)									
Carbon Dioxide	**170,000**	**130,000**	**94,200**	**63,100**	**64,800**	--	--	--	--
Ethane	1.3 U	1.3 U	1 U	1 U	5.1 U	--	--	--	--
Ethene	**73.3**	**24.5**	**2.49 I**	1 U	5.1 U	--	--	--	--
Methane	**2,940**	**1,650**	**734**	**1,690**	**3,400**	--	--	--	--
Metals (µg/L)									
Arsenic	8 U	8 U	--	--	--	--	--	--	--
Barium	**12.9**	**15.2 V**	--	--	--		--	--	--
Cadmium	0.45 U	0.45 U	--	--	--	--	--	--	--
Chromium	1.8 U	**2.47 I**	--	--	--	--	--	--	--
Iron	**1,190 V**	**1,070**	**942**	**712**	**663**	--	--	--	--
Lead	3.8 U	3.8 U	--	--	--	--	--	--	--
Mercury	0.023 U	0.023 U	--	--	--	--	--	--	--
Selenium	10 U	10 U	--	--	--	--	--	--	--
Silver	0.74 U	0.74 U	--	--	--	--	--	--	--
Metals Filtered (µg/L)									
Iron	**1,130 V**	**1,060**	**865**	**659**	**643**				
Microbiological (cells/mL)									
BAV1 VC Reductase	0.5 U	0.5 U	1.7	0.5 U	0.5 U	--	--	--	--
Dehalococcoides	**337**	**64.2**	**296**	**38.8**	**25.9**	--	--	--	--
TCE A Reductase*	0.5 U	0.5 U	30.2	0.5 U	0.5 U	--	--	--	--
Vinyl Choride Reductase Gene	0.5 U	0.5 U	17.3	0.5 U	0.5 U	--	--	--	--
Miscellaneous (µg/L)									
Alkalinity	**458,000**	**440,000**	**381,000**	**330,000**	**332,000**	--	--	--	--
Nitrate	**460 I**	52 U	52 U	52 U	52 U	--	--	--	--
Nitrite	35 U	35 U	35 U	35 U	35 U	--	--	--	--
Sulfate	**130 I**	**210 I**	70 U	**1,200 I**	**100 I**	--	--	--	--
Sulfide	**860 I**	**1,100**	**930 I**	**620 I**	**1,100**	--	--	--	--
Total Organic Carbon	**23,000**	**18,000**	**15,000**	**12,000**	**13,000**	--	--	--	--

Table 4-5. Miscellaneous Parameter Performance Monitoring Analytical Results (continued)

Monitoring Well (Screened Interval in feet bls)	MW0031 (53-63)								
Sample Date	**Jun-19**	**Oct-19**	**Jan-20**	**Apr-20**	**Jul-20**	**Oct-20**	**Jan-21**	**Apr-21**	**Jul-21**
Volatile Gases (µg/L)									
Carbon Dioxide	**236,000**	**141,000**	**22,400**	**147,000**	**79,500**	2070 U	--	--	--
Ethane	1.3 U	**1.91 I**	1 U	**1.04 I**	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U
Ethene	**499**	**339**	**13.7**	**6.41**	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U
Methane	**972**	**1,810**	**420**	**1,000**	**1,110**	4 U	**152**	**370**	**582**
Metals (µg/L)									
Arsenic	8 U	8 U	--	--	--	--	--	--	--
Barium	**15.1**	**14.8 V**	--	--	--	--	--	--	--
Cadmium	0.45 U	0.45 U	--	--	--	--	--	--	--
Chromium	**2.77 I**	1.8 U	--	--	--	--	--	--	--
Iron	**1,400 V**	**1,200**	**1,110**	**1,110**	**976**	--	--	--	--
Lead	3.8 U	3.8 U	--	--	--	--	--	--	--
Mercury	0.023 U	0.023 U	--	--	--	--	--	--	--
Selenium	10 U	10 U	--	--	--	--	--	--	--
Silver	**0.862 IV**	0.74 U	--	--	--	--	--	--	--
Metals Filtered (µg/L)									
Iron	**1,180 V**	**1,130**	**1,080**	**1,040**	**946**				
Microbiological (cells/mL)									
BAV1 VC Reductase	0.5 U	0.5 U	**0.2 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 <	0.5 U
Dehalococcoides	**606**	**1.4**	**178**	**112**	**53.3**	**114**	**192 =**	**148**	**1**
TCE A Reductase*	0.5 U	0.5 U	**1.5**	0.5 U	0.5 U	0.5 U	0.5 <	0.5 U	0.5 U
Vinyl Chloride Reductase Gene	0.5 U	0.5 U	**1.2**	0.5 U	0.5 U	0.5 U	0.5 <	0.5 U	0.5 U
Miscellaneous (µg/L)									
Alkalinity	**522,000**	**484,000**	**542,000**	**455,000**	**400,000**	--	--	--	--
Nitrate	**460 I**	52 U	52 U	52 U	52 U	--	--	--	--
Nitrite	35 U	35 U	35 U	35 U	35 U	--	--	--	--
Sulfate	**2,000 I**	**840 I**	**80 I**	**4,500 I**	**14,000**	--	--	--	--
Sulfide	**940 I**	**1,600**	**2,200**	**1,300**	450 U	--	--	--	--
Total Organic Carbon	**18,000**	**20,000**	**22,000**	**13,000**	**19,000**	--	--	--	--

Notes:
U = Value was reported as below the method detection limit, therefore the detection limit is shown
I = Value is between method detection limit and practical quantitation limit
J = Estimated gene copies below Practical Quantitation Limit, but above Lower Quantitation Limit
V= Indicates that the analyte was detected both in the sample and the associated method blank.
Bolding indicates a concentration is greater than the method detection limit
* = TCE A Reductase is included in the Microbial Insights laboratory standard submittal package. TCE is not a contaminant of concern at this site, and is included in this table only to maintain consistency with the laboratory submittal package.

Table 4-6. Vinyl Chloride Mass Reduction

Monitoring Well (CRCA-)	Baseline	Operation							
	June-19	October-19		January-20		April-20		July-20	
	VC (µg/L)	VC (µg/L)	VC Reduction	VC (µg/L)	VC Reduction	VC (µg/L)	VC Reduction	VC (µg/L)	VC Reduction
Plume Centerline Wells									
MW0018	**140**	**130**	7.14%	**100**	28.57%	**84**	40.00%	**110**	21.43%
MW0019	**250**	**110**	56.00%	**34**	86.40%	**9.4**	96.24%	**20**	92.00%
MW0028	**23**	**16**	16.00%	**1.5 I**	93.48%	**0.9 I**	96.09%	**1.2 I**	94.78%
MW0031	**680**	**310**	54.41%	**87**	87.21%	**62**	90.88%	**71**	89.56%
Plume Centerline Well Geo Mean	152.96	91.77	40.00%	25.81	83.13%	14.49	90.53%	20.81	86.40%
Plume Centerline Well Mass (lbs)	4.79	2.88		0.81		0.45		0.65	
Sorbed Mass (lbs)	7.07E-05	4.24E-05		1.19E-05		6.69E-06		0.00	
Plume Centerline Well Mass Removal (lbs)		1.92		3.98		4.34		4.14	

Table 4-6. Vinyl Chloride Mass Reduction (continued)

Monitoring Well (CRCA-)	Operation							
	October-20		January-21		April-21		July-21	
	VC (µg/L)	VC Reduction	VC (µg/L)	VC Reduction	VC (µg/L)	VC Reduction	VC (µg/L)	VC Reduction
Plume Centerline Wells								
MW0018	**81**	42.14%	**97**	30.71%	**63**	55.00%	**55**	60.71%
MW0019	**3.3**	98.68%	**2.8**	98.88%	**2.8**	98.88%	**1.4 I**	99.44%
MW0028	**-**	-	0.71 U	100%	**-**	-	0.71 U	100%
MW0031	**28**	96%	**29**	96%	**13**	98%	**18**	97%
Plume Centerline Well Geo Mean	19.56	87.21%	8.65	94.35%	13.19	91.38%	5.60	96.34%
Plume Centerline Well Mass (lbs)	0.61		0.27		0.41		0.18	
Sorbed Mass (lbs)	9.04E-06		4.00E-06		6.09E-06		0.00	
Plume Centerline Well Mass Removal (lbs)	4.18		4.52		4.38		4.62	

Notes:
VC = vinyl chloride.
lbs = pounds.
µg/L = micrograms per liter.
I = Value is between method detection limit and practical quantitation limit.
Shading indicates Florida Department of Environmental Protection (FDEP) Groundwater Cleanup Target Level (GCTL) exceedance, tDCE = 100 µg/L, VC = 1 µg/L.
* = rounded to the nearest hundreth of a pound.
Bolding indicates a concentration is greater than the method detection limit.

Table 4-7 CRCA Sub-Slab Gas Sampling Results, 2019-2021

Analyte	USEPA VISL (Commercial) in µg/ m³	Sampling Location (CRCA-)								
		VMP01								
		2/1/2019	10/2/2019	1/15/2020	4/9/2020	7/17/2020	10/15/2020	1/20/2021	4/14/2021	7/26/2021
1,2,4-Trichlorobenzene	290	2.6 U	1.5 U	12 U	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	8,800	0.64 U	**9.8**	1.4 U	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	8,800	0.64 U	**2.6**	1.1 U	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	37.2	0.52 U	**0.66 I**	3.8 U	4.2 U	5.5 U	0.38 U	0.38 U	0.36 U	0.41 U
1,4-Dichlorobenzene	NC	0.42 U	**0.23 I**	0.5 U	1.7 U	6.0 U	0.42 U	0.42 U	0.42 U	0.46 U
2-Butanone	730,000	**27**	**47**	22 U	NA	NA	NA	NA	NA	NA
2-Propanol	29,200	0.64 U	1.0 U	**18 I**	NA	NA	NA	NA	NA	NA
4-Ethyltoluene	NC	0.59 U	**8.8**	1.7 U	NA	NA	NA	NA	NA	NA
Acetone	4,510,000	**105**	**150**	42 U	46 U	**25**	**8.4**	**5.9**	**11**	**7.8**
2H,3H-Decafluoropentane	131,400	**76,200**	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	52	0.15 U	**8.5**	**2.8 I**	NA	NA	NA	NA	NA	NA
Carbon Disulfide	10,200	0.29 U	**0.97 I**	3.5 U	NA	NA	NA	NA	NA	NA
Chloroform	18	0.39 U	**1.8**	**1.7 I**	**1.9 I**	6.0 U	0.51 U	0.51 U	0.49 U	0.56 U
Chloromethane	1,310	0.13 U	0.16 U	1.3 U	1.4 U	3.2 U	0.64 U	0.64 U	0.62 U	0.71 U
Dichlorodifluoromethane	14,600	0.33 U	0.30 U	**3.0 I**	2.4 U	8.8 U	0.74 U	0.74 U	0.72 U	0.81 U
Ethanol	NC	1.6 U	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	54,400,000	**1.8 I**	**49**	**6.5**	NA	NA	NA	NA	NA	NA
Freon 113	730,000	**24**	**26**	**14**	**54**	**64**	**6.7**	**3.9**	**3.6**	**4.7**
N-Heptane	58,400	**9.4**	**4.5**	**12**	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	18.6	1.9 U	**0.93 I**	5.6 U	6.2 U	13 U	0.5 U	0.5 U	0.48 U	0.55 U
Hexane	102,000	**2.0 I**	1.7 U	NA	NA	NA	NA	NA	NA	NA
Methylene Chloride	40,900	0.20 U	1.6 U	12 U	13 U	**2.4 I**	**1.2 I**	**0.75 I**	0.26 U	0.3 U
Propene	48,300	0.11 U	**2.2**	**3.4 I**	**4.1 I**	3.1 U	0.74 U	0.74 U	0.72 U	0.81 U
Styrene	14,600	0.32 U	**0.53**	1.6 U	NA	NA	NA	NA	NA	NA

Table 4-7 CRCA Sub-Slab Gas Sampling Results, 2019-2021 (continued)

Analyte	USEPA VISL (Commercial) in µg/ m³	Sampling Location (CRCA-)								
		VMP01								
		2/1/2019	10/2/2019	1/15/2020	4/9/2020	7/17/2020	10/15/2020	1/20/2021	4/14/2021	7/26/2021
Tertiary Butyl Alcohol	102,000	**1.9 I**	**2.2**	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethylene	584	0.81 U	0.38 U	2.9 U	3.2 U	6.8 U	0.42 U	0.42 U	0.4 U	0.46 U
Tetrahydrofuran	292,000	**139**	**160**	**4.9**	NA	NA	NA	NA	NA	NA
Toluene	730,000	0.22 U	**31**	1.6 U	NA	NA	NA	NA	NA	NA
TLPH	NC	NA	**1,800**	11,000 U	NA	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	102,000	**95.2**	**1.1**	**2.6 I**	1.1 U	**5.5 I**	**4.2**	0.43 U	**0.69 I**	**0.5 U**
Trichloroethene	100	**0.86**	**55**	1.7 U	1.8 U	6.1 U	0.47 U	0.47 U	0.46 U	0.52 U
Trichlorofluoromethane	NC	0.62 U	0.27 U	2.1 U	2.3 U	6.2 U	0.46 U	0.46 U	0.44 U	0.5 U
Total Xylenes	14,600	**9.6**	**260**	4.8 U	NA	NA	NA	NA	NA	NA
Vinyl Acetate	29,200	0.49 U	0.14 U	1.0 U	NA	NA	NA	NA	NA	NA
Vinyl Chloride	93	0.23 U	0.18 U	1.4 U	1.5 U	4.6 U	0.75 U	0.75 U	0.73 U	0.83 U
		VMP02								
		2/1/2019	10/2/2019	1/15/2020	4/9/2020	7/17/2020	10/15/2020	1/20/2021	4/14/2021	7/26/2021
1,2,4-Trichlorobenzene	290	2.6 U	3.6 U	2.9 U	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	8,800	0.64 U	**7.1**	**0.79 I**	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	8,800	0.64 U	**2.1**	**0.32 I**	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	37.2	0.52 U	1.2 U	0.93 U	4.6 U	18 U	3.2 U	0.76 U	0.38 U	0.4 U
1,4-Dichlorobenzene	NC	0.42 U	0.46 U	0.37 U	1.8 U	20 U	3.5 U	0.84 U	0.42 U	0.45 U
2-Butanone	730,000	**18**	**62**	**7.4 I**	NA	NA	NA	NA	NA	NA
2-Propanol	29,200	**136**	2.4 U	160	NA	NA	NA	NA	NA	NA
4-Ethyltoluene	NC	0.59 U	**6.9**	**0.59 I**	NA	NA	NA	NA	NA	NA
Acetone	4,510,000	**80.3**	**210**	**13 I**	51 U	**11 I**	**7 I**	**3.5 I**	**4**	**4.3**
2H,3H-Decafluoropentane	131,400	**450**	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	52	0.15 U	**3.3**	**1.6**	NA	NA	NA	NA	NA	NA
Carbon Disulfide	10,200	0.29 U	1.1 U	**1.8 I**	NA	NA	NA	NA	NA	NA
Chloroform	18	0.39 U	**1.5 I**	**0.93 I**	1.7 U	20 U	4.3 U	1 U	0.51 U	0.55 U
Chloromethane	1,310	0.13 U	0.38 U	**0.31 I**	1.5 U	10 U	5.5 U	1.3 U	0.65 U	0.69 U
Dichlorodifluoromethane	14,600	**3.0**	0.71 U	0.57 U	2.8 U	29 U	6.3 U	1.5 U	0.74 U	0.79 U
Ethanol	NC	**8.1**	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	54,400,000	**6.5**	**52**	0.39 U	NA	NA	NA	NA	NA	NA
Freon 113	730,000	**14**	**6.8**	**78**	**67**	**690**	**440**	**120**	**72**	**44**
N-Heptane	58,400	**12**	**5.7**	0.49 U	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	18.6	1.9 U	**1.9 I**	1.4 U	6.8 U	42 U	4.2 U	1 U	0.5 U	0.53 U

Table 4-7 CRCA Sub-Slab Gas Sampling Results, 2019-2021 (continued)

Analyte	USEPA VISL (Commercial) in µg/ m³	Sampling Location (CRCA-)								
		VMP02 (Continued)								
		2/1/2019	10/2/2019	1/15/2020	4/9/2020	7/17/2020	10/15/2020	1/20/2021	4/14/2021	7/26/2021
Hexane	102,000	**1.3**	**4.5 I**	NA	NA	NA	NA	NA	NA	NA
Methylene Chloride	40,900	0.20 U	3.6 U	2.9 U	14 U	**7.6 I**	**2.7 I**	**0.97 I**	**0.76 I**	0.29 U
Propene	48,300	0.11 U	0.35 U	**1.1 I**	**1.9**	10 U	6.3 U	1.5 U	0.74 U	0.79 U
Styrene	14,600	0.32 U	0.47 U	**0.92 I**	NA	NA	NA	NA	NA	NA
Tertiary Butyl Alcohol	102,000	0.17 U	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethylene	584	**2.7**	0.90 U	0.72 U	3.6 U	22 U	3.5 U	0.84 U	0.42 U	0.45 U
Tetrahydrofuran	292,000	**91.4**	**230**	**4.7**	NA	NA	NA	NA	NA	NA
Toluene	730,000	**1.5 I**	**38**	**1.0 I**	NA	NA	NA	NA	NA	NA
TLPH	NC	NA	3,200 U	2,600 U	NA	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	102,000	0.11 U	**3.9**	**24**	**3.2 I**	**15 I**	**8.8 I**	**5.5 I**	**1.8 I**	**6.2**
Trichloroethene	100	0.41 U	**76**	0.41 U	2.0 U	20 U	4 U	0.94 U	0.47 U	0.5 U
Trichlorofluoromethane	NC	0.62 U	**0.93 I**	**0.95 I**	2.5 U	20 U	3.9 U	0.92 U	0.46 U	0.49 U
Total Xylenes	14,600	**41**	**270**	**1.9**	NA	NA	NA	NA	NA	NA
Vinyl Acetate	29,200	0.49 U	0.32 U	0.26 U	NA	NA	NA	NA	NA	NA
Vinyl Chloride	93	0.23 U	0.43 U	0.34 U	1.7 U	15 U	6.4 U	1.5 U	0.76 U	0.81 U
		VMP03								
		2/1/2019	10/2/2019	1/15/2020	4/9/2020	7/17/2020	10/15/2020	1/20/2021	4/14/2021	7/26/2021
1,2,4-Trichlorobenzene	290	2.6 U	**11**	14 U	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	8,800	0.64 U	**6.9**	**2.0 I**	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	8,800	0.64 U	**1.9**	1.4 U	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	37.2	0.52 U	0.50 U	4.6 U	5.2 U	8.8 U	9.7 U	0.45 U	0.36 U	0.41 U
1,4-Dichlorobenzene	NC	0.42 U	0.20 U	1.8 U	2.1 U	9.8 U	11 U	0.49 U	0.4 U	0.45 U
2-Butanone	730,000	**22**	**45**	27 U	NA	NA	NA	NA	NA	NA
2-Propanol	29,200	**39.6**	**22**	**1,200**	NA	NA	NA	NA	NA	NA
4-Ethyltoluene	NC	0.59 U	**6.4**	2.0 U	NA	NA	NA	NA	NA	NA
Acetone	4,510,000	**46.3**	**150**	51 U	58 U	**7.2 I**	**12** I	**4.1**	**8.3**	**5.4**
2H,3H-Decafluoropentane	131,400	8.2 U	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	52	0.15 U	**1.1**	**2.3 I**	NA	NA	NA	NA	NA	NA
Carbon Disulfide	10,200	0.29 U	**0.61 I**	4.2 U	NA	NA	NA	NA	NA	NA
Chloroform	18	0.39 U	**9.7**	**4.6 I**	6.0	9.7 U	11 U	**1.9 I**	**2.4 I**	**2.5 I**
Chloromethane	1,310	0.13 U	0.16 U	1.5 U	1.7 U	5.2 U	5.7 U	0.76 U	0.62 U	0.7 U
Dichlorodifluoromethane	14,600	0.33 U	0.30 U	2.6 U	3.2 U	14 U	16 U	0.87 U	0.72 U	0.8 U
Ethanol	NC	1.6 U	NA	NA	NA	NA	NA	NA	NA	NA

Table 4-7 CRCA Sub-Slab Gas Sampling Results, 2019-2021 (continued)

Analyte	USEPA VISL (Commercial) in µg/ m³	Sampling Location (CRCA-)								
		VMP03 (Continued)								
		2/1/2019	10/2/2019	1/15/2020	4/9/2020	7/17/2020	10/15/2020	1/20/2021	4/14/2021	7/26/2021
Ethylbenzene	54,400,000	**2.1 I**	**43**	1.9 U	NA	NA	NA	NA	NA	NA
Freon 113	730,000	**71**	**94**	**87**	**18**	**1,100**	**270**	**8.1**	**2.7 I**	**5**
N-Heptane	58,400	**7.8**	**5.0**	2.4 U	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	18.6	1.9 U	**0.89 I**	6.8 U	7.8 U	21 U	23 U	0.59 U	0.48 U	0.54 U
Hexane	102,000	0.15 U	**1.7 I**	NA	NA	NA	NA	NA	NA	NA
Methylene Chloride	40,900	0.20 U	1.6 U	14 U	17 U	**3.7 I**	**4.3 I**	**1.1 I**	0.26 U	0.29 U
Propene	48,300	0.11 U	0.15 U	**3.3 I**	**3.3 I**	5.0 U	5.5 U	0.87 U	0.72 U	0.8 U
Styrene	14,600	0.32 U	**0.42 I**	1.9 U	NA	NA	NA	NA	NA	NA
Tertiary Butyl Alcohol	102,000	0.17 U	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethylene	584	0.81 U	0.39 U	3.6 U	4.1 U	11 U	12 U	0.49 U	0.4 U	0.45 U
Toluene	730,000	0.22 U	**30**	**8.5**	NA	NA	NA	NA	NA	NA
TLPH	NC	NA	**1,700**	13,000 U	NA	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	102,000	0.11 U	0.38 I	**4.3 I**	**3.1 I**	6.6 U	7.3 U	0.51 U	**0.52 I**	0.47 U
Trichloroethene	100	0.41 U	**56**	2.0 U	2.3 U	9.8 U	11 U	0.56 U	0.46 U	0.51 U
Trichlorofluoromethane	NC	0.62 U	**1.3**	2.5 U	2.8 U	10 U	11 U	0.54 U	0.44 U	0.5 U
Total Xylenes	14,600	**11**	**220**	5.8 U	NA	NA	NA	NA	NA	NA
Vinyl Acetate	29,200	0.49 U	0.14 U	1.3 U	NA	NA	NA	NA	NA	NA
Vinyl Chloride	93	0.23 U	**0.24 I**	1.7 U	1.9 U	7.5 U	8.2 U	0.89 U	0.73 U	0.82 U
		VMP04								
		2/1/2019	10/2/2019	1/15/2020	4/9/2020	7/17/2020	10/15/2020	1/20/2021	4/14/2021	7/26/2021
1,2,4-Trichlorobenzene	290	2.6 U	3.8 U	6.8 U	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	8,800	0.64 U	**3.3**	**0.97 I**	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	8,800	0.64 U	**1.0 I**	0.64 U	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	37.2	0.52 U	1.2 U	2.2 U	3.8 U	19 U	1.6 U	0.78 U	0.36 U	0.41 U
1,4-Dichlorobenzene	NC	0.42 U	0.49 U	0.87 U	1.5 U	21 U	1.8 U	0.87 U	0.4 U	0.46 U
2-Butanone	730,000	**24**	**45**	13 U	NA	NA	NA	NA	NA	NA
2-Propanol	29,200	**40.8**	**960**	14 I	NA	NA	NA	NA	NA	NA
4-Ethyltoluene	NC	0.59 U	**2.9**	0.97 U	NA	NA	NA	NA	NA	NA
Acetone	4,510,000	**31.4**	**190**	24 U	42 U	**42 I**	**15**	**31**	**18**	**42**
2H,3H-Decafluoropentane	131,400	**2.0**	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	52	**2.0 I**	**2.4**	**1.9 I**	NA	NA	NA	NA	NA	NA
Carbon Disulfide	10,200	0.29 U	1.1 U	2.0 U	NA	NA	NA	NA	NA	NA
Chloroform	18	**12**	**6.3**	**17**	16	21 U	2.2 U	1.1 U	**1.4 I**	0.56 U

Table 4-7 CRCA Sub-Slab Gas Sampling Results, 2019-2021 (continued)

Analyte	USEPA VISL (Commercial) in µg/ m³	Sampling Location (CRCA-)								
		VMP04 (Continued)								
		2/1/2019	10/2/2019	1/15/2020	4/9/2020	7/17/2020	10/15/2020	1/20/2021	4/14/2021	7/26/2021
Chloromethane	1,310	0.13 U	0.40 U	0.72 U	1.2 U	11 U	2.8 U	1.3 U	0.62 U	0.71 U
Dichlorodifluoromethane	14,600	0.33 U	0.75 U	1.2 U	2.3 U	30 U	3.2 U	1.5 U	0.71 U	0.81 U
Ethanol	NC	**11**	NA	NA	NA	NA	NA	NA	NA	NA
Freon 113	730,000	**78.2**	**56**	**63**	**54**	**980**	**130**	**34**	**21**	**350**
N-Heptane	58,400	**20**	**4.8**	1.2 U	NA	NA	NA	NA	NA	NA
Ethylbenzene	54,400,000	**13**	**22**	0.91 U	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	18.6	1.9 U	**1.8 I**	3.2 U	5.6 U	44 U	2.2 U	1 U	0.48 U	0.54 U
Hexane	102,000	**4.9**	**4.6 I**	NA	NA	NA	NA	NA	NA	NA
Methylene Chloride	40,900	**2.9**	3.9 U	6.9 U	12 U	7.7 U	**1.8 I**	**1.1 I**	0.26 U	**1.3 I**
Propene	48,300	0.11 U	**3.7**	**4.6**	**4.7 I**	11 U	3.2 U	1.5 U	0.71 U	0.81 U
Styrene	14,600	0.32 U	0.50 U	0.89 U	NA	NA	NA	NA	NA	NA
Tertiary Butyl Alcohol	102,000	0.17 U	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethylene	584	0.81 U	0.95 U	1.7 U	2.9 U	23 U	1.8 U	0.87 U	0.4 U	0.46 U
Tetrahydrofuran	292,000	**104**	**150**	**4.4**	NA	NA	NA	NA	NA	NA
Toluene	730,000	**2.7 I**	**22**	**1.5 I**	NA	NA	NA	NA	NA	NA
TLPH	NC	**2.7**	3,400 U	6,100 U	NA	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	102,000	0.11 U	**3.9**	**2.4 I**	0.99 U	14 U	**4.5 I**	0.9 U	**1 I**	**0.56 I**
Trichloroethene	100	0.41 U	**47**	0.95 U	1.6 U	21 U	2.1 U	0.98 U	0.45 U	0.51 U
Trichlorofluoromethane	NC	0.62 U	**1.1 I**	1.2 U	2.0 U	21 U	2 U	0.95 U	0.44 U	0.5 U
Total Xylenes	14,600	**33**	**110**	2.7 U	NA	NA	NA	NA	NA	NA
Vinyl Acetate	29,200	**2.3 I**	0.34 U	0.60 U	NA	NA	NA	NA	NA	NA
Vinyl Chloride	93	0.23 U	0.45 U	0.80 U	1.4 U	16 U	3.3 U	1.6 U	0.72 U	0.82 U

Notes:

USEPA VISL = United States Environmental Protection Agency Vapor Intrusion Screneing Level, May 2018 Region Screening Levels, 10-6 carcinogen risk, commercial

µg/ m³ = micrograms per cubic meter.

Bolded concentrations indicated exceedance in laboratory method detection limit.

I = Analyte detected at a value greater than the laboratory method detecion limit, but less than the practical quantitiation limit.

U = Analyte not detected at associated detection limit.

NA = Not analyzed.

NC = No screening criteria has been established or was calculated.

2-Butanone = Methyl Ethyl Ketone

2-Propanol = Isopropyl Alcohol

TLPH = Total Light Petroleum Hydrocarbons

Table 4-8 Ambient Air Analytical Results

Analyte	Permissable Exposure Limit	Threshold Limit Value	Sample ID									
			SYS AIR									
			06/18/2019	08/12/2019	10/2/2019	1/15/2020	4/9/2020	7/16/2020	10/15/2020	1/20/2021	4/14/2021	7/26/2021
1,2,4-Trichlorobenzene	NC	NC	**11**	1.6 U	1.7 U	1.5 U	NR	NR	NR	NR	NR	NR
1,2,4-Trimethylbenzene	NC	NC	**0.70 I**	**0.33 I**	**0.39 I**	**0.31 I**	NR	NR	NR	NR	NR	NR
1,3,5-Trimethylbenzene	NC	NC	**0.46 I**	0.15 U	0.16 U	0.15 U	NR	NR	NR	NR	NR	NR
1,4-Dichlorobenzene	75,000	10,000	**0.34 I**	0.20 U	0.22 U	0.20 U	0.15 U	3.5 U	2.4 U	0.41 U	0.42 U	0.44 U
2-Butanone	200,000	200,000	**5.2 I**	2.9 U	3.2 U	2.9 U	NR	NR	NR	NR	NR	NR
2-Propanol	NC	NC	**33**	**2.2 I**	**22**	**16**	NR	NR	NR	NR	NR	NR
4-Ethyltoluene	NC	NC	**0.88 I**	**0.28 I**	**0.24**	**0.29 I**	NR	NR	NR	NR	NR	NR
Acetone	2,400,000	250,000	**18**	**15**	11 U	**7.5 I**	**7.9**	**13**	**11**	**2.6 I**	**5.3 V**	**3.9**
Benzene	10,000	500	0.21 U	**0.24 I**	0.23 U	**0.26 I**	NR	NR	NR	NR	NR	NR
Carbon Disulfide	20,000	1,000	**0.51 I**	**2.4**	0.50 U	**0.65 I**	NR	NR	NR	NR	NR	NR
Carbon Tetrachloride	10,000	1,000	**0.49 I**	**0.48 I**	**0.38 I**	**0.60 I**	**0.53 I**	3.2 U	2.2 U	0.36 U	0.36 U	0.38 U
Chloromethane	NC	NC	**1.4**	**1.7**	**1.0**	**1.0**	**1.3**	1.9 U	**1.3 I**	0.63 U	0.66 U	**0.80 I**
Dichlorodifluoromethane	1,000,000	1,000,000	**2.2**	**2.2**	**1.9**	**1.7**	**1.6**	5.3 U	3.5 U	0.73 U	0.74 U	0.78 U
Ethyl Acetate	400,000	400,000	0.15 U	0.15 U	**0.29 I**	0.14 U	NR	NR	NR	NR	NR	NR
Freon 113	1,000,000	1,000,000	**2.5**	**0.75 I**	**0.51 I**	**4.0**	**2.2**	4.7 U	3.1 U	0.42 U	0.43 U	0.45 U
Hexachlorobutadiene	NC	NC	**0.96**	0.74 U	**0.96 I**	0.73 U	0.56 U	7.5 U	5.0 U	0.49 U	0.50 U	0.53 U
Methylene Chloride	100,000	50,000	1.6 U	1.6 U	1.7 U	1.6 U	**1.9 I**	**1.9 I**	**2.1 IV**	0.99 IV	0.27 U	**0.68 I**
n-Hexane	500,000	50,000	1.7 U	**5.2 I**	**1.9 I**	1.7 U	NR	NR	NR	NR	NR	NR
Propene	1,800,000	500,000	**0.34 I**	0.15 U	**0.34 I**	**0.38 I**	**0.60**	1.8 U	1.2 U	0.73 U	0.74 U	0.78 U
Tetrachloroethene	100,000	25,000	0.39 U	**0.69 I**	**0.60 I**	0.38 U	0.29 U	4 U	2.7 U	0.41 U	0.42 U	0.44 U
Tetrahydrofuran	200,000	50,000	**0.53 I**	0.18 U	0.19 U	0.18 U	NR	NR	NR	NR	NR	NR
Toluene	200,000	20,000	**0.60 I**	**0.61 I**	**0.51 I**	**0.62 I**	NR	NR	NR	NR	NR	NR
trans-1,2-Dichloroethene	200,000	200,000	**5.8**	**20**	**0.43 I**	**22**	**0.44 I**	**49**	**210**	**0.96 I**	**7.2**	**3.6**
Trichlorofluoromethane	NC	NC	**1.3**	**1.2**	**1.2**	**1.2**	**1.1**	3.6 U	2.4 U	0.45 U	0.46 U	0.48 U
Vinyl Chloride	1,000	1,000	0.19 U	**4.0**	**1.3**	0.18 U	0.14 U	2.7 U	1.8 U	0.74 U	0.76 U	0.80 U
Xylenes (Total)	100,000	100,000	**1.2**	**2.1**	**1.0**	0.62	NR	NR	NR	NR	NR	NR

Notes:

Values are presented as 8-hour time weighted average.

Concentrations in micrograms per cubic meter.

U = Value was reported as below the method detection limit, therefore the detection limit is shown.

I = Value is between method detection limit and practical quantitation limit.

Shaded analytes indicated constituents detected in the groundwater during monitoring sampling.

Bolded concentrations indicated exceedance in laboratory method detection limit.

NA = Not available.

NC = Not Calculated.

PEL = Permissible exposure limit.

TLV = Threshold limit value.

NR = Not Recorded.

V = Analyte was detected in both the sample and the associated method blank.

FIGURE 4-1 MONITORING WELL LOCATION AND PERFORMANCE SAMPLING PLAN, YEAR 2

SWMU 041, KENNEDY SPACE CENTER, FLORIDA

Aerial photograph provided by Google Earth Pro, dated February 2020

Contractors Road

MW0021 [30-40]
IW0002
IW0001
MW0020 [53-63]
MW0022 [30-40]
MW0023 [53-63]
MW0029 [30-40]
MW0030 [53-63]
MW0011 [5-10]
IW0003
MW0013 [25-30]
MW0012 [25-30]
MW0004 [5-15]
EW0003
IW0007
MW0005A [5-10]
MW0018 [53-63]
MW0019 [53-63]
MW0003 [5-15]
MW0005C [2-7]
MW0010 [5-15]
MW0031 [53-63]
MW0001 [5-15]
EW0002
MW0009 [5-15]
MW0002 [30-35]
MW0005 [5-15]
MW0005B [12-17]
EW0001
MW0008 [5-15]
IW0005
Chemical Process Area
MW0026 [5-15]
MW0014 [5-10]
MW0006 [5-15]
MW0027 [30-40]
MW0015 [25-30]
IW0006
MW0007 [5-15]
MW0028 [53-63]
MW0017 [25-30]
IW0004
MW0025 [53-63]
MW0016 [5-10]
MW0024 [53-63]
MW0032 [53-63]

Legend

- Existing Monitoring Well (CRCA)
- Groundwater Injection Well (CRCA)
- Groundwater Extraction Well (CRCA)
- Chemical Process Area

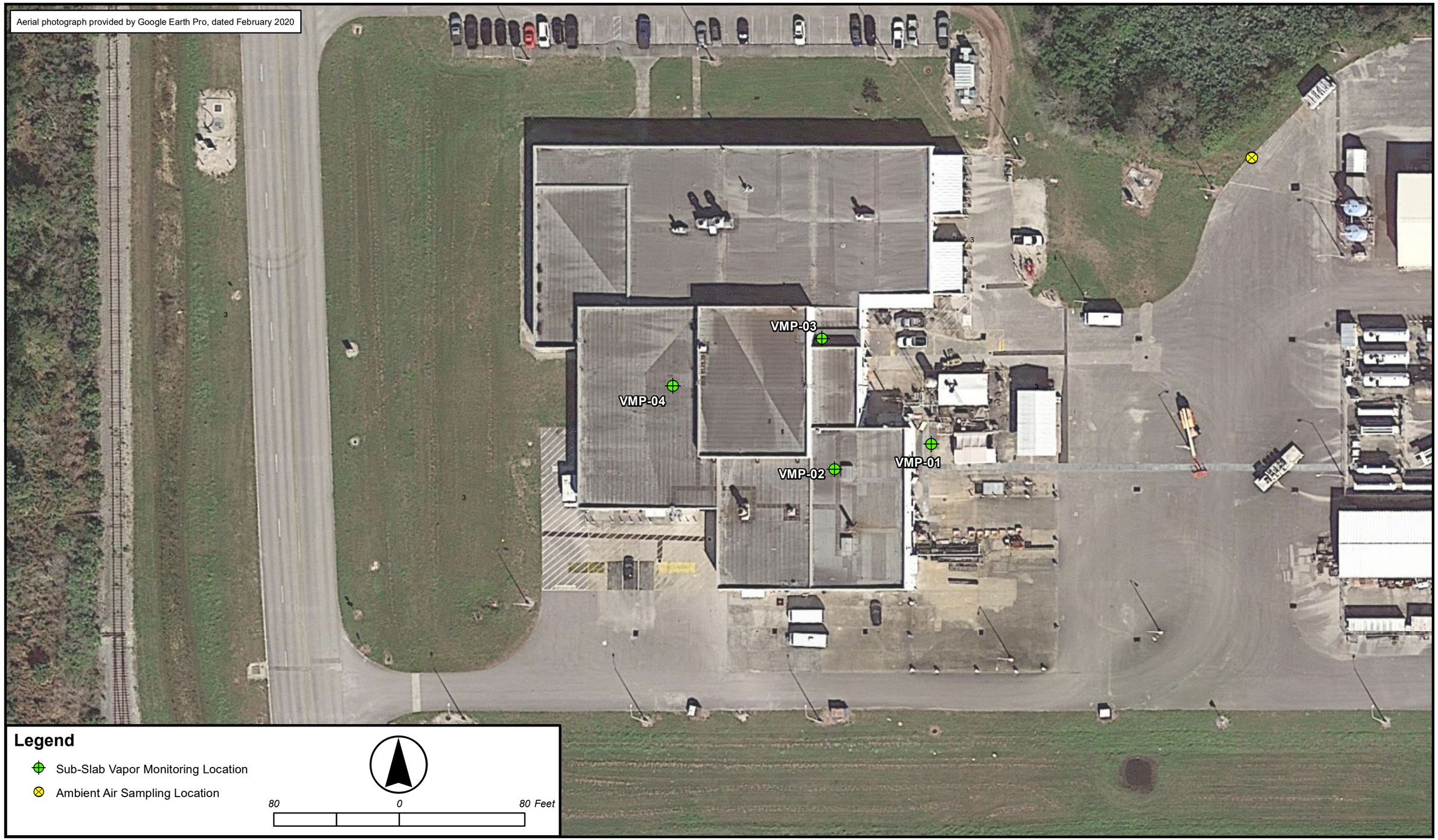
Green shade=Quarterly Performance Monitoring (Year 2)
Orange shade=Semi-Annual Performance Monitoring (Year 2)

100 0 100 Feet

JAX C:\GIS\KSC\MXD\CRCA\STEP 2\MXD\0_CRCA_MW_PERFORMANCE_SAMPLING_SEPT2021.MXD 09/24/21

FIGURE 4-2 AMBIENT AIR AND SUB-SLAB VAPOR MONITORING SAMPLING LOCATIONS

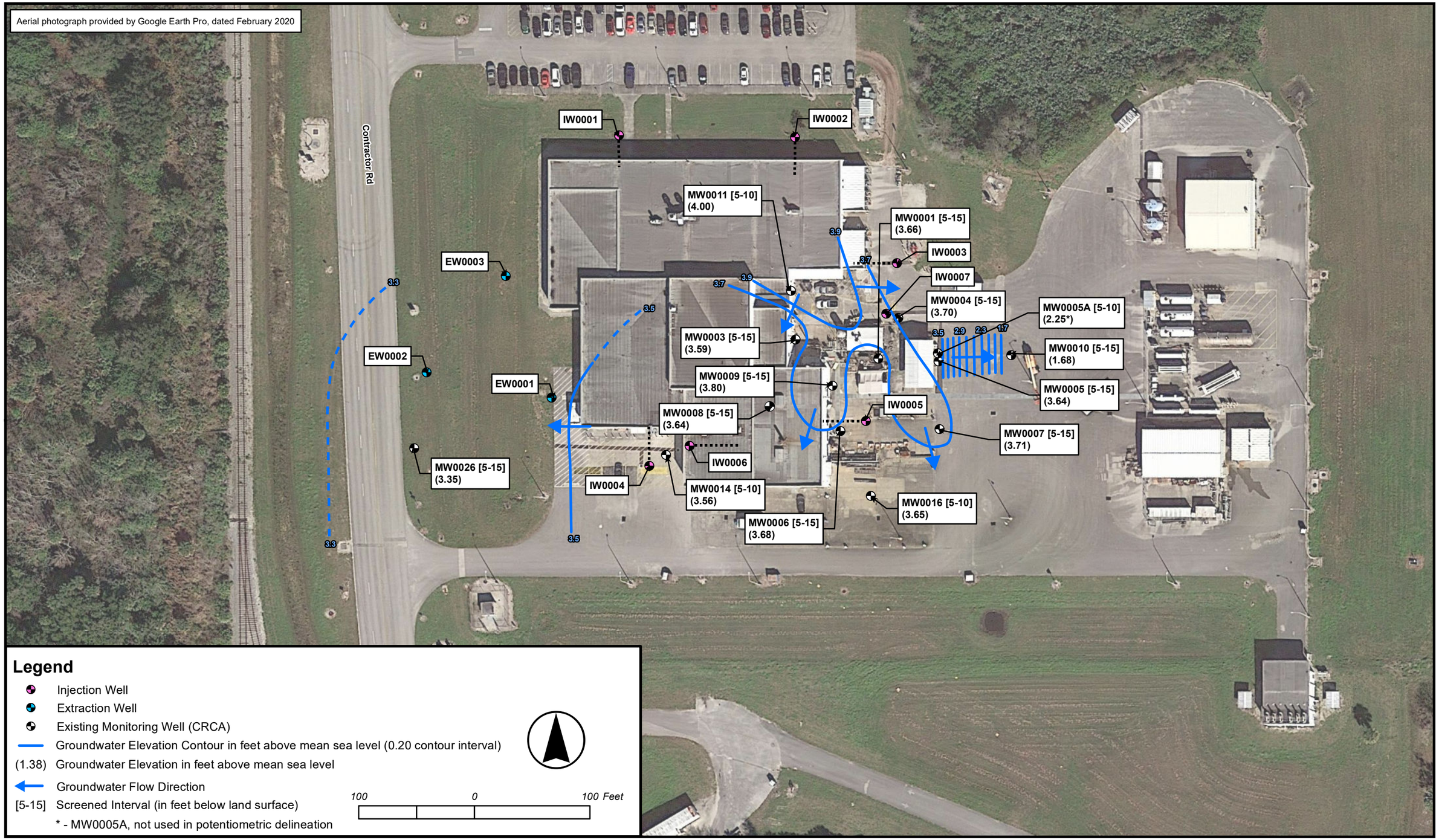
SWMU 041, KENNEDY SPACE CENTER, FLORIDA



JAX C:\GIS\KSC\MXD\CRCA\STEP 2\MXD\A-6_CRCA_2019_VMP_LOCATIONS.MXD 11/11/20

FIGURE 4-3 OCTOBER 2020 SHALLOW POTENTIOMETRIC SURFACE MAP

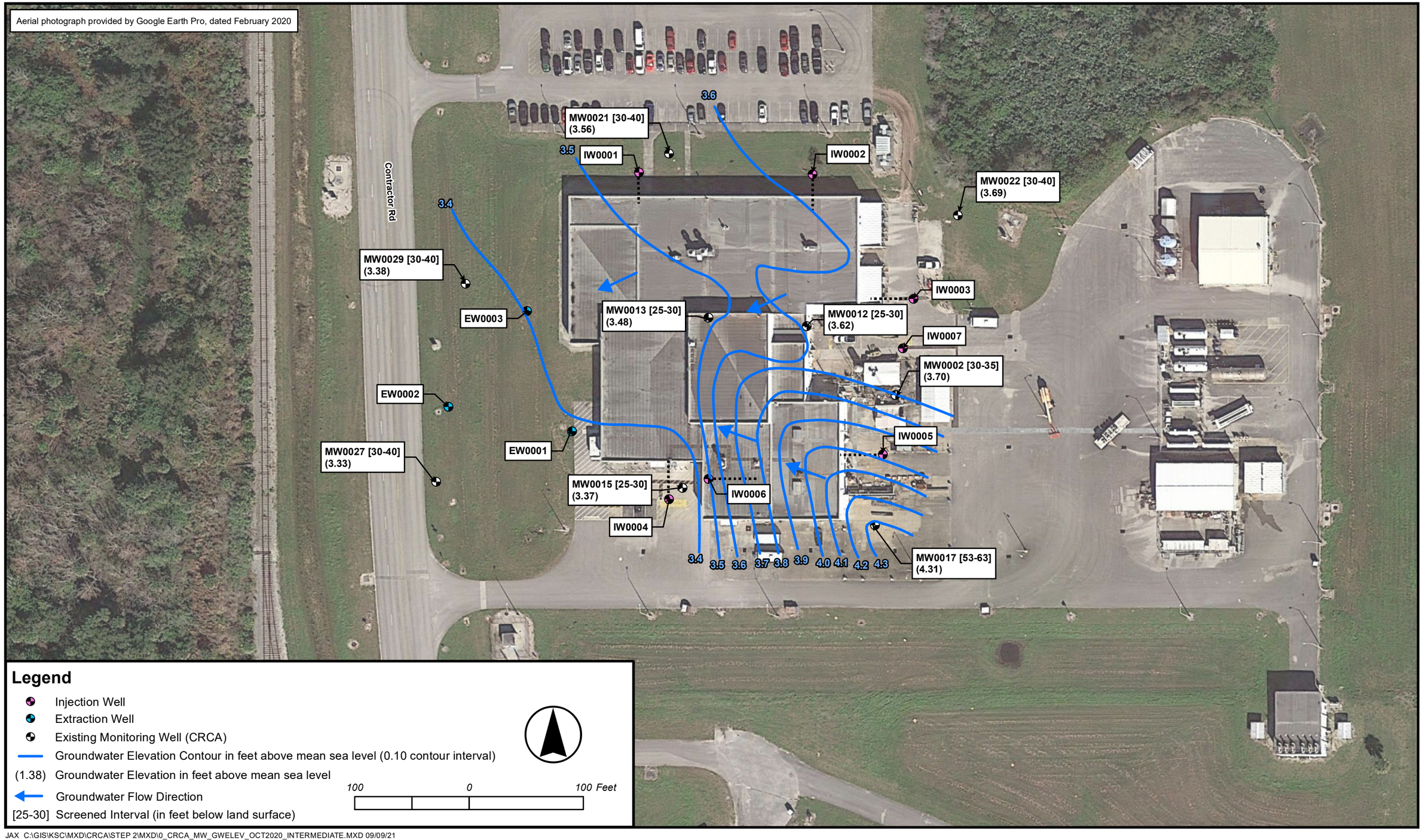
SWMU 041, KENNEDY SPACE CENTER, FLORIDA



JAX C:\GIS\KSC\MXD\CRCA\STEP 2\MXD\0_CRCA_MW_GWELEV_OCT2020_SHALLOW.MXD 09/09/21

FIGURE 4-4 OCTOBER 2020 INTERMEDIATE POTENTIOMETRIC SURFACE MAP

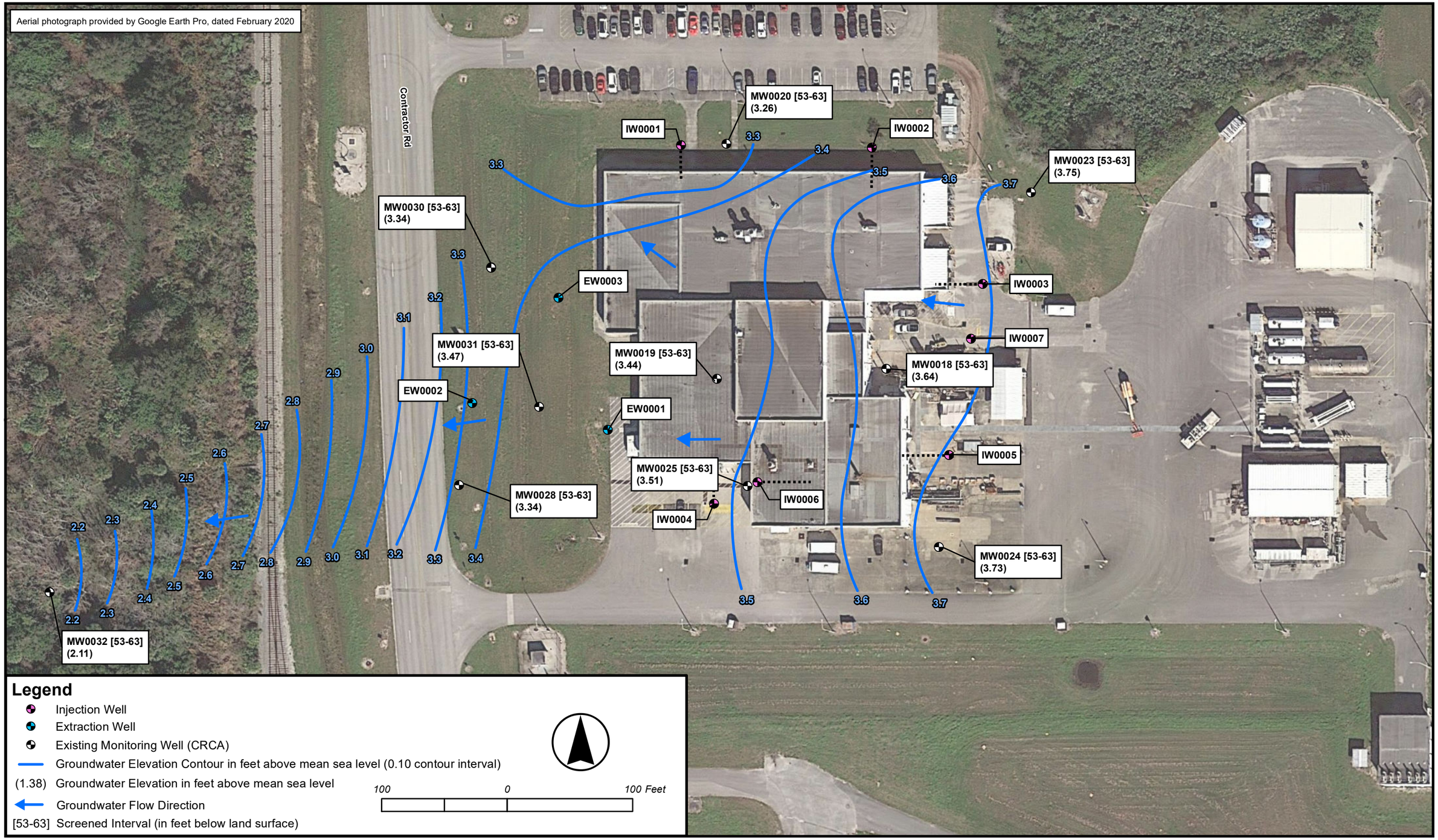
SWMU 041, KENNEDY SPACE CENTER, FLORIDA



JAX C:\GIS\KSC\MXD\CRCA\STEP 2\MXD\0_CRCA_MW_GWELEV_OCT2020_INTERMEDIATE.MXD 09/09/21

FIGURE 4-5 OCTOBER 2020 DEEP POTENTIOMETRIC SURFACE MAP

SWMU 041, KENNEDY SPACE CENTER, FLORIDA



JAX C:\GIS\KSC\MXD\CRCA\STEP 2\MXD\0_CRCA_MW_GWELEV_OCT2020_DEEP.MXD 09/09/21

FIGURE 4-6 JANUARY 2021 SHALLOW POTENTIOMETRIC SURFACE MAP

SWMU 041, KENNEDY SPACE CENTER, FLORIDA

Aerial photograph provided by Google Earth Pro, dated February 2020

Contractor Rd

IW0001
IW0002
MW0001 [5-15] (1.88)
MW0011 [5-10] (2.14)
IW0003
EW0003
IW0007
MW0004 [5-15] (1.90)
MW0005A [5-10] (1.87)
MW0003 [5-15] (1.75)
MW0010 [5-15] (1.84)
EW0002
EW0001
MW0009 [5-15] (2.04)
MW0005 [5-15] (1.77)
MW0008 [5-15] (1.98)
MW0014 [5-10] (1.76)
IW0005
MW0007 [5-15] (1.81)
MW0026 [5-15] (1.41)
IW0006
MW0006 [5-15] (1.81)
IW0004
MW0016 [5-10] (1.88)

1.5 1.6 1.7 1.8 1.9 2.0 2.1

Legend

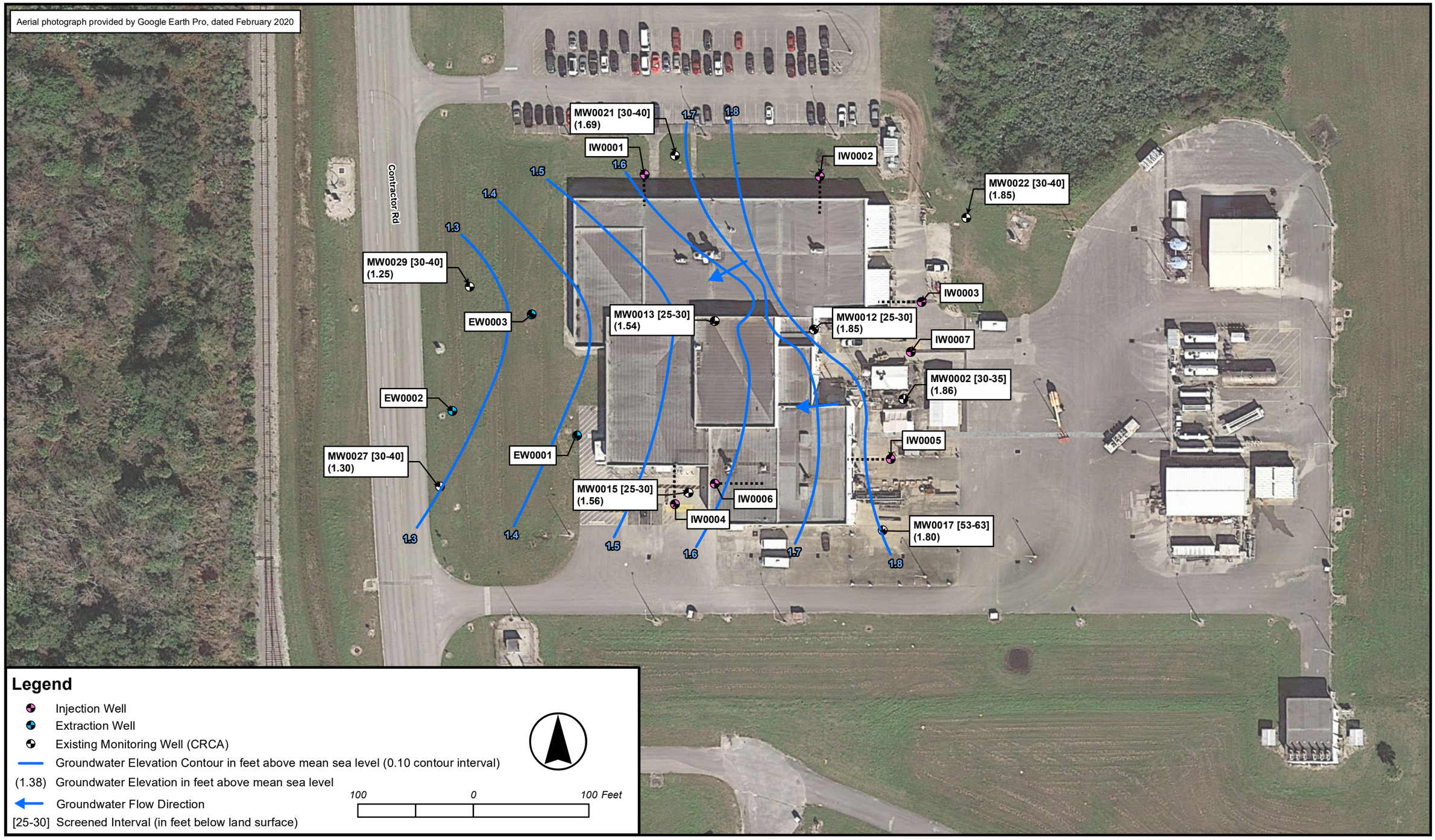
- Injection Well
- Extraction Well
- Existing Monitoring Well (CRCA)
- Groundwater Elevation Contour in feet above mean sea level (0.10 contour interval)
- (1.38) Groundwater Elevation in feet above mean sea level
- Groundwater Flow Direction
- [5-15] Screened Interval (in feet below land surface)

100 0 100 Feet

JAX C:\GIS\KSC\MXD\CRCA\STEP 2\MXD\0_CRCA_MW_GWELEV_JAN2021_SHALLOW.MXD 09/09/21

FIGURE 4-7 JANUARY 2021 INTERMEDIATE POTENTIOMETRIC SURFACE MAP

SWMU 041, KENNEDY SPACE CENTER, FLORIDA



JAX C:\GIS\KSC\MXD\CRCA\STEP 2\MXD\0_CRCA_MW_GWELEV_JAN2021_INTERMEDIATE.MXD 09/09/21

FIGURE 4-8 JANUARY 2021 DEEP POTENTIOMETRIC SURFACE MAP

SWMU 041, KENNEDY SPACE CENTER, FLORIDA

Aerial photograph provided by Google Earth Pro, dated February 2020

Contractor Rd

MW0020 [53-63] (1.60)
IW0001
IW0002
MW0023 [53-63] (1.88)
MW0030 [53-63] (1.27)
EW0003
IW0003
IW0007
MW0019 [53-63] (3.44)
MW0018 [53-63] (1.84)
EW0002
EW0001
MW0031 [53-63] (1.37)
IW0005
MW0025 [53-63] (1.63)
IW0006
IW0004
MW0028 [53-63] (1.33)
MW0024 [53-63] (1.82)
MW0032 [53-63] (NM)

1.3 1.4 1.5 1.6 1.7 1.8

Legend

- Injection Well
- Extraction Well
- Existing Monitoring Well (CRCA)
- Groundwater Elevation Contour in feet above mean sea level (0.10 contour interval)
- (1.38) Groundwater Elevation in feet above mean sea level
- Groundwater Flow Direction
- [53-63] Screened Interval (in feet below land surface)
- NM - Not Measured

100 0 100 Feet

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FIGURE 4-9 APRIL 2021 SHALLOW POTENTIOMETRIC SURFACE MAP

SWMU 041, KENNEDY SPACE CENTER, FLORIDA

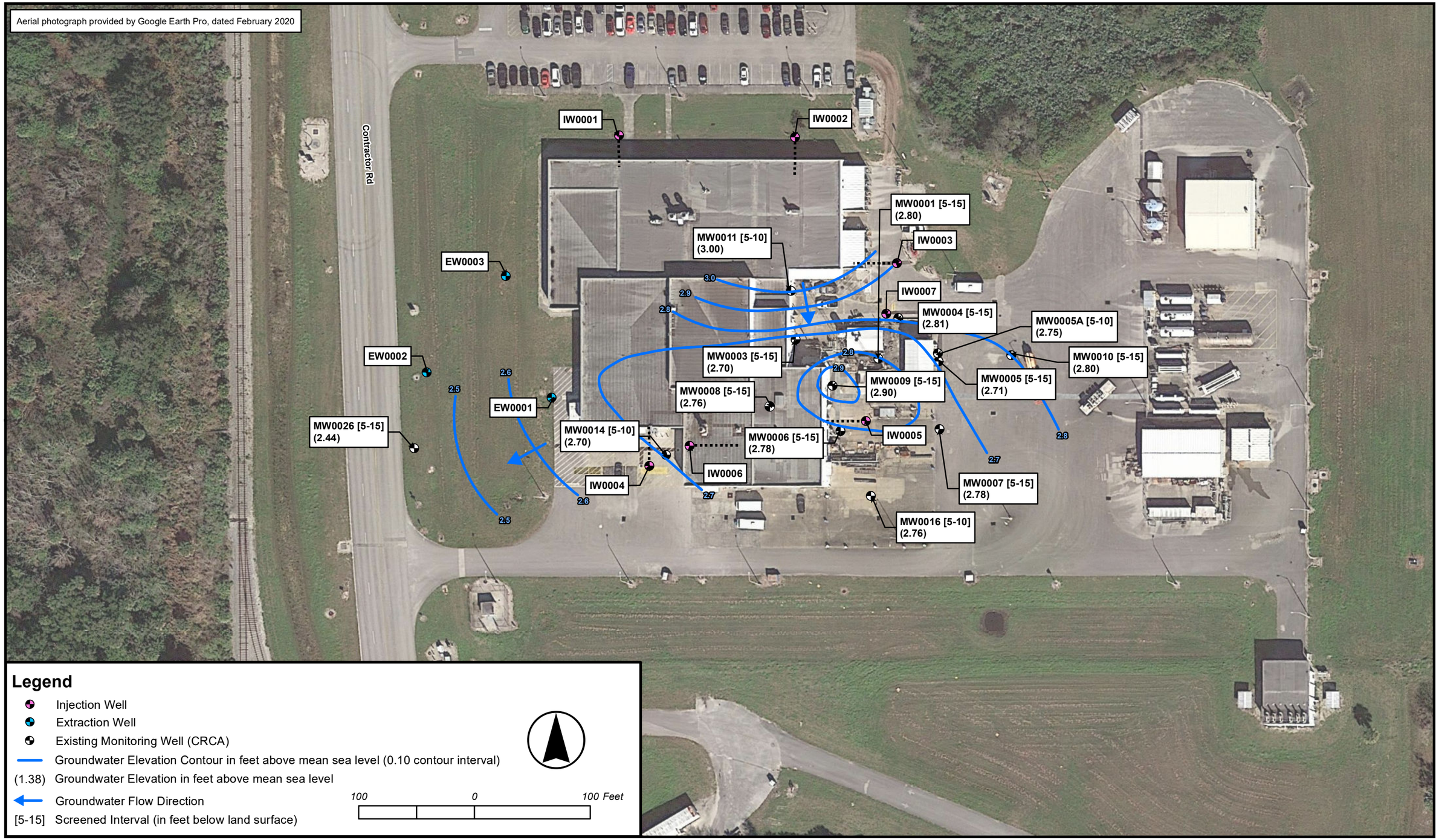

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FIGURE 4-10 APRIL 2021 INTERMEDIATE POTENTIOMETRIC SURFACE MAP

SWMU 041, KENNEDY SPACE CENTER, FLORIDA

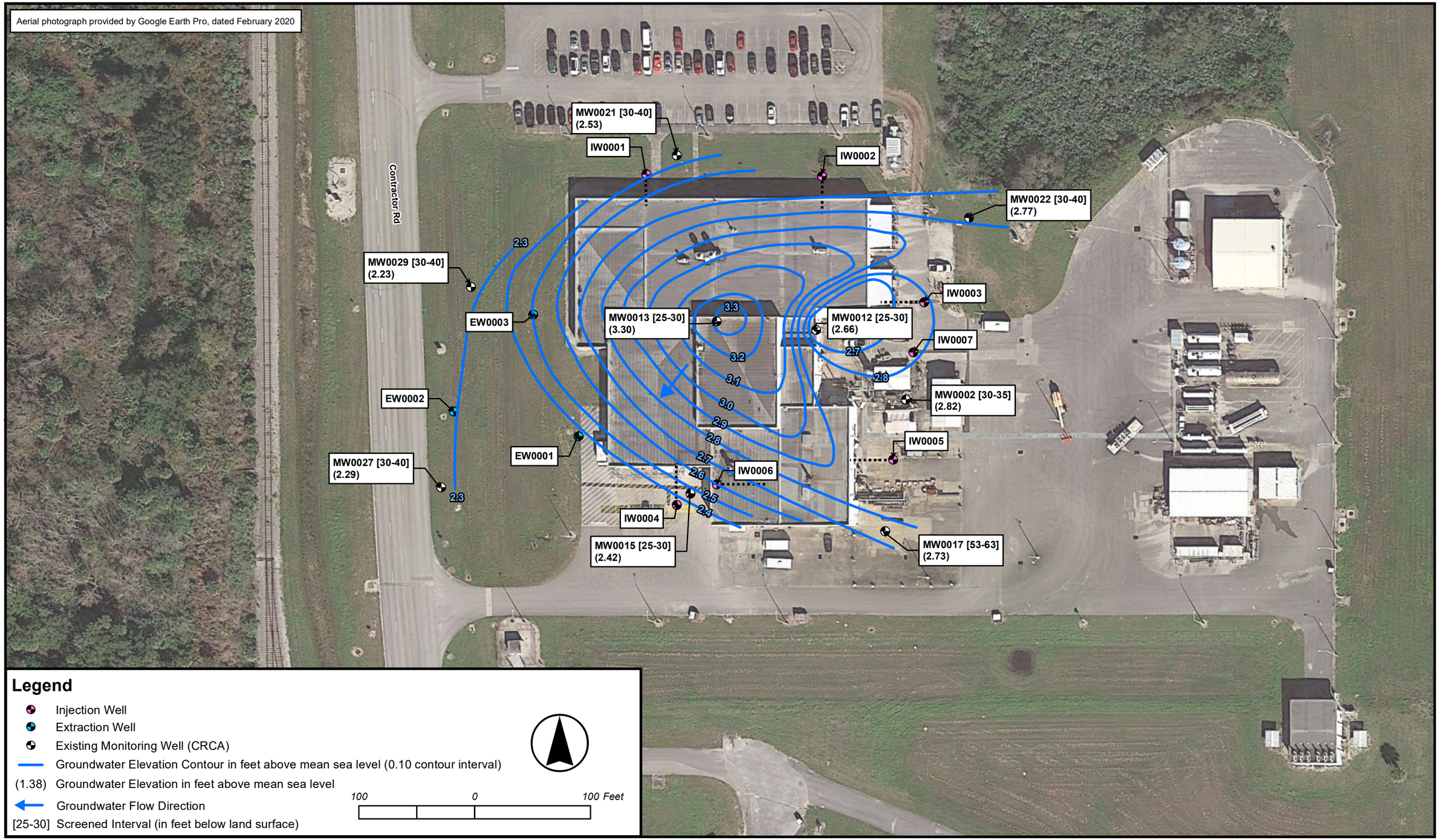

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FIGURE 4-11 APRIL 2021 DEEP POTENTIOMETRIC SURFACE MAP

SWMU 041, KENNEDY SPACE CENTER, FLORIDA

Aerial photograph provided by Google Earth Pro, dated February 2020

Contractor Rd

IW0001
MW0020 [53-63] (2.37)
IW0002
MW0023 [53-63] (2.80)
IW0003
IW0007
MW0018 [53-63] (2.63)
IW0005
IW0006
MW0024 [53-63] (2.77)
EW0003
MW0030 [53-63] (2.12)
MW0019 [53-63] (1.26*)
EW0002
EW0001
MW0031 [53-63] (2.35)
MW0025 [53-63] (2.49)
IW0004
MW0028 [53-63] (2.24)
MW0032 [53-63] (1.18)

2.3 2.4 2.5 2.6 2.7 2.2 2.1 2.0 1.9 1.8 1.7 1.6 1.5 1.4 1.3 1.2

Legend

- Injection Well
- Extraction Well
- Existing Monitoring Well (CRCA) * - MW0019 not used in potentiometric delineation
- Groundwater Elevation Contour in feet above mean sea level (0.10 contour interval)
- (1.38) Groundwater Elevation in feet above mean sea level
- Groundwater Flow Direction
- [53-63] Screened Interval (in feet below land surface)

100 0 100 Feet

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FIGURE 4-12 JULY 2021 SHALLOW POTENTIOMETRIC SURFACE MAP

SWMU 041, KENNEDY SPACE CENTER, FLORIDA

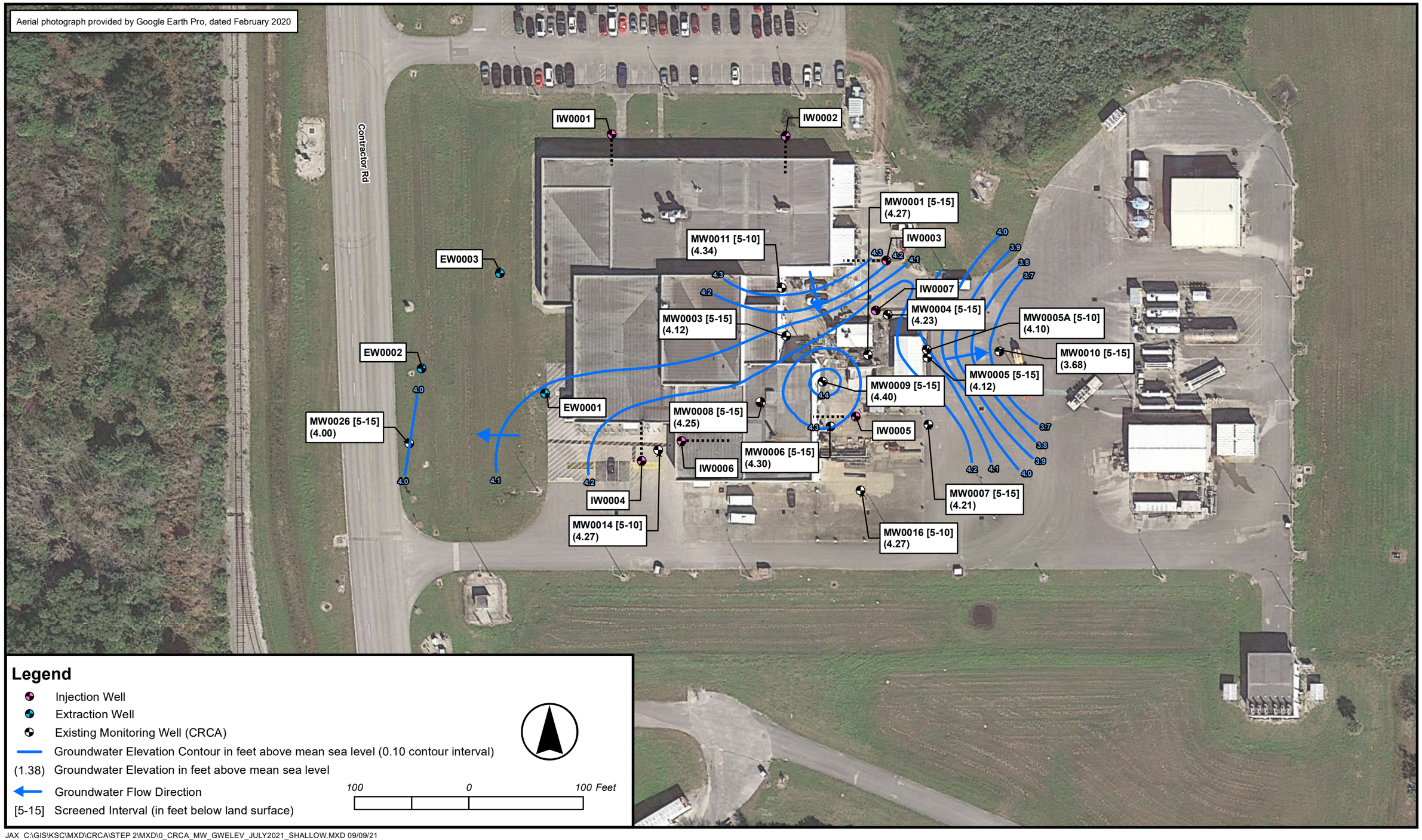

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FIGURE 4-13 JULY 2021 INTERMEDIATE POTENTIOMETRIC SURFACE MAP

SWMU 041, KENNEDY SPACE CENTER, FLORIDA

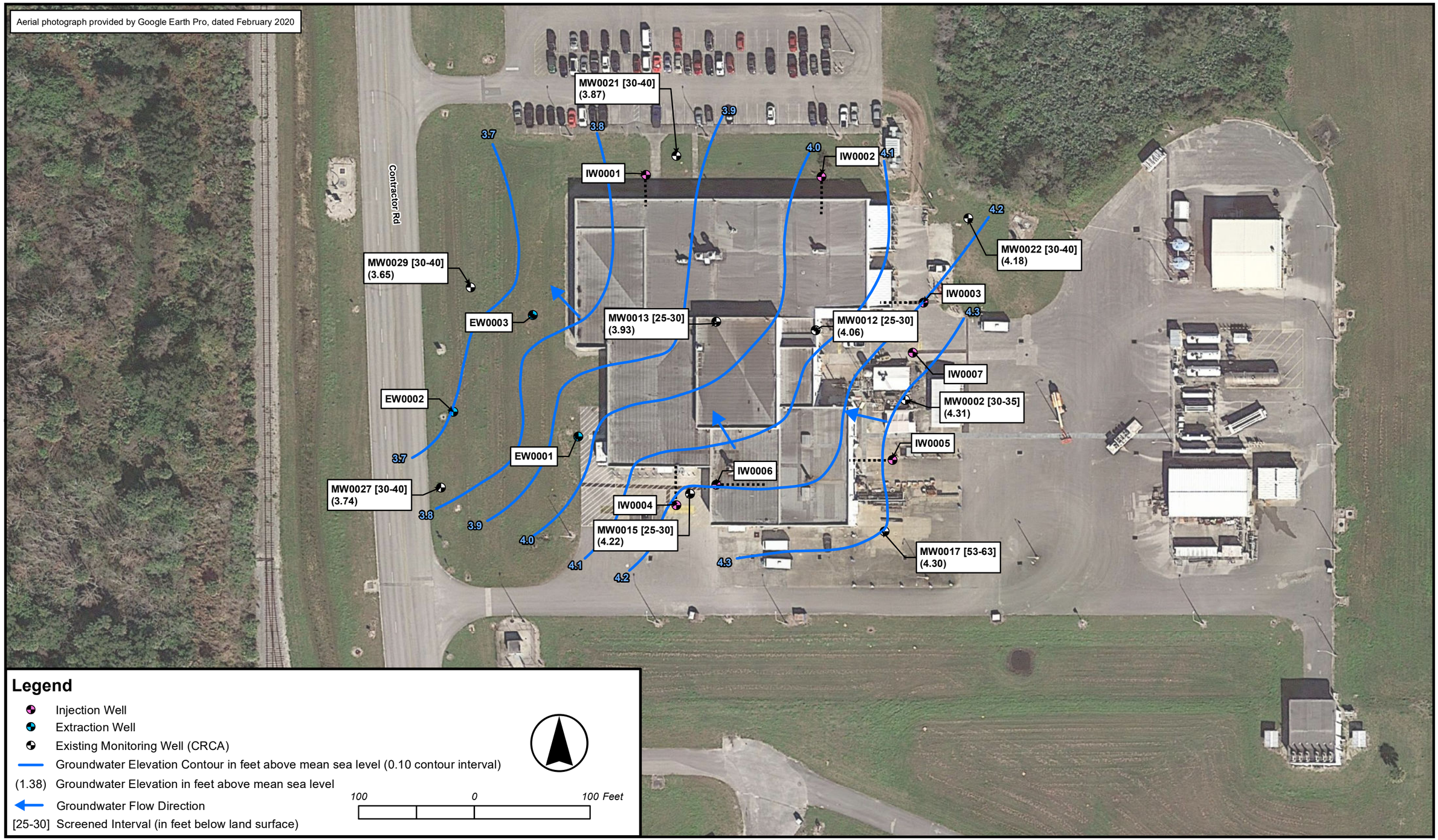

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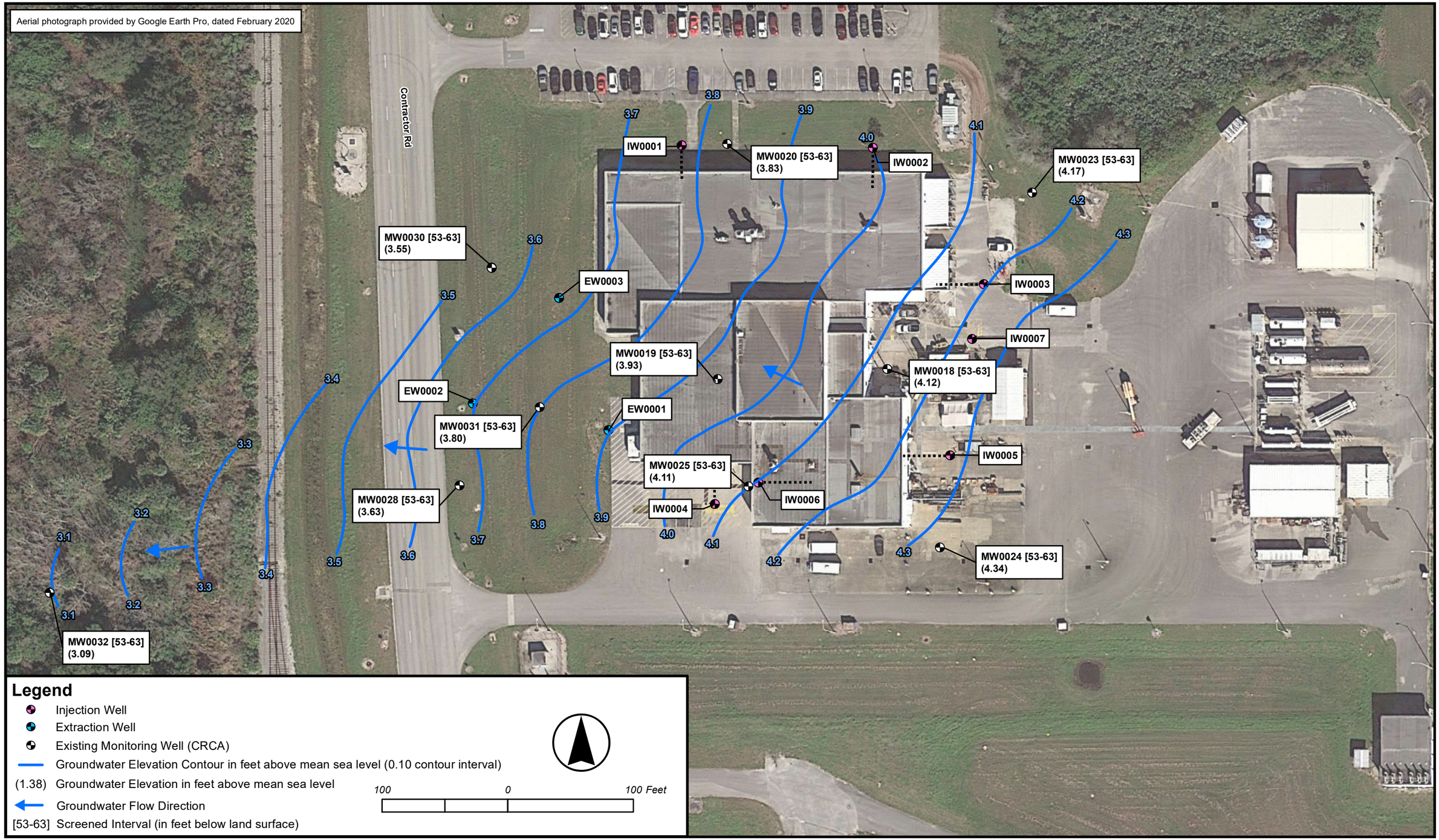
FIGURE 4-14 JULY 2021 DEEP POTENTIOMETRIC SURFACE MAP

SWMU 041, KENNEDY SPACE CENTER, FLORIDA



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Aerial photograph provided by Google Earth Pro, dated February 2020

Contractors Road

CRCA-MW0013 [25-30]

	June-2019	Jan-2020	Jul-2020	Jan-2021	Jul-2021
tDCE	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	0.71 U	1.4 I	**4.6**	**2.1 I**	1.4 I

CRCA-MW0029 [30-40]

	June-2019	Jan-2020	Jul-2020	Jan-2021	Jul-2021
tDCE	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U

CRCA-MW0012 [25-30]

	June-2019	Jan-2020	Jul-2020	Jan-2021	Jul-2021
tDCE	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	**2.6**	1.4 I	**1.7 I**	0.71 U	0.71 U

CRCA-MW0002 [30-35]

	June-2019	Jan-2020	Jul-2020	Jan-2021	Jul-2021
tDCE	0.73 U	0.73 U	0.73 U	0.73 U	**0.73 I**
VC	**28**	**22**	**1.8 I**	**3.1**	**7.4**

CRCA-MW0027 [30-40]

	June-2019	Jan-2020	Jul-2020	Jan-2021	Jul-2021
tDCE	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	0.71 U	0.71 U	0.71 U	**7**	0.71 U

CRCA-MW0015 [25-30]

	June-2019	Jan-2020	Jul-2020	Jan-2021	Jul-2021
tDCE	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	0.71 U	**0.77 I**	0.71 U	0.71 U	0.71 U

Legend

- Existing Monitoring Well (CRCA)
- Concentrations greater than GCTL (LCP) and less than NADC

Parameter	Abbrev.	GCTL	NADC
trans-1,2-Dichloroethene	tDCE	100	1,000
Vinyl Chloride	VC	1	100

Detected Concentration (µg/L)
I = Reported value between Method Detection Limit (MDL) and Practical Quantitation Limit
J = Estimated value
U = Not detected at or above MDL (associated value)
[53-63] = Depth Interval in feet below land surface
LCP = Low Concentration Plume
GCTL = State of Florida Groundwater Cleanup Target Level
NADC = Natural Attenuation Default Concentration
Pink highlights signify concentrations above GCTL

100 0 100 Feet

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FIGURE 4-16 DEEP MONITORING WELL RESULTS

SWMU 041, KENNEDY SPACE CENTER, FLORIDA

Aerial photograph provided by Google Earth Pro, dated February 2020

Contractors Road

CRCA-MW0030 [53-63]

	June-2019	Jan-2020	Jul-2020	Jan-2021	Jul-2021
tDCE	**0.97 I**	0.73 U	0.73 U	0.73 U	0.73 U
VC	**90**	**0.87 I**	0.71 U	0.71 U	0.71 U

CRCA-MW0018 [53-63]

	June-2019	Oct-2019	Jan-2020	Apr-2020	Jul-2020	Oct-2020	Jan-2021	Apr-2021	Jul-2021
tDCE	0.73 U	1.5 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	**140**	**130**	**100**	**84**	**110**	**81**	**97**	**63**	**55**

CRCA-MW0032 [53-63]

	June-2019	Jan-2020	Jul-2020	Oct-2020	Jan-2021	Apr-2021	Jul-2021
tDCE	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	0.71 U	**9.2**	**8.9**	**17**	0.71 U	**6**	**11**

CRCA-MW0019 [53-63]

	June-2019	Oct-2019	Jan-2020	Apr-2020	Jul-2020	Oct-2020	Jan-2021	Apr-2021	Jul-2021
tDCE	**1.9 I**	1.5 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	**250**	**110**	**34**	**9.4**	**20**	**3.3**	**2.8**	**2.8**	1.4 I

CRCA-MW0028 [53-63]

	June-2019	Oct-2019	Jan-2020	Apr-2020	Jul-2020	Jan-2021	Jul-2021
tDCE	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	**23**	**16**	**1.5 I**	**0.9 I**	1.2 I	0.71 U	0.71 U

CRCA-MW0031 [53-63]

	June-2019	Oct-2019	Jan-2020	Apr-2020	Jul-2020	Oct-2020	Jan-2021	Apr-2021	Jul-2021
tDCE	**4.4 I**	3.6 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	**680**	**310**	**87**	**62**	**71**	**28**	**29**	**13**	**18**

Legend

- Existing Monitoring Well (CRCA)
- Concentrations greater than GCTL (LCP) and less than NADC

Parameter	Abbrev.	GCTL	NADC
trans-1,2-Dichloroethene	tDCE	100	1,000
Vinyl Chloride	VC	1	100

Detected Concentration (µg/L)
I = Reported value between Method Detection Limit (MDL) and Practical Quantitation Limit
J = Estimated value
U = Not detected at or above MDL (associated value)
[53-63] = Depth Interval in feet below land surface
LCP = Low Concentration Plume
HCP = High Concentration Plume
GCTL = State of Florida Groundwater Cleanup Target Level
NADC = Natural Attenuation Default Concentration
Pink highlights signify concentrations above GCTL
Red highlights signify concentrations above NADC

100 0 100 Feet

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FIGURE 4-17 INTERMEDIATE AND DEEP MONITORING WELL RESULTS

SWMU 041, KENNEDY SPACE CENTER, FLORIDA

Aerial photograph provided by Google Earth Pro, dated February 2020

CRCA-MW0030 [53-63]

	June-2019	Jan-2020	Jul-2020	Jan-2021	Jul-2021
tDCE	**0.97 I**	0.73 U	0.73 U	0.73 U	0.73 U
VC	**90**	**0.87 I**	0.71 U	0.71 U	0.71 U

CRCA-MW0029 [30-40]

	June-2019	Jan-2020	Jul-2020	Jan-2021	Jul-2021
tDCE	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U

CRCA-MW0032 [53-63]

	June-2019	Jan-2020	Jul-2020	Oct-2020	Jan-2021	Apr-2021	Jul-2021
tDCE	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	0.71 U	**9.2**	**8.9**	**17**	0.71 U	**6**	**11**

CRCA-MW0027 [30-40]

	June-2019	Jan-2020	Jul-2020	Jan-2021	Jul-2021
tDCE	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	0.71 U	0.71 U	0.71 U	**7**	0.71 U

CRCA-MW0028 [53-63]

	June-2019	Oct-2019	Jan-2020	Apr-2020	Jul-2020	Jan-2021	Jul-2021
tDCE	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	**23**	**16**	**1.5 I**	**0.9 I**	1.2 I	0.71 U	0.71 U

CRCA-MW0013 [25-30]

	June-2019	Jan-2020	Jul-2020	Jan-2021	Jul-2021
tDCE	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	0.71 U	1.4 I	**4.6**	**2.1 I**	1.4 I

CRCA-MW0018 [53-63]

	June-2019	Oct-2019	Jan-2020	Apr-2020	Jul-2020	Oct-2020	Jan-2021	Apr-2021	Jul-2021
tDCE	0.73 U	1.5 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	**140**	**130**	**100**	**84**	**110**	**81**	**97**	**63**	**55**

CRCA-MW0012 [25-30]

	June-2019	Jan-2020	Jul-2020	Jan-2021	Jul-2021
tDCE	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	**2.6**	1.4 I	**1.7 I**	0.71 U	0.71 U

CRCA-MW0002 [30-35]

	June-2019	Jan-2020	Jul-2020	Jan-2021	Jul-2021
tDCE	0.73 U	0.73 U	0.73 U	0.73 U	**0.73 I**
VC	**28**	**22**	**1.8 I**	**3.1**	**7.4**

CRCA-MW0015 [25-30]

	June-2019	Jan-2020	Jul-2020	Jan-2021	Jul-2021
tDCE	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	0.71 U	**0.77 I**	0.71 U	0.71 U	0.71 U

CRCA-MW0019 [53-63]

	June-2019	Oct-2019	Jan-2020	Apr-2020	Jul-2020	Oct-2020	Jan-2021	Apr-2021	Jul-2021
tDCE	**1.9 I**	1.5 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	**250**	**110**	**34**	**9.4**	**20**	**3.3**	**2.8**	**2.8**	1.4 I

CRCA-MW0031 [53-63]

	June-2019	Oct-2019	Jan-2020	Apr-2020	Jul-2020	Oct-2020	Jan-2021	Apr-2021	Jul-2021
tDCE	**4.4 I**	3.6 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	**680**	**310**	**87**	**62**	**71**	**28**	**29**	**13**	**18**

Contractors Road

Legend

- Existing Monitoring Well (CRCA)
- Concentrations greater than GCTL (LCP) and less than NADC

Parameter	Abbrev.	GCTL	NADC
trans-1,2-Dichloroethene	tDCE	100	1,000
Vinyl Chloride	VC	1	100

Detected Concentration (µg/L)
I = Reported value between Method Detection Limit (MDL) and Practical Quantitation Limit
J = Estimated value
U = Not detected at or above MDL (associated value)
[53-63] = Depth Interval in feet below land surface
LCP = Low Concentration Plume
HCP = High Concentration Plume
GCTL = State of Florida Groundwater Cleanup Target Level
NADC = Natural Attenuation Default Concentration
Pink highlights signify concentrations above GCTL
Red highlights signify concentrations above NADC

100 0 100 Feet

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SECTION V
GROUNDWATER MODEL

A 3-dimensional groundwater model was constructed, calibrated, and run after one year of HCS operation. Projections were made one, three and five years into the future under pumping and non-pumping conditions. After two years of HCS operation at CRCA, the observed plume conditions were compared to this one-year projection and input into the groundwater model for further simulation at one, three, and five years into the future under pumping and non-pumping conditions. This section summarizes the data that went into the construction of the groundwater model and presents the general findings of this three-dimensional modeling after one and two years of HCS operation at CRCA. A detailed presentation of the groundwater modeling data and results is presented in the Groundwater Modeling Report (Appendix A).

The extensive hydrogeological data collected at CRCA during site characterization and HCS installation and start-up activities were used as the basis to simulate site conditions via three-dimensional groundwater computer modeling. These data were analyzed and processed to perform three-dimensional flow and solute transport groundwater flow modeling using United State Geological Survey (USGS) Modular Three-Dimensional Finite Difference Flow Model (MODFLOW) and solute transport modeling using MODPATH. The resulting Groundwater Flow and Solute Transport Model Construction and Calibration Report is presented as Appendix A of the Year 1 Annual PMR (NASA, 2021a). The primary objectives for the groundwater flow and solute transport modeling were to (1) improve the site-wide conceptualization of the hydrogeology, contaminant migration pathways, and natural biodegradation rates based on both historical (pre-2018) and data from 2018 to 2020 field investigations; (2) construct and calibrate a numerical groundwater flow model to better understand three-dimensional groundwater flow pathways; (3) construct a solute transport model to simulate the fate and transport of COCs; and (4) apply the transport model to evaluate the effectiveness of the current remedial system including hydraulic control, changes in plume concentrations spatially and temporally, and estimate the cleanup time frame under pumping and non-pumping conditions.

Field data collected for the construction of the groundwater flow model included: (1) multiple slug tests (74 falling head and 90 rising head) at monitoring wells MW0001 through MW0012,

and MW0014 through MW0032 (excluding MW0013) in December and March 2019, (2) step and constant head tests at EW0002 in February 2019, and (3) infiltration testing at IW0001, IW0002, and IW0007 in March 2019. These data were processed using a two-dimensional groundwater flow model [Advanced Aquifer Test Analysis Software (AQTESOLV)] and translated into hydraulic conductivity values via type-curve graph solutions. In addition, site boring log data from 21 locations in combination with: (1) November 2018 sieve analysis data at SB-31, SB-32, and SB-33; and (2) November 2018 HPT data at MW0021, MW0023, MW0024, MW0025, MW0028 (SB-31), MW0030 (SB-33), and MW0031 (SB-32) were used to help assign lithologic layers within the surficial aquifer and verify hydraulic conductivity values in the model. Hydraulic gradients and groundwater flow directions were determined from the potentiometric surface maps created based on synoptic groundwater levels measured before and during HCS groundwater pumping, treatment, and re-infiltration activities.

The groundwater flow model was successfully calibrated under typical pumping conditions and validated to non-pumping conditions meeting standard calibration protocols. The transport groundwater model, which was constructed using the hydrogeologic conditions established by the groundwater flow model and based on known one-year changes in VC concentrations, was successfully calibrated. Various scenarios were run to simulate plume migration under continued groundwater extraction system operation to simulate plume response and propose system optimization. These scenarios are presented in the groundwater modeling report, including detailed graphics depicting model outputs for groundwater contours, hydraulic conductivity variations, contaminant plume behavior, and future projections.

After one year of CRCA HCS operation, results of the groundwater modeling generally showed plume migration from the HCP to the west as pumping progresses. Based on preliminary pumping calculations (prior to groundwater model construction), the treatment timeframe to reduce VC to concentrations appropriate for transition to MNA was initially estimated to be 35 years. After one year of CRCA HCS operation, the groundwater model concluded that with continued HCS operation, VC would reach GCTLs in approximately four to five years for all areas of the intermediate and deep zones, except for MW0018 which was projected to reach GCTLs in 12 years. After one year of CRCA HCS operation, the model simulation in a non-

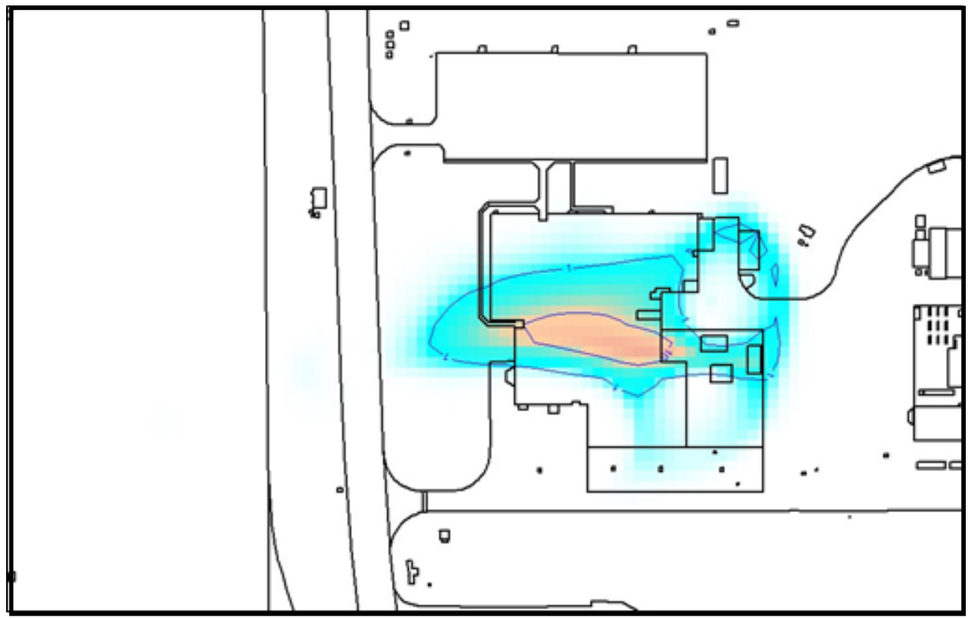
pumping scenario showed plume rebound in both aquifer zones and a persistence of VC beneath the CRCA Main Building and in the western portions of the site. VC was predicted to persist above the Florida GCTL for 15 years in a non-pumping scenario.

A presentation of the intermediate and deep plumes projected after one year of HCS operation as compared with the actual plume dimensions within these zones, drawn based on performance monitoring data collected during the second year of HCS operation, are presented on Figures 5-1 and 5-2, respectively. After two years of HCS operation at CRCA, the actual groundwater plume closely resembles projections simulated by groundwater modeling conducted after one year of HCS operation, based on calibrated site conditions. As shown on Figure 5-2, westward migration of the deep plume continues after two years of HCS operation with a narrower north-south areal extent.

Comparisons of pumping versus non-pumping scenarios projected at one, three and five years after Year 2 of HCS operation are summarized on Figures 5-3 and 5-4 for the intermediate and deep zones, respectively. After two years of CRCA HCS operation, the groundwater model projected that with continued HCS operation, VC will reach GCTLs in approximately 2 to 3 years for all areas of the intermediate and deep zones, except for MW0018 which is projected to reach GCTLs in 11 years. After two years of CRCA HCS operation, the model simulation in a non-pumping scenario showed plume rebound in both aquifer zones and a persistence of VC beneath the CRCA Main Building and in the western portions of the site. Based on these updated plume conditions, VC is predicted to persist above the Florida GCTL for 11 years in non-pumping scenario. Refer to Appendix A for the CRCA Year 2 groundwater modeling report for updated plume maps further illustrating these results.

VC PLUMES AFTER TWO YEARS OF HCS SYSTEM OPERATION

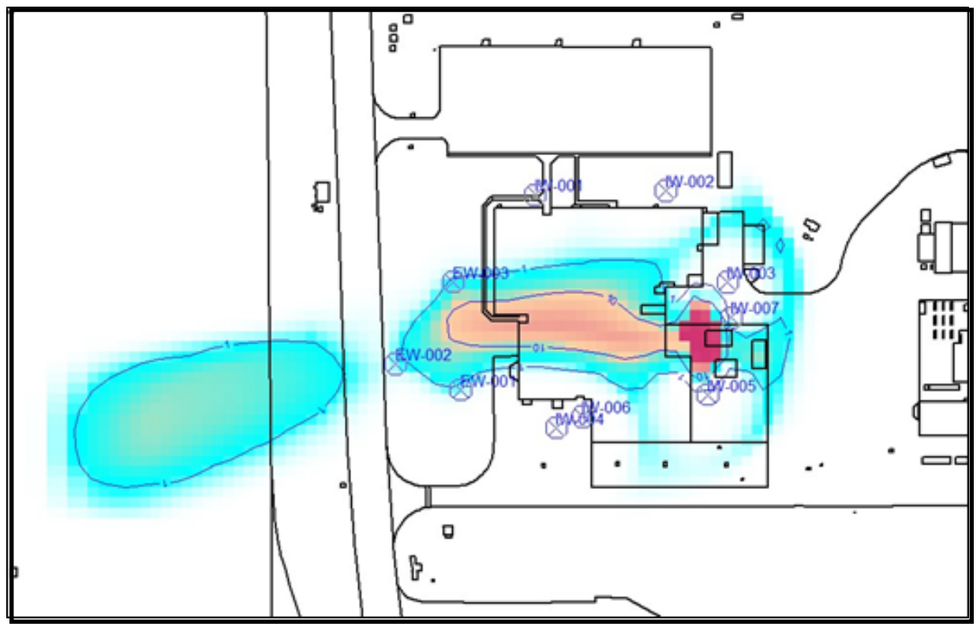
INTERMEDIATE ZONE PLUME, 2021 PREDICTED



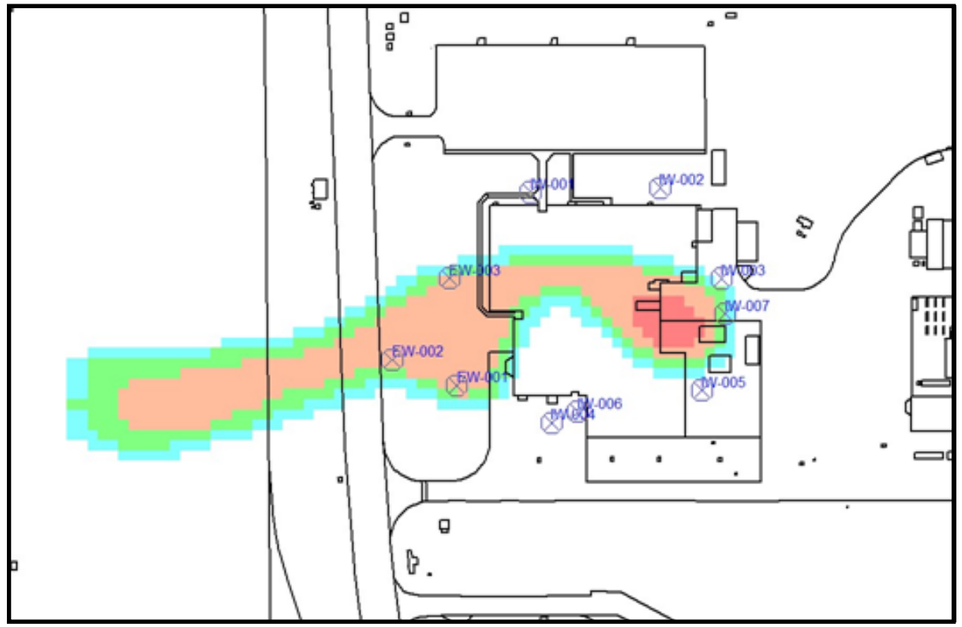
INTERMEDIATE ZONE PLUME, 2021 ACTUAL

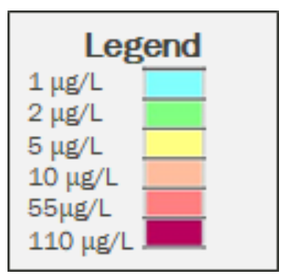
DEEP VC PLUMES, PROJECTED AND ACTUAL AFTER TWO YEARS OF HCS SYSTEM OPERATION

DEEP ZONE PLUME, 2021 PREDICTED

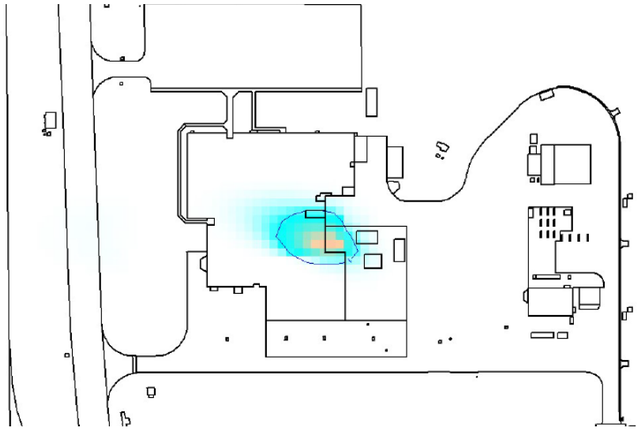


DEEP ZONE PLUME, 2021 ACTUAL

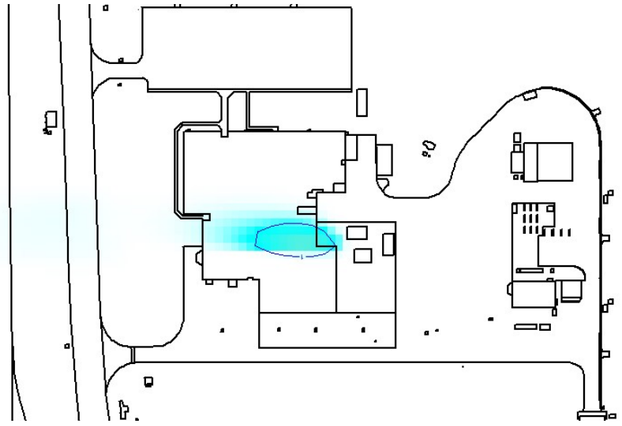




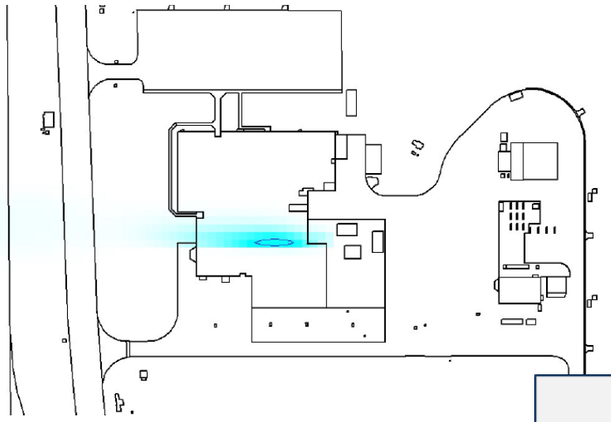
NON-PUMPING



1 Year into Future

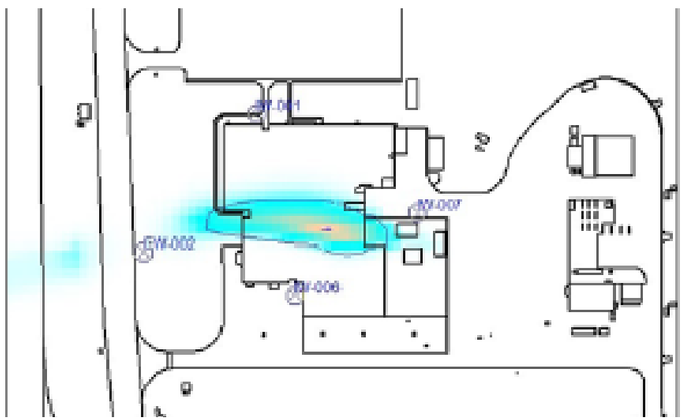


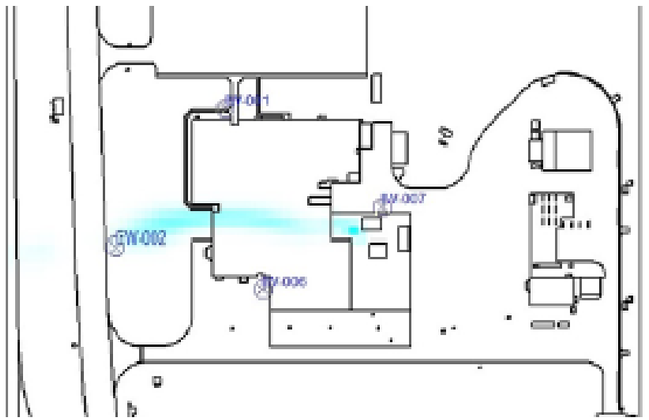
3 Years into Future

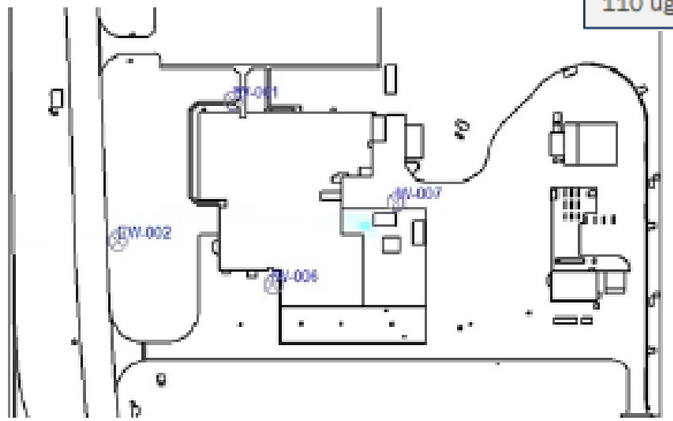


5 Years into Future

Legend
1 ug/L
2 ug/L
5 ug/L
10 ug/L
60 ug/L
110 ug/L







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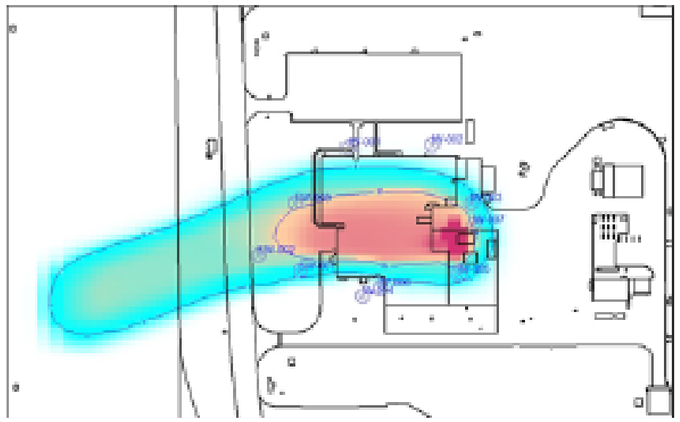

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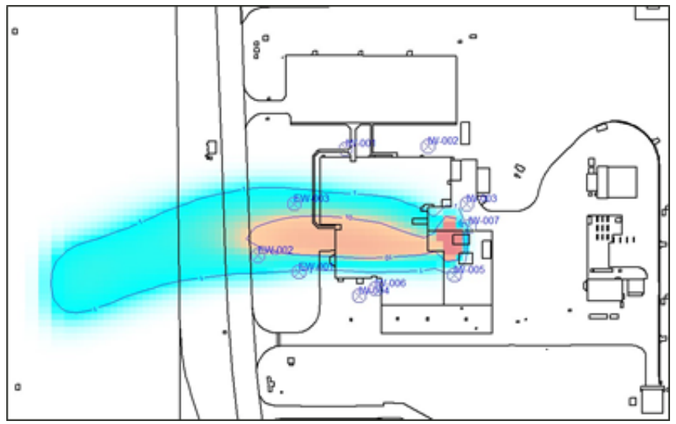
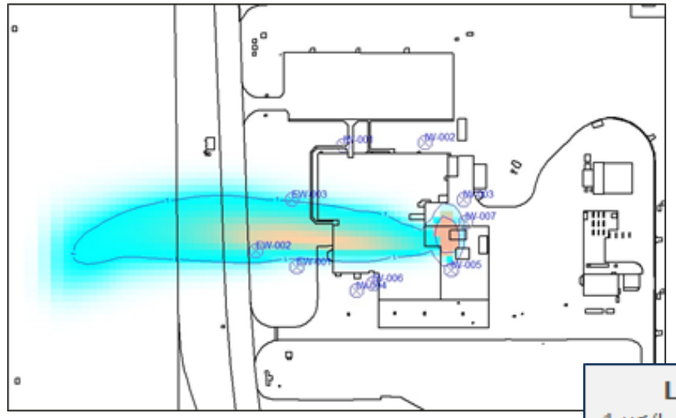


3 Years into Future



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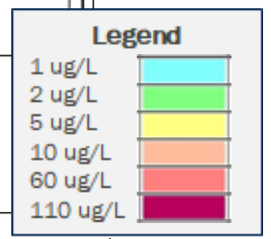

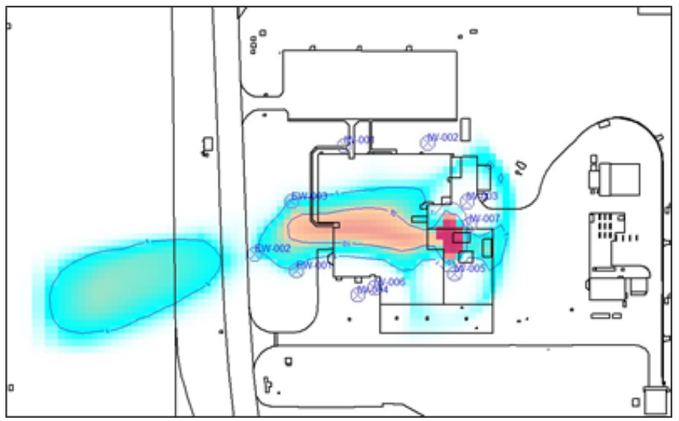

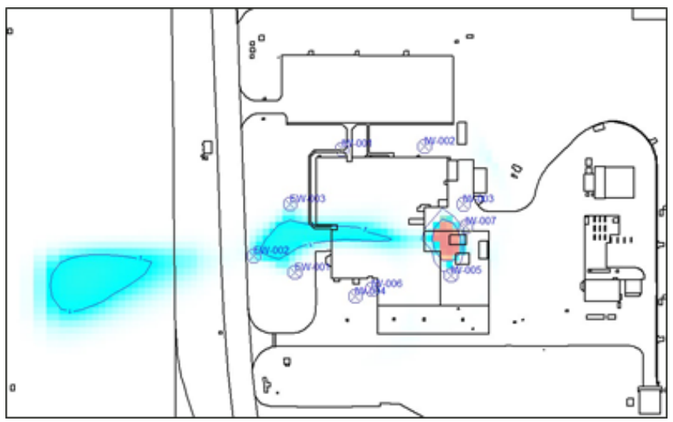

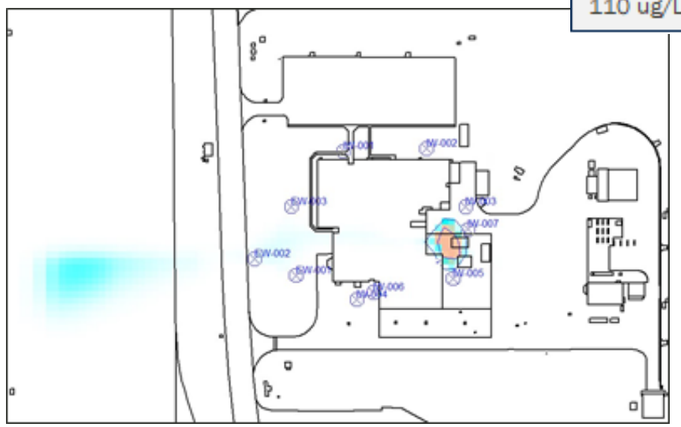

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SECTION VI
CONCLUSIONS AND RECOMMENDATIONS

6.1 CONCLUSIONS

After two years of operation, the HCS is performing as designed and mitigating downgradient migration of VC, while reducing overall concentrations of COCs across the site. According to the updated groundwater model, the HCS has continued to exceed expectations. The updated groundwater model suggests that transition to MNA will be possible in approximately two to three years with continuous HCS operation. The HCS has treated over 16 million gallons of groundwater since startup and has reduced concentrations of tDCE to below the MDL sitewide and reduced concentrations of VC by over 93%.

Ambient air sampling results for the treatment trailer area continue to be significantly below OSHA PEL levels and demonstrate breathing air safety for on-site personnel. In addition, sub-slab sampling results after two years of HCS operation show levels below commercial EPA VISLs and indicate no effect from HCS operation in the CRCA building workspace.

Reductive dechlorination indicators, including MEE, and the presence of Dhc dechlorinating microbes suggest a potential environment for passive detoxification of site contaminants, however coupled with absent VC reductase gene enzymes, may not be appreciable. However, based on CVOC reduction trends after the second year of operation and results from the updated groundwater model indicate no additional amendments are needed to supplement HCS performance at this time.

Performance of the HCS has been progressing well and as designed with only brief interruptions due to routine maintenance and minor repairs. Such repairs included an EQ tank switch repair and the replacement of a flash drive to the HMI.

6.2 RECOMMENDATIONS

The HCS performance detailed in this report and the PMR ADP were presented to the KSCRT in November 2021 (Meeting Minute 2111-M04, Decisions 2111-D12 through -D14). Team

consensus was reached on several items including continuing operation and evaluation of the HCS to maintain hydraulic control of the groundwater plume and continuing performance monitoring with the following changes:

- Continue operation and evaluation of the HCS to maintain hydraulic control of the groundwater plume and to further reduce VC concentrations.
- Discontinue MW0012, MW0015, MW0028, MW0029, and MW0030 from the sampling schedule due to non-detect results.
- Continue performance monitoring of four wells on a quarterly frequency and three wells on a semi-annual frequency for VOCs.
- Continue sampling for Dhc, VC reductase, and MEE in MW0018, MW0019, and MW0031.
- Continue ambient air and vapor monitoring sampling, with the addition of a background ambient air sample to assist in distinguishing potential contributions from routine facility operations.

The proposed Sampling Plan for Year 3 of HCS operation (2021-2022) is presented in Table 6-1 and Figure 6-1. Additionally, a future DPT groundwater sampling event will be conducted to target VOC analysis to delineate the downgradient plume edge and confirm site-wide overall LCP boundaries. Findings from the DPT groundwater investigation will be presented to the KSCRT along with recommendations for the installation of new monitoring wells, as warranted. In addition, select existing monitoring wells and DPT samples will be analyzed for per- and polyfluoroalkyl substances (PFAS) to follow up on the detection at the site in a sample collected by others in 2021.

Table 6-1 Proposed Sampling Plan for Year Three (2021-2022)

Montoring Well	Screen Interval (ft bls)	Oct-21	Jan-22	Apr-22	Jul-22	Rationale
		Sample for CVOCs				
MW0002	[30-35]	-	X	-	X	VC concentration above GCTL in July 2021. Within LCP.
MW0012	[25-30]	-	-	-	-	No detections during Year 2 operational period. Eliminate from sampling.
MW0013	[25-30]	-	X	-	X	VC concentration above GCTL in January 2021.
MW0015	[25-30]	-	-	-	-	No detections during Year 2 operational period. Eliminate from sampling.
MW0018*	[53-63]	X	X	X	X	VC concentration above GCTL in July 2021. Within LCP.
MW0019*	[53-63]	X	X	X	X	VC concentration above GCTL in January 2021.
MW0027	[30-40]	-	X	-	X	VC concentration above GCTL in January 2021.
MW0028	[53-63]	-	-	-	-	No detections during Year 2 operational period. Eliminate from sampling.
MW0029	[30-40]	-	-	-	-	No detections during Year 2 operational period. Eliminate from sampling.
MW0030	[53-63]	-	-	-	-	No detections during Year 2 operational period. Eliminate from sampling.
MW0031*	[53-63]	X	X	X	X	VC concentration above GCTL in July 2021. Within LCP.
MW0032	[53-63]	X	X	X	X	VC concentration above GCTL in July 2021. Within LCP.

Notes:

* Sampled for methane, ethane, ethene, DHC, and VC reductase in addition to VOCs.

CVOCs = Chlorinated Volatile Organic Compounds.

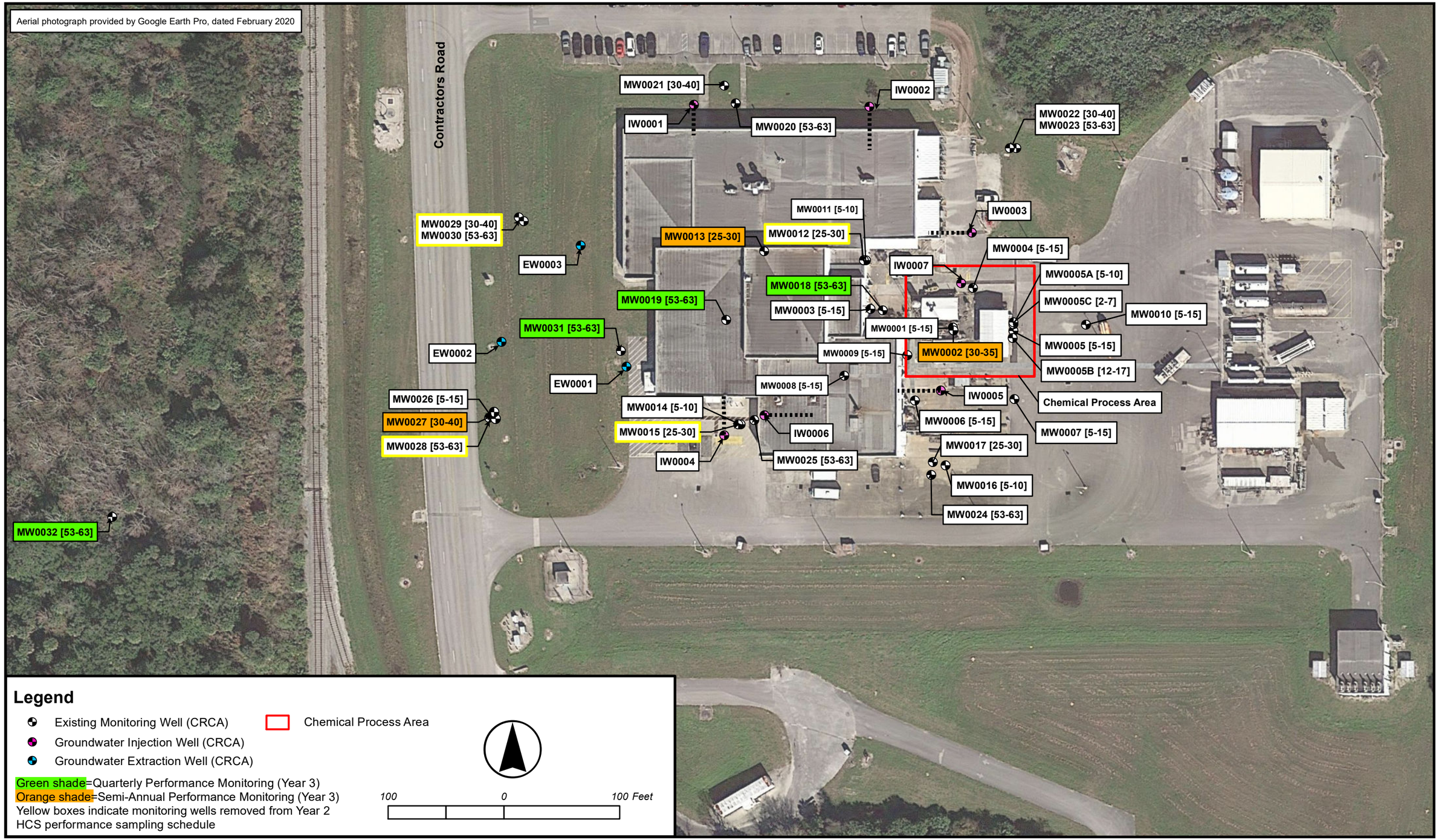
ft bls = feet below land surface.

GCTL = State of Florida Groundwater Cleanup Target Level.

VC = vinyl chloride.

FIGURE 6-1 WELL LOCATIONS AND YEAR 3 PERFORMANCE MONITORING PLAN

SWMU 041, KENNEDY SPACE CENTER, FLORIDA



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APPENDIX A
GROUNDWATER MODEL

COMPONENTS REFURBISHMENT AND CHEMICAL ANALYSIS FACILITY, HOT SPOT 1
SWMU
041
GROUNDWATER FLOW AND SOLUTE TRANSPORT MODEL
YEAR TWO HYDRAULIC CONTAINMENT SYSTEM
PROGRESS REPORT
KENNEDY SPACE CENTER, FLORDA

Prepared for:

National Aeronautics and Space AdministrationKennedy Space Center, Florida

January 2022
Revision 0

Prepared by:

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ABBREVIATIONS AND ACRONYMS

AQTESOLV	Two-dimensional aquifer test analysis software by HydroSOLVE, Inc.
ASTM	American Society of Testing Materials
bls	below land surface
C	Concentration
CAH	Chlorinated Aromatic Hydrocarbons
Cim	Concentration in the immobile phase
Co	Initial concentration at t=0
COC	Contaminants of concern
CRCA	Components Refurbishment and Chemical Analysis Facility
DFP	2H,3H-decafluoropentane
DHC	*Dehalococcoides*
dS	Storage change in aquifer
ET	Evapotranspiration
ETmin	ET minimum
ETps/bg	ET from plant surfaces and bare ground
ETuz	ET from the unsaturated zone
ETwt	ET from the water table
FDEP	Florida Department of Environmental Protectionft feet
GCTL	State of Florida Groundwater Cleanup Target Level
gpm	gallons per minute
GRO	Groundwater runoff
HCS	Hydraulic Containment System
HCP	High Concentration Plume
HPT	High Profiling Tool
in	inch
KSC	Kennedy Space Center
K	Hydraulic Conductivity
k	Transformation rate constant

ABBREVIATIONS AND ACRONYMS (CONTINUED)

Kd	Distribution coefficient
ks	Apparent half saturation constant
LCP	Low concentration plume
ln	Natural log
MNA	Monitored Natural Attenuation
MODFLOW	USGS Modular Groundwater Flow Model
MODPATH	USGS Particle-Tracking code
msl	Mean sea level
MT3D99	Mass Transport 3-Dimensional simulation code
NASA	National Aeronautical and Space Administration
NADC	Natural Attenuation Default Criteria
NAD	North American Datum
Q	Pumpage
P	Rainfall
R	Retardation Factor
SRO	Surface runoff
tDCE	Trans-1,2-dichloroethene
TCE	Trichloroethene
UFL	Leakage to or from the Floridan aquifer
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
VAB	Vehicle Assembly Building
VC	Vinyl chloride
X	Biomass concentration
yr	year
$T_{½}$	half-life

SECTION I

INTRODUCTION

Tetra Tech is continuing its assessment of three-dimensional groundwater flow and solute transport modeling of groundwater flow and dissolved contaminant transport in the surficial aquifer at the Components Refurbishment and Chemical Analysis Facility (CRCA) in Kennedy Space Center (KSC), Florida (**Figure 1.1**). The purpose of this report is to present the results of the groundwater model after two years of hydraulic containment system (HCS) operation at CRCA. A detailed description of the initial groundwater flow and solute transport model that has been constructed to examine and improve the effectiveness of remedial activities at CRCA is presented in the February 2020 groundwater modeling report, prepared after the first year of HCS operation (NASA 2021a). This original report is provided as Appendix A of the Year 1 Annual Performance Monitoring Report (NASA 2021b) and provides the extensive input data used to construct the groundwater model. After two years of HCS operation, site conditions were revisited by applying the calibrated, site-specific model to project future conditions. The following provides a summary of the sections comprising this follow-up report:

1.1 REPORT ORGANIZATION

Sections I and II discuss the modeling objectives and the conceptual model for groundwater flow and contaminants of concern (COC) transport at CRCA. Section III presents numerical flow model construction based on the conceptual site model.

Section IV generally describes the flow calibration criteria, calibration procedure, and results of the calibration of the numerical groundwater flow model as compared to observed water level data collected at the site. Based on relevant transport mechanisms discussed in the conceptual site model, Section V provides a brief recapitulation of both the construction of the solute transport model and transport modeling approach detailed in Appendix A of the Year 1 PMR.

Section VI presents the application of the transport model to examine changes in the vinyl chloride (VC) plume concentrations over time based on the current injection and recovery well remedial system for impacted groundwater at CRCA. A summary of the modeling analysis results and recommendations is provided in Section VII.

Figures to support the groundwater flow and transport models are provided withineach section. Additional support materials are provided as Attachments.

1.2 MODELING OBJECTIVES

The objectives of the 3-dimensional groundwater modeling are to:

- Improve the site-wide conceptualization of the hydrogeology, contaminant migration pathways, and natural biodegradation rates based on both historical (pre-2018) and new data from preliminary investigations (2018-2021).
- Apply the numerical groundwater flow model to better understand three- dimensional groundwater flow pathways over time.
- Implement the solute transport model to simulate the fate and transport of downgradient contaminants of concern (COCs); and
- Apply the transport model to evaluate the effectiveness of the current remedial system operating at the site including hydraulic control, changes in plume concentrations spatially and temporally, and reevaluating the estimated cleanup time frame.

1.3 SITE LOCATION AND DESCRIPTION

CRCA is located at KSC in Section 18, Township 22 South, and Range 37 East in the United States Geological Survey (USGS) topographic map in the Orsino Quadrangle. The CRCA facility is on the east side of Contractor Road, 0.75 miles south of the Vehicle Assembly Building (VAB) and approximately one mile north of Schwartz Road. CRCA is located on Merritt Island, a barrier island bordered on the west by the Indian River and on the east by the Banana River. These rivers are part of a unique estuarine environment known collectively as the Indian River Lagoon **(Figure 1.1).** Ground elevations at CRCA range from about 1.5 to 8 ft above mean sea level (msl).

The CRCA buildings and structures were constructed in 1998 in support of the National Aeronautical and Space Administration (NASA) space program. Operations performed at CRCA include the cleaning and refurbishment of mechanical and operation parts in the main building

(Building K6-1696), the storage of hydrogen gas cylinders (Building K6-1697A), decontamination of parts contaminated with fuel or oxidizers (Building K6-1747), solvent reclamation (Building K6-1696B), a satellite accumulation area for hazardous waste (Building K6-1748A), and storage of miscellaneous goods, pallets, and spent chemical totes (Building K6-1748). The solvent used for cleaning at CRCA is Vertrel™ MCA, a mixture of tDCE and 2H,3H-decafluoropentane (DFP). **Figure 1.2** presents a schematic of the CRCA facility.

1.4 GROUNDWATER PLUME CHARACTERIZATION

Background groundwater samples were collected prior to the 1998 implementation of CRCA operations, but no contaminants were detected. A KSC-wide groundwater screening event was later conducted in 2005 resulting in the detection of chlorinated solvents at CRCA significantly above regulatory limits. Following this study, additional site investigations and subsequent interim remedial actions ensued. As shown on **Figure 1.3**, there are 32 permanent monitoring wells at CRCA with prescribed screened intervals to monitor the shallow, intermediate, and deep zones of the surficial aquifer. Currently, the chlorinated solvents tDCE and VC are the primary COCs at CRCA. **Figures 1.4 and 1.5** present a map of CRCA overlain with current tDCE and VC plumes at the intermediate (25-40 feet bls) and deep (53-63 feet bls) intervals, respectively. In addition to the current plume configurations being presented, the results from one baseline and eight consecutive quarterly sampling events from June 2019 to July 2021 are listed.

As shown on **Figure 1.4**, the intermediate plume concentrations remain below 100 µg/L VC and are therefore part of the low concentration plume (LCP). This intermediate plume is in the area directly beneath and to the east of the main building (Building K6-1696). As depicted on **Figure 1.5**, after two years of HCS operation, the deep plume no longer contains the small component of the high concentration plume (HCP) observed after Year 1 of HCS system operation. During the second year of HCS operation, VC concentrations fluctuate from 55 µg/L to 81 µg/L, below 100 µg/L at MW018. The small hot spot (HS) portion of the deep plume has been reduced to below the Natural Attenuation Default Criteria (NADC) for VC, therefore, only the LCP remains in this zone.

Unlike the intermediate plume, the deep plume has a western migration element with VC concentrations exceeding the State of Florida Groundwater Cleanup Target Levels (GCTL) of 1.0 µg/L at well locations downgradient from the main building, west of the railroad tracks to MW0032. Here, baseline concentrations were below detected limits, but rose to slightly above VC's GCTL, with concentrations oscillating, but remaining consistently below 20 µg/L. Year two results show concentrations of 17 µg/L, non-detected, 6 µg/L and 11 µg/L during the October 2020, January 2021, April 2021, and July 2021 sampling events, respectively. Year 2 contaminant concentrations indicate that this deep western component continues to be influenced by the pumping of the three extraction wells located downgradient from the original HCP source area. A further discussion of the VC plume is presented in **Section 2.3** of this report under "COC Distribution".

FIGURE 1.1 LOCATION OF KENNEDY SPACE CENTER AND CRCA
SWMU 41, KENNEDY SPACE CENTER, FLORIDA

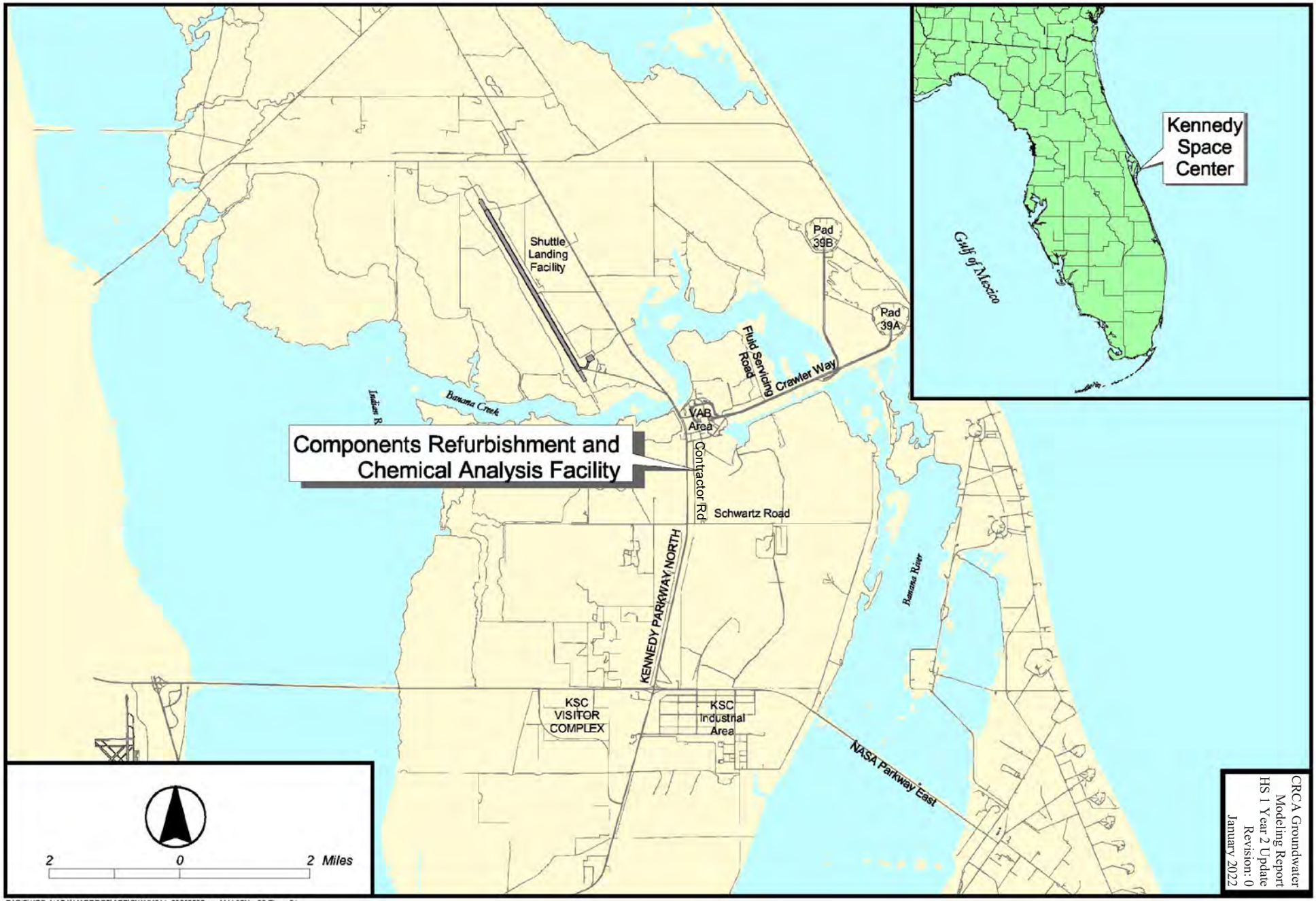

FIGURE 1.2 CRCA SITE LAYOUT MAP

SWMU 041, KENNEDY SPACE CENTER, FLORIDA

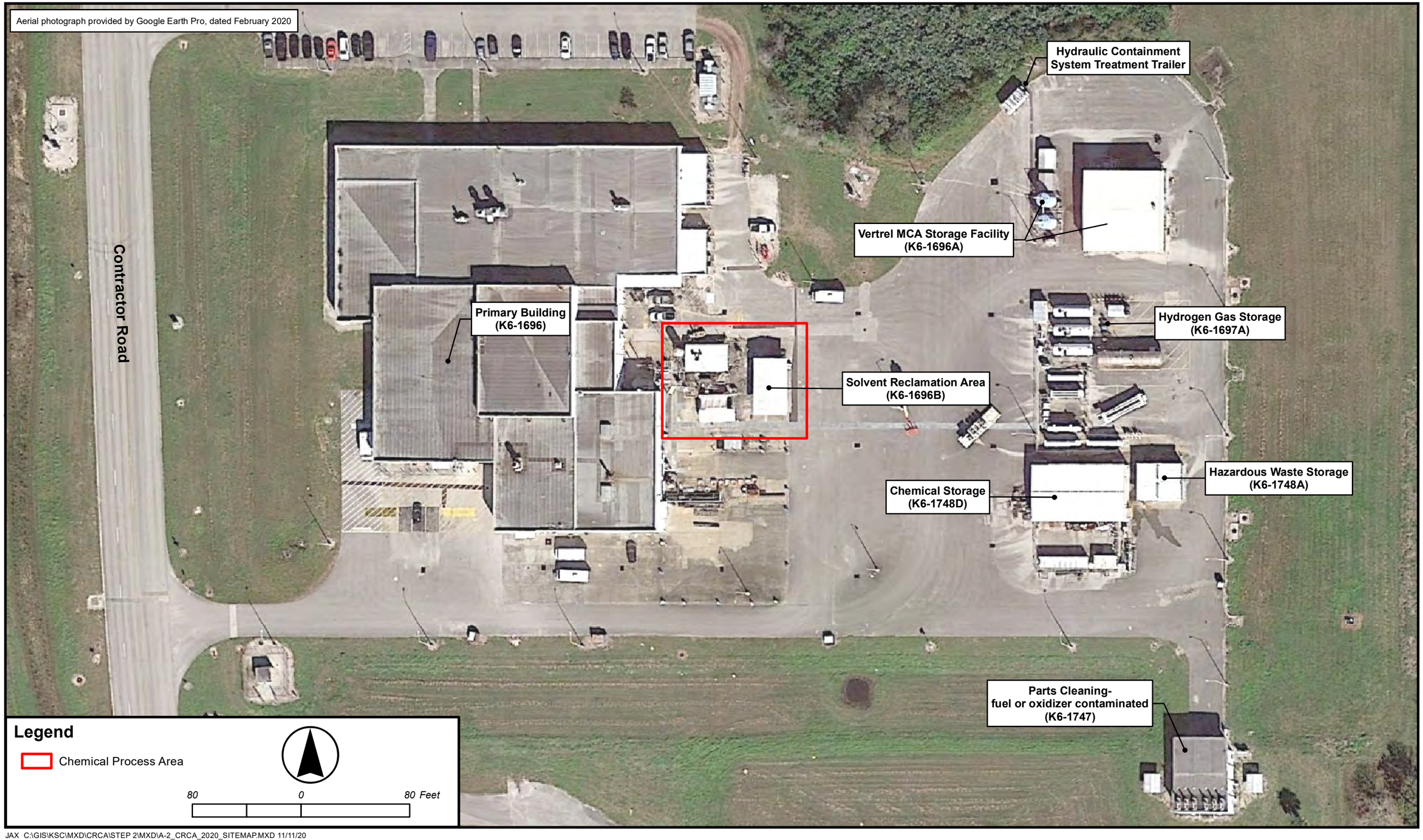

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FIGURE 1.3 CRCA REGIONAL MAP

SWMU 041, KENNEDY SPACE CENTER, FLORIDA

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FIGURE 1.4 WELL LOCATION AND YEAR 2 PERFORMANCE SAMPLING PLAN

SWMU 041, KENNEDY SPACE CENTER, FLORIDA

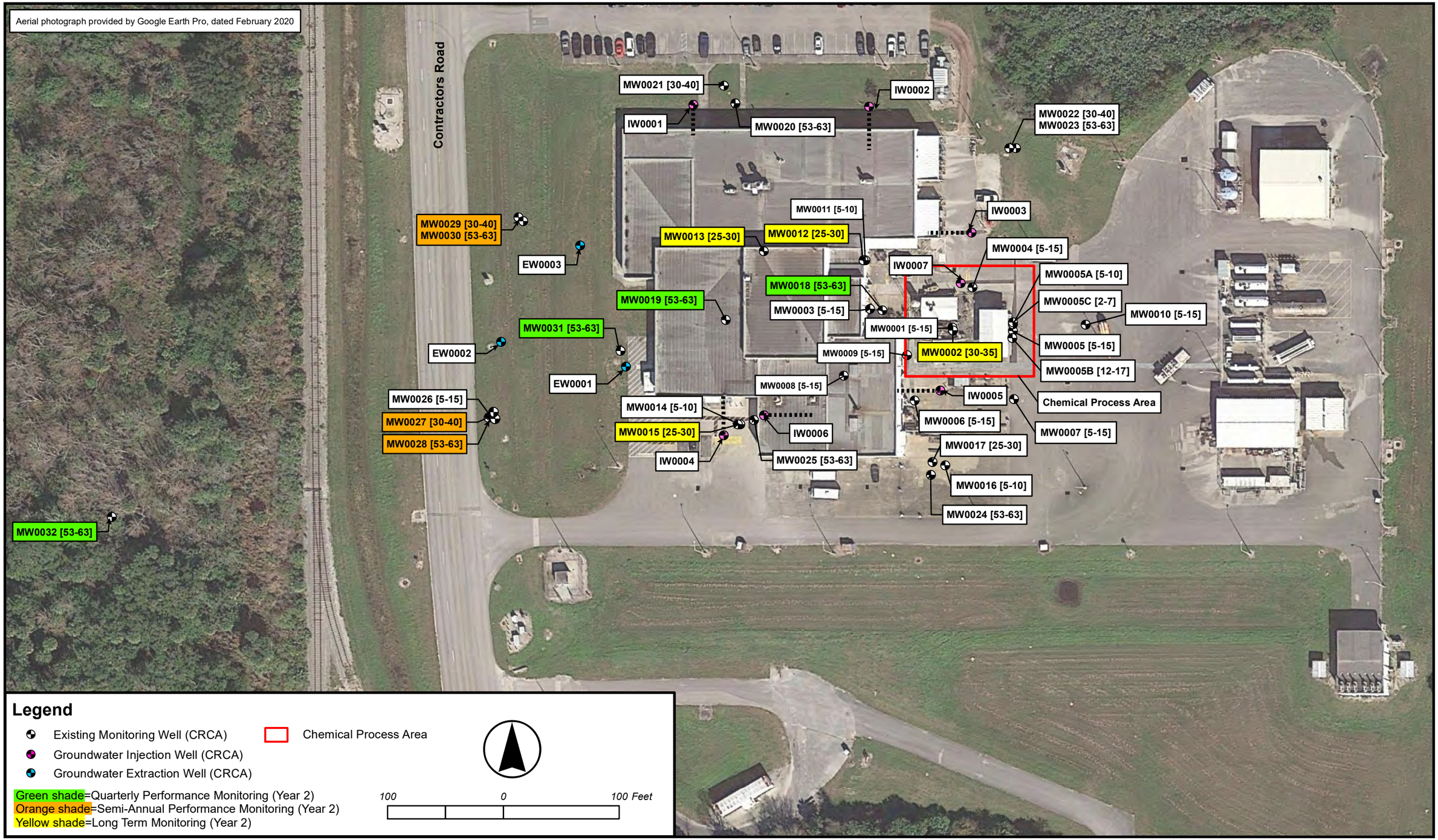

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FIGURE 1.5 INTERMEDIATE MONITORING WELL RESULTS

SWMU 041, KENNEDY SPACE CENTER, FLORIDA

Aerial photograph provided by Google Earth Pro, dated February 2020

Contractors Road

CRCA-MW0013 [25-30]

	June-2019	Jan-2020	Jul-2020	Jan-2021	Jul-2021
tDCE	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	0.71 U	1.4 I	**4.6**	**2.1 I**	1.4 I

CRCA-MW0029 [30-40]

	June-2019	Jan-2020	Jul-2020	Jan-2021	Jul-2021
tDCE	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U

CRCA-MW0012 [25-30]

	June-2019	Jan-2020	Jul-2020	Jan-2021	Jul-2021
tDCE	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	**2.6**	1.4 I	**1.7 I**	0.71 U	0.71 U

CRCA-MW0002 [30-35]

	June-2019	Jan-2020	Jul-2020	Jan-2021	Jul-2021
tDCE	0.73 U	0.73 U	0.73 U	0.73 U	**0.73 I**
VC	**28**	**22**	**1.8 I**	**3.1**	**7.4**

CRCA-MW0027 [30-40]

	June-2019	Jan-2020	Jul-2020	Jan-2021	Jul-2021
tDCE	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	0.71 U	0.71 U	0.71 U	**7**	0.71 U

CRCA-MW0015 [25-30]

	June-2019	Jan-2020	Jul-2020	Jan-2021	Jul-2021
tDCE	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	0.71 U	**0.77 I**	0.71 U	0.71 U	0.71 U

Legend

- Existing Monitoring Well (CRCA)
- Concentrations greater than GCTL (LCP) and less than NADC

Parameter	Abbrev.	GCTL	NADC
trans-1,2-Dichloroethene	tDCE	100	1,000
Vinyl Chloride	VC	1	100

Detected Concentration (µg/L)
I = Reported value between Method Detection Limit (MDL) and Practical Quantitation Limit
J = Estimated value
U = Not detected at or above MDL (associated value)
[53-63] = Depth Interval in feet below land surface
LCP = Low Concentration Plume
GCTL = State of Florida Groundwater Cleanup Target Level
NADC = Natural Attenuation Default Concentration
Pink highlights signify concentrations above GCTL

100 0 100 Feet

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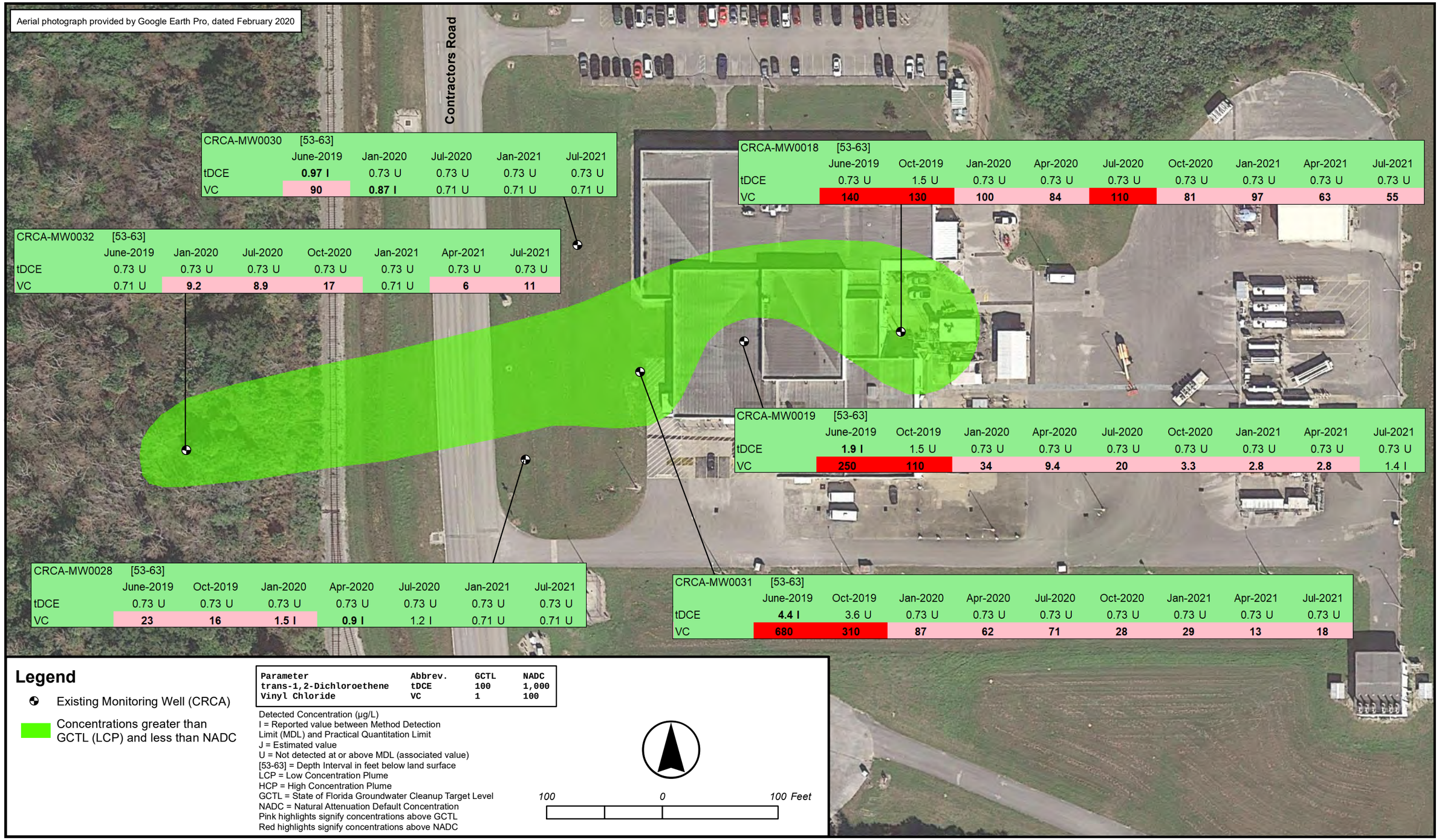
FIGURE 1.6 DEEP MONITORING WELL RESULTS

SWMU 041, KENNEDY SPACE CENTER, FLORIDA



CRCA-MW0030 [53-63]

	June-2019	Jan-2020	Jul-2020	Jan-2021	Jul-2021
tDCE	**0.97 I**	0.73 U	0.73 U	0.73 U	0.73 U
VC	**90**	**0.87 I**	0.71 U	0.71 U	0.71 U

CRCA-MW0032 [53-63]

	June-2019	Jan-2020	Jul-2020	Oct-2020	Jan-2021	Apr-2021	Jul-2021
tDCE	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	0.71 U	**9.2**	**8.9**	**17**	0.71 U	**6**	**11**

CRCA-MW0018 [53-63]

	June-2019	Oct-2019	Jan-2020	Apr-2020	Jul-2020	Oct-2020	Jan-2021	Apr-2021	Jul-2021
tDCE	0.73 U	1.5 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	**140**	**130**	**100**	**84**	**110**	**81**	**97**	**63**	**55**

CRCA-MW0019 [53-63]

	June-2019	Oct-2019	Jan-2020	Apr-2020	Jul-2020	Oct-2020	Jan-2021	Apr-2021	Jul-2021
tDCE	**1.9 I**	1.5 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	**250**	**110**	**34**	**9.4**	**20**	**3.3**	**2.8**	**2.8**	1.4 I

CRCA-MW0028 [53-63]

	June-2019	Oct-2019	Jan-2020	Apr-2020	Jul-2020	Jan-2021	Jul-2021
tDCE	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	**23**	**16**	**1.5 I**	**0.9 I**	1.2 I	0.71 U	0.71 U

CRCA-MW0031 [53-63]

	June-2019	Oct-2019	Jan-2020	Apr-2020	Jul-2020	Oct-2020	Jan-2021	Apr-2021	Jul-2021
tDCE	**4.4 I**	3.6 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	**680**	**310**	**87**	**62**	**71**	**28**	**29**	**13**	**18**

Legend

- Existing Monitoring Well (CRCA)
- Concentrations greater than GCTL (LCP) and less than NADC

Parameter	Abbrev.	GCTL	NADC
trans-1,2-Dichloroethene	tDCE	100	1,000
Vinyl Chloride	VC	1	100

Detected Concentration (µg/L)
I = Reported value between Method Detection Limit (MDL) and Practical Quantitation Limit
J = Estimated value
U = Not detected at or above MDL (associated value)
[53-63] = Depth Interval in feet below land surface
LCP = Low Concentration Plume
HCP = High Concentration Plume
GCTL = State of Florida Groundwater Cleanup Target Level
NADC = Natural Attenuation Default Concentration
Pink highlights signify concentrations above GCTL
Red highlights signify concentrations above NADC

100 0 100 Feet

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SECTION II

CONCEPTUAL MODEL

This section provides a background in what a conceptual model is and how the conceptual model for CRCA was developed. Specifically, a qualitative understanding of the factors that govern groundwater flow and contaminant transport is referred to as a conceptual model. A conceptual model is developed by collecting hydrogeologic data and formulating a working hypothesis of how these elements interact to cause observed responses. These responses include spatial differences in groundwater levels and transient groundwater level changes. The conceptual model consolidates site and regional hydrogeologic data into a set of assumptions and concepts that can be quantitatively evaluated [American Society of Testing Materials (ASTM), 1996]. These assumptions are subsequently translated into a numerical representation to simulate groundwater, including modeling-based development, and testing. An iterative model-construction procedure was used beginning with data collection, evaluation, and refinement of the conceptual model.

2.1 GEOLOGIC FRAMEWORK AND HYDROSTRATIGRAPHIC UNITS

As part of a barrier island complex, CRCA is located on a depositional environment of undulating dunes and swales, oriented north to south along the extent of Merritt Island. Soils from these Holocene to Pliocene shallow deposits comprise the upper limits of the surficial aquifer. These soils generally consist of unconsolidated carbonate and silica sands and shell fragments with less frequent intermixing of silts and clays. Below these soils, undifferentiated upper Miocene and Pliocene silts, sands, and clays are typically encountered. Numerous sea level transgressions and regressions occurred during this time; therefore, the deposits are discontinuous and undulating. This stratigraphic Late Miocene to Pliocene sequence has been identified as an equivalent to the Caloosahatchee Marl Formation.

At CRCA, clayey and silty sands were encountered near the surface in the vicinity of the main building (Building K6-1696) to a depth of approximately five feet. Below this depth, the site stratigraphy consists of fine to very fine sand with trace of silt grading into medium to very fine sands and the introduction of shell fragments at about 10 feet bls. Fine to very fine sand with

varying amounts of shell fragments and silt are found to about 25 feet bls. Shell fragments exist in greater abundance to about 60 feet bls, interspersed with layers predominated by fine to very fine and coarse to very fine sands. Generally, the occurrence of shell fragments increases to the west of the study area. The soils become more clayey at approximately 60 feet bls, where fine to very fine sand with trace to some shell, clay and trace to little shell fragments were found. A homogeneous clay with trace to some silt, very fine sand, shell was consistently encountered from approximately 70 to 80 feet bls, the vertical extent of soil borings conducted at CRCA.

Based on data collected from other KSC sites and the numerous borings conducted in the 1960s in support of the Manned Lunar Landing Program, the clay layer found beneath the CRCA study area at approximately 70 feet bls is expected to persist to approximately 110 feet bls. This clayey layer is considered confining to semi-confining. At KSC, these undifferentiated sediments lie conformably above lower and middle Miocene silts and clays known as the Hawthorn formation, which acts as the major confining unit to the Floridan aquifer system. The Hawthorn formation consists of calcareous clays and silts, sandy phosphatic limestone, and phosphatic clays of marine origin. Beneath CRCA, the Hawthorn Formation rests unconformably on the Ocala Limestone at about 165 feet bls. This unconformity is due to shallow marine depositional environment of the Ocala limestone, its subsequent surface exposure, possible faulting, and erosion. The Ocala Limestone comprises the upper limestone of the Ocala Group, marking the top of the Floridan aquifer at KSC.

A map presenting the transects of the soil borings collected during site investigations conducted at CRCA between 2007 and 2019 is presented as Figure 2.1. Soil borings corresponding to the A-A’ and B-B’ transects are presented on Figures 2.2 and 2.3, respectively. As depicted on these cross-sections, the soils were further organized into nine hydrogeologic layers for the purpose of completing a conceptual site model to be incorporated into the numeric groundwater model.

The following presents a description of the soils encountered within each of the nine designated layers:

- Layer 1 is located from land surface to approximately 12 feet bls. This layer includes the unsaturated zone/water table interface, representing shallow groundwater

conditions. Soils comprising this layer generally range from medium to very fine-grained sands with trace silt and trace to little clay found in the vicinity of the main building. Trace shell with increasing silt is found in these shallow sediments west of extraction well EW0003.

- Layer 2 is located from approximately 12 to 20 feet bls and consists of sand layers ranging from medium to very fine-grained with trace to little shell fragments alternating with layers predominated by shell fragments and trace to little coarse to fine-grained sand. Fine to very fine-grained sand with little silt is found at this interval to the south.
- Layer 3 is located from approximately 20 to 29 ft bls and consists of fine to very fine sand, but with shell fragments becoming more abundant with depth and dominating to the south and west of the main building.
- Layer 4 is located from approximately 29 to 36 feet bls and consists of shell fragments and fine to very fine-grained sand underlain by shell fragments with trace to little coarse to very fine-grained sand.
- Layer 5 is located from approximately 36 to 43 feet bls. This layer consists of fine to very fine-grained sand with trace of shell fragments, with shell content increasing to the east of the main building.
- Layer 6 is located from approximately 43 to 52 feet bls. The eastern component of this layer consists of sand ranging in grain-size from coarse to very fine with traces of silt and traces of shell. To the west, this layer grades into shell fragments with trace to little coarse to very fine sand. The area of the main building is underlain by coarse to very fine-grained sand with an approximately 0.5-foot lens of clay encountered in the vicinity of IW0005.
- Layer 7 is located from approximately 52 to 62 feet bls. This layer consists primarily of shell fragments with trace to little coarse to very fine-grained sand. Shell is absent in a lens beneath extraction well EW0003. West of the CRCA facility a layer of intermixed

sand, silts and shell. North of the CRCA main building, a layer of fine-grained sand with some silt and trace amounts of clay was encountered at depth.

- Layer 8 is located from approximately 62 to 70 feet bls. This layer consists of fine to very fine sand with trace to little silt, trace to some shell and trace to some clay.
- Layer 9 is located from approximately 70 to 80 feet bls. This layer consists of clay with trace to some silt, very fine sand, and trace to some shell. The maximum vertical extent of soil borings collected at CRCA is five feet below the bottom of this layer or 80 feet bls.

2.2 SURFACE WATER FEATURES

The CRCA study area is a relatively flat (less than 10 feet of total relief) predominantly paved area with a relatively shallow water table. Surface elevations decrease to the west of the CRCA facility toward a densely wooded area. Drainage swales are located on both the eastern and western sides of Contractor Road, west of CRCA. The Turning Basin, which connects to the Banana River and ultimately to Port Canaveral by an approximately 300-foot wide dredged canal system, is located approximately 0.75 miles to the northeast of the study site. This roughly circular water body, constructed to transport large space-related parts such as rocket boosters, is south of a natural meandering water body which runs roughly east-west and is situated approximately 1.0-mile northwest of the study area. Regionally, the Indian River is located approximately four miles west of CRCA and the Banana River is approximately five miles to the east. Figure 2.4 presents an aerial map showing surface water features in vicinity of the study area. As a result of precipitation recharge, a regional groundwater divide likely forms between these groundwater discharge zones. To the west of the divide, groundwater flows toward the Indian River. To the east of the divide, groundwater flows toward the dredged canal system running north-south between the study area and the Banana River.

2.3 WATER BUDGET

Components of the regional water budget consist of inflow from precipitation and leakage from the aquifer. Outflow is comprised of groundwater pumping, evapotranspiration, leakage to the aquifer, and leakage to the rivers. The total water budget and individual components vary from

year to year and are a function of precipitation, evapotranspiration, pumping, and surface water recharge and discharge components. The water balance is based on the elements of the hydrologic cycle, using the overall concept that inflows, outflows, and changes in storage result in a net balance.

The water table at CRCA ranges from about 0.5 feet to 3.5 feet msl. The groundwater potentiometric surfaces generally slope to the west at shallow (5 to 15 feet bls), intermediate (25-40 feet bls), and deep (53-63 feet bls) intervals within the surficial aquifer, typically mimicking site topography. Fluctuations in groundwater flow direction are primarily observed inthe vicinity of the main building (K6-1696) at shallow depths, becoming more radial as extraction well pumping continues. The general flow direction remains to the west, likely discharging to surface water features such as drainage ditches, wetlands, and ultimately Indian River.

The conceptual model includes the identification of water balance components and estimated values for each component identified. The water balance is based on the elements of the hydrologic cycle, using the overall concept that inflows, outflows, and changes in storage result in a net balance.

The elements of the hydrologic cycle in east-central Florida are rainfall (P), surface runoff (SRO), groundwater runoff (GRO), evapotranspiration (ET), leakage to or from the Floridan aquifer (UFL), pumpage (Q), and changes in the amounts of water in storage in the aquifer system (dS).

$$P = SRO + GRO + ET + UFL + Q + dS$$

Groundwater runoff is groundwater in the surficial aquifer that discharges to a surface water body or river. It is equivalent to net recharge. At KSC, mean annual rainfall is approximately 52 inches (NASA, 2003). A significantly greater percentage of this rainfall occurs in the four or five months of the “wet season” (June through September or October) than in the eight months of the dry season (October through May). Annual total surface runoff (precipitation that does not infiltrate and reach the water table) in east-central Florida ranges from near zero in internally drained areas to as much as 20 inches (Tibbals, 1978). Given the relatively flat topography,

shallow water table, and high permeability of the surface deposits in the study area, surface runoff is assumed to be minimal.

Evapotranspiration is a major factor in the hydrologic cycle in east-central Florida. Evapotranspiration occurs in three forms: (1) from plant surfaces and bare ground [ETps/bg], (2) from the unsaturated zone [ETuz], and (3) directly from the water table [ETwt]. The maximum potential evapotranspiration from a free-water surface in the study area is approximately 46 inches per year (Visher and Hughes, 1975). The rate of ET_{wt} depends, in part, on the depth of the water table below the ground surface. Where the water table is near the land surface, uptake by plants (transpiration) and direct evaporation from the water table can be significant. No matter how far below the land surface the water table lies, a minimum or base rate of ETmin (equal to [ETps/bg] + [ETuz]) likely occurs before any water can percolate to the water table. Estimates of this base rate of ETmin for east-central Florida range from 25 to 35 inches per year (in/yr) (Tibbals, 1978).

2.4 FATE AND TRANSPORT OF CONTAMINANTS OF CONCERN (COCs)

As mentioned in Section 1.4, the COCs at CRCA are tDCE and VC. The physical and chemical processes affecting the fate and transport of these dissolved constituents in the groundwater at CRCA are advection, hydrodynamic dispersion, sorption, and degradation. These processes cause changes in both the mass and distribution of dissolved constituents in the groundwater. A brief discussion of these processes is provided below:

For the transport of dissolved contaminants in groundwater, advection is defined as the migration of COCs because of the dissolved COCs being carried by moving groundwater. With advection, the COCs in the groundwater are travelling at the same rate of flow as the groundwater they are in solution with.

The spreading of dissolved COCs in the study area is also be attributed to the hydrodynamic-dispersion processes. With hydrodynamic dispersion, plume constituents move with the groundwater between soil grains in horizontal and vertical directions, away from the contaminant source. So, dispersion is dependent on the soil media surrounding the contaminant plume.

Adsorption is a chemical process resulting when dissolved chemicals react with the surfaces of solids. In addition to slowing the rate of plume migration, adsorption also increases the persistence of the plume because contaminants adsorbed to soil grains may not degrade and are thereby desorbed slowly into groundwater over time. Laboratory studies have shown that the mass of organic constituents adsorbed to soils is proportional to the amount of organic carbon in the soils (e.g., Karickhoff et al., 1985). Specifically, the greater the amount of organics in the aquifer, the increased adsorption will inhibit the transport of dissolved chemicals in the aquifer. This reduced migration rate is quantified as the retardation factor.

Degradation encompasses the biological and chemical processes that decrease the mass of dissolved constituents. These processes include the effects of biodegradation, photolysis, oxidation-reduction, and hydrolysis, and are generally grouped into either biologic or abiotic (chemical) degradation processes.

Based on laboratory analyses of groundwater at CRCA, namely the detection of *Dehalococcoides* (Dhc) biodegradation via reductive dechlorination appears to be a possible route of natural attenuation for the chlorinated ethenes detected there. As such, it is important to note the degradation relationship between these chlorinated ethenes as they lose chlorine atoms through reductive dechlorination. The following shows this relationship of tDCE and VC in which one chloride atom is removed during sequential biotransformation reactions:

$$\text{trans-1,2-DCE } (C_2H_2Cl_2) \rightarrow \text{VC } (C_2H_3Cl) \rightarrow \text{Ethene } (C_2H_4).$$

This anaerobic reductive dechlorination process is a reaction in which bacteria gain energy and grow as one or more chlorine atoms on a chlorinated hydrocarbon are replaced with hydrogen. Hydrogen is the electron donor and is typically supplied indirectly through the fermentation of organic substrates such as organic acids or alcohols (Fennel et al., 1997). These sequential reactions are mediated by various halorespiring bacteria (Hollinger, 1997) that utilize trichloroethene (TCE), tDCE, and VC as electron acceptors. This is further confirmed by increases in chloride and/or specific conductance (both are linearly correlated) in groundwater, illustrating a microbially-induced dechlorination process.

Typically, biodegradation rates are measured in the laboratory with the resulting data commonly modeled using the Monod equation which is expressed as:

$$\frac{dC}{dt} = \frac{v_{max} XC}{k_s + C}$$

where C is the concentration of the chlorinated solvent, X is the biomass concentration, vmax is the apparent maximum reaction rate per unit biomass, and ks is the apparent half saturation constant, which is the chlorinated compound concentration at which the reaction rate is half of its maximum level (vmax). This equation is used for conditions when the bacteria are acclimated to environmental conditions and the biomass is at a constant concentration level. For concentrations that are much lower than the half saturation constant (C<< ks), the Monod equation can be represented by the following first-order decay expression:

$$C = C_o e^{-kt}$$

where C is the concentration of the chemical at time t, Co represents the initial concentration at t= 0, and k is the transformation rate constant. The transformation rate constant can also be described by a half live ($\tau_{1/2}$) through the relationship $\tau_{1/2} = (\ln 2)/k$ where ln is the natural log.

Studies indicate that a first-order reaction rate expression is appropriate for chlorinated solvent concentrations below the low milligram per liter range (Haston and McCarty, 1999), and therefore a first-order sequential transformation was used in the solute transport modeling.

To facilitate anaerobic reductive dechlorination in the subsurface, an organic carbon source is required, such as natural organic carbon, or fuel hydrocarbons that are present as co-contaminants. Various microbes oxidize these organic substrates and produce hydrogen for use by the dechlorinating bacteria. The marshy environment of the study area and marine depositional environment may have led to the presence of relatively higher levels of dissolved total organic carbon in groundwater.

Sulfate-reducing or methane-producing (methanogenic) conditions would be required for complete dechlorination of tDCE and VC to ethene. Such conditions are likely at CRCA due to

its proximity to wetlands, where methane-producing organisms (methanogens) are typically found.

2.5 REVIEW OF RELEVANT MICROORGANISMS

As stated in the CRCA Year 2 Annual PMR, analyses for microorganisms indicative of active biodegradation were conducted. Specifically, groundwater samples were collected from the deep zone of the surficial aquifer and analyzed for the presence of DHC. Based on these analyses, 1.4 to 606 cells/mL were detected during the second year of HCS operation. These concentrations indicate the potential for moderate biodegradation activity and VOH reduction within the deep zone of the surficial aquifer, independent of HCS operation. Therefore, it can be assumed that dechlorination of tDCE and VC to non-toxic ethene may be a passive remedial component at CRCA, independent of HCS operation.

Because a wide variety of microbes can utilize hydrogen as an electron donor, there is likely to be competition for the hydrogen produced by the fermentation processes. In many contaminated sites undergoing natural attenuation, the levels of hydrogen are reduced, and hydrogen becomes the controlling factor limiting the extent of reductive dechlorination activity (Goodwin and Lovely, 1988). Studies indicate that halorespiring bacteria including D. Ethenogenes are highly competitive for hydrogen (e.g. Smatlak et al., 1996). Both laboratory and field studies indicate that the steady-state levels of hydrogen are completely controlled by the physiology and type of bacteria utilizing the hydrogen and that hydrogen levels are relatively independent of the rate of production (Chapelle, 1992).

Oxidative biodegradation may be relevant for the low levels of contaminants in the unsaturated zone and near the water table. Microorganisms are generally believed to be incapable of degrading TCE oxidatively (Murray and Richardson, 1993). Apparently, TCE only degrades reductively when an electron donor is present. However, less chlorinated compounds such as tDCE and VC can be degraded oxidatively under aerobic and certain anaerobic conditions (USEPA, 1998). In this type of reaction, the facilitating microorganism can use the chlorinated compound as a food source for growth. In contrast to anaerobic reductive dechlorination, only the lesser chlorinated compounds are susceptible to oxidation.

2.6 COC DISTRIBUTION

As previously noted, the COCs at CRCA are tDCE and VC. Sampling events, beginning with the baseline sampling event of June 2019 prior to system operation of July 2019 and quarterly thereafter through July 2021, are presented on groundwater plume maps chronicling the hydraulic containment system operation for two years. During this sampling interval, no tDCE concentrations were detected in the groundwater above the laboratory method detection limit (MDL) in the deep zone, however a slight exceedance of MDL (but below QDL) of 1.4 µg/L (I) during the most recent sampling event (July 2021) was detected in intermediate zone of the surficial aquifer. The resulting maps depict the horizontal extent of the VC plume only. Specifically, Figure 1.5 shows the VC intermediate plume at 25-40 feet bls and Figure 1.6 shows the VC deep plume at 53-63 feet bls.

As shown on Figure 1.5, the intermediate VC plume constitutes a low concentration plume (LCP) situated directly beneath the main CRCA building. Steady decreases in VC concentrations are noted at MW0012 and MW0002, located on the eastern side of the main building. Slight increases in VC were detected at MW0013, located directly beneath the main building. These concentrations ranged from undetected in June 2019 to 4.6 µg/L in July 2020, then 1.4 µg/L (I) in July 2021, continuing to indicate the potential influence of the pumping extraction wells located approximately 200-feet downgradient to the west within this intermediate zone.

As shown on Figure 1.6, the most recent results for the VC plume within the deep zone show a low concentration plume continuing to have a western component, extending at least to MW0032, located in the low-lying area west of Contractors Road. Concentrations of undetected VC in June 2019 and rising to 17 µg/L in October 2020, above the GCTL of 1 µg/L for VC. No exceedances above 100 µg/L of VC were encountered at any of the monitoring wells sampled during the Year 2 performance monitoring. Therefore, the HCP that was present during the first year of HCS operation has been remediated to below NADC levels and reduced to a LCP across the site. At the area of the initial HCP, a steady decline in VC concentrations has been noted since Jun 2019, with an increase from April to July 2020 and a decrease to below NADC during Year 2 of HCS operation. Generally, increases in VC concentrations continue westward, toward the pumping extraction wells.

FIGURE 2.1 CRCA SOIL BORING TRANSECT MAP

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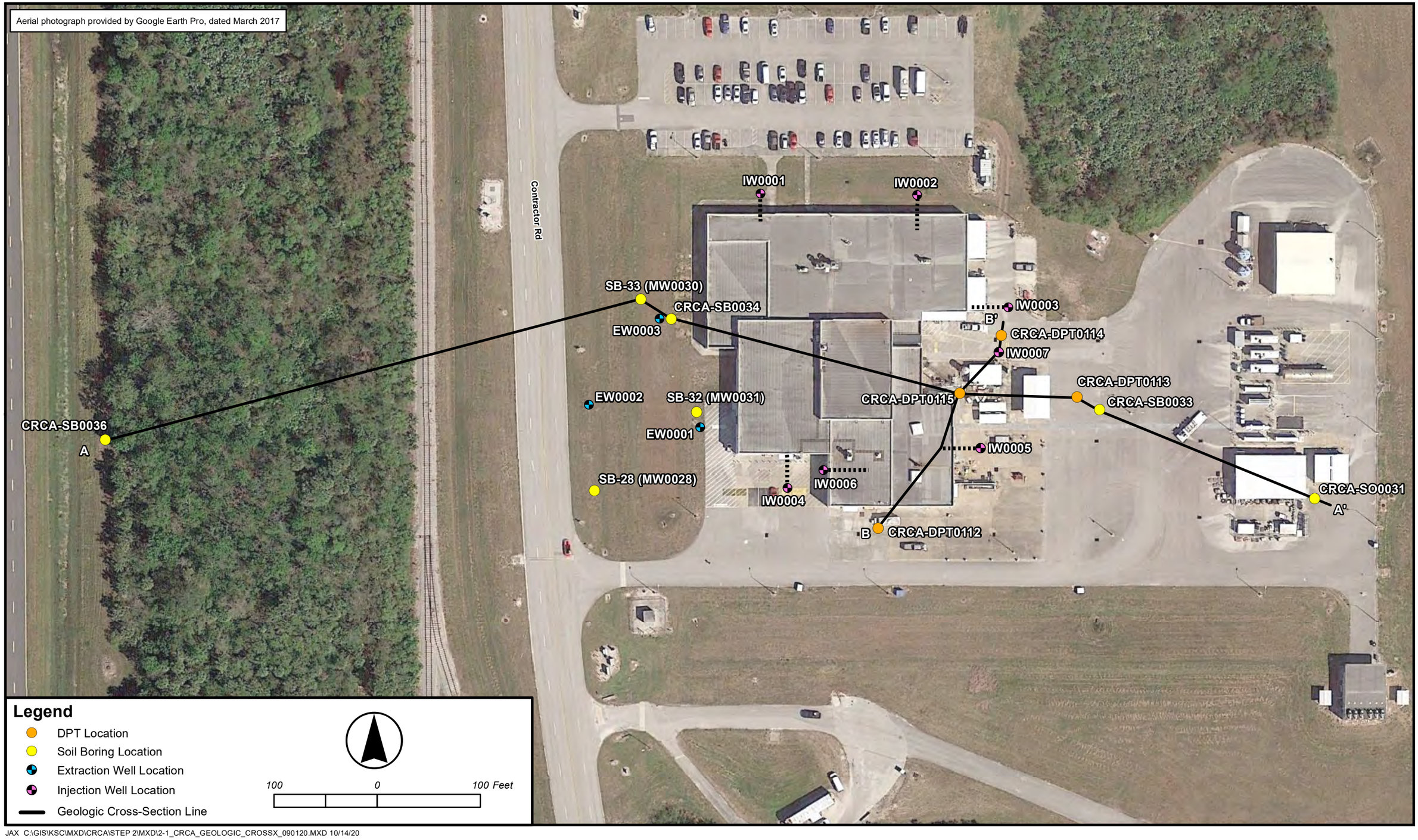

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FIGURE 2.2 CRCA A-A' GEOLOGIC CROSS-SECTION

SWMU 041, KENNEDY SPACE CENTER, FLORIDA

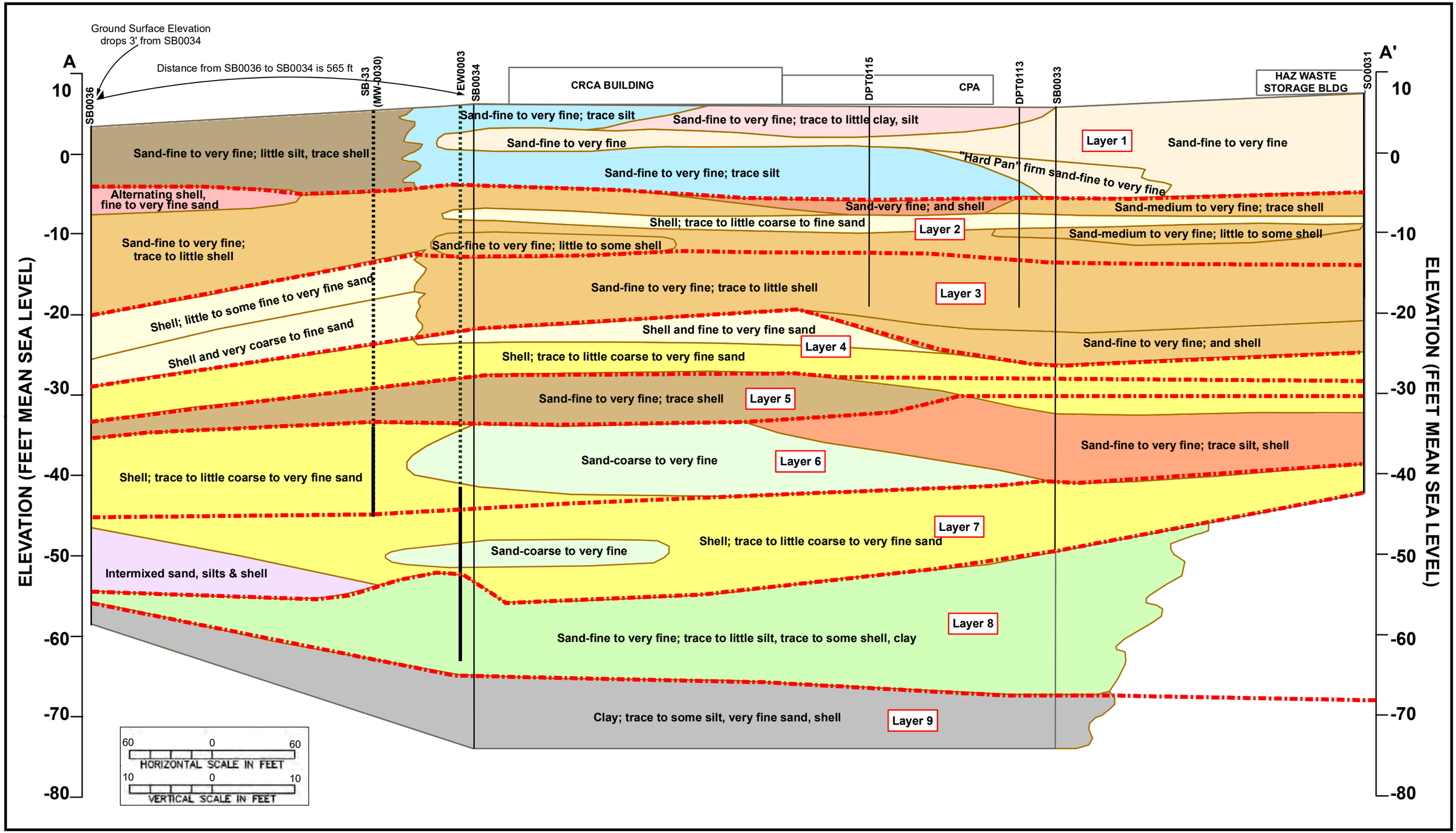

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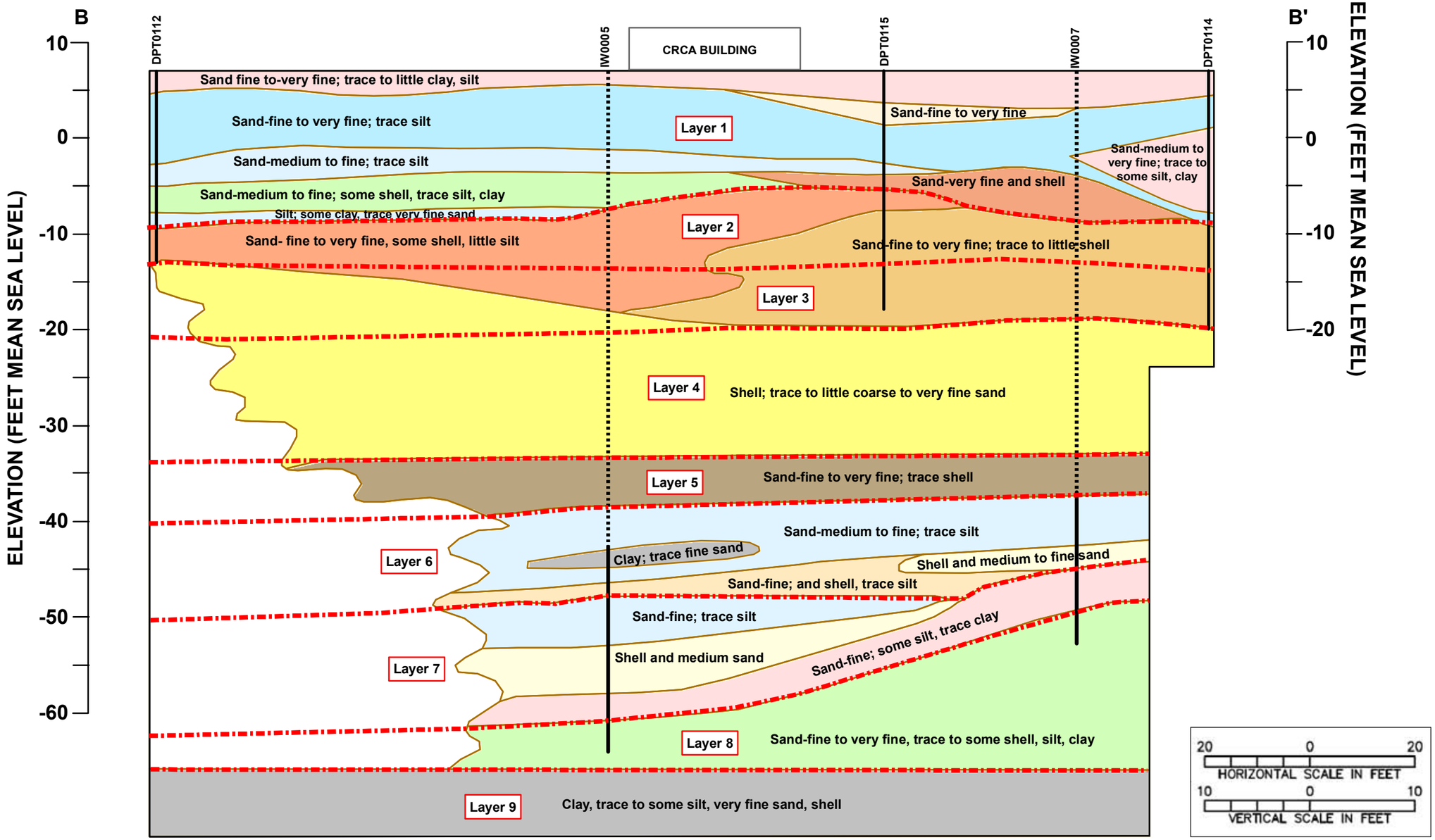
FIGURE 2.3 CRCA B-B' GEOLOGIC CROSS-SECTION

SWMU 041, KENNEDY SPACE CENTER, FLORIDA



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SECTION III
NUMERICAL FLOW MODEL CONSTRUCTION

Developing a numerical groundwater flow model entails transforming the conceptual model into a mathematical form. Fundamental components of the numerical groundwater flow model construction include selection of an appropriate numerical code, development of a three-dimensional model grid, assignment of representative initial and boundary conditions for calibration and predictive-simulation purposes, and characterization of hydraulic properties (ASTM, 1996).

VC was selected for transport modeling. This contaminant was selected because it is the primary COC present at elevated levels in groundwater beneath the site based on recent sampling data.

3.1 CODE SELECTION

The criteria used for groundwater model code selection were based upon the guidelines provided in the Assessment Framework for Ground Water Model Applications (USEPA, 1994) and ASTM Standard D6170. These guidelines highlight reliability and usability as key criteria for model code selection. The groundwater flow model that was selected for application at CRCA is the USGS Modular Groundwater Flow Model (known as MODFLOW) by McDonald and Harbaugh (1988) and Harbaugh (2005). This model has proven reliable through years of use in the public and private domain and is based on widely accepted hydrologic principles and governing equations.

The usability of the model has been enhanced in recent years with increased computing capabilities, improvements in pre- and post- processing programs, and automated calibration methods. The selected model has undergone extensive testing and peer review, is an industry standard, and components of the model are in the public domain. MODFLOW was also coupled with a particle-tracking program commonly referred to as MODPATH (Pollock, 1989, 1994). MODPATH provides particle-tracking options to illustrate the directions of groundwater flow and to delineate capture zones from pumping wells for evaluating the effectiveness of remedial performance.

3.2 MODEL GRID AND LAYERING

Tetra Tech specified the boundaries of the model grid to coincide with natural hydrogeologic boundaries whenever possible. The hydraulic boundaries for this model are shown in Figure 3.1. Based on these boundaries, the model domain is further subdivided as shown on Figure 3.2.

Specifically, the model domain consists of a finite difference grid of 143 columns and 96 rows covering approximately 3,000 ft (~0.57 miles) by 2,300 ft (~0.44 miles), respectively. The grid has its origin (southwestern corner) at 233,611.46E and 469,570.66 N based on the North American Datum (NAD) 1983 coordinate system. The model grid spacing varies from 12.5 ft in the area of interest to 50 ft at the outer regions of the model domain.

The site-specific model uses 9 layers to represent the groundwater system beneath CRCA. The base of the model is approximately 75 ft below land surface (bls), where dense clays were encountered. These clays were consistently found from approximately 70 feet bls to 80 feet bls and based on the calculated hydraulic conductivities represent a low permeability or semi-confining to confining unit for this site. Based on this data, the base of Layer 9 is represented as a no-flow boundary condition for the model. The top and bottom elevations of each model layer are defined based both on regional trends of the geologic units and site-specific boring logs. The geologic cross-sections on Figure 2.2 and 2.3 present the model layers which also represent the primary lithological layers observed in the subsurface.

3.3 BOUNDARY CONDITIONS

The model boundary conditions were defined in accordance with guidelines in ASTM D5609 and chosen to represent hydrogeologic features in the model domain. Boundary conditions simulated in Layer 1 include recharge (including evapotranspiration) and constant heads as shown on Figure 3.3. The primary source of water into/from the model is from precipitation-derived recharge and evapotranspiration. Initially, a recharge rate of 18 in/yr (approximately 1/3 of the total precipitation received) was assigned to the non-paved areas of the CRCA (representing a difference between precipitation-derived recharge and evapotranspiration). For asphalt areas of the CRCA, a recharge rate of 1.8 in/yr was assigned since minor cracks were

observed to occur during various site visits). No recharge was assigned under the footprint of the main building.

The principal surface water features (Indian River and Banana River) were located significantly away from the CRCA area. Drainage swales are located on both the eastern and western sides of Contractor Road, west of CRCA and to the east of CRCA. Values of the constant head boundaries were set based on potentiometric groundwater elevations for the calibration dates selected (see Section 4). Additionally, in layer 1, an area of constant head was placed in the eastern portion of the CRCA building. This constant head boundary condition was necessary based on observations of a persistent groundwater elevation high that occurs in the shallow aquifer (further details are provided in Section 4.2). This likely originates from CRCA facility operations. The background information showing the constant head locations and recharge zonation assigned for the groundwater model is detailed in Appendix A of the Year 1 PMR for CRCA (NASA 2021a.) The lateral edges of the model grid were placed sufficiently far from the injection and recovery wells so that the boundary conditions would not affect groundwater pumping or injection in the area of interest. Recharge (including evapotranspiration) and constant head boundaries are applied to Layer 1. Additionally, constant heads located east and west of the CRCA are applied to Layers 2 to 8. The bottom of Layer 9 is specified as a no-flow boundary.

3.4 HYDRAULIC PROPERTIES

For groundwater flow modeling, the hydraulic properties to be specified include horizontal and vertical hydraulic conductivity, storage coefficients [including specific yield for simulation of water table (unconfined) conditions and storativity for simulating confined situations]. In steady-state simulations, changes in storage are not simulated and thus the storage coefficients are needed only in transient simulations. Various sources of information guided the assignment of hydraulic properties in the flow model including aquifer testing and site-specific geologic information from boring logs.

Initial values of hydraulic conductivity in the model were assigned based on observed hydraulic conductivity values and aquifer responses including: 1) long-term constant rate test at EW0002

in February 2019 (32-hour constant rate test), 2) infiltration testing at IW0001, IW0002, and IW0007 in March 2019 (Tetra Tech, 2018-2019); and 3) 164 slug tests (74 falling and 90 rising head) at all monitoring well locations except MW0013 in December 2018 and March 2019. In addition, site boring log data in combination with: 1) November 2018 sieve analysis data at SB-31, SB32, and SB-33 and 2) November 2018 Hydraulic Profiling Tool (HPT) data [at MW0021, MW0023, MW0024, MW0025, MW0028 (SB-31), MW0030 (SB-33), and MW0031(SB-32)].

were used to help assign hydraulic conductivity values in the model for areas based on where only lithologic information was available. Attachment A includes the data summarizing the hydraulic conductivity results from the 32-hour long-term constant rate test at EW0002 and the slug tests performed at the site, respectively. Also included in Attachment A is the Cooper- Jacob Distance Drawdown analysis of the long-term constant rate test for EW0002. The results estimate a transmissivity of approximately 5500 ft3/day/ft and storage of 0.001826. With an estimated saturated thickness of 70 feet, this results in an estimated hydraulic conductivity of 79.1 ft/day at EW0002.

The hydraulic conductivity zonation as applied to each groundwater modeling layer based on the various inputs is presented in detail in the groundwater modeling report prepared as Appendix A of the CRCA Year 1 Annual PMR (NASA 2021a). The hydraulic conductivity values in the model were refined during model calibration based on available data. Additional background information in support of their evaluation and incorporation into the groundwater model includes the step-test and 32-hour constant rate tests conducted in February 2019 at EW002. Also, the water level data collected with a pressure transducer at 15 groundwater monitoring wells at well clusters across CRCA as well as the pumping well EW0002 were utilized. These results were examined with respect to drawdown and spatially within the shallow, intermediate, and deep zones of the surficial aquifer.

As elapsed time progresses, the magnitude of influence in the deep surficial aquifer spreads laterally (dominantly east-west though this reflects the wells being monitored). At five hours elapsed time of pumping, influence is measurable in the shallow surficial aquifer for much of the site (as well as in the intermediate surficial aquifer). As observed for the deep surficial aquifer, influence continues to spread as elapsed time continues. As can be observed in the various

surficial aquifers, while there is influence across the site, it is generally not uniform with distance suggesting that some orientations of pathways are favored more than others. For instance, there appears to be better influence south of EW-002 in the deep surficial aquifer compared to the east/southeast as well as slightly better connection to the west compared to the east. Similar variations are observed in the shallow and intermediate surficial aquifers as well. This suggests variations in hydraulic conductivity plays a role in groundwater (and contaminant) migration. Only minor changes occur in the influence of pumping in the three zones after approximately 23 hours, suggesting that the pumping is reaching a near steady-state condition across the aquifer. Maximum drawdown is observed at the 32 hours elapsed time.

Spatially, after 2 hours of elapsed time of pumping, influence is observed across nearly the entire site monitored in the deep surficial aquifer, with only influence near the pumping well for intermediate surficial aquifer and essentially no influence in the shallow surficial aquifer.

To complement the long-term aquifer testing and to better understand the subsurface hydraulic conditions for the three zones within the surficial aquifer at the site, slug testing was performed at all the wells in December 2018 and March 2019. Slug testing was performed using a solid slug rod capable of displacing approximately 1.5 to nearly two feet of water in the monitoring wells (a five-foot rod was used in December 2018 and 7.5-foot rod was used in March 2019). Responses were generally very rapid during the slug testing with full recovery within three to five minutes for either falling (insertion of solid slug rod) or rising (removal of solid slug rod). Therefore, numerous sets of tests (falling and rising head) were performed at each well. Usually at least three sets of tests and up to five were performed for each well.

The analyses of these slug test results are detailed in the groundwater modeling section of the Year 1 Annual PMR for CRCA (2021b). Generally, there were three types of aquifer responses observed – straight-line responses, oscillatory response and a hybrid style response (appeared to be oscillatory but had an initial straight-line response). Data was processed in AQTESOLV Professional to provide estimates of hydraulic conductivity. Straight-line slug test responses were estimated with the Bouwer-Rice solution method and the oscillatory and hybrid slug test responses were estimated with the Springer-Gelhar solution method.

Table A.1 of Attachment A summarizes the results of these tests. Generally, hydraulic conductivities range over an order of magnitude within each aquifer zone with results from single digit ft/day to approximately 100 ft/day (or higher). This large range in hydraulic conductivities is consistent with observations in response times for influence during the long-term aquifer test as well as estimates of hydraulic conductivities from the HPT performed in November 2018. Estimation of hydraulic conductivities are provided continuously from approximately five feet to 65 feet bls at six monitoring well locations. Analysis of these results show that hydraulic conductivity varies with depth and generally ranges from single digits ft/day to approximately 100 to 150 ft/day. Most portions of the subsurface are moderately transmissive with hydraulic conductivities of 50 to 70 ft/day. Some hydraulic conductivity variances were observed over short vertical distances, resulting in localized large changes in hydraulic conductivity over short vertical and horizontal spans.

The long-term constant rate test, slug test and HPT results were applied to the appropriate groundwater model layer. This data was then kriged in Surfer, a contouring and 3D surface mapping program, and translated onto the model grid centers on a layer by layer basis to represent the variability in hydraulic conductivity. The hydraulic conductivity values in the model were refined during model calibration based on available data as summarized in the next section, Flow Model Calibration (Section IV).

FIGURE 3.1 MODEL HYDRAULIC BOUNDARIES

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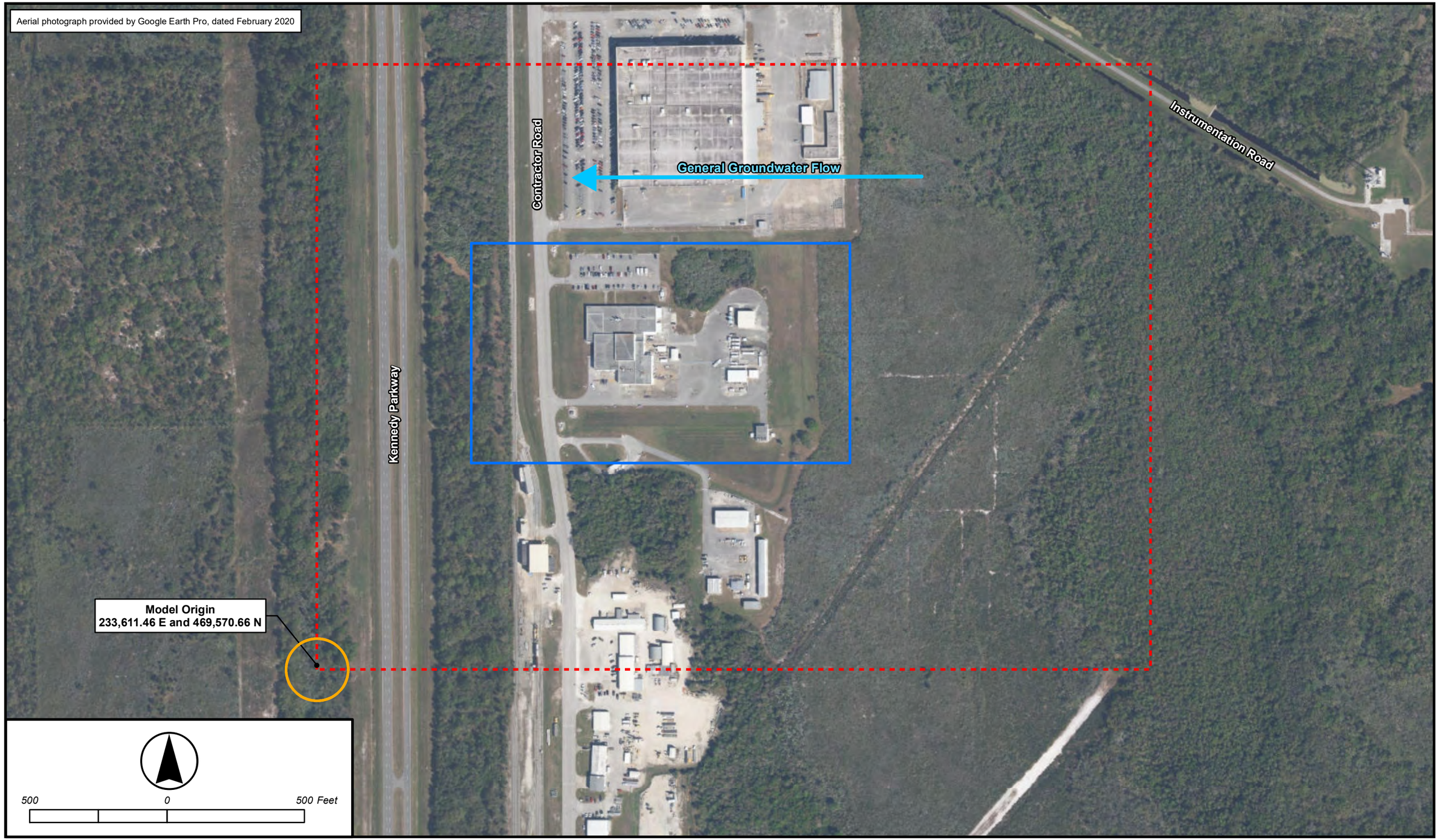

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FIGURE 3.2 CRCA GROUNDWATER MODELING GRID - FULL DOMAIN

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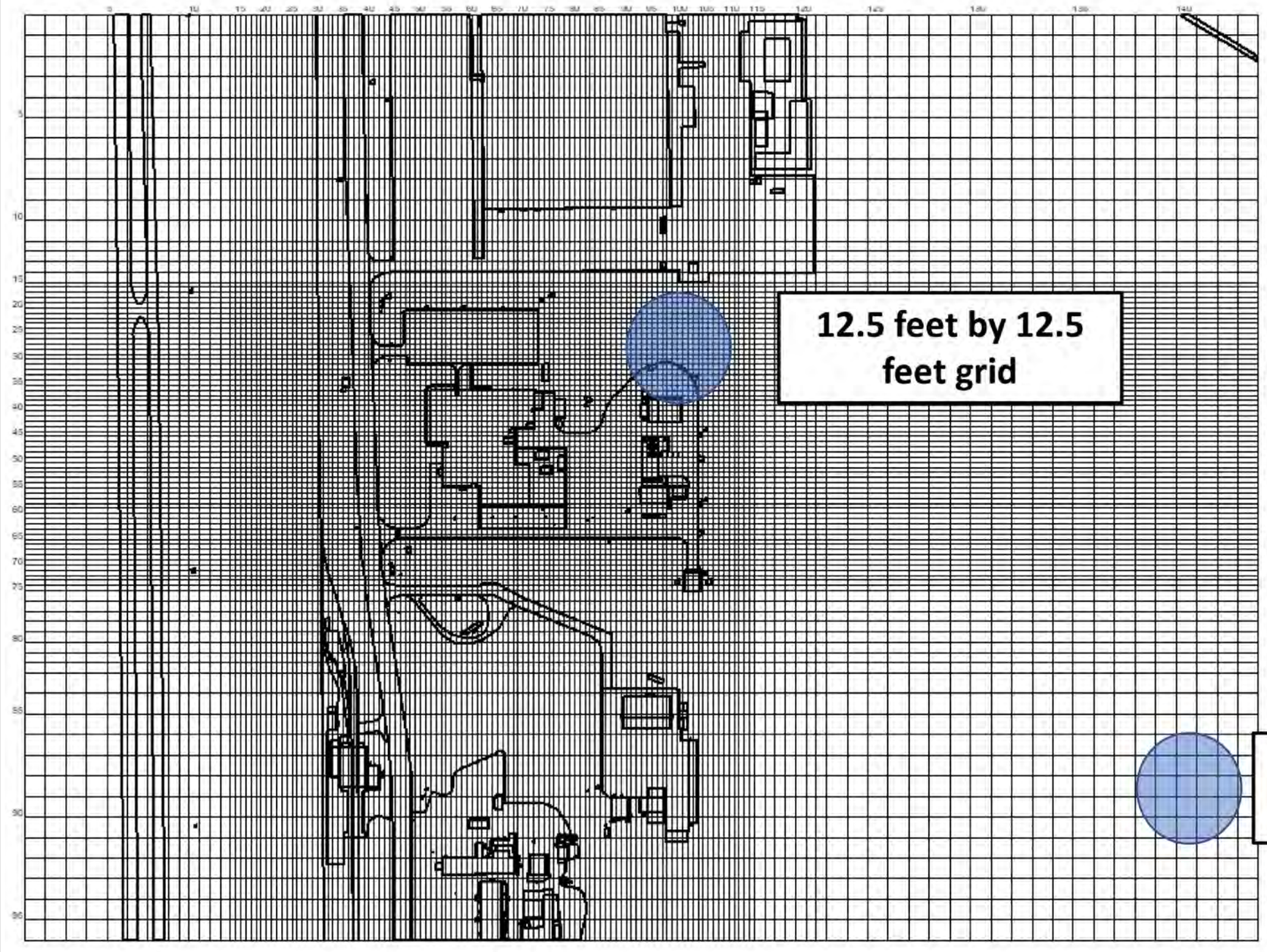

Grid

Rows – 96

Columns – 143

Layers – 9

Variable Grid

Spacing from 12.5 feet to 50 feet grid cells

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FIGURE 3.3 CRCA GROUNDWATER MODEL BOUNDARY CONDITIONS

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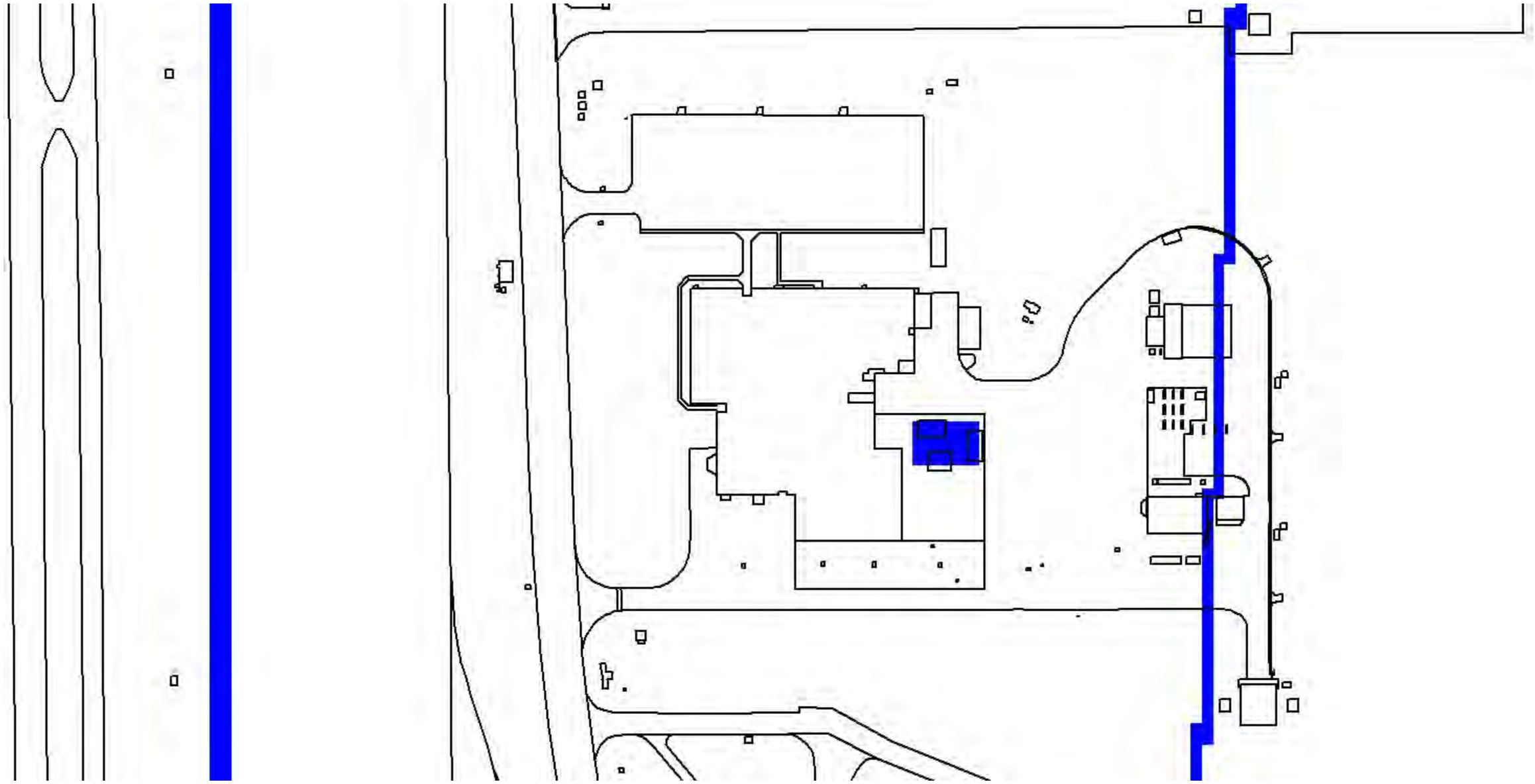

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SECTION IV
FLOW MODEL CALIBRATION

4.1 CALIBRATION PROCEDURE

Calibration of a groundwater flow model refers to the process of adjusting model parameters to obtain a reasonable match between observed and simulated water levels. In general, model calibration is an iterative procedure that involves variation of hydraulic properties or boundary conditions to achieve the best match between observed and simulated water levels. During model calibration, site-specific data were used as the primary constraints for the calibrated values of hydraulic conductivity. For CRCA, the flow model calibration consisted of matching observed water level data measured from February 2019 (non-pumping) and water level data measured after one year of HCS operation in July 2020 (pumping).

The quality of the steady-state calibration was assessed and quantified through statistical analysis of residuals (ASTM Standard D5981; Anderson and Woessner, 1992), which are the differences between the measured and simulated water levels on a well-by-well basis. Flow calibration criteria are based on the following statistical measures:

- a mean residual value near zero
- an absolute mean residual less than or equal to 10% of the observed range in water level elevations
- a standard deviation less than or equal to 20% of the observed range in water level elevations
- a random spatial distribution of the positive and negative residuals

To assist the assessment of calibration criteria, a plot of observed versus predicted water levels was used to examine the spread of points around the ideal line of a perfect calibration. These plots are presented in the Year 1 groundwater modeling report.

4.2 SELECTION OF FLOW MODEL CALIBRATION TARGETS

Hydraulic gradients and groundwater flow directions were determined from potentiometric surface maps created based on groundwater levels measured before and during HCS groundwater pumping, treatment, and re-infiltration activities.

The model was set up with both a pumping and non-pumping set of targets to match a range of stresses verses non-stressed conditions to better represent the varying subsurface conditions at CRCA. Mounding was observed in nearly all Year 1 shallow zone potentiometric maps and continues after two years of HCS operation (see Attachment C). To compensate for this hydraulic feature, constant heads were placed in this area of the groundwater model and head was adjusted to match the monitoring wells within this impacted area.

4.3 FLOW MODEL CALIBRATION RESULTS

The initial groundwater modeling report (NASA 2021a) graphically presents the flow calibration results for the non- pumping February 2019 and pumping July 2020 data sets, respectively. Simulated groundwater levels were compared to the observed (measured) values with results within the non-pumping and just outside the non-pumping and pumping results. This shows that a good calibration was achieved for both data sets. Similarly, hydraulic conductivity values determined by on-site pumping and slug test analyses and hydraulic profiling tool (HPT) data collection was used as input data during model calibration. These values were modified within reasonable ranges to match the pumping and non-pumping water levels. Moreover, the vertical hydraulic conductivity was estimated at 1/10 the horizontal hydraulic conductivity. Recharge rates, including evapotranspiration, were also input into the model during calibration.

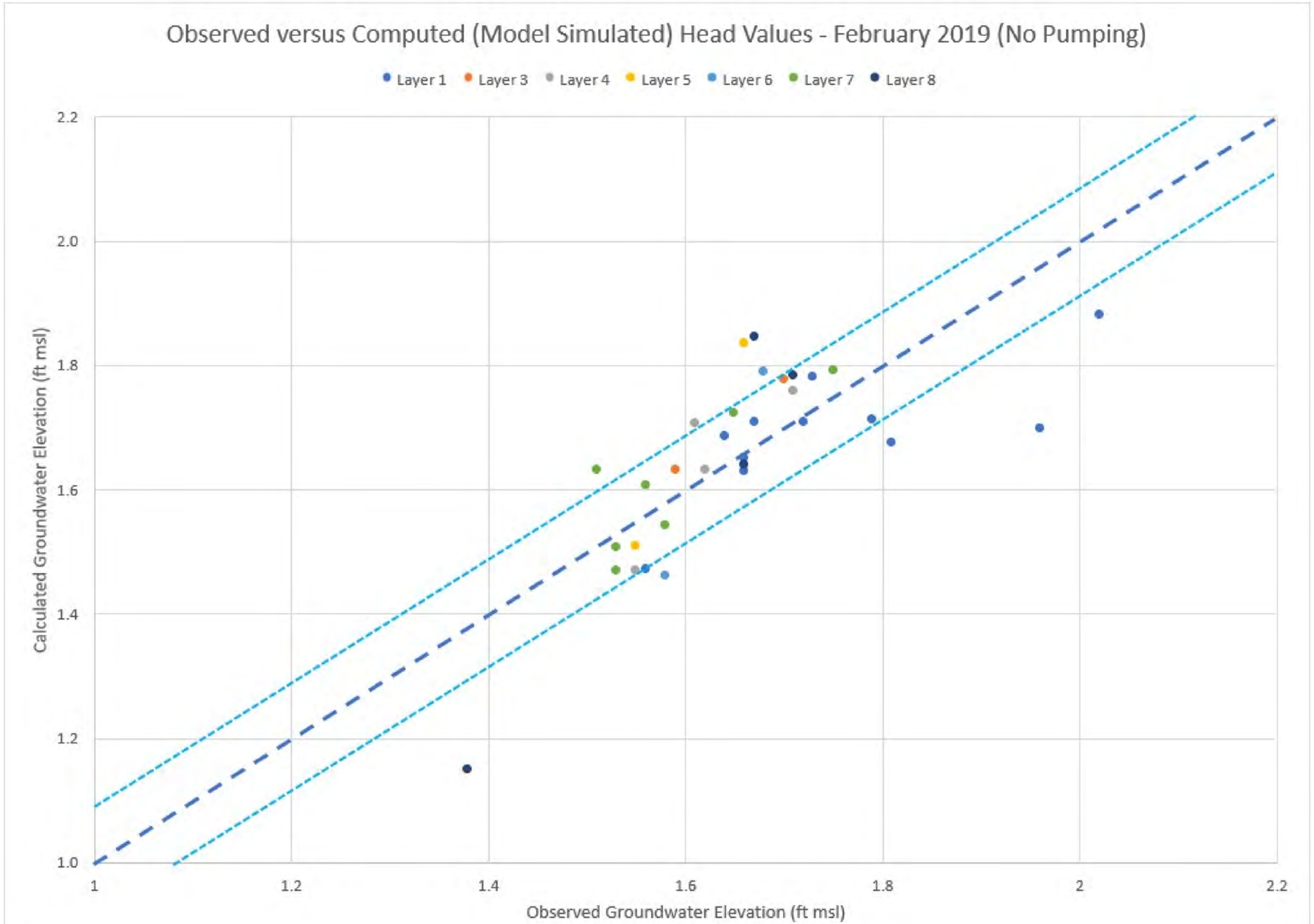
Figure 4.1 shows good calibration for the non-pumping February 2019 scenario. Figure 4.2 shows that a good calibration was achieved for the pumping July 2020 data set as well. The residual mean is close to zero, being -0.05. Again, the absolute residual mean is just slightly outside of the 10% range in heads (0.17 ft versus 0.28 ft). As in the non-pumping calibration, larger residuals occur either near injection/extraction wells or are located on the edge of the focused model grid where less confidence in the subsurface properties occurs (again, these slightly higher residuals does not impact the area of interest/main calibration area). Residuals

near pumping wells are even higher in this evaluation since the injection/extraction wells are operational; however, this is off-set by the larger range in heads observed so it is a net off-set in model calibration criteria. Figures 4.6, 4.7 and 4.8 present the simulated potentiometrics and target residuals for layers that represent the shallow, intermediate and deep surficial aquifer zones, respectively under typical pumping conditions. Figure 4.6 shows a reasonable match of the simulated potentiometric surface, but it is noted that quite a few targets exceed the 10% range which skews the overall statistics higher. This is due to the complexity of the mounding that occurs in the eastern portion of the site overlain on the injection-extraction system. Figures 4.7 and 4.8 both show a very good match to the targets with all but one target in either zone being above the goal of 10%. This shows that under pumping conditions, the simulated potentiometrics are very accurate to areas where contamination occurs. As with the non-pumping calibration results, the overall match of residuals in the shallow surficial aquifer is not as strong as the other two zones, but since no contamination and minimal influences of the HCS occur in this layer, additional modifications to the flow models would not change the overall applicability of the model to simulate the contamination with the HCS operational.

During calibration of the groundwater flow model, the hydraulic conductivities of the sand and fine-grained silt and clay layers were modified within reasonable ranges to match the non-pumping and pumping water levels. In general, the vertical hydraulic conductivity was estimated at one tenth of the horizontal hydraulic conductivity. Recharge (which includes evapotranspiration) rates were also adjusted during model calibration. Recharge was reduced from 18 in/yr to 8 in/yr in the non-paved areas and from 1.8 in/yr to 0.8 in/yr for the asphalt areas. The mounding observed to occur in the eastern portion of the site adjacent to the CRCA building would be expected to influence the net water gain to the subsurface system.

Calibration of a groundwater flow model to a single set of field measurements, assumed to represent steady-state conditions, does not provide the foundation for obtaining a unique solution. To reduce the problem of “non-uniqueness,” a model should be tested against a different set of boundary conditions or stresses, labeled “verification” (ASTM, 1996). Since the groundwater model was calibrated to both pumping and non-pumping conditions, either one of these would be considered verification. Calibrated values for horizontal hydraulic conductivities

in each layer are consistent with available field data (and from multiple sources – e.g. aquifer testing via long-term pump testing, slug testing and Hydraulic Profiling Tool collection).



Statistical Analysis

Residual Mean	0.00
Absolute Residual Mean	0.08
Residual Std. Deviation	0.10
Sum of Squares	0.33
RMS Error	0.10
Min. Residual	-0.18
Max. Residual	0.26
Number of Observations	32
Range in Observations	0.64

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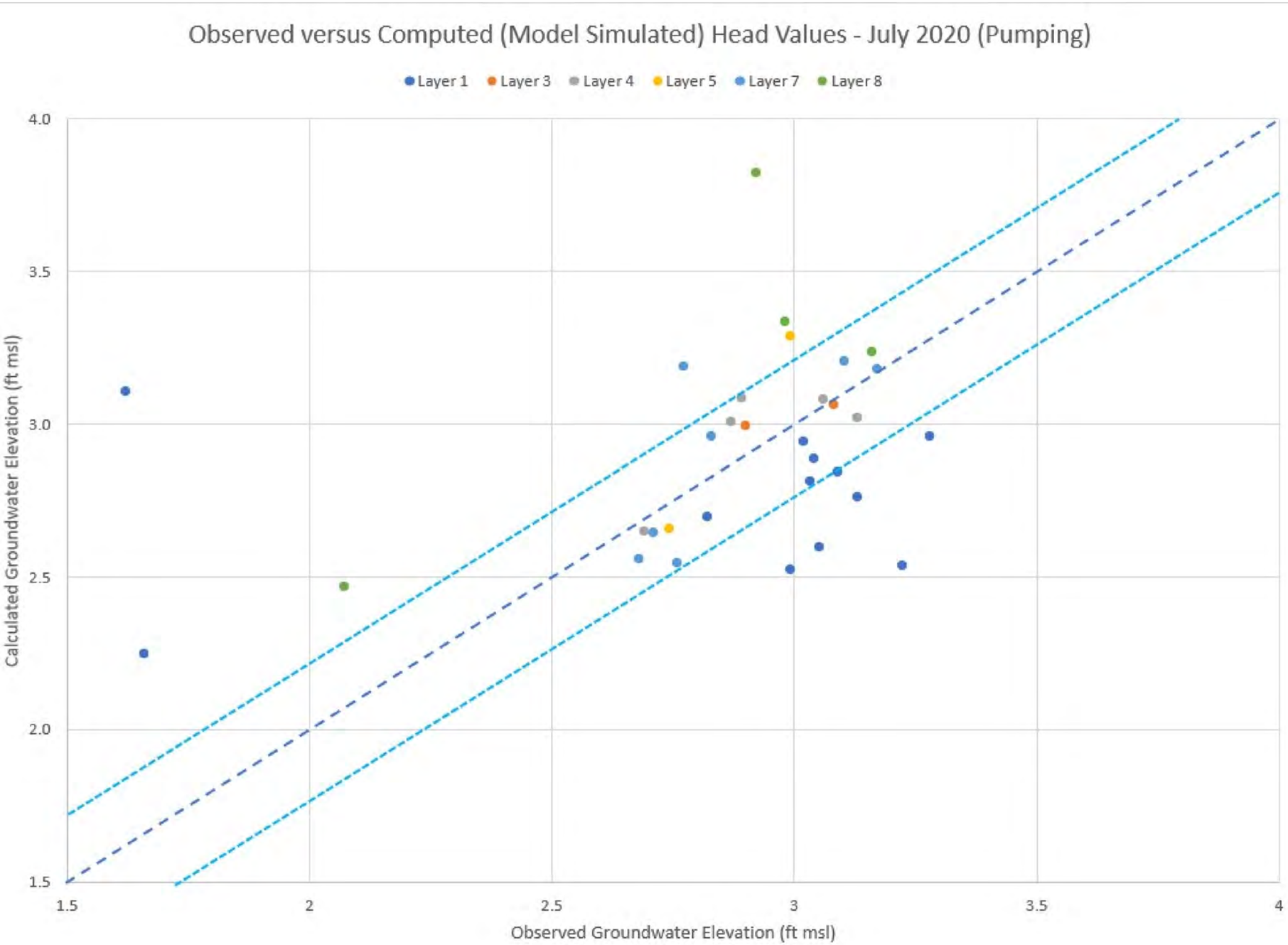

Statistical Analysis

Residual Mean	-0.05
Absolute Residual Mean	0.28
Residual Std. Deviation	0.41
Sum of Squares	5.38
RMS Error	0.41
Min. Residual	-1.49
Max. Residual	0.68
Number of Observations	32
Range in Observations	1.66

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FIGURE 4.3 SIMULATED HYDRAULIC HEADS IN SHALLOW ZONE – LAYER 1, FEBRUARY 2019

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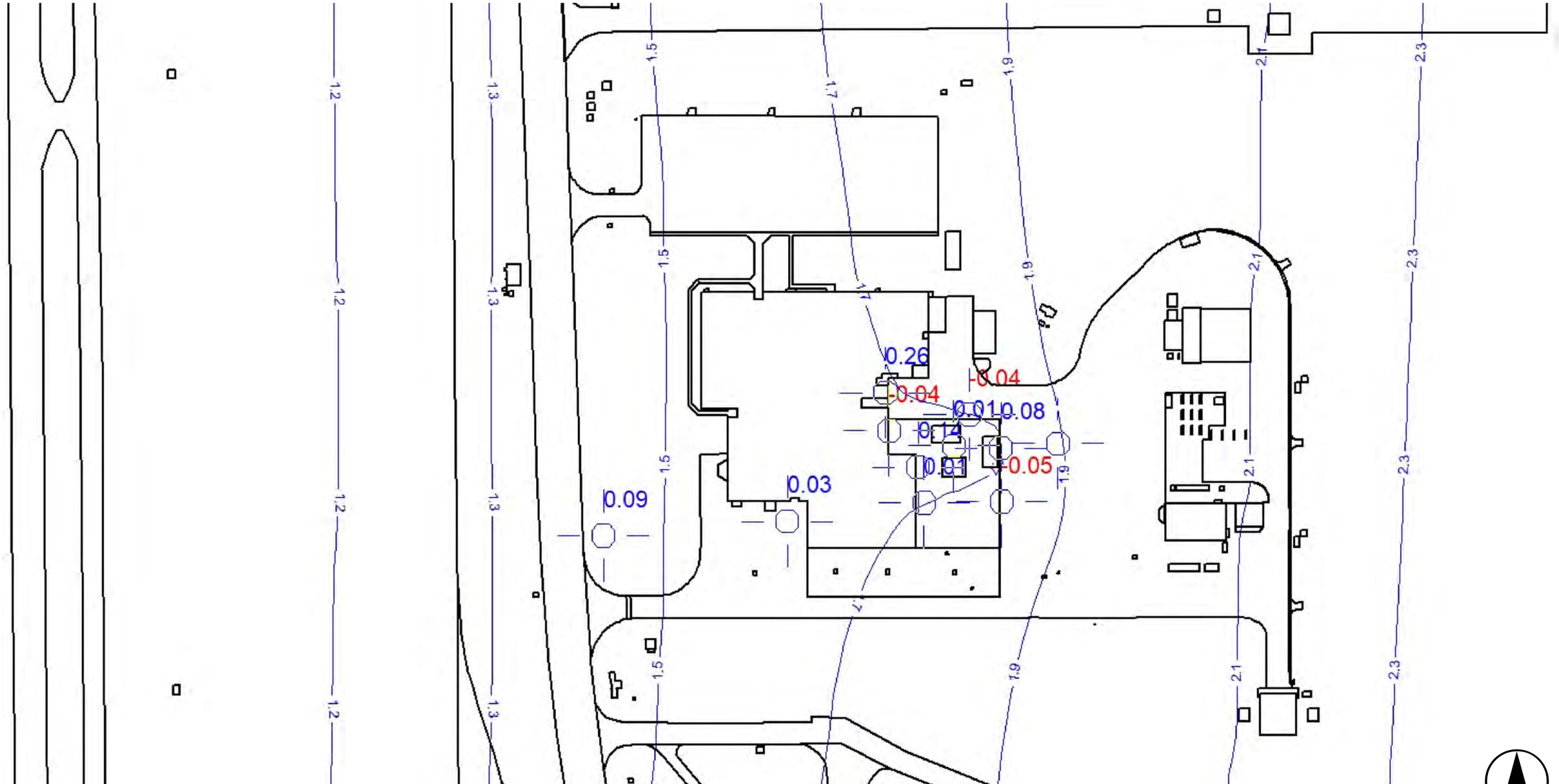

All contours in feet msl

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FIGURE 4.4 SIMULATED HYDRAULIC HEADS IN INTERMEDIATE ZONE – LAYER 4, FEBRUARY 2019

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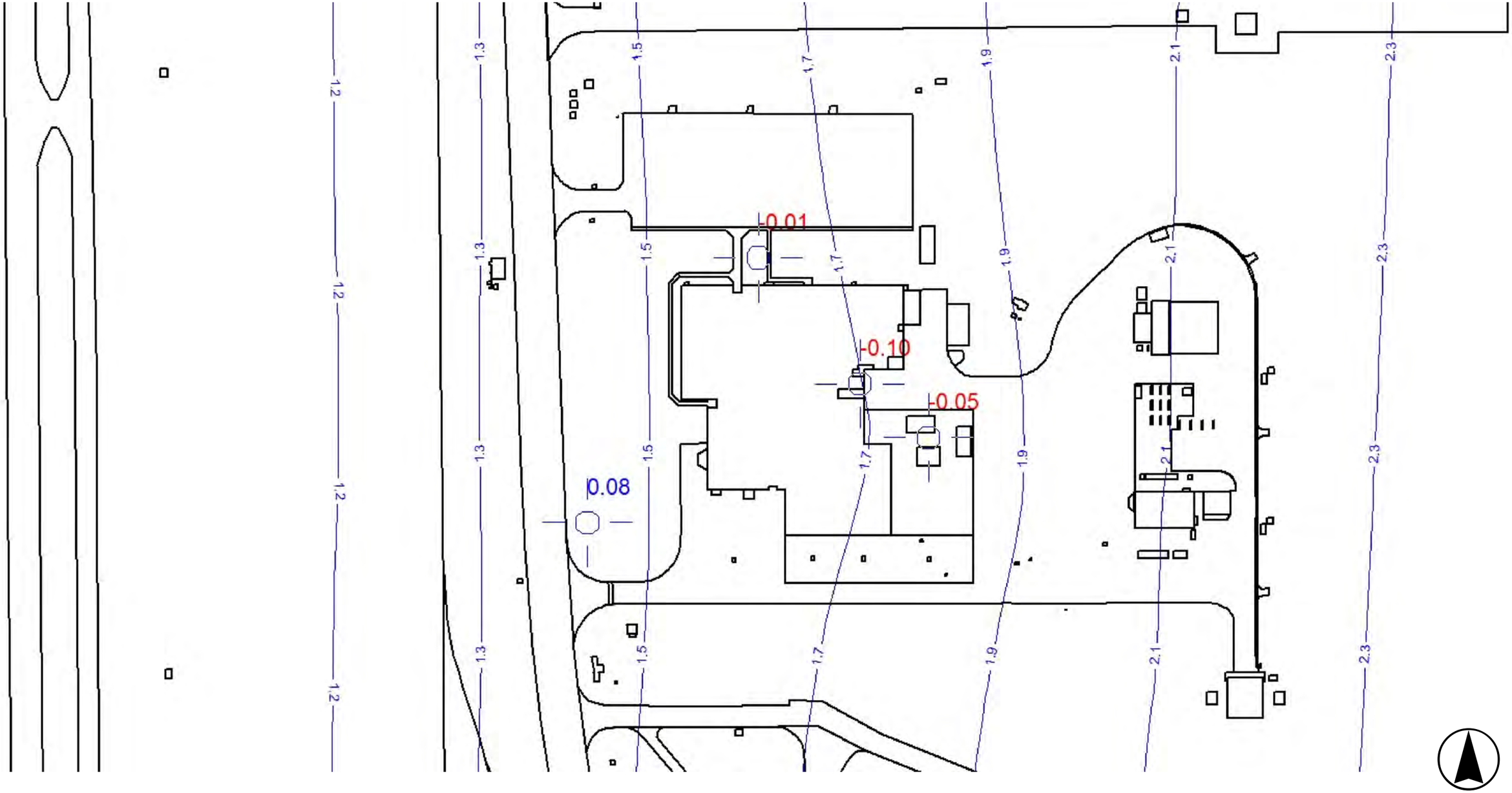

All contours in feet msl

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FIGURE 4.5 SIMULATED HYDRAULIC HEADS IN DEEP ZONE – LAYER 7, FEBRUARY 2019

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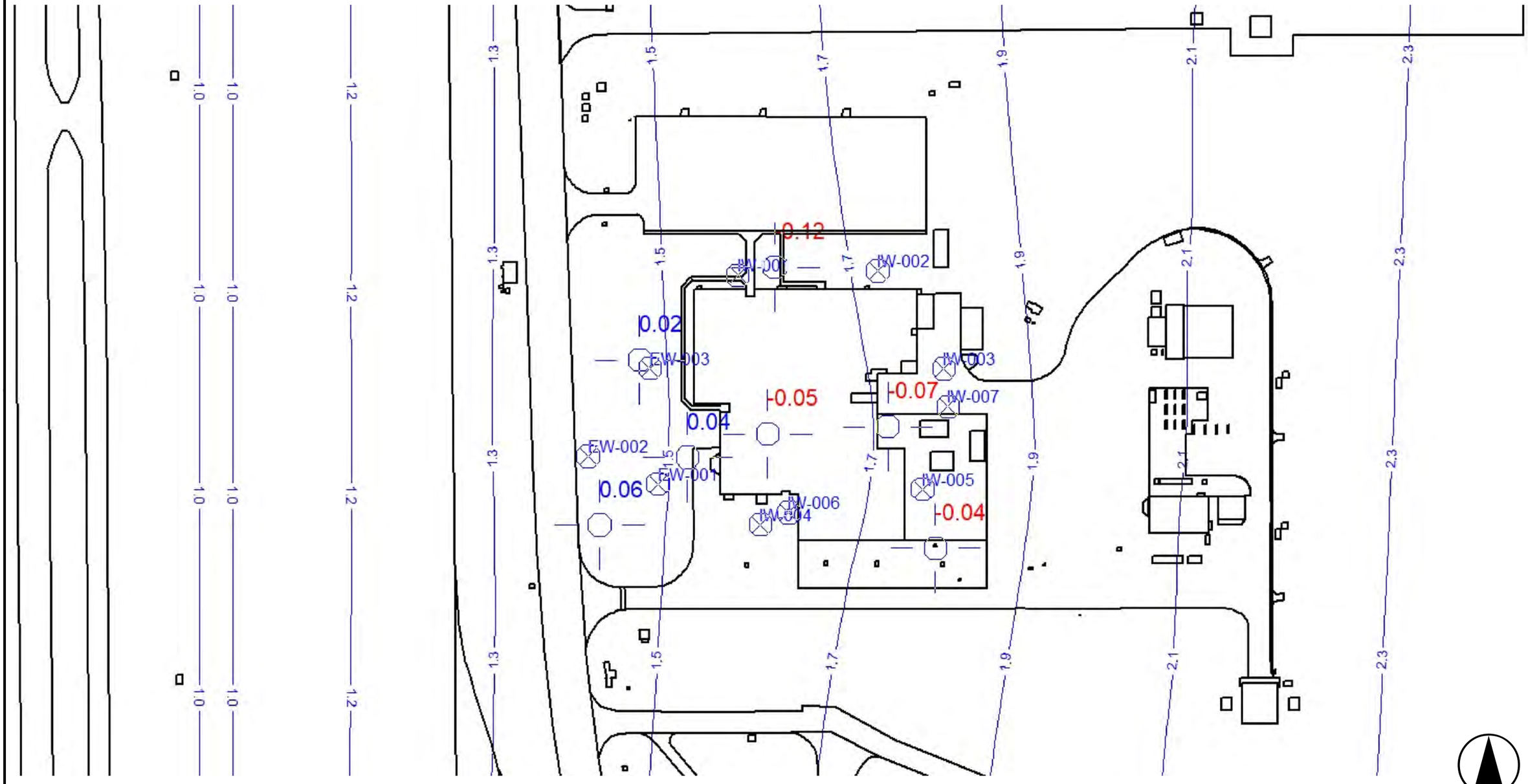

All contours in feet msl

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FIGURE 4.6 SIMULATED HYDRAULIC HEADS IN SHALLOW ZONE – LAYER 1, JULY 2020

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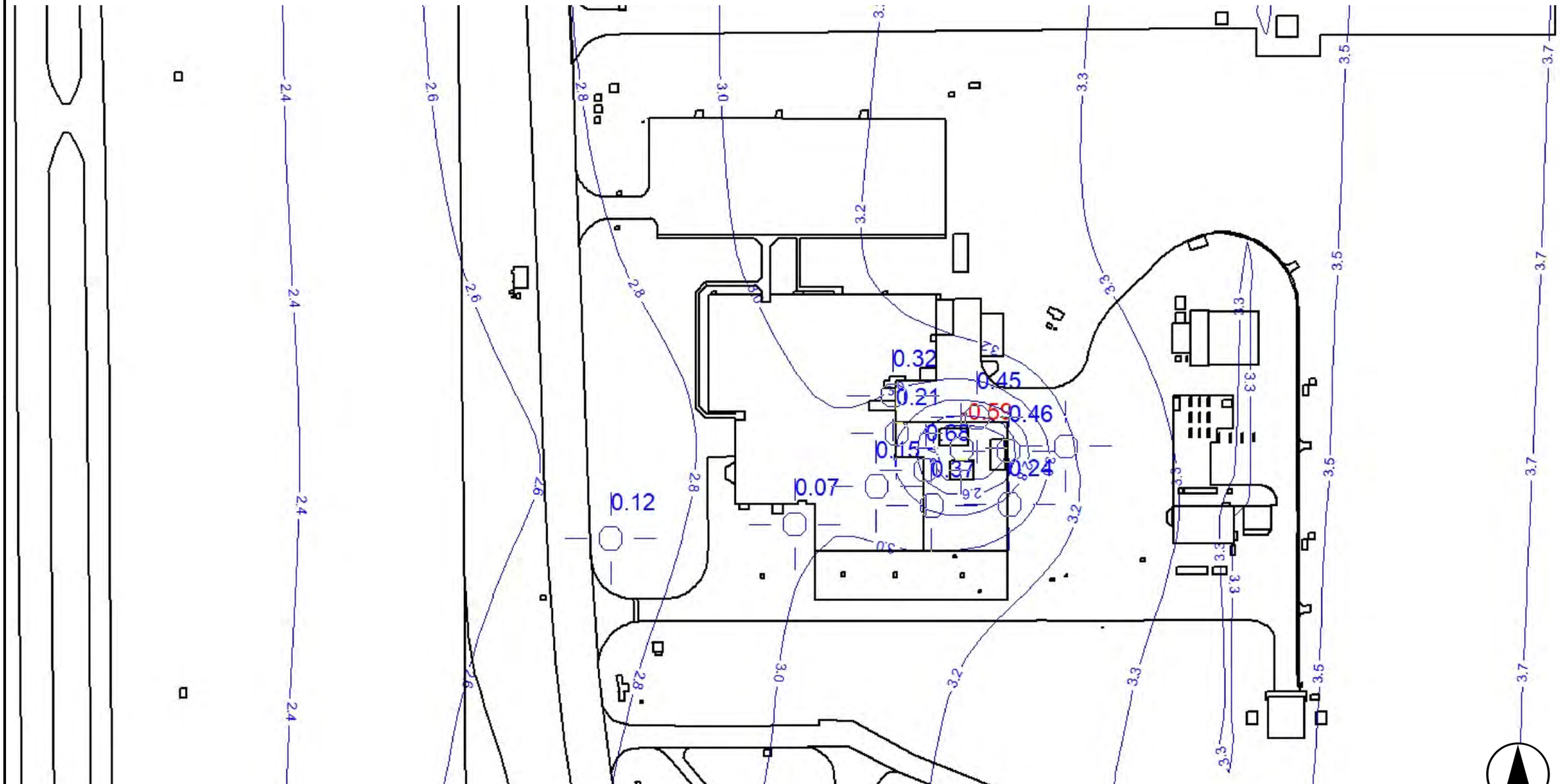
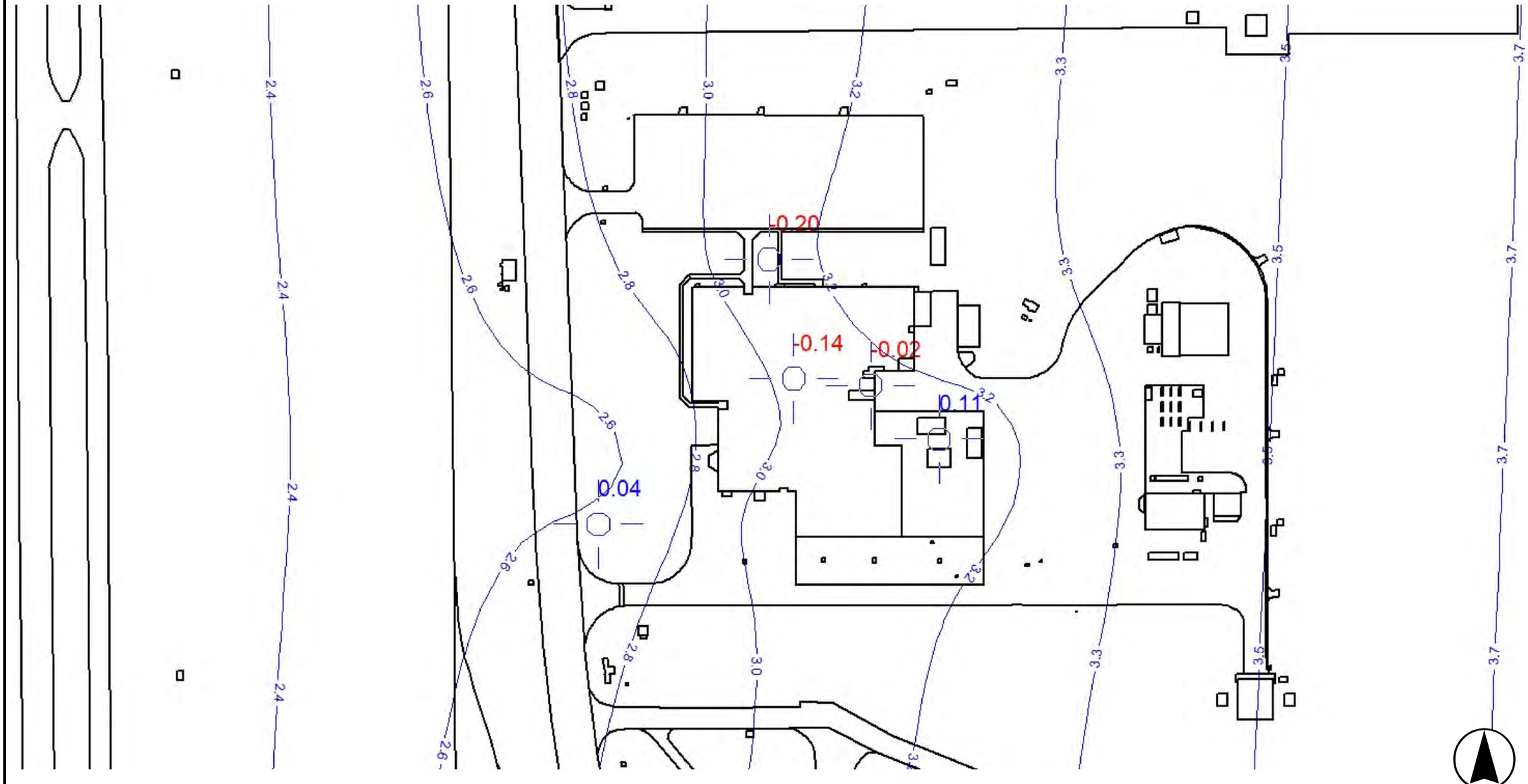


All contours in feet msl

FIGURE 4.7 SIMULATED HYDRAULIC HEADS IN INTERMEDIATE ZONE – LAYER 4, JULY 2020

SWMU 041, KENNEDY SPACE CENTER, FLORIDA



All contours in feet msl

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FIGURE 4.8 SIMULATED HYDRAULIC HEADS IN DEEP ZONE – LAYER 7, JULY 2020

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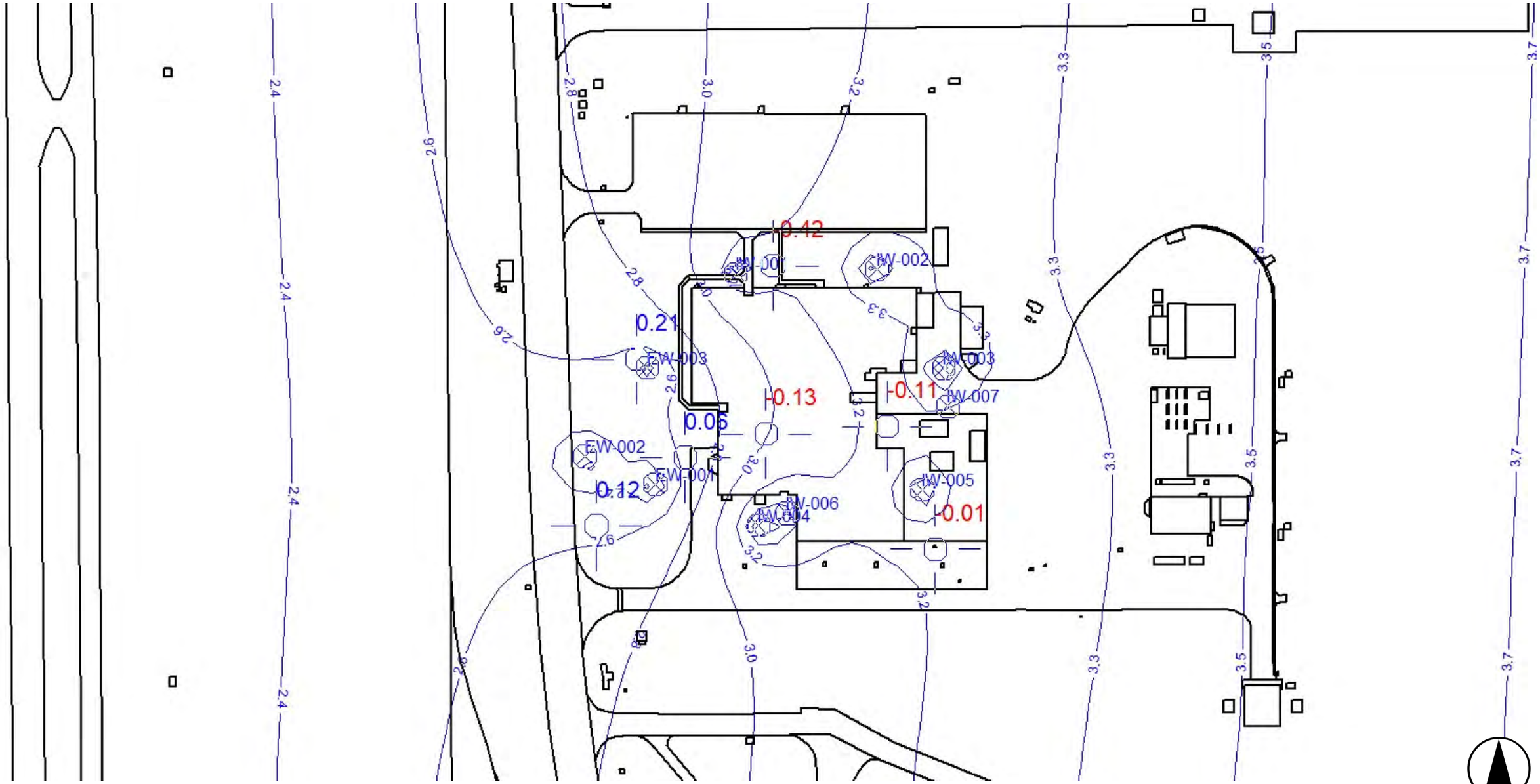

All contours in feet msl

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SECTION V
TRANSPORT MODEL CONSTRUCTION

A solute transport model was developed and applied to simulate the future spatial extent of the COC VC, mass removal rates, and changes in plume concentrations over time because of operation of the injection and recovery well system (HCS). The domain for this transport model is shown in Figure 5.1 with the row spacing of 12.5 ft and column spacing of 12.5 ft throughout the model domain. The purpose for using highly refined grids in local areas of interest for the transport model is to incorporate available high-resolution plume concentration data for improved simulation accuracy. This also improves computational efficiency because less model grid nodes are in the local model than the site-wide model.

5.1 CODE SELECTION AND TRANSPORT MODELING APPROACH

Contaminant mass fate and transport modeling was performed using the finite difference code MT3D99 (Zheng, 1999). MT3D99 utilizes the flow field from MODFLOW-2000 to simulate the advective transport of dissolved constituents. MT3D99 was used because it accounts for key fate and transport mechanisms including hydrodynamic dispersion, diffusion, dual domain advection-diffusion mass transfer from low permeability zones, and sequential first- order biodegradation as discussed below.

5.2 RELEVANT PHYSICAL AND CHEMICAL TRANSPORT PROCESSES

The important physical and chemical processes affecting the fate and transport of dissolved constituents in groundwater at the study area are advection, hydrodynamic dispersion, sorption, mass transfer from low permeability zones, and biodegradation of VC. These important processes cause changes in both the mass and distribution of dissolved constituents in groundwater. A discussion of these processes and their relative importance in the study area is provided below.

For dissolved transport, advection is defined as the movement of contaminants because of the dissolved contaminants being carried by moving groundwater. The observed spreading of dissolved contaminants in the study area is also the result of hydrodynamic-dispersion processes.

Hydrodynamic dispersion is a physical process whereby dissolved constituents spread both horizontally and vertically away from the plume center of mass because of pore-scale variations in the groundwater velocity.

In soil physics literature, it is often common to conceptualize soils as aggregated porous media consisting of slowly and rapidly conducting pore sequences. The aggregates may have many micro pores in which displacement occurs by diffusion, because convection in these smaller pores is usually negligible (van Genuchten and Wierenga, 1976). Solute transport in such aggregated media can lead to slow and incomplete mixing, which is related to back-diffusion from low permeability immobile zones.

Degradation processes are biological and chemical processes that transform the mass of dissolved constituents. These processes include the effects of biodegradation, photolysis, oxidation-reduction, and hydrolysis, and are generally grouped into either biologic or abiotic (chemical) degradation processes. TCE and its degradation products (tDCE and VC) are potentially subject to degradation. Using results of laboratory, field, and modeling studies at other sites, Aronson and Howard (1997) and Wiedemeier et al. (1999) report a wide range of first-order biodegradation rates for TCE under aerobic and anaerobic conditions. For anaerobic conditions, reported biodegradation-rate-constant ranges (Aronson and Howard, 1997; Wiedemeier, et.al., 1999; Suarez and Rifai, 1999) were TCE (0.053–0.90 yr-1), cis 1,2 DCE (0.18–3.3 yr-1), and VC (0.12–2.6 yr-1) . Based on field data collected at the nearby Fluid Servicing Road area, a steady-state, one-dimensional, multi-species analytical solution was applied (Burnell, et. al. 2011; 2018) to estimate site-specific half-lives for tDCE, and VC. For the modeling analysis, the first-order degradation was assumed to occur. Results of this analysis indicated estimated a half-life of one year for VC. Insufficient site specific temporal tDCE and VC data was available for direct site estimation. It is noted though that VC half-lives generally range from less than one year to approximately two years across KSC which also conform to standard literature values.

Additional input parameters for the transport simulations include distribution coefficient (Kd), effective porosity, bulk density, retardation coefficient, and dispersivity.

The retardation factor (R) was calculated using the equation:

$$R = 1 + (\text{bulk density/effective porosity}) \times Kd \qquad (1)$$

Dispersivity values (lateral, transverse, and vertical) were estimated based on model analysis and best scientific judgment. A longitudinal dispersivity value of 20 feet was initially assigned to all model layers. The transverse and vertical dispersivities were estimated to be 0.1 and 0.01 times the value of the longitudinal dispersivity value, respectively.

5.3 YEAR 1 VINYL CHLORIDE PLUME DISTRIBUTION

After the first year of HCS operation, two sets of initial VC plume distributions were input into the groundwater transport model. One set of VC plume distributions was used to calibrate the groundwater transport model while the other represented conditions for future scenario evaluation. The groundwater modeling report presented in Appendix A of the CRCA Year 1 Annual PMR (2021a) provides a detailed presentation of these data sets.

Figure 5.2 presents the concentrations of VC detected in the intermediate and deep zones of the surficial aquifer for July 2020. Based on the monitoring well results, this equates to model Layers 4 and 5 of the intermediate and Layers 6 and 7 of the deep zone within the surficial aquifer of CRCA, respectively. In the intermediate zone, elevated VC occurs near MW0002 (vertically under the mounded water in the shallow zone). The July 2020 results for the deep zone indicate VC concentrations are highest near MW0031 (680 µg/L) with a high concentration occurring to the east under the building footprint to MW0019 (building center) and to the eastern area of the main building edge at MW0018. injection/extraction system. In the intermediate zone, minor elevated VC concentrations remain at MW0002, MW0012, MW0013 and MW0022. In the deep zone, the overall shape of the VC plume remains, but concentrations are much lower for most wells. The only well with VC concentrations above 100 µg/L occurs at MW0018 (110 µg/L).

5.4 YEAR 2 VINYL CHLORIDE PLUME DISTRIBUTION

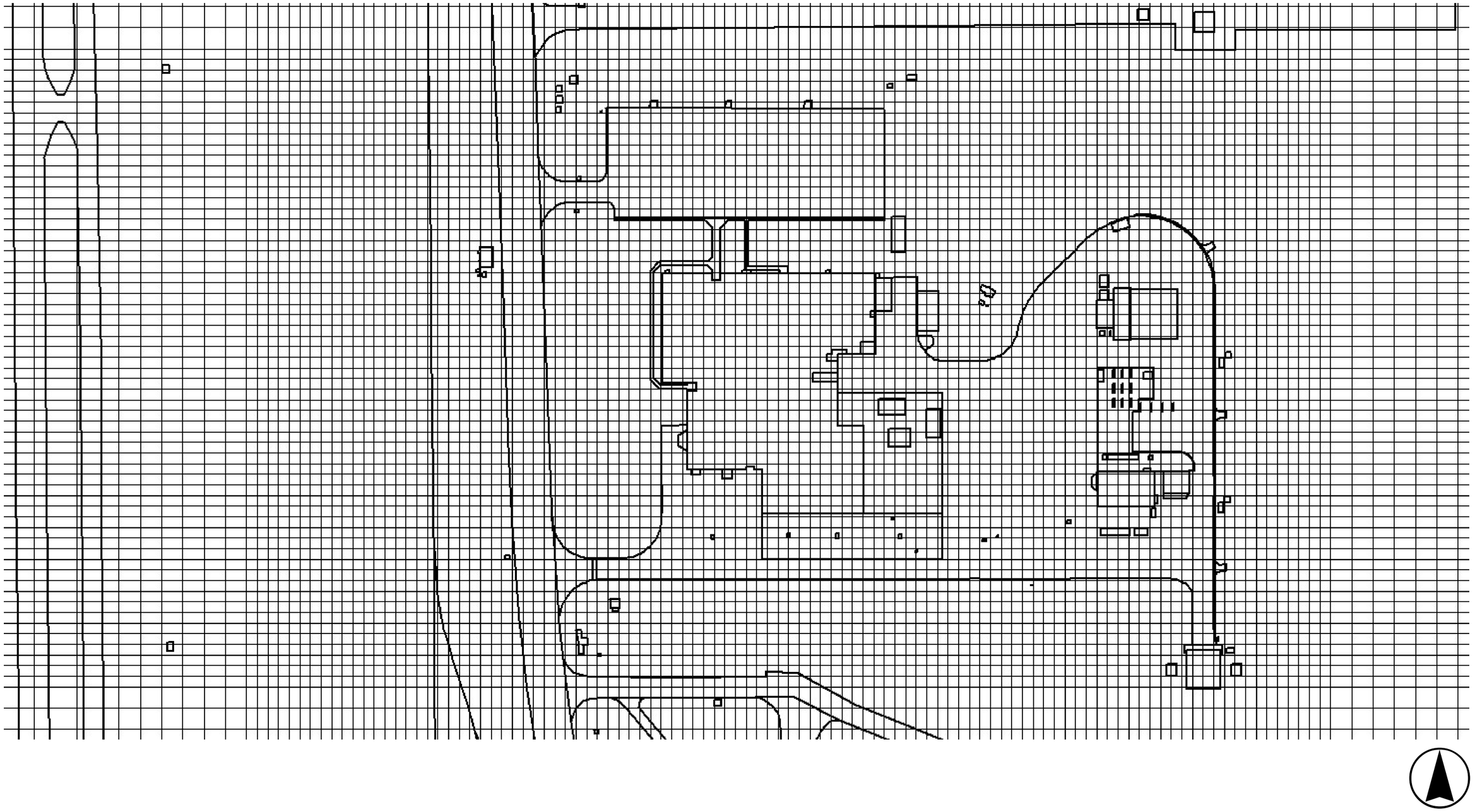
After the second year of HCS operation, the concentrations of VC detected in the intermediate and deep zones of the surficial aquifer July 2021 were mapped and overlain into the respective

layers constructed in MODFLOW. Figure 5.3 presents these representations of the intermediate and deep VC plumes. As discussed in Section 2.6, the areal extent of the VC plume within the intermediate and dep zones has decreased. Moreover, VC concentrations remain below NADC levels, with only LCP concentrations detected. The highest detection of VC continues to occur within the deep zone at MW0018, with VC concentrations oscillating from 140 µg/L during baseline in June 2019 to 55 µg/L in July 2021. The western extent of the deep plume extends past the railroad tracks toward the lower-lying, undeveloped area in the vicinity of MW0032. There continues to be a general northeast to southwest trending orientation along the long axis of the VC plume, however the plume extent has decreased to the northern and southern extent, resulting in a narrower footprint after two years of continued HCS operation.

In the next section of this report (Section 6), the actual Year 2 plume data will be compared to predictions made after one year of HCS operation. Further, the results of the groundwater modeling applied to predict the plume response after one, three, and five years into the future under pumping and non-pumping conditions will be presented and discussed.

FIGURE 5.1 CRCA MODEL DOMAIN AND GRID – LOCAL

SWMU 041, KENNEDY SPACE CENTER, FLORIDA

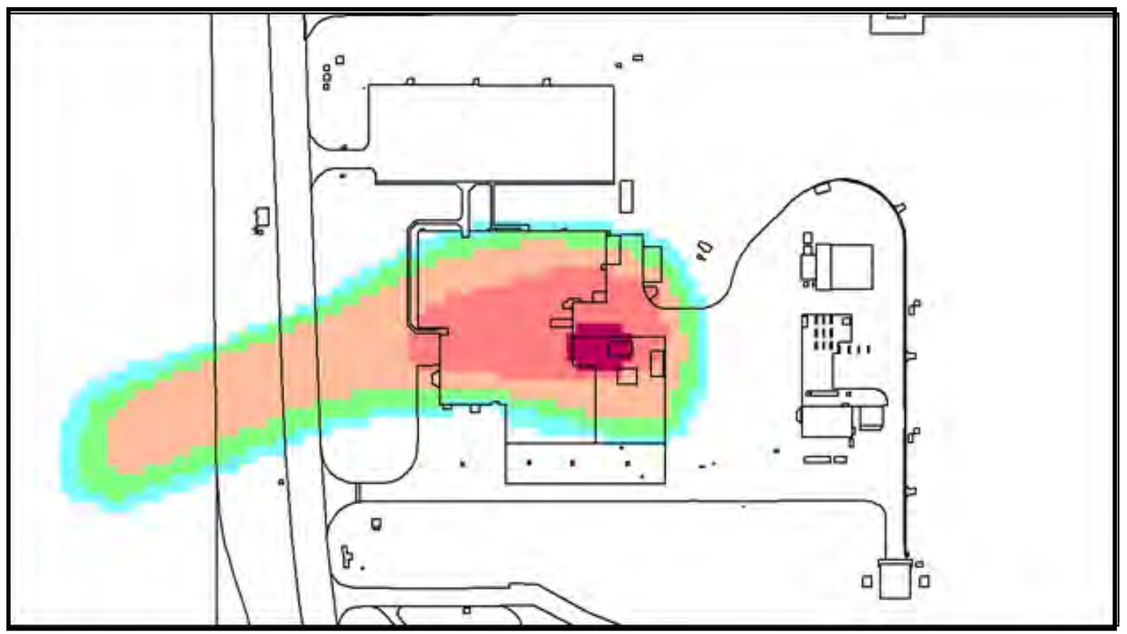


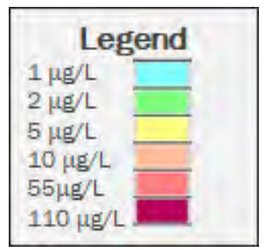
JAX C:\GIS\KSC\MXD\CRCA\STEP 2\DOCUMENTS\GW MODEL IMAGES NOV2020\FIGURE_5-1_MODEL_DOMAIN.MXD 11/04/20

VC PLUMES AFTER ONE YEAR OF HCS SYSTEM OPERATION

INTERMEDIATE ZONE PLUME, 2020 ACTUAL

DEEP ZONE PLUME, 2020 ACTUAL

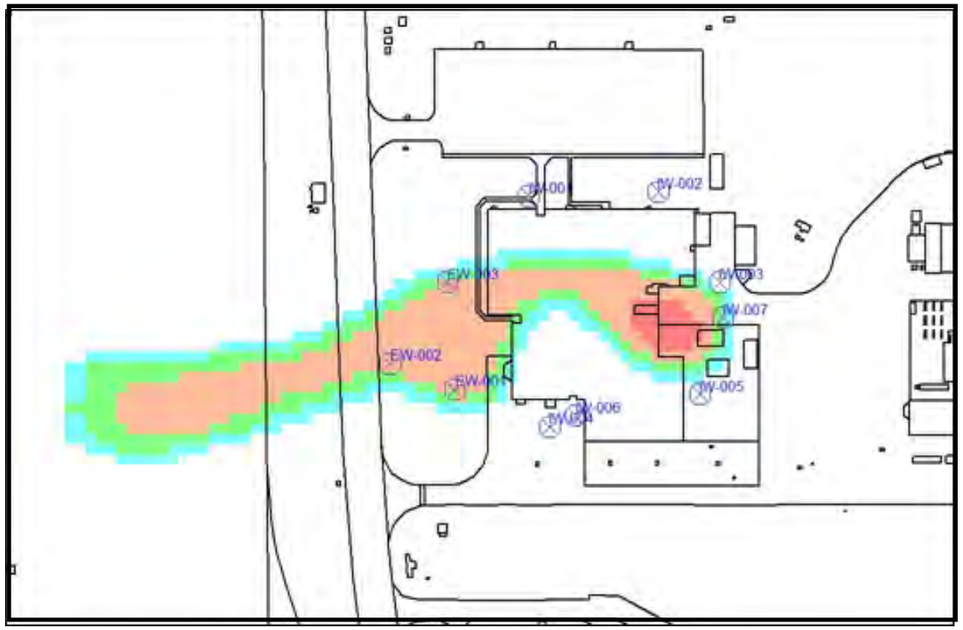




VC PLUMES AFTER TWO YEARS OF HCS SYSTEM OPERATION

INTERMEDIATE ZONE PLUME, 2021 ACTUAL

DEEP ZONE PLUME, 2021 ACTUAL



SECTION VI

TRANSPORT MODEL REMEDIAL SCENARIO ANALYSES

The effectiveness of the injection and recovery well remediation system performance was examined during Year 2 of HCS operation using MODFLOW groundwater flow in conjunction with the MT3D solute transport modeling to facilitate decision-making regarding potential modifications to pumping rates in the recovery well system at CRCA. The groundwater flow and solute transport model were applied to evaluate effects of injection and pumping on not only hydraulic control but also mass removal rates within the VC plume at CRCA. The modeling was also applied to examine both the expected future plume distribution and cleanup timeframe to reduce the remaining concentrations of VC to levels below its GCTL. A hypothetical non-pumping Monitored Natural Attenuation (MNA) scenario was also simulated to better interpret and understand the performance of the injection and recovery well system. The calibrated steady-state groundwater flow model was applied to simulate long-term average groundwater flow conditions based on the assumption of average rates of precipitation and evapotranspiration and constant injection/pumping rates for the entire simulation period.

6.1 TRANSPORT MODEL CALIBRATION OVERVIEW

The transport groundwater model was calibrated as part of the Year 1 PMR (NASA 2021a) based on evaluating the VC concentration output starting with the June 2019 initial concentrations and running the model forward 13 months under the average pumping rates for the injection/extraction wells. Individual pumping rates continue to remain steady over the operational period of the HCS system which is consistent with the application of a steady-state transport model. The actual and projected VC plumes after one year of HCS operation were found to be consistent within both the intermediate and deep zones. A detailed presentation of the layer-by-layer output and interpretation of site-specific hydrogeologic data is presented in the groundwater modeling report, prepared as part of the CRCA Year 1 Annual PMR (2021b).

With slight variations, the overall size, shape, and concentrations are consistent with the July 2020 plume. Overall, this is consistent with the distribution of the plume in the July 2020 plume. Like the intermediate zone, the deep zone simulated VC plume after 13 months exhibited a very close match to the observed data.

As mentioned in the initial groundwater modeling report (NASA 2021a), calibration of the transport model included two modifications to input parameters to better match the simulated VC plume. The dispersivity was reduced from 20 feet to two feet (the ratios outlined in the previous section were maintained). It is not uncommon to use a low dispersivity value. Dispersivity values have been shown to vary widely for similar sites (Xu and Eckstein, 1995) and it is also the best approach to fit this input factor to the site-specific data whenever possible. Additionally, the half-life of VC was increased from one year to two years. This was necessary as the contaminant concentrations were degrading too rapidly with a one- year half-life in that simulated VC plumes could not match observed conditions. It should also be noted that further refinement of the low hydraulic conductivity zone that occurs in Layer 6 just east of the CRCA building (near IW0005; see Figure 2.3) was also modified during the transport calibration (and included in the groundwater flow model).

6.2 2020 PROJECTED VS. 2021 CURRENT VC PLUME SCENARIOS

By running the three-dimensional mass transport modeling program MT3D in conjunction with the MODFLOW flow model, plume predictions could be made. After one year of HCS operation, MT3D was run to predict future plume configurations, as documented in the groundwater modeling section of the Annual Year 1 PMR (NASA 2021 b). Fast forward to Year 2, the one year modeling output from the previous year was compared to actual plume conditions. These comparisons are presented on Figures 6.1 and 6.2 for the intermediate and deep zones, respectively. As shown on these figures, the predicted intermediate and deep plumes closely match the actual plume configurations and VC concentration results observed one year later.

6.3 FUTURE INJECTION AND RECOVERY WELL PUMPING SCENARIOS

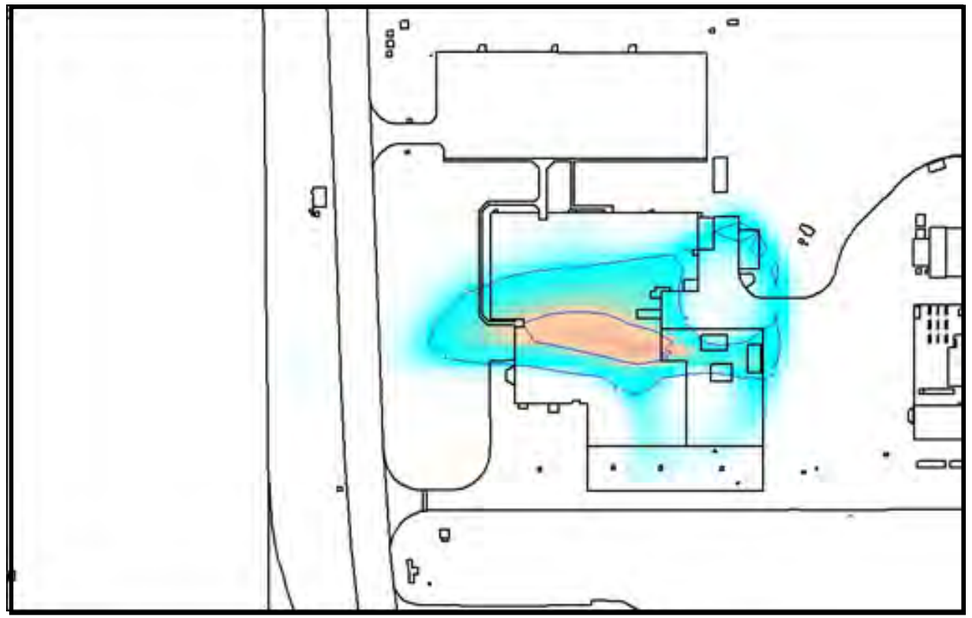
Initially, two forward-in-time solute transport model predictive simulations were performed to evaluate how the injection/extraction system operation impacts the VC plumes in the three zones of the surficial aquifer with emphasis on where the VC plume migrates and how long it takes to reach GCTLs. The first (and primary) transport scenario keeps the injection/extraction system operating at current rates and evaluated VC contamination through time and space based on the conditions of July 2021 for the VC plume. The second scenario evaluates what would happen to

the VC plume and estimate times to reach GCTLs if the system were turned off. Figure 6.3 and 6.4 present the simulated VC plume under the primary transport scenario (continued operation of the injection/extraction system) for the intermediate and deep zones of the surficial aquifer at one, three and five years into the future, respectively. The VC plume in the intermediate zone degrades in place, generally within the footprint of the main CRCA building. The VC plume is projected to decrease to concentrations below GCTLs after approximately four years in the building footprint area. In the deep zone (Figure 6.4), the VC plume appears to continue to migrate downgradient toward the extraction wells and continue to degrade through time. The model was run at one-year durations to predict incremental plume behavior, as documented in Attachment D of this report. The VC plume is below GCTLs after approximately 11 years in the building footprint area (see Attachment D) and just after three years in the downgradient area near the extraction wells. The more rapid clean-up times between these two portions of the plume is due to extraction well operation and slow decay near MW0018 (due to low hydraulic conductivity area acting as depleting residual source).

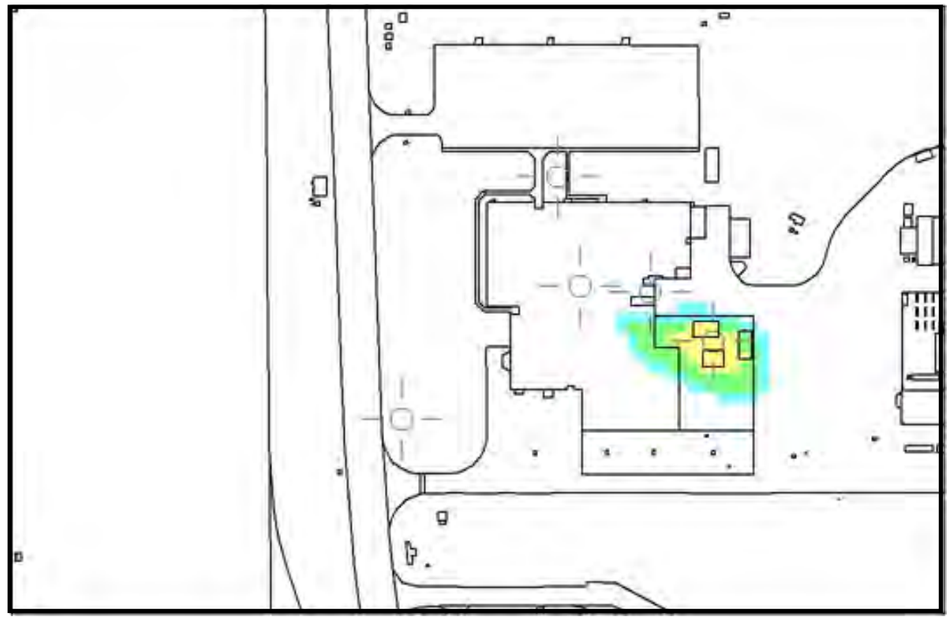
Simulated VC plumes for the second scenario are provided in Figures 6.5 and 6.6 and represent the changes in the VC plume if the injection/extraction system were terminated after July 2021, allowing the VC plume to migrate under natural site conditions. In the intermediate zone, concentrations persist longer (to almost 10 years) and migrate much farther downgradient, beyond the extent of the extraction wells. Simulated VC in the deep zone also persists longer under this scenario and eventually migrates beyond the extent of the extraction system. Based on the simulation, it takes approximately 15 years to reach GCTLs and almost 20 years for contamination across the site to reach non-detectable levels.

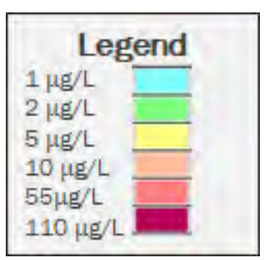
VC PLUMES AFTER TWO YEARS OF HCS SYSTEM OPERATION

INTERMEDIATE ZONE PLUME, 2021 PREDICTED



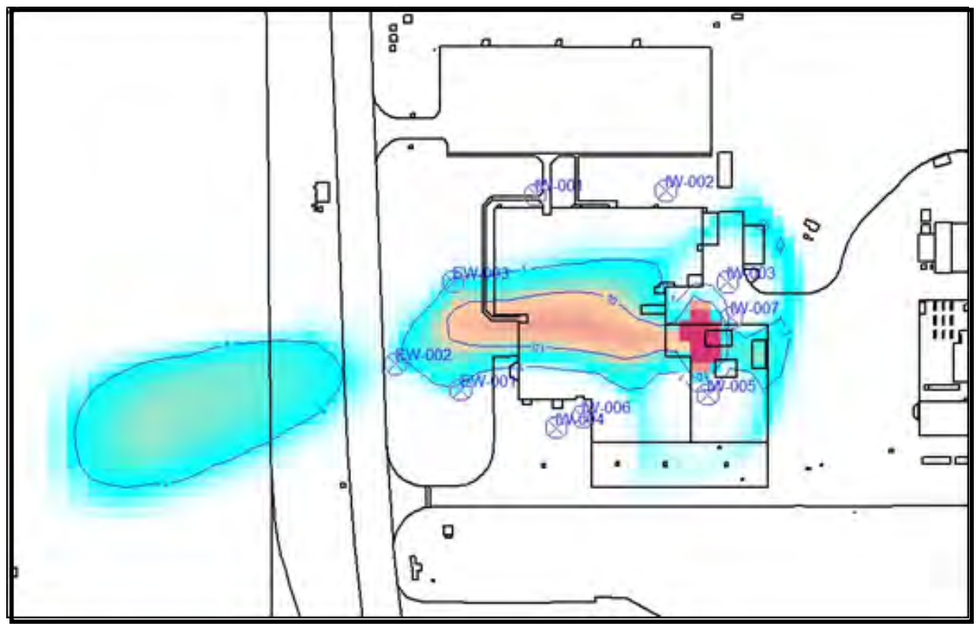
INTERMEDIATE ZONE PLUME, 2021 ACTUAL



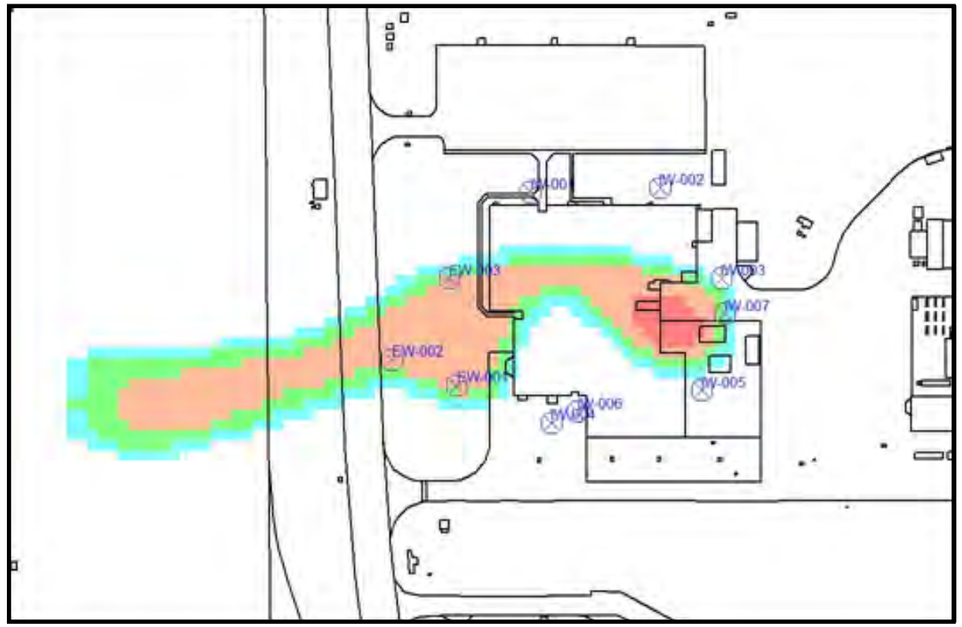


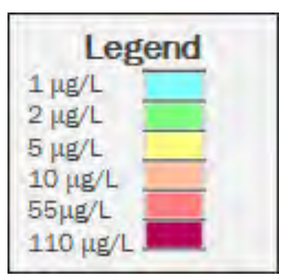
DEEP VC PLUMES, PROJECTED AND ACTUAL AFTER TWO YEARS OF HCS SYSTEM OPERATION

DEEP ZONE PLUME, 2021 PREDICTED



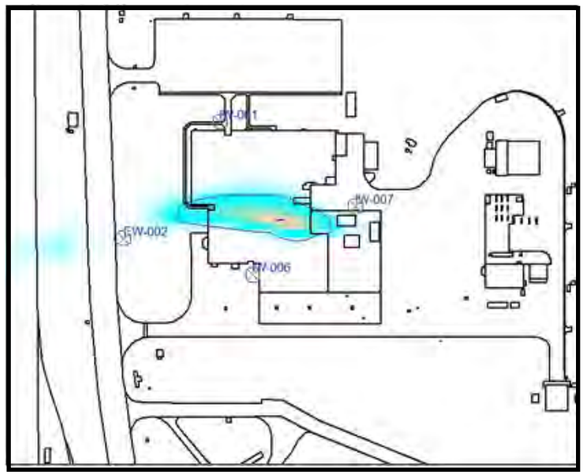
DEEP ZONE PLUME, 2021 ACTUAL



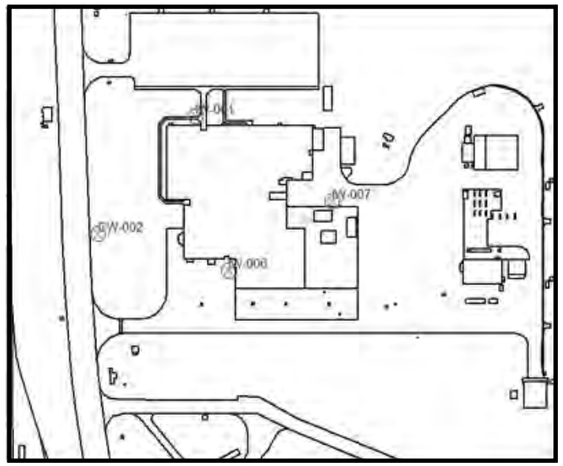


INTERMEDIATE VC PLUMES, PROJECTED AT ONE, THREE, AND FIVE YEARS AFTER YEAR 2 OF HCS SYSTEM OPERATION

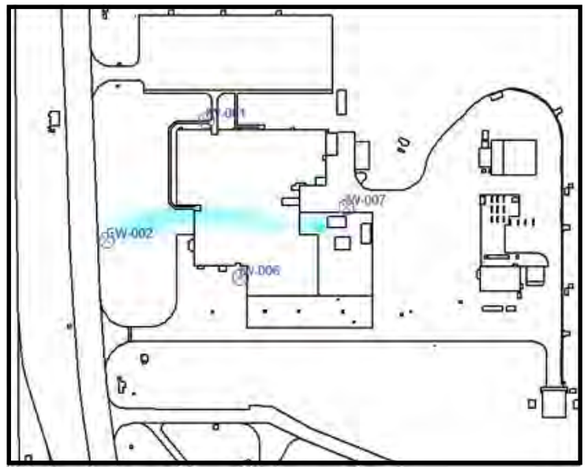
INTERMEDIATE ZONE PLUME, PROJECTED ONE YEAR INTO FUTURE

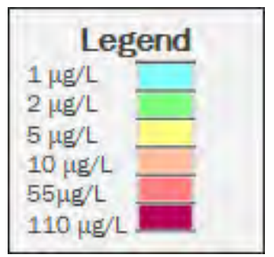


INTERMEDIATE ZONE PLUME, PROJECTED THREE YEARS INTO FUTURE



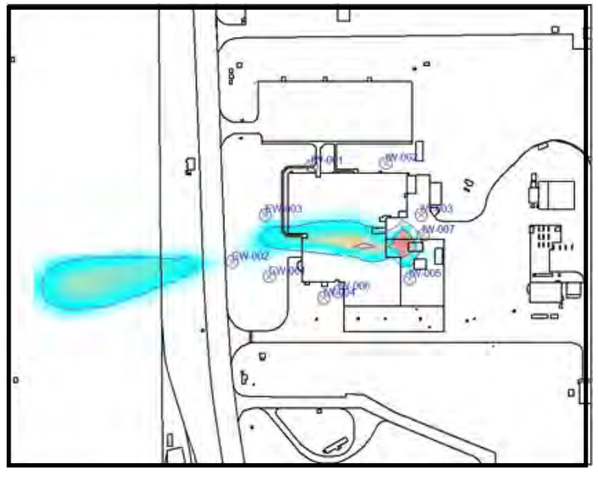
INTERMEDIATE ZONE PLUME, PROJECTED FIVE YEARS INTO FUTURE



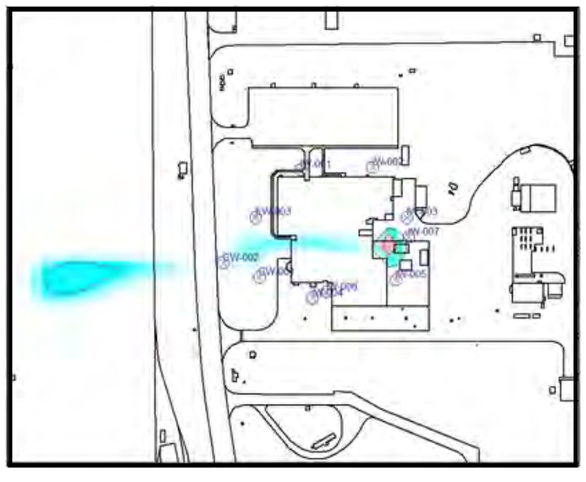


DEEP VC PLUMES, PROJECTED AT ONE, THREE, AND FIVE YEARS AFTER YEAR 2 OF HCS SYSTEM OPERATION

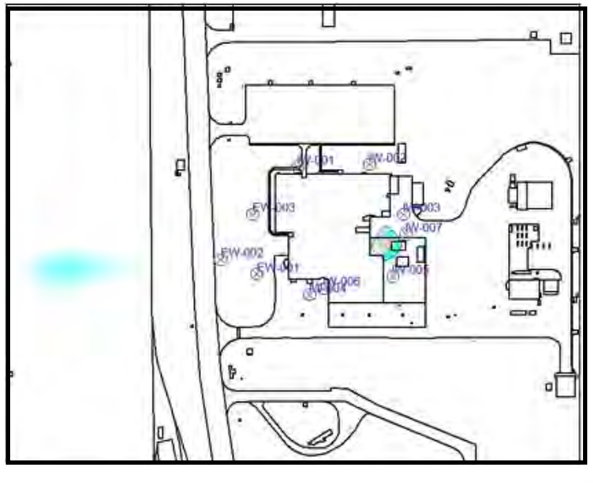
DEEP ZONE PLUME, PROJECTED ONE YEAR INTO FUTURE

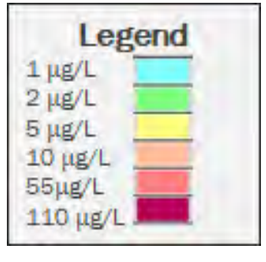


DEEP ZONE PLUME, PROJECTED THREE YEARS INTO FUTURE



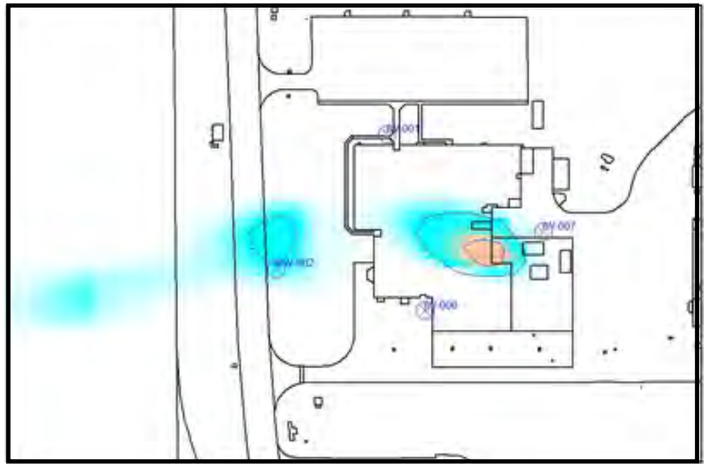
DEEP ZONE PLUME, PROJECTED FIVE YEARS INTO FUTURE



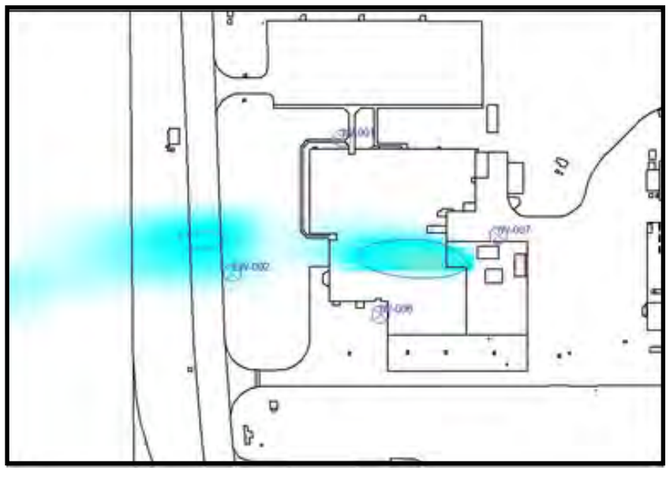


INTERMEDIATE VC PLUMES, PROJECTED AT ONE, THREE, AND FIVE YEARS AFTER YEAR 2 HCS OPERATION, NO PUMPING SCENARIO

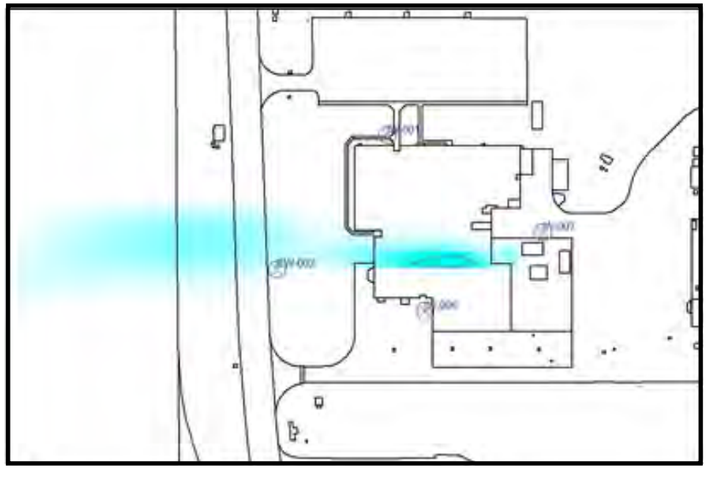
INTERMEDIATE ZONE PLUME, PROJECTED ONE YEAR INTO FUTURE, NO PUMPING

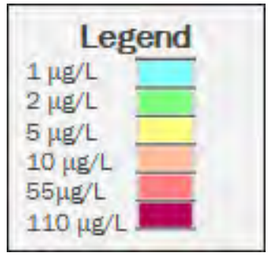


INTERMEDIATE ZONE PLUME, PROJECTED THREE YEARS INTO FUTURE, NO PUMPING



INTERMEDIATE ZONE PLUME, PROJECTED FIVE YEARS INTO FUTURE, NO PUMPING



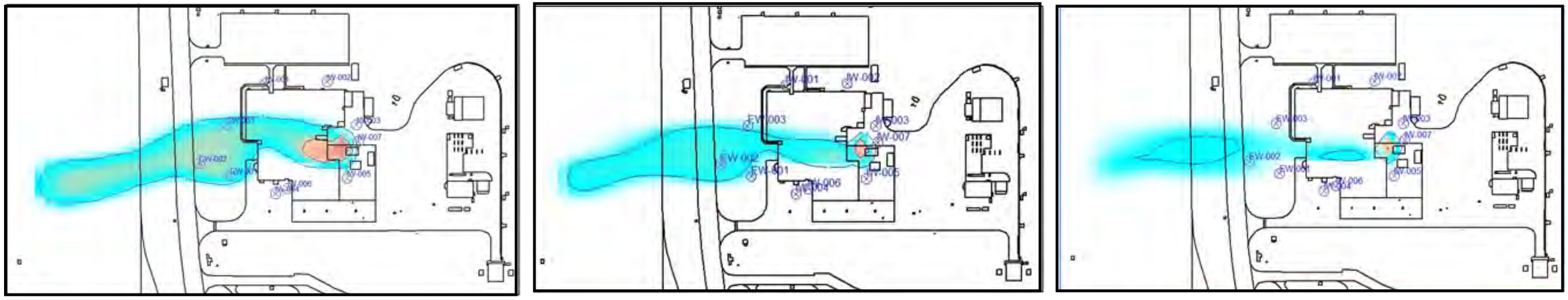


DEEP VC PLUMES, PROJECTED AT ONE, THREE, AND FIVE YEARS AFTER YEAR 2 HCS OPERATION, NO PUMPING SCENARIO

DEEP ZONE PLUME,
PROJECTED ONE YEAR
INTO FUTURE, NO PUMPING

DEEP ZONE PLUME,
PROJECTED THREE YEARS
INTO FUTURE, NO PUMPING

DEEP ZONE PLUME,
PROJECTED FIVE YEARS
INTO FUTURE, NO PUMPING



SECTION VII
SUMMARY AND RECOMMENDATIONS

7.1 SUMMARY OF GROUNDWATER FLOW AND TRANSPORT MODELING

The primary purpose of this section is to summarize the results of the groundwater flow and solute transport model after one year and two years of HCS operation at CRCA. Also presented is a brief discussion of how the numerical model was developed and calibrated. The primary objective of the model was to build and calibrate a numerical model to simulate the 3-D subsurface used to examine the future performance of the existing injection/recovery well system that is actively remediating elevated zones of volatile organic compounds (VOCs) in groundwater at CRCA. Using the USGS MODFLOW code, the groundwater flow model was constructed and calibrated to match observed groundwater elevation under both pumping and non-pumping conditions. The groundwater flow model calibration criteria were met, which indicates that the groundwater flow model is a sufficiently accurate tool to determine the three-dimensional extent of hydraulic capture established by the injection and recovery wells. Results of the numerical groundwater model flow simulations and solute modeling indicate that the VC HCP and LCP mass has been reduced to LCP only and remains under hydraulic control, resulting in reduced mass flux feeding the downgradient plumes.

Using the velocity field from the three-dimensional calibrated groundwater flow model, the solute transport model was subsequently applied to not only examine the future concentrations and spatial extent of VC plumes but also to estimate the cleanup timeframe. Based on high resolution groundwater sampling data, the three-dimensional distribution of these COCs was digitized into the model and the MT3D99 multi-species solute transport model was applied to examine future plume concentrations during continued injection/extraction well operation.

History matching simulations indicate good agreement between the observed and simulated VC plumes, providing continued confidence that the model a useful decision-analysis tool for assessing potential future remedial system optimization modifications.

Results of the groundwater flow and solute model future scenario simulations indicate that the future injection and recovery well pumping operations will maintain hydraulic control of the plume at CRCA. Model simulations indicate that active remediation will reduce the remedial

time frame because of the additional mass removal by injection/extraction well pumping. In addition, the recovery well pumping causes lower downgradient groundwater flow velocities outside the capture zone that provide more time for natural degradation leading to a lower mass flux and more rapid plume dissipation. The estimated cleanup timeframe for the simulated remedial system operation is approximately 11 years based on time for all areas to reach GCTLs. Most of the site, including nearly all the building footprint and western portions of the groundwater plume, is projected to reach concentrations below GCTLs in approximately three years or less which is on course with the projections made after one year of HCS operation. A small area around MW0018 in the finer-grained unit is causing the slow decay and extended timeframe of 11 years for the overall system. The Groundwater Flow Model and Transport Evaluations conducted after one year and two years after HCS operation are sufficient to show that the HCS is operating as designed. These models were successful in illustrating the continued trends of groundwater remediation toward levels within MNA concentrations.

7.2 RECOMMENDATIONS

The following recommendations based on the groundwater flow and transport scenarios are as follows:

- Continued operation of the injection and recovery well system (HCS) should be maintained at current operational rates.
- No further groundwater modeling predictions will be necessary at this time.

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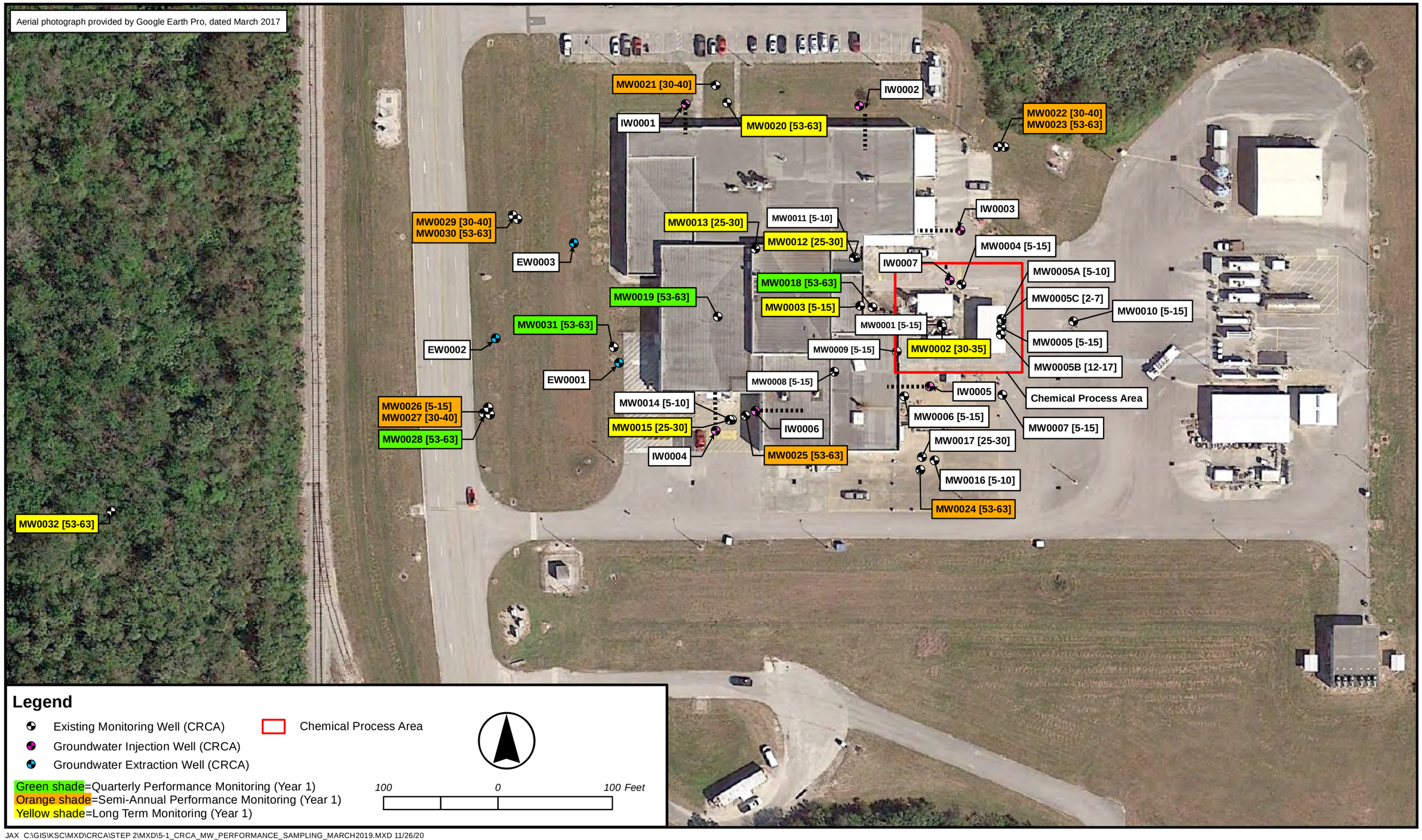
ATTACHMENT A
FLOW AND TRANSPORT MODEL BACKGROUND DATA

FIGURE A.1 MONITORING, EXTRACTION, AND INJECTION WELL LOCATION MAP AND PERFORMANCE SAMPLING PLAN FOR 2019-2020 (YEAR 1)

SWMU 041, KENNEDY SPACE CENTER, FLORIDA



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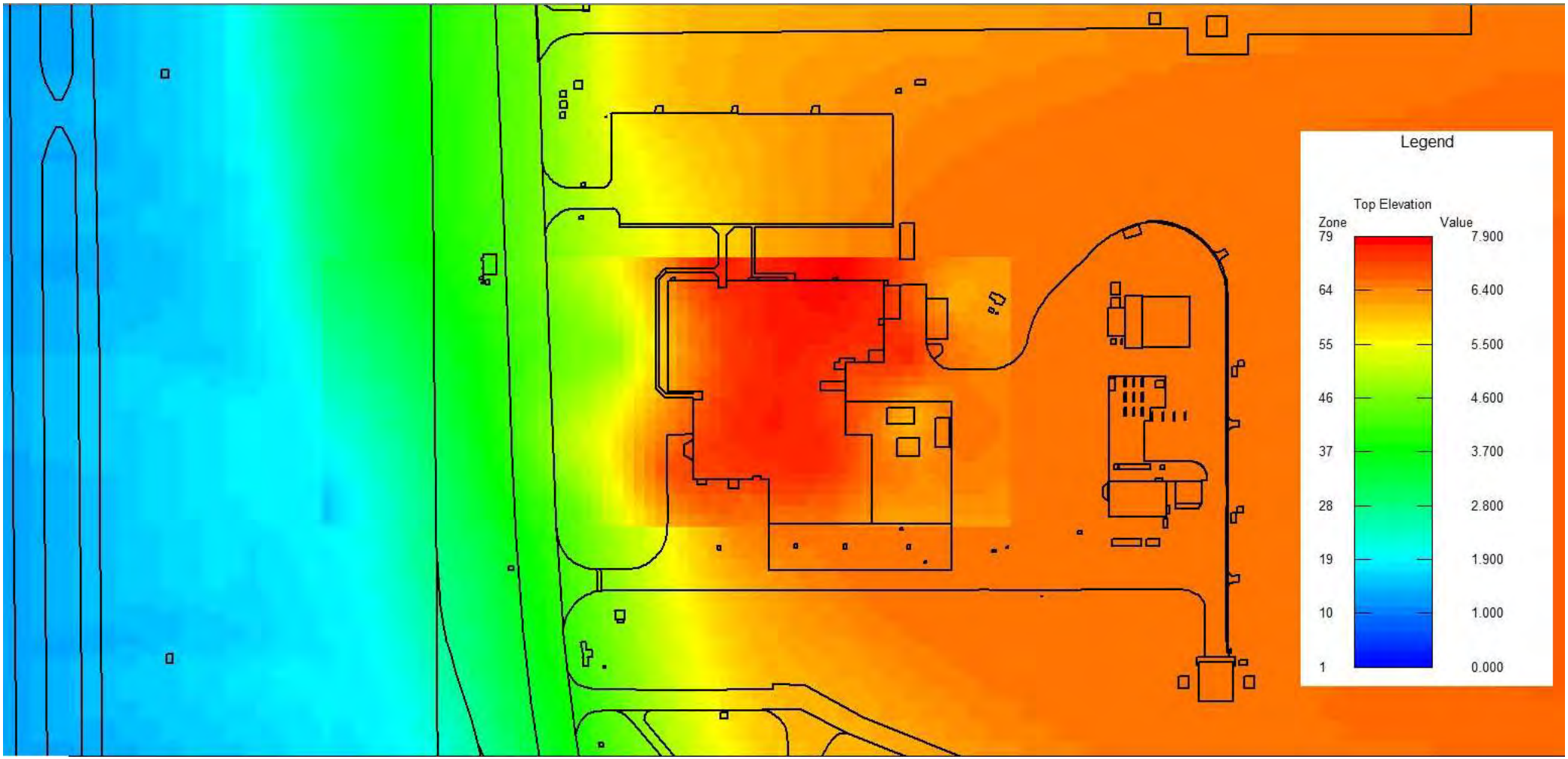


Figure A.2 – Top Elevation – Layer 1 (Estimated Ground Surface)

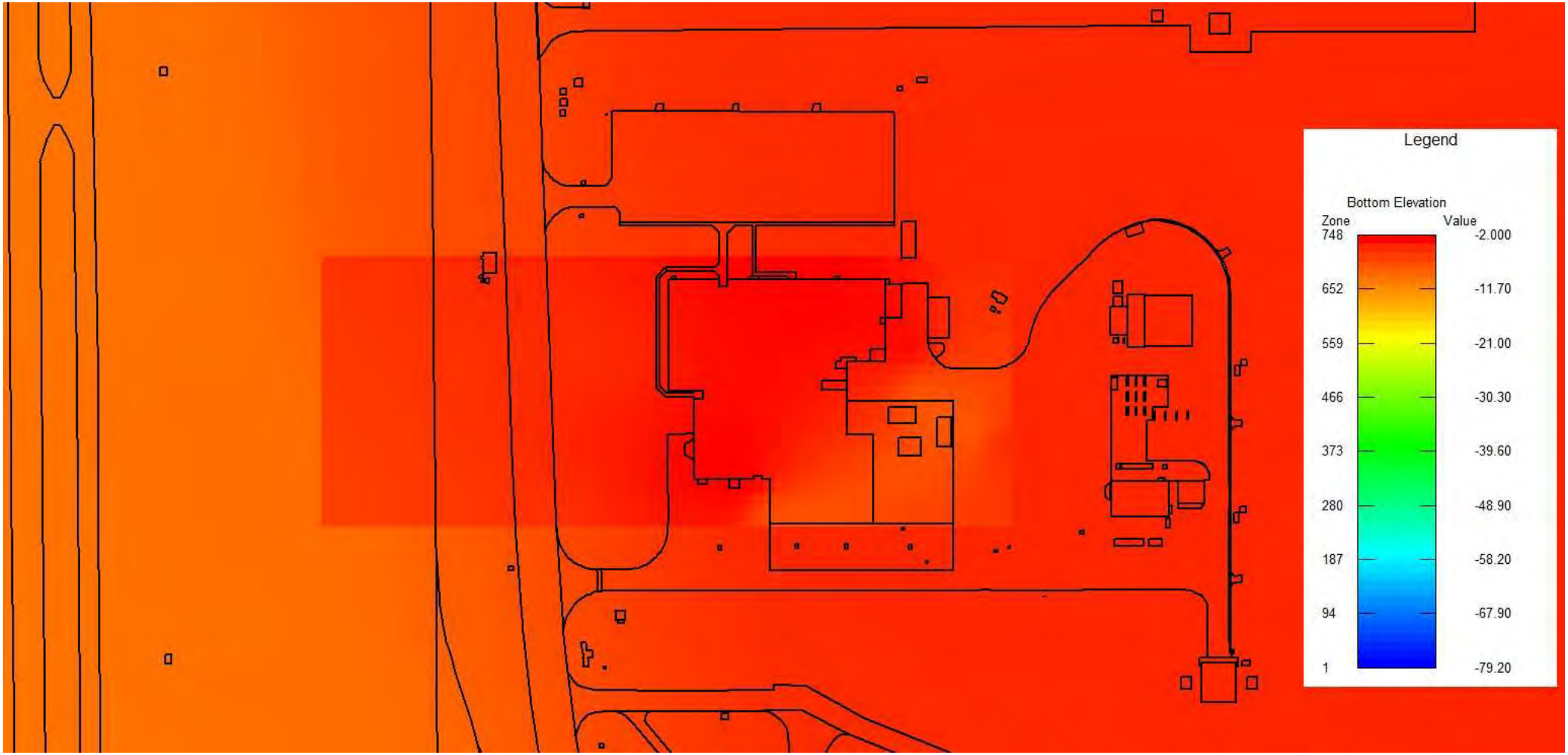


Figure A.3 – Bottom Elevation – Layer 1

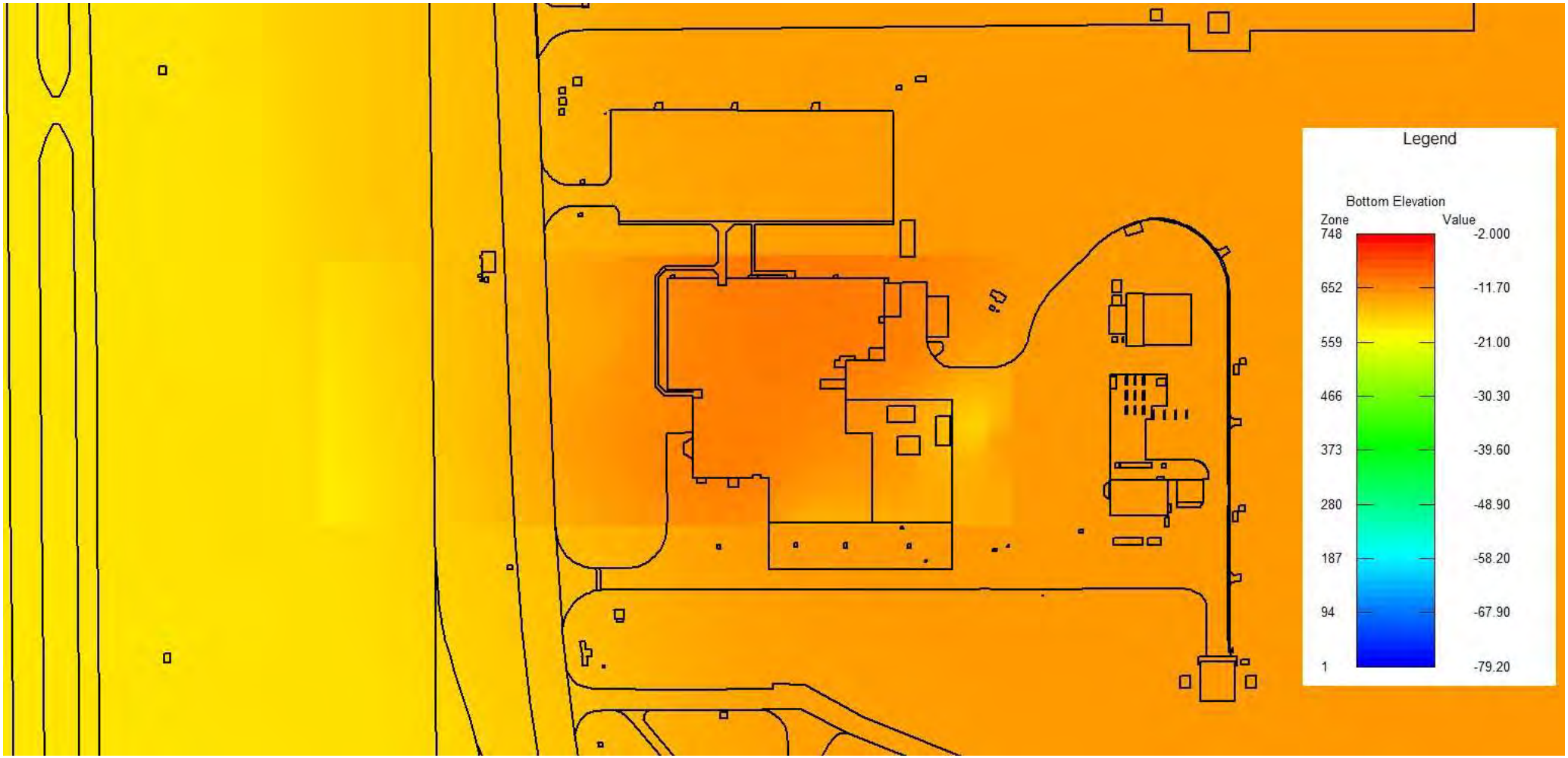


Figure A.4 – Bottom Elevation – Layer 2

Figure A.5 – Bottom Elevation – Layer 3

Figure A.6 – Bottom Elevation – Layer 4

Figure A.7 – Bottom Elevation – Layer 5

Figure A.8 – Bottom Elevation – Layer 6

Figure A.9 – Bottom Elevation – Layer 7

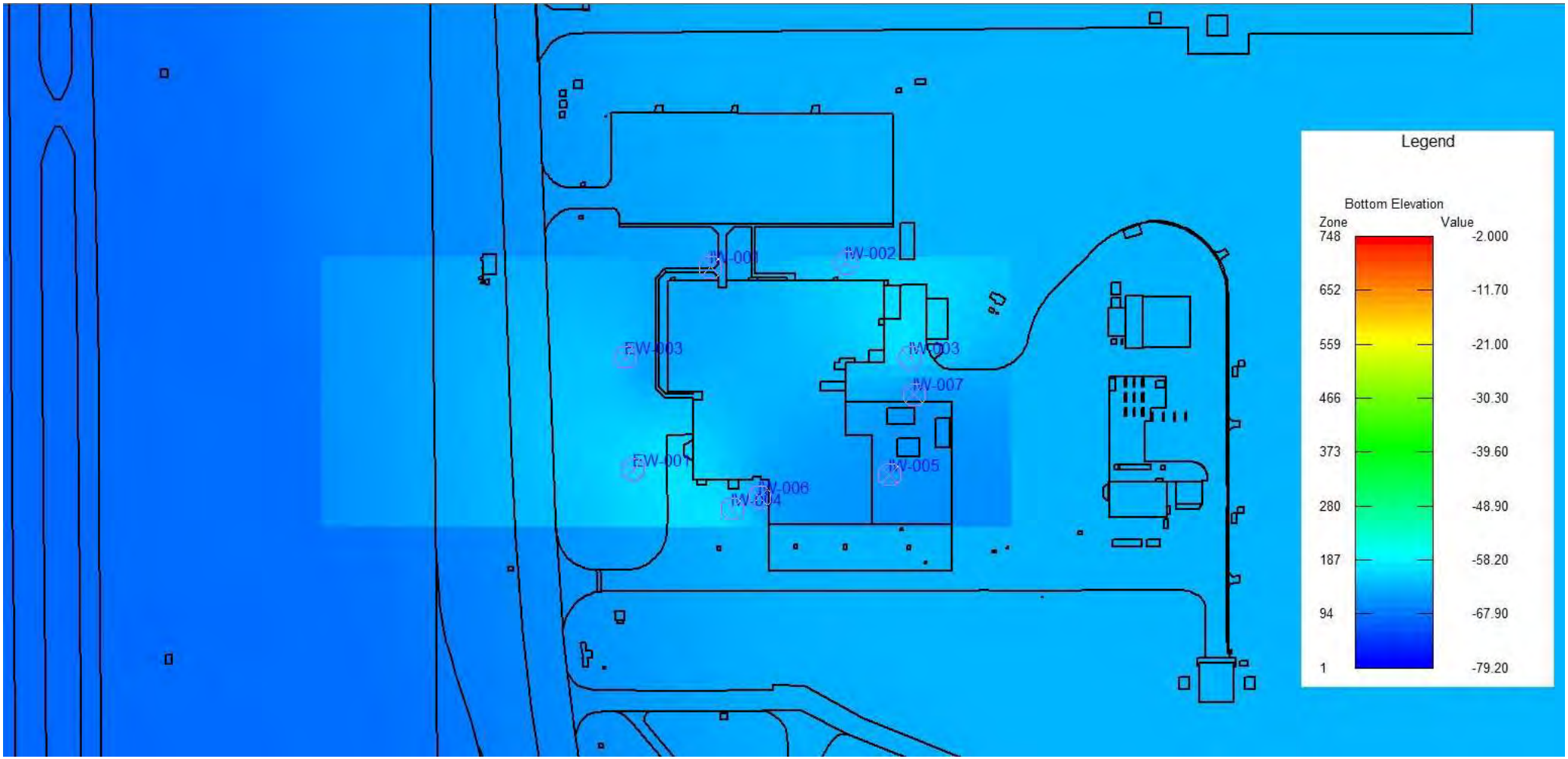


Figure A.10 – Bottom Elevation – Layer 8

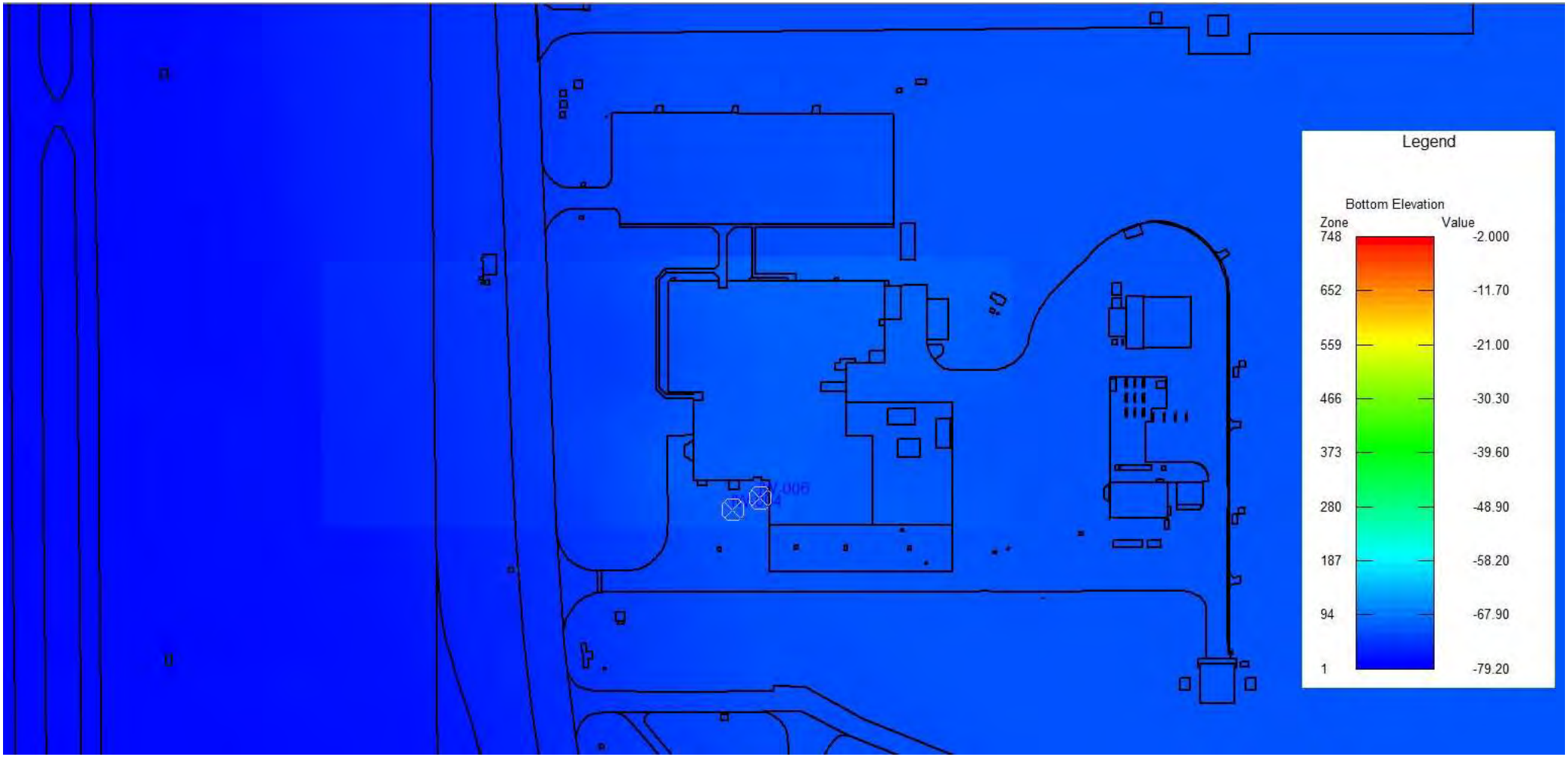


Figure A.11 – Bottom Elevation – Layer 9

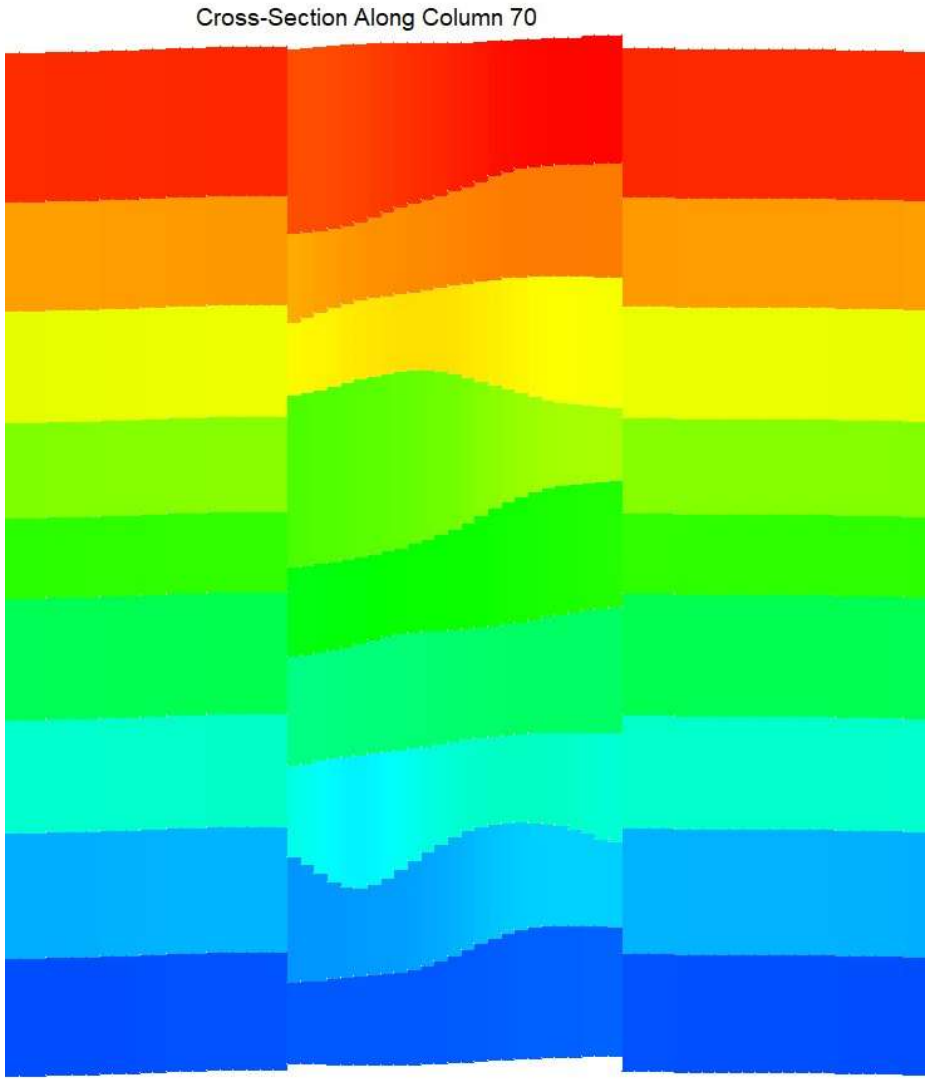


Figure A.12 – North-South Cross-Section - Elevations

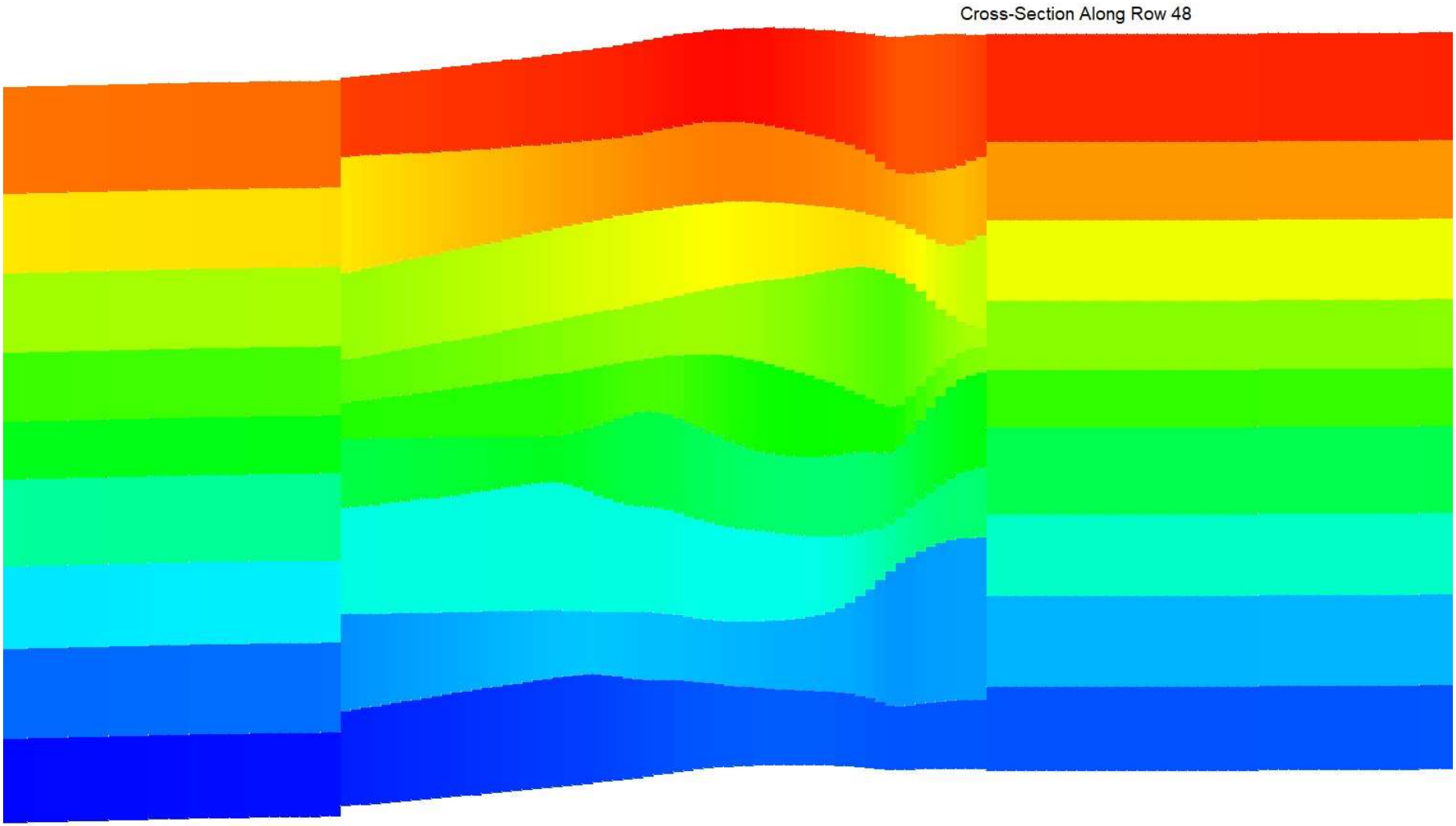


Figure A.13 – East-West Cross-Section - Elevations

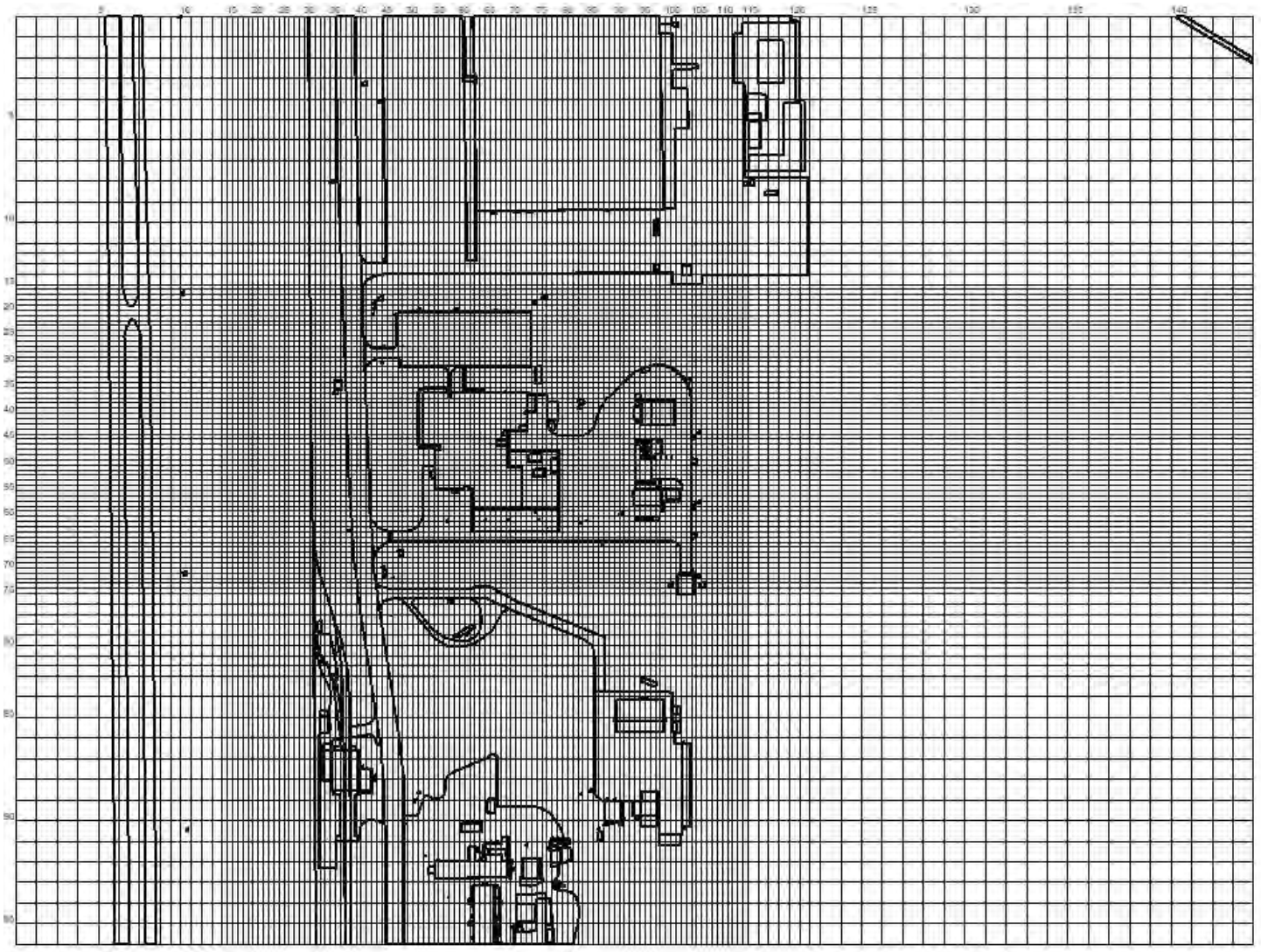


Figure A.14 – Grid – Full Domain

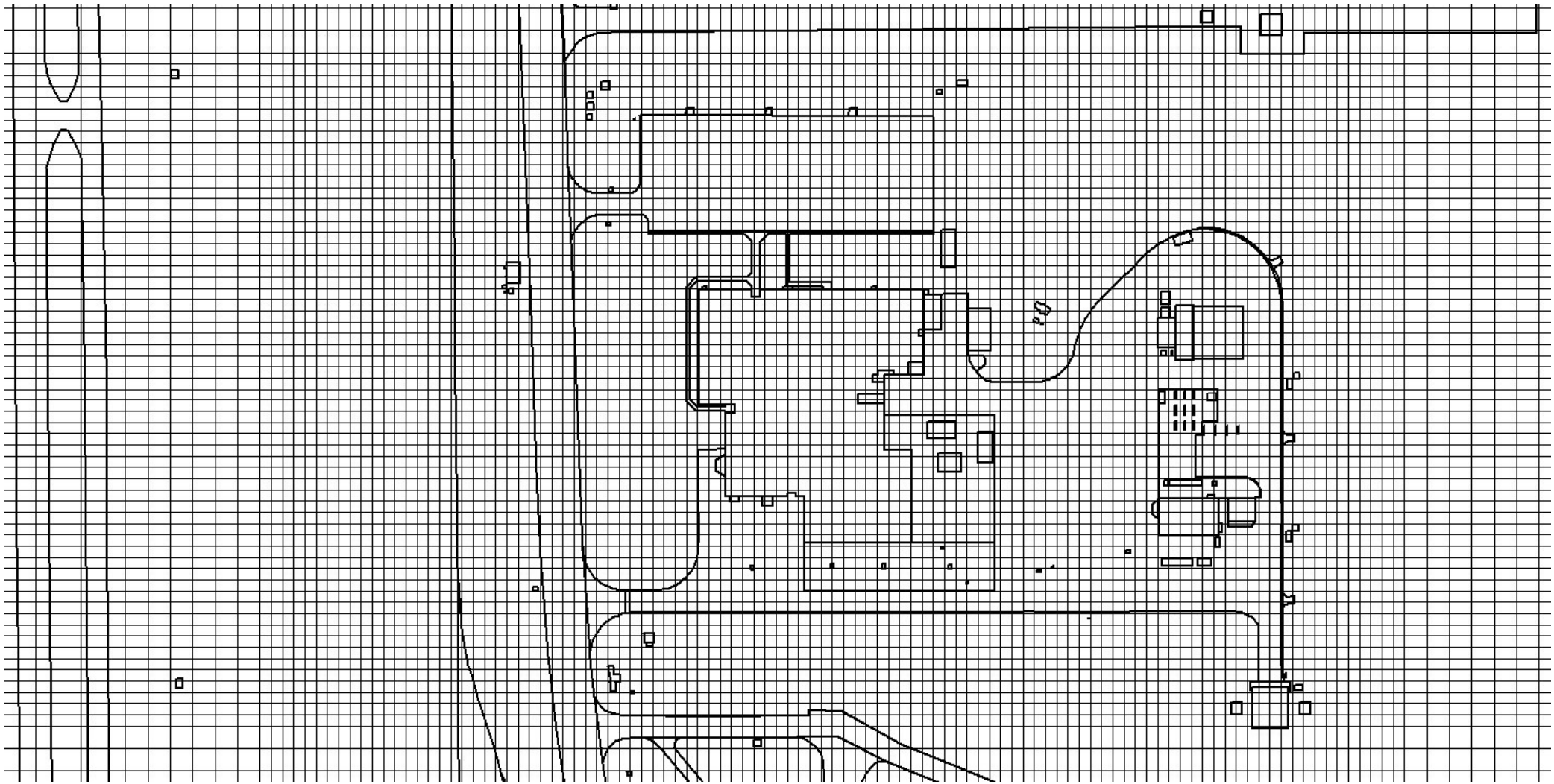


Figure A.15 – Grid – Focused Area

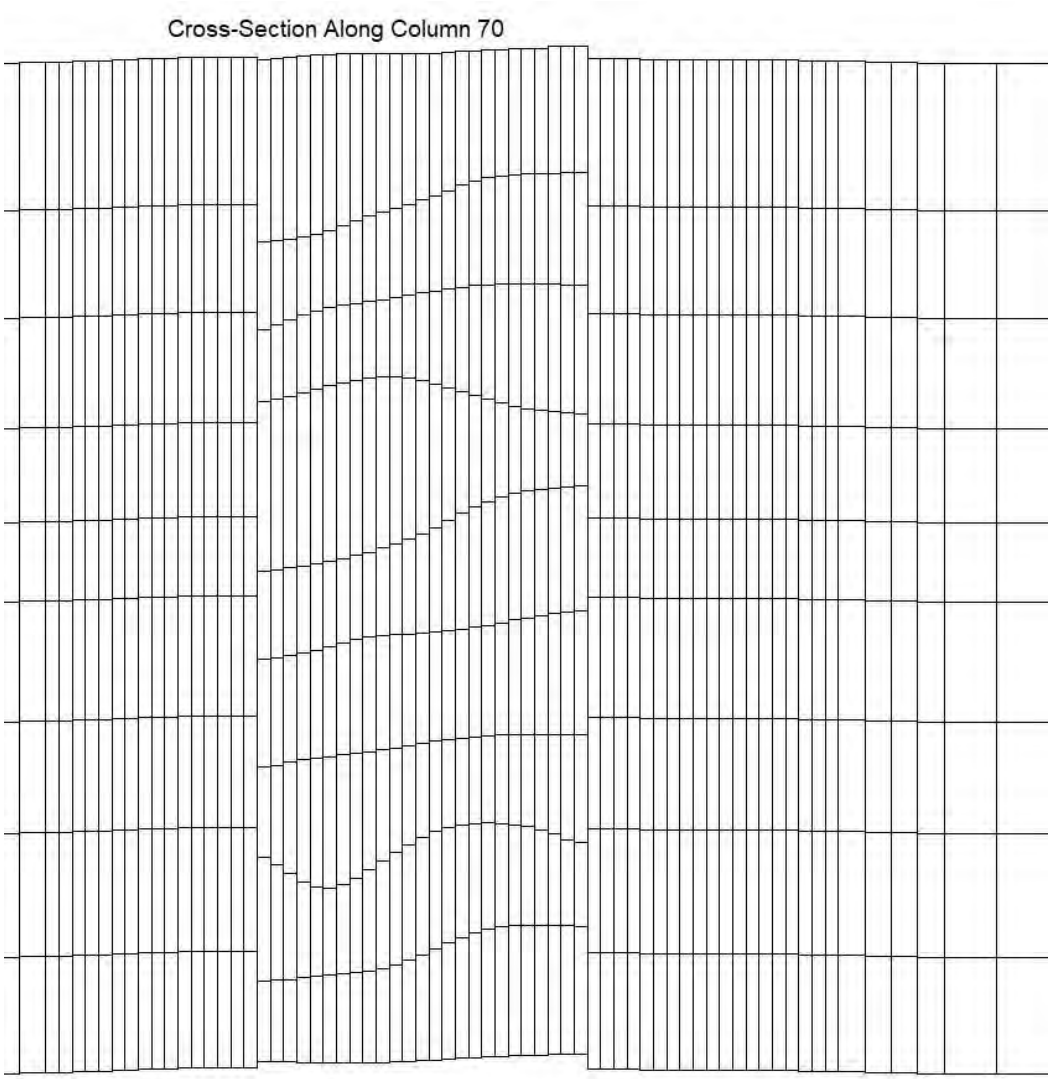


Figure A.16 – North-South Cross-Section – Grid

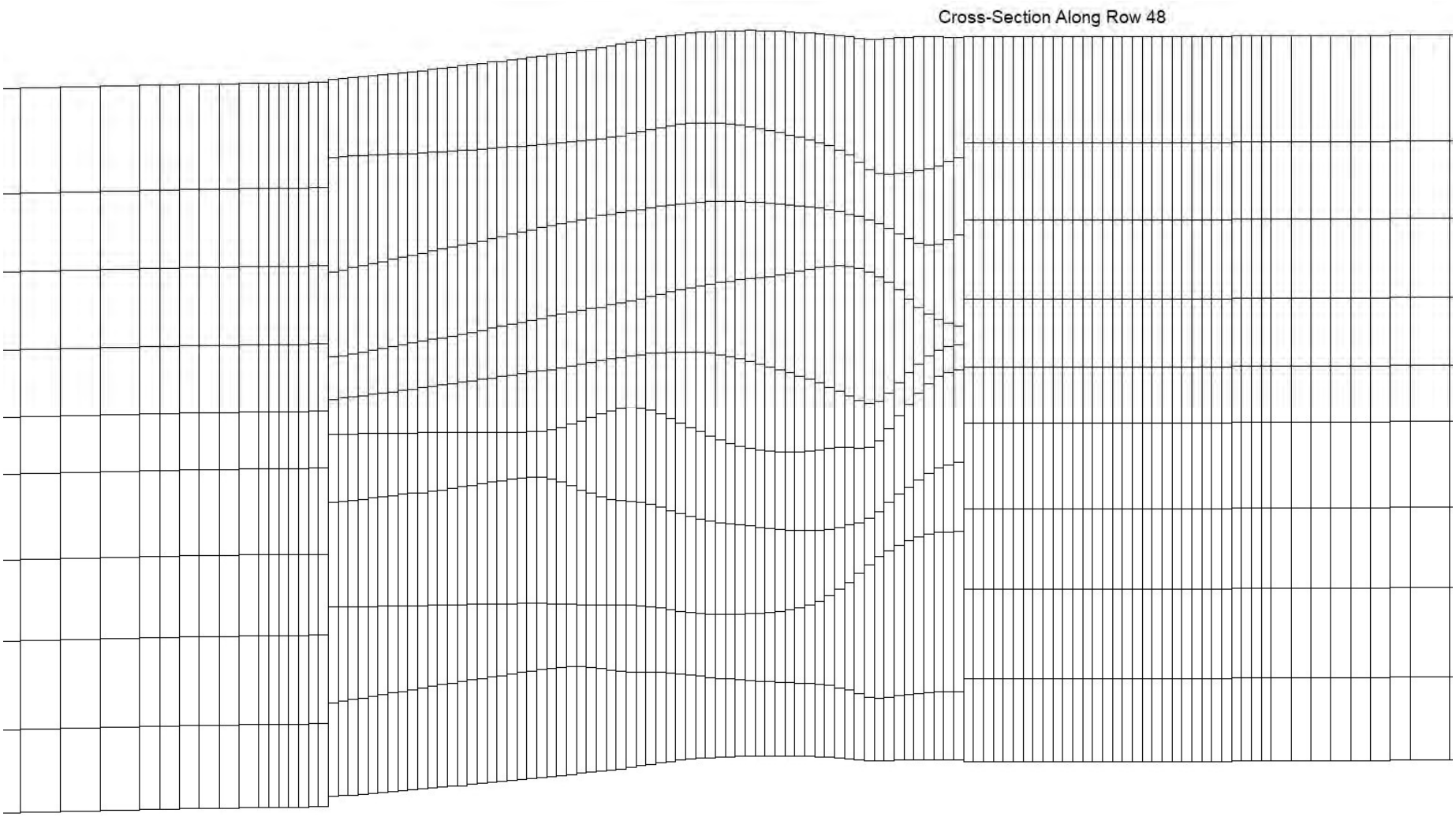


Figure A.17 – East-West Cross-Section - Grid

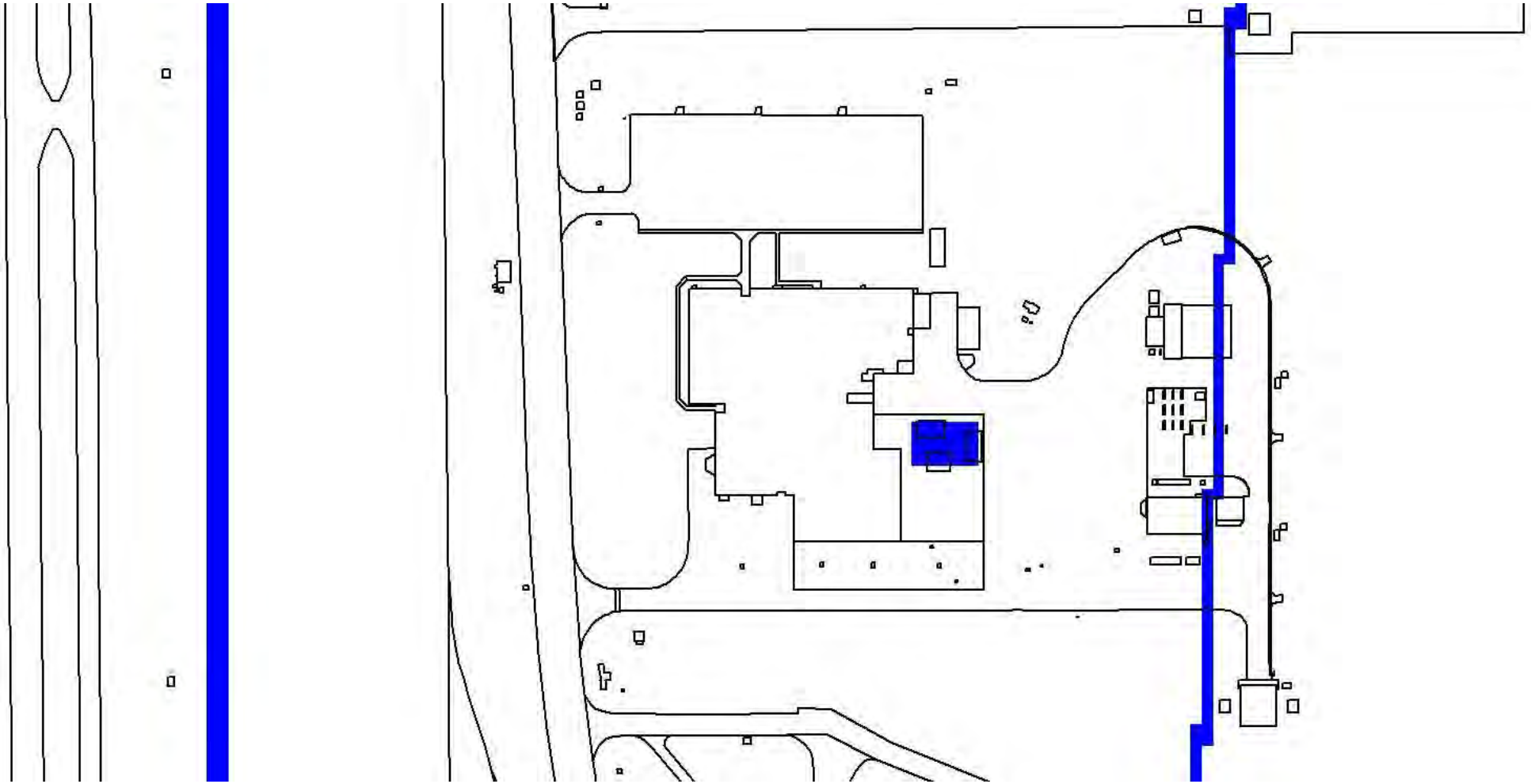


Figure A.18 – Constant Heads – Layer 1

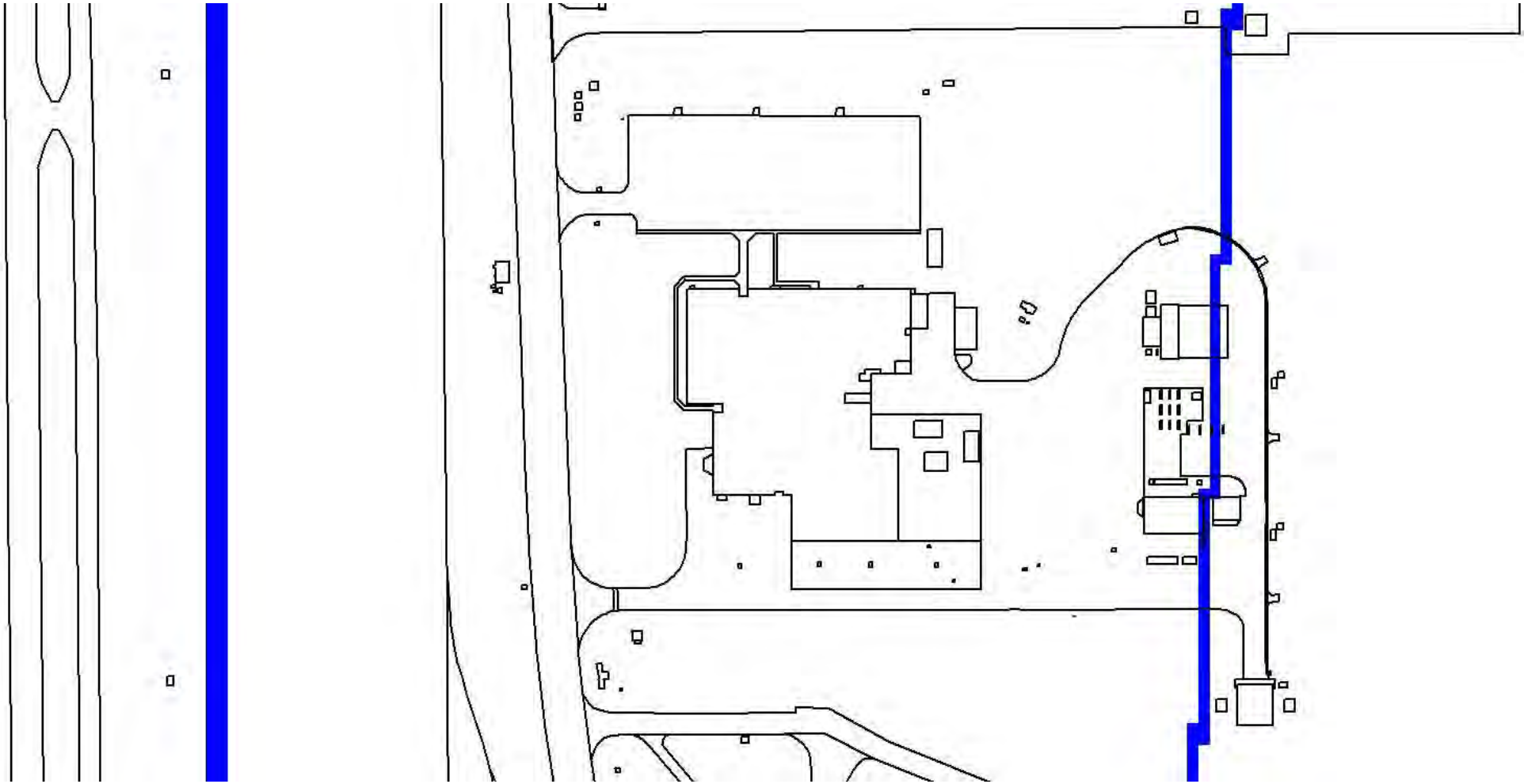


Figure A.19 – Constant Heads – Layers 2 through 8

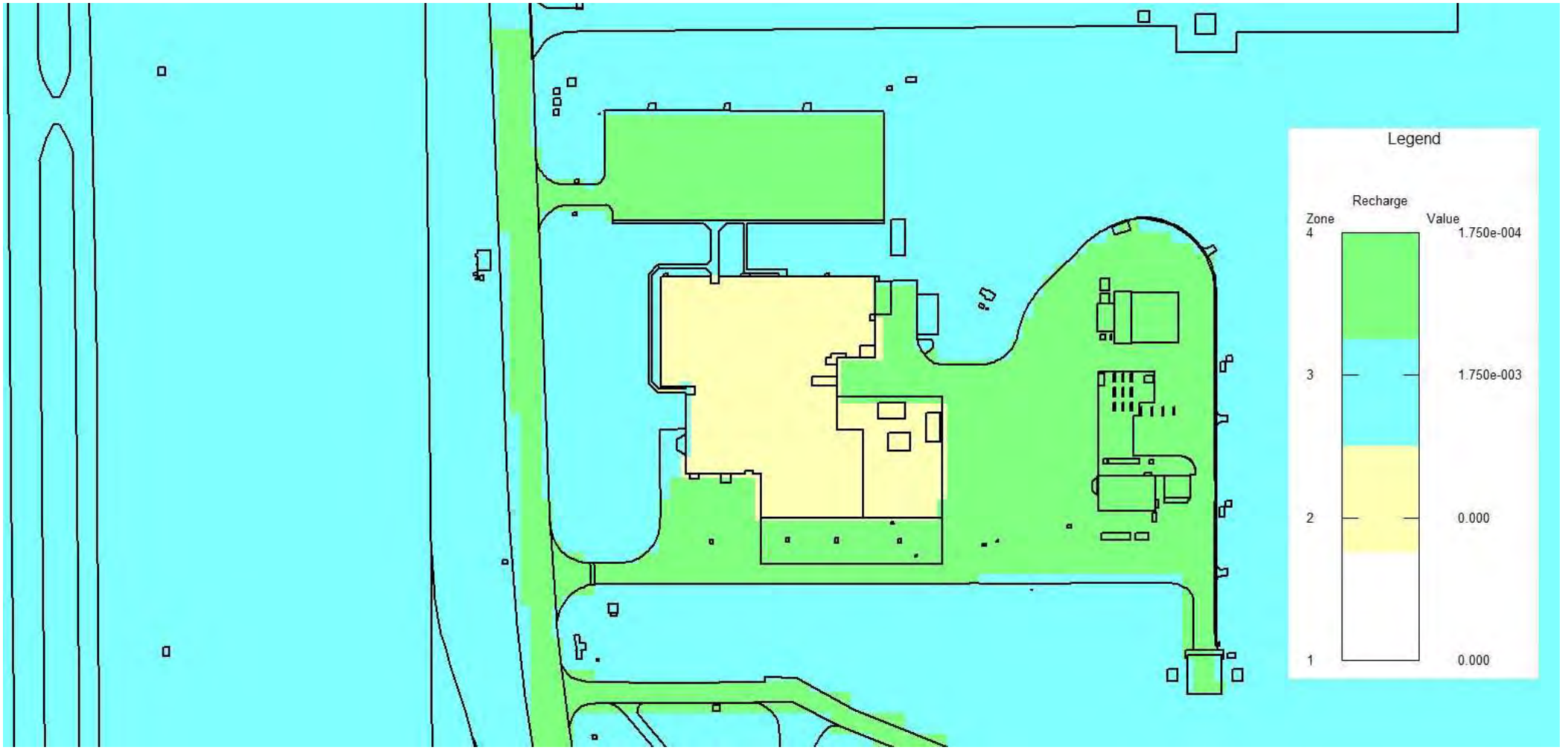


Figure A.20 – Recharge Zonation

Well	Radial Distance from EW-002	Screened Int	Hand	Transducer
EW-002	0.25	43 to 63		
MW0031	54.7	53 to 63	0.15	0.15
MW0028	66.9	53 to 63	0.21	0.24
MW0030	109	53 to 63	0.15	0.15
MW0019	193	53 to 63		0.14
MW0025	229	53 to 63	0.12	0.13
MW0020	290	53 to 63	0.09	0.11
MW0018	330	53 to 63	0.09	0.11
MW0032	370	53 to 63	0.10	0.13
MW0024	390	53 to 63	0.07	0.08
MW0023	476	53 to 63	0.06	0.09
EW-002	0.25	53 to 63	1.91	1.90

log1	10	0.27	point 1 along best fit line
log 2	100	0.17	point 2 along best fit line
ro	3015.00	0.00	point of 0 drawdown
Theoretical Drawdown	0.25	0.45	

Best Fit Line equation: y = -0.047ln(x) + 0.3815 R^2 = 0.6431

Name	Value	Unit	nversion Notes		
time	1.33	day	3120 ET min		
well radius	0.25	ft	gal to ft^3	min to day	GPM
pumping rate	1636.256487	ft^3/day	0.13	0.000694444	8.5
ΔS	0.11				

Transmisivity	**5534.59**	ft^3/day/ft
Storativity	**0.001826**	
Well efficiency	**23.39**	%
Saturated Tickness	70	feet
Hydraulic Conductivity	**79.07**	

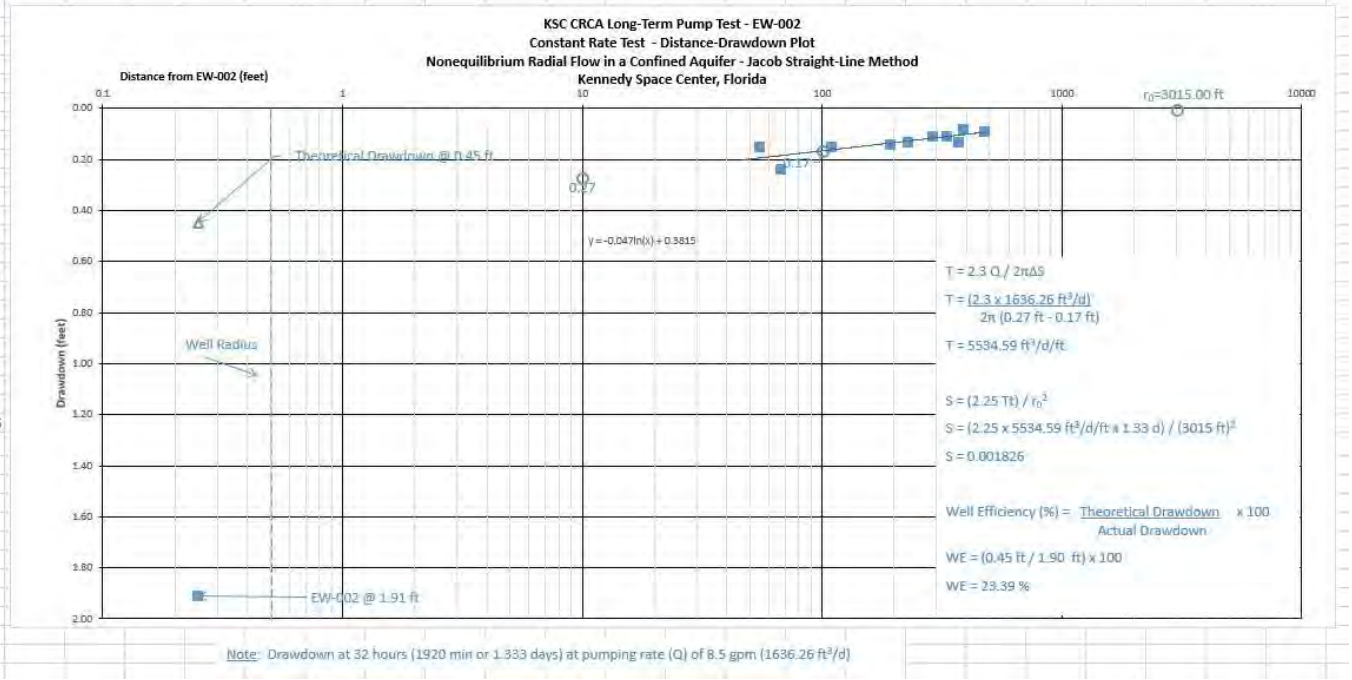


Figure A.21 – Cooper Jacob Drawdown Distance Analysis

Well ID (CRCA-)	Final Falling 1 (Ft/day)	Final Falling 2 (Ft/day)	Final Falling 3 (Ft/day)	Final Falling 4 (Ft/day)	Final Falling 5 (Ft/day)	Final Rising 1 (Ft/day)	Final Rising 2 (Ft/day)	Final Rising 3 (Ft/day)	Final Rising 4 (Ft/day)	Solution	Zone
MW0001	39.66	44.13				41.06	50.01			BR	Shallow
MW0003						50.41	36.6			BR	Shallow
MW0004						51.49	28.76			BR	Shallow
MW0005						42.2	50.41	40.31	42.3	BR	Shallow
MW0006						74.64	46.83	58.53		BR	Shallow
MW0007						129.8	93.11	94.17		BR	Shallow
MW0008						169.6	93.9	70.85		BR	Shallow
MW0009						90.52	50.22	110.1	198.8	BR	Shallow
MW0010	12.01	4.718	10.78			8.42	8.625			BR	Shallow
MW0011						30.38	29.77	26.65		BR	Shallow
MW0014						329.1	381.5			BR	Shallow
MW0016	73.89	95.61	83.91			123.5	76.3	72.98		BR	Shallow
MW0026	72.07	63.88	147			44.31	67.17	87.16		SG	Shallow
MW0002	50.68	40.52				108.5				SG	Intermediate
MW0012	14.56	14.52	13.82			16.66	16.58	14.27		BR	Intermediate
MW0015	13.64	11.7				12.83	11.68	11.28		BR	Intermediate
MW0017	11.44	11.8	12			11.62	12.17	12.42		BR	Intermediate
MW0021	160.8	116.6				119.7	150.3	126.2		BR	Intermediate
MW0022	31.51	42.45	43.38			51.26	49.41			SG	Intermediate
MW0027	111.5	53.38	65.96			42.96	58.54	62.02		SG	Intermediate
MW0029		42.11				41.94	19.64	62.49		SG	Intermediate
MW0018	25.12	16.83				24.06	25.4			BR	Deep
MW0019	2.555	7.12				2.753	1.709	1.668		BR	Deep
MW0020	26.87	30.93	35.75			30.66	47.62	41.95		SG	Deep
MW0023	8.829	8.203	6.238			8.584	7.839	8.447		BR	Deep
MW0024	18.3	14.62	13.61			14.39	15.68	15.9		BR	Deep
MW0025	11.86	13.04				11.46	12.98	13.14		BR	Deep
MW0028	42.05	53.4	63.26	53.21	59.88	56.84	44.19			SG	Deep
MW0030		66.84	61.93	56.9		63.82	60.36			SG	Deep
MW0031	101.7	81.78				66.11	57.23	85.52		SG	Deep
MW0032	8.136	6.789	7.062			7.249	7.112	6.848		BR	Deep

Table A.1 – Summary of Hydraulic Conductivity Results

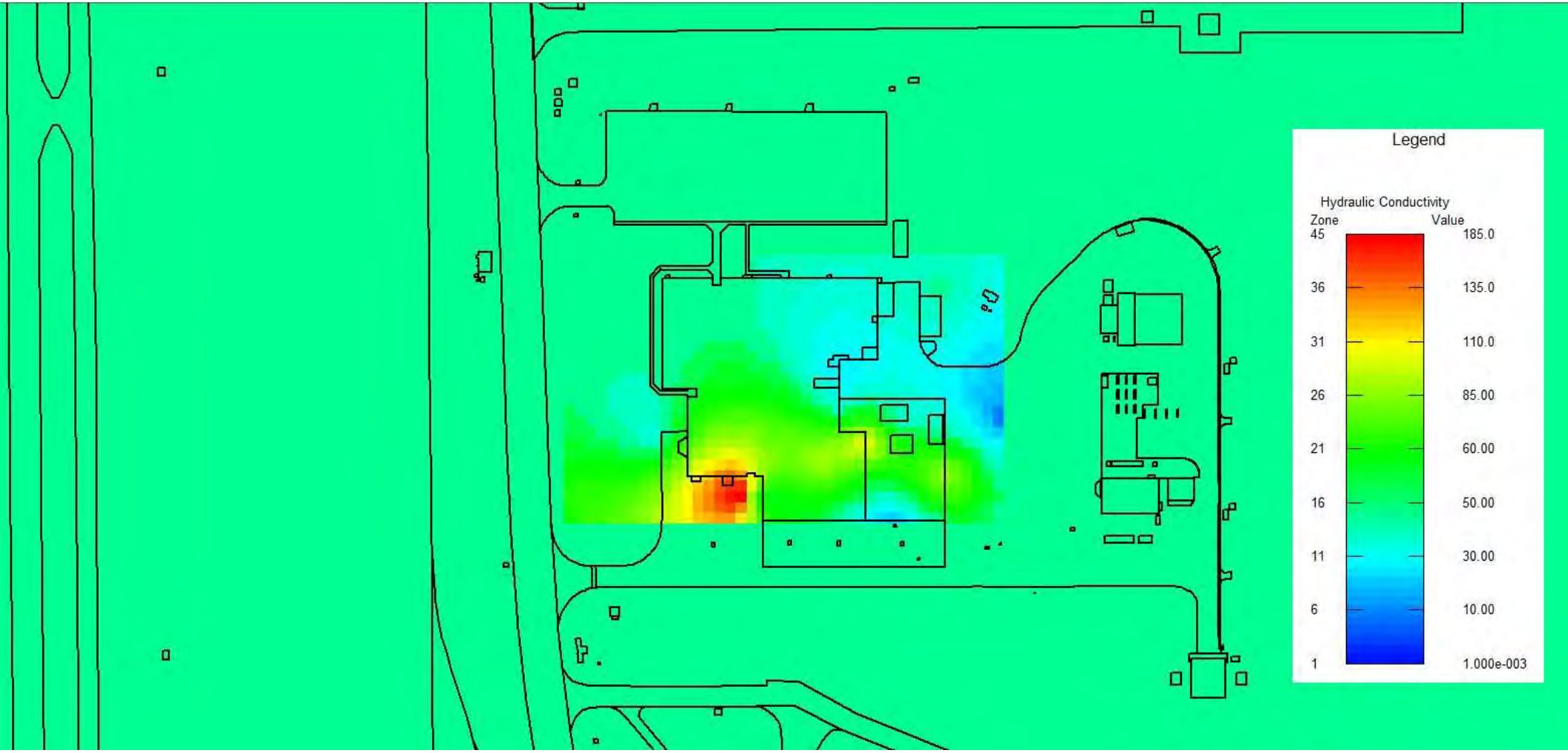


Figure A.22 – Hydraulic Conductivity Zonation – Layer 1

Figure A.23 – Hydraulic Conductivity Zonation – Layer 2

Figure A.24 – Hydraulic Conductivity Zonation – Layer 3

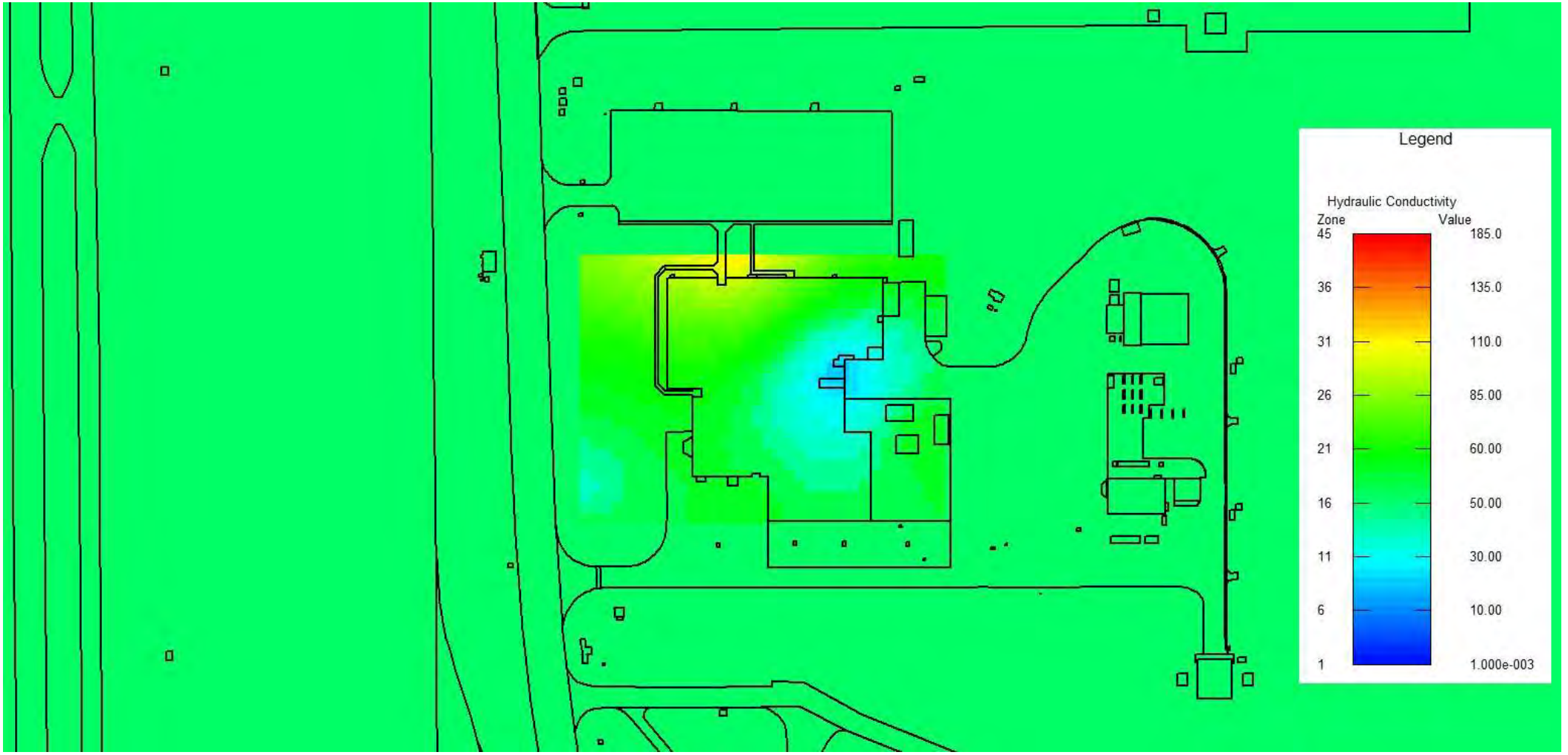


Figure A.25 – Hydraulic Conductivity Zonation – Layer 4

Figure A.26 – Hydraulic Conductivity Zonation – Layer 5

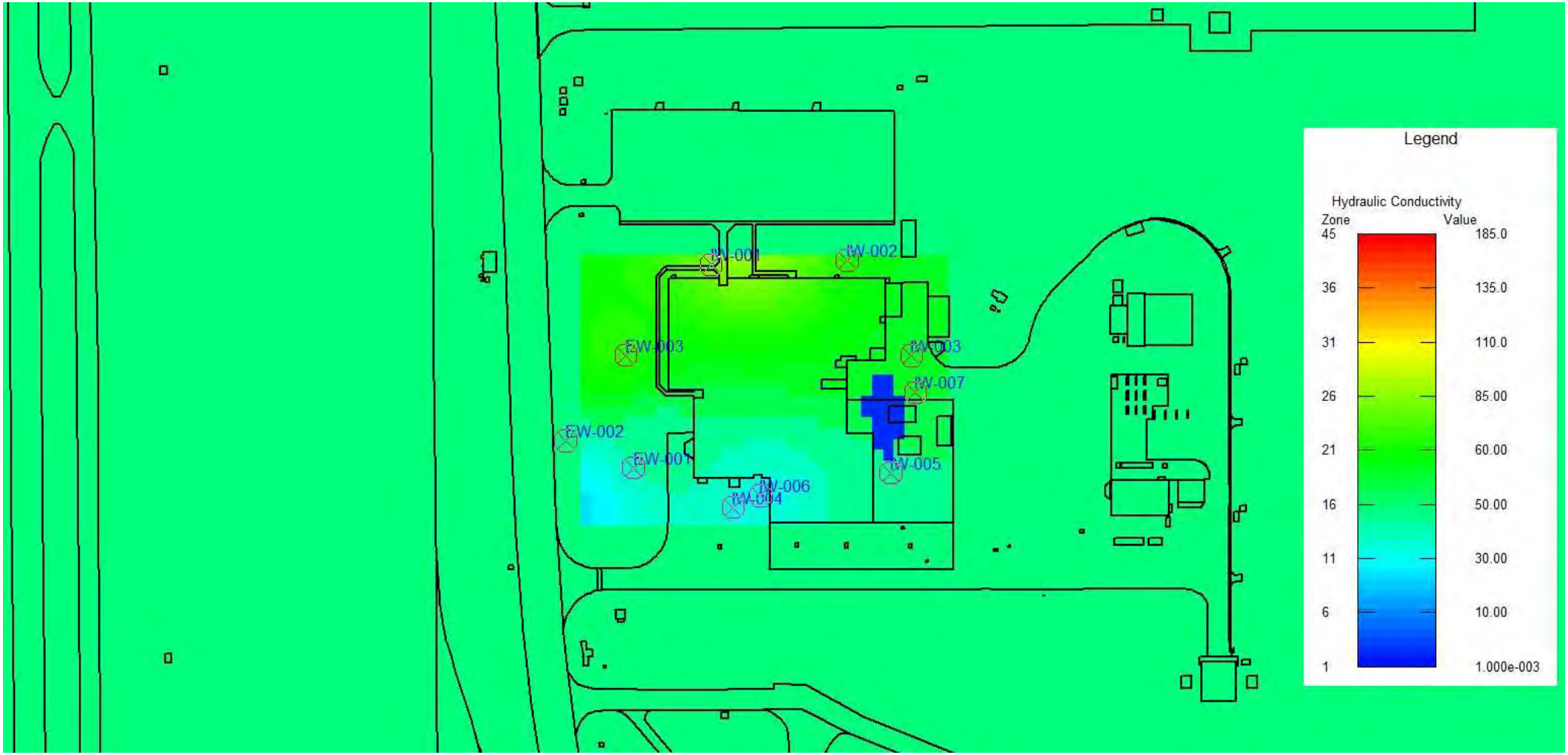


Figure A.27 – Hydraulic Conductivity Zonation – Layer 6

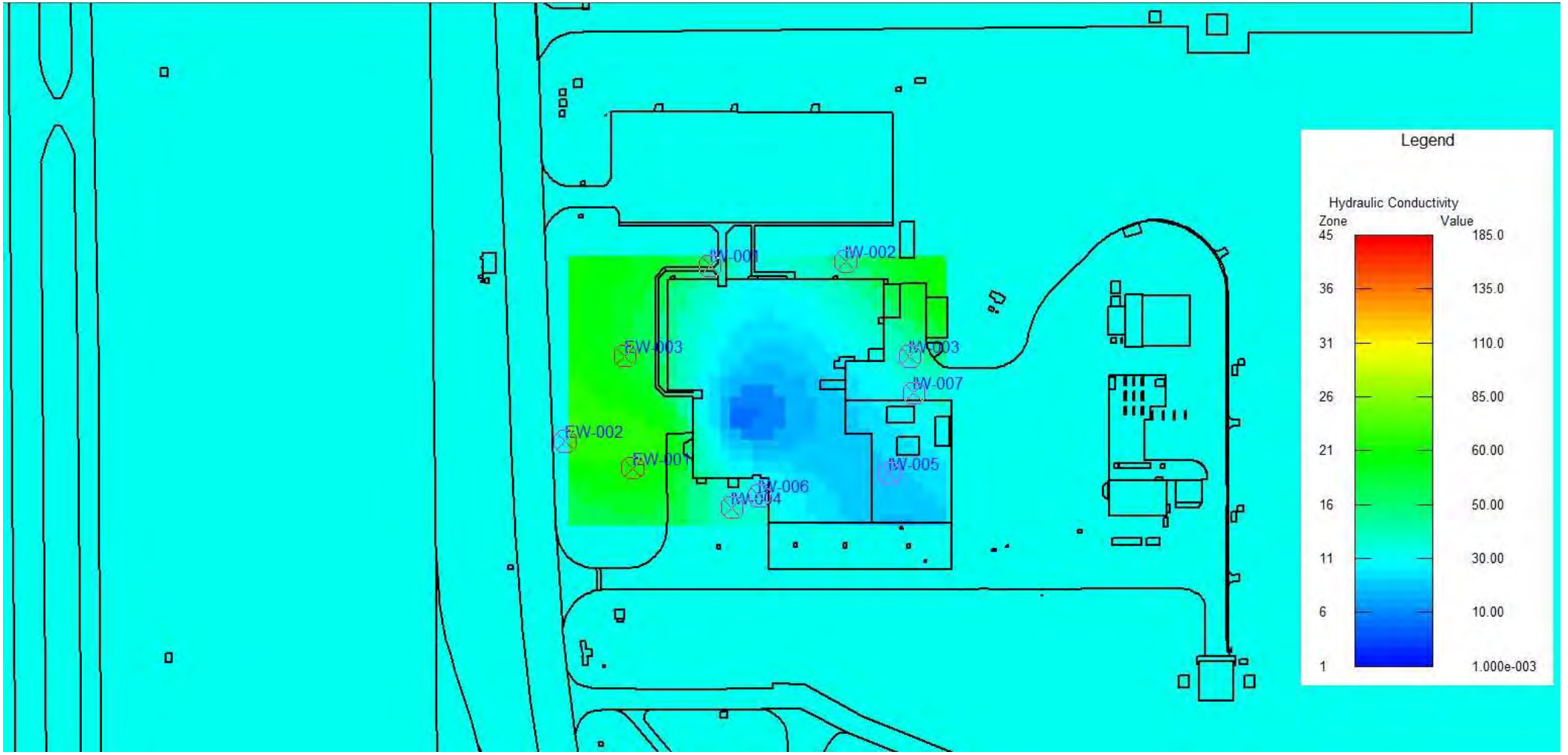


Figure A.28 – Hydraulic Conductivity Zonation – Layer 7

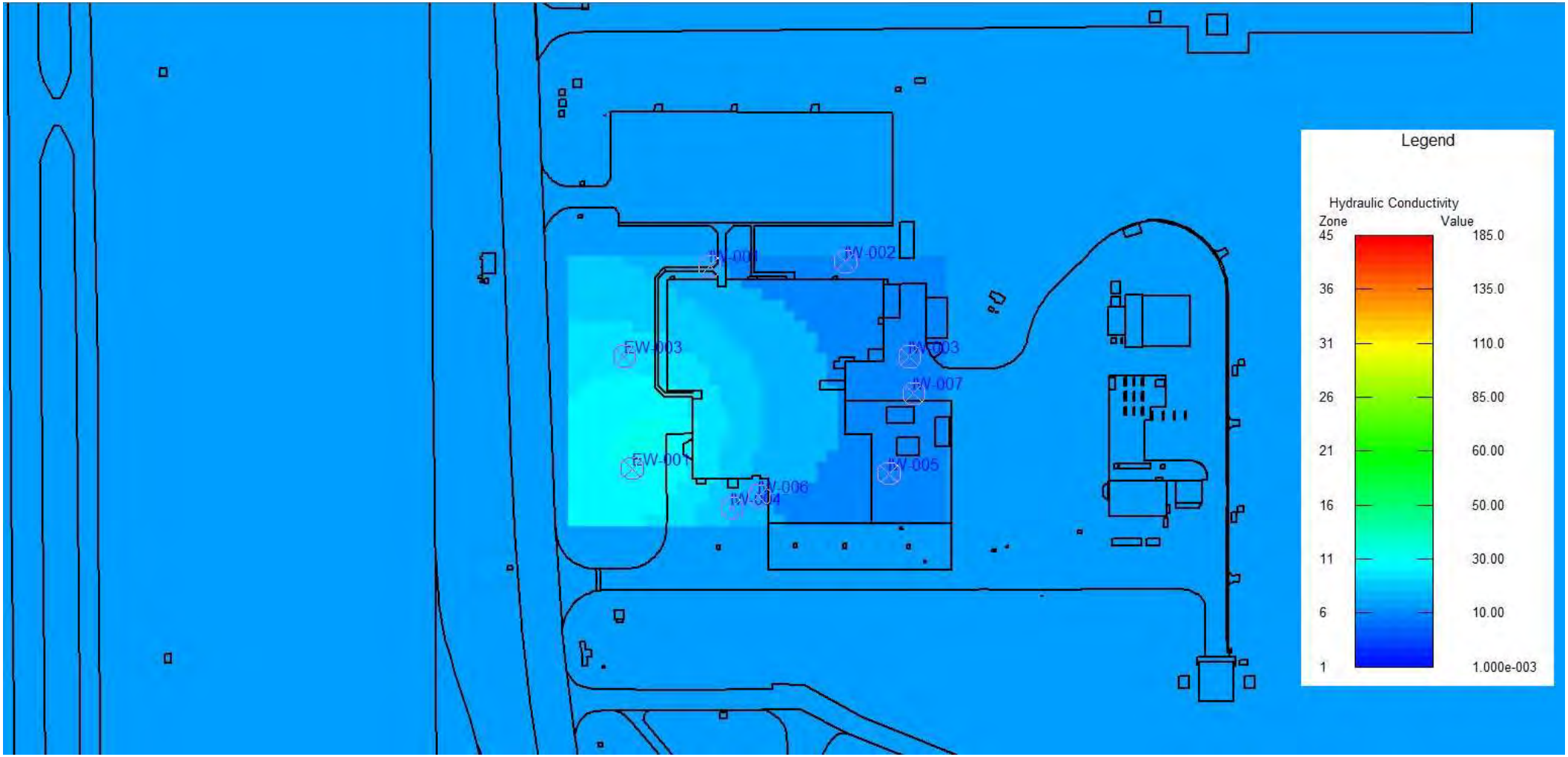


Figure A.29 – Hydraulic Conductivity Zonation – Layer 8

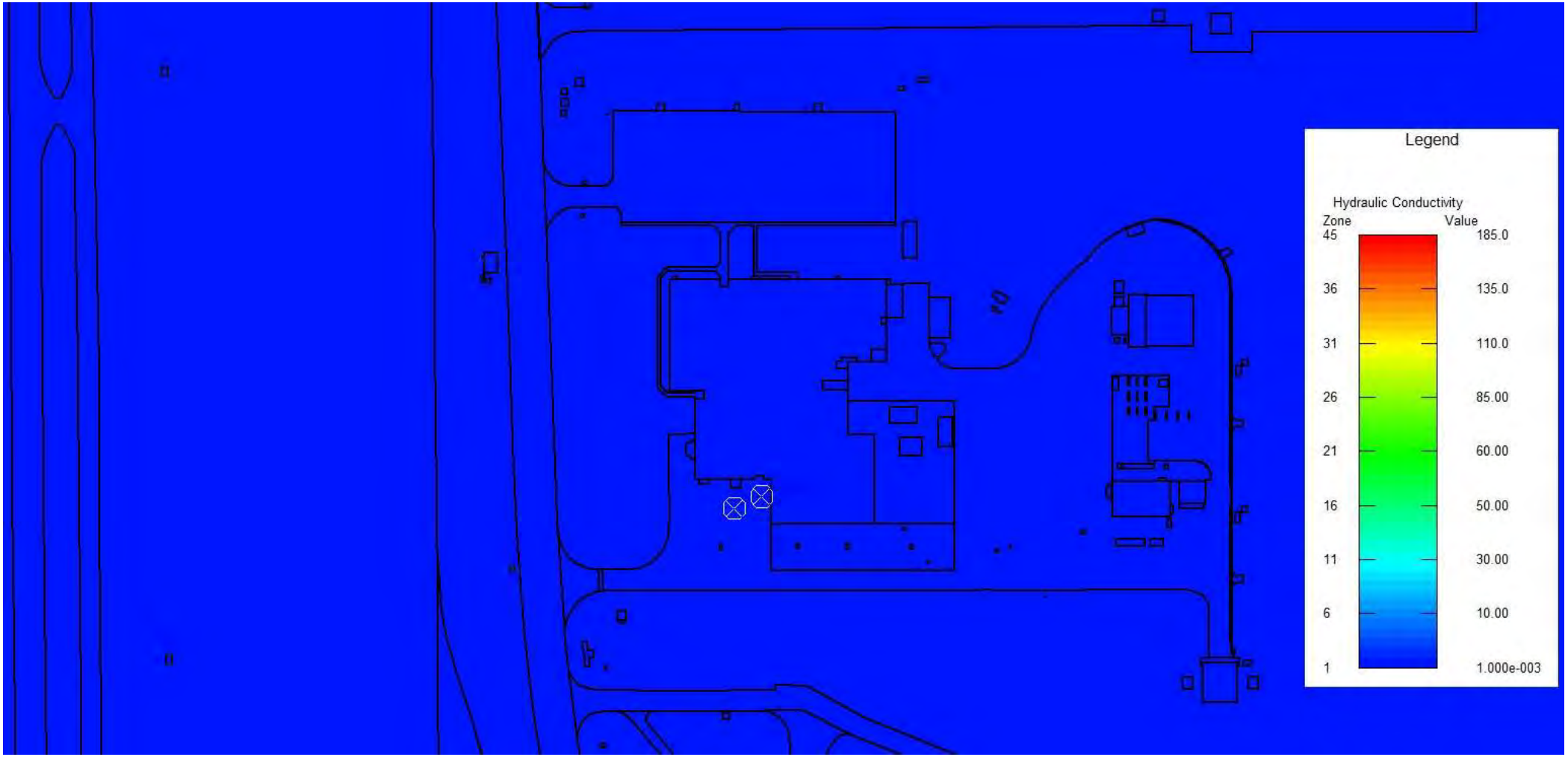


Figure A.30 – Hydraulic Conductivity Zonation – Layer 9

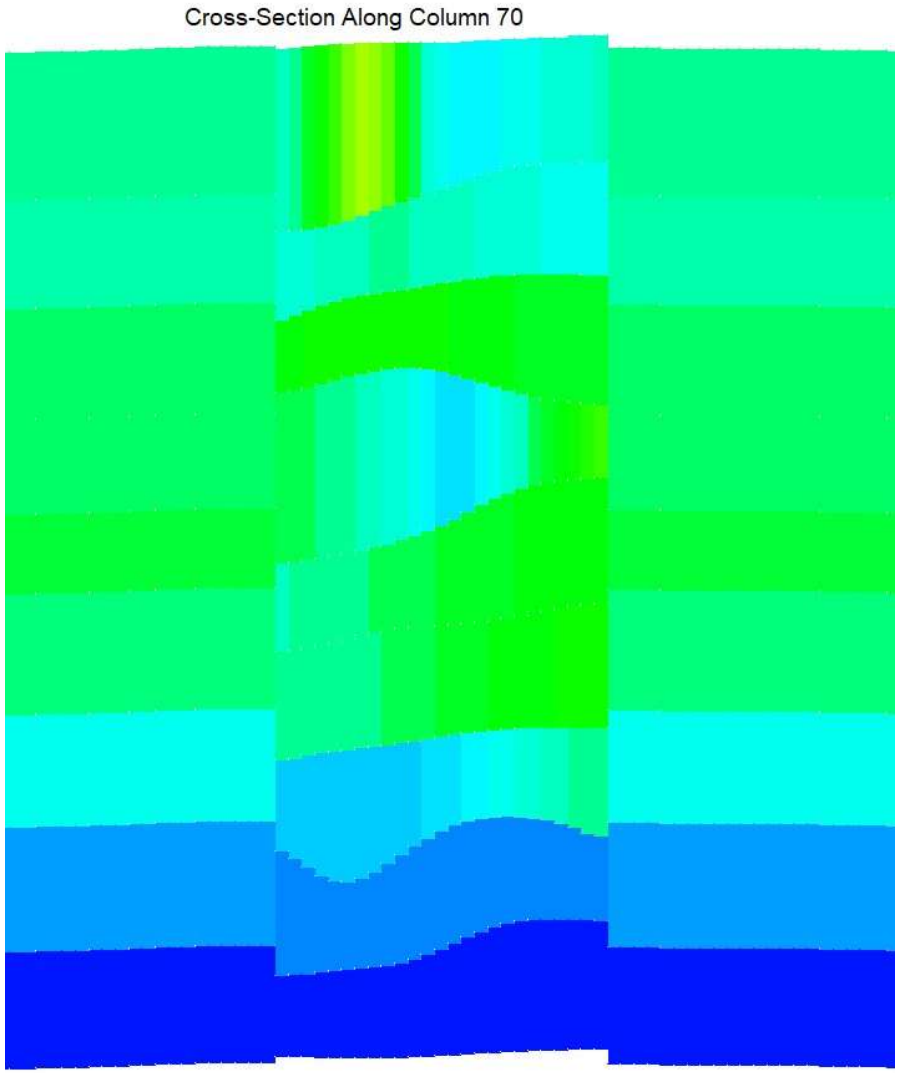
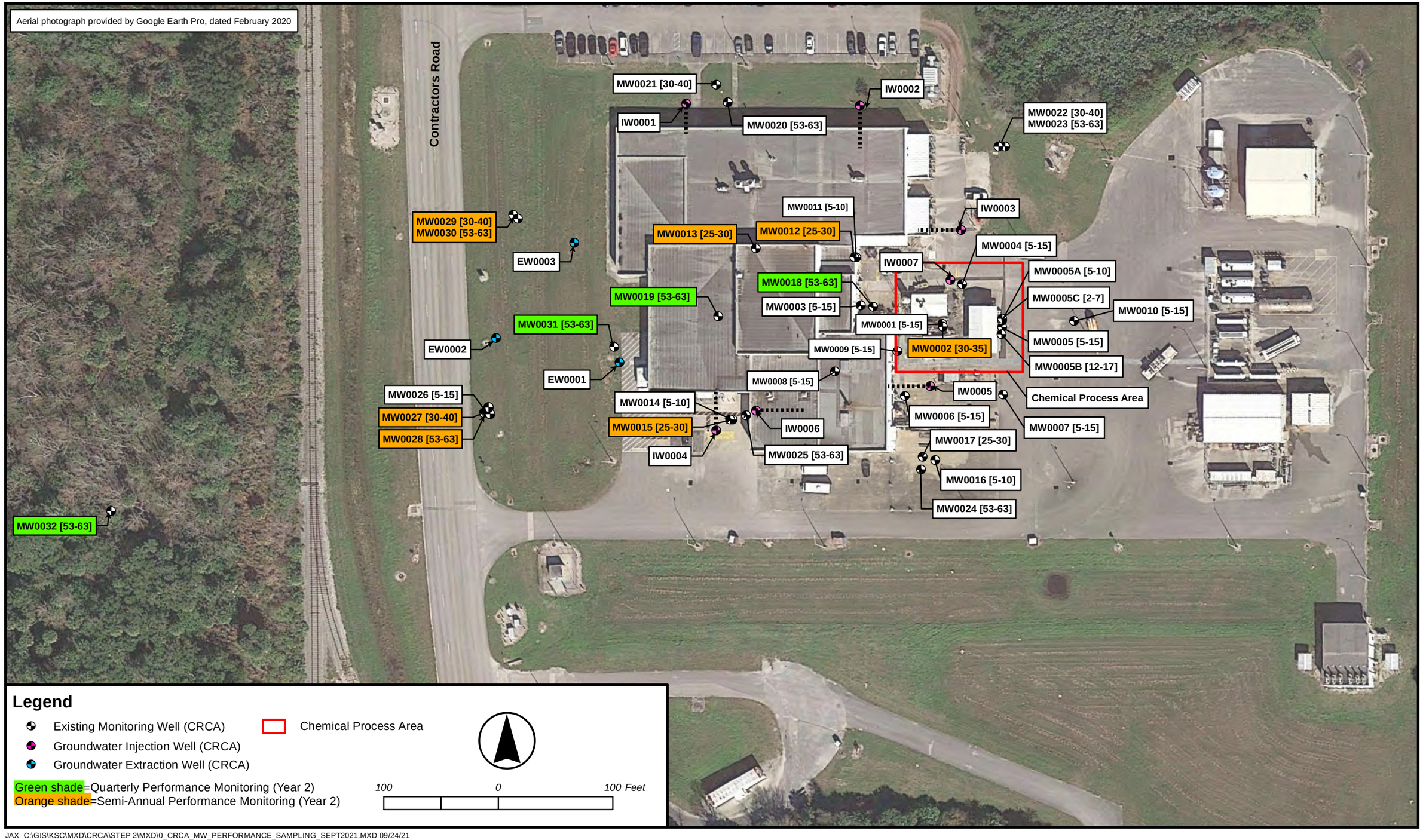


Figure A.31 – North-South Cross-Section – Hydraulic Conductivity

ATTACHMENT B
TRANSPORT MODEL CONSTRUCTION SUPPORT

FIGURE B.1 MONITORING WELL LOCATION AND PERFORMANCE SAMPLING PLAN, YEAR 2

SWMU 041, KENNEDY SPACE CENTER, FLORIDA



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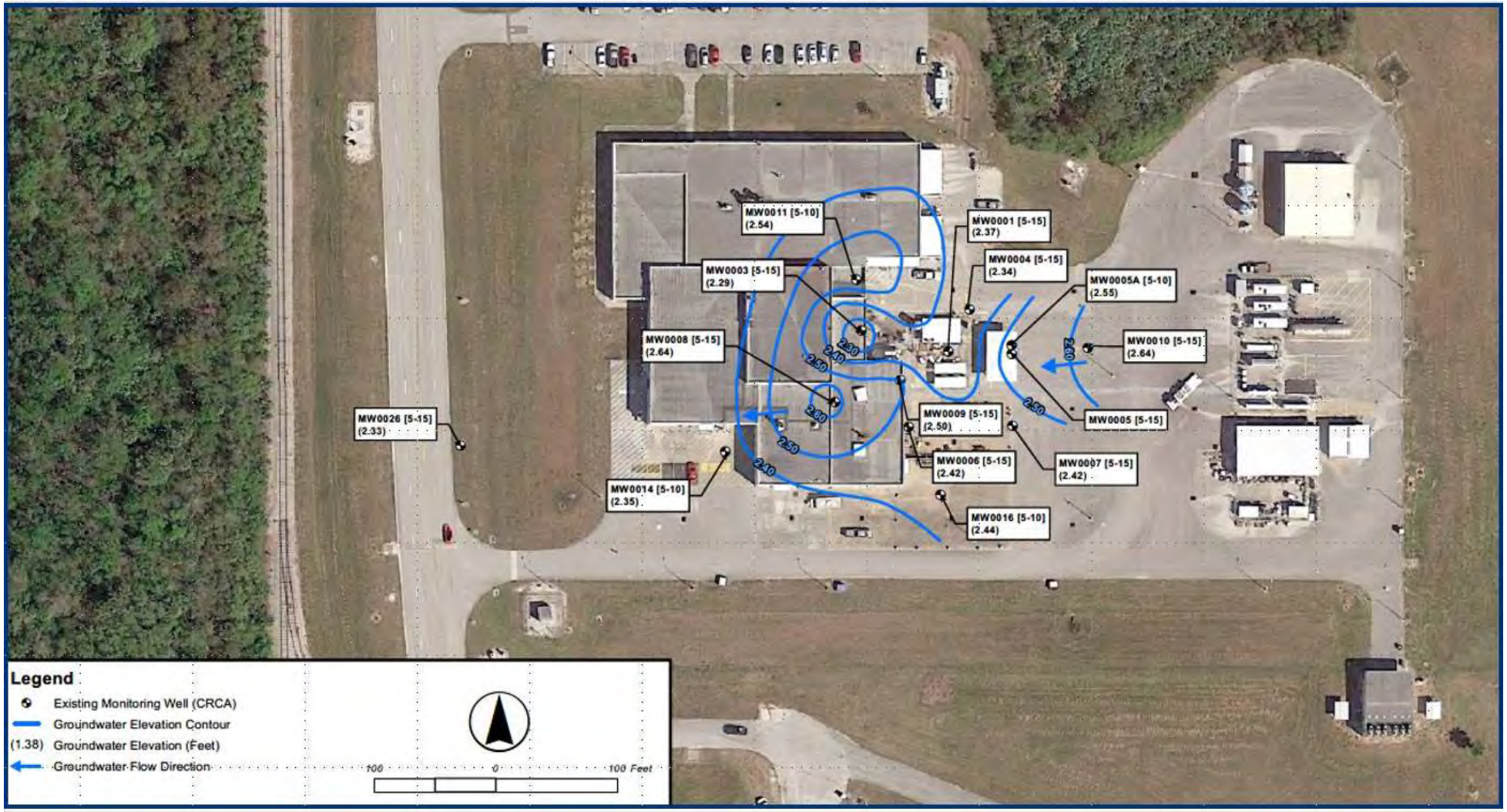


Figure B.1 – June 2019 Potentiometric Map – Shallow Zone

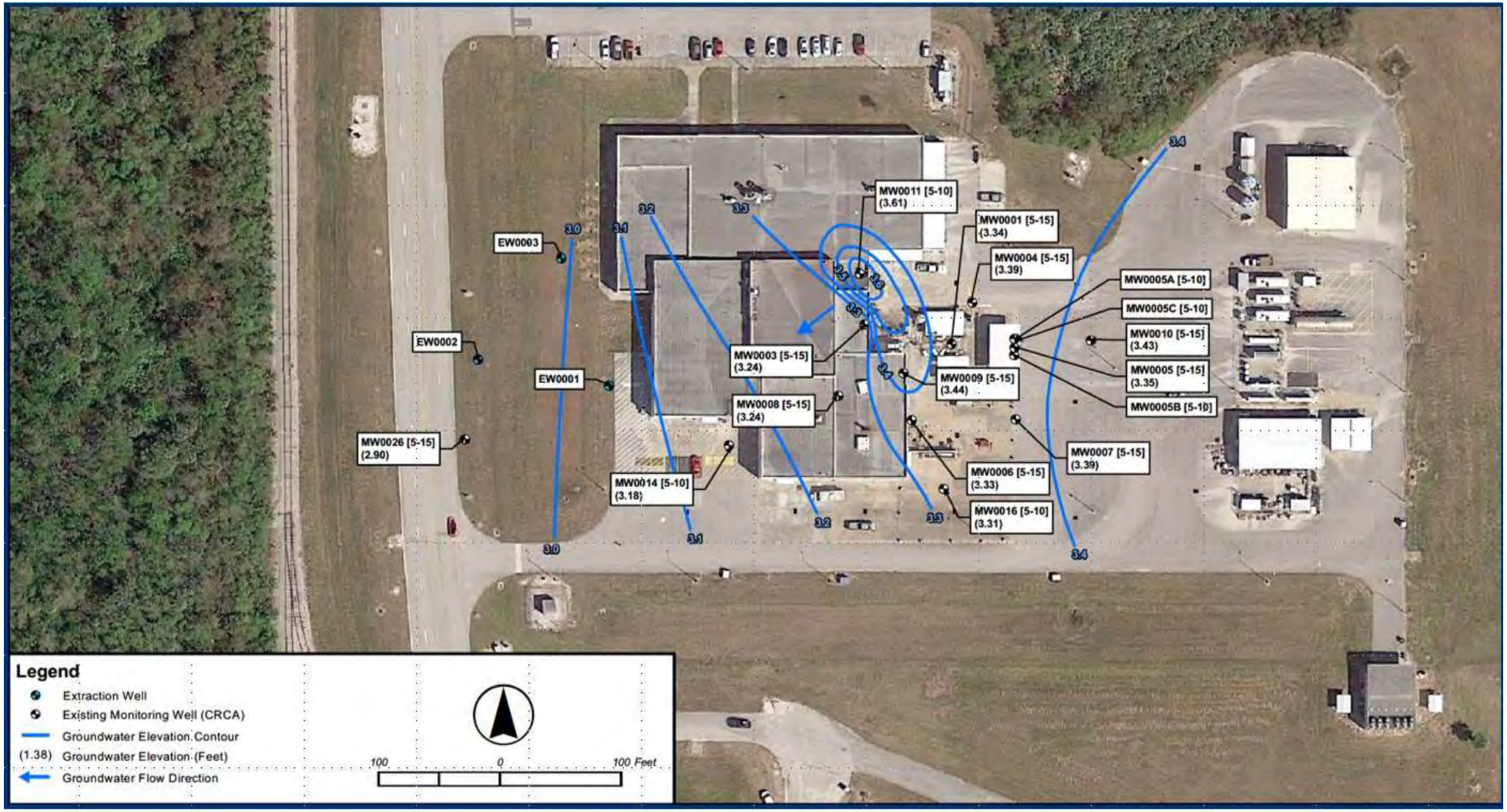


Figure B.2 – October 2019 Potentiometric Map – Shallow Zone

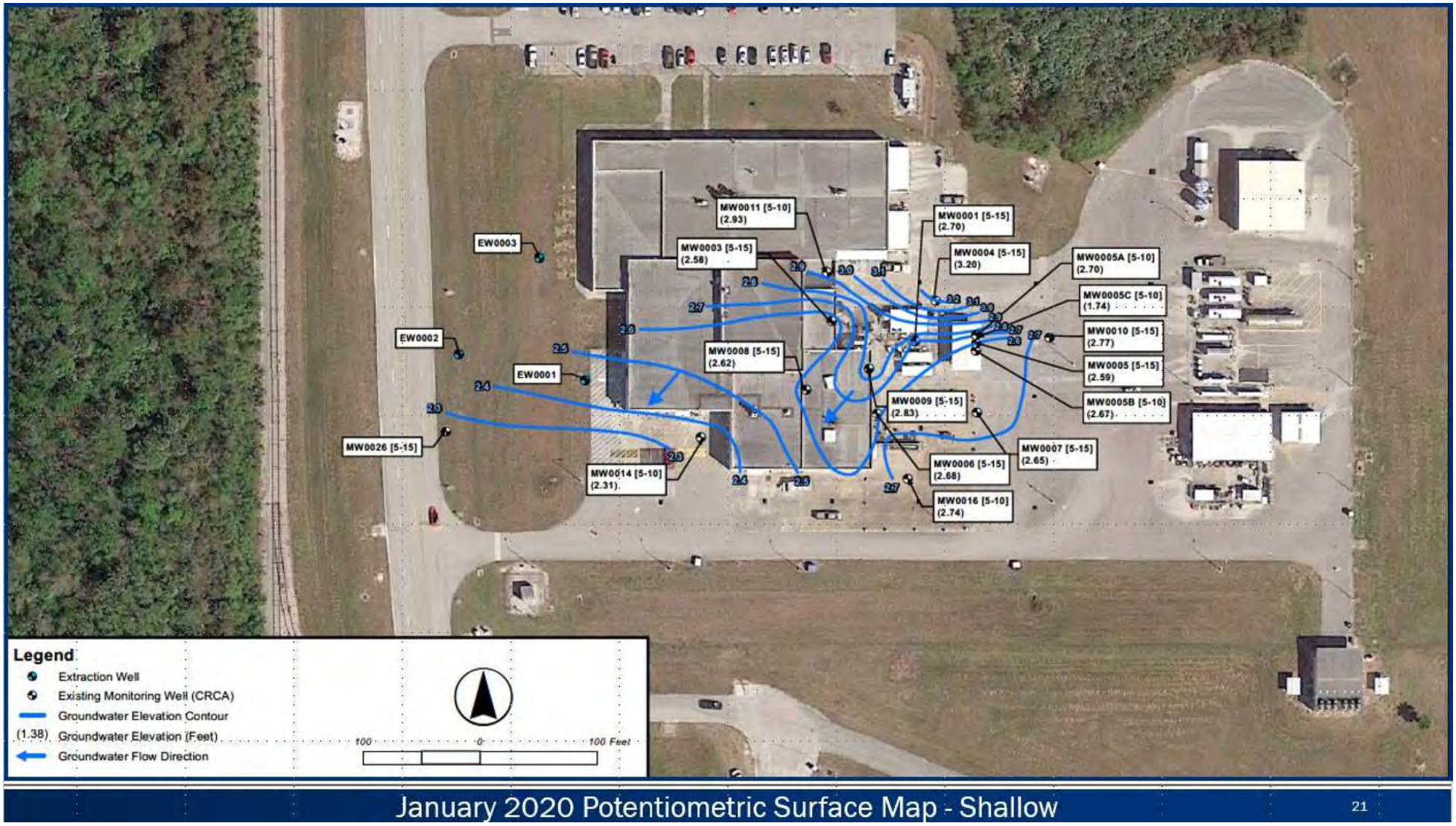


Figure B.3 – January 2020 Potentiometric Map – Shallow Zone

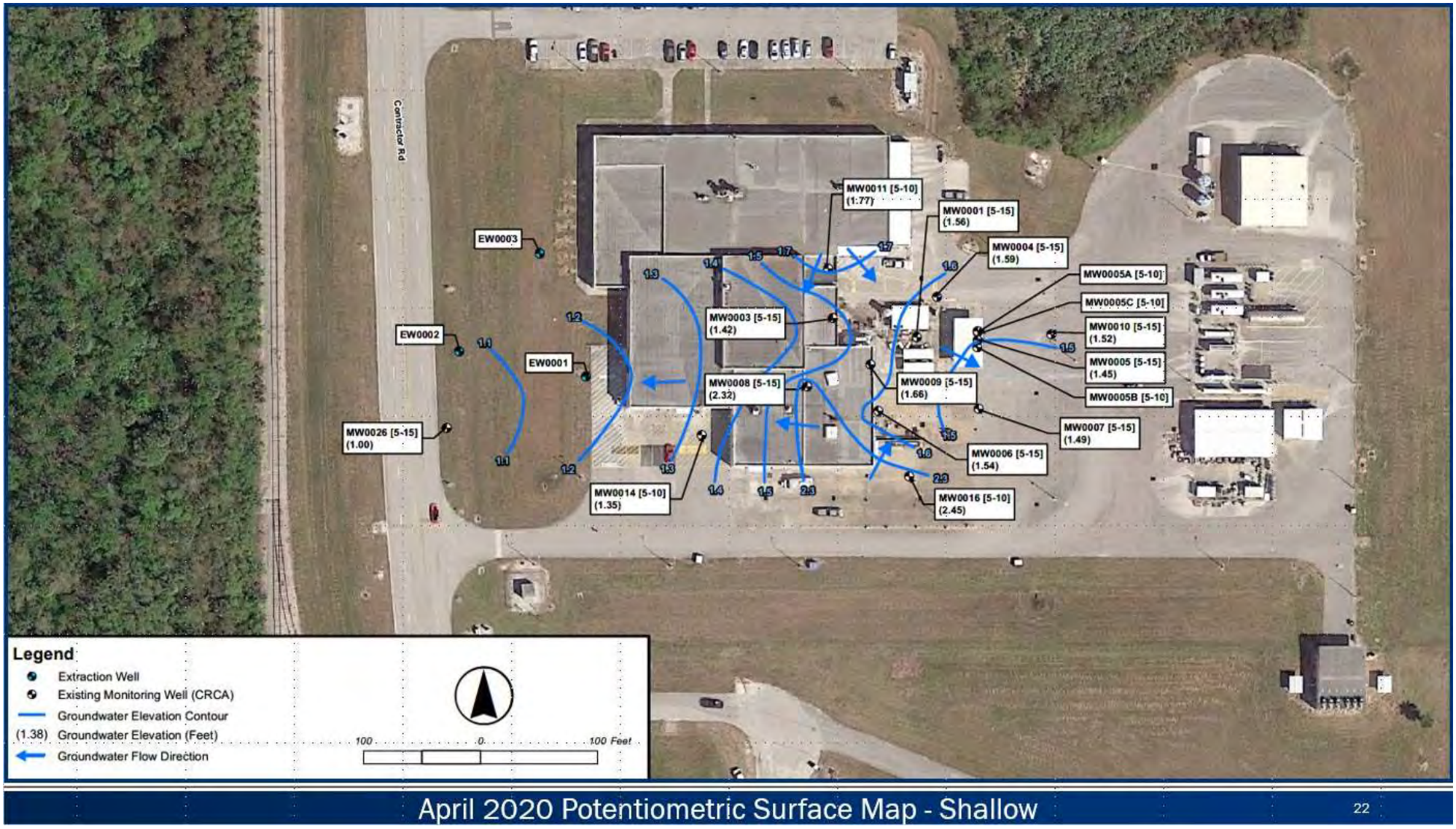


Figure B.4 – April 2020 Potentiometric Map – Shallow Zone

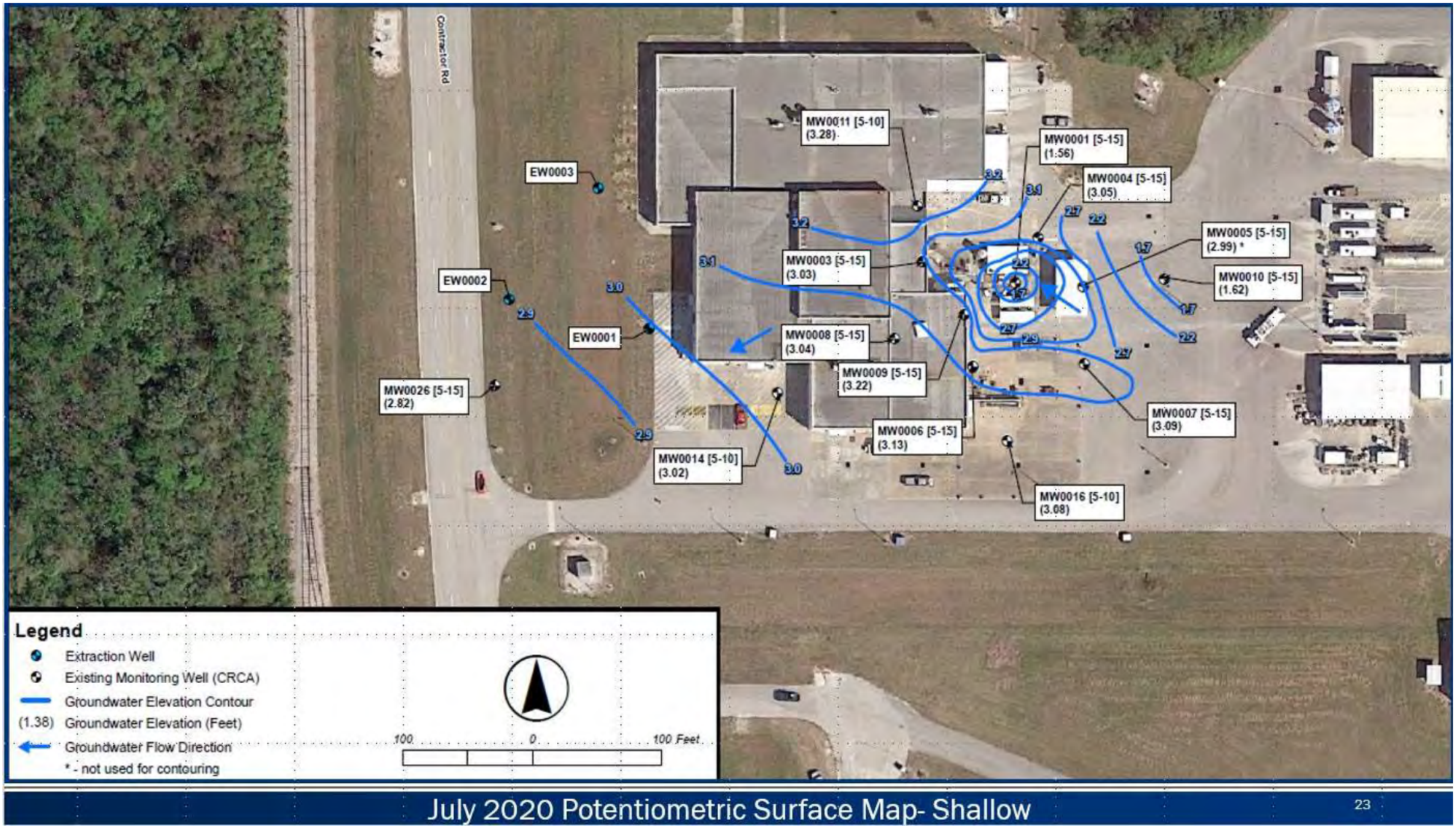


Figure B.5 – July 2020 Potentiometric Map – Shallow Zone

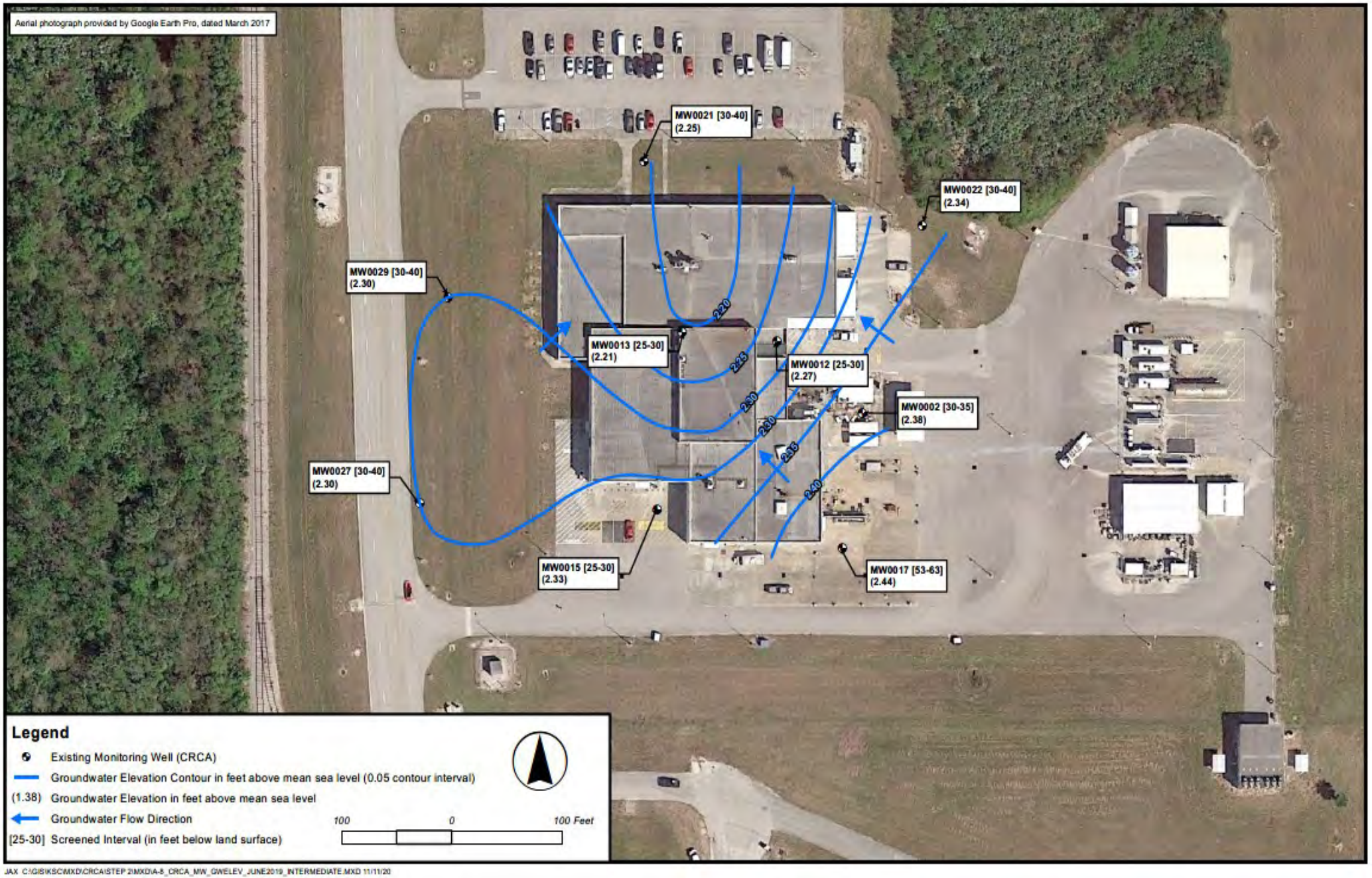


Figure B.6 – June 2019 Potentiometric Map – Intermediate Zone

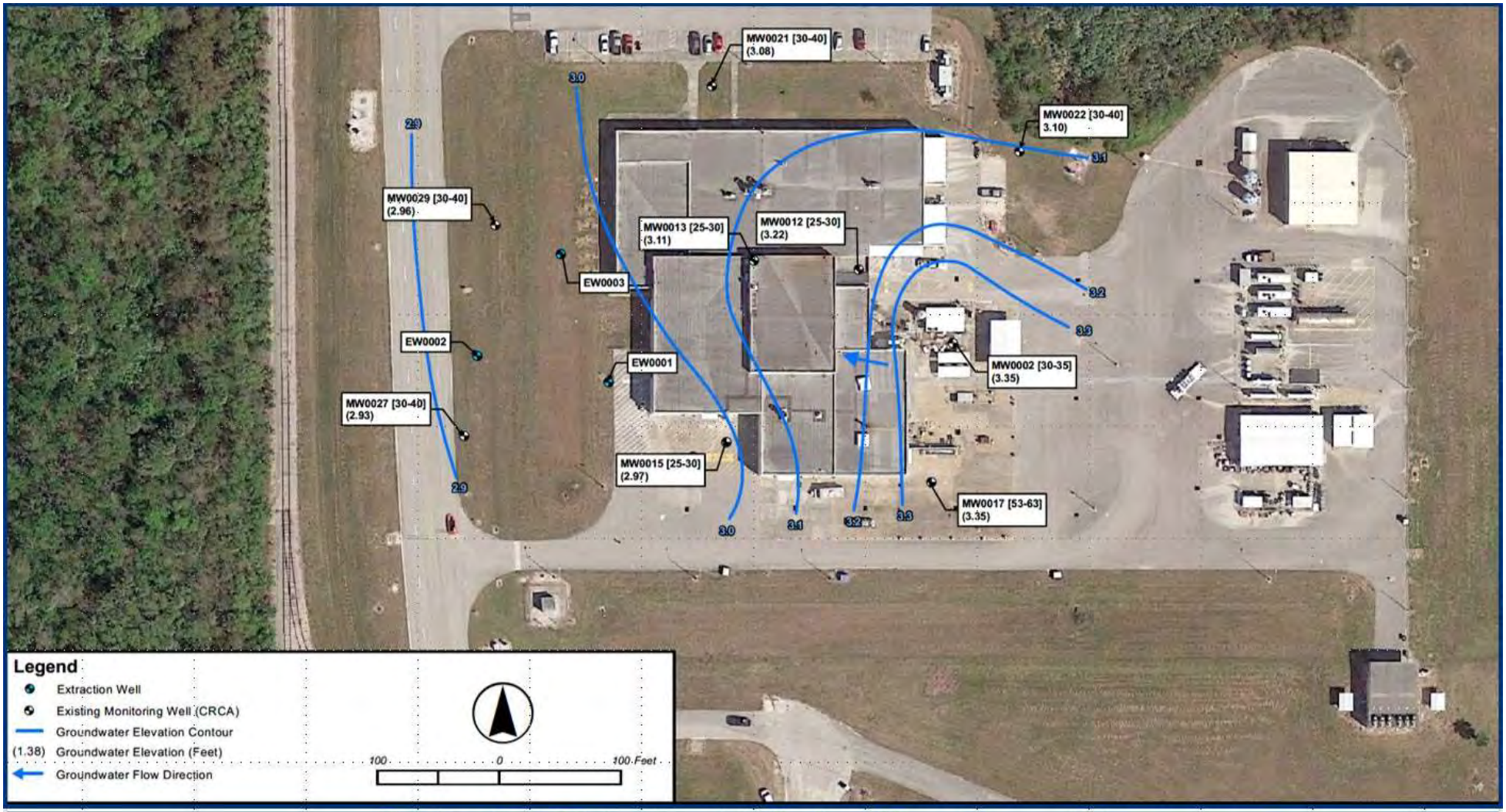


Figure B.7 – October 2019 Potentiometric Map – Intermediate Zone

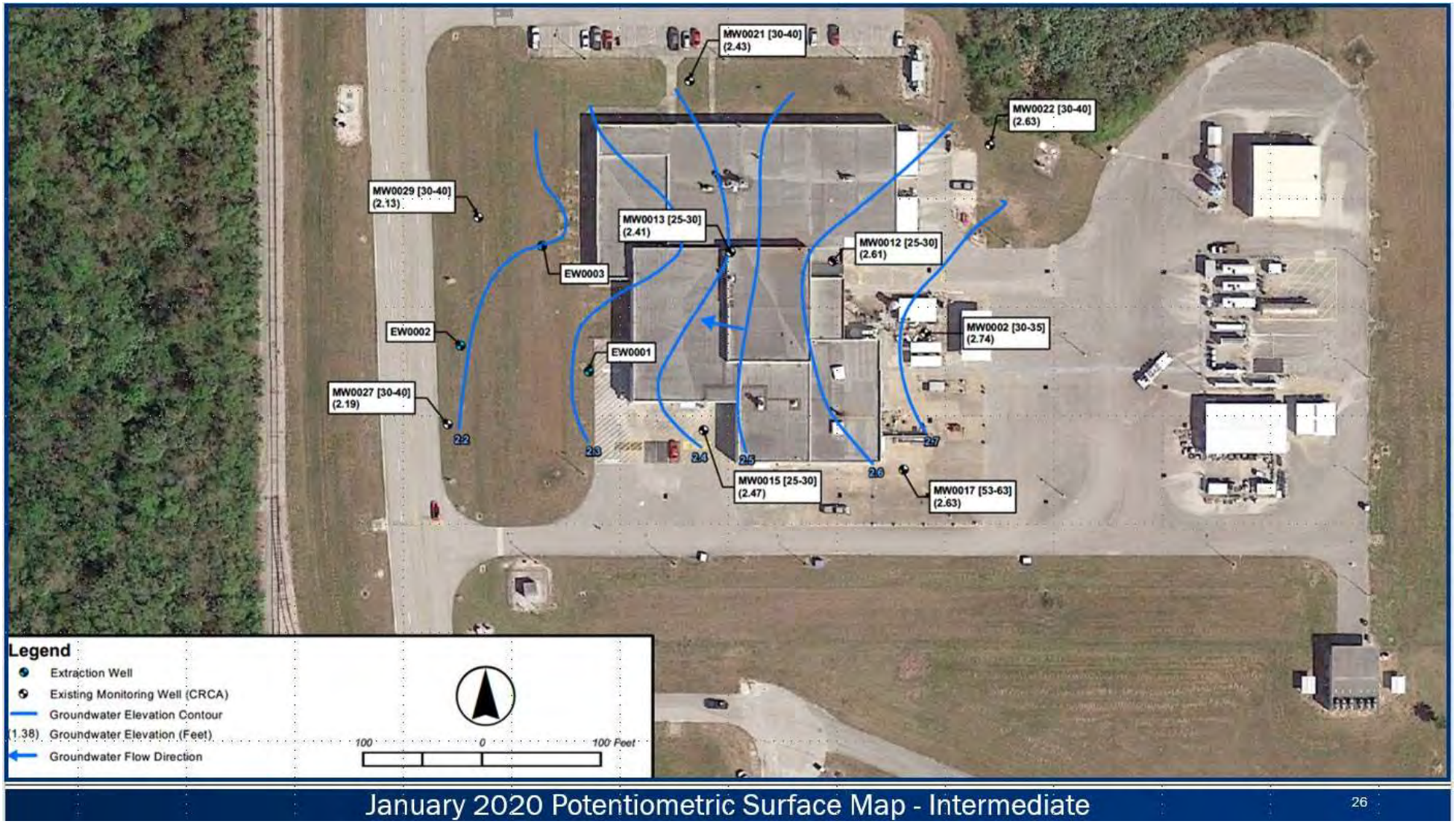


Figure B.8 – January 2020 Potentiometric Map – Intermediate Zone

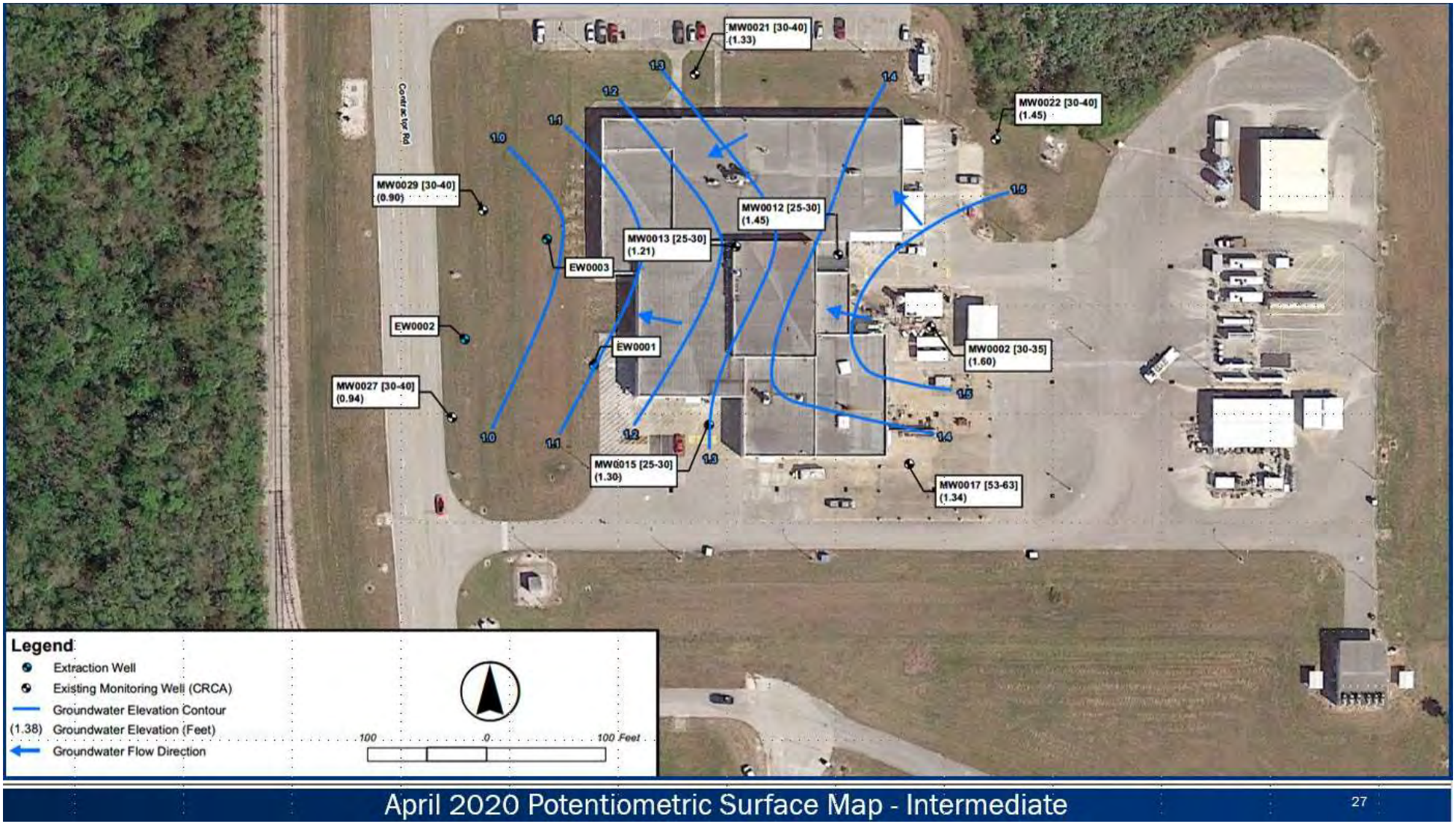


Figure B.9 – April 2020 Potentiometric Map – Intermediate Zone

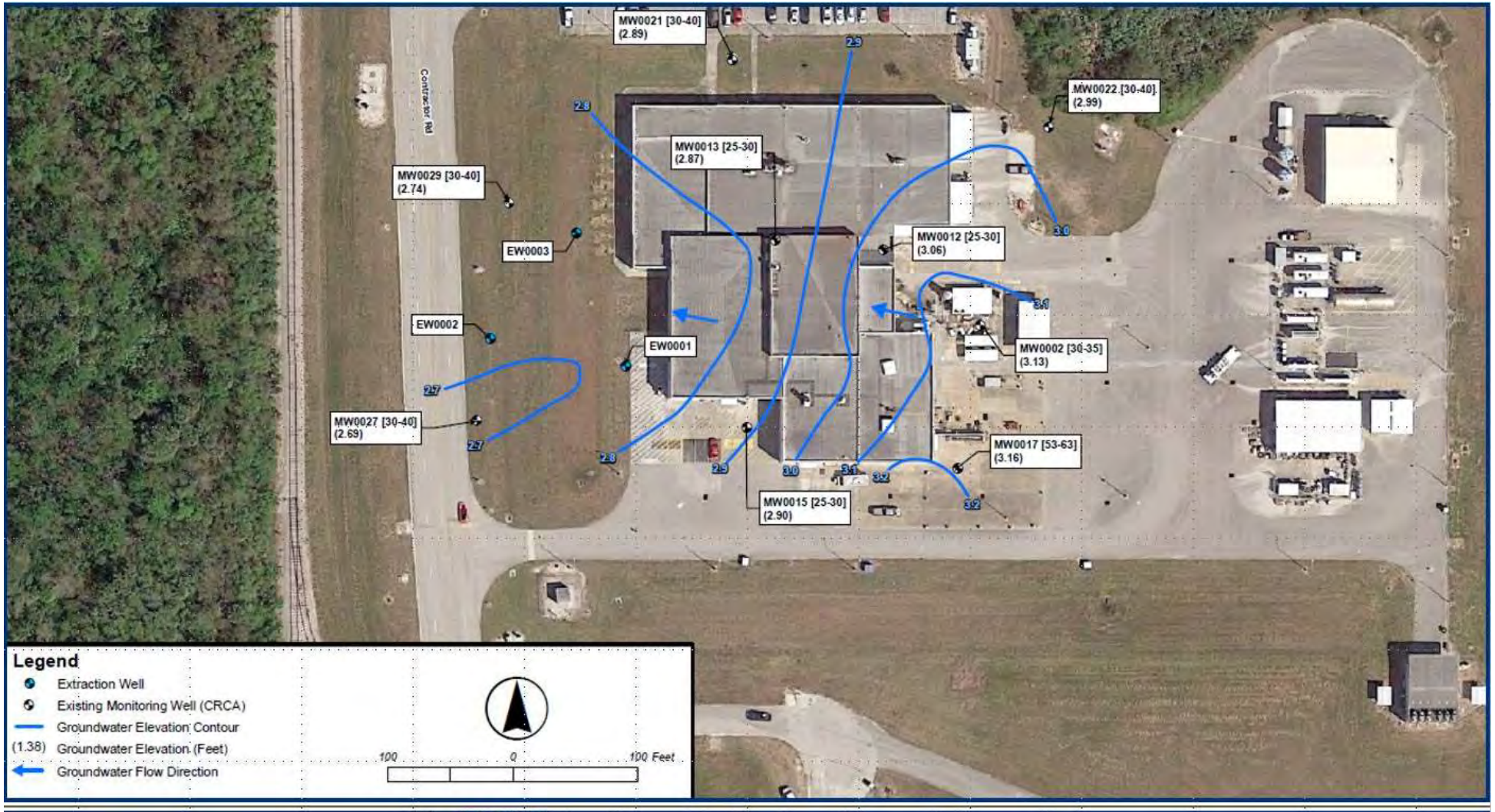


Figure B.10 – July 2020 Potentiometric Map – Intermediate Zone

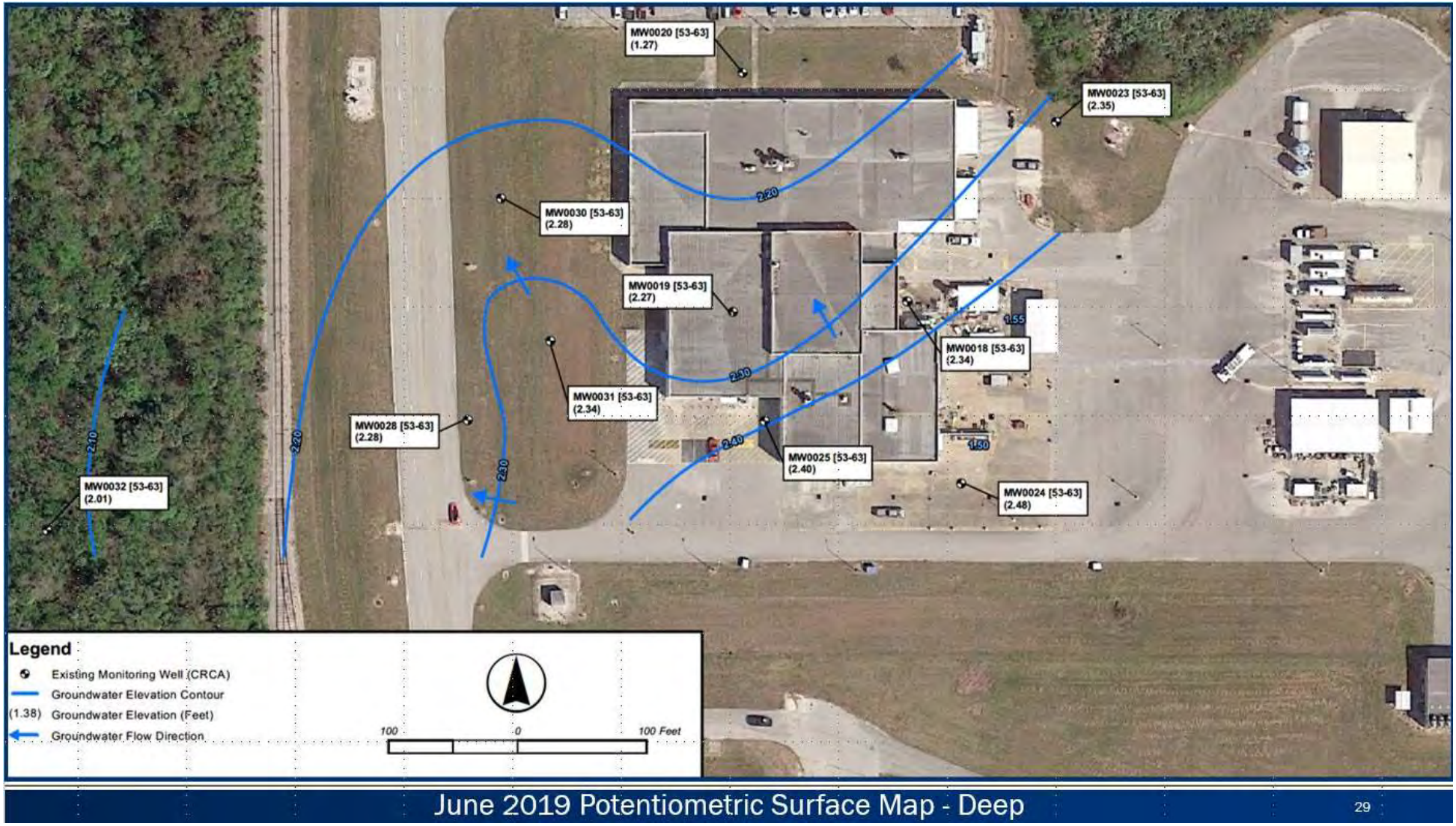


Figure B.11 – June 2019 Potentiometric Map – Deep Zone

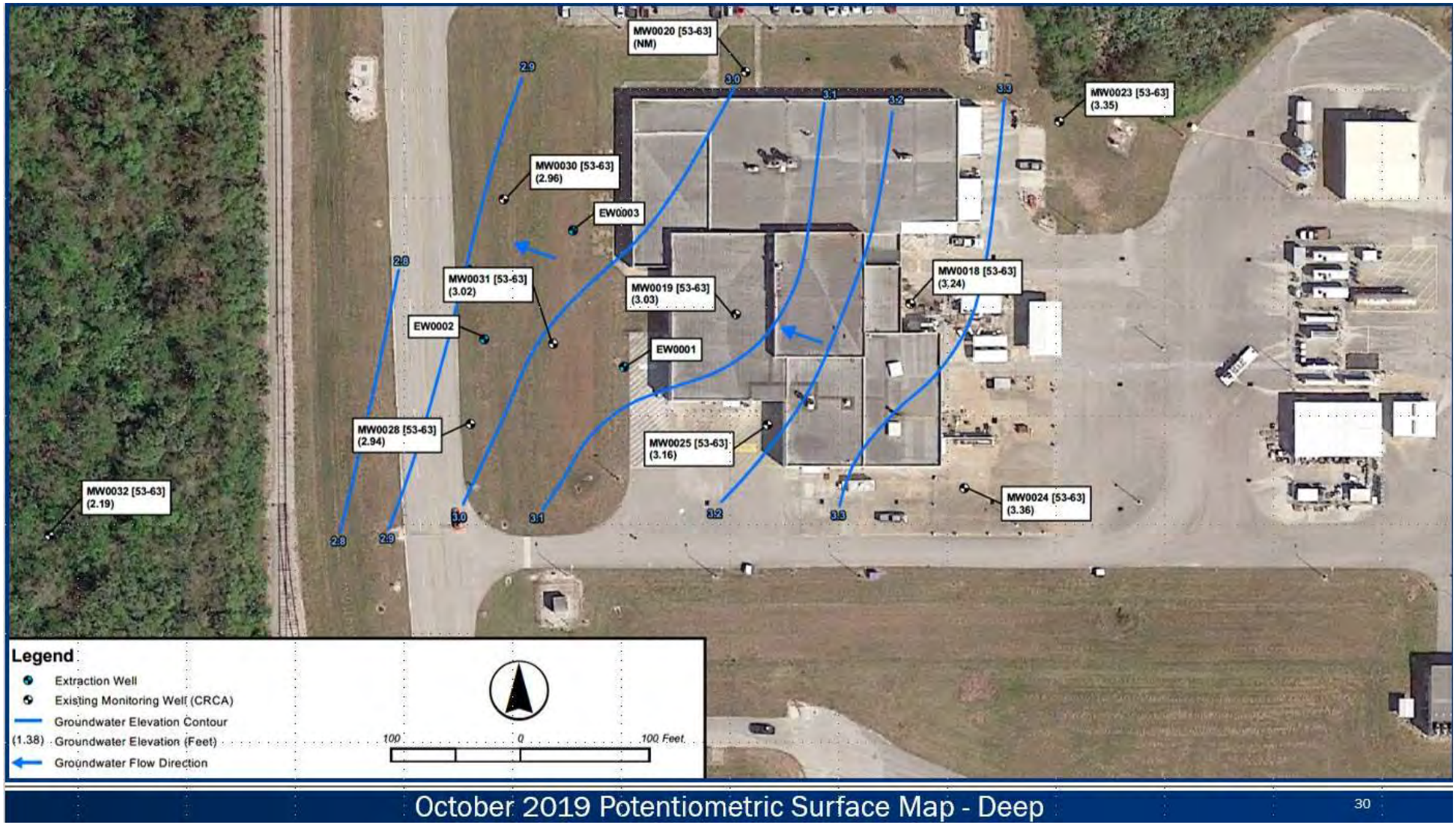


Figure B.12 – October 2019 Potentiometric Map – Deep Zone

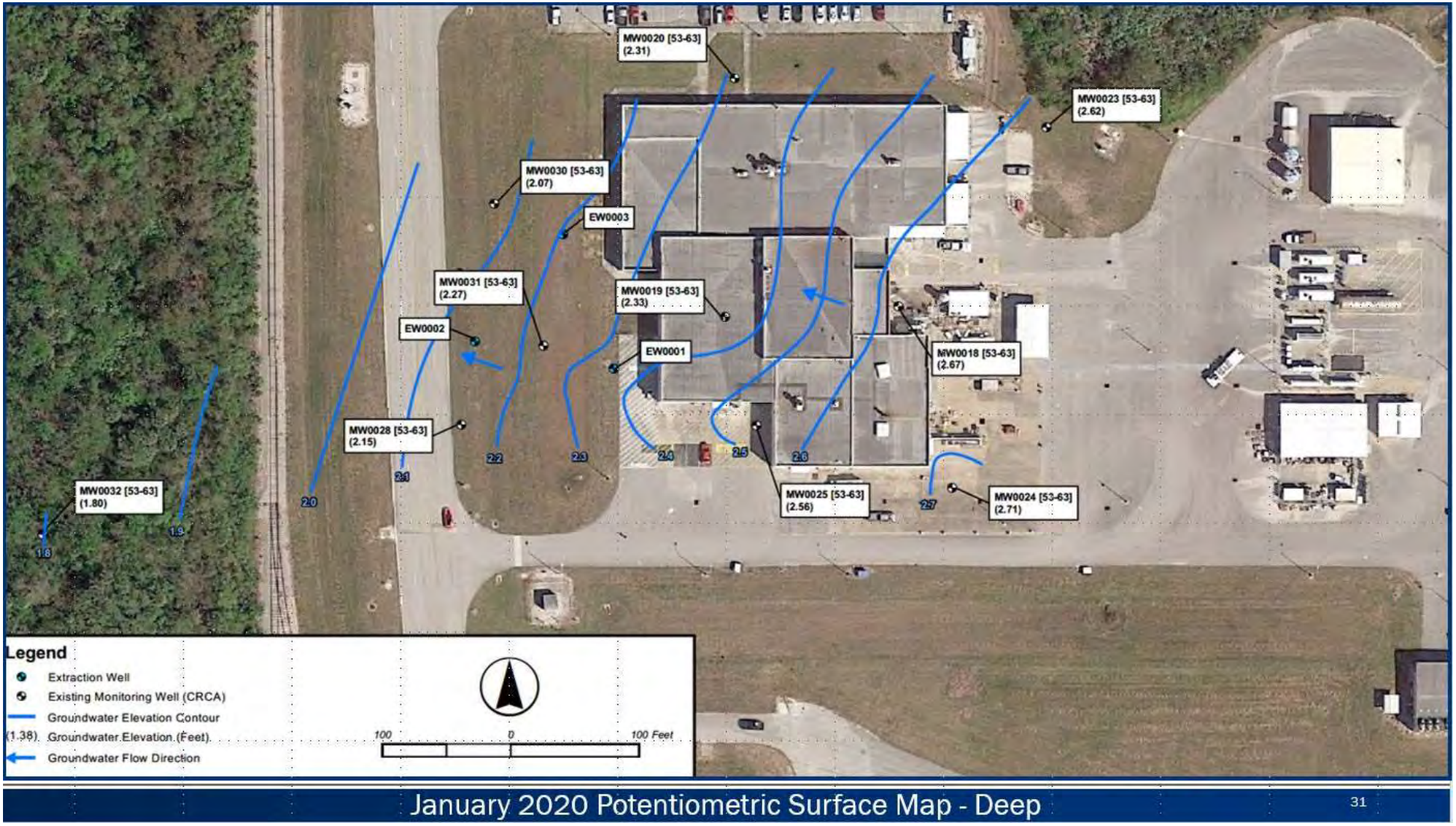


Figure B.13 – January 2020 Potentiometric Map – Deep Zone

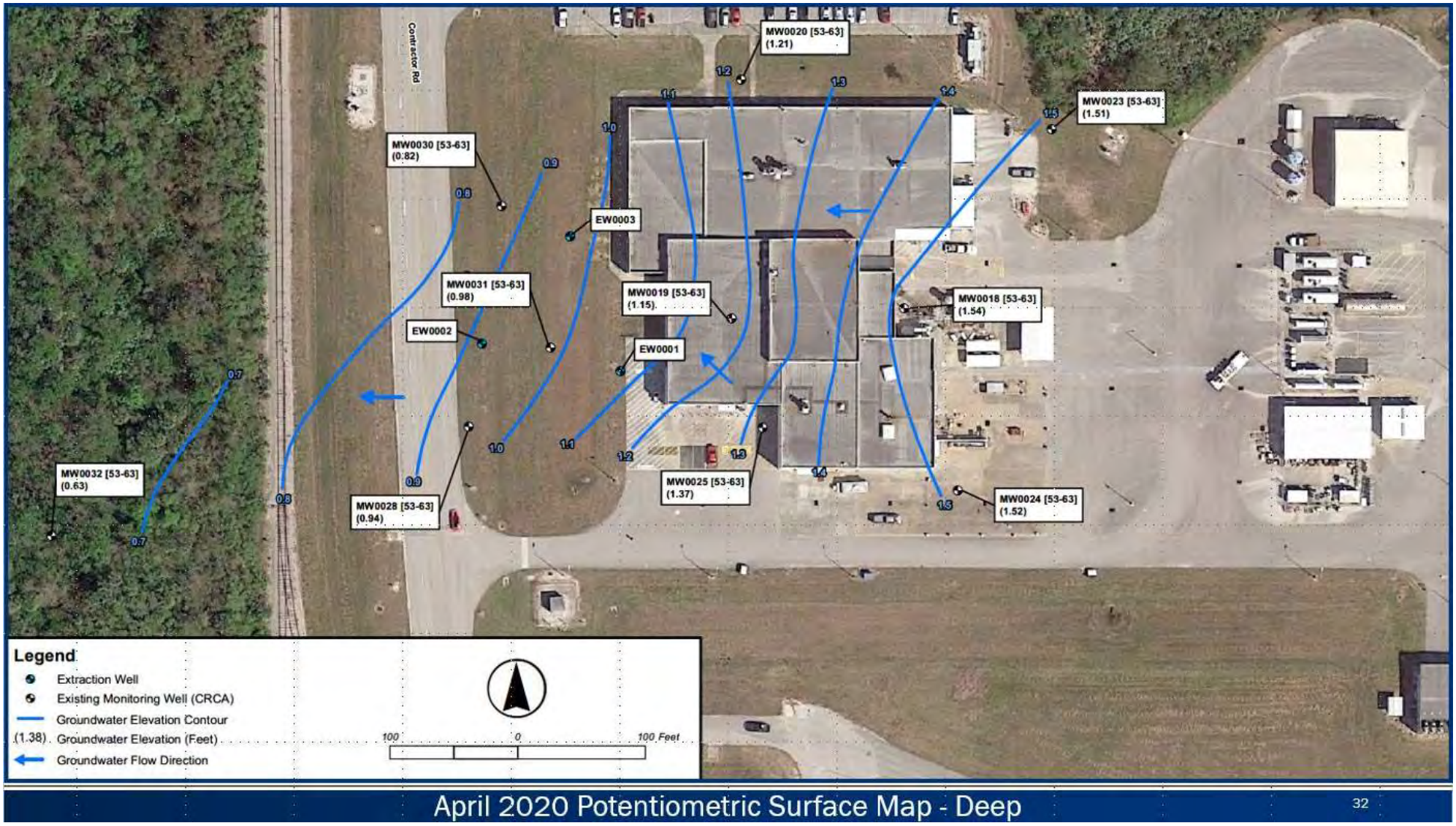


Figure B.14 – April 2020 Potentiometric Map – Deep Zone

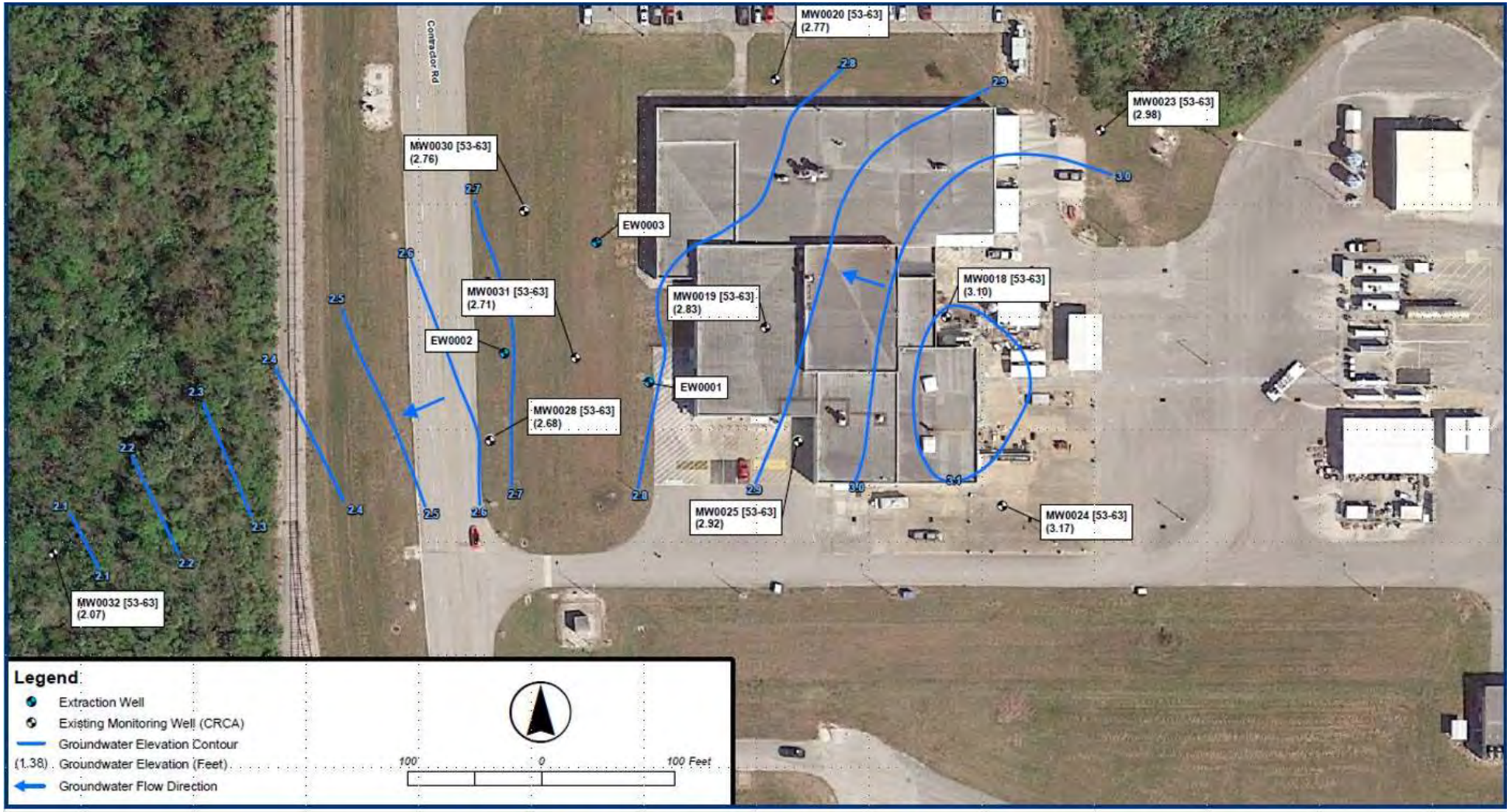


Figure B.15 – July 2020 Potentiometric Map – Deep Zone

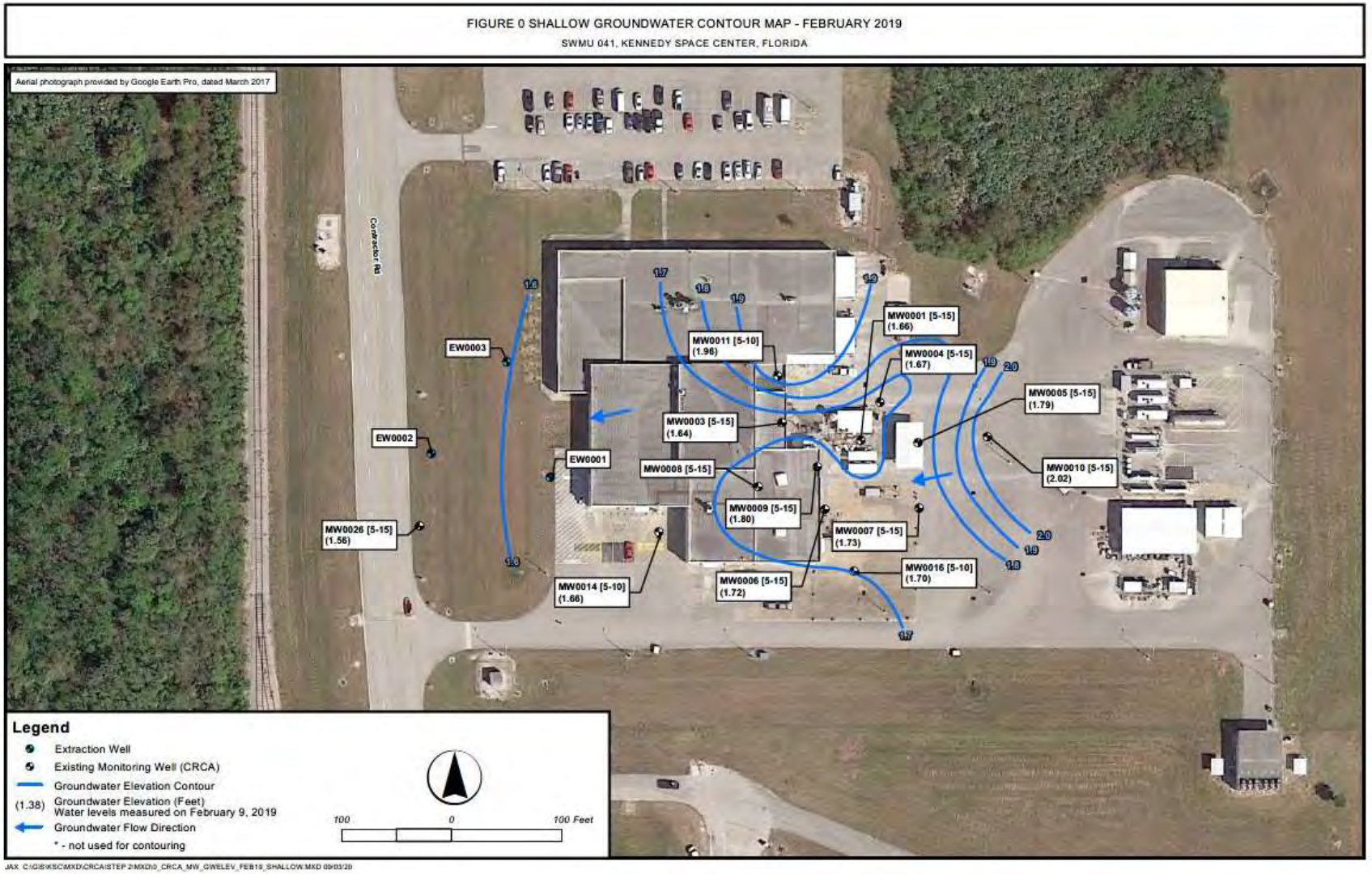


Figure B.16 – February 2019 Potentiometric Map – Shallow Zone

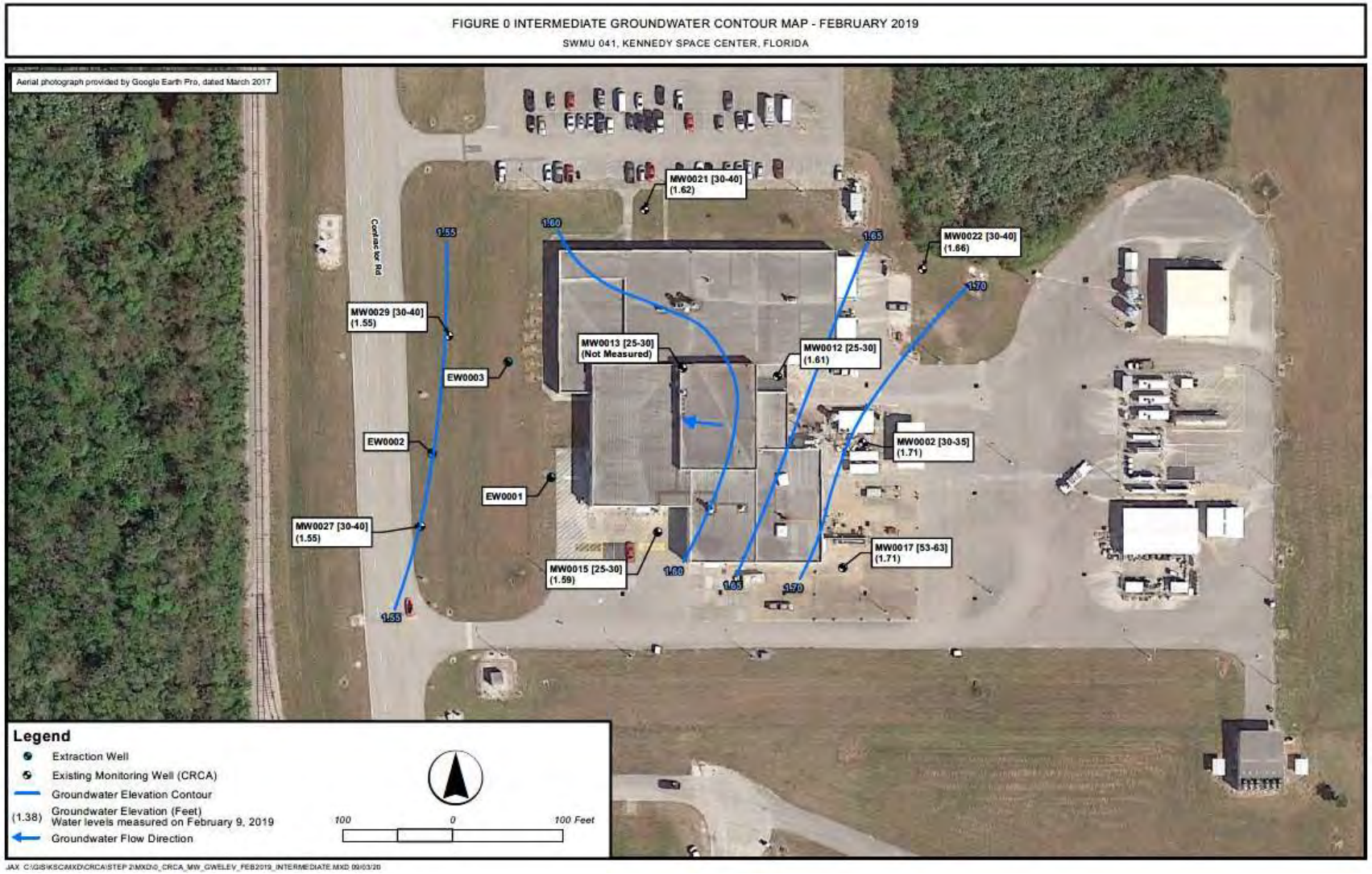


Figure B.17 – February 2019 Potentiometric Map – Intermediate Zone

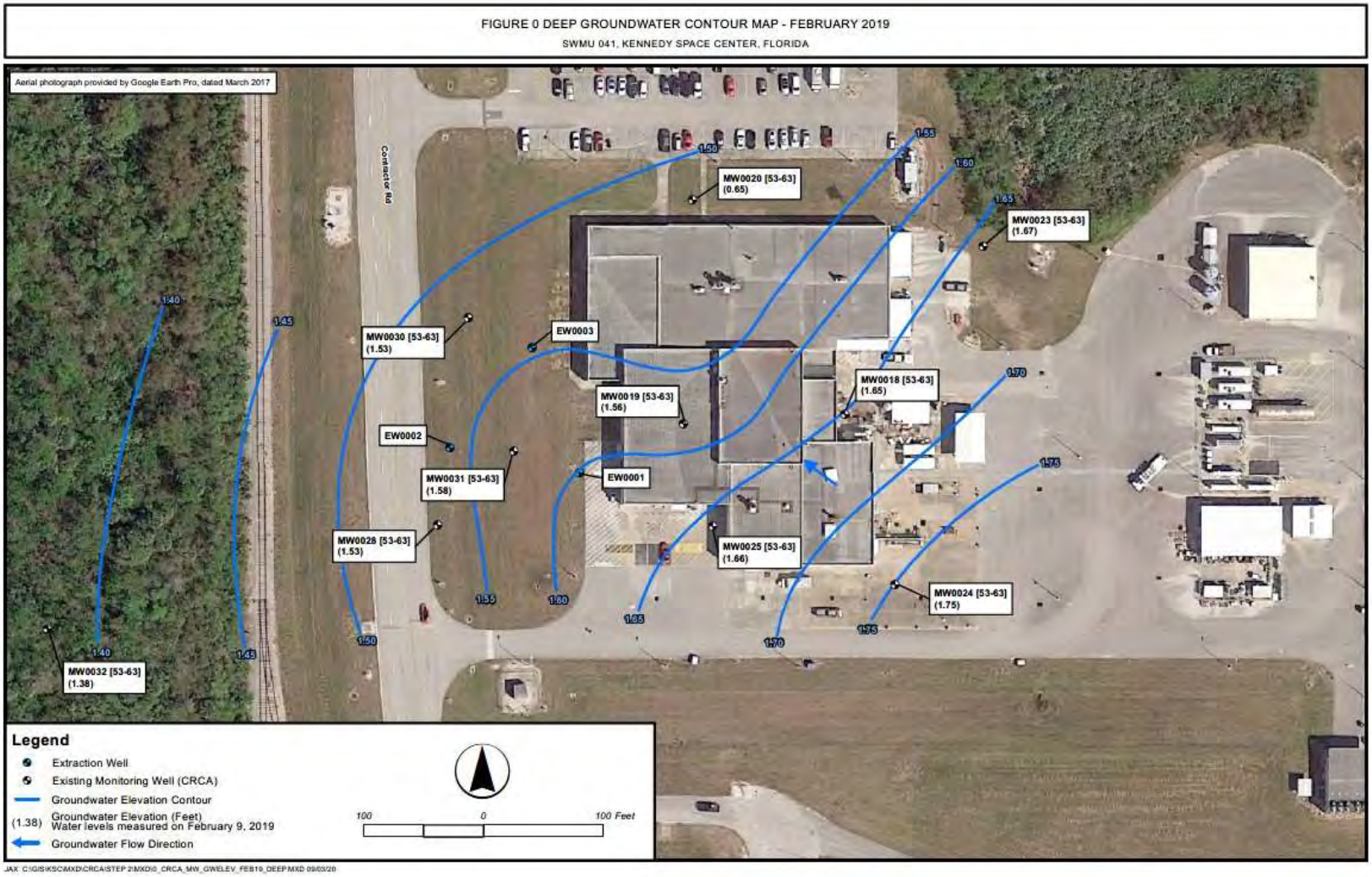


Figure B.18 – February 2019 Potentiometric Map – Deep Zone

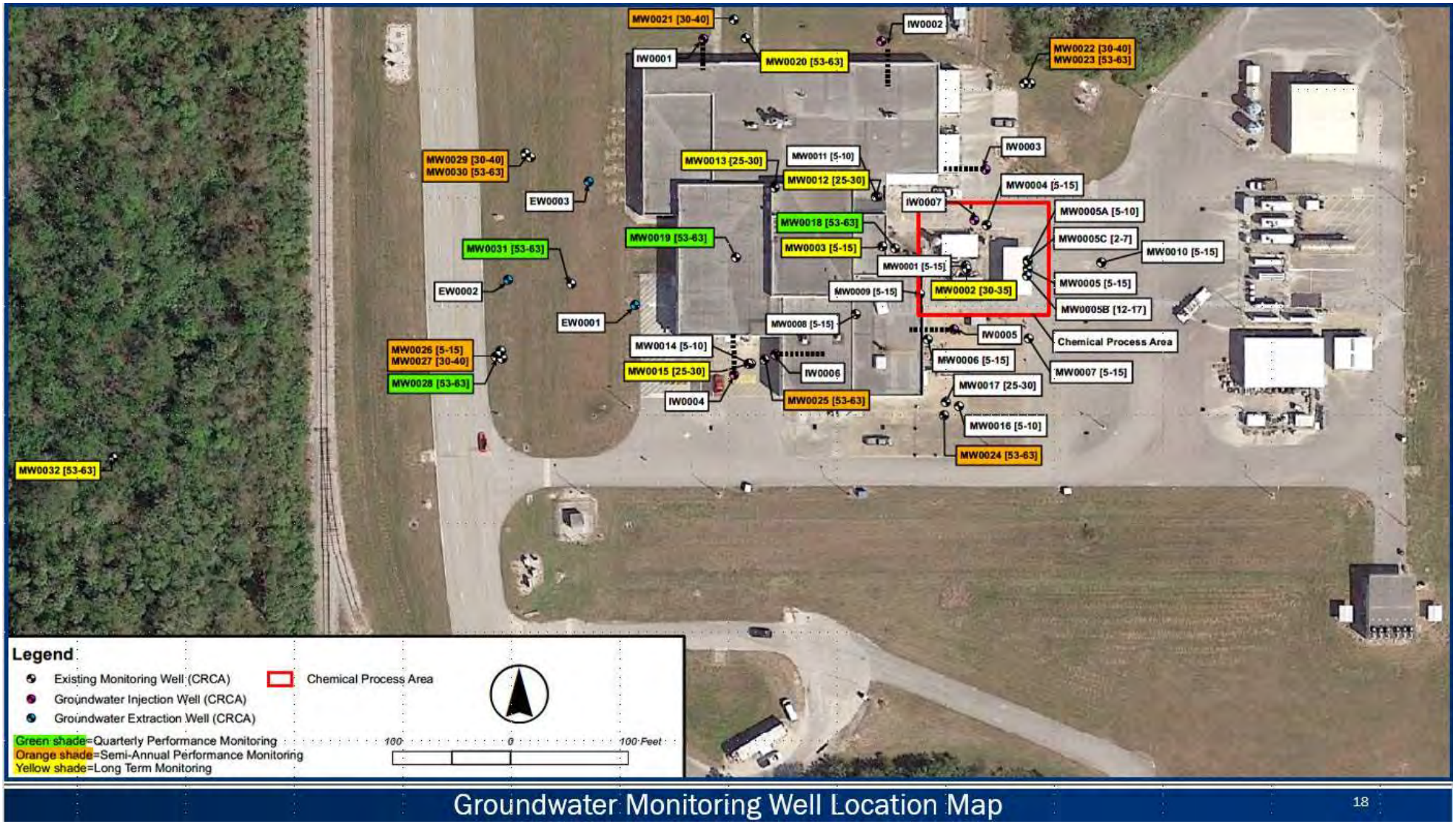


Figure B.19 – Monitoring Wells at CRCA

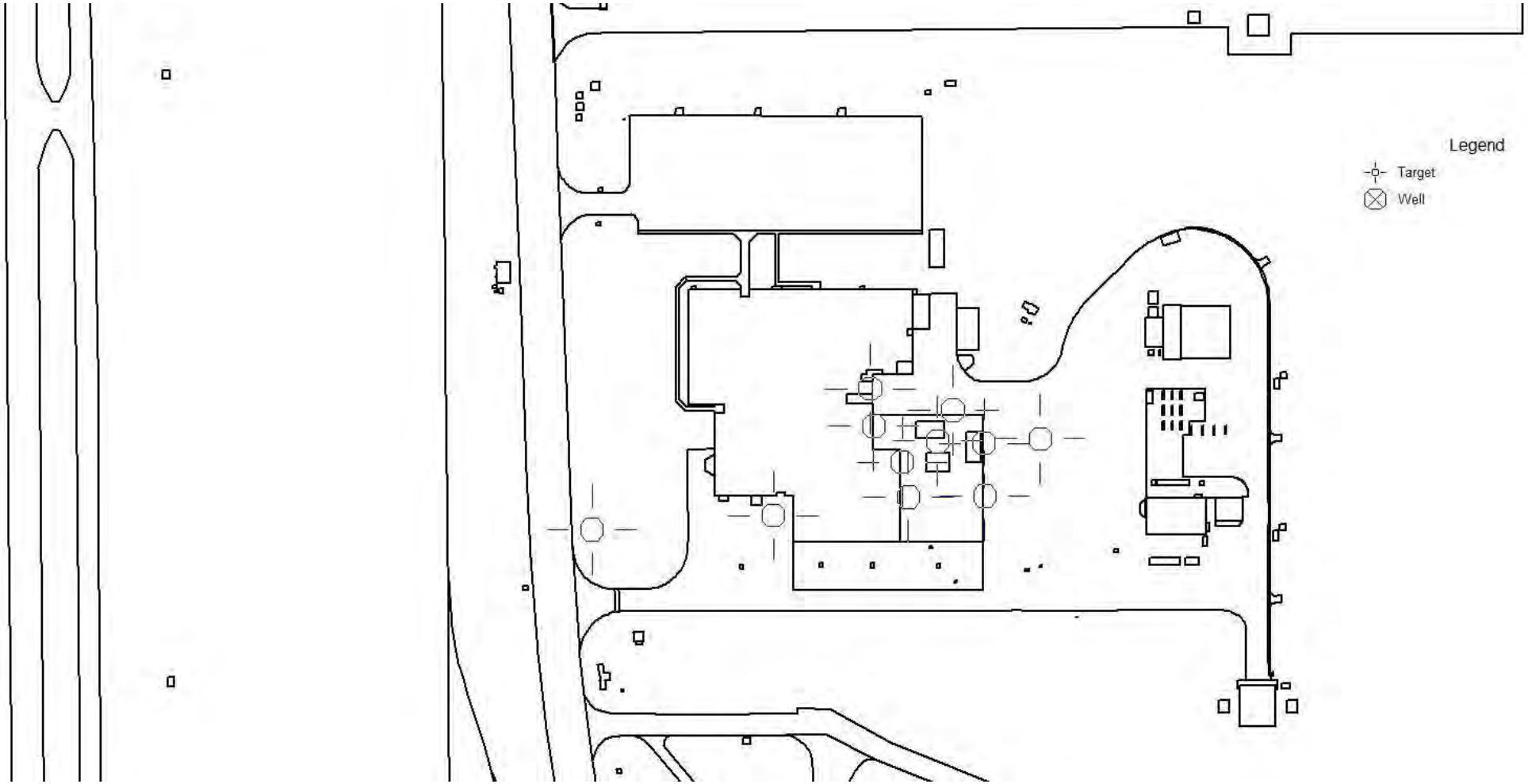


Figure B.20 – Monitoring Wells and Targets – Layer 1

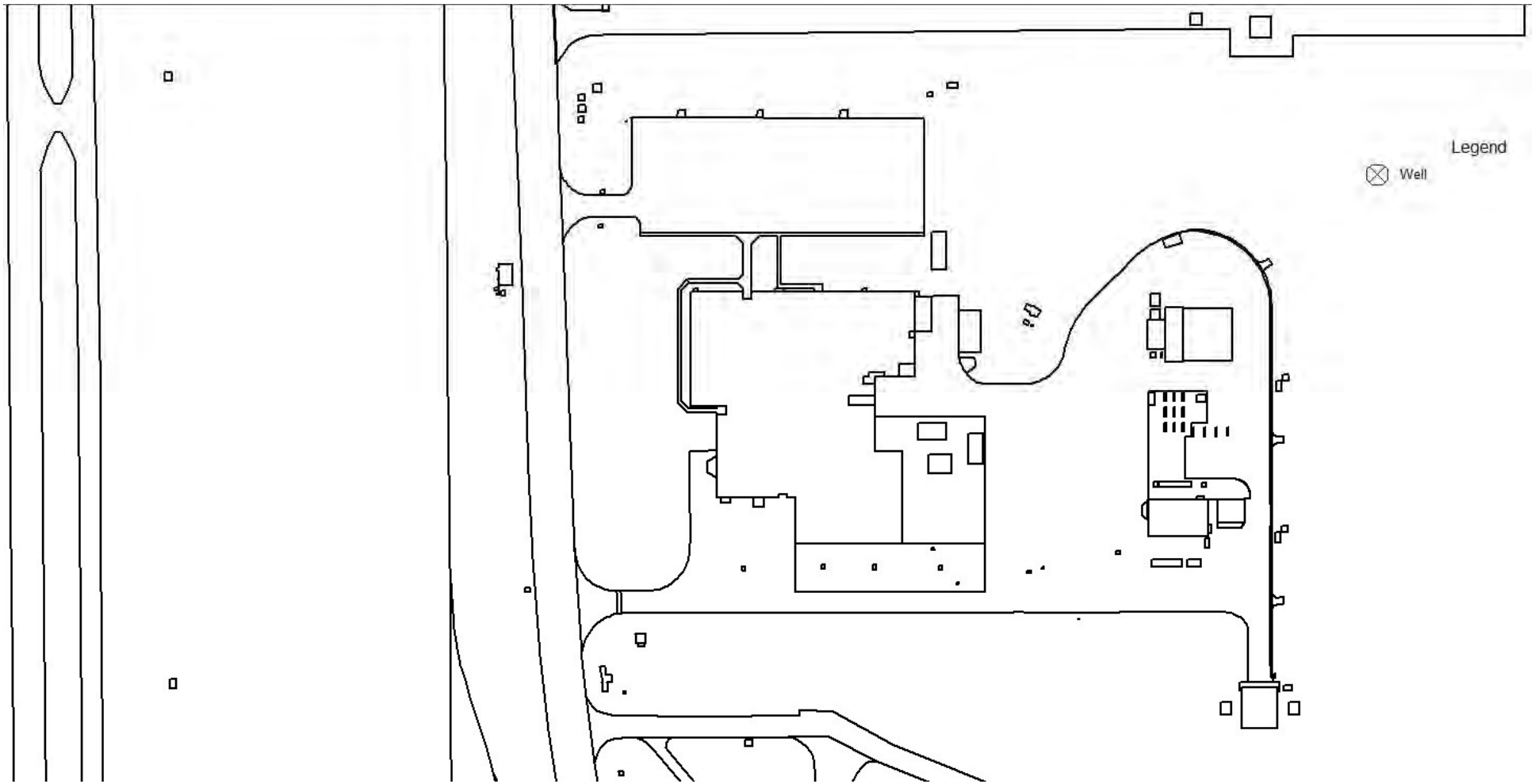


Figure B.21 – Monitoring Wells and Targets – Layer 2

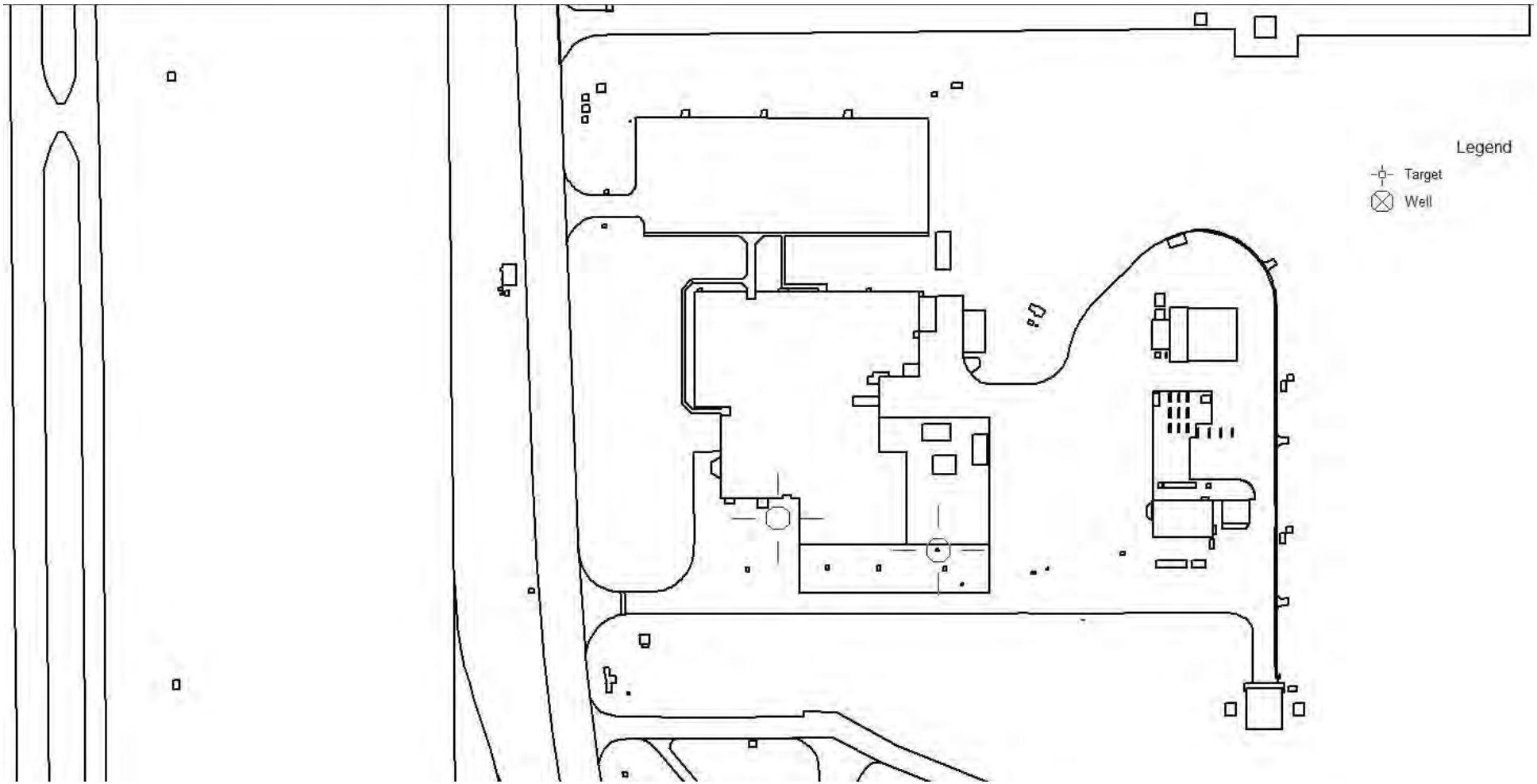


Figure B.22 – Monitoring Wells and Targets – Layer 3

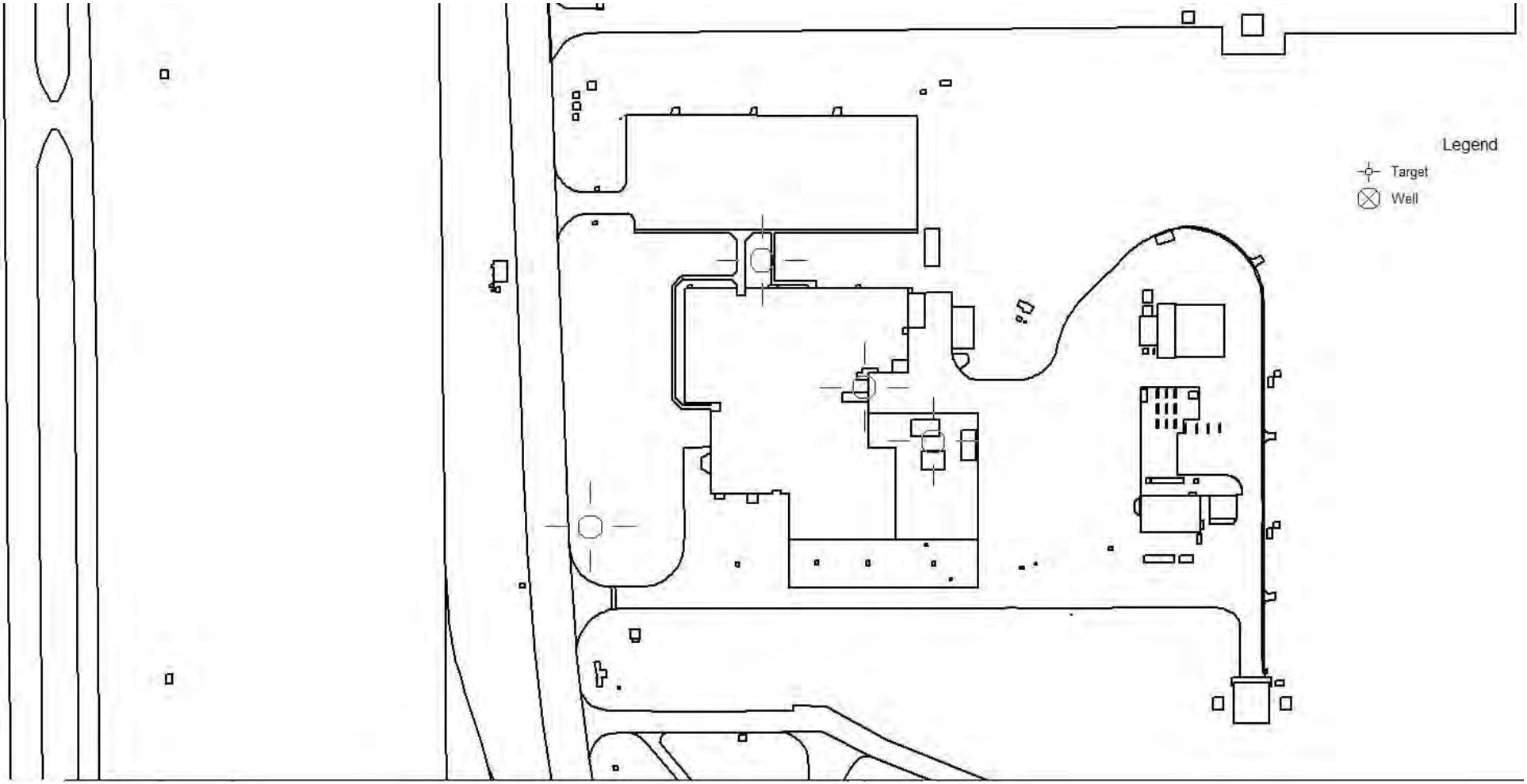


Figure B.23 – Monitoring Wells and Targets – Layer 4

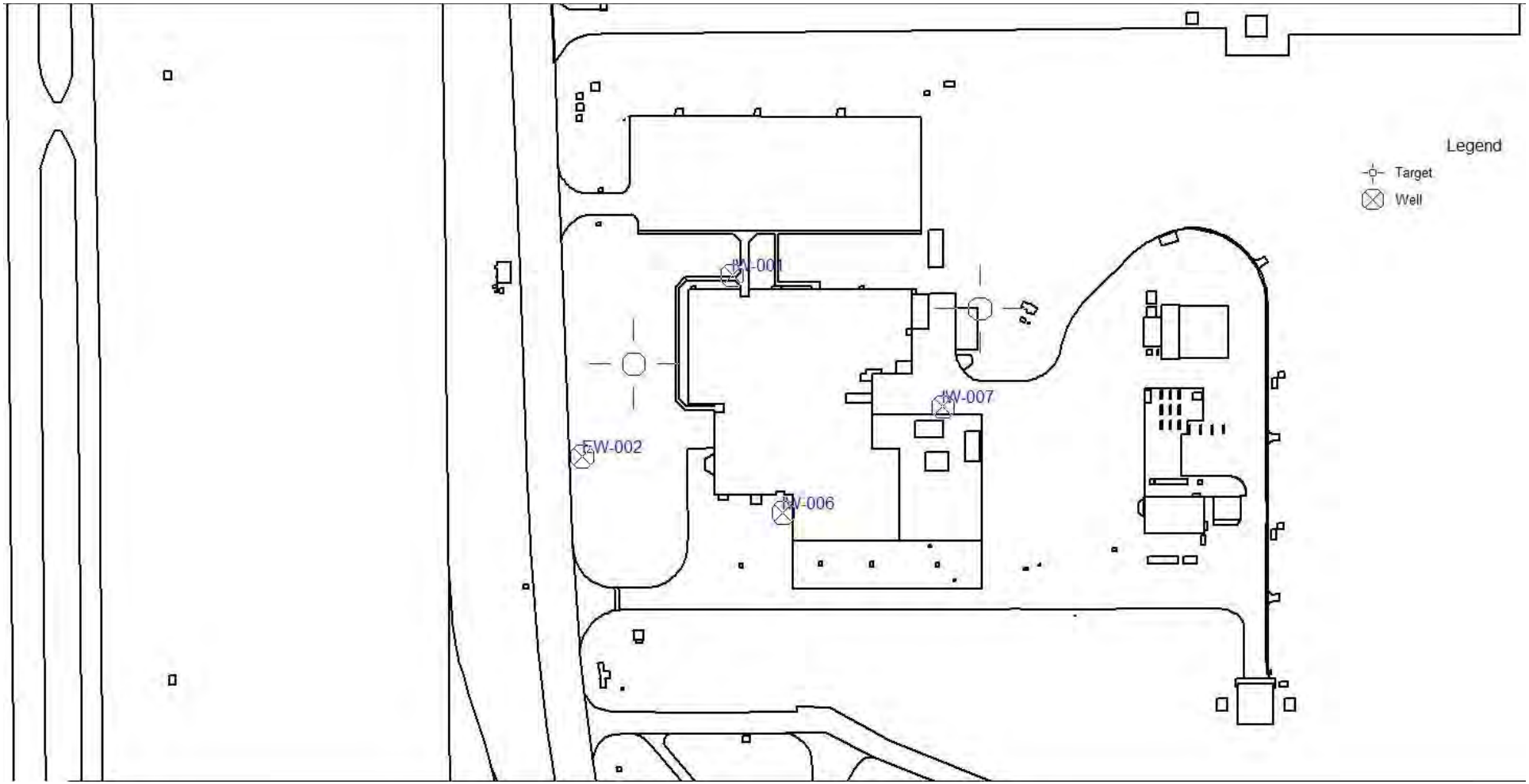


Figure B.24 – Monitoring Wells and Targets – Layer 5

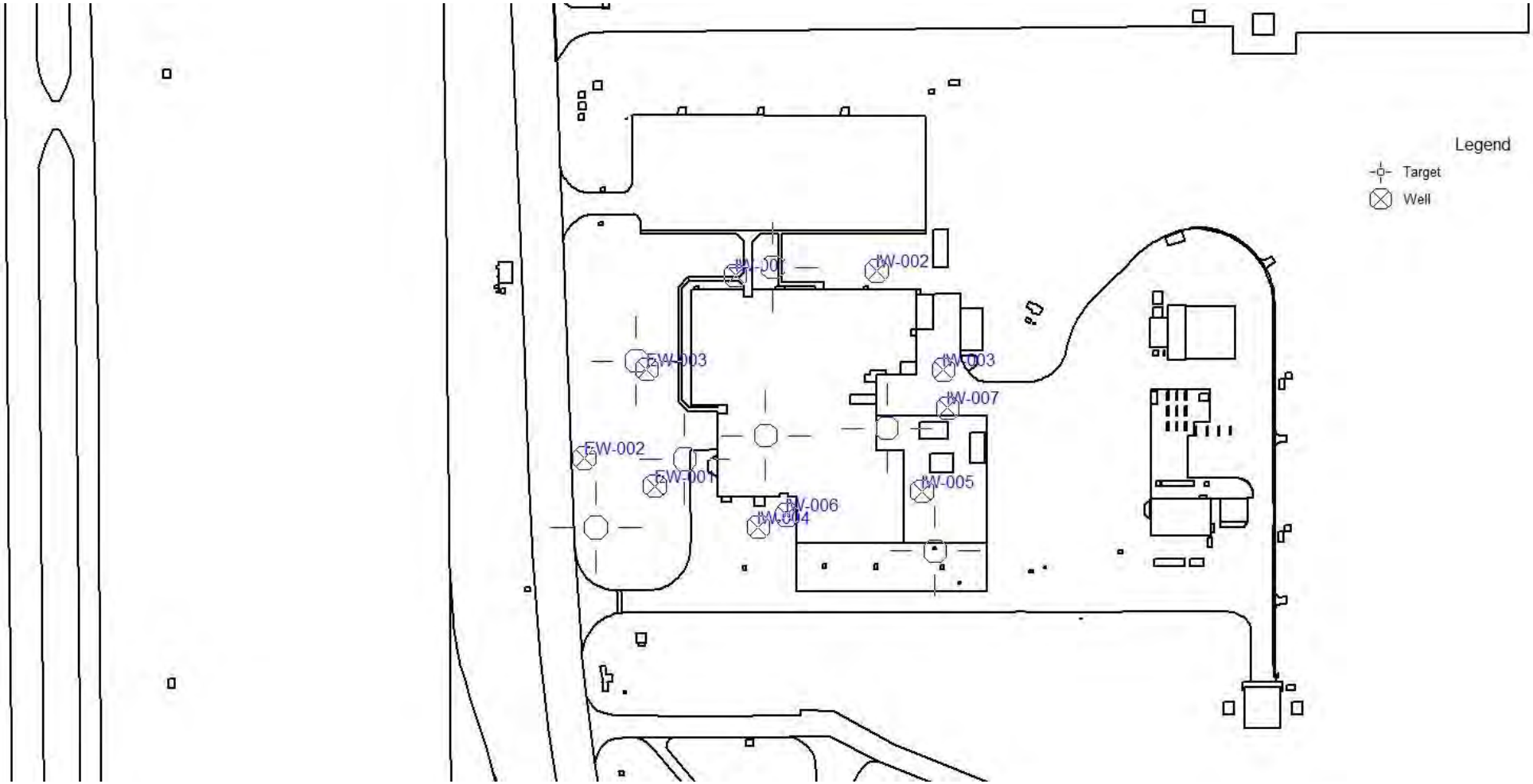


Figure B.25 – Monitoring Wells and Targets – Layer 6

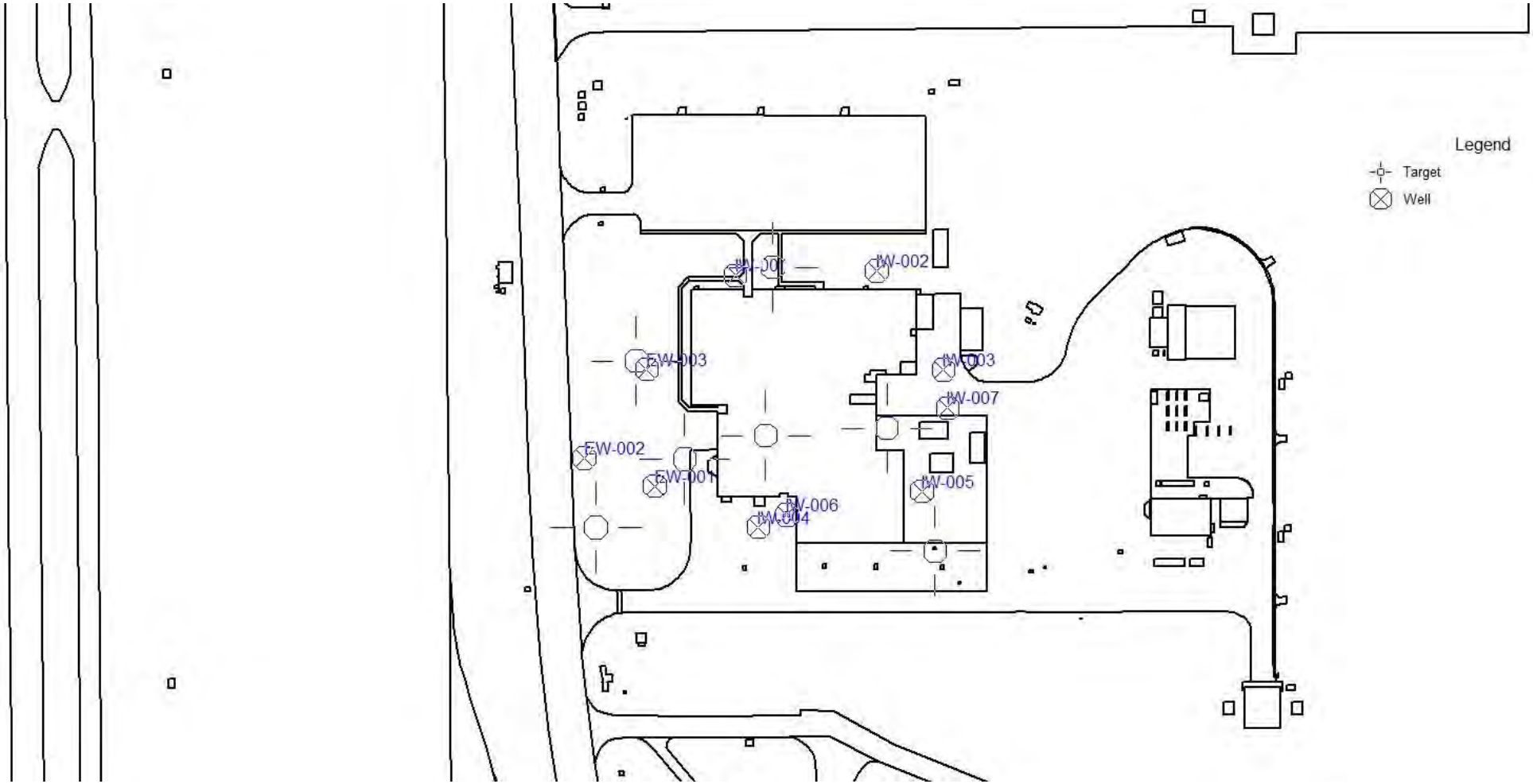


Figure B.26 – Monitoring Wells and Targets – Layer 7

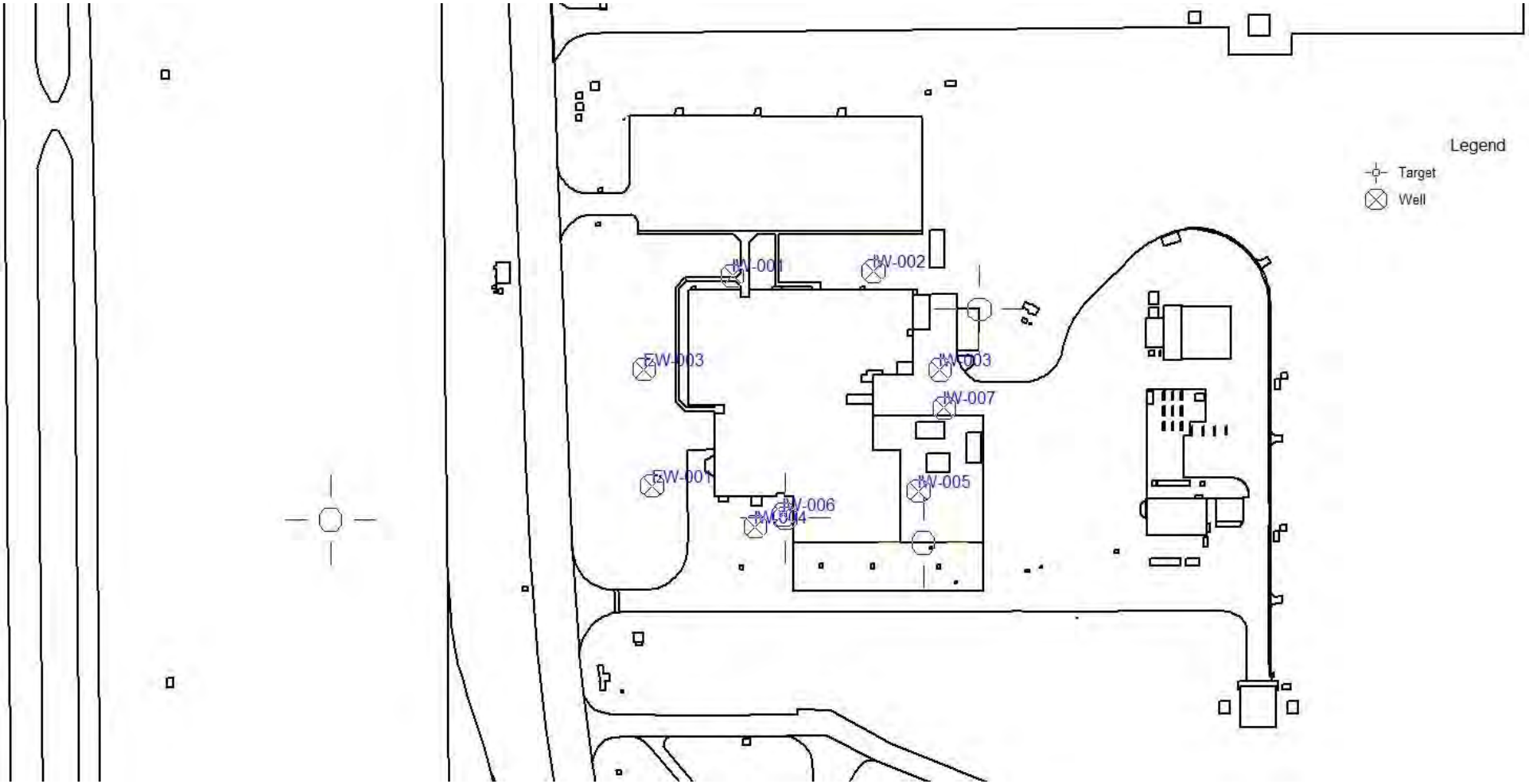


Figure B.27 – Monitoring Wells and Targets – Layer 8

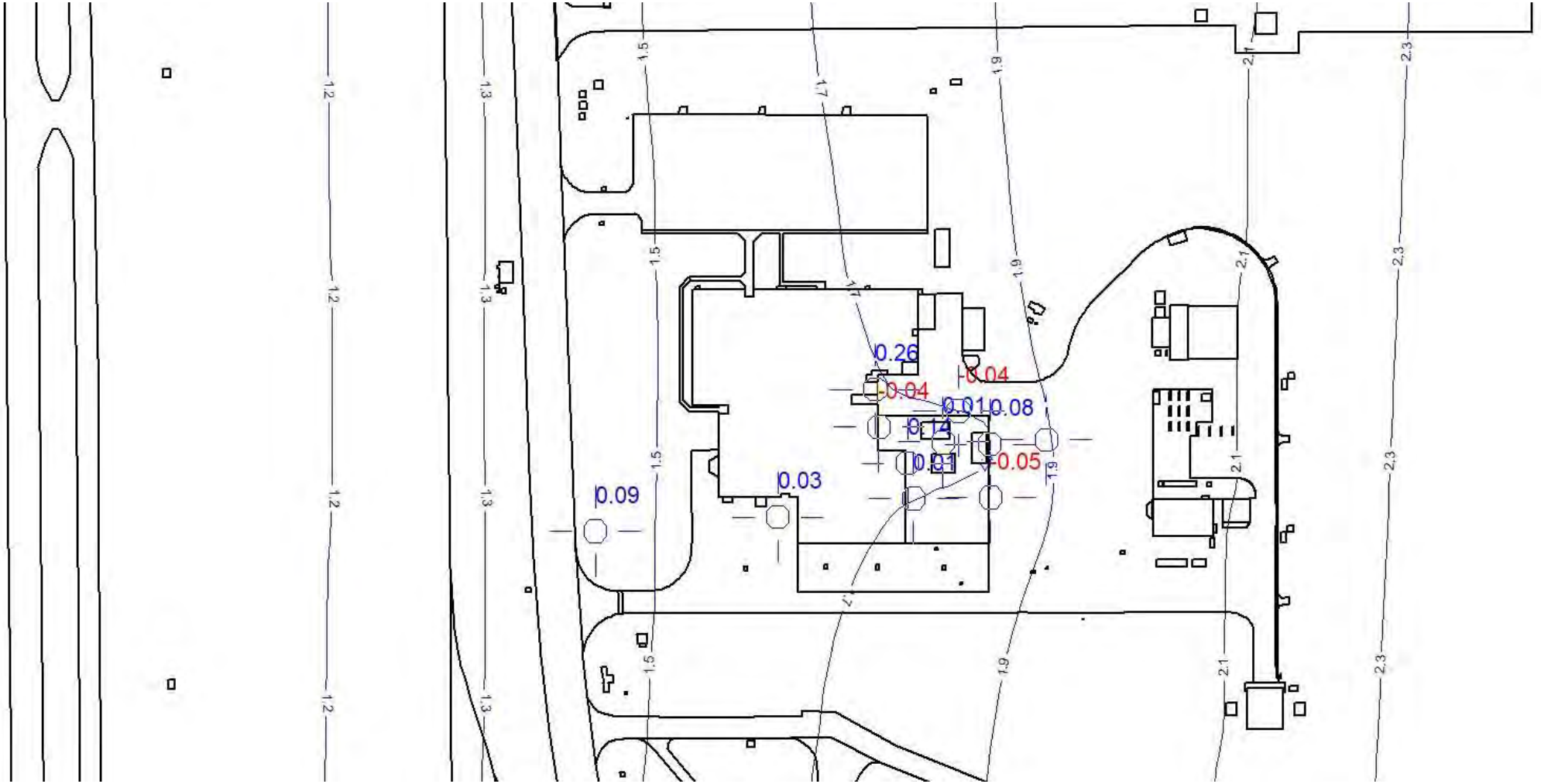


Figure B.28 – February 2019 – Pre-Pumping – GW Model Potentiometrics – Layer 1

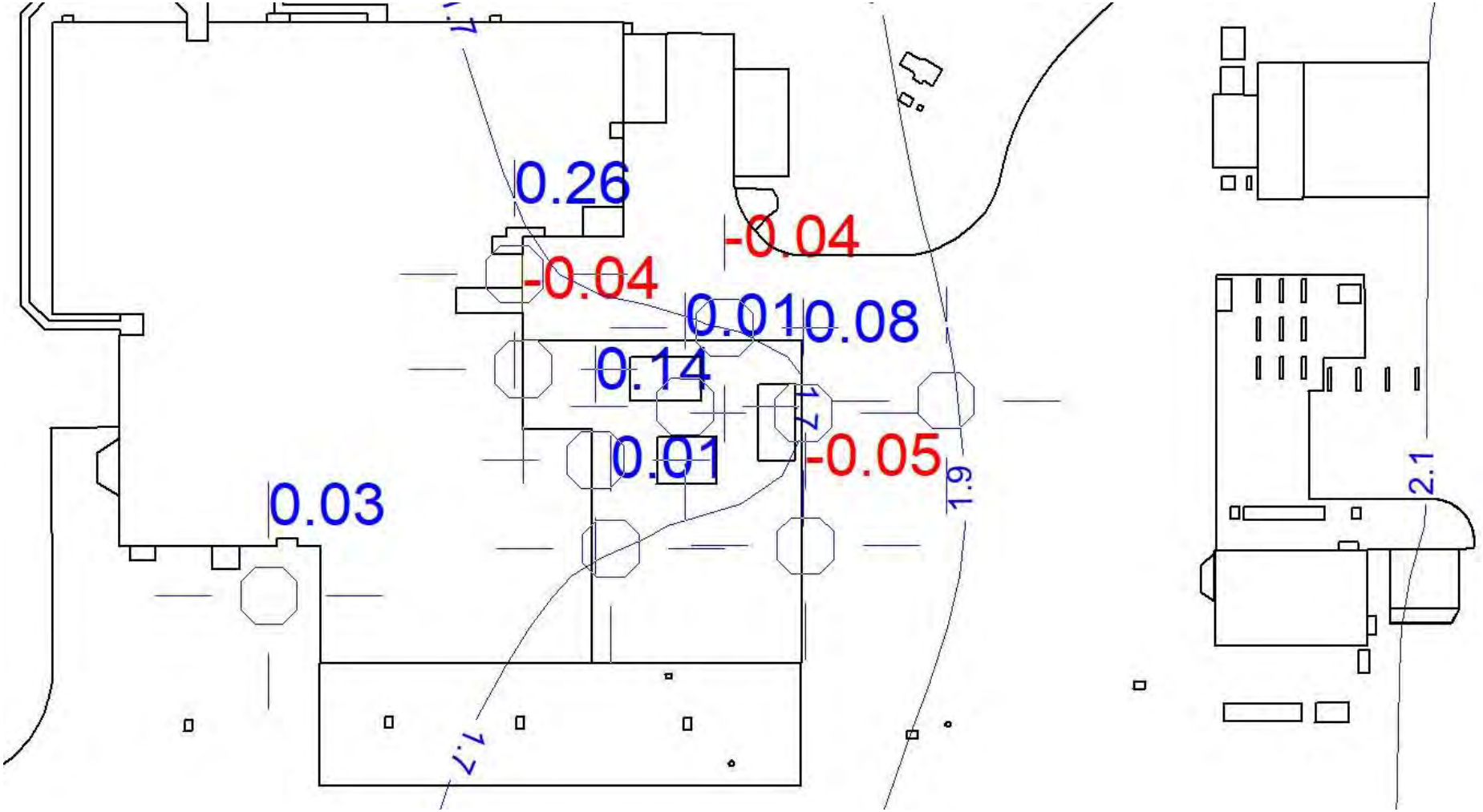


Figure B.29 – February 2019 – Pre-Pumping – GW Model Potentiometrics – Layer 1 (Close Up)

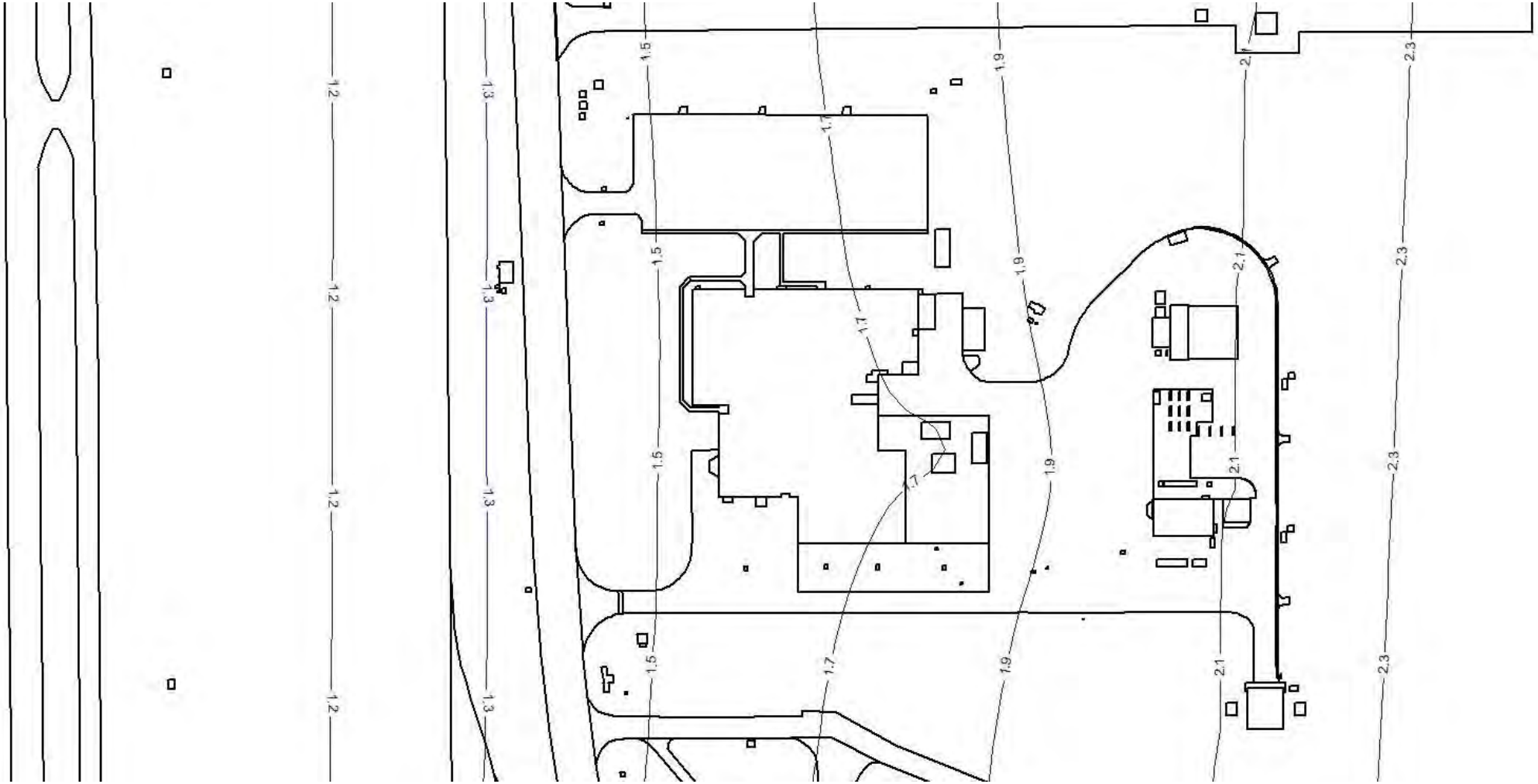


Figure B.30 – February 2019 – Pre-Pumping – GW Model Potentiometrics – Layer 2

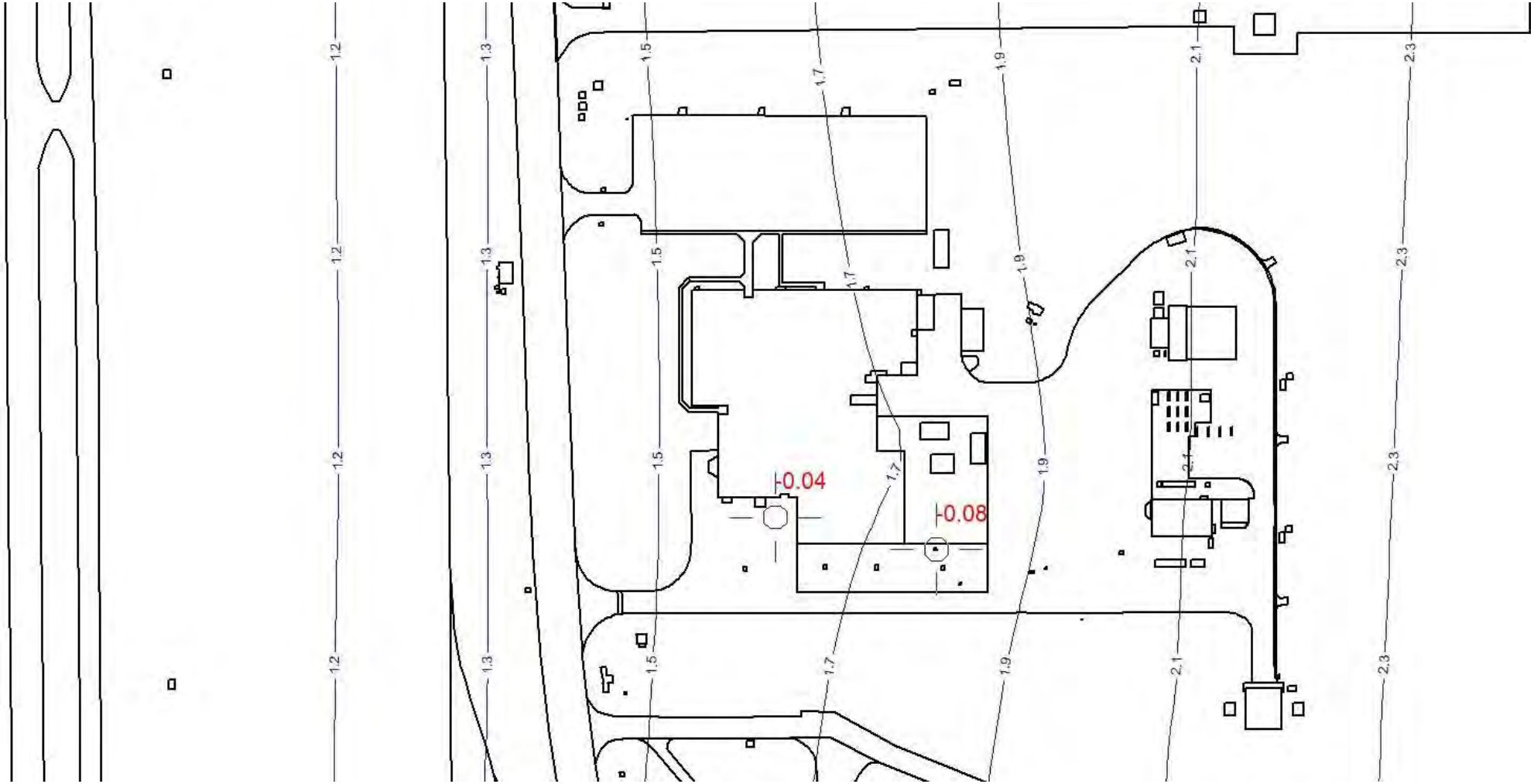


Figure B.31 – February 2019 – Pre-Pumping – GW Model Potentiometrics – Layer 3

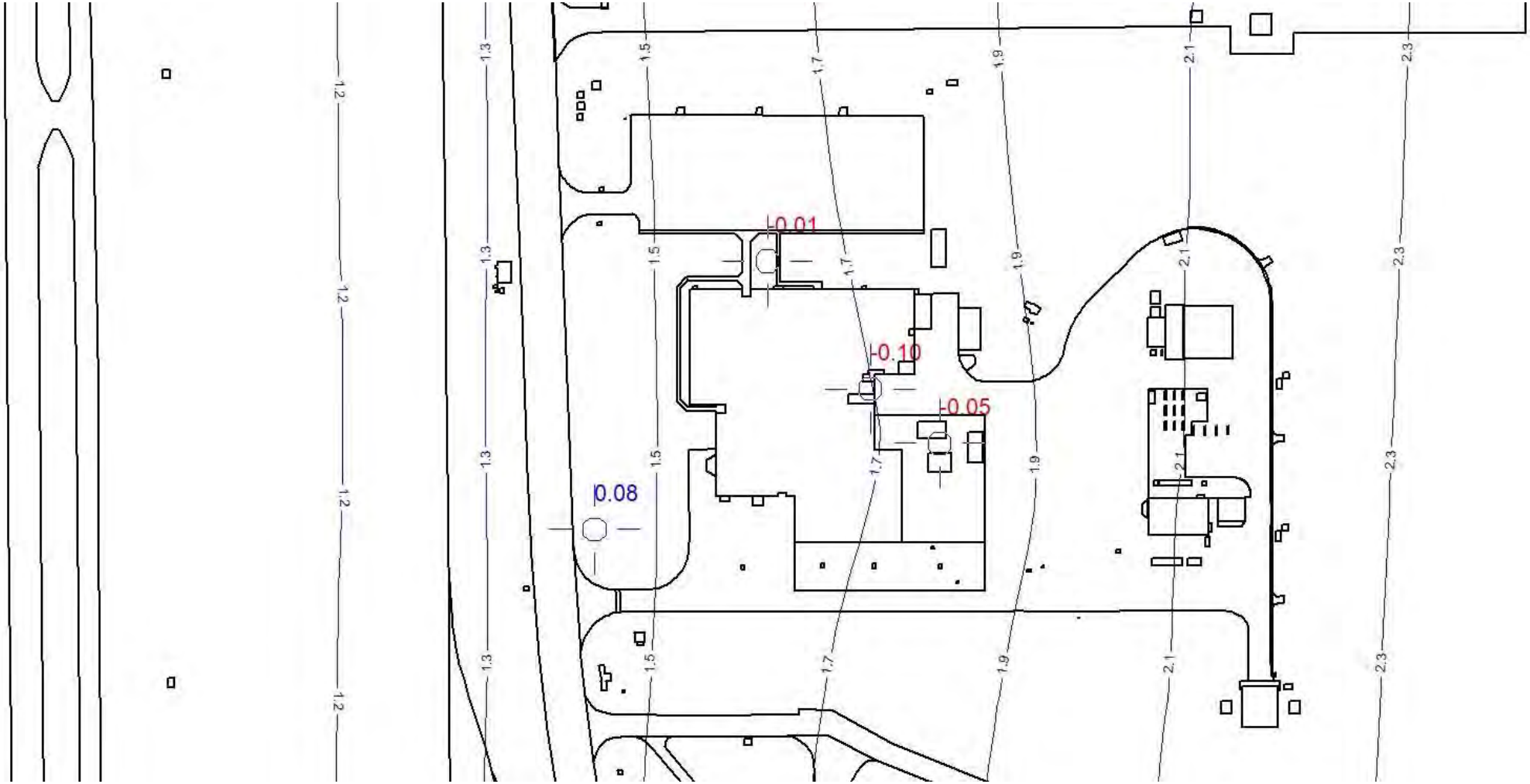


Figure B.32 – February 2019 – Pre-Pumping – GW Model Potentiometrics – Layer 4

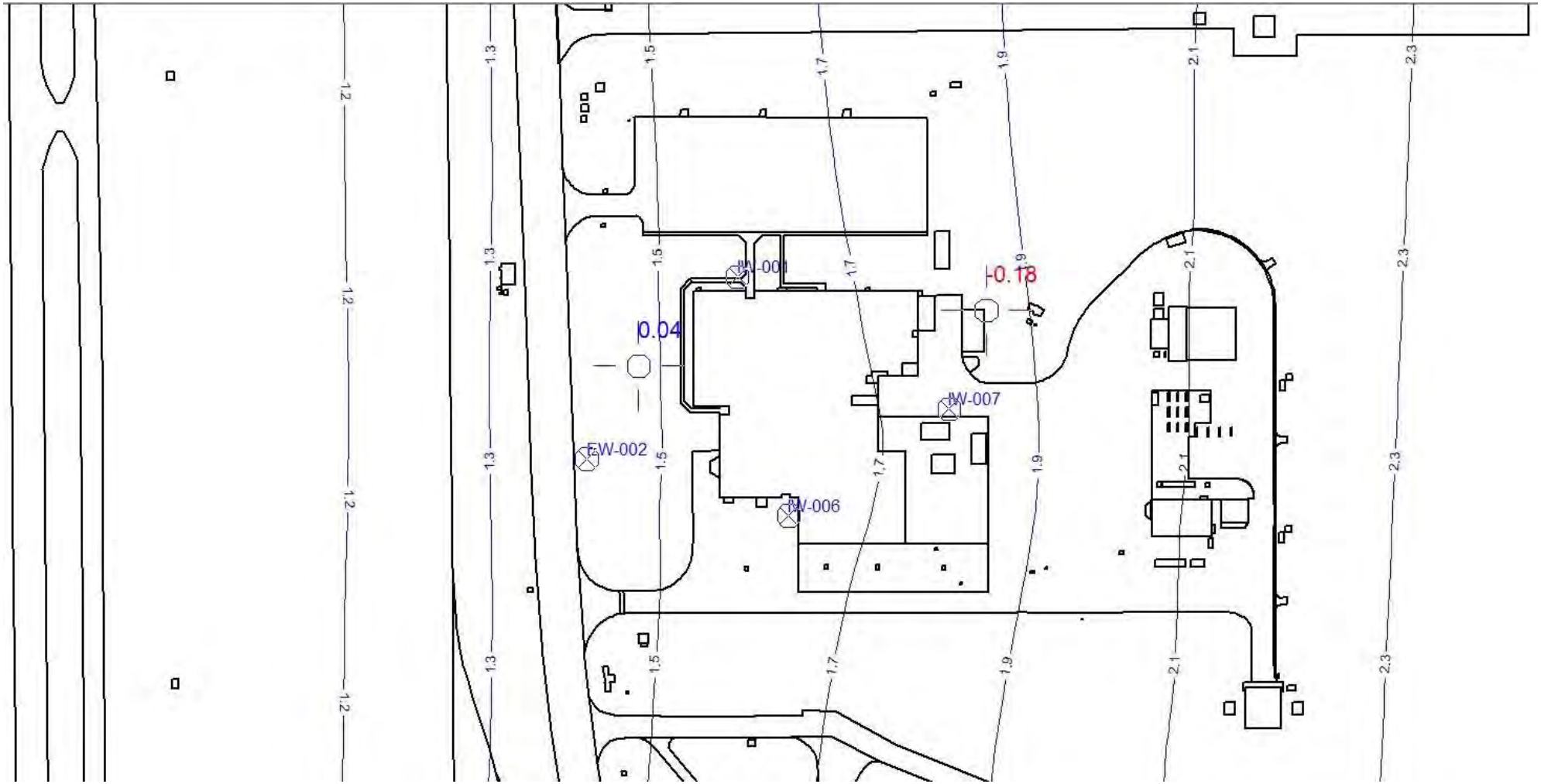


Figure B.33 – February 2019 – Pre-Pumping – GW Model Potentiometrics – Layer 5

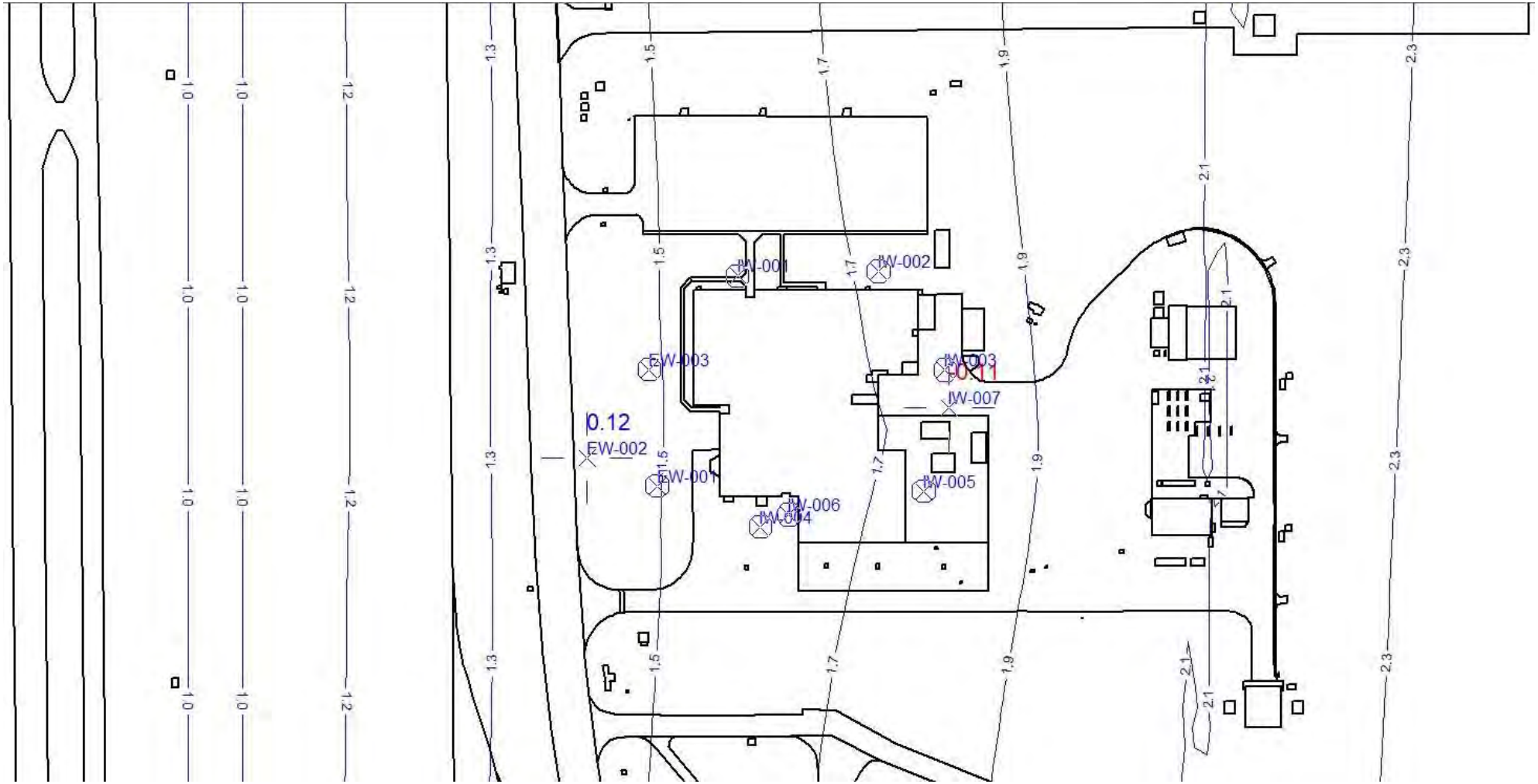


Figure B.34 – February 2019 – Pre-Pumping – GW Model Potentiometrics – Layer 6

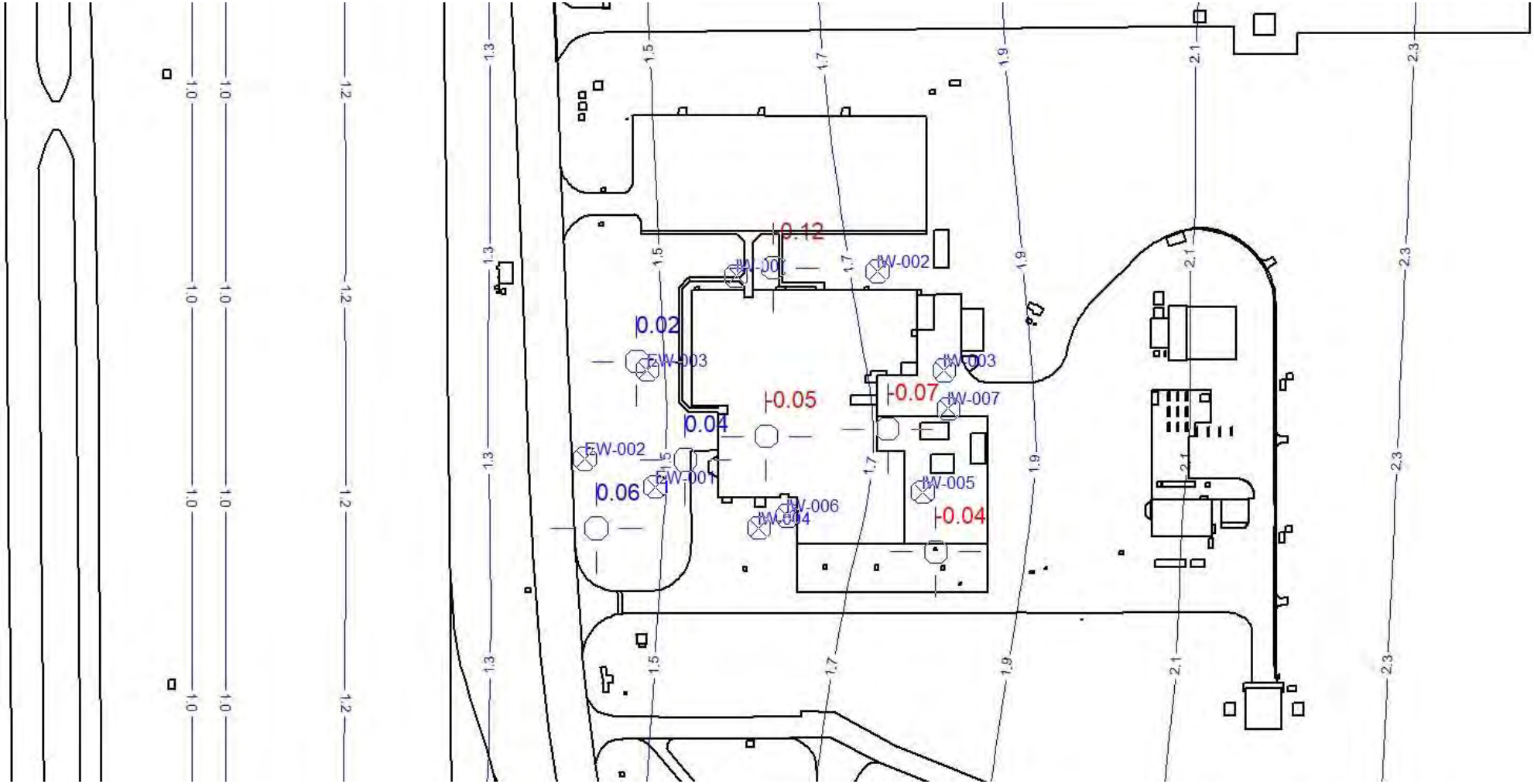


Figure B.35 – February 2019 – Pre-Pumping – GW Model Potentiometrics – Layer 7

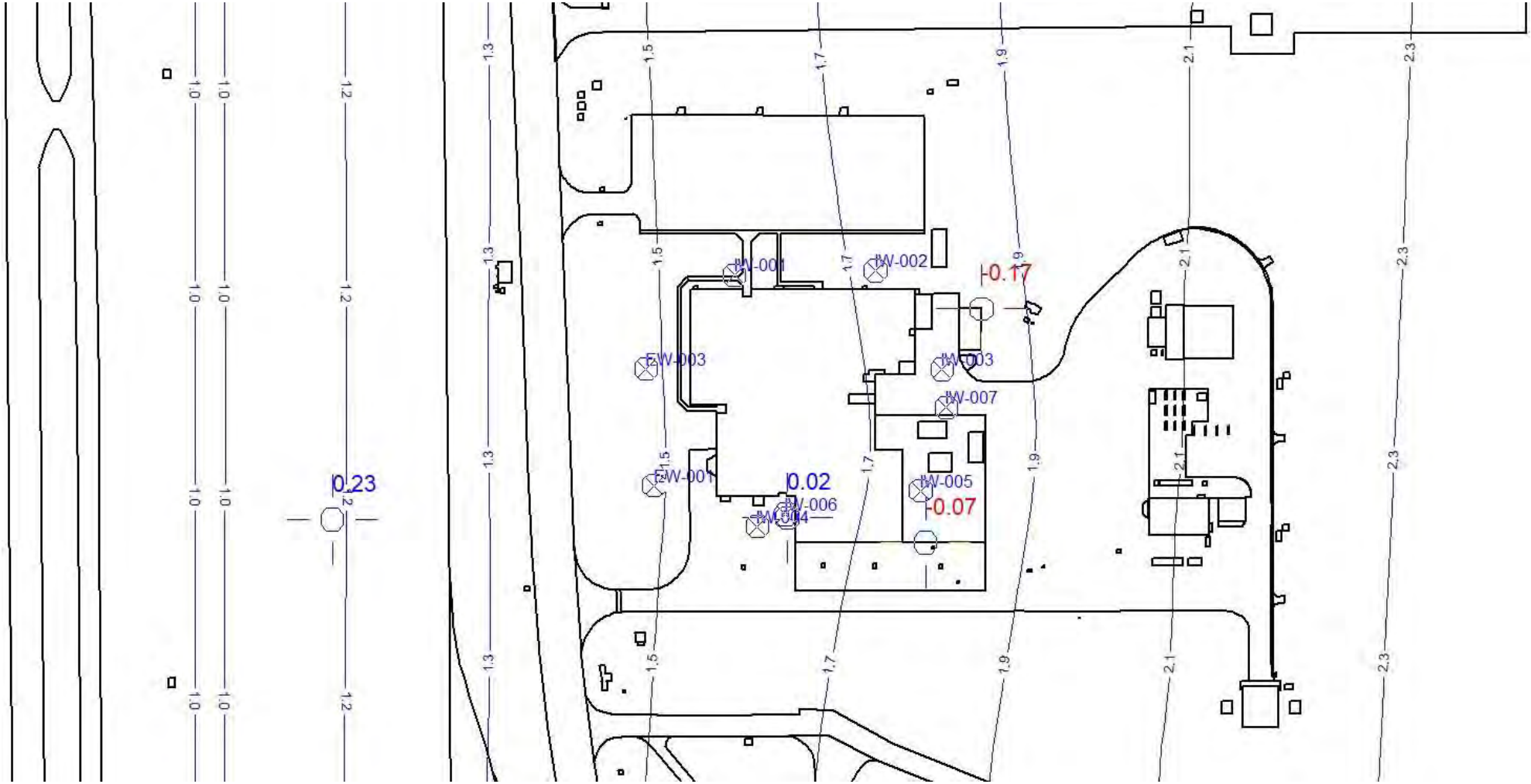


Figure B.36 – February 2019 – Pre-Pumping – GW Model Potentiometrics – Layer 8

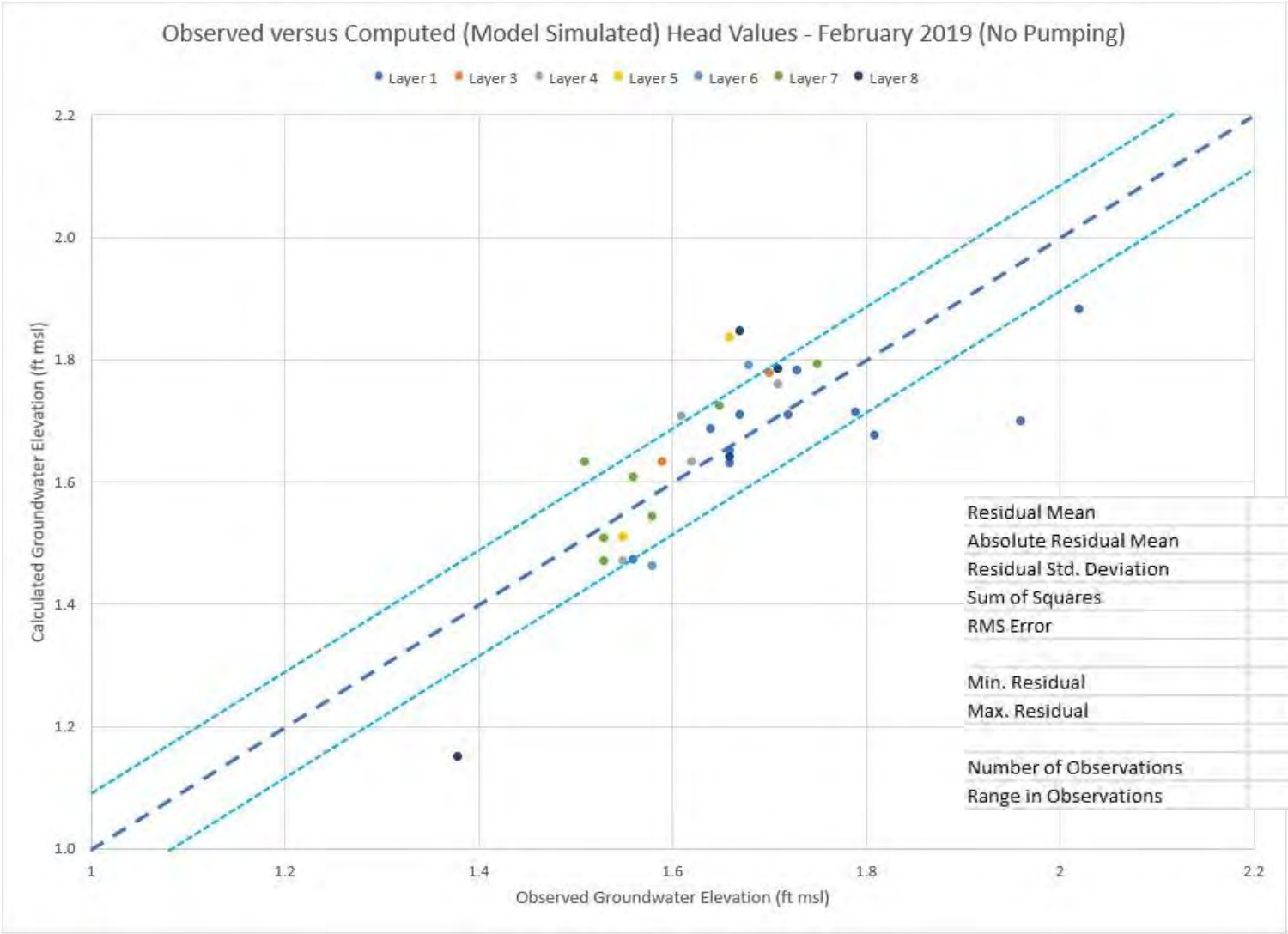


Figure B.37 – February 2019 Observed vs Computed

Name	X	Y	Layer	Observed	Computed	Weight	Group	Residual
CRCA-MW0001	767707.7	1541726.65	1	1.66	1.65	1	1	0.01
CRCA-MW0003	767636.2	1541743.02	1	1.64	1.68	1	1	-0.04
CRCA-MW0004	767724.95	1541761.2	1	1.67	1.71	1	1	-0.04
CRCA-MW0005	767759.79	1541723.88	1	1.79	1.71	1	1	0.08
CRCA-MW0006	767674.83	1541663.82	1	1.72	1.71	1	1	0.01
CRCA-MW0007	767760.58	1541665.18	1	1.73	1.78	1	1	-0.05
CRCA-MW0009	767668.18	1541702.98	1	1.81	1.67	1	1	0.14
CRCA-MW0010	767822.57	1541729.25	1	2.02	1.88	0	1	0.14
CRCA-MW0011	767632.22	1541784.95	1	1.96	1.70	1	1	0.26
CRCA-MW0014	767524.17	1541643.15	1	1.66	1.63	1	1	0.03
CRCA-MW0026	767321.13	1541627.6	1	1.56	1.47	1	1	0.09
CRCA-MW0015	767522.05	1541643.1	3	1.59	1.63	1	1	-0.04
CRCA-MW0016	767701.26	1541607.46	3	1.7	1.78	1	1	-0.08
CRCA-MW0002	767708.03	1541724.5	4	1.71	1.76	1	1	-0.05
CRCA-MW0012	767630.58	1541784.94	4	1.61	1.71	1	1	-0.10
CRCA-MW0021	767515.9	1541927.67	4	1.62	1.63	1	1	-0.01
CRCA-MW0027	767322.93	1541628.47	4	1.55	1.47	1	1	0.08
CRCA-MW0022	767756.37	1541874.34	5	1.66	1.84	1	1	-0.18
CRCA-MW0029	767367.72	1541812.2	5	1.55	1.51	1	1	0.04
EW-002	767309.99	1541708.25	6	1.58	1.46	1	1	0.12
IW-007	767714.65	1541764.31	6	1.68	1.79	1	1	-0.11
CRCA-MW0018	767647.14	1541741.5	7	1.65	1.72	1	1	-0.07
CRCA-MW0019	767511.73	1541733.46	7	1.56	1.61	1	1	-0.05
CRCA-MW0020	767519.88	1541920.75	7	1.51	1.63	1	1	-0.12
CRCA-MW0024	767700.74	1541604.87	7	1.75	1.79	1	1	-0.04
CRCA-MW0028	767322.84	1541630.98	7	1.53	1.47	1	1	0.06
CRCA-MW0030	767367.7	1541816.63	7	1.53	1.51	1	1	0.02
CRCA-MW0031	767421.85	1541707.06	7	1.58	1.54	1	1	0.04
CRCA-MW0017	767691.8	1541613.66	8	1.71	1.78	1	1	-0.07
CRCA-MW0023	767754.26	1541874.64	8	1.67	1.84	1	1	-0.17
CRCA-MW0025	767537.33	1541641.08	8	1.66	1.64	1	1	0.02
CRCA-MW0032	767029.58	1541639.32	8	1.38	1.15	1	1	0.23

Table B.1 – Summary of Residuals for July 2020 Pumping

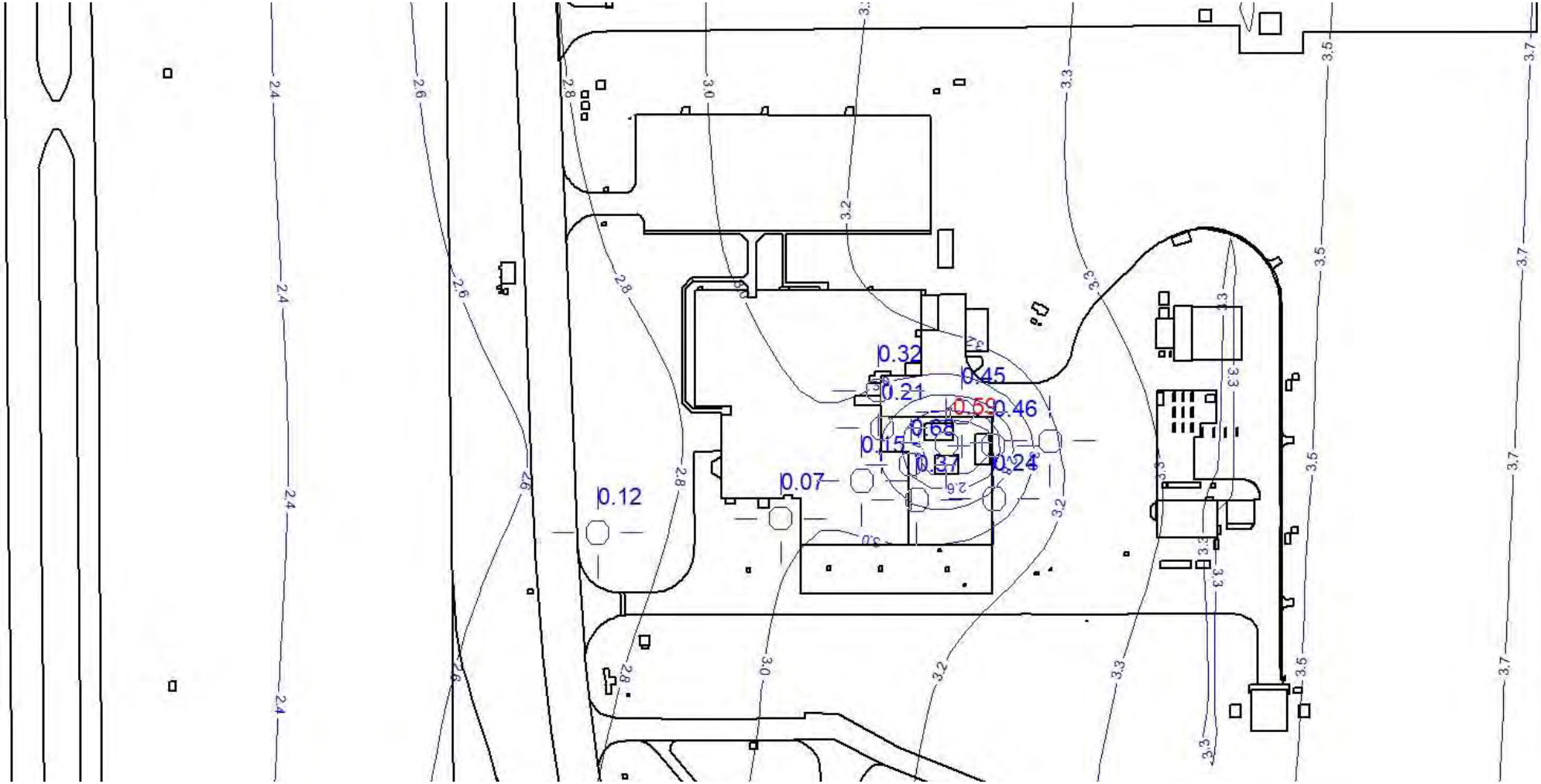


Figure B.38 – July 2020 – Pumping – GW Model Potentiometrics – Layer 1

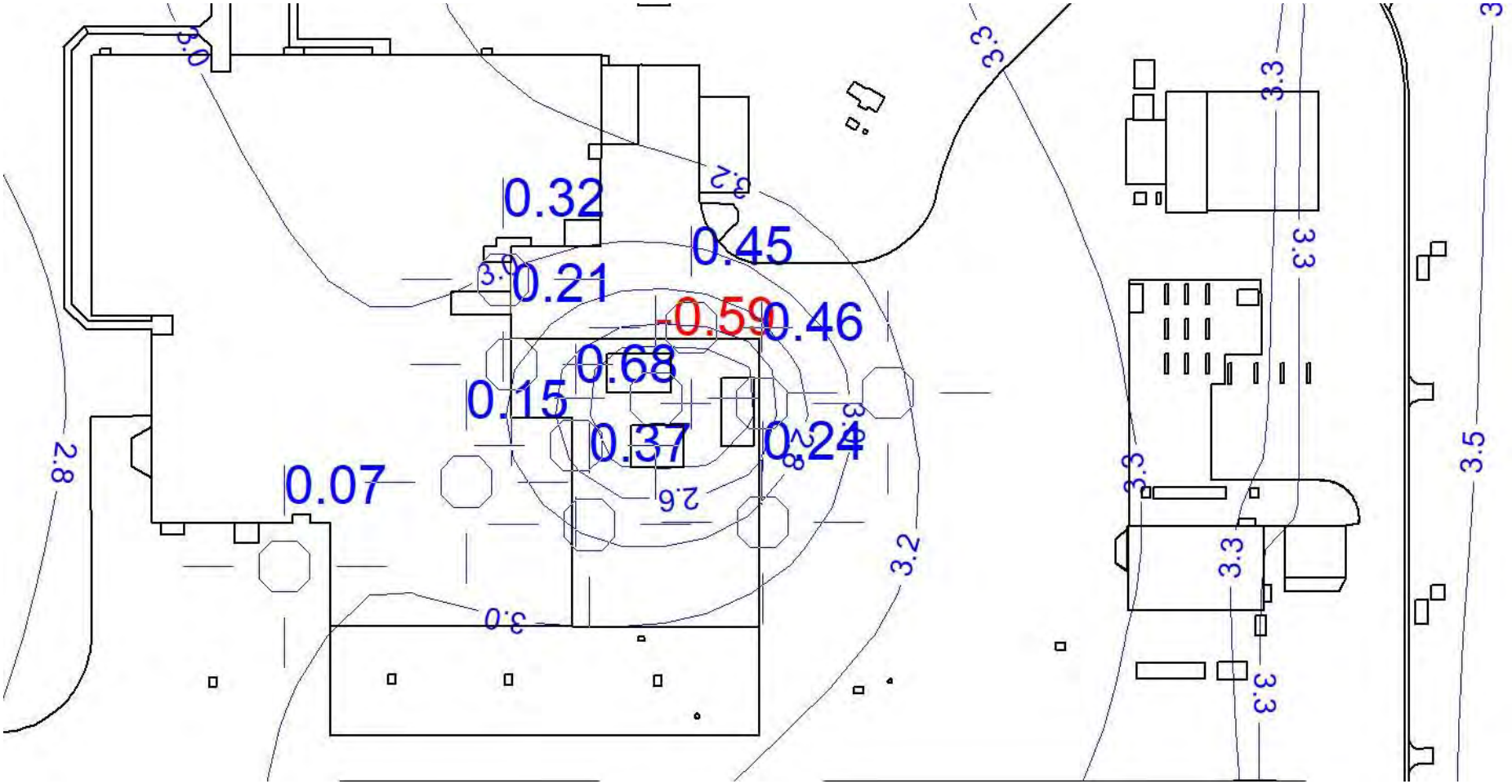


Figure B.39 – July 2020 – Pumping – GW Model Potentiometrics – Layer 1 (Close Up)

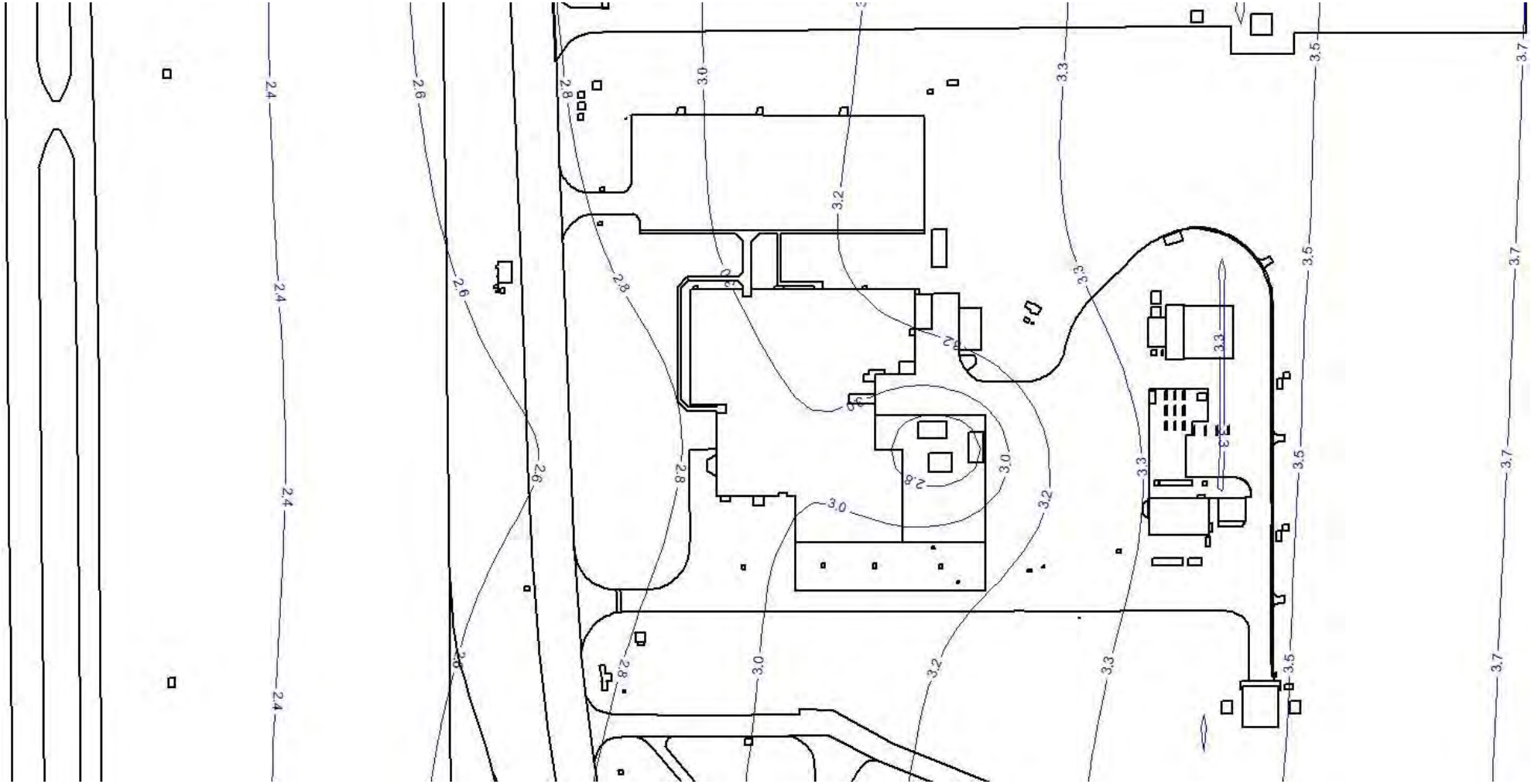


Figure B.40 – July 2020 – Pumping – GW Model Potentiometrics – Layer 2

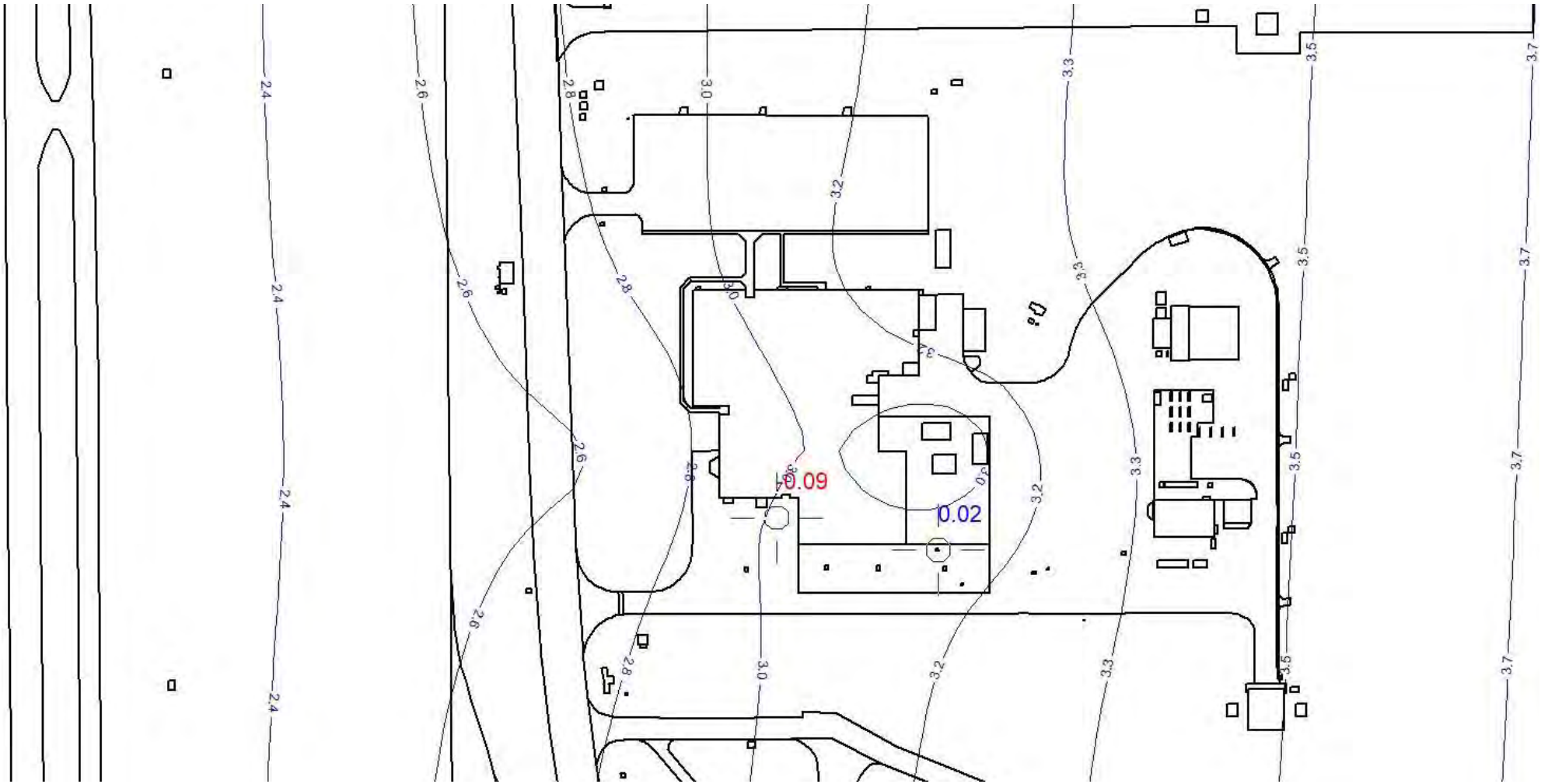


Figure B.41 – July 2020 – Pumping – GW Model Potentiometrics – Layer 3

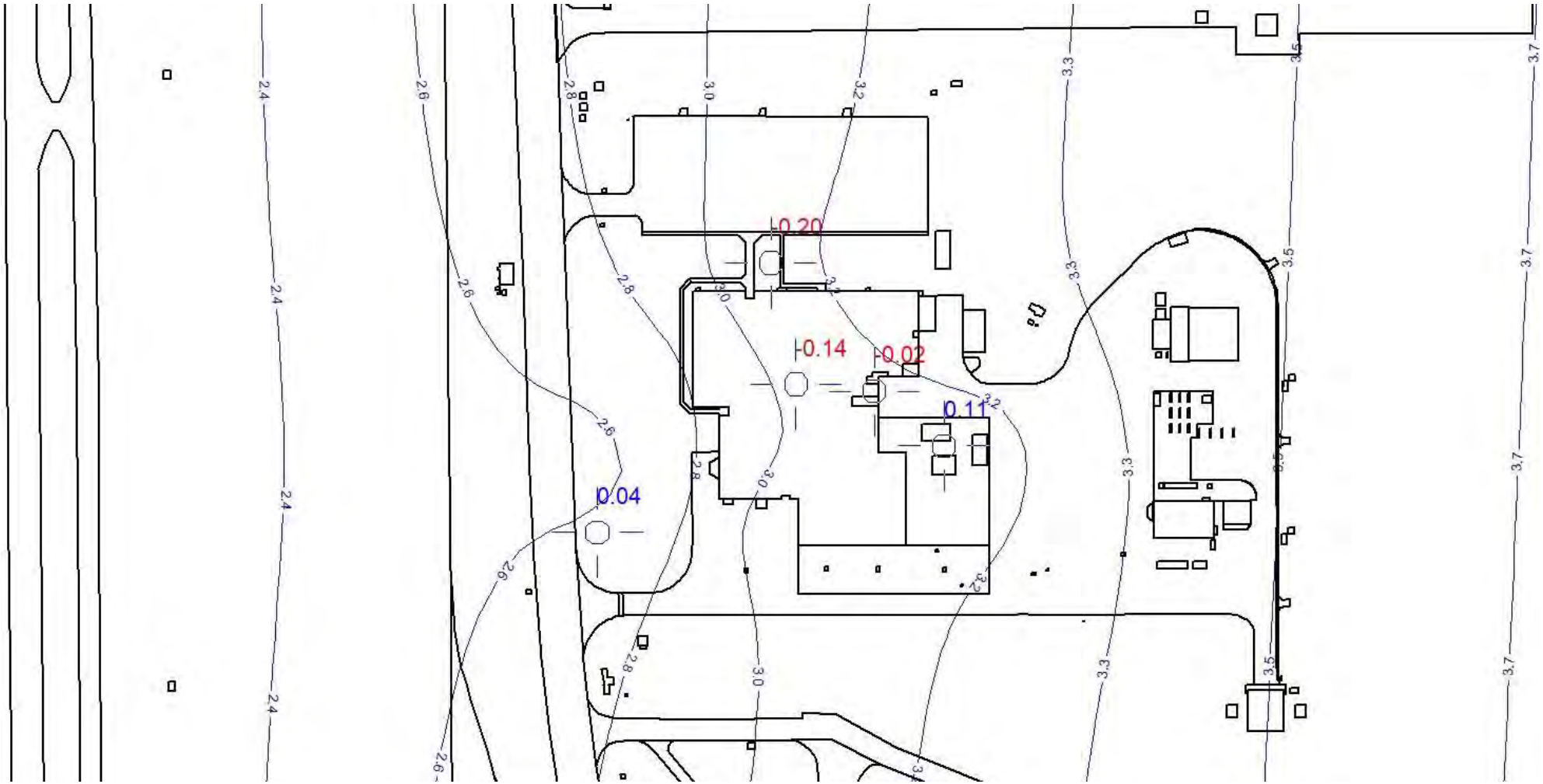


Figure B.42 – July 2020 – Pumping – GW Model Potentiometrics – Layer 4

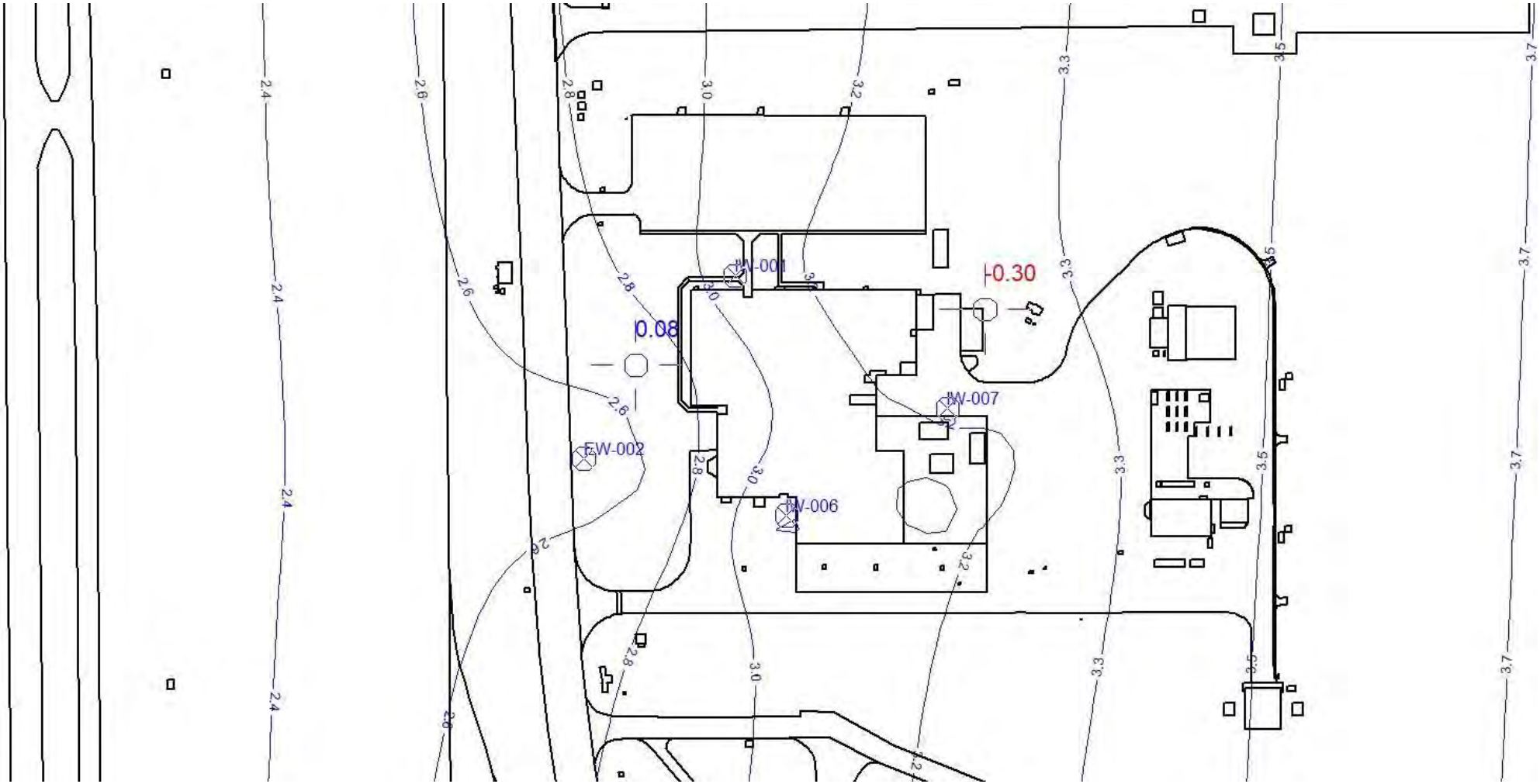


Figure B.43 – July 2020 – Pumping – GW Model Potentiometrics – Layer 5

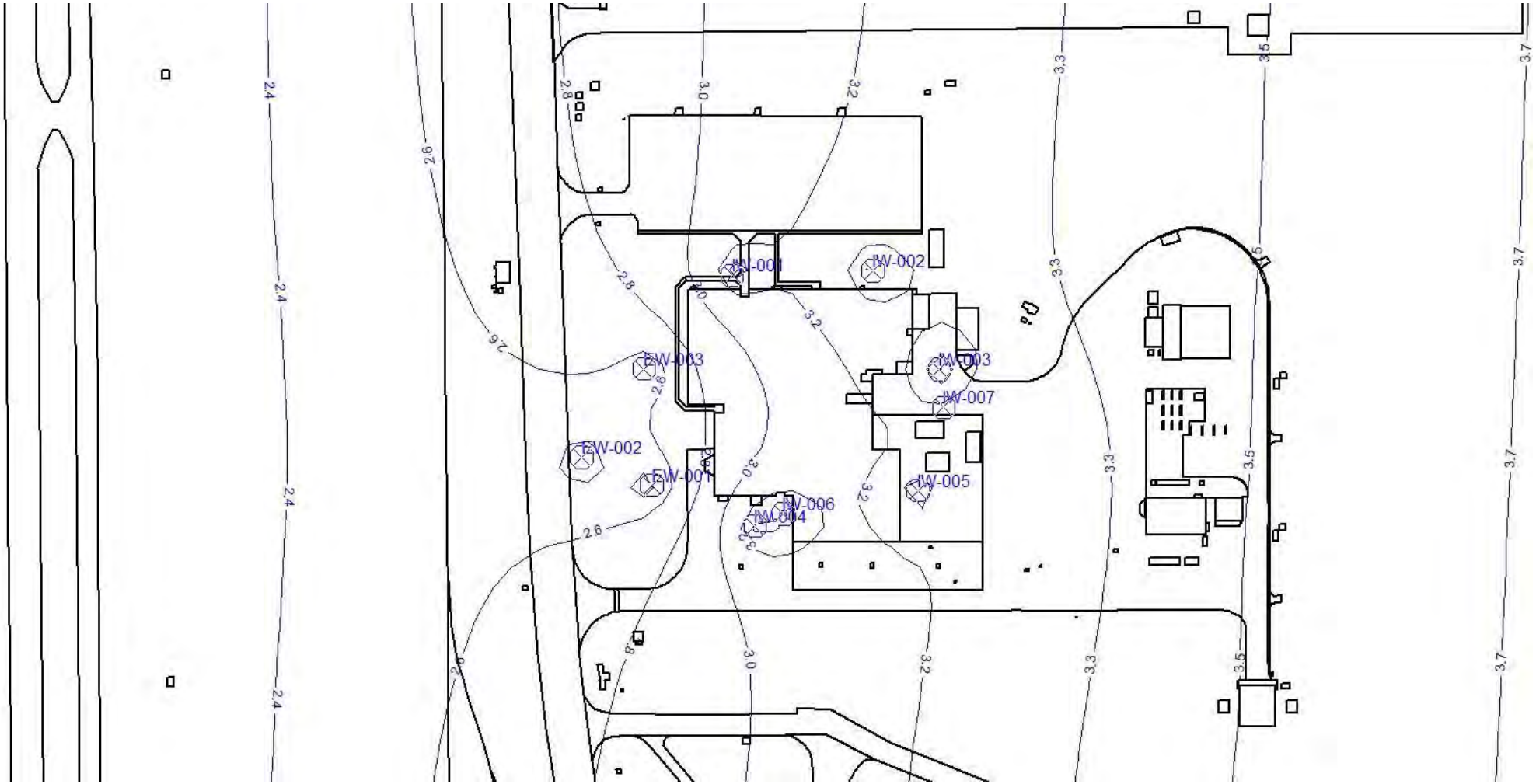


Figure B.44 – July 2020 – Pumping – GW Model Potentiometrics – Layer 6

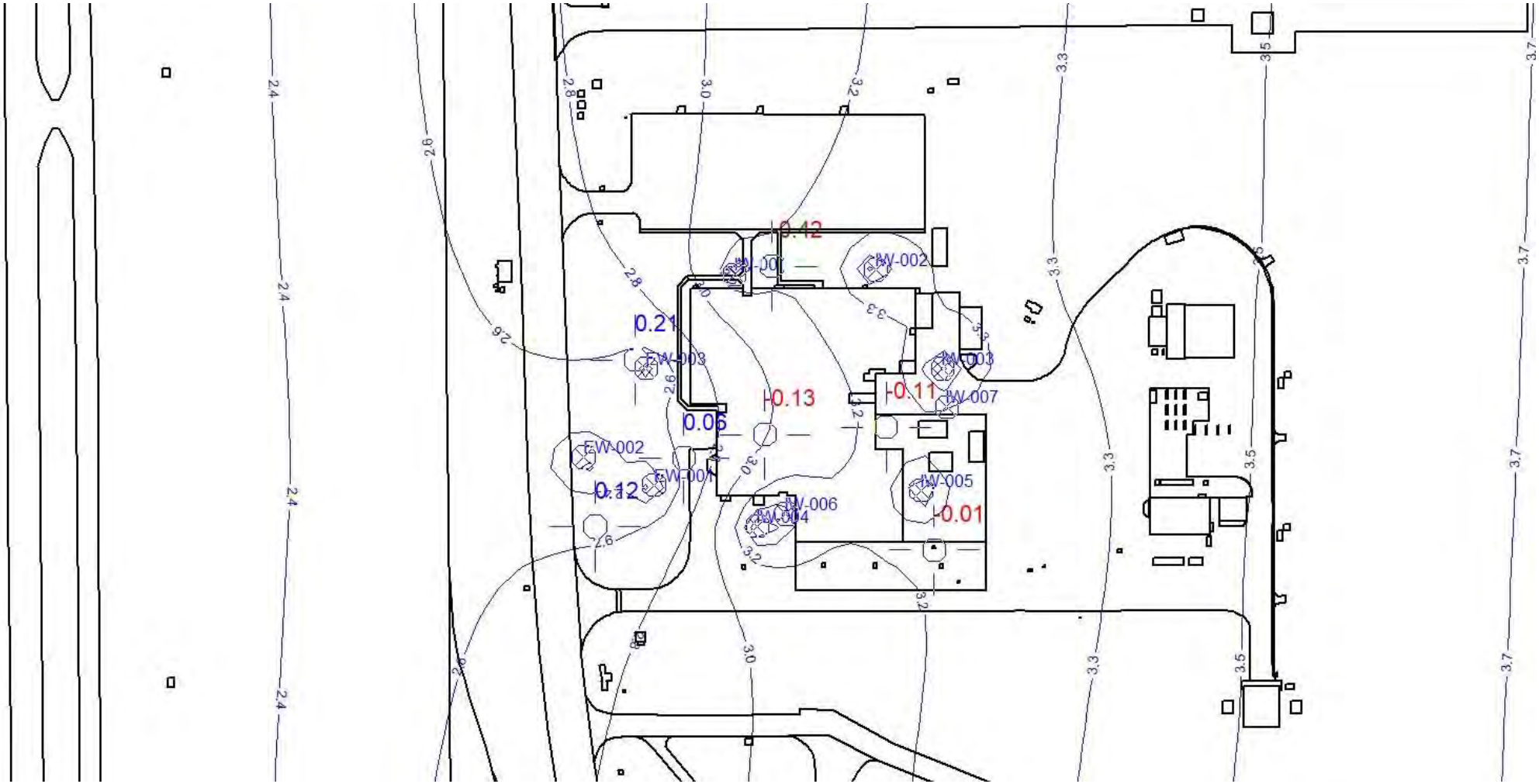


Figure B.45 – July 2020 – Pumping – GW Model Potentiometrics – Layer 7

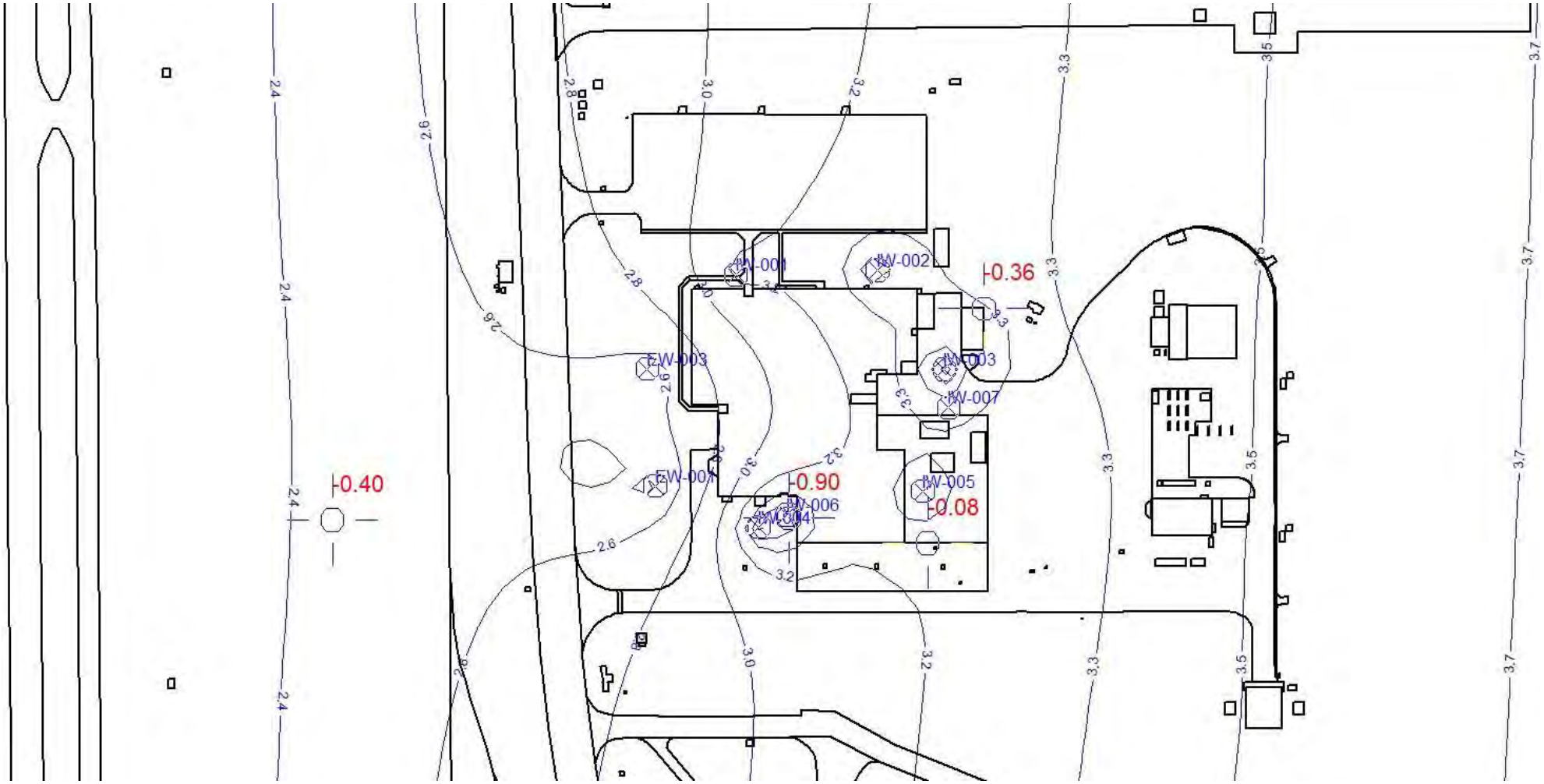


Figure B.46 – July 2020 – Pumping – GW Model Potentiometrics – Layer 8

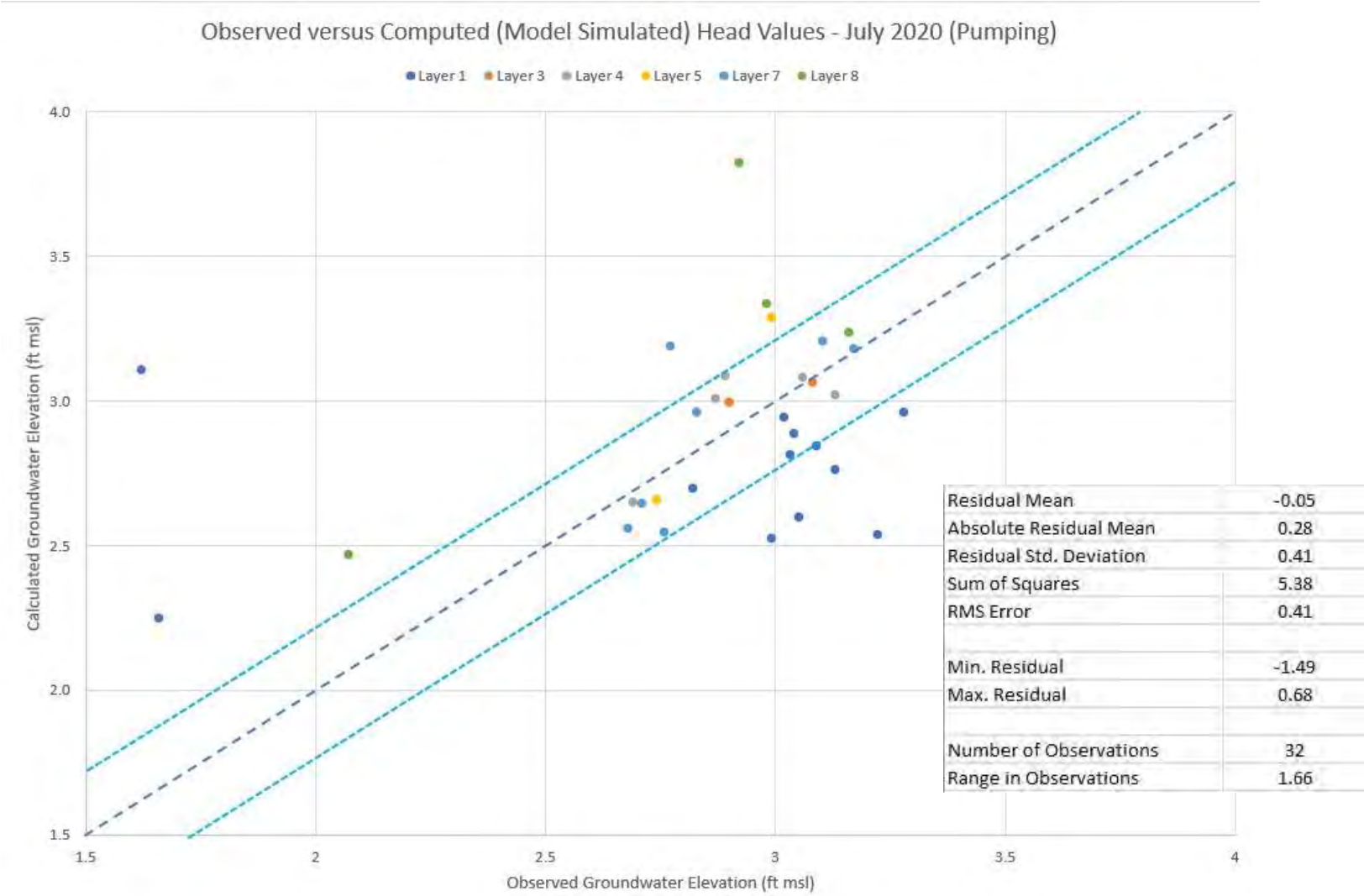


Figure B.47 – July 2020 Observed vs Computed

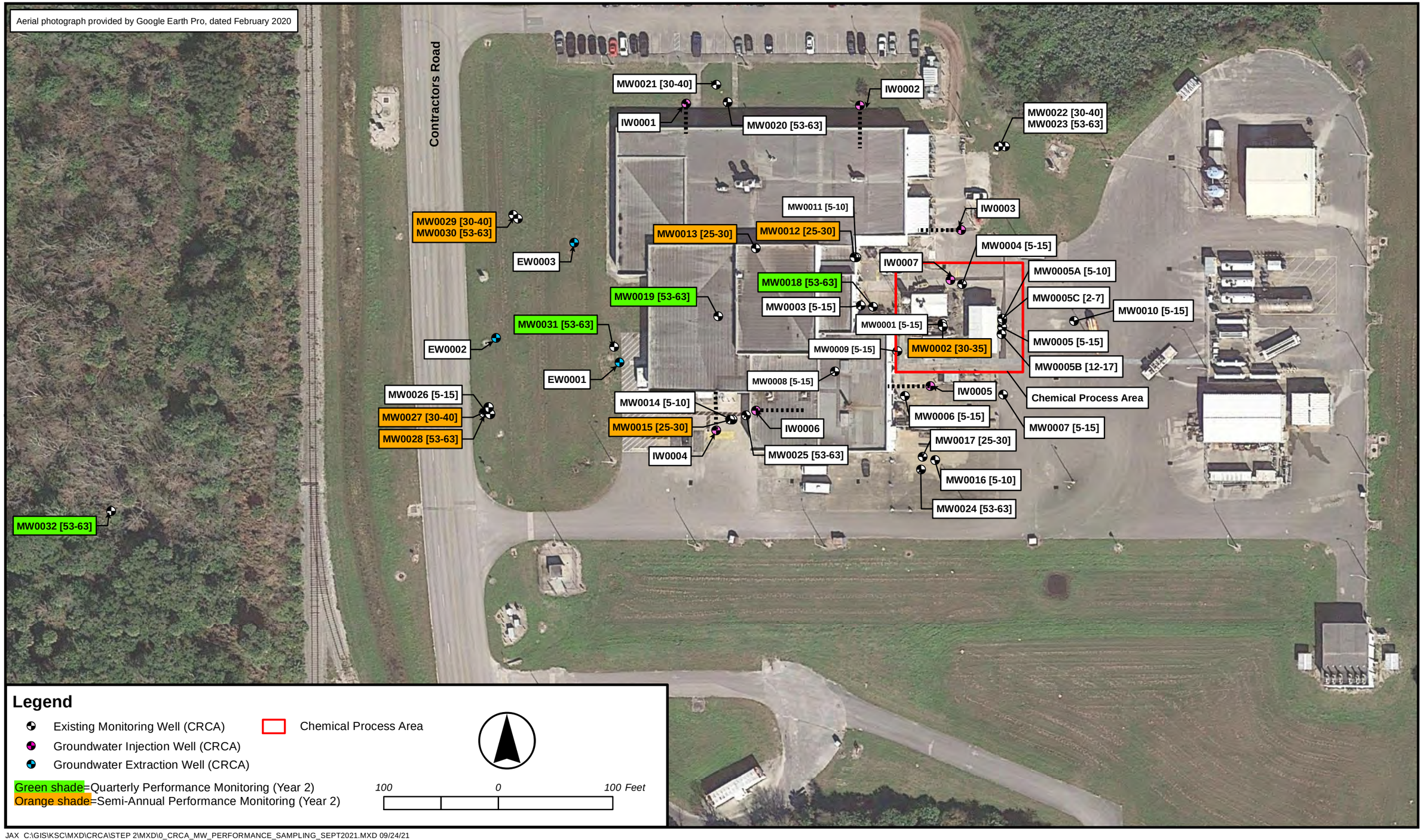
Name	X	Y	Layer	Observed	Computed	Weight	Residual
CRCA-MW0001	767707.7	1541726.65	1	1.66	2.25	1	-0.59
CRCA-MW0003	767636.2	1541743.02	1	3.03	2.82	1	0.21
CRCA-MW0004	767724.95	1541761.2	1	3.05	2.60	1	0.45
CRCA-MW0005	767759.79	1541723.88	1	2.99	2.53	1	0.46
CRCA-MW0006	767674.83	1541663.82	1	3.13	2.76	1	0.37
CRCA-MW0007	767760.58	1541665.18	1	3.09	2.85	1	0.24
CRCA-MW0008	767613.8	1541685.1	1	3.04	2.89	1	0.15
CRCA-MW0009	767668.18	1541702.98	1	3.22	2.54	1	0.68
CRCA-MW0010	767822.57	1541729.25	1	1.62	3.11	0	-1.49
CRCA-MW0011	767632.22	1541784.95	1	3.28	2.96	1	0.32
CRCA-MW0014	767524.17	1541643.15	1	3.02	2.95	1	0.07
CRCA-MW0026	767321.13	1541627.6	1	2.82	2.70	1	0.12
CRCA-MW0015	767522.05	1541643.1	3	2.9	2.99	1	-0.09
CRCA-MW0016	767701.26	1541607.46	3	3.08	3.06	1	0.02
CRCA-MW0002	767708.03	1541724.5	4	3.13	3.02	1	0.11
CRCA-MW0012	767630.58	1541784.94	4	3.06	3.08	1	-0.02
CRCA-MW0013	767543.55	1541792.69	4	2.87	3.01	1	-0.14
CRCA-MW0021	767515.9	1541927.67	4	2.89	3.09	1	-0.20
CRCA-MW0027	767322.93	1541628.47	4	2.69	2.65	1	0.04
CRCA-MW0022	767756.37	1541874.34	5	2.99	3.29	1	-0.30
CRCA-MW0029	767367.72	1541812.2	5	2.74	2.66	1	0.08
CRCA-MW0018	767647.14	1541741.5	7	3.1	3.21	1	-0.11
CRCA-MW0019	767511.73	1541733.46	7	2.83	2.96	1	-0.13
CRCA-MW0020	767519.88	1541920.75	7	2.77	3.19	1	-0.42
CRCA-MW0024	767700.74	1541604.87	7	3.17	3.18	1	-0.01
CRCA-MW0028	767322.84	1541630.98	7	2.68	2.56	1	0.12
CRCA-MW0030	767367.7	1541816.63	7	2.76	2.55	1	0.21
CRCA-MW0031	767421.85	1541707.06	7	2.71	2.65	1	0.06
CRCA-MW0017	767691.8	1541613.66	8	3.16	3.24	1	-0.08
CRCA-MW0023	767754.26	1541874.64	8	2.98	3.34	1	-0.36
CRCA-MW0025	767537.33	1541641.08	8	2.92	3.82	1	-0.90
CRCA-MW0032	767029.58	1541639.32	8	2.07	2.47	1	-0.40

Table B.2 – Summary of Residuals for July 2020 Pumping

ATTACHMENT C
YEAR 2 POTENTIOMETRIC SURFACE MAPS

FIGURE C-1 MONITORING WELL LOCATION AND PERFORMANCE SAMPLING PLAN, YEAR 2

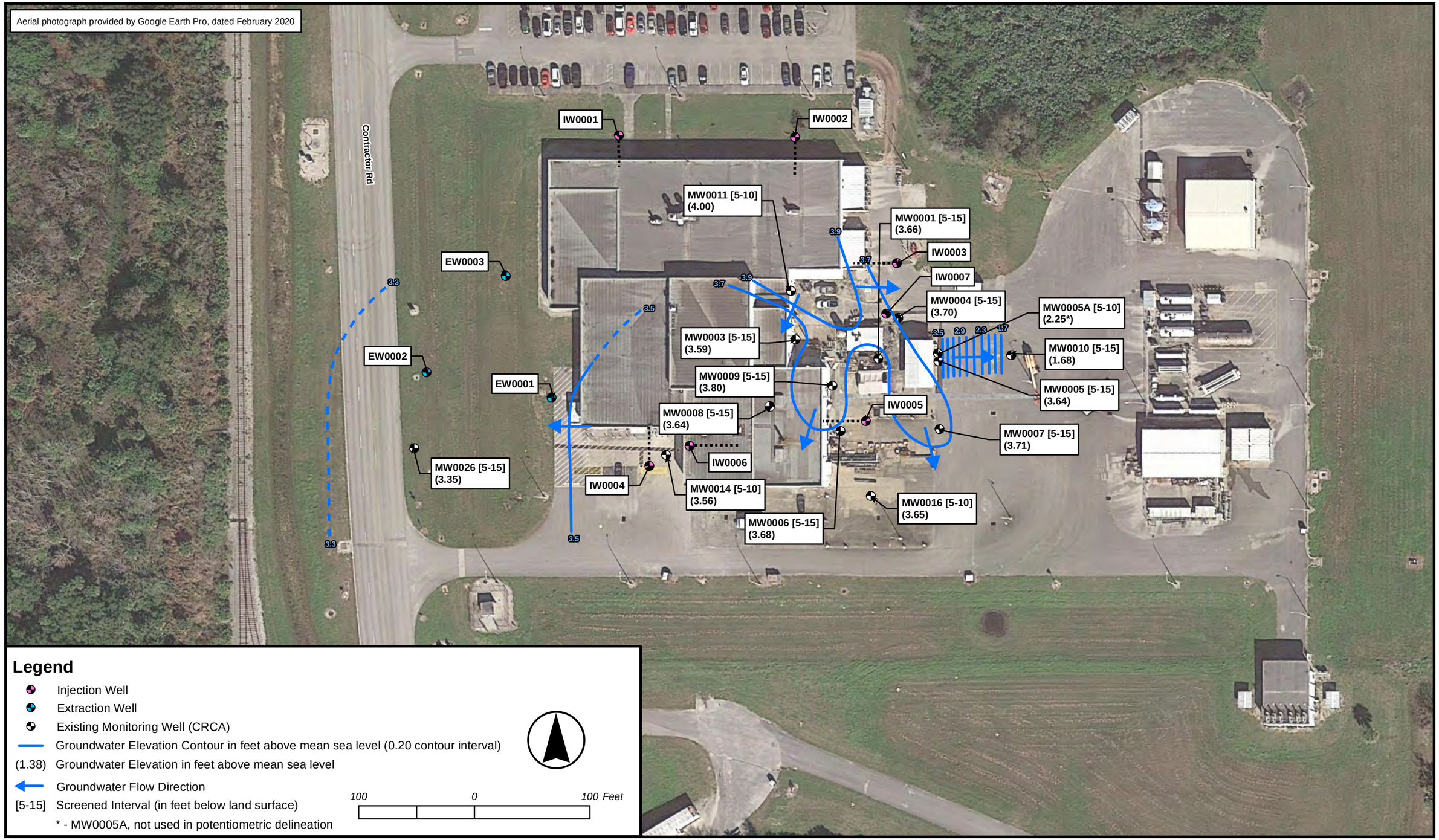
SWMU 041, KENNEDY SPACE CENTER, FLORIDA



JAX C:\GIS\KSC\MXD\CRCA\STEP 2\MXD\0_CRCA_MW_PERFORMANCE_SAMPLING_SEPT2021.MXD 09/24/21

FIGURE C-2 OCTOBER 2020 SHALLOW POTENTIOMETRIC SURFACE MAP

SWMU 041, KENNEDY SPACE CENTER, FLORIDA



Legend

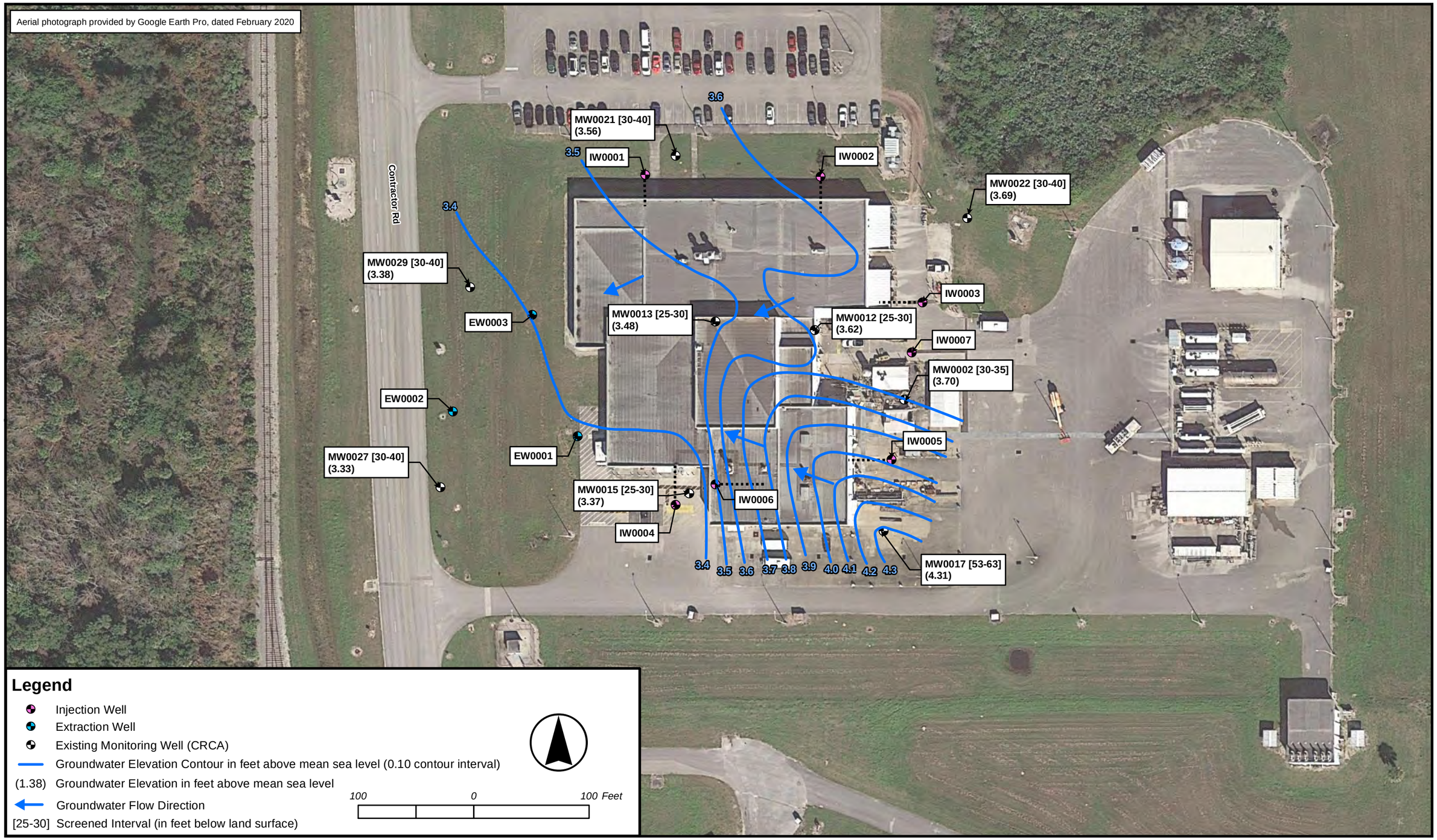
- Injection Well
- Extraction Well
- Existing Monitoring Well (CRCA)
- Groundwater Elevation Contour in feet above mean sea level (0.20 contour interval)
- (1.38) Groundwater Elevation in feet above mean sea level
- Groundwater Flow Direction
- [5-15] Screened Interval (in feet below land surface)
- * - MW0005A, not used in potentiometric delineation

100 0 100 Feet

JAX C:\GIS\KSC\MXD\CRCA\STEP 2\MXD\0_CRCA_MW_GWELEV_OCT2020_SHALLOW.MXD 09/09/21

FIGURE C.3 OCTOBER 2020 INTERMEDIATE POTENTIOMETRIC SURFACE MAP

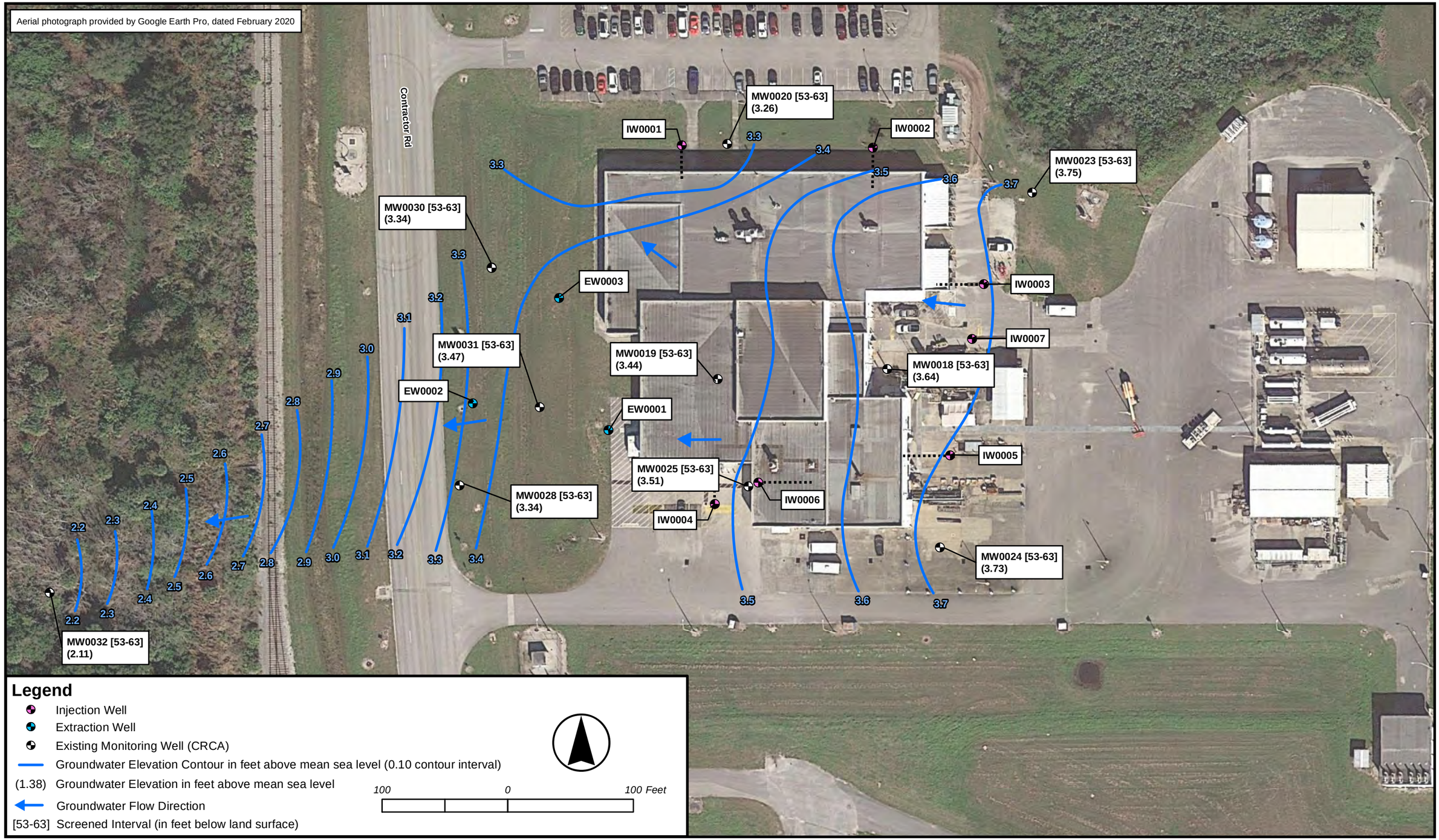
SWMU 041, KENNEDY SPACE CENTER, FLORIDA



JAX C:\GIS\KSC\MXD\CRCA\STEP 2\MXD\0_CRCA_MW_GWELEV_OCT2020_INTERMEDIATE.MXD 09/09/21

FIGURE C.4 OCTOBER 2020 DEEP POTENTIOMETRIC SURFACE MAP

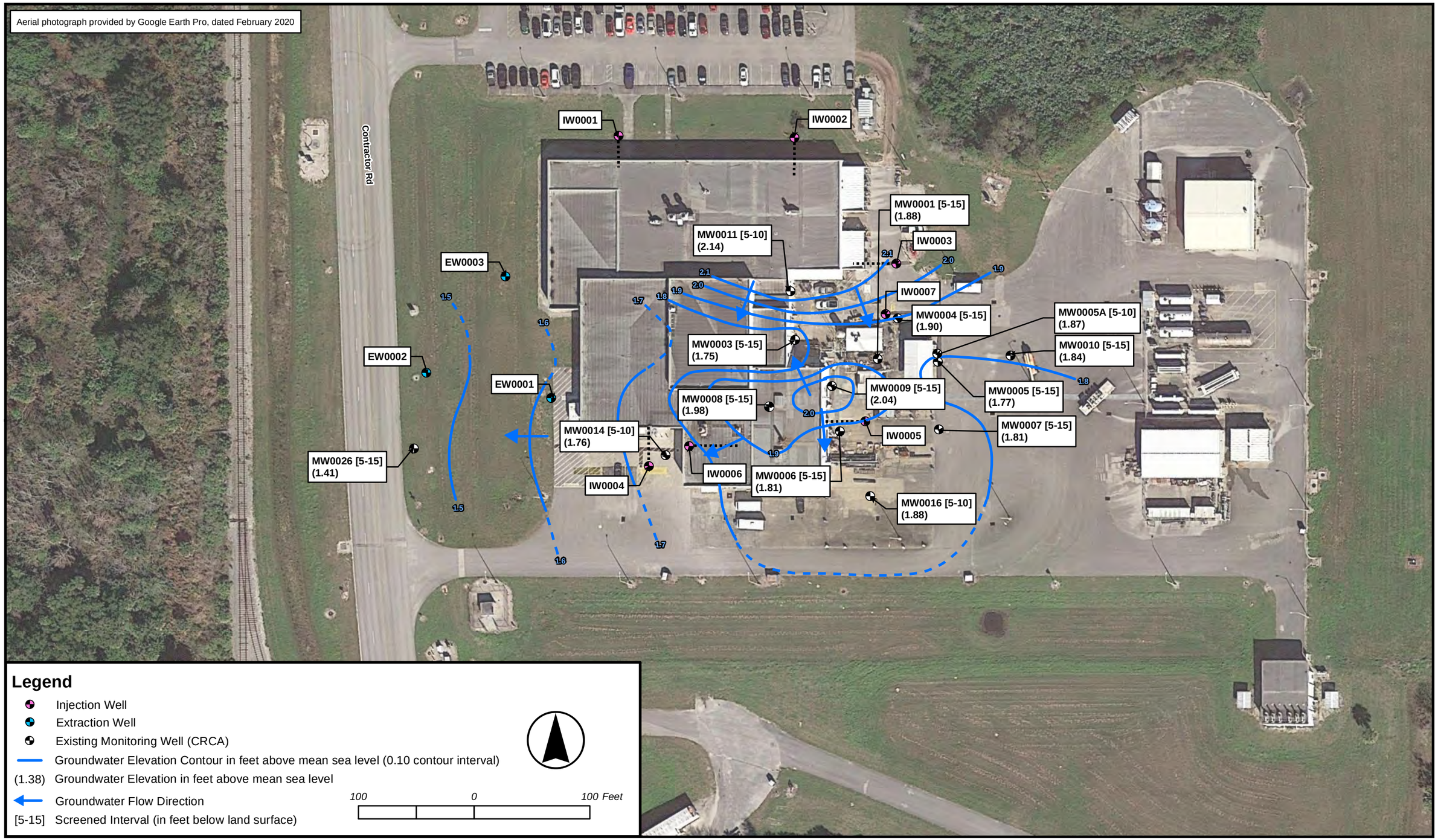
SWMU 041, KENNEDY SPACE CENTER, FLORIDA



JAX C:\GIS\KSC\MXD\CRCA\STEP 2\MXD\0_CRCA_MW_GWELEV_OCT2020_DEEP.MXD 09/09/21

FIGURE C.5 JANUARY 2021 SHALLOW POTENTIOMETRIC SURFACE MAP

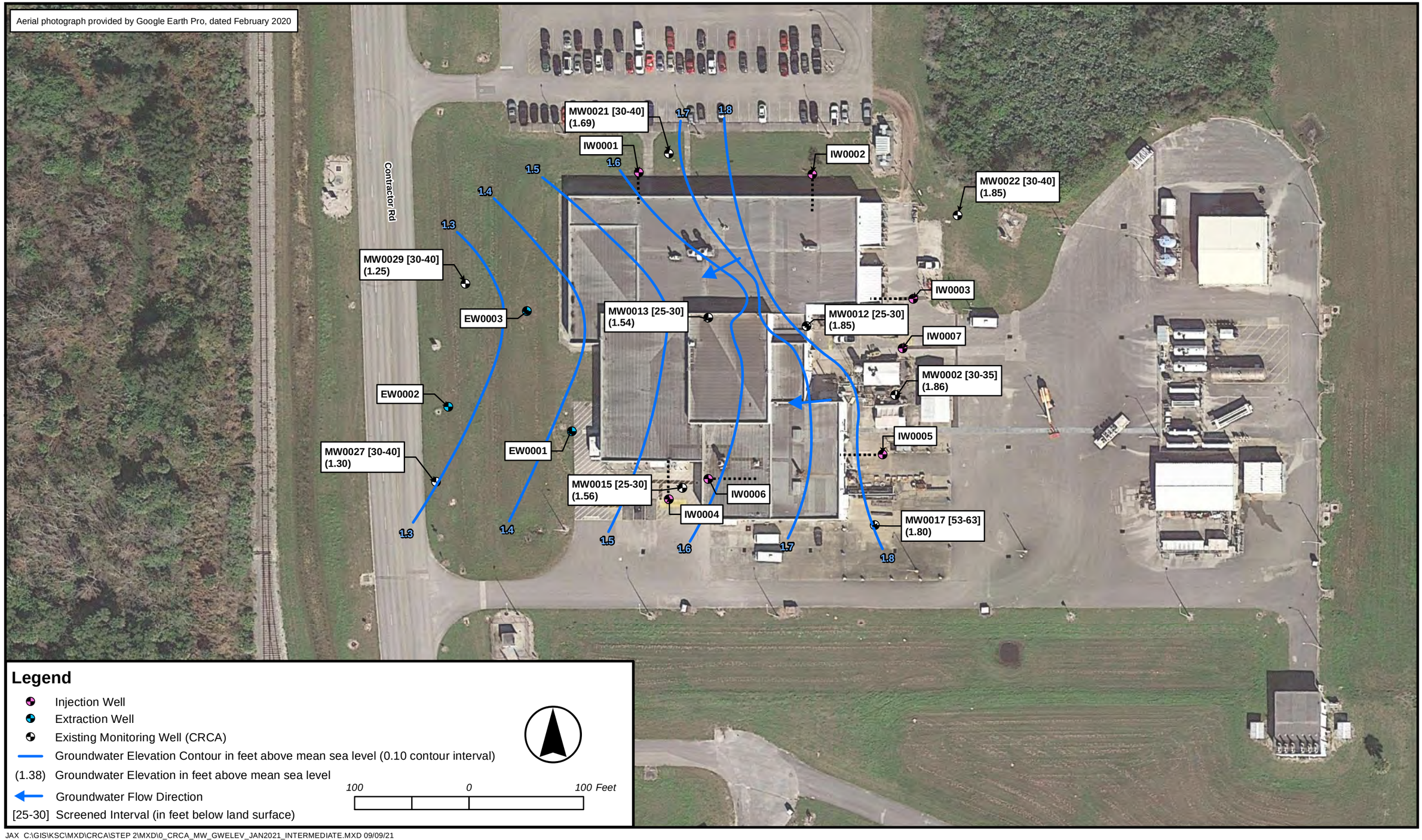
SWMU 041, KENNEDY SPACE CENTER, FLORIDA



JAX C:\GIS\KSC\MXD\CRCA\STEP 2\MXD\0_CRCA_MW_GWELEV_JAN2021_SHALLOW.MXD 09/09/21

FIGURE C.6 JANUARY 2021 INTERMEDIATE POTENTIOMETRIC SURFACE MAP

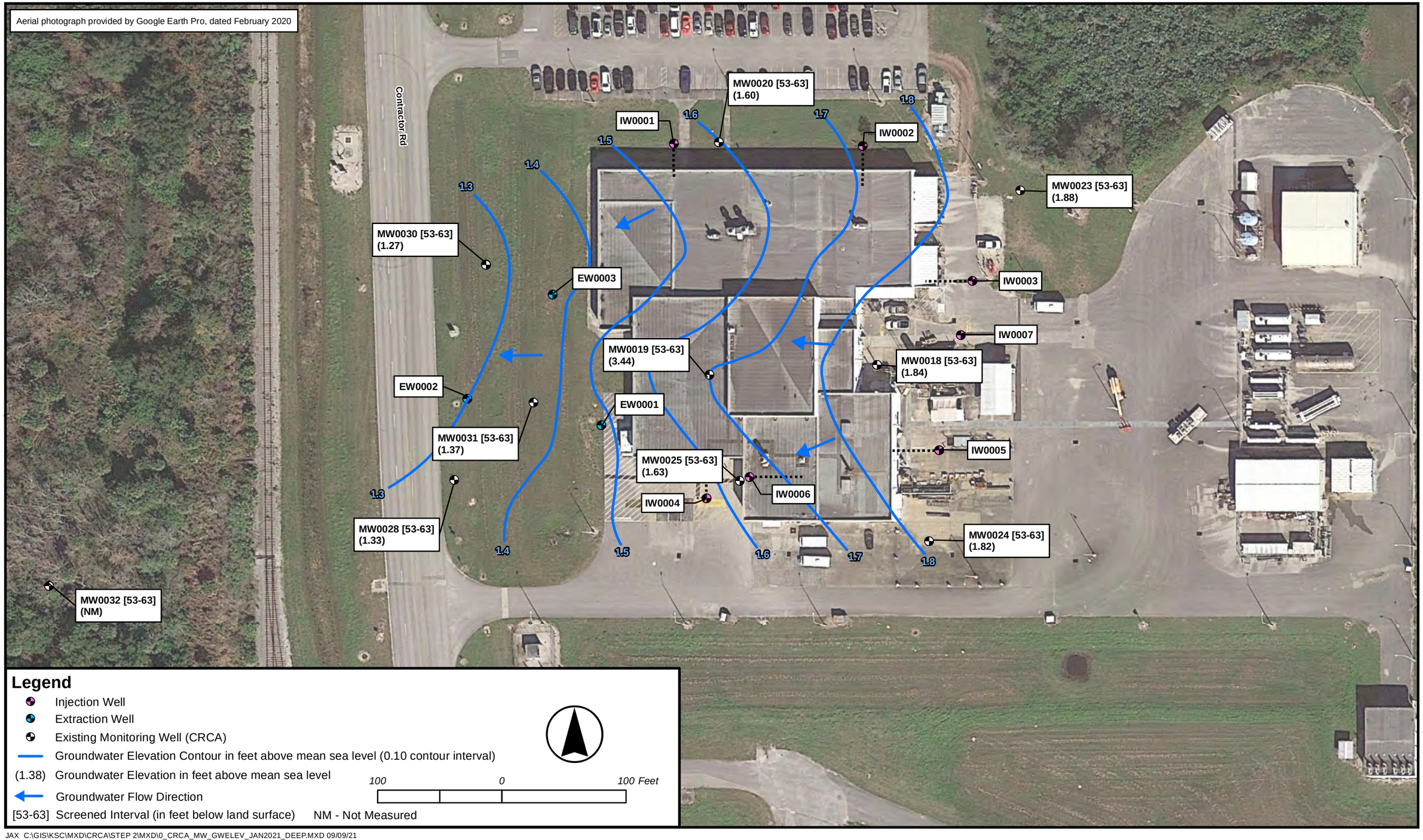
SWMU 041, KENNEDY SPACE CENTER, FLORIDA



JAX C:\GIS\KSC\MXD\CRCA\STEP 2\MXD\0_CRCA_MW_GWELEV_JAN2021_INTERMEDIATE.MXD 09/09/21

FIGURE C.7 JANUARY 2021 DEEP POTENTIOMETRIC SURFACE MAP

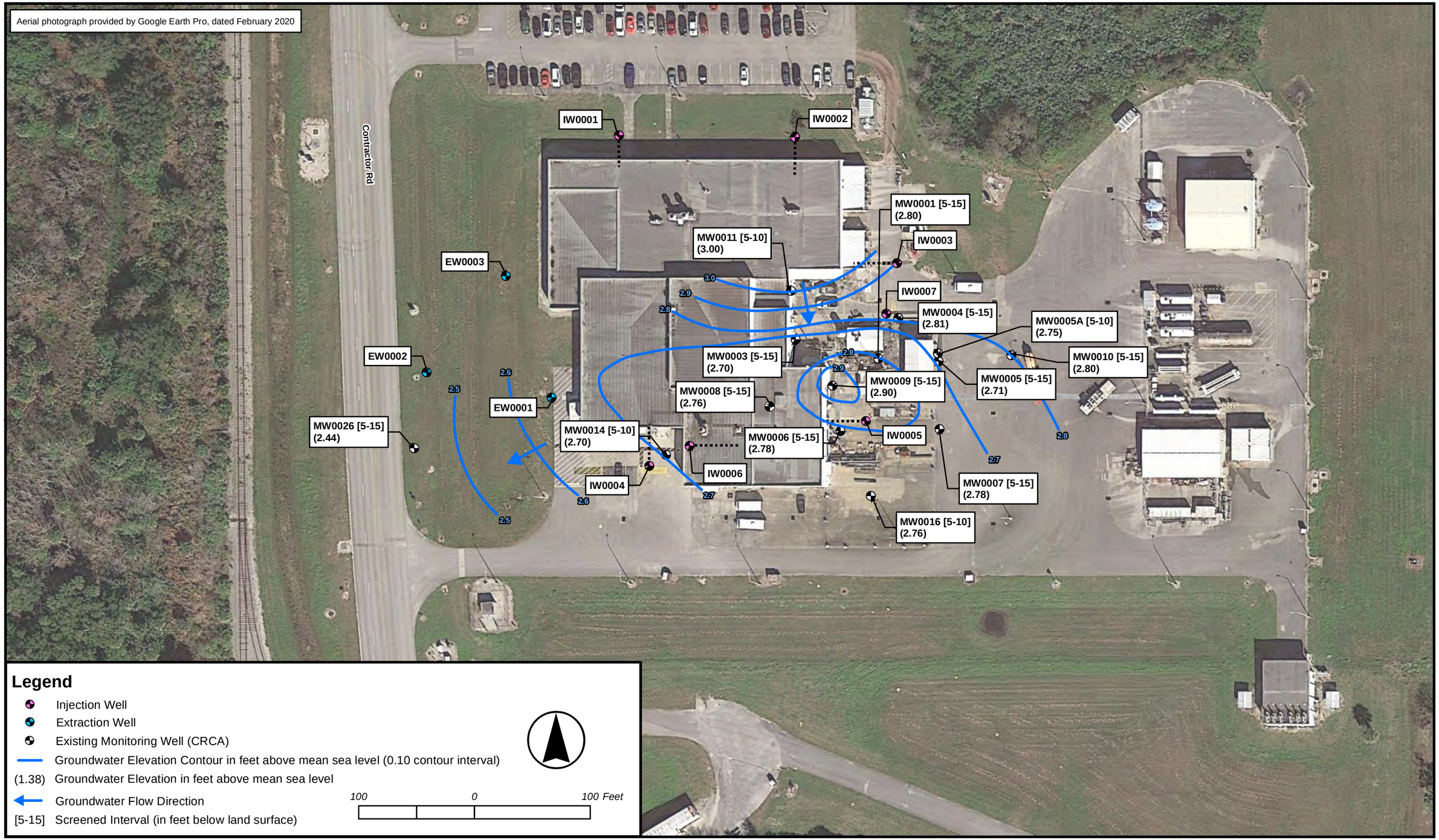
SWMU 041, KENNEDY SPACE CENTER, FLORIDA



JAX C:\GIS\KSC\MXD\CRCA\STEP 2\MXD\0_CRCA_MW_GWELEV_JAN2021_DEEP.MXD 09/09/21

FIGURE C.8 APRIL 2021 SHALLOW POTENTIOMETRIC SURFACE MAP

SWMU 041, KENNEDY SPACE CENTER, FLORIDA



JAX C:\GIS\KSC\MXD\CRCA\STEP 2\MXD\0_CRCA_MW_GWELEV_APR2021_SHALLOW.MXD 09/09/21

FIGURE C.9 APRIL 2021 INTERMEDIATE POTENTIOMETRIC SURFACE MAP

SWMU 041, KENNEDY SPACE CENTER, FLORIDA

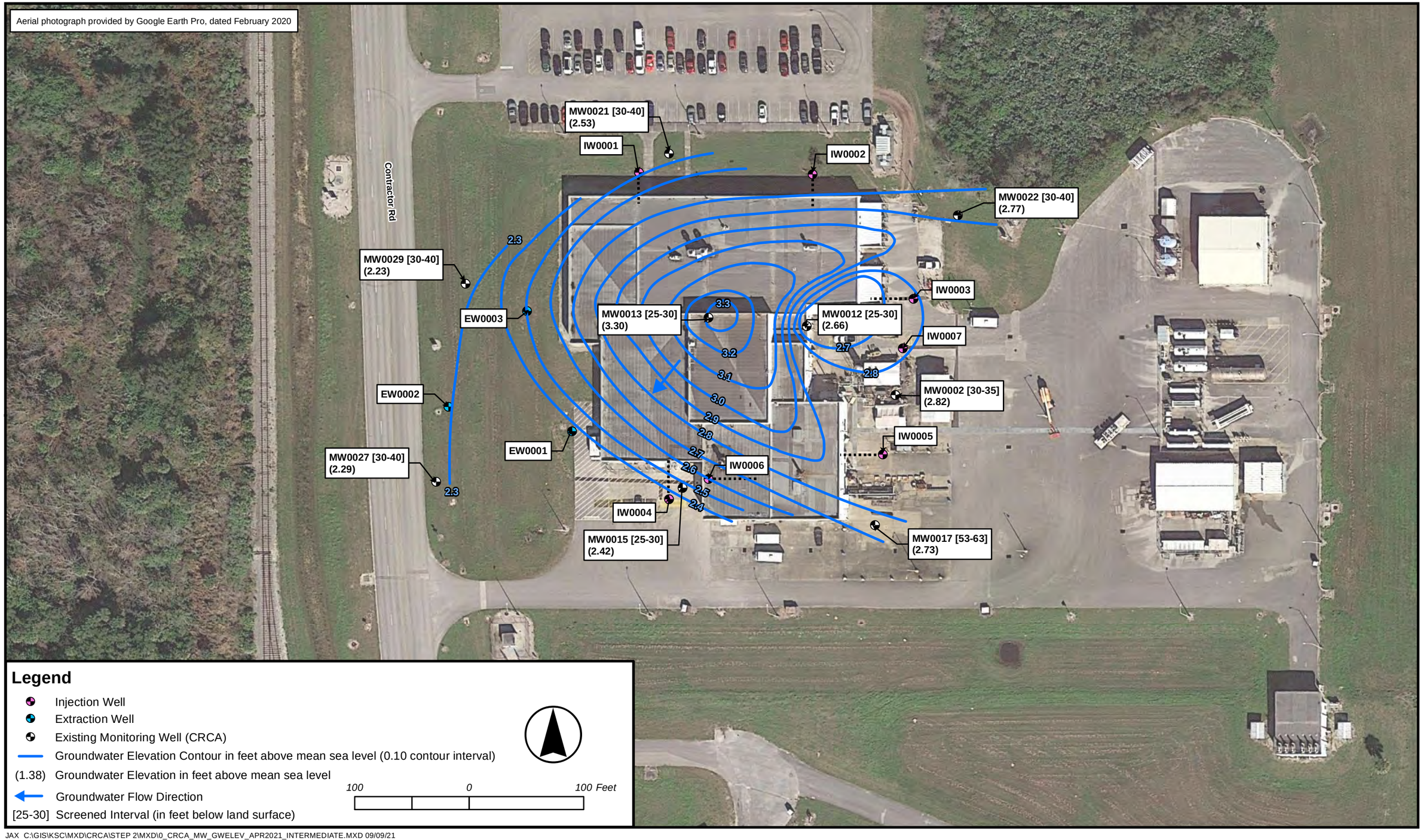


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FIGURE C.10 APRIL 2021 DEEP POTENTIOMETRIC SURFACE MAP

SWMU 041, KENNEDY SPACE CENTER, FLORIDA

Aerial photograph provided by Google Earth Pro, dated February 2020

Contractor Rd

IW0001
MW0020 [53-63] (2.37)
IW0002
MW0023 [53-63] (2.80)
IW0003
IW0007
MW0018 [53-63] (2.63)
IW0005
IW0006
MW0024 [53-63] (2.77)
EW0003
MW0030 [53-63] (2.12)
MW0019 [53-63] (1.26*)
EW0002
EW0001
MW0031 [53-63] (2.35)
MW0025 [53-63] (2.49)
IW0004
MW0028 [53-63] (2.24)
MW0032 [53-63] (1.18)

2.3 2.4 2.5 2.6 2.7 2.2 2.1 2.0 1.9 1.8 1.7 1.6 1.5 1.4 1.3 1.2

Legend

- Injection Well
- Extraction Well
- Existing Monitoring Well (CRCA) * - MW0019 not used in potentiometric delineation
- Groundwater Elevation Contour in feet above mean sea level (0.10 contour interval)
- (1.38) Groundwater Elevation in feet above mean sea level
- Groundwater Flow Direction
- [53-63] Screened Interval (in feet below land surface)

100 0 100 Feet

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FIGURE C.11 JULY 2021 SHALLOW POTENTIOMETRIC SURFACE MAP

SWMU 041, KENNEDY SPACE CENTER, FLORIDA

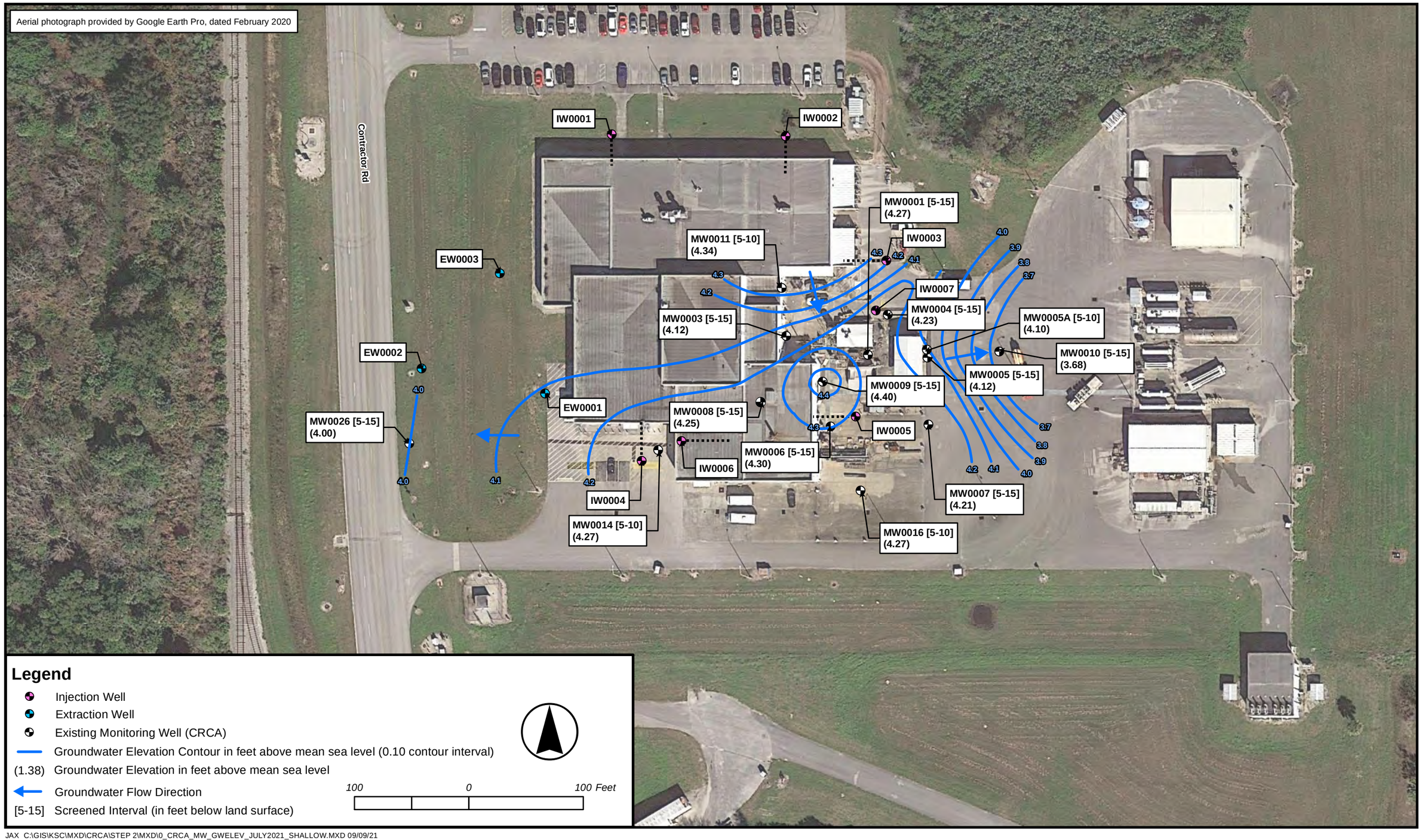

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FIGURE C.12 JULY 2021 INTERMEDIATE POTENTIOMETRIC SURFACE MAP

SWMU 041, KENNEDY SPACE CENTER, FLORIDA

Aerial photograph provided by Google Earth Pro, dated February 2020

MW0021 [30-40] (3.87)

IW0001

IW0002

MW0029 [30-40] (3.65)

EW0003

MW0013 [25-30] (3.93)

MW0012 [25-30] (4.06)

MW0022 [30-40] (4.18)

IW0003

IW0007

MW0002 [30-35] (4.31)

IW0005

EW0002

EW0001

IW0006

MW0027 [30-40] (3.74)

IW0004

MW0015 [25-30] (4.22)

MW0017 [53-63] (4.30)

3.7 3.8 3.9 4.0 4.1 4.2 4.3

Contractor Rd

Legend

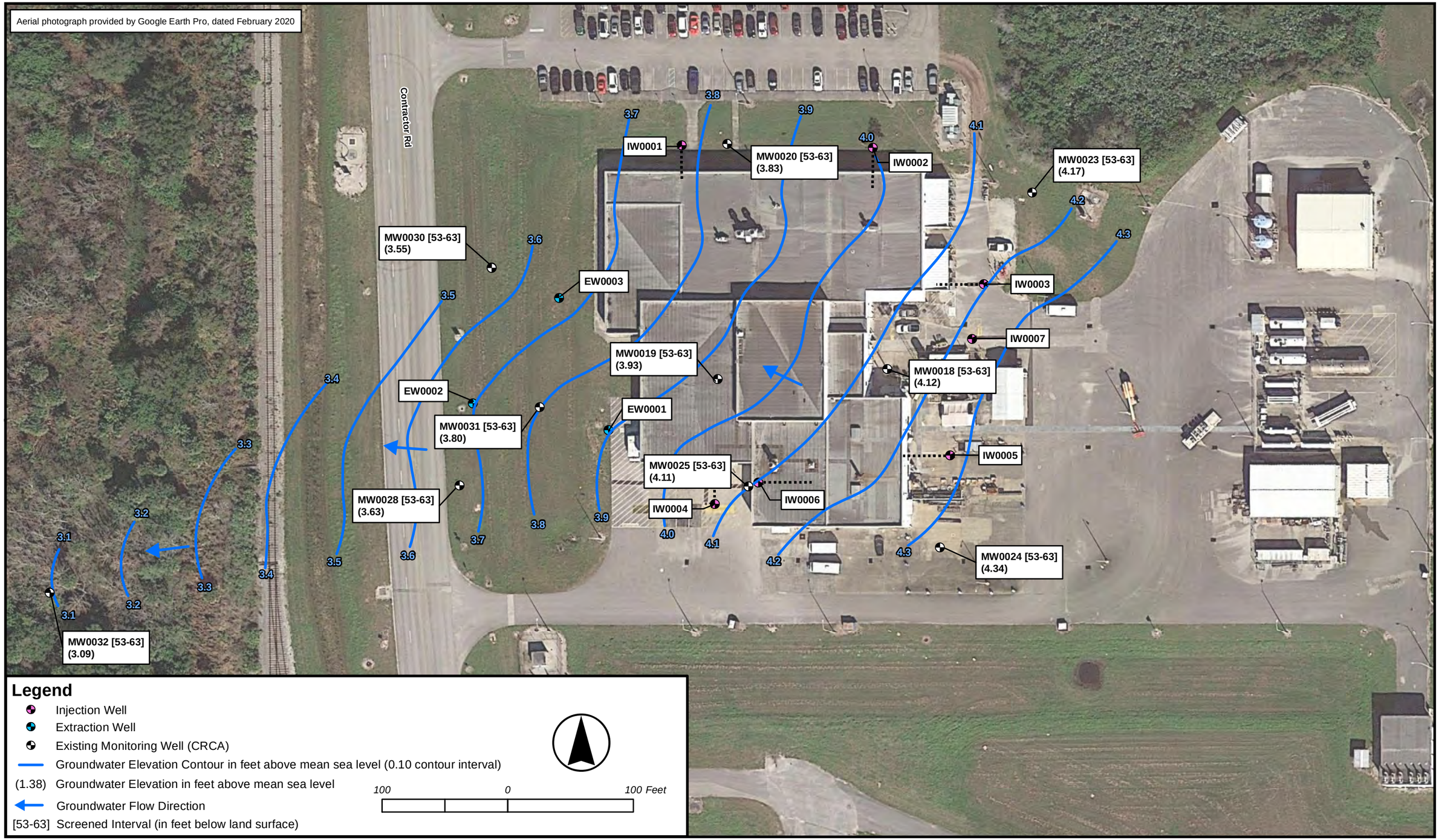
- Injection Well
- Extraction Well
- Existing Monitoring Well (CRCA)
- Groundwater Elevation Contour in feet above mean sea level (0.10 contour interval)
- (1.38) Groundwater Elevation in feet above mean sea level
- Groundwater Flow Direction
- [25-30] Screened Interval (in feet below land surface)

100 0 100 Feet

JAX C:\GIS\KSC\MXD\CRCA\STEP 2\MXD\0_CRCA_MW_GWELEV_JULY2021_INTERMEDIATE.MXD 09/09/21

FIGURE C.13 JULY 2021 DEEP POTENTIOMETRIC SURFACE MAP

SWMU 041, KENNEDY SPACE CENTER, FLORIDA



JAX C:\GIS\KSC\MXD\CRCA\STEP 2\MXD\0_CRCA_MW_GWELEV_JULY2021_DEEP.MXD 09/09/21

ATTACHMENT D
TRANSPORT MODEL YEAR 2 REMEDIAL ANALYSES SUPPORT

FIGURE D-1 MONITORING WELL LOCATION AND PERFORMANCE SAMPLING PLAN, YEAR 2

SWMU 041, KENNEDY SPACE CENTER, FLORIDA

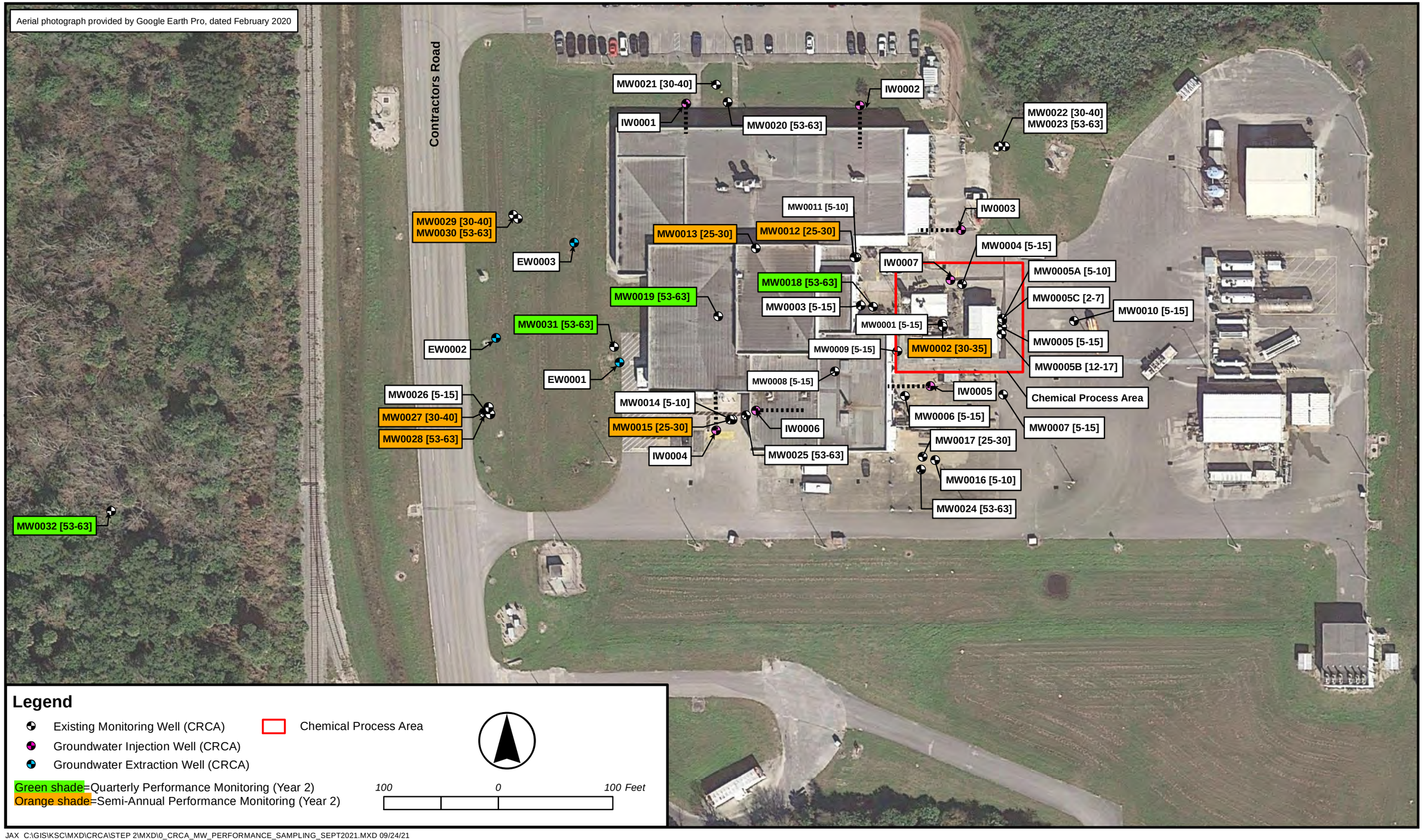


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FIGURE D.2 INTERMEDIATE MONITORING WELL RESULTS

SWMU 041, KENNEDY SPACE CENTER, FLORIDA

Aerial photograph provided by Google Earth Pro, dated February 2020

Contractors Road

CRCA-MW0013 [25-30]

	June-2019	Jan-2020	Jul-2020	Jan-2021	Jul-2021
tDCE	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	0.71 U	1.4 I	**4.6**	**2.1 I**	1.4 I

CRCA-MW0029 [30-40]

	June-2019	Jan-2020	Jul-2020	Jan-2021	Jul-2021
tDCE	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U

CRCA-MW0012 [25-30]

	June-2019	Jan-2020	Jul-2020	Jan-2021	Jul-2021
tDCE	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	**2.6**	1.4 I	**1.7 I**	0.71 U	0.71 U

CRCA-MW0002 [30-35]

	June-2019	Jan-2020	Jul-2020	Jan-2021	Jul-2021
tDCE	0.73 U	0.73 U	0.73 U	0.73 U	**0.73 I**
VC	**28**	**22**	**1.8 I**	**3.1**	**7.4**

CRCA-MW0027 [30-40]

	June-2019	Jan-2020	Jul-2020	Jan-2021	Jul-2021
tDCE	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	0.71 U	0.71 U	0.71 U	**7**	0.71 U

CRCA-MW0015 [25-30]

	June-2019	Jan-2020	Jul-2020	Jan-2021	Jul-2021
tDCE	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	0.71 U	**0.77 I**	0.71 U	0.71 U	0.71 U

Legend

- Existing Monitoring Well (CRCA)
- Concentrations greater than GCTL (LCP) and less than NADC

Parameter	Abbrev.	GCTL	NADC
trans-1,2-Dichloroethene	tDCE	100	1,000
Vinyl Chloride	VC	1	100

Detected Concentration (µg/L)
I = Reported value between Method Detection Limit (MDL) and Practical Quantitation Limit
J = Estimated value
U = Not detected at or above MDL (associated value)
[53-63] = Depth Interval in feet below land surface
LCP = Low Concentration Plume
GCTL = State of Florida Groundwater Cleanup Target Level
NADC = Natural Attenuation Default Concentration
Pink highlights signify concentrations above GCTL

100 0 100 Feet

JAX C:\GIS\KSC\MXD\CRCA\STEP 2\MXD\0_CRCA_MW_RESULTS_SEPT2021_INTERM.MXD 09/15/21

FIGURE D.3 INTERMEDIATE AND DEEP MONITORING WELL RESULTS

SWMU 041, KENNEDY SPACE CENTER, FLORIDA

Aerial photograph provided by Google Earth Pro, dated February 2020

Contractors Road

CRCA-MW0030 [53-63]	June-2019	Jan-2020	Jul-2020	Jan-2021	Jul-2021
tDCE	**0.97 I**	0.73 U	0.73 U	0.73 U	0.73 U
VC	**90**	**0.87 I**	0.71 U	0.71 U	0.71 U

CRCA-MW0013 [25-30]	June-2019	Jan-2020	Jul-2020	Jan-2021	Jul-2021
tDCE	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	0.71 U	1.4 I	**4.6**	**2.1 I**	1.4 I

CRCA-MW0029 [30-40]	June-2019	Jan-2020	Jul-2020	Jan-2021	Jul-2021
tDCE	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U

CRCA-MW0018 [53-63]	June-2019	Oct-2019	Jan-2020	Apr-2020	Jul-2020	Oct-2020	Jan-2021	Apr-2021	Jul-2021
tDCE	0.73 U	1.5 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	**140**	**130**	**100**	**84**	**110**	**81**	**97**	**63**	**55**

CRCA-MW0012 [25-30]	June-2019	Jan-2020	Jul-2020	Jan-2021	Jul-2021
tDCE	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	**2.6**	1.4 I	**1.7 I**	0.71 U	0.71 U

CRCA-MW0032 [53-63]	June-2019	Jan-2020	Jul-2020	Oct-2020	Jan-2021	Apr-2021	Jul-2021
tDCE	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	0.71 U	**9.2**	**8.9**	**17**	0.71 U	**6**	**11**

CRCA-MW0002 [30-35]	June-2019	Jan-2020	Jul-2020	Jan-2021	Jul-2021
tDCE	0.73 U	0.73 U	0.73 U	0.73 U	**0.73 I**
VC	**28**	**22**	**1.8 I**	**3.1**	**7.4**

CRCA-MW0015 [25-30]	June-2019	Jan-2020	Jul-2020	Jan-2021	Jul-2021
tDCE	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	0.71 U	**0.77 I**	0.71 U	0.71 U	0.71 U

CRCA-MW0027 [30-40]	June-2019	Jan-2020	Jul-2020	Jan-2021	Jul-2021
tDCE	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	0.71 U	0.71 U	0.71 U	**7**	0.71 U

CRCA-MW0019 [53-63]	June-2019	Oct-2019	Jan-2020	Apr-2020	Jul-2020	Oct-2020	Jan-2021	Apr-2021	Jul-2021
tDCE	**1.9 I**	1.5 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	**250**	**110**	**34**	**9.4**	**20**	**3.3**	**2.8**	**2.8**	1.4 I

CRCA-MW0028 [53-63]	June-2019	Oct-2019	Jan-2020	Apr-2020	Jul-2020	Jan-2021	Jul-2021
tDCE	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	**23**	**16**	**1.5 I**	**0.9 I**	1.2 I	0.71 U	0.71 U

CRCA-MW0031 [53-63]	June-2019	Oct-2019	Jan-2020	Apr-2020	Jul-2020	Oct-2020	Jan-2021	Apr-2021	Jul-2021
tDCE	**4.4 I**	3.6 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	**680**	**310**	**87**	**62**	**71**	**28**	**29**	**13**	**18**

Legend

- Existing Monitoring Well (CRCA)
- Concentrations greater than GCTL (LCP) and less than NADC

Parameter	Abbrev.	GCTL	NADC
trans-1,2-Dichloroethene	tDCE	100	1,000
Vinyl Chloride	VC	1	100

Detected Concentration (µg/L)
I = Reported value between Method Detection Limit (MDL) and Practical Quantitation Limit
J = Estimated value
U = Not detected at or above MDL (associated value)
[53-63] = Depth Interval in feet below land surface
LCP = Low Concentration Plume
HCP = High Concentration Plume
GCTL = State of Florida Groundwater Cleanup Target Level
NADC = Natural Attenuation Default Concentration
Pink highlights signify concentrations above GCTL
Red highlights signify concentrations above NADC

100 0 100 Feet

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FIGURE D.4 DEEP MONITORING WELL RESULTS

SWMU 041, KENNEDY SPACE CENTER, FLORIDA

Aerial photograph provided by Google Earth Pro, dated February 2020

Contractors Road

CRCA-MW0030 [53-63]

	June-2019	Jan-2020	Jul-2020	Jan-2021	Jul-2021
tDCE	**0.97 I**	0.73 U	0.73 U	0.73 U	0.73 U
VC	**90**	**0.87 I**	0.71 U	0.71 U	0.71 U

CRCA-MW0032 [53-63]

	June-2019	Jan-2020	Jul-2020	Oct-2020	Jan-2021	Apr-2021	Jul-2021
tDCE	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	0.71 U	**9.2**	**8.9**	**17**	0.71 U	**6**	**11**

CRCA-MW0018 [53-63]

	June-2019	Oct-2019	Jan-2020	Apr-2020	Jul-2020	Oct-2020	Jan-2021	Apr-2021	Jul-2021
tDCE	0.73 U	1.5 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	**140**	**130**	**100**	**84**	**110**	**81**	**97**	**63**	**55**

CRCA-MW0019 [53-63]

	June-2019	Oct-2019	Jan-2020	Apr-2020	Jul-2020	Oct-2020	Jan-2021	Apr-2021	Jul-2021
tDCE	**1.9 I**	1.5 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	**250**	**110**	**34**	**9.4**	**20**	**3.3**	**2.8**	**2.8**	1.4 I

CRCA-MW0028 [53-63]

	June-2019	Oct-2019	Jan-2020	Apr-2020	Jul-2020	Jan-2021	Jul-2021
tDCE	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	**23**	**16**	**1.5 I**	**0.9 I**	1.2 I	0.71 U	0.71 U

CRCA-MW0031 [53-63]

	June-2019	Oct-2019	Jan-2020	Apr-2020	Jul-2020	Oct-2020	Jan-2021	Apr-2021	Jul-2021
tDCE	**4.4 I**	3.6 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	**680**	**310**	**87**	**62**	**71**	**28**	**29**	**13**	**18**

Legend

- Existing Monitoring Well (CRCA)
- Concentrations greater than GCTL (LCP) and less than NADC

Parameter	Abbrev.	GCTL	NADC
trans-1,2-Dichloroethene	tDCE	100	1,000
Vinyl Chloride	VC	1	100

Detected Concentration (µg/L)
I = Reported value between Method Detection Limit (MDL) and Practical Quantitation Limit
J = Estimated value
U = Not detected at or above MDL (associated value)
[53-63] = Depth Interval in feet below land surface
LCP = Low Concentration Plume
HCP = High Concentration Plume
GCTL = State of Florida Groundwater Cleanup Target Level
NADC = Natural Attenuation Default Concentration
Pink highlights signify concentrations above GCTL
Red highlights signify concentrations above NADC

100 0 100 Feet

JAX C:\GIS\KSC\MXD\CRCA\STEP 2\MXD\0_CRCA_MW_RESULTS_SEPT2021_DEEP.MXD 09/17/21

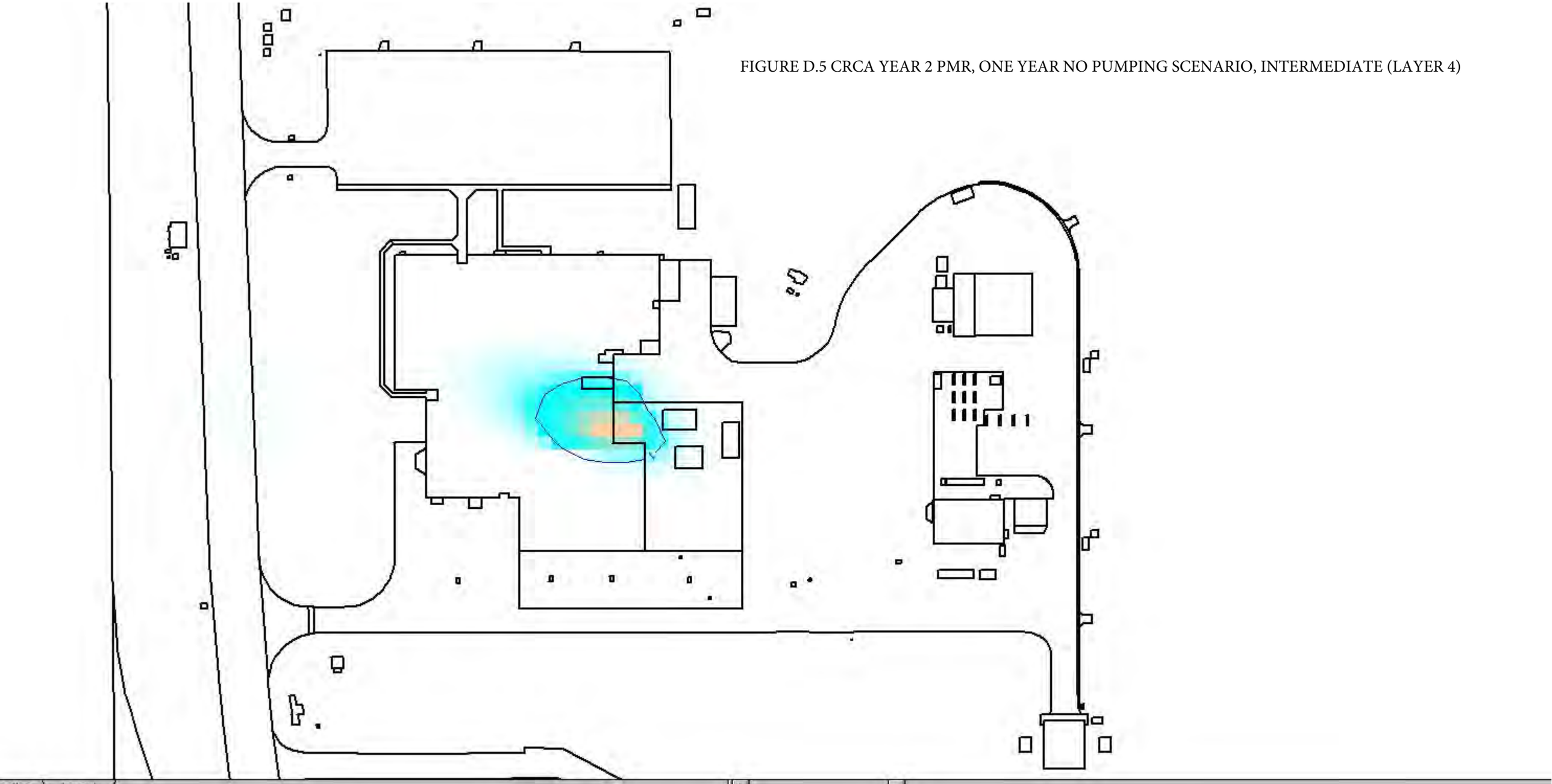
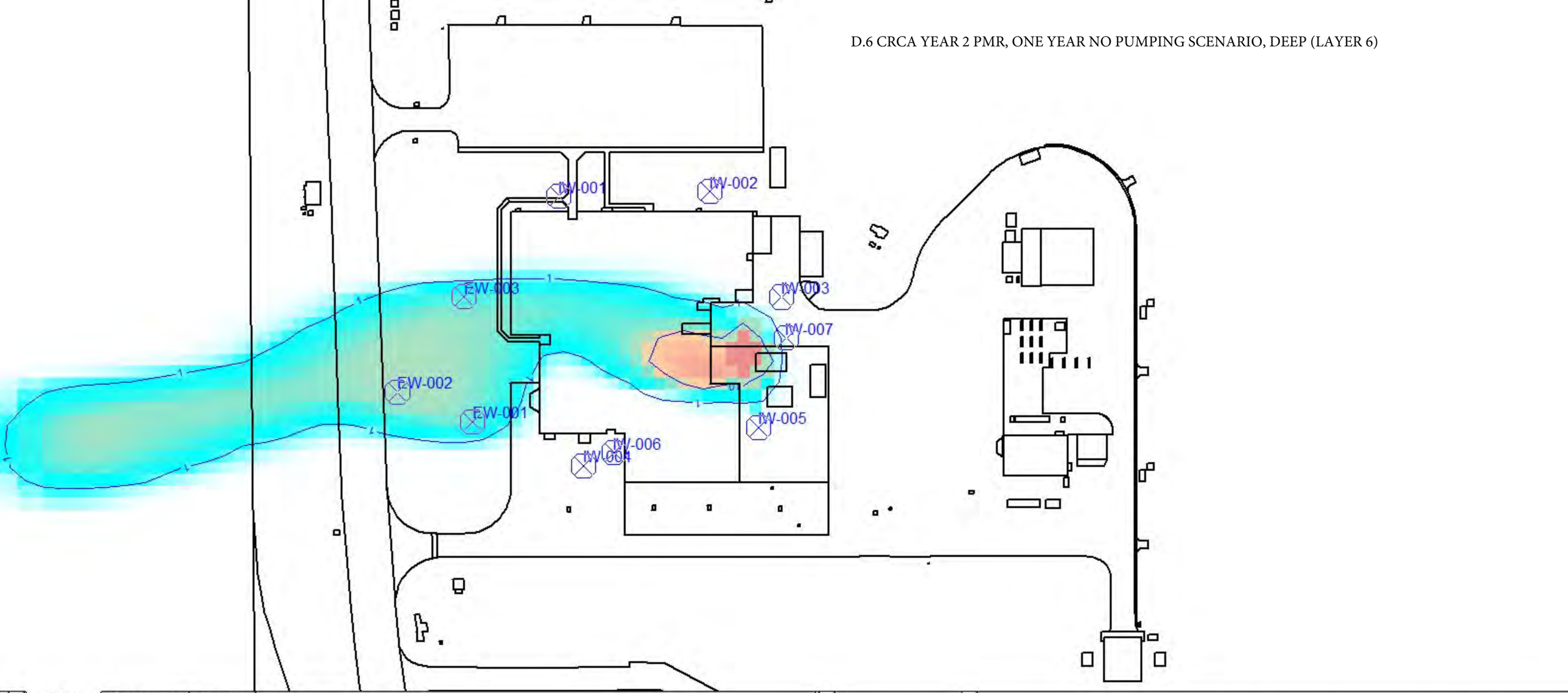
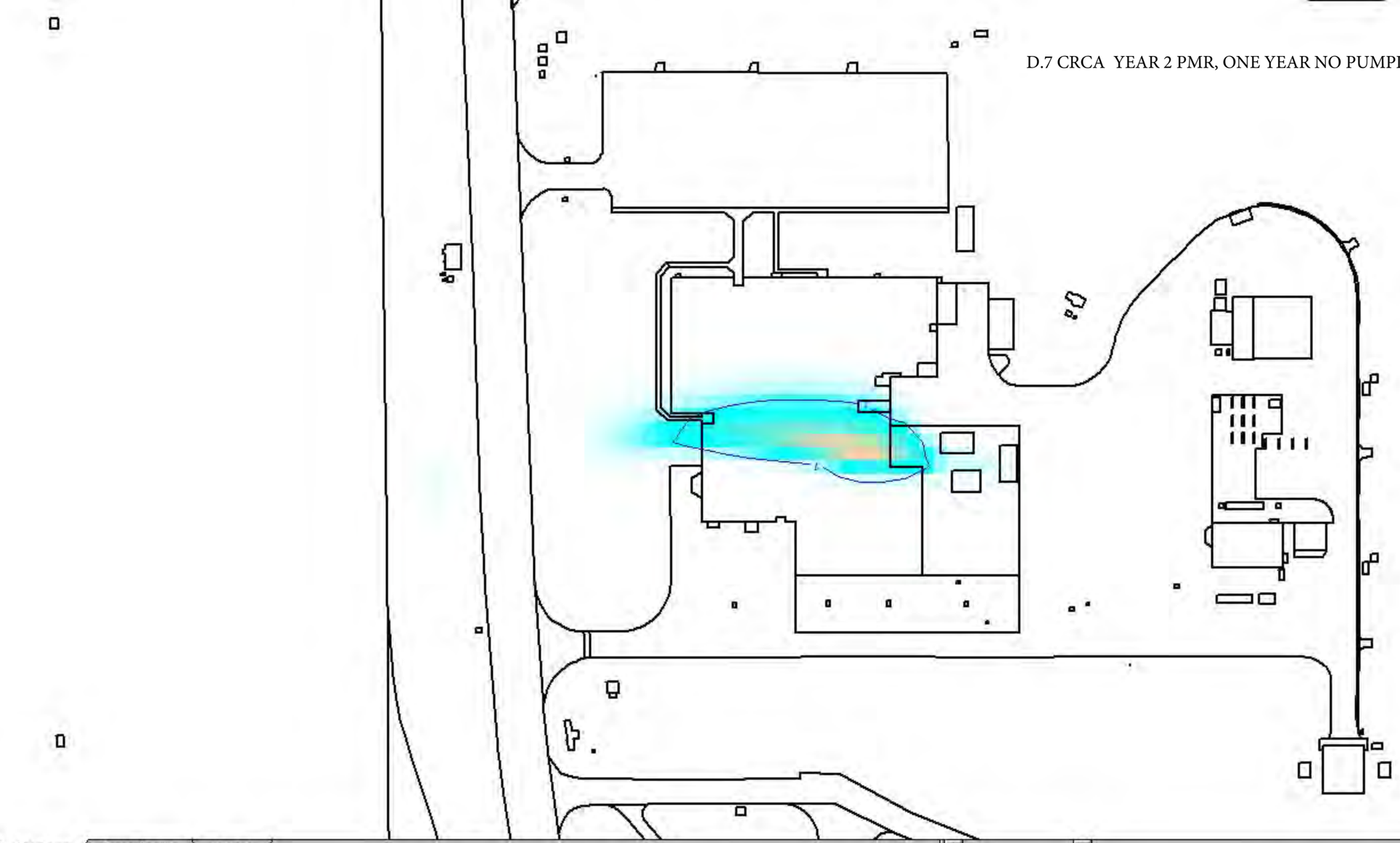


FIGURE D.5 CRCA YEAR 2 PMR, ONE YEAR NO PUMPING SCENARIO, INTERMEDIATE (LAYER 4)

D.6 CRCA YEAR 2 PMR, ONE YEAR NO PUMPING SCENARIO, DEEP (LAYER 6)

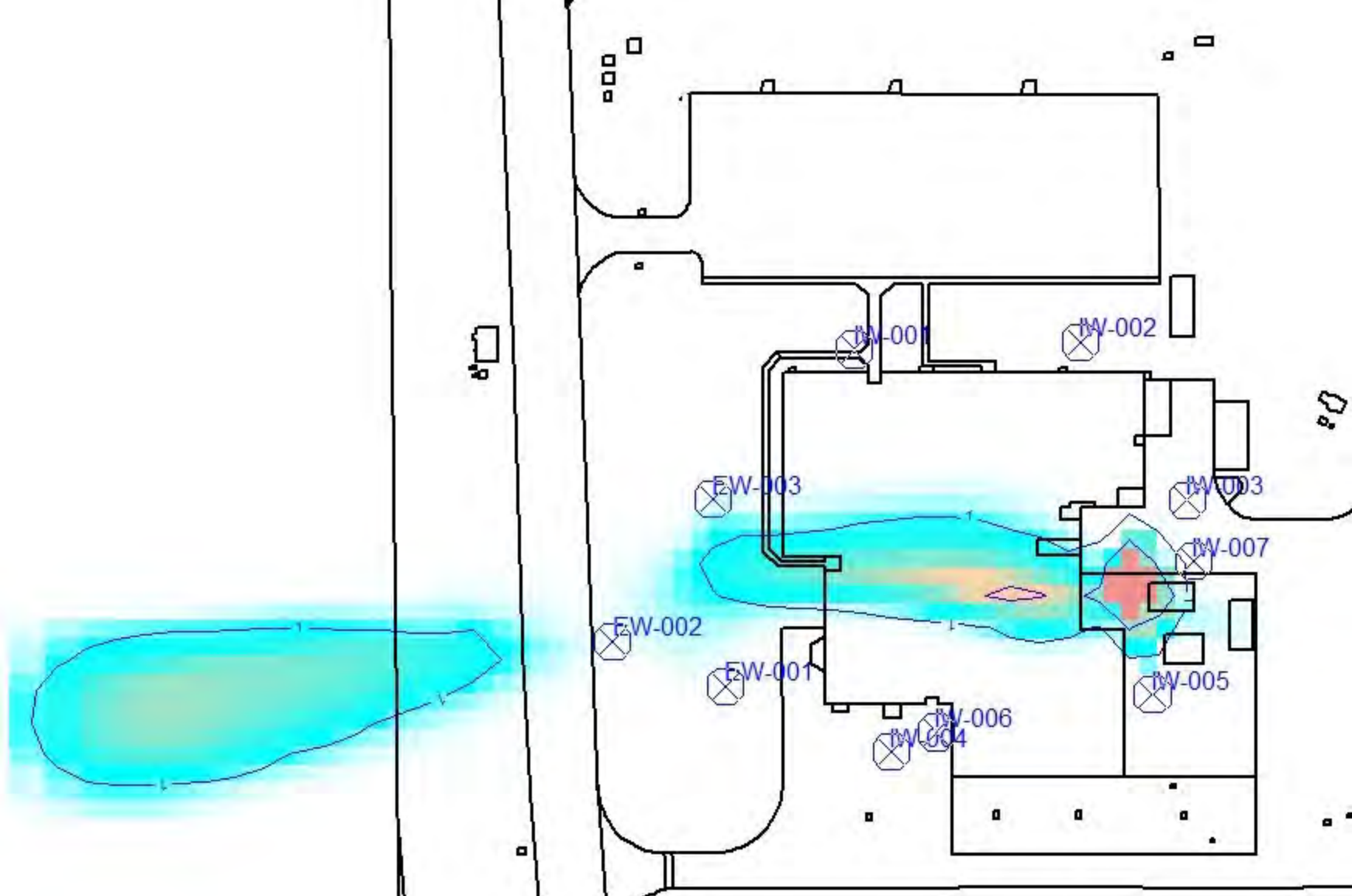


D.7 CRCA YEAR 2 PMR, ONE YEAR NO PUMPING SCENARIO, INTERMEDIATE (LAYER 4)



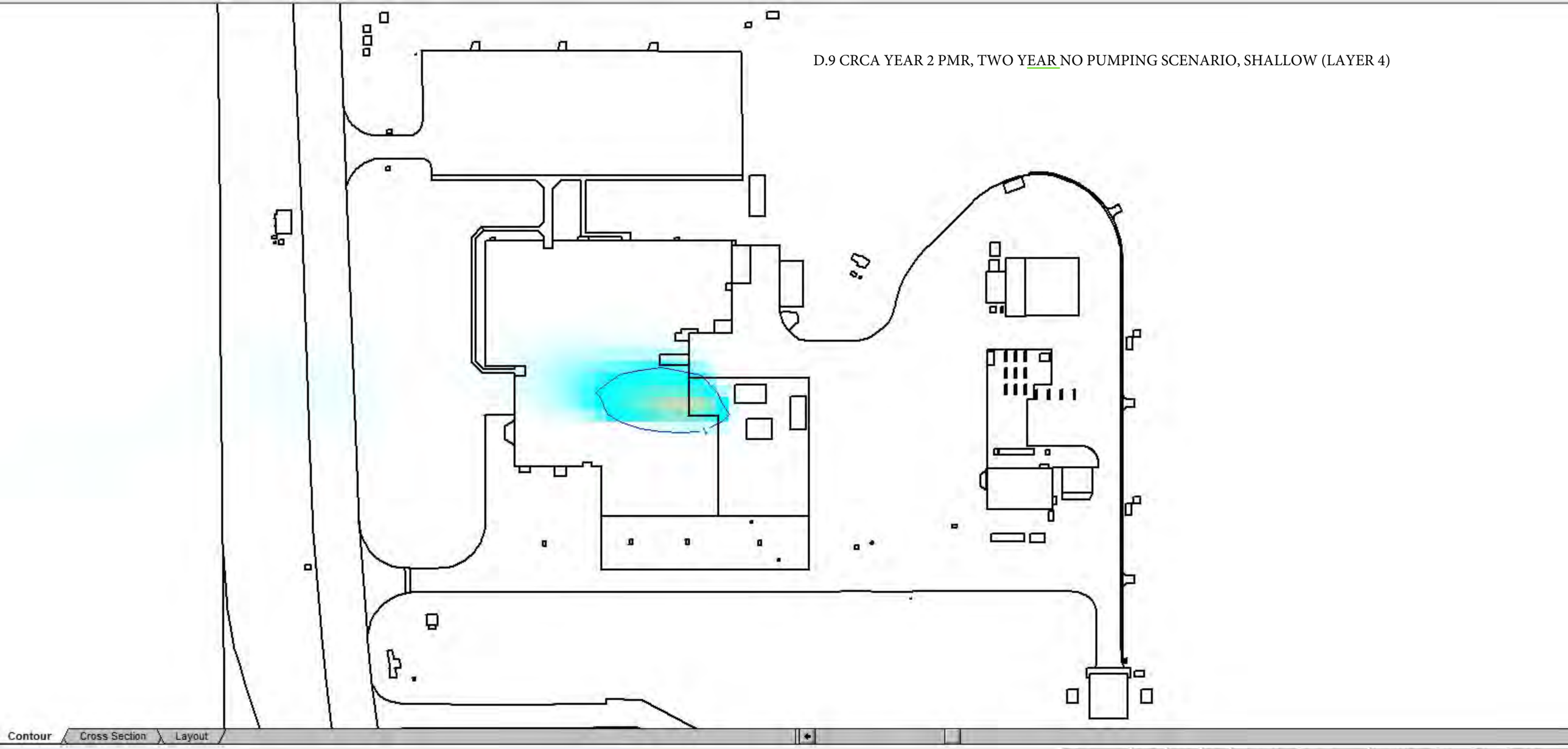
Contour | Cross Section | Layout

AEM | R:21 | C:12 | L:4 | 766904.48 | 1542096.14 | 6.54e-24 | SP1 | TS1 | TTS21

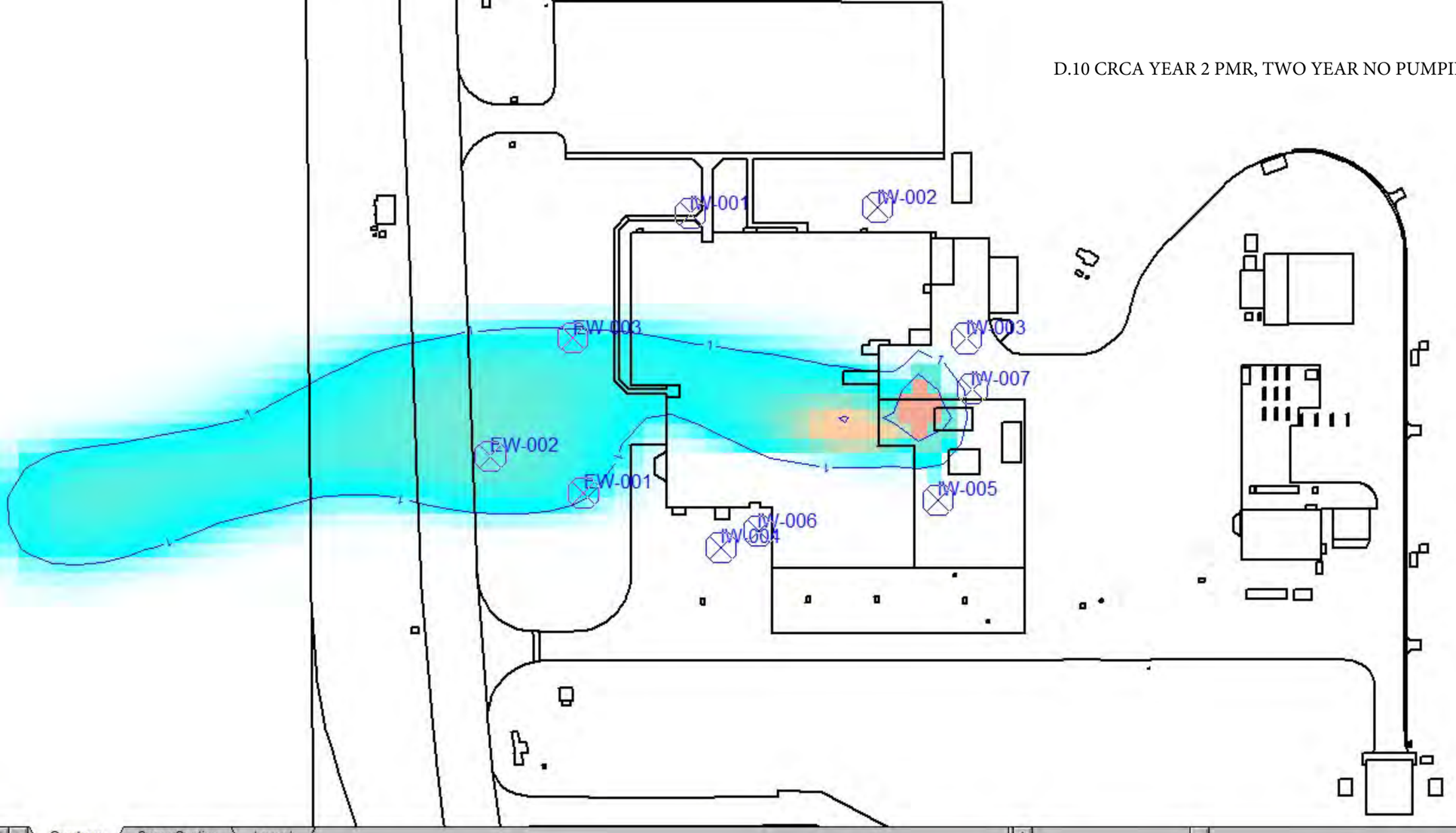


D.8 CRCA YEAR 2 PMR, ONE YEAR NO PUMPING SCENARIO, DEEP (LAYER 6)

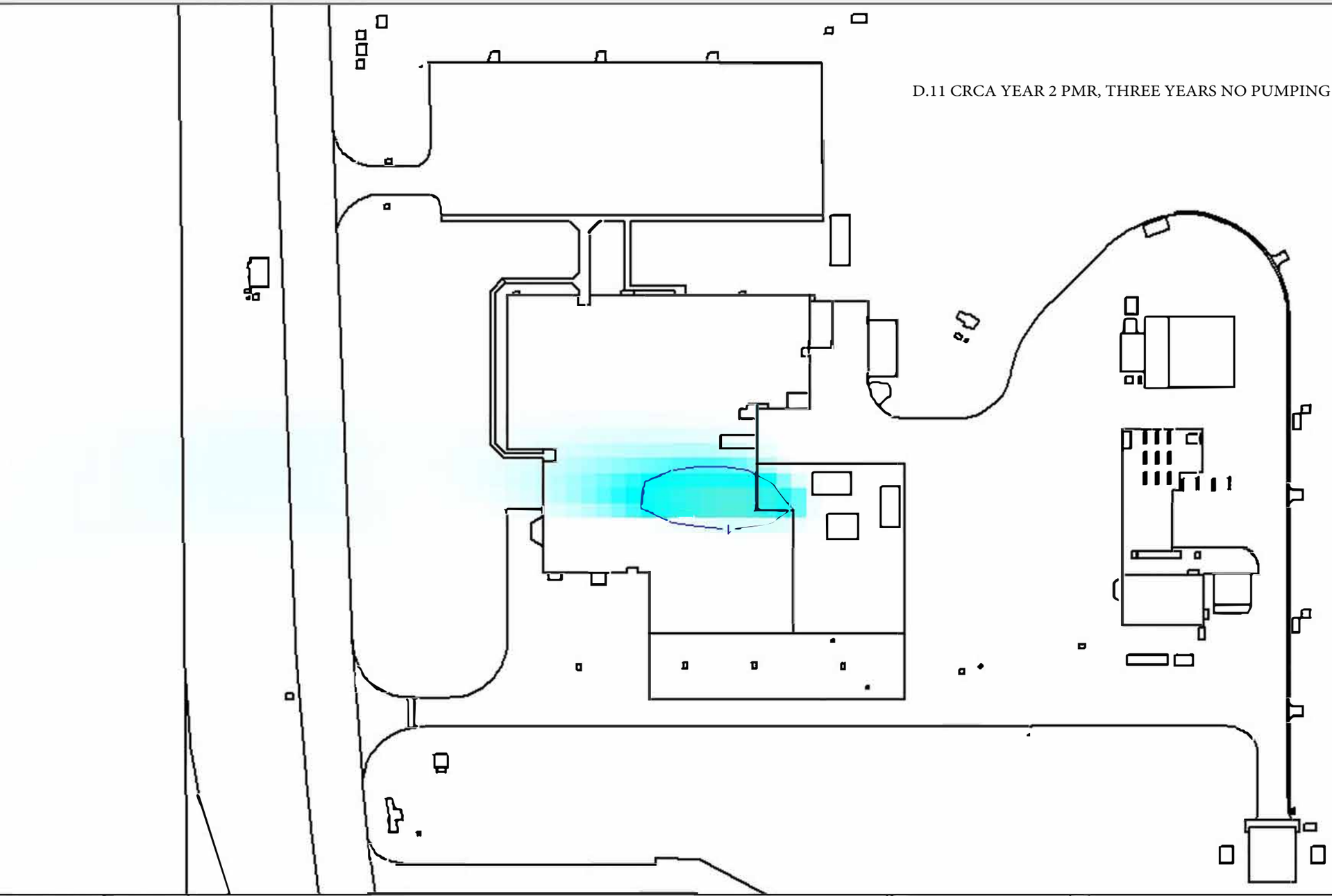
D.9 CRCA YEAR 2 PMR, TWO YEAR NO PUMPING SCENARIO, SHALLOW (LAYER 4)



D.10 CRCA YEAR 2 PMR, TWO YEAR NO PUMPING SCENARIO, DEEP (LAYER 6)



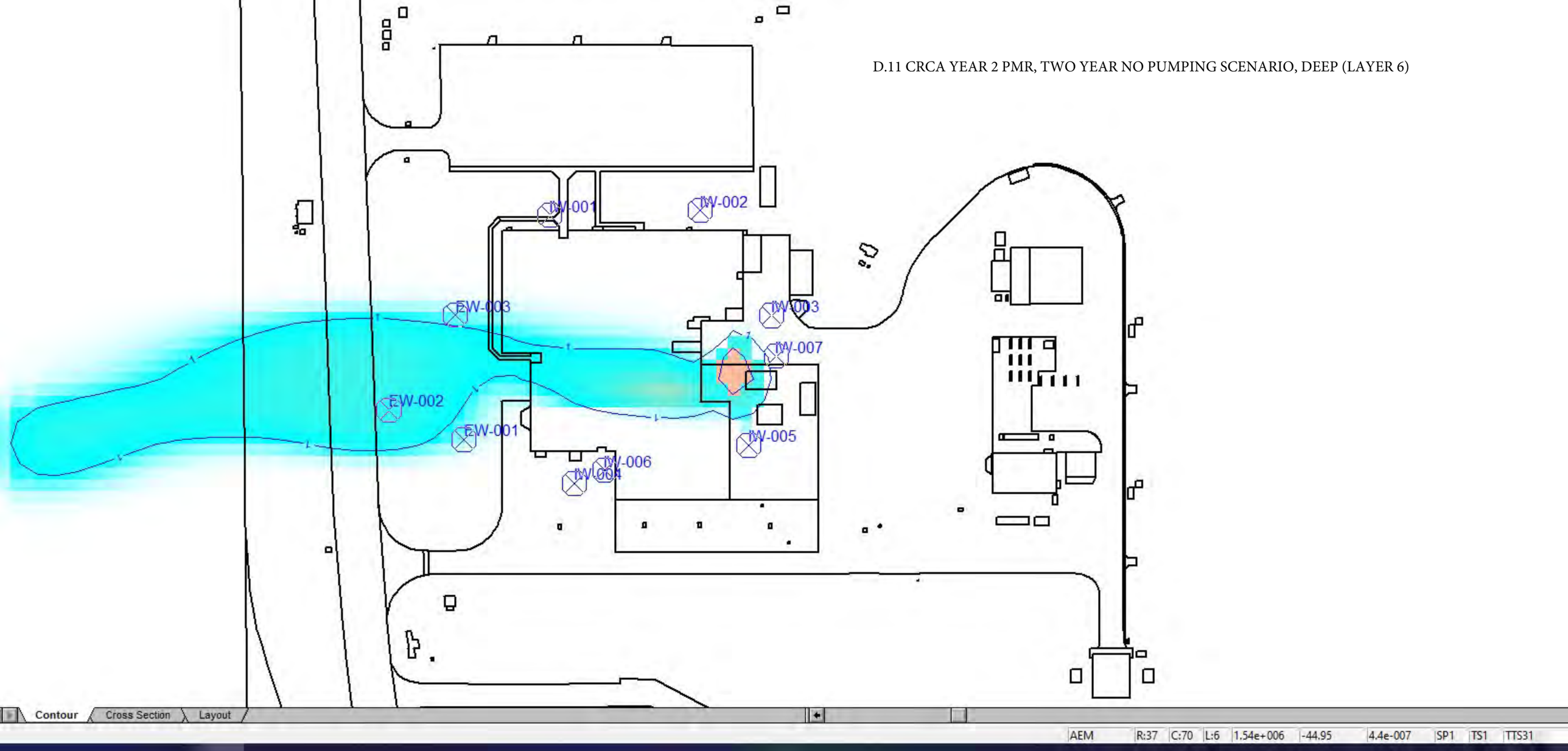
D.11 CRCA YEAR 2 PMR, THREE YEARS NO PUMPING SCENARIO, SHALLOW (LAYER 4)



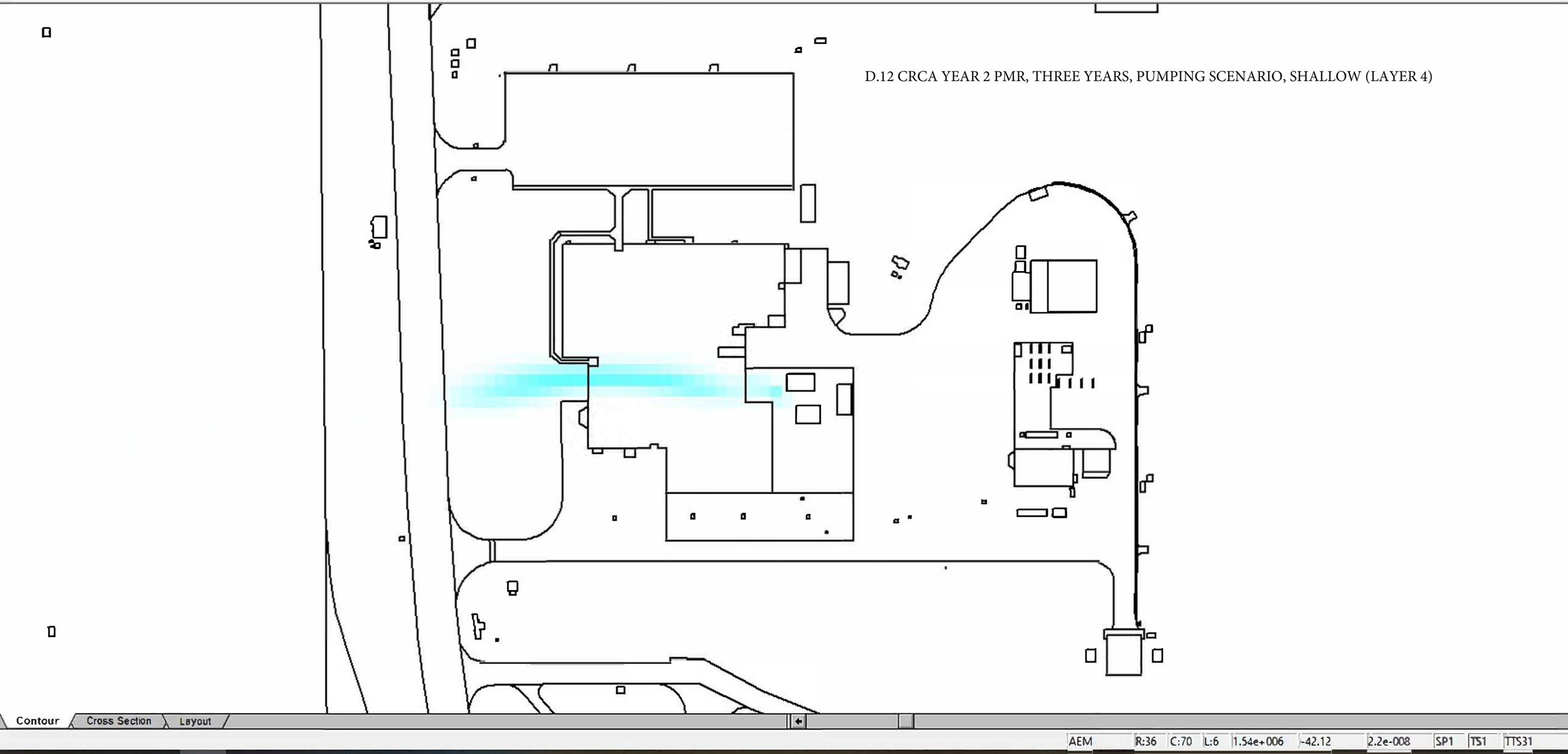
Cross Section | Layout

AEM | R:45 | C:70 | L:8 | 1.54e+006 | -60.86 | 5.1e-002 | SP1 | TS1 | TTS

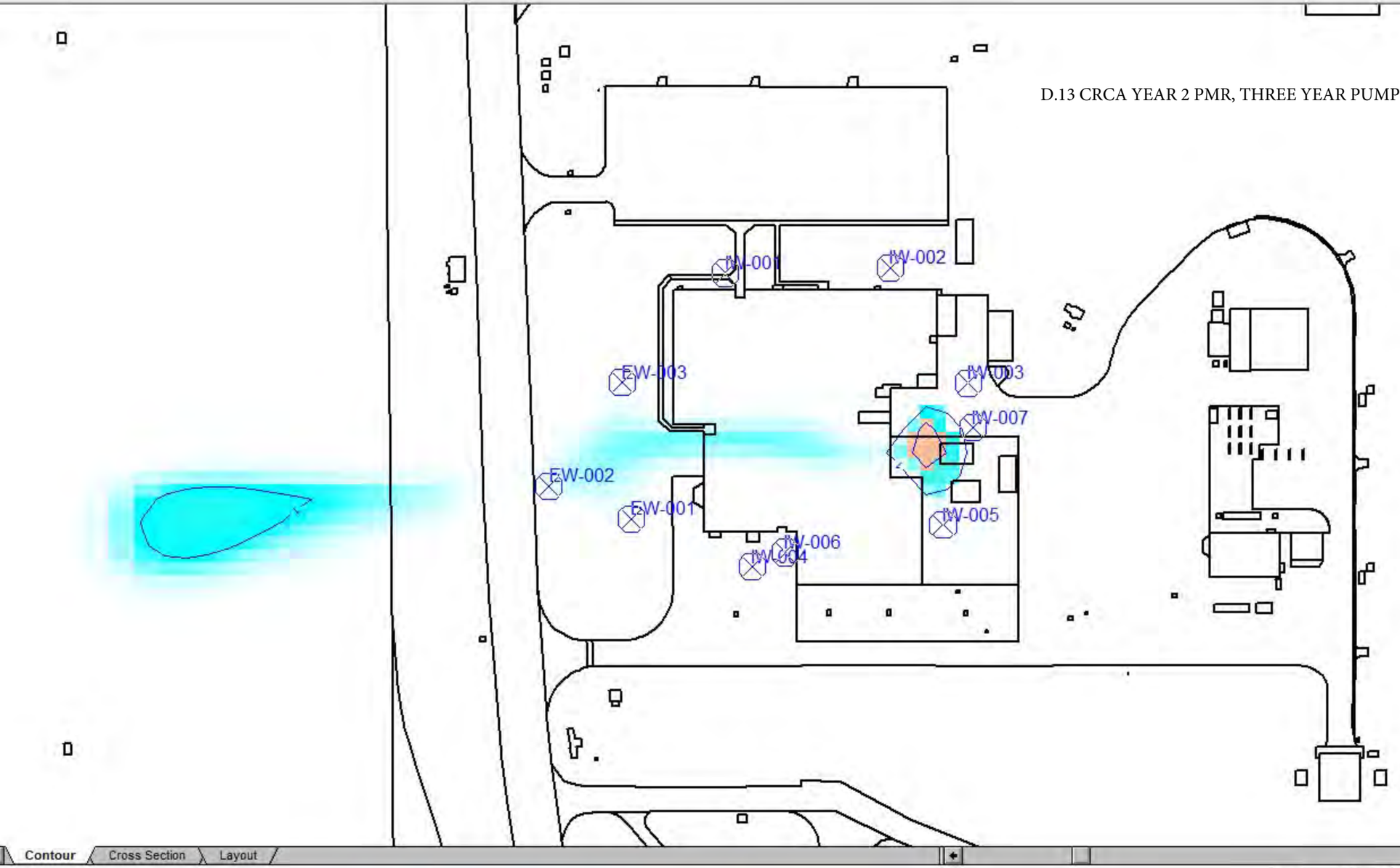
D.11 CRCA YEAR 2 PMR, TWO YEAR NO PUMPING SCENARIO, DEEP (LAYER 6)



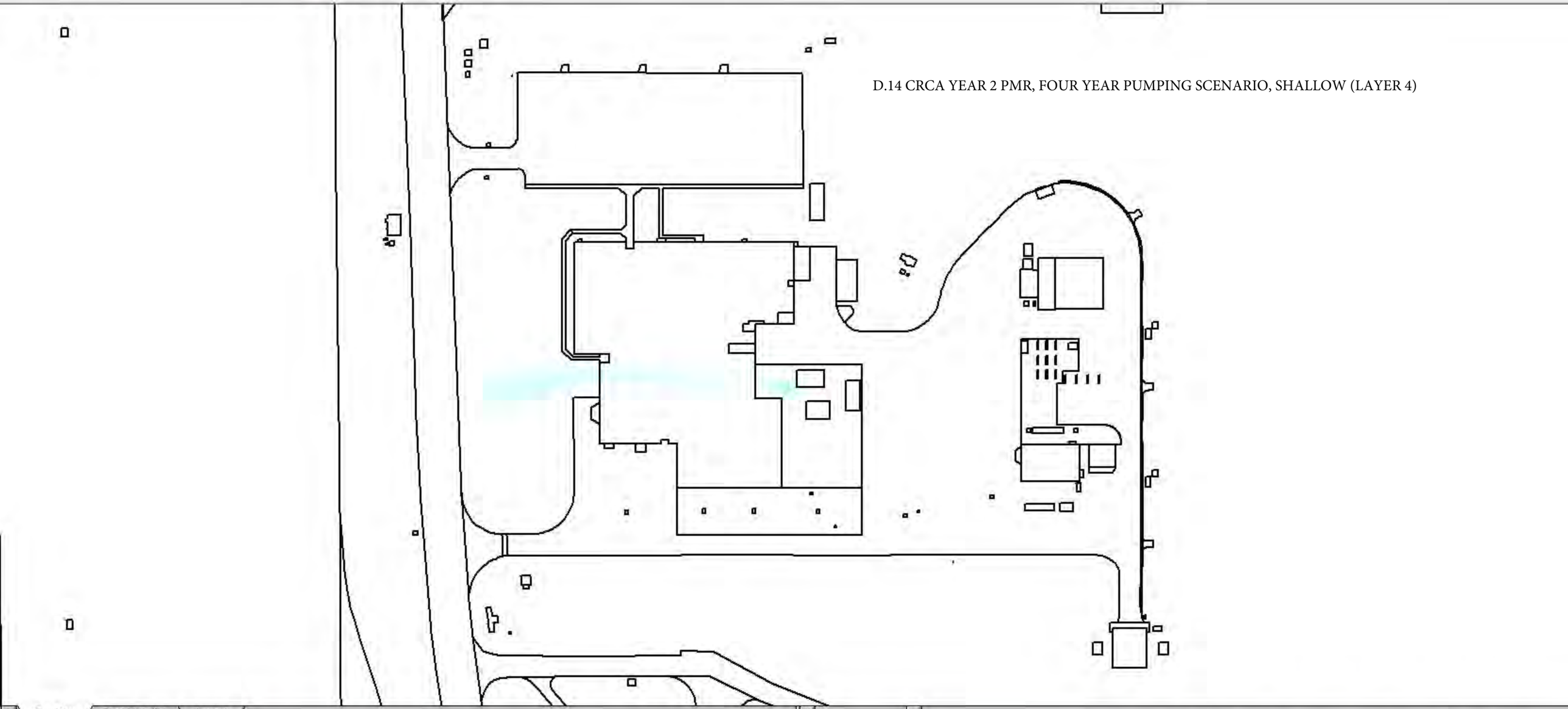
D.12 CRCA YEAR 2 PMR, THREE YEARS, PUMPING SCENARIO, SHALLOW (LAYER 4)



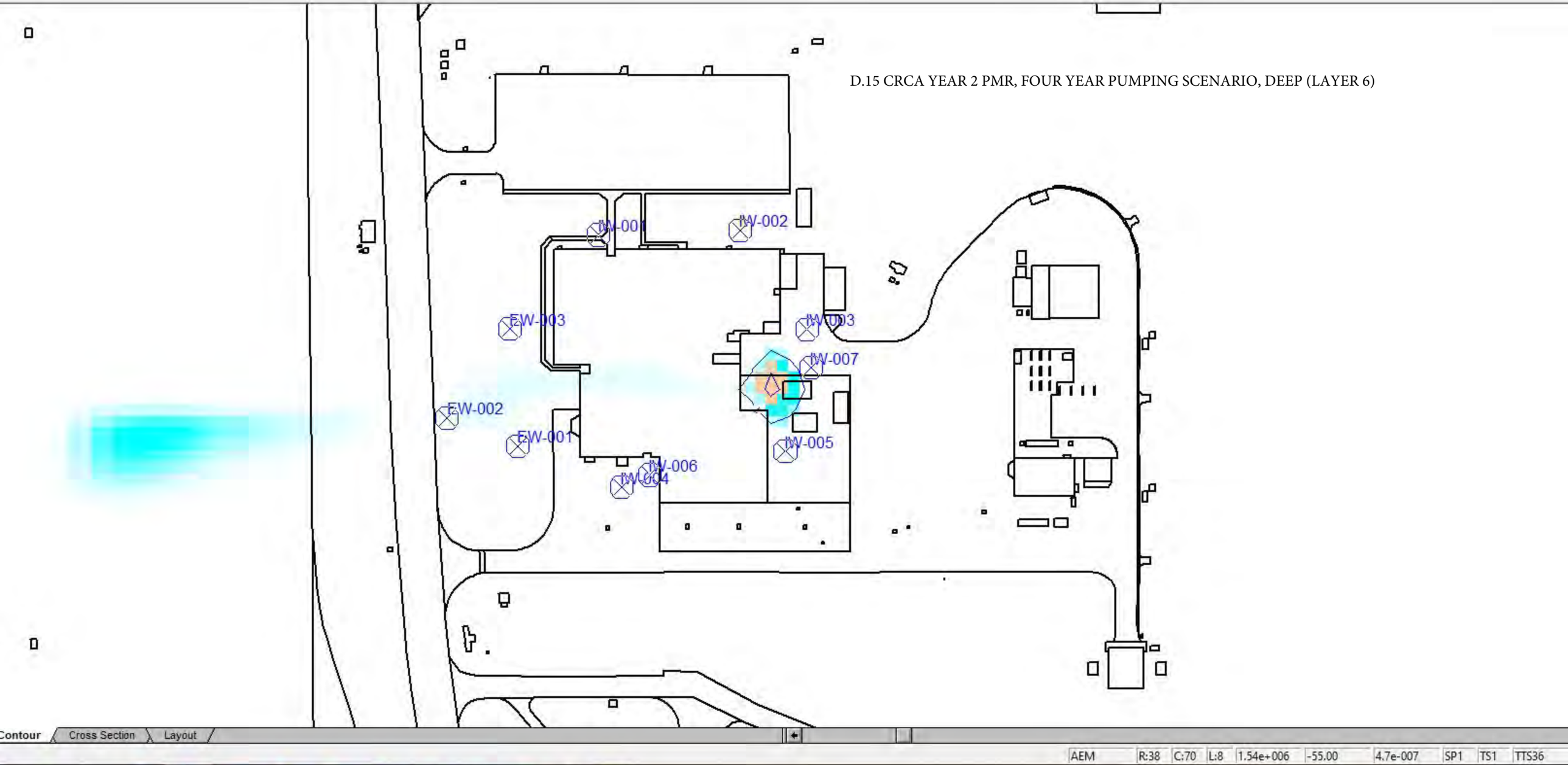
D.13 CRCA YEAR 2 PMR, THREE YEAR PUMPING SCENARIO, DEEP (LAYER 6)



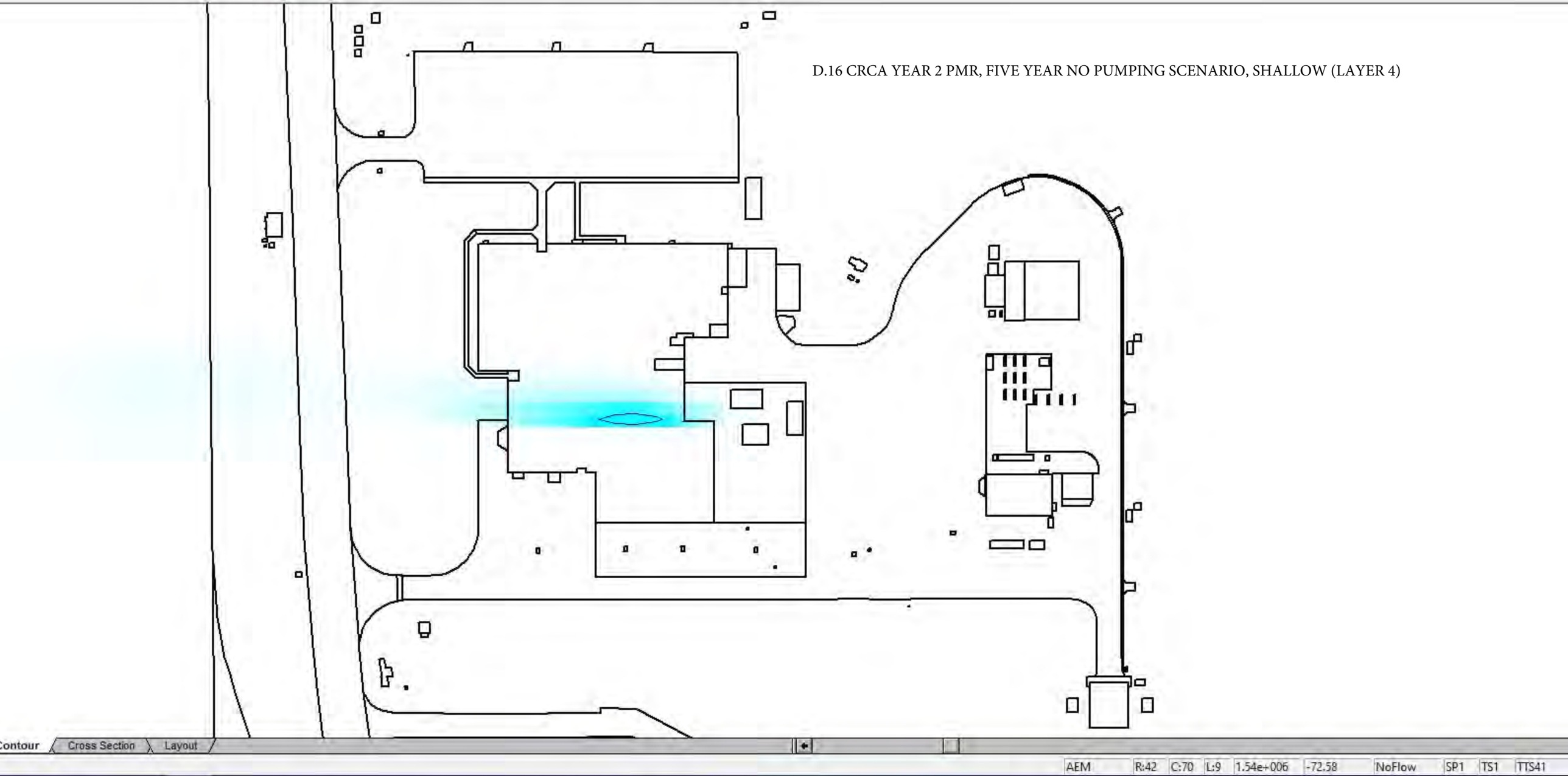
D.14 CRCA YEAR 2 PMR, FOUR YEAR PUMPING SCENARIO, SHALLOW (LAYER 4)



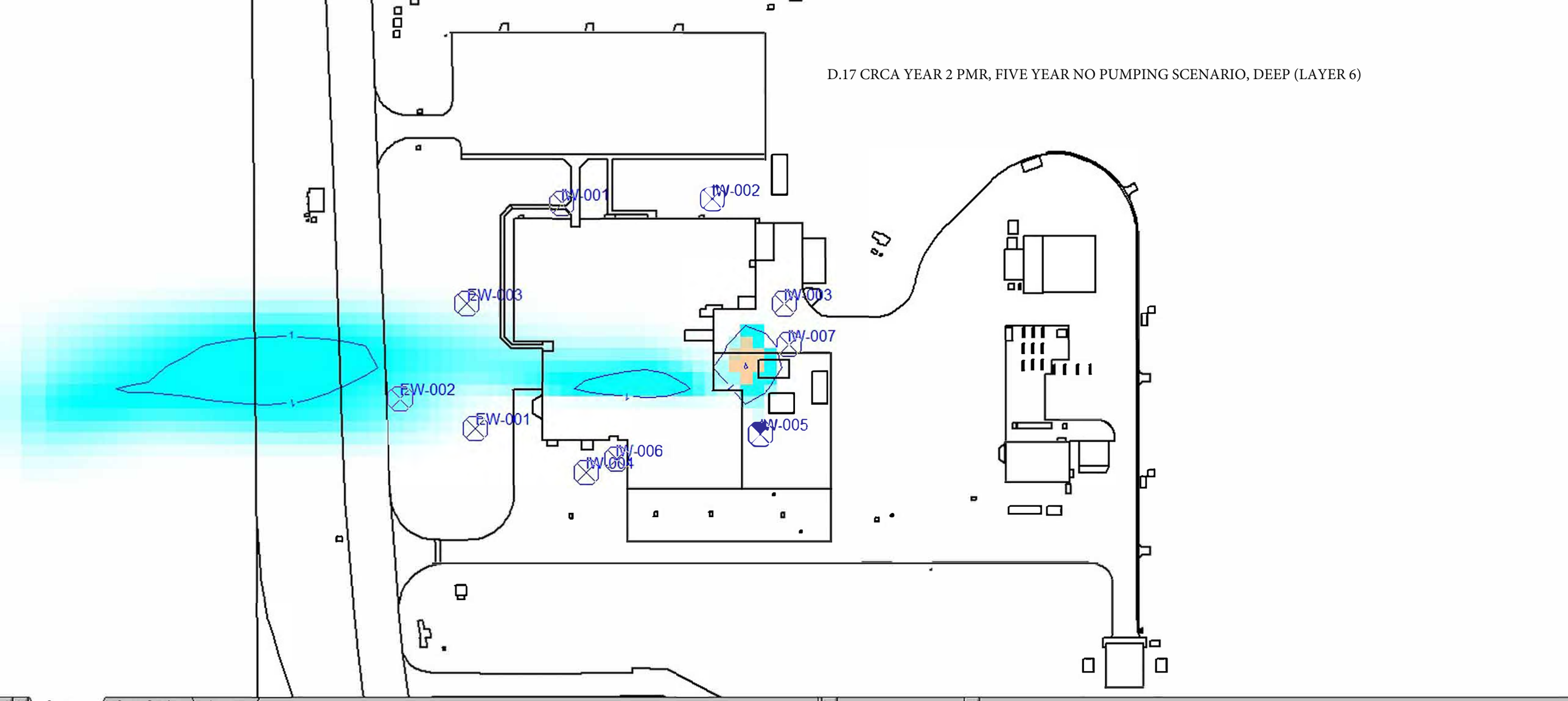
D.15 CRCA YEAR 2 PMR, FOUR YEAR PUMPING SCENARIO, DEEP (LAYER 6)



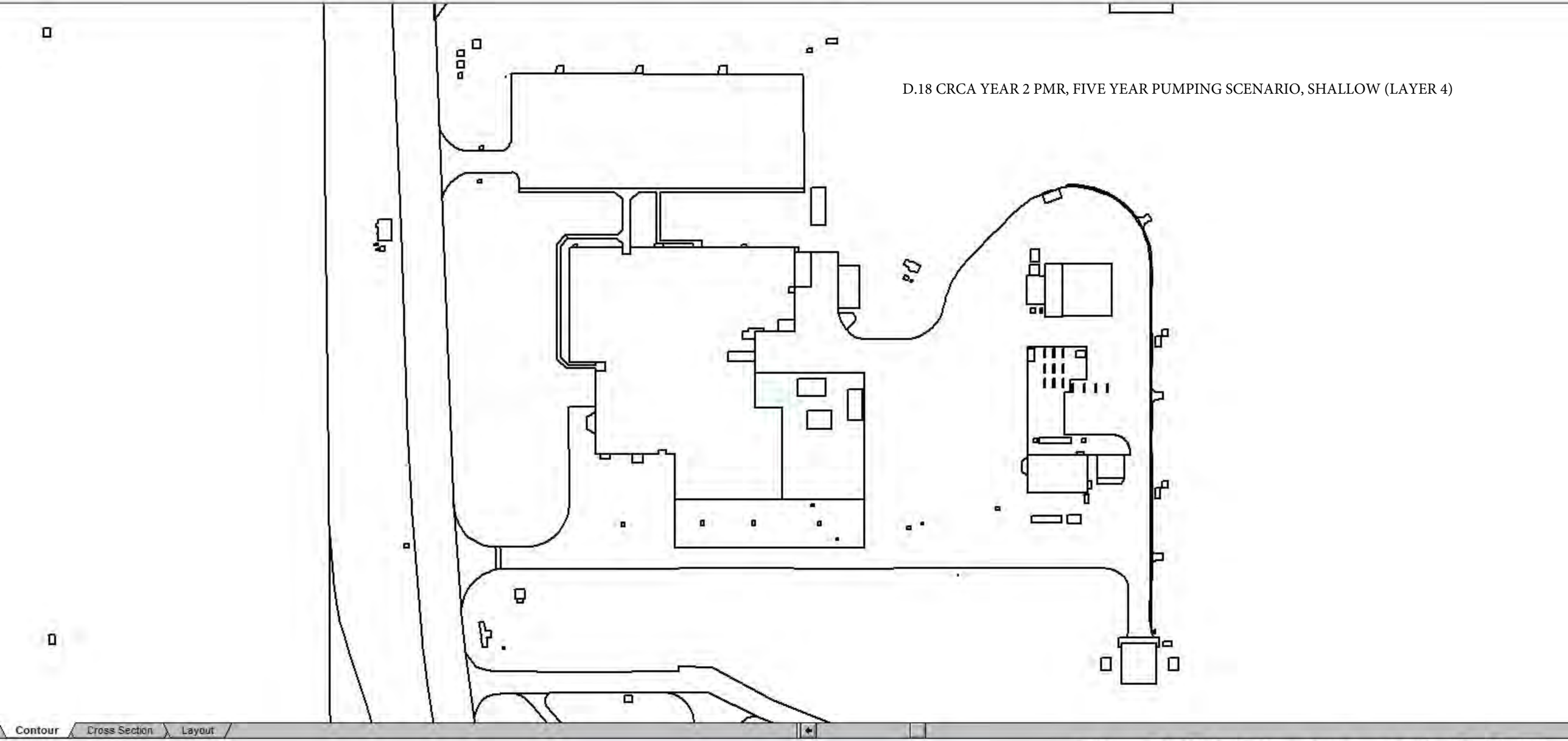
D.16 CRCA YEAR 2 PMR, FIVE YEAR NO PUMPING SCENARIO, SHALLOW (LAYER 4)



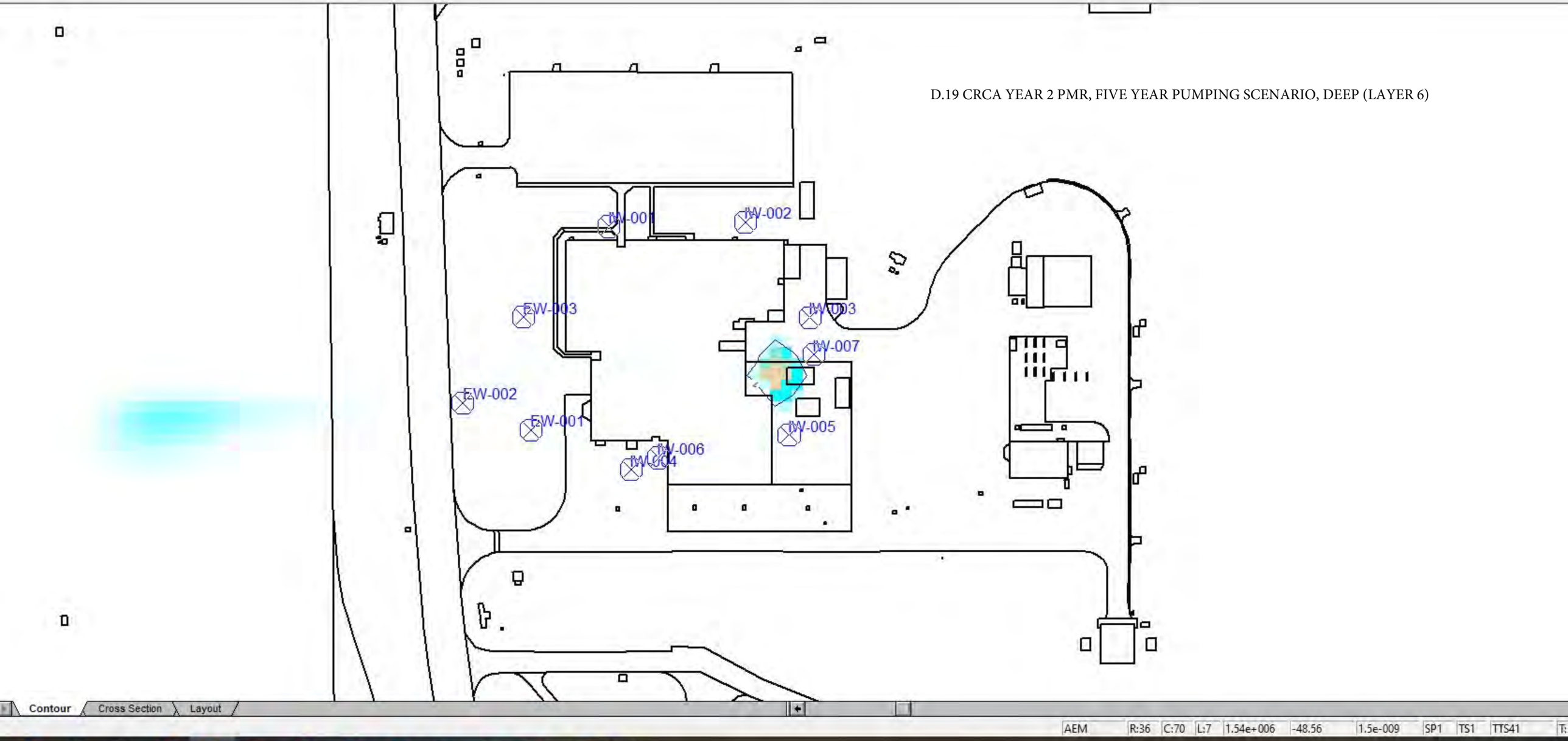
D.17 CRCA YEAR 2 PMR, FIVE YEAR NO PUMPING SCENARIO, DEEP (LAYER 6)



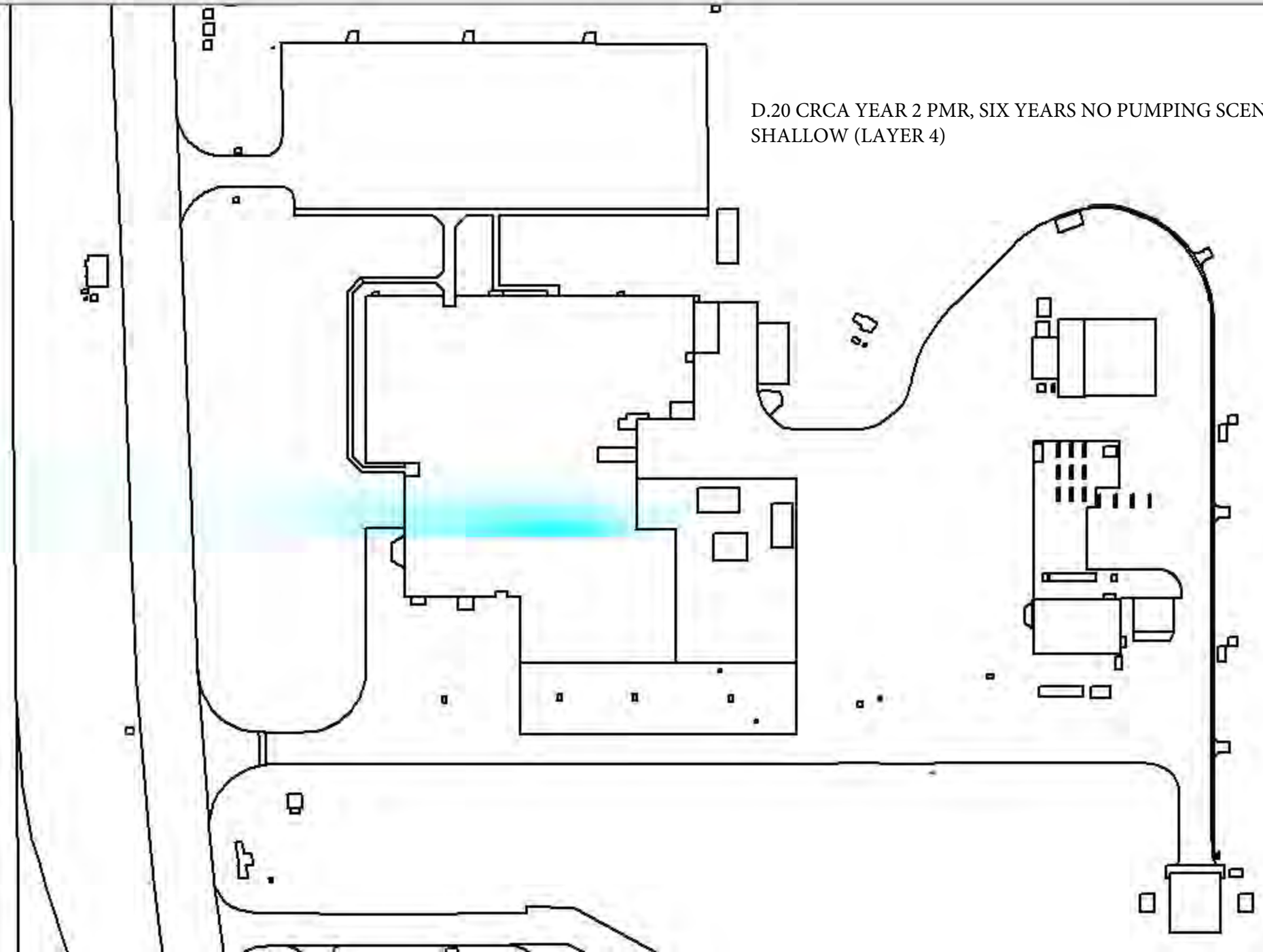
D.18 CRCA YEAR 2 PMR, FIVE YEAR PUMPING SCENARIO, SHALLOW (LAYER 4)

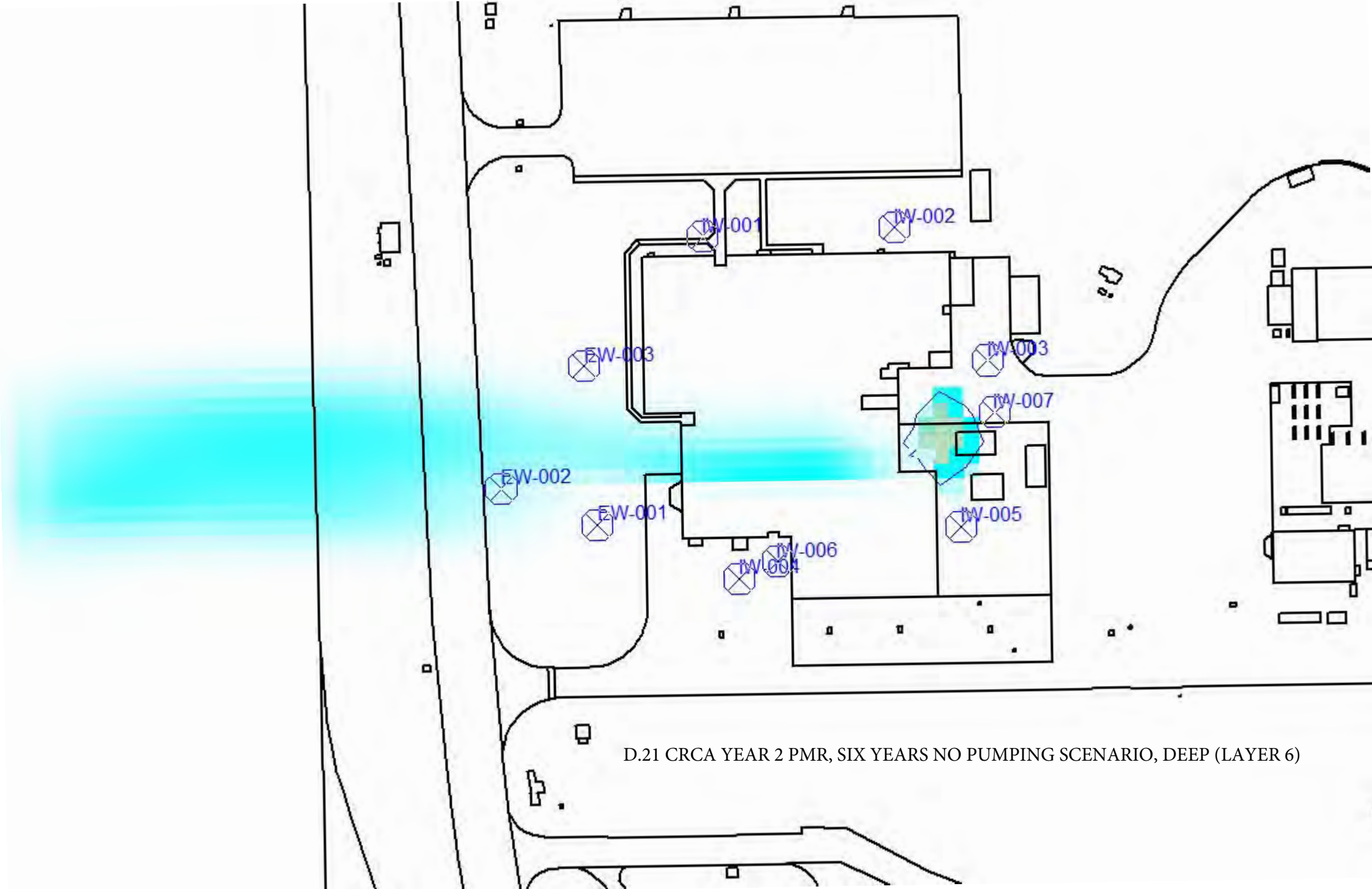


D.19 CRCA YEAR 2 PMR, FIVE YEAR PUMPING SCENARIO, DEEP (LAYER 6)

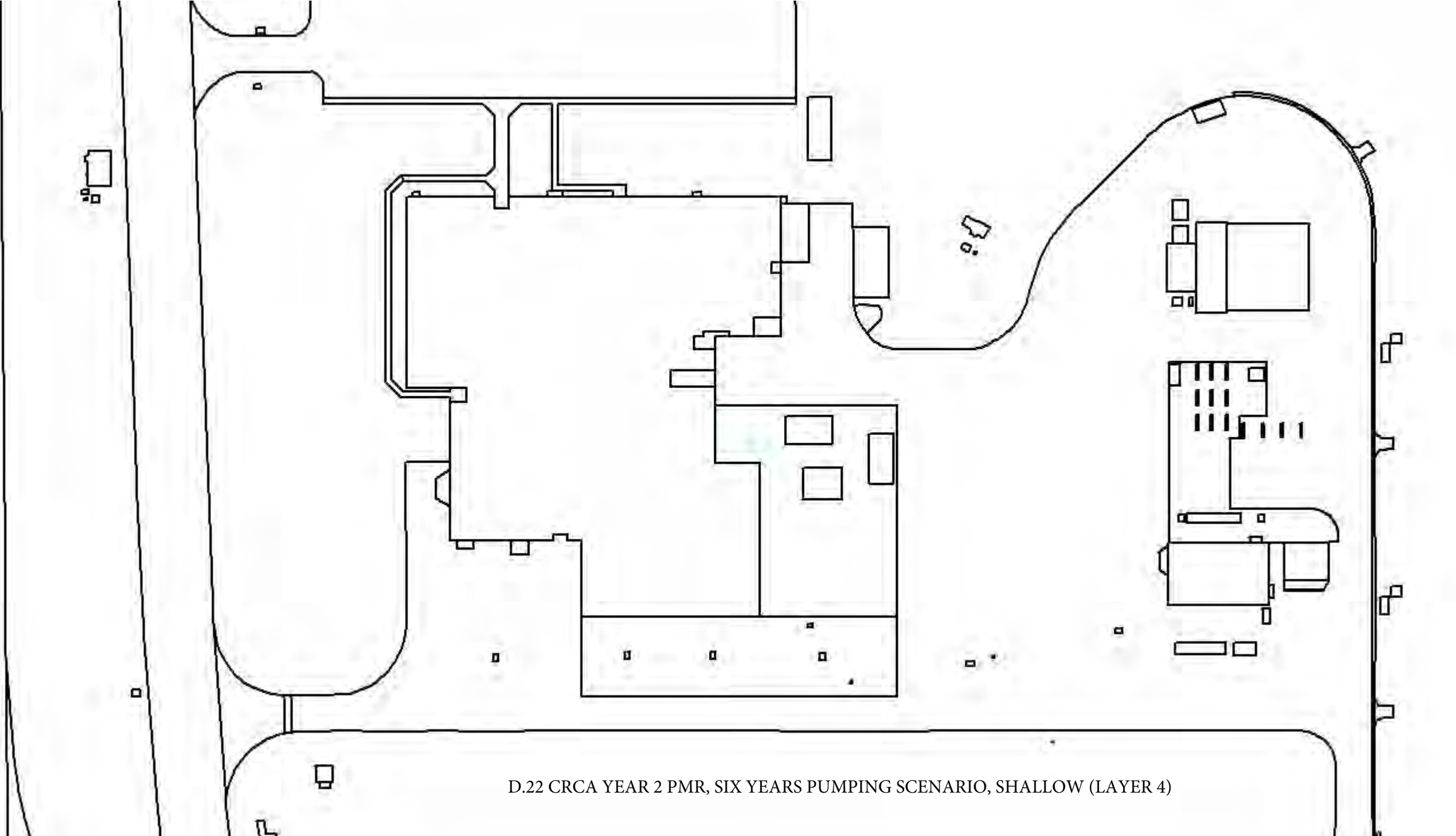


D.20 CRCA YEAR 2 PMR, SIX YEARS NO PUMPING SCENARIO, SHALLOW (LAYER 4)

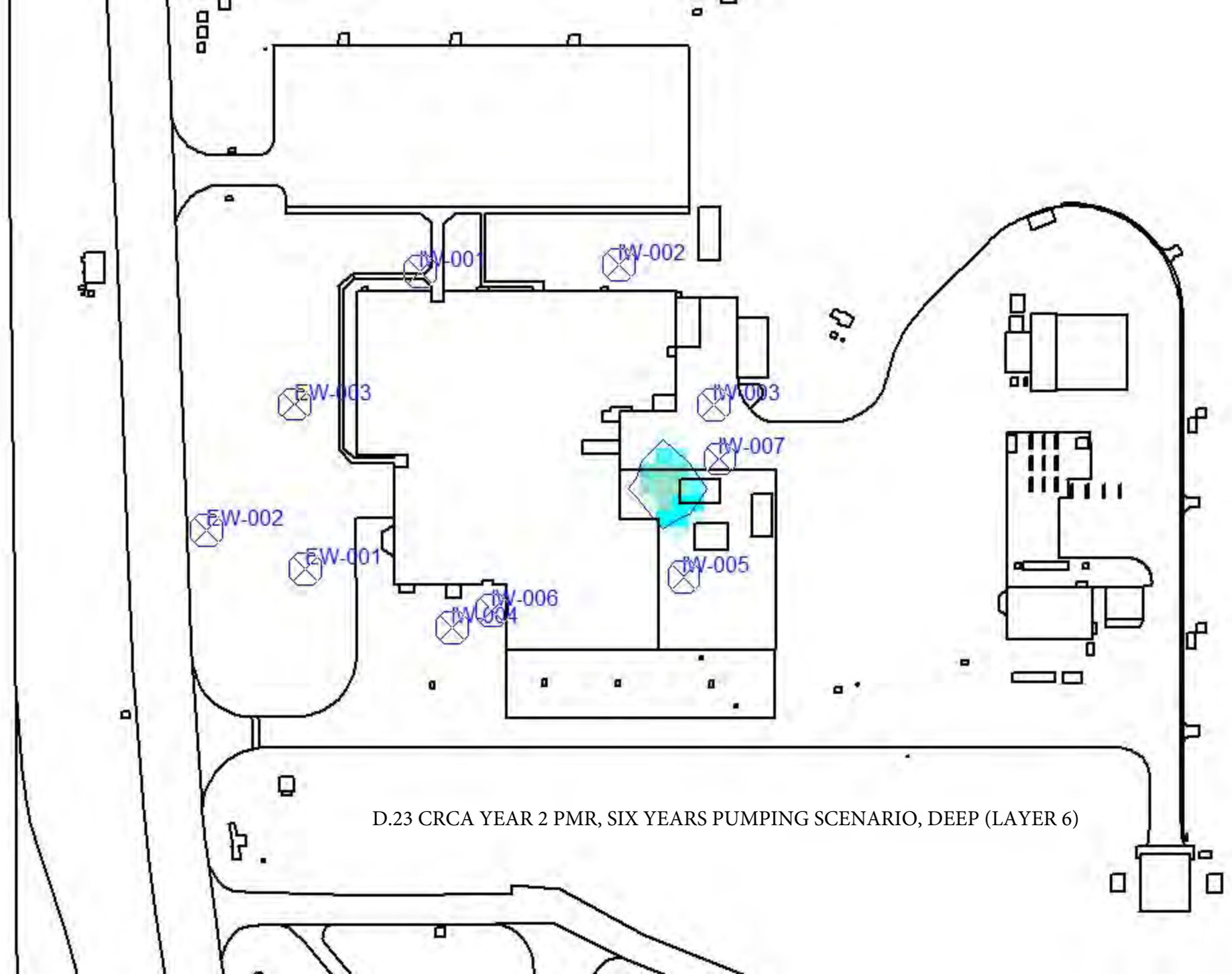




D.21 CRCA YEAR 2 PMR, SIX YEARS NO PUMPING SCENARIO, DEEP (LAYER 6)

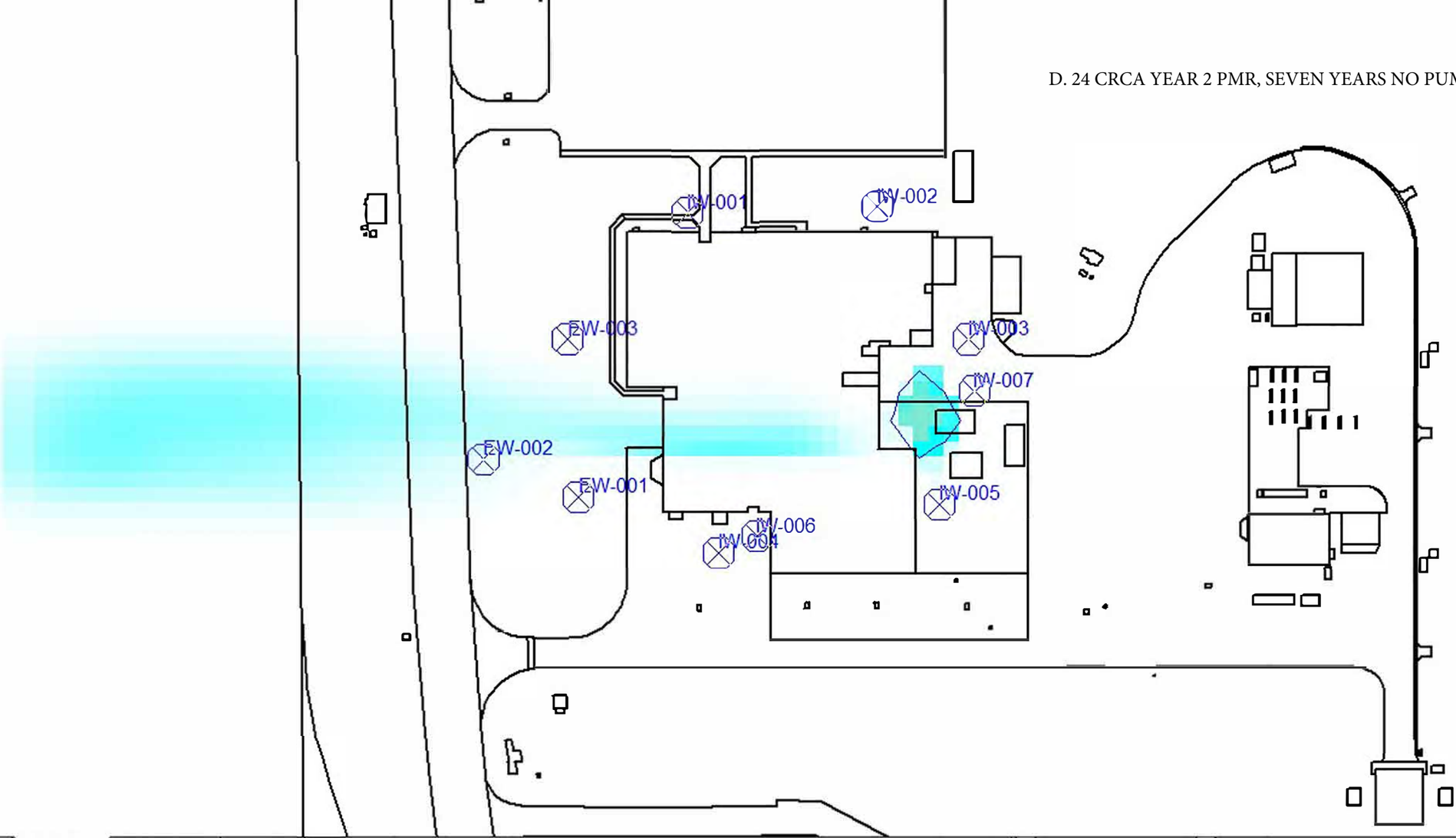


D.22 CRCA YEAR 2 PMR, SIX YEARS PUMPING SCENARIO, SHALLOW (LAYER 4)

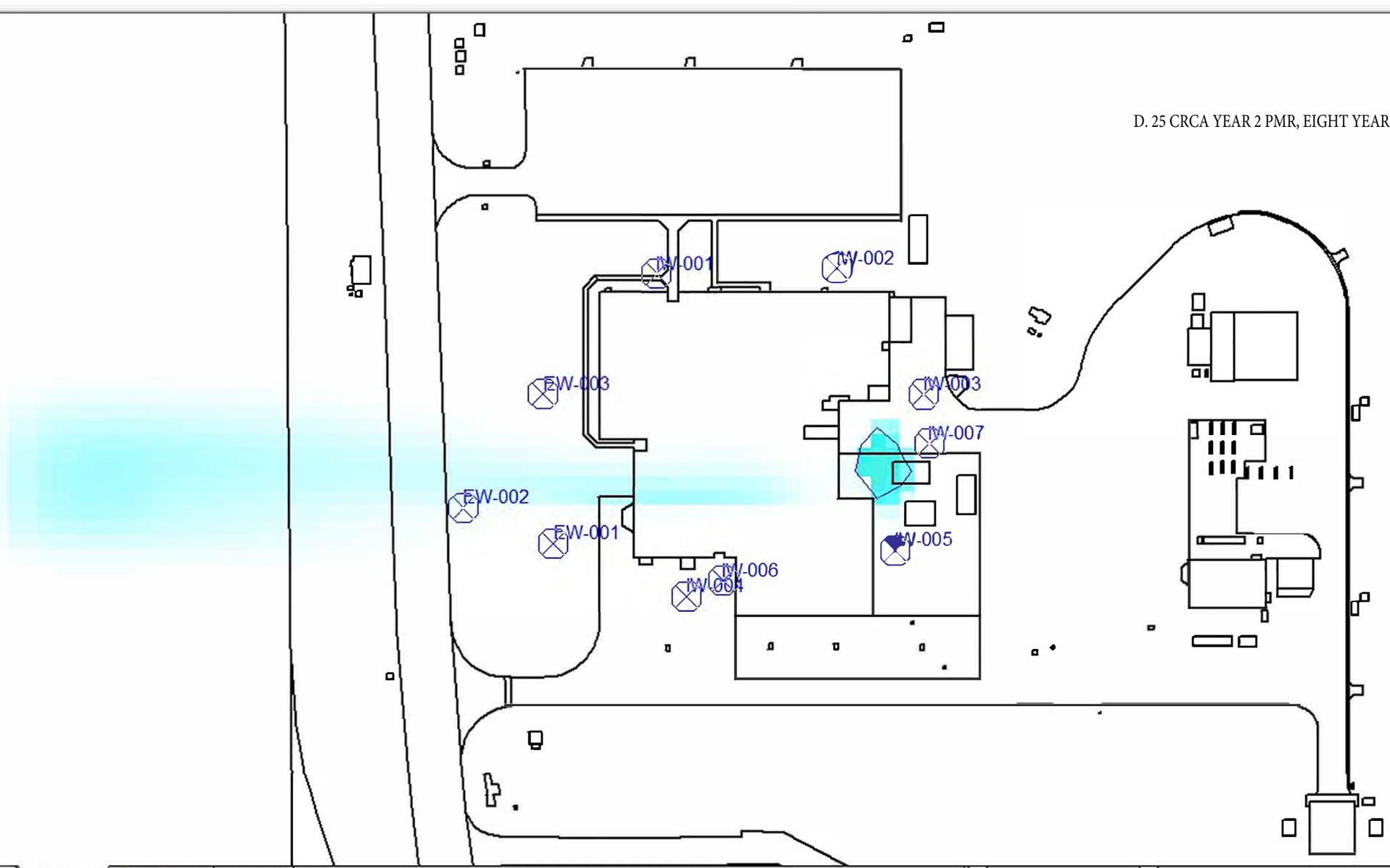


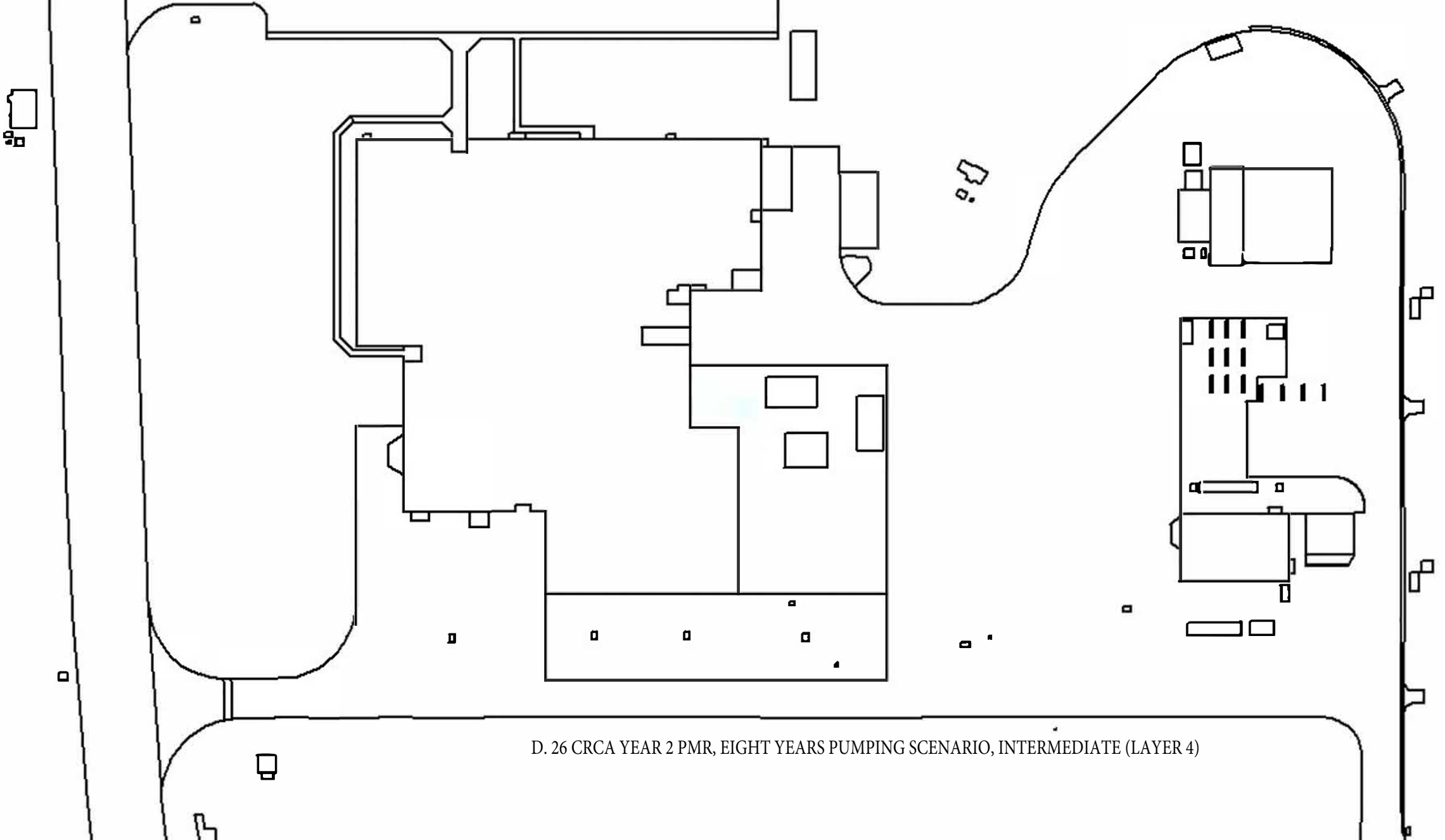
D.23 CRCA YEAR 2 PMR, SIX YEARS PUMPING SCENARIO, DEEP (LAYER 6)

D. 24 CRCA YEAR 2 PMR, SEVEN YEARS NO PUMPING SCENARIO, DEEP (LAYER 6)

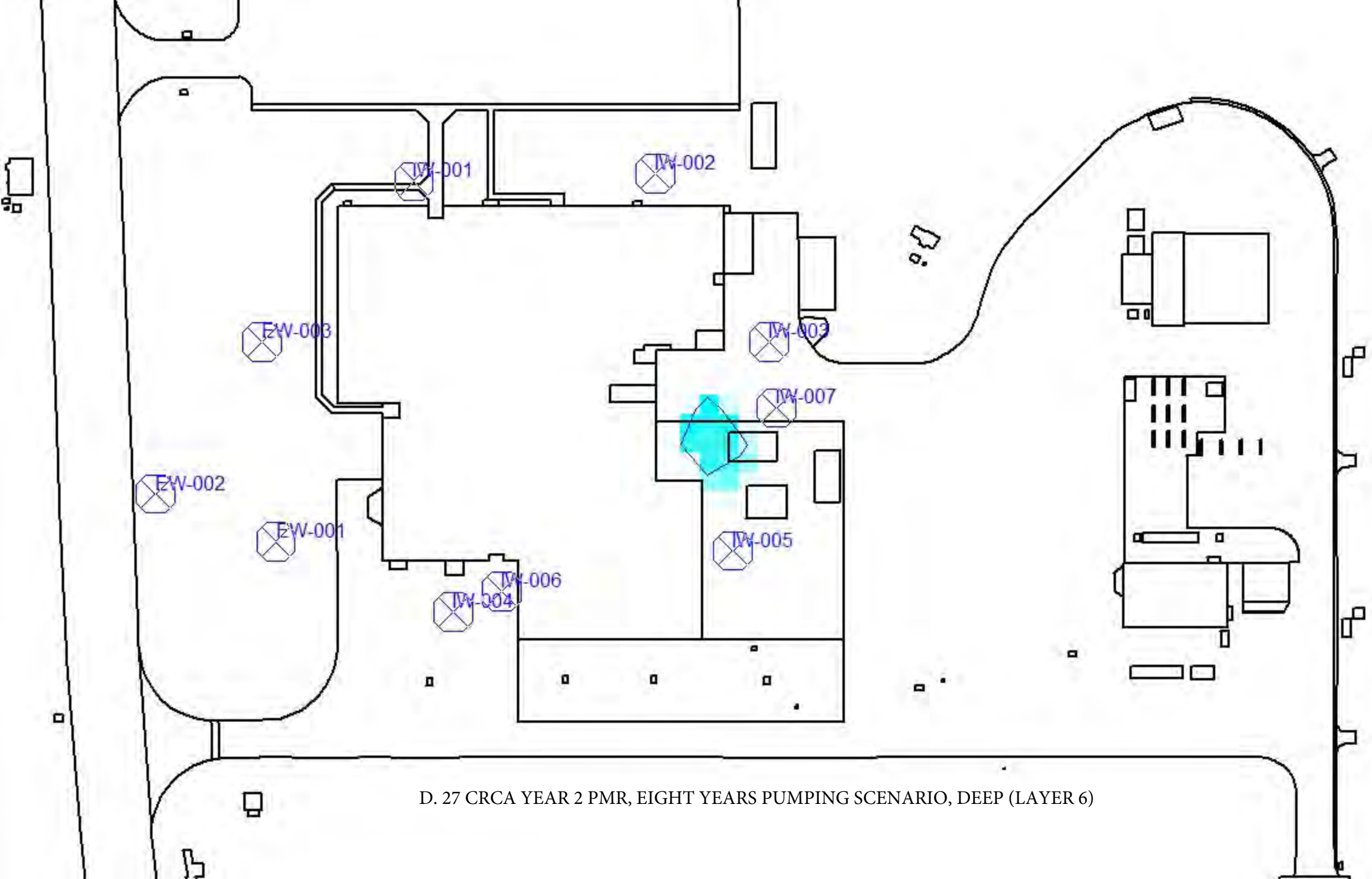


D. 25 CRCA YEAR 2 PMR, EIGHT YEARS NO PUMPING SCENARIO, DEEP (LAYER 6)





D. 26 CRCA YEAR 2 PMR, EIGHT YEARS PUMPING SCENARIO, INTERMEDIATE (LAYER 4)

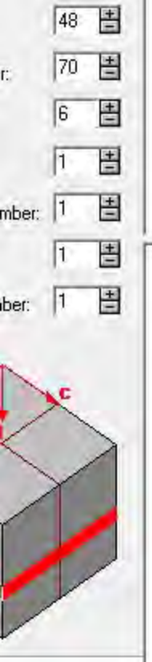


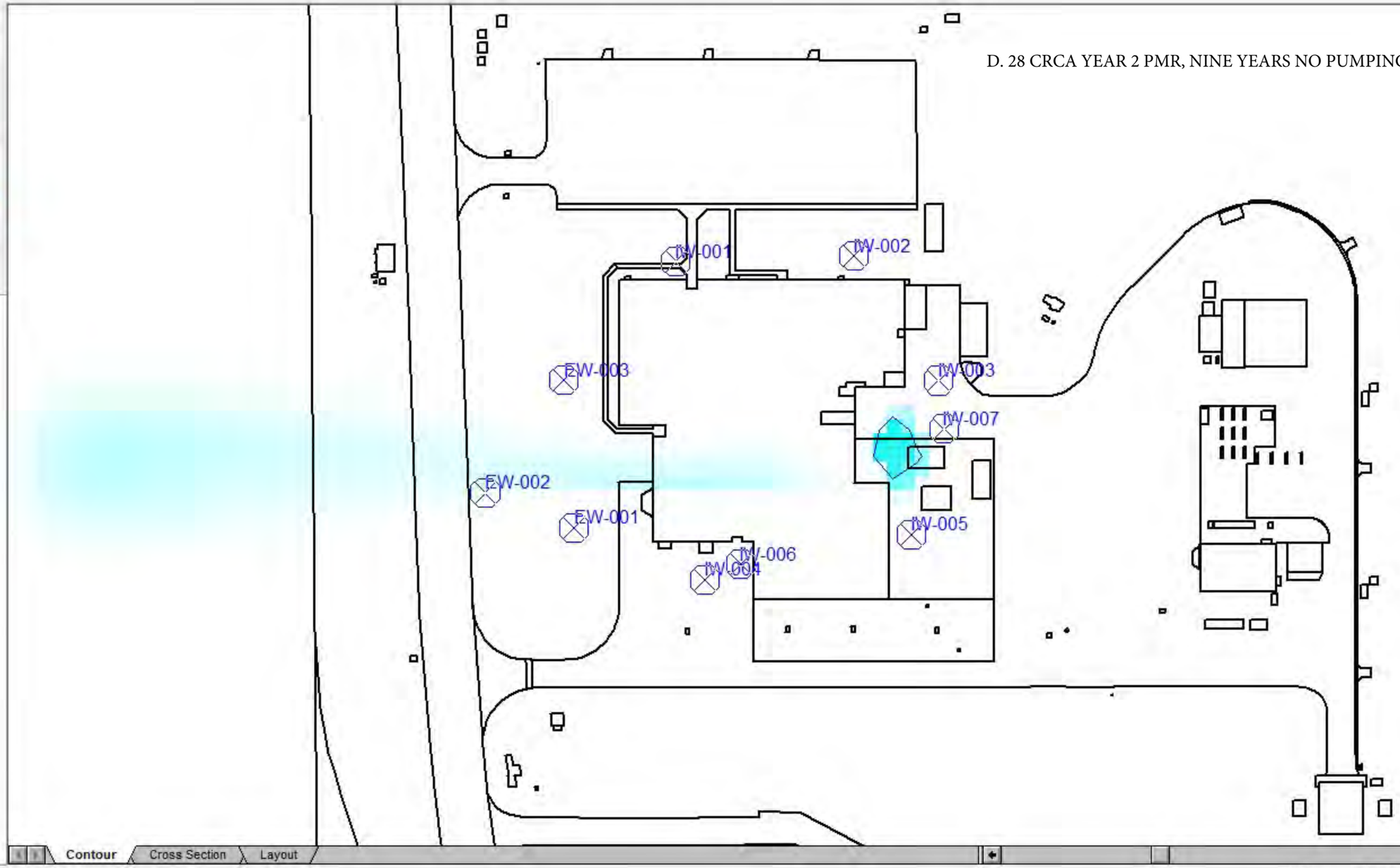
D. 27 CRCA YEAR 2 PMR, EIGHT YEARS PUMPING SCENARIO, DEEP (LAYER 6)

Cross-Section Along Column 70

North

D. 28 CRCA YEAR 2 PMR, NINE YEARS NO PUMPING SCENARIO, DEEP (LAYER 6)

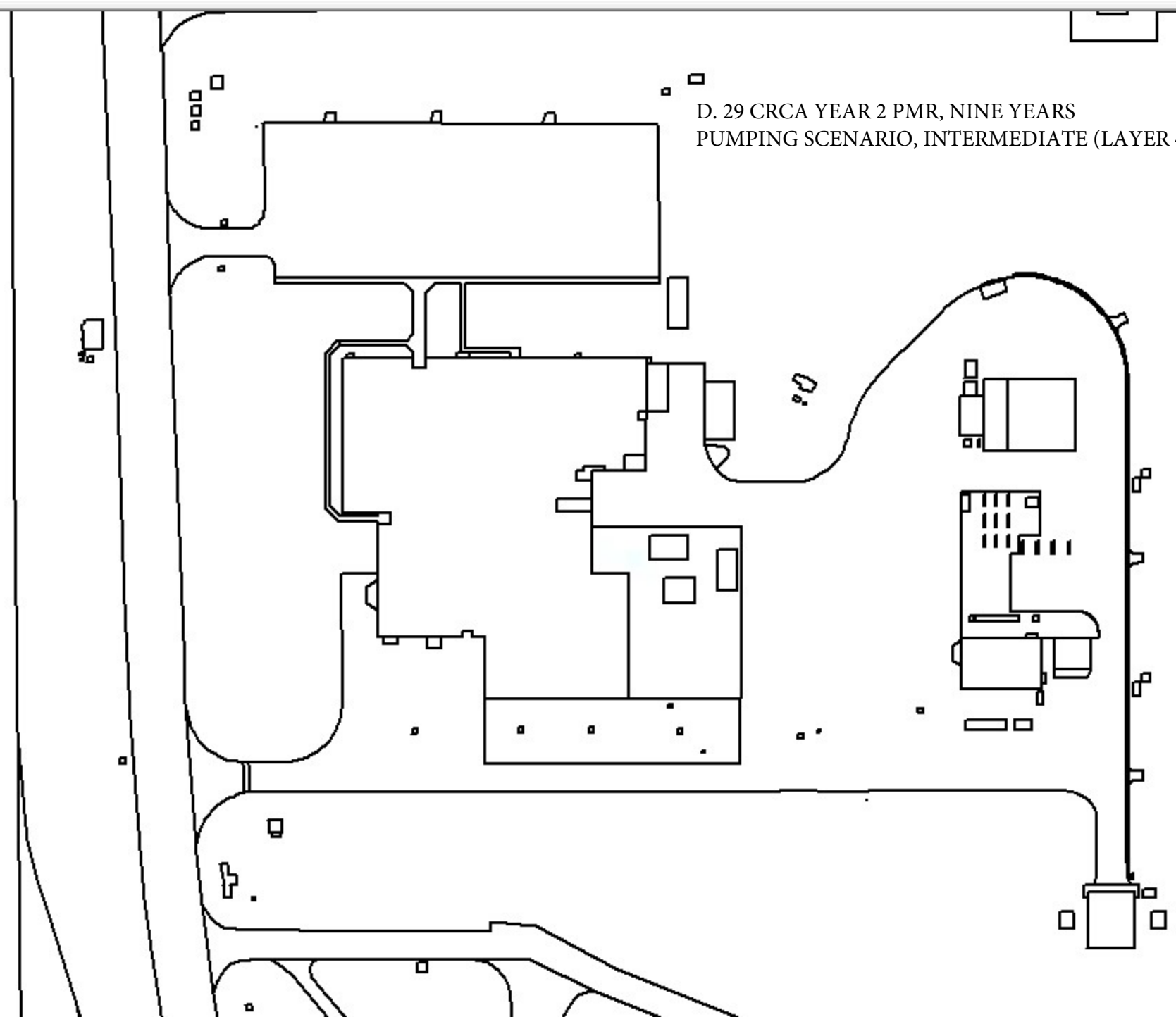




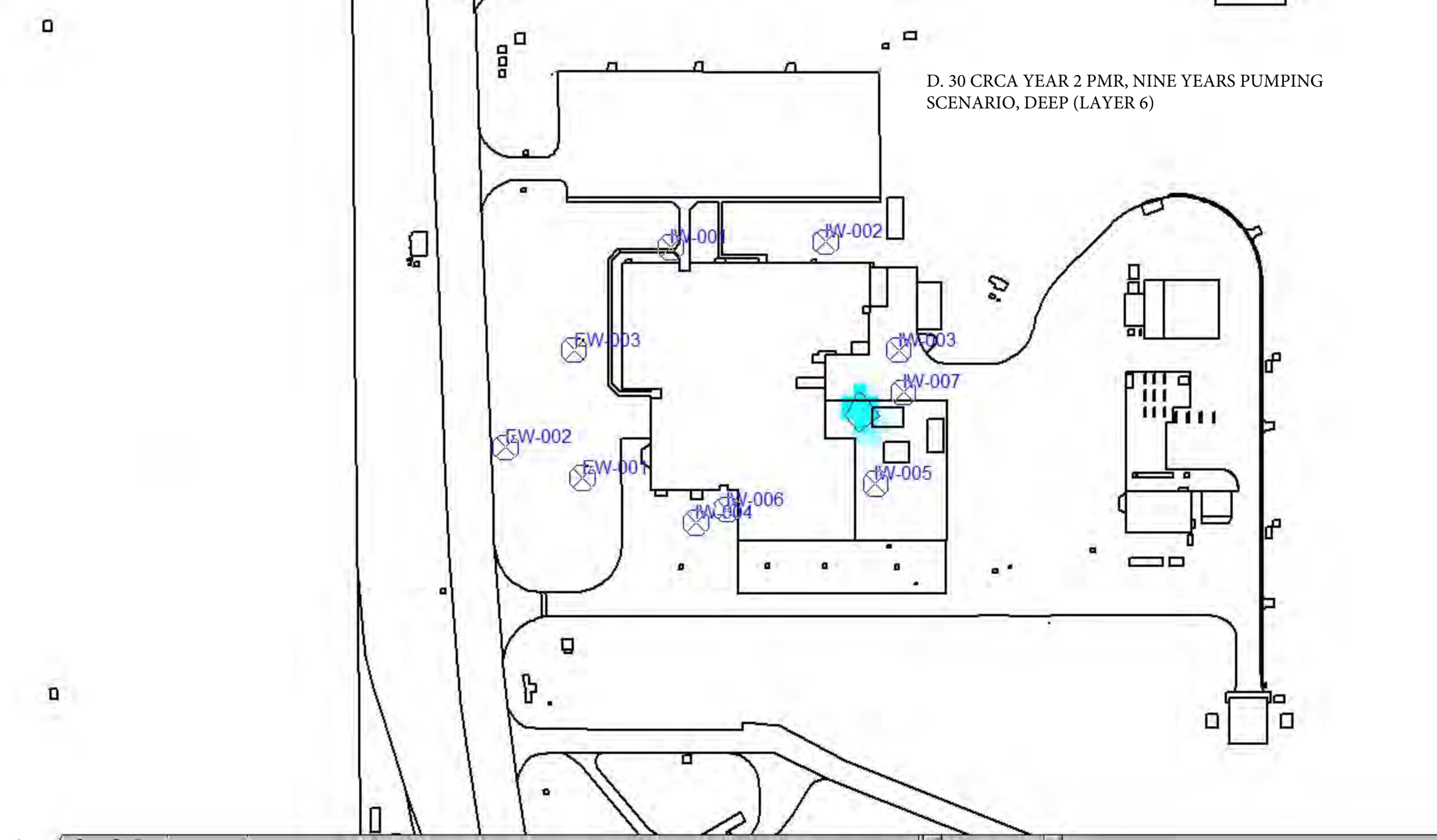
Contour | Cross Section | Layout

AEM | R:39 | C:70 | L:6 | 1.54e+006 | -39.09 | 2.0e-010

D. 29 CRCA YEAR 2 PMR, NINE YEARS
PUMPING SCENARIO, INTERMEDIATE (LAYER 4)



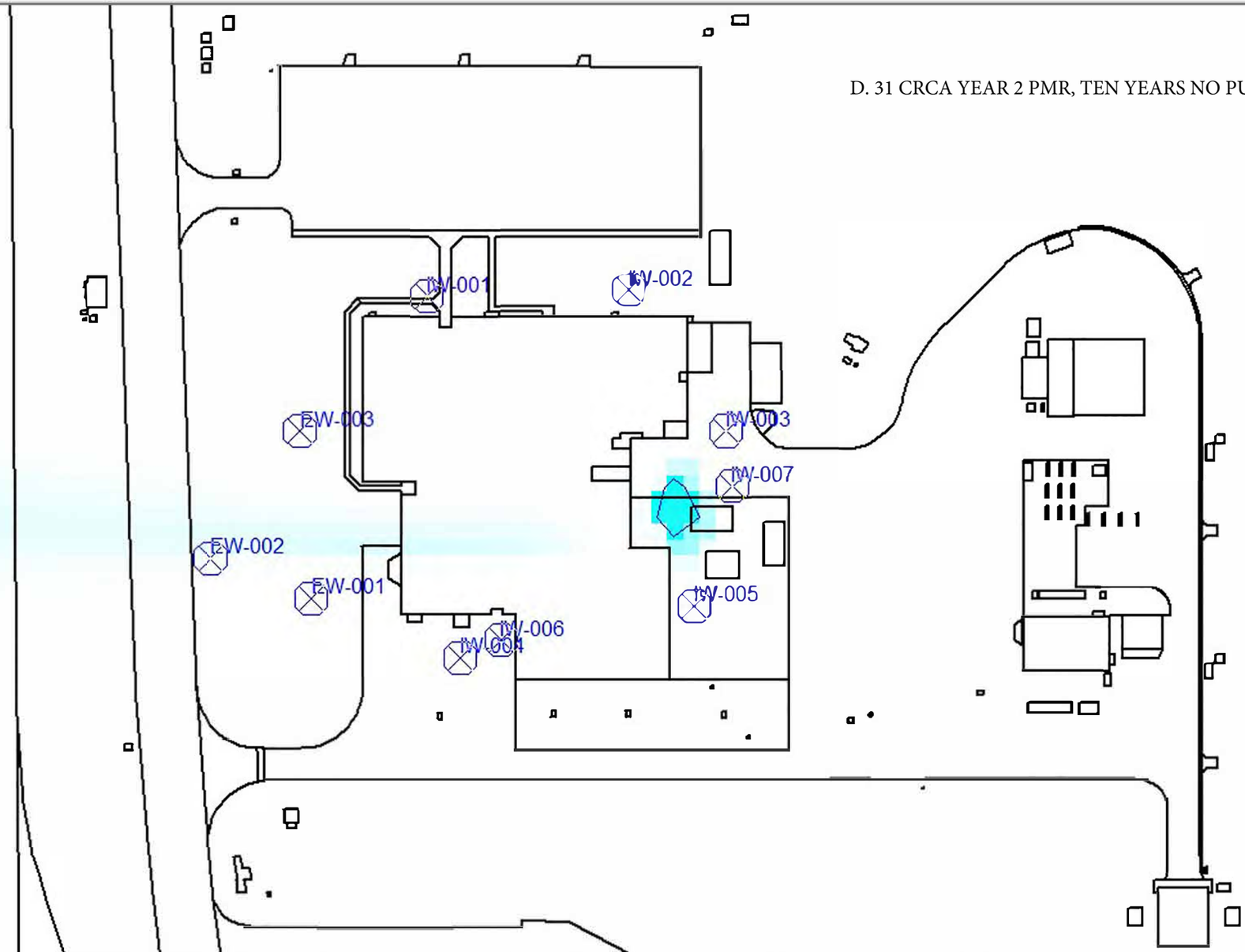
D. 30 CRCA YEAR 2 PMR, NINE YEARS PUMPING SCENARIO, DEEP (LAYER 6)



Cross-Section Along Column 70

North

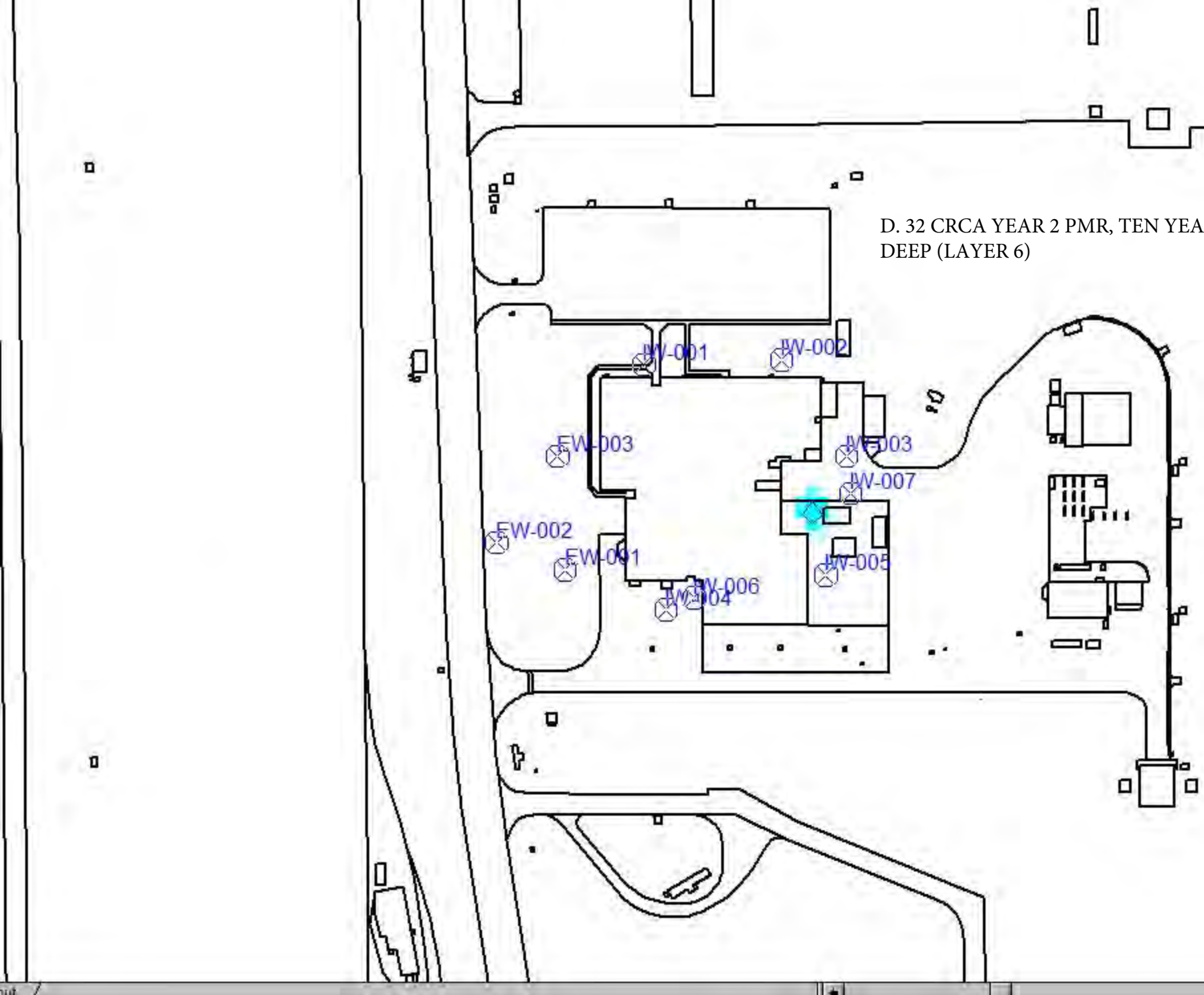
D. 31 CRCA YEAR 2 PMR, TEN YEARS NO PUMPING SCENARIO, DEEP (LAYER 6)



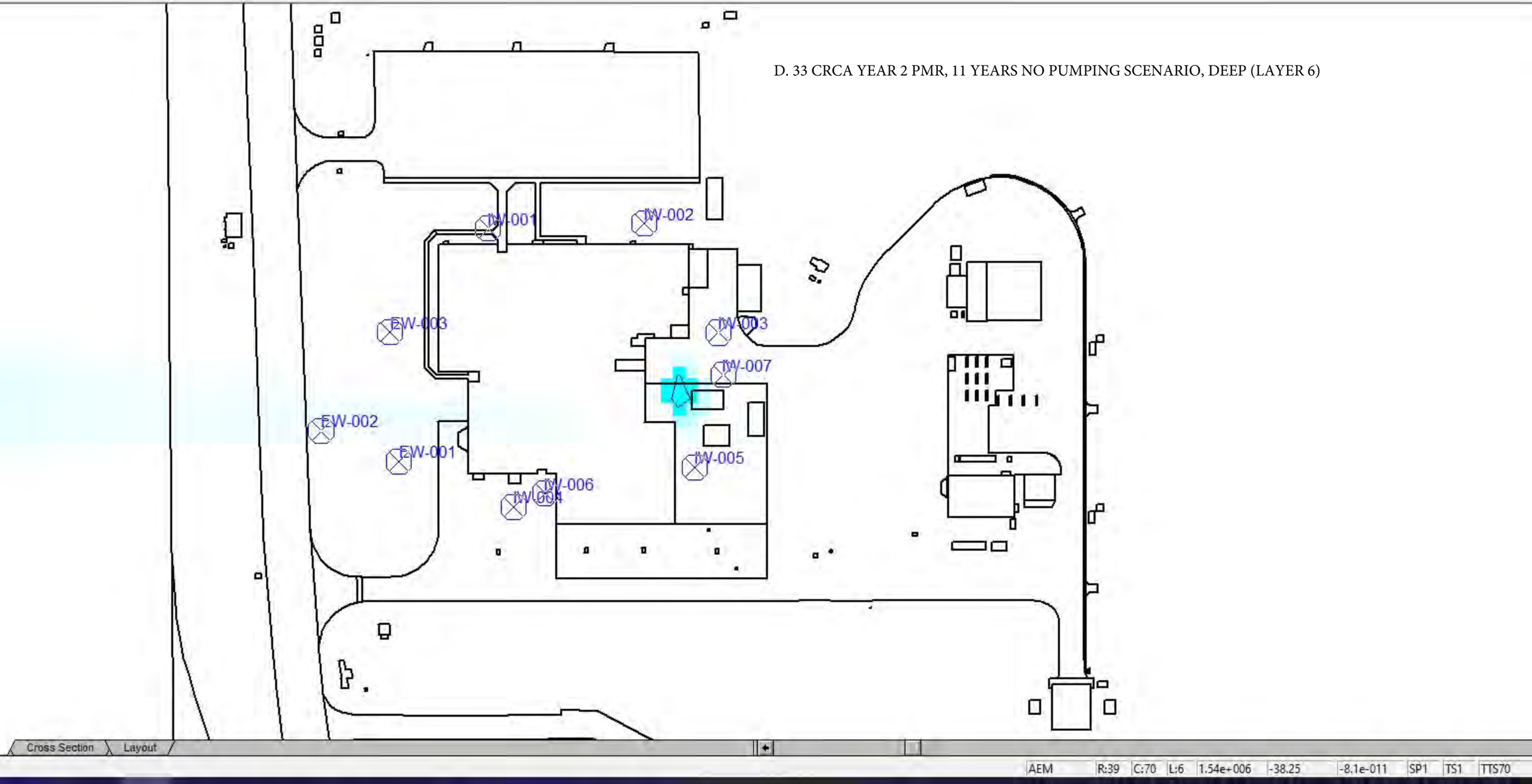
our | Cross Section | Layout

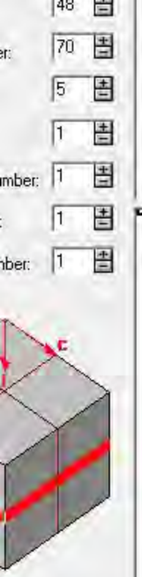
AEM | R:36 | C:70 | L:6 | 1.54e+006 | -44.11 | 1.4e-011 | SP1 | TS1 | TTS65

D. 32 CRCA YEAR 2 PMR, TEN YEARS PUMPING SCENARIO, DEEP (LAYER 6)



D. 33 CRCA YEAR 2 PMR, 11 YEARS NO PUMPING SCENARIO, DEEP (LAYER 6)

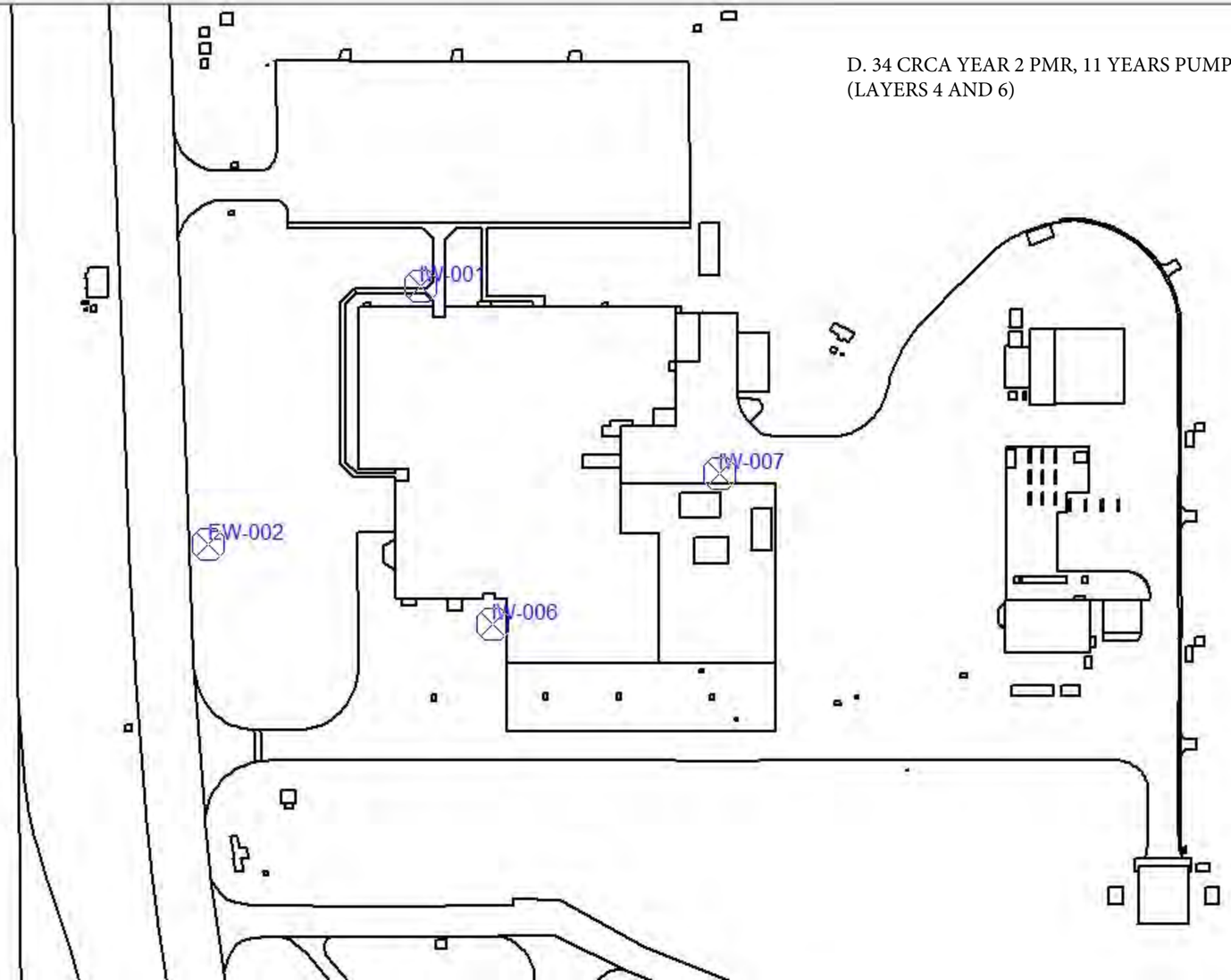




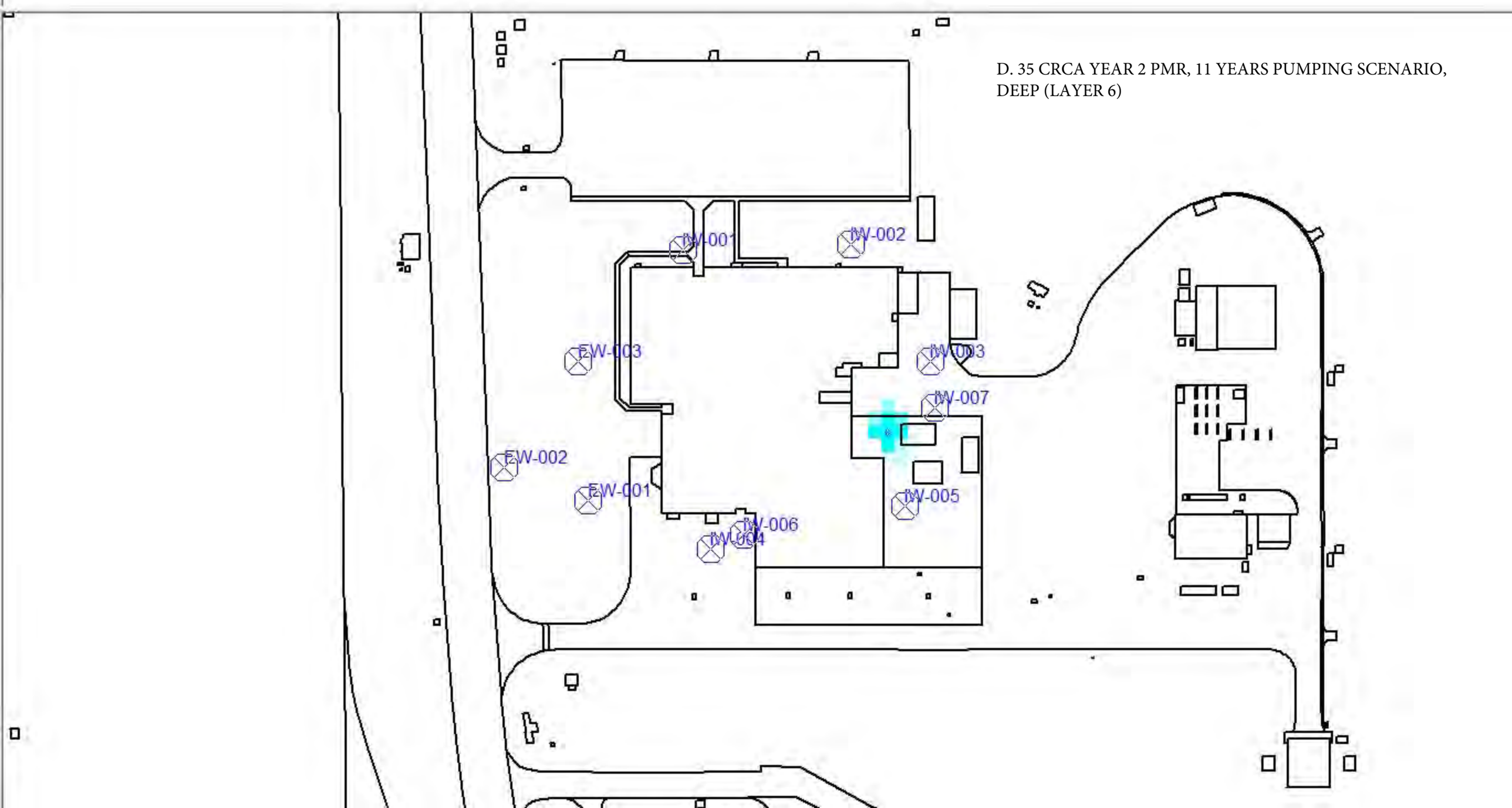
Cross-Section Along Column 70

North

D. 34 CRCA YEAR 2 PMR, 11 YEARS PUMPING SCENARIO, INTERMEDIATE AND DEEP (LAYERS 4 AND 6)



D. 35 CRCA YEAR 2 PMR, 11 YEARS PUMPING SCENARIO, DEEP (LAYER 6)



APPENDIX B
MEETING MINUTES

Revision 0 Meeting Minutes for November 9 & 10, 2021

Attendees:

1. Bruce Moore/FDEP
2. Mike Deliz/NASA
3. Ryan O'Meara/NASA
4. Deda Johansen/NASA
5. Anne Chrest/NASA
6. Natasha Darre/NASA
7. Dinh Vo/NASA
8. Michelle Moore/NEMCON
9. Mark Speranza/Tetra Tech
10. Chris Neumann/Tetra Tech
11. Chris Pike/Tetra Tech
12. Jennifer Buel/Tetra Tech
13. Alex Murphy/Tetra Tech
14. Scott Anderson/TetraTech
15. James Lloyd/Tetra Tech
16. Mark Jonnet/Tetra Tech
17. Debbie Wilson/Tetra Tech
18. Sarah Damphousse/Tetra Tech
19. Jennifer Joyal/AECOM
20. Linnea King Clark/AECOM
21. Chad Lee/AECOM
22. Richard Smith/HGL
23. Howard Fowler/HGL

2111-M01 **Team**

Meeting Minutes and Miscellaneous Items

Team consensus was reached that Revision 2 of the meeting minutes and action/decision items for the September 2021 Team meeting will become final. Team members acknowledged and did not object to the fact that these meeting minutes may become public as part of a final report at a later date **(2111-D01).**

Open action items were reviewed by the Team. The following action item was closed out:

Firex Water Tank (SWMU #069) Confirmation Sampling Work Plan for Soil LUCIP Removal, December 2020: NASA took an action item to see what they could find out on these discharge reports.

Internal discharge records were located and saved to the NASA shared drive. No additional spill records have been located for the release(s). The site entered the RCRA process through a SWMU Assessment and was added to KSC's RCRA Permit Appendix A. A Discharge Report Form does not appear to have been filed. **(Closed 2012-A04).**

KSC Center-Wide Per- and Polyfluoroalkyl Substances (PFAS) (PRL 237) Locations of Concern, September 2021: NASA conducted sampling in the Indian River for PFAS and agreed to provide FDEP with the surface water sample results from the Indian River.

Sample results were provided to FDEP **(Closed 2109-A02).**

Results: Decision Items: 2111-D01

2111-M02 Bruce Moore /FDEP

FDEP Program Update, September 2021

Goal: The objective is to summarize any changes at the Florida Department of Environmental Protection (FDEP) and provide pertinent news since the last Kennedy Space Center (KSC) Remediation Team (KSCRT) meeting.

Discussion: Bruce Moore provided a quick update on the program.

Environmental Specialist III Mary Maurer started September 17th. Vacancies for OPS team support for land use control entries into ERIC and OPS Environmental Specialist III have been filled. Michala Head and Clara Boyas started with the department in October. The section is now operating at full staffing. All staff continue to work at the office. Travel is still allowed at this point, but optional for staff and masks are encouraged. Ask for virtual meeting options to continue to allow those who need or want accommodations to not travel.

FDEP has contracted Geosyntec and Arcadis for technical review support. Initially these companies were utilized to manage a backlog of Homestead ARB/BRAC and NAS Jacksonville documents. They are now expanding to other facilities. Approximately 65 reviews tasked to date.

FDEP has ongoing concerns in the areas of dewatering projects and per- and polyfluoroalkyl substances (PFAS), and the timely programmatic PFAS updates by agencies. There is new guidance by the Department on the preparation of soil management plans and soil reuse (mixing and blending) that the Department is seeking comments on. The preparation of soil management plans will be

more useful for the construction projects. The soil reuse mixing and blending is a method to achieve soil cleanup target levels (SCTLs).

2111-M03 Chad Lee/AECOM

Vehicle Assembly Building Area Long-Term Monitoring Program, 2021 Groundwater Monitoring Results, November 2021

Goal: The objective is to provide a brief background of the two Solid Waste Management Unit (SWMU) and Potential Release Location (PRL) sites that were sampled in 2021, and a summary of work performed at each site in 2021.

Discussion:

Launch Complex 39 Observation Gantry Area (LC39OGA) – SWMU 107:

The work conducted included the collection of 31 groundwater samples from eight locations via temporary sampling points installed via Direct Push Technology (DPT); measurement of water levels from nine monitoring wells to determine groundwater flow direction; collection of groundwater samples from six monitoring wells for analysis of select volatile organic compounds (VOCs) using the Environmental Protection Agency (EPA) Method 8260B; and, collection of three surface water samples adjacent to GSRY-MW0003 from the barge canal, which is part of the Banana River Lagoon Outstanding Florida Water (OFW).

In May 2021, DPT vinyl chloride concentrations were above the groundwater cleanup target level (GCTL) of 1 µg/L in 10 samples; five from the 13 to 17 feet below land surface (bls) sample interval, and five from 23 to 27 feet bls sample interval. No concentrations exceeded GCTLs in samples below 27 ft bls.

Groundwater flow at the site in June 2021 was to the southwest in the 5 to 15 feet (bls) zone and to the south in the 22 to 27 feet bls zone. Analytical results indicate that vinyl chloride concentrations were above the GCTL of 1 µg/L in four monitoring wells (LC39OGA-MW0001, LC39OGA-MW0002, LC39OGA-MW0004, and LC39OGA-MW0009). Site-related VOCs were not detected in the three surface water samples collected adjacent to LC39OGA-

MW0003. FDEP inquired what was the purpose of surface water sample at SW0002? The location is on the opposite side of the inlet from the current plume. AECOM responded that the sample locations were based on past detections below GCTLs of site contaminants in this vicinity. The locations were intended to make sure that the west portion of the plume was not impacting the OFW.

The Team reached consensus to install one new monitoring well (LC39OGA-MW0010), screened 5 to 15 feet bls, downgradient of the vinyl chloride plume **(2111-D02).** The proposed location is south of MW0002.

The Team reached consensus to add monitoring wells LC39OGA-MW0005, LC39OGA-MW0006, LC39OGA-MW0008, and LC39OGA-MW0010 to the LTM Program **(2111-D03).**

The Team reached consensus to conduct annual water level measurements at 10 monitoring wells (Slide 17) MW0001, MW0002, MW0003, MW0004, MW0005, MW0006, MW0007, MW0008, MW0009, and newly installed MW0010 (screened 5 to 15 bls) **(2111-D04).**

The Team reached consensus to conduct annual sampling at 10 monitoring wells (MW0001, MW0002, MW0003, MW0004, MW0005, MW0006, MW0007, MW0008, MW0009, and newly installed MW0010) via low flow pumping methods for site VOCs: trichloroethene (TCE), cis-1,2-dichloroethene (cDCE), trans-1,2-dichloroethene (tDCE), and vinyl chloride (VC) **(2111-D05).**

FDEP noted that the 2021 inferred 5-15 feet plume (Slide 10)appears to be migrating toward the west. FDEP stated they concur with the monitoring well being proposed south of MW0002, and asked if one should be considered to the west of there. AECOM added that they proposed the monitoring well on the south based on groundwater flow to the south and southwest. FDEP observed that the plume configuration suggests more of a westerly flow component. AECOM responded that the surface water samples (SW0004 and SW0005) are meant to ensure the plume is not influencing the OFW nearby. FDEP noted that the proposed locations are south of MW0002 and requested a surface water sample be taken west of MW0002 near the Security boathouse. NASA agreed to collect an additional surface water sample near the Security Boat House and suggested they wait to see the surface water sample results and evaluate if an additional monitoring well is warranted in this area.

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FDEP concurred and requested to be provided with the location of the surface water sample taken near the Security boathouse.

The Team reached consensus to collect four surface water samples from the Banana River OFW. One sample will be adjacent to MW0003 at SW0002. Three samples will be downgradient of the current vinyl chloride plume at proposed locations SW0004, SW0005, and SW0006 **(2111-D06).** SW0006 was the surface water sample added during the meeting that will be collected near the Security Boat House.

The Team reached consensus to conduct limited DPT groundwater sampling in the northeast area to determine the location for an upgradient monitoring well **(2111-D07).** The north end of the plume is inferred to be at the East Crawler Park Site, which has a cement pad (5-15' in thickness) beneath part of it. AECOM will need to work outside this cement pad. The construction project that prevented sampling during the 2021 DPT effort has since wrapped up.

Launch Equipment Shop (LES) – PRL 051:

Measurement of water levels from 12 monitoring wells were taken to determine groundwater flow direction. Groundwater samples were collected from three monitoring wells for analysis of total recoverable petroleum hydrocarbons (TRPH) using Florida Petroleum Residual Organic (FL-PRO) Method.

Groundwater flow at the site in June 2021 was to the south. Analytical results indicate the TRPH concentration was below the GCTL of 5,000 µg/L in the three monitoring wells sampled (LES-IW0005S, LES-IW0009S, and LES-IW0011S).

The Team reached consensus to conduct the next sampling event in November/December 2021 **(2111-D08).**

The Team reached consensus to continue water level measurements at 12 monitoring wells **(2111-D09).**

The Team reached consensus to continue sampling 3 monitoring wells for TRPH (IW0005s, IW0009S, IW0011S) **(2111-D10).**

The Team reached consensus that if each well is below GCTLs during the next sampling event, No Further Action (NFA) will be recommended for the site **(2111-D11).**

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For this and any other site NASA intends to request NFA for, FDEP requested that a complete set of historical data be submitted with the request to close out the site. FDEP will need the results from all the wells on site and not just some of the wells, to show the site is clean.

NASA stated if the sampling results from the wells do not come back clean, they plan to sample again next year. FDEP concurred with this approach.

Results: Decision Items 2111-D02 through D11

2111-M04 Alex Murphy/Tetra Tech

Components Refurbishment and Chemical Analysis Facility (SWMU #041) Year 2 Performance Monitoring, November 2021

Goal: The purpose of the ADP is to summarize the Components Refurbishment and Chemical Analysis (CRCA) Year 2 Hydraulic Containment System (HCS) for Hot Spot 1 (HS1) Annual Performance Monitoring Report (PMR).

Discussion: The advance data package (ADP) presented during the November 2021 Kennedy Space Center Remediation Team (KSCRT) meeting summarized the investigation and site history of CRCA; the HCS system operation performance from September 2020 through August 2021 (Year 2 of system operation); Year 2 groundwater, sub-slab vapor, and ambient air analytical results; and updated groundwater model based on Year 2 data collection.

The medium of concern at CRCA is groundwater. The contaminants of concern are vinyl chloride (VC) and trans-1,2-dichloroethene (tDCE). The primary Interim Measure (IM) objective is to attain hydraulic control of a dissolved-phase chlorinated volatile organic carbon (CVOC) plume. The secondary IM objective is to reduce concentrations of CVOCs in HS1 and the high concentration plume (HCP) to support transition to monitored natural attenuation (MNA).

Cleaning operations at the site went from using trichloroethene to Freon 113 to Vertrel MCA. Vertrel MCA consists of trans-1,2-dichloroethene and decafluoropentane. It was that product which was released. As of July 2021, VC (a breakdown product of trans-1,2-dichloroethene) was the only contaminant remaining above its groundwater cleanup target level (GCTL). Concentrations show a

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decreasing trend since start-up of the hydraulic containment and treatment system. The groundwater model update forecasts attainment of GCTLs in approximately 11 years under current pumping conditions. Without the hydraulic containment system, contaminant migration to the west (downgradient) would resume.

Referencing Slide 12, FDEP pointed out that the volume of water extracted and the volume of water injected for the year do not balance (volume injected is greater than volume extracted) and inquired why. Tetra Tech replied that they have looked at that difference, and cannot fully explain it. The engineers speculate that it has to do with aerated water leaving the treatment system not registering correctly in the flow meters.

FDEP initiated a discussion about contaminant migration. The downgradient well, MW0032, was positioned just beyond the leading edge of the VC plume based on direct push technology (DPT) groundwater sampling completed in 2018 in the wooded area between the railroad tracks and State Road 3/Kennedy Parkway. No contaminants were detected in the initial sample, but VC has been above its GCTL in most samples since 2020. FDEP inquired where the western limit of groundwater capture was. Tetra Tech explained that the design radius of influence (ROI) was 75 feet. The pump test (step test with greater load on aquifer 2.5 times the design rate) and a constant rate test (24 hours) conducted before full system construction showed influence in a monitoring well located about 400 ft from the wells; a greater influence than the design was based on. The extraction wells are intended to effectively capture the plume under the building. Tetra Tech estimates the approximate actual capture is in the neighborhood of 75 feet.

FDEP inquired what portion of the plume to the west is hydraulically cut off from the source area while pumping? Tetra Tech responded that no significant amount of VC is expected to migrate to the western area. NASA added that there was dissolved contamination already beyond the influence of the extraction wells at the time the containment system was installed. A DPT investigation is planned for late this year or early next to evaluate plume migration. Results will be briefed to the Team and new monitoring well locations proposed. Tetra Tech noted that the area between the railroad tracks and State Road 3 often has standing water, and there will therefore be some constraints to sampling. FDEP concurred with this path forward.

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NASA related that CRCA MW0003 had been sampled for per- and polyfluorinated substances (PFAS) as part of the Center-wide PFAS Confirmatory Sampling. The perfluorooctanoic acid result was 204 parts per trillion (ppt). FDEP asked if the source of PFAS was known and if it was near that well, and what if the timing for further PFAS investigation.

NASA replied that initial PFAS sampling is planned to take place this fiscal year. PFAS precursor chemicals were identified in the CRC chemical inventory, but a specific source has not been identified. FDEP inquired if operation of the HCS at this site would exacerbate the PFAS distribution, to which NASA responded that this system is, at a minimum, recirculating what is there. FDEP inquired if there was any purge or decontamination wastewater generated here from sampling operations? NASA responded that liquid investigative derived waste is routed through the site's water treatment system.

The Team reached consensus to continue operation and evaluation of the hydraulic containment system to maintain hydraulic control of the chlorinated volatile organic compound groundwater plume and to further reduce vinyl chloride concentrations **(2111-D12).**

The Team reached consensus to continue performance monitoring at designated locations outlined on slide 51 of the ADP, with the removal of monitoring wells MW0012, MW0015, MW0028, MW0029, and MW0030 from the sampling schedule. These wells showed no detections during the Year 2 reporting period. Wells MW0018, MW0019, MW0031 and MW0032 will be sampled quarterly and wells MW0002, MW0013 and MW0027 will be sampled semiannually **(2111-D13).**

The Team reached consensus to continue ambient air and vapor monitoring sampling, with the addition of a background ambient air sample to assist in distinguishing potential contributions from routine facility operations **(2111-D14).**

Results: Decision Items 2111-D12 through D14

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2111-M05 Jennifer Buel & Scott Anderson/Tetra Tech

Hydrocarbon Burn Facility (SWMU #007), PFAS Assessment Addendum, November 2021

Goal: The purpose is to provide an update on the PFAS Assessment Addendum activities completed since the PFAS Assessment Report ADP (February 2021) and Report (April 2021).

Discussion: The additional PFAS sampling and data collection activities were completed to continue to delineate PFAS groundwater concentrations, confirm stability of the PFAS groundwater concentrations, and better understand the groundwater to surface water interaction via groundwater modeling. Completed activities included perimeter well groundwater sampling in December 2020; DPT groundwater sampling in May 2021; transducer installation in March 2021 and transducer data collection through May 2021; synoptic water level collection in April 2021; completion of an updated conceptual site model and flow model calibrations; and preliminary fate and transport results.

The December 2020 monitoring well sampling included collecting groundwater samples from 8 well clusters located along Static Test and Schwartz Roads, and east and west of the former fire training area, forming a perimeter around the Hydrocarbon Burn Facility (HBF) site. A total of 23 groundwater samples were collected during the December event. Groundwater results were similar to the previous round of data collected in November 2019. The only well cluster with groundwater concentrations greater than the State of Florida provisional groundwater cleanup target levels (GCTL) for individual and combined Perfluorooctanoic Acid (PFOA) and Perfluorooctane sulfonic acid (PFOS) was the MW0084 well cluster. All three wells in that cluster, screened from 1 to 11 ft bls, 15 to 25 bls, and 28 to 38 ft bls had concentrations greater than the provisional GCTL. The well cluster is located south of the HBF area (closest to the former fire training area).

The May 2021 DPT groundwater sampling included the collection of DPT samples at 13 locations. Four samples were collected at each location at screen centerpoint depths of 10, 25, 35, and 45 feet bls. These samples were collected to continue to delineate PFAS groundwater concentrations inward toward HBF and were located to

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the east and west of the HBF area. Vegetation clearing was needed to access the sample locations. All of the DPT samples collected to the west of the HBF were less than the provisional GCTL for individual and combined PFOA and PFOS. Samples from four DPT locations collected to the east of the HBF area (DPT 372, 373, 374, and 377) were greater than the provisional GCTLs. The exceedances were noted in the 10, 25, and 35 ft bls depths. None of the DPT samples collected at the 45 ft bls were greater than the provisional GCTL.

In support of the groundwater modeling effort, additional geological and hydrogeological data was collected and evaluated. An overview of the geological and hydrogeological site investigations and their data interpretation included a 6-week transducer study; evaluation of potentiometric maps from the transducer data under typical and precipitation based events; analysis of horizontal and vertical gradients; construction and evaluation of geological cross-sections; evaluation of PFAS contamination; updates to the Conceptual Site Model; slug test evaluations; construction and calibration of the a steady-state MODFLOW groundwater model and preliminary construction and calibration of the PFAS fate and transport groundwater model. This overview and data summary analyses were provided with presentation of data for each area in a few slides in a progressive manner for understanding site groundwater and contaminant flow.

Surface water features were outlined with emphasis on north-south trending low elevation swales as well as the surface water ditches adjacent to Static Test Road and Schwartz Road. There are 96 groundwater monitoring wells occur across the HBF (73 previous wells and 23 new ones from the PFAS investigations), and 19 pressure transducers were installed at wells across the site in March 2021 to provide spatial and vertical resolution of groundwater elevations through time. Also, 3 pressure transducers were installed in stilling wells in the surface water feature (Banana River). Transducers collected water levels every five minutes from March 22, 2021 to May 5, 2021. Data was presented from several wells across the site – along the eastern edge near the Banana River, on the northern property boundary, within the Burn Pit Area and for the stilling wells. It was noted that minor tidal influences were observed in all wells but less noticeable for the stilling wells showing stronger connection to precipitation and/or wind. Data was presented either

as “typical conditions” and precipitation type events. Direction of vertical groundwater gradients was noted for the well clusters presented, with most showing downward trends. Upward trends were noted for the location in the northeast corner (where surface water discharges to Banana River). Gradients were presented on select well clusters to show that while there are a lot of changes to water levels in real-time, the overall gradients are fairly consistent.

Groundwater potentiometric maps for the Shallow, Intermediate and Deep Intermediate zones were presented for both average/typical conditions and during precipitation events. Generally, typical groundwater flow is similar in each zone with flow toward the northeast, east and southeast to Banana River. Flow during precipitation events is similar though there appears to be additional preferential migration to the northeast where the surface water drains to the Banana River.

While geological cross-sections were built across the HBF area, a focused cross-section from west to east was presented. It was noted that generally, most lithological layering is relatively flat and composed of sands and shells with minor silts. Further, it was noted that a clay layer occurs around -55 feet msl across the site. For cross-section C-C' (presented), special emphasis was placed on the lithologies of the HBF area in that multiple borings were consulted and summarized to present the buildup of the HBF historically. While more lithologies are presented, they are composed of the same general materials. While other cross-sections were not presented, similar lithology is observed across the site.

Slug testing was performed across the site spatially and vertically at 34 locations screened in the Shallow, Intermediate, Lower Intermediate and Deep zones. It was noted that multiple slug rods were constructed of various lengths – 3-, 5- and 10-feet – to provide maximum displacement during testing. Slug testing occurred from low PFAS concentration wells to high PFAS concentration wells to ensure that cross-contamination did not occur. Multiple sets of falling and rising head tests were performed at each well and the best data was analyzed in AQTESOLV for estimation of hydraulic conductivities. The locations and a summary table of the results were presented. It was noted that hydraulic conductivity results range from single digit to about 10 to 15 feet/day in results with the widest range in the Shallow zone and the highest hydraulic

conductivities in the Lower Intermediate zone. Comparison of ranges of results and average results between zones doesn't show significant variation, which is consistent with the lithologies observed at these locations.

PFOS and PFOA results in the Shallow, Intermediate and Lower Intermediate zones were presented and summarized. For concentrations greater than 70 ppt (ng/L), the extent of contamination is limited to the burn pan area. When concentrations less than 70 ppt were considered, migration was observed to the east and southeast from the burn pan area. PFOS was shown on cross-sections A-A' and C-C' and elevated concentrations are observed to the clay boundary approximately -55 feet msl. It was also noted that the highest concentrations occur on the southern end of the burn pan area, where vertical gradients between the Intermediate and Shallow zones were observed.

The updated Conceptual Site Model was presented. During the Dry Season, migration occurs from the burn pan area toward the southeast to the Banana River. During precipitation events in the Dry Season and during the Wet Season, groundwater appears migrate vertically from the Intermediate to Shallow zones and then discharge to a surface water feature southeast of the burn pan along a north-south axis. Overall, a complex contaminant migration pathway is observed.

Based on the updated Conceptual Site Model, a site-specific numerical groundwater model was built in MODFLOW. The Banana River was set as a river boundary condition with the elevation determined during the calibration process. A variable spaced grid from 100 ft by 100 ft to 25 ft by 25 ft was built with 6 lithologic model layers. Constant heads were set in layers 2 and 3 (which correspond to the Intermediate and Lower Intermediate) from the long-term average/typical conditions. Surface elevations were assigned based on LIDAR data and reflect the swale features of the site. A variable zoned hydraulic distribution was set based on the slug test results. The calibrated steady-state groundwater model accurately reflected the groundwater flow directions with good match between observed and modeled results.

Preliminary fate and transport groundwater modeling was performed for PFOS. Additional properties incorporated include porosity, dispersivity and chemical reactions. No first order decay was used

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though components of adsorption were included. Adsorption components included specific gravity and fractional organic carbon (FOC), which were based on site-wide geotechnical data collected at depths of 10, 20 (or 25), 35 and 50 feet below land surface. Elevated organic carbon data was observed in Layers 1 and 2 at 22,000 mg/kg. During preliminary calibration, this elevated organic carbon resulted in elevated retardation values that generally mimicked the lack of elevated PFOS transport from the former burn pan area.

Before finalizing the fate and transport calibration, additional surface water, porewater and shallow groundwater samples will be collected south of the burn pan area to better evaluate the subsurface contamination and understand the migration of PFAS. Additionally, a long-term transducer study during the Wet season will occur and storm drains across the site will be evaluated. A PFAS Assessment Report Addendum will be completed documenting the additional evaluations.

FDEP circled back to the flow and transport model and inquired how well it corresponded with the observed plume? Tetra Tech pointed to Slide 45; the model-predicted retardation of plume movement based on incorporating the FOC correlates well with observations. Where the model didn't match was in the southeast and north/south trending part of the plume. From the calibration perspective, we don't have enough data in that area to calibrate closely; more data collection is planned. What the model indicates is that the bulk of the PFAS contamination will continue to sit in the location where it is now. Based on the gradient seen and conductivity testing, FDEP observed it would take quite a long time for the groundwater plume to reach the shoreline. Tetra Tech agreed that is what the preliminary modeling is showing.

Referencing the PFOA and PFOS plume maps, FDEP pointed out the large areas with PFOA or PFOS concentrations between the laboratory detection limit and 7 ppt. What is the mechanism for the very low concentration? Is that atmospheric deposition? Do we know what is taking place here? Tetra Tech responded there is a fair amount of interpretation going on for the lowest detections; big plumes are drawn based on really low numbers and relatively few sample points. FDEP stated the low-level plume may be important for surface water since the provisional surface water screening level for PFOS is 10ppt. NASA iterated that it is very important to

understand the surface water/groundwater interaction. Efforts to do so are continuing.

2111-M06 Jennifer Buel/ Tetra Tech

Schwartz Road Landfill (SWMU #002), PFAS Confirmatory Sampling Work Plan, November 2021

Goal: The objective of the presentation is to present the Per- and Polyfluoroalkyl Substances (PFAS) conceptual site model for the Schwartz Road Landfill and the proposed PFAS Confirmatory Sampling Plan for Team consensus. The Schwartz Road Landfill includes two Resource Conservation and Recovery Act (RCRA) Solid Waste Permitted landfills. One landfill has been closed and the other remains active. The site is also known as Schwartz Road Active and Closed Class III Landfills, Solid Waste Management Unit (SWMU 002). It is located northwest of the Hydrocarbon Burn Facility (HBF).

Discussion: The site history and background for the sites were presented. Landfill operations began in 1968. Currently the landfill operates as a Class III Sanitary Landfill. This classification allows for disposal of trash, paper, construction debris, and land clearing wastes. Garbage type waste and hazardous waste and not disposed of at the landfill. Prior to 1981, the landfill operated as a Class II Landfill which included disposal of wet garbage and food wastes. From 1995 to 2001, some wastewater treatment plant (WWTP) residuals generated at Kennedy Space Center were used as cover material at the Schwartz Road Landfill.

In support of the solid waste permits, semiannual permit compliance monitoring is completed at 2 surface water locations within the landfill boundaries and from 42 groundwater monitoring wells. Analytical parameters collected include metals, volatile organic compounds (VOCs), and general chemistry parameters. Exceedances of groundwater cleanup target levels (GCTLs) noted in the groundwater collected from the monitoring wells during the March 2021 event include total ammonia, total dissolved solids, sodium, chloride, iron, benzene, and vinyl chloride. There were no exceedances of regulatory criteria in the surface water samples. Surficial aquifer potentiometric surface maps presented in the semiannual permit compliance monitoring report were shown. A northerly flow was noted in all of the intervals monitored. Screened intervals in the 2.5 to 32 feet bls showed a northwest groundwater

flow direction, screened intervals ranging from 20 to 47 ft bls showed northwest and northeast flow directions, and wells with screened intervals 33 to 62.5 ft bls showed a northeasterly groundwater flow direction.

PFAS sampling at the landfill was previously conducted as part of the HBF PFAS investigations in 2018. A direct push technology (DPT) sample at 25 feet bls at a location southeast of the landfill detected perfluorooctanic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) in groundwater. The total PFOA + PFOS groundwater concentration of 73.5 nanogram per liter (ng/L) was slightly higher than the provisional GCTL of 70 ng/L. Surface water samples were collected from 3 locations in the drainage swales at the landfill. PFOA concentrations were less than the provisional surface water screening level of 500 ng/L in all three samples. PFOS concentrations were greater than the provisional surface water screening level of 10 ng/L in all three samples.

Because landfills can be a source of PFAS, additional sampling was completed to investigate the exceedance. In 2019, groundwater samples were collected from 5 existing Schwartz Road Landfill monitoring wells and a piezometer to better understand landfill contributions to the PFAS concentrations in the area. The wells and piezometer were located in the southeastern corner of the landfill, near the area where the 2018 DPT provisional GCTL exceedances was detected in groundwater. One of the wells, MW00037 (screened at 34 to 44 ft bls) exceeded the provisional GCTL for total PFOA and PFOS with a groundwater concentration of 79.1 ng/L. Following this sampling, an off-site cluster of wells (screened 17 to 22 ft bls, 26 to 36 ft bls, and 42 to 52 ft bls) located south of the Schwartz Road Landfill were sampled. A shallow well screened in the 1 to 11 ft bls was installed at the well cluster to capture multiple depth intervals at one location in support of groundwater modeling efforts being completed at HBF. The four off-site wells were sampled in 2019 and a subset of two wells were sampled in 2020 with results less than the provisional GCTLs during both events.

Based on the provisional GCTL and provisional surface water screening level exceedances, more through sampling of landfill groundwater and surface water is recommended. The proposed Schwartz Road Landfill Confirmatory Sampling plan was presented to the Team for consensus and included the collection of one round

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of groundwater samples from the existing 38 on-site wells (SRLF-MW-16 through MW-52, and MW-D3), and the collection of surface water samples from 12 locations from the on-site drainage swale system and along Schwartz Road near the entrance to the landfill.

Samples will be submitted to the laboratory for PFAS analysis. The requested PFAS analytical method will be compliant with Table B-15 of the Department of Defense (DOD) Quality Systems Manual version 5.3 or later and a minimum of 18 compounds will be analyzed.

Team consensus was reached to collect groundwater samples from 38 existing on-site monitoring wells (SRLF-MW-16 through MW-52, and MW-D3), and collect surface water from 12 locations from the on-site drainage swale system and along Schwartz Road. Monitoring wells and depths for each are outlined on Slide 13 of the ADP **(2111-D15).** The Analytical Method to be used will be PFAS by 537M ID Compliant with QSM 5.3 Table B-15 (PFAS by LC/MS/MS with Isotope Dilution).

FDEP is on board with the sampling plan for this site, but reserves the right to get back with NASA on the analyte list. The Team then discussed the PFAS analyte list. FDEP's Dynamic Plan lists 30 compounds that the FDEP laboratory is currently capable of analyzing. The Team contractors noted that not all commercially available laboratories are certified to analyze for the 30 compounds that the FDEP lab can analyze. Plus, PFOA and PFOS are the only PFAS compounds for which FDEP currently has provisional screening levels. NASA will look into this matter further. For Schwartz Road Landfill, a 24-compound list is planned. FDEP will talk to their lab folks and let NASA know what the temperature is once they have a better idea.

FDEP inquired if the surface water bodies at the landfill are closed basins or if they have outlets? NASA responded that the water body at this landfill is a closed basin. FDEP inquired if the water body near the active part is lined? NASA didn't know for certain but doubts it is.

Result: Decision item 2111-D15

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2111-M07 Howard Fowler/HGL

Un-Numbered Operational Areas (PRL #229), Confirmatory Sampling Work Plan (CSWP), November 2021

Goal: The objective of the ADP is to summarize the PRL 229 Pond site history, present the CSWP, and obtain Team consensus on the recommendation to implement the surface water and sediment confirmatory sampling and screening level ecologic risk assessment (SLERA).

Discussion: A Solid Waste Management Unit (SWMU) Assessment of PRL 229 was prepared in 2015. Confirmation Sampling of soil and groundwater was performed at the Railroad Tie Disposal Area (RTDA) between September 2018 and April 2019.

Confirmation Sampling at the RTDA identified soils with total recoverable petroleum hydrocarbons (TRPH) and benzo(a)pyrene equivalents above Florida residential Soil Cleanup Target Levels (SCTLs). At RTDA Tie Piles #1 and #2, soil impacts were delineated on three sides and to the edge of the pond on the fourth side.

In September 2019, an Interim Measures (IM) Work Plan recommending excavation of impacted soil was prepared. The lack of sediment samples in the pond was identified as a data gap. The Kennedy Space Center Remediation Team (KSCRT) concurred with the IM recommendation, with the addition of sediment sampling. The Work Plan was formally approved by the Florida Department of Environmental Protection (FDEP) in April 2020.

In July 2020, six sediment samples were collected along the northeast edge of the pond at a depth of 0-0.5 feet and analyzed for polycyclic aromatic hydrocarbons (PAHs) and TRPH. Samples were collected 2-3 feet from the shoreline with 6-8 inches of water above. All sediment sample locations exceed the Sediment Quality Assessment Guidelines (SQAGs) for multiple PAH compounds.

A Confirmation Sampling Report Addendum (CSRA) was submitted in December 2020 and approved by FDEP on June 9, 2021. The CSRA recommended additional assessment of the pond based on the PAHs exceedances of SQAGs in sediment samples. This CSWP summarizes the additional sampling to be performed as part of the pond investigation.

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CSWP Considerations

Historical aerial photographs were reviewed to determine the historical footprint of pond. In 1951, the pond appears to be part of a saltmarsh that ultimately communicated with the Banana River Lagoon. In the 1960s the northwest and southeast portions of the pond were filled during the construction of the nearby railroad track (1963-1965) and the Area 2 Universal Camera Pad 7 facility (circa 1960). As a result of construction activities, the area became impounded. Between 1972 and 2018, only minor changes in pond water levels were observed.

The pond is part of what is now called the Launch Complex 39 Lagoonal System which is classified as Class III - Fish Consumption; Recreation, Propagation and Maintenance of a Healthy, Well-Balanced Population of Fish and Wildlife, Predominantly Marine Waters.

The pond is currently almost surrounded by dense vegetation, requiring coordination, and clearing for access. The Pond bottom contains approximately 18 inches of muck (determined during staff gauge installation).

The St. Johns River Water Management District (SJRWMD) Environmenal Resources Permit (ERP) and US Army Corps of Engineers (USACE) Section 404 permit for the adjacent Coastal Dune Restoration project were issued in 2017 (ERP modified in 2019). The Dune Restoration work has been completed and the ERP Permit did not contain conditions that would affect the pond investigation.

The SJRWMD ERP and USACE Section 404 permits for IM activities have been approved. The soil IM will be implemented during the 1st quarter of 2022 prior to pond sampling. The plan is to clear vegetation in December 2021, have a KSC Wildlife Ecologist come out to relocate any wildlife in the area, and perform the soil removal afterward.

Pond Sampling Work Plan

The collection of 10 sets of surface water and sediment samples along the edge of the pond is proposed. One set of sediment and surface water samples will be collected from the northwest and southeast ends and 4 evenly spaced sets of sediment and surface

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water samples will be collected from the northeast and southwest sides of the pond. Surface water samples will be analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), PAHs, priority pollutant metals plus barium, total hardness, and salinity (field measurement). Sediment samples will be analyzed for SVOCs, PAHs, TRPH, priority pollutant metals plus barium, and total organic carbon.

Screening Level Ecological Risk Assessment (SLERA)

The CSWP will establish the methodologies and approach that will be used to complete a SLERA for the RTDA site as part of the confirmatory sampling investigation. The methodologies and approach mirror the SLERA portion of the Launch Complex 39 Area Ecological Risk Assessment (Geosyntec, 2014), including assessment endpoints, exposure parameters, and toxicity reference values. The SLERA will be performed in accordance with Kennedy Space Center's Resource Conservation and Recovery Act program, as well as current Environmental Protection Agency and FDEP guidance documents, including Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments, Interim Final (EPA, 1997) and Florida Ecological Risk Assessment Guidance Document (University of Florida, 2016).

The dataset to be used in the SLERA will include the six historical sediment samples collected in December 2020 and the sediment and surface water data to be collected as part of confirmatory sampling.

The SLERA will include the following steps:

Step 1 – Screening Level Problem Formulation; Site Description; Sensitive Environments; and Preliminary Assessment and Measurement Endpoints.

Step 2 – Screening Level Exposure Estimate and Risk Calculation; Benthic Invertebrate Community; Aquatic Community; and Wildlife Receptors.

Step 3a – SLERA Refinement; Refined Ecological Risk Assessment; and Uncertainty Analysis.

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The Team reached consensus on proceeding with PRL 229 Pond Investigation Confirmatory Sampling Work Plan **(2111-D16).**

Results: Decisions Items 2109-D16

2111-M08 Alex Murphy/Tetra Tech

Central Heat Plant (SWMU #045), Air Sparge Construction Completion and First Quarter Results, November 2021

Goal: The presentation goal is to provide a summary of the Interim Measure (IM) air sparge system construction that was recently completed at the site.

Discussion: The Central Heat Plant (CHP) Interim Measure (IM) air sparge system construction has been completed. Performance monitoring through Year 1, Quarter 1 has been conducted. This ADP details those construction activities and performance monitoring results to date. The CHP IM air sparging system includes 240 two-inch inside diameter (I.D.) Schedule 40 polyvinyl chloride (PVC) air sparging wells and 27 two-inch I.D. stainless steel air sparging wells. Three of the stainless-steel air sparging wells are set to a screen interval depth of 20-22 feet below land surface (bls), and the remainder of the air sparging wells are set to an approximate screen interval depth of 49-51 feet bls. "Hot" air, defined as approximately 200-250 °F at the air sparging well head, is supplied to the stainless-steel wells via a 40-horsepower (hp) compressor capable of 240 cubic feet per minute (cfm) at 35 pounds per square inch (psi). "Cold" air, defined as approximately 85 °F at the air sparging well head, is supplied to the PVC wells via a 60-hp compressor capable of 350 cfm at 35 psi. Groundwater is the medium of concern at CHP. Tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cDCE), and vinyl chloride (VC) are the contaminants of concern (COCs). The objective of this IM is to reduce chlorinated volatile organic compound (CVOC) concentrations within the treatment area to concentrations that facilitate a transition to long-term monitoring.

Year1, Quarter 1 analytical results from the 22-well performance monitoring network were collected in September 2021 and compared to pre-IM (baseline) results. PCE and TCE results were reduced by an order of magnitude or more.

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Additionally, this advance data package (ADP) presents discrepancies in implementation compared to the IM design and the path forward to address these discrepancies, which are primarily related to the compressors. Lessons learned were described. Tetra Tech will come back to the Kennedy Space Center Remediation Team (KSCRT) to present a summary of the modifications, replacements, and updated data after modifications are complete.

The CHP air sparging system will continue to operate, and results from the Year 1 performance monitoring will be presented to KSCRT at a future meeting.

2111-M09 KSCRT

Miscellaneous Discussion

January 11-12th were initially planned but also January 13 & 14th were mentioned as a possibility for the first 2022 meeting. These dates need to be verified so that it doesn't interfere with Space Force scheduled dates. Post meeting: Richard Smith confirmed with the Space Force that January 11 & 12th are open dates for meeting. NASA requested that each A&E email agenda topics for the November 2021 meeting to the Meeting Leader Richard Smith. The timekeeper for the next meeting will be Deda Johansen. Location for this meeting is still to be determined (TBD). The projected future meeting dates discussed are:

January 11-12th, 2022
March 8-9th, 2022
May 3-4th, 2022
June 28-29th, 2022
September 13-14th, 2022
November 15-16th, 2022

Anne brought up that when we do the agenda build, we need to forecast out with Remediation Program presentation reviews in mind. Depending on the type of presentation, an accelerated schedule may be needed to accommodate the Remediation Program review step. Please keep that in mind.

AECOM

MLPV 2021 CMI status –

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PFAS Phase III ADP – 90 minutes -

Tetra Tech
HMFN Year 1 PMR – Chris Hook 45 minutes

HGL
PRL #239 (CAEF) – source collection data gap – TBD on presenter and length of time

FDEP
15-20-minute FDEP update by Program Manager

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November 2021 Decision Items Rev 0		Decision
Decision No.	**Minutes Reference**	
2111-D01	2111-M01	**Meeting Minutes and Misc. Items:** Team consensus was reached that Revision 2 of the meeting minutes and action/decision items for the September 2021 Team meeting will become final. Team members acknowledged and did not object to the fact that these meeting minutes may become public as part of a final report at a later date.
2111-D02	2111-M03	**Vehicle Assembly Building Area Long-Term Monitoring Program, 2021 Groundwater Monitoring Results, November 2021:** The Team reached consensus to install one new monitoring well (LC39OGA-MW0010), screened 5 to 15 feet bls, downgradient of the vinyl chloride plume.
2111-D03	2111-M03	**Vehicle Assembly Building Area Long-Term Monitoring Program, 2021 Groundwater Monitoring Results, November 2021:** The Team reached consensus to add monitoring wells LC39OGA-MW0005, LC39OGA-MW0006, LC39OGA-MW0008, and LC39OGA-MW0010 to the LTM Program.
2111-D04	2111-M03	**Vehicle Assembly Building Area Long-Term Monitoring Program, 2021 Groundwater Monitoring Results, November 2021:** The Team reached consensus to conduct annual water level measurements at 10 monitoring wells (Slide 17) MW0001, MW0002, MW0003, MW0004, MW0005, MW0006, MW0007, MW0008, MW0009, and newly installed MW0010 (screened 5 to 15 bls).

November 2021 Decision Items Rev 0		Decision
Decision No.	**Minutes Reference**	
2111-D05	2111-M03	**Vehicle Assembly Building Area Long-Term Monitoring Program, 2021 Groundwater Monitoring Results, November 2021:** The Team reached consensus to conduct annual sampling at 10 monitoring wells (MW0001, MW0002, MW0003, MW0004, MW0005, MW0006, MW0007, MW0008, MW0009, and newly installed MW0010) via low flow pumping methods for site VOCs: trichloroethene (TCE), cis-1,2-dichloroethene (cDCE), trans-1,2-dichloroethene (tDCE), and vinyl chloride (VC).
2111-D06	2111-M03	**Vehicle Assembly Building Area Long-Term Monitoring Program, 2021 Groundwater Monitoring Results, November 2021:** The Team reached consensus to collect four surface water samples from the Banana River OFW. One sample will be adjacent to MW0003 at SW0002. Three samples will be downgradient of the current vinyl chloride plume at proposed locations SW0004, SW0005, and SW0006.

November 2021 Decision Items Rev 0		Decision
Decision No.	**Minutes Reference**	
2111-D07	2111-M03	**Vehicle Assembly Building Area Long-Term Monitoring Program, 2021 Groundwater Monitoring Results, November 2021:** The Team reached consensus to conduct limited DPT groundwater sampling in the northeast area to determine the location for an upgradient monitoring well.

Meeting Minutes Report

Attendees:

(NASA) Mike Deliz, (Tetra Tech) Mark Speranza, (NASA) Dinh Vo, (Tetra Tech) Mark Jonnet, (NASA) Anne Chrest, (Tetra Tech) Deborah Wilson, (Tetra Tech) James Lloyd, (NASA) Ryan O'Meara, (Tetra Tech) Alex Murphy, (Tetra Tech) Sarah Damphousse, (NASA) Natasha Darre, (FDEP) Laura Barrett, (Tetra Tech) Andrew Walters, (HGL) Carol Cady, (HGL) Richard Smith, (AECOM) Randy Sillan, (HGL) Howard Fowler, (NASA) Deda Johansen, (AECOM) Jennifer Joyal, (FDEP) Kirk Johnson, (LEIDOS) Michelle Moore

October 2020 Full Partnering KSC Team Meeting

Meeting Date From: 10/8/2020 To: 10/8/2020

Meeting ID: 2010

Location Description: Kennedy Space Center-FL

Meeting Type: Full Partnering Team Meeting

Meeting Topic:	**Team Meeting Minutes**		
Minute: 2010-M1	**Site:**	**Goal:**	**Discussion:**
Presenter: TEAM, TEAM	KSC REMEDIATION TEAM MEETINGS	Team consensus was reached that Revision 2 of the meeting minutes and Revision 1 of the action/decision items for the August 2020 Team meeting would be given additional time for review. The respond by date of October 15th was given to Team members to provide additional comments on these two documents.	Team consensus was reached that Revision 2 of the meeting minutes and Revision 1 of the action/decision items for the August 2020 Team meeting would be given additional time for review. The respond by date of October 15th was given to Team members to provide additional comments on these two documents.
Decision:1	Team consensus was reached that Revision 2 of the meeting minutes and Revision 1 of the action/decision items for the August 2020 Team meeting are final. No additional comments were received for the Revision 2 meeting minutes from the August 2020 KSCRT meeting as of COB October 15th. These minutes are now final.		

Meeting Topic:	**Components Refurbishment and Chemical Analysis (CRCA) Solid Waste Management Unit (SWMU) #041, Year 1 Operations Maintenance and Monitoring, October 2020**		
Minute: 2010-M2	**Site:**	**Goal:**	**Discussion:**
Presenter: Murphy, Alex	COMPONENTS REFURBISHMENT AND CHEMICAL ANALYSIS (SWMU 041)	The objective is to summarize the groundwater interim measures (IM) hydraulic containment system (HCS) Year 1 operation and maintenance (O&M) for the treatment of chlorinated volatile organic compounds (CVOCs) at the Components Refurbishment and Chemical Analysis Facility (CRCA).	Installation, startup, and commissioning of the HCS was previously presented in the June 2020 CRCA HCS – Mid-Year Performance Monitoring ADP. CRCA is located east of Contractors Road, approximately 1 mile north of Schwartz Road. The site consists of Building K6-1696 and the surrounding support building and structures, including the Chemical Processing Area (CPA). The groundwater contaminant plume at CRCA consists of a 6.54-acre Low Concentration Plume (LCP) where CVOC concentrations exceed Florida Department of Environmental Protection (FDEP) Groundwater Cleanup Target Levels (GCTLs). Within the LCP is a 2.07-acre High Concentration Plume (HCP) where CVOC concentrations exceed FDEP Natural Attenuation Default Concentrations (NADCs), and within the HCP is a 0.8-acre Hot Spot (HS) where CVOC concentrations exceed 10 times (10X) NADCs. Approximately 88-percent of the CVOC

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Presenter: Murphy, Alex	COMPONENTS REFURBISHMENT AND CHEMICAL ANALYSIS (SWMU 041)	The objective is to summarize the groundwater interim measures (IM) hydraulic containment system (HCS) Year 1 operation and maintenance (O&M) for the treatment of chlorinated volatile organic compounds (CVOCs) at the Components Refurbishment and Chemical Analysis Facility (CRCA).	FDEP inquired if the wells proposed for elimination are in the shallow zone? Tetra Tech stated they are in the shallow zone and intermediate zone. These wells were installed based on location of the plume prior to HCS start-up. Tetra Tech is proposing to eliminate the MWs since we feel we have good understanding of the current plume. From initial baseline sampling to current, we have had no contaminant detections in these locations that we are proposing to eliminate. For performance sampling only, we are looking to eliminate these from the sampling program. FDEP asked if Tetra Tech could show where the wells are in the context of the plume. Tetra Tech pulled up slides 31 and 32 in the current ADP to provide a detailed explanation with the depths of the wells. FDEP stated that it doesn't look like there exists a shallow plume anymore. Tetra Tech concurred with that. FDEP stated that groundwater was flowing from the east to the west, and inquired if there was a southern component? Tetra Tech confirmed that the flow was from the east to the west and there is not a southern component. FDEP inquired if the Team is comfortable eliminating these wells. Tetra Tech stated that if FDEP recommends that MW0027 and MW0029 be retained in the intermediate zone, they will be. FDEP confirmed they would like MW0027 and MW0029 retained. NASA added that we will have changing plume morphology at this site over time due to groundwater recovery and treatment, and to keep that in mind. We need to consider what wells to retain or eliminate over time as a result of the changes in plume morphology. DPT is now used for performance monitoring at site LC34 as a result of similar conditions. FDEP observed that the data used to populate the groundwater model will not have a large temporal difference if the model is updated after the second year of operation. Tetra Tech did not disagree but noted that updating the model is fairly simple now that the model has been developed and validated. Geochemical indicators ha
Decision:2	The Team reached consensus to increase the groundwater reinjection rate at IW0005 to increase flushing in the vicinity of MW0018.		
Decision:3	The Team reached consensus to continue performance monitoring with the following changes: remove monitoring wells MW0003, and MW0020 through MW0026 from the performance sampling program, MW0027 and MW0029 will be sampled semi-annually, and MW0032 will transition to quarterly sampling; eliminate sulfate, sulfide, nitrate, nitrite, carbon dioxide, iron, dissolved iron, and RCRA metals analyses from groundwater sampling events (continue analysis of VOCs, MEE, DHC, and VC reductase in quarterly performance monitoring wells); transition MW0028 to semiannual sampling.		
Decision:4	The Team reached consensus to update the groundwater model and transport evaluation after completion of the Year 2 operational period.		

APPENDIX C
CHAIN-OF-CUSTODY FORMS AND LABORATORY DATA PACKAGES

Environmental Conservation Laboratories, Inc.
102-A woodwinds Industrial Ct. Cary, NC 27511
4810 Executive Park Ct., Ste. 211, Jacksonville, FL 32216
10775 Central Port Drive, Orlando, FL 32824

www.encolabs.com

November 25, 2020

Tetra Tech
11 Riverside Drive
Suite 204
Cocoa, Florida 32922

Attention: Melissa Bennett

Please be advised that you can use data purchased from Environmental Conservation Laboratories, Inc. as you see fit. We hereby waive the requirement that our reports be reproduced only in full. You and your clients may reproduce the data in part or in full for inclusion in reports and presentations as you deem necessary. Please feel free to contact me at (407) 826-5314 should you need further clarification.

Sincerely,

ENVIRONMENTAL CONSERVATION LABORATORIES, INC.

James W. Gregory
Senior Vice President

ENCO Laboratories

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10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Monday, October 26, 2020
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AD06767

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Friday, October 16, 2020.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

www.encolabs.com

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-MW0018-058.0-20201015 **Lab ID: AD06767-01** **Sampled: 10/15/20 11:00** **Received: 10/16/20 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	10/29/20	10/23/20 12:57	10/23/20 15:59
RSK 175	Same	10/29/20	10/21/20 08:38	10/21/20 10:38

Client ID: CRCA-MW0018-058.0-20201015 **Lab ID: AD06767-01RE1** **Sampled: 10/15/20 11:00** **Received: 10/16/20 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	10/29/20	10/21/20 08:38	10/21/20 12:29

Client ID: CRCA-MW0031-058.0-20201015 **Lab ID: AD06767-02** **Sampled: 10/15/20 12:00** **Received: 10/16/20 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	10/29/20	10/23/20 12:57	10/23/20 15:28
RSK 175	Same	10/29/20	10/21/20 08:38	10/21/20 10:54

Client ID: CRCA-MW0032-058.0-20201015 **Lab ID: AD06767-03** **Sampled: 10/15/20 13:40** **Received: 10/16/20 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	10/29/20	10/23/20 12:57	10/23/20 16:30

Client ID: CRCA-VMP01-20201015 **Lab ID: AD06767-04RE1** **Sampled: 10/15/20 17:03** **Received: 10/16/20 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	11/14/20	10/22/20 08:15	10/22/20 13:55

Client ID: CRCA-VMP02-20201015 **Lab ID: AD06767-05** **Sampled: 10/15/20 17:08** **Received: 10/16/20 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	11/14/20	10/22/20 08:15	10/22/20 10:10

Client ID: CRCA-VMP04-20201015 **Lab ID: AD06767-06RE1** **Sampled: 10/15/20 17:23** **Received: 10/16/20 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	11/14/20	10/22/20 08:15	10/22/20 14:35

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-MW0018-058.0-20201015 **Lab ID:** AD06767-01

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Carbon dioxide	65.1		2.07	2.50	mg/L	RSK 175	
Ethene	0.0175		0.00510	0.00600	mg/L	RSK 175	
Vinyl chloride	81		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0018-058.0-20201015 **Lab ID:** AD06767-01RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	1.96		0.0840	0.105	mg/L	RSK 175	

Client ID: CRCA-MW0031-058.0-20201015 **Lab ID:** AD06767-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	28		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0032-058.0-20201015 **Lab ID:** AD06767-03

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	17		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-VMP01-20201015 **Lab ID:** AD06767-04RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	8.4		0.47	3.4	ppbv	TO-15	
Freon 113	6.7		0.43	3.4	ppbv	TO-15	
Methylene chloride	1.2	IV	0.27	3.4	ppbv	TO-15	J-01, O-01
trans-1,2-Dichloroethene	4.2		0.43	3.4	ppbv	TO-15	

Client ID: CRCA-VMP02-20201015 **Lab ID:** AD06767-05

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	7.0	I	4.0	29	ppbv	TO-15	
Freon 113	440		3.7	29	ppbv	TO-15	
Methylene chloride	2.7	IV	2.3	29	ppbv	TO-15	J-01, O-01
trans-1,2-Dichloroethene	8.8	I	3.7	29	ppbv	TO-15	

Client ID: CRCA-VMP04-20201015 **Lab ID:** AD06767-06RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	15		2.1	15	ppbv	TO-15	
Freon 113	130		1.9	15	ppbv	TO-15	
Methylene chloride	1.8	IV	1.2	15	ppbv	TO-15	J-01, O-01
trans-1,2-Dichloroethene	4.5	I	1.9	15	ppbv	TO-15	

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ANALYTICAL RESULTS

Description: CRCA-MW0018-058.0-20201015 **Lab Sample ID:** AD06767-01 **Received:** 10/16/20 16:00

Matrix: Ground Water **Sampled:** 10/15/20 11:00 **Work Order:** AD06767

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	QV-01
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	0J23034	EPA 8260D	10/23/20 15:59	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	0J23034	EPA 8260D	10/23/20 15:59	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0018-058.0-20201015 **Lab Sample ID:** AD06767-01 **Received:** 10/16/20 16:00

Matrix: Ground Water **Sampled:** 10/15/20 11:00 **Work Order:** AD06767

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Vinyl chloride [75-01-4]^	**81**		ug/L	1	0.71	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	0J23034	EPA 8260D	10/23/20 15:59	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*56*	*1*	*50.0*	*112 %*	*41-142*	*0J23034*	*EPA 8260D*	*10/23/20 15:59*	*KKW*	
Dibromofluoromethane	*56*	*1*	*50.0*	*111 %*	*53-146*	*0J23034*	*EPA 8260D*	*10/23/20 15:59*	*KKW*	
Toluene-d8	*54*	*1*	*50.0*	*108 %*	*41-146*	*0J23034*	*EPA 8260D*	*10/23/20 15:59*	*KKW*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Carbon dioxide [124-38-9]^	**65.1**		mg/L	1	2.07	2.50	0J21005	RSK 175	10/21/20 10:38	KG	
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	0J21005	RSK 175	10/21/20 10:38	KG	
Ethene [74-85-1]^	**0.0175**		mg/L	1	0.00510	0.00600	0J21005	RSK 175	10/21/20 10:38	KG	
Methane [74-82-8]^	**1.96**		mg/L	21	0.0840	0.105	0J21005	RSK 175	10/21/20 12:29	KG	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0031-058.0-20201015 **Lab Sample ID:** AD06767-02 **Received:** 10/16/20 16:00

Matrix: Ground Water **Sampled:** 10/15/20 12:00 **Work Order:** AD06767

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	QM-11
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	QV-01
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	0J23034	EPA 8260D	10/23/20 15:28	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	0J23034	EPA 8260D	10/23/20 15:28	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	QM-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	

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ANALYTICAL RESULTS

Description: CRCA-MW0031-058.0-20201015 **Lab Sample ID:** AD06767-02 **Received:** 10/16/20 16:00

Matrix: Ground Water **Sampled:** 10/15/20 12:00 **Work Order:** AD06767

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Vinyl chloride [75-01-4]^	**28**		ug/L	1	0.71	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	0J23034	EPA 8260D	10/23/20 15:28	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*55*	*1*	*50.0*	*111 %*	*41-142*	*0J23034*	*EPA 8260D*	*10/23/20 15:28*	*KKW*	
Dibromofluoromethane	*56*	*1*	*50.0*	*113 %*	*53-146*	*0J23034*	*EPA 8260D*	*10/23/20 15:28*	*KKW*	
Toluene-d8	*54*	*1*	*50.0*	*108 %*	*41-146*	*0J23034*	*EPA 8260D*	*10/23/20 15:28*	*KKW*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Carbon dioxide [124-38-9]^	2.07	U	mg/L	1	2.07	2.50	0J21005	RSK 175	10/21/20 10:54	KG	
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	0J21005	RSK 175	10/21/20 10:54	KG	
Ethene [74-85-1]^	0.00510	U	mg/L	1	0.00510	0.00600	0J21005	RSK 175	10/21/20 10:54	KG	
Methane [74-82-8]^	0.00400	U	mg/L	1	0.00400	0.00500	0J21005	RSK 175	10/21/20 10:54	KG	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0032-058.0-20201015 **Lab Sample ID:** AD06767-03 **Received:** 10/16/20 16:00

Matrix: Ground Water **Sampled:** 10/15/20 13:40 **Work Order:** AD06767

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	QV-01
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	0J23034	EPA 8260D	10/23/20 16:30	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	0J23034	EPA 8260D	10/23/20 16:30	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0032-058.0-20201015 **Lab Sample ID:** AD06767-03 **Received:** 10/16/20 16:00

Matrix: Ground Water **Sampled:** 10/15/20 13:40 **Work Order:** AD06767

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Vinyl chloride [75-01-4]^	**17**		ug/L	1	0.71	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	0J23034	EPA 8260D	10/23/20 16:30	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*106 %*	*41-142*	*0J23034*	*EPA 8260D*	*10/23/20 16:30*	*KKW*	
Dibromofluoromethane	*54*	*1*	*50.0*	*109 %*	*53-146*	*0J23034*	*EPA 8260D*	*10/23/20 16:30*	*KKW*	
Toluene-d8	*53*	*1*	*50.0*	*106 %*	*41-146*	*0J23034*	*EPA 8260D*	*10/23/20 16:30*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-VMP01-20201015 | **Lab Sample ID:** AD06767-04 | **Received:** 10/16/20 16:00

Matrix: Air | **Sampled:** 10/15/20 17:03 | **Work Order:** AD06767

Project: NASA KSC CRCA | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.46	U	ppbv	1.34	0.46	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.48	U	ppbv	1.34	0.48	3.4	0J22033	TO-15	10/22/20 13:55	rgg	QL-02
1,1,2-Trichloroethane [79-00-5]^	0.47	U	ppbv	1.34	0.47	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
1,1-Dichloroethane [75-34-3]^	0.48	U	ppbv	1.34	0.48	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
1,1-Dichloroethene [75-35-4]^	0.51	U	ppbv	1.34	0.51	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
1,2-Dibromoethane [106-93-4]^	0.48	U	ppbv	1.34	0.48	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.36	U	ppbv	1.34	0.36	3.4	0J22033	TO-15	10/22/20 13:55	rgg	QL-02
1,2-Dichloroethane [107-06-2]^	0.50	U	ppbv	1.34	0.50	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
1,2-Dichloropropane [78-87-5]^	0.54	U	ppbv	1.34	0.54	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.38	U	ppbv	1.34	0.38	3.4	0J22033	TO-15	10/22/20 13:55	rgg	QL-02
1,4-Dichlorobenzene [106-46-7]^	0.42	U	ppbv	1.34	0.42	3.4	0J22033	TO-15	10/22/20 13:55	rgg	QL-02
3-Chloropropene [107-05-1]^	0.52	U	ppbv	1.34	0.52	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
Acetone [67-64-1]^	**8.4**		ppbv	1.34	0.47	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
Bromodichloromethane [75-27-4]^	0.46	U	ppbv	1.34	0.46	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
Bromoethene [593-60-2]^	0.44	U	ppbv	1.34	0.44	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
Bromoform [75-25-2]^	0.51	U	ppbv	1.34	0.51	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
Bromomethane [74-83-9]^	0.44	U	ppbv	1.34	0.44	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
Carbon tetrachloride [56-23-5]^	0.36	U	ppbv	1.34	0.36	3.4	0J22033	TO-15	10/22/20 13:55	rgg	J-06
Chlorobenzene [108-90-7]^	0.44	U	ppbv	1.34	0.44	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
Chloroethane [75-00-3]^	0.43	U	ppbv	1.34	0.43	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
Chloroform [67-66-3]^	0.51	U	ppbv	1.34	0.51	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
Chloromethane [74-87-3]^	0.64	U	ppbv	1.34	0.64	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
cis-1,2-Dichloroethene [156-59-2]^	0.51	U	ppbv	1.34	0.51	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	0.51	U	ppbv	1.34	0.51	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
Dibromochloromethane [124-48-1]^	0.44	U	ppbv	1.34	0.44	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ppbv	1.34	0.74	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
Freon 113 [76-13-1]^	**6.7**		ppbv	1.34	0.43	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
Freon 114 [76-14-2]^	0.70	U	ppbv	1.34	0.70	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
Hexachlorobutadiene [87-68-3]^	0.50	U	ppbv	1.34	0.50	3.4	0J22033	TO-15	10/22/20 13:55	rgg	QL-02, QV-01
Methylene chloride [75-09-2]^	**1.2**	IV	ppbv	1.34	0.27	3.4	0J22033	TO-15	10/22/20 13:55	rgg	J-01, O-01
Propene [115-07-1]^	0.74	U	ppbv	1.34	0.74	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
Tetrachloroethene [127-18-4]^	0.42	U	ppbv	1.34	0.42	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
trans-1,2-Dichloroethene [156-60-5]^	**4.2**		ppbv	1.34	0.43	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.46	U	ppbv	1.34	0.46	3.4	0J22033	TO-15	10/22/20 13:55	rgg	QL-02
Trichloroethene [79-01-6]^	0.47	U	ppbv	1.34	0.47	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
Trichlorofluoromethane [75-69-4]^	0.46	U	ppbv	1.34	0.46	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
Vinyl chloride [75-01-4]^	0.75	U	ppbv	1.34	0.75	3.4	0J22033	TO-15	10/22/20 13:55	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*31*	*1*	*31.0*	*98 %*	*70-130*	*0J22033*	*TO-15*	*10/22/20 13:55*	*rgg*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-VMP02-20201015 | **Lab Sample ID:** AD06767-05 | **Received:** 10/16/20 16:00

Matrix: Air | **Sampled:** 10/15/20 17:08 | **Work Order:** AD06767

Project: NASA KSC CRCA | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	3.9	U	ppbv	1.43	3.9	29	0J22033	TO-15	10/22/20 10:10	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	4.1	U	ppbv	1.43	4.1	29	0J22033	TO-15	10/22/20 10:10	rgg	QL-02
1,1,2-Trichloroethane [79-00-5]^	4.0	U	ppbv	1.43	4.0	29	0J22033	TO-15	10/22/20 10:10	rgg	
1,1-Dichloroethane [75-34-3]^	4.1	U	ppbv	1.43	4.1	29	0J22033	TO-15	10/22/20 10:10	rgg	
1,1-Dichloroethene [75-35-4]^	4.3	U	ppbv	1.43	4.3	29	0J22033	TO-15	10/22/20 10:10	rgg	
1,2-Dibromoethane [106-93-4]^	4.1	U	ppbv	1.43	4.1	29	0J22033	TO-15	10/22/20 10:10	rgg	
1,2-Dichlorobenzene [95-50-1]^	3.1	U	ppbv	1.43	3.1	29	0J22033	TO-15	10/22/20 10:10	rgg	QL-02
1,2-Dichloroethane [107-06-2]^	4.2	U	ppbv	1.43	4.2	29	0J22033	TO-15	10/22/20 10:10	rgg	
1,2-Dichloropropane [78-87-5]^	4.6	U	ppbv	1.43	4.6	29	0J22033	TO-15	10/22/20 10:10	rgg	
1,3-Dichlorobenzene [541-73-1]^	3.2	U	ppbv	1.43	3.2	29	0J22033	TO-15	10/22/20 10:10	rgg	QL-02
1,4-Dichlorobenzene [106-46-7]^	3.5	U	ppbv	1.43	3.5	29	0J22033	TO-15	10/22/20 10:10	rgg	QL-02
3-Chloropropene [107-05-1]^	4.5	U	ppbv	1.43	4.5	29	0J22033	TO-15	10/22/20 10:10	rgg	
Acetone [67-64-1]^	**7.0**	I	ppbv	1.43	4.0	29	0J22033	TO-15	10/22/20 10:10	rgg	
Bromodichloromethane [75-27-4]^	3.9	U	ppbv	1.43	3.9	29	0J22033	TO-15	10/22/20 10:10	rgg	
Bromoethene [593-60-2]^	3.8	U	ppbv	1.43	3.8	29	0J22033	TO-15	10/22/20 10:10	rgg	
Bromoform [75-25-2]^	4.3	U	ppbv	1.43	4.3	29	0J22033	TO-15	10/22/20 10:10	rgg	
Bromomethane [74-83-9]^	3.8	U	ppbv	1.43	3.8	29	0J22033	TO-15	10/22/20 10:10	rgg	
Carbon tetrachloride [56-23-5]^	3.1	U	ppbv	1.43	3.1	29	0J22033	TO-15	10/22/20 10:10	rgg	J-06
Chlorobenzene [108-90-7]^	3.8	U	ppbv	1.43	3.8	29	0J22033	TO-15	10/22/20 10:10	rgg	
Chloroethane [75-00-3]^	3.7	U	ppbv	1.43	3.7	29	0J22033	TO-15	10/22/20 10:10	rgg	
Chloroform [67-66-3]^	4.3	U	ppbv	1.43	4.3	29	0J22033	TO-15	10/22/20 10:10	rgg	
Chloromethane [74-87-3]^	5.5	U	ppbv	1.43	5.5	29	0J22033	TO-15	10/22/20 10:10	rgg	
cis-1,2-Dichloroethene [156-59-2]^	4.3	U	ppbv	1.43	4.3	29	0J22033	TO-15	10/22/20 10:10	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	4.3	U	ppbv	1.43	4.3	29	0J22033	TO-15	10/22/20 10:10	rgg	
Dibromochloromethane [124-48-1]^	3.8	U	ppbv	1.43	3.8	29	0J22033	TO-15	10/22/20 10:10	rgg	
Dichlorodifluoromethane [75-71-8]^	6.3	U	ppbv	1.43	6.3	29	0J22033	TO-15	10/22/20 10:10	rgg	
Freon 113 [76-13-1]^	**440**		ppbv	1.43	3.7	29	0J22033	TO-15	10/22/20 10:10	rgg	
Freon 114 [76-14-2]^	5.9	U	ppbv	1.43	5.9	29	0J22033	TO-15	10/22/20 10:10	rgg	
Hexachlorobutadiene [87-68-3]^	4.2	U	ppbv	1.43	4.2	29	0J22033	TO-15	10/22/20 10:10	rgg	QL-02, QV-01
Methylene chloride [75-09-2]^	**2.7**	IV	ppbv	1.43	2.3	29	0J22033	TO-15	10/22/20 10:10	rgg	J-01, O-01
Propene [115-07-1]^	6.3	U	ppbv	1.43	6.3	29	0J22033	TO-15	10/22/20 10:10	rgg	
Tetrachloroethene [127-18-4]^	3.5	U	ppbv	1.43	3.5	29	0J22033	TO-15	10/22/20 10:10	rgg	
trans-1,2-Dichloroethene [156-60-5]^	**8.8**	I	ppbv	1.43	3.7	29	0J22033	TO-15	10/22/20 10:10	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	3.9	U	ppbv	1.43	3.9	29	0J22033	TO-15	10/22/20 10:10	rgg	QL-02
Trichloroethene [79-01-6]^	4.0	U	ppbv	1.43	4.0	29	0J22033	TO-15	10/22/20 10:10	rgg	
Trichlorofluoromethane [75-69-4]^	3.9	U	ppbv	1.43	3.9	29	0J22033	TO-15	10/22/20 10:10	rgg	
Vinyl chloride [75-01-4]^	6.4	U	ppbv	1.43	6.4	29	0J22033	TO-15	10/22/20 10:10	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*30*	*1*	*31.0*	*97 %*	*70-130*	*0J22033*	*TO-15*	*10/22/20 10:10*	*rgg*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-VMP04-20201015 | **Lab Sample ID:** AD06767-06 | **Received:** 10/16/20 16:00

Matrix: Air | **Sampled:** 10/15/20 17:23 | **Work Order:** AD06767

Project: NASA KSC CRCA | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	2.0	U	ppbv	1.47	2.0	15	0J22033	TO-15	10/22/20 14:35	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	2.1	U	ppbv	1.47	2.1	15	0J22033	TO-15	10/22/20 14:35	rgg	QL-02
1,1,2-Trichloroethane [79-00-5]^	2.1	U	ppbv	1.47	2.1	15	0J22033	TO-15	10/22/20 14:35	rgg	
1,1-Dichloroethane [75-34-3]^	2.1	U	ppbv	1.47	2.1	15	0J22033	TO-15	10/22/20 14:35	rgg	
1,1-Dichloroethene [75-35-4]^	2.2	U	ppbv	1.47	2.2	15	0J22033	TO-15	10/22/20 14:35	rgg	
1,2-Dibromoethane [106-93-4]^	2.1	U	ppbv	1.47	2.1	15	0J22033	TO-15	10/22/20 14:35	rgg	
1,2-Dichlorobenzene [95-50-1]^	1.6	U	ppbv	1.47	1.6	15	0J22033	TO-15	10/22/20 14:35	rgg	QL-02
1,2-Dichloroethane [107-06-2]^	2.2	U	ppbv	1.47	2.2	15	0J22033	TO-15	10/22/20 14:35	rgg	
1,2-Dichloropropane [78-87-5]^	2.4	U	ppbv	1.47	2.4	15	0J22033	TO-15	10/22/20 14:35	rgg	
1,3-Dichlorobenzene [541-73-1]^	1.6	U	ppbv	1.47	1.6	15	0J22033	TO-15	10/22/20 14:35	rgg	QL-02
1,4-Dichlorobenzene [106-46-7]^	1.8	U	ppbv	1.47	1.8	15	0J22033	TO-15	10/22/20 14:35	rgg	QL-02
3-Chloropropene [107-05-1]^	2.3	U	ppbv	1.47	2.3	15	0J22033	TO-15	10/22/20 14:35	rgg	
Acetone [67-64-1]^	**15**		ppbv	1.47	2.1	15	0J22033	TO-15	10/22/20 14:35	rgg	
Bromodichloromethane [75-27-4]^	2.0	U	ppbv	1.47	2.0	15	0J22033	TO-15	10/22/20 14:35	rgg	
Bromoethene [593-60-2]^	1.9	U	ppbv	1.47	1.9	15	0J22033	TO-15	10/22/20 14:35	rgg	
Bromoform [75-25-2]^	2.2	U	ppbv	1.47	2.2	15	0J22033	TO-15	10/22/20 14:35	rgg	
Bromomethane [74-83-9]^	1.9	U	ppbv	1.47	1.9	15	0J22033	TO-15	10/22/20 14:35	rgg	
Carbon tetrachloride [56-23-5]^	1.6	U	ppbv	1.47	1.6	15	0J22033	TO-15	10/22/20 14:35	rgg	J-06
Chlorobenzene [108-90-7]^	1.9	U	ppbv	1.47	1.9	15	0J22033	TO-15	10/22/20 14:35	rgg	
Chloroethane [75-00-3]^	1.9	U	ppbv	1.47	1.9	15	0J22033	TO-15	10/22/20 14:35	rgg	
Chloroform [67-66-3]^	2.2	U	ppbv	1.47	2.2	15	0J22033	TO-15	10/22/20 14:35	rgg	
Chloromethane [74-87-3]^	2.8	U	ppbv	1.47	2.8	15	0J22033	TO-15	10/22/20 14:35	rgg	
cis-1,2-Dichloroethene [156-59-2]^	2.2	U	ppbv	1.47	2.2	15	0J22033	TO-15	10/22/20 14:35	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	2.2	U	ppbv	1.47	2.2	15	0J22033	TO-15	10/22/20 14:35	rgg	
Dibromochloromethane [124-48-1]^	1.9	U	ppbv	1.47	1.9	15	0J22033	TO-15	10/22/20 14:35	rgg	
Dichlorodifluoromethane [75-71-8]^	3.2	U	ppbv	1.47	3.2	15	0J22033	TO-15	10/22/20 14:35	rgg	
Freon 113 [76-13-1]^	**130**		ppbv	1.47	1.9	15	0J22033	TO-15	10/22/20 14:35	rgg	
Freon 114 [76-14-2]^	3.1	U	ppbv	1.47	3.1	15	0J22033	TO-15	10/22/20 14:35	rgg	
Hexachlorobutadiene [87-68-3]^	2.2	U	ppbv	1.47	2.2	15	0J22033	TO-15	10/22/20 14:35	rgg	QL-02, QV-01
Methylene chloride [75-09-2]^	**1.8**	IV	ppbv	1.47	1.2	15	0J22033	TO-15	10/22/20 14:35	rgg	J-01, O-01
Propene [115-07-1]^	3.2	U	ppbv	1.47	3.2	15	0J22033	TO-15	10/22/20 14:35	rgg	
Tetrachloroethene [127-18-4]^	1.8	U	ppbv	1.47	1.8	15	0J22033	TO-15	10/22/20 14:35	rgg	
trans-1,2-Dichloroethene [156-60-5]^	**4.5**	I	ppbv	1.47	1.9	15	0J22033	TO-15	10/22/20 14:35	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	2.0	U	ppbv	1.47	2.0	15	0J22033	TO-15	10/22/20 14:35	rgg	QL-02
Trichloroethene [79-01-6]^	2.1	U	ppbv	1.47	2.1	15	0J22033	TO-15	10/22/20 14:35	rgg	
Trichlorofluoromethane [75-69-4]^	2.0	U	ppbv	1.47	2.0	15	0J22033	TO-15	10/22/20 14:35	rgg	
Vinyl chloride [75-01-4]^	3.3	U	ppbv	1.47	3.3	15	0J22033	TO-15	10/22/20 14:35	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*30*	*1*	*31.0*	*97 %*	*70-130*	*0J22033*	*TO-15*	*10/22/20 14:35*	*rgg*	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0J22033 - NO PREP 2

Blank (0J22033-BLK1) Prepared: 10/21/2020 17:30 Analyzed: 10/21/2020 22:11

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.34	U	2.5	ppbv							
1,1,2,2-Tetrachloroethane	0.36	U	2.5	ppbv							
1,1,2-Trichloroethane	0.35	U	2.5	ppbv							
1,1-Dichloroethane	0.36	U	2.5	ppbv							
1,1-Dichloroethene	0.38	U	2.5	ppbv							
1,2-Dibromoethane	0.36	U	2.5	ppbv							
1,2-Dichlorobenzene	0.27	U	2.5	ppbv							
1,2-Dichloroethane	0.37	U	2.5	ppbv							
1,2-Dichloropropane	0.40	U	2.5	ppbv							
1,3-Dichlorobenzene	0.28	U	2.5	ppbv							
1,4-Dichlorobenzene	0.31	U	2.5	ppbv							
3-Chloropropene	0.39	U	2.5	ppbv							
Acetone	0.35	U	2.5	ppbv							
Bromodichloromethane	0.34	U	2.5	ppbv							
Bromoethene	0.33	U	2.5	ppbv							
Bromoform	0.38	U	2.5	ppbv							
Bromomethane	0.33	U	2.5	ppbv							
Carbon tetrachloride	0.27	U	2.5	ppbv							
Chlorobenzene	0.33	U	2.5	ppbv							
Chloroethane	0.32	U	2.5	ppbv							
Chloroform	0.38	U	2.5	ppbv							
Chloromethane	0.48	U	2.5	ppbv							
cis-1,2-Dichloroethene	0.38	U	2.5	ppbv							
cis-1,3-Dichloropropene	0.38	U	2.5	ppbv							
Dibromochloromethane	0.33	U	2.5	ppbv							
Dichlorodifluoromethane	0.55	U	2.5	ppbv							
Freon 113	0.32	U	2.5	ppbv							
Freon 114	0.52	U	2.5	ppbv							
Hexachlorobutadiene	0.37	U	2.5	ppbv							
Methylene chloride	**0.24**	**I**	2.5	ppbv							J-01, O-01
Propene	0.55	U	2.5	ppbv							
Tetrachloroethene	0.31	U	2.5	ppbv							
trans-1,2-Dichloroethene	0.32	U	2.5	ppbv							
trans-1,3-Dichloropropene	0.34	U	2.5	ppbv							
Trichloroethene	0.35	U	2.5	ppbv							
Trichlorofluoromethane	0.34	U	2.5	ppbv							
Vinyl chloride	0.56	U	2.5	ppbv							
4-Bromofluorobenzene	*30*			*ppbv*	*31.0*		*96*	*70-130*			

LCS (0J22033-BS1) Prepared: 10/21/2020 17:30 Analyzed: 10/21/2020 19:54

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	11		2.5	ppbv	10.0		113	70-130			
1,1,2,2-Tetrachloroethane	14		2.5	ppbv	10.0		137	70-130			QL-02
1,1,2-Trichloroethane	12		2.5	ppbv	10.0		120	70-130			
1,1-Dichloroethane	11		2.5	ppbv	10.0		112	70-130			
1,1-Dichloroethene	11		2.5	ppbv	10.0		113	70-130			
1,2-Dibromoethane	13		2.5	ppbv	10.0		126	70-130			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0J22033 - NO PREP 2 - Continued

LCS (0J22033-BS1) Continued Prepared: 10/21/2020 17:30 Analyzed: 10/21/2020 19:54

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,2-Dichlorobenzene	15		2.5	ppbv	10.0		149	70-130			QL-02
1,2-Dichloroethane	11		2.5	ppbv	10.0		113	70-130			
1,2-Dichloropropane	11		2.5	ppbv	10.0		114	70-130			
1,3-Dichlorobenzene	15		2.5	ppbv	10.0		148	70-130			QL-02
1,4-Dichlorobenzene	15		2.5	ppbv	10.0		151	70-130			QL-02
3-Chloropropene	10		2.5	ppbv	10.0		104	70-130			
Acetone	10		2.5	ppbv	10.0		104	70-130			
Bromodichloromethane	11		2.5	ppbv	10.0		110	70-130			
Bromoethene	11		2.5	ppbv	10.0		112	70-130			
Bromoform	12		2.5	ppbv	10.0		120	70-130			
Bromomethane	11		2.5	ppbv	10.0		108	70-130			
Carbon tetrachloride	6.8		2.5	ppbv	10.0		68	70-130			J-06
Chlorobenzene	12		2.5	ppbv	10.0		122	70-130			
Chloroethane	11		2.5	ppbv	10.0		114	70-130			
Chloroform	11		2.5	ppbv	10.0		113	70-130			
Chloromethane	11		2.5	ppbv	10.0		108	70-130			
cis-1,2-Dichloroethene	11		2.5	ppbv	10.0		114	70-130			
cis-1,3-Dichloropropene	12		2.5	ppbv	10.0		120	70-130			
Dibromochloromethane	11		2.5	ppbv	10.0		113	70-130			
Dichlorodifluoromethane	11		2.5	ppbv	10.0		113	70-130			
Freon 113	11		2.5	ppbv	10.0		113	70-130			
Freon 114	11		2.5	ppbv	10.0		115	70-130			
Hexachlorobutadiene	14		2.5	ppbv	10.0		135	70-130			QL-02
Methylene chloride	11		2.5	ppbv	10.0		113	70-130			
Propene	10		2.5	ppbv	10.0		102	70-130			
Tetrachloroethene	13		2.5	ppbv	10.0		125	70-130			
trans-1,2-Dichloroethene	11		2.5	ppbv	10.0		110	70-130			
trans-1,3-Dichloropropene	14		2.5	ppbv	10.0		135	70-130			QL-02
Trichloroethene	12		2.5	ppbv	10.0		116	70-130			
Trichlorofluoromethane	11		2.5	ppbv	10.0		112	70-130			
Vinyl chloride	11		2.5	ppbv	10.0		114	70-130			
4-Bromofluorobenzene	*32*			*ppbv*	*31.0*		*102*	*70-130*			

LCS Dup (0J22033-BSD1) Prepared: 10/21/2020 17:30 Analyzed: 10/21/2020 20:50

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	11		2.5	ppbv	10.0		112	70-130	0.5	25	
1,1,2,2-Tetrachloroethane	14		2.5	ppbv	10.0		136	70-130	0.2	25	QL-02
1,1,2-Trichloroethane	12		2.5	ppbv	10.0		121	70-130	0.6	25	
1,1-Dichloroethane	11		2.5	ppbv	10.0		112	70-130	0.2	25	
1,1-Dichloroethene	11		2.5	ppbv	10.0		112	70-130	1	25	
1,2-Dibromoethane	13		2.5	ppbv	10.0		126	70-130	0.1	25	
1,2-Dichlorobenzene	15		2.5	ppbv	10.0		150	70-130	0.3	25	QL-02
1,2-Dichloroethane	11		2.5	ppbv	10.0		114	70-130	0.4	25	
1,2-Dichloropropane	11		2.5	ppbv	10.0		114	70-130	0.2	25	
1,3-Dichlorobenzene	15		2.5	ppbv	10.0		150	70-130	1	25	QL-02
1,4-Dichlorobenzene	15		2.5	ppbv	10.0		153	70-130	0.8	25	QL-02
3-Chloropropene	10		2.5	ppbv	10.0		103	70-130	1	25	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0J22033 - NO PREP 2 - Continued

LCS Dup (0J22033-BSD1) Continued Prepared: 10/21/2020 17:30 Analyzed: 10/21/2020 20:50

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Acetone	10		2.5	ppbv	10.0		104	70-130	0.3	25	
Bromodichloromethane	11		2.5	ppbv	10.0		109	70-130	0.8	25	
Bromoethene	11		2.5	ppbv	10.0		110	70-130	2	25	
Bromoform	12		2.5	ppbv	10.0		120	70-130	0.2	25	
Bromomethane	11		2.5	ppbv	10.0		106	70-130	1	25	
Carbon tetrachloride	6.7		2.5	ppbv	10.0		67	70-130	0.6	25	J-06
Chlorobenzene	12		2.5	ppbv	10.0		122	70-130	0.07	25	
Chloroethane	11		2.5	ppbv	10.0		112	70-130	2	25	
Chloroform	11		2.5	ppbv	10.0		112	70-130	0.6	25	
Chloromethane	11		2.5	ppbv	10.0		107	70-130	1	25	
cis-1,2-Dichloroethene	11		2.5	ppbv	10.0		115	70-130	0.7	25	
cis-1,3-Dichloropropene	12		2.5	ppbv	10.0		121	70-130	1	25	
Dibromochloromethane	11		2.5	ppbv	10.0		114	70-130	1	25	
Dichlorodifluoromethane	11		2.5	ppbv	10.0		113	70-130	0.4	25	
Freon 113	11		2.5	ppbv	10.0		112	70-130	0.6	25	
Freon 114	11		2.5	ppbv	10.0		115	70-130	0.09	25	
Hexachlorobutadiene	13		2.5	ppbv	10.0		134	70-130	0.7	25	QL-02
Methylene chloride	11		2.5	ppbv	10.0		113	70-130	0.02	25	
Propene	10		2.5	ppbv	10.0		102	70-130	0.07	25	
Tetrachloroethene	13		2.5	ppbv	10.0		126	70-130	1	25	
trans-1,2-Dichloroethene	11		2.5	ppbv	10.0		110	70-130	0.02	25	
trans-1,3-Dichloropropene	14		2.5	ppbv	10.0		135	70-130	0.1	25	QL-02
Trichloroethene	12		2.5	ppbv	10.0		117	70-130	0.08	25	
Trichlorofluoromethane	11		2.5	ppbv	10.0		110	70-130	2	25	
Vinyl chloride	11		2.5	ppbv	10.0		114	70-130	0.4	25	
4-Bromofluorobenzene	*32*			*ppbv*	*31.0*		*102*	*70-130*			

Batch 0J23034 - EPA 5030B_MS

Blank (0J23034-BLK1) Prepared: 10/23/2020 00:00 Analyzed: 10/23/2020 14:26

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0J23034 - EPA 5030B_MS - Continued

Blank (0J23034-BLK1) Continued Prepared: 10/23/2020 00:00 Analyzed: 10/23/2020 14:26

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*55*			*ug/L*	*50.0*		*111*	*41-142*			
Dibromofluoromethane	*55*			*ug/L*	*50.0*		*111*	*53-146*			
Toluene-d8	*55*			*ug/L*	*50.0*		*111*	*41-146*			

LCS (0J23034-BS1) Prepared: 10/23/2020 00:00 Analyzed: 10/23/2020 13:04

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	24		2.5	ug/L	20.0		118	57-148			
1,1,2,2-Tetrachloroethane	19		2.5	ug/L	20.0		95	60-139			
1,1,2-Trichloroethane	17		2.5	ug/L	20.0		84	57-141			
1,1-Dichloroethane	20		2.5	ug/L	20.0		101	57-142			
1,1-Dichloroethene	21		2.5	ug/L	20.0		103	47-139			
1,2,4-Trichlorobenzene	27		2.5	ug/L	20.0		133	52-159			
1,2-Dibromo-3-chloropropane	26		2.5	ug/L	20.0		128	48-150			
1,2-Dibromoethane	19		2.5	ug/L	20.0		97	57-140			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0J23034 - EPA 5030B_MS - Continued

LCS (0J23034-BS1) Continued Prepared: 10/23/2020 00:00 Analyzed: 10/23/2020 13:04

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,2-Dichlorobenzene	22		2.5	ug/L	20.0		108	63-131			
1,2-Dichloroethane	23		2.5	ug/L	20.0		116	50-156			
1,2-Dichloropropane	16		2.5	ug/L	20.0		81	61-133			
1,3-Dichlorobenzene	20		2.5	ug/L	20.0		102	66-129			
1,4-Dichlorobenzene	20		2.5	ug/L	20.0		100	65-133			
2-Butanone	100		12	ug/L	100		100	10-180			
2-Hexanone	71		12	ug/L	100		71	12-180			
4-Methyl-2-pentanone	86		12	ug/L	100		86	19-180			
Acetone	89		25	ug/L	100		89	10-180			
Benzene	20		2.5	ug/L	20.0		98	56-136			
Bromodichloromethane	21		2.5	ug/L	20.0		106	58-135			
Bromoform	22		2.5	ug/L	20.0		108	46-148			
Bromomethane	22		2.5	ug/L	20.0		111	10-173			
Carbon disulfide	18		12	ug/L	20.0		91	43-153			
Carbon Tetrachloride	23		2.5	ug/L	20.0		115	54-156			
Chlorobenzene	20		2.5	ug/L	20.0		98	51-139			
Chloroethane	20		2.5	ug/L	20.0		98	27-180			
Chloroform	20		2.5	ug/L	20.0		101	58-139			
Chloromethane	15		2.5	ug/L	20.0		75	33-154			
cis-1,2-Dichloroethene	19		2.5	ug/L	20.0		95	56-128			
cis-1,3-Dichloropropene	19		2.5	ug/L	20.0		97	64-128			
Cyclohexane	19		2.5	ug/L	20.0		95	70-130			
Dibromochloromethane	18		2.5	ug/L	20.0		92	50-140			
Dichlorodifluoromethane	26		2.5	ug/L	20.0		129	10-180			
Ethylbenzene	19		2.5	ug/L	20.0		95	63-133			
Freon 113	20		2.5	ug/L	20.0		100	47-173			
Isopropylbenzene	20		2.5	ug/L	20.0		100	60-132			
m,p-Xylenes	37		5.0	ug/L	40.0		92	64-133			
Methyl acetate	16		2.5	ug/L	20.0		82	70-130			
Methyl cyclohexane	19		2.5	ug/L	20.0		94	70-130			
Methylene Chloride	20		12	ug/L	20.0		101	43-142			
Methyl-tert-Butyl Ether	19		2.5	ug/L	20.0		97	51-145			
o-Xylene	19		2.5	ug/L	20.0		94	61-129			
Styrene	18		2.5	ug/L	20.0		91	59-136			
Tetrachloroethene	16		2.5	ug/L	20.0		81	60-147			
Toluene	17		2.5	ug/L	20.0		84	64-131			
trans-1,2-Dichloroethene	19		2.5	ug/L	20.0		94	54-134			
trans-1,3-Dichloropropene	20		2.5	ug/L	20.0		98	65-149			
Trichloroethene	20		2.5	ug/L	20.0		101	62-135			
Trichlorofluoromethane	20		2.5	ug/L	20.0		98	56-155			
Vinyl chloride	18		2.5	ug/L	20.0		91	20-167			
4-Bromofluorobenzene	*56*			*ug/L*	*50.0*		*111*	*41-142*			
Dibromofluoromethane	*57*			*ug/L*	*50.0*		*113*	*53-146*			
Toluene-d8	*54*			*ug/L*	*50.0*		*108*	*41-146*			

Matrix Spike (0J23034-MS1) Prepared: 10/23/2020 00:00 Analyzed: 10/23/2020 23:11

Source: AD06767-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0J23034 - EPA 5030B_MS - Continued

Matrix Spike (0J23034-MS1) Continued Prepared: 10/23/2020 00:00 Analyzed: 10/23/2020 23:11

Source: AD06767-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	25		2.5	ug/L	20.0	0.80 U	125	57-148			
1,1,2,2-Tetrachloroethane	19		2.5	ug/L	20.0	0.54 U	94	60-139			
1,1,2-Trichloroethane	19		2.5	ug/L	20.0	0.76 U	96	57-141			
1,1-Dichloroethane	19		2.5	ug/L	20.0	0.62 U	93	57-142			
1,1-Dichloroethene	21		2.5	ug/L	20.0	0.94 U	103	47-139			
1,2,4-Trichlorobenzene	25		2.5	ug/L	20.0	0.70 U	127	52-159			
1,2-Dibromo-3-chloropropane	20		2.5	ug/L	20.0	0.96 U	98	48-150			QM-11
1,2-Dibromoethane	20		2.5	ug/L	20.0	0.78 U	98	57-140			
1,2-Dichlorobenzene	22		2.5	ug/L	20.0	0.73 U	108	63-131			
1,2-Dichloroethane	24		2.5	ug/L	20.0	0.63 U	121	50-156			
1,2-Dichloropropane	18		2.5	ug/L	20.0	0.80 U	89	61-133			
1,3-Dichlorobenzene	22		2.5	ug/L	20.0	0.77 U	109	66-129			
1,4-Dichlorobenzene	23		2.5	ug/L	20.0	0.76 U	115	65-133			
2-Butanone	93		12	ug/L	100	4.5 U	93	10-180			
2-Hexanone	70		12	ug/L	100	2.5 U	70	12-180			
4-Methyl-2-pentanone	89		12	ug/L	100	2.5 U	89	19-180			
Acetone	87		25	ug/L	100	10 U	87	10-180			
Benzene	21		2.5	ug/L	20.0	0.71 U	103	56-136			
Bromodichloromethane	24		2.5	ug/L	20.0	0.52 U	119	58-135			
Bromoform	22		2.5	ug/L	20.0	0.75 U	108	46-148			
Bromomethane	12		2.5	ug/L	20.0	0.95 U	60	10-173			
Carbon disulfide	20		12	ug/L	20.0	2.5 U	99	43-153			
Carbon Tetrachloride	27		2.5	ug/L	20.0	0.94 U	133	54-156			
Chlorobenzene	22		2.5	ug/L	20.0	0.72 U	108	51-139			
Chloroethane	21		2.5	ug/L	20.0	0.98 U	104	27-180			
Chloroform	23		2.5	ug/L	20.0	0.80 U	113	58-139			
Chloromethane	13		2.5	ug/L	20.0	0.82 U	63	33-154			
cis-1,2-Dichloroethene	19		2.5	ug/L	20.0	0.53 U	94	56-128			
cis-1,3-Dichloropropene	19		2.5	ug/L	20.0	0.59 U	94	64-128			
Cyclohexane	17		2.5	ug/L	20.0	0.93 U	86	70-130			
Dibromochloromethane	20		2.5	ug/L	20.0	0.50 U	99	50-140			
Dichlorodifluoromethane	29		2.5	ug/L	20.0	0.74 U	143	10-180			
Ethylbenzene	19		2.5	ug/L	20.0	0.69 U	97	63-133			
Freon 113	24		2.5	ug/L	20.0	0.73 U	122	47-173			
Isopropylbenzene	22		2.5	ug/L	20.0	0.67 U	110	60-132			
m,p-Xylenes	41		5.0	ug/L	40.0	1.3 U	102	64-133			
Methyl acetate	11		2.5	ug/L	20.0	0.95 U	57	70-130			QM-07
Methyl cyclohexane	21		2.5	ug/L	20.0	0.64 U	106	70-130			
Methylene Chloride	20		12	ug/L	20.0	2.5 U	100	43-142			
Methyl-tert-Butyl Ether	18		2.5	ug/L	20.0	0.60 U	92	51-145			
o-Xylene	20		2.5	ug/L	20.0	0.53 U	99	61-129			
Styrene	20		2.5	ug/L	20.0	0.61 U	98	59-136			
Tetrachloroethene	22		2.5	ug/L	20.0	0.76 U	108	60-147			
Toluene	19		2.5	ug/L	20.0	0.72 U	95	64-131			
trans-1,2-Dichloroethene	20		2.5	ug/L	20.0	0.73 U	99	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0	0.73 U	104	65-149			
Trichloroethene	23		2.5	ug/L	20.0	0.89 U	114	62-135			
Trichlorofluoromethane	23		2.5	ug/L	20.0	0.94 U	114	56-155			
Vinyl chloride	46		2.5	ug/L	20.0	28	88	20-167			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0J23034 - EPA 5030B_MS - Continued

Matrix Spike (0J23034-MS1) Continued Prepared: 10/23/2020 00:00 Analyzed: 10/23/2020 23:11

Source: AD06767-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
4-Bromofluorobenzene	*56*			*ug/L*	*50.0*		*112*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*111*	*53-146*			
Toluene-d8	*53*			*ug/L*	*50.0*		*106*	*41-146*			

Matrix Spike Dup (0J23034-MSD1) Prepared: 10/23/2020 00:00 Analyzed: 10/23/2020 23:42

Source: AD06767-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	26		2.5	ug/L	20.0	0.80 U	130	57-148	4	25	
1,1,2,2-Tetrachloroethane	20		2.5	ug/L	20.0	0.54 U	98	60-139	4	17	
1,1,2-Trichloroethane	19		2.5	ug/L	20.0	0.76 U	97	57-141	1	16	
1,1-Dichloroethane	19		2.5	ug/L	20.0	0.62 U	95	57-142	2	24	
1,1-Dichloroethene	20		2.5	ug/L	20.0	0.94 U	102	47-139	1	16	
1,2,4-Trichlorobenzene	29		2.5	ug/L	20.0	0.70 U	144	52-159	13	24	
1,2-Dibromo-3-chloropropane	25		2.5	ug/L	20.0	0.96 U	127	48-150	25	21	QM-11
1,2-Dibromoethane	20		2.5	ug/L	20.0	0.78 U	100	57-140	2	16	
1,2-Dichlorobenzene	22		2.5	ug/L	20.0	0.73 U	112	63-131	3	25	
1,2-Dichloroethane	27		2.5	ug/L	20.0	0.63 U	134	50-156	10	18	
1,2-Dichloropropane	16		2.5	ug/L	20.0	0.80 U	81	61-133	9	26	
1,3-Dichlorobenzene	21		2.5	ug/L	20.0	0.77 U	106	66-129	3	23	
1,4-Dichlorobenzene	22		2.5	ug/L	20.0	0.76 U	108	65-133	7	23	
2-Butanone	99		12	ug/L	100	4.5 U	99	10-180	7	29	
2-Hexanone	73		12	ug/L	100	2.5 U	73	12-180	4	28	
4-Methyl-2-pentanone	95		12	ug/L	100	2.5 U	95	19-180	7	24	
Acetone	96		25	ug/L	100	10 U	96	10-180	10	19	
Benzene	20		2.5	ug/L	20.0	0.71 U	101	56-136	2	14	
Bromodichloromethane	23		2.5	ug/L	20.0	0.52 U	116	58-135	2	19	
Bromoform	22		2.5	ug/L	20.0	0.75 U	109	46-148	1	18	
Bromomethane	16		2.5	ug/L	20.0	0.95 U	81	10-173	29	29	
Carbon disulfide	18		12	ug/L	20.0	2.5 U	92	43-153	7	26	
Carbon Tetrachloride	27		2.5	ug/L	20.0	0.94 U	134	54-156	0.9	27	
Chlorobenzene	21		2.5	ug/L	20.0	0.72 U	104	51-139	4	13	
Chloroethane	21		2.5	ug/L	20.0	0.98 U	103	27-180	2	22	
Chloroform	22		2.5	ug/L	20.0	0.80 U	109	58-139	4	17	
Chloromethane	13		2.5	ug/L	20.0	0.82 U	63	33-154	0.6	31	
cis-1,2-Dichloroethene	18		2.5	ug/L	20.0	0.53 U	92	56-128	2	17	
cis-1,3-Dichloropropene	19		2.5	ug/L	20.0	0.59 U	95	64-128	0.9	20	
Cyclohexane	18		2.5	ug/L	20.0	0.93 U	89	70-130	3	20	
Dibromochloromethane	20		2.5	ug/L	20.0	0.50 U	100	50-140	0.9	18	
Dichlorodifluoromethane	28		2.5	ug/L	20.0	0.74 U	138	10-180	4	26	
Ethylbenzene	19		2.5	ug/L	20.0	0.69 U	93	63-133	4	18	
Freon 113	22		2.5	ug/L	20.0	0.73 U	112	47-173	9	30	
Isopropylbenzene	22		2.5	ug/L	20.0	0.67 U	109	60-132	1	23	
m,p-Xylenes	40		5.0	ug/L	40.0	1.3 U	99	64-133	3	18	
Methyl acetate	12		2.5	ug/L	20.0	0.95 U	61	70-130	6	20	QM-07
Methyl cyclohexane	22		2.5	ug/L	20.0	0.64 U	112	70-130	6	20	
Methylene Chloride	19		12	ug/L	20.0	2.5 U	96	43-142	5	23	
Methyl-tert-Butyl Ether	20		2.5	ug/L	20.0	0.60 U	98	51-145	5	22	
o-Xylene	21		2.5	ug/L	20.0	0.53 U	103	61-129	4	16	
Styrene	20		2.5	ug/L	20.0	0.61 U	98	59-136	0.9	32	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0J23034 - EPA 5030B_MS - Continued

Matrix Spike Dup (0J23034-MSD1) Continued Prepared: 10/23/2020 00:00 Analyzed: 10/23/2020 23:42

Source: AD06767-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Tetrachloroethene	20		2.5	ug/L	20.0	0.76 U	100	60-147	8	21	
Toluene	19		2.5	ug/L	20.0	0.72 U	94	64-131	1	16	
trans-1,2-Dichloroethene	19		2.5	ug/L	20.0	0.73 U	97	54-134	3	20	
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0	0.73 U	106	65-149	2	17	
Trichloroethene	22		2.5	ug/L	20.0	0.89 U	111	62-135	2	20	
Trichlorofluoromethane	22		2.5	ug/L	20.0	0.94 U	112	56-155	2	22	
Vinyl chloride	46		2.5	ug/L	20.0	28	89	20-167	0.2	24	
4-Bromofluorobenzene	*55*			*ug/L*	*50.0*		*109*	*41-142*			
Dibromofluoromethane	*57*			*ug/L*	*50.0*		*115*	*53-146*			
Toluene-d8	*53*			*ug/L*	*50.0*		*106*	*41-146*			

Dissolved Gases by GC - Quality Control

Batch 0J21005 - Same

Blank (0J21005-BLK1) Prepared: 10/21/2020 08:20 Analyzed: 10/21/2020 10:00

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Carbon dioxide	2.07	U	2.50	mg/L							
Ethane	0.00510	U	0.00600	mg/L							
Ethene	0.00510	U	0.00600	mg/L							
Methane	0.00400	U	0.00500	mg/L							

LCS (0J21005-BS1) Prepared: 10/21/2020 08:20 Analyzed: 10/21/2020 09:22

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Carbon dioxide	51.4		2.50	mg/L	45.8		112	70-130			
Ethane	0.333		0.00600	mg/L	0.323		103	70-130			
Ethene	0.300		0.00600	mg/L	0.302		99	70-130			
Methane	0.158		0.00500	mg/L	0.172		92	70-130			

LCS Dup (0J21005-BSD1) Prepared: 10/21/2020 08:20 Analyzed: 10/21/2020 09:38

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Carbon dioxide	51.0		2.50	mg/L	45.8		111	70-130	0.6	30	
Ethane	0.349		0.00600	mg/L	0.323		108	70-130	5	30	
Ethene	0.307		0.00600	mg/L	0.302		102	70-130	2	30	
Methane	0.168		0.00500	mg/L	0.172		98	70-130	6	30	

Duplicate (0J21005-DUP1) Prepared: 10/21/2020 08:20 Analyzed: 10/21/2020 13:17

Source: AD06910-04

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Carbon dioxide	24.7		2.50	mg/L		28.7			15	30	
Ethane	0.00510	U	0.00600	mg/L		0.00510 U				30	
Ethene	0.00510	U	0.00600	mg/L		0.00510 U				30	
Methane	0.00588		0.00500	mg/L		0.00809			32	30	QM-12

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
J-01	Result may be biased high due to positive results in the associated method blank at a concentration above the MDL and/or greater than one-half the MRL.
J-06	The associated laboratory control sample exhibited low bias; the reported result should be considered to be a minimum estimate.
O-01	This compound is a common laboratory contaminant.
QL-02	The associated laboratory control sample exhibited high bias; since the result is ND, there is no impact.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-11	Precision between duplicate matrix spikes of the same sample was outside acceptance limits.
QM-12	Precision between duplicate samples was outside acceptance limits.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

AD06767

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 2164 | PAGE 1 OF 1

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112GD	KSC - CRCA	Neumann, Chris	412-862-7756	EnCO
SAMPLERS (SIGNATURE)		**FIELD OPERATIONS LEADER**	**PHONE NUMBER**	**ADDRESS**
Melissa Bennett		Melissa Bennett	321-914-9394	
		CARRIER/WAYBILL NUMBER		**CITY, STATE**
				Orlando, FL

STANDARD TAT ☑
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2020	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)								COMMENTS
									G	G	G						
									PRESERVATIVE USED			HCl	4°C	–			
									TYPE OF ANALYSIS								
									8260 VOC								
									MEE								
									TO-15								
10/15	1100	CRCA-MW0018-058.0-20201015	18	53	63	GW	G	6	X	X							
10/15	1200	CRCA-MW0031-058.0-20201015	31	53	63	GW	G	6	X	X							
10/15	1340	CRCA-MW0032-058.0-20201015	32	53	63	GW	G	3	X								
10/15	1703	CRCA-VMP01-20201015	VMP1	–	–	Air	C	1			X						1 HR
10/15	1708	CRCA-VMP02-20201015	VMP2	–	–	Air	C	1			X						1 HR
10/15	1723	CRCA-VMP04-20201015	VMP4	–	–	Air	C	1			X						1 HR
10/15	1728	CRCA-AMB-20201015	AMB	–	–	Air	C	1			X						8 HR

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	10-15-20	1600	1. RECEIVED BY	10/16/20	1608
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS Med-323 5.8°C

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

ENCO Laboratories

Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Thursday, January 28, 2021
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AE00066

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Thursday, January 21, 2021.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-MW0030-058.0-20210119 **Lab ID: AE00066-01** **Sampled: 01/19/21 11:05** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 12:17

Client ID: CRCA-MW0029-035.0-20210119 **Lab ID: AE00066-02** **Sampled: 01/19/21 11:40** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 12:46

Client ID: CRCA-MW0028-058.0-20210119 **Lab ID: AE00066-03** **Sampled: 01/19/21 12:20** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 13:15

Client ID: CRCA-MW0027-035.0-20210119 **Lab ID: AE00066-04** **Sampled: 01/19/21 13:00** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 13:45

Client ID: CRCA-MW0015-027.5-20210119 **Lab ID: AE00066-05** **Sampled: 01/19/21 13:35** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 14:14

Client ID: CRCA-MW0013-027.5-20210119 **Lab ID: AE00066-06** **Sampled: 01/19/21 14:30** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 14:44

Client ID: CRCA-MW0012-027.5-20210119 **Lab ID: AE00066-07** **Sampled: 01/19/21 15:10** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 15:13

Client ID: CRCA-MW0002-032.5-20210119 **Lab ID: AE00066-08** **Sampled: 01/19/21 15:45** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 15:43

Client ID: CRCA-MW0031-058.0-20210120 **Lab ID: AE00066-09** **Sampled: 01/20/21 12:15** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/03/21	01/25/21 00:00	01/25/21 16:12
RSK 175	Same	02/03/21	01/26/21 00:00	01/26/21 11:20

Client ID: CRCA-MW0032-058.0-20210120 **Lab ID: AE00066-10** **Sampled: 01/20/21 13:00** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/03/21	01/25/21 00:00	01/25/21 11:47

Client ID: CRCA-MW0018-058.0-20210120 **Lab ID: AE00066-11** **Sampled: 01/20/21 14:00** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	02/03/21	01/26/21 00:00	01/26/21 11:36

Client ID: CRCA-MW0018-058.0-20210120 **Lab ID: AE00066-11RE1** **Sampled: 01/20/21 14:00** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/03/21	01/26/21 00:00	01/26/21 15:52
RSK 175	Same	02/03/21	01/26/21 00:00	01/26/21 12:16

Client ID: CRCA-MW0019-058.0-20210120 **Lab ID: AE00066-12** **Sampled: 01/20/21 16:00** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/03/21	01/25/21 00:00	01/25/21 17:11
RSK 175	Same	02/03/21	01/26/21 00:00	01/26/21 11:52

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-VMP01-20210120 **Lab ID: AE00066-13RE1** **Sampled: 01/20/21 11:03** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	02/19/21	01/25/21 09:00	01/25/21 10:36

Client ID: CRCA-VMP02-20210120 **Lab ID: AE00066-14** **Sampled: 01/20/21 11:06** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	02/19/21	01/25/21 09:00	01/25/21 11:18

Client ID: CRCA-VMP03-20210120 **Lab ID: AE00066-15RE1** **Sampled: 01/20/21 11:15** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	02/19/21	01/25/21 09:00	01/25/21 14:06

Client ID: CRCA-VMP04-20210120 **Lab ID: AE00066-16RE1** **Sampled: 01/20/21 11:22** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	02/19/21	01/25/21 09:00	01/25/21 14:47

Client ID: CRCA-SYSAIR-20210120 **Lab ID: AE00066-17** **Sampled: 01/20/21 17:03** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	02/19/21	01/25/21 09:00	01/25/21 13:21

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-MW0027-035.0-20210119 **Lab ID:** AE00066-04

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	7.0		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0013-027.5-20210119 **Lab ID:** AE00066-06

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	2.1	I	0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0002-032.5-20210119 **Lab ID:** AE00066-08

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	3.1		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0031-058.0-20210120 **Lab ID:** AE00066-09

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	0.152		0.00400	0.00500	mg/L	RSK 175	QM-12
Vinyl chloride	29		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0018-058.0-20210120 **Lab ID:** AE00066-11

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethene	0.0216		0.00510	0.00600	mg/L	RSK 175	

Client ID: CRCA-MW0018-058.0-20210120 **Lab ID:** AE00066-11RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	2.09		0.0400	0.0500	mg/L	RSK 175	
Vinyl chloride	97		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0019-058.0-20210120 **Lab ID:** AE00066-12

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	0.510		0.00400	0.00500	mg/L	RSK 175	
Vinyl chloride	2.8		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-VMP01-20210120 **Lab ID:** AE00066-13RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	5.9		0.47	3.4	ppbv	TO-15	
Freon 113	3.9		0.43	3.4	ppbv	TO-15	
Methylene chloride	0.75	IV	0.27	3.4	ppbv	TO-15	J-01, O-01

Client ID: CRCA-VMP02-20210120 **Lab ID:** AE00066-14

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	3.5	I	0.94	6.8	ppbv	TO-15	
Freon 113	120		0.86	6.8	ppbv	TO-15	
Methylene chloride	0.97	IV	0.54	6.8	ppbv	TO-15	J-01, O-01
trans-1,2-Dichloroethene	5.5	I	0.86	6.8	ppbv	TO-15	

Client ID: CRCA-VMP03-20210120 **Lab ID:** AE00066-15RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	4.1		0.56	4.0	ppbv	TO-15	
Chloroform	1.9	I	0.60	4.0	ppbv	TO-15	
Freon 113	8.1		0.51	4.0	ppbv	TO-15	
Methylene chloride	1.1	IV	0.32	4.0	ppbv	TO-15	J-01, O-01

Client ID: CRCA-VMP04-20210120 **Lab ID:** AE00066-16RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	31		0.98	7.0	ppbv	TO-15	
Freon 113	34		0.90	7.0	ppbv	TO-15	
Methylene chloride	1.1	IV	0.56	7.0	ppbv	TO-15	J-01, O-01, R-05

Client ID: CRCA-SYSAIR-20210120 **Lab ID:** AE00066-17

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	2.6	I	0.46	3.3	ppbv	TO-15	
Methylene chloride	0.99	IV	0.26	3.3	ppbv	TO-15	J-01, O-01
trans-1,2-Dichloroethene	0.96	I	0.42	3.3	ppbv	TO-15	

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ANALYTICAL RESULTS

Description: CRCA-MW0030-058.0-20210119 **Lab Sample ID:** AE00066-01 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 11:05 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 12:17	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:17	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	

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ANALYTICAL RESULTS

Description: CRCA-MW0030-058.0-20210119 **Lab Sample ID:** AE00066-01 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 11:05 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 12:17	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*106 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 12:17*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*115 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 12:17*	*KKW*	
Toluene-d8	*48*	*1*	*50.0*	*97 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 12:17*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0029-035.0-20210119 **Lab Sample ID:** AE00066-02 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 11:40 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 12:46	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:46	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0029-035.0-20210119 **Lab Sample ID:** AE00066-02 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 11:40 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 12:46	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*107 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 12:46*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*114 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 12:46*	*KKW*	
Toluene-d8	*48*	*1*	*50.0*	*96 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 12:46*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0028-058.0-20210119 **Lab Sample ID:** AE00066-03 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 12:20 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 13:15	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:15	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	

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ANALYTICAL RESULTS

Description: CRCA-MW0028-058.0-20210119 **Lab Sample ID:** AE00066-03 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 12:20 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 13:15	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*105 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 13:15*	*KKW*	
Dibromofluoromethane	*56*	*1*	*50.0*	*111 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 13:15*	*KKW*	
Toluene-d8	*48*	*1*	*50.0*	*95 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 13:15*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0027-035.0-20210119 **Lab Sample ID:** AE00066-04 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 13:45	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:45	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0027-035.0-20210119 **Lab Sample ID:** AE00066-04 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Vinyl chloride [75-01-4]^	**7.0**		ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 13:45	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*52*	*1*	*50.0*	*104 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 13:45*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*115 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 13:45*	*KKW*	
Toluene-d8	*46*	*1*	*50.0*	*93 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 13:45*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0015-027.5-20210119 **Lab Sample ID:** AE00066-05 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:35 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 14:14	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:14	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0015-027.5-20210119 **Lab Sample ID:** AE00066-05 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:35 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 14:14	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*54*	*1*	*50.0*	*108 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 14:14*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*114 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 14:14*	*KKW*	
Toluene-d8	*47*	*1*	*50.0*	*94 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 14:14*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0013-027.5-20210119 **Lab Sample ID:** AE00066-06 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 14:30 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 14:44	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:44	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0013-027.5-20210119 **Lab Sample ID:** AE00066-06 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 14:30 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Vinyl chloride [75-01-4]^	**2.1**	I	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 14:44	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*55*	*1*	*50.0*	*109 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 14:44*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*114 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 14:44*	*KKW*	
Toluene-d8	*48*	*1*	*50.0*	*96 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 14:44*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0012-027.5-20210119 **Lab Sample ID:** AE00066-07 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 15:10 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 15:13	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:13	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	

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ANALYTICAL RESULTS

Description: CRCA-MW0012-027.5-20210119 **Lab Sample ID:** AE00066-07 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 15:10 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 15:13	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*54*	*1*	*50.0*	*109 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 15:13*	*KKW*	
Dibromofluoromethane	*59*	*1*	*50.0*	*118 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 15:13*	*KKW*	
Toluene-d8	*48*	*1*	*50.0*	*96 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 15:13*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0002-032.5-20210119 **Lab Sample ID:** AE00066-08 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 15:45 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 15:43	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:43	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0002-032.5-20210119 **Lab Sample ID:** AE00066-08 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 15:45 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Vinyl chloride [75-01-4]^	**3.1**		ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 15:43	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*55*	*1*	*50.0*	*109 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 15:43*	*KKW*	
Dibromofluoromethane	*56*	*1*	*50.0*	*113 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 15:43*	*KKW*	
Toluene-d8	*49*	*1*	*50.0*	*97 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 15:43*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0031-058.0-20210120 **Lab Sample ID:** AE00066-09 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 12:15 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 16:12	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 16:12	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0031-058.0-20210120 **Lab Sample ID:** AE00066-09 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 12:15 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Vinyl chloride [75-01-4]^	**29**		ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 16:12	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*52*	*1*	*50.0*	*105 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 16:12*	*KKW*	
Dibromofluoromethane	*59*	*1*	*50.0*	*118 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 16:12*	*KKW*	
Toluene-d8	*47*	*1*	*50.0*	*93 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 16:12*	*KKW*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1A26006	RSK 175	01/26/21 11:20	JMW	QV-01
Ethene [74-85-1]^	0.00510	U	mg/L	1	0.00510	0.00600	1A26006	RSK 175	01/26/21 11:20	JMW	
Methane [74-82-8]^	**0.152**		mg/L	1	0.00400	0.00500	1A26006	RSK 175	01/26/21 11:20	JMW	QM-12

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0032-058.0-20210120 **Lab Sample ID:** AE00066-10 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 13:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 11:47	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 11:47	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 11:47	KKW	QM-07
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	A-07, QM-19
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	QM-07
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0032-058.0-20210120 **Lab Sample ID:** AE00066-10 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 13:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 11:47	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*106 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 11:47*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*114 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 11:47*	*KKW*	
Toluene-d8	*47*	*1*	*50.0*	*94 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 11:47*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0018-058.0-20210120 **Lab Sample ID:** AE00066-11 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 14:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A26010	EPA 8260D	01/26/21 15:52	KG	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A26010	EPA 8260D	01/26/21 15:52	KG	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A26010	EPA 8260D	01/26/21 15:52	KG	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A26010	EPA 8260D	01/26/21 15:52	KG	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A26010	EPA 8260D	01/26/21 15:52	KG	QL-02
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	QL-02
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	QL-02
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A26010	EPA 8260D	01/26/21 15:52	KG	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	QL-02, QV-01
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A26010	EPA 8260D	01/26/21 15:52	KG	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	QL-02
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0018-058.0-20210120 **Lab Sample ID:** AE00066-11 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 14:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Vinyl chloride [75-01-4]^	**97**		ug/L	1	0.71	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A26010	EPA 8260D	01/26/21 15:52	KG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*54*	*1*	*50.0*	*108 %*	*41-142*	*1A26010*	*EPA 8260D*	*01/26/21 15:52*	*KG*	
Dibromofluoromethane	*55*	*1*	*50.0*	*110 %*	*53-146*	*1A26010*	*EPA 8260D*	*01/26/21 15:52*	*KG*	
Toluene-d8	*55*	*1*	*50.0*	*109 %*	*41-146*	*1A26010*	*EPA 8260D*	*01/26/21 15:52*	*KG*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1A26006	RSK 175	01/26/21 11:36	JMW	QV-01
Ethene [74-85-1]^	**0.0216**		mg/L	1	0.00510	0.00600	1A26006	RSK 175	01/26/21 11:36	JMW	
Methane [74-82-8]^	**2.09**		mg/L	10	0.0400	0.0500	1A26006	RSK 175	01/26/21 12:16	JMW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0019-058.0-20210120 **Lab Sample ID:** AE00066-12 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 16:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 17:11	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:11	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0019-058.0-20210120 **Lab Sample ID:** AE00066-12 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 16:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Vinyl chloride [75-01-4]^	**2.8**		ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 17:11	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*55*	*1*	*50.0*	*110 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 17:11*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*113 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 17:11*	*KKW*	
Toluene-d8	*47*	*1*	*50.0*	*95 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 17:11*	*KKW*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1A26006	RSK 175	01/26/21 11:52	JMW	QV-01
Ethene [74-85-1]^	0.00510	U	mg/L	1	0.00510	0.00600	1A26006	RSK 175	01/26/21 11:52	JMW	
Methane [74-82-8]^	**0.510**		mg/L	1	0.00400	0.00500	1A26006	RSK 175	01/26/21 11:52	JMW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-VMP01-20210120 | **Lab Sample ID:** AE00066-13 | **Received:** 01/21/21 15:10

Matrix: Air | **Sampled:** 01/20/21 11:03 | **Work Order:** AE00066

Project: NASA KSC CRCA | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.46	U	ppbv	1.34	0.46	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.48	U	ppbv	1.34	0.48	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.47	U	ppbv	1.34	0.47	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,1-Dichloroethane [75-34-3]^	0.48	U	ppbv	1.34	0.48	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,1-Dichloroethene [75-35-4]^	0.51	U	ppbv	1.34	0.51	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,2-Dibromoethane [106-93-4]^	0.48	U	ppbv	1.34	0.48	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.36	U	ppbv	1.34	0.36	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,2-Dichloroethane [107-06-2]^	0.50	U	ppbv	1.34	0.50	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,2-Dichloropropane [78-87-5]^	0.54	U	ppbv	1.34	0.54	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.38	U	ppbv	1.34	0.38	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.42	U	ppbv	1.34	0.42	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
3-Chloropropene [107-05-1]^	0.52	U	ppbv	1.34	0.52	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Acetone [67-64-1]^	**5.9**		ppbv	1.34	0.47	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Bromodichloromethane [75-27-4]^	0.46	U	ppbv	1.34	0.46	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Bromoethene [593-60-2]^	0.44	U	ppbv	1.34	0.44	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Bromoform [75-25-2]^	0.51	U	ppbv	1.34	0.51	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Bromomethane [74-83-9]^	0.44	U	ppbv	1.34	0.44	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Carbon tetrachloride [56-23-5]^	0.36	U	ppbv	1.34	0.36	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Chlorobenzene [108-90-7]^	0.44	U	ppbv	1.34	0.44	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Chloroethane [75-00-3]^	0.43	U	ppbv	1.34	0.43	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Chloroform [67-66-3]^	0.51	U	ppbv	1.34	0.51	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Chloromethane [74-87-3]^	0.64	U	ppbv	1.34	0.64	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
cis-1,2-Dichloroethene [156-59-2]^	0.51	U	ppbv	1.34	0.51	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	0.51	U	ppbv	1.34	0.51	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Dibromochloromethane [124-48-1]^	0.44	U	ppbv	1.34	0.44	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ppbv	1.34	0.74	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Freon 113 [76-13-1]^	**3.9**		ppbv	1.34	0.43	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Freon 114 [76-14-2]^	0.70	U	ppbv	1.34	0.70	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Hexachlorobutadiene [87-68-3]^	0.50	U	ppbv	1.34	0.50	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Methylene chloride [75-09-2]^	**0.75**	IV	ppbv	1.34	0.27	3.4	1A25023	TO-15	01/25/21 10:36	rgg	J-01, O-01
Propene [115-07-1]^	0.74	U	ppbv	1.34	0.74	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Tetrachloroethene [127-18-4]^	0.42	U	ppbv	1.34	0.42	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
trans-1,2-Dichloroethene [156-60-5]^	0.43	U	ppbv	1.34	0.43	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.46	U	ppbv	1.34	0.46	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Trichloroethene [79-01-6]^	0.47	U	ppbv	1.34	0.47	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Trichlorofluoromethane [75-69-4]^	0.46	U	ppbv	1.34	0.46	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Vinyl chloride [75-01-4]^	0.75	U	ppbv	1.34	0.75	3.4	1A25023	TO-15	01/25/21 10:36	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*28*	*1*	*31.0*	*90 %*	*70-130*	*1A25023*	*TO-15*	*01/25/21 10:36*	*rgg*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-VMP02-20210120 **Lab Sample ID:** AE00066-14 **Received:** 01/21/21 15:10

Matrix: Air **Sampled:** 01/20/21 11:06 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.92	U	ppbv	1.35	0.92	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.97	U	ppbv	1.35	0.97	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.94	U	ppbv	1.35	0.94	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,1-Dichloroethane [75-34-3]^	0.97	U	ppbv	1.35	0.97	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,1-Dichloroethene [75-35-4]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,2-Dibromoethane [106-93-4]^	0.97	U	ppbv	1.35	0.97	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ppbv	1.35	0.73	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,2-Dichloroethane [107-06-2]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,2-Dichloropropane [78-87-5]^	1.1	U	ppbv	1.35	1.1	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.76	U	ppbv	1.35	0.76	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.84	U	ppbv	1.35	0.84	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
3-Chloropropene [107-05-1]^	1.1	U	ppbv	1.35	1.1	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Acetone [67-64-1]^	**3.5**	I	ppbv	1.35	0.94	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Bromodichloromethane [75-27-4]^	0.92	U	ppbv	1.35	0.92	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Bromoethene [593-60-2]^	0.89	U	ppbv	1.35	0.89	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Bromoform [75-25-2]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Bromomethane [74-83-9]^	0.89	U	ppbv	1.35	0.89	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Carbon tetrachloride [56-23-5]^	0.73	U	ppbv	1.35	0.73	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Chlorobenzene [108-90-7]^	0.89	U	ppbv	1.35	0.89	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Chloroethane [75-00-3]^	0.86	U	ppbv	1.35	0.86	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Chloroform [67-66-3]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Chloromethane [74-87-3]^	1.3	U	ppbv	1.35	1.3	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
cis-1,2-Dichloroethene [156-59-2]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Dibromochloromethane [124-48-1]^	0.89	U	ppbv	1.35	0.89	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Dichlorodifluoromethane [75-71-8]^	1.5	U	ppbv	1.35	1.5	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Freon 113 [76-13-1]^	**120**		ppbv	1.35	0.86	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Freon 114 [76-14-2]^	1.4	U	ppbv	1.35	1.4	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Hexachlorobutadiene [87-68-3]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Methylene chloride [75-09-2]^	**0.97**	IV	ppbv	1.35	0.54	6.8	1A25023	TO-15	01/25/21 11:18	rgg	J-01, O-01
Propene [115-07-1]^	1.5	U	ppbv	1.35	1.5	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Tetrachloroethene [127-18-4]^	0.84	U	ppbv	1.35	0.84	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
trans-1,2-Dichloroethene [156-60-5]^	**5.5**	I	ppbv	1.35	0.86	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.92	U	ppbv	1.35	0.92	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Trichloroethene [79-01-6]^	0.94	U	ppbv	1.35	0.94	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Trichlorofluoromethane [75-69-4]^	0.92	U	ppbv	1.35	0.92	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Vinyl chloride [75-01-4]^	1.5	U	ppbv	1.35	1.5	6.8	1A25023	TO-15	01/25/21 11:18	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*27*	*1*	*31.0*	*87 %*	*70-130*	*1A25023*	*TO-15*	*01/25/21 11:18*	*rgg*	

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ANALYTICAL RESULTS

Description: CRCA-VMP03-20210120 | **Lab Sample ID:** AE00066-15 | **Received:** 01/21/21 15:10

Matrix: Air | **Sampled:** 01/20/21 11:15 | **Work Order:** AE00066

Project: NASA KSC CRCA | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.54	U	ppbv	1.59	0.54	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.57	U	ppbv	1.59	0.57	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.56	U	ppbv	1.59	0.56	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,1-Dichloroethane [75-34-3]^	0.57	U	ppbv	1.59	0.57	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,1-Dichloroethene [75-35-4]^	0.60	U	ppbv	1.59	0.60	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,2-Dibromoethane [106-93-4]^	0.57	U	ppbv	1.59	0.57	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.43	U	ppbv	1.59	0.43	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,2-Dichloroethane [107-06-2]^	0.59	U	ppbv	1.59	0.59	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,2-Dichloropropane [78-87-5]^	0.64	U	ppbv	1.59	0.64	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.45	U	ppbv	1.59	0.45	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.49	U	ppbv	1.59	0.49	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
3-Chloropropene [107-05-1]^	0.62	U	ppbv	1.59	0.62	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Acetone [67-64-1]^	**4.1**		ppbv	1.59	0.56	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Bromodichloromethane [75-27-4]^	0.54	U	ppbv	1.59	0.54	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Bromoethene [593-60-2]^	0.52	U	ppbv	1.59	0.52	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Bromoform [75-25-2]^	0.60	U	ppbv	1.59	0.60	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Bromomethane [74-83-9]^	0.52	U	ppbv	1.59	0.52	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Carbon tetrachloride [56-23-5]^	0.43	U	ppbv	1.59	0.43	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Chlorobenzene [108-90-7]^	0.52	U	ppbv	1.59	0.52	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Chloroethane [75-00-3]^	0.51	U	ppbv	1.59	0.51	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Chloroform [67-66-3]^	**1.9**	I	ppbv	1.59	0.60	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Chloromethane [74-87-3]^	0.76	U	ppbv	1.59	0.76	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
cis-1,2-Dichloroethene [156-59-2]^	0.60	U	ppbv	1.59	0.60	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	0.60	U	ppbv	1.59	0.60	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Dibromochloromethane [124-48-1]^	0.52	U	ppbv	1.59	0.52	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Dichlorodifluoromethane [75-71-8]^	0.87	U	ppbv	1.59	0.87	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Freon 113 [76-13-1]^	**8.1**		ppbv	1.59	0.51	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Freon 114 [76-14-2]^	0.83	U	ppbv	1.59	0.83	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Hexachlorobutadiene [87-68-3]^	0.59	U	ppbv	1.59	0.59	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Methylene chloride [75-09-2]^	**1.1**	IV	ppbv	1.59	0.32	4.0	1A25023	TO-15	01/25/21 14:06	rgg	J-01, O-01
Propene [115-07-1]^	0.87	U	ppbv	1.59	0.87	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Tetrachloroethene [127-18-4]^	0.49	U	ppbv	1.59	0.49	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
trans-1,2-Dichloroethene [156-60-5]^	0.51	U	ppbv	1.59	0.51	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.54	U	ppbv	1.59	0.54	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Trichloroethene [79-01-6]^	0.56	U	ppbv	1.59	0.56	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Trichlorofluoromethane [75-69-4]^	0.54	U	ppbv	1.59	0.54	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Vinyl chloride [75-01-4]^	0.89	U	ppbv	1.59	0.89	4.0	1A25023	TO-15	01/25/21 14:06	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*27*	*1*	*31.0*	*88 %*	*70-130*	*1A25023*	*TO-15*	*01/25/21 14:06*	*rgg*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-VMP04-20210120 **Lab Sample ID:** AE00066-16 **Received:** 01/21/21 15:10

Matrix: Air **Sampled:** 01/20/21 11:22 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.95	U	ppbv	1.4	0.95	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,1,2,2-Tetrachloroethane [79-34-5]^	1.0	U	ppbv	1.4	1.0	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,1,2-Trichloroethane [79-00-5]^	0.98	U	ppbv	1.4	0.98	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,1-Dichloroethane [75-34-3]^	1.0	U	ppbv	1.4	1.0	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,1-Dichloroethene [75-35-4]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,2-Dibromoethane [106-93-4]^	1.0	U	ppbv	1.4	1.0	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,2-Dichlorobenzene [95-50-1]^	0.76	U	ppbv	1.4	0.76	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,2-Dichloroethane [107-06-2]^	1.0	U	ppbv	1.4	1.0	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,2-Dichloropropane [78-87-5]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,3-Dichlorobenzene [541-73-1]^	0.78	U	ppbv	1.4	0.78	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,4-Dichlorobenzene [106-46-7]^	0.87	U	ppbv	1.4	0.87	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
3-Chloropropene [107-05-1]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Acetone [67-64-1]^	**31**		ppbv	1.4	0.98	7.0	1A25023	TO-15	01/25/21 14:47	rgg	
Bromodichloromethane [75-27-4]^	0.95	U	ppbv	1.4	0.95	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Bromoethene [593-60-2]^	0.92	U	ppbv	1.4	0.92	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Bromoform [75-25-2]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Bromomethane [74-83-9]^	0.92	U	ppbv	1.4	0.92	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Carbon tetrachloride [56-23-5]^	0.76	U	ppbv	1.4	0.76	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Chlorobenzene [108-90-7]^	0.92	U	ppbv	1.4	0.92	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Chloroethane [75-00-3]^	0.90	U	ppbv	1.4	0.90	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Chloroform [67-66-3]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Chloromethane [74-87-3]^	1.3	U	ppbv	1.4	1.3	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
cis-1,2-Dichloroethene [156-59-2]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
cis-1,3-Dichloropropene [10061-01-5]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Dibromochloromethane [124-48-1]^	0.92	U	ppbv	1.4	0.92	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Dichlorodifluoromethane [75-71-8]^	1.5	U	ppbv	1.4	1.5	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Freon 113 [76-13-1]^	**34**		ppbv	1.4	0.90	7.0	1A25023	TO-15	01/25/21 14:47	rgg	
Freon 114 [76-14-2]^	1.5	U	ppbv	1.4	1.5	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Hexachlorobutadiene [87-68-3]^	1.0	U	ppbv	1.4	1.0	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Methylene chloride [75-09-2]^	**1.1**	IV	ppbv	1.4	0.56	7.0	1A25023	TO-15	01/25/21 14:47	rgg	J-01, O-01, R-05
Propene [115-07-1]^	1.5	U	ppbv	1.4	1.5	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Tetrachloroethene [127-18-4]^	0.87	U	ppbv	1.4	0.87	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
trans-1,2-Dichloroethene [156-60-5]^	0.90	U	ppbv	1.4	0.90	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
trans-1,3-Dichloropropene [10061-02-6]^	0.95	U	ppbv	1.4	0.95	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Trichloroethene [79-01-6]^	0.98	U	ppbv	1.4	0.98	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Trichlorofluoromethane [75-69-4]^	0.95	U	ppbv	1.4	0.95	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Vinyl chloride [75-01-4]^	1.6	U	ppbv	1.4	1.6	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*28*	*1*	*31.0*	*89 %*	*70-130*	*1A25023*	*TO-15*	*01/25/21 14:47*	*rgg*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-SYSAIR-20210120 | **Lab Sample ID:** AE00066-17 | **Received:** 01/21/21 15:10

Matrix: Air | **Sampled:** 01/20/21 17:03 | **Work Order:** AE00066

Project: NASA KSC CRCA | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.45	U	ppbv	1.32	0.45	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.48	U	ppbv	1.32	0.48	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.46	U	ppbv	1.32	0.46	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,1-Dichloroethane [75-34-3]^	0.48	U	ppbv	1.32	0.48	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,1-Dichloroethene [75-35-4]^	0.50	U	ppbv	1.32	0.50	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,2-Dibromoethane [106-93-4]^	0.48	U	ppbv	1.32	0.48	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.36	U	ppbv	1.32	0.36	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,2-Dichloroethane [107-06-2]^	0.49	U	ppbv	1.32	0.49	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,2-Dichloropropane [78-87-5]^	0.53	U	ppbv	1.32	0.53	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.37	U	ppbv	1.32	0.37	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.41	U	ppbv	1.32	0.41	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
3-Chloropropene [107-05-1]^	0.51	U	ppbv	1.32	0.51	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Acetone [67-64-1]^	**2.6**	I	ppbv	1.32	0.46	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Bromodichloromethane [75-27-4]^	0.45	U	ppbv	1.32	0.45	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Bromoethene [593-60-2]^	0.44	U	ppbv	1.32	0.44	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Bromoform [75-25-2]^	0.50	U	ppbv	1.32	0.50	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Bromomethane [74-83-9]^	0.44	U	ppbv	1.32	0.44	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Carbon tetrachloride [56-23-5]^	0.36	U	ppbv	1.32	0.36	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Chlorobenzene [108-90-7]^	0.44	U	ppbv	1.32	0.44	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Chloroethane [75-00-3]^	0.42	U	ppbv	1.32	0.42	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Chloroform [67-66-3]^	0.50	U	ppbv	1.32	0.50	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Chloromethane [74-87-3]^	0.63	U	ppbv	1.32	0.63	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
cis-1,2-Dichloroethene [156-59-2]^	0.50	U	ppbv	1.32	0.50	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	0.50	U	ppbv	1.32	0.50	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Dibromochloromethane [124-48-1]^	0.44	U	ppbv	1.32	0.44	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Dichlorodifluoromethane [75-71-8]^	0.73	U	ppbv	1.32	0.73	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Freon 113 [76-13-1]^	0.42	U	ppbv	1.32	0.42	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Freon 114 [76-14-2]^	0.69	U	ppbv	1.32	0.69	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Hexachlorobutadiene [87-68-3]^	0.49	U	ppbv	1.32	0.49	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Methylene chloride [75-09-2]^	**0.99**	IV	ppbv	1.32	0.26	3.3	1A25023	TO-15	01/25/21 13:21	rgg	J-01, O-01
Propene [115-07-1]^	0.73	U	ppbv	1.32	0.73	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Tetrachloroethene [127-18-4]^	0.41	U	ppbv	1.32	0.41	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
trans-1,2-Dichloroethene [156-60-5]^	**0.96**	I	ppbv	1.32	0.42	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.45	U	ppbv	1.32	0.45	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Trichloroethene [79-01-6]^	0.46	U	ppbv	1.32	0.46	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Trichlorofluoromethane [75-69-4]^	0.45	U	ppbv	1.32	0.45	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Vinyl chloride [75-01-4]^	0.74	U	ppbv	1.32	0.74	3.3	1A25023	TO-15	01/25/21 13:21	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*28*	*1*	*31.0*	*89 %*	*70-130*	*1A25023*	*TO-15*	*01/25/21 13:21*	*rgg*	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS

Blank (1A25020-BLK1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 10:19

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

Blank (1A25020-BLK1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 10:19

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*54*			*ug/L*	*50.0*		*109*	*41-142*			
Dibromofluoromethane	*55*			*ug/L*	*50.0*		*111*	*53-146*			
Toluene-d8	*48*	*I*		*ug/L*	*50.0*		*96*	*41-146*			

LCS (1A25020-BS1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 09:20

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	19		2.5	ug/L	20.0		97	57-148			
1,1,2,2-Tetrachloroethane	21		2.5	ug/L	20.0		105	60-139			
1,1,2-Trichloroethane	21		2.5	ug/L	20.0		107	57-141			
1,1-Dichloroethane	19		2.5	ug/L	20.0		93	57-142			
1,1-Dichloroethene	20		2.5	ug/L	20.0		102	47-139			
1,2,4-Trichlorobenzene	17		2.5	ug/L	20.0		87	52-159			
1,2-Dibromo-3-chloropropane	20		2.5	ug/L	20.0		102	48-150			
1,2-Dibromoethane	22		2.5	ug/L	20.0		110	57-140			
1,2-Dichlorobenzene	23		2.5	ug/L	20.0		113	63-131			
1,2-Dichloroethane	15		2.5	ug/L	20.0		75	50-156			
1,2-Dichloropropane	16		2.5	ug/L	20.0		80	61-133			
1,3-Dichlorobenzene	24		2.5	ug/L	20.0		118	66-129			
1,4-Dichlorobenzene	21		2.5	ug/L	20.0		106	65-133			
2-Butanone	90		12	ug/L	100		90	10-180			
2-Hexanone	68		12	ug/L	100		68	12-180			
4-Methyl-2-pentanone	90		12	ug/L	100		90	19-180			
Acetone	71		25	ug/L	100		71	10-180			
Benzene	19		2.5	ug/L	20.0		94	56-136			
Bromodichloromethane	18		2.5	ug/L	20.0		89	58-135			
Bromoform	21		2.5	ug/L	20.0		107	46-148			
Bromomethane	8.7		2.5	ug/L	20.0		44	10-173			
Carbon disulfide	20		12	ug/L	20.0		102	43-153			
Carbon Tetrachloride	16		2.5	ug/L	20.0		80	54-156			
Chlorobenzene	24		2.5	ug/L	20.0		120	51-139			
Chloroethane	22		2.5	ug/L	20.0		109	27-180			
Chloroform	20		2.5	ug/L	20.0		99	58-139			
Chloromethane	9.3		2.5	ug/L	20.0		46	33-154			
cis-1,2-Dichloroethene	22		2.5	ug/L	20.0		109	56-128			
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0		87	64-128			
Cyclohexane	16		2.5	ug/L	20.0		82	70-130			
Dibromochloromethane	24		2.5	ug/L	20.0		118	50-140			
Dichlorodifluoromethane	12		2.5	ug/L	20.0		61	10-180			
Ethylbenzene	22		2.5	ug/L	20.0		108	63-133			
Freon 113	21		2.5	ug/L	20.0		104	47-173			
Isopropylbenzene	24		2.5	ug/L	20.0		118	60-132			
m,p-Xylenes	50		5.0	ug/L	40.0		125	64-133			
Methyl acetate	13		2.5	ug/L	20.0		65	70-130			A-07
Methyl cyclohexane	18		2.5	ug/L	20.0		89	70-130			
Methylene Chloride	20		12	ug/L	20.0		100	43-142			
Methyl-tert-Butyl Ether	20		2.5	ug/L	20.0		99	51-145			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

LCS (1A25020-BS1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 09:20

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
o-Xylene	23		2.5	ug/L	20.0		117	61-129			
Styrene	25		2.5	ug/L	20.0		126	59-136			
Tetrachloroethene	21		2.5	ug/L	20.0		104	60-147			
Toluene	23		2.5	ug/L	20.0		114	64-131			
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0		108	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0		103	65-149			
Trichloroethene	21		2.5	ug/L	20.0		103	62-135			
Trichlorofluoromethane	20		2.5	ug/L	20.0		100	56-155			
Vinyl chloride	17		2.5	ug/L	20.0		85	20-167			
4-Bromofluorobenzene	*52*			*ug/L*	*50.0*		*105*	*41-142*			
Dibromofluoromethane	*55*			*ug/L*	*50.0*		*111*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*98*	*41-146*			

Matrix Spike (1A25020-MS1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 18:39

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	22		2.5	ug/L	20.0	0.80 U	110	57-148			
1,1,2,2-Tetrachloroethane	23		2.5	ug/L	20.0	0.54 U	114	60-139			
1,1,2-Trichloroethane	22		2.5	ug/L	20.0	0.76 U	110	57-141			
1,1-Dichloroethane	19		2.5	ug/L	20.0	0.62 U	96	57-142			
1,1-Dichloroethene	23		2.5	ug/L	20.0	0.94 U	114	47-139			
1,2,4-Trichlorobenzene	15		2.5	ug/L	20.0	0.70 U	74	52-159			
1,2-Dibromo-3-chloropropane	14		2.5	ug/L	20.0	0.96 U	72	48-150			
1,2-Dibromoethane	23		2.5	ug/L	20.0	0.78 U	115	57-140			
1,2-Dichlorobenzene	23		2.5	ug/L	20.0	0.73 U	114	63-131			
1,2-Dichloroethane	16		2.5	ug/L	20.0	0.63 U	79	50-156			
1,2-Dichloropropane	16		2.5	ug/L	20.0	0.80 U	79	61-133			
1,3-Dichlorobenzene	25		2.5	ug/L	20.0	0.77 U	125	66-129			
1,4-Dichlorobenzene	23		2.5	ug/L	20.0	0.76 U	114	65-133			
2-Butanone	88		12	ug/L	100	4.5 U	88	10-180			
2-Hexanone	62		12	ug/L	100	2.5 U	62	12-180			
4-Methyl-2-pentanone	87		12	ug/L	100	2.5 U	87	19-180			
Acetone	65		25	ug/L	100	10 U	65	10-180			
Benzene	20		2.5	ug/L	20.0	0.71 U	100	56-136			
Bromodichloromethane	19		2.5	ug/L	20.0	0.52 U	95	58-135			
Bromoform	22		2.5	ug/L	20.0	0.75 U	109	46-148			
Bromomethane	10		2.5	ug/L	20.0	0.95 U	50	10-173			
Carbon disulfide	21		12	ug/L	20.0	2.5 U	106	43-153			
Carbon Tetrachloride	18		2.5	ug/L	20.0	0.94 U	89	54-156			
Chlorobenzene	27		2.5	ug/L	20.0	0.72 U	135	51-139			
Chloroethane	23		2.5	ug/L	20.0	0.98 U	113	27-180			
Chloroform	21		2.5	ug/L	20.0	0.80 U	104	58-139			
Chloromethane	9.6		2.5	ug/L	20.0	0.82 U	48	33-154			
cis-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.53 U	110	56-128			
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0	0.59 U	85	64-128			
Cyclohexane	16		2.5	ug/L	20.0	0.93 U	82	70-130			
Dibromochloromethane	25		2.5	ug/L	20.0	0.50 U	127	50-140			
Dichlorodifluoromethane	13		2.5	ug/L	20.0	0.74 U	66	10-180			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

Matrix Spike (1A25020-MS1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 18:39

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	24		2.5	ug/L	20.0	0.69 U	119	63-133			
Freon 113	23		2.5	ug/L	20.0	0.73 U	115	47-173			
Isopropylbenzene	26		2.5	ug/L	20.0	0.67 U	131	60-132			
m,p-Xylenes	55		5.0	ug/L	40.0	1.3 U	137	64-133			QM-07
Methyl acetate	10		2.5	ug/L	20.0	0.95 U	51	70-130			QM-19
Methyl cyclohexane	19		2.5	ug/L	20.0	0.64 U	95	70-130			
Methylene Chloride	21		12	ug/L	20.0	2.5 U	105	43-142			
Methyl-tert-Butyl Ether	20		2.5	ug/L	20.0	0.60 U	100	51-145			
o-Xylene	25		2.5	ug/L	20.0	0.53 U	127	61-129			
Styrene	28		2.5	ug/L	20.0	0.61 U	140	59-136			QM-07
Tetrachloroethene	24		2.5	ug/L	20.0	0.76 U	122	60-147			
Toluene	24		2.5	ug/L	20.0	0.72 U	122	64-131			
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.73 U	111	54-134			
trans-1,3-Dichloropropene	20		2.5	ug/L	20.0	0.73 U	102	65-149			
Trichloroethene	24		2.5	ug/L	20.0	0.89 U	122	62-135			
Trichlorofluoromethane	23		2.5	ug/L	20.0	0.94 U	113	56-155			
Vinyl chloride	17		2.5	ug/L	20.0	0.71 U	84	20-167			
4-Bromofluorobenzene	*54*			*ug/L*	*50.0*		*109*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*112*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*97*	*41-146*			

Matrix Spike Dup (1A25020-MSD1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 19:09

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	20		2.5	ug/L	20.0	0.80 U	102	57-148	8	25	
1,1,2,2-Tetrachloroethane	22		2.5	ug/L	20.0	0.54 U	110	60-139	4	17	
1,1,2-Trichloroethane	21		2.5	ug/L	20.0	0.76 U	106	57-141	3	16	
1,1-Dichloroethane	18		2.5	ug/L	20.0	0.62 U	90	57-142	6	24	
1,1-Dichloroethene	21		2.5	ug/L	20.0	0.94 U	103	47-139	10	16	
1,2,4-Trichlorobenzene	16		2.5	ug/L	20.0	0.70 U	81	52-159	9	24	
1,2-Dibromo-3-chloropropane	18		2.5	ug/L	20.0	0.96 U	88	48-150	21	21	
1,2-Dibromoethane	22		2.5	ug/L	20.0	0.78 U	110	57-140	4	16	
1,2-Dichlorobenzene	23		2.5	ug/L	20.0	0.73 U	113	63-131	1	25	
1,2-Dichloroethane	15		2.5	ug/L	20.0	0.63 U	77	50-156	1	18	
1,2-Dichloropropane	15		2.5	ug/L	20.0	0.80 U	76	61-133	4	26	
1,3-Dichlorobenzene	24		2.5	ug/L	20.0	0.77 U	120	66-129	4	23	
1,4-Dichlorobenzene	22		2.5	ug/L	20.0	0.76 U	110	65-133	4	23	
2-Butanone	83		12	ug/L	100	4.5 U	83	10-180	5	29	
2-Hexanone	66		12	ug/L	100	2.5 U	66	12-180	5	28	
4-Methyl-2-pentanone	87		12	ug/L	100	2.5 U	87	19-180	0.5	24	
Acetone	70		25	ug/L	100	10 U	70	10-180	7	19	
Benzene	19		2.5	ug/L	20.0	0.71 U	96	56-136	5	14	
Bromodichloromethane	18		2.5	ug/L	20.0	0.52 U	89	58-135	7	19	
Bromoform	21		2.5	ug/L	20.0	0.75 U	106	46-148	2	18	
Bromomethane	11		2.5	ug/L	20.0	0.95 U	55	10-173	10	29	
Carbon disulfide	19		12	ug/L	20.0	2.5 U	94	43-153	12	26	
Carbon Tetrachloride	16		2.5	ug/L	20.0	0.94 U	79	54-156	12	27	
Chlorobenzene	26		2.5	ug/L	20.0	0.72 U	129	51-139	5	13	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

Matrix Spike Dup (1A25020-MSD1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 19:09

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloroethane	21		2.5	ug/L	20.0	0.98 U	105	27-180	7	22	
Chloroform	20		2.5	ug/L	20.0	0.80 U	102	58-139	2	17	
Chloromethane	9.0		2.5	ug/L	20.0	0.82 U	45	33-154	7	31	
cis-1,2-Dichloroethene	21		2.5	ug/L	20.0	0.53 U	104	56-128	5	17	
cis-1,3-Dichloropropene	16		2.5	ug/L	20.0	0.59 U	78	64-128	9	20	
Cyclohexane	15		2.5	ug/L	20.0	0.93 U	75	70-130	8	20	
Dibromochloromethane	23		2.5	ug/L	20.0	0.50 U	117	50-140	8	18	
Dichlorodifluoromethane	13		2.5	ug/L	20.0	0.74 U	63	10-180	4	26	
Ethylbenzene	22		2.5	ug/L	20.0	0.69 U	112	63-133	6	18	
Freon 113	21		2.5	ug/L	20.0	0.73 U	105	47-173	9	30	
Isopropylbenzene	24		2.5	ug/L	20.0	0.67 U	122	60-132	7	23	
m,p-Xylenes	51		5.0	ug/L	40.0	1.3 U	129	64-133	6	18	
Methyl acetate	9.5		2.5	ug/L	20.0	0.95 U	48	70-130	6	20	QM-19
Methyl cyclohexane	18		2.5	ug/L	20.0	0.64 U	91	70-130	4	20	
Methylene Chloride	19		12	ug/L	20.0	2.5 U	95	43-142	9	23	
Methyl-tert-Butyl Ether	19		2.5	ug/L	20.0	0.60 U	95	51-145	5	22	
o-Xylene	25		2.5	ug/L	20.0	0.53 U	123	61-129	4	16	
Styrene	26		2.5	ug/L	20.0	0.61 U	130	59-136	7	32	
Tetrachloroethene	23		2.5	ug/L	20.0	0.76 U	113	60-147	8	21	
Toluene	23		2.5	ug/L	20.0	0.72 U	117	64-131	4	16	
trans-1,2-Dichloroethene	21		2.5	ug/L	20.0	0.73 U	103	54-134	8	20	
trans-1,3-Dichloropropene	19		2.5	ug/L	20.0	0.73 U	97	65-149	5	17	
Trichloroethene	21		2.5	ug/L	20.0	0.89 U	107	62-135	12	20	
Trichlorofluoromethane	20		2.5	ug/L	20.0	0.94 U	102	56-155	10	22	
Vinyl chloride	15		2.5	ug/L	20.0	0.71 U	77	20-167	8	24	
4-Bromofluorobenzene	*55*			*ug/L*	*50.0*		*110*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*111*	*53-146*			
Toluene-d8	*48*	*I*		*ug/L*	*50.0*		*96*	*41-146*			

Batch 1A25023 - NO PREP 2

Blank (1A25023-BLK1) Prepared: 01/24/2021 17:30 Analyzed: 01/25/2021 00:37

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.34	U	2.5	ppbv							
1,1,2,2-Tetrachloroethane	0.36	U	2.5	ppbv							
1,1,2-Trichloroethane	0.35	U	2.5	ppbv							
1,1-Dichloroethane	0.36	U	2.5	ppbv							
1,1-Dichloroethene	0.38	U	2.5	ppbv							
1,2-Dibromoethane	0.36	U	2.5	ppbv							
1,2-Dichlorobenzene	0.27	U	2.5	ppbv							
1,2-Dichloroethane	0.37	U	2.5	ppbv							
1,2-Dichloropropane	0.40	U	2.5	ppbv							
1,3-Dichlorobenzene	0.28	U	2.5	ppbv							
1,4-Dichlorobenzene	0.31	U	2.5	ppbv							
3-Chloropropene	0.39	U	2.5	ppbv							
Acetone	0.35	U	2.5	ppbv							
Bromodichloromethane	0.34	U	2.5	ppbv							
Bromoethene	0.33	U	2.5	ppbv							

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25023 - NO PREP 2 - Continued

Blank (1A25023-BLK1) Continued Prepared: 01/24/2021 17:30 Analyzed: 01/25/2021 00:37

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Bromoform	0.38	U	2.5	ppbv							
Bromomethane	0.33	U	2.5	ppbv							
Carbon tetrachloride	0.27	U	2.5	ppbv							
Chlorobenzene	0.33	U	2.5	ppbv							
Chloroethane	0.32	U	2.5	ppbv							
Chloroform	0.38	U	2.5	ppbv							
Chloromethane	0.48	U	2.5	ppbv							
cis-1,2-Dichloroethene	0.38	U	2.5	ppbv							
cis-1,3-Dichloropropene	0.38	U	2.5	ppbv							
Dibromochloromethane	0.33	U	2.5	ppbv							
Dichlorodifluoromethane	0.55	U	2.5	ppbv							
Freon 113	0.32	U	2.5	ppbv							
Freon 114	0.52	U	2.5	ppbv							
Hexachlorobutadiene	0.37	U	2.5	ppbv							
Methylene chloride	**0.29**	**I**	2.5	ppbv							J-01, O-01
Propene	0.55	U	2.5	ppbv							
Tetrachloroethene	0.31	U	2.5	ppbv							
trans-1,2-Dichloroethene	0.32	U	2.5	ppbv							
trans-1,3-Dichloropropene	0.34	U	2.5	ppbv							
Trichloroethene	0.35	U	2.5	ppbv							
Trichlorofluoromethane	0.34	U	2.5	ppbv							
Vinyl chloride	0.56	U	2.5	ppbv							
4-Bromofluorobenzene	*27*			*ppbv*	*31.0*		*87*	*70-130*			

LCS (1A25023-BS1) Prepared: 01/24/2021 17:30 Analyzed: 01/24/2021 22:34

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	10		2.5	ppbv	10.0		100	70-130			
1,1,2,2-Tetrachloroethane	12		2.5	ppbv	10.0		119	52-163			
1,1,2-Trichloroethane	12		2.5	ppbv	10.0		117	70-134			
1,1-Dichloroethane	12		2.5	ppbv	10.0		119	70-130			
1,1-Dichloroethene	11		2.5	ppbv	10.0		113	67-142			
1,2-Dibromoethane	12		2.5	ppbv	10.0		118	70-141			
1,2-Dichlorobenzene	10		2.5	ppbv	10.0		102	37-180			
1,2-Dichloroethane	10		2.5	ppbv	10.0		102	70-130			
1,2-Dichloropropane	12		2.5	ppbv	10.0		121	70-130			
1,3-Dichlorobenzene	9.8		2.5	ppbv	10.0		98	47-178			
1,4-Dichlorobenzene	9.2		2.5	ppbv	10.0		92	45-180			
3-Chloropropene	11		2.5	ppbv	10.0		113	70-130			
Acetone	10		2.5	ppbv	10.0		104	65-130			
Bromodichloromethane	11		2.5	ppbv	10.0		109	70-130			
Bromoethene	9.5		2.5	ppbv	10.0		95	69-132			
Bromoform	11		2.5	ppbv	10.0		110	62-149			
Bromomethane	9.9		2.5	ppbv	10.0		99	69-130			
Carbon tetrachloride	8.3		2.5	ppbv	10.0		83	22-166			
Chlorobenzene	11		2.5	ppbv	10.0		107	70-134			
Chloroethane	10		2.5	ppbv	10.0		101	69-131			
Chloroform	11		2.5	ppbv	10.0		111	70-130			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25023 - NO PREP 2 - Continued

LCS (1A25023-BS1) Continued Prepared: 01/24/2021 17:30 Analyzed: 01/24/2021 22:34

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloromethane	10		2.5	ppbv	10.0		100	55-142			
cis-1,2-Dichloroethene	12		2.5	ppbv	10.0		122	70-130			
cis-1,3-Dichloropropene	12		2.5	ppbv	10.0		122	70-137			
Dibromochloromethane	11		2.5	ppbv	10.0		110	70-130			
Dichlorodifluoromethane	9.3		2.5	ppbv	10.0		93	61-137			
Freon 113	11		2.5	ppbv	10.0		111	67-140			
Freon 114	9.8		2.5	ppbv	10.0		98	62-147			
Hexachlorobutadiene	9.1		2.5	ppbv	10.0		91	24-180			
Methylene chloride	13		2.5	ppbv	10.0		128	59-136			
Propene	8.9		2.5	ppbv	10.0		89	63-132			
Tetrachloroethene	10		2.5	ppbv	10.0		104	70-141			
trans-1,2-Dichloroethene	11		2.5	ppbv	10.0		113	70-130			
trans-1,3-Dichloropropene	16		2.5	ppbv	10.0		156	59-166			
Trichloroethene	11		2.5	ppbv	10.0		114	70-130			
Trichlorofluoromethane	9.7		2.5	ppbv	10.0		97	46-161			
Vinyl chloride	11		2.5	ppbv	10.0		106	53-148			
4-Bromofluorobenzene	*32*			*ppbv*	*31.0*		*102*	*70-130*			

LCS Dup (1A25023-BSD1) Prepared: 01/24/2021 17:30 Analyzed: 01/24/2021 23:13

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	9.1		2.5	ppbv	10.0		91	70-130	9	25	
1,1,2,2-Tetrachloroethane	11		2.5	ppbv	10.0		111	52-163	7	25	
1,1,2-Trichloroethane	11		2.5	ppbv	10.0		110	70-134	6	25	
1,1-Dichloroethane	11		2.5	ppbv	10.0		110	70-130	8	25	
1,1-Dichloroethene	10		2.5	ppbv	10.0		103	67-142	9	25	
1,2-Dibromoethane	11		2.5	ppbv	10.0		110	70-141	7	25	
1,2-Dichlorobenzene	9.5		2.5	ppbv	10.0		95	37-180	7	25	
1,2-Dichloroethane	8.8		2.5	ppbv	10.0		88	70-130	15	25	
1,2-Dichloropropane	11		2.5	ppbv	10.0		113	70-130	7	25	
1,3-Dichlorobenzene	9.1		2.5	ppbv	10.0		91	47-178	7	25	
1,4-Dichlorobenzene	8.5		2.5	ppbv	10.0		85	45-180	8	25	
3-Chloropropene	10		2.5	ppbv	10.0		105	70-130	7	25	
Acetone	9.5		2.5	ppbv	10.0		95	65-130	10	25	
Bromodichloromethane	10		2.5	ppbv	10.0		100	70-130	8	25	
Bromoethene	8.6		2.5	ppbv	10.0		86	69-132	10	25	
Bromoform	10		2.5	ppbv	10.0		103	62-149	7	25	
Bromomethane	8.6		2.5	ppbv	10.0		86	69-130	14	25	
Carbon tetrachloride	7.5		2.5	ppbv	10.0		75	22-166	10	25	
Chlorobenzene	10		2.5	ppbv	10.0		100	70-134	6	25	
Chloroethane	8.7		2.5	ppbv	10.0		87	69-131	14	25	
Chloroform	10		2.5	ppbv	10.0		101	70-130	9	25	
Chloromethane	8.8		2.5	ppbv	10.0		88	55-142	12	25	
cis-1,2-Dichloroethene	11		2.5	ppbv	10.0		114	70-130	6	25	
cis-1,3-Dichloropropene	11		2.5	ppbv	10.0		113	70-137	7	25	
Dibromochloromethane	10		2.5	ppbv	10.0		103	70-130	7	25	
Dichlorodifluoromethane	8.1		2.5	ppbv	10.0		81	61-137	13	25	
Freon 113	10		2.5	ppbv	10.0		103	67-140	8	25	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25023 - NO PREP 2 - Continued

LCS Dup (1A25023-BSD1) Continued Prepared: 01/24/2021 17:30 Analyzed: 01/24/2021 23:13

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Freon 114	8.8		2.5	ppbv	10.0		88	62-147	11	25	
Hexachlorobutadiene	8.5		2.5	ppbv	10.0		85	24-180	7	25	
Methylene chloride	12		2.5	ppbv	10.0		123	59-136	5	25	
Propene	7.8		2.5	ppbv	10.0		78	63-132	13	25	
Tetrachloroethene	9.8		2.5	ppbv	10.0		98	70-141	6	25	
trans-1,2-Dichloroethene	10		2.5	ppbv	10.0		105	70-130	7	25	
trans-1,3-Dichloropropene	15		2.5	ppbv	10.0		146	59-166	7	25	
Trichloroethene	11		2.5	ppbv	10.0		108	70-130	5	25	
Trichlorofluoromethane	8.7		2.5	ppbv	10.0		87	46-161	11	25	
Vinyl chloride	9.2		2.5	ppbv	10.0		92	53-148	14	25	
4-Bromofluorobenzene	*31*			*ppbv*	*31.0*		*100*	*70-130*			

Batch 1A26010 - EPA 5030B_MS

Blank (1A26010-BLK1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 11:19

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A26010 - EPA 5030B_MS - Continued

Blank (1A26010-BLK1) Continued Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 11:19

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*51*			*ug/L*	*50.0*		*103*	*41-142*			
Dibromofluoromethane	*58*			*ug/L*	*50.0*		*116*	*53-146*			
Toluene-d8	*51*			*ug/L*	*50.0*		*102*	*41-146*			

LCS (1A26010-BS1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 08:43

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	25		2.5	ug/L	20.0		127	57-148			
1,1,2,2-Tetrachloroethane	23		2.5	ug/L	20.0		115	60-139			
1,1,2-Trichloroethane	23		2.5	ug/L	20.0		114	57-141			
1,1-Dichloroethane	24		2.5	ug/L	20.0		119	57-142			
1,1-Dichloroethene	25		2.5	ug/L	20.0		125	47-139			
1,2,4-Trichlorobenzene	25		2.5	ug/L	20.0		127	52-159			
1,2-Dibromo-3-chloropropane	27		2.5	ug/L	20.0		137	48-150			
1,2-Dibromoethane	23		2.5	ug/L	20.0		116	57-140			
1,2-Dichlorobenzene	22		2.5	ug/L	20.0		109	63-131			
1,2-Dichloroethane	24		2.5	ug/L	20.0		119	50-156			
1,2-Dichloropropane	24		2.5	ug/L	20.0		118	61-133			
1,3-Dichlorobenzene	21		2.5	ug/L	20.0		105	66-129			
1,4-Dichlorobenzene	20		2.5	ug/L	20.0		101	65-133			
2-Butanone	130		12	ug/L	100		126	10-180			
2-Hexanone	110		12	ug/L	100		114	12-180			
4-Methyl-2-pentanone	110		12	ug/L	100		114	19-180			
Acetone	160		25	ug/L	100		156	10-180			
Benzene	21		2.5	ug/L	20.0		106	56-136			
Bromodichloromethane	23		2.5	ug/L	20.0		117	58-135			
Bromoform	23		2.5	ug/L	20.0		113	46-148			
Bromomethane	20		2.5	ug/L	20.0		101	10-173			
Carbon disulfide	36		12	ug/L	20.0		178	43-153			QL-02
Carbon Tetrachloride	23		2.5	ug/L	20.0		115	54-156			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A26010 - EPA 5030B_MS - Continued

LCS (1A26010-BS1) Continued Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 08:43

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chlorobenzene	20		2.5	ug/L	20.0		101	51-139			
Chloroethane	25		2.5	ug/L	20.0		124	27-180			
Chloroform	28		2.5	ug/L	20.0		140	58-139			QL-02
Chloromethane	19		2.5	ug/L	20.0		97	33-154			
cis-1,2-Dichloroethene	25		2.5	ug/L	20.0		124	56-128			
cis-1,3-Dichloropropene	23		2.5	ug/L	20.0		116	64-128			
Cyclohexane	26		2.5	ug/L	20.0		132	70-130			QL-02
Dibromochloromethane	22		2.5	ug/L	20.0		112	50-140			
Dichlorodifluoromethane	14		2.5	ug/L	20.0		69	10-180			
Ethylbenzene	20		2.5	ug/L	20.0		100	63-133			
Freon 113	28		2.5	ug/L	20.0		142	47-173			
Isopropylbenzene	21		2.5	ug/L	20.0		104	60-132			
m,p-Xylenes	40		5.0	ug/L	40.0		99	64-133			
Methyl acetate	30		2.5	ug/L	20.0		148	70-130			QL-02
Methyl cyclohexane	23		2.5	ug/L	20.0		116	70-130			
Methylene Chloride	27		12	ug/L	20.0		136	43-142			
Methyl-tert-Butyl Ether	28		2.5	ug/L	20.0		141	51-145			
o-Xylene	20		2.5	ug/L	20.0		102	61-129			
Styrene	21		2.5	ug/L	20.0		103	59-136			
Tetrachloroethene	19		2.5	ug/L	20.0		97	60-147			
Toluene	20		2.5	ug/L	20.0		101	64-131			
trans-1,2-Dichloroethene	27		2.5	ug/L	20.0		135	54-134			QL-02
trans-1,3-Dichloropropene	23		2.5	ug/L	20.0		116	65-149			
Trichloroethene	22		2.5	ug/L	20.0		112	62-135			
Trichlorofluoromethane	25		2.5	ug/L	20.0		123	56-155			
Vinyl chloride	24		2.5	ug/L	20.0		118	20-167			
4-Bromofluorobenzene	*51*			*ug/L*	*50.0*		*103*	*41-142*			
Dibromofluoromethane	*57*			*ug/L*	*50.0*		*114*	*53-146*			
Toluene-d8	*51*			*ug/L*	*50.0*		*103*	*41-146*			

Matrix Spike (1A26010-MS1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 09:24

Source: AD08635-03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	25		2.5	ug/L	20.0	0.80 U	125	57-148			
1,1,2,2-Tetrachloroethane	22		2.5	ug/L	20.0	0.54 U	112	60-139			
1,1,2-Trichloroethane	22		2.5	ug/L	20.0	0.76 U	109	57-141			
1,1-Dichloroethane	23		2.5	ug/L	20.0	0.62 U	115	57-142			
1,1-Dichloroethene	25		2.5	ug/L	20.0	0.94 U	126	47-139			
1,2,4-Trichlorobenzene	24		2.5	ug/L	20.0	0.70 U	122	52-159			
1,2-Dibromo-3-chloropropane	27		2.5	ug/L	20.0	0.96 U	136	48-150			
1,2-Dibromoethane	22		2.5	ug/L	20.0	0.78 U	110	57-140			
1,2-Dichlorobenzene	20		2.5	ug/L	20.0	0.73 U	102	63-131			
1,2-Dichloroethane	22		2.5	ug/L	20.0	0.63 U	112	50-156			
1,2-Dichloropropane	23		2.5	ug/L	20.0	0.80 U	115	61-133			
1,3-Dichlorobenzene	20		2.5	ug/L	20.0	0.77 U	99	66-129			
1,4-Dichlorobenzene	19		2.5	ug/L	20.0	0.76 U	97	65-133			
2-Butanone	140		12	ug/L	100	4.5 U	137	10-180			
2-Hexanone	120		12	ug/L	100	2.5 U	123	12-180			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A26010 - EPA 5030B_MS - Continued

Matrix Spike (1A26010-MS1) Continued Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 09:24

Source: AD08635-03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
4-Methyl-2-pentanone	120		12	ug/L	100	2.5 U	119	19-180			
Acetone	150		25	ug/L	100	10 U	152	10-180			
Benzene	20		2.5	ug/L	20.0	0.71 U	102	56-136			
Bromodichloromethane	22		2.5	ug/L	20.0	0.52 U	110	58-135			
Bromoform	22		2.5	ug/L	20.0	0.75 U	108	46-148			
Bromomethane	22		2.5	ug/L	20.0	0.95 U	108	10-173			
Carbon disulfide	35		12	ug/L	20.0	2.5 U	173	43-153			QM-19
Carbon Tetrachloride	23		2.5	ug/L	20.0	0.94 U	114	54-156			
Chlorobenzene	20		2.5	ug/L	20.0	0.72 U	98	51-139			
Chloroethane	25		2.5	ug/L	20.0	0.98 U	125	27-180			
Chloroform	27		2.5	ug/L	20.0	0.80 U	134	58-139			
Chloromethane	20		2.5	ug/L	20.0	0.82 U	98	33-154			
cis-1,2-Dichloroethene	24		2.5	ug/L	20.0	0.53 U	118	56-128			
cis-1,3-Dichloropropene	22		2.5	ug/L	20.0	0.59 U	111	64-128			
Cyclohexane	27		2.5	ug/L	20.0	0.93 U	134	70-130			QM-19
Dibromochloromethane	21		2.5	ug/L	20.0	0.50 U	107	50-140			
Dichlorodifluoromethane	15		2.5	ug/L	20.0	0.74 U	75	10-180			
Ethylbenzene	20		2.5	ug/L	20.0	0.69 U	98	63-133			
Freon 113	29		2.5	ug/L	20.0	0.73 U	146	47-173			
Isopropylbenzene	20		2.5	ug/L	20.0	0.67 U	100	60-132			
m,p-Xylenes	39		5.0	ug/L	40.0	1.3 U	97	64-133			
Methyl acetate	29		2.5	ug/L	20.0	0.95 U	144	70-130			QM-19
Methyl cyclohexane	23		2.5	ug/L	20.0	0.64 U	114	70-130			
Methylene Chloride	26		12	ug/L	20.0	2.5 U	129	43-142			
Methyl-tert-Butyl Ether	28		2.5	ug/L	20.0	0.60 U	139	51-145			
o-Xylene	19		2.5	ug/L	20.0	0.53 U	97	61-129			
Styrene	20		2.5	ug/L	20.0	0.61 U	98	59-136			
Tetrachloroethene	19		2.5	ug/L	20.0	0.76 U	96	60-147			
Toluene	20		2.5	ug/L	20.0	0.72 U	98	64-131			
trans-1,2-Dichloroethene	26		2.5	ug/L	20.0	0.73 U	130	54-134			
trans-1,3-Dichloropropene	22		2.5	ug/L	20.0	0.73 U	110	65-149			
Trichloroethene	21		2.5	ug/L	20.0	0.89 U	106	62-135			
Trichlorofluoromethane	26		2.5	ug/L	20.0	0.94 U	128	56-155			
Vinyl chloride	25		2.5	ug/L	20.0	0.71 U	125	20-167			
4-Bromofluorobenzene	*50*			*ug/L*	*50.0*		*101*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*112*	*53-146*			
Toluene-d8	*50*			*ug/L*	*50.0*		*101*	*41-146*			

Matrix Spike Dup (1A26010-MSD1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 09:53

Source: AD08635-03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	25		2.5	ug/L	20.0	0.80 U	124	57-148	1	25	
1,1,2,2-Tetrachloroethane	23		2.5	ug/L	20.0	0.54 U	114	60-139	3	17	
1,1,2-Trichloroethane	21		2.5	ug/L	20.0	0.76 U	106	57-141	3	16	
1,1-Dichloroethane	23		2.5	ug/L	20.0	0.62 U	115	57-142	0.2	24	
1,1-Dichloroethene	24		2.5	ug/L	20.0	0.94 U	120	47-139	5	16	
1,2,4-Trichlorobenzene	24		2.5	ug/L	20.0	0.70 U	119	52-159	2	24	
1,2-Dibromo-3-chloropropane	28		2.5	ug/L	20.0	0.96 U	141	48-150	4	21	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A26010 - EPA 5030B_MS - Continued

Matrix Spike Dup (1A26010-MSD1) Continued Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 09:53

Source: AD08635-03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,2-Dibromoethane	22		2.5	ug/L	20.0	0.78 U	110	57-140	0.09	16	
1,2-Dichlorobenzene	20		2.5	ug/L	20.0	0.73 U	100	63-131	2	25	
1,2-Dichloroethane	22		2.5	ug/L	20.0	0.63 U	112	50-156	0.6	18	
1,2-Dichloropropane	23		2.5	ug/L	20.0	0.80 U	113	61-133	2	26	
1,3-Dichlorobenzene	19		2.5	ug/L	20.0	0.77 U	94	66-129	5	23	
1,4-Dichlorobenzene	19		2.5	ug/L	20.0	0.76 U	94	65-133	4	23	
2-Butanone	130		12	ug/L	100	4.5 U	129	10-180	6	29	
2-Hexanone	130		12	ug/L	100	2.5 U	133	12-180	8	28	
4-Methyl-2-pentanone	130		12	ug/L	100	2.5 U	125	19-180	5	24	
Acetone	160		25	ug/L	100	10 U	157	10-180	3	19	
Benzene	20		2.5	ug/L	20.0	0.71 U	101	56-136	0.5	14	
Bromodichloromethane	22		2.5	ug/L	20.0	0.52 U	110	58-135	0.1	19	
Bromoform	21		2.5	ug/L	20.0	0.75 U	107	46-148	0.9	18	
Bromomethane	23		2.5	ug/L	20.0	0.95 U	114	10-173	5	29	
Carbon disulfide	33		12	ug/L	20.0	2.5 U	163	43-153	6	26	QM-19
Carbon Tetrachloride	23		2.5	ug/L	20.0	0.94 U	113	54-156	0.4	27	
Chlorobenzene	19		2.5	ug/L	20.0	0.72 U	95	51-139	3	13	
Chloroethane	25		2.5	ug/L	20.0	0.98 U	125	27-180	0.2	22	
Chloroform	27		2.5	ug/L	20.0	0.80 U	133	58-139	1	17	
Chloromethane	19		2.5	ug/L	20.0	0.82 U	96	33-154	3	31	
cis-1,2-Dichloroethene	23		2.5	ug/L	20.0	0.53 U	115	56-128	2	17	
cis-1,3-Dichloropropene	22		2.5	ug/L	20.0	0.59 U	111	64-128	0.2	20	
Cyclohexane	26		2.5	ug/L	20.0	0.93 U	128	70-130	5	20	
Dibromochloromethane	21		2.5	ug/L	20.0	0.50 U	107	50-140	0.3	18	
Dichlorodifluoromethane	14		2.5	ug/L	20.0	0.74 U	70	10-180	6	26	
Ethylbenzene	19		2.5	ug/L	20.0	0.69 U	95	63-133	3	18	
Freon 113	29		2.5	ug/L	20.0	0.73 U	144	47-173	2	30	
Isopropylbenzene	19		2.5	ug/L	20.0	0.67 U	97	60-132	3	23	
m,p-Xylenes	38		5.0	ug/L	40.0	1.3 U	94	64-133	3	18	
Methyl acetate	31		2.5	ug/L	20.0	0.95 U	155	70-130	7	20	QM-19
Methyl cyclohexane	22		2.5	ug/L	20.0	0.64 U	112	70-130	2	20	
Methylene Chloride	26		12	ug/L	20.0	2.5 U	128	43-142	1	23	
Methyl-tert-Butyl Ether	28		2.5	ug/L	20.0	0.60 U	141	51-145	1	22	
o-Xylene	19		2.5	ug/L	20.0	0.53 U	96	61-129	1	16	
Styrene	19		2.5	ug/L	20.0	0.61 U	97	59-136	2	32	
Tetrachloroethene	18		2.5	ug/L	20.0	0.76 U	92	60-147	4	21	
Toluene	19		2.5	ug/L	20.0	0.72 U	95	64-131	3	16	
trans-1,2-Dichloroethene	26		2.5	ug/L	20.0	0.73 U	128	54-134	2	20	
trans-1,3-Dichloropropene	22		2.5	ug/L	20.0	0.73 U	108	65-149	2	17	
Trichloroethene	21		2.5	ug/L	20.0	0.89 U	106	62-135	0.4	20	
Trichlorofluoromethane	26		2.5	ug/L	20.0	0.94 U	131	56-155	3	22	
Vinyl chloride	24		2.5	ug/L	20.0	0.71 U	120	20-167	4	24	
4-Bromofluorobenzene	*55*			*ug/L*	*50.0*		*109*	*41-142*			
Dibromofluoromethane	*60*			*ug/L*	*50.0*		*121*	*53-146*			
Toluene-d8	*55*			*ug/L*	*50.0*		*109*	*41-146*			

Dissolved Gases by GC - Quality Control

Batch 1A26006 - Same

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Dissolved Gases by GC - Quality Control

Batch 1A26006 - Same - Continued

Blank (1A26006-BLK1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 10:17

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.00510	U	0.00600	mg/L							
Ethene	0.00510	U	0.00600	mg/L							
Methane	0.00400	U	0.00500	mg/L							

LCS (1A26006-BS1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 09:33

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.395		0.00600	mg/L	0.323		122	70-130			
Ethene	0.348		0.00600	mg/L	0.302		115	70-130			
Methane	0.187		0.00500	mg/L	0.172		109	70-130			

LCS Dup (1A26006-BSD1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 09:54

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.401		0.00600	mg/L	0.323		124	70-130	1	30	
Ethene	0.354		0.00600	mg/L	0.302		117	70-130	2	30	
Methane	0.192		0.00500	mg/L	0.172		112	70-130	3	30	

Duplicate (1A26006-DUP1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 12:39

Source: AE00066-09

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.00510	U	0.00600	mg/L		0.00510 U				30	QV-01
Ethene	0.00510	U	0.00600	mg/L		0.00510 U				30	
Methane	0.442		0.00500	mg/L		0.152			98	30	QM-12

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
A-07	Analyte biased low in LCS but detected in the reporting limit standard. Since the analyte in the associated sample was not detected, there is no impact on data quality.
J-01	Result may be biased high due to positive results in the associated method blank at a concentration above the MDL and/or greater than one-half the MRL.
O-01	This compound is a common laboratory contaminant.
QL-02	The associated laboratory control sample exhibited high bias; since the result is ND, there is no impact.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-12	Precision between duplicate samples was outside acceptance limits.
QM-19	The spike recovery was outside acceptance limits for the MS and/or MSD.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.
R-05	The sample was diluted due to the presence of high levels of non-target analytes resulting in elevated reporting limits.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

AE000606

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 2220 | PAGE 1 OF 2

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G08970	KSC- CRCA	Alex Murphy	321-292-0842	ENCO, Kaitlin Dylnicki
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER: Melissa Bennett	PHONE NUMBER: 321-914-9394	ADDRESS
		CARRIER/WAYBILL NUMBER		CITY, STATE: Orlando, FL

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE (YEAR 2021)	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	TYPE OF ANALYSIS: VOC (CONTAINER TYPE: G; PRESERVATIVE USED: HCl)	MEE (CONTAINER TYPE: G; PRESERVATIVE USED: ice)	COMMENTS
1/19	1105	CRCA-MW0030-058.0-20210119	30	53	63	GW	G	3	X		
1/19	1140	CRCA-MW0029-035.0-20210119	29	30	40	GW	G	3	X		
1/19	1220	CRCA-MW0028-058.0-20210119	28	53	63	GW	G	3	X		
1/19	1300	CRCA-MW0027-035.0-20210119	27	30	40	GW	G	3	X		
1/19	1335	CRCA-MW0015-027.5-20210119	15	25	30	GW	G	3	X		
1/19	1430	CRCA-MW0013-027.5-20210119	13	25	30	GW	G	3	X		
1/19	1510	CRCA-MW0012-027.5-20210119	12	25	30	GW	G	3	X		
1/19	1545	CRCA-MW0002-032.5-20210119	2	30	35	GW	G	3	X		
1/20	1215	CRCA-MW0031-058.0-20210120	31	53	63	GW	G	6	X	X	
1/20	1300	CRCA-MW0032-058.0-20210120	32	53	63	GW	G	6	X	X MB	VOC analysis only
1/20	1400	CRCA-MW0018-058.0-20210120	18	53	63	GW	G	6	X	X	
1/20	1600	CRCA-MW0019-058.0-20210120	19	53	63	GW	G	6	X	X	

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	1-21-21	1500	1. RECEIVED BY	1/21/21	1500
2. RELINQUISHED BY	1/21/21	1500	2. RECEIVED BY	1/21/21	1500
3. RELINQUISHED BY	1/21/21		3. RECEIVED BY	1/22/21	1510

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

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4/02R
FORM NO. TtNUS-001

AE000166

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 2222 | PAGE 2 OF 2

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G08970	CRCA	Alex Murphy	321-292-0842	ENCO
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER: Melissa Bennett	PHONE NUMBER: 321-914-9394	ADDRESS
		CARRIER/WAYBILL NUMBER		CITY, STATE: Orlando, FL

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2021	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TYPE OF ANALYSIS: VOC TO-15	COMMENTS
											Summa /	
1/20	1103	CRCA-VMP01-20210120	VMP1	—	—	air	G	1			X	1001-1103
1/20	1106	CRCA-VMP02-20210120	VMP2	—	—	air	G	1			X	1008-1106
1/20	1115	CRCA-VMP03-20210120	VMP3	—	—	air	G	1			X	1014-1115
1/20	1122	CRCA-VMP04-20210120	VMP4	—	—	air	G	1			X	1022-1122
1/20	1703	CRCA-SYSAIR-20210120	SYS	—	-	air	G	1			X	1900-1703

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	1-21-21	1500	1. RECEIVED BY KE	1/21/21	15:10
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY KE	1/21/21	15:10	3. RECEIVED BY	1-21-21	1500
COMMENTS	1-21-21	15 10	James W Gregory	1/21/21	1510

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY) 4/02R FORM NO. TtNUS-001

C-025 4.2°C

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4810 Executive Park Court, Suite 211,Jacksonville, FL 32216
102-A Woodwinds Industrial Ct, Cary, NC 27511

www.enco labs.com

COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

General Information

SITE LOCATION:	KSC- CRCA .
SITE ADDRESS:	Contractor Road
SAMPLER ID:	CRCA- VMPol- 20210120
SAMPLING DATE:	1-20-21
OPERATOR:	Tetra tech / Melissa Bennett
SHIPPING DATE:	1/13/21
CANISTER SERIAL NO.:	1158
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	1A-R-P-14

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	60°F	-14 mmHg	1001	1HR
STOP		-14mmHg	1103	

Signature/Title: [signature] / Env. Engineer

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COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15
CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

2

General Information

SITE LOCATION:	KSC- CBCA
SITE ADDRESS:	Contractor Road
SAMPLER ID:	CBCA – VM002-20210120
SAMPLING DATE:	1-2021
OPERATOR:	Tetra tech / Melissa Bennett
SHIPPING DATE:	113121
CANISTER SERIAL NO.:	15863
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	JAY-R-056

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	60°F	-30mmHg	1008	1HR
STOP		-13mmHg	1106	1HR

Signature/Title: [signature] / Env. Engineer

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COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

3

General Information

SITE LOCATION:	KSC- CRCA
SITE ADDRESS:	Contractor Road
SAMPLER ID:	CRCA- VMP03-20210120
SAMPLING DATE:	1-20-21
OPERATOR:	Tetra tech / Melissa Bennett
SHIPPING DATE:	1/13/21
CANISTER SERIAL NO.:	1S-069
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	1A0-1H-059

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	60°F	-30mmHg	1014	1HR
STOP	60°F	-13 mmHg	1115	1HR

Signature/Title: [signature] / Env. Engineer

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COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

4

General Information

SITE LOCATION:	KSC- CRCA
SITE ADDRESS:	Contractor Road
SAMPLER ID:	CRCA-UMP04-20210120
SAMPLING DATE:	1-20-21
OPERATOR:	Tetra tech / Melissa Bennett
SHIPPING DATE:	1/13/21
CANISTER SERIAL NO.:	05-070
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	JAV-R-04

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	60°F	-30 mm Hg	1022	1 HR
STOP	60°F	-9 mm Hg	1122	1 HR

Signature/Title: [signature] / Env. Engineer

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COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

SYSAIR

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

General Information

SITE LOCATION:	KSC- CRCA ,
SITE ADDRESS:	Contractor Road
SAMPLER ID:	CRCA- SYSAIR-20210120
SAMPLING DATE:	1-20-21
OPERATOR:	Tetra tech / Melissa Bennett
SHIPPING DATE:	1/20/21
CANISTER SERIAL NO.:	18-016
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	10685

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	55°F	-30mm Hg	0900	8 HR
STOP	72°F	0mmHg	1703	8 HR

Signature/Title: [signature] / Env. Engineer

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ENCO Laboratories

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10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Thursday, January 28, 2021
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AE00066

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Thursday, January 21, 2021.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

www.encolabs.com

Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Client PM: Alex Murphy
Project Number: 112G08970
ENCO Project ID: AE00066
SDG: AE00066-TE016

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling and processing will be discussed in the Remarks section below.

Remarks

List of instruments used:

Analytical and Preparation Method	SOP Reference Instrument
EPA 8260D / 5030B_MS	OVGCMS2, OVGCMS5
TO-15	OVGCMS7
RSK-175	OVGCFID2

Analysis: EPA 8260D

Manual integrations were performed on samples associated with EPA 8260D. All data & explanations are included in the raw data section of the report.

Affected Samples: 1A25020-BS1, CRCA-MW0030-058.0-20210119[AE00066-01], CRCA-MW0029-035.0-20210119[AE00066-02], CRCA-MW0028-058.0-20210119[AE00066-03], CRCA-MW0027-035.0-20210119[AE00066-04], CRCA-MW0015-027.5-20210119[AE00066-05], CRCA-MW0013-027.5-20210119[AE00066-06], CRCA-MW0012-027.5-20210119[AE00066-07], CRCA-MW0002-032.5-20210119[AE00066-08], CRCA-MW0031-058.0-20210120[AE00066-09], CRCA-MW0032-058.0-20210120[AE00066-10], CRCA-MW0019-058.0-20210120[AE00066-12]
The associated laboratory control sample exhibited low bias for methyl acetate; the associated sample had ND (non-detect) results, but sensitivity was verified by analyzing a standard with a concentration equivalent to the reporting limit.

Affected Samples: CRCA-MW0032-058.0-20210120[AE00066-10], 1A25020-MS1, 1A25020-MSD1
Matrix spike recovery was outside acceptance limits for m,p-xylenes, methyl acetate, and/or styrene.

Affected Samples: 1A26010-BS1, CRCA-MW0018-058.0-20210120[AE00066-11RE1]
The associated laboratory control sample for multiple analytes exhibited high bias. Analyte(s) not detected in the sample.

Affected Samples: AA64658-CCV1, CRCA-MW0018-058.0-20210120[AE00066-11RE1]
The associated calibration verification standard for methyl acetate exhibited high bias. Analyte(s) not detected in the sample

Affected Samples: CRCA-MW0018-058.0-20210120[AE00066-11]
Sample was analyzed at a dilution due to suspected matrix interference.

Affected Samples: CRCA-MW0018-058.0-20210120[AE00066-11]
Initial analysis was over diluted. Sample was reanalyzed at a lower dilution.

Affected Samples: 1A26010-MS1, 1A26010-MSD1
Matrix spike recovery was outside acceptance limits for carbon disulfide, cyclohexane, and/or methyl acetate.

Analysis: EPA 8260D

Affected Samples: AA64632-CCV1, AA64658-CCV1
The continuing calibration verification standard exhibited low bias for multiple analytes; the associated sample had ND (non-detect) results, but sensitivity was verified by analyzing a standard with a concentration equivalent to the reporting limit.

Analysis: TO-15

The calibration curve and the continuing calibration standards are in ppbv. Raw data is reported in pptv. Per request, results may be reported in a unit other than ppbv which is obtained through a conversion factor set up in the laboratories' database.

Methylene chloride is a common laboratory contaminant.

Affected Samples: 1A25023-BLK1, CRCA-VMP01-20210120[AE00066-13RE1], CRCA-VMP02-20210120[AE00066-14], CRCA-VMP03-20210120[AE00066-15RE1], CRCA-SYSAIR-20210120[AE00066-17]
Result for methylene chloride may be biased high due to positive results in the associated method blank.

Affected Samples: CRCA-VMP01-20210120[AE00066-13], CRCA-VMP03-20210120[AE00066-15], CRCA-VMP04-20210120[AE00066-16]
Sample was analyzed at a dilution due to suspected matrix interference.

Affected Samples: CRCA-VMP01-20210120[AE00066-13], CRCA-VMP03-20210120[AE00066-15], CRCA-VMP04-20210120[AE00066-16],
Initial analysis was over diluted. Sample was reanalyzed at a lower dilution.

Affected Samples: CRCA-VMP04-20210120[AE00066-16RE1]
Sample was analyzed at a dilution due to the presence of high non-target analytes.

Affected Samples: AA64317-SCV1
SCV recovery for trans-1,3-dichloropropene was outside acceptance limits. Analyte was not detected in the samples.

Analysis: RSK-175

Manual integrations were performed on samples associated with RSK-175. All data & explanations are included in the raw data section of the report.

Affected Samples: CRCA-MW0031-058.0-20210120[AE00066-09],
CRCA-MW0018-058.0-20210120[AE00066-11], CRCA-MW0019-058.0-20210120[AE00066-12]
The associated calibration verification standard for ethane exhibited high bias. Analyte(s) not detected in the sample.

Affected Samples: CRCA-MW0031-058.0-20210120[AE00066-09], 1A26006-DUP1
Precision between duplicate samples was outside acceptance limits for methane.

Affected Samples: AA64653-CCV2, CRCA-MW0018-058.0-20210120[AE00066-11]
Initial result for methane was above the calibration range of the instrument. Sample was reanalyzed at a dilution.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Kaitlin Dylnicki
Project Manager

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-MW0030-058.0-20210119 **Lab ID: AE00066-01** **Sampled: 01/19/21 11:05** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 12:17

Client ID: CRCA-MW0029-035.0-20210119 **Lab ID: AE00066-02** **Sampled: 01/19/21 11:40** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 12:46

Client ID: CRCA-MW0028-058.0-20210119 **Lab ID: AE00066-03** **Sampled: 01/19/21 12:20** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 13:15

Client ID: CRCA-MW0027-035.0-20210119 **Lab ID: AE00066-04** **Sampled: 01/19/21 13:00** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 13:45

Client ID: CRCA-MW0015-027.5-20210119 **Lab ID: AE00066-05** **Sampled: 01/19/21 13:35** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 14:14

Client ID: CRCA-MW0013-027.5-20210119 **Lab ID: AE00066-06** **Sampled: 01/19/21 14:30** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 14:44

Client ID: CRCA-MW0012-027.5-20210119 **Lab ID: AE00066-07** **Sampled: 01/19/21 15:10** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 15:13

Client ID: CRCA-MW0002-032.5-20210119 **Lab ID: AE00066-08** **Sampled: 01/19/21 15:45** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 15:43

Client ID: CRCA-MW0031-058.0-20210120 **Lab ID: AE00066-09** **Sampled: 01/20/21 12:15** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/03/21	01/25/21 00:00	01/25/21 16:12
RSK 175	Same	02/03/21	01/26/21 00:00	01/26/21 11:20

Client ID: CRCA-MW0032-058.0-20210120 **Lab ID: AE00066-10** **Sampled: 01/20/21 13:00** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/03/21	01/25/21 00:00	01/25/21 11:47

Client ID: CRCA-MW0018-058.0-20210120 **Lab ID: AE00066-11** **Sampled: 01/20/21 14:00** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	02/03/21	01/26/21 00:00	01/26/21 11:36

Client ID: CRCA-MW0018-058.0-20210120 **Lab ID: AE00066-11RE1** **Sampled: 01/20/21 14:00** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/03/21	01/26/21 00:00	01/26/21 15:52
RSK 175	Same	02/03/21	01/26/21 00:00	01/26/21 12:16

Client ID: CRCA-MW0019-058.0-20210120 **Lab ID: AE00066-12** **Sampled: 01/20/21 16:00** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/03/21	01/25/21 00:00	01/25/21 17:11
RSK 175	Same	02/03/21	01/26/21 00:00	01/26/21 11:52

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-VMP01-20210120 **Lab ID: AE00066-13RE1** **Sampled: 01/20/21 11:03** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	02/19/21	01/25/21 09:00	01/25/21 10:36

Client ID: CRCA-VMP02-20210120 **Lab ID: AE00066-14** **Sampled: 01/20/21 11:06** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	02/19/21	01/25/21 09:00	01/25/21 11:18

Client ID: CRCA-VMP03-20210120 **Lab ID: AE00066-15RE1** **Sampled: 01/20/21 11:15** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	02/19/21	01/25/21 09:00	01/25/21 14:06

Client ID: CRCA-VMP04-20210120 **Lab ID: AE00066-16RE1** **Sampled: 01/20/21 11:22** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	02/19/21	01/25/21 09:00	01/25/21 14:47

Client ID: CRCA-SYSAIR-20210120 **Lab ID: AE00066-17** **Sampled: 01/20/21 17:03** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	02/19/21	01/25/21 09:00	01/25/21 13:21

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-MW0027-035.0-20210119 **Lab ID:** AE00066-04

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	7.0		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0013-027.5-20210119 **Lab ID:** AE00066-06

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	2.1	I	0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0002-032.5-20210119 **Lab ID:** AE00066-08

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	3.1		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0031-058.0-20210120 **Lab ID:** AE00066-09

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	0.152		0.00400	0.00500	mg/L	RSK 175	QM-12
Vinyl chloride	29		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0018-058.0-20210120 **Lab ID:** AE00066-11

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethene	0.0216		0.00510	0.00600	mg/L	RSK 175	

Client ID: CRCA-MW0018-058.0-20210120 **Lab ID:** AE00066-11RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	2.09		0.0400	0.0500	mg/L	RSK 175	
Vinyl chloride	97		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0019-058.0-20210120 **Lab ID:** AE00066-12

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	0.510		0.00400	0.00500	mg/L	RSK 175	
Vinyl chloride	2.8		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-VMP01-20210120 **Lab ID:** AE00066-13RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	5.9		0.47	3.4	ppbv	TO-15	
Freon 113	3.9		0.43	3.4	ppbv	TO-15	
Methylene chloride	0.75	IV	0.27	3.4	ppbv	TO-15	J-01, O-01

Client ID: CRCA-VMP02-20210120 **Lab ID:** AE00066-14

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	3.5	I	0.94	6.8	ppbv	TO-15	
Freon 113	120		0.86	6.8	ppbv	TO-15	
Methylene chloride	0.97	IV	0.54	6.8	ppbv	TO-15	J-01, O-01
trans-1,2-Dichloroethene	5.5	I	0.86	6.8	ppbv	TO-15	

Client ID: CRCA-VMP03-20210120 **Lab ID:** AE00066-15RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	4.1		0.56	4.0	ppbv	TO-15	
Chloroform	1.9	I	0.60	4.0	ppbv	TO-15	
Freon 113	8.1		0.51	4.0	ppbv	TO-15	
Methylene chloride	1.1	IV	0.32	4.0	ppbv	TO-15	J-01, O-01

Client ID: CRCA-VMP04-20210120 **Lab ID:** AE00066-16RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	31		0.98	7.0	ppbv	TO-15	
Freon 113	34		0.90	7.0	ppbv	TO-15	
Methylene chloride	1.1	IV	0.56	7.0	ppbv	TO-15	J-01, O-01, R-05

Client ID: CRCA-SYSAIR-20210120 **Lab ID:** AE00066-17

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	2.6	I	0.46	3.3	ppbv	TO-15	
Methylene chloride	0.99	IV	0.26	3.3	ppbv	TO-15	J-01, O-01
trans-1,2-Dichloroethene	0.96	I	0.42	3.3	ppbv	TO-15	

ANALYTICAL RESULTS

Description: CRCA-MW0030-058.0-20210119 **Lab Sample ID:** AE00066-01 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 11:05 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 12:17	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:17	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0030-058.0-20210119 **Lab Sample ID:** AE00066-01 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 11:05 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 12:17	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*106 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 12:17*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*115 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 12:17*	*KKW*	
Toluene-d8	*48*	*1*	*50.0*	*97 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 12:17*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0029-035.0-20210119 **Lab Sample ID:** AE00066-02 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 11:40 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 12:46	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:46	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0029-035.0-20210119 **Lab Sample ID:** AE00066-02 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 11:40 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 12:46	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*107 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 12:46*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*114 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 12:46*	*KKW*	
Toluene-d8	*48*	*1*	*50.0*	*96 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 12:46*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0028-058.0-20210119 **Lab Sample ID:** AE00066-03 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 12:20 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 13:15	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:15	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0028-058.0-20210119 **Lab Sample ID:** AE00066-03 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 12:20 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 13:15	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*105 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 13:15*	*KKW*	
Dibromofluoromethane	*56*	*1*	*50.0*	*111 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 13:15*	*KKW*	
Toluene-d8	*48*	*1*	*50.0*	*95 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 13:15*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0027-035.0-20210119 **Lab Sample ID:** AE00066-04 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 13:45	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:45	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0027-035.0-20210119 **Lab Sample ID:** AE00066-04 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Vinyl chloride [75-01-4]^	**7.0**		ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 13:45	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*52*	*1*	*50.0*	*104 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 13:45*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*115 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 13:45*	*KKW*	
Toluene-d8	*46*	*1*	*50.0*	*93 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 13:45*	*KKW*	

ANALYTICAL RESULTS

Description: CRCA-MW0015-027.5-20210119 **Lab Sample ID:** AE00066-05 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:35 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 14:14	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:14	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0015-027.5-20210119 **Lab Sample ID:** AE00066-05 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:35 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 14:14	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*54*	*1*	*50.0*	*108 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 14:14*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*114 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 14:14*	*KKW*	
Toluene-d8	*47*	*1*	*50.0*	*94 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 14:14*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0013-027.5-20210119 **Lab Sample ID:** AE00066-06 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 14:30 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 14:44	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:44	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0013-027.5-20210119 **Lab Sample ID:** AE00066-06 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 14:30 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Vinyl chloride [75-01-4]^	**2.1**	I	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 14:44	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*55*	*1*	*50.0*	*109 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 14:44*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*114 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 14:44*	*KKW*	
Toluene-d8	*48*	*1*	*50.0*	*96 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 14:44*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0012-027.5-20210119 **Lab Sample ID:** AE00066-07 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 15:10 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 15:13	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:13	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0012-027.5-20210119 **Lab Sample ID:** AE00066-07 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 15:10 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 15:13	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*54*	*1*	*50.0*	*109 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 15:13*	*KKW*	
Dibromofluoromethane	*59*	*1*	*50.0*	*118 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 15:13*	*KKW*	
Toluene-d8	*48*	*1*	*50.0*	*96 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 15:13*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0002-032.5-20210119 **Lab Sample ID:** AE00066-08 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 15:45 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 15:43	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:43	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	

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ANALYTICAL RESULTS

Description: CRCA-MW0002-032.5-20210119 **Lab Sample ID:** AE00066-08 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 15:45 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Vinyl chloride [75-01-4]^	**3.1**		ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 15:43	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*55*	*1*	*50.0*	*109 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 15:43*	*KKW*	
Dibromofluoromethane	*56*	*1*	*50.0*	*113 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 15:43*	*KKW*	
Toluene-d8	*49*	*1*	*50.0*	*97 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 15:43*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0031-058.0-20210120 **Lab Sample ID:** AE00066-09 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 12:15 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 16:12	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 16:12	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0031-058.0-20210120 **Lab Sample ID:** AE00066-09 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 12:15 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Vinyl chloride [75-01-4]^	**29**		ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 16:12	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*52*	*1*	*50.0*	*105 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 16:12*	*KKW*	
Dibromofluoromethane	*59*	*1*	*50.0*	*118 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 16:12*	*KKW*	
Toluene-d8	*47*	*1*	*50.0*	*93 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 16:12*	*KKW*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1A26006	RSK 175	01/26/21 11:20	JMW	QV-01
Ethene [74-85-1]^	0.00510	U	mg/L	1	0.00510	0.00600	1A26006	RSK 175	01/26/21 11:20	JMW	
Methane [74-82-8]^	**0.152**		mg/L	1	0.00400	0.00500	1A26006	RSK 175	01/26/21 11:20	JMW	QM-12

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0032-058.0-20210120 **Lab Sample ID:** AE00066-10 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 13:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 11:47	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 11:47	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 11:47	KKW	QM-07
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	A-07, QM-19
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	QM-07
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	

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ANALYTICAL RESULTS

Description: CRCA-MW0032-058.0-20210120 **Lab Sample ID:** AE00066-10 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 13:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 11:47	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*106 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 11:47*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*114 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 11:47*	*KKW*	
Toluene-d8	*47*	*1*	*50.0*	*94 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 11:47*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0018-058.0-20210120 **Lab Sample ID:** AE00066-11 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 14:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A26010	EPA 8260D	01/26/21 15:52	KG	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A26010	EPA 8260D	01/26/21 15:52	KG	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A26010	EPA 8260D	01/26/21 15:52	KG	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A26010	EPA 8260D	01/26/21 15:52	KG	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A26010	EPA 8260D	01/26/21 15:52	KG	QL-02
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	QL-02
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	QL-02
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A26010	EPA 8260D	01/26/21 15:52	KG	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	QL-02, QV-01
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A26010	EPA 8260D	01/26/21 15:52	KG	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	QL-02
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0018-058.0-20210120 **Lab Sample ID:** AE00066-11 **Received:** 01/21/21 15:10
Matrix: Ground Water **Sampled:** 01/20/21 14:00 **Work Order:** AE00066
Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Vinyl chloride [75-01-4]^	**97**		ug/L	1	0.71	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A26010	EPA 8260D	01/26/21 15:52	KG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*54*	*1*	*50.0*	*108 %*	*41-142*	*1A26010*	*EPA 8260D*	*01/26/21 15:52*	*KG*	
Dibromofluoromethane	*55*	*1*	*50.0*	*110 %*	*53-146*	*1A26010*	*EPA 8260D*	*01/26/21 15:52*	*KG*	
Toluene-d8	*55*	*1*	*50.0*	*109 %*	*41-146*	*1A26010*	*EPA 8260D*	*01/26/21 15:52*	*KG*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1A26006	RSK 175	01/26/21 11:36	JMW	QV-01
Ethene [74-85-1]^	**0.0216**		mg/L	1	0.00510	0.00600	1A26006	RSK 175	01/26/21 11:36	JMW	
Methane [74-82-8]^	**2.09**		mg/L	10	0.0400	0.0500	1A26006	RSK 175	01/26/21 12:16	JMW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0019-058.0-20210120 **Lab Sample ID:** AE00066-12 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 16:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 17:11	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:11	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0019-058.0-20210120 **Lab Sample ID:** AE00066-12 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 16:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Vinyl chloride [75-01-4]^	**2.8**		ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 17:11	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*55*	*1*	*50.0*	*110 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 17:11*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*113 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 17:11*	*KKW*	
Toluene-d8	*47*	*1*	*50.0*	*95 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 17:11*	*KKW*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1A26006	RSK 175	01/26/21 11:52	JMW	QV-01
Ethene [74-85-1]^	0.00510	U	mg/L	1	0.00510	0.00600	1A26006	RSK 175	01/26/21 11:52	JMW	
Methane [74-82-8]^	**0.510**		mg/L	1	0.00400	0.00500	1A26006	RSK 175	01/26/21 11:52	JMW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-VMP01-20210120 | **Lab Sample ID:** AE00066-13 | **Received:** 01/21/21 15:10

Matrix: Air | **Sampled:** 01/20/21 11:03 | **Work Order:** AE00066

Project: NASA KSC CRCA | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.46	U	ppbv	1.34	0.46	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.48	U	ppbv	1.34	0.48	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.47	U	ppbv	1.34	0.47	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,1-Dichloroethane [75-34-3]^	0.48	U	ppbv	1.34	0.48	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,1-Dichloroethene [75-35-4]^	0.51	U	ppbv	1.34	0.51	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,2-Dibromoethane [106-93-4]^	0.48	U	ppbv	1.34	0.48	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.36	U	ppbv	1.34	0.36	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,2-Dichloroethane [107-06-2]^	0.50	U	ppbv	1.34	0.50	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,2-Dichloropropane [78-87-5]^	0.54	U	ppbv	1.34	0.54	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.38	U	ppbv	1.34	0.38	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.42	U	ppbv	1.34	0.42	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
3-Chloropropene [107-05-1]^	0.52	U	ppbv	1.34	0.52	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Acetone [67-64-1]^	**5.9**		ppbv	1.34	0.47	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Bromodichloromethane [75-27-4]^	0.46	U	ppbv	1.34	0.46	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Bromoethene [593-60-2]^	0.44	U	ppbv	1.34	0.44	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Bromoform [75-25-2]^	0.51	U	ppbv	1.34	0.51	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Bromomethane [74-83-9]^	0.44	U	ppbv	1.34	0.44	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Carbon tetrachloride [56-23-5]^	0.36	U	ppbv	1.34	0.36	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Chlorobenzene [108-90-7]^	0.44	U	ppbv	1.34	0.44	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Chloroethane [75-00-3]^	0.43	U	ppbv	1.34	0.43	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Chloroform [67-66-3]^	0.51	U	ppbv	1.34	0.51	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Chloromethane [74-87-3]^	0.64	U	ppbv	1.34	0.64	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
cis-1,2-Dichloroethene [156-59-2]^	0.51	U	ppbv	1.34	0.51	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	0.51	U	ppbv	1.34	0.51	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Dibromochloromethane [124-48-1]^	0.44	U	ppbv	1.34	0.44	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ppbv	1.34	0.74	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Freon 113 [76-13-1]^	**3.9**		ppbv	1.34	0.43	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Freon 114 [76-14-2]^	0.70	U	ppbv	1.34	0.70	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Hexachlorobutadiene [87-68-3]^	0.50	U	ppbv	1.34	0.50	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Methylene chloride [75-09-2]^	**0.75**	IV	ppbv	1.34	0.27	3.4	1A25023	TO-15	01/25/21 10:36	rgg	J-01, O-01
Propene [115-07-1]^	0.74	U	ppbv	1.34	0.74	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Tetrachloroethene [127-18-4]^	0.42	U	ppbv	1.34	0.42	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
trans-1,2-Dichloroethene [156-60-5]^	0.43	U	ppbv	1.34	0.43	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.46	U	ppbv	1.34	0.46	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Trichloroethene [79-01-6]^	0.47	U	ppbv	1.34	0.47	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Trichlorofluoromethane [75-69-4]^	0.46	U	ppbv	1.34	0.46	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Vinyl chloride [75-01-4]^	0.75	U	ppbv	1.34	0.75	3.4	1A25023	TO-15	01/25/21 10:36	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*28*	*1*	*31.0*	*90 %*	*70-130*	*1A25023*	*TO-15*	*01/25/21 10:36*	*rgg*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-VMP02-20210120 | **Lab Sample ID:** AE00066-14 | **Received:** 01/21/21 15:10

Matrix: Air | **Sampled:** 01/20/21 11:06 | **Work Order:** AE00066

Project: NASA KSC CRCA | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.92	U	ppbv	1.35	0.92	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.97	U	ppbv	1.35	0.97	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.94	U	ppbv	1.35	0.94	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,1-Dichloroethane [75-34-3]^	0.97	U	ppbv	1.35	0.97	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,1-Dichloroethene [75-35-4]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,2-Dibromoethane [106-93-4]^	0.97	U	ppbv	1.35	0.97	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ppbv	1.35	0.73	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,2-Dichloroethane [107-06-2]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,2-Dichloropropane [78-87-5]^	1.1	U	ppbv	1.35	1.1	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.76	U	ppbv	1.35	0.76	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.84	U	ppbv	1.35	0.84	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
3-Chloropropene [107-05-1]^	1.1	U	ppbv	1.35	1.1	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Acetone [67-64-1]^	**3.5**	I	ppbv	1.35	0.94	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Bromodichloromethane [75-27-4]^	0.92	U	ppbv	1.35	0.92	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Bromoethene [593-60-2]^	0.89	U	ppbv	1.35	0.89	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Bromoform [75-25-2]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Bromomethane [74-83-9]^	0.89	U	ppbv	1.35	0.89	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Carbon tetrachloride [56-23-5]^	0.73	U	ppbv	1.35	0.73	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Chlorobenzene [108-90-7]^	0.89	U	ppbv	1.35	0.89	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Chloroethane [75-00-3]^	0.86	U	ppbv	1.35	0.86	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Chloroform [67-66-3]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Chloromethane [74-87-3]^	1.3	U	ppbv	1.35	1.3	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
cis-1,2-Dichloroethene [156-59-2]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Dibromochloromethane [124-48-1]^	0.89	U	ppbv	1.35	0.89	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Dichlorodifluoromethane [75-71-8]^	1.5	U	ppbv	1.35	1.5	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Freon 113 [76-13-1]^	**120**		ppbv	1.35	0.86	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Freon 114 [76-14-2]^	1.4	U	ppbv	1.35	1.4	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Hexachlorobutadiene [87-68-3]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Methylene chloride [75-09-2]^	**0.97**	IV	ppbv	1.35	0.54	6.8	1A25023	TO-15	01/25/21 11:18	rgg	J-01, O-01
Propene [115-07-1]^	1.5	U	ppbv	1.35	1.5	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Tetrachloroethene [127-18-4]^	0.84	U	ppbv	1.35	0.84	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
trans-1,2-Dichloroethene [156-60-5]^	**5.5**	I	ppbv	1.35	0.86	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.92	U	ppbv	1.35	0.92	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Trichloroethene [79-01-6]^	0.94	U	ppbv	1.35	0.94	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Trichlorofluoromethane [75-69-4]^	0.92	U	ppbv	1.35	0.92	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Vinyl chloride [75-01-4]^	1.5	U	ppbv	1.35	1.5	6.8	1A25023	TO-15	01/25/21 11:18	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*27*	*1*	*31.0*	*87 %*	*70-130*	*1A25023*	*TO-15*	*01/25/21 11:18*	*rgg*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-VMP03-20210120 | **Lab Sample ID:** AE00066-15 | **Received:** 01/21/21 15:10

Matrix: Air | **Sampled:** 01/20/21 11:15 | **Work Order:** AE00066

Project: NASA KSC CRCA | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.54	U	ppbv	1.59	0.54	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.57	U	ppbv	1.59	0.57	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.56	U	ppbv	1.59	0.56	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,1-Dichloroethane [75-34-3]^	0.57	U	ppbv	1.59	0.57	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,1-Dichloroethene [75-35-4]^	0.60	U	ppbv	1.59	0.60	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,2-Dibromoethane [106-93-4]^	0.57	U	ppbv	1.59	0.57	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.43	U	ppbv	1.59	0.43	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,2-Dichloroethane [107-06-2]^	0.59	U	ppbv	1.59	0.59	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,2-Dichloropropane [78-87-5]^	0.64	U	ppbv	1.59	0.64	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.45	U	ppbv	1.59	0.45	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.49	U	ppbv	1.59	0.49	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
3-Chloropropene [107-05-1]^	0.62	U	ppbv	1.59	0.62	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Acetone [67-64-1]^	**4.1**		ppbv	1.59	0.56	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Bromodichloromethane [75-27-4]^	0.54	U	ppbv	1.59	0.54	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Bromoethene [593-60-2]^	0.52	U	ppbv	1.59	0.52	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Bromoform [75-25-2]^	0.60	U	ppbv	1.59	0.60	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Bromomethane [74-83-9]^	0.52	U	ppbv	1.59	0.52	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Carbon tetrachloride [56-23-5]^	0.43	U	ppbv	1.59	0.43	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Chlorobenzene [108-90-7]^	0.52	U	ppbv	1.59	0.52	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Chloroethane [75-00-3]^	0.51	U	ppbv	1.59	0.51	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Chloroform [67-66-3]^	**1.9**	I	ppbv	1.59	0.60	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Chloromethane [74-87-3]^	0.76	U	ppbv	1.59	0.76	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
cis-1,2-Dichloroethene [156-59-2]^	0.60	U	ppbv	1.59	0.60	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	0.60	U	ppbv	1.59	0.60	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Dibromochloromethane [124-48-1]^	0.52	U	ppbv	1.59	0.52	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Dichlorodifluoromethane [75-71-8]^	0.87	U	ppbv	1.59	0.87	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Freon 113 [76-13-1]^	**8.1**		ppbv	1.59	0.51	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Freon 114 [76-14-2]^	0.83	U	ppbv	1.59	0.83	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Hexachlorobutadiene [87-68-3]^	0.59	U	ppbv	1.59	0.59	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Methylene chloride [75-09-2]^	**1.1**	IV	ppbv	1.59	0.32	4.0	1A25023	TO-15	01/25/21 14:06	rgg	J-01, O-01
Propene [115-07-1]^	0.87	U	ppbv	1.59	0.87	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Tetrachloroethene [127-18-4]^	0.49	U	ppbv	1.59	0.49	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
trans-1,2-Dichloroethene [156-60-5]^	0.51	U	ppbv	1.59	0.51	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.54	U	ppbv	1.59	0.54	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Trichloroethene [79-01-6]^	0.56	U	ppbv	1.59	0.56	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Trichlorofluoromethane [75-69-4]^	0.54	U	ppbv	1.59	0.54	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Vinyl chloride [75-01-4]^	0.89	U	ppbv	1.59	0.89	4.0	1A25023	TO-15	01/25/21 14:06	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*27*	*1*	*31.0*	*88 %*	*70-130*	*1A25023*	*TO-15*	*01/25/21 14:06*	*rgg*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-VMP04-20210120 | **Lab Sample ID:** AE00066-16 | **Received:** 01/21/21 15:10

Matrix: Air | **Sampled:** 01/20/21 11:22 | **Work Order:** AE00066

Project: NASA KSC CRCA | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.95	U	ppbv	1.4	0.95	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,1,2,2-Tetrachloroethane [79-34-5]^	1.0	U	ppbv	1.4	1.0	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,1,2-Trichloroethane [79-00-5]^	0.98	U	ppbv	1.4	0.98	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,1-Dichloroethane [75-34-3]^	1.0	U	ppbv	1.4	1.0	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,1-Dichloroethene [75-35-4]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,2-Dibromoethane [106-93-4]^	1.0	U	ppbv	1.4	1.0	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,2-Dichlorobenzene [95-50-1]^	0.76	U	ppbv	1.4	0.76	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,2-Dichloroethane [107-06-2]^	1.0	U	ppbv	1.4	1.0	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,2-Dichloropropane [78-87-5]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,3-Dichlorobenzene [541-73-1]^	0.78	U	ppbv	1.4	0.78	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,4-Dichlorobenzene [106-46-7]^	0.87	U	ppbv	1.4	0.87	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
3-Chloropropene [107-05-1]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Acetone [67-64-1]^	**31**		ppbv	1.4	0.98	7.0	1A25023	TO-15	01/25/21 14:47	rgg	
Bromodichloromethane [75-27-4]^	0.95	U	ppbv	1.4	0.95	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Bromoethene [593-60-2]^	0.92	U	ppbv	1.4	0.92	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Bromoform [75-25-2]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Bromomethane [74-83-9]^	0.92	U	ppbv	1.4	0.92	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Carbon tetrachloride [56-23-5]^	0.76	U	ppbv	1.4	0.76	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Chlorobenzene [108-90-7]^	0.92	U	ppbv	1.4	0.92	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Chloroethane [75-00-3]^	0.90	U	ppbv	1.4	0.90	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Chloroform [67-66-3]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Chloromethane [74-87-3]^	1.3	U	ppbv	1.4	1.3	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
cis-1,2-Dichloroethene [156-59-2]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
cis-1,3-Dichloropropene [10061-01-5]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Dibromochloromethane [124-48-1]^	0.92	U	ppbv	1.4	0.92	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Dichlorodifluoromethane [75-71-8]^	1.5	U	ppbv	1.4	1.5	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Freon 113 [76-13-1]^	**34**		ppbv	1.4	0.90	7.0	1A25023	TO-15	01/25/21 14:47	rgg	
Freon 114 [76-14-2]^	1.5	U	ppbv	1.4	1.5	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Hexachlorobutadiene [87-68-3]^	1.0	U	ppbv	1.4	1.0	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Methylene chloride [75-09-2]^	**1.1**	IV	ppbv	1.4	0.56	7.0	1A25023	TO-15	01/25/21 14:47	rgg	J-01, O-01, R-05
Propene [115-07-1]^	1.5	U	ppbv	1.4	1.5	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Tetrachloroethene [127-18-4]^	0.87	U	ppbv	1.4	0.87	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
trans-1,2-Dichloroethene [156-60-5]^	0.90	U	ppbv	1.4	0.90	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
trans-1,3-Dichloropropene [10061-02-6]^	0.95	U	ppbv	1.4	0.95	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Trichloroethene [79-01-6]^	0.98	U	ppbv	1.4	0.98	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Trichlorofluoromethane [75-69-4]^	0.95	U	ppbv	1.4	0.95	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Vinyl chloride [75-01-4]^	1.6	U	ppbv	1.4	1.6	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*28*	*1*	*31.0*	*89 %*	*70-130*	*1A25023*	*TO-15*	*01/25/21 14:47*	*rgg*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-SYSAIR-20210120 | **Lab Sample ID:** AE00066-17 | **Received:** 01/21/21 15:10

Matrix: Air | **Sampled:** 01/20/21 17:03 | **Work Order:** AE00066

Project: NASA KSC CRCA | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.45	U	ppbv	1.32	0.45	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.48	U	ppbv	1.32	0.48	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.46	U	ppbv	1.32	0.46	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,1-Dichloroethane [75-34-3]^	0.48	U	ppbv	1.32	0.48	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,1-Dichloroethene [75-35-4]^	0.50	U	ppbv	1.32	0.50	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,2-Dibromoethane [106-93-4]^	0.48	U	ppbv	1.32	0.48	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.36	U	ppbv	1.32	0.36	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,2-Dichloroethane [107-06-2]^	0.49	U	ppbv	1.32	0.49	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,2-Dichloropropane [78-87-5]^	0.53	U	ppbv	1.32	0.53	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.37	U	ppbv	1.32	0.37	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.41	U	ppbv	1.32	0.41	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
3-Chloropropene [107-05-1]^	0.51	U	ppbv	1.32	0.51	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Acetone [67-64-1]^	**2.6**	I	ppbv	1.32	0.46	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Bromodichloromethane [75-27-4]^	0.45	U	ppbv	1.32	0.45	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Bromoethene [593-60-2]^	0.44	U	ppbv	1.32	0.44	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Bromoform [75-25-2]^	0.50	U	ppbv	1.32	0.50	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Bromomethane [74-83-9]^	0.44	U	ppbv	1.32	0.44	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Carbon tetrachloride [56-23-5]^	0.36	U	ppbv	1.32	0.36	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Chlorobenzene [108-90-7]^	0.44	U	ppbv	1.32	0.44	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Chloroethane [75-00-3]^	0.42	U	ppbv	1.32	0.42	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Chloroform [67-66-3]^	0.50	U	ppbv	1.32	0.50	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Chloromethane [74-87-3]^	0.63	U	ppbv	1.32	0.63	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
cis-1,2-Dichloroethene [156-59-2]^	0.50	U	ppbv	1.32	0.50	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	0.50	U	ppbv	1.32	0.50	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Dibromochloromethane [124-48-1]^	0.44	U	ppbv	1.32	0.44	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Dichlorodifluoromethane [75-71-8]^	0.73	U	ppbv	1.32	0.73	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Freon 113 [76-13-1]^	0.42	U	ppbv	1.32	0.42	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Freon 114 [76-14-2]^	0.69	U	ppbv	1.32	0.69	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Hexachlorobutadiene [87-68-3]^	0.49	U	ppbv	1.32	0.49	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Methylene chloride [75-09-2]^	**0.99**	IV	ppbv	1.32	0.26	3.3	1A25023	TO-15	01/25/21 13:21	rgg	J-01, O-01
Propene [115-07-1]^	0.73	U	ppbv	1.32	0.73	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Tetrachloroethene [127-18-4]^	0.41	U	ppbv	1.32	0.41	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
trans-1,2-Dichloroethene [156-60-5]^	**0.96**	I	ppbv	1.32	0.42	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.45	U	ppbv	1.32	0.45	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Trichloroethene [79-01-6]^	0.46	U	ppbv	1.32	0.46	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Trichlorofluoromethane [75-69-4]^	0.45	U	ppbv	1.32	0.45	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Vinyl chloride [75-01-4]^	0.74	U	ppbv	1.32	0.74	3.3	1A25023	TO-15	01/25/21 13:21	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*28*	*1*	*31.0*	*89 %*	*70-130*	*1A25023*	*TO-15*	*01/25/21 13:21*	*rgg*	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS

Blank (1A25020-BLK1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 10:19

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

Blank (1A25020-BLK1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 10:19

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*54*			*ug/L*	*50.0*		*109*	*41-142*			
Dibromofluoromethane	*55*			*ug/L*	*50.0*		*111*	*53-146*			
Toluene-d8	*48*	*I*		*ug/L*	*50.0*		*96*	*41-146*			

LCS (1A25020-BS1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 09:20

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	19		2.5	ug/L	20.0		97	57-148			
1,1,2,2-Tetrachloroethane	21		2.5	ug/L	20.0		105	60-139			
1,1,2-Trichloroethane	21		2.5	ug/L	20.0		107	57-141			
1,1-Dichloroethane	19		2.5	ug/L	20.0		93	57-142			
1,1-Dichloroethene	20		2.5	ug/L	20.0		102	47-139			
1,2,4-Trichlorobenzene	17		2.5	ug/L	20.0		87	52-159			
1,2-Dibromo-3-chloropropane	20		2.5	ug/L	20.0		102	48-150			
1,2-Dibromoethane	22		2.5	ug/L	20.0		110	57-140			
1,2-Dichlorobenzene	23		2.5	ug/L	20.0		113	63-131			
1,2-Dichloroethane	15		2.5	ug/L	20.0		75	50-156			
1,2-Dichloropropane	16		2.5	ug/L	20.0		80	61-133			
1,3-Dichlorobenzene	24		2.5	ug/L	20.0		118	66-129			
1,4-Dichlorobenzene	21		2.5	ug/L	20.0		106	65-133			
2-Butanone	90		12	ug/L	100		90	10-180			
2-Hexanone	68		12	ug/L	100		68	12-180			
4-Methyl-2-pentanone	90		12	ug/L	100		90	19-180			
Acetone	71		25	ug/L	100		71	10-180			
Benzene	19		2.5	ug/L	20.0		94	56-136			
Bromodichloromethane	18		2.5	ug/L	20.0		89	58-135			
Bromoform	21		2.5	ug/L	20.0		107	46-148			
Bromomethane	8.7		2.5	ug/L	20.0		44	10-173			
Carbon disulfide	20		12	ug/L	20.0		102	43-153			
Carbon Tetrachloride	16		2.5	ug/L	20.0		80	54-156			
Chlorobenzene	24		2.5	ug/L	20.0		120	51-139			
Chloroethane	22		2.5	ug/L	20.0		109	27-180			
Chloroform	20		2.5	ug/L	20.0		99	58-139			
Chloromethane	9.3		2.5	ug/L	20.0		46	33-154			
cis-1,2-Dichloroethene	22		2.5	ug/L	20.0		109	56-128			
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0		87	64-128			
Cyclohexane	16		2.5	ug/L	20.0		82	70-130			
Dibromochloromethane	24		2.5	ug/L	20.0		118	50-140			
Dichlorodifluoromethane	12		2.5	ug/L	20.0		61	10-180			
Ethylbenzene	22		2.5	ug/L	20.0		108	63-133			
Freon 113	21		2.5	ug/L	20.0		104	47-173			
Isopropylbenzene	24		2.5	ug/L	20.0		118	60-132			
m,p-Xylenes	50		5.0	ug/L	40.0		125	64-133			
Methyl acetate	13		2.5	ug/L	20.0		65	70-130			A-07
Methyl cyclohexane	18		2.5	ug/L	20.0		89	70-130			
Methylene Chloride	20		12	ug/L	20.0		100	43-142			
Methyl-tert-Butyl Ether	20		2.5	ug/L	20.0		99	51-145			

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

LCS (1A25020-BS1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 09:20

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
o-Xylene	23		2.5	ug/L	20.0		117	61-129			
Styrene	25		2.5	ug/L	20.0		126	59-136			
Tetrachloroethene	21		2.5	ug/L	20.0		104	60-147			
Toluene	23		2.5	ug/L	20.0		114	64-131			
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0		108	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0		103	65-149			
Trichloroethene	21		2.5	ug/L	20.0		103	62-135			
Trichlorofluoromethane	20		2.5	ug/L	20.0		100	56-155			
Vinyl chloride	17		2.5	ug/L	20.0		85	20-167			
4-Bromofluorobenzene	*52*			*ug/L*	*50.0*		*105*	*41-142*			
Dibromofluoromethane	*55*			*ug/L*	*50.0*		*111*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*98*	*41-146*			

Matrix Spike (1A25020-MS1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 18:39

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	22		2.5	ug/L	20.0	0.80 U	110	57-148			
1,1,2,2-Tetrachloroethane	23		2.5	ug/L	20.0	0.54 U	114	60-139			
1,1,2-Trichloroethane	22		2.5	ug/L	20.0	0.76 U	110	57-141			
1,1-Dichloroethane	19		2.5	ug/L	20.0	0.62 U	96	57-142			
1,1-Dichloroethene	23		2.5	ug/L	20.0	0.94 U	114	47-139			
1,2,4-Trichlorobenzene	15		2.5	ug/L	20.0	0.70 U	74	52-159			
1,2-Dibromo-3-chloropropane	14		2.5	ug/L	20.0	0.96 U	72	48-150			
1,2-Dibromoethane	23		2.5	ug/L	20.0	0.78 U	115	57-140			
1,2-Dichlorobenzene	23		2.5	ug/L	20.0	0.73 U	114	63-131			
1,2-Dichloroethane	16		2.5	ug/L	20.0	0.63 U	79	50-156			
1,2-Dichloropropane	16		2.5	ug/L	20.0	0.80 U	79	61-133			
1,3-Dichlorobenzene	25		2.5	ug/L	20.0	0.77 U	125	66-129			
1,4-Dichlorobenzene	23		2.5	ug/L	20.0	0.76 U	114	65-133			
2-Butanone	88		12	ug/L	100	4.5 U	88	10-180			
2-Hexanone	62		12	ug/L	100	2.5 U	62	12-180			
4-Methyl-2-pentanone	87		12	ug/L	100	2.5 U	87	19-180			
Acetone	65		25	ug/L	100	10 U	65	10-180			
Benzene	20		2.5	ug/L	20.0	0.71 U	100	56-136			
Bromodichloromethane	19		2.5	ug/L	20.0	0.52 U	95	58-135			
Bromoform	22		2.5	ug/L	20.0	0.75 U	109	46-148			
Bromomethane	10		2.5	ug/L	20.0	0.95 U	50	10-173			
Carbon disulfide	21		12	ug/L	20.0	2.5 U	106	43-153			
Carbon Tetrachloride	18		2.5	ug/L	20.0	0.94 U	89	54-156			
Chlorobenzene	27		2.5	ug/L	20.0	0.72 U	135	51-139			
Chloroethane	23		2.5	ug/L	20.0	0.98 U	113	27-180			
Chloroform	21		2.5	ug/L	20.0	0.80 U	104	58-139			
Chloromethane	9.6		2.5	ug/L	20.0	0.82 U	48	33-154			
cis-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.53 U	110	56-128			
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0	0.59 U	85	64-128			
Cyclohexane	16		2.5	ug/L	20.0	0.93 U	82	70-130			
Dibromochloromethane	25		2.5	ug/L	20.0	0.50 U	127	50-140			
Dichlorodifluoromethane	13		2.5	ug/L	20.0	0.74 U	66	10-180			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

Matrix Spike (1A25020-MS1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 18:39

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	24		2.5	ug/L	20.0	0.69 U	119	63-133			
Freon 113	23		2.5	ug/L	20.0	0.73 U	115	47-173			
Isopropylbenzene	26		2.5	ug/L	20.0	0.67 U	131	60-132			
m,p-Xylenes	55		5.0	ug/L	40.0	1.3 U	137	64-133			QM-07
Methyl acetate	10		2.5	ug/L	20.0	0.95 U	51	70-130			QM-19
Methyl cyclohexane	19		2.5	ug/L	20.0	0.64 U	95	70-130			
Methylene Chloride	21		12	ug/L	20.0	2.5 U	105	43-142			
Methyl-tert-Butyl Ether	20		2.5	ug/L	20.0	0.60 U	100	51-145			
o-Xylene	25		2.5	ug/L	20.0	0.53 U	127	61-129			
Styrene	28		2.5	ug/L	20.0	0.61 U	140	59-136			QM-07
Tetrachloroethene	24		2.5	ug/L	20.0	0.76 U	122	60-147			
Toluene	24		2.5	ug/L	20.0	0.72 U	122	64-131			
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.73 U	111	54-134			
trans-1,3-Dichloropropene	20		2.5	ug/L	20.0	0.73 U	102	65-149			
Trichloroethene	24		2.5	ug/L	20.0	0.89 U	122	62-135			
Trichlorofluoromethane	23		2.5	ug/L	20.0	0.94 U	113	56-155			
Vinyl chloride	17		2.5	ug/L	20.0	0.71 U	84	20-167			
4-Bromofluorobenzene	*54*			*ug/L*	*50.0*		*109*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*112*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*97*	*41-146*			

Matrix Spike Dup (1A25020-MSD1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 19:09

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	20		2.5	ug/L	20.0	0.80 U	102	57-148	8	25	
1,1,2,2-Tetrachloroethane	22		2.5	ug/L	20.0	0.54 U	110	60-139	4	17	
1,1,2-Trichloroethane	21		2.5	ug/L	20.0	0.76 U	106	57-141	3	16	
1,1-Dichloroethane	18		2.5	ug/L	20.0	0.62 U	90	57-142	6	24	
1,1-Dichloroethene	21		2.5	ug/L	20.0	0.94 U	103	47-139	10	16	
1,2,4-Trichlorobenzene	16		2.5	ug/L	20.0	0.70 U	81	52-159	9	24	
1,2-Dibromo-3-chloropropane	18		2.5	ug/L	20.0	0.96 U	88	48-150	21	21	
1,2-Dibromoethane	22		2.5	ug/L	20.0	0.78 U	110	57-140	4	16	
1,2-Dichlorobenzene	23		2.5	ug/L	20.0	0.73 U	113	63-131	1	25	
1,2-Dichloroethane	15		2.5	ug/L	20.0	0.63 U	77	50-156	1	18	
1,2-Dichloropropane	15		2.5	ug/L	20.0	0.80 U	76	61-133	4	26	
1,3-Dichlorobenzene	24		2.5	ug/L	20.0	0.77 U	120	66-129	4	23	
1,4-Dichlorobenzene	22		2.5	ug/L	20.0	0.76 U	110	65-133	4	23	
2-Butanone	83		12	ug/L	100	4.5 U	83	10-180	5	29	
2-Hexanone	66		12	ug/L	100	2.5 U	66	12-180	5	28	
4-Methyl-2-pentanone	87		12	ug/L	100	2.5 U	87	19-180	0.5	24	
Acetone	70		25	ug/L	100	10 U	70	10-180	7	19	
Benzene	19		2.5	ug/L	20.0	0.71 U	96	56-136	5	14	
Bromodichloromethane	18		2.5	ug/L	20.0	0.52 U	89	58-135	7	19	
Bromoform	21		2.5	ug/L	20.0	0.75 U	106	46-148	2	18	
Bromomethane	11		2.5	ug/L	20.0	0.95 U	55	10-173	10	29	
Carbon disulfide	19		12	ug/L	20.0	2.5 U	94	43-153	12	26	
Carbon Tetrachloride	16		2.5	ug/L	20.0	0.94 U	79	54-156	12	27	
Chlorobenzene	26		2.5	ug/L	20.0	0.72 U	129	51-139	5	13	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

Matrix Spike Dup (1A25020-MSD1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 19:09

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloroethane	21		2.5	ug/L	20.0	0.98 U	105	27-180	7	22	
Chloroform	20		2.5	ug/L	20.0	0.80 U	102	58-139	2	17	
Chloromethane	9.0		2.5	ug/L	20.0	0.82 U	45	33-154	7	31	
cis-1,2-Dichloroethene	21		2.5	ug/L	20.0	0.53 U	104	56-128	5	17	
cis-1,3-Dichloropropene	16		2.5	ug/L	20.0	0.59 U	78	64-128	9	20	
Cyclohexane	15		2.5	ug/L	20.0	0.93 U	75	70-130	8	20	
Dibromochloromethane	23		2.5	ug/L	20.0	0.50 U	117	50-140	8	18	
Dichlorodifluoromethane	13		2.5	ug/L	20.0	0.74 U	63	10-180	4	26	
Ethylbenzene	22		2.5	ug/L	20.0	0.69 U	112	63-133	6	18	
Freon 113	21		2.5	ug/L	20.0	0.73 U	105	47-173	9	30	
Isopropylbenzene	24		2.5	ug/L	20.0	0.67 U	122	60-132	7	23	
m,p-Xylenes	51		5.0	ug/L	40.0	1.3 U	129	64-133	6	18	
Methyl acetate	9.5		2.5	ug/L	20.0	0.95 U	48	70-130	6	20	QM-19
Methyl cyclohexane	18		2.5	ug/L	20.0	0.64 U	91	70-130	4	20	
Methylene Chloride	19		12	ug/L	20.0	2.5 U	95	43-142	9	23	
Methyl-tert-Butyl Ether	19		2.5	ug/L	20.0	0.60 U	95	51-145	5	22	
o-Xylene	25		2.5	ug/L	20.0	0.53 U	123	61-129	4	16	
Styrene	26		2.5	ug/L	20.0	0.61 U	130	59-136	7	32	
Tetrachloroethene	23		2.5	ug/L	20.0	0.76 U	113	60-147	8	21	
Toluene	23		2.5	ug/L	20.0	0.72 U	117	64-131	4	16	
trans-1,2-Dichloroethene	21		2.5	ug/L	20.0	0.73 U	103	54-134	8	20	
trans-1,3-Dichloropropene	19		2.5	ug/L	20.0	0.73 U	97	65-149	5	17	
Trichloroethene	21		2.5	ug/L	20.0	0.89 U	107	62-135	12	20	
Trichlorofluoromethane	20		2.5	ug/L	20.0	0.94 U	102	56-155	10	22	
Vinyl chloride	15		2.5	ug/L	20.0	0.71 U	77	20-167	8	24	
4-Bromofluorobenzene	*55*			*ug/L*	*50.0*		*110*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*111*	*53-146*			
Toluene-d8	*48*	*I*		*ug/L*	*50.0*		*96*	*41-146*			

Batch 1A25023 - NO PREP 2

Blank (1A25023-BLK1) Prepared: 01/24/2021 17:30 Analyzed: 01/25/2021 00:37

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.34	U	2.5	ppbv							
1,1,2,2-Tetrachloroethane	0.36	U	2.5	ppbv							
1,1,2-Trichloroethane	0.35	U	2.5	ppbv							
1,1-Dichloroethane	0.36	U	2.5	ppbv							
1,1-Dichloroethene	0.38	U	2.5	ppbv							
1,2-Dibromoethane	0.36	U	2.5	ppbv							
1,2-Dichlorobenzene	0.27	U	2.5	ppbv							
1,2-Dichloroethane	0.37	U	2.5	ppbv							
1,2-Dichloropropane	0.40	U	2.5	ppbv							
1,3-Dichlorobenzene	0.28	U	2.5	ppbv							
1,4-Dichlorobenzene	0.31	U	2.5	ppbv							
3-Chloropropene	0.39	U	2.5	ppbv							
Acetone	0.35	U	2.5	ppbv							
Bromodichloromethane	0.34	U	2.5	ppbv							
Bromoethene	0.33	U	2.5	ppbv							

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25023 - NO PREP 2 - Continued

Blank (1A25023-BLK1) Continued Prepared: 01/24/2021 17:30 Analyzed: 01/25/2021 00:37

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Bromoform	0.38	U	2.5	ppbv							
Bromomethane	0.33	U	2.5	ppbv							
Carbon tetrachloride	0.27	U	2.5	ppbv							
Chlorobenzene	0.33	U	2.5	ppbv							
Chloroethane	0.32	U	2.5	ppbv							
Chloroform	0.38	U	2.5	ppbv							
Chloromethane	0.48	U	2.5	ppbv							
cis-1,2-Dichloroethene	0.38	U	2.5	ppbv							
cis-1,3-Dichloropropene	0.38	U	2.5	ppbv							
Dibromochloromethane	0.33	U	2.5	ppbv							
Dichlorodifluoromethane	0.55	U	2.5	ppbv							
Freon 113	0.32	U	2.5	ppbv							
Freon 114	0.52	U	2.5	ppbv							
Hexachlorobutadiene	0.37	U	2.5	ppbv							
Methylene chloride	**0.29**	**I**	2.5	ppbv							J-01, O-01
Propene	0.55	U	2.5	ppbv							
Tetrachloroethene	0.31	U	2.5	ppbv							
trans-1,2-Dichloroethene	0.32	U	2.5	ppbv							
trans-1,3-Dichloropropene	0.34	U	2.5	ppbv							
Trichloroethene	0.35	U	2.5	ppbv							
Trichlorofluoromethane	0.34	U	2.5	ppbv							
Vinyl chloride	0.56	U	2.5	ppbv							
4-Bromofluorobenzene	*27*			*ppbv*	*31.0*		*87*	*70-130*			

LCS (1A25023-BS1) Prepared: 01/24/2021 17:30 Analyzed: 01/24/2021 22:34

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	10		2.5	ppbv	10.0		100	70-130			
1,1,2,2-Tetrachloroethane	12		2.5	ppbv	10.0		119	52-163			
1,1,2-Trichloroethane	12		2.5	ppbv	10.0		117	70-134			
1,1-Dichloroethane	12		2.5	ppbv	10.0		119	70-130			
1,1-Dichloroethene	11		2.5	ppbv	10.0		113	67-142			
1,2-Dibromoethane	12		2.5	ppbv	10.0		118	70-141			
1,2-Dichlorobenzene	10		2.5	ppbv	10.0		102	37-180			
1,2-Dichloroethane	10		2.5	ppbv	10.0		102	70-130			
1,2-Dichloropropane	12		2.5	ppbv	10.0		121	70-130			
1,3-Dichlorobenzene	9.8		2.5	ppbv	10.0		98	47-178			
1,4-Dichlorobenzene	9.2		2.5	ppbv	10.0		92	45-180			
3-Chloropropene	11		2.5	ppbv	10.0		113	70-130			
Acetone	10		2.5	ppbv	10.0		104	65-130			
Bromodichloromethane	11		2.5	ppbv	10.0		109	70-130			
Bromoethene	9.5		2.5	ppbv	10.0		95	69-132			
Bromoform	11		2.5	ppbv	10.0		110	62-149			
Bromomethane	9.9		2.5	ppbv	10.0		99	69-130			
Carbon tetrachloride	8.3		2.5	ppbv	10.0		83	22-166			
Chlorobenzene	11		2.5	ppbv	10.0		107	70-134			
Chloroethane	10		2.5	ppbv	10.0		101	69-131			
Chloroform	11		2.5	ppbv	10.0		111	70-130			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25023 - NO PREP 2 - Continued

LCS (1A25023-BS1) Continued Prepared: 01/24/2021 17:30 Analyzed: 01/24/2021 22:34

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloromethane	10		2.5	ppbv	10.0		100	55-142			
cis-1,2-Dichloroethene	12		2.5	ppbv	10.0		122	70-130			
cis-1,3-Dichloropropene	12		2.5	ppbv	10.0		122	70-137			
Dibromochloromethane	11		2.5	ppbv	10.0		110	70-130			
Dichlorodifluoromethane	9.3		2.5	ppbv	10.0		93	61-137			
Freon 113	11		2.5	ppbv	10.0		111	67-140			
Freon 114	9.8		2.5	ppbv	10.0		98	62-147			
Hexachlorobutadiene	9.1		2.5	ppbv	10.0		91	24-180			
Methylene chloride	13		2.5	ppbv	10.0		128	59-136			
Propene	8.9		2.5	ppbv	10.0		89	63-132			
Tetrachloroethene	10		2.5	ppbv	10.0		104	70-141			
trans-1,2-Dichloroethene	11		2.5	ppbv	10.0		113	70-130			
trans-1,3-Dichloropropene	16		2.5	ppbv	10.0		156	59-166			
Trichloroethene	11		2.5	ppbv	10.0		114	70-130			
Trichlorofluoromethane	9.7		2.5	ppbv	10.0		97	46-161			
Vinyl chloride	11		2.5	ppbv	10.0		106	53-148			
4-Bromofluorobenzene	*32*			*ppbv*	*31.0*		*102*	*70-130*			

LCS Dup (1A25023-BSD1) Prepared: 01/24/2021 17:30 Analyzed: 01/24/2021 23:13

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	9.1		2.5	ppbv	10.0		91	70-130	9	25	
1,1,2,2-Tetrachloroethane	11		2.5	ppbv	10.0		111	52-163	7	25	
1,1,2-Trichloroethane	11		2.5	ppbv	10.0		110	70-134	6	25	
1,1-Dichloroethane	11		2.5	ppbv	10.0		110	70-130	8	25	
1,1-Dichloroethene	10		2.5	ppbv	10.0		103	67-142	9	25	
1,2-Dibromoethane	11		2.5	ppbv	10.0		110	70-141	7	25	
1,2-Dichlorobenzene	9.5		2.5	ppbv	10.0		95	37-180	7	25	
1,2-Dichloroethane	8.8		2.5	ppbv	10.0		88	70-130	15	25	
1,2-Dichloropropane	11		2.5	ppbv	10.0		113	70-130	7	25	
1,3-Dichlorobenzene	9.1		2.5	ppbv	10.0		91	47-178	7	25	
1,4-Dichlorobenzene	8.5		2.5	ppbv	10.0		85	45-180	8	25	
3-Chloropropene	10		2.5	ppbv	10.0		105	70-130	7	25	
Acetone	9.5		2.5	ppbv	10.0		95	65-130	10	25	
Bromodichloromethane	10		2.5	ppbv	10.0		100	70-130	8	25	
Bromoethene	8.6		2.5	ppbv	10.0		86	69-132	10	25	
Bromoform	10		2.5	ppbv	10.0		103	62-149	7	25	
Bromomethane	8.6		2.5	ppbv	10.0		86	69-130	14	25	
Carbon tetrachloride	7.5		2.5	ppbv	10.0		75	22-166	10	25	
Chlorobenzene	10		2.5	ppbv	10.0		100	70-134	6	25	
Chloroethane	8.7		2.5	ppbv	10.0		87	69-131	14	25	
Chloroform	10		2.5	ppbv	10.0		101	70-130	9	25	
Chloromethane	8.8		2.5	ppbv	10.0		88	55-142	12	25	
cis-1,2-Dichloroethene	11		2.5	ppbv	10.0		114	70-130	6	25	
cis-1,3-Dichloropropene	11		2.5	ppbv	10.0		113	70-137	7	25	
Dibromochloromethane	10		2.5	ppbv	10.0		103	70-130	7	25	
Dichlorodifluoromethane	8.1		2.5	ppbv	10.0		81	61-137	13	25	
Freon 113	10		2.5	ppbv	10.0		103	67-140	8	25	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25023 - NO PREP 2 - Continued

LCS Dup (1A25023-BSD1) Continued Prepared: 01/24/2021 17:30 Analyzed: 01/24/2021 23:13

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Freon 114	8.8		2.5	ppbv	10.0		88	62-147	11	25	
Hexachlorobutadiene	8.5		2.5	ppbv	10.0		85	24-180	7	25	
Methylene chloride	12		2.5	ppbv	10.0		123	59-136	5	25	
Propene	7.8		2.5	ppbv	10.0		78	63-132	13	25	
Tetrachloroethene	9.8		2.5	ppbv	10.0		98	70-141	6	25	
trans-1,2-Dichloroethene	10		2.5	ppbv	10.0		105	70-130	7	25	
trans-1,3-Dichloropropene	15		2.5	ppbv	10.0		146	59-166	7	25	
Trichloroethene	11		2.5	ppbv	10.0		108	70-130	5	25	
Trichlorofluoromethane	8.7		2.5	ppbv	10.0		87	46-161	11	25	
Vinyl chloride	9.2		2.5	ppbv	10.0		92	53-148	14	25	
4-Bromofluorobenzene	*31*			*ppbv*	*31.0*		*100*	*70-130*			

Batch 1A26010 - EPA 5030B_MS

Blank (1A26010-BLK1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 11:19

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A26010 - EPA 5030B_MS - Continued

Blank (1A26010-BLK1) Continued Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 11:19

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*51*			*ug/L*	*50.0*		*103*	*41-142*			
Dibromofluoromethane	*58*			*ug/L*	*50.0*		*116*	*53-146*			
Toluene-d8	*51*			*ug/L*	*50.0*		*102*	*41-146*			

LCS (1A26010-BS1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 08:43

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	25		2.5	ug/L	20.0		127	57-148			
1,1,2,2-Tetrachloroethane	23		2.5	ug/L	20.0		115	60-139			
1,1,2-Trichloroethane	23		2.5	ug/L	20.0		114	57-141			
1,1-Dichloroethane	24		2.5	ug/L	20.0		119	57-142			
1,1-Dichloroethene	25		2.5	ug/L	20.0		125	47-139			
1,2,4-Trichlorobenzene	25		2.5	ug/L	20.0		127	52-159			
1,2-Dibromo-3-chloropropane	27		2.5	ug/L	20.0		137	48-150			
1,2-Dibromoethane	23		2.5	ug/L	20.0		116	57-140			
1,2-Dichlorobenzene	22		2.5	ug/L	20.0		109	63-131			
1,2-Dichloroethane	24		2.5	ug/L	20.0		119	50-156			
1,2-Dichloropropane	24		2.5	ug/L	20.0		118	61-133			
1,3-Dichlorobenzene	21		2.5	ug/L	20.0		105	66-129			
1,4-Dichlorobenzene	20		2.5	ug/L	20.0		101	65-133			
2-Butanone	130		12	ug/L	100		126	10-180			
2-Hexanone	110		12	ug/L	100		114	12-180			
4-Methyl-2-pentanone	110		12	ug/L	100		114	19-180			
Acetone	160		25	ug/L	100		156	10-180			
Benzene	21		2.5	ug/L	20.0		106	56-136			
Bromodichloromethane	23		2.5	ug/L	20.0		117	58-135			
Bromoform	23		2.5	ug/L	20.0		113	46-148			
Bromomethane	20		2.5	ug/L	20.0		101	10-173			
Carbon disulfide	36		12	ug/L	20.0		178	43-153			QL-02
Carbon Tetrachloride	23		2.5	ug/L	20.0		115	54-156			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A26010 - EPA 5030B_MS - Continued

LCS (1A26010-BS1) Continued Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 08:43

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chlorobenzene	20		2.5	ug/L	20.0		101	51-139			
Chloroethane	25		2.5	ug/L	20.0		124	27-180			
Chloroform	28		2.5	ug/L	20.0		140	58-139			QL-02
Chloromethane	19		2.5	ug/L	20.0		97	33-154			
cis-1,2-Dichloroethene	25		2.5	ug/L	20.0		124	56-128			
cis-1,3-Dichloropropene	23		2.5	ug/L	20.0		116	64-128			
Cyclohexane	26		2.5	ug/L	20.0		132	70-130			QL-02
Dibromochloromethane	22		2.5	ug/L	20.0		112	50-140			
Dichlorodifluoromethane	14		2.5	ug/L	20.0		69	10-180			
Ethylbenzene	20		2.5	ug/L	20.0		100	63-133			
Freon 113	28		2.5	ug/L	20.0		142	47-173			
Isopropylbenzene	21		2.5	ug/L	20.0		104	60-132			
m,p-Xylenes	40		5.0	ug/L	40.0		99	64-133			
Methyl acetate	30		2.5	ug/L	20.0		148	70-130			QL-02
Methyl cyclohexane	23		2.5	ug/L	20.0		116	70-130			
Methylene Chloride	27		12	ug/L	20.0		136	43-142			
Methyl-tert-Butyl Ether	28		2.5	ug/L	20.0		141	51-145			
o-Xylene	20		2.5	ug/L	20.0		102	61-129			
Styrene	21		2.5	ug/L	20.0		103	59-136			
Tetrachloroethene	19		2.5	ug/L	20.0		97	60-147			
Toluene	20		2.5	ug/L	20.0		101	64-131			
trans-1,2-Dichloroethene	27		2.5	ug/L	20.0		135	54-134			QL-02
trans-1,3-Dichloropropene	23		2.5	ug/L	20.0		116	65-149			
Trichloroethene	22		2.5	ug/L	20.0		112	62-135			
Trichlorofluoromethane	25		2.5	ug/L	20.0		123	56-155			
Vinyl chloride	24		2.5	ug/L	20.0		118	20-167			
4-Bromofluorobenzene	*51*			*ug/L*	*50.0*		*103*	*41-142*			
Dibromofluoromethane	*57*			*ug/L*	*50.0*		*114*	*53-146*			
Toluene-d8	*51*			*ug/L*	*50.0*		*103*	*41-146*			

Matrix Spike (1A26010-MS1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 09:24

Source: AD08635-03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	25		2.5	ug/L	20.0	0.80 U	125	57-148			
1,1,2,2-Tetrachloroethane	22		2.5	ug/L	20.0	0.54 U	112	60-139			
1,1,2-Trichloroethane	22		2.5	ug/L	20.0	0.76 U	109	57-141			
1,1-Dichloroethane	23		2.5	ug/L	20.0	0.62 U	115	57-142			
1,1-Dichloroethene	25		2.5	ug/L	20.0	0.94 U	126	47-139			
1,2,4-Trichlorobenzene	24		2.5	ug/L	20.0	0.70 U	122	52-159			
1,2-Dibromo-3-chloropropane	27		2.5	ug/L	20.0	0.96 U	136	48-150			
1,2-Dibromoethane	22		2.5	ug/L	20.0	0.78 U	110	57-140			
1,2-Dichlorobenzene	20		2.5	ug/L	20.0	0.73 U	102	63-131			
1,2-Dichloroethane	22		2.5	ug/L	20.0	0.63 U	112	50-156			
1,2-Dichloropropane	23		2.5	ug/L	20.0	0.80 U	115	61-133			
1,3-Dichlorobenzene	20		2.5	ug/L	20.0	0.77 U	99	66-129			
1,4-Dichlorobenzene	19		2.5	ug/L	20.0	0.76 U	97	65-133			
2-Butanone	140		12	ug/L	100	4.5 U	137	10-180			
2-Hexanone	120		12	ug/L	100	2.5 U	123	12-180			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A26010 - EPA 5030B_MS - Continued

Matrix Spike (1A26010-MS1) Continued Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 09:24

Source: AD08635-03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
4-Methyl-2-pentanone	120		12	ug/L	100	2.5 U	119	19-180			
Acetone	150		25	ug/L	100	10 U	152	10-180			
Benzene	20		2.5	ug/L	20.0	0.71 U	102	56-136			
Bromodichloromethane	22		2.5	ug/L	20.0	0.52 U	110	58-135			
Bromoform	22		2.5	ug/L	20.0	0.75 U	108	46-148			
Bromomethane	22		2.5	ug/L	20.0	0.95 U	108	10-173			
Carbon disulfide	35		12	ug/L	20.0	2.5 U	173	43-153			QM-19
Carbon Tetrachloride	23		2.5	ug/L	20.0	0.94 U	114	54-156			
Chlorobenzene	20		2.5	ug/L	20.0	0.72 U	98	51-139			
Chloroethane	25		2.5	ug/L	20.0	0.98 U	125	27-180			
Chloroform	27		2.5	ug/L	20.0	0.80 U	134	58-139			
Chloromethane	20		2.5	ug/L	20.0	0.82 U	98	33-154			
cis-1,2-Dichloroethene	24		2.5	ug/L	20.0	0.53 U	118	56-128			
cis-1,3-Dichloropropene	22		2.5	ug/L	20.0	0.59 U	111	64-128			
Cyclohexane	27		2.5	ug/L	20.0	0.93 U	134	70-130			QM-19
Dibromochloromethane	21		2.5	ug/L	20.0	0.50 U	107	50-140			
Dichlorodifluoromethane	15		2.5	ug/L	20.0	0.74 U	75	10-180			
Ethylbenzene	20		2.5	ug/L	20.0	0.69 U	98	63-133			
Freon 113	29		2.5	ug/L	20.0	0.73 U	146	47-173			
Isopropylbenzene	20		2.5	ug/L	20.0	0.67 U	100	60-132			
m,p-Xylenes	39		5.0	ug/L	40.0	1.3 U	97	64-133			
Methyl acetate	29		2.5	ug/L	20.0	0.95 U	144	70-130			QM-19
Methyl cyclohexane	23		2.5	ug/L	20.0	0.64 U	114	70-130			
Methylene Chloride	26		12	ug/L	20.0	2.5 U	129	43-142			
Methyl-tert-Butyl Ether	28		2.5	ug/L	20.0	0.60 U	139	51-145			
o-Xylene	19		2.5	ug/L	20.0	0.53 U	97	61-129			
Styrene	20		2.5	ug/L	20.0	0.61 U	98	59-136			
Tetrachloroethene	19		2.5	ug/L	20.0	0.76 U	96	60-147			
Toluene	20		2.5	ug/L	20.0	0.72 U	98	64-131			
trans-1,2-Dichloroethene	26		2.5	ug/L	20.0	0.73 U	130	54-134			
trans-1,3-Dichloropropene	22		2.5	ug/L	20.0	0.73 U	110	65-149			
Trichloroethene	21		2.5	ug/L	20.0	0.89 U	106	62-135			
Trichlorofluoromethane	26		2.5	ug/L	20.0	0.94 U	128	56-155			
Vinyl chloride	25		2.5	ug/L	20.0	0.71 U	125	20-167			
4-Bromofluorobenzene	*50*			*ug/L*	*50.0*		*101*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*112*	*53-146*			
Toluene-d8	*50*			*ug/L*	*50.0*		*101*	*41-146*			

Matrix Spike Dup (1A26010-MSD1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 09:53

Source: AD08635-03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	25		2.5	ug/L	20.0	0.80 U	124	57-148	1	25	
1,1,2,2-Tetrachloroethane	23		2.5	ug/L	20.0	0.54 U	114	60-139	3	17	
1,1,2-Trichloroethane	21		2.5	ug/L	20.0	0.76 U	106	57-141	3	16	
1,1-Dichloroethane	23		2.5	ug/L	20.0	0.62 U	115	57-142	0.2	24	
1,1-Dichloroethene	24		2.5	ug/L	20.0	0.94 U	120	47-139	5	16	
1,2,4-Trichlorobenzene	24		2.5	ug/L	20.0	0.70 U	119	52-159	2	24	
1,2-Dibromo-3-chloropropane	28		2.5	ug/L	20.0	0.96 U	141	48-150	4	21	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A26010 - EPA 5030B_MS - Continued

Matrix Spike Dup (1A26010-MSD1) Continued Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 09:53

Source: AD08635-03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,2-Dibromoethane	22		2.5	ug/L	20.0	0.78 U	110	57-140	0.09	16	
1,2-Dichlorobenzene	20		2.5	ug/L	20.0	0.73 U	100	63-131	2	25	
1,2-Dichloroethane	22		2.5	ug/L	20.0	0.63 U	112	50-156	0.6	18	
1,2-Dichloropropane	23		2.5	ug/L	20.0	0.80 U	113	61-133	2	26	
1,3-Dichlorobenzene	19		2.5	ug/L	20.0	0.77 U	94	66-129	5	23	
1,4-Dichlorobenzene	19		2.5	ug/L	20.0	0.76 U	94	65-133	4	23	
2-Butanone	130		12	ug/L	100	4.5 U	129	10-180	6	29	
2-Hexanone	130		12	ug/L	100	2.5 U	133	12-180	8	28	
4-Methyl-2-pentanone	130		12	ug/L	100	2.5 U	125	19-180	5	24	
Acetone	160		25	ug/L	100	10 U	157	10-180	3	19	
Benzene	20		2.5	ug/L	20.0	0.71 U	101	56-136	0.5	14	
Bromodichloromethane	22		2.5	ug/L	20.0	0.52 U	110	58-135	0.1	19	
Bromoform	21		2.5	ug/L	20.0	0.75 U	107	46-148	0.9	18	
Bromomethane	23		2.5	ug/L	20.0	0.95 U	114	10-173	5	29	
Carbon disulfide	33		12	ug/L	20.0	2.5 U	163	43-153	6	26	QM-19
Carbon Tetrachloride	23		2.5	ug/L	20.0	0.94 U	113	54-156	0.4	27	
Chlorobenzene	19		2.5	ug/L	20.0	0.72 U	95	51-139	3	13	
Chloroethane	25		2.5	ug/L	20.0	0.98 U	125	27-180	0.2	22	
Chloroform	27		2.5	ug/L	20.0	0.80 U	133	58-139	1	17	
Chloromethane	19		2.5	ug/L	20.0	0.82 U	96	33-154	3	31	
cis-1,2-Dichloroethene	23		2.5	ug/L	20.0	0.53 U	115	56-128	2	17	
cis-1,3-Dichloropropene	22		2.5	ug/L	20.0	0.59 U	111	64-128	0.2	20	
Cyclohexane	26		2.5	ug/L	20.0	0.93 U	128	70-130	5	20	
Dibromochloromethane	21		2.5	ug/L	20.0	0.50 U	107	50-140	0.3	18	
Dichlorodifluoromethane	14		2.5	ug/L	20.0	0.74 U	70	10-180	6	26	
Ethylbenzene	19		2.5	ug/L	20.0	0.69 U	95	63-133	3	18	
Freon 113	29		2.5	ug/L	20.0	0.73 U	144	47-173	2	30	
Isopropylbenzene	19		2.5	ug/L	20.0	0.67 U	97	60-132	3	23	
m,p-Xylenes	38		5.0	ug/L	40.0	1.3 U	94	64-133	3	18	
Methyl acetate	31		2.5	ug/L	20.0	0.95 U	155	70-130	7	20	QM-19
Methyl cyclohexane	22		2.5	ug/L	20.0	0.64 U	112	70-130	2	20	
Methylene Chloride	26		12	ug/L	20.0	2.5 U	128	43-142	1	23	
Methyl-tert-Butyl Ether	28		2.5	ug/L	20.0	0.60 U	141	51-145	1	22	
o-Xylene	19		2.5	ug/L	20.0	0.53 U	96	61-129	1	16	
Styrene	19		2.5	ug/L	20.0	0.61 U	97	59-136	2	32	
Tetrachloroethene	18		2.5	ug/L	20.0	0.76 U	92	60-147	4	21	
Toluene	19		2.5	ug/L	20.0	0.72 U	95	64-131	3	16	
trans-1,2-Dichloroethene	26		2.5	ug/L	20.0	0.73 U	128	54-134	2	20	
trans-1,3-Dichloropropene	22		2.5	ug/L	20.0	0.73 U	108	65-149	2	17	
Trichloroethene	21		2.5	ug/L	20.0	0.89 U	106	62-135	0.4	20	
Trichlorofluoromethane	26		2.5	ug/L	20.0	0.94 U	131	56-155	3	22	
Vinyl chloride	24		2.5	ug/L	20.0	0.71 U	120	20-167	4	24	
4-Bromofluorobenzene	*55*			*ug/L*	*50.0*		*109*	*41-142*			
Dibromofluoromethane	*60*			*ug/L*	*50.0*		*121*	*53-146*			
Toluene-d8	*55*			*ug/L*	*50.0*		*109*	*41-146*			

Dissolved Gases by GC - Quality Control

Batch 1A26006 - Same

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Dissolved Gases by GC - Quality Control

Batch 1A26006 - Same - Continued

Blank (1A26006-BLK1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 10:17

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.00510	U	0.00600	mg/L							
Ethene	0.00510	U	0.00600	mg/L							
Methane	0.00400	U	0.00500	mg/L							

LCS (1A26006-BS1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 09:33

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.395		0.00600	mg/L	0.323		122	70-130			
Ethene	0.348		0.00600	mg/L	0.302		115	70-130			
Methane	0.187		0.00500	mg/L	0.172		109	70-130			

LCS Dup (1A26006-BSD1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 09:54

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.401		0.00600	mg/L	0.323		124	70-130	1	30	
Ethene	0.354		0.00600	mg/L	0.302		117	70-130	2	30	
Methane	0.192		0.00500	mg/L	0.172		112	70-130	3	30	

Duplicate (1A26006-DUP1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 12:39

Source: AE00066-09

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.00510	U	0.00600	mg/L		0.00510 U				30	QV-01
Ethene	0.00510	U	0.00600	mg/L		0.00510 U				30	
Methane	0.442		0.00500	mg/L		0.152			98	30	QM-12

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
A-07	Analyte biased low in LCS but detected in the reporting limit standard. Since the analyte in the associated sample was not detected, there is no impact on data quality.
J-01	Result may be biased high due to positive results in the associated method blank at a concentration above the MDL and/or greater than one-half the MRL.
O-01	This compound is a common laboratory contaminant.
QL-02	The associated laboratory control sample exhibited high bias; since the result is ND, there is no impact.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-12	Precision between duplicate samples was outside acceptance limits.
QM-19	The spike recovery was outside acceptance limits for the MS and/or MSD.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.
R-05	The sample was diluted due to the presence of high levels of non-target analytes resulting in elevated reporting limits.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported result is an estimated value.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence (85% or greater confidence) to make a “tentative identification".
Q	One or more quality control criteria failed.

AE000606

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 2220 | PAGE 1 OF 2

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G08970	KSC- CRCA	Alex Murphy	321-292-0842	ENCO, Kaitlin Dylnicki
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER: Melissa Bennett	PHONE NUMBER: 321-914-9394	ADDRESS
		CARRIER/WAYBILL NUMBER		CITY, STATE: Orlando, FL

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE (YEAR 2021)	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	TYPE OF ANALYSIS: VOC	MEE	CONTAINER TYPE PLASTIC (P) or GLASS (G): G	G	PRESERVATIVE USED: HCl	ice	COMMENTS
1/19	1105	CRCA-MW0030-058.0-20210119	30	53	63	GW	G	3	X						
1/19	1140	CRCA-MW0029-035.0-20210119	29	30	40	GW	G	3	X						
1/19	1220	CRCA-MW0028-058.0-20210119	28	53	63	GW	G	3	X						
1/19	1300	CRCA-MW0027-035.0-20210119	27	30	40	GW	G	3	X						
1/19	1335	CRCA-MW0015-027.5-20210119	15	25	30	GW	G	3	X						
1/19	1430	CRCA-MW0013-027.5-20210119	13	25	30	GW	G	3	X						
1/19	1510	CRCA-MW0012-027.5-20210119	12	25	30	GW	G	3	X						
1/19	1545	CRCA-MW0002-032.5-20210119	2	30	35	GW	G	3	X						
1/20	1215	CRCA-MW0031-058.0-20210120	31	53	63	GW	G	6	X	X					
1/20	1300	CRCA-MW0032-058.0-20210120	32	53	63	GW	G	6	X	X MB					VOC analysis only
1/20	1400	CRCA-MW0018-058.0-20210120	18	53	63	GW	G	6	X	X					
1/20	1600	CRCA-MW0019-058.0-20210120	19	53	63	GW	G	6	X	X					

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	1-21-21	1500	1. RECEIVED BY	1/21/21	1500
2. RELINQUISHED BY	1/21/21	1500	2. RECEIVED BY	1/21/21	1500
3. RELINQUISHED BY	1/21/21		3. RECEIVED BY	1/22/21	1510

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

(-025 4.29, 6001 24.19C, 1002 23.9

4/02R FORM NO. TtNUS-001

AE000166

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 2222 | PAGE 2 OF 2

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G08970	CRCA	Alex Murphy	321-292-0842	ENCO
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER: Melissa Bennett	PHONE NUMBER: 321-914-9394	ADDRESS
		CARRIER/WAYBILL NUMBER		CITY, STATE: Orlando, FL

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE / YEAR 2021	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G): Summa	PRESERVATIVE USED: 1	TYPE OF ANALYSIS: VOC TO-15	COMMENTS
1/20	1103	CRCA-VMP01-20210120	VMP1	—	—	air	G	1			X	1001-1103
1/20	1106	CRCA-VMP02-20210120	VMP2	—	—	air	G	1			X	1008-1106
1/20	1115	CRCA-VMP03-20210120	VMP3	—	—	air	G	1			X	1014-1115
1/20	1122	CRCA-VMP04-20210120	VMP4	—	—	air	G	1			X	1022-1122
1/20	1703	CRCA-SYSAIR-20210120	SYS	—	-	air	G	1			X	1900-1703

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	1-21-21	1500	1. RECEIVED BY KE	1/21/21	15:10
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY KE	1/21/21	15:10	3. RECEIVED BY	1-21-21	1500
COMMENTS	1-21-21	15 10	James W Gregory	1/21/21	1510

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

C-025 4.2°C

Box 1 24.1 °C, Box 2 23.1°C

4/02R FORM NO. TINUS-001

Environmental Conservation Laboratories, Inc.
10775 Central Port Drive, Orlando, FL 32824
4810 Executive Park Court, Suite 211,Jacksonville, FL 32216
102-A Woodwinds Industrial Ct, Cary, NC 27511

www.encolabs.com

COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

General Information

SITE LOCATION:	KSC- CRCA .
SITE ADDRESS:	Contractor Road
SAMPLER ID:	CRCA- VMP01- 20210120
SAMPLING DATE:	1-20-21
OPERATOR:	Tetra tech / melisse Bennett
SHIPPING DATE:	1/13/21
CANISTER SERIAL NO.:	1158
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	JAK-P-114

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	60°F	-14 mmHg	1001	1HR
STOP		-14mmHg	1103	

Signature/Title: [signature] / Env. Engineer

Environmental Conservation Laboratories, Inc.
10775 Central Port Drive, Orlando, FL 32824
4810 Executive Park Court, Suite 211,Jacksonville, FL 32216
102-A Woodwinds Industrial Ct, Cary, NC 27511

COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15
CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

2

General Information

SITE LOCATION:	KSC- CBCA
SITE ADDRESS:	Contractor Road
SAMPLER ID:	CBCA – VM002-20210120
SAMPLING DATE:	1-2021
OPERATOR:	Tetra tech / melissa Bennett
SHIPPING DATE:	113121
CANISTER SERIAL NO.:	15863
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	JAX-R-056

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	60°F	-30mmHg	1008	1HR
STOP		-13mmHg	1100	1HR

Signature/Title: [signature] / Env. Engineer

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4810 Executive Park Court, Suite 211,Jacksonville, FL 32216
102-A Woodwinds Industrial Ct, Cary, NC 27511

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COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

3

General Information

SITE LOCATION:	KSC- CRCA
SITE ADDRESS:	Contractor Road
SAMPLER ID:	CRCA- VMP03-20210120
SAMPLING DATE:	1-20-21
OPERATOR:	Tetra tech / Melissa Bennett
SHIPPING DATE:	1/13/21
CANISTER SERIAL NO.:	1S-069
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	1A10-14-059

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	60°F	-30mmHg	1014	1HR
STOP	60°F	-13 mmHg	1115	1HR

Signature/Title: [signature] / Env. Engineer

Environmental Conservation Laboratories, Inc.
10775 Central Port Drive, Orlando, FL 32824
4810 Executive Park Court, Suite 211,Jacksonville, FL 32216
102-A Woodwinds Industrial Ct, Cary, NC 27511

ENCO
www.encolabs.com

COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

4

General Information

SITE LOCATION:	KSC- CRCA
SITE ADDRESS:	Contractor Road
SAMPLER ID:	CRCA-UMP04-20210120
SAMPLING DATE:	1-20-21
OPERATOR:	Tetra tech / Melissa Bennett
SHIPPING DATE:	1/15/21
CANISTER SERIAL NO.:	05-070
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	JAV-R-04

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	60°F	-30 mm Hg	1022	1 HR
STOP	60°F	-9 mm Hg	1122	1 HR

Signature/Title: [signature] / Env. Engineer

Environmental Conservation Laboratories, Inc.
10775 Central Port Drive, Orlando, FL 32824
4810 Executive Park Court, Suite 211,Jacksonville, FL 32216
102-A Woodwinds Industrial Ct, Cary, NC 27511

ENCO
www.encolabs.com

COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

SYSAIR

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

General Information

SITE LOCATION:	KSC- CRCA ,
SITE ADDRESS:	Contractor Road
SAMPLER ID:	CRCA- SYSAIR-20210120
SAMPLING DATE:	1-20-21
OPERATOR:	Tetra tech / Melissa Bennett
SHIPPING DATE:	1/30/21
CANISTER SERIAL NO.:	18-016
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	10685

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	55°F	-30mm Hg	0900	8 HR
STOP	72°F	0mmHg	1703	8 HR

Signature/Title: [signature] / Env. Engineer

1/22/2021

Environmental Conservation Labs, Inc.

Alex Murphy
Tetra Tech, Inc. (TE016)
11 Riverside Drive, Suite 204
Cocoa, FL 32922
Phone: (321) 636-6470
Fax: (321) 636-6473

Reference : **Sample Receipt Confirmation - *Please Review***
Project Name / Number : NASA KSC CRCA / 112G08970
Purchase Order # : 1165883

Lab Reference # : AE00066 Lab Receipt Date: 21-Jan-21 15:10
Anticipated ***(Estimated)*** Completion Date: 28-Jan-21 19:00

This is an automated notification from our laboratory information management system (LIMS), indicating the samples we have recently received and their associated analyses. Should any of the following information be in error, please contact us immediately.

Thank you for choosing Environmental Conservation Laboratories. Should any events occur that delay the processing of your samples or inhibit our ability to complete the project within the projected time frame you will be contacted.

Sincerely,

Kaitlin Dylnicki

Client: Tetra Tech, Inc. (TE016) **Project Name:** NASA KSC CRCA
Requested TAT: 5 **Project Number:** 112G08970

Analysis	TAT	Expires	Status
Sample ID: CRCA-MW0030-058.0-20210119(Lab ID: AE00066-01), Matrix: Ground Water, Sampled: 19-Jan-21 11:05 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received
Sample ID: CRCA-MW0029-035.0-20210119(Lab ID: AE00066-02), Matrix: Ground Water, Sampled: 19-Jan-21 11:40 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received
Sample ID: CRCA-MW0028-058.0-20210119(Lab ID: AE00066-03), Matrix: Ground Water, Sampled: 19-Jan-21 12:20 (GMT-05:00) Eastern Time (US & Canada)			
Sample Comments: Time on Vials is 1215			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received
Sample ID: CRCA-MW0027-035.0-20210119(Lab ID: AE00066-04), Matrix: Ground Water, Sampled: 19-Jan-21 13:00 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received
Sample ID: CRCA-MW0015-027.5-20210119(Lab ID: AE00066-05), Matrix: Ground Water, Sampled: 19-Jan-21 13:35 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received
Sample ID: CRCA-MW0013-027.5-20210119(Lab ID: AE00066-06), Matrix: Ground Water, Sampled: 19-Jan-21 14:30 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received
Sample ID: CRCA-MW0012-0.275-20210119(Lab ID: AE00066-07), Matrix: Ground Water, Sampled: 19-Jan-21 15:10 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received
Sample ID: CRCA-MW0002-032.5-20210119(Lab ID: AE00066-08), Matrix: Ground Water, Sampled: 19-Jan-21 15:45 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received

Client: Tetra Tech, Inc. (TE016)
Requested TAT: 5

Project Name: NASA KSC CRCA
Project Number: 112G08970

Analysis	TAT	Expires	Status
Sample ID: CRCA-MW0031-058.0-20210120(Lab ID: AE00066-09), Matrix: Ground Water, Sampled: 20-Jan-21 12:15 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	03-Feb-21 23:59	Received
RSK175	5	03-Feb-21 23:59	Received
Sample ID: CRCA-MW0032-058.0-20210120(Lab ID: AE00066-10), Matrix: Ground Water, Sampled: 20-Jan-21 13:00 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	03-Feb-21 23:59	Received
Sample ID: CRCA-MW0018-058.0-20210120(Lab ID: AE00066-11), Matrix: Ground Water, Sampled: 20-Jan-21 14:00 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	03-Feb-21 23:59	Received
RSK175	5	03-Feb-21 23:59	Received
Sample ID: CRCA-MW0019-058.0-20210120(Lab ID: AE00066-12), Matrix: Ground Water, Sampled: 20-Jan-21 16:00 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	03-Feb-21 23:59	Received
RSK175	5	03-Feb-21 23:59	Received
Sample ID: CRCA-VMP01-20210120(Lab ID: AE00066-13), Matrix: Air, Sampled: 20-Jan-21 11:03 (GMT-05:00) Eastern Time (US & Canada)			
Sample Comments: 1001-1103			
TO15 (SUMMA)	5	19-Feb-21 23:59	Received
Sample ID: CRCA-VMP02-20210120(Lab ID: AE00066-14), Matrix: Air, Sampled: 20-Jan-21 11:06 (GMT-05:00) Eastern Time (US & Canada)			
Sample Comments: 1008-1106			
TO15 (SUMMA)	5	19-Feb-21 23:59	Received
Sample ID: CRCA-VMP03-20210120(Lab ID: AE00066-15), Matrix: Air, Sampled: 20-Jan-21 11:15 (GMT-05:00) Eastern Time (US & Canada)			
Sample Comments: 1014-1115			
TO15 (SUMMA)	5	19-Feb-21 23:59	Received
Sample ID: CRCA-VMP04-20210120(Lab ID: AE00066-16), Matrix: Air, Sampled: 20-Jan-21 11:22 (GMT-05:00) Eastern Time (US & Canada)			
Sample Comments: 1022-1122			
TO15 (SUMMA)	5	19-Feb-21 23:59	Received
Sample ID: CRCA-SYSAIR-20210120(Lab ID: AE00066-17), Matrix: Air, Sampled: 20-Jan-21 17:03 (GMT-05:00) Eastern Time (US & Canada)			
Sample Comments: 1900-1703			
TO15 (SUMMA)	5	19-Feb-21 23:59	Received

Analysis Groups included in this work order

ENCO Orlando

SDG: AE00066-TE016

CLASS: 01_VOA_MS

METHOD: EPA 8260D

ANALYSES DATA PACKAGE COVER PAGE

EPA 8260D

Laboratory: ENCO Orlando

SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-MW0030-058.0-20210119	AE00066-01
CRCA-MW0029-035.0-20210119	AE00066-02
CRCA-MW0028-058.0-20210119	AE00066-03
CRCA-MW0027-035.0-20210119	AE00066-04
CRCA-MW0015-027.5-20210119	AE00066-05
CRCA-MW0013-027.5-20210119	AE00066-06
CRCA-MW0012-027.5-20210119	AE00066-07
CRCA-MW0002-032.5-20210119	AE00066-08
CRCA-MW0031-058.0-20210120	AE00066-09
CRCA-MW0032-058.0-20210120	AE00066-10
CRCA-MW0018-058.0-20210120	AE00066-11
CRCA-MW0018-058.0-20210120	AE00066-11RE1
CRCA-MW0019-058.0-20210120	AE00066-12

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0030-058.0-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-01 File ID: 215AT010.D

Sampled: 01/19/21 11:05 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 12:17

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0030-058.0-20210119

Laboratory: ENCO Orlando | SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) | Project: NASA KSC CRCA

Matrix: Ground Water | Laboratory ID: AE00066-01 | File ID: 215AT010.D

Sampled: 01/19/21 11:05 | Prepared: 01/25/21 00:00 | Analyzed: 01/25/21 12:17

Solids: | Preparation: EPA 5030B_MS | Initial/Final: 5 mL / 5 mL

Batch: 1A25020 | Sequence: AA64632 | Calibration: 2011113 | Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	57	115	53 - 146	
Toluene-d8	50.0	48	97	41 - 146	
4-Bromofluorobenzene	50.0	53	106	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1351808	9.863	1217120	9.845	
1,4-Difluorobenzene	2866333	10.456	2353990	10.438	
Chlorobenzene-d5	1635734	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1522320	15.491	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0029-035.0-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-02 File ID: 215AT011.D

Sampled: 01/19/21 11:40 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 12:46

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0029-035.0-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-02 File ID: 215AT011.D

Sampled: 01/19/21 11:40 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 12:46

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	57	114	53 - 146	
Toluene-d8	50.0	48	96	41 - 146	
4-Bromofluorobenzene	50.0	53	107	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1334319	9.863	1217120	9.845	
1,4-Difluorobenzene	2846320	10.456	2353990	10.438	
Chlorobenzene-d5	1622830	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1514443	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0028-058.0-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-03 File ID: 215AT012.D

Sampled: 01/19/21 12:20 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 13:15

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0028-058.0-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-03 File ID: 215AT012.D

Sampled: 01/19/21 12:20 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 13:15

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	56	111	53 - 146	
Toluene-d8	50.0	48	95	41 - 146	
4-Bromofluorobenzene	50.0	53	105	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1325539	9.862	1217120	9.845	
1,4-Difluorobenzene	2841226	10.456	2353990	10.438	
Chlorobenzene-d5	1602227	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1534202	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0027-035.0-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-04 File ID: 215AT013.D

Sampled: 01/19/21 13:00 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 13:45

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	7.0		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0027-035.0-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-04 File ID: 215AT013.D

Sampled: 01/19/21 13:00 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 13:45

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	57	115	53 - 146	
Toluene-d8	50.0	46	93	41 - 146	
4-Bromofluorobenzene	50.0	52	104	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1342454	9.863	1217120	9.845	
1,4-Difluorobenzene	2980618	10.462	2353990	10.438	
Chlorobenzene-d5	1652145	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1560174	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0015-027.5-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-05 File ID: 215AT014.D

Sampled: 01/19/21 13:35 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 14:14

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0015-027.5-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-05 File ID: 215AT014.D

Sampled: 01/19/21 13:35 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 14:14

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	57	114	53 - 146	
Toluene-d8	50.0	47	94	41 - 146	
4-Bromofluorobenzene	50.0	54	108	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1353784	9.868	1217120	9.845	
1,4-Difluorobenzene	2923690	10.462	2353990	10.438	
Chlorobenzene-d5	1584476	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1534322	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0013-027.5-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-06 File ID: 215AT015.D

Sampled: 01/19/21 14:30 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 14:44

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	2.1	J	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0013-027.5-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-06 File ID: 215AT015.D

Sampled: 01/19/21 14:30 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 14:44

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	57	114	53 - 146	
Toluene-d8	50.0	48	96	41 - 146	
4-Bromofluorobenzene	50.0	55	109	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1323227	9.868	1217120	9.845	
1,4-Difluorobenzene	2812403	10.462	2353990	10.438	
Chlorobenzene-d5	1560555	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1499588	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0012-027.5-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-07 File ID: 215AT016.D

Sampled: 01/19/21 15:10 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 15:13

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0012-027.5-20210119

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE00066-07
File ID: 215AT016.D
Sampled: 01/19/21 15:10
Prepared: 01/25/21 00:00
Analyzed: 01/25/21 15:13
Solids:
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Batch: 1A25020
Sequence: AA64632
Calibration: 2011113
Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	59	118	53 - 146	
Toluene-d8	50.0	48	96	41 - 146	
4-Bromofluorobenzene	50.0	54	109	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1311393	9.868	1217120	9.845	
1,4-Difluorobenzene	2857206	10.462	2353990	10.438	
Chlorobenzene-d5	1588971	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1519324	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0002-032.5-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-08 File ID: 215AT017.D

Sampled: 01/19/21 15:45 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 15:43

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	3.1		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0002-032.5-20210119

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE00066-08
File ID: 215AT017.D
Sampled: 01/19/21 15:45
Prepared: 01/25/21 00:00
Analyzed: 01/25/21 15:43
Solids:
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Batch: 1A25020
Sequence: AA64632
Calibration: 2011113
Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	56	113	53 - 146	
Toluene-d8	50.0	49	97	41 - 146	
4-Bromofluorobenzene	50.0	55	109	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1324243	9.863	1217120	9.845	
1,4-Difluorobenzene	2844356	10.456	2353990	10.438	
Chlorobenzene-d5	1569592	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1496442	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0031-058.0-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-09 File ID: 215AT018.D

Sampled: 01/20/21 12:15 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 16:12

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	29		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0031-058.0-20210120

Laboratory: ENCO Orlando | SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) | Project: NASA KSC CRCA

Matrix: Ground Water | Laboratory ID: AE00066-09 | File ID: 215AT018.D

Sampled: 01/20/21 12:15 | Prepared: 01/25/21 00:00 | Analyzed: 01/25/21 16:12

Solids: | Preparation: EPA 5030B_MS | Initial/Final: 5 mL / 5 mL

Batch: 1A25020 | Sequence: AA64632 | Calibration: 2011113 | Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	59	118	53 - 146	
Toluene-d8	50.0	47	93	41 - 146	
4-Bromofluorobenzene	50.0	52	105	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1346166	9.863	1217120	9.845	
1,4-Difluorobenzene	3057273	10.462	2353990	10.438	
Chlorobenzene-d5	1666053	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1548120	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0032-058.0-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-10 File ID: 215AT009.D

Sampled: 01/20/21 13:00 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 11:47

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0032-058.0-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-10 File ID: 215AT009.D

Sampled: 01/20/21 13:00 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 11:47

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	57	114	53 - 146	
Toluene-d8	50.0	47	94	41 - 146	
4-Bromofluorobenzene	50.0	53	106	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1353992	9.863	1217120	9.845	
1,4-Difluorobenzene	2910142	10.456	2353990	10.438	
Chlorobenzene-d5	1676020	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1554117	15.491	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0018-058.0-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-11RE1 File ID: 212AU017.D

Sampled: 01/20/21 14:00 Prepared: 01/26/21 00:00 Analyzed: 01/26/21 15:52

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A26010 Sequence: AA64658 Calibration: 2101077 Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	97		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0018-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE00066-11RE1
File ID: 212AU017.D
Sampled: 01/20/21 14:00
Prepared: 01/26/21 00:00
Analyzed: 01/26/21 15:52
Solids:
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Batch: 1A26010
Sequence: AA64658
Calibration: 2101077
Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	55	110	53 - 146	
Toluene-d8	50.0	55	109	41 - 146	
4-Bromofluorobenzene	50.0	54	108	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	193931	11.47	253281	11.45	
1,4-Difluorobenzene	383784	12.02	506895	11.99	
Chlorobenzene-d5	191378	14.62	216205	14.59	
1,4-Dichlorobenzene-d4	134955	16.99	135032	16.96	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0019-058.0-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-12 File ID: 215AT020.D

Sampled: 01/20/21 16:00 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 17:11

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	2.8		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0019-058.0-20210120

Laboratory: ENCO Orlando | SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) | Project: NASA KSC CRCA

Matrix: Ground Water | Laboratory ID: AE00066-12 | File ID: 215AT020.D

Sampled: 01/20/21 16:00 | Prepared: 01/25/21 00:00 | Analyzed: 01/25/21 17:11

Solids: | Preparation: EPA 5030B_MS | Initial/Final: 5 mL / 5 mL

Batch: 1A25020 | Sequence: AA64632 | Calibration: 2011113 | Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	57	113	53 - 146	
Toluene-d8	50.0	47	95	41 - 146	
4-Bromofluorobenzene	50.0	55	110	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1326429	9.868	1217120	9.845	
1,4-Difluorobenzene	2844280	10.462	2353990	10.438	
Chlorobenzene-d5	1585901	13.241	1612072	13.217	
1,4-Dichlorobenzene-d4	1547465	15.497	1366836	15.474	

* Values outside of QC limits

HOLDING TIME SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-MW0030-058.0-20210119	01/19/21 11:05	01/21/21 15:10	01/25/21 00:00	5.54	NA	01/25/21 12:17	6.00	14.00	
CRCA-MW0029-035.0-20210119	01/19/21 11:40	01/21/21 15:10	01/25/21 00:00	5.51	NA	01/25/21 12:46	6.00	14.00	
CRCA-MW0028-058.0-20210119	01/19/21 12:20	01/21/21 15:10	01/25/21 00:00	5.49	NA	01/25/21 13:15	6.00	14.00	
CRCA-MW0027-035.0-20210119	01/19/21 13:00	01/21/21 15:10	01/25/21 00:00	5.46	NA	01/25/21 13:45	6.00	14.00	
CRCA-MW0015-027.5-20210119	01/19/21 13:35	01/21/21 15:10	01/25/21 00:00	5.43	NA	01/25/21 14:14	6.00	14.00	
CRCA-MW0013-027.5-20210119	01/19/21 14:30	01/21/21 15:10	01/25/21 00:00	5.40	NA	01/25/21 14:44	6.00	14.00	
CRCA-MW0012-027.5-20210119	01/19/21 15:10	01/21/21 15:10	01/25/21 00:00	5.37	NA	01/25/21 15:13	6.00	14.00	
CRCA-MW0002-032.5-20210119	01/19/21 15:45	01/21/21 15:10	01/25/21 00:00	5.34	NA	01/25/21 15:43	6.00	14.00	
CRCA-MW0031-058.0-20210120	01/20/21 12:15	01/21/21 15:10	01/25/21 00:00	4.49	NA	01/25/21 16:12	5.00	14.00	
CRCA-MW0032-058.0-20210120	01/20/21 13:00	01/21/21 15:10	01/25/21 00:00	4.46	NA	01/25/21 11:47	5.00	14.00	
CRCA-MW0018-058.0-20210120	01/20/21 14:00	01/21/21 15:10	01/26/21 00:00	5.42	NA	01/26/21 15:52	6.00	14.00	
CRCA-MW0019-058.0-20210120	01/20/21 16:00	01/21/21 15:10	01/25/21 00:00	4.33	NA	01/25/21 17:11	5.00	14.00	

PREPARATION BATCH SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1A25020 Batch Matrix: Water Preparation: EPA 5030B_MS

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1A25020-BLK1	215AT006.D	01/25/21 00:00	
LCS	1A25020-BS1	215AT004.D	01/25/21 00:00	
CRCA-MW0032-058.0-20210120	1A25020-MS1	215AT023.D	01/25/21 00:00	
CRCA-MW0032-058.0-20210120	1A25020-MSD1	215AT024.D	01/25/21 00:00	
CRCA-MW0030-058.0-20210119	AE00066-01	215AT010.D	01/25/21 00:00	
CRCA-MW0029-035.0-20210119	AE00066-02	215AT011.D	01/25/21 00:00	
CRCA-MW0028-058.0-20210119	AE00066-03	215AT012.D	01/25/21 00:00	
CRCA-MW0027-035.0-20210119	AE00066-04	215AT013.D	01/25/21 00:00	
CRCA-MW0015-027.5-20210119	AE00066-05	215AT014.D	01/25/21 00:00	
CRCA-MW0013-027.5-20210119	AE00066-06	215AT015.D	01/25/21 00:00	
CRCA-MW0012-027.5-20210119	AE00066-07	215AT016.D	01/25/21 00:00	
CRCA-MW0002-032.5-20210119	AE00066-08	215AT017.D	01/25/21 00:00	
CRCA-MW0031-058.0-20210120	AE00066-09	215AT018.D	01/25/21 00:00	
CRCA-MW0032-058.0-20210120	AE00066-10	215AT009.D	01/25/21 00:00	
CRCA-MW0019-058.0-20210120	AE00066-12	215AT020.D	01/25/21 00:00	

PREPARATION BATCH SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1A26010 Batch Matrix: Water Preparation: EPA 5030B_MS

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1A26010-BLK1	212AU008.D	01/26/21 00:00	
LCS	1A26010-BS1	212AU003.D	01/26/21 00:00	
MW-3R	1A26010-MS1	212AU004.D	01/26/21 00:00	
MW-3R	1A26010-MSD1	212AU005.D	01/26/21 00:00	
CRCA-MW0018-058.0-20210120	AE00066-11RE1	212AU017.D	01/26/21 00:00	

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1A25020-BLK1	File ID:	215AT006.D
Prepared:	01/25/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	01/25/21 10:19	Instrument:	OVGCMS5		
Batch:	1A25020	Sequence:	AA64632	Calibration:	2011113

CAS NO.	COMPOUND	CONC. (ug/L)	Q
75-71-8	Dichlorodifluoromethane	0.74	U
74-87-3	Chloromethane	0.82	U
75-01-4	Vinyl chloride	0.71	U
74-83-9	Bromomethane	0.95	U
75-00-3	Chloroethane	0.98	U
75-69-4	Trichlorofluoromethane	0.94	U
76-13-1	Freon 113	0.73	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	0.94	U
75-15-0	Carbon disulfide	2.5	U
75-09-2	Methylene Chloride	2.5	U
1634-04-4	Methyl-tert-Butyl Ether	0.60	U
156-60-5	trans-1,2-Dichloroethene	0.73	U
156-59-2	cis-1,2-Dichloroethene	0.53	U
75-34-3	1,1-Dichloroethane	0.62	U
78-93-3	2-Butanone	4.5	U
67-66-3	Chloroform	0.80	U
71-55-6	1,1,1-Trichloroethane	0.80	U
79-20-9	Methyl acetate	0.95	U
110-82-7	Cyclohexane	0.93	U
108-87-2	Methyl cyclohexane	0.64	U
56-23-5	Carbon Tetrachloride	0.94	U
107-06-2	1,2-Dichloroethane	0.63	U
71-43-2	Benzene	0.71	U
79-01-6	Trichloroethene	0.89	U
78-87-5	1,2-Dichloropropane	0.80	U
75-27-4	Bromodichloromethane	0.52	U
108-10-1	4-Methyl-2-pentanone	2.5	U
591-78-6	2-Hexanone	2.5	U
10061-01-5	cis-1,3-Dichloropropene	0.59	U

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1A25020-BLK1	File ID:	215AT006.D
Prepared:	01/25/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	01/25/21 10:19	Instrument:	OVGCMS5		
Batch:	1A25020	Sequence:	AA64632	Calibration:	2011113

CAS NO.	COMPOUND	CONC. (ug/L)	Q
108-88-3	Toluene	0.72	U
10061-02-6	trans-1,3-Dichloropropene	0.73	U
79-00-5	1,1,2-Trichloroethane	0.76	U
127-18-4	Tetrachloroethene	0.76	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.78	U
108-90-7	Chlorobenzene	0.72	U
100-41-4	Ethylbenzene	0.69	U
108-38-3/106-42-3	m,p-Xylenes	1.3	U
95-47-6	o-Xylene	0.53	U
75-25-2	Bromoform	0.75	U
100-42-5	Styrene	0.61	U
98-82-8	Isopropylbenzene	0.67	U
79-34-5	1,1,2,2-Tetrachloroethane	0.54	U
120-82-1	1,2,4-Trichlorobenzene	0.70	U
541-73-1	1,3-Dichlorobenzene	0.77	U
106-46-7	1,4-Dichlorobenzene	0.76	U
95-50-1	1,2-Dichlorobenzene	0.73	U
96-12-8	1,2-Dibromo-3-chloropropane	0.96	U
1330-20-7	Xylenes (Total)	1.3	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	55	111	53 - 146	
Toluene-d8	50.0	48	96	41 - 146	
4-Bromofluorobenzene	50.0	54	109	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1492905	9.857	1217120	9.845	
1,4-Difluorobenzene	3146822	10.456	2353990	10.438	
Chlorobenzene-d5	1772986	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1644956	15.491	1366836	15.474	

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1A26010-BLK1	File ID:	212AU008.D
Prepared:	01/26/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	01/26/21 11:19	Instrument:	OVGCMS2		
Batch:	1A26010	Sequence:	AA64658	Calibration:	2101077

CAS NO.	COMPOUND	CONC. (ug/L)	Q
75-71-8	Dichlorodifluoromethane	0.74	U
74-87-3	Chloromethane	0.82	U
75-01-4	Vinyl chloride	0.71	U
74-83-9	Bromomethane	0.95	U
75-00-3	Chloroethane	0.98	U
75-69-4	Trichlorofluoromethane	0.94	U
76-13-1	Freon 113	0.73	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	0.94	U
75-15-0	Carbon disulfide	2.5	U
75-09-2	Methylene Chloride	2.5	U
1634-04-4	Methyl-tert-Butyl Ether	0.60	U
156-60-5	trans-1,2-Dichloroethene	0.73	U
156-59-2	cis-1,2-Dichloroethene	0.53	U
75-34-3	1,1-Dichloroethane	0.62	U
78-93-3	2-Butanone	4.5	U
67-66-3	Chloroform	0.80	U
71-55-6	1,1,1-Trichloroethane	0.80	U
79-20-9	Methyl acetate	0.95	U
110-82-7	Cyclohexane	0.93	U
108-87-2	Methyl cyclohexane	0.64	U
56-23-5	Carbon Tetrachloride	0.94	U
107-06-2	1,2-Dichloroethane	0.63	U
71-43-2	Benzene	0.71	U
79-01-6	Trichloroethene	0.89	U
78-87-5	1,2-Dichloropropane	0.80	U
75-27-4	Bromodichloromethane	0.52	U
108-10-1	4-Methyl-2-pentanone	2.5	U
591-78-6	2-Hexanone	2.5	U
10061-01-5	cis-1,3-Dichloropropene	0.59	U

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1A26010-BLK1	File ID:	212AU008.D
Prepared:	01/26/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	01/26/21 11:19	Instrument:	OVGCMS2		
Batch:	1A26010	Sequence:	AA64658	Calibration:	2101077

CAS NO.	COMPOUND	CONC. (ug/L)	Q
108-88-3	Toluene	0.72	U
10061-02-6	trans-1,3-Dichloropropene	0.73	U
79-00-5	1,1,2-Trichloroethane	0.76	U
127-18-4	Tetrachloroethene	0.76	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.78	U
108-90-7	Chlorobenzene	0.72	U
100-41-4	Ethylbenzene	0.69	U
108-38-3/106-42-3	m,p-Xylenes	1.3	U
95-47-6	o-Xylene	0.53	U
75-25-2	Bromoform	0.75	U
100-42-5	Styrene	0.61	U
98-82-8	Isopropylbenzene	0.67	U
79-34-5	1,1,2,2-Tetrachloroethane	0.54	U
120-82-1	1,2,4-Trichlorobenzene	0.70	U
541-73-1	1,3-Dichlorobenzene	0.77	U
106-46-7	1,4-Dichlorobenzene	0.76	U
95-50-1	1,2-Dichlorobenzene	0.73	U
96-12-8	1,2-Dibromo-3-chloropropane	0.96	U
1330-20-7	Xylenes (Total)	1.3	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	58	116	53 - 146	
Toluene-d8	50.0	51	102	41 - 146	
4-Bromofluorobenzene	50.0	51	103	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	294699	11.47	253281	11.45	
1,4-Difluorobenzene	604071	12.02	506895	11.99	
Chlorobenzene-d5	274826	14.62	216205	14.59	
1,4-Dichlorobenzene-d4	171064	16.98	135032	16.96	

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1A25020	Laboratory ID:	1A25020-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	12	61	10 - 180
Chloromethane	20.0	9.3	46	33 - 154
Vinyl chloride	20.0	17	85	20 - 167
Bromomethane	20.0	8.7	44	10 - 173
Chloroethane	20.0	22	109	27 - 180
Trichlorofluoromethane	20.0	20	100	56 - 155
Freon 113	20.0	21	104	47 - 173
Acetone	100	71	71	10 - 180
1,1-Dichloroethene	20.0	20	102	47 - 139
Carbon disulfide	20.0	20	102	43 - 153
Methylene Chloride	20.0	20	100	43 - 142
Methyl-tert-Butyl Ether	20.0	20	99	51 - 145
trans-1,2-Dichloroethene	20.0	22	108	54 - 134
cis-1,2-Dichloroethene	20.0	22	109	56 - 128
1,1-Dichloroethane	20.0	19	93	57 - 142
2-Butanone	100	90	90	10 - 180
Chloroform	20.0	20	99	58 - 139
1,1,1-Trichloroethane	20.0	19	97	57 - 148
Methyl acetate	20.0	13	65 *	70 - 130
Cyclohexane	20.0	16	82	70 - 130
Methyl cyclohexane	20.0	18	89	70 - 130
Carbon Tetrachloride	20.0	16	80	54 - 156
1,2-Dichloroethane	20.0	15	75	50 - 156
Benzene	20.0	19	94	56 - 136
Trichloroethene	20.0	21	103	62 - 135
1,2-Dichloropropane	20.0	16	80	61 - 133
Bromodichloromethane	20.0	18	89	58 - 135
4-Methyl-2-pentanone	100	90	90	19 - 180
2-Hexanone	100	68	68	12 - 180
cis-1,3-Dichloropropene	20.0	17	87	64 - 128

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1A25020	Laboratory ID:	1A25020-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Toluene	20.0	23	114	64 - 131
trans-1,3-Dichloropropene	20.0	21	103	65 - 149
1,1,2-Trichloroethane	20.0	21	107	57 - 141
Tetrachloroethene	20.0	21	104	60 - 147
Dibromochloromethane	20.0	24	118	50 - 140
1,2-Dibromoethane	20.0	22	110	57 - 140
Chlorobenzene	20.0	24	120	51 - 139
Ethylbenzene	20.0	22	108	63 - 133
m,p-Xylenes	40.0	50	125	64 - 133
o-Xylene	20.0	23	117	61 - 129
Bromoform	20.0	21	107	46 - 148
Styrene	20.0	25	126	59 - 136
Isopropylbenzene	20.0	24	118	60 - 132
1,1,2,2-Tetrachloroethane	20.0	21	105	60 - 139
1,2,4-Trichlorobenzene	20.0	17	87	52 - 159
1,3-Dichlorobenzene	20.0	24	118	66 - 129
1,4-Dichlorobenzene	20.0	21	106	65 - 133
1,2-Dichlorobenzene	20.0	23	113	63 - 131
1,2-Dibromo-3-chloropropane	20.0	20	102	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1A26010	Laboratory ID:	1A26010-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	14	69	10 - 180
Chloromethane	20.0	19	97	33 - 154
Vinyl chloride	20.0	24	118	20 - 167
Bromomethane	20.0	20	101	10 - 173
Chloroethane	20.0	25	124	27 - 180
Trichlorofluoromethane	20.0	25	123	56 - 155
Freon 113	20.0	28	142	47 - 173
Acetone	100	160	156	10 - 180
1,1-Dichloroethene	20.0	25	125	47 - 139
Carbon disulfide	20.0	36	178 *	43 - 153
Methylene Chloride	20.0	27	136	43 - 142
Methyl-tert-Butyl Ether	20.0	28	141	51 - 145
trans-1,2-Dichloroethene	20.0	27	135 *	54 - 134
cis-1,2-Dichloroethene	20.0	25	124	56 - 128
1,1-Dichloroethane	20.0	24	119	57 - 142
2-Butanone	100	130	126	10 - 180
Chloroform	20.0	28	140 *	58 - 139
1,1,1-Trichloroethane	20.0	25	127	57 - 148
Methyl acetate	20.0	30	148 *	70 - 130
Cyclohexane	20.0	26	132 *	70 - 130
Methyl cyclohexane	20.0	23	116	70 - 130
Carbon Tetrachloride	20.0	23	115	54 - 156
1,2-Dichloroethane	20.0	24	119	50 - 156
Benzene	20.0	21	106	56 - 136
Trichloroethene	20.0	22	112	62 - 135
1,2-Dichloropropane	20.0	24	118	61 - 133
Bromodichloromethane	20.0	23	117	58 - 135
4-Methyl-2-pentanone	100	110	114	19 - 180
2-Hexanone	100	110	114	12 - 180
cis-1,3-Dichloropropene	20.0	23	116	64 - 128

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1A26010	Laboratory ID:	1A26010-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Toluene	20.0	20	101	64 - 131
trans-1,3-Dichloropropene	20.0	23	116	65 - 149
1,1,2-Trichloroethane	20.0	23	114	57 - 141
Tetrachloroethene	20.0	19	97	60 - 147
Dibromochloromethane	20.0	22	112	50 - 140
1,2-Dibromoethane	20.0	23	116	57 - 140
Chlorobenzene	20.0	20	101	51 - 139
Ethylbenzene	20.0	20	100	63 - 133
m,p-Xylenes	40.0	40	99	64 - 133
o-Xylene	20.0	20	102	61 - 129
Bromoform	20.0	23	113	46 - 148
Styrene	20.0	21	103	59 - 136
Isopropylbenzene	20.0	21	104	60 - 132
1,1,2,2-Tetrachloroethane	20.0	23	115	60 - 139
1,2,4-Trichlorobenzene	20.0	25	127	52 - 159
1,3-Dichlorobenzene	20.0	21	105	66 - 129
1,4-Dichlorobenzene	20.0	20	101	65 - 133
1,2-Dichlorobenzene	20.0	22	109	63 - 131
1,2-Dibromo-3-chloropropane	20.0	27	137	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0032-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A25020
Laboratory ID: 1A25020-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0032-058.0-20210120

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	ND	13	66	10 - 180
Chloromethane	20.0	ND	9.6	48	33 - 154
Vinyl chloride	20.0	ND	17	84	20 - 167
Bromomethane	20.0	ND	10	50	10 - 173
Chloroethane	20.0	ND	23	113	27 - 180
Trichlorofluoromethane	20.0	ND	23	113	56 - 155
Freon 113	20.0	ND	23	115	47 - 173
Acetone	100	ND	65	65	10 - 180
1,1-Dichloroethene	20.0	ND	23	114	47 - 139
Carbon disulfide	20.0	ND	21	106	43 - 153
Methylene Chloride	20.0	ND	21	105	43 - 142
Methyl-tert-Butyl Ether	20.0	ND	20	100	51 - 145
trans-1,2-Dichloroethene	20.0	ND	22	111	54 - 134
cis-1,2-Dichloroethene	20.0	ND	22	110	56 - 128
1,1-Dichloroethane	20.0	ND	19	96	57 - 142
2-Butanone	100	ND	88	88	10 - 180
Chloroform	20.0	ND	21	104	58 - 139
1,1,1-Trichloroethane	20.0	ND	22	110	57 - 148
Methyl acetate	20.0	ND	10	51 *	70 - 130
Cyclohexane	20.0	ND	16	82	70 - 130
Methyl cyclohexane	20.0	ND	19	95	70 - 130
Carbon Tetrachloride	20.0	ND	18	89	54 - 156
1,2-Dichloroethane	20.0	ND	16	79	50 - 156
Benzene	20.0	ND	20	100	56 - 136
Trichloroethene	20.0	ND	24	122	62 - 135
1,2-Dichloropropane	20.0	ND	16	79	61 - 133
Bromodichloromethane	20.0	ND	19	95	58 - 135
4-Methyl-2-pentanone	100	ND	87	87	19 - 180
2-Hexanone	100	ND	62	62	12 - 180
cis-1,3-Dichloropropene	20.0	ND	17	85	64 - 128
Toluene	20.0	ND	24	122	64 - 131

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0032-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A25020
Laboratory ID: 1A25020-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0032-058.0-20210120

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
trans-1,3-Dichloropropene	20.0	ND	20	102	65 - 149
1,1,2-Trichloroethane	20.0	ND	22	110	57 - 141
Tetrachloroethene	20.0	ND	24	122	60 - 147
Dibromochloromethane	20.0	ND	25	127	50 - 140
1,2-Dibromoethane	20.0	ND	23	115	57 - 140
Chlorobenzene	20.0	ND	27	135	51 - 139
Ethylbenzene	20.0	ND	24	119	63 - 133
m,p-Xylenes	40.0	ND	55	137 *	64 - 133
o-Xylene	20.0	ND	25	127	61 - 129
Bromoform	20.0	ND	22	109	46 - 148
Styrene	20.0	ND	28	140 *	59 - 136
Isopropylbenzene	20.0	ND	26	131	60 - 132
1,1,2,2-Tetrachloroethane	20.0	ND	23	114	60 - 139
1,2,4-Trichlorobenzene	20.0	ND	15	74	52 - 159
1,3-Dichlorobenzene	20.0	ND	25	125	66 - 129
1,4-Dichlorobenzene	20.0	ND	23	114	65 - 133
1,2-Dichlorobenzene	20.0	ND	23	114	63 - 131
1,2-Dibromo-3-chloropropane	20.0	ND	14	72	48 - 150

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0032-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A25020
Laboratory ID: 1A25020-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0032-058.0-20210120

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20.0	13	63	4	26	10 - 180
Chloromethane	20.0	9.0	45	7	31	33 - 154
Vinyl chloride	20.0	15	77	8	24	20 - 167
Bromomethane	20.0	11	55	10	29	10 - 173
Chloroethane	20.0	21	105	7	22	27 - 180
Trichlorofluoromethane	20.0	20	102	10	22	56 - 155
Freon 113	20.0	21	105	9	30	47 - 173
Acetone	100	70	70	7	19	10 - 180
1,1-Dichloroethene	20.0	21	103	10	16	47 - 139
Carbon disulfide	20.0	19	94	12	26	43 - 153
Methylene Chloride	20.0	19	95	9	23	43 - 142
Methyl-tert-Butyl Ether	20.0	19	95	5	22	51 - 145
trans-1,2-Dichloroethene	20.0	21	103	8	20	54 - 134
cis-1,2-Dichloroethene	20.0	21	104	5	17	56 - 128
1,1-Dichloroethane	20.0	18	90	6	24	57 - 142
2-Butanone	100	83	83	5	29	10 - 180
Chloroform	20.0	20	102	2	17	58 - 139
1,1,1-Trichloroethane	20.0	20	102	8	25	57 - 148
Methyl acetate	20.0	9.5	48 *	6	20	70 - 130
Cyclohexane	20.0	15	75	8	20	70 - 130
Methyl cyclohexane	20.0	18	91	4	20	70 - 130
Carbon Tetrachloride	20.0	16	79	12	27	54 - 156
1,2-Dichloroethane	20.0	15	77	1	18	50 - 156
Benzene	20.0	19	96	5	14	56 - 136
Trichloroethene	20.0	21	107	12	20	62 - 135
1,2-Dichloropropane	20.0	15	76	4	26	61 - 133
Bromodichloromethane	20.0	18	89	7	19	58 - 135
4-Methyl-2-pentanone	100	87	87	0.5	24	19 - 180
2-Hexanone	100	66	66	5	28	12 - 180
cis-1,3-Dichloropropene	20.0	16	78	9	20	64 - 128
Toluene	20.0	23	117	4	16	64 - 131
trans-1,3-Dichloropropene	20.0	19	97	5	17	65 - 149

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0032-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A25020
Laboratory ID: 1A25020-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0032-058.0-20210120

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,2-Trichloroethane	20.0	21	106	3	16	57 - 141
Tetrachloroethene	20.0	23	113	8	21	60 - 147
Dibromochloromethane	20.0	23	117	8	18	50 - 140
1,2-Dibromoethane	20.0	22	110	4	16	57 - 140
Chlorobenzene	20.0	26	129	5	13	51 - 139
Ethylbenzene	20.0	22	112	6	18	63 - 133
m,p-Xylenes	40.0	51	129	6	18	64 - 133
o-Xylene	20.0	25	123	4	16	61 - 129
Bromoform	20.0	21	106	2	18	46 - 148
Styrene	20.0	26	130	7	32	59 - 136
Isopropylbenzene	20.0	24	122	7	23	60 - 132
1,1,2,2-Tetrachloroethane	20.0	22	110	4	17	60 - 139
1,2,4-Trichlorobenzene	20.0	16	81	9	24	52 - 159
1,3-Dichlorobenzene	20.0	24	120	4	23	66 - 129
1,4-Dichlorobenzene	20.0	22	110	4	23	65 - 133
1,2-Dichlorobenzene	20.0	23	113	1	25	63 - 131
1,2-Dibromo-3-chloropropane	20.0	18	88	21	21	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-3R

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A26010
Laboratory ID: 1A26010-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-3R

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	ND	15	75	10 - 180
Chloromethane	20.0	ND	20	98	33 - 154
Vinyl chloride	20.0	ND	25	125	20 - 167
Bromomethane	20.0	ND	22	108	10 - 173
Chloroethane	20.0	ND	25	125	27 - 180
Trichlorofluoromethane	20.0	ND	26	128	56 - 155
Freon 113	20.0	ND	29	146	47 - 173
Acetone	100	ND	150	152	10 - 180
1,1-Dichloroethene	20.0	ND	25	126	47 - 139
Carbon disulfide	20.0	ND	35	173 *	43 - 153
Methylene Chloride	20.0	ND	26	129	43 - 142
Methyl-tert-Butyl Ether	20.0	ND	28	139	51 - 145
trans-1,2-Dichloroethene	20.0	ND	26	130	54 - 134
cis-1,2-Dichloroethene	20.0	ND	24	118	56 - 128
1,1-Dichloroethane	20.0	ND	23	115	57 - 142
2-Butanone	100	ND	140	137	10 - 180
Chloroform	20.0	ND	27	134	58 - 139
1,1,1-Trichloroethane	20.0	ND	25	125	57 - 148
Methyl acetate	20.0	ND	29	144 *	70 - 130
Cyclohexane	20.0	ND	27	134 *	70 - 130
Methyl cyclohexane	20.0	ND	23	114	70 - 130
Carbon Tetrachloride	20.0	ND	23	114	54 - 156
1,2-Dichloroethane	20.0	ND	22	112	50 - 156
Benzene	20.0	ND	20	102	56 - 136
Trichloroethene	20.0	ND	21	106	62 - 135
1,2-Dichloropropane	20.0	ND	23	115	61 - 133
Bromodichloromethane	20.0	ND	22	110	58 - 135
4-Methyl-2-pentanone	100	ND	120	119	19 - 180
2-Hexanone	100	ND	120	123	12 - 180
cis-1,3-Dichloropropene	20.0	ND	22	111	64 - 128
Toluene	20.0	ND	20	98	64 - 131

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-3R

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A26010
Laboratory ID: 1A26010-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-3R

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
trans-1,3-Dichloropropene	20.0	ND	22	110	65 - 149
1,1,2-Trichloroethane	20.0	ND	22	109	57 - 141
Tetrachloroethene	20.0	ND	19	96	60 - 147
Dibromochloromethane	20.0	ND	21	107	50 - 140
1,2-Dibromoethane	20.0	ND	22	110	57 - 140
Chlorobenzene	20.0	ND	20	98	51 - 139
Ethylbenzene	20.0	ND	20	98	63 - 133
m,p-Xylenes	40.0	ND	39	97	64 - 133
o-Xylene	20.0	ND	19	97	61 - 129
Bromoform	20.0	ND	22	108	46 - 148
Styrene	20.0	ND	20	98	59 - 136
Isopropylbenzene	20.0	ND	20	100	60 - 132
1,1,2,2-Tetrachloroethane	20.0	ND	22	112	60 - 139
1,2,4-Trichlorobenzene	20.0	ND	24	122	52 - 159
1,3-Dichlorobenzene	20.0	ND	20	99	66 - 129
1,4-Dichlorobenzene	20.0	ND	19	97	65 - 133
1,2-Dichlorobenzene	20.0	ND	20	102	63 - 131
1,2-Dibromo-3-chloropropane	20.0	ND	27	136	48 - 150

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-3R

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A26010
Laboratory ID: 1A26010-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-3R

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20.0	14	70	6	26	10 - 180
Chloromethane	20.0	19	96	3	31	33 - 154
Vinyl chloride	20.0	24	120	4	24	20 - 167
Bromomethane	20.0	23	114	5	29	10 - 173
Chloroethane	20.0	25	125	0.2	22	27 - 180
Trichlorofluoromethane	20.0	26	131	3	22	56 - 155
Freon 113	20.0	29	144	2	30	47 - 173
Acetone	100	160	157	3	19	10 - 180
1,1-Dichloroethene	20.0	24	120	5	16	47 - 139
Carbon disulfide	20.0	33	163 *	6	26	43 - 153
Methylene Chloride	20.0	26	128	1	23	43 - 142
Methyl-tert-Butyl Ether	20.0	28	141	1	22	51 - 145
trans-1,2-Dichloroethene	20.0	26	128	2	20	54 - 134
cis-1,2-Dichloroethene	20.0	23	115	2	17	56 - 128
1,1-Dichloroethane	20.0	23	115	0.2	24	57 - 142
2-Butanone	100	130	129	6	29	10 - 180
Chloroform	20.0	27	133	1	17	58 - 139
1,1,1-Trichloroethane	20.0	25	124	1	25	57 - 148
Methyl acetate	20.0	31	155 *	7	20	70 - 130
Cyclohexane	20.0	26	128	5	20	70 - 130
Methyl cyclohexane	20.0	22	112	2	20	70 - 130
Carbon Tetrachloride	20.0	23	113	0.4	27	54 - 156
1,2-Dichloroethane	20.0	22	112	0.6	18	50 - 156
Benzene	20.0	20	101	0.5	14	56 - 136
Trichloroethene	20.0	21	106	0.4	20	62 - 135
1,2-Dichloropropane	20.0	23	113	2	26	61 - 133
Bromodichloromethane	20.0	22	110	0.1	19	58 - 135
4-Methyl-2-pentanone	100	130	125	5	24	19 - 180
2-Hexanone	100	130	133	8	28	12 - 180
cis-1,3-Dichloropropene	20.0	22	111	0.2	20	64 - 128
Toluene	20.0	19	95	3	16	64 - 131
trans-1,3-Dichloropropene	20.0	22	108	2	17	65 - 149

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-3R

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A26010
Laboratory ID: 1A26010-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-3R

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,2-Trichloroethane	20.0	21	106	3	16	57 - 141
Tetrachloroethene	20.0	18	92	4	21	60 - 147
Dibromochloromethane	20.0	21	107	0.3	18	50 - 140
1,2-Dibromoethane	20.0	22	110	0.09	16	57 - 140
Chlorobenzene	20.0	19	95	3	13	51 - 139
Ethylbenzene	20.0	19	95	3	18	63 - 133
m,p-Xylenes	40.0	38	94	3	18	64 - 133
o-Xylene	20.0	19	96	1	16	61 - 129
Bromoform	20.0	21	107	0.9	18	46 - 148
Styrene	20.0	19	97	2	32	59 - 136
Isopropylbenzene	20.0	19	97	3	23	60 - 132
1,1,2,2-Tetrachloroethane	20.0	23	114	3	17	60 - 139
1,2,4-Trichlorobenzene	20.0	24	119	2	24	52 - 159
1,3-Dichlorobenzene	20.0	19	94	5	23	66 - 129
1,4-Dichlorobenzene	20.0	19	94	4	23	65 - 133
1,2-Dichlorobenzene	20.0	20	100	2	25	63 - 131
1,2-Dibromo-3-chloropropane	20.0	28	141	4	21	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA63653
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA63653-SCV1)			Lab File ID: 205KN012.D		Analyzed: 11/19/20 13:24			
Dibromofluoromethane	50.0	100	70 - 130	9.422	9.4205	0.0015	+/-0.5	
Toluene-d8	50.0	104	70 - 130	11.772	11.77275	-0.0008	+/-0.5	
4-Bromofluorobenzene	50.0	105	70 - 130	14.322	14.322	0.0000	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64539
Instrument: OVGCMS2
Matrix: Water
Calibration: 2101077

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA64539-SCV1)			Lab File ID: 212AN013.D		Analyzed: 01/19/21 13:38			
Dibromofluoromethane	50.0	99	70 - 130	11.04	11.05125	-0.0113	+/-0.5	
Toluene-d8	50.0	105	70 - 130	13.22	13.21875	0.0013	+/-0.5	
4-Bromofluorobenzene	50.0	105	70 - 130	15.71	15.71125	-0.0012	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64632
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA64632-CCV1)			Lab File ID: 215AT003.D		Analyzed: 01/25/21 08:47			
Dibromofluoromethane	50.0	107	80 - 120	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	99	80 - 120	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	103	80 - 120	14.334	14.322	0.0120	+/-0.5	
LCS (1A25020-BS1)			Lab File ID: 215AT004.D		Analyzed: 01/25/21 09:20			
Dibromofluoromethane	50.0	111	53 - 146	9.434	9.4205	0.0135	+/-0.5	
Toluene-d8	50.0	98	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	105	41 - 142	14.334	14.322	0.0120	+/-0.5	
Blank (1A25020-BLK1)			Lab File ID: 215AT006.D		Analyzed: 01/25/21 10:19			
Dibromofluoromethane	50.0	111	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	96	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	14.34	14.322	0.0180	+/-0.5	
Instrument RL Check (AA64632-CRL1)			Lab File ID: 215AT007.D		Analyzed: 01/25/21 10:48			
Dibromofluoromethane	50.0	108	1 - 199	9.434	9.4205	0.0135	+/-0.5	
Toluene-d8	50.0	95	1 - 199	11.784	11.77275	0.0113	+/-0.5	
4-Bromofluorobenzene	50.0	106	1 - 199	14.334	14.322	0.0120	+/-0.5	
CRCA-MW0032-058.0-20210120 (AE00066-10)			Lab File ID: 215AT009.D		Analyzed: 01/25/21 11:47			
Dibromofluoromethane	50.0	114	53 - 146	9.434	9.4205	0.0135	+/-0.5	
Toluene-d8	50.0	94	41 - 146	11.784	11.77275	0.0113	+/-0.5	
4-Bromofluorobenzene	50.0	106	41 - 142	14.334	14.322	0.0120	+/-0.5	
CRCA-MW0030-058.0-20210119 (AE00066-01)			Lab File ID: 215AT010.D		Analyzed: 01/25/21 12:17			
Dibromofluoromethane	50.0	115	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	97	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	106	41 - 142	14.334	14.322	0.0120	+/-0.5	
CRCA-MW0029-035.0-20210119 (AE00066-02)			Lab File ID: 215AT011.D		Analyzed: 01/25/21 12:46			
Dibromofluoromethane	50.0	114	53 - 146	9.44	9.4205	0.0195	+/-0.5	
Toluene-d8	50.0	96	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	107	41 - 142	14.34	14.322	0.0180	+/-0.5	
CRCA-MW0028-058.0-20210119 (AE00066-03)			Lab File ID: 215AT012.D		Analyzed: 01/25/21 13:15			
Dibromofluoromethane	50.0	111	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	95	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	105	41 - 142	14.34	14.322	0.0180	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64632
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
CRCA-MW0027-035.0-20210119 (AE00066-04)			Lab File ID: 215AT013.D		Analyzed: 01/25/21 13:45			
Dibromofluoromethane	50.0	115	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	93	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	104	41 - 142	14.34	14.322	0.0180	+/-0.5	
CRCA-MW0015-027.5-20210119 (AE00066-05)			Lab File ID: 215AT014.D		Analyzed: 01/25/21 14:14			
Dibromofluoromethane	50.0	114	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	94	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	108	41 - 142	14.34	14.322	0.0180	+/-0.5	
CRCA-MW0013-027.5-20210119 (AE00066-06)			Lab File ID: 215AT015.D		Analyzed: 01/25/21 14:44			
Dibromofluoromethane	50.0	114	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	96	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	14.34	14.322	0.0180	+/-0.5	
CRCA-MW0012-027.5-20210119 (AE00066-07)			Lab File ID: 215AT016.D		Analyzed: 01/25/21 15:13			
Dibromofluoromethane	50.0	118	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	96	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	14.34	14.322	0.0180	+/-0.5	
CRCA-MW0002-032.5-20210119 (AE00066-08)			Lab File ID: 215AT017.D		Analyzed: 01/25/21 15:43			
Dibromofluoromethane	50.0	113	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	97	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	14.34	14.322	0.0180	+/-0.5	
CRCA-MW0031-058.0-20210120 (AE00066-09)			Lab File ID: 215AT018.D		Analyzed: 01/25/21 16:12			
Dibromofluoromethane	50.0	118	53 - 146	9.44	9.4205	0.0195	+/-0.5	
Toluene-d8	50.0	93	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	105	41 - 142	14.34	14.322	0.0180	+/-0.5	
CRCA-MW0019-058.0-20210120 (AE00066-12)			Lab File ID: 215AT020.D		Analyzed: 01/25/21 17:11			
Dibromofluoromethane	50.0	113	53 - 146	9.445	9.4205	0.0245	+/-0.5	
Toluene-d8	50.0	95	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	110	41 - 142	14.34	14.322	0.0180	+/-0.5	
Matrix Spike (1A25020-MS1)			Lab File ID: 215AT023.D		Analyzed: 01/25/21 18:39			
Dibromofluoromethane	50.0	112	53 - 146	9.44	9.4205	0.0195	+/-0.5	
Toluene-d8	50.0	97	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	14.34	14.322	0.0180	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64632
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Matrix Spike Dup (1A25020-MSD1)			Lab File ID: 215AT024.D		Analyzed: 01/25/21 19:09			
Dibromofluoromethane	50.0	111	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	96	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	110	41 - 142	14.34	14.322	0.0180	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64658
Instrument: OVGCMS2
Matrix: Water
Calibration: 2101077

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA64658-CCV1)				Lab File ID: 212AU002.D		Analyzed: 01/26/21 08:06		
Dibromofluoromethane	50.0	100	80 - 120	11.08	11.05125	0.0288	+/-0.5	
Toluene-d8	50.0	99	80 - 120	13.24	13.21875	0.0213	+/-0.5	
4-Bromofluorobenzene	50.0	100	80 - 120	15.74	15.71125	0.0288	+/-0.5	
LCS (1A26010-BS1)				Lab File ID: 212AU003.D		Analyzed: 01/26/21 08:43		
Dibromofluoromethane	50.0	114	53 - 146	11.08	11.05125	0.0288	+/-0.5	
Toluene-d8	50.0	103	41 - 146	13.24	13.21875	0.0213	+/-0.5	
4-Bromofluorobenzene	50.0	103	41 - 142	15.74	15.71125	0.0288	+/-0.5	
Matrix Spike (1A26010-MS1)				Lab File ID: 212AU004.D		Analyzed: 01/26/21 09:24		
Dibromofluoromethane	50.0	112	53 - 146	11.09	11.05125	0.0388	+/-0.5	
Toluene-d8	50.0	101	41 - 146	13.25	13.21875	0.0313	+/-0.5	
4-Bromofluorobenzene	50.0	101	41 - 142	15.74	15.71125	0.0288	+/-0.5	
Matrix Spike Dup (1A26010-MSD1)				Lab File ID: 212AU005.D		Analyzed: 01/26/21 09:53		
Dibromofluoromethane	50.0	121	53 - 146	11.08	11.05125	0.0288	+/-0.5	
Toluene-d8	50.0	109	41 - 146	13.24	13.21875	0.0213	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	15.73	15.71125	0.0188	+/-0.5	
Blank (1A26010-BLK1)				Lab File ID: 212AU008.D		Analyzed: 01/26/21 11:19		
Dibromofluoromethane	50.0	116	53 - 146	11.09	11.05125	0.0388	+/-0.5	
Toluene-d8	50.0	102	41 - 146	13.24	13.21875	0.0213	+/-0.5	
4-Bromofluorobenzene	50.0	103	41 - 142	15.74	15.71125	0.0288	+/-0.5	
Instrument RL Check (AA64658-CRL1)				Lab File ID: 212AU009.D		Analyzed: 01/26/21 12:02		
Dibromofluoromethane	50.0	116	1 - 199	11.08	11.05125	0.0288	+/-0.5	
Toluene-d8	50.0	102	1 - 199	13.24	13.21875	0.0213	+/-0.5	
4-Bromofluorobenzene	50.0	101	1 - 199	15.74	15.71125	0.0288	+/-0.5	
CRCA-MW0018-058.0-20210120 (AE00066-11RE1)				Lab File ID: 212AU017.D		Analyzed: 01/26/21 15:52		
Dibromofluoromethane	50.0	110	53 - 146	11.07	11.05125	0.0188	+/-0.5	
Toluene-d8	50.0	109	41 - 146	13.24	13.21875	0.0213	+/-0.5	
4-Bromofluorobenzene	50.0	108	41 - 142	15.74	15.71125	0.0288	+/-0.5	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA63653
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA63653-CAL1)			Lab File ID: 205KN003.D			Analyzed: 11/19/20 08:46			
Pentafluorobenzene	1250058	9.851	1217120	9.845	103	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2384669	10.444	2353990	10.438	101	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1608704	13.223	1612072	13.217	100	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1323293	15.48	1366836	15.474	97	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL2)			Lab File ID: 205KN004.D			Analyzed: 11/19/20 09:16			
Pentafluorobenzene	1204238	9.845	1217120	9.845	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2405138	10.438	2353990	10.438	102	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1568806	13.217	1612072	13.217	97	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1312583	15.48	1366836	15.474	96	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL3)			Lab File ID: 205KN005.D			Analyzed: 11/19/20 09:47			
Pentafluorobenzene	1203996	9.845	1217120	9.845	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2450219	10.438	2353990	10.438	104	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1607155	13.217	1612072	13.217	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1325758	15.48	1366836	15.474	97	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL4)			Lab File ID: 205KN006.D			Analyzed: 11/19/20 10:18			
Pentafluorobenzene	1172592	9.845	1217120	9.845	96	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2346408	10.438	2353990	10.438	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1580434	13.223	1612072	13.217	98	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1299188	15.48	1366836	15.474	95	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL5)			Lab File ID: 205KN007.D			Analyzed: 11/19/20 10:49			
Pentafluorobenzene	1203065	9.845	1217120	9.845	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2330356	10.438	2353990	10.438	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1579586	13.217	1612072	13.217	98	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1295652	15.48	1366836	15.474	95	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL6)			Lab File ID: 205KN008.D			Analyzed: 11/19/20 11:20			
Pentafluorobenzene	1217120	9.845	1217120	9.845	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2353990	10.438	2353990	10.438	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1612072	13.217	1612072	13.217	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1366836	15.474	1366836	15.474	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA63653-CAL7)			Lab File ID: 205KN009.D			Analyzed: 11/19/20 11:51			
Pentafluorobenzene	1208553	9.845	1217120	9.845	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2324329	10.438	2353990	10.438	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1614423	13.217	1612072	13.217	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1389872	15.48	1366836	15.474	102	50 - 200	0.0060	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA63653
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA63653-CAL8)			Lab File ID: 205KN010.D			Analyzed: 11/19/20 12:22			
Pentafluorobenzene	1285587	9.845	1217120	9.845	106	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2302813	10.438	2353990	10.438	98	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1664856	13.218	1612072	13.217	103	50 - 200	0.0010	+/-0.50	
1,4-Dichlorobenzene-d4	1435917	15.48	1366836	15.474	105	50 - 200	0.0060	+/-0.50	
Secondary Cal Check (AA63653-SCV1)			Lab File ID: 205KN012.D			Analyzed: 11/19/20 13:24			
Pentafluorobenzene	1335071	9.851	1217120	9.845	110	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2438645	10.444	2353990	10.438	104	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1652574	13.223	1612072	13.217	103	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1403353	15.48	1366836	15.474	103	50 - 200	0.0060	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64539
Instrument: OVGCMS2
Matrix: Water
Calibration: 2101077

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA64539-CAL1)			Lab File ID: 212AN002.D			Analyzed: 01/19/21 08:23			
Pentafluorobenzene	274242	11.44	253281	11.45	108	50 - 200	-0.0100	+/-0.50	
1,4-Difluorobenzene	530522	12	506895	11.99	105	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	220188	14.59	216205	14.59	102	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	135369	16.96	135032	16.96	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64539-CAL2)			Lab File ID: 212AN003.D			Analyzed: 01/19/21 08:52			
Pentafluorobenzene	267255	11.44	253281	11.45	106	50 - 200	-0.0100	+/-0.50	
1,4-Difluorobenzene	516243	12	506895	11.99	102	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	215044	14.59	216205	14.59	99	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	132912	16.96	135032	16.96	98	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64539-CAL3)			Lab File ID: 212AN004.D			Analyzed: 01/19/21 09:20			
Pentafluorobenzene	259637	11.45	253281	11.45	103	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	509917	12	506895	11.99	101	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	220093	14.6	216205	14.59	102	50 - 200	0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	135848	16.95	135032	16.96	101	50 - 200	-0.0100	+/-0.50	
Cal Standard (AA64539-CAL4)			Lab File ID: 212AN006.D			Analyzed: 01/19/21 10:17			
Pentafluorobenzene	253281	11.45	253281	11.45	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	506895	11.99	506895	11.99	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	216205	14.59	216205	14.59	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	135032	16.96	135032	16.96	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64539-CAL5)			Lab File ID: 212AN007.D			Analyzed: 01/19/21 10:46			
Pentafluorobenzene	285339	11.45	253281	11.45	113	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	550117	12	506895	11.99	109	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	239824	14.59	216205	14.59	111	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	149699	16.95	135032	16.96	111	50 - 200	-0.0100	+/-0.50	
Cal Standard (AA64539-CAL6)			Lab File ID: 212AN008.D			Analyzed: 01/19/21 11:15			
Pentafluorobenzene	320158	11.45	253281	11.45	126	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	592335	12	506895	11.99	117	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	268151	14.59	216205	14.59	124	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	170474	16.95	135032	16.96	126	50 - 200	-0.0100	+/-0.50	
Cal Standard (AA64539-CAL7)			Lab File ID: 212AN009.D			Analyzed: 01/19/21 11:43			
Pentafluorobenzene	331924	11.45	253281	11.45	131	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	589225	12	506895	11.99	116	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	284238	14.59	216205	14.59	131	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	179167	16.96	135032	16.96	133	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64539
Instrument: OVGCMS2
Matrix: Water
Calibration: 2101077

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA64539-CAL8)			Lab File ID: 212AN010.D			Analyzed: 01/19/21 12:12			
Pentafluorobenzene	335499	11.45	253281	11.45	132	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	624473	12	506895	11.99	123	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	294938	14.6	216205	14.59	136	50 - 200	0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	191016	16.95	135032	16.96	141	50 - 200	-0.0100	+/-0.50	
Secondary Cal Check (AA64539-SCV1)			Lab File ID: 212AN013.D			Analyzed: 01/19/21 13:38			
Pentafluorobenzene	232904	11.44	253281	11.45	92	50 - 200	-0.0100	+/-0.50	
1,4-Difluorobenzene	448821	12	506895	11.99	89	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	230350	14.59	216205	14.59	107	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	165080	16.95	135032	16.96	122	50 - 200	-0.0100	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64632
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA64632-CCV1)			Lab File ID: 215AT003.D			Analyzed: 01/25/21 08:47			
Pentafluorobenzene	1707380	9.862	1217120	9.845	140	50 - 200	0.0170	+/-0.50	
1,4-Difluorobenzene	3441893	10.456	2353990	10.438	146	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	2103106	13.235	1612072	13.217	130	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1782629	15.497	1366836	15.474	130	50 - 200	0.0230	+/-0.50	
LCS (1A25020-BS1)			Lab File ID: 215AT004.D			Analyzed: 01/25/21 09:20			
Pentafluorobenzene	1599715	9.862	1217120	9.845	131	50 - 200	0.0170	+/-0.50	
1,4-Difluorobenzene	3376621	10.456	2353990	10.438	143	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1975824	13.235	1612072	13.217	123	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1733612	15.497	1366836	15.474	127	50 - 200	0.0230	+/-0.50	
Blank (1A25020-BLK1)			Lab File ID: 215AT006.D			Analyzed: 01/25/21 10:19			
Pentafluorobenzene	1492905	9.857	1217120	9.845	123	50 - 200	0.0120	+/-0.50	
1,4-Difluorobenzene	3146822	10.456	2353990	10.438	134	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1772986	13.235	1612072	13.217	110	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1644956	15.491	1366836	15.474	120	50 - 200	0.0170	+/-0.50	
Instrument RL Check (AA64632-CRL1)			Lab File ID: 215AT007.D			Analyzed: 01/25/21 10:48			
Pentafluorobenzene	1450199	9.863	1217120	9.845	119	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	3054870	10.456	2353990	10.438	130	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1722975	13.235	1612072	13.217	107	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1562753	15.491	1366836	15.474	114	50 - 200	0.0170	+/-0.50	
CRCA-MW0032-058.0-20210120 (AE00066-10)			Lab File ID: 215AT009.D			Analyzed: 01/25/21 11:47			
Pentafluorobenzene	1353992	9.863	1217120	9.845	111	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	2910142	10.456	2353990	10.438	124	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1676020	13.235	1612072	13.217	104	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1554117	15.491	1366836	15.474	114	50 - 200	0.0170	+/-0.50	
CRCA-MW0030-058.0-20210119 (AE00066-01)			Lab File ID: 215AT010.D			Analyzed: 01/25/21 12:17			
Pentafluorobenzene	1351808	9.863	1217120	9.845	111	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	2866333	10.456	2353990	10.438	122	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1635734	13.235	1612072	13.217	101	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1522320	15.491	1366836	15.474	111	50 - 200	0.0170	+/-0.50	
CRCA-MW0029-035.0-20210119 (AE00066-02)			Lab File ID: 215AT011.D			Analyzed: 01/25/21 12:46			
Pentafluorobenzene	1334319	9.863	1217120	9.845	110	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	2846320	10.456	2353990	10.438	121	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1622830	13.235	1612072	13.217	101	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1514443	15.497	1366836	15.474	111	50 - 200	0.0230	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA64632
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
CRCA-MW0028-058.0-20210119 (AE00066-03)			Lab File ID: 215AT012.D			Analyzed: 01/25/21 13:15			
Pentafluorobenzene	1325539	9.862	1217120	9.845	109	50 - 200	0.0170	+/-0.50	
1,4-Difluorobenzene	2841226	10.456	2353990	10.438	121	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1602227	13.235	1612072	13.217	99	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1534202	15.497	1366836	15.474	112	50 - 200	0.0230	+/-0.50	
CRCA-MW0027-035.0-20210119 (AE00066-04)			Lab File ID: 215AT013.D			Analyzed: 01/25/21 13:45			
Pentafluorobenzene	1342454	9.863	1217120	9.845	110	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	2980618	10.462	2353990	10.438	127	50 - 200	0.0240	+/-0.50	
Chlorobenzene-d5	1652145	13.235	1612072	13.217	102	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1560174	15.497	1366836	15.474	114	50 - 200	0.0230	+/-0.50	
CRCA-MW0015-027.5-20210119 (AE00066-05)			Lab File ID: 215AT014.D			Analyzed: 01/25/21 14:14			
Pentafluorobenzene	1353784	9.868	1217120	9.845	111	50 - 200	0.0230	+/-0.50	
1,4-Difluorobenzene	2923690	10.462	2353990	10.438	124	50 - 200	0.0240	+/-0.50	
Chlorobenzene-d5	1584476	13.235	1612072	13.217	98	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1534322	15.497	1366836	15.474	112	50 - 200	0.0230	+/-0.50	
CRCA-MW0013-027.5-20210119 (AE00066-06)			Lab File ID: 215AT015.D			Analyzed: 01/25/21 14:44			
Pentafluorobenzene	1323227	9.868	1217120	9.845	109	50 - 200	0.0230	+/-0.50	
1,4-Difluorobenzene	2812403	10.462	2353990	10.438	119	50 - 200	0.0240	+/-0.50	
Chlorobenzene-d5	1560555	13.235	1612072	13.217	97	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1499588	15.497	1366836	15.474	110	50 - 200	0.0230	+/-0.50	
CRCA-MW0012-027.5-20210119 (AE00066-07)			Lab File ID: 215AT016.D			Analyzed: 01/25/21 15:13			
Pentafluorobenzene	1311393	9.868	1217120	9.845	108	50 - 200	0.0230	+/-0.50	
1,4-Difluorobenzene	2857206	10.462	2353990	10.438	121	50 - 200	0.0240	+/-0.50	
Chlorobenzene-d5	1588971	13.235	1612072	13.217	99	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1519324	15.497	1366836	15.474	111	50 - 200	0.0230	+/-0.50	
CRCA-MW0002-032.5-20210119 (AE00066-08)			Lab File ID: 215AT017.D			Analyzed: 01/25/21 15:43			
Pentafluorobenzene	1324243	9.863	1217120	9.845	109	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	2844356	10.456	2353990	10.438	121	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1569592	13.235	1612072	13.217	97	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1496442	15.497	1366836	15.474	109	50 - 200	0.0230	+/-0.50	
CRCA-MW0031-058.0-20210120 (AE00066-09)			Lab File ID: 215AT018.D			Analyzed: 01/25/21 16:12			
Pentafluorobenzene	1346166	9.863	1217120	9.845	111	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	3057273	10.462	2353990	10.438	130	50 - 200	0.0240	+/-0.50	
Chlorobenzene-d5	1666053	13.235	1612072	13.217	103	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1548120	15.497	1366836	15.474	113	50 - 200	0.0230	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA64632
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
CRCA-MW0019-058.0-20210120 (AE00066-12)			Lab File ID: 215AT020.D			Analyzed: 01/25/21 17:11			
Pentafluorobenzene	1326429	9.868	1217120	9.845	109	50 - 200	0.0230	+/-0.50	
1,4-Difluorobenzene	2844280	10.462	2353990	10.438	121	50 - 200	0.0240	+/-0.50	
Chlorobenzene-d5	1585901	13.241	1612072	13.217	98	50 - 200	0.0240	+/-0.50	
1,4-Dichlorobenzene-d4	1547465	15.497	1366836	15.474	113	50 - 200	0.0230	+/-0.50	
Matrix Spike (1A25020-MS1)			Lab File ID: 215AT023.D			Analyzed: 01/25/21 18:39			
Pentafluorobenzene	1347954	9.863	1217120	9.845	111	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	2823243	10.456	2353990	10.438	120	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1642590	13.235	1612072	13.217	102	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1598011	15.497	1366836	15.474	117	50 - 200	0.0230	+/-0.50	
Matrix Spike Dup (1A25020-MSD1)			Lab File ID: 215AT024.D			Analyzed: 01/25/21 19:09			
Pentafluorobenzene	1455730	9.862	1217120	9.845	120	50 - 200	0.0170	+/-0.50	
1,4-Difluorobenzene	3018464	10.456	2353990	10.438	128	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1707516	13.235	1612072	13.217	106	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1611682	15.497	1366836	15.474	118	50 - 200	0.0230	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64658
Instrument: OVGCMS2
Matrix: Water
Calibration: 2101077

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA64658-CCV1)			Lab File ID: 212AU002.D			Analyzed: 01/26/21 08:06			
Pentafluorobenzene	380115	11.47	253281	11.45	150	50 - 200	0.0200	+/-0.50	
1,4-Difluorobenzene	741405	12.03	506895	11.99	146	50 - 200	0.0400	+/-0.50	
Chlorobenzene-d5	366094	14.62	216205	14.59	169	50 - 200	0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	237068	16.98	135032	16.96	176	50 - 200	0.0200	+/-0.50	
LCS (1A26010-BS1)			Lab File ID: 212AU003.D			Analyzed: 01/26/21 08:43			
Pentafluorobenzene	324503	11.48	253281	11.45	128	50 - 200	0.0300	+/-0.50	
1,4-Difluorobenzene	677646	12.02	506895	11.99	134	50 - 200	0.0300	+/-0.50	
Chlorobenzene-d5	321367	14.62	216205	14.59	149	50 - 200	0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	201276	16.99	135032	16.96	149	50 - 200	0.0300	+/-0.50	
Matrix Spike (1A26010-MS1)			Lab File ID: 212AU004.D			Analyzed: 01/26/21 09:24			
Pentafluorobenzene	331145	11.47	253281	11.45	131	50 - 200	0.0200	+/-0.50	
1,4-Difluorobenzene	698701	12.02	506895	11.99	138	50 - 200	0.0300	+/-0.50	
Chlorobenzene-d5	329572	14.62	216205	14.59	152	50 - 200	0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	204382	16.99	135032	16.96	151	50 - 200	0.0300	+/-0.50	
Matrix Spike Dup (1A26010-MSD1)			Lab File ID: 212AU005.D			Analyzed: 01/26/21 09:53			
Pentafluorobenzene	305426	11.47	253281	11.45	121	50 - 200	0.0200	+/-0.50	
1,4-Difluorobenzene	636767	12.02	506895	11.99	126	50 - 200	0.0300	+/-0.50	
Chlorobenzene-d5	309741	14.61	216205	14.59	143	50 - 200	0.0200	+/-0.50	
1,4-Dichlorobenzene-d4	201759	16.98	135032	16.96	149	50 - 200	0.0200	+/-0.50	
Blank (1A26010-BLK1)			Lab File ID: 212AU008.D			Analyzed: 01/26/21 11:19			
Pentafluorobenzene	294699	11.47	253281	11.45	116	50 - 200	0.0200	+/-0.50	
1,4-Difluorobenzene	604071	12.02	506895	11.99	119	50 - 200	0.0300	+/-0.50	
Chlorobenzene-d5	274826	14.62	216205	14.59	127	50 - 200	0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	171064	16.98	135032	16.96	127	50 - 200	0.0200	+/-0.50	
Instrument RL Check (AA64658-CRL1)			Lab File ID: 212AU009.D			Analyzed: 01/26/21 12:02			
Pentafluorobenzene	287383	11.48	253281	11.45	113	50 - 200	0.0300	+/-0.50	
1,4-Difluorobenzene	593855	12.03	506895	11.99	117	50 - 200	0.0400	+/-0.50	
Chlorobenzene-d5	273190	14.62	216205	14.59	126	50 - 200	0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	169027	16.98	135032	16.96	125	50 - 200	0.0200	+/-0.50	
CRCA-MW0018-058.0-20210120 (AE00066-11RE1)			Lab File ID: 212AU017.D			Analyzed: 01/26/21 15:52			
Pentafluorobenzene	193931	11.47	253281	11.45	77	50 - 200	0.0200	+/-0.50	
1,4-Difluorobenzene	383784	12.02	506895	11.99	76	50 - 200	0.0300	+/-0.50	
Chlorobenzene-d5	191378	14.62	216205	14.59	89	50 - 200	0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	134955	16.99	135032	16.96	100	50 - 200	0.0300	+/-0.50	

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA63653		
Calibration:	2011113	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA63653-TUN1	205KN002.D	11/19/20 08:07
Cal Standard	AA63653-CAL1	205KN003.D	11/19/20 08:46
Cal Standard	AA63653-CAL2	205KN004.D	11/19/20 09:16
Cal Standard	AA63653-CAL3	205KN005.D	11/19/20 09:47
Cal Standard	AA63653-CAL4	205KN006.D	11/19/20 10:18
Cal Standard	AA63653-CAL5	205KN007.D	11/19/20 10:49
Cal Standard	AA63653-CAL6	205KN008.D	11/19/20 11:20
Cal Standard	AA63653-CAL7	205KN009.D	11/19/20 11:51
Cal Standard	AA63653-CAL8	205KN010.D	11/19/20 12:22
Secondary Cal Check	AA63653-SCV1	205KN012.D	11/19/20 13:24

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64539		
Calibration:	2101077	Instrument:	OVGCMS2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA64539-TUN1	212AN001.D	01/19/21 07:42
Cal Standard	AA64539-CAL1	212AN002.D	01/19/21 08:23
Cal Standard	AA64539-CAL2	212AN003.D	01/19/21 08:52
Cal Standard	AA64539-CAL3	212AN004.D	01/19/21 09:20
Cal Standard	AA64539-CAL4	212AN006.D	01/19/21 10:17
Cal Standard	AA64539-CAL5	212AN007.D	01/19/21 10:46
Cal Standard	AA64539-CAL6	212AN008.D	01/19/21 11:15
Cal Standard	AA64539-CAL7	212AN009.D	01/19/21 11:43
Cal Standard	AA64539-CAL8	212AN010.D	01/19/21 12:12
Secondary Cal Check	AA64539-SCV1	212AN013.D	01/19/21 13:38

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA64632
Calibration: 2011113
Instrument: OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA64632-CCV1	215AT003.D	01/25/21 08:47
LCS	1A25020-BS1	215AT004.D	01/25/21 09:20
Blank	1A25020-BLK1	215AT006.D	01/25/21 10:19
Instrument RL Check	AA64632-CRL1	215AT007.D	01/25/21 10:48
CRCA-MW0032-058.0-20210120	AE00066-10	215AT009.D	01/25/21 11:47
CRCA-MW0030-058.0-20210119	AE00066-01	215AT010.D	01/25/21 12:17
CRCA-MW0029-035.0-20210119	AE00066-02	215AT011.D	01/25/21 12:46
CRCA-MW0028-058.0-20210119	AE00066-03	215AT012.D	01/25/21 13:15
CRCA-MW0027-035.0-20210119	AE00066-04	215AT013.D	01/25/21 13:45
CRCA-MW0015-027.5-20210119	AE00066-05	215AT014.D	01/25/21 14:14
CRCA-MW0013-027.5-20210119	AE00066-06	215AT015.D	01/25/21 14:44
CRCA-MW0012-027.5-20210119	AE00066-07	215AT016.D	01/25/21 15:13
CRCA-MW0002-032.5-20210119	AE00066-08	215AT017.D	01/25/21 15:43
CRCA-MW0031-058.0-20210120	AE00066-09	215AT018.D	01/25/21 16:12
CRCA-MW0019-058.0-20210120	AE00066-12	215AT020.D	01/25/21 17:11
CRCA-MW0032-058.0-20210120	1A25020-MS1	215AT023.D	01/25/21 18:39
CRCA-MW0032-058.0-20210120	1A25020-MSD1	215AT024.D	01/25/21 19:09

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64658		
Calibration:	2101077	Instrument:	OVGCMS2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA64658-TUN1	212AU001.D	01/26/21 07:32
Calibration Check	AA64658-CCV1	212AU002.D	01/26/21 08:06
LCS	1A26010-BS1	212AU003.D	01/26/21 08:43
MW-3R	1A26010-MS1	212AU004.D	01/26/21 09:24
MW-3R	1A26010-MSD1	212AU005.D	01/26/21 09:53
Blank	1A26010-BLK1	212AU008.D	01/26/21 11:19
Instrument RL Check	AA64658-CRL1	212AU009.D	01/26/21 12:02
CRCA-MW0018-058.0-20210120	AE00066-11RE1	212AU017.D	01/26/21 15:52

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	205KN002.D	Injection Date:	11/19/20
Instrument ID:	OVGCMS5	Injection Time:	08:07
Sequence:	AA63653	Lab Sample ID:	AA63653-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	155	PASS
96	5 - 9% of 95	7.22	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	64.6	PASS
175	5 - 9% of 174	5.13	PASS
176	95 - 105% of 174	97.9	PASS
177	5 - 10% of 176	5.82	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	212AN001.D	Injection Date:	01/19/21
Instrument ID:	OVGCMS2	Injection Time:	07:42
Sequence:	AA64539	Lab Sample ID:	AA64539-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	147	PASS
96	5 - 9% of 95	6.93	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	68	PASS
175	5 - 9% of 174	8.03	PASS
176	95 - 105% of 174	95.5	PASS
177	5 - 10% of 176	6.96	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	212AU001.D	Injection Date:	01/26/21
Instrument ID:	OVGCMS2	Injection Time:	07:32
Sequence:	AA64658	Lab Sample ID:	AA64658-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	157	PASS
96	5 - 9% of 95	6.64	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	63.7	PASS
175	5 - 9% of 174	7.39	PASS
176	95 - 105% of 174	97.2	PASS
177	5 - 10% of 176	6.78	PASS

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2011113
Lab File ID:	215AT003.D	Calibration Date:	11/19/20 00:00
Sequence:	AA64632	Injection Date:	01/25/21
Lab Sample ID:	AA64632-CCV1	Injection Time:	08:47

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Dichlorodifluoromethane	A	20.0	19	0.6454795	0.6065492		-6	20	
Chloromethane	A	20.0	12	0.7429916	0.4439653		-40	20	*
Vinyl chloride	A	20.0	19	0.6032767	0.5739686		-4.9	20	
Bromomethane	A	20.0	19	0.2658711	0.149807		-7.2	20	
Chloroethane	A	20.0	20	0.3233106	0.2720557		2.5	20	
Trichlorofluoromethane	A	20.0	20	0.739293	0.7547265		2.1	20	
Freon 113	A	50.0	50	0.2891047	0.2868658		-0.8	20	
Acetone	A	250	180	0.1178043	8.350467E-02		-29	20	*
1,1-Dichloroethene	A	50.0	49	0.4316853	0.4258747		-1.3	20	
Carbon disulfide	A	250	150	1.413985	0.8728756		-38	20	*
Methylene Chloride	A	50.0	45	0.5959536	0.4701877		-10	20	
Methyl-tert-Butyl Ether	A	50.0	45	1.264184	1.149021		-9.1	20	
trans-1,2-Dichloroethene	A	50.0	49	0.4994822	0.489495		-2	20	
cis-1,2-Dichloroethene	A	50.0	50	0.5290745	0.5271984		-0.4	20	
1,1-Dichloroethane	A	50.0	41	1.027426	0.8473456		-18	20	
2-Butanone	A	250	220	5.654494E-02	5.142944E-02		-10	20	
Chloroform	A	50.0	45	0.9811366	0.8818576		-10	20	
1,1,1-Trichloroethane	A	50.0	46	0.8099887	0.7425781		-8.3	20	
Methyl acetate	A	50.0	31	0.4097982	0.2287546		-38	20	*
Cyclohexane	A	50.0	36	1.084118	0.8065902		-28	20	*
Methyl cyclohexane	A	50.0	41	0.6851364	0.4685979		-18	20	
Carbon Tetrachloride	A	50.0	39	0.3247415	0.2907839		-22	20	*
1,2-Dichloroethane	A	50.0	36	0.3947961	0.2986964		-28	20	*
Benzene	A	50.0	44	1.143102	1.009598		-12	20	
Trichloroethene	A	50.0	50	0.2308676	0.2294848		-0.6	20	
1,2-Dichloropropane	A	50.0	35	0.3327441	0.2311986		-30	20	*
Bromodichloromethane	A	50.0	41	0.3384447	0.3043776		-17	20	
4-Methyl-2-pentanone	A	250	260	3.573082E-02	3.583226E-02		5.6	20	
2-Hexanone	A	250	190	0.1672315	0.116342		-30	20	*

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2011113
Lab File ID:	215AT003.D	Calibration Date:	11/19/20 00:00
Sequence:	AA64632	Injection Date:	01/25/21
Lab Sample ID:	AA64632-CCV1	Injection Time:	08:47

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
cis-1,3-Dichloropropene	A	50.0	41	0.4465376	0.410246		-18	20	
Toluene	A	50.0	51	1.066872	1.094805		2.6	20	
trans-1,3-Dichloropropene	A	50.0	46	0.5606682	0.5777288		-9	20	
1,1,2-Trichloroethane	A	50.0	48	0.3401845	0.3445765		-4.4	20	
Tetrachloroethene	A	50.0	47	0.2798513	0.273757		-6.7	20	
Dibromochloromethane	A	50.0	52	0.2803526	0.3436893		3.5	20	
1,2-Dibromoethane	A	50.0	52	0.3355065	0.3483481		3.8	20	
Chlorobenzene	A	50.0	54	1.074819	1.151012		7.1	20	
Ethylbenzene	A	50.0	52	0.6263821	0.6735562		3.9	20	
m,p-Xylenes	A	100	110	0.7525839	0.8321309		11	20	
o-Xylene	A	50.0	54	0.7718014	0.8358423		8.3	20	
Bromoform	A	50.0	47	0.1740972	0.178584		-6.2	20	
Styrene	A	50.0	57	1.260238	1.447695		15	20	
Isopropylbenzene	A	50.0	54	2.031474	2.17933		7.3	20	
1,1,2,2-Tetrachloroethane	A	50.0	49	0.5037271	0.4924835		-2.2	20	
1,2,4-Trichlorobenzene	A	50.0	38	0.4097947	0.3618818		-24	20	*
1,3-Dichlorobenzene	A	50.0	53	1.008577	1.072036		6.3	20	
1,4-Dichlorobenzene	A	50.0	51	1.081206	1.09674		1.4	20	
1,2-Dichlorobenzene	A	50.0	51	0.9520015	0.9653383		1.4	20	
1,2-Dibromo-3-chloropropane	A	50.0	45	7.396002E-02	6.969369E-02		-11	20	

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS2	Calibration:	2101077
Lab File ID:	212AU002.D	Calibration Date:	01/20/21 08:19
Sequence:	AA64658	Injection Date:	01/26/21
Lab Sample ID:	AA64658-CCV1	Injection Time:	08:06

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Dichlorodifluoromethane	A	50.0	46	1.033247	0.9560186		-7.5	20	
Chloromethane	A	50.0	43	1.11095	0.8811912		-14	20	
Vinyl chloride	A	50.0	51	1.029662	0.8920274		2.4	20	
Bromomethane	A	50.0	50	1.131179	0.5546506		0.90	20	
Chloroethane	A	50.0	52	0.7149129	0.6073004		3.8	20	
Trichlorofluoromethane	A	50.0	49	1.442281	1.409345		-2.3	20	
Freon 113	A	50.0	58	0.5578733	0.5662076		17	20	
Acetone	A	250	300	0.1225261	0.127594		19	20	
1,1-Dichloroethene	A	50.0	52	0.4841962	0.5072833		4.8	20	
Carbon disulfide	A	250	200	1.377947	0.9361635		-22	20	*
Methylene Chloride	A	50.0	57	0.6110932	0.5700038		13	20	
Methyl-tert-Butyl Ether	A	50.0	60	1.081225	1.292033		20	20	
trans-1,2-Dichloroethene	A	50.0	56	0.5698231	0.5869434		13	20	
cis-1,2-Dichloroethene	A	50.0	53	0.6149954	0.6469963		5.2	20	
1,1-Dichloroethane	A	50.0	53	1.143718	1.202412		5.1	20	
2-Butanone	A	250	280	3.064923E-02	3.390974E-02		11	20	
Chloroform	A	50.0	59	1.095255	1.119782		18	20	
1,1,1-Trichloroethane	A	50.0	53	0.9125193	0.975831		6.9	20	
Methyl acetate	A	50.0	65	5.586777E-02	6.273628E-02		31	20	*
Cyclohexane	A	50.0	54	0.9488744	1.019076		7.4	20	
Methyl cyclohexane	A	50.0	52	0.3837839	0.3984705		3.8	20	
Carbon Tetrachloride	A	50.0	53	0.4901592	0.5204079		6.2	20	
1,2-Dichloroethane	A	50.0	57	0.3853295	0.4362879		13	20	
Benzene	A	50.0	53	1.144684	1.216519		6.3	20	
Trichloroethene	A	50.0	53	0.3210324	0.3386934		5.5	20	
1,2-Dichloropropane	A	50.0	55	0.3172264	0.3218915		11	20	
Bromodichloromethane	A	50.0	53	0.3964913	0.4239289		6.9	20	
4-Methyl-2-pentanone	A	250	280	2.733494E-02	2.885494E-02		12	20	
2-Hexanone	A	250	280	0.1612112	0.1821674		14	20	

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS2	Calibration:	2101077
Lab File ID:	212AU002.D	Calibration Date:	01/20/21 08:19
Sequence:	AA64658	Injection Date:	01/26/21
Lab Sample ID:	AA64658-CCV1	Injection Time:	08:06

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
cis-1,3-Dichloropropene	A	50.0	56	0.4505496	0.5022612		12	20
Toluene	A	50.0	48	1.520353	1.445754		-4.9	20
trans-1,3-Dichloropropene	A	50.0	51	0.8113847	0.8306173		2.4	20
1,1,2-Trichloroethane	A	50.0	51	0.4232997	0.432348		2.1	20
Tetrachloroethene	A	50.0	46	0.4265574	0.394609		-7.5	20
Dibromochloromethane	A	50.0	51	0.6218249	0.6359487		2.3	20
1,2-Dibromoethane	A	50.0	53	0.4673533	0.4960038		6.1	20
Chlorobenzene	A	50.0	48	1.702551	1.642045		-3.6	20
Ethylbenzene	A	50.0	49	0.8469553	0.821748		-3	20
m,p-Xylenes	A	100	99	1.006971	0.9926877		-1.4	20
o-Xylene	A	50.0	51	0.9666193	0.9816441		1.6	20
Bromoform	A	50.0	54	0.2646587	0.2849459		7.7	20
Styrene	A	50.0	52	1.697042	1.768628		4.2	20
Isopropylbenzene	A	50.0	51	2.452443	2.500123		1.9	20
1,1,2,2-Tetrachloroethane	A	50.0	53	0.4182472	0.4432086		6.0	20
1,2,4-Trichlorobenzene	A	50.0	48	0.4155094	0.3997039		-3.8	20
1,3-Dichlorobenzene	A	50.0	48	1.471736	1.401083		-4.8	20
1,4-Dichlorobenzene	A	50.0	48	1.525519	1.450398		-4.9	20
1,2-Dichlorobenzene	A	50.0	47	1.232439	1.169221		-5.1	20
1,2-Dibromo-3-chloropropane	A	50.0	54	6.383229E-02	7.325324E-02		7.5	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA63653	Instrument:	OVGCMS5
Calibration:	2011113		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A0F0994	MS Tune (lower conc.)	AA63653-TUN1	205KN002.D	11/19/20 08:07
A0K1094	8260 CAL 1 PPB	AA63653-CAL1	205KN003.D	11/19/20 08:46
A0K1095	8260 CAL 2 PPB	AA63653-CAL2	205KN004.D	11/19/20 09:16
A0K1096	8260 CAL 5 PPB	AA63653-CAL3	205KN005.D	11/19/20 09:47
A0K1097	8260 CAL 10 PPB	AA63653-CAL4	205KN006.D	11/19/20 10:18
A0K1098	8260 CAL 20 PPB	AA63653-CAL5	205KN007.D	11/19/20 10:49
A0K1099	8260 CAL 50 PPB	AA63653-CAL6	205KN008.D	11/19/20 11:20
A0K1100	8260 CAL 80 PPB	AA63653-CAL7	205KN009.D	11/19/20 11:51
A0K1101	8260 CAL 100 PPB	AA63653-CAL8	205KN010.D	11/19/20 12:22
A0K1038	8260 SCV 50 PPB/20 Gases (Surr. Lower Conc.)	AA63653-SCV1	205KN012.D	11/19/20 13:24

INITIAL CALIBRATION STANDARDS

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64539	Instrument:	OVGCMS2
Calibration:	2101077		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A0I0903	MS Tune	AA64539-TUN1	212AN001.D	01/19/21 07:42
A1A0926	8260 Cal 1PPB	AA64539-CAL1	212AN002.D	01/19/21 08:23
A1A0927	8260 Cal 2 PPB	AA64539-CAL2	212AN003.D	01/19/21 08:52
A1A0928	8260 Cal 5 PPB	AA64539-CAL3	212AN004.D	01/19/21 09:20
A1A0929	8260 Cal 10 PPB	AA64539-CAL4	212AN006.D	01/19/21 10:17
A1A0930	8260 Cal 20 PPB	AA64539-CAL5	212AN007.D	01/19/21 10:46
A1A0932	8260 Cal 50 PPB	AA64539-CAL6	212AN008.D	01/19/21 11:15
A1A0934	8260 Cal 80PPB	AA64539-CAL7	212AN009.D	01/19/21 11:43
A1A0935	8260 Cal 100 PPB	AA64539-CAL8	212AN010.D	01/19/21 12:12
A1A0936	8260 SCV 50 PPB	AA64539-SCV1	212AN013.D	01/19/21 13:38

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	1	0.731806	2	0.5311658	5	0.6196449	10	0.5826494	20	0.6291202	50	0.6876832
Chloromethane	1	0.9635553	2	0.7678092	5	0.7533414	10	0.6436211	20	0.6665122	50	0.6618772
Vinyl chloride	1	0.6389704	2	0.4961021	5	0.5937063	10	0.518373	20	0.6097052	50	0.6178544
Bromomethane	1	0.5487745	2	0.3936929	5	0.2468862	10	0.1795339	20	0.1536388	50	0.1805656
Chloroethane	1	0.5095364	2	0.3356687	5	0.2733979	10	0.2639921	20	0.2971223	50	0.2601461
Trichlorofluoromethane	1	0.796403	2	0.6188353	5	0.6866136	10	0.7074541	20	0.7578705	50	0.7930894
Freon 113	1	0.2609479	2	0.2643996	5	0.2925508	10	0.3082914	20	0.2611185	50	0.3063124
Acetone	5	0.1640884	10	7.640101E-02	25	0.1132944	50	0.1270502	100	0.1080203	250	0.1165466
1,1-Dichloroethene	1	0.5304954	2	0.3722686	5	0.3921026	10	0.3748874	20	0.4134066	50	0.4489426
Carbon disulfide	5	1.625549	10	1.279116	25	1.418201	50	1.427008	100	1.452276	250	1.421308
Methylene Chloride	1	0.949196	2	0.6799528	5	0.584977	10	0.4949633	20	0.4791616	50	0.5261996
Methyl-tert-Butyl Ether	1	1.207824	2	1.067003	5	1.181117	10	1.225797	20	1.218685	50	1.417615
trans-1,2-Dichloroethene	1	0.6322907	2	0.4293379	5	0.4477091	10	0.4308276	20	0.4738958	50	0.5202946
cis-1,2-Dichloroethene	1	0.5540143	2	0.424397	5	0.5243456	10	0.4742059	20	0.5250755	50	0.5758438
1,1-Dichloroethane	1	1.150187	2	0.7455129	5	1.073417	10	0.9430262	20	0.9854351	50	1.108909
2-Butanone	5	0.0948676	10	2.903081E-02	25	6.102678E-02	50	0.0450745	100	4.561931E-02	250	5.804341E-02
Chloroform	1	1.008433	2	0.8175709	5	1.016573	10	0.9572895	20	0.9442549	50	1.031745
1,1,1-Trichloroethane	1	0.8856789	2	0.6484806	5	0.7444128	10	0.6971223	20	0.8036702	50	0.8940367
Methyl acetate	1	0.7524051	2	0.3734104	5	0.3421025	10	0.3735826	20	0.3312477	50	0.3623833
Cyclohexane	1	1.445653	2	0.8159309	5	1.111773	10	0.900795	20	1.011174	50	1.139422
Methyl cyclohexane	1	1.296553	2	0.7643948	5	0.6505051	10	0.4980933	20	0.5493699	50	0.5706184
Carbon Tetrachloride	1	0.3562759	2	0.265754	5	0.2802362	10	0.2692435	20	0.3099687	50	0.358654
1,2-Dichloroethane	1	0.52978	2	0.3246383	5	0.3561682	10	0.3270765	20	0.3804547	50	0.3951041
Benzene	1	1.368953	2	0.8953644	5	1.012387	10	1.019627	20	1.160622	50	1.20187
Trichloroethene	1	0.2433461	2	0.2067345	5	0.2092384	10	0.2186576	20	0.2226559	50	0.2443388
1,2-Dichloropropane	1	0.4168922	2	0.2741735	5	0.2789057	10	0.3037835	20	0.3161759	50	0.336891
Bromodichloromethane	1	0.3390617	2	0.2184906	5	0.3136005	10	0.3123434	20	0.3305471	50	0.3770309
4-Methyl-2-pentanone	5	5.360492E-02	10	3.485663E-02	25	3.163227E-02	50	3.145233E-02	100	3.245856E-02	250	3.359233E-02
2-Hexanone	5	0.1888606	10	0.1362687	25	0.1491622	50	0.1581622	100	0.1619347	250	0.1747743
cis-1,3-Dichloropropene	1	0.38758	2	0.337174	5	0.3962381	10	0.3859495	20	0.4436114	50	0.5153998
Toluene	1	1.301234	2	0.8125606	5	1.029104	10	0.9467653	20	1.065835	50	1.125779

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	1	0.5782294	2	0.3963364	5	0.5391328	10	0.5150579	20	0.5581557	50	0.6082166
1,1,2-Trichloroethane	1	0.4258708	2	0.2571382	5	0.3085141	10	0.3163403	20	0.3319446	50	0.354357
Tetrachloroethene	1	0.3547887	2	0.216805	5	0.2447617	10	0.2609188	20	0.2888004	50	0.2808423
Dibromochloromethane	1	0.261577	2	0.1928537	5	0.2186472	10	0.2340749	20	0.271185	50	0.3243124
1,2-Dibromoethane	1	0.3776332	2	0.275273	5	0.3089372	10	0.289778	20	0.3254935	50	0.3684265
Chlorobenzene	1	1.227137	2	0.9187082	5	1.088831	10	1.029964	20	1.028877	50	1.084228
Ethylbenzene	1	0.8370092	2	0.5046991	5	0.5351257	10	0.5817041	20	0.6079204	50	0.6386446
m,p-Xylenes	2	0.7709622	4	0.6304954	10	0.7519001	20	0.7265378	40	0.7815244	100	0.7925899
o-Xylene	1	0.827343	2	0.5495581	5	0.7980935	10	0.715101	20	0.7577872	50	0.8412149
Bromoform	1	0.2244042	2	0.1325052	5	0.1113209	10	0.1336911	20	0.151421	50	0.198042
Styrene	1	1.184587	2	0.9487151	5	1.197756	10	1.179467	20	1.329056	50	1.37226
Isopropylbenzene	1	2.11919	2	1.612596	5	1.9581	10	1.86924	20	2.054396	50	2.203894
1,1,2,2-Tetrachloroethane	1	0.5748727	2	0.4241761	5	0.4667316	10	0.4666946	20	0.48922	50	0.5296984
1,2,4-Trichlorobenzene	1	0.444006	2	0.2155102	5	0.3665073	10	0.3682377	20	0.3931939	50	0.481305
1,3-Dichlorobenzene	1	1.059554	2	0.8308046	5	0.914986	10	0.9259784	20	1.006449	50	1.075948
1,4-Dichlorobenzene	1	1.342371	2	0.9420738	5	0.9853156	10	0.9772104	20	1.047961	50	1.090424
1,2-Dichlorobenzene	1	1.133196	2	0.6932895	5	0.9302226	10	0.8814044	20	0.8963441	50	1.002858
1,2-Dibromo-3-chloropropane	1	0.1462261	2	0.0374643	5	3.684685E-02	10	6.679172E-02	20	6.657845E-02	50	7.807374E-02
Dibromofluoromethane	50	0.4987681	55	0.5168814	57.5	0.5405413	50	0.5403508	65	0.5020478	50	0.5574545
Toluene-d8	50	1.241808	55	1.219018	57.5	1.232296	50	1.264503	65	1.198608	50	1.317554
4-Bromofluorobenzene	50	0.9421565	55	0.8971015	57.5	0.892347	50	0.9405353	65	0.8691396	50	0.9269369

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	80	0.70919	100	0.6725768								
Chloromethane	80	0.754096	100	0.7331207								
Vinyl chloride	80	0.6865886	100	0.6649138								
Bromomethane	80	0.2051834	100	0.2186939								
Chloroethane	80	~~0.1749365~~	100	~~0.1284219~~								
Trichlorofluoromethane	80	~~0.8301317~~	100	0.814785								
Freon 113	80	0.3132915	100	0.3059256								
Acetone	400	0.1217886	500	0.1152447								
1,1-Dichloroethene	80	0.4650106	100	0.4563686								
Carbon disulfide	400	1.39256	500	1.295861								
Methylene Chloride	80	0.5379475	100	0.5152308								
Methyl-tert-Butyl Ether	80	1.459444	100	1.335989								
trans-1,2-Dichloroethene	80	0.5437929	100	0.517709								
cis-1,2-Dichloroethene	80	0.6019223	100	0.5527918								
1,1-Dichloroethane	80	1.134374	100	1.078543								
2-Butanone	400	6.102308E-02	500	5.767404E-02								
Chloroform	80	1.078098	100	0.9951283								
1,1,1-Trichloroethane	80	0.9329545	100	0.8735539								
Methyl acetate	80	0.3852903	100	0.3579641								
Cyclohexane	80	1.150511	100	1.097683								
Methyl cyclohexane	80	0.580204	100	0.5713529								
Carbon Tetrachloride	80	0.3766286	100	0.3811714								
1,2-Dichloroethane	80	0.4259138	100	0.4192331								
Benzene	80	1.233887	100	1.252102								
Trichloroethene	80	0.2480525	100	0.2539173								
1,2-Dichloropropane	80	0.3671019	100	0.3680292								
Bromodichloromethane	80	0.405243	100	0.4112405								
4-Methyl-2-pentanone	400	3.457471E-02	500	3.367481E-02								
2-Hexanone	400	0.1842147	500	0.1844748								
cis-1,3-Dichloropropene	80	0.5492152	100	0.5571325								
Toluene	80	1.145043	100	1.108659								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	80	0.6603691	100	0.6298476								
1,1,2-Trichloroethane	80	0.3689886	100	0.3583223								
Tetrachloroethene	80	0.2965475	100	0.2953463								
Dibromochloromethane	80	0.3768537	100	0.3633167								
1,2-Dibromoethane	80	0.3782567	100	0.360254								
Chlorobenzene	80	1.134842	100	1.085963								
Ethylbenzene	80	0.6600876	100	0.6458658								
m,p-Xylenes	160	0.7997641	200	0.7668973								
o-Xylene	80	0.8625415	100	0.8227721								
Bromoform	80	0.2162944	100	0.2250987								
Styrene	80	1.466473	100	1.403591								
Isopropylbenzene	80	2.273953	100	2.16042								
1,1,2,2-Tetrachloroethane	80	0.5602106	100	0.5182127								
1,2,4-Trichlorobenzene	80	0.5236953	100	0.485902								
1,3-Dichlorobenzene	80	1.133433	100	1.121463								
1,4-Dichlorobenzene	80	1.14285	100	1.121445								
1,2-Dichlorobenzene	80	1.071346	100	1.007351								
1,2-Dibromo-3-chloropropane	80	8.573901E-02	100	~~8.239508E-02~~								
Dibromofluoromethane	70	0.5077306	75	0.4842722								
Toluene-d8	70	1.203106	75	1.255696								
4-Bromofluorobenzene	70	0.8681085	75	0.8442992								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	0.6454795	10.47099	3.97125	7.848416E-02			20	
Chloromethane	0.7429916	13.64009	4.39275	4.507071E-02			20	
Vinyl chloride	0.6032767	11.0407	4.575	4.400144E-02			20	
Bromomethane	0.2658711	51.25071	5.221	5.968524E-02		0.9984319	0.99	
Chloroethane	0.3233106	29.51129	5.432333	0.1760207	0.9952741		0.99	
Trichlorofluoromethane	0.739293	9.643804	5.680714	0.1191043			20	
Freon 113	0.2891047	7.985007	6.54225	5.909168E-02			20	
Acetone	0.1178043	20.49874	7.39275	7.521591E-02	0.9984468		0.99	
1,1-Dichloroethene	0.4316853	12.51718	6.52275	4.626374E-02			20	
Carbon disulfide	1.413985	7.516358	6.611625	4.231748E-02			20	
Methylene Chloride	0.5959536	26.19116	7.33075	6.734604E-02	0.9988511		0.99	
Methyl-tert-Butyl Ether	1.264184	10.32773	7.62475	5.009821E-02			20	
trans-1,2-Dichloroethene	0.4994822	13.81611	7.540375	0.0786285			20	
cis-1,2-Dichloroethene	0.5290745	10.75978	8.94375	6.951434E-02			20	
1,1-Dichloroethane	1.027426	13.07056	8.305375	3.359958E-02			20	
2-Butanone	5.654494E-02	33.55672	9.542875	0.1054762		0.9965506	0.99	
Chloroform	0.9811366	7.973652	9.21525	9.664849E-02			20	
1,1,1-Trichloroethane	0.8099887	12.78922	9.4765	4.549804E-02			20	
Methyl acetate	0.4097982	34.05137	7.5195	0.1021645	0.9973892		0.99	
Cyclohexane	1.084118	17.43103	9.1825	2.763801E-02	0.9983605		0.99	
Methyl cyclohexane	0.6851364	37.89251	10.4425	2.481194E-02	0.9994238		0.99	
Carbon Tetrachloride	0.3247415	15.07661	9.40325	3.946246E-02	0.997318		0.99	
1,2-Dichloroethane	0.3947961	16.85402	10.083	6.413568E-02	0.998277		0.99	
Benzene	1.143102	13.57666	9.871	4.625673E-02			20	
Trichloroethene	0.2308676	8.071231	10.4425	2.481194E-02			20	
1,2-Dichloropropane	0.3327441	14.79548	10.97825	3.768472E-02		0.9995583	0.99	
Bromodichloromethane	0.3384447	18.35051	11.0095	2.483783E-02		0.9995909	0.99	
4-Methyl-2-pentanone	3.573082E-02	20.51705	12.12775	4.882009E-02	0.9995377		0.99	
2-Hexanone	0.1672315	11.31414	12.874	0.0309941			20	
cis-1,3-Dichloropropene	0.4465376	18.76753	11.60275	0.0283524		0.999376	0.99	

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Toluene	1.066872	13.57287	11.82575	3.641946E-02			20	
trans-1,3-Dichloropropene	0.5606682	14.59159	12.1935	6.110681E-02	0.9976126		0.99	
1,1,2-Trichloroethane	0.3401845	14.58738	12.35775	3.776279E-02	0.9991086		0.99	
Tetrachloroethene	0.2798513	14.65878	12.20475	6.050502E-02	0.9992435		0.99	
Dibromochloromethane	0.2803526	24.18079	12.54425	2.540952E-02		0.9966995	0.99	
1,2-Dibromoethane	0.3355065	12.24976	12.80675	5.029451E-02			20	
Chlorobenzene	1.074819	8.299772	13.238	2.555814E-02			20	
Ethylbenzene	0.6263821	16.13499	13.20525	2.269002E-02	0.9993938		0.99	
m,p-Xylenes	0.7525839	7.241605	13.32075	3.483174E-02			20	
o-Xylene	0.7718014	13.16143	13.726	2.743597E-02			20	
Bromoform	0.1740972	26.85684	13.86988	2.962488E-02		0.9990525	0.99	
Styrene	1.260238	13.19508	13.77575	6.052145E-02			20	
Isopropylbenzene	2.031474	10.53359	13.99225	2.532555E-02			20	
1,1,2,2-Tetrachloroethane	0.5037271	10.18228	14.463	1.928567E-02			20	
1,2,4-Trichlorobenzene	0.4097947	23.81543	18.13363	0.0263798		0.9955535	0.99	
1,3-Dichlorobenzene	1.008577	10.77426	15.4075	2.626486E-02			20	
1,4-Dichlorobenzene	1.081206	11.81261	15.49775	7.350592E-03			20	
1,2-Dichlorobenzene	0.9520015	14.21603	16.01475	1.858857E-02			20	
1,2-Dibromo-3-chloropropane	7.396002E-02	49.9638	17.07629	4.554431E-02		0.9992021	0.99	
Dibromofluoromethane	0.5185058	4.852246	9.4205	3.503454E-02			20	
Toluene-d8	1.241574	3.107317	11.77275	1.495661E-03			20	
4-Bromofluorobenzene	0.8975781	4.047299	14.322	1.411585E-02			20	

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101077
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 01/20/21 08:19

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	1	1.132212	2	1.081738	5	1.099689	10	0.9908757	20	1.094479	50	0.9374184
Chloromethane	1	1.280621	2	1.261155	5	1.178299	10	1.149889	20	1.044477	50	0.9030385
Vinyl chloride	1	1.381626	2	1.187443	5	1.103079	10	0.9382662	20	1.028873	50	0.8768452
Bromomethane	1	2.625054	2	1.906138	5	1.381352	10	0.7525831	20	0.6973898	50	0.6149682
Chloroethane	1	0.9797916	2	0.9941816	5	0.7439232	10	0.6397637	20	0.6898111	50	0.5744008
Trichlorofluoromethane	1	1.534411	2	1.54824	5	1.602083	10	1.423735	20	1.54284	50	1.316135
Freon 113	1	0.7066751	2	0.6330097	5	0.6307267	10	0.5083287	20	0.5216339	50	0.4952992
Acetone	5	0.1833417	10	0.1265084	25	0.1302819	50	0.1118284	100	0.1097414	250	0.1026437
1,1-Dichloroethene	1	0.5963711	2	0.5344147	5	0.5371345	10	0.4420584	20	0.4535395	50	0.4376901
Carbon disulfide	5	2.042393	10	1.374044	25	1.478171	50	1.292343	100	1.260119	250	1.179003
Methylene Chloride	1	0.8707638	2	0.7437653	5	0.6598828	10	0.5665447	20	0.5367037	50	0.5029548
Methyl-tert-Butyl Ether	1	1.329483	2	1.195768	5	1.202217	10	0.9708387	20	0.9983125	50	0.9777235
trans-1,2-Dichloroethene	1	0.7695758	2	0.5947503	5	0.6165531	10	0.498399	20	0.5198553	50	0.5187938
cis-1,2-Dichloroethene	1	0.7542608	2	0.637032	5	0.6603835	10	0.5646693	20	0.5735283	50	0.5714241
1,1-Dichloroethane	1	1.446533	2	1.270509	5	1.239846	10	1.012512	20	1.033911	50	1.032356
2-Butanone	5	3.868846E-02	10	2.780116E-02	25	3.598871E-02	50	2.905469E-02	100	2.924066E-02	250	2.735337E-02
Chloroform	1	1.505422	2	1.211577	5	1.217508	10	0.9774717	20	0.9999071	50	0.9604477
1,1,1-Trichloroethane	1	1.138593	2	0.9810855	5	1.012876	10	0.8336985	20	0.8699214	50	0.8261889
Methyl acetate	1	7.438686E-02	2	5.743578E-02	5	7.036747E-02	10	4.986556E-02	20	5.030858E-02	50	4.855103E-02
Cyclohexane	1	1.164665	2	0.9651831	5	1.022081	10	0.8718577	20	0.9151921	50	0.8862811
Methyl cyclohexane	1	0.4343835	2	0.4173906	5	0.4051248	10	0.3600154	20	0.3617094	50	0.3636473
Carbon Tetrachloride	1	0.573209	2	0.4979244	5	0.5309295	10	0.4268537	20	0.4694365	50	0.4673335
1,2-Dichloroethane	1	0.4762291	2	0.4163737	5	0.4099687	10	0.3343197	20	0.3517888	50	0.34586
Benzene	1	1.322	2	1.197789	5	1.187095	10	0.9822448	20	1.07658	50	1.131535
Trichloroethene	1	0.4028108	2	0.3090115	5	0.3382511	10	0.2795944	20	0.3059167	50	0.31468
1,2-Dichloropropane	1	0.4320273	2	0.3405857	5	0.3344858	10	0.269395	20	0.2858346	50	0.2901264
Bromodichloromethane	1	0.4902718	2	0.4275119	5	0.4138517	10	0.3445289	20	0.3659631	50	0.3728853
4-Methyl-2-pentanone	5	4.227911E-02	10	2.894955E-02	25	2.651804E-02	50	0.0209787	100	2.290058E-02	250	0.0246077
2-Hexanone	5	0.2244205	10	0.1524863	25	0.1620852	50	0.1333905	100	0.1424361	250	0.1490342
cis-1,3-Dichloropropene	1	0.5277821	2	0.4596672	5	0.4604475	10	0.397173	20	0.4169022	50	0.435696
Toluene	1	1.93085	2	1.604323	5	1.626449	10	1.315349	20	1.44065	50	1.43267

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101077
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 01/20/21 08:19

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	1	1.007775	2	0.8574989	5	0.8440523	10	0.7149002	20	0.7694288	50	0.7675824
1,1,2-Trichloroethane	1	0.4870838	2	0.4590921	5	0.463077	10	0.3893758	20	0.386325	50	0.4071512
Tetrachloroethene	1	0.4802714	2	0.456302	5	0.4521271	10	0.3714068	20	0.4173894	50	0.4104367
Dibromochloromethane	1	0.7584428	2	0.6812559	5	0.631324	10	0.5430032	20	0.5818434	50	0.5952504
1,2-Dibromoethane	1	0.5243247	2	0.4953637	5	0.4966083	10	0.417636	20	0.4381025	50	0.4559483
Chlorobenzene	1	2.11819	2	1.802189	5	1.775022	10	1.468861	20	1.606084	50	1.631965
Ethylbenzene	1	1.041156	2	0.8874928	5	0.8746757	10	0.7065054	20	0.7892454	50	0.8139481
m,p-Xylenes	2	1.165708	4	1.02944	10	1.041991	20	0.8726556	40	0.9424046	100	1.002018
o-Xylene	1	1.029121	2	1.050715	5	0.9833116	10	0.8158229	20	0.8958653	50	0.9672722
Bromoform	1	0.3240413	2	0.270061	5	0.2604354	10	0.2252492	20	0.2460033	50	0.2572319
Styrene	1	1.928806	2	1.678842	5	1.731177	10	1.390463	20	1.595608	50	1.737077
Isopropylbenzene	1	2.877768	2	2.424969	5	2.457643	10	2.07294	20	2.279474	50	2.440278
1,1,2,2-Tetrachloroethane	1	0.502298	2	0.4332834	5	0.439496	10	0.3753151	20	0.3956026	50	0.3977983
1,2,4-Trichlorobenzene	1	0.4554218	2	0.4435265	5	0.4487368	10	0.339364	20	0.3842878	50	0.3834837
1,3-Dichlorobenzene	1	1.879308	2	1.490272	5	1.513677	10	1.212824	20	1.364455	50	1.390077
1,4-Dichlorobenzene	1	1.879308	2	1.644885	5	1.594724	10	1.283585	20	1.405738	50	1.420117
1,2-Dichlorobenzene	1	1.465254	2	1.267192	5	1.292768	10	1.043234	20	1.155936	50	1.174126
1,2-Dibromo-3-chloropropane	1	2.290037E-02	2	0.0500331	5	0.1032036	10	6.861337E-02	20	6.164036E-02	50	6.539414E-02
Dibromofluoromethane	50	0.5849469	55	0.5870287	60	0.6232323	50	0.6010518	65	0.5550645	50	0.5308566
Toluene-d8	50	0.8400387	55	0.8475554	60	0.9054921	50	0.8401661	65	0.8216728	50	0.820902
4-Bromofluorobenzene	50	0.6795148	55	0.6811249	60	0.7212633	50	0.6607664	65	0.6658056	50	0.6643235

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101077
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 01/20/21 08:19

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	80	0.9487262	100	0.9808405								
Chloromethane	80	0.9876056	100	1.082517								
Vinyl chloride	80	0.8397385	100	0.8814244								
Bromomethane	80	0.5499226	100	0.5220224								
Chloroethane	80	0.5479944	100	0.5494368								
Trichlorofluoromethane	80	1.264915	100	1.305889								
Freon 113	80	0.4862521	100	0.481061								
Acetone	400	0.1077735	500	0.1080897								
1,1-Dichloroethene	80	0.4385567	100	0.4338046								
Carbon disulfide	400	1.191802	500	1.205703								
Methylene Chloride	80	0.5100339	100	0.4980969								
Methyl-tert-Butyl Ether	80	0.9954462	100	0.9800074								
trans-1,2-Dichloroethene	80	0.5195184	100	0.5211387								
cis-1,2-Dichloroethene	80	0.5806544	100	0.5780107								
1,1-Dichloroethane	80	1.059753	100	1.054324								
2-Butanone	400	2.858297E-02	500	2.848384E-02								
Chloroform	80	0.9604834	100	0.9292233								
1,1,1-Trichloroethane	80	0.8182671	100	0.8195241								
Methyl acetate	80	4.854086E-02	100	4.748598E-02								
Cyclohexane	80	0.8841406	100	0.8815943								
Methyl cyclohexane	80	0.3607928	100	0.3672072								
Carbon Tetrachloride	80	0.4885612	100	0.4670258								
1,2-Dichloroethane	80	0.381621	100	0.3664746								
Benzene	80	1.178177	100	1.082052								
Trichloroethene	80	0.3011965	100	0.3167983								
1,2-Dichloropropane	80	0.2986052	100	0.2867514								
Bromodichloromethane	80	0.3869447	100	0.3699728								
4-Methyl-2-pentanone	400	2.679176E-02	500	2.565411E-02								
2-Hexanone	400	0.1650352	500	0.1608018								
cis-1,3-Dichloropropene	80	0.4601054	100	0.4466238								
Toluene	80	1.425498	100	1.387039								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101077
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 01/20/21 08:19

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	80	0.7689001	100	0.7609396								
1,1,2-Trichloroethane	80	0.4049094	100	0.3893835								
Tetrachloroethene	80	0.4147976	100	0.4097285								
Dibromochloromethane	80	0.5953088	100	0.5881711								
1,2-Dibromoethane	80	0.4608022	100	0.4500403								
Chlorobenzene	80	1.621379	100	1.596715								
Ethylbenzene	80	0.833241	100	0.8293777								
m,p-Xylenes	160	1.009728	200	0.9918246								
o-Xylene	80	0.9935402	100	0.9973062								
Bromoform	80	0.2686547	100	0.2655931								
Styrene	80	1.775666	100	1.738694								
Isopropylbenzene	80	2.541679	100	2.524793								
1,1,2,2-Tetrachloroethane	80	0.4070247	100	0.3951593								
1,2,4-Trichlorobenzene	80	0.443591	100	0.4256633								
1,3-Dichlorobenzene	80	1.473057	100	1.450216								
1,4-Dichlorobenzene	80	1.497691	100	1.478101								
1,2-Dichlorobenzene	80	1.254849	100	1.206153								
1,2-Dibromo-3-chloropropane	80	7.296265E-02	100	6.591071E-02								
Dibromofluoromethane	70	0.5194197	75	0.5456668								
Toluene-d8	70	0.8430687	75	0.8532165								
4-Bromofluorobenzene	70	0.6624278	75	0.7001856								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2101077
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 01/20/21 08:19

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	1.033247	7.422996	5.8775	0.1198878			20	
Chloromethane	1.11095	11.8379	6.345	8.425355E-02	0.9927055		0.99	
Vinyl chloride	1.029662	18.1291	6.54	1.353011E-02	0.9974044		0.99	
Bromomethane	1.131179	68.49097	7.18875	0.1738033	0.996		0.99	
Chloroethane	0.7149129	25.36914	7.4225	6.189921E-02		0.9982915	0.99	
Trichlorofluoromethane	1.442281	9.141456	7.68625	6.810643E-02			20	
Freon 113	0.5578733	15.42109	8.51125	4.342495E-02	0.9993003		0.99	
Acetone	0.1225261	21.53556	9.225	0.1017803	0.9992732		0.99	
1,1-Dichloroethene	0.4841962	12.92318	8.47	1.404484E-02			20	
Carbon disulfide	1.377947	20.82942	8.58875	0.0394861	0.999531		0.99	
Methylene Chloride	0.6110932	22.26659	9.18375	5.802199E-02	0.9990741		0.99	
Methyl-tert-Butyl Ether	1.081225	12.9278	9.5025	4.782094E-02			20	
trans-1,2-Dichloroethene	0.5698231	15.94811	9.41375	5.524527E-02	0.9998645		0.99	
cis-1,2-Dichloroethene	0.6149954	10.75752	10.65125	3.471958E-02			20	
1,1-Dichloroethane	1.143718	13.77425	10.08875	3.844483E-02			20	
2-Butanone	3.064923E-02	13.82049	11.15625	9.569697E-02			20	
Chloroform	1.095255	18.37698	10.87	9.768114E-03	0.9990787		0.99	
1,1,1-Trichloroethane	0.9125193	13.02548	11.1675	3.725675E-02			20	
Methyl acetate	5.586777E-02	19.136	9.36625	0.0994785	0.9990959		0.99	
Cyclohexane	0.9488744	10.68026	10.935	4.938657E-02			20	
Methyl cyclohexane	0.3837839	7.882556	12.05625	3.694256E-02			20	
Carbon Tetrachloride	0.4901592	9.161404	11.13	1.615315E-02			20	
1,2-Dichloroethane	0.3853295	12.20707	11.64875	7.128164E-02			20	
Benzene	1.144684	8.878515	11.5075	0.0379681			20	
Trichloroethene	0.3210324	11.491	12.02	1.613154E-02			20	
1,2-Dichloropropane	0.3172264	16.55493	12.47125	4.719873E-02	0.9992204		0.99	
Bromodichloromethane	0.3964913	11.69154	12.48625	3.738691E-02			20	
4-Methyl-2-pentanone	2.733494E-02	23.83835	13.49125	1.808956E-02	0.9977426		0.99	
2-Hexanone	0.1612112	17.16777	14.1925	5.296872E-02	0.9975808		0.99	
cis-1,3-Dichloropropene	0.4505496	8.577485	13.0325	3.879666E-02			20	

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101077
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 01/20/21 08:19

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Toluene	1.520353	12.90949	13.2625	3.467364E-02			20	
trans-1,3-Dichloropropene	0.8113847	11.32455	13.55375	3.988811E-02			20	
1,1,2-Trichloroethane	0.4232997	9.449146	13.70875	1.851086E-02			20	
Tetrachloroethene	0.4265574	8.038834	13.6375	3.135631E-02			20	
Dibromochloromethane	0.6218249	10.9814	13.90625	0.0389754			20	
1,2-Dibromoethane	0.4673533	7.537445	14.16125	2.800208E-02			20	
Chlorobenzene	1.702551	11.63378	14.61	1.172072E-02			20	
Ethylbenzene	0.8469553	11.35726	14.57	1.758415E-02			20	
m,p-Xylenes	1.006971	8.342498	14.685	3.483417E-02			20	
o-Xylene	0.9666193	7.885543	15.10375	3.299662E-02			20	
Bromoform	0.2646587	10.63585	15.2325	4.612938E-02			20	
Styrene	1.697042	9.156187	15.14375	3.225299E-02			20	
Isopropylbenzene	2.452443	9.361543	15.37125	0.0191395			20	
1,1,2,2-Tetrachloroethane	0.4182472	9.553144	15.80625	3.206999E-02			20	
1,2,4-Trichlorobenzene	0.4155094	10.03589	19.93875	5.693414E-02			20	
1,3-Dichlorobenzene	1.471736	12.94042	16.8825	0.0122198			20	
1,4-Dichlorobenzene	1.525519	11.91359	16.9675	0.1844742			20	
1,2-Dichlorobenzene	1.232439	9.951522	17.54375	3.282852E-02			20	
1,2-Dibromo-3-chloropropane	6.383229E-02	35.19873	18.65875	5.922873E-02	0.9945011		0.99	
Dibromofluoromethane	0.5684084	6.37686	11.05125	2.725859E-02			20	
Toluene-d8	0.846514	3.122799	13.21875	0.0214707			20	
4-Bromofluorobenzene	0.6794265	3.164043	15.71125	2.770036E-02			20	

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE00066-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2011113 **Laboratory ID:** AA63653-SCV1

Sequence: AA63653 **Standard ID:** A0K1038

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Cyclohexane	50.0	46	-8.0	30.00
Ethylbenzene	50.0	49	-2.4	30.00
Carbon Tetrachloride	50.0	55	10.9	30.00
1,3-Dichlorobenzene	50.0	55	9.4	30.00
4-Bromofluorobenzene	50.0	52	4.6	30.00
Toluene-d8	50.0	52	4.4	30.00
Dibromofluoromethane	50.0	50	-0.5	30.00
Methyl-tert-Butyl Ether	50.0	49	-1.8	30.00
trans-1,2-Dichloroethene	50.0	48	-4.3	30.00
cis-1,2-Dichloroethene	50.0	50	-0.1	30.00
Tetrachloroethene	50.0	48	-3.1	30.00
Acetone	250	240	-4.3	30.00
1,2,4-Trichlorobenzene	50.0	49	-2.0	30.00
Chloroform	50.0	49	-2.2	30.00
Chlorobenzene	50.0	52	3.4	30.00
Toluene	50.0	53	5.9	30.00
Methyl cyclohexane	50.0	47	-5.0	30.00
m,p-Xylenes	100	110	5.6	30.00
4-Methyl-2-pentanone	250	230	-7.3	30.00
1,2-Dichloroethane	50.0	46	-8.3	30.00
1,2-Dibromoethane	50.0	52	3.4	30.00
1,4-Dichlorobenzene	50.0	51	1.3	30.00
trans-1,3-Dichloropropene	50.0	49	-1.5	30.00
cis-1,3-Dichloropropene	50.0	49	-2.4	30.00
Styrene	50.0	55	10.3	30.00
Dibromochloromethane	50.0	52	3.8	30.00
1,1-Dichloroethene	50.0	49	-2.0	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE00066-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2011113 **Laboratory ID:** AA63653-SCV1

Sequence: AA63653 **Standard ID:** A0K1038

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
1,2-Dibromo-3-chloropropane	50.0	55	9.4	30.00
1,2-Dichlorobenzene	50.0	52	3.8	30.00
o-Xylene	50.0	53	5.4	30.00
1,1,2,2-Tetrachloroethane	50.0	52	3.2	30.00
Methyl acetate	50.0	38	-23.9	30.00
Trichloroethene	50.0	54	7.6	30.00
1,1,2-Trichloroethane	50.0	50	-0.4	30.00
2-Butanone	250	250	-1.7	30.00
1,2-Dichloropropane	50.0	50	-0.4	30.00
Freon 113	50.0	51	2.3	30.00
2-Hexanone	250	250	0.6	30.00
Trichlorofluoromethane	20.0	21	2.9	30.00
Isopropylbenzene	50.0	54	8.8	30.00
1,1-Dichloroethane	50.0	48	-4.6	30.00
Bromodichloromethane	50.0	50	-0.1	30.00
Bromoform	50.0	52	3.8	30.00
Carbon disulfide	50.0	52	4.0	30.00
Methylene Chloride	50.0	47	-5.6	30.00
Vinyl chloride	20.0	21	3.6	30.00
Chloroethane	20.0	22	8.4	30.00
Chloromethane	20.0	20	-0.1	30.00
Bromomethane	20.0	25	24.8	30.00
1,1,1-Trichloroethane	50.0	51	1.2	30.00
Benzene	50.0	54	7.1	30.00
Dichlorodifluoromethane	20.0	21	3.0	30.00

* Values outside of QC limits

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2101077
Laboratory ID: AA64539-SCV1
Sequence: AA64539
Standard ID: A1A0936

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Cyclohexane	50.0	52	3.4	30.00
Ethylbenzene	50.0	49	-2.1	30.00
Carbon Tetrachloride	50.0	50	-0.2	30.00
1,3-Dichlorobenzene	50.0	50	-0.3	30.00
4-Bromofluorobenzene	50.0	53	5.0	30.00
Toluene-d8	50.0	52	4.5	30.00
Dibromofluoromethane	50.0	49	-1.1	30.00
Methyl-tert-Butyl Ether	50.0	50	0.7	30.00
trans-1,2-Dichloroethene	50.0	51	1.3	30.00
cis-1,2-Dichloroethene	50.0	48	-4.8	30.00
Tetrachloroethene	50.0	46	-7.5	30.00
Acetone	250	310	24.9	30.00
1,2,4-Trichlorobenzene	50.0	59	17.8	30.00
Chloroform	50.0	55	9.8	30.00
Chlorobenzene	50.0	49	-2.0	30.00
Toluene	50.0	46	-7.4	30.00
Methyl cyclohexane	50.0	50	0.5	30.00
m,p-Xylenes	100	110	5.5	30.00
4-Methyl-2-pentanone	250	250	0.1	30.00
1,2-Dichloroethane	50.0	49	-1.8	30.00
1,2-Dibromoethane	50.0	47	-5.7	30.00
1,4-Dichlorobenzene	50.0	48	-4.2	30.00
trans-1,3-Dichloropropene	50.0	48	-3.7	30.00
cis-1,3-Dichloropropene	50.0	51	1.7	30.00
Styrene	50.0	54	8.8	30.00
Dibromochloromethane	50.0	46	-7.3	30.00
1,1-Dichloroethene	50.0	46	-7.4	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE00066-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2101077 **Laboratory ID:** AA64539-SCV1

Sequence: AA64539 **Standard ID:** A1A0936

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
1,2-Dibromo-3-chloropropane	50.0	55	10.8	30.00
1,2-Dichlorobenzene	50.0	52	3.6	30.00
o-Xylene	50.0	53	5.1	30.00
1,1,2,2-Tetrachloroethane	50.0	53	5.6	30.00
Methyl acetate	50.0	55	9.1	30.00
Trichloroethene	50.0	49	-1.5	30.00
1,1,2-Trichloroethane	50.0	47	-6.2	30.00
2-Butanone	250	250	1.9	30.00
1,2-Dichloropropane	50.0	51	2.2	30.00
Freon 113	50.0	55	9.7	30.00
2-Hexanone	250	260	3.5	30.00
Trichlorofluoromethane	50.0	51	2.5	30.00
Isopropylbenzene	50.0	53	6.2	30.00
1,1-Dichloroethane	50.0	47	-5.6	30.00
Bromodichloromethane	50.0	49	-1.8	30.00
Bromoform	50.0	52	3.5	30.00
Carbon disulfide	50.0	64	28.6	30.00
Methylene Chloride	50.0	53	5.9	30.00
Vinyl chloride	50.0	56	12.6	30.00
Chloroethane	50.0	56	11.9	30.00
Chloromethane	50.0	55	10.5	30.00
Bromomethane	50.0	47	-5.9	30.00
1,1,1-Trichloroethane	50.0	51	1.2	30.00
Benzene	50.0	49	-1.6	30.00
Dichlorodifluoromethane	50.0	50	0.1	30.00

* Values outside of QC limits

ANALYSIS SEQUENCE

AA64632

Instrument: OVGCMS5

Calibration ID: 2011113

Printed: 1/25/2021 12:56:05PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA64632-CCV1	QC		1		A1A0911	A0H0536		
1A25020-BS1	QC		2			A0H0536		
1A25020-BLK1	QC		3			A0H0536		
AA64632-CRL1	QC		4		A1A0912	A0H0536		
AE00295-03	8260D Halo	B	5			A0H0536		Run 1x FOAM jmw 1/22/21 Tetrachlor
AE00066-10	8260D Halo	A	6			A0H0536	Tetra Tech, Inc. (TE016)	BatchQC
AE00066-01	60D TCL SOM01.2 CLP-LIK	B	7			A0H0536	Tetra Tech, Inc. (TE016)	History 1x ND jmw 1/22/21 custom
AE00066-02	60D TCL SOM01.2 CLP-LIK	B	8			A0H0536	Tetra Tech, Inc. (TE016)	History 1x ND jmw 1/22/21 custom
AE00066-03	60D TCL SOM01.2 CLP-LIK	A	9			A0H0536	Tetra Tech, Inc. (TE016)	History 1x V.C. jmw 1/22/21 custom
AE00066-04	60D TCL SOM01.2 CLP-LIK	A	10			A0H0536	Tetra Tech, Inc. (TE016)	History 1x ND jmw 1/22/21 custom
AE00066-05	60D TCL SOM01.2 CLP-LIK	A	11			A0H0536	Tetra Tech, Inc. (TE016)	History 1x V.C. jmw 1/22/21 custom
AE00066-06	60D TCL SOM01.2 CLP-LIK	A	12			A0H0536	Tetra Tech, Inc. (TE016)	History 1x V.C. jmw 1/22/21 custom
AE00066-07	60D TCL SOM01.2 CLP-LIK	A	13			A0H0536	Tetra Tech, Inc. (TE016)	History 1x V.C. jmw 1/22/21 custom
AE00066-08	60D TCL SOM01.2 CLP-LIK	A	14			A0H0536	Tetra Tech, Inc. (TE016)	History 1x V.C. jmw 1/22/21 custom
AE00066-09	60D TCL SOM01.2 CLP-LIK	A	15			A0H0536	Tetra Tech, Inc. (TE016)	History 1x V.C. jmw 1/22/21 custom
AE00066-10	60D TCL SOM01.2 CLP-LIK	A	16			A0H0536	Tetra Tech, Inc. (TE016)	History 1x V.C. jmw 1/22/21 custom
AE00066-11	60D TCL SOM01.2 CLP-LIK	A	17			A0H0536	Tetra Tech, Inc. (TE016)	History 2x VC jmw 1/22/21 custom
AE00066-12	60D TCL SOM01.2 CLP-LIK	A	18			A0H0536	Tetra Tech, Inc. (TE016)	History 1x V.C. jmw 1/22/21 custom
AE00488-01	60D TCL SOM01.2 CLP-LIK	B	19			A0H0536	Tetra Tech, Inc. (TE016)	History 1x ND jmw 1/22/21 custom
AE00488-02	60D TCL SOM01.2 CLP-LIK	A	20			A0H0536	Tetra Tech, Inc. (TE016)	History 1x V.C. T12DCE jmw 1/22/21
1A25020-MS1	QC		21			A0H0536		
1A25020-MSD1	QC		22			A0H0536		

Samples Loaded By Date

Data Processed By Date

ANALYSIS SEQUENCE

AA64632

Instrument: OVGCMS5

Calibration ID: 2011113

Printed: 1/25/2021 12:56:05PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments

Samples Loaded By Date

Data Processed By Date

VOLATILES GC/MS LOGBOOK (EPA Method 624.1 / SW-846 Method 8260D)

Tune Start Date: 01/25/21	Surrogate: A0f0982	8260 Mix: A1A0764
Sequence: AA64632	Internal: A0H0535	8260 Add: A1A0635
Batch: 1A25022	LCS Mix 2⁰: A1A0898	8260 Ac/Ac: A1A0593
Method: ~~8260~~	LCS Acrolein 2⁰: A1A0830	8260 Gases: A1A0899
Analyst: KD	LCS Gas 2⁰: A1A0920	Instrument #: MS-5
Instrument EM Voltage: 1694		

215AT

Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)	Comments	LIMS
001	mbe			1				
002	CCV			2				
003	CCV			2			✓	
004	BS			3			✓	
005	mbk		N	4		N		
006	BLK		01/26/21	5		01/26/21	✓ APA	
007	CRL			6			✓	
008	AE000295-03	B	1	7	✓	N	✓ APA	
009	AE000066-10	A	1	8	✓	N	✓ MS/MSD	
010	AE000066-01	B	1	9	✓	N	✓	
011	AE000066-02	B	1	10	✓	N	✓	
012	AE000066-03	A	1	11	✓	N	✓	
013	AE000066-04	A	1	12	✓	N	✓	
014	AE000066-05	A	1	13	✓	N	✓	
015	AE000066-06	A	1	14	✓	N	✓ APA	
016	AE000066-07	A	1	15	✓	N	✓ APA	
017	AE000066-08	A	1	16	✓	N	✓	
018	AE000066-09	A	1	17	✓	N	✓	
019	AE000066-11	A	2	18	✓	N	✓ RR 1x overdilute	
020	AE000066-12	A	1	19	✓	N	✓	
021	~~AE000~~ AE000488-01	B	1	20	✓	N	✓	

VOLATILES GC/MS LOGBOOK (EPA Method 624.1 / SW-846 Method 8260D)

Tune Start Date:	Surrogate:	8260 Mix:
Sequence:	Internal:	8260 Add:
Batch:	LCS Mix 2⁰: 220 pg 158 NC 1/26/21	8260 Ac/Ac:
Method:	LCS Acrolein 2⁰:	8260 Gases:
Analyst:	LCS Gas 2⁰:	Instrument #:
Instrument EM Voltage:		

Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)	Comments	LIMS
022	AR00488-02	A	1	21	✓	N	✓	
023	MS	B	1	22	✓	N	✓	
024	MSD	B	1	22	✓	N	✓	

NC 1/26/21

PREPARATION BENCH SHEET

Printed: 1/25/2021 12:55:21PM

1A25020

ENCO Orlando

Analysis
8260D Halo [EPA 8260D]
8260D TCL SOM01.2 CLP-LIKE [EPA 8260D]

Surrogate Solution
___ A0F0992 8260 surr working (lower conc.)

Prepared using: EPA 5030B_MS

Spiking Solution
A1A0898 8260 2nd source Mega Mix
A1A0922 8260 2nd source Gases/Acrolein virtual

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
1A25020-BLK1		Blank		QC			5	5			5	
1A25020-BS1		LCS		QC			5	5	A1A0922 A1A0898	2 2	5	
1A25020-MS1		Matrix Spike [AE00066-10]		QC			5	5	A1A0922 A1A0898	2 2	5	
1A25020-MSD1		Matrix Spike Dup [AE00066-10]		QC			5	5	A1A0922 A1A0898	2 2	5	
AE00066-01	C	CRCA-MW0030-058.0-202101[illegible]MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x ND jmw 1/22/21 custom
AE00066-02	C	CRCA-MW0029-035.0-202101[illegible]MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x ND jmw 1/22/21 custom
AE00066-03	C	CRCA-MW0028-058.0-202101[illegible]MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x V.C. jmw 1/22/21 custom
AE00066-04	C	CRCA-MW0027-035.0-202101[illegible]MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x ND jmw 1/22/21 custom
AE00066-05	C	CRCA-MW0015-027.5-202101[illegible]MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x V.C. jmw 1/22/21 custom
AE00066-06	C	CRCA-MW0013-027.5-202101[illegible]MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x V.C. jmw 1/22/21 custom
AE00066-07	C	CRCA-MW0012-027.5-202101[illegible]MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x V.C. jmw 1/22/21 custom
AE00066-08	C	CRCA-MW0002-032.5-202101[illegible]MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x V.C. jmw 1/22/21 custom
AE00066-09	C	CRCA-MW0031-058.0-202101[illegible]MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x V.C. jmw 1/22/21 custom
AE00066-10	C	CRCA-MW0032-058.0-202101[illegible]MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x V.C. jmw 1/22/21 custom
AE00066-10	C	CRCA-MW0032-058.0-202101[illegible]MS43		8260D Halo			5	5			5	Added for BatchQC in: 1A25020
AE00066-11	C	CRCA-MW0018-058.0-202101[illegible]MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 2x VC jmw 1/22/21 custom
AE00066-12	C	CRCA-MW0019-058.0-202101[illegible]MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x V.C. jmw 1/22/21 custom

PREPARATION BENCH SHEET

Printed: 1/25/2021 12:55:21PM

1A25020

ENCO Orlando

Prepared using: EPA 5030B_MS

Surrogate Solution
___ A0F0992 8260 surr working (lower conc.)

Spiking Solution
A1A0898 8260 2nd source Mega Mix
A1A0922 8260 2nd source Gases/Acrolein virtual

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
AE00295-03		S Parking lot B[MS30	27-Jan-21	8260D Halo			5	5			5	Run 1x FOAM jmw 1/22/21 Tetrachloroethene Only. Heavy Sediment in vilas, NB 1/21/21.
AE00488-01	C	CRCA-ASEFFLUENT-2021011B[MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x ND jmw 1/22/21 custom
AE00488-02	C	CRCA-ASINFLUENT-20210119A[MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x V.C. T12DCE jmw 1/22/21 custom

(1) Before solvent extraction proceeds, verify that there is no residual chlorine above 0.5 mg/L. Any sample above this must be treated to remove excess chlorine before extraction, and this documented as a comment.

Instrument 5
EST Centurian autosampler manufacturer reccommends adding 5 uL of IS/SS.

Start Date _____

StopDate _____

Instrument ID _____

Standard ID#	Description	Manufacture Lot#
A0A1401	pH Test Papers (1.0 to 12.0)	231018
A0B1371	Residual Chlorine Strips (Potassium Iodide S	102916
A0L0697	P&T Anti-Foam working solution	N/A

_____ _____
Samples Prepared By Date

_____ _____
Samples Prepared By Date

Manual Integration Review Form

ENVIRONMENTAL CONSERVATION LABORATORIES, INC. ☐ Cary ☐ Jacksonville ☒ Orlando

I hereby attest that the manual integrations contained in this package have been thoroughly reviewed and are in agreement with the associated hardcopy data.

The electronic files listed below have been reviewed for accuracy, completeness and comply with ENCO labs QA-11 Manual Integration Policy including:

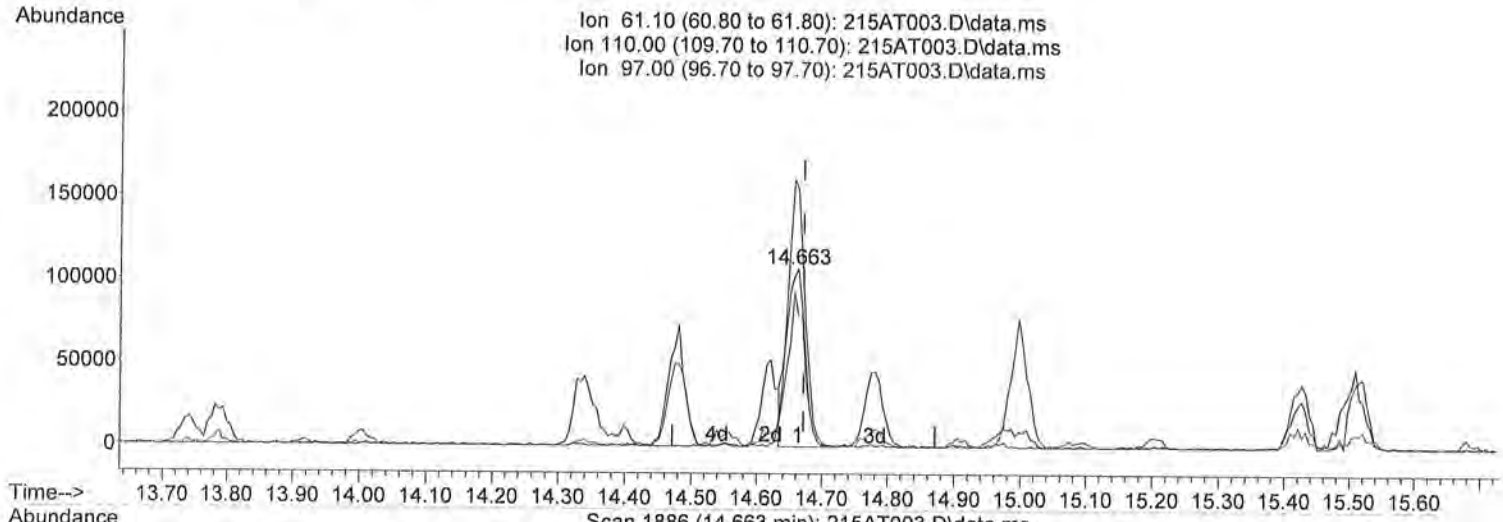
- "Before" and "After" chromatograms are provided
- Manual integrations are indicated on expanded scale "after" chromatograms at a scale large enough to see the manual integration performed.
- Reintegration technique marked if available on the data system
- Technical justification for manual integration
- Appropriate flags indicating which analytes were manually integrated are included in the raw data
- Analyst's initials and date.

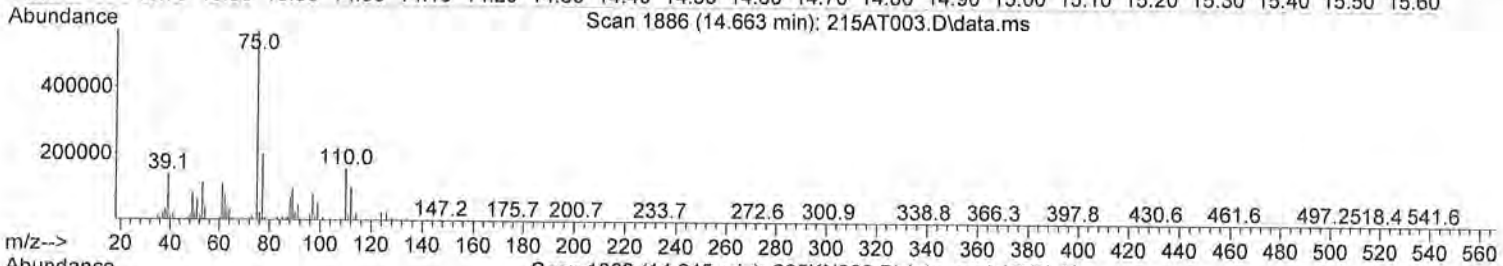
Instrument ID:	OVGcms-5
Sequence/Batch ID:	AA64632 / IA25020
Data File Prefix:	215AT
Date and Time Range of MIs:	01/25/21 1439-1442
Reviewer Print Name:	Neil Christiana
Reviewer Signature:	
Date of Review:	1/26/21

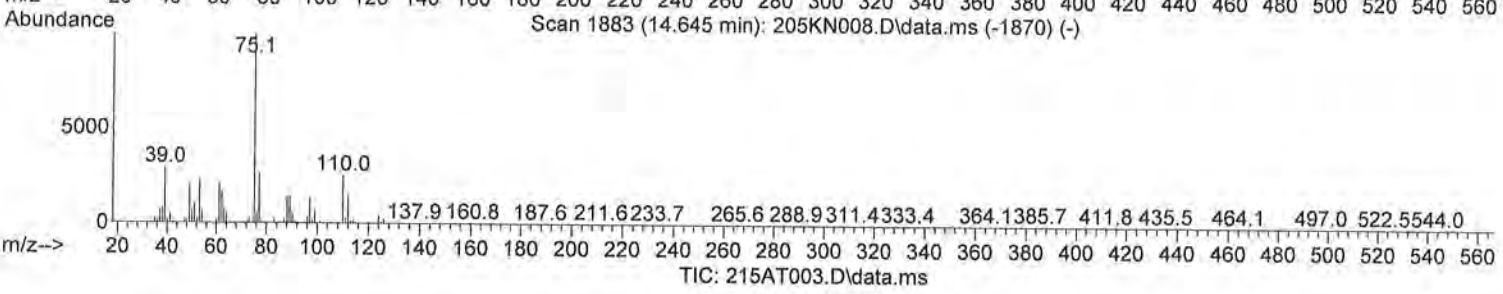
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT003.D
Acq On : 25 Jan 2021 8:47 am
Operator : KKW
Sample : CCV1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jan 25 14:39:42 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration







TIC: 215AT003.D\data.ms

(77) 1,2,3-Trichloropropane

14.663min (-0.008) 27.23 ug/L

response 210998

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.60	140.41#
97.00	49.10	87.71#
0.00	0.00	0.00

Select One:

~~N~~ Original Integration [ ] Manual Integration

Select reason for manual integration:

~~N~~ Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

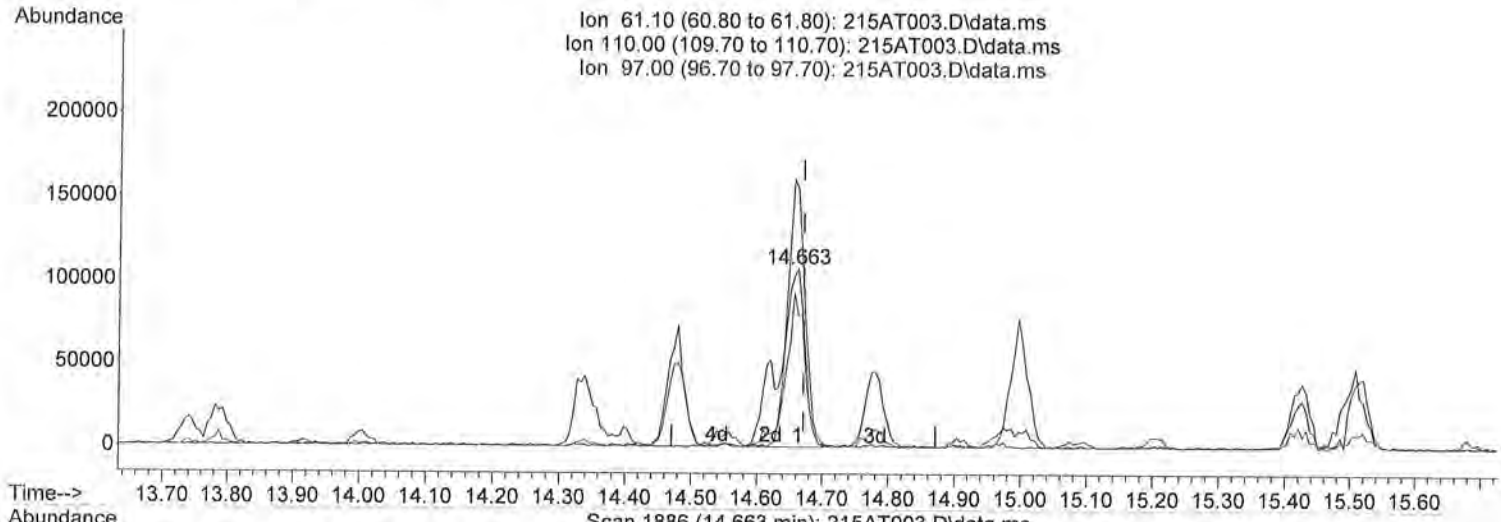
Review by/Date W 01/26/21

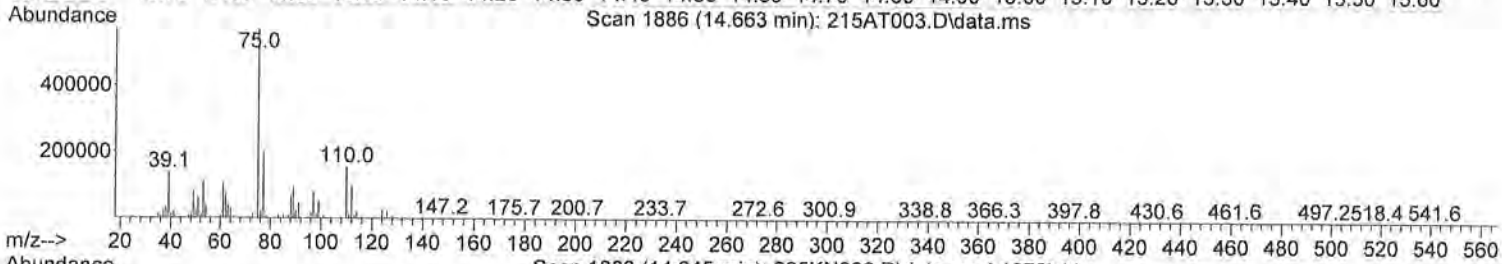
Review by/Date:

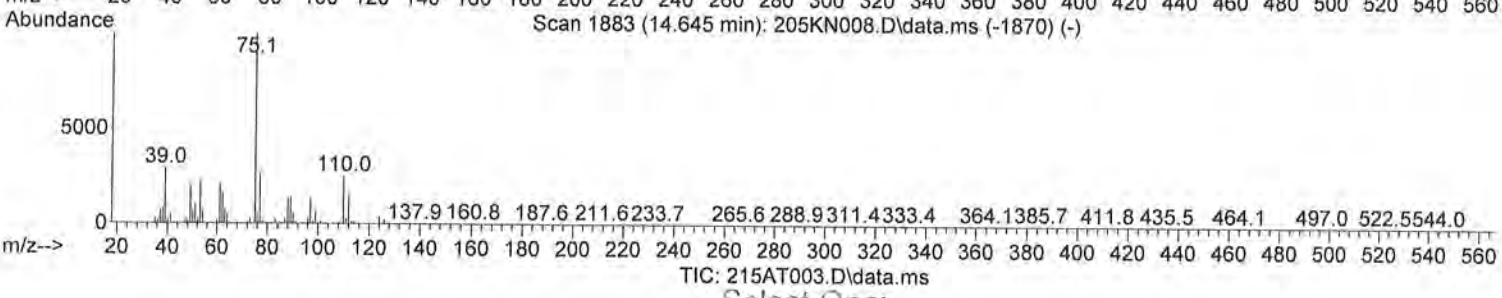
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT003.D
Acq On : 25 Jan 2021 8:47 am
Operator : KKW
Sample : CCV1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jan 25 14:39:42 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration







TIC: 215AT003.D\data.ms

(77) 1,2,3-Trichloropropane

14.663min (-0.008) 38.14 ug/L m

response 295490

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.60	100.26#
97.00	49.10	62.63#
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

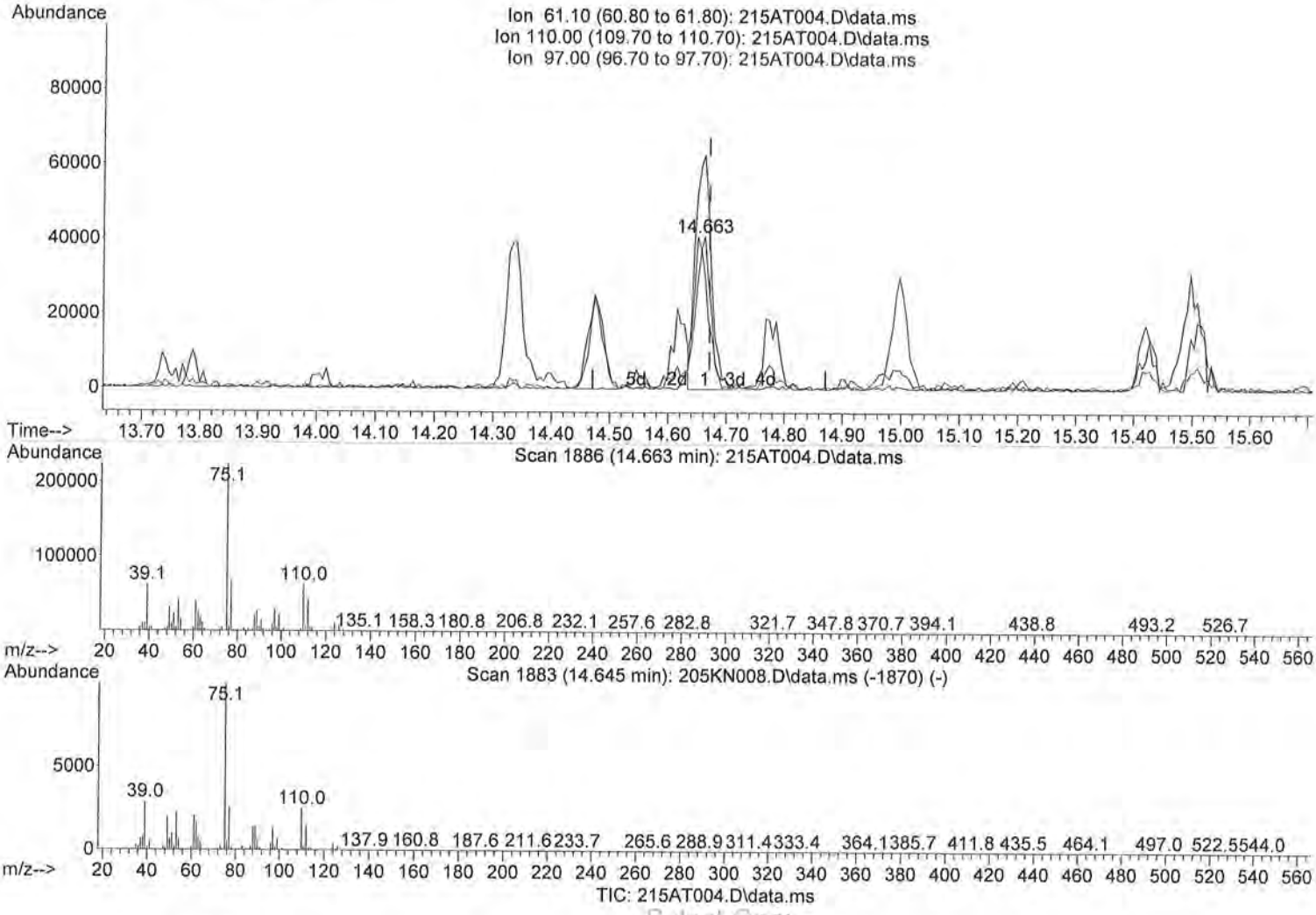
Review by/Date W 01/26/21

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT004.D
Acq On : 25 Jan 2021 9:20 am
Operator : KKW
Sample : BS1
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 25 09:49:13 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



(77) 1,2,3-Trichloropropane

14.663min (-0.008) 10.91 ug/L

response 79411

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.60	155.57#
97.00	49.10	79.99#
0.00	0.00	0.00

Select One:

~~X~~ Original Integration [ ] Manual Integration

Select reason for manual integration:

~~X~~ Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

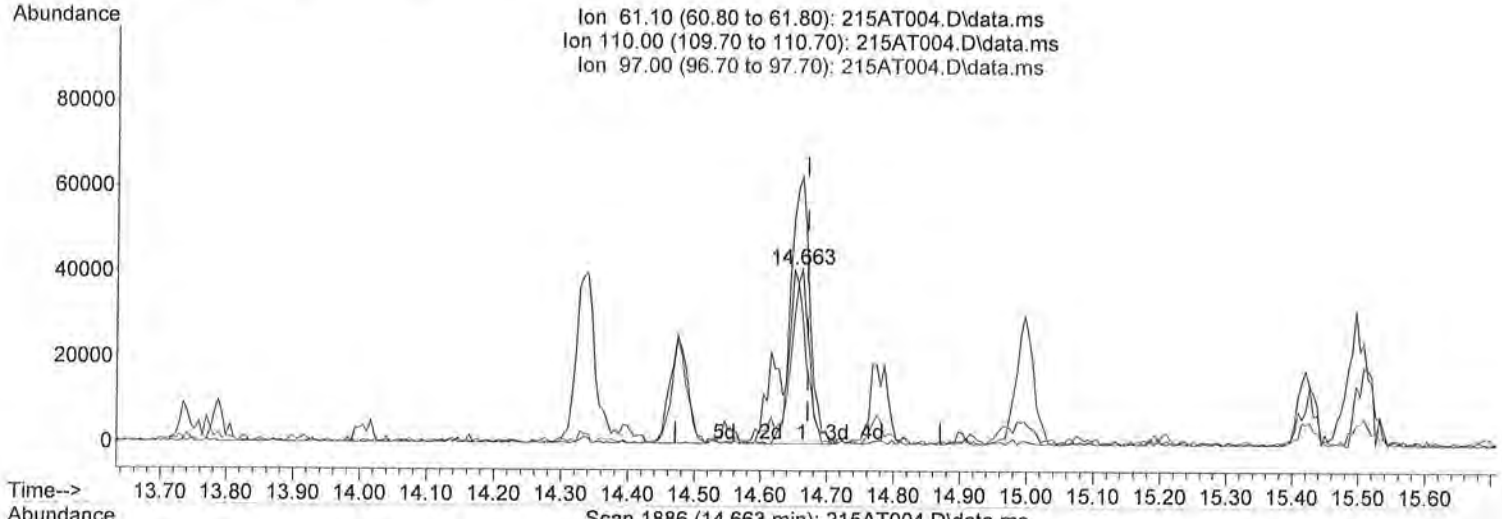
Review by/Date W 1/26/21

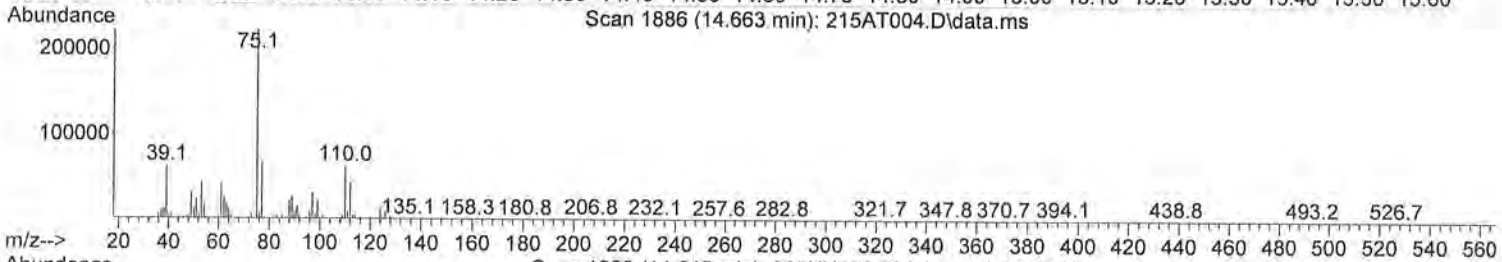
Review by/Date:

Quantitation Report (Qedit)

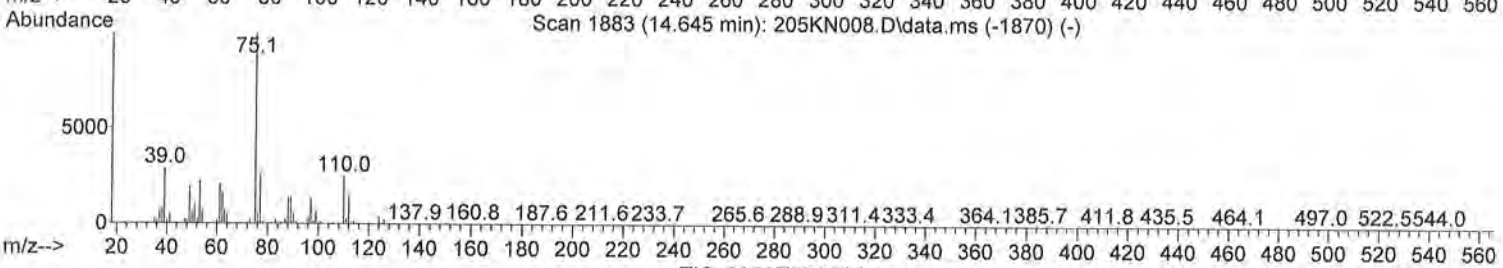
Data Path : C:\msdchem\1\data\012521\
Data File : 215AT004.D
Acq On : 25 Jan 2021 9:20 am
Operator : KKW
Sample : BS1
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 25 09:49:13 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration





Scan 1886 (14.663 min): 215AT004.D\data.ms



Scan 1883 (14.645 min): 205KN008.D\data.ms (-1870) (-)

TIC: 215AT004.D\data.ms

(77) 1,2,3-Trichloropropane

14.663min (-0.008) 15.67 ug/L m

response 114066

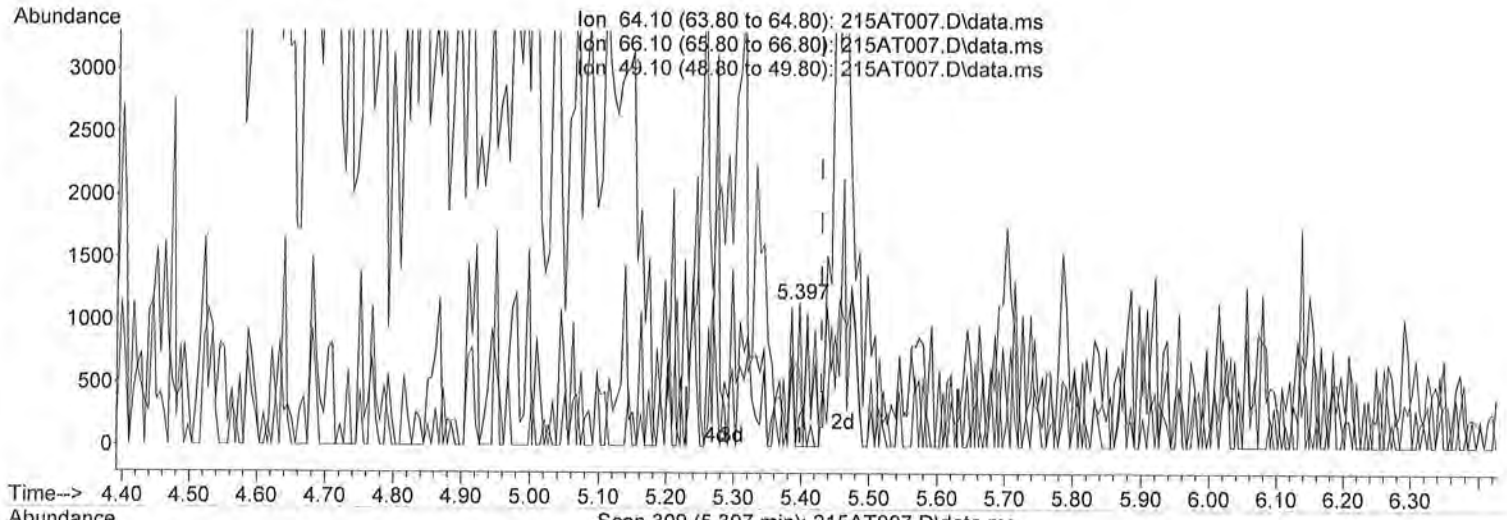
Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.60	108.31#
97.00	49.10	55.68
0.00	0.00	0.00

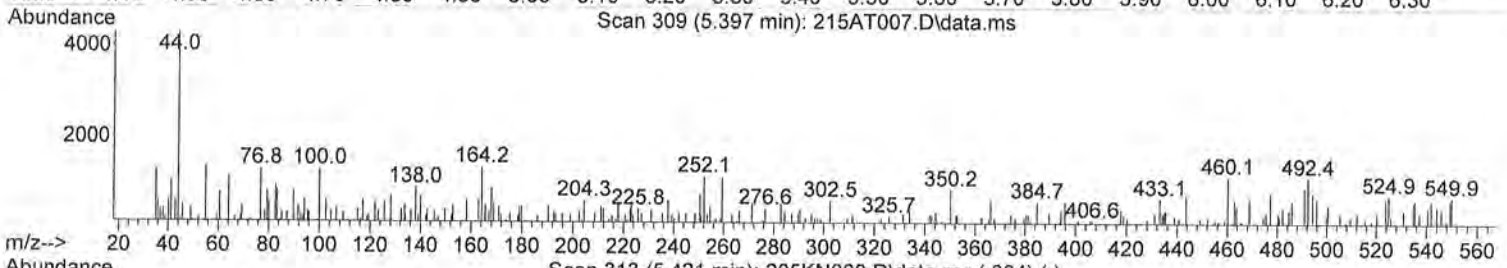
Select one:
[ ] Original Integration [X] Manual Integration
Select reason for manual integration:
[X] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date W 01/26/21
Review by/Date:

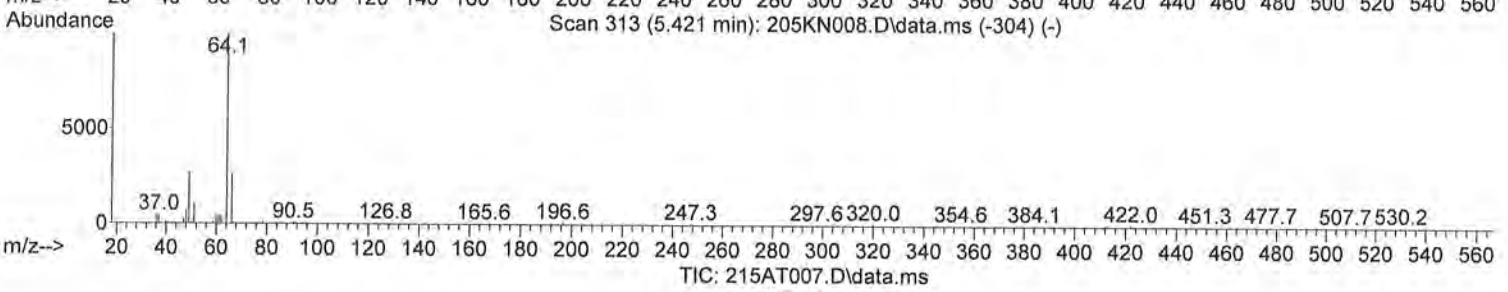
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT007.D
Acq On : 25 Jan 2021 10:48 am
Operator : KKW
Sample : AA64632-CRL1
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 25 11:18:42 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration







TIC: 215AT007.D\data.ms

(6) Chloroethane

5.397min (-0.033) 0.16 ug/L

response 1195

Ion	Exp%	Act%
64.10	100.00	100.00
66.10	32.30	106.03#
49.10	27.50	88.37#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

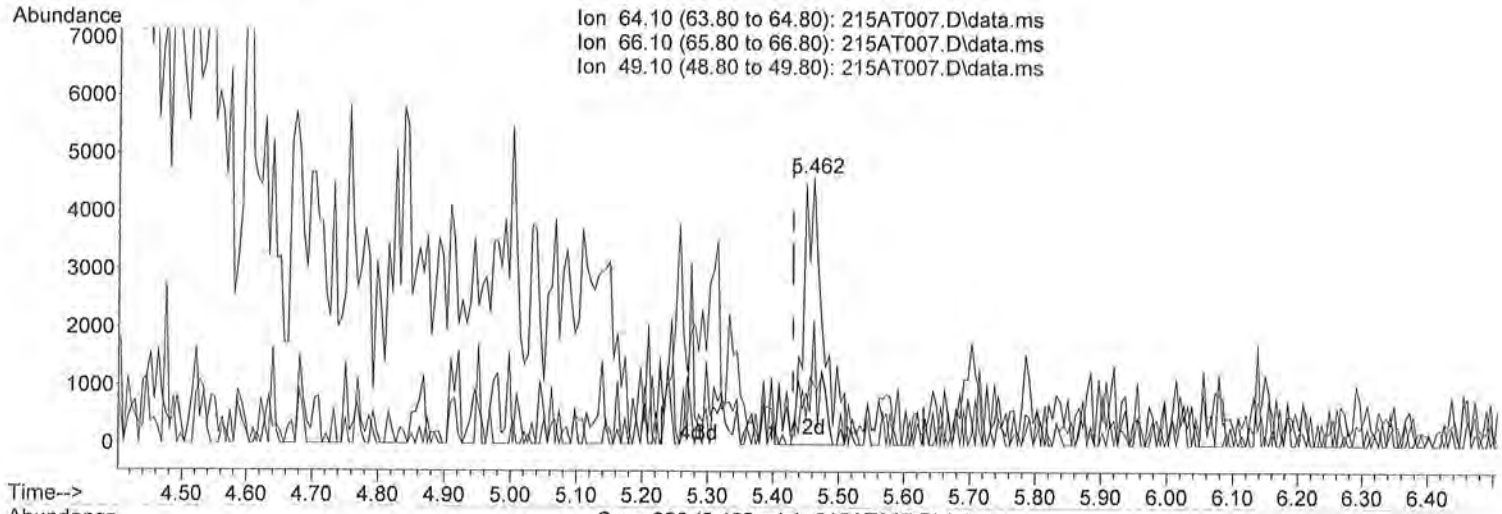
Review by/Date W 01/26/21

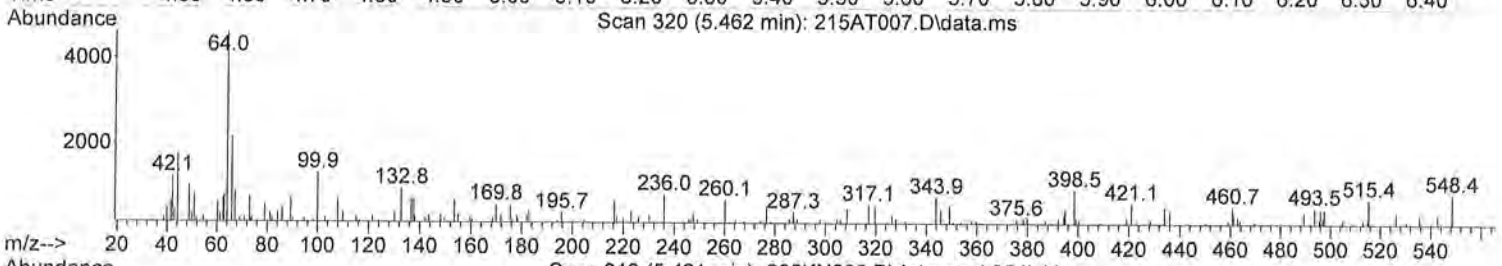
Review by/Date:

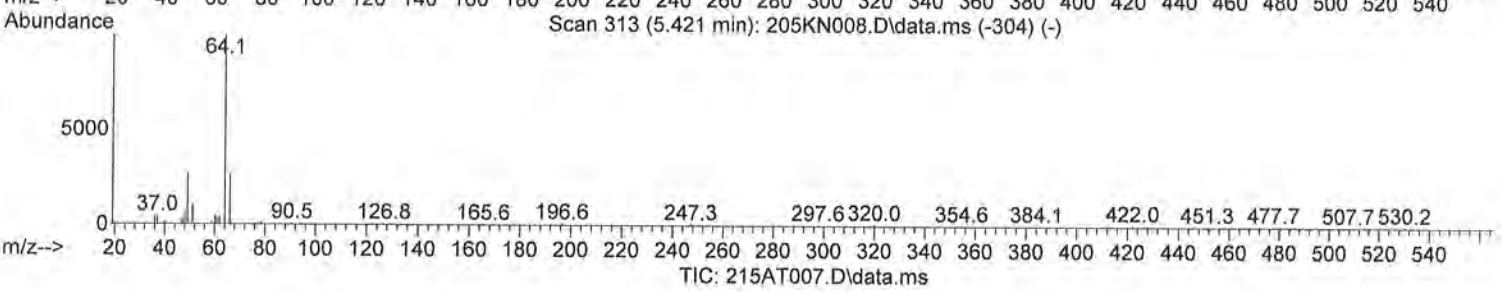
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT007.D
Acq On : 25 Jan 2021 10:48 am
Operator : KKW
Sample : AA64632-CRL1
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 25 11:18:42 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration







TIC: 215AT007.D\data.ms

(6) Chloroethane

5.462min (+ 0.032) 1.32 ug/L m

response 10161

Ion	Exp%	Act%
64.10	100.00	100.00
66.10	32.30	12.47#
49.10	27.50	10.39#
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

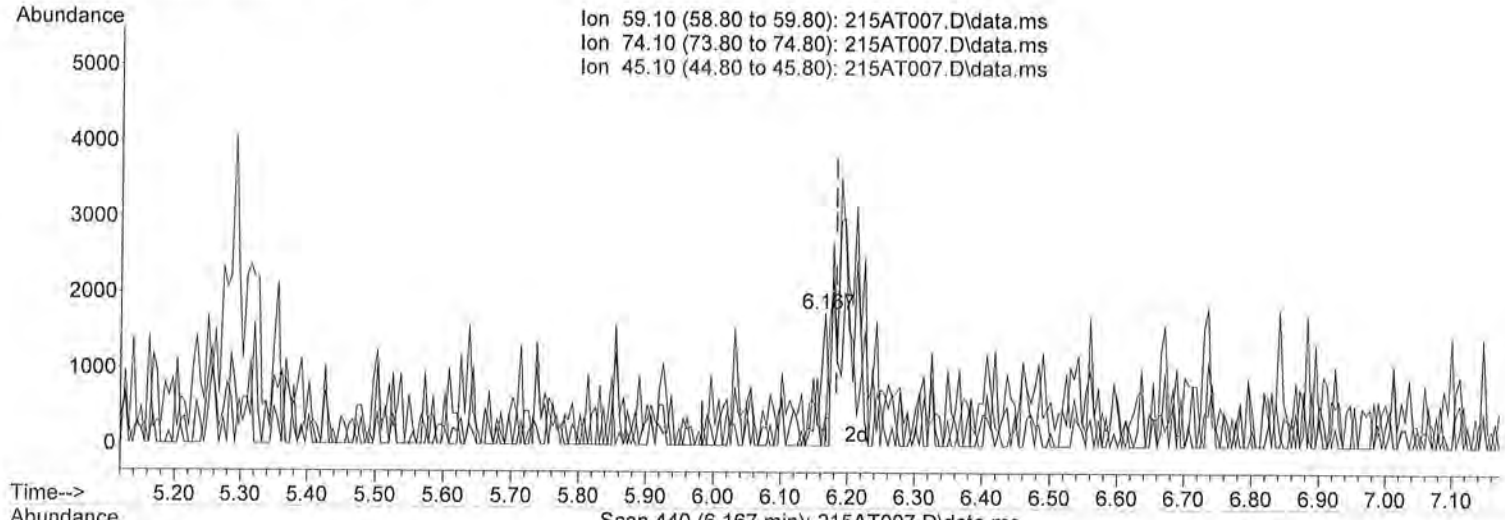
Review by/Date KJ 01/26/21

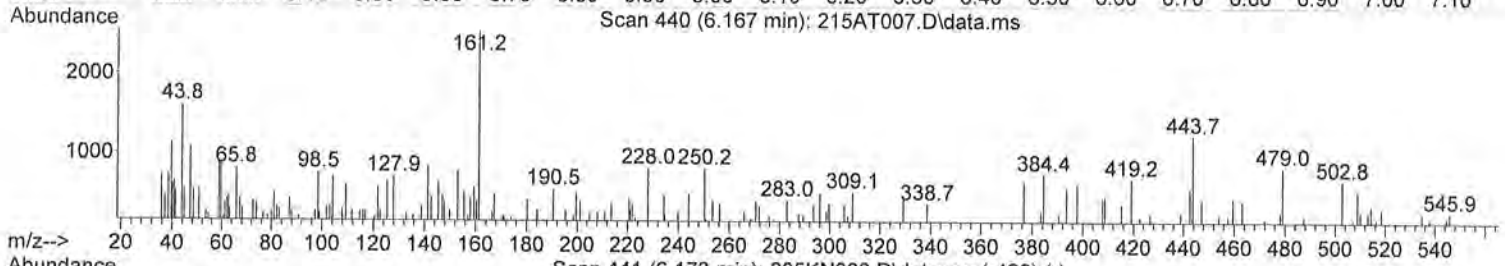
Review by/Date:

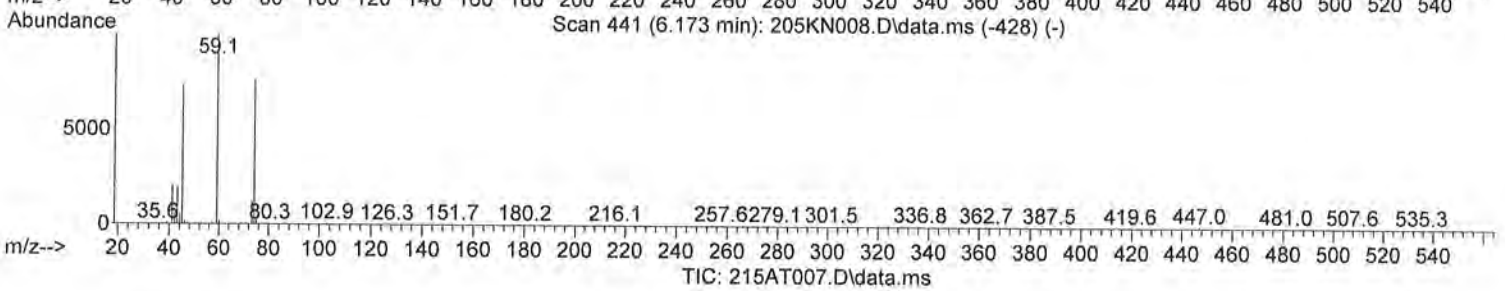
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT007.D
Acq On : 25 Jan 2021 10:48 am
Operator : KKW
Sample : AA64632-CRL1
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 25 11:18:42 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration







TIC: 215AT007.D\data.ms

(8) Diethyl ether

6.167min (-0.017) 0.14 ug/L

response 1684

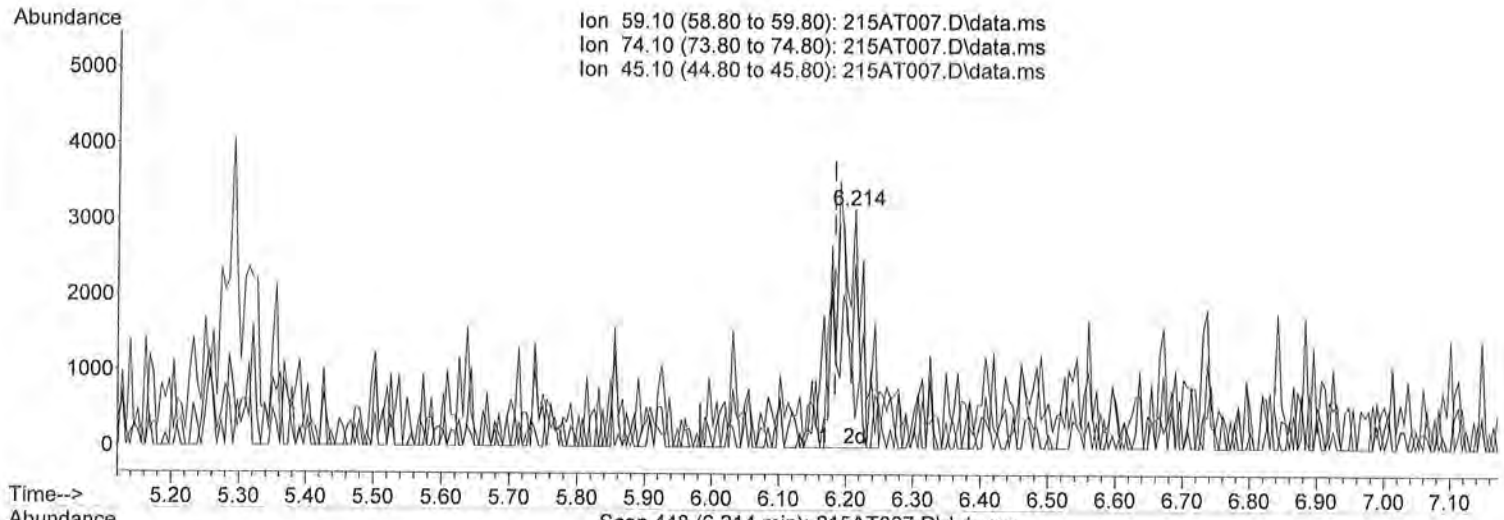
Ion	Exp%	Act%
59.10	100.00	100.00
74.10	72.50	213.06#
45.10	72.00	506.89#
0.00	0.00	0.00

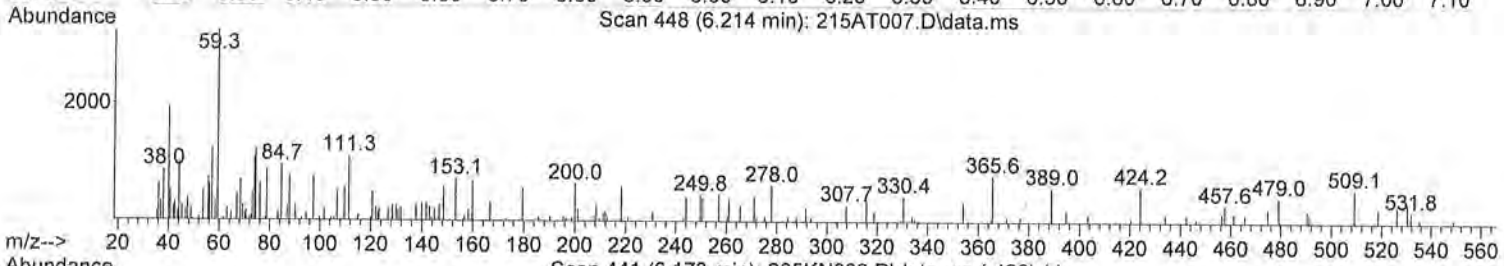
Select Type:
[x] Initial Integration [ ] Manual Integration
Select reason for manual integration:
[ ] Poor Integration (peak tailing, baseline selection)
[x] Incorrect peak selection/Peak not found
[ ] Ramp integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date: W 01/28/21
Review by/Date:

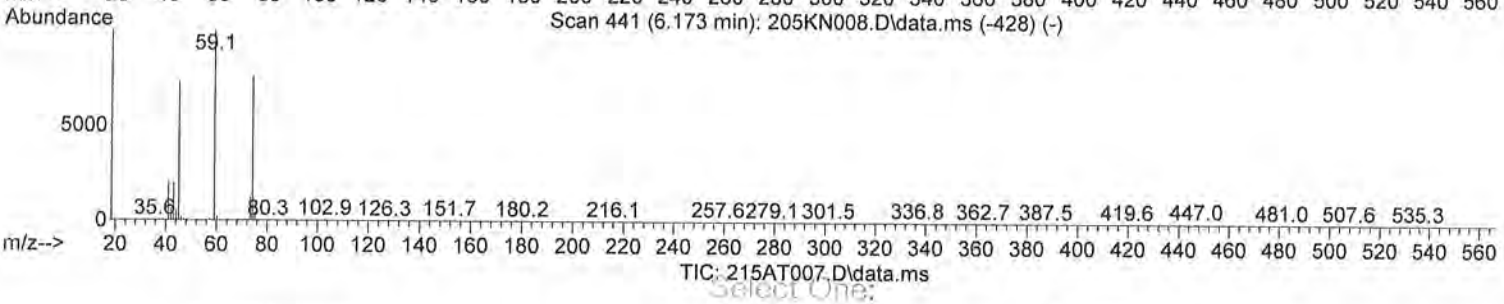
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT007.D
Acq On : 25 Jan 2021 10:48 am
Operator : KKW
Sample : AA64632-CRL1
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 25 11:18:42 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration







TIC: 215AT007.D\data.ms

(8) Diethyl ether

6.214min (+ 0.030) 0.69 ug/L m

response 8400

Ion	Exp%	Act%
59.10	100.00	100.00
74.10	72.50	42.71#
45.10	72.00	101.62#
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] RTD reintegration

[ ] Other:

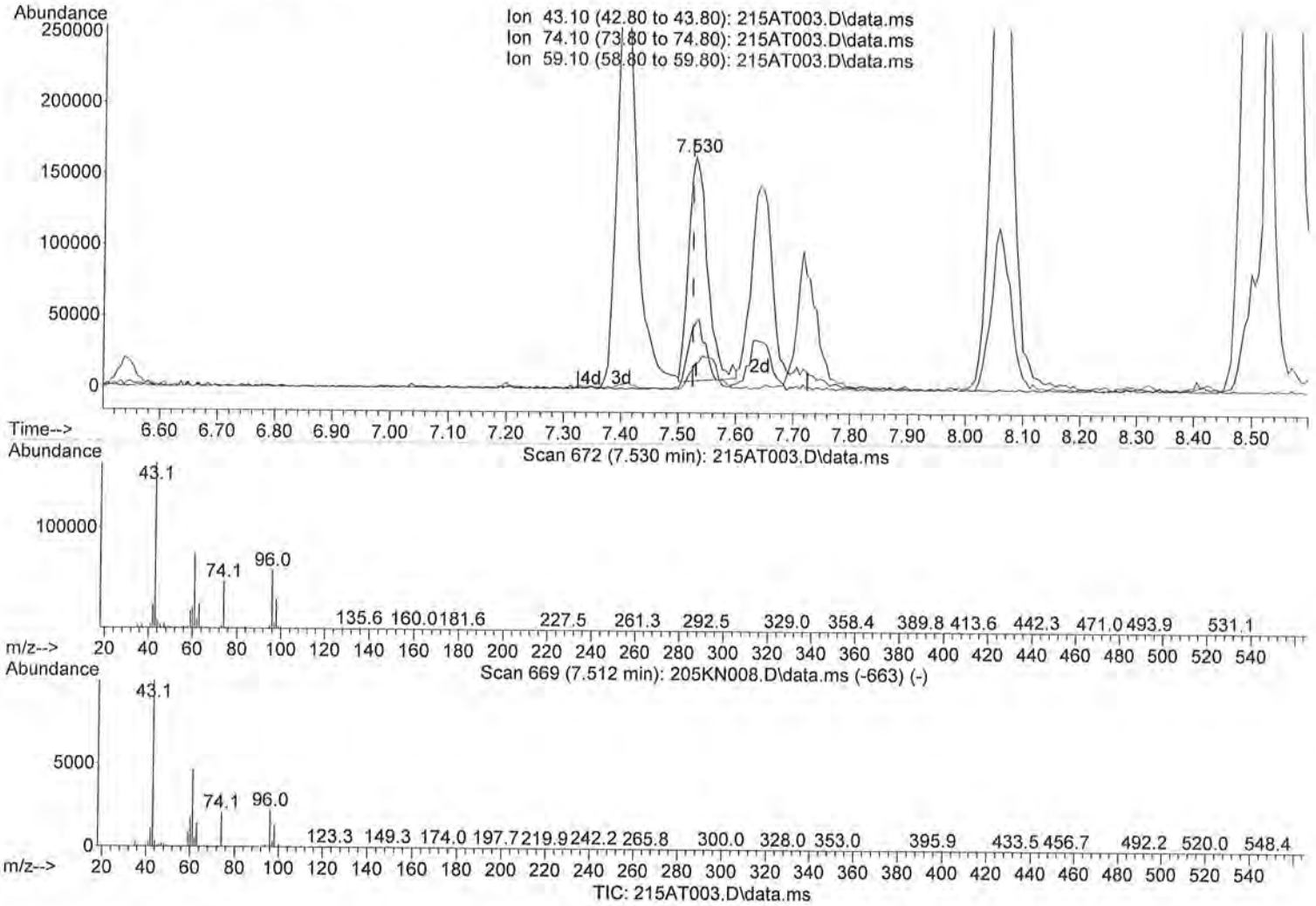
Review by/Date: W 1/26/21

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT003.D
Acq On : 25 Jan 2021 8:47 am
Operator : KKW
Sample : CCV1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jan 25 14:39:42 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



(17) Methyl Acetate

7.530min (+ 0.004) 28.65 ug/L

response 359128

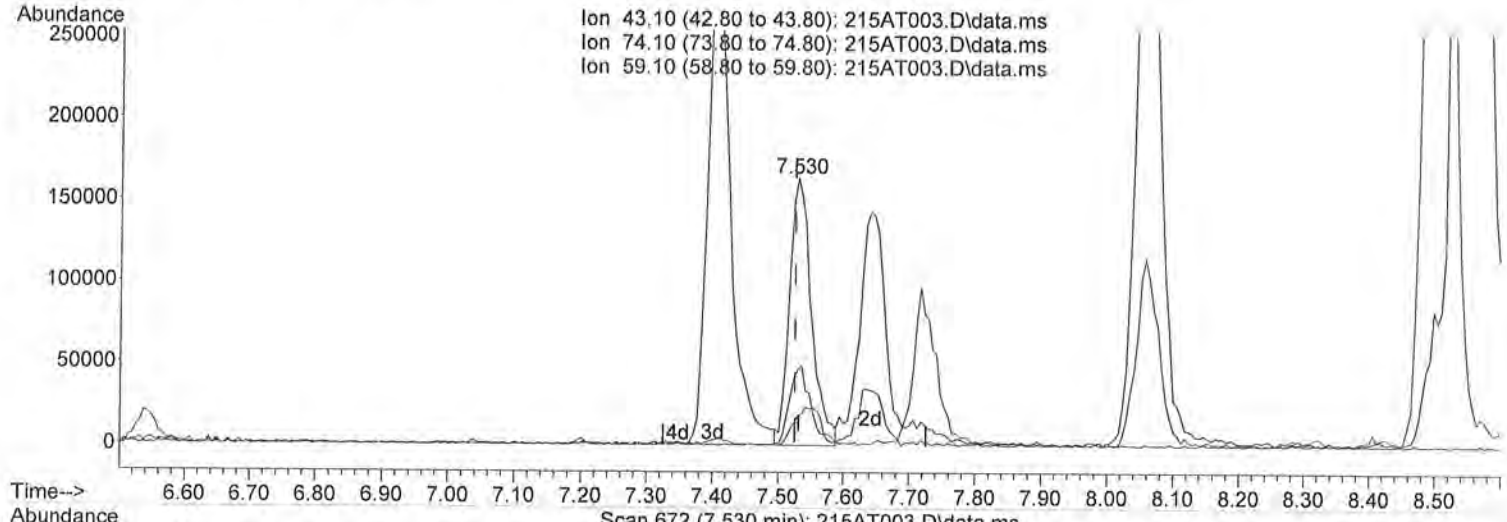
Ion	Exp%	Act%
43.10	100.00	100.00
74.10	22.30	30.95#
59.10	18.50	20.24
0.00	0.00	0.00

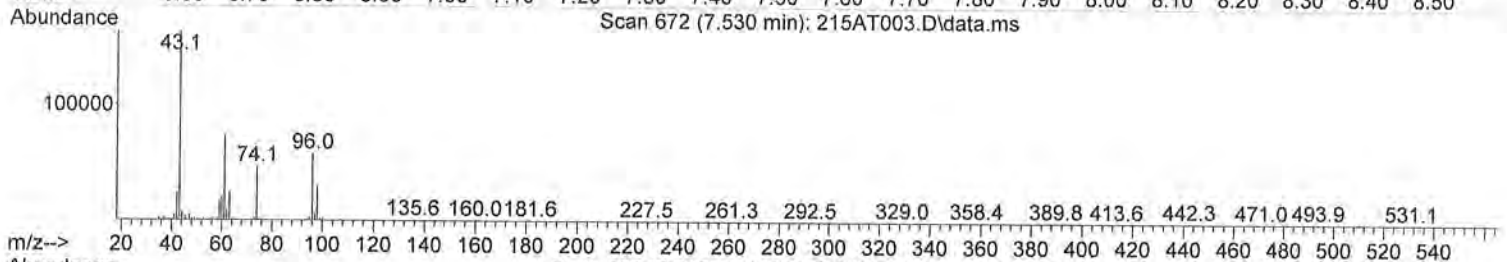
Select One:
[X] Original Integration [ ] Manual Integration
Select reason for manual integration:
[X] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date W 01/26/21
Review by/Date:

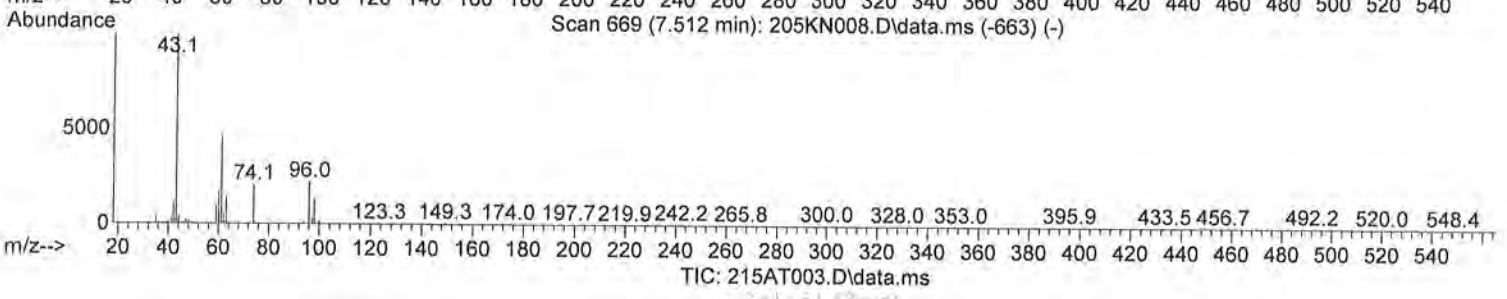
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT003.D
Acq On : 25 Jan 2021 8:47 am
Operator : KKW
Sample : CCV1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jan 25 14:39:42 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration







TIC: 215AT003.D\data.ms

(17) Methyl Acetate

7.530min (+ 0.004) 31.16 ug/L m

response 390571

Ion	Exp%	Act%
43.10	100.00	100.00
74.10	22.30	28.46#
59.10	18.50	18.61
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

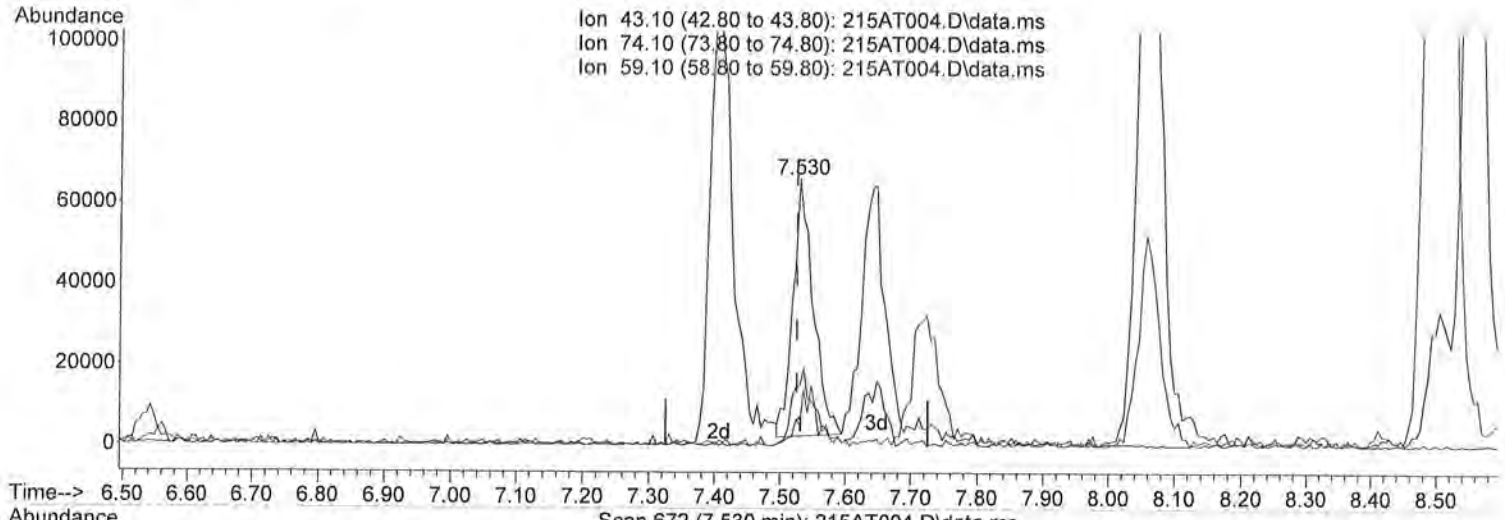
Review by/Date W 01/26/21

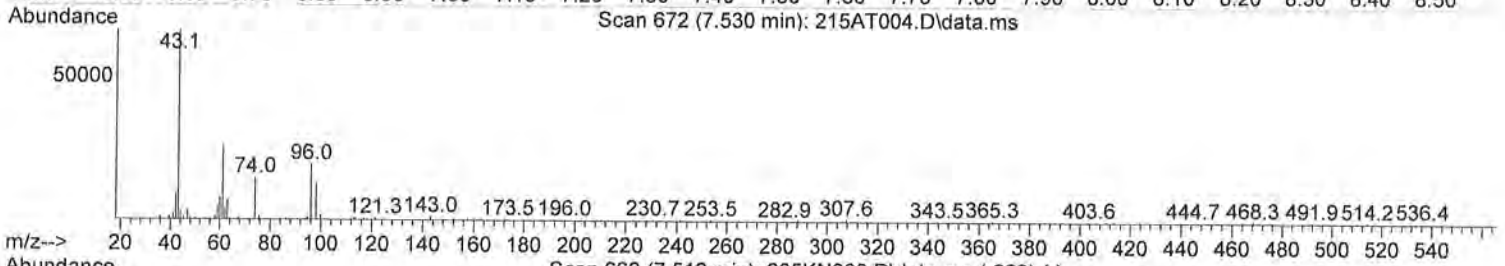
Review by/Date:

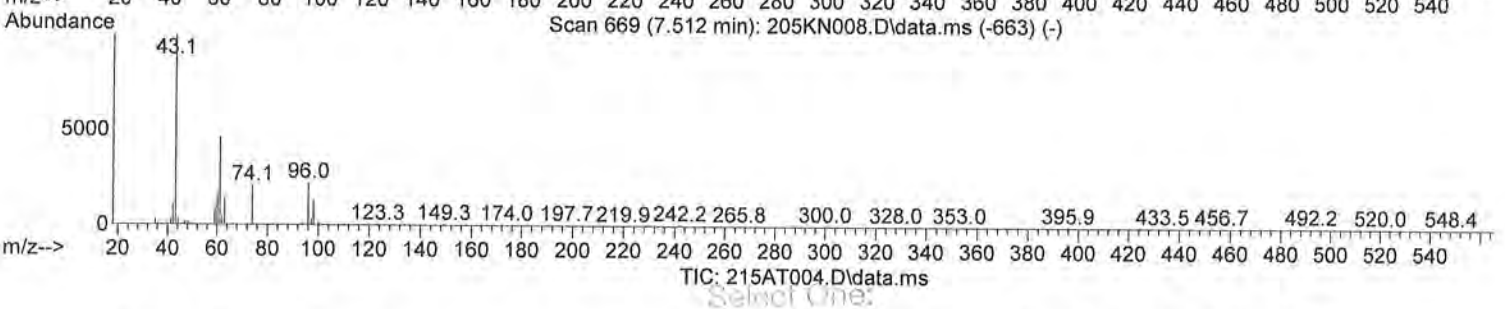
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT004.D
Acq On : 25 Jan 2021 9:20 am
Operator : KKW
Sample : BS1
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 25 09:49:13 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration







TIC: 215AT004.D\data.ms

(17) Methyl Acetate

7.530min (+ 0.004) 11.75 ug/L

response 137995

Ion	Exp%	Act%
43.10	100.00	100.00
74.10	22.30	31.15#
59.10	18.50	22.60#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Valley integration

[ ] Baseline drop for split peaks

[ ] RT reintegration

[ ] Other:

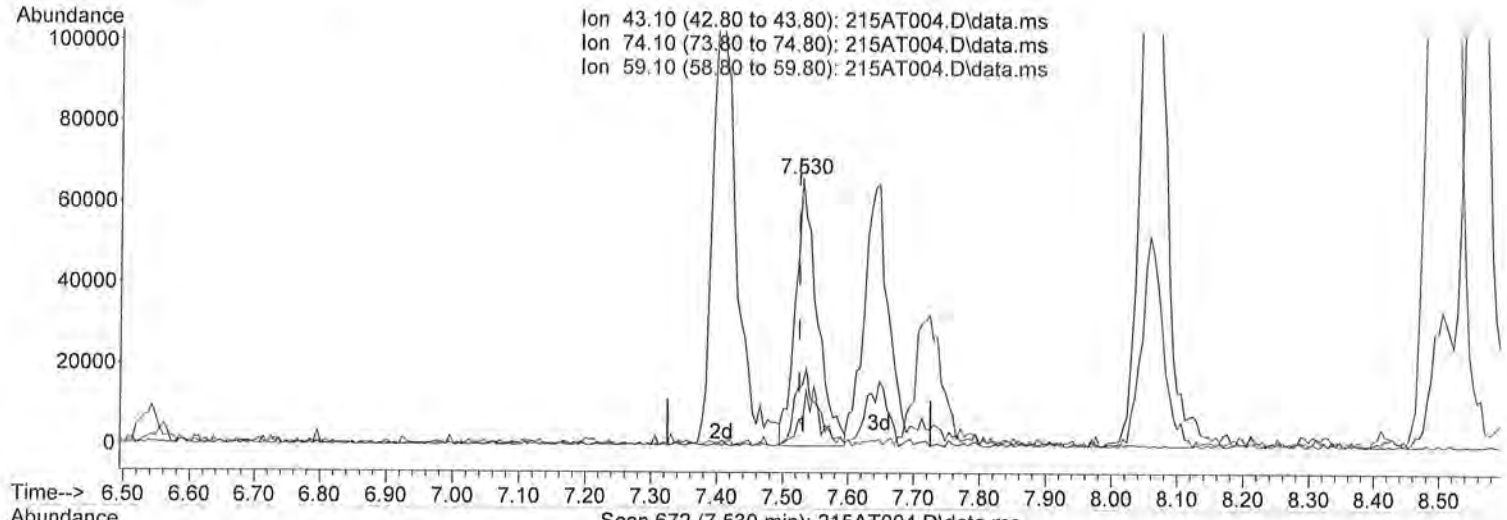
Review by/Date: Wojcicki

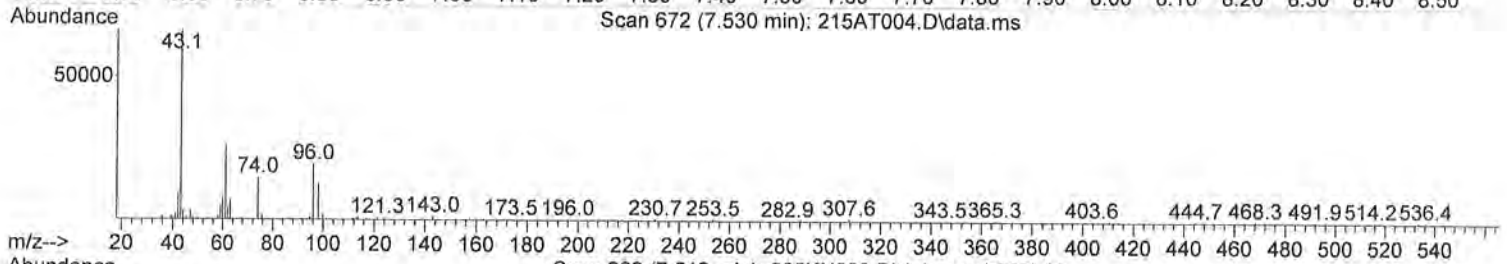
Reviewed by/Date:

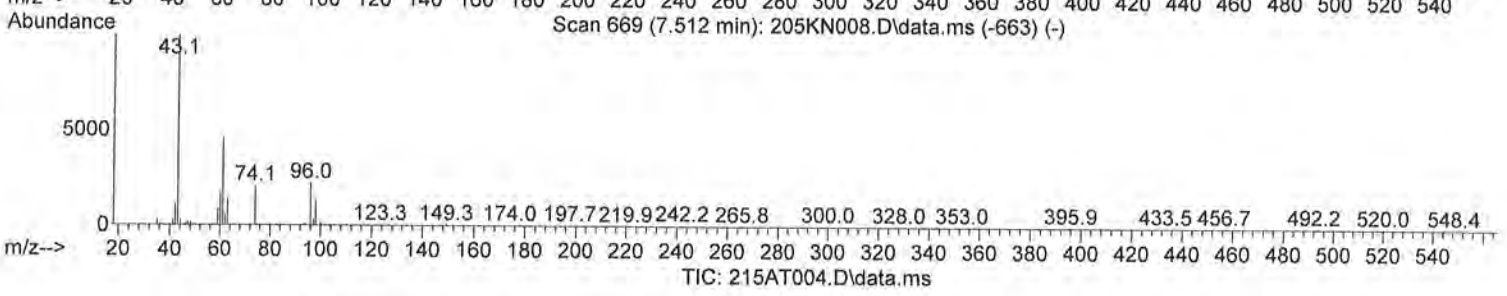
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT004.D
Acq On : 25 Jan 2021 9:20 am
Operator : KKW
Sample : BS1
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 25 09:49:13 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration







TIC: 215AT004.D\data.ms

(17) Methyl Acetate

7.530min (+ 0.004) 13.05 ug/L m

response 153220

Ion	Exp%	Act%
43.10	100.00	100.00
74.10	22.30	28.05#
59.10	18.50	20.35
0.00	0.00	0.00

Select One:
[ ] Original Integration [X] Manual Integration
Select reason for manual integration:
[X] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date KW 01/26/21
Review by/Date:

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT003.D
Acq On : 25 Jan 2021 8:47 am
Operator : KKW
Sample : CCV1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jan 25 14:39:42 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.862	168	1707380	50.00	ug/L	#	0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.456	114	3441893	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	2103106	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.497	152	1782629	50.00	ug/L	#	0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.439	113	946313	53.74	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 107.48%				
52) D8-Toluene	11.790	98	4192403	49.31	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 98.62%				
73) Bromofluorobenzene	14.334	95	1925711	51.27	ug/L		-0.01
Spiked Amount 50.000	Range 75 - 120		Recovery = 102.54%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.987	85	414244	18.79	ug/L		99
3) Chloromethane	4.410	50	303207	11.95	ug/L		96
4) Vinyl Chloride	4.592	62	391993	19.03	ug/L		90
5) Bromomethane	5.238	94	102311	18.55	ug/L		98
6) Chloroethane	5.438	64	185801	20.50	ug/L		98
7) Trichlorofluoromethane	5.697	101	515442	20.11	ug/L		98
8) Diethyl ether	6.190	59	550823	38.65	ug/L		90
9) 1,1-Dichloroethene	6.543	96	727130	49.33	ug/L	#	80
10) Trichlorotrifluoroethane	6.560	151	489789	49.61	ug/L		96
11) Acrolein	7.024	56	1190747	401.65	ug/L		95
12) Iodomethane	6.784	142	2858639	180.82	ug/L	#	87
13) Carbon Disulfide	6.631	76	7451652	154.33	ug/L	#	96
14) 3-chloropropene	7.207	41	882707	30.30	ug/L	#	84
15) Acetone	7.401	43	712871	177.71	ug/L		97
16) Methylene Chloride	7.348	84	802789	44.91	ug/L	#	76
17) Methyl Acetate	7.530	43	390571m	31.16	ug/L		
18) t-1,2-Dichloroethene	7.553	96	835754	49.00	ug/L		83
19) Methyl tert-butyl ether	7.641	73	1961816	45.45	ug/L	#	87
20) Acetonitrile	8.029	41	1007800	309.91	ug/L		98
21) Isopropyl ether	8.059	45	2050058	35.78	ug/L	#	87
22) Chloroprene	8.288	88	744216	45.56	ug/L		83
23) 1,1-Dichloroethane	8.323	63	1446741	41.24	ug/L	#	99
24) Acrylonitrile	8.393	53	2074669	391.60	ug/L		98
25) Vinyl Acetate	8.546	43	6984281	194.30	ug/L	#	92
26) c-1,2-Dichloroethene	8.958	96	900128	49.82	ug/L		84
27) 2,2-Dichloropropane	9.081	77	1268733	42.43	ug/L		96
28) Bromochloromethane	9.193	128	363164	56.91	ug/L		94
29) Cyclohexane	9.198	56	1377156	36.08	ug/L	#	84
30) Chloroform	9.228	83	1505666	44.94	ug/L		98
32) Dibromofluoromethane	9.439	113	946313	53.74	ug/L	#	91
33) 2-Butanone	9.551	72	439048	225.00	ug/L	#	60
34) 1,1,1-Trichloroethane	9.498	97	1267863	45.84	ug/L		96
35) 1,1-Dichloropropene	9.616	75	1184356	42.09	ug/L		91
36) Propionitrile	9.904	54	905284	376.94	ug/L		93
37) Methacrylonitrile	9.921	41	4280105	360.96	ug/L		85
38) Isobutyl Alcohol	9.909	43	1031378	719.18	ug/L	#	91
40) Carbon Tetrachloride	9.422	117	1000847	38.81	ug/L		99
41) Benzene	9.886	78	3474927	44.16	ug/L		94
42) 1,2-Dichloroethane	10.097	62	1028081	35.82	ug/L	#	95
43) Trichloroethene	10.462	130	789862	49.70	ug/L	#	86
44) Methyl cyclohexane	10.462	83	1612864	40.85	ug/L		88
45) Dibromomethane	10.914	93	473684	42.37	ug/L		98
46) 1,2-Dichloropropane	10.996	63	795761	34.80	ug/L		92
47) Bromodichloromethane	11.026	83	1047635	41.32	ug/L		93
48) Methyl Methacrylate	11.085	69	502239	34.37	ug/L	#	89
49) 1,4-Dioxane	11.202	88	164569	824.79	ug/L		86
50) 2-Chloroethyl vinyl ether	11.496	63	2531834	228.33	ug/L	#	86
51) C-1,3-Dichloropropene	11.613	75	1412023	41.11	ug/L		89

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT003.D
Acq On : 25 Jan 2021 8:47 am
Operator : KKW
Sample : CCV1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jan 25 14:39:42 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

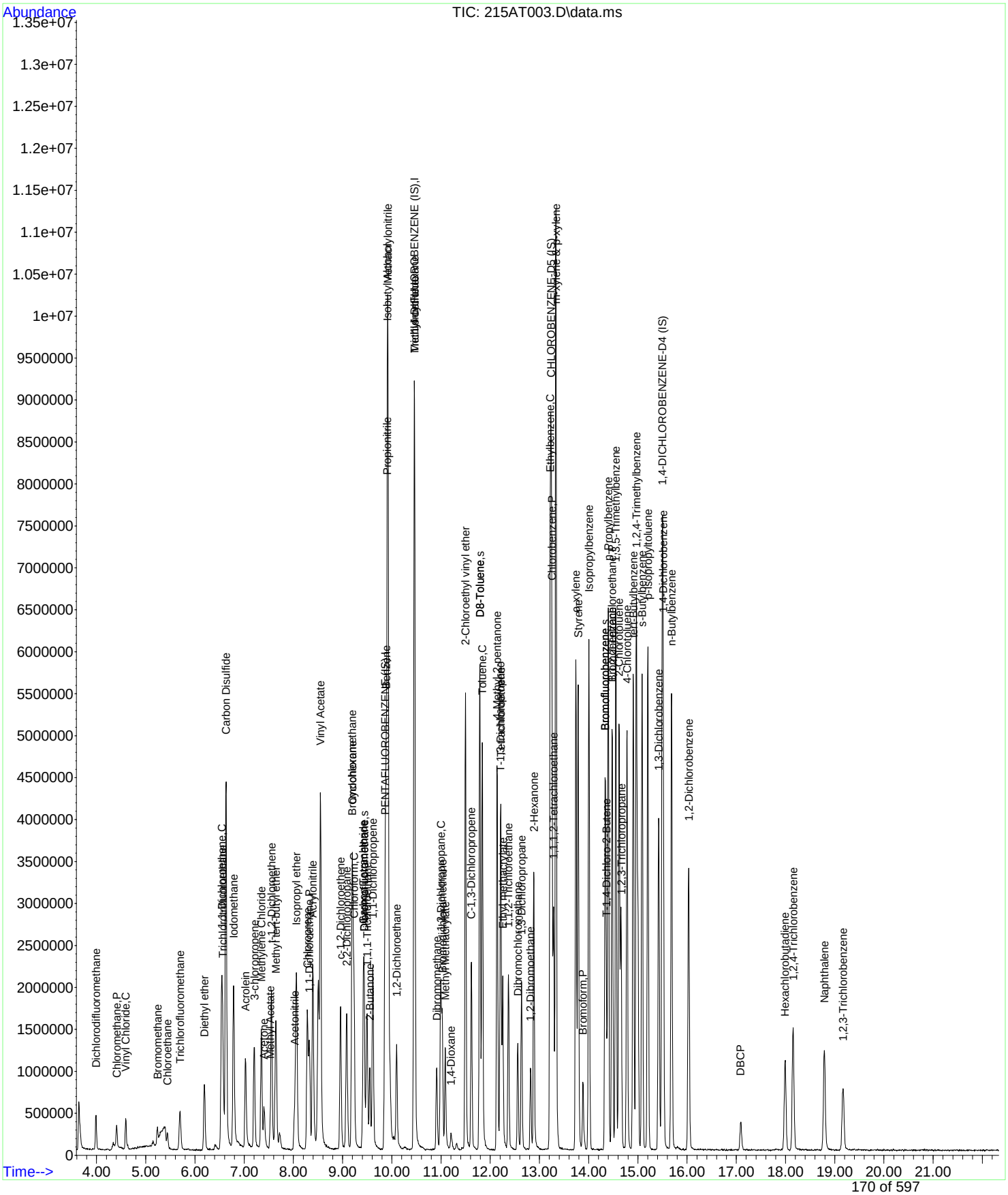
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.790	98	4192403	49.31	ug/L		95
54) 4-Methyl-2-pentanone	12.136	100	616654	264.07	ug/L	#	67
56) Toluene	11.837	92	2302492	51.31	ug/L		95
57) T-1,3-Dichloropropene	12.207	75	1215025	45.50	ug/L		92
58) Tetrachloroethene	12.213	164	575740	46.64	ug/L		97
59) Ethyl methacrylate	12.254	69	1061974	44.46	ug/L		94
60) 1,1,2-Trichloroethane	12.371	97	724681	47.79	ug/L		94
61) Dibromochloromethane	12.559	129	722815	51.74	ug/L		96
62) 1,3-Dichloropropane	12.636	76	1300515	46.33	ug/L	#	83
63) 1,2-Dibromoethane	12.818	107	732613	51.91	ug/L		96
64) 2-Hexanone	12.888	43	2002184	193.74	ug/L	#	91
65) Ethylbenzene	13.217	106	1416560	51.94	ug/L	#	86
66) Chlorobenzene	13.253	112	2420701	53.54	ug/L		99
67) 1,1,1,2-Tetrachloroethane	13.288	131	750349	55.47	ug/L		98
68) m-xylene & p-xylene	13.335	106	3500119	110.57	ug/L		86
69) o-xylene	13.740	106	1757865	54.15	ug/L		91
70) Styrene	13.787	104	3044656	57.44	ug/L	#	86
71) Bromoform	13.881	173	375581	46.88	ug/L		100
72) Isopropylbenzene	14.005	105	4583362	53.64	ug/L		95
74) Bromofluorobenzene	14.334	95	1925711	51.27	ug/L	#	81
75) n-Propylbenzene	14.398	91	5764799	50.47	ug/L		95
76) 1,1,2,2-Tetrachloroethane	14.475	83	1035745	48.88	ug/L		99
77) 1,2,3-Trichloropropane	14.663	61	295490m	38.14	ug/L		
78) T-1,4-Dichloro-2-Butene	14.357	53	334878	40.04	ug/L		96
80) Bromobenzene	14.475	156	955643	53.24	ug/L		84
81) 1,2,4-Trimethylbenzene	14.968	105	4228436	50.67	ug/L		96
82) 2-Chlorotoluene	14.616	91	3467016	49.42	ug/L		93
83) 4-Chlorotoluene	14.780	91	3606274	49.23	ug/L		93
84) tert-Butylbenzene	14.910	119	3296690	52.00	ug/L		92
85) 1,3,5-Trimethylbenzene	14.551	105	4116826	50.92	ug/L		94
86) p-Isopropyltoluene	15.203	119	4138457	52.55	ug/L		94
87) s-Butylbenzene	15.086	105	4923355	51.90	ug/L		98
88) 1,3-Dichlorobenzene	15.421	146	1911043	53.15	ug/L		94
89) 1,4-Dichlorobenzene	15.515	146	1955081	50.72	ug/L	#	90
90) n-Butylbenzene	15.685	91	3893923	47.55	ug/L		96
91) 1,2-Dichlorobenzene	16.032	146	1720840	50.70	ug/L		95
92) DBCP	17.083	157	124238	44.72	ug/L		98
93) Hexachlorobutadiene	17.988	225	245398	30.88	ug/L	#	86
94) 1,2,4-Trichlorobenzene	18.153	180	645101	37.85	ug/L		96
95) Naphthalene	18.787	128	1664097	46.02	ug/L	#	91
96) 1,2,3-Trichlorobenzene	19.169	180	368024	36.69	ug/L		93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT003.D
Acq On : 25 Jan 2021 8:47 am
Operator : KKW
Sample : CCV1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jan 25 14:39:42 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT004.D
Acq On : 25 Jan 2021 9:20 am
Operator : KKW
Sample : BS1
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 25 09:49:13 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.862	168	1599715	50.00	ug/L	#	0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.456	114	3376621	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	1975824	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.497	152	1733612	50.00	ug/L	#	0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.434	113	913225	55.35	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 110.70%				
52) D8-Toluene	11.790	98	4070469	48.80	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 97.60%				
73) Bromofluorobenzene	14.334	95	1849539	52.42	ug/L		-0.01
Spiked Amount 50.000	Range 75 - 120		Recovery = 104.84%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.987	85	250008	12.11	ug/L		97
3) Chloromethane	4.410	50	220160	9.26	ug/L		97
4) Vinyl Chloride	4.592	62	326668	16.92	ug/L		92
5) Bromomethane	5.238	94	43051	8.70	ug/L	#	93
6) Chloroethane	5.444	64	185537	21.85	ug/L		97
7) Trichlorofluoromethane	5.703	101	478942	19.94	ug/L		97
8) Diethyl ether	6.190	59	225527	16.89	ug/L		93
9) 1,1-Dichloroethene	6.537	96	282163	20.43	ug/L		81
10) Trichlorotrifluoroethane	6.560	151	193160	20.88	ug/L		99
11) Acrolein	7.030	56	221325	79.68	ug/L		92
12) Iodomethane	6.790	142	276449	18.66	ug/L	#	85
13) Carbon Disulfide	6.631	76	919349	20.32	ug/L		96
14) 3-chloropropene	7.201	41	408624	14.97	ug/L	#	85
15) Acetone	7.406	43	268584	71.46	ug/L		96
16) Methylene Chloride	7.348	84	333504	19.91	ug/L		78
17) Methyl Acetate	7.530	43	153220m	13.05	ug/L		
18) t-1,2-Dichloroethene	7.559	96	344456	21.55	ug/L	#	81
19) Methyl tert-butyl ether	7.641	73	800570	19.79	ug/L	#	89
20) Acetonitrile	8.053	41	277610	91.11	ug/L	#	89
21) Isopropyl ether	8.059	45	859556	16.01	ug/L	#	88
22) Chloroprene	8.276	88	316685	20.69	ug/L		84
23) 1,1-Dichloroethane	8.323	63	610601	18.58	ug/L		99
24) Acrylonitrile	8.399	53	107069	21.57	ug/L		93
25) Vinyl Acetate	8.552	43	475146	14.11	ug/L		96
26) c-1,2-Dichloroethene	8.958	96	369345	21.82	ug/L		86
27) 2,2-Dichloropropane	9.075	77	487162	17.55	ug/L		96
28) Bromochloromethane	9.193	128	149116	24.94	ug/L		95
29) Cyclohexane	9.199	56	583308	16.31	ug/L		87
30) Chloroform	9.228	83	618576	19.71	ug/L		97
32) Dibromofluoromethane	9.434	113	913225	55.35	ug/L	#	89
33) 2-Butanone	9.557	72	161180	89.62	ug/L	#	60
34) 1,1,1-Trichloroethane	9.492	97	504957	19.49	ug/L		98
35) 1,1-Dichloropropene	9.616	75	483559	18.34	ug/L		90
36) Propionitrile	9.909	54	40427	17.97	ug/L	#	1
37) Methacrylonitrile	9.915	41	259036	23.32	ug/L		86
38) Isobutyl Alcohol	9.915	43	242905	180.78	ug/L	#	39
40) Carbon Tetrachloride	9.416	117	404074	15.97	ug/L		87
41) Benzene	9.886	78	1458868	18.90	ug/L		94
42) 1,2-Dichloroethane	10.097	62	424178	15.06	ug/L	#	98
43) Trichloroethene	10.462	130	322095	20.66	ug/L		89
44) Methyl cyclohexane	10.462	83	686250	17.72	ug/L		89
45) Dibromomethane	10.914	93	198074	18.06	ug/L		97
46) 1,2-Dichloropropane	10.996	63	346732	16.00	ug/L	#	96
47) Bromodichloromethane	11.026	83	418243	17.71	ug/L		94
48) Methyl Methacrylate	11.085	69	194107	13.54	ug/L	#	81
49) 1,4-Dioxane	11.208	88	70343	359.36	ug/L	#	76
50) 2-Chloroethyl vinyl ether	11.496	63	885646	81.41	ug/L	#	85
51) C-1,3-Dichloropropene	11.619	75	553642	17.32	ug/L		89

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT004.D
Acq On : 25 Jan 2021 9:20 am
Operator : KKW
Sample : BS1
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 25 09:49:13 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

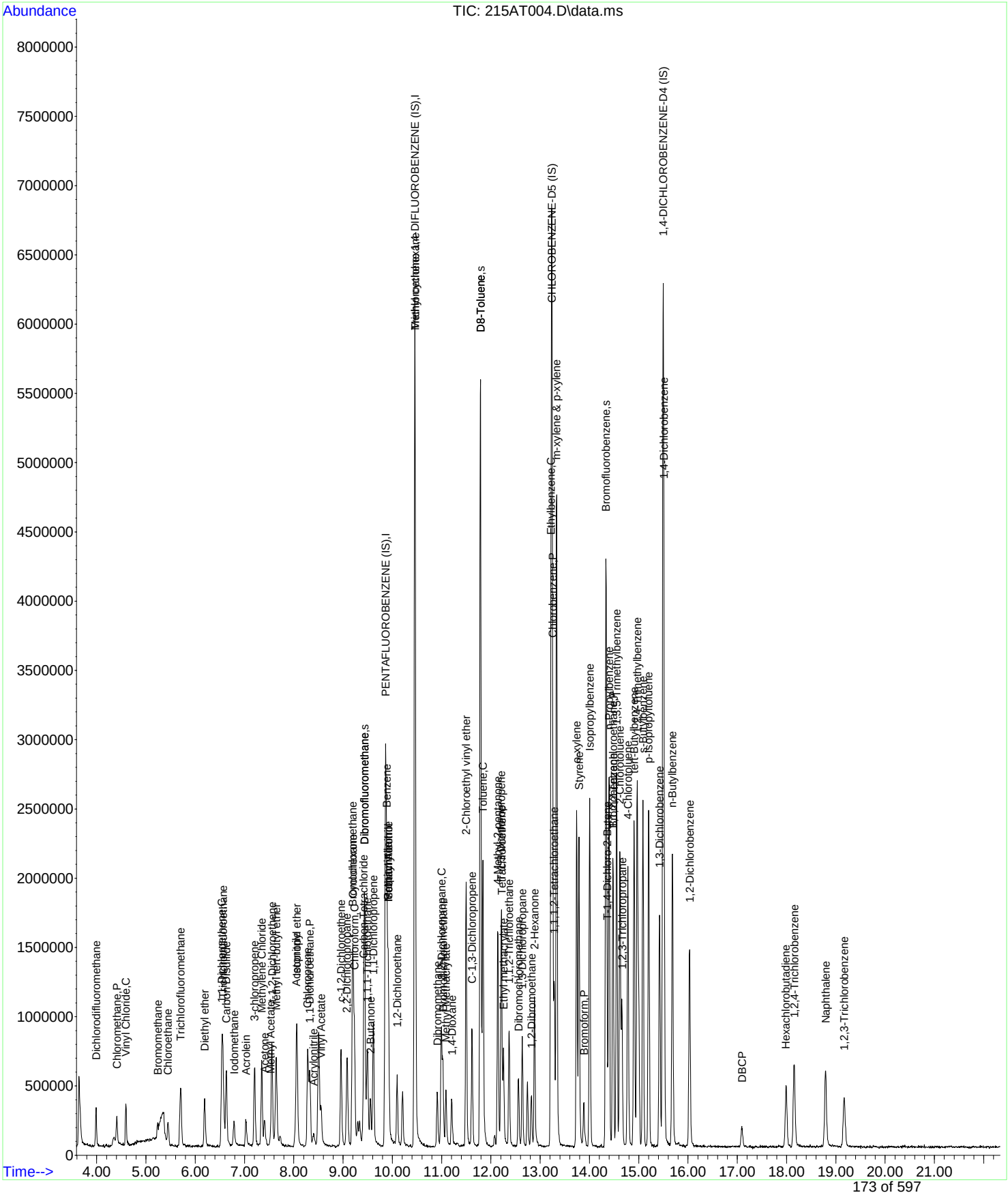
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.790	98	4070469	48.80	ug/L		96
54) 4-Methyl-2-pentanone	12.136	100	207312	90.49	ug/L	#	68
56) Toluene	11.837	92	957739	22.72	ug/L		96
57) T-1,3-Dichloropropene	12.207	75	515288	20.54	ug/L	#	92
58) Tetrachloroethene	12.219	164	241822	20.85	ug/L		97
59) Ethyl methacrylate	12.260	69	388869	17.33	ug/L		97
60) 1,1,2-Trichloroethane	12.371	97	304984	21.41	ug/L	#	91
61) Dibromochloromethane	12.559	129	288792	23.69	ug/L	#	97
62) 1,3-Dichloropropane	12.636	76	522310	19.80	ug/L	#	83
63) 1,2-Dibromoethane	12.824	107	291727	22.00	ug/L		91
64) 2-Hexanone	12.883	43	660038	67.98	ug/L	#	90
65) Ethylbenzene	13.217	106	554484	21.64	ug/L		94
66) Chlorobenzene	13.253	112	1023082	24.09	ug/L		100
67) 1,1,1,2-Tetrachloroethane	13.282	131	298525	23.49	ug/L		93
68) m-xylene & p-xylene	13.329	106	1483783	49.89	ug/L		86
69) o-xylene	13.740	106	715610	23.46	ug/L		92
70) Styrene	13.787	104	1250837	25.12	ug/L	#	84
71) Bromoform	13.887	173	146327	21.42	ug/L		96
72) Isopropylbenzene	14.005	105	1893484	23.59	ug/L		95
74) Bromofluorobenzene	14.440	95	3161	N.D.			
75) n-Propylbenzene	14.398	91	2354245	21.94	ug/L		94
76) 1,1,2,2-Tetrachloroethane	14.481	83	418500	21.02	ug/L		93
77) 1,2,3-Trichloropropane	14.663	61	114066m	15.67	ug/L		
78) T-1,4-Dichloro-2-Butene	14.357	53	116087	14.77	ug/L	#	62
80) Bromobenzene	14.481	156	396580	22.72	ug/L	#	81
81) 1,2,4-Trimethylbenzene	14.968	105	1738445	21.42	ug/L		95
82) 2-Chlorotoluene	14.616	91	1433409	21.01	ug/L		94
83) 4-Chlorotoluene	14.780	91	1495047	20.99	ug/L		96
84) tert-Butylbenzene	14.904	119	1364202	22.13	ug/L		91
85) 1,3,5-Trimethylbenzene	14.551	105	1702022	21.65	ug/L		95
86) p-Isopropyltoluene	15.197	119	1742068	22.75	ug/L		94
87) s-Butylbenzene	15.086	105	2060254	22.33	ug/L		97
88) 1,3-Dichlorobenzene	15.421	146	824531	23.58	ug/L		93
89) 1,4-Dichlorobenzene	15.509	146	796267	21.24	ug/L		96
90) n-Butylbenzene	15.679	91	1589616	19.96	ug/L		96
91) 1,2-Dichlorobenzene	16.032	146	744442	22.55	ug/L		93
92) DBCP	17.095	157	52997	20.34	ug/L		95
93) Hexachlorobutadiene	17.983	225	89905	12.12	ug/L	#	85
94) 1,2,4-Trichlorobenzene	18.159	180	283146	17.35	ug/L		98
95) Naphthalene	18.793	128	766547	22.30	ug/L	#	91
96) 1,2,3-Trichlorobenzene	19.169	180	169302	17.97	ug/L		93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT004.D
Acq On : 25 Jan 2021 9:20 am
Operator : KKW
Sample : BS1
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 25 09:49:13 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT006.D
Acq On : 25 Jan 2021 10:19 am
Operator : KKW
Sample : BLK1
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jan 25 14:40:31 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) PENTAFLUOROBENZENE (IS)	9.857	168	1492905	50.00 ug/L	# 0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.456	114	3146822	50.00 ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	1772986	50.00 ug/L	# 0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1644956	50.00 ug/L	# 0.00
System Monitoring Compounds					
31) Dibromofluoromethane	9.439	113	853751	55.45 ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 110.90%		
52) D8-Toluene	11.790	98	3741534	48.14 ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 96.28%		
73) Bromofluorobenzene	14.340	95	1723396	54.43 ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 108.86%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.	
3) Chloromethane	4.398	50	3161	N.D.	
4) Vinyl Chloride	4.404	62	1200	N.D.	
5) Bromomethane	5.256	94	3501	0.79 ug/L #	45
6) Chloroethane	0.000		0	N.D. d	
7) Trichlorofluoromethane	0.000		0	N.D.	
8) Diethyl ether	0.000		0	N.D. d	
9) 1,1-Dichloroethene	0.000		0	N.D. d	
10) Trichlorotrifluoroethane	0.000		0	N.D.	
11) Acrolein	0.000		0	N.D. d	
12) Iodomethane	0.000		0	N.D. d	
13) Carbon Disulfide	0.000		0	N.D. d	
14) 3-chloropropene	0.000		0	N.D. d	
15) Acetone	0.000		0	N.D. d	
16) Methylene Chloride	0.000		0	N.D. d	
17) Methyl Acetate	0.000		0	N.D. d	
18) t-1,2-Dichloroethene	0.000		0	N.D.	
19) Methyl tert-butyl ether	0.000		0	N.D. d	
20) Acetonitrile	0.000		0	N.D. d	
21) Isopropyl ether	0.000		0	N.D. d	
22) Chloroprene	0.000		0	N.D. d	
23) 1,1-Dichloroethane	0.000		0	N.D.	
24) Acrylonitrile	0.000		0	N.D. d	
25) Vinyl Acetate	0.000		0	N.D. d	
26) c-1,2-Dichloroethene	0.000		0	N.D. d	
27) 2,2-Dichloropropane	0.000		0	N.D. d	
28) Bromochloromethane	0.000		0	N.D. d	
29) Cyclohexane	0.000		0	N.D.	
30) Chloroform	9.240	83	1706	N.D.	
32) Dibromofluoromethane	9.439	113	853751	55.45 ug/L #	87
33) 2-Butanone	0.000		0	N.D. d	
34) 1,1,1-Trichloroethane	0.000		0	N.D. d	
35) 1,1-Dichloropropene	0.000		0	N.D. d	
36) Propionitrile	0.000		0	N.D.	
37) Methacrylonitrile	0.000		0	N.D. d	
38) Isobutyl Alcohol	0.000		0	N.D. d	
40) Carbon Tetrachloride	0.000		0	N.D. d	
41) Benzene	0.000		0	N.D. d	
42) 1,2-Dichloroethane	0.000		0	N.D. d	
43) Trichloroethene	0.000		0	N.D.	
44) Methyl cyclohexane	0.000		0	N.D. d	
45) Dibromomethane	0.000		0	N.D. d	
46) 1,2-Dichloropropane	0.000		0	N.D. d	
47) Bromodichloromethane	0.000		0	N.D. d	
48) Methyl Methacrylate	0.000		0	N.D. d	
49) 1,4-Dioxane	0.000		0	N.D. d	
50) 2-Chloroethyl vinyl ether	11.531	63	1103	N.D.	
51) C-1,3-Dichloropropene	11.772	75	1945	N.D.	

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT006.D
Acq On : 25 Jan 2021 10:19 am
Operator : KKW
Sample : BLK1
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jan 25 14:40:31 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

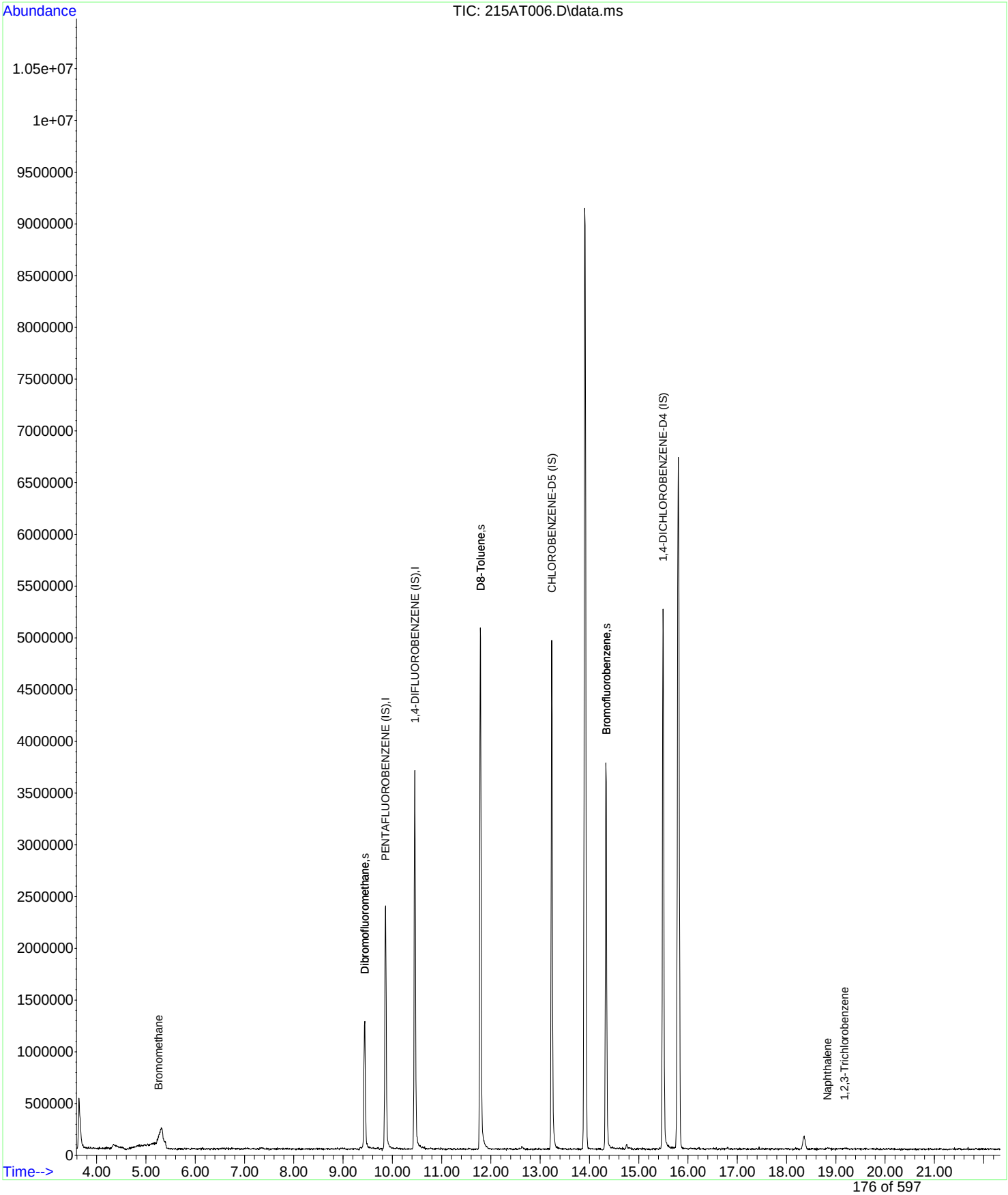
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.790	98	3741534	48.14 ug/L	95
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	11.843	92	1134	N.D.	
57) T-1,3-Dichloropropene	12.219	75	1015	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	0.000		0	N.D.	
60) 1,1,2-Trichloroethane	12.336	97	1829	N.D.	
61) Dibromochloromethane	12.606	129	1551	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	12.853	107	1145	N.D.	
64) 2-Hexanone	12.918	43	1623	N.D.	
65) Ethylbenzene	13.341	106	1141	N.D.	
66) Chlorobenzene	13.241	112	1398	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	13.341	106	1141	N.D.	
69) o-xylene	13.905	106	3943	N.D.	
70) Styrene	13.840	104	2013	N.D.	
71) Bromoform	0.000		0	N.D. d	
72) Isopropylbenzene	13.999	105	1144	N.D.	
74) Bromofluorobenzene	14.340	95	1723396	54.43 ug/L #	81
75) n-Propylbenzene	14.398	91	3621	N.D.	
76) 1,1,2,2-Tetrachloroethane	14.492	83	1031	N.D.	
77) 1,2,3-Trichloropropane	14.616	61	1292	N.D.	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D. d	
80) Bromobenzene	14.475	156	1124	N.D.	
81) 1,2,4-Trimethylbenzene	14.980	105	2934	N.D.	
82) 2-Chlorotoluene	14.628	91	1366	N.D.	
83) 4-Chlorotoluene	14.798	91	2334	N.D.	
84) tert-Butylbenzene	14.892	119	1726	N.D.	
85) 1,3,5-Trimethylbenzene	14.557	105	2326	N.D.	
86) p-Isopropyltoluene	15.198	119	5045	N.D.	
87) s-Butylbenzene	15.109	105	2907	N.D.	
88) 1,3-Dichlorobenzene	15.438	146	2920	N.D.	
89) 1,4-Dichlorobenzene	15.521	146	6621	N.D.	
90) n-Butylbenzene	15.726	91	3779	N.D.	
91) 1,2-Dichlorobenzene	16.049	146	2426	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	18.182	180	1816	N.D.	
95) Naphthalene	18.829	128	21738	0.68 ug/L #	80
96) 1,2,3-Trichlorobenzene	19.175	180	2376	0.28 ug/L #	59

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT006.D
Acq On : 25 Jan 2021 10:19 am
Operator : KKW
Sample : BLK1
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jan 25 14:40:31 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT007.D
Acq On : 25 Jan 2021 10:48 am
Operator : KKW
Sample : AA64632-CRL1
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 25 11:18:42 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) PENTAFLUOROBENZENE (IS)	9.863	168	1450199	50.00	ug/L	# 0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.456	114	3054870	50.00	ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	1722975	50.00	ug/L	# 0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1562753	50.00	ug/L	# 0.00
System Monitoring Compounds						
31) Dibromofluoromethane	9.434	113	811223	54.24	ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 108.48%			
52) D8-Toluene	11.784	98	3584887	47.51	ug/L	-0.01
Spiked Amount 50.000	Range 85 - 120		Recovery = 95.02%			
73) Bromofluorobenzene	14.334	95	1623753	52.77	ug/L	-0.01
Spiked Amount 50.000	Range 75 - 120		Recovery = 105.54%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.987	85	11751	0.63	ug/L	# 90
3) Chloromethane	4.410	50	14843	0.69	ug/L	# 56
4) Vinyl Chloride	4.592	62	12380	0.71	ug/L	# 1
5) Bromomethane	5.239	94	9731	2.24	ug/L	# 90
6) Chloroethane	5.462	64	10161m	1.32	ug/L	
7) Trichlorofluoromethane	5.720	101	15552	0.71	ug/L	# 93
8) Diethyl ether	6.214	59	8400m	0.69	ug/L	
9) 1,1-Dichloroethene	6.531	96	8104	0.65	ug/L	# 88
10) Trichlorotrifluoroethane	6.566	151	6423	0.77	ug/L	85
11) Acrolein	7.042	56	20426	8.11	ug/L	90
12) Iodomethane	6.796	142	13928	1.04	ug/L	# 90
13) Carbon Disulfide	6.631	76	102163	2.49	ug/L	# 94
14) 3-chloropropene	7.201	41	11729	0.47	ug/L	# 84
15) Acetone	7.407	43	10078	2.96	ug/L	# 74
16) Methylene Chloride	7.348	84	11780	0.78	ug/L	# 72
17) Methyl Acetate	7.653	43	5180	0.49	ug/L	92
18) t-1,2-Dichloroethene	7.554	96	10376	0.72	ug/L	83
19) Methyl tert-butyl ether	7.630	73	24665	0.67	ug/L	# 91
20) Acetonitrile	8.041	41	12425	4.50	ug/L	# 56
21) Isopropyl ether	8.065	45	29763	0.61	ug/L	# 89
22) Chloroprene	8.294	88	8625	0.62	ug/L	97
23) 1,1-Dichloroethane	8.323	63	19059	0.64	ug/L	# 87
24) Acrylonitrile	8.405	53	20945	4.65	ug/L	93
25) Vinyl Acetate	8.564	43	79627	2.61	ug/L	97
26) c-1,2-Dichloroethene	8.964	96	13688	0.89	ug/L	# 71
27) 2,2-Dichloropropane	9.093	77	15069	0.60	ug/L	# 82
28) Bromochloromethane	9.193	128	4949	0.91	ug/L	# 66
29) Cyclohexane	9.205	56	15602	0.48	ug/L	# 73
30) Chloroform	9.234	83	20547	0.72	ug/L	97
32) Dibromofluoromethane	9.434	113	811223	54.24	ug/L	# 89
33) 2-Butanone	9.563	72	4178	2.59	ug/L	86
34) 1,1,1-Trichloroethane	9.492	97	17804	0.76	ug/L	# 92
35) 1,1-Dichloropropene	9.610	75	14484	0.61	ug/L	# 70
36) Propionitrile	9.927	54	8687	4.26	ug/L	# 30
37) Methacrylonitrile	9.927	41	49064	4.87	ug/L	# 79
38) Isobutyl Alcohol	9.904	43	10979	9.01	ug/L	# 50
40) Carbon Tetrachloride	9.422	117	14143	0.62	ug/L	# 57
41) Benzene	9.892	78	52557	0.75	ug/L	99
42) 1,2-Dichloroethane	10.092	62	16539	0.65	ug/L	# 90
43) Trichloroethene	10.468	130	10641	0.75	ug/L	# 1
44) Methyl cyclohexane	10.450	83	55677	1.59	ug/L	# 54
45) Dibromomethane	10.920	93	7514	0.76	ug/L	# 85
46) 1,2-Dichloropropane	11.002	63	11723	0.62	ug/L	# 78
47) Bromodichloromethane	11.032	83	11433	0.56	ug/L	# 92
48) Methyl Methacrylate	11.114	69	5717	0.44	ug/L	# 49
49) 1,4-Dioxane	11.208	88	1025	5.79	ug/L	# 67
50) 2-Chloroethyl vinyl ether	11.508	63	27779	2.82	ug/L	# 97
51) C-1,3-Dichloropropene	11.619	75	19507	0.70	ug/L	90

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT007.D
Acq On : 25 Jan 2021 10:48 am
Operator : KKW
Sample : AA64632-CRL1
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 25 11:18:42 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

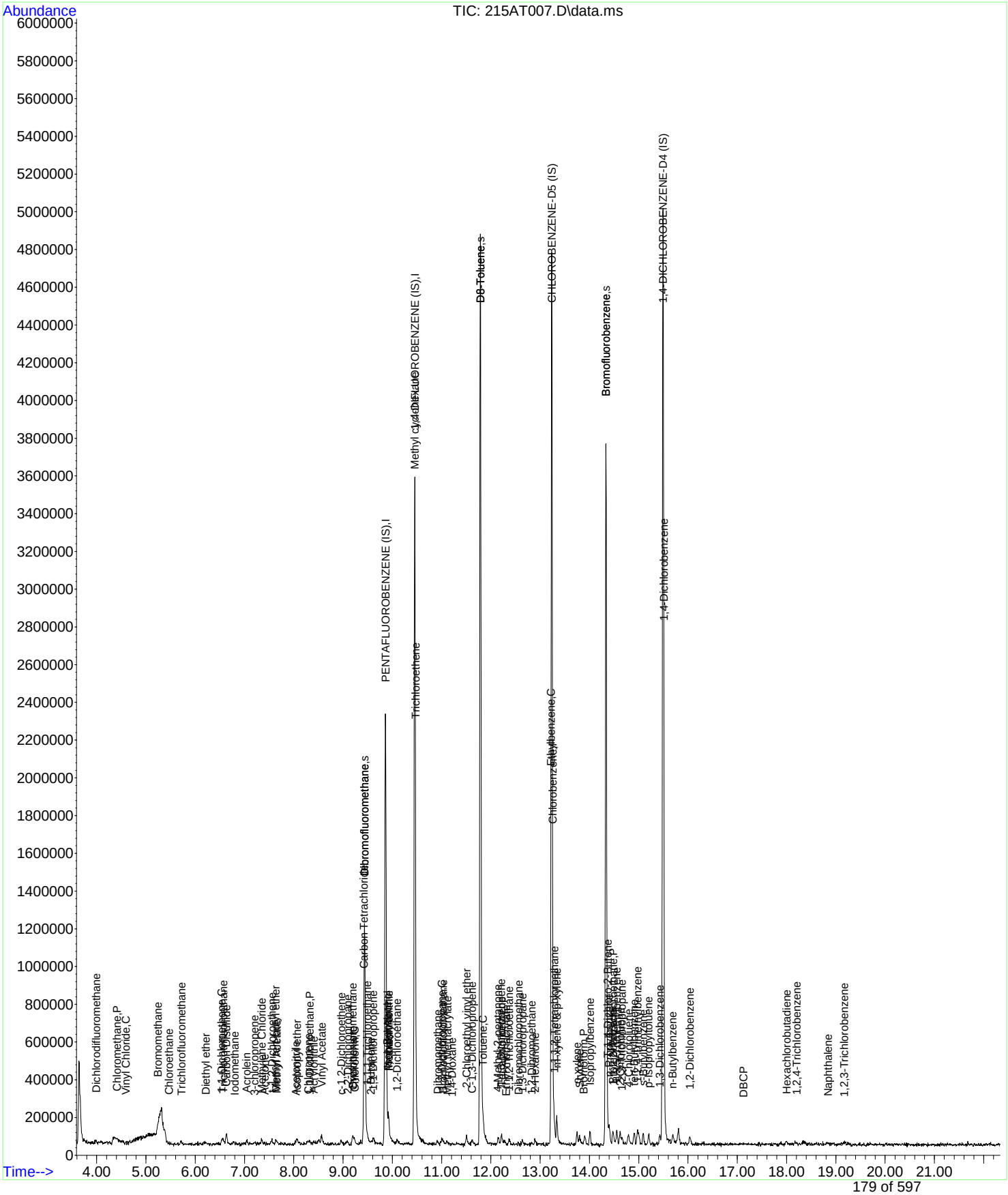
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.784	98	3584887	47.51	ug/L	#	95
54) 4-Methyl-2-pentanone	12.136	100	6032	2.91	ug/L	#	78
56) Toluene	11.837	92	33757	0.92	ug/L		80
57) T-1,3-Dichloropropene	12.207	75	15608	0.71	ug/L		98
58) Tetrachloroethene	12.219	164	8021	0.79	ug/L	#	73
59) Ethyl methacrylate	12.307	69	8824	0.45	ug/L	#	10
60) 1,1,2-Trichloroethane	12.366	97	10430	0.84	ug/L		92
61) Dibromochloromethane	12.560	129	6116	0.61	ug/L	#	74
62) 1,3-Dichloropropane	12.642	76	16977	0.74	ug/L	#	82
63) 1,2-Dibromoethane	12.824	107	9717	0.84	ug/L	#	78
64) 2-Hexanone	12.894	43	18526	2.19	ug/L	#	87
65) Ethylbenzene	13.218	106	16741	0.75	ug/L	#	87
66) Chlorobenzene	13.253	112	38842	1.05	ug/L	#	85
67) 1,1,1,2-Tetrachloroethane	13.288	131	10005	0.90	ug/L		88
68) m-xylene & p-xylene	13.335	106	41123	1.59	ug/L		91
69) o-xylene	13.746	106	21293	0.80	ug/L		99
70) Styrene	13.799	104	33034	0.76	ug/L	#	85
71) Bromoform	13.882	173	1706	0.31	ug/L	#	45
72) Isopropylbenzene	14.011	105	50893	0.73	ug/L		95
74) Bromofluorobenzene	14.334	95	1623753	52.77	ug/L		85
75) n-Propylbenzene	14.399	91	71766	0.77	ug/L		98
76) 1,1,2,2-Tetrachloroethane	14.481	83	15463	0.89	ug/L	#	92
77) 1,2,3-Trichloropropane	14.657	61	3957	0.62	ug/L	#	58
78) T-1,4-Dichloro-2-Butene	14.369	53	5802	0.85	ug/L	#	1
80) Bromobenzene	14.475	156	14060	0.89	ug/L	#	72
81) 1,2,4-Trimethylbenzene	14.974	105	46360	0.63	ug/L	#	89
82) 2-Chlorotoluene	14.628	91	44453	0.72	ug/L		98
83) 4-Chlorotoluene	14.792	91	46151	0.72	ug/L		94
84) tert-Butylbenzene	14.904	119	31834	0.57	ug/L	#	89
85) 1,3,5-Trimethylbenzene	14.551	105	50076	0.71	ug/L		97
86) p-Isopropyltoluene	15.198	119	42222	0.61	ug/L	#	89
87) s-Butylbenzene	15.092	105	52804	0.63	ug/L	#	92
88) 1,3-Dichlorobenzene	15.427	146	25599	0.81	ug/L	#	87
89) 1,4-Dichlorobenzene	15.509	146	33578	0.99	ug/L	#	1
90) n-Butylbenzene	15.685	91	43256	0.60	ug/L	#	95
91) 1,2-Dichlorobenzene	16.032	146	23741	0.80	ug/L		97
92) DBCP	17.125	157	1612	0.71	ug/L		100
93) Hexachlorobutadiene	18.000	225	3143	0.48	ug/L	#	77
94) 1,2,4-Trichlorobenzene	18.206	180	9004	0.62	ug/L	#	66
95) Naphthalene	18.840	128	12224	0.40	ug/L	#	76
96) 1,2,3-Trichlorobenzene	19.170	180	3417	0.42	ug/L	#	39

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT007.D
Acq On : 25 Jan 2021 10:48 am
Operator : KKW
Sample : AA64632-CRL1
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 25 11:18:42 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT009.D
Acq On : 25 Jan 2021 11:47 am
Operator : KKW
Sample : AE00066-10
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jan 25 14:43:39 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) PENTAFLUOROBENZENE (IS)	9.863	168	1353992	50.00	ug/L	# 0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.456	114	2910142	50.00	ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	1676020	50.00	ug/L	# 0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1554117	50.00	ug/L	# 0.00
System Monitoring Compounds						
31) Dibromofluoromethane	9.434	113	795997	57.00	ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 114.00%			
52) D8-Toluene	11.784	98	3394727	47.23	ug/L	-0.01
Spiked Amount 50.000	Range 85 - 120		Recovery = 94.46%			
73) Bromofluorobenzene	14.334	95	1586337	53.00	ug/L	-0.01
Spiked Amount 50.000	Range 75 - 120		Recovery = 106.00%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.		
3) Chloromethane	0.000		0	N.D.	d	
4) Vinyl Chloride	4.428	62	1884	N.D.		
5) Bromomethane	0.000		0	N.D.	d	
6) Chloroethane	0.000		0	N.D.	d	
7) Trichlorofluoromethane	0.000		0	N.D.		
8) Diethyl ether	0.000		0	N.D.		
9) 1,1-Dichloroethene	0.000		0	N.D.		
10) Trichlorotrifluoroethane	0.000		0	N.D.		
11) Acrolein	0.000		0	N.D.	d	
12) Iodomethane	0.000		0	N.D.	d	
13) Carbon Disulfide	0.000		0	N.D.	d	
14) 3-chloropropene	0.000		0	N.D.	d	
15) Acetone	0.000		0	N.D.	d	
16) Methylene Chloride	0.000		0	N.D.	d	
17) Methyl Acetate	0.000		0	N.D.	d	
18) t-1,2-Dichloroethene	0.000		0	N.D.		
19) Methyl tert-butyl ether	0.000		0	N.D.		
20) Acetonitrile	0.000		0	N.D.	d	
21) Isopropyl ether	0.000		0	N.D.		
22) Chloroprene	0.000		0	N.D.		
23) 1,1-Dichloroethane	0.000		0	N.D.	d	
24) Acrylonitrile	0.000		0	N.D.	d	
25) Vinyl Acetate	8.541	43	1376	N.D.		
26) c-1,2-Dichloroethene	9.058	96	1574	N.D.		
27) 2,2-Dichloropropane	9.063	77	1229	N.D.		
28) Bromochloromethane	0.000		0	N.D.		
29) Cyclohexane	9.199	56	1194	N.D.		
30) Chloroform	0.000		0	N.D.		
32) Dibromofluoromethane	9.434	113	795997	57.00	ug/L #	91
33) 2-Butanone	0.000		0	N.D.	d	
34) 1,1,1-Trichloroethane	0.000		0	N.D.		
35) 1,1-Dichloropropene	0.000		0	N.D.	d	
36) Propionitrile	0.000		0	N.D.	d	
37) Methacrylonitrile	0.000		0	N.D.	d	
38) Isobutyl Alcohol	0.000		0	N.D.	d	
40) Carbon Tetrachloride	9.428	117	1731	N.D.		
41) Benzene	9.892	78	2666	N.D.		
42) 1,2-Dichloroethane	0.000		0	N.D.		
43) Trichloroethene	0.000		0	N.D.		
44) Methyl cyclohexane	0.000		0	N.D.	d	
45) Dibromomethane	0.000		0	N.D.		
46) 1,2-Dichloropropane	0.000		0	N.D.	d	
47) Bromodichloromethane	0.000		0	N.D.		
48) Methyl Methacrylate	0.000		0	N.D.		
49) 1,4-Dioxane	0.000		0	N.D.	d	
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.	d	
51) C-1,3-Dichloropropene	11.649	75	1313	N.D.		

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT009.D
Acq On : 25 Jan 2021 11:47 am
Operator : KKW
Sample : AE00066-10
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jan 25 14:43:39 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

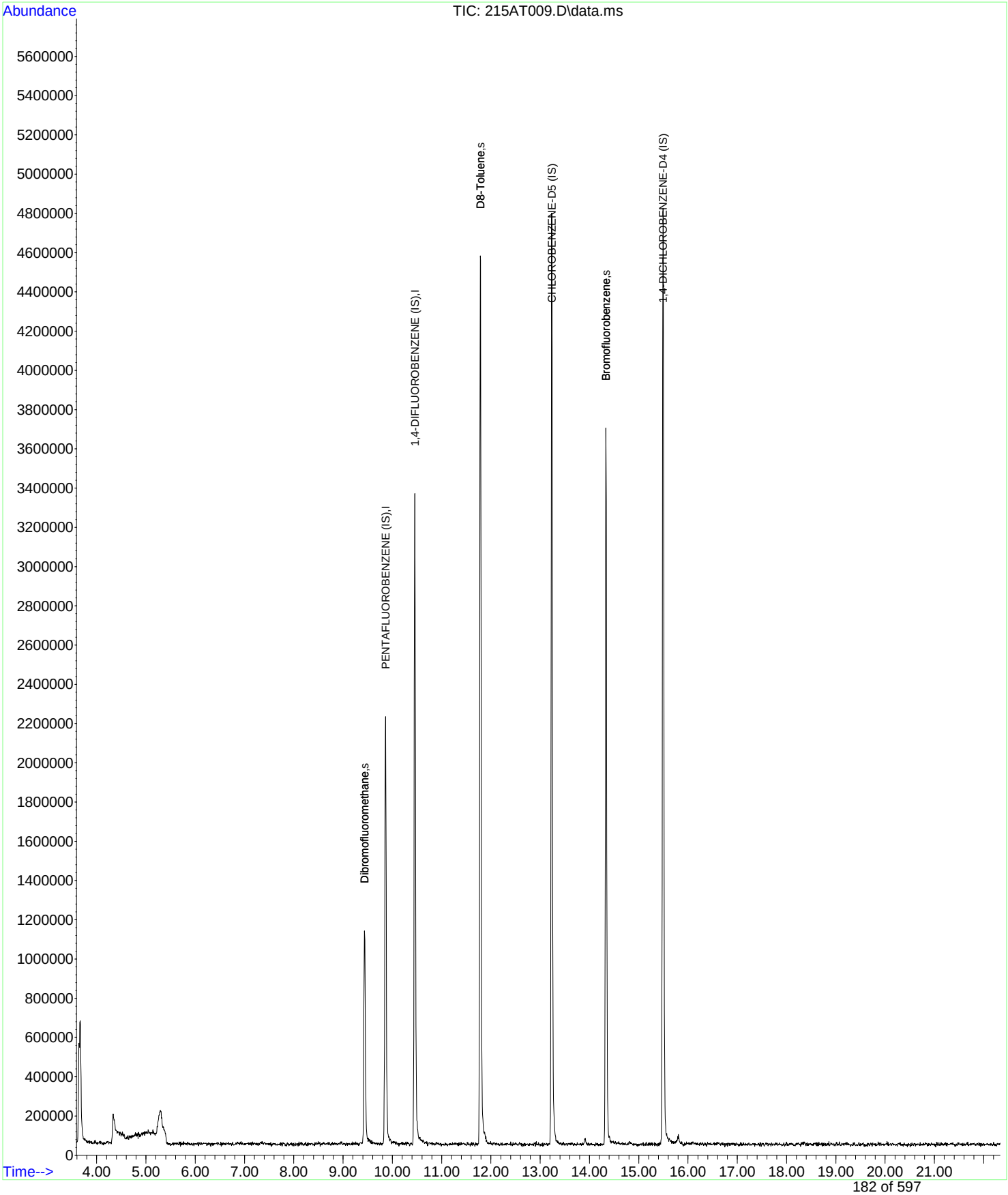
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.784	98	3394727	47.23 ug/L	95
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	11.848	92	1413	N.D.	
57) T-1,3-Dichloropropene	12.207	75	1813	N.D.	
58) Tetrachloroethene	12.324	164	1057	N.D.	
59) Ethyl methacrylate	12.248	69	2450	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	12.736	76	1085	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	0.000		0	N.D. d	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	13.212	112	1135	N.D.	
67) 1,1,1,2-Tetrachloroethane	13.229	131	1023	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	13.752	106	1563	N.D.	
70) Styrene	13.899	104	1278	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	14.128	105	1072	N.D.	
74) Bromofluorobenzene	14.334	95	1586337	53.00 ug/L	85
75) n-Propylbenzene	14.334	91	5137	N.D.	
76) 1,1,2,2-Tetrachloroethane	14.387	83	1542	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D. d	
78) T-1,4-Dichloro-2-Butene	14.334	53	1316	N.D.	
80) Bromobenzene	14.504	156	1082	N.D.	
81) 1,2,4-Trimethylbenzene	14.986	105	1204	N.D.	
82) 2-Chlorotoluene	0.000		0	N.D.	
83) 4-Chlorotoluene	14.927	91	1001	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	14.557	105	2338	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	14.986	105	1204	N.D.	
88) 1,3-Dichlorobenzene	15.503	146	4443	N.D.	
89) 1,4-Dichlorobenzene	15.503	146	4443	N.D.	
90) n-Butylbenzene	15.738	91	1391	N.D.	
91) 1,2-Dichlorobenzene	16.055	146	1006	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	18.858	128	1200	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT009.D
Acq On : 25 Jan 2021 11:47 am
Operator : KKW
Sample : AE00066-10
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jan 25 14:43:39 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT010.D
Acq On : 25 Jan 2021 12:17 pm
Operator : KKW
Sample : AE00066-01
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jan 25 14:44:27 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) PENTAFLUOROBENZENE (IS)	9.863	168	1351808	50.00 ug/L	# 0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.456	114	2866333	50.00 ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	1635734	50.00 ug/L	# 0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1522320	50.00 ug/L	# 0.00
System Monitoring Compounds					
31) Dibromofluoromethane	9.439	113	800073	57.38 ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 114.76%		
52) D8-Toluene	11.790	98	3428132	48.42 ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 96.84%		
73) Bromofluorobenzene	14.334	95	1553289	53.17 ug/L	-0.01
Spiked Amount 50.000	Range 75 - 120		Recovery = 106.34%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.852	85	1001	N.D.	
3) Chloromethane	0.000		0	N.D. d	
4) Vinyl Chloride	0.000		0	N.D. d	
5) Bromomethane	0.000		0	N.D. d	
6) Chloroethane	0.000		0	N.D. d	
7) Trichlorofluoromethane	0.000		0	N.D.	
8) Diethyl ether	0.000		0	N.D.	
9) 1,1-Dichloroethene	0.000		0	N.D.	
10) Trichlorotrifluoroethane	0.000		0	N.D.	
11) Acrolein	0.000		0	N.D. d	
12) Iodomethane	0.000		0	N.D. d	
13) Carbon Disulfide	0.000		0	N.D. d	
14) 3-chloropropene	0.000		0	N.D. d	
15) Acetone	0.000		0	N.D. d	
16) Methylene Chloride	0.000		0	N.D. d	
17) Methyl Acetate	0.000		0	N.D. d	
18) t-1,2-Dichloroethene	0.000		0	N.D. d	
19) Methyl tert-butyl ether	0.000		0	N.D.	
20) Acetonitrile	0.000		0	N.D. d	
21) Isopropyl ether	0.000		0	N.D.	
22) Chloroprene	0.000		0	N.D. d	
23) 1,1-Dichloroethane	0.000		0	N.D.	
24) Acrylonitrile	0.000		0	N.D. d	
25) Vinyl Acetate	0.000		0	N.D.	
26) c-1,2-Dichloroethene	0.000		0	N.D.	
27) 2,2-Dichloropropane	0.000		0	N.D. d	
28) Bromochloromethane	0.000		0	N.D. d	
29) Cyclohexane	9.269	56	1353	N.D.	
30) Chloroform	9.281	83	1738	N.D.	
32) Dibromofluoromethane	9.439	113	801004	57.45 ug/L #	89
33) 2-Butanone	0.000		0	N.D. d	
34) 1,1,1-Trichloroethane	0.000		0	N.D. d	
35) 1,1-Dichloropropene	0.000		0	N.D. d	
36) Propionitrile	0.000		0	N.D. d	
37) Methacrylonitrile	0.000		0	N.D. d	
38) Isobutyl Alcohol	0.000		0	N.D. d	
40) Carbon Tetrachloride	9.375	117	3731	N.D.	
41) Benzene	9.886	78	4645	N.D.	
42) 1,2-Dichloroethane	10.121	62	1969	N.D.	
43) Trichloroethene	0.000		0	N.D.	
44) Methyl cyclohexane	0.000		0	N.D. d	
45) Dibromomethane	10.914	93	1055	N.D.	
46) 1,2-Dichloropropane	10.967	63	1191	N.D.	
47) Bromodichloromethane	11.096	83	2004	N.D.	
48) Methyl Methacrylate	0.000		0	N.D.	
49) 1,4-Dioxane	0.000		0	N.D.	
50) 2-Chloroethyl vinyl ether	11.461	63	1135	N.D.	
51) C-1,3-Dichloropropene	11.637	75	1636	N.D.	

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT010.D
Acq On : 25 Jan 2021 12:17 pm
Operator : KKW
Sample : AE00066-01
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jan 25 14:44:27 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

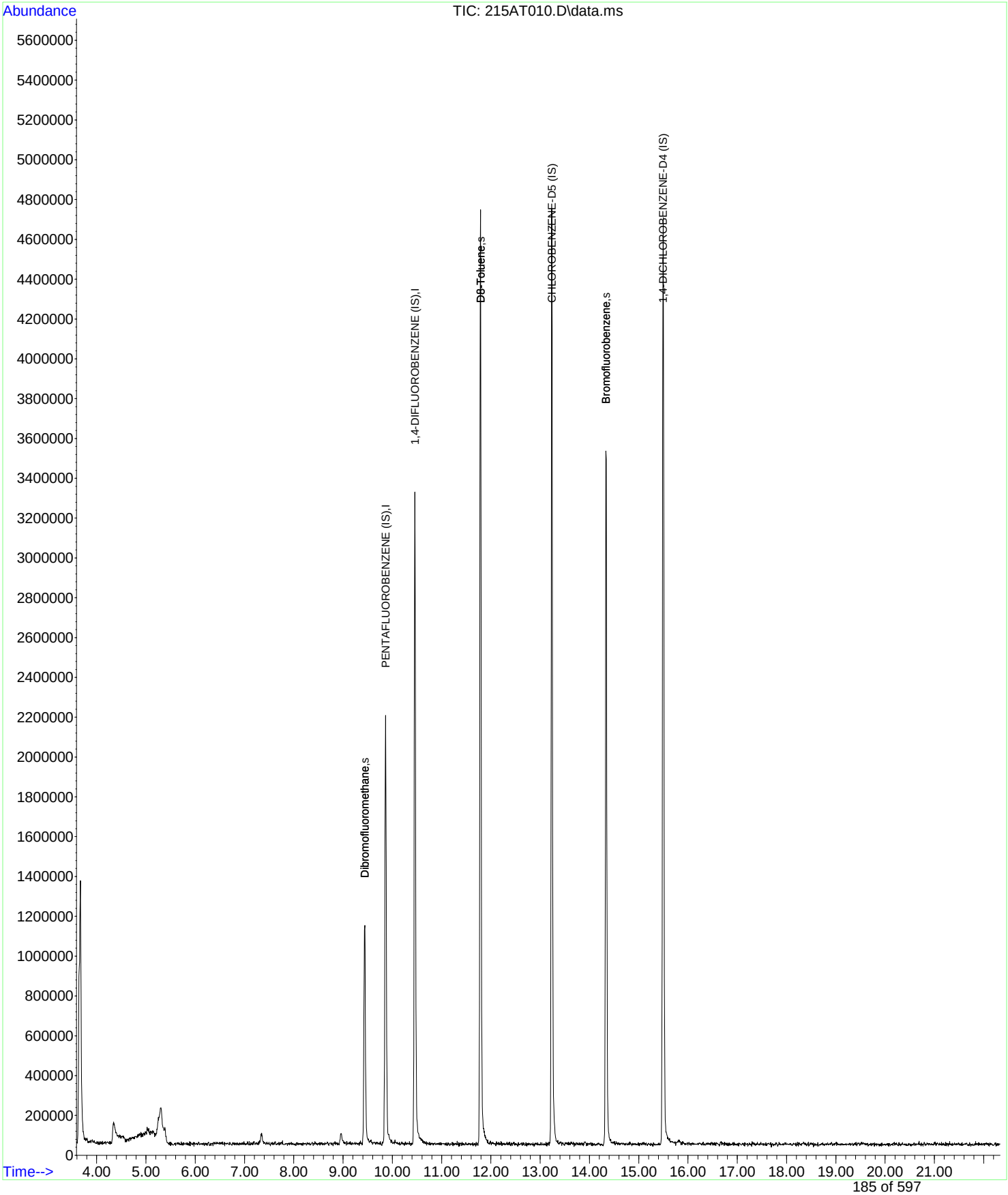
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.790	98	3428132	48.42 ug/L #	94
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	11.819	92	1572	N.D.	
57) T-1,3-Dichloropropene	12.289	75	1379	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	12.154	69	1391	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	12.624	76	1232	N.D.	
63) 1,2-Dibromoethane	12.918	107	1065	N.D.	
64) 2-Hexanone	12.947	43	1335	N.D.	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	13.229	112	1381	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	13.758	106	3631	N.D.	
70) Styrene	13.840	104	1014	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	0.000		0	N.D.	
74) Bromofluorobenzene	14.334	95	1553289	53.17 ug/L	86
75) n-Propylbenzene	14.422	91	1528	N.D.	
76) 1,1,2,2-Tetrachloroethane	14.340	83	1453	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D. d	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D.	
80) Bromobenzene	14.340	156	1964	N.D.	
81) 1,2,4-Trimethylbenzene	0.000		0	N.D.	
82) 2-Chlorotoluene	0.000		0	N.D.	
83) 4-Chlorotoluene	14.810	91	1154	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	0.000		0	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	0.000		0	N.D.	
88) 1,3-Dichlorobenzene	15.497	146	3996	N.D.	
89) 1,4-Dichlorobenzene	15.497	146	3996	N.D.	
90) n-Butylbenzene	15.832	91	1212	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	18.229	180	1052	N.D.	
95) Naphthalene	18.911	128	1280	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT010.D
Acq On : 25 Jan 2021 12:17 pm
Operator : KKW
Sample : AE00066-01
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jan 25 14:44:27 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT011.D
Acq On : 25 Jan 2021 12:46 pm
Operator : KKW
Sample : AE00066-02
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jan 25 14:45:08 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) PENTAFLUOROBENZENE (IS)	9.863	168	1334319	50.00 ug/L	# 0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.456	114	2846320	50.00 ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	1622830	50.00 ug/L	# 0.00
79) 1,4-DICHLOROBENZENE-D4...	15.497	152	1514443	50.00 ug/L	# 0.00
System Monitoring Compounds					
31) Dibromofluoromethane	9.440	113	783167	56.91 ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 113.82%		
52) D8-Toluene	11.790	98	3391008	48.23 ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 96.46%		
73) Bromofluorobenzene	14.340	95	1549791	53.48 ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 106.96%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.975	85	1064	N.D.	
3) Chloromethane	4.416	50	3667	N.D.	
4) Vinyl Chloride	4.533	62	1556	N.D.	
5) Bromomethane	0.000		0	N.D. d	
6) Chloroethane	5.403	64	1247	N.D.	
7) Trichlorofluoromethane	0.000		0	N.D.	
8) Diethyl ether	6.167	59	1093	N.D.	
9) 1,1-Dichloroethene	6.543	96	1712	N.D.	
10) Trichlorotrifluoroethane	6.613	151	1084	N.D.	
11) Acrolein	0.000		0	N.D. d	
12) Iodomethane	6.784	142	1653	N.D.	
13) Carbon Disulfide	6.631	76	4237	N.D.	
14) 3-chloropropene	7.078	41	1863	N.D.	
15) Acetone	0.000		0	N.D. d	
16) Methylene Chloride	7.354	84	1092	N.D.	
17) Methyl Acetate	7.536	43	1614	N.D.	
18) t-1,2-Dichloroethene	0.000		0	N.D.	
19) Methyl tert-butyl ether	0.000		0	N.D.	
20) Acetonitrile	0.000		0	N.D. d	
21) Isopropyl ether	8.076	45	1590	N.D.	
22) Chloroprene	8.364	88	1112	N.D.	
23) 1,1-Dichloroethane	8.405	63	1661	N.D.	
24) Acrylonitrile	0.000		0	N.D. d	
25) Vinyl Acetate	8.405	43	1206	N.D.	
26) c-1,2-Dichloroethene	8.999	96	1043	N.D.	
27) 2,2-Dichloropropane	8.946	77	1246	N.D.	
28) Bromochloromethane	0.000		0	N.D.	
29) Cyclohexane	9.146	56	1031	N.D.	
30) Chloroform	0.000		0	N.D.	
32) Dibromofluoromethane	9.440	113	783167	56.91 ug/L #	89
33) 2-Butanone	0.000		0	N.D. d	
34) 1,1,1-Trichloroethane	0.000		0	N.D. d	
35) 1,1-Dichloropropene	0.000		0	N.D. d	
36) Propionitrile	0.000		0	N.D. d	
37) Methacrylonitrile	0.000		0	N.D. d	
38) Isobutyl Alcohol	0.000		0	N.D. d	
40) Carbon Tetrachloride	9.357	117	2517	N.D.	
41) Benzene	9.886	78	7025	N.D.	
42) 1,2-Dichloroethane	10.150	62	1367	N.D.	
43) Trichloroethene	0.000		0	N.D.	
44) Methyl cyclohexane	0.000		0	N.D. d	
45) Dibromomethane	0.000		0	N.D.	
46) 1,2-Dichloropropane	0.000		0	N.D. d	
47) Bromodichloromethane	0.000		0	N.D.	
48) Methyl Methacrylate	0.000		0	N.D.	
49) 1,4-Dioxane	0.000		0	N.D. d	
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.	
51) C-1,3-Dichloropropene	11.619	75	1045	N.D.	

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT011.D
Acq On : 25 Jan 2021 12:46 pm
Operator : KKW
Sample : AE00066-02
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jan 25 14:45:08 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

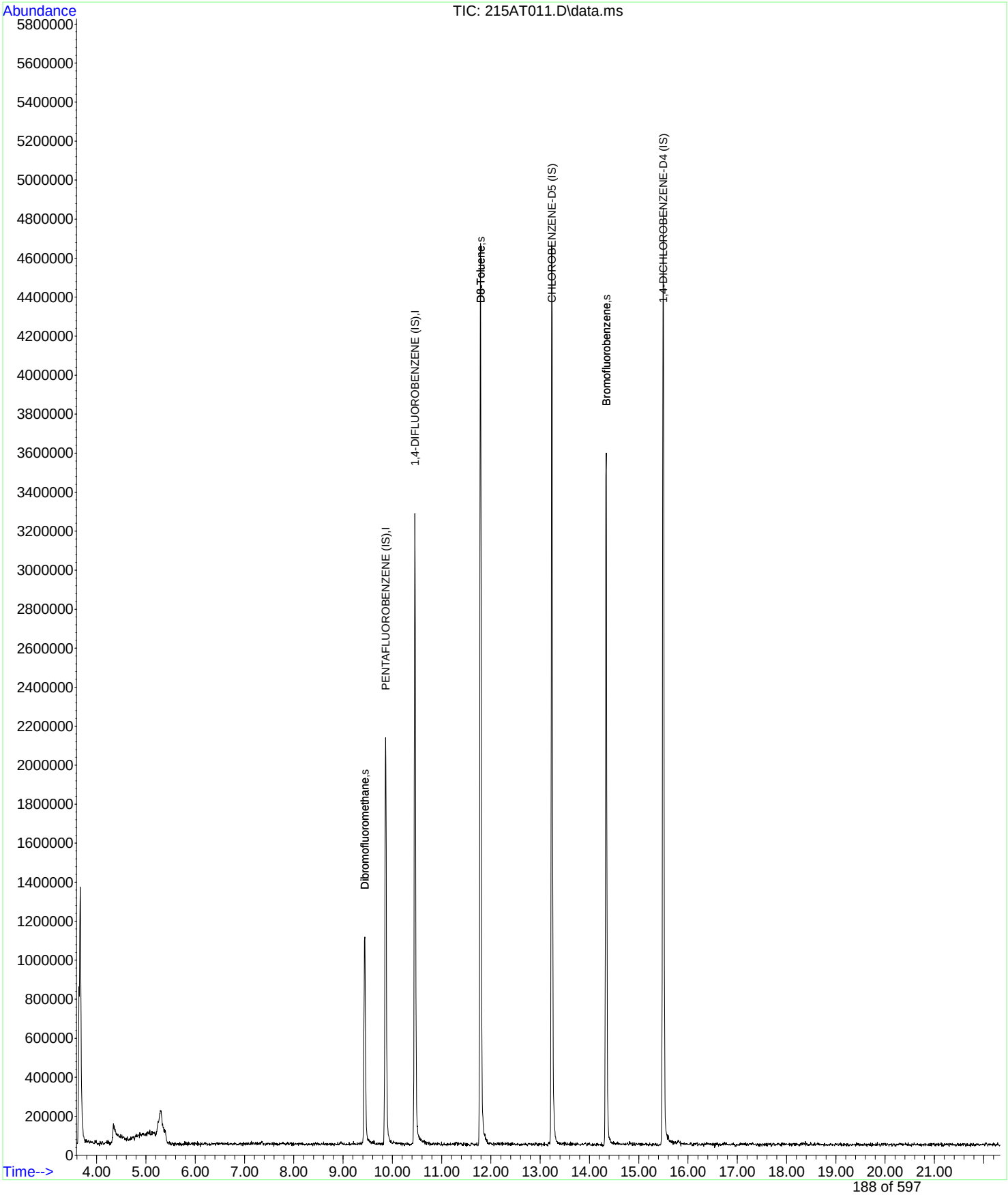
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.790	98	3386990	48.18 ug/L #	95
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	11.854	92	3809	N.D.	
57) T-1,3-Dichloropropene	12.225	75	2059	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	12.254	69	1020	N.D.	
60) 1,1,2-Trichloroethane	12.442	97	1406	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	12.753	43	1064	N.D.	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	0.000		0	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	0.000		0	N.D.	
70) Styrene	0.000		0	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	13.852	105	1499	N.D.	
74) Bromofluorobenzene	14.340	95	1549791	53.48 ug/L	85
75) n-Propylbenzene	14.375	91	1024	N.D.	
76) 1,1,2,2-Tetrachloroethane	14.481	83	1260	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D.	
78) T-1,4-Dichloro-2-Butene	14.210	53	1225	N.D.	
80) Bromobenzene	0.000		0	N.D.	
81) 1,2,4-Trimethylbenzene	15.086	105	1600	N.D.	
82) 2-Chlorotoluene	0.000		0	N.D.	
83) 4-Chlorotoluene	14.810	91	1435	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	14.457	105	1061	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	15.086	105	1600	N.D.	
88) 1,3-Dichlorobenzene	15.497	146	4938	N.D.	
89) 1,4-Dichlorobenzene	15.497	146	4938	N.D.	
90) n-Butylbenzene	15.691	91	1163	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	18.882	128	1337	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT011.D
Acq On : 25 Jan 2021 12:46 pm
Operator : KKW
Sample : AE00066-02
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jan 25 14:45:08 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT012.D
Acq On : 25 Jan 2021 1:15 pm
Operator : KKW
Sample : AE00066-03
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jan 25 14:45:54 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) PENTAFLUOROBENZENE (IS)	9.862	168	1325539	50.00 ug/L	# 0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.456	114	2841226	50.00 ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	1602227	50.00 ug/L	# 0.00
79) 1,4-DICHLOROBENZENE-D4...	15.497	152	1534202	50.00 ug/L	# 0.00
System Monitoring Compounds					
31) Dibromofluoromethane	9.439	113	758865	55.51 ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 111.02%		
52) D8-Toluene	11.790	98	3344152	47.65 ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 95.30%		
73) Bromofluorobenzene	14.340	95	1508545	52.72 ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 105.44%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	4.034	85	1213	N.D.	
3) Chloromethane	0.000		0	N.D. d	
4) Vinyl Chloride	0.000		0	N.D. d	
5) Bromomethane	0.000		0	N.D. d	
6) Chloroethane	0.000		0	N.D. d	
7) Trichlorofluoromethane	0.000		0	N.D.	
8) Diethyl ether	6.214	59	1183	N.D.	
9) 1,1-Dichloroethene	6.525	96	1017	N.D.	
10) Trichlorotrifluoroethane	6.502	151	1111	N.D.	
11) Acrolein	0.000		0	N.D. d	
12) Iodomethane	0.000		0	N.D. d	
13) Carbon Disulfide	6.631	76	6581	N.D.	
14) 3-chloropropene	7.213	41	1698	N.D.	
15) Acetone	0.000		0	N.D. d	
16) Methylene Chloride	7.377	84	2297	N.D.	
17) Methyl Acetate	7.465	43	1932	N.D.	
18) t-1,2-Dichloroethene	7.424	96	1120	N.D.	
19) Methyl tert-butyl ether	7.518	73	1238	N.D.	
20) Acetonitrile	0.000		0	N.D. d	
21) Isopropyl ether	7.959	45	1216	N.D.	
22) Chloroprene	8.376	88	1012	N.D.	
23) 1,1-Dichloroethane	0.000		0	N.D.	
24) Acrylonitrile	0.000		0	N.D. d	
25) Vinyl Acetate	8.611	43	1076	N.D.	
26) c-1,2-Dichloroethene	8.905	96	1012	N.D.	
27) 2,2-Dichloropropane	8.952	77	2065	N.D.	
28) Bromochloromethane	0.000		0	N.D.	
29) Cyclohexane	9.104	56	1016	N.D.	
30) Chloroform	0.000		0	N.D.	
32) Dibromofluoromethane	9.439	113	761247	55.68 ug/L #	89
33) 2-Butanone	0.000		0	N.D.	
34) 1,1,1-Trichloroethane	9.416	97	1246	N.D.	
35) 1,1-Dichloropropene	9.680	75	1202	N.D.	
36) Propionitrile	0.000		0	N.D. d	
37) Methacrylonitrile	9.904	41	1243	N.D.	
38) Isobutyl Alcohol	0.000		0	N.D. d	
40) Carbon Tetrachloride	9.345	117	2874	N.D.	
41) Benzene	9.892	78	6839	N.D.	
42) 1,2-Dichloroethane	9.974	62	1204	N.D.	
43) Trichloroethene	0.000		0	N.D.	
44) Methyl cyclohexane	0.000		0	N.D. d	
45) Dibromomethane	10.991	93	1303	N.D.	
46) 1,2-Dichloropropane	0.000		0	N.D.	
47) Bromodichloromethane	10.996	83	1212	N.D.	
48) Methyl Methacrylate	11.043	69	1044	N.D.	
49) 1,4-Dioxane	0.000		0	N.D.	
50) 2-Chloroethyl vinyl ether	11.466	63	1046	N.D.	
51) C-1,3-Dichloropropene	11.513	75	1243	N.D.	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT012.D
Acq On : 25 Jan 2021 1:15 pm
Operator : KKW
Sample : AE00066-03
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jan 25 14:45:54 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

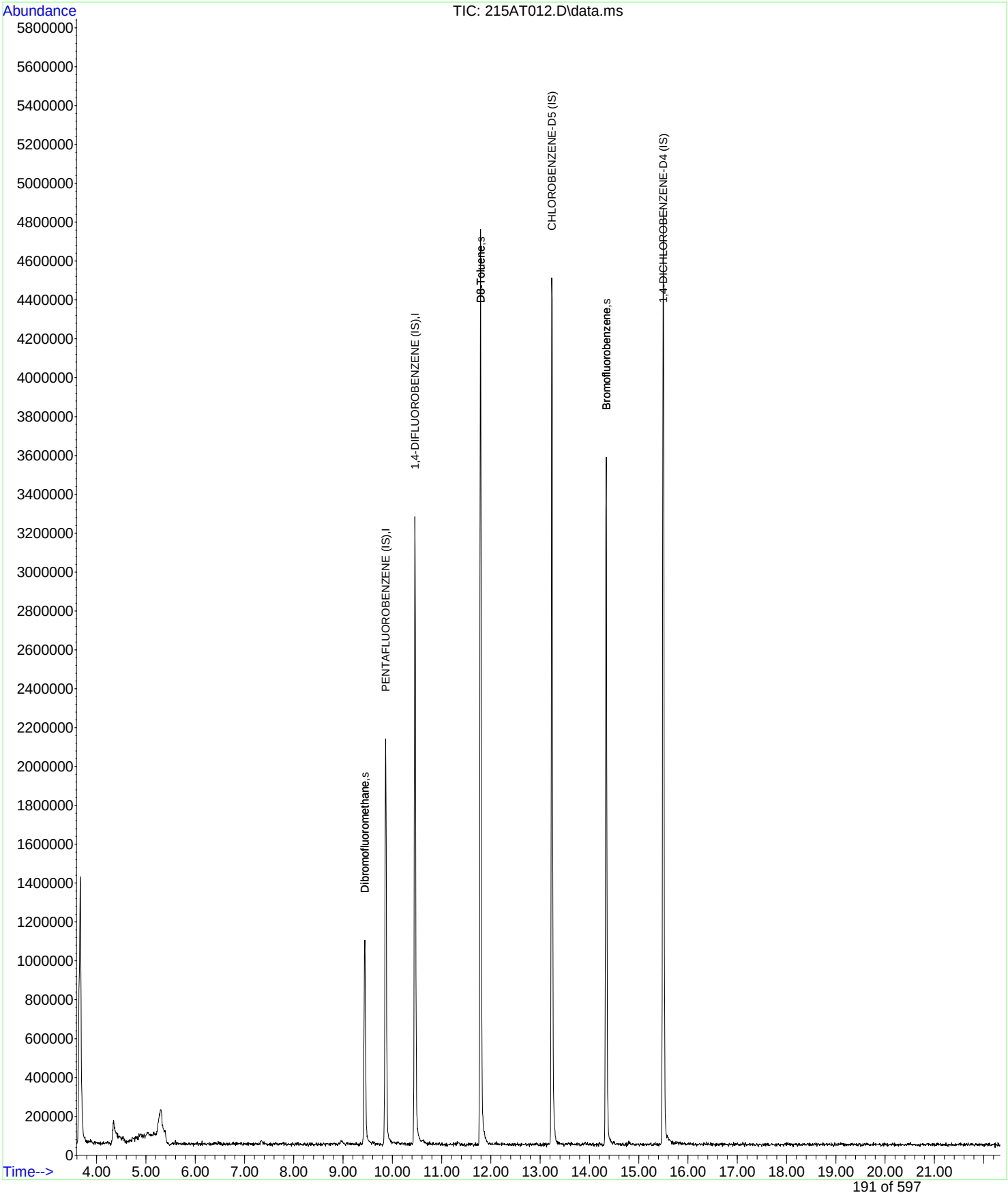
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.790	98	3339313	47.58 ug/L	95
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	11.831	92	1680	N.D.	
57) T-1,3-Dichloropropene	12.271	75	1310	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	0.000		0	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	0.000		0	N.D. d	
65) Ethylbenzene	13.147	106	1266	N.D.	
66) Chlorobenzene	13.241	112	2215	N.D.	
67) 1,1,1,2-Tetrachloroethane	13.182	131	1327	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	13.758	106	1469	N.D.	
70) Styrene	13.887	104	1200	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	0.000		0	N.D.	
74) Bromofluorobenzene	14.340	95	1508545	52.72 ug/L	87
75) n-Propylbenzene	14.334	91	6139	N.D.	
76) 1,1,2,2-Tetrachloroethane	14.334	83	2078	N.D.	
77) 1,2,3-Trichloropropane	14.551	61	1055	N.D.	
78) T-1,4-Dichloro-2-Butene	14.363	53	1172	N.D.	
80) Bromobenzene	0.000		0	N.D.	
81) 1,2,4-Trimethylbenzene	14.839	105	1456	N.D.	
82) 2-Chlorotoluene	14.716	91	1268	N.D.	
83) 4-Chlorotoluene	14.798	91	1212	N.D.	
84) tert-Butylbenzene	14.904	119	1014	N.D.	
85) 1,3,5-Trimethylbenzene	14.610	105	1269	N.D.	
86) p-Isopropyltoluene	15.209	119	1143	N.D.	
87) s-Butylbenzene	0.000		0	N.D.	
88) 1,3-Dichlorobenzene	15.432	146	1191	N.D.	
89) 1,4-Dichlorobenzene	15.497	146	3920	N.D.	
90) n-Butylbenzene	0.000		0	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	18.688	128	1020	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT012.D
Acq On : 25 Jan 2021 1:15 pm
Operator : KKW
Sample : AE00066-03
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jan 25 14:45:54 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT013.D
Acq On : 25 Jan 2021 1:45 pm
Operator : KKW
Sample : AE00066-04
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jan 25 14:46:50 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) PENTAFLUOROBENZENE (IS)	9.863	168	1342454	50.00	ug/L	# 0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.462	114	2980618	50.00	ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	1652145	50.00	ug/L	# 0.00
79) 1,4-DICHLOROBENZENE-D4...	15.497	152	1560174	50.00	ug/L	# 0.00
System Monitoring Compounds						
31) Dibromofluoromethane	9.439	113	793811	57.33	ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 114.66%			
52) D8-Toluene	11.790	98	3408559	46.30	ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 92.60%			
73) Bromofluorobenzene	14.340	95	1537936	52.12	ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 104.24%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.034	85	1473	N.D.		
3) Chloromethane	4.404	50	3345	N.D.		
4) Vinyl Chloride	4.598	62	114047	7.04	ug/L #	1
5) Bromomethane	0.000		0	N.D. d		
6) Chloroethane	0.000		0	N.D. d		
7) Trichlorofluoromethane	5.609	101	1265	N.D.		
8) Diethyl ether	6.208	59	1314	N.D.		
9) 1,1-Dichloroethene	6.590	96	1010	N.D.		
10) Trichlorotrifluoroethane	0.000		0	N.D.		
11) Acrolein	0.000		0	N.D. d		
12) Iodomethane	6.778	142	1226	N.D.		
13) Carbon Disulfide	0.000		0	N.D. d		
14) 3-chloropropene	7.213	41	1034	N.D.		
15) Acetone	0.000		0	N.D. d		
16) Methylene Chloride	7.342	84	1626	N.D.		
17) Methyl Acetate	7.530	43	1533	N.D.		
18) t-1,2-Dichloroethene	7.718	96	1241	N.D.		
19) Methyl tert-butyl ether	7.659	73	1401	N.D.		
20) Acetonitrile	0.000		0	N.D. d		
21) Isopropyl ether	8.117	45	2012	N.D.		
22) Chloroprene	0.000		0	N.D.		
23) 1,1-Dichloroethane	0.000		0	N.D.		
24) Acrylonitrile	0.000		0	N.D. d		
25) Vinyl Acetate	8.476	43	1519	N.D.		
26) c-1,2-Dichloroethene	8.870	96	1064	N.D.		
27) 2,2-Dichloropropane	8.981	77	2282	N.D.		
28) Bromochloromethane	0.000		0	N.D.		
29) Cyclohexane	9.216	56	1002	N.D.		
30) Chloroform	0.000		0	N.D.		
32) Dibromofluoromethane	9.439	113	795306	57.44	ug/L #	88
33) 2-Butanone	0.000		0	N.D. d		
34) 1,1,1-Trichloroethane	0.000		0	N.D.		
35) 1,1-Dichloropropene	9.657	75	1423	N.D.		
36) Propionitrile	0.000		0	N.D. d		
37) Methacrylonitrile	9.951	41	1792	N.D.		
38) Isobutyl Alcohol	0.000		0	N.D. d		
40) Carbon Tetrachloride	9.457	117	1172	N.D.		
41) Benzene	9.898	78	10857	N.D.		
42) 1,2-Dichloroethane	10.039	62	1271	N.D.		
43) Trichloroethene	10.597	130	1062	N.D.		
44) Methyl cyclohexane	0.000		0	N.D. d		
45) Dibromomethane	0.000		0	N.D.		
46) 1,2-Dichloropropane	10.914	63	1330	N.D.		
47) Bromodichloromethane	0.000		0	N.D.		
48) Methyl Methacrylate	0.000		0	N.D.		
49) 1,4-Dioxane	0.000		0	N.D.		
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.		
51) C-1,3-Dichloropropene	0.000		0	N.D.		

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT013.D
Acq On : 25 Jan 2021 1:45 pm
Operator : KKW
Sample : AE00066-04
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jan 25 14:46:50 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

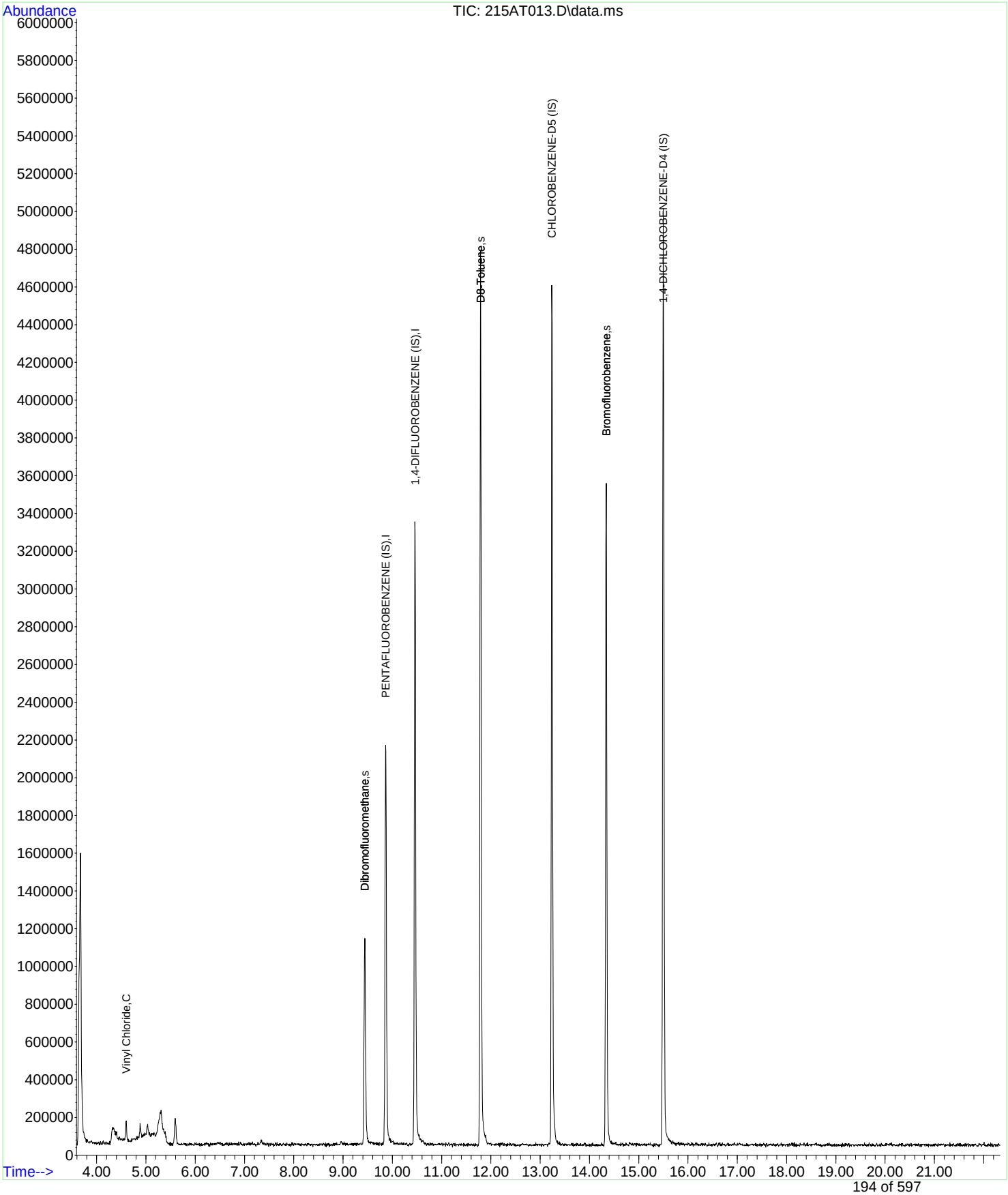
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.790	98	3404233	46.24 ug/L #	95
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	11.848	92	1729	N.D.	
57) T-1,3-Dichloropropene	12.289	75	1288	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	12.301	69	1201	N.D.	
60) 1,1,2-Trichloroethane	12.436	97	1095	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	12.759	76	1008	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	0.000		0	N.D. d	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	0.000		0	N.D.	
67) 1,1,1,2-Tetrachloroethane	13.159	131	1486	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	0.000		0	N.D.	
70) Styrene	0.000		0	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	0.000		0	N.D.	
74) Bromofluorobenzene	14.340	95	1537936	52.12 ug/L	86
75) n-Propylbenzene	14.440	91	1212	N.D.	
76) 1,1,2,2-Tetrachloroethane	14.351	83	1123	N.D.	
77) 1,2,3-Trichloropropane	14.539	61	1007	N.D.	
78) T-1,4-Dichloro-2-Butene	14.304	53	1051	N.D.	
80) Bromobenzene	0.000		0	N.D.	
81) 1,2,4-Trimethylbenzene	15.004	105	1096	N.D.	
82) 2-Chlorotoluene	0.000		0	N.D.	
83) 4-Chlorotoluene	0.000		0	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	0.000		0	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	15.004	105	1096	N.D.	
88) 1,3-Dichlorobenzene	15.503	146	3411	N.D.	
89) 1,4-Dichlorobenzene	15.503	146	3411	N.D.	
90) n-Butylbenzene	15.709	91	1221	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	18.770	128	1045	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT013.D
Acq On : 25 Jan 2021 1:45 pm
Operator : KKW
Sample : AE00066-04
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jan 25 14:46:50 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT014.D
Acq On : 25 Jan 2021 2:14 pm
Operator : KKW
Sample : AE00066-05
Misc :
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jan 25 14:47:43 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) PENTAFLUOROBENZENE (IS)	9.868	168	1353784	50.00 ug/L	# 0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.462	114	2923690	50.00 ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	1584476	50.00 ug/L	# 0.00
79) 1,4-DICHLOROBENZENE-D4...	15.497	152	1534322	50.00 ug/L	# 0.00
System Monitoring Compounds					
31) Dibromofluoromethane	9.439	113	794923	56.93 ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 113.86%		
52) D8-Toluene	11.790	98	3412173	47.25 ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 94.50%		
73) Bromofluorobenzene	14.340	95	1531771	54.13 ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 108.26%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.916	85	1420	N.D.	
3) Chloromethane	0.000		0	N.D. d	
4) Vinyl Chloride	4.616	62	1437	N.D.	
5) Bromomethane	0.000		0	N.D. d	
6) Chloroethane	0.000		0	N.D. d	
7) Trichlorofluoromethane	0.000		0	N.D.	
8) Diethyl ether	6.067	59	1923	N.D.	
9) 1,1-Dichloroethene	0.000		0	N.D.	
10) Trichlorotrifluoroethane	0.000		0	N.D.	
11) Acrolein	0.000		0	N.D. d	
12) Iodomethane	0.000		0	N.D. d	
13) Carbon Disulfide	6.631	76	4616	N.D.	
14) 3-chloropropene	7.166	41	1129	N.D.	
15) Acetone	0.000		0	N.D. d	
16) Methylene Chloride	7.342	84	2511	N.D.	
17) Methyl Acetate	7.542	43	1026	N.D.	
18) t-1,2-Dichloroethene	0.000		0	N.D.	
19) Methyl tert-butyl ether	0.000		0	N.D.	
20) Acetonitrile	0.000		0	N.D. d	
21) Isopropyl ether	8.035	45	1020	N.D.	
22) Chloroprene	8.376	88	1065	N.D.	
23) 1,1-Dichloroethane	8.294	63	1408	N.D.	
24) Acrylonitrile	0.000		0	N.D. d	
25) Vinyl Acetate	8.540	43	1953	N.D.	
26) c-1,2-Dichloroethene	8.946	96	1041	N.D.	
27) 2,2-Dichloropropane	9.140	77	1218	N.D.	
28) Bromochloromethane	0.000		0	N.D.	
29) Cyclohexane	9.328	56	1316	N.D.	
30) Chloroform	9.228	83	1220	N.D.	
32) Dibromofluoromethane	9.439	113	794923	56.93 ug/L #	91
33) 2-Butanone	0.000		0	N.D. d	
34) 1,1,1-Trichloroethane	0.000		0	N.D.	
35) 1,1-Dichloropropene	9.721	75	1551	N.D.	
36) Propionitrile	0.000		0	N.D. d	
37) Methacrylonitrile	0.000		0	N.D. d	
38) Isobutyl Alcohol	0.000		0	N.D. d	
40) Carbon Tetrachloride	9.387	117	1700	N.D.	
41) Benzene	9.892	78	6578	N.D.	
42) 1,2-Dichloroethane	10.121	62	1057	N.D.	
43) Trichloroethene	0.000		0	N.D.	
44) Methyl cyclohexane	0.000		0	N.D. d	
45) Dibromomethane	0.000		0	N.D.	
46) 1,2-Dichloropropane	11.120	63	1552	N.D.	
47) Bromodichloromethane	11.038	83	1568	N.D.	
48) Methyl Methacrylate	10.938	69	1305	N.D.	
49) 1,4-Dioxane	0.000		0	N.D. d	
50) 2-Chloroethyl vinyl ether	11.655	63	1044	N.D.	
51) C-1,3-Dichloropropene	11.537	75	1376	N.D.	

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT014.D
Acq On : 25 Jan 2021 2:14 pm
Operator : KKW
Sample : AE00066-05
Misc :
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jan 25 14:47:43 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

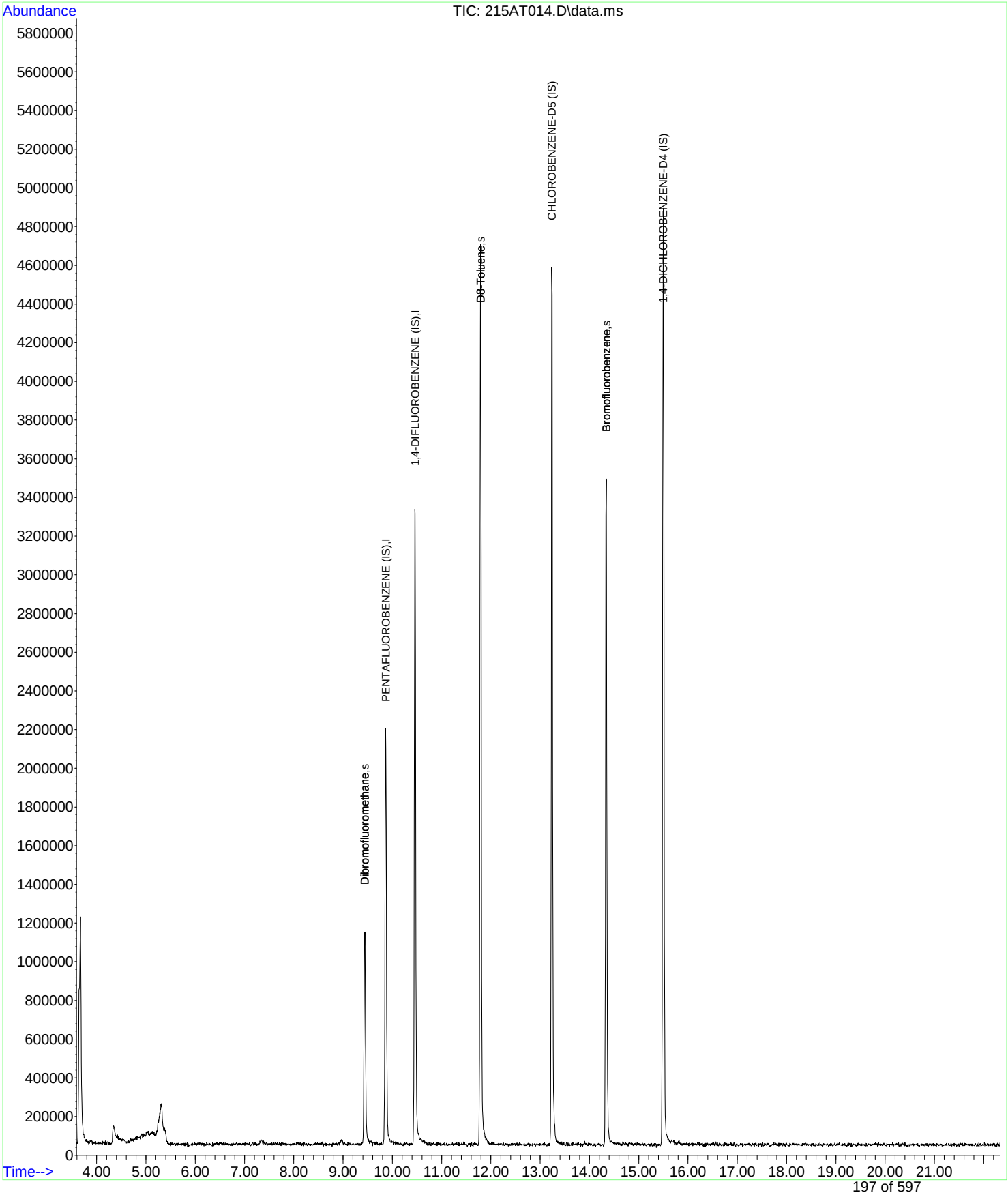
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.790	98	3412173	47.25 ug/L #	95
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	11.813	92	2840	N.D.	
57) T-1,3-Dichloropropene	12.236	75	1288	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	0.000		0	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	0.000		0	N.D.	
65) Ethylbenzene	13.347	106	1240	N.D.	
66) Chlorobenzene	13.241	112	2505	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	13.347	106	1240	N.D.	
69) o-xylene	13.781	106	1635	N.D.	
70) Styrene	0.000		0	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	13.993	105	1432	N.D.	
74) Bromofluorobenzene	14.340	95	1531771	54.13 ug/L	86
75) n-Propylbenzene	14.440	91	1579	N.D.	
76) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D. d	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D. d	
80) Bromobenzene	14.498	156	1277	N.D.	
81) 1,2,4-Trimethylbenzene	15.115	105	1077	N.D.	
82) 2-Chlorotoluene	14.504	91	1257	N.D.	
83) 4-Chlorotoluene	14.851	91	1388	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	0.000		0	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	15.115	105	1077	N.D.	
88) 1,3-Dichlorobenzene	15.485	146	1513	N.D.	
89) 1,4-Dichlorobenzene	15.485	146	1513	N.D.	
90) n-Butylbenzene	0.000		0	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	0.000		0	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT014.D
Acq On : 25 Jan 2021 2:14 pm
Operator : KKW
Sample : AE00066-05
Misc :
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jan 25 14:47:43 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT015.D
Acq On : 25 Jan 2021 2:44 pm
Operator : KKW
Sample : AE00066-06
Misc :
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jan 26 07:00:38 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) PENTAFLUOROBENZENE (IS)	9.868	168	1323227	50.00	ug/L	# 0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.462	114	2812403	50.00	ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	1560555	50.00	ug/L	# 0.00
79) 1,4-DICHLOROBENZENE-D4...	15.497	152	1499588	50.00	ug/L	# 0.00
System Monitoring Compounds						
31) Dibromofluoromethane	9.439	113	778278	57.03	ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 114.06%			
52) D8-Toluene	11.790	98	3351129	48.24	ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 96.48%			
73) Bromofluorobenzene	14.340	95	1523101	54.65	ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 109.30%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.993	85	1612	N.D.		
3) Chloromethane	0.000		0	N.D.	d	
4) Vinyl Chloride	4.598	62	33465	2.10	ug/L #	1
5) Bromomethane	0.000		0	N.D.	d	
6) Chloroethane	5.456	64	1167	N.D.		
7) Trichlorofluoromethane	5.609	101	1649	N.D.		
8) Diethyl ether	0.000		0	N.D.		
9) 1,1-Dichloroethene	0.000		0	N.D.		
10) Trichlorotrifluoroethane	0.000		0	N.D.		
11) Acrolein	0.000		0	N.D.	d	
12) Iodomethane	0.000		0	N.D.	d	
13) Carbon Disulfide	6.649	76	4986	N.D.		
14) 3-chloropropene	7.048	41	1049	N.D.		
15) Acetone	0.000		0	N.D.	d	
16) Methylene Chloride	7.342	84	2632	N.D.		
17) Methyl Acetate	7.542	43	1421	N.D.		
18) t-1,2-Dichloroethene	7.548	96	1604	N.D.		
19) Methyl tert-butyl ether	7.630	73	1349	N.D.		
20) Acetonitrile	0.000		0	N.D.	d	
21) Isopropyl ether	8.094	45	1305	N.D.		
22) Chloroprene	8.211	88	1298	N.D.		
23) 1,1-Dichloroethane	8.211	63	1288	N.D.		
24) Acrylonitrile	0.000		0	N.D.	d	
25) Vinyl Acetate	8.582	43	1113	N.D.		
26) c-1,2-Dichloroethene	8.969	96	4960	0.35	ug/L #	90
27) 2,2-Dichloropropane	8.975	77	1508	N.D.		
28) Bromochloromethane	0.000		0	N.D.		
29) Cyclohexane	9.193	56	1171	N.D.		
30) Chloroform	9.304	83	1356	N.D.		
32) Dibromofluoromethane	9.439	113	778278	57.03	ug/L #	89
33) 2-Butanone	0.000		0	N.D.	d	
34) 1,1,1-Trichloroethane	9.481	97	1299	N.D.		
35) 1,1-Dichloropropene	9.492	75	2034	N.D.		
36) Propionitrile	0.000		0	N.D.		
37) Methacrylonitrile	9.904	41	1355	N.D.		
38) Isobutyl Alcohol	0.000		0	N.D.	d	
40) Carbon Tetrachloride	9.345	117	1118	N.D.		
41) Benzene	9.892	78	13736	0.21	ug/L #	78
42) 1,2-Dichloroethane	10.056	62	1688	N.D.		
43) Trichloroethene	0.000		0	N.D.		
44) Methyl cyclohexane	0.000		0	N.D.	d	
45) Dibromomethane	10.897	93	1574	N.D.		
46) 1,2-Dichloropropane	10.908	63	1198	N.D.		
47) Bromodichloromethane	0.000		0	N.D.		
48) Methyl Methacrylate	0.000		0	N.D.		
49) 1,4-Dioxane	0.000		0	N.D.		
50) 2-Chloroethyl vinyl ether	11.531	63	1503	N.D.		
51) C-1,3-Dichloropropene	11.796	75	2420	N.D.		

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT015.D
Acq On : 25 Jan 2021 2:44 pm
Operator : KKW
Sample : AE00066-06
Misc :
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jan 26 07:00:38 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

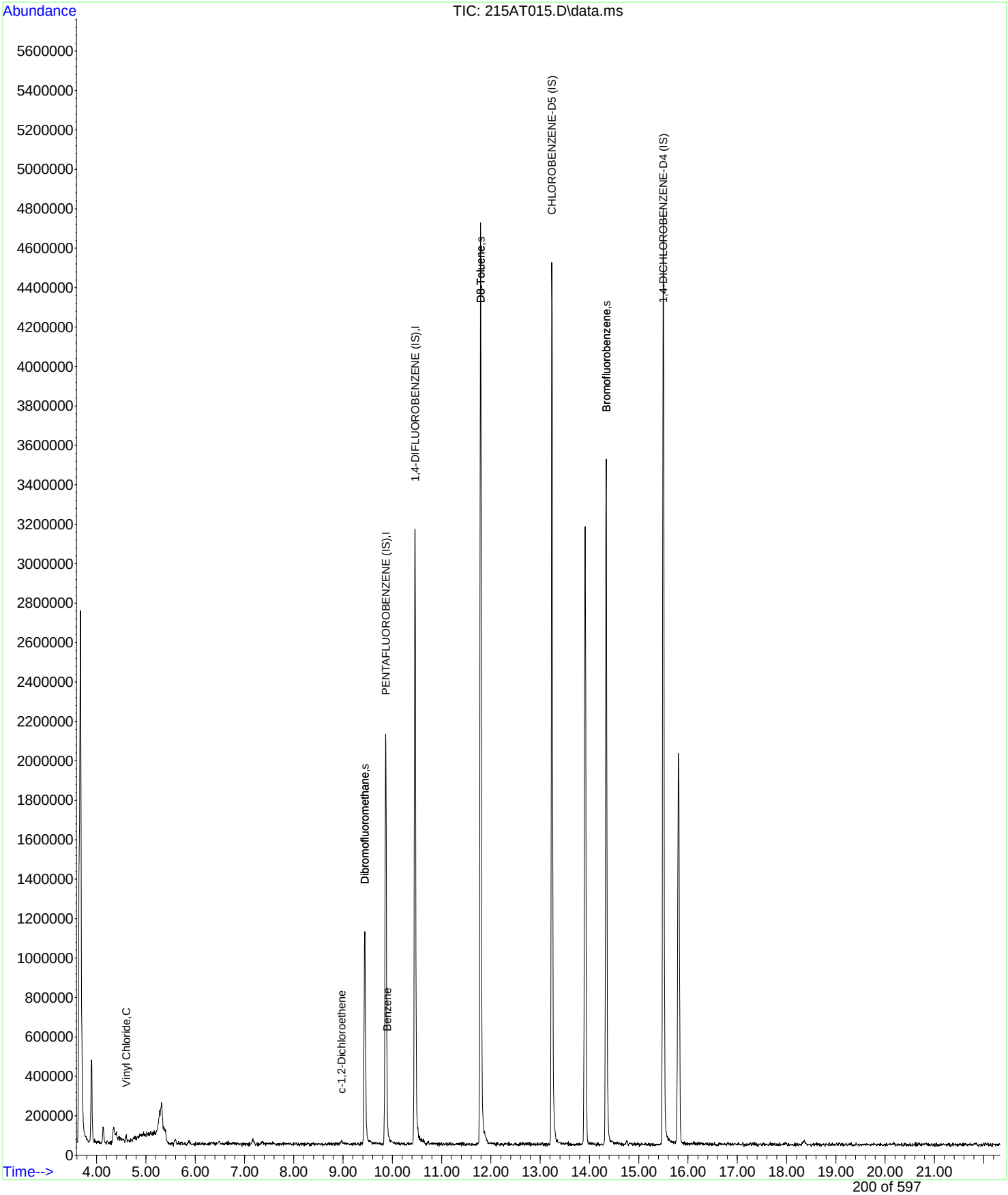
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.790	98	3349999	48.22 ug/L	93
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	11.854	92	4474	N.D.	
57) T-1,3-Dichloropropene	12.042	75	1093	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	12.330	69	1355	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	12.583	76	1242	N.D.	
63) 1,2-Dibromoethane	12.783	107	1002	N.D.	
64) 2-Hexanone	13.012	43	1126	N.D.	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	13.235	112	1220	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	13.770	106	1097	N.D.	
70) Styrene	0.000		0	N.D. d	
71) Bromoform	0.000		0	N.D. d	
72) Isopropylbenzene	0.000		0	N.D. d	
74) Bromofluorobenzene	14.340	95	1523101	54.65 ug/L	87
75) n-Propylbenzene	14.340	91	7107	N.D.	
76) 1,1,2,2-Tetrachloroethane	14.334	83	1328	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D.	
78) T-1,4-Dichloro-2-Butene	14.375	53	1173	N.D.	
80) Bromobenzene	14.334	156	1890	N.D.	
81) 1,2,4-Trimethylbenzene	15.021	105	1085	N.D.	
82) 2-Chlorotoluene	14.651	91	1086	N.D.	
83) 4-Chlorotoluene	14.786	91	1670	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	14.616	105	1183	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	15.021	105	1085	N.D.	
88) 1,3-Dichlorobenzene	15.427	146	1390	N.D.	
89) 1,4-Dichlorobenzene	15.491	146	1418	N.D.	
90) n-Butylbenzene	15.632	91	1086	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	0.000		0	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT015.D
Acq On : 25 Jan 2021 2:44 pm
Operator : KKW
Sample : AE00066-06
Misc :
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jan 26 07:00:38 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT016.D
Acq On : 25 Jan 2021 3:13 pm
Operator : KKW
Sample : AE00066-07
Misc :
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jan 26 07:00:43 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) PENTAFLUOROBENZENE (IS)	9.868	168	1311393	50.00	ug/L	# 0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.462	114	2857206	50.00	ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	1588971	50.00	ug/L	# 0.00
79) 1,4-DICHLOROBENZENE-D4...	15.497	152	1519324	50.00	ug/L	# 0.00
System Monitoring Compounds						
31) Dibromofluoromethane	9.439	113	795009	58.78	ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 117.56%			
52) D8-Toluene	11.790	98	3381431	47.91	ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 95.82%			
73) Bromofluorobenzene	14.340	95	1541734	54.33	ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 108.66%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.004	85	1164	N.D.		
3) Chloromethane	0.000		0	N.D.	d	
4) Vinyl Chloride	4.598	62	10739	0.68	ug/L #	41
5) Bromomethane	0.000		0	N.D.	d	
6) Chloroethane	5.420	64	1266	N.D.		
7) Trichlorofluoromethane	5.661	101	1548	N.D.		
8) Diethyl ether	0.000		0	N.D.		
9) 1,1-Dichloroethene	6.525	96	1073	N.D.		
10) Trichlorotrifluoroethane	0.000		0	N.D.		
11) Acrolein	0.000		0	N.D.	d	
12) Iodomethane	0.000		0	N.D.	d	
13) Carbon Disulfide	6.637	76	5659	N.D.		
14) 3-chloropropene	7.236	41	1095	N.D.		
15) Acetone	0.000		0	N.D.	d	
16) Methylene Chloride	7.236	84	1032	N.D.		
17) Methyl Acetate	0.000		0	N.D.	d	
18) t-1,2-Dichloroethene	7.612	96	1038	N.D.		
19) Methyl tert-butyl ether	7.483	73	1082	N.D.		
20) Acetonitrile	0.000		0	N.D.	d	
21) Isopropyl ether	8.088	45	1089	N.D.		
22) Chloroprene	8.188	88	1095	N.D.		
23) 1,1-Dichloroethane	8.405	63	1124	N.D.		
24) Acrylonitrile	0.000		0	N.D.		
25) Vinyl Acetate	8.393	43	2100	N.D.		
26) c-1,2-Dichloroethene	0.000		0	N.D.		
27) 2,2-Dichloropropane	0.000		0	N.D.		
28) Bromochloromethane	0.000		0	N.D.		
29) Cyclohexane	0.000		0	N.D.		
30) Chloroform	9.146	83	1370	N.D.		
32) Dibromofluoromethane	9.439	113	795009	58.78	ug/L #	88
33) 2-Butanone	0.000		0	N.D.		
34) 1,1,1-Trichloroethane	0.000		0	N.D.		
35) 1,1-Dichloropropene	0.000		0	N.D.		
36) Propionitrile	0.000		0	N.D.		
37) Methacrylonitrile	9.962	41	1073	N.D.		
38) Isobutyl Alcohol	0.000		0	N.D.	d	
40) Carbon Tetrachloride	9.375	117	1164	N.D.		
41) Benzene	9.886	78	5344	N.D.		
42) 1,2-Dichloroethane	10.062	62	1578	N.D.		
43) Trichloroethene	0.000		0	N.D.		
44) Methyl cyclohexane	0.000		0	N.D.	d	
45) Dibromomethane	0.000		0	N.D.		
46) 1,2-Dichloropropane	11.014	63	1647	N.D.		
47) Bromodichloromethane	0.000		0	N.D.		
48) Methyl Methacrylate	0.000		0	N.D.	d	
49) 1,4-Dioxane	0.000		0	N.D.	d	
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.	d	
51) C-1,3-Dichloropropene	0.000		0	N.D.		

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT016.D
Acq On : 25 Jan 2021 3:13 pm
Operator : KKW
Sample : AE00066-07
Misc :
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jan 26 07:00:43 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

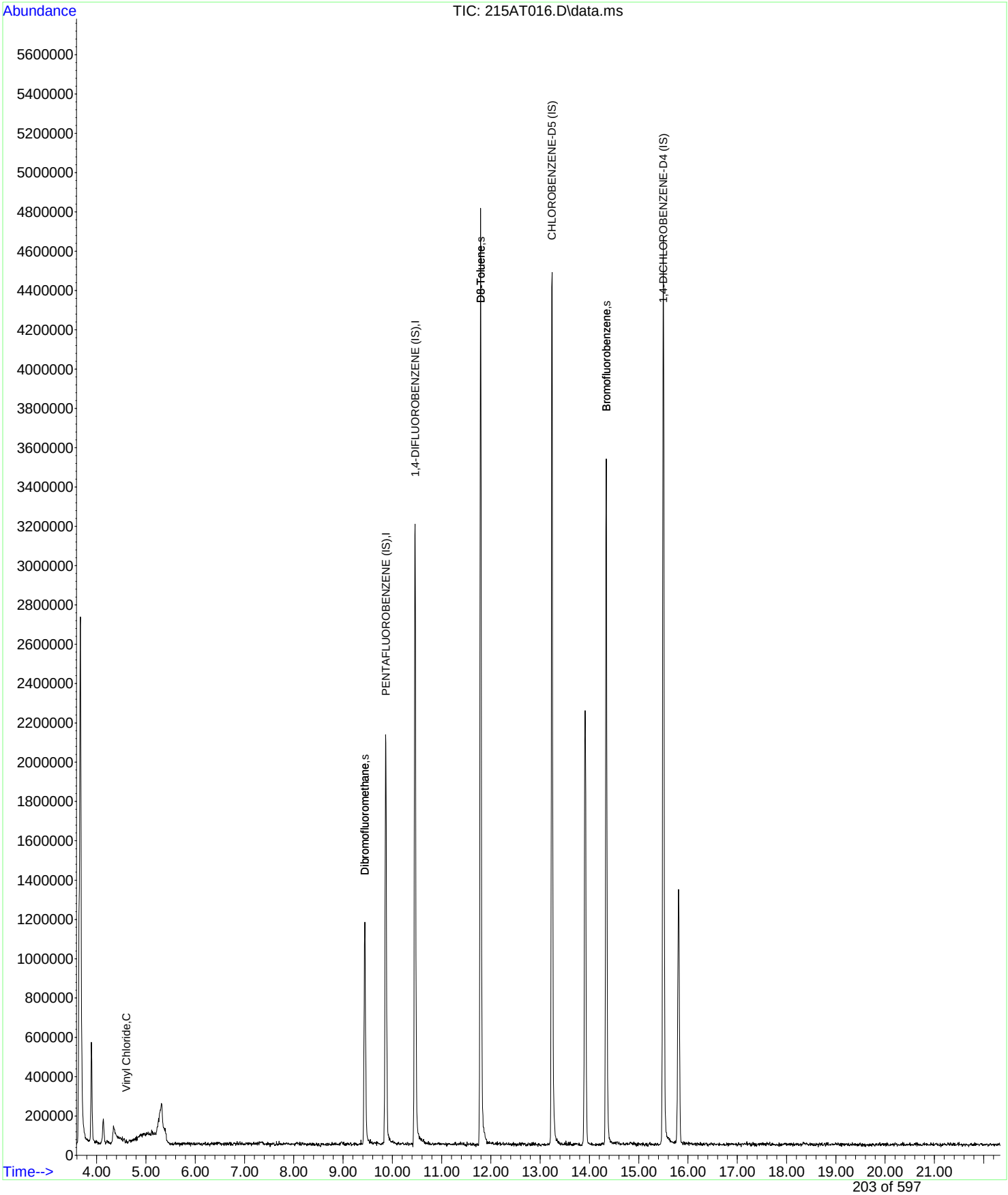
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.790	98	3381431	47.91 ug/L	95
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	11.842	92	2099	N.D.	
57) T-1,3-Dichloropropene	12.195	75	1120	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	12.148	69	2308	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	12.859	43	1191	N.D.	
65) Ethylbenzene	13.211	106	1274	N.D.	
66) Chlorobenzene	13.241	112	1446	N.D.	
67) 1,1,1,2-Tetrachloroethane	13.305	131	1084	N.D.	
68) m-xylene & p-xylene	13.341	106	1856	N.D.	
69) o-xylene	13.899	106	1470	N.D.	
70) Styrene	13.752	104	1110	N.D.	
71) Bromoform	0.000		0	N.D. d	
72) Isopropylbenzene	14.040	105	1199	N.D.	
74) Bromofluorobenzene	14.340	95	1541734	54.33 ug/L	85
75) n-Propylbenzene	14.328	91	5538	N.D.	
76) 1,1,2,2-Tetrachloroethane	14.580	83	1240	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D. d	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D. d	
80) Bromobenzene	0.000		0	N.D.	
81) 1,2,4-Trimethylbenzene	0.000		0	N.D.	
82) 2-Chlorotoluene	14.481	91	1079	N.D.	
83) 4-Chlorotoluene	0.000		0	N.D.	
84) tert-Butylbenzene	15.080	119	1094	N.D.	
85) 1,3,5-Trimethylbenzene	14.492	105	1516	N.D.	
86) p-Isopropyltoluene	15.080	119	1461	N.D.	
87) s-Butylbenzene	0.000		0	N.D.	
88) 1,3-Dichlorobenzene	15.491	146	2547	N.D.	
89) 1,4-Dichlorobenzene	15.491	146	2547	N.D.	
90) n-Butylbenzene	15.556	91	1192	N.D.	
91) 1,2-Dichlorobenzene	16.179	146	1015	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	18.928	128	1228	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT016.D
Acq On : 25 Jan 2021 3:13 pm
Operator : KKW
Sample : AE00066-07
Misc :
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jan 26 07:00:43 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT017.D
Acq On : 25 Jan 2021 3:43 pm
Operator : KKW
Sample : AE00066-08
Misc :
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jan 26 07:00:48 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) PENTAFLUOROBENZENE (IS)	9.863	168	1324243	50.00	ug/L	# 0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.456	114	2844356	50.00	ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	1569592	50.00	ug/L	# 0.00
79) 1,4-DICHLOROBENZENE-D4...	15.497	152	1496442	50.00	ug/L	# 0.00
System Monitoring Compounds						
31) Dibromofluoromethane	9.439	113	768386	56.26	ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 112.52%			
52) D8-Toluene	11.790	98	3416298	48.63	ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 97.26%			
73) Bromofluorobenzene	14.340	95	1529314	54.56	ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 109.12%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.093	85	2336	N.D.		
3) Chloromethane	0.000		0	N.D.	d	
4) Vinyl Chloride	4.598	62	49504	3.10	ug/L #	16
5) Bromomethane	0.000		0	N.D.	d	
6) Chloroethane	5.421	64	1129	N.D.		
7) Trichlorofluoromethane	5.838	101	3083	N.D.		
8) Diethyl ether	0.000		0	N.D.		
9) 1,1-Dichloroethene	0.000		0	N.D.		
10) Trichlorotrifluoroethane	0.000		0	N.D.		
11) Acrolein	0.000		0	N.D.	d	
12) Iodomethane	0.000		0	N.D.	d	
13) Carbon Disulfide	6.649	76	4171	N.D.		
14) 3-chloropropene	7.289	41	1215	N.D.		
15) Acetone	0.000		0	N.D.	d	
16) Methylene Chloride	7.371	84	1116	N.D.		
17) Methyl Acetate	7.577	43	1581	N.D.		
18) t-1,2-Dichloroethene	7.577	96	4885	0.37	ug/L	87
19) Methyl tert-butyl ether	7.630	73	1056	N.D.		
20) Acetonitrile	0.000		0	N.D.	d	
21) Isopropyl ether	8.018	45	1412	N.D.		
22) Chloroprene	8.352	88	1062	N.D.		
23) 1,1-Dichloroethane	0.000		0	N.D.		
24) Acrylonitrile	0.000		0	N.D.	d	
25) Vinyl Acetate	0.000		0	N.D.		
26) c-1,2-Dichloroethene	0.000		0	N.D.		
27) 2,2-Dichloropropane	9.063	77	1296	N.D.		
28) Bromochloromethane	0.000		0	N.D.		
29) Cyclohexane	0.000		0	N.D.		
30) Chloroform	9.357	83	1159	N.D.		
32) Dibromofluoromethane	9.439	113	768386	56.26	ug/L #	88
33) 2-Butanone	0.000		0	N.D.	d	
34) 1,1,1-Trichloroethane	0.000		0	N.D.		
35) 1,1-Dichloropropene	9.616	75	1204	N.D.		
36) Propionitrile	0.000		0	N.D.	d	
37) Methacrylonitrile	10.033	41	1834	N.D.		
38) Isobutyl Alcohol	0.000		0	N.D.	d	
40) Carbon Tetrachloride	9.392	117	1209	N.D.		
41) Benzene	9.892	78	7266	N.D.		
42) 1,2-Dichloroethane	0.000		0	N.D.		
43) Trichloroethene	0.000		0	N.D.		
44) Methyl cyclohexane	0.000		0	N.D.	d	
45) Dibromomethane	0.000		0	N.D.		
46) 1,2-Dichloropropane	0.000		0	N.D.		
47) Bromodichloromethane	10.932	83	1312	N.D.		
48) Methyl Methacrylate	11.202	69	1471	N.D.		
49) 1,4-Dioxane	0.000		0	N.D.	d	
50) 2-Chloroethyl vinyl ether	11.467	63	1057	N.D.		
51) C-1,3-Dichloropropene	0.000		0	N.D.		

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT017.D
Acq On : 25 Jan 2021 3:43 pm
Operator : KKW
Sample : AE00066-08
Misc :
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jan 26 07:00:48 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

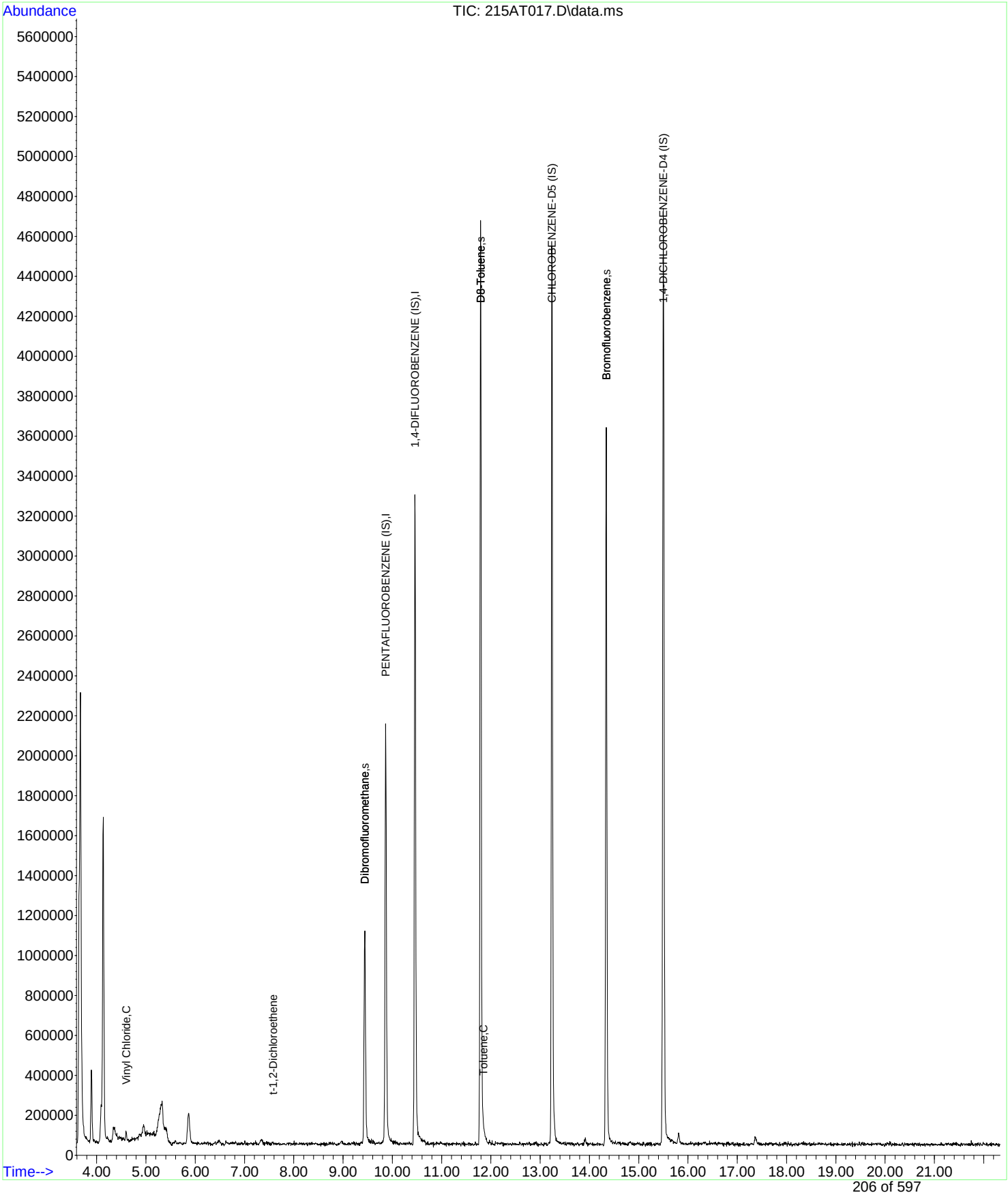
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.790	98	3411980	48.56 ug/L	96
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	11.848	92	7070	0.21 ug/L #	57
57) T-1,3-Dichloropropene	12.177	75	1128	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	12.313	69	1139	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	12.912	107	1329	N.D.	
64) 2-Hexanone	12.871	43	1485	N.D.	
65) Ethylbenzene	13.217	106	1206	N.D.	
66) Chlorobenzene	13.264	112	2105	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	13.341	106	1797	N.D.	
69) o-xylene	0.000		0	N.D.	
70) Styrene	0.000		0	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	14.011	105	5797	N.D.	
74) Bromofluorobenzene	14.340	95	1529314	54.56 ug/L	86
75) n-Propylbenzene	14.416	91	3687	N.D.	
76) 1,1,2,2-Tetrachloroethane	14.463	83	1632	N.D.	
77) 1,2,3-Trichloropropane	14.675	61	1124	N.D.	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D. d	
80) Bromobenzene	14.346	156	1888	N.D.	
81) 1,2,4-Trimethylbenzene	14.992	105	3380	N.D.	
82) 2-Chlorotoluene	0.000		0	N.D.	
83) 4-Chlorotoluene	14.816	91	1898	N.D.	
84) tert-Butylbenzene	14.992	119	1234	N.D.	
85) 1,3,5-Trimethylbenzene	14.492	105	1015	N.D.	
86) p-Isopropyltoluene	15.198	119	1053	N.D.	
87) s-Butylbenzene	15.104	105	4321	N.D.	
88) 1,3-Dichlorobenzene	15.427	146	1036	N.D.	
89) 1,4-Dichlorobenzene	15.515	146	1327	N.D.	
90) n-Butylbenzene	15.638	91	1020	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	18.876	128	1166	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT017.D
Acq On : 25 Jan 2021 3:43 pm
Operator : KKW
Sample : AE00066-08
Misc :
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jan 26 07:00:48 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT018.D
Acq On : 25 Jan 2021 4:12 pm
Operator : KKW
Sample : AE00066-09
Misc :
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Jan 26 07:00:52 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) PENTAFLUOROBENZENE (IS)	9.863	168	1346166	50.00	ug/L	# 0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.462	114	3057273	50.00	ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	1666053	50.00	ug/L	# 0.00
79) 1,4-DICHLOROBENZENE-D4...	15.497	152	1548120	50.00	ug/L	# 0.00
System Monitoring Compounds						
31) Dibromofluoromethane	9.440	113	817029	58.85	ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 117.70%			
52) D8-Toluene	11.790	98	3524331	46.67	ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 93.34%			
73) Bromofluorobenzene	14.340	95	1558837	52.39	ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 104.78%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.		
3) Chloromethane	0.000		0	N.D.	d	
4) Vinyl Chloride	4.598	62	474513	29.21	ug/L	96
5) Bromomethane	0.000		0	N.D.	d	
6) Chloroethane	0.000		0	N.D.	d	
7) Trichlorofluoromethane	0.000		0	N.D.		
8) Diethyl ether	6.302	59	1324	N.D.		
9) 1,1-Dichloroethene	0.000		0	N.D.		
10) Trichlorotrifluoroethane	0.000		0	N.D.		
11) Acrolein	0.000		0	N.D.	d	
12) Iodomethane	0.000		0	N.D.	d	
13) Carbon Disulfide	6.643	76	5247	N.D.		
14) 3-chloropropene	7.307	41	1019	N.D.		
15) Acetone	0.000		0	N.D.	d	
16) Methylene Chloride	7.383	84	2214	N.D.		
17) Methyl Acetate	7.583	43	1949	N.D.		
18) t-1,2-Dichloroethene	7.571	96	4830	0.36	ug/L #	73
19) Methyl tert-butyl ether	0.000		0	N.D.		
20) Acetonitrile	0.000		0	N.D.		
21) Isopropyl ether	8.165	45	1108	N.D.		
22) Chloroprene	0.000		0	N.D.		
23) 1,1-Dichloroethane	8.341	63	1111	N.D.		
24) Acrylonitrile	0.000		0	N.D.	d	
25) Vinyl Acetate	8.623	43	1676	N.D.		
26) c-1,2-Dichloroethene	8.964	96	2661	N.D.		
27) 2,2-Dichloropropane	9.099	77	1143	N.D.		
28) Bromochloromethane	0.000		0	N.D.		
29) Cyclohexane	0.000		0	N.D.		
30) Chloroform	0.000		0	N.D.		
32) Dibromofluoromethane	9.440	113	818248	58.93	ug/L #	90
33) 2-Butanone	0.000		0	N.D.	d	
34) 1,1,1-Trichloroethane	0.000		0	N.D.		
35) 1,1-Dichloropropene	9.663	75	1007	N.D.		
36) Propionitrile	0.000		0	N.D.	d	
37) Methacrylonitrile	9.904	41	1196	N.D.		
38) Isobutyl Alcohol	0.000		0	N.D.	d	
40) Carbon Tetrachloride	9.369	117	3033	N.D.		
41) Benzene	9.892	78	1676	N.D.		
42) 1,2-Dichloroethane	0.000		0	N.D.		
43) Trichloroethene	0.000		0	N.D.		
44) Methyl cyclohexane	0.000		0	N.D.	d	
45) Dibromomethane	0.000		0	N.D.		
46) 1,2-Dichloropropane	10.932	63	1030	N.D.		
47) Bromodichloromethane	11.038	83	1056	N.D.		
48) Methyl Methacrylate	11.144	69	1259	N.D.		
49) 1,4-Dioxane	0.000		0	N.D.	d	
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.		
51) C-1,3-Dichloropropene	11.567	75	1213	N.D.		

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT018.D
Acq On : 25 Jan 2021 4:12 pm
Operator : KKW
Sample : AE00066-09
Misc :
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Jan 26 07:00:52 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

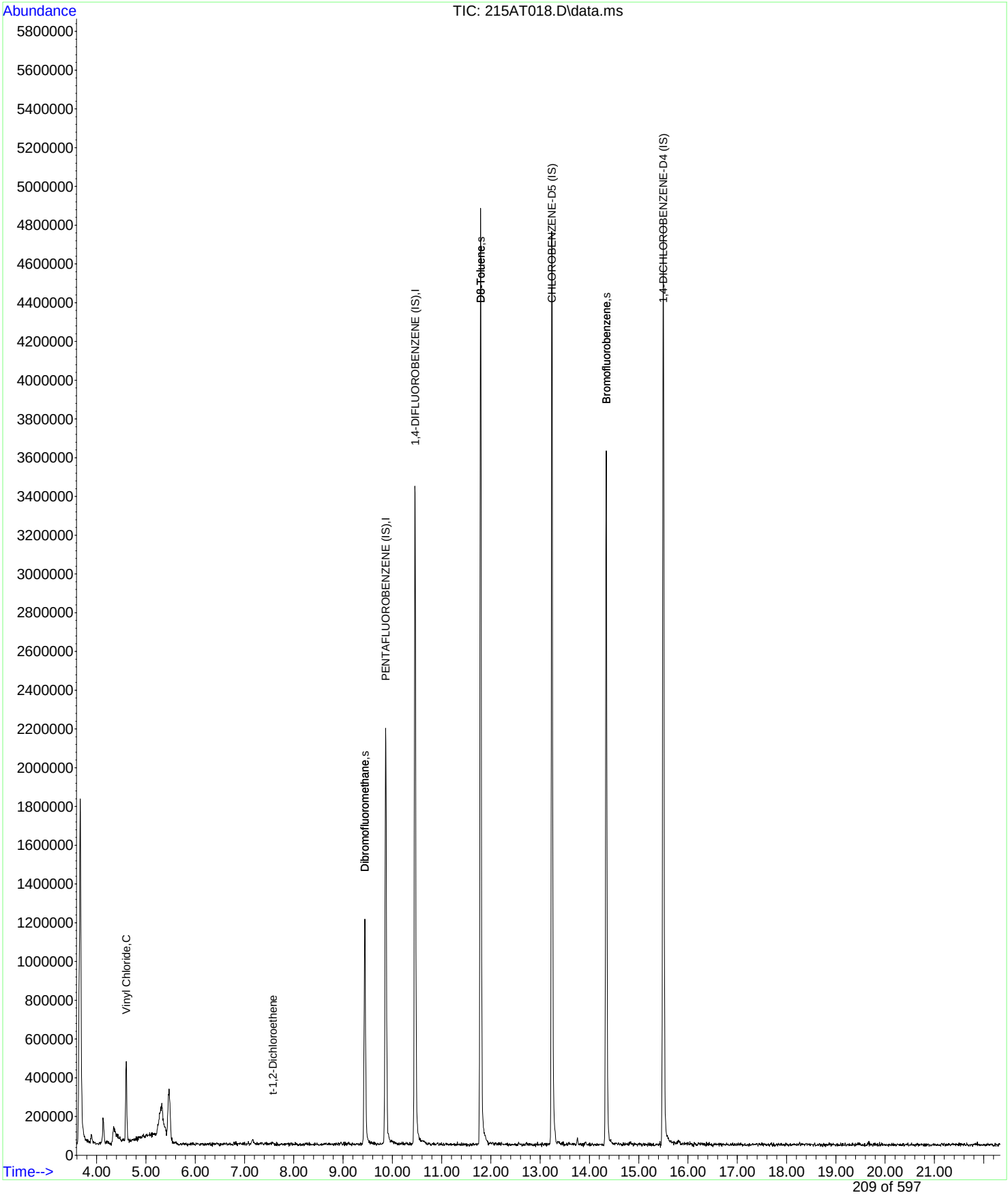
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.790	98	3521206	46.63 ug/L #	94
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	11.854	92	2783	N.D.	
57) T-1,3-Dichloropropene	12.242	75	1084	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	12.272	69	1248	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	12.454	76	1062	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	13.000	43	1485	N.D.	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	13.335	112	1026	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	0.000		0	N.D. d	
70) Styrene	13.770	104	1170	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	14.023	105	1067	N.D.	
74) Bromofluorobenzene	14.340	95	1558837	52.39 ug/L	86
75) n-Propylbenzene	14.446	91	1007	N.D.	
76) 1,1,2,2-Tetrachloroethane	14.340	83	1607	N.D.	
77) 1,2,3-Trichloropropane	14.692	61	1065	N.D.	
78) T-1,4-Dichloro-2-Butene	14.387	53	1166	N.D.	
80) Bromobenzene	14.416	156	1240	N.D.	
81) 1,2,4-Trimethylbenzene	15.004	105	1736	N.D.	
82) 2-Chlorotoluene	0.000		0	N.D.	
83) 4-Chlorotoluene	0.000		0	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	14.551	105	1399	N.D.	
86) p-Isopropyltoluene	15.221	119	1243	N.D.	
87) s-Butylbenzene	15.004	105	1736	N.D.	
88) 1,3-Dichlorobenzene	15.503	146	1714	N.D.	
89) 1,4-Dichlorobenzene	15.503	146	1714	N.D.	
90) n-Butylbenzene	0.000		0	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	0.000		0	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT018.D
Acq On : 25 Jan 2021 4:12 pm
Operator : KKW
Sample : AE00066-09
Misc :
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Jan 26 07:00:52 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT019.D
Acq On : 25 Jan 2021 4:42 pm
Operator : KKW
Sample : AE00066-11
Misc : 2
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Jan 26 07:00:56 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) PENTAFLUOROBENZENE (IS)	9.862	168	1333599	50.00	ug/L	# 0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.462	114	2794452	50.00	ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	1588157	50.00	ug/L	# 0.00
79) 1,4-DICHLOROBENZENE-D4...	15.497	152	1493564	50.00	ug/L	# 0.00
System Monitoring Compounds						
31) Dibromofluoromethane	9.439	113	745603	54.21	ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 108.42%			
52) D8-Toluene	11.790	98	3278513	47.50	ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 95.00%			
73) Bromofluorobenzene	14.340	95	1497234	52.79	ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 105.58%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.		
3) Chloromethane	0.000		0	N.D.	d	
4) Vinyl Chloride	4.598	62	431385	26.81	ug/L	98
5) Bromomethane	0.000		0	N.D.	d	
6) Chloroethane	5.479	64	1189	N.D.		
7) Trichlorofluoromethane	0.000		0	N.D.		
8) Diethyl ether	0.000		0	N.D.	d	
9) 1,1-Dichloroethene	0.000		0	N.D.		
10) Trichlorotrifluoroethane	0.000		0	N.D.		
11) Acrolein	0.000		0	N.D.	d	
12) Iodomethane	6.789	142	1773	N.D.		
13) Carbon Disulfide	6.637	76	4849	N.D.		
14) 3-chloropropene	0.000		0	N.D.		
15) Acetone	0.000		0	N.D.	d	
16) Methylene Chloride	0.000		0	N.D.		
17) Methyl Acetate	7.453	43	1608	N.D.		
18) t-1,2-Dichloroethene	0.000		0	N.D.		
19) Methyl tert-butyl ether	7.618	73	1011	N.D.		
20) Acetonitrile	0.000		0	N.D.	d	
21) Isopropyl ether	7.970	45	1081	N.D.		
22) Chloroprene	8.417	88	1508	N.D.		
23) 1,1-Dichloroethane	0.000		0	N.D.		
24) Acrylonitrile	0.000		0	N.D.		
25) Vinyl Acetate	8.623	43	1515	N.D.		
26) c-1,2-Dichloroethene	9.046	96	1245	N.D.		
27) 2,2-Dichloropropane	8.993	77	2665	N.D.		
28) Bromochloromethane	0.000		0	N.D.	d	
29) Cyclohexane	0.000		0	N.D.		
30) Chloroform	9.245	83	1543	N.D.		
32) Dibromofluoromethane	9.439	113	745603	54.21	ug/L #	90
33) 2-Butanone	0.000		0	N.D.	d	
34) 1,1,1-Trichloroethane	0.000		0	N.D.		
35) 1,1-Dichloropropene	9.686	75	1107	N.D.		
36) Propionitrile	0.000		0	N.D.	d	
37) Methacrylonitrile	9.903	41	1024	N.D.		
38) Isobutyl Alcohol	0.000		0	N.D.	d	
40) Carbon Tetrachloride	9.375	117	2990	N.D.		
41) Benzene	9.892	78	8414	N.D.		
42) 1,2-Dichloroethane	10.092	62	1304	N.D.		
43) Trichloroethene	0.000		0	N.D.		
44) Methyl cyclohexane	0.000		0	N.D.	d	
45) Dibromomethane	10.932	93	1182	N.D.		
46) 1,2-Dichloropropane	11.055	63	1339	N.D.		
47) Bromodichloromethane	11.026	83	1233	N.D.		
48) Methyl Methacrylate	10.949	69	1007	N.D.		
49) 1,4-Dioxane	0.000		0	N.D.		
50) 2-Chloroethyl vinyl ether	11.531	63	1080	N.D.		
51) C-1,3-Dichloropropene	0.000		0	N.D.		

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT019.D
Acq On : 25 Jan 2021 4:42 pm
Operator : KKW
Sample : AE00066-11
Misc : 2
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Jan 26 07:00:56 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

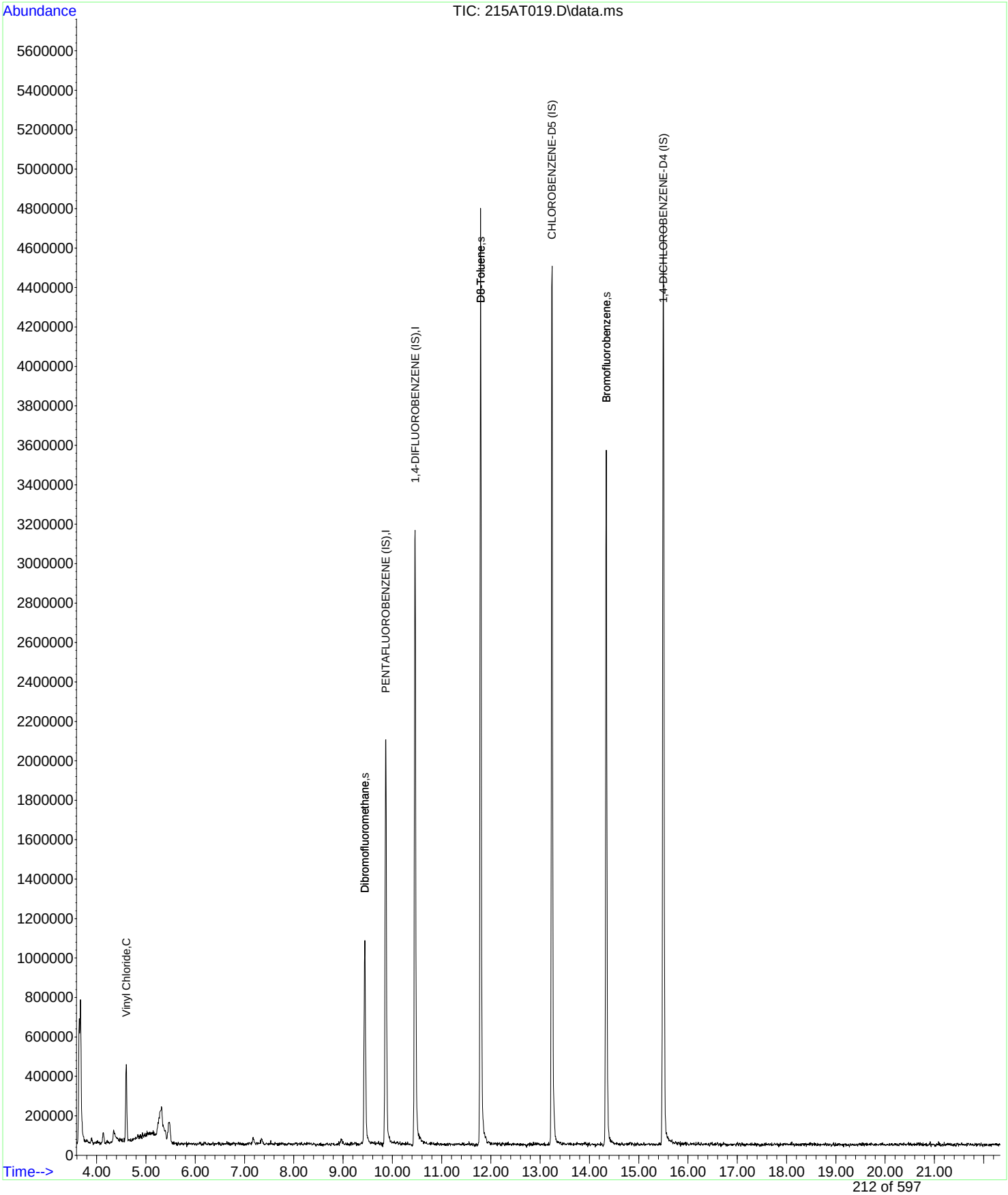
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.790	98	3276828	47.47 ug/L	94
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	11.790	92	2476	N.D.	
57) T-1,3-Dichloropropene	12.242	75	1561	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	12.195	69	1072	N.D.	
60) 1,1,2-Trichloroethane	12.207	97	1415	N.D.	
61) Dibromochloromethane	12.642	129	1199	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	12.882	107	1715	N.D.	
64) 2-Hexanone	0.000		0	N.D.	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	13.282	112	2331	N.D.	
67) 1,1,1,2-Tetrachloroethane	13.182	131	1003	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	13.746	106	1716	N.D.	
70) Styrene	0.000		0	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	0.000		0	N.D.	
74) Bromofluorobenzene	14.340	95	1497234	52.79 ug/L	85
75) n-Propylbenzene	14.387	91	1049	N.D.	
76) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
77) 1,2,3-Trichloropropane	14.528	61	1163	N.D.	
78) T-1,4-Dichloro-2-Butene	14.275	53	1072	N.D.	
80) Bromobenzene	14.351	156	1713	N.D.	
81) 1,2,4-Trimethylbenzene	14.886	105	1160	N.D.	
82) 2-Chlorotoluene	14.463	91	1195	N.D.	
83) 4-Chlorotoluene	14.827	91	1021	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	0.000		0	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	0.000		0	N.D.	
88) 1,3-Dichlorobenzene	15.438	146	1008	N.D.	
89) 1,4-Dichlorobenzene	15.438	146	1008	N.D.	
90) n-Butylbenzene	0.000		0	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	0.000		0	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT019.D
Acq On : 25 Jan 2021 4:42 pm
Operator : KKW
Sample : AE00066-11
Misc : 2
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Jan 26 07:00:56 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT020.D
Acq On : 25 Jan 2021 5:11 pm
Operator : KKW
Sample : AE00066-12
Misc :
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Jan 26 07:01:00 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) PENTAFLUOROBENZENE (IS)	9.868	168	1326429	50.00	ug/L	# 0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.462	114	2844280	50.00	ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.241	82	1585901	50.00	ug/L	# 0.00
79) 1,4-DICHLOROBENZENE-D4...	15.497	152	1547465	50.00	ug/L	# 0.00
System Monitoring Compounds						
31) Dibromofluoromethane	9.445	113	774337	56.60	ug/L	0.01
Spiked Amount 50.000	Range 72 - 133		Recovery = 113.20%			
52) D8-Toluene	11.790	98	3330078	47.40	ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 94.80%			
73) Bromofluorobenzene	14.340	95	1552558	54.82	ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 109.64%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.		
3) Chloromethane	4.463	50	3652	N.D.		
4) Vinyl Chloride	4.592	62	45088	2.82	ug/L #	1
5) Bromomethane	0.000		0	N.D.	d	
6) Chloroethane	5.467	64	1021	N.D.		
7) Trichlorofluoromethane	0.000		0	N.D.		
8) Diethyl ether	6.296	59	1077	N.D.		
9) 1,1-Dichloroethene	6.460	96	1105	N.D.		
10) Trichlorotrifluoroethane	0.000		0	N.D.		
11) Acrolein	0.000		0	N.D.	d	
12) Iodomethane	0.000		0	N.D.	d	
13) Carbon Disulfide	0.000		0	N.D.	d	
14) 3-chloropropene	7.207	41	1735	N.D.		
15) Acetone	0.000		0	N.D.	d	
16) Methylene Chloride	7.377	84	1208	N.D.		
17) Methyl Acetate	7.506	43	1296	N.D.		
18) t-1,2-Dichloroethene	7.565	96	3222	0.24	ug/L #	73
19) Methyl tert-butyl ether	7.683	73	1407	N.D.		
20) Acetonitrile	0.000		0	N.D.	d	
21) Isopropyl ether	8.047	45	1088	N.D.		
22) Chloroprene	0.000		0	N.D.		
23) 1,1-Dichloroethane	8.370	63	1332	N.D.		
24) Acrylonitrile	0.000		0	N.D.	d	
25) Vinyl Acetate	0.000		0	N.D.		
26) c-1,2-Dichloroethene	9.005	96	1028	N.D.		
27) 2,2-Dichloropropane	8.975	77	1118	N.D.		
28) Bromochloromethane	0.000		0	N.D.	d	
29) Cyclohexane	9.334	56	1224	N.D.		
30) Chloroform	9.245	83	1269	N.D.		
32) Dibromofluoromethane	9.445	113	774800	56.63	ug/L #	92
33) 2-Butanone	0.000		0	N.D.	d	
34) 1,1,1-Trichloroethane	0.000		0	N.D.		
35) 1,1-Dichloropropene	9.604	75	1652	N.D.		
36) Propionitrile	0.000		0	N.D.	d	
37) Methacrylonitrile	10.003	41	1104	N.D.		
38) Isobutyl Alcohol	0.000		0	N.D.	d	
40) Carbon Tetrachloride	9.363	117	2605	N.D.		
41) Benzene	9.909	78	8332	N.D.		
42) 1,2-Dichloroethane	10.133	62	1147	N.D.		
43) Trichloroethene	0.000		0	N.D.		
44) Methyl cyclohexane	0.000		0	N.D.	d	
45) Dibromomethane	10.949	93	1009	N.D.		
46) 1,2-Dichloropropane	11.108	63	1006	N.D.		
47) Bromodichloromethane	11.061	83	1047	N.D.		
48) Methyl Methacrylate	11.255	69	1176	N.D.		
49) 1,4-Dioxane	0.000		0	N.D.		
50) 2-Chloroethyl vinyl ether	11.490	63	1451	N.D.		
51) C-1,3-Dichloropropene	11.790	75	1176	N.D.		

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT020.D
Acq On : 25 Jan 2021 5:11 pm
Operator : KKW
Sample : AE00066-12
Misc :
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Jan 26 07:01:00 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

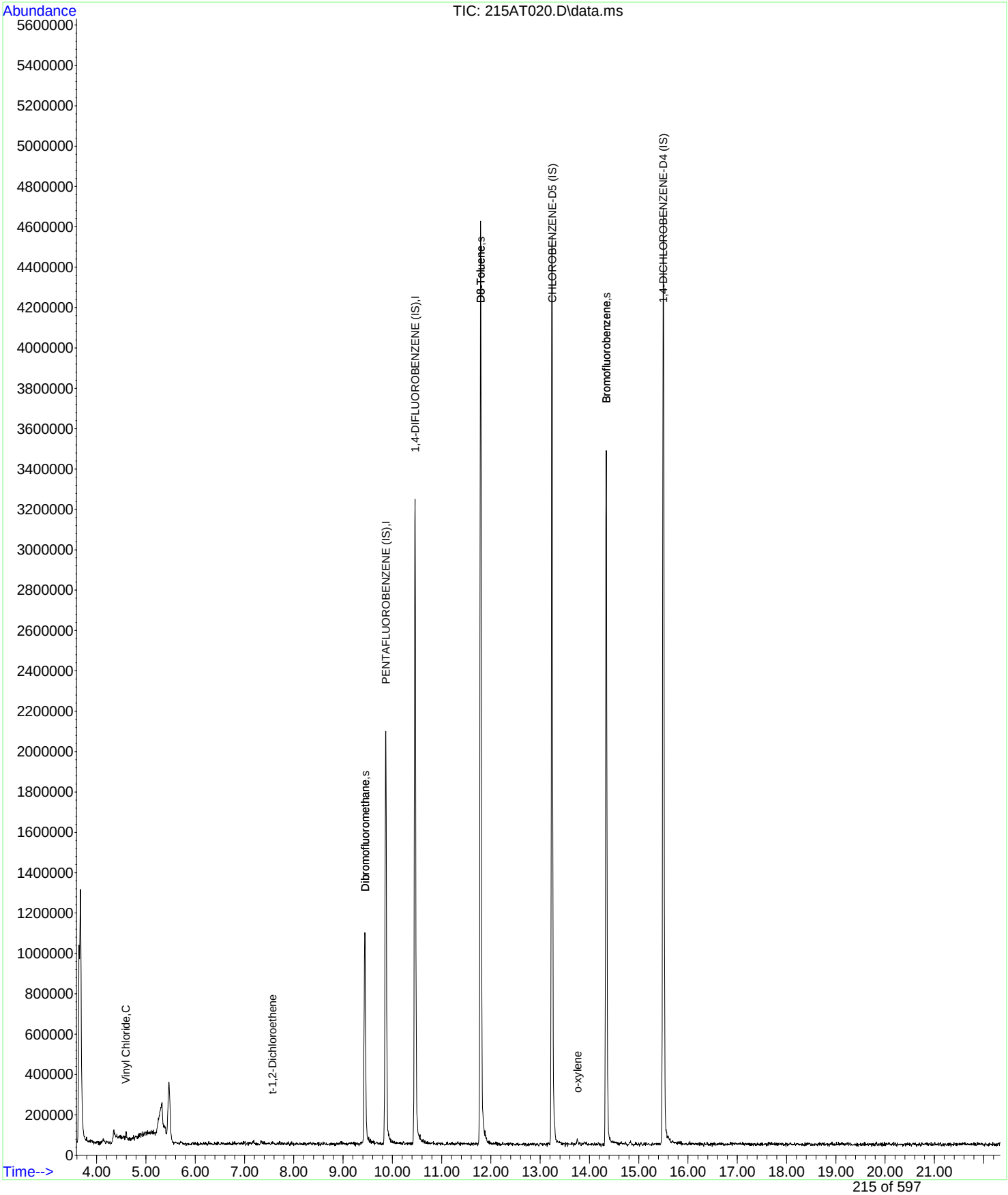
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.790	98	3329537	47.39 ug/L	94
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	11.842	92	2605	N.D.	
57) T-1,3-Dichloropropene	0.000		0	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	0.000		0	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	12.700	76	1014	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	0.000		0	N.D. d	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	13.247	112	1296	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	13.758	106	7767	0.32 ug/L	98
70) Styrene	13.799	104	1846	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	0.000		0	N.D.	
74) Bromofluorobenzene	14.340	95	1552558	54.82 ug/L	85
75) n-Propylbenzene	14.398	91	1413	N.D.	
76) 1,1,2,2-Tetrachloroethane	14.563	83	1565	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D. d	
78) T-1,4-Dichloro-2-Butene	14.434	53	1092	N.D.	
80) Bromobenzene	14.351	156	1519	N.D.	
81) 1,2,4-Trimethylbenzene	0.000		0	N.D.	
82) 2-Chlorotoluene	14.504	91	1098	N.D.	
83) 4-Chlorotoluene	14.786	91	1011	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	0.000		0	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	0.000		0	N.D.	
88) 1,3-Dichlorobenzene	15.491	146	1622	N.D.	
89) 1,4-Dichlorobenzene	15.491	146	1622	N.D.	
90) n-Butylbenzene	0.000		0	N.D.	
91) 1,2-Dichlorobenzene	16.096	146	1125	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	18.881	128	1156	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT020.D
Acq On : 25 Jan 2021 5:11 pm
Operator : KKW
Sample : AE00066-12
Misc :
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Jan 26 07:01:00 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT023.D
Acq On : 25 Jan 2021 6:39 pm
Operator : KKW
Sample : MS1
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Jan 26 07:01:12 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.863	168	1347954	50.00	ug/L	#	0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.456	114	2823243	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	1642590	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.497	152	1598011	50.00	ug/L	#	0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.440	113	780379	56.13	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 112.26%				
52) D8-Toluene	11.790	98	3398323	48.73	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 97.46%				
73) Bromofluorobenzene	14.340	95	1592165	54.28	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 108.56%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.987	85	229617	13.20	ug/L		99
3) Chloromethane	4.410	50	193354	9.65	ug/L		91
4) Vinyl Chloride	4.592	62	271709	16.71	ug/L	#	85
5) Bromomethane	5.239	94	41937	10.00	ug/L	#	94
6) Chloroethane	5.456	64	161715	22.60	ug/L		96
7) Trichlorofluoromethane	5.709	101	457475	22.61	ug/L		95
8) Diethyl ether	6.190	59	179409	15.94	ug/L		87
9) 1,1-Dichloroethene	6.543	96	264312	22.71	ug/L	#	75
10) Trichlorotrifluoroethane	6.566	151	179429	23.02	ug/L		97
11) Acrolein	7.031	56	136758	58.43	ug/L		98
12) Iodomethane	6.790	142	125818	10.08	ug/L	#	88
13) Carbon Disulfide	6.631	76	811034	21.28	ug/L		97
14) 3-chloropropene	7.207	41	314536	13.68	ug/L	#	74
15) Acetone	7.407	43	206264	65.13	ug/L		94
16) Methylene Chloride	7.354	84	295553	20.94	ug/L	#	69
17) Methyl Acetate	7.536	43	100027	10.11	ug/L	#	85
18) t-1,2-Dichloroethene	7.554	96	297918	22.12	ug/L	#	81
19) Methyl tert-butyl ether	7.648	73	684222	20.08	ug/L		91
20) Acetonitrile	8.071	41	219981	85.68	ug/L	#	89
21) Isopropyl ether	8.059	45	681310	15.06	ug/L	#	85
22) Chloroprene	8.288	88	269069	20.86	ug/L		87
23) 1,1-Dichloroethane	8.323	63	531536	19.19	ug/L		99
24) Acrylonitrile	8.405	53	79166	18.93	ug/L	#	80
25) Vinyl Acetate	8.558	43	285974	10.08	ug/L	#	88
26) c-1,2-Dichloroethene	8.964	96	313797	22.00	ug/L		83
27) 2,2-Dichloropropane	9.087	77	438665	18.75	ug/L		95
28) Bromochloromethane	9.193	128	145331	28.85	ug/L		99
29) Cyclohexane	9.199	56	491909	16.33	ug/L	#	82
30) Chloroform	9.234	83	551805	20.86	ug/L		98
32) Dibromofluoromethane	9.440	113	780379	56.13	ug/L	#	89
33) 2-Butanone	9.551	72	132730	87.61	ug/L	#	46
34) 1,1,1-Trichloroethane	9.492	97	478387	21.91	ug/L		98
35) 1,1-Dichloropropene	9.622	75	432665	19.47	ug/L		91
36) Propionitrile	9.915	54	29792	15.71	ug/L	#	1
37) Methacrylonitrile	9.921	41	194280	20.75	ug/L		87
38) Isobutyl Alcohol	9.910	43	204798	180.88	ug/L	#	51
40) Carbon Tetrachloride	9.428	117	378465	17.89	ug/L		89
41) Benzene	9.886	78	1294453	20.06	ug/L		94
42) 1,2-Dichloroethane	10.098	62	369867	15.71	ug/L	#	94
43) Trichloroethene	10.462	130	316790	24.30	ug/L	#	87
44) Methyl cyclohexane	10.462	83	613828	18.95	ug/L		86
45) Dibromomethane	10.908	93	171489	18.70	ug/L		91
46) 1,2-Dichloropropane	10.997	63	286445	15.81	ug/L		92
47) Bromodichloromethane	11.026	83	375658	18.97	ug/L		95
48) Methyl Methacrylate	11.091	69	150717	12.57	ug/L		84
49) 1,4-Dioxane	11.208	88	44329	270.85	ug/L		88
50) 2-Chloroethyl vinyl ether	11.484	63	1413	N.D.			
51) C-1,3-Dichloropropene	11.619	75	454993	17.03	ug/L	#	88

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT023.D
Acq On : 25 Jan 2021 6:39 pm
Operator : KKW
Sample : MS1
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Jan 26 07:01:12 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

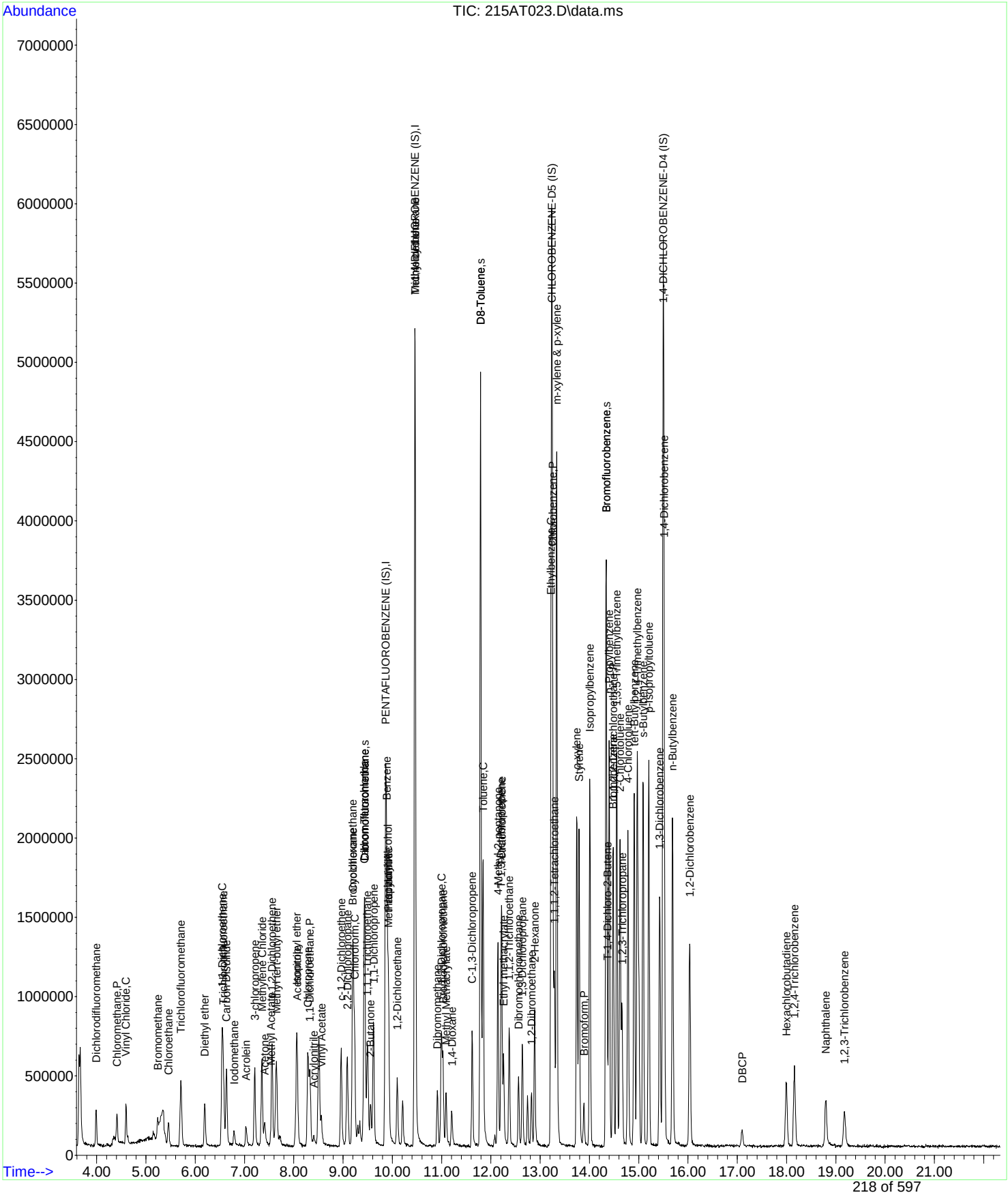
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.790	98	3398323	48.73	ug/L		94
54) 4-Methyl-2-pentanone	12.142	100	167072	87.22	ug/L	#	67
56) Toluene	11.843	92	853548	24.35	ug/L		95
57) T-1,3-Dichloropropene	12.207	75	424897	20.37	ug/L	#	89
58) Tetrachloroethene	12.219	164	235915	24.47	ug/L		98
59) Ethyl methacrylate	12.254	69	306207	16.41	ug/L	#	92
60) 1,1,2-Trichloroethane	12.371	97	260372	21.99	ug/L		93
61) Dibromochloromethane	12.560	129	257809	25.33	ug/L	#	94
62) 1,3-Dichloropropane	12.636	76	437733	19.96	ug/L	#	83
63) 1,2-Dibromoethane	12.824	107	252864	22.94	ug/L		91
64) 2-Hexanone	12.889	43	504186	62.46	ug/L	#	91
65) Ethylbenzene	13.218	106	507998	23.85	ug/L		90
66) Chlorobenzene	13.253	112	951973	26.96	ug/L		98
67) 1,1,1,2-Tetrachloroethane	13.288	131	291445	27.58	ug/L		98
68) m-xylene & p-xylene	13.335	106	1355962	54.84	ug/L		85
69) o-xylene	13.741	106	646162	25.48	ug/L		90
70) Styrene	13.788	104	1155091	27.90	ug/L	#	81
71) Bromoform	13.887	173	123615	21.74	ug/L		100
72) Isopropylbenzene	14.005	105	1742837	26.11	ug/L		95
74) Bromofluorobenzene	14.340	95	1592165	54.28	ug/L		85
75) n-Propylbenzene	14.399	91	2255066	25.28	ug/L	#	95
76) 1,1,2,2-Tetrachloroethane	14.481	83	378225	22.86	ug/L		99
77) 1,2,3-Trichloropropane	14.663	61	73412	12.13	ug/L	#	36
78) T-1,4-Dichloro-2-Butene	14.363	53	97520	14.93	ug/L	#	40
80) Bromobenzene	14.475	156	368941	22.93	ug/L		82
81) 1,2,4-Trimethylbenzene	14.968	105	1629477	21.78	ug/L		95
82) 2-Chlorotoluene	14.622	91	1341922	21.34	ug/L	#	91
83) 4-Chlorotoluene	14.780	91	1384353	21.08	ug/L		93
84) tert-Butylbenzene	14.910	119	1308173	23.02	ug/L		88
85) 1,3,5-Trimethylbenzene	14.551	105	1577193	21.76	ug/L		93
86) p-Isopropyltoluene	15.204	119	1692540	23.98	ug/L		94
87) s-Butylbenzene	15.092	105	2015095	23.70	ug/L		96
88) 1,3-Dichlorobenzene	15.421	146	803544	24.93	ug/L	#	90
89) 1,4-Dichlorobenzene	15.515	146	790858	22.89	ug/L		98
90) n-Butylbenzene	15.685	91	1498231	20.41	ug/L		94
91) 1,2-Dichlorobenzene	16.032	146	694804	22.84	ug/L		92
92) DBCP	17.101	157	34083	14.32	ug/L		94
93) Hexachlorobutadiene	17.994	225	86853	12.68	ug/L		88
94) 1,2,4-Trichlorobenzene	18.159	180	220878	14.71	ug/L		99
95) Naphthalene	18.793	128	445261	14.16	ug/L	#	90
96) 1,2,3-Trichlorobenzene	19.175	180	113669	13.21	ug/L		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT023.D
Acq On : 25 Jan 2021 6:39 pm
Operator : KKW
Sample : MS1
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Jan 26 07:01:12 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT024.D
Acq On : 25 Jan 2021 7:09 pm
Operator : KKW
Sample : MSD1
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Jan 26 07:01:17 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.862	168	1455730	50.00	ug/L	#	0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.456	114	3018464	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	1707516	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.497	152	1611682	50.00	ug/L	#	0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.439	113	833708	55.53	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 111.06%				
52) D8-Toluene	11.790	98	3585542	48.09	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 96.18%				
73) Bromofluorobenzene	14.340	95	1669530	54.75	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 109.50%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.993	85	238069	12.67	ug/L		97
3) Chloromethane	4.410	50	194433	8.99	ug/L		98
4) Vinyl Chloride	4.598	62	271314	15.45	ug/L	#	81
5) Bromomethane	5.238	94	50149	11.03	ug/L	#	93
6) Chloroethane	5.450	64	162062	20.97	ug/L		96
7) Trichlorofluoromethane	5.703	101	447574	20.48	ug/L		95
8) Diethyl ether	6.196	59	208032	17.12	ug/L		92
9) 1,1-Dichloroethene	6.537	96	258607	20.58	ug/L	#	80
10) Trichlorotrifluoroethane	6.572	151	176639	20.99	ug/L		97
11) Acrolein	7.030	56	142593	56.41	ug/L		98
12) Iodomethane	6.790	142	174239	12.93	ug/L	#	85
13) Carbon Disulfide	6.631	76	776090	18.85	ug/L	#	95
14) 3-chloropropene	7.207	41	337174	13.57	ug/L	#	82
15) Acetone	7.406	43	238213	69.65	ug/L		99
16) Methylene Chloride	7.348	84	290424	19.06	ug/L	#	74
17) Methyl Acetate	7.536	43	101977	9.54	ug/L	#	87
18) t-1,2-Dichloroethene	7.553	96	298360	20.52	ug/L		83
19) Methyl tert-butyl ether	7.641	73	700243	19.03	ug/L	#	87
20) Acetonitrile	8.065	41	239324	86.32	ug/L	#	86
21) Isopropyl ether	8.065	45	733180	15.01	ug/L	#	88
22) Chloroprene	8.288	88	283585	20.36	ug/L		82
23) 1,1-Dichloroethane	8.329	63	539460	18.03	ug/L		99
24) Acrylonitrile	8.411	53	84355	18.67	ug/L	#	81
25) Vinyl Acetate	8.558	43	301441	9.84	ug/L	#	94
26) c-1,2-Dichloroethene	8.958	96	321758	20.89	ug/L		83
27) 2,2-Dichloropropane	9.081	77	434850	17.22	ug/L	#	94
28) Bromochloromethane	9.193	128	144687	26.59	ug/L		96
29) Cyclohexane	9.204	56	488822	15.02	ug/L	#	80
30) Chloroform	9.228	83	582764	20.40	ug/L		96
32) Dibromofluoromethane	9.439	113	833708	55.53	ug/L	#	89
33) 2-Butanone	9.557	72	136387	83.40	ug/L	#	54
34) 1,1,1-Trichloroethane	9.498	97	478608	20.30	ug/L		99
35) 1,1-Dichloropropene	9.616	75	432595	18.03	ug/L		92
36) Propionitrile	9.915	54	34382	16.79	ug/L	#	1
37) Methacrylonitrile	9.921	41	198144	19.60	ug/L		89
38) Isobutyl Alcohol	9.915	43	218824	178.96	ug/L	#	34
40) Carbon Tetrachloride	9.422	117	358876	15.87	ug/L		91
41) Benzene	9.886	78	1320601	19.14	ug/L		92
42) 1,2-Dichloroethane	10.097	62	389899	15.49	ug/L	#	94
43) Trichloroethene	10.462	130	299476	21.49	ug/L	#	91
44) Methyl cyclohexane	10.456	83	628695	18.16	ug/L	#	87
45) Dibromomethane	10.914	93	171627	17.51	ug/L		92
46) 1,2-Dichloropropane	10.996	63	294861	15.24	ug/L		91
47) Bromodichloromethane	11.026	83	374244	17.73	ug/L		97
48) Methyl Methacrylate	11.085	69	151152	11.79	ug/L	#	85
49) 1,4-Dioxane	11.214	88	56023	320.16	ug/L	#	82
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.	d		
51) C-1,3-Dichloropropene	11.619	75	442910	15.56	ug/L	#	89

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT024.D
Acq On : 25 Jan 2021 7:09 pm
Operator : KKW
Sample : MSD1
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Jan 26 07:01:17 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

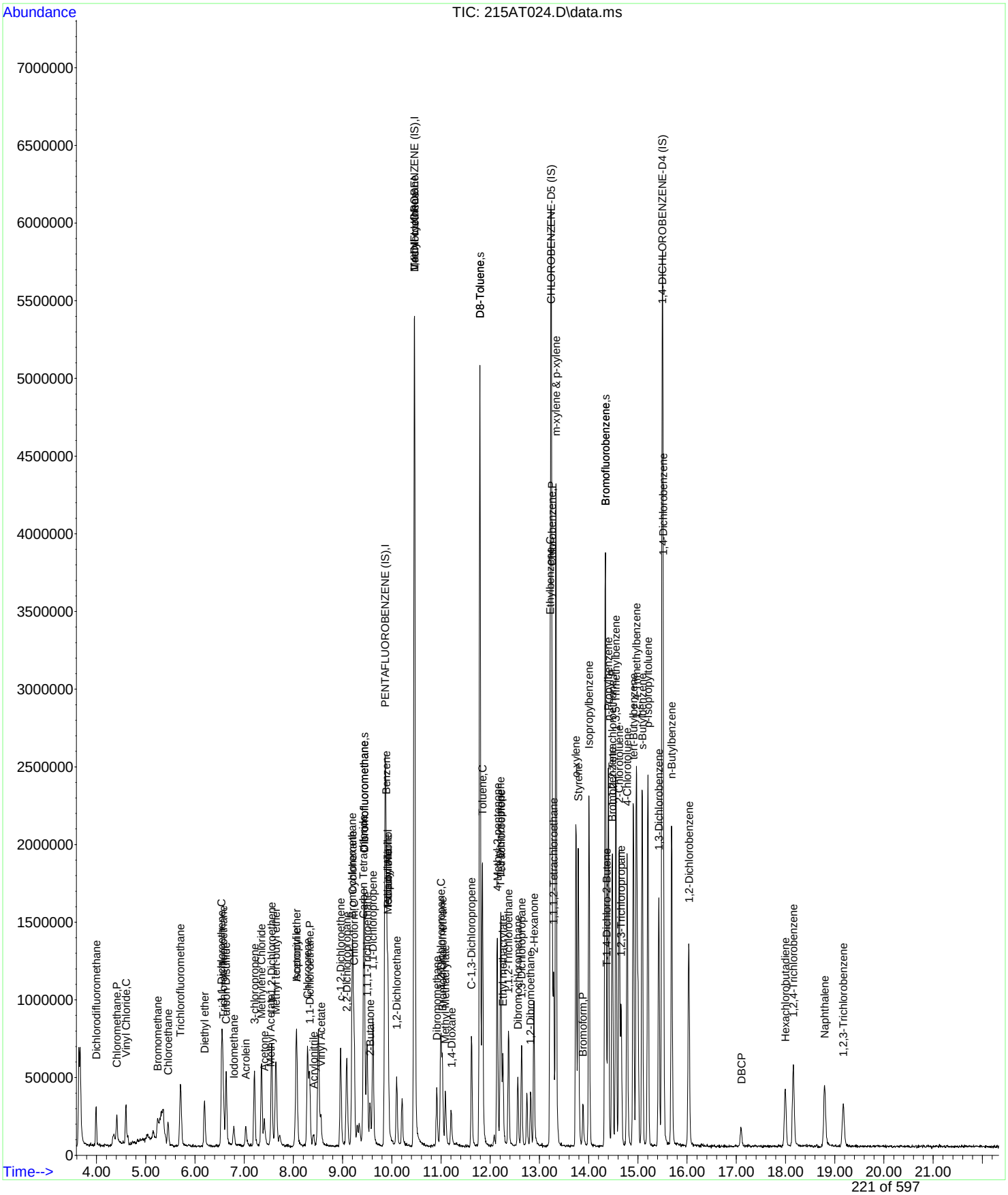
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.790	98	3585542	48.09	ug/L		96
54) 4-Methyl-2-pentanone	12.142	100	177683	86.76	ug/L	#	67
56) Toluene	11.843	92	852360	23.39	ug/L		95
57) T-1,3-Dichloropropene	12.207	75	421185	19.43	ug/L		91
58) Tetrachloroethene	12.219	164	227306	22.68	ug/L		94
59) Ethyl methacrylate	12.254	69	318812	16.44	ug/L	#	93
60) 1,1,2-Trichloroethane	12.365	97	262135	21.29	ug/L		92
61) Dibromochloromethane	12.559	129	247371	23.49	ug/L		98
62) 1,3-Dichloropropane	12.636	76	437204	19.18	ug/L		86
63) 1,2-Dibromoethane	12.818	107	251969	21.99	ug/L		86
64) 2-Hexanone	12.888	43	553615	65.98	ug/L	#	89
65) Ethylbenzene	13.217	106	495675	22.39	ug/L		89
66) Chlorobenzene	13.253	112	945720	25.77	ug/L		97
67) 1,1,1,2-Tetrachloroethane	13.288	131	282943	25.76	ug/L		98
68) m-xylene & p-xylene	13.335	106	1322370	51.45	ug/L		86
69) o-xylene	13.740	106	648069	24.59	ug/L		87
70) Styrene	13.787	104	1120338	26.03	ug/L	#	84
71) Bromoform	13.881	173	125542	21.27	ug/L		100
72) Isopropylbenzene	14.005	105	1695433	24.44	ug/L		96
74) Bromofluorobenzene	14.340	95	1669530	54.75	ug/L	#	83
75) n-Propylbenzene	14.398	91	2185415	23.57	ug/L		94
76) 1,1,2,2-Tetrachloroethane	14.481	83	378369	22.00	ug/L		99
77) 1,2,3-Trichloropropane	14.657	61	65040	10.34	ug/L	#	18
78) T-1,4-Dichloro-2-Butene	14.363	53	98606	14.52	ug/L	#	58
80) Bromobenzene	14.475	156	371836	22.91	ug/L	#	75
81) 1,2,4-Trimethylbenzene	14.968	105	1604735	21.27	ug/L		93
82) 2-Chlorotoluene	14.622	91	1307531	20.61	ug/L		91
83) 4-Chlorotoluene	14.780	91	1346168	20.33	ug/L		91
84) tert-Butylbenzene	14.910	119	1297666	22.64	ug/L		90
85) 1,3,5-Trimethylbenzene	14.551	105	1520245	20.80	ug/L		92
86) p-Isopropyltoluene	15.203	119	1675163	23.53	ug/L		92
87) s-Butylbenzene	15.092	105	1996638	23.28	ug/L		98
88) 1,3-Dichlorobenzene	15.427	146	779530	23.98	ug/L	#	91
89) 1,4-Dichlorobenzene	15.515	146	766399	21.99	ug/L		98
90) n-Butylbenzene	15.685	91	1471863	19.88	ug/L	#	92
91) 1,2-Dichlorobenzene	16.038	146	693012	22.58	ug/L	#	92
92) DBCP	17.107	157	42506	17.62	ug/L		94
93) Hexachlorobutadiene	17.994	225	92932	13.43	ug/L	#	93
94) 1,2,4-Trichlorobenzene	18.159	180	244401	16.13	ug/L		98
95) Naphthalene	18.793	128	595598	18.70	ug/L	#	90
96) 1,2,3-Trichlorobenzene	19.175	180	132691	15.23	ug/L		91

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT024.D
Acq On : 25 Jan 2021 7:09 pm
Operator : KKW
Sample : MSD1
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Jan 26 07:01:17 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



ANALYSIS SEQUENCE

AA64658

Instrument: OVGCMS2

Calibration ID: 2101077

Printed: 1/26/2021 1:33:44PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA64658-TUN1	QC		1		A0I0903			
AA64658-CCV1	QC		2		A1A0990	A0K0862		
1A26010-BS1	QC		3			A0K0862		
1A26010-MS1	QC		4			A0K0862		
1A26010-MSD1	QC		5			A0K0862		
1A26010-BLK1	QC		6			A0K0862		
AA64658-CRL1	QC		7		A1A0968	A0K0862		
AD08635-03	624.1 Halo	C	8			A0K0862		History 1x ND jmw 1/21/21 THMs, JA
AD08635-03	624.1 TTO	C	9			A0K0862		BatchQC
AD08635-03	8260D	C	10			A0K0862		BatchQC
AD08635-03	8260D Appendix 2 FL	C	11			A0K0862		BatchQC
AD08635-03	60D TCL SOM01.2 CLP-LIK	C	12			A0K0862		BatchQC
AD08635-03	8260D Arom	C	13			A0K0862		BatchQC
AD08269-41RE1	8260D	C	14			A0K0862		rr1x nap c/o Re-extract added 1/26/202
AD08269-43RE1	8260D	C	15			A0K0862		rr1x nap (2) high ccv Re-extract added
AD08269-40RE1	8260D	D	16			A0K0862		rr1x nap (14) high ccv Re-extract adde
AD08629-02	624.1 TTO	E	17			A0K0862		FOAM run 1x 1/21/21
AE00093-03	8260D Appendix 2 FL	A	18			A0K0862		TB
AD08269-34RE1	8260D	D	19			A0K0862		rr2x overdilute Re-extract added 1/26/2
AE00066-11RE1	60D TCL SOM01.2 CLP-LIK	B	20			A0K0862	Tetra Tech, Inc. (TE016)	rr1x overdilute Re-extract added 1/26/2
AE00093-01	8260D Appendix 2 FL	N	21			A0K0862		
AE00093-02	8260D Appendix 2 FL	N	22			A0K0862		
AE00520-01	8260D Arom	F	23			A0K0862		hist 1x nc 1/26/21 Only two vials, NB

Samples Loaded By Date

Data Processed By Date

ANALYSIS SEQUENCE

AA64658

Instrument: OVGCMS2

Calibration ID: 2101077

Printed: 1/26/2021 1:33:44PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AD08145-02RE1	624.1 TTO	C	24			A0K0862	ENCO Jacksonville	rr lower dilution Re-extract added 1/26

Samples Loaded By Date

Data Processed By Date

VOLATILES GC/MS LOGBOOK (EPA Method 624.1 / SW-846 Method 8260D)

Tune Start Date: 01/26/21	Surrogate: AOI0902	8260 Mix: A1A0764
Sequence: AA64658	Internal: AOK0861	8260 Add: A1A0635
Batch: 1A24010	LCS Mix 2^0: A1A0898	8260 Ac/Ac: A1A0543
Method: 8260	LCS Acrolein 2^0: A1A0830	8260 Gases: A1A0899
Analyst: KO	LCS Gas 2^0: A1A0920	Instrument #: MS.2
Instrument EM Voltage: 1788		

212AU

Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)	Comments	LIMS
001	Tun			1				
002	CCV	MC 1/27/21		2	MC 1/27/21			
003	BS			3				
004	MS	D	1	4		N		
005	MSD	D	1	4		N		
006	mbl			5				
007	mbl			6	MC 1/27/21			
008	BLK	MS 1/27/21		7				
009	CCL			8				
010	AD08635-03	C	1	9		N	ms/msd	
011	AD08269-41re1	A	1	10		N		
012	AD08269-43re1	C	1	11		N		
013	AD08269-40re1	D	1	12		N		
014	AD08629-02	E	1	13		N	APA	
015	AE00083-03	A	1	14		N		
016	AD08269-34re1	D	2	15		N		
017	AE00066-11re1	B	1	16		N		
018	AE00093-01	N	1	17		N		
019	~~AD~~AE00093-02	M	1	18		N		
020	AE00520-01	F	1	19	5	N		
021	AD08145-02re1	C	10	20		N	TOB - ND; Out of hold 21-kd matrix	

PREPARATION BENCH SHEET

Printed: 1/26/2021 1:34:00PM

1A26010

ENCO Orlando

Analysis
624.1 Halo [EPA 624.1]
624.1 TTO [EPA 624.1]
8260D [EPA 8260D]
8260D Appendix 2 FL [EPA 8260D]
8260D Arom [EPA 8260D]
8260D TCL SOM01.2 CLP-LIKE [EPA 8260D]

Surrogate Solution
___ A0I0902 8260 surr working

Prepared using: EPA 5030B_MS

Spiking Solution
A1A0898 8260 2nd source Mega Mix
A1A0922 8260 2nd source Gases/Acrolein virtual

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
1A26010-BLK1		Blank		QC			5	5			1	
1A26010-BS1		LCS		QC			5	5	A1A0922 A1A0898	2 2	1	
1A26010-MS1		Matrix Spike [AD08635-03]		QC			5	5	A1A0922 A1A0898	2 2	1	
1A26010-MSD1		Matrix Spike Dup [AD08635-03]		QC			5	5	A1A0922 A1A0898	2 2	1	
AD08145-02RE1		BD03778-02 (Waste Water (Grab)) D[MS31	09-Dec-20	624.1 TTO			5	5			1	rr lower dilution Re-extract added 1/26/2021 by NMC
AD08269-34RE1	C	MW-6DR D[MS27	27-Jan-21	8260D			5	5			1	rr2x overdilute Re-extract added 1/26/2021 by NMC
AD08269-40RE1	C	RW-1 D[MS28	27-Jan-21	8260D			5	5			1	rr1x nap (14) high ccv Re-extract added 1/26/2021 by NMC
AD08269-41RE1	C	RW-12 C[MS28	27-Jan-21	8260D			5	5			1	rr1x nap c/o Re-extract added 1/26/2021 by NMC
AD08269-43RE1	C	RW-9 C[MS28	27-Jan-21	8260D			5	5			1	rr1x nap (2) high ccv Re-extract added 1/26/2021 by NMC
AD08629-02		GRAB CM-02 E[MS28	01-Feb-21	624.1 TTO			5	5			1	FOAM run 1x 1/21/21
AD08635-03		MW-3R C[MS29		8260D			5	5			1	Added for BatchQC in: 1A26010
AD08635-03		MW-3R C[MS29		624.1 TTO			5	5			1	Added for BatchQC in: 1A26010
AD08635-03		MW-3R C[MS29		8260D TCL SOM01.2 CLP-LIKE			5	5			1	Added for BatchQC in: 1A26010
AD08635-03		MW-3R C[MS29		8260D Appendix 2 FL			5	5			1	Added for BatchQC in: 1A26010

PREPARATION BENCH SHEET

Printed: 1/26/2021 1:34:00PM

1A26010

ENCO Orlando

Prepared using: EPA 5030B_MS

Surrogate Solution

___ A0I0902 8260 surr working

Spiking Solution

A1A0898 8260 2nd source Mega Mix
A1A0922 8260 2nd source Gases/Acrolein virtual

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
AD08635-03		MW-3R C[MS29	28-Jan-21	624.1 Halo			5	5			1	History 1x ND jmw 1/21/21 THMs, JAJ 1/17/19
AD08635-03		MW-3R C[MS29		8260D Arom			5	5			1	Added for BatchQC in: 1A26010
AE00066-11RE1	C	CRCA-MW0018-058.0-20210120 [MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			1	rr1x overdilute Re-extract added 1/26/2021 by NMC
AE00093-01		MW-3SR N[MS30	01-Feb-21	8260D Appendix 2 FL			5	5			1	
AE00093-02		MW-3DR N[MS30	01-Feb-21	8260D Appendix 2 FL			5	5			1	
AE00093-03		TRIP BLANK A[MS30	01-Feb-21	8260D Appendix 2 FL			5	5			1	TB
AE00520-01		TMW-1 F[MS30	01-Feb-21	8260D Arom			5	5			1	hist 1x nc 1/26/21 Only two vials, NB 1/25/21

(1) Before solvent extraction proceeds, verify that there is no residual chlorine above 0.5 mg/L. Any sample above this must be treated to remove excess chlorine before extraction, and this documented as a comment.

Instrument 2

Start Date _____

StopDate _____

Instrument ID _____

Standard ID#	Description	Manufacture Lot#
A0A1401	pH Test Papers (1.0 to 12.0)	231018
A0B1371	Residual Chlorine Strips (Potassium Iodide S	102916
A0L0697	P&T Anti-Foam working solution	N/A

_____ _____
Samples Prepared By Date

_____ _____
Samples Prepared By Date

Manual Integration Review Form

ENVIRONMENTAL CONSERVATION LABORATORIES, INC. ☐ Cary ☐ Jacksonville ☒ Orlando

I hereby attest that the manual integrations contained in this package have been thoroughly reviewed and are in agreement with the associated hardcopy data.

The electronic files listed below have been reviewed for accuracy, completeness and comply with ENCO labs QA-11 Manual Integration Policy including:

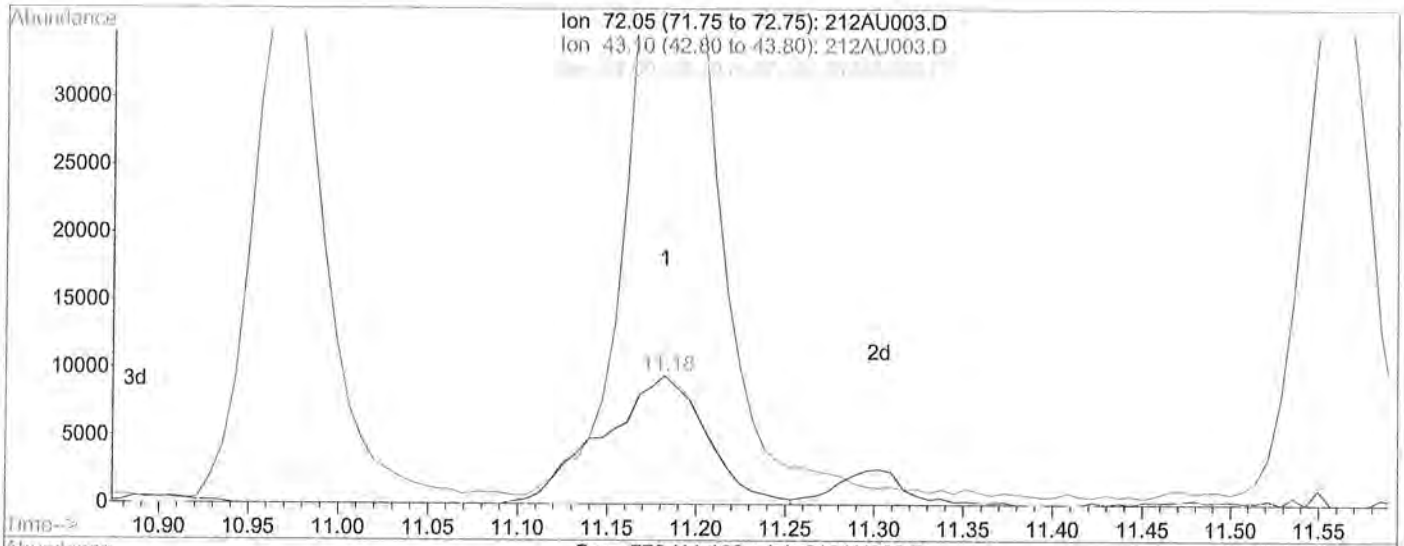
- "Before" and "After" chromatograms are provided
- Manual integrations are indicated on expanded scale "after" chromatograms at a scale large enough to see the manual integration performed.
- Reintegration technique marked if available on the data system
- Technical justification for manual integration
- Appropriate flags indicating which analytes were manually integrated are included in the raw data
- Analyst's initials and date.

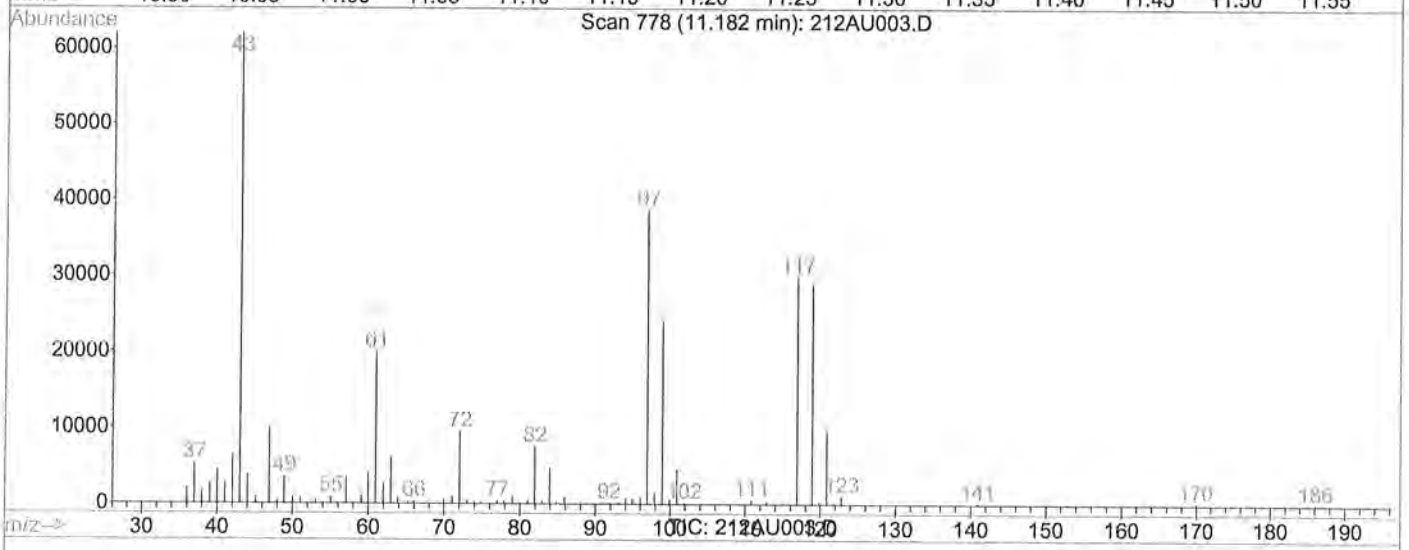
Instrument ID:	JV6CMS-2
Sequence/Batch ID:	RA64658 / 1A2601O
Data File Prefix:	8260
Date and Time Range of MIs:	01/26/21 1307-1311
Reviewer Print Name:	Kerry Watson
Reviewer Signature:	
Date of Review:	01/27/21

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\012621\212AU003.D Vial: 3
Acq On : 26 Jan 2021 8:43 am Operator: KG
Sample : bs1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 9:05 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Multiple Level Calibration





(25) 2-Butanone

11.18min 192.23ug/kg

response 38238

Ion	Exp%	Act%
72.05	100	100
43.10	656.50	476.32
57.00	39.40	25.62#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

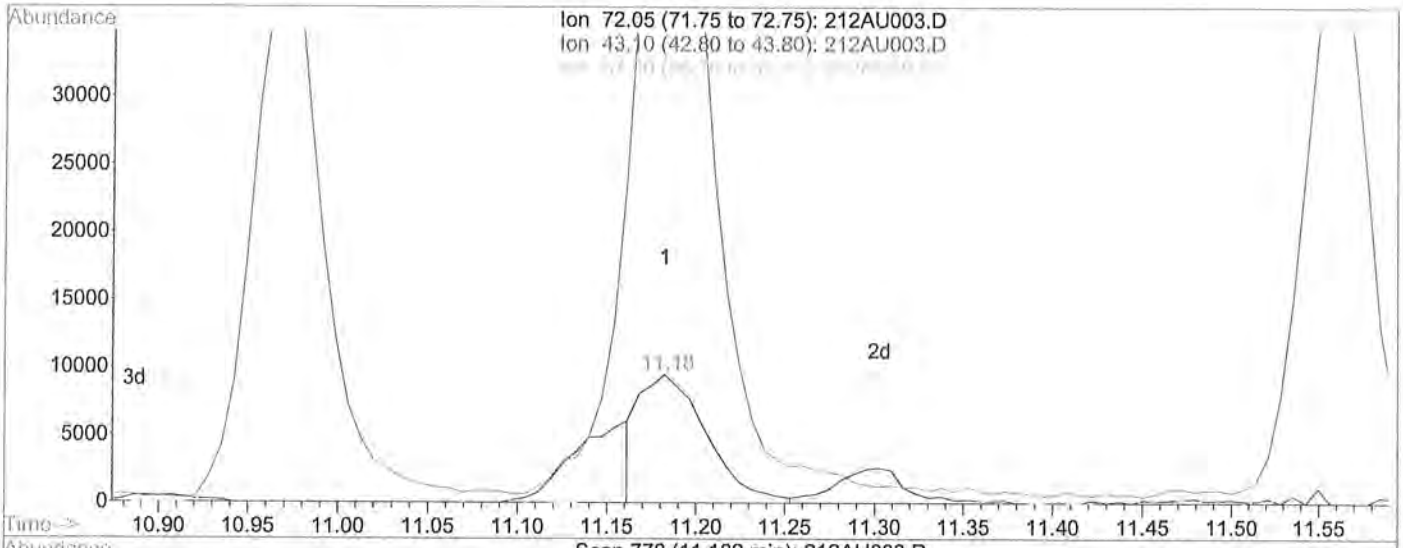
[ ] Other:

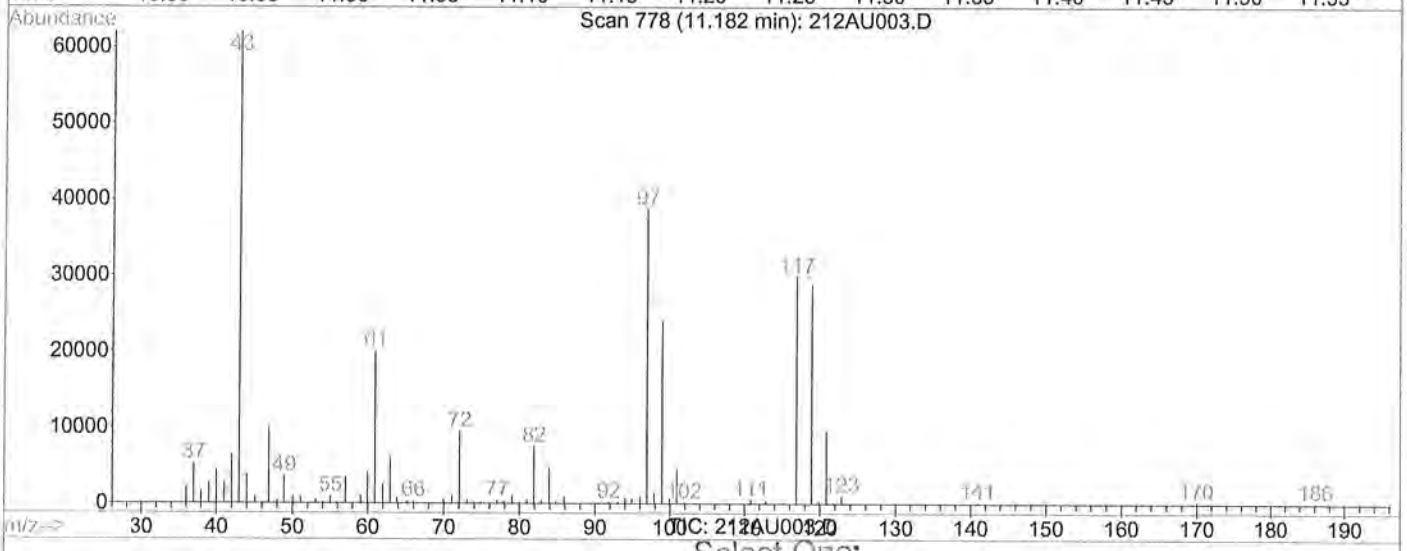
Reviewed by: PC 1/26/21

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\012621\212AU003.D Vial: 3
Acq On : 26 Jan 2021 8:43 am Operator: KG
Sample : bs1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 13:07 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Multiple Level Calibration





(25) 2-Butanone

11.18min 125.94ug/kg m

response 25051

Ion	Exp%	Act%
72.05	100	100
43.10	656.50	727.06
57.00	39.40	39.11
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

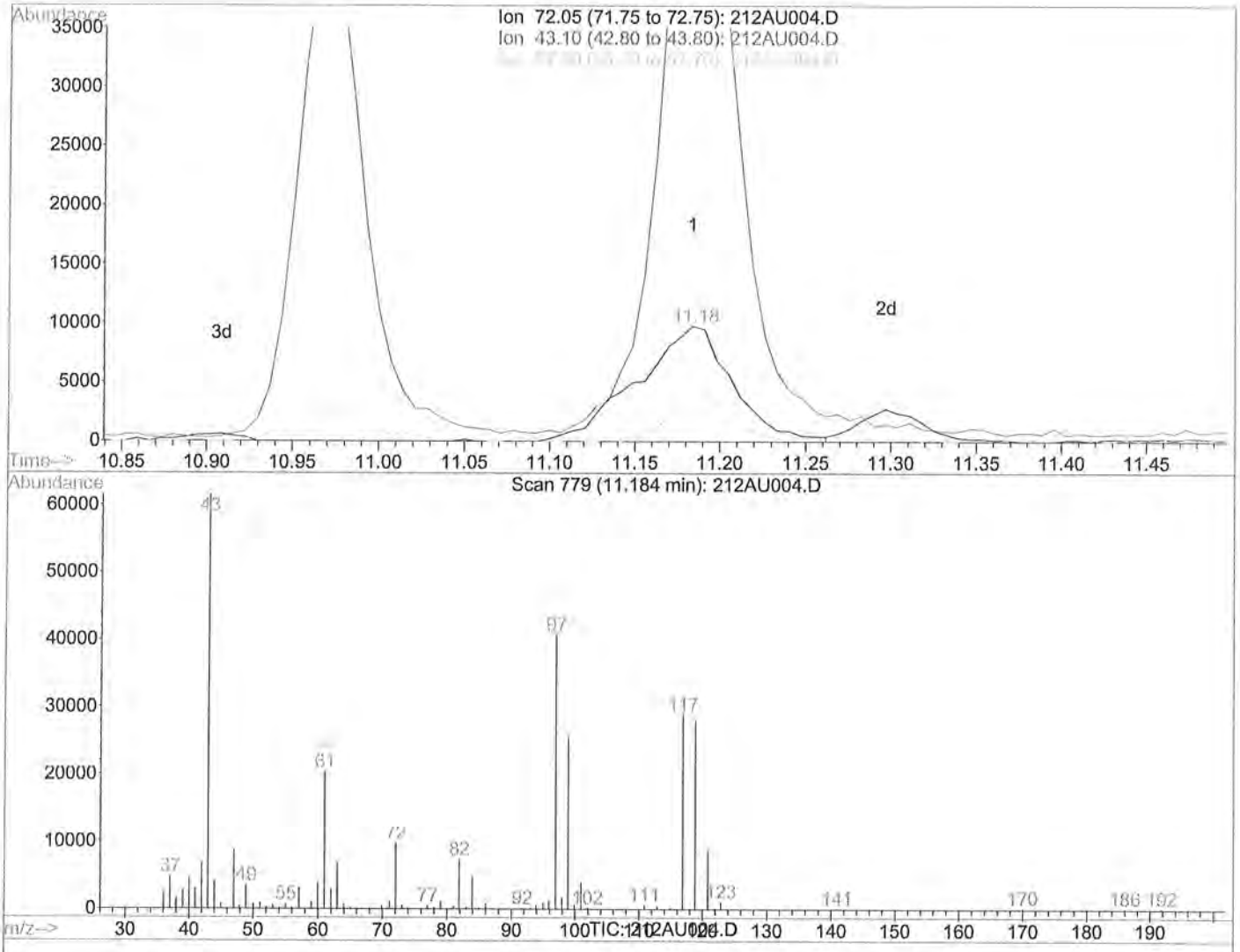
Review by/Date MC 1/26/21

Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\012621\212AU004.D Vial: 4
Acq On : 26 Jan 2021 9:24 am Operator: KG
Sample : 1a26010-ms1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 9:46 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Multiple Level Calibration



(25) 2-Butanone

11.18min 185.98ug/kg

response 37752

Ion	Exp%	Act%
72.05	100	100
43.10	656.50	477.50
57.00	39.40	26.06#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

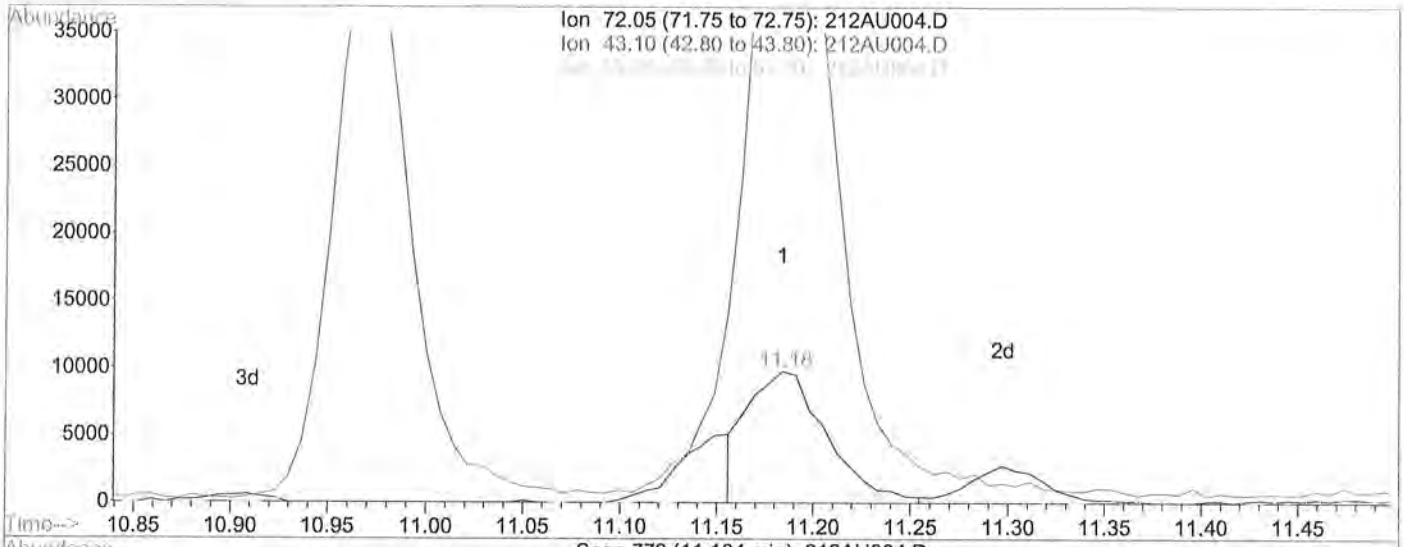
Review by/Date MC 1/26/21

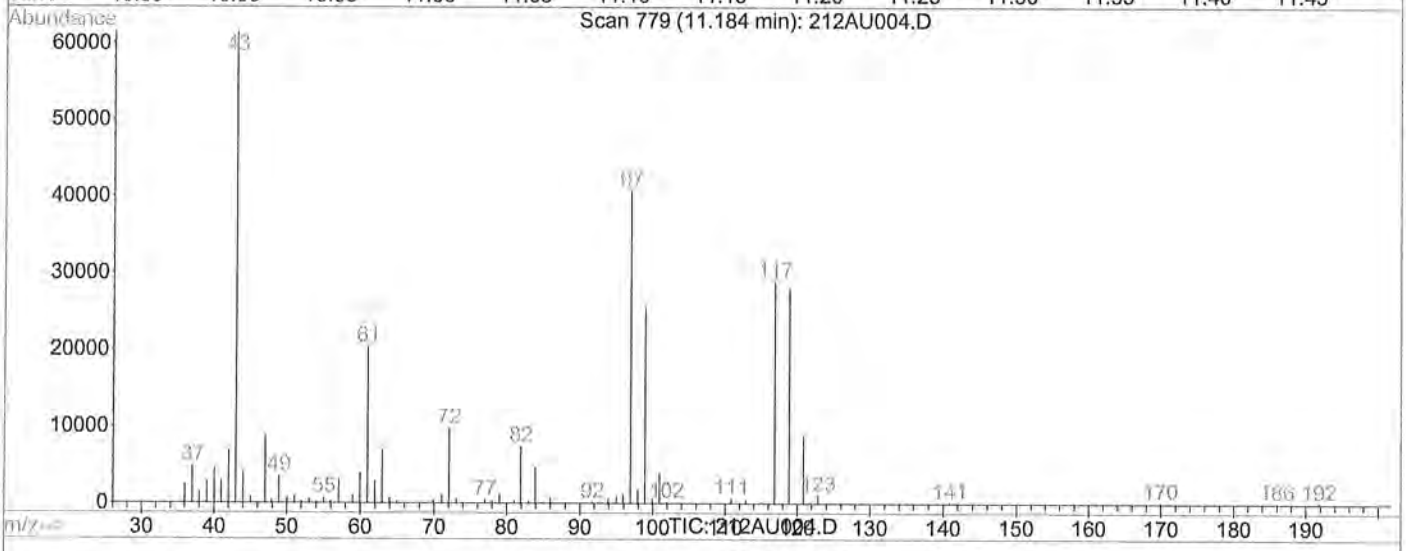
212AU004.D 011921.M Tue Jan 26 13:07:44 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\012621\212AU004.D Vial: 4
Acq On : 26 Jan 2021 9:24 am Operator: KG
Sample : 1a26010-ms1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 13:07 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Multiple Level Calibration





TIC: 212AU004.D

(25) 2-Butanone

11.18min 137.40ug/kg m

response 27891

Ion	Exp%	Act%
72.05	100	100
43.10	656.50	646.32
57.00	39.40	35.28
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

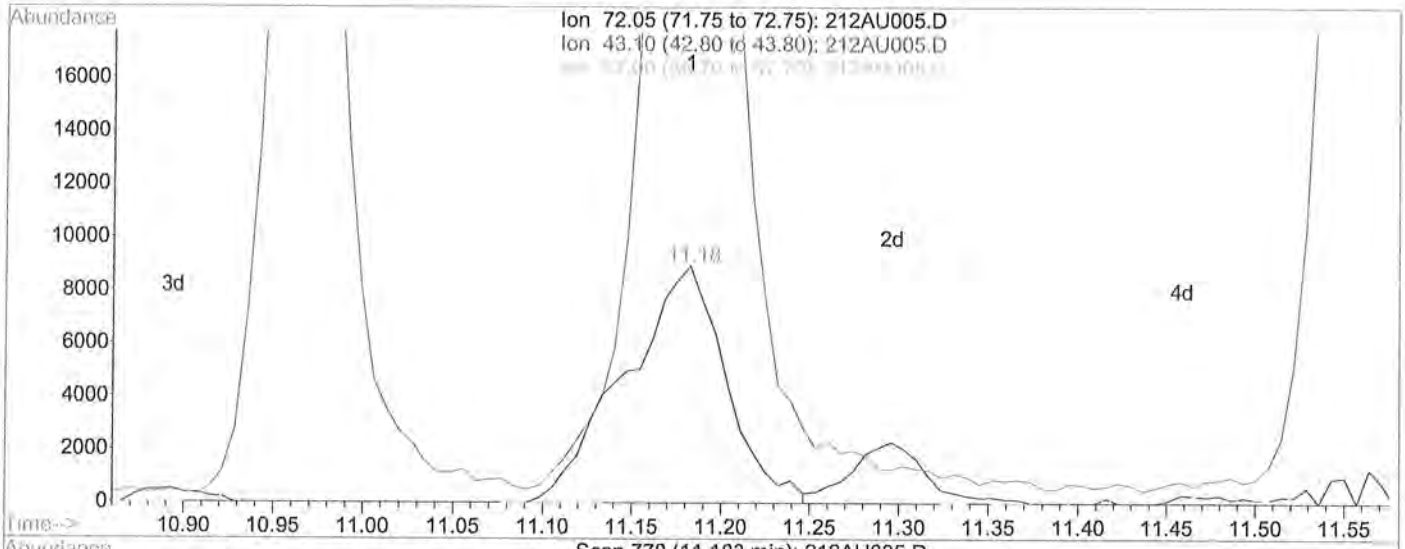
Review by/Date MC 1/26/21

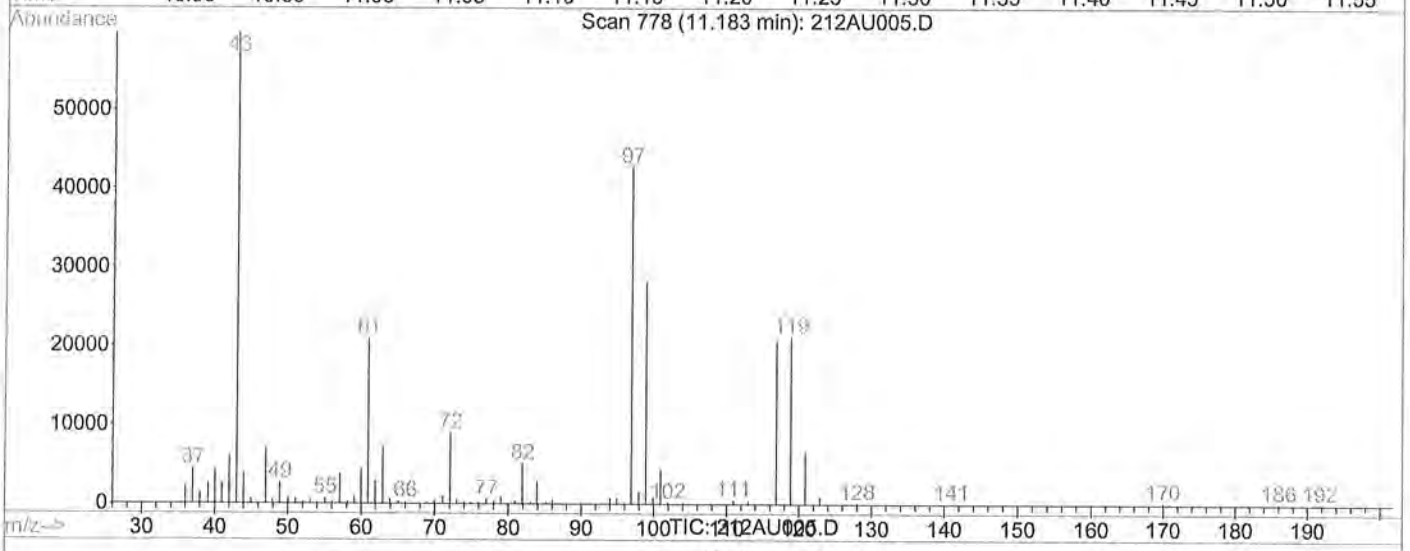
Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\012621\212AU005.D Vial: 5
Acq On : 26 Jan 2021 9:53 am Operator: KG
Sample : 1a26010-msd1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 10:15 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Multiple Level Calibration





(25) 2-Butanone

11.18min 186.24ug/kg

response 34869

Ion	Exp%	Act%
72.05	100	100
43.10	656.50	493.42
57.00	39.40	28.35
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

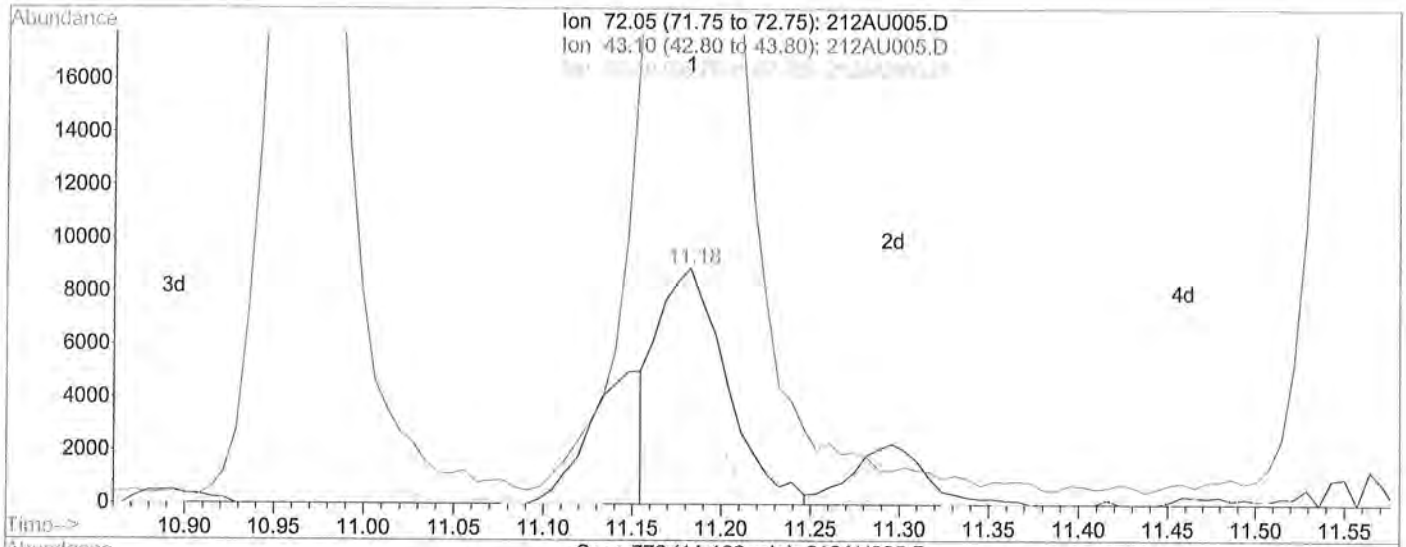
Review by/Date MC 1/26/21

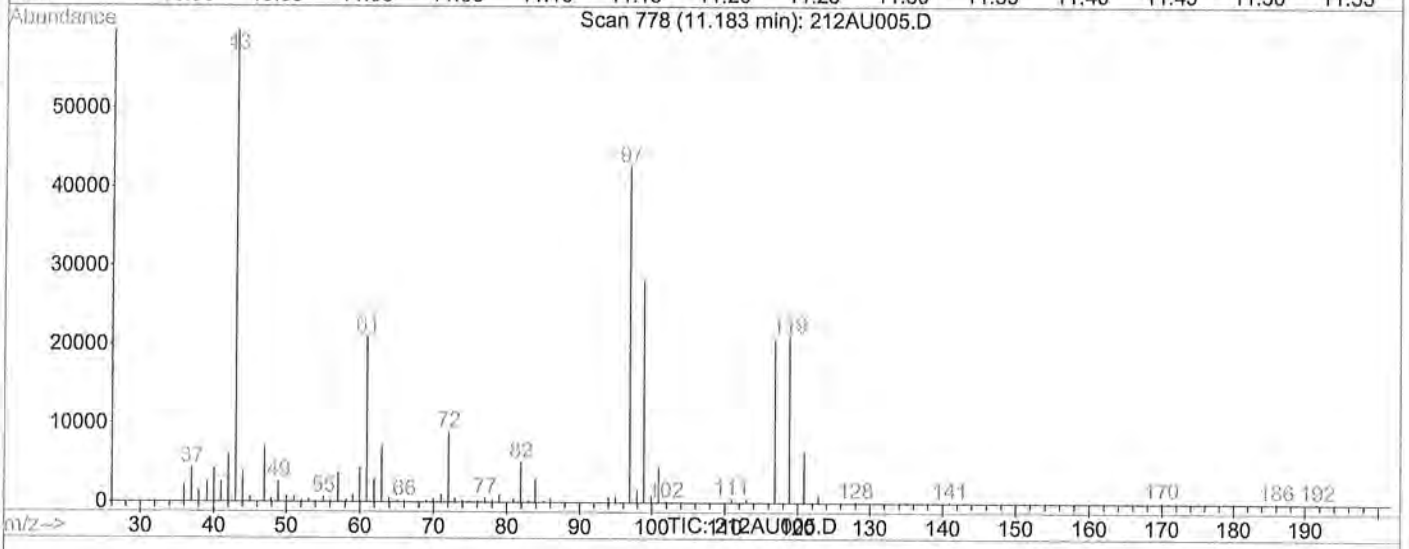
Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\012621\212AU005.D Vial: 5
Acq On : 26 Jan 2021 9:53 am Operator: KG
Sample : 1a26010-msd1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 13:07 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Multiple Level Calibration





(25) 2-Butanone

11.18min 129.07ug/kg m

response 24165

Ion	Exp%	Act%
72.05	100	100
43.10	656.50	711.99
57.00	39.40	40.91
0.00	0.00	0.00

Select One:

[] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, [illegible])

[] Incorrect peak selection/[illegible]

[] Hump integration

[] Baseline drop for split peaks

[] ISTD reintegration

[] Other:

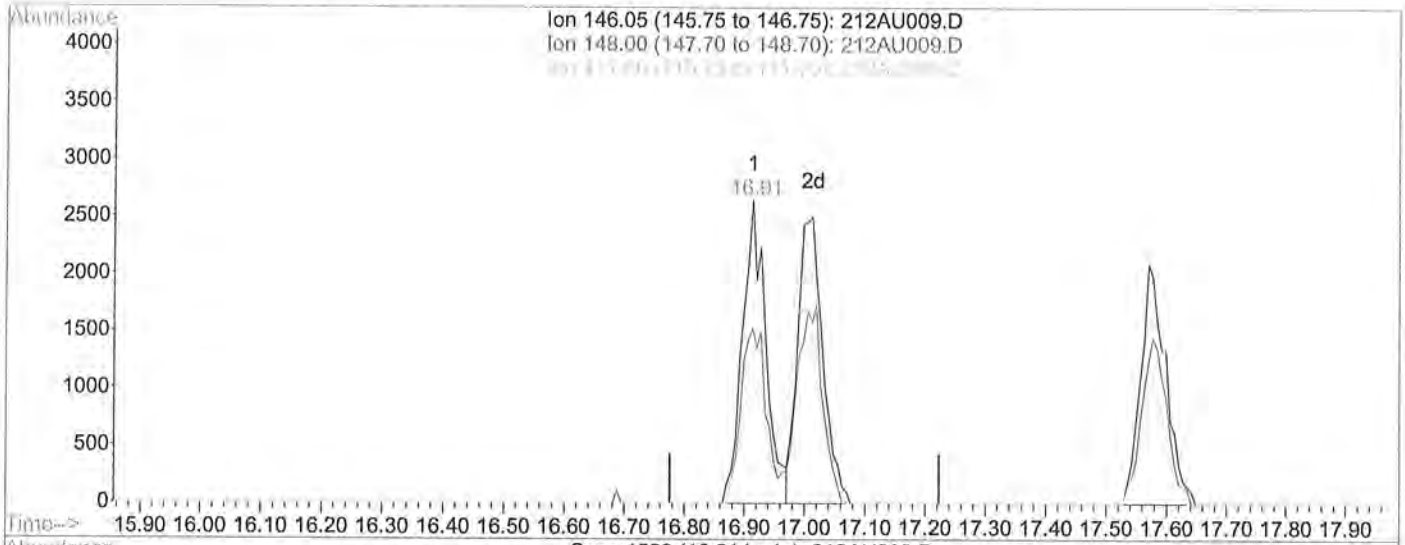
Review by/Date NC 1/26/21

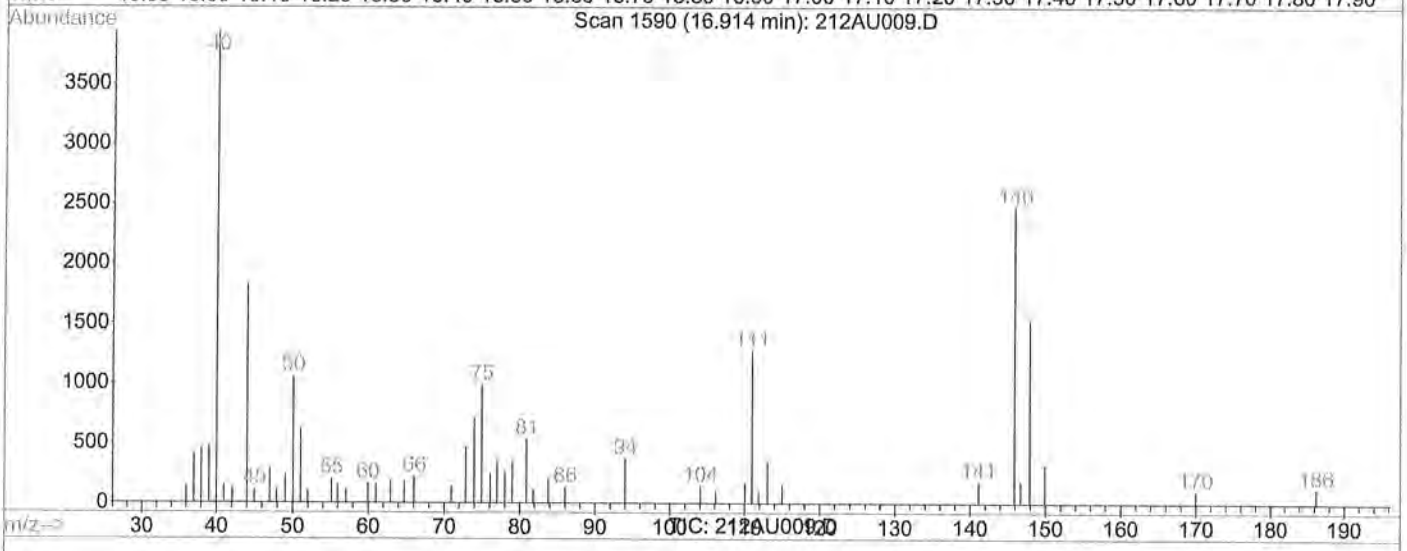
Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\012621\212AU009.D Vial: 8
Acq On : 26 Jan 2021 12:02 pm Operator: KG
Sample : CRL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 13:11 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Multiple Level Calibration





(89) 1,4-Dichlorobenzene

16.91min 1.38ug/kg

response 7135

Ion	Exp%	Act%
146.05	100	100
148.00	64.60	62.10
111.00	43.70	45.19
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

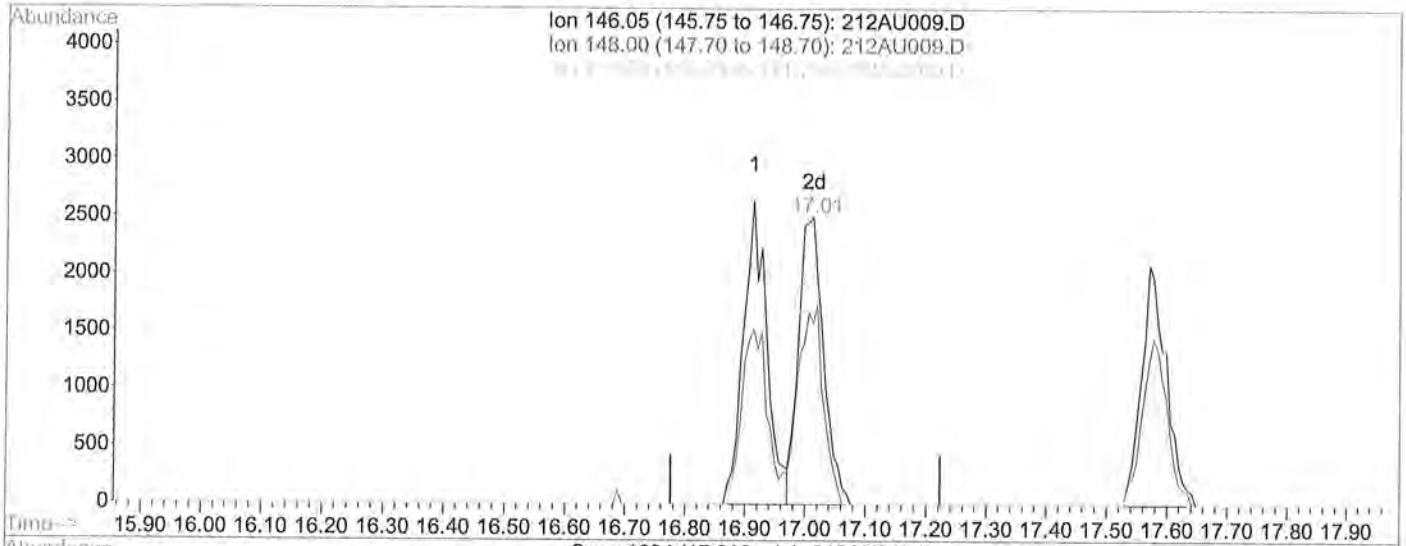
Review by/Date NC 1/26/21

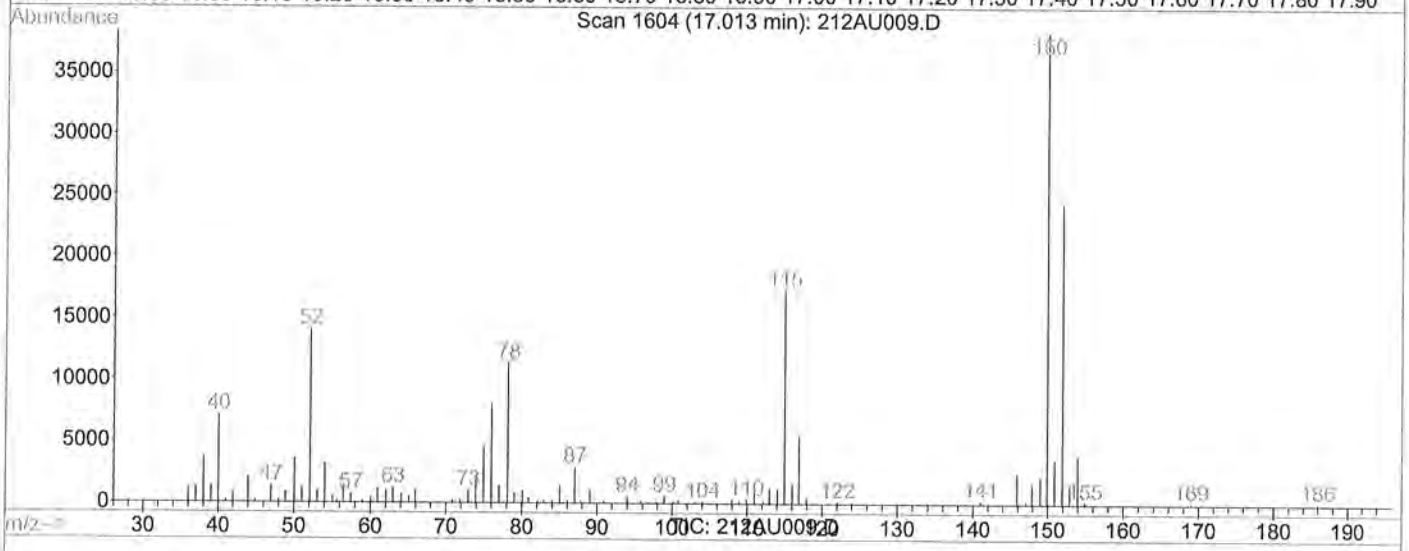
Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\012621\212AU009.D Vial: 8
Acq On : 26 Jan 2021 12:02 pm Operator: KG
Sample : CRL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 13:11 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Multiple Level Calibration





(89) 1,4-Dichlorobenzene

17.01min 1.40ug/kg m

response 7210

Ion	Exp%	Act%
146.05	100	100
148.00	64.60	61.46
111.00	43.70	44.72
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date NC 5/26/21

Review by/Date:

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012621\212AU002.D Vial: 2
Acq On : 26 Jan 2021 8:06 am Operator: KG
Sample : ccv1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 8:29 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.47	168	380115	50.00	ug/kg	0.03
38) 1,4-Difluorobenzene(IS)	12.03	114	741405	50.00	ug/kg	0.03
56) Chlorobenzene-d5(IS)	14.62	82	366094	50.00	ug/kg	0.03
79) 1,4-Dichlorobenzene-d4(IS)	16.98	152	237068	50.00	ug/kg	0.03
System Monitoring Compounds						
30) Dibromofluoromethane	11.08	113	215801	49.94	ug/kg	0.03
Spiked Amount 50.000	Range 53 - 146		Recovery = 99.88%			
54) D8-Toluene	13.24	98	620655	49.45	ug/kg	0.03
Spiked Amount 50.000	Range 41 - 146		Recovery = 98.90%			
75) Bromofluorobenzene	15.74	95	247825	49.82	ug/kg	0.03
Spiked Amount 50.000	Range 41 - 142		Recovery = 99.64%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.92	85	363397	46.26	ug/kg	100
3) Chloromethane	6.39	50	334954	42.86	ug/kg	99
4) Vinyl Chloride	6.59	62	339073	51.22	ug/kg	95
5) Bromomethane	7.23	96	210831	50.47	ug/kg	96
6) Chloroethane	7.47	64	230844	51.91	ug/kg	98
7) Trichlorofluoromethane	7.73	101	535713	48.86	ug/kg	100
8) Trichlorotrifluoroethane	8.55	101	215224	58.27	ug/kg	97
9) acrolein	8.91	56	310189	911.28	ug/kg	99
10) Acetone	9.26	43	242502	297.08	ug/kg	97
11) 1,1-Dichloroethene	8.51	96	192826	52.38	ug/kg	97
12) 3-Chloropropene	9.10	76	96390	48.86	ug/kg	97
13) Acetonitrile	9.80	41	196574	582.79	ug/kg	98
14) Iodomethane	8.74	142	690573	171.98	ug/kg	97
15) Carbon disulfide	8.63	76	1779249	195.09	ug/kg	100
16) Methylene Chloride	9.23	84	216667	56.54	ug/kg	98
17) Methyl tert-butyl ether	9.54	73	491121	59.75	ug/kg	98
18) Acrylonitrile	10.13	53	1021206	574.57	ug/kg	98
19) T-1,2-Dichloroethene	9.45	96	223106	56.40	ug/kg	98
20) Isopropyl Ether	9.91	45	1196014	54.26	ug/kg	99
21) C-1,2-Dichloroethene	10.68	96	245933	52.60	ug/kg	98
22) 1,1-Dichloroethane	10.13	63	457055	52.57	ug/kg	100
23) Vinyl Acetate	10.31	43	3511689	290.24	ug/kg	100
24) Chloroprene	10.12	88	171384	49.78	ug/kg	72
25) 2-Butanone	11.18	72	64448	276.60	ug/kg	97
26) Propionitrile	11.46	54	206980	619.18	ug/kg	100
27) 2,2-Dichloropropane	10.81	77	354970	59.84	ug/kg	97
28) Methacrylonitrile	11.50	67	644586	579.07	ug/kg	94
29) Chloroform	10.90	83	425646	59.20	ug/kg	95
31) Dibromofluoromethane	11.08	113	215801	49.94	ug/kg	100
32) Bromochloromethane	10.88	128	123832	53.81	ug/kg	95
33) 1,1,1-Trichloroethane	11.20	97	370928	53.47	ug/kg	100
34) 1,1-Dichloropropene	11.30	75	310129	53.00	ug/kg	98
35) Diethyl Ether	8.15	59	181481	61.03	ug/kg	99
36) Methyl Acetate	9.40	74	23847	65.25	ug/kg#	88
37) Cyclohexane	10.97	56	387366	53.70	ug/kg	99
39) Methyl Cyclohexane	12.09	55	295428	51.91	ug/kg	99
40) Carbon Tetrachloride	11.16	117	385833	53.09	ug/kg	100
41) 1,2-Dichloroethane	11.68	62	323466	56.61	ug/kg	98
42) Benzene	11.54	78	901933	53.14	ug/kg	96
43) Isobutyl Alcohol	11.56	43	361336	1278.59	ug/kg#	82
44) Trichloroethene	12.05	130	251109	52.75	ug/kg	99
45) 1,2-Dichloropropane	12.50	63	238652	55.30	ug/kg	96
46) Methyl Methacrylate	12.58	100	43773	55.36	ug/kg	98
47) 1,4-Dioxane	12.70	88	11496	997.55	ug/kg	100
48) Bromodichloromethane	12.51	83	314303	53.46	ug/kg	99
49) Dibromomethane	12.43	93	139473	55.93	ug/kg	97
50) 4-Methyl-2-Pentanone	13.52	100	106966	279.43	ug/kg	92
51) 2-Chloroethyl vinyl ether	12.82	63	1328	95.86	ug/kg#	100
52) 2-Hexanone	14.21	43	675299	284.34	ug/kg	99

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\012621\212AU002.D Vial: 2
Acq On : 26 Jan 2021 8:06 am Operator: KG
Sample : ccv1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 8:29 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

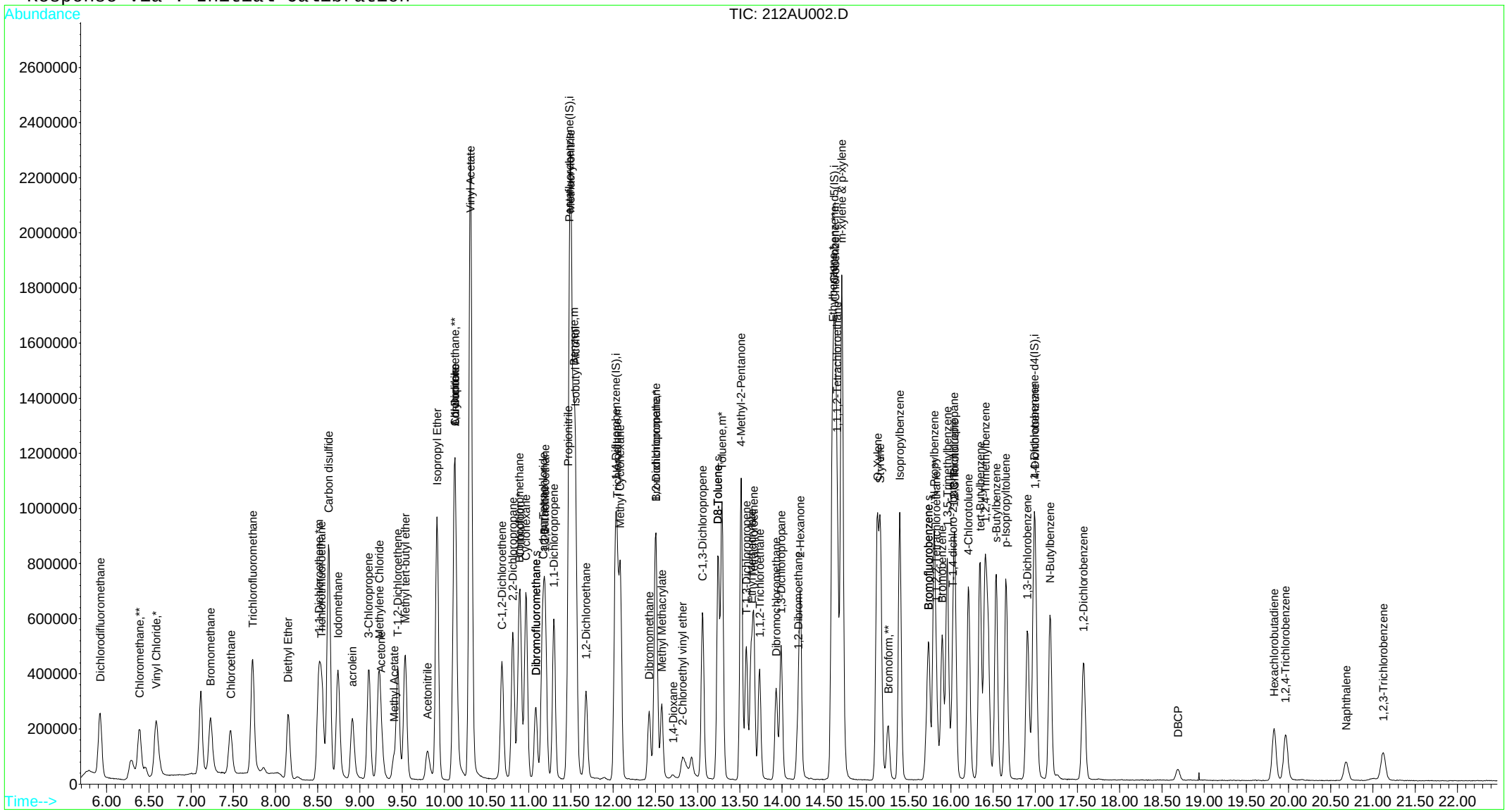
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.06	75	372379	55.74	ug/kg	96
55) D8-Toluene	13.24	98	620655	49.45	ug/kg	92
57) Toluene	13.29	92	529282	47.55	ug/kg	99
58) Ethyl Methacrylate	13.64	69	211811	50.22	ug/kg	94
59) T-1,3-Dichloropropene	13.58	75	304084	51.19	ug/kg	96
60) 1,1,2-Trichloroethane	13.73	97	158280	51.07	ug/kg	99
61) 1,3-Dichloropropane	13.99	76	302348	55.14	ug/kg	99
62) Tetrachloroethene	13.66	164	144464	46.26	ug/kg	98
63) Dibromochloromethane	13.93	129	232817	51.14	ug/kg	100
64) 1,2-Dibromoethane	14.19	107	181584	53.07	ug/kg	99
65) Chlorobenzene	14.64	112	601143	48.22	ug/kg	99
66) 1,1,1,2-Tetrachloroethane	14.66	131	238028	49.71	ug/kg	97
67) Ethylbenzene	14.60	106	300837	48.51	ug/kg	98
68) m-xylene & p-xylene	14.71	106	726834	98.58	ug/kg	98
69) O-Xylene	15.13	106	359374	50.78	ug/kg	100
70) Bromoform	15.26	173	104317	53.83	ug/kg	99
71) Styrene	15.17	104	647484	52.11	ug/kg	100
72) Isopropylbenzene	15.39	105	915280	50.97	ug/kg	100
73) 1,2,3-Trichloropropane	16.03	75	187058	50.07	ug/kg	99
74) 1,1,2,2-Tetrachloroethane	15.83	83	162256	52.98	ug/kg	100
76) Bromofluorobenzene	15.74	95	247825	49.82	ug/kg#	66
77) T-1,4-dichloro-2-butene	16.02	53	43042	45.68	ug/kg#	86
78) N-Propylbenzene	15.80	91	988859	49.50	ug/kg	99
80) Bromobenzene	15.90	156	189573	48.91	ug/kg	98
81) 1,3,5-Trimethylbenzene	15.96	105	670647	48.70	ug/kg	99
82) 2-Chlorotoluene	16.04	91	598897	47.47	ug/kg	99
83) 4-Chlorotoluene	16.21	91	613723	48.08	ug/kg	100
84) 1,2,4-Trimethylbenzene	16.40	105	677912	49.80	ug/kg	100
85) s-Butylbenzene	16.54	105	815117	48.60	ug/kg	99
86) tert-Butylbenzene	16.35	119	609442	48.83	ug/kg	100
87) p-Isopropyltoluene	16.65	119	702795	49.64	ug/kg	99
88) 1,3-Dichlorobenzene	16.91	146	332152	47.60	ug/kg	99
89) 1,4-Dichlorobenzene	17.00	146	343843	47.54	ug/kg	99
90) 1,2-Dichlorobenzene	17.57	146	277185	47.44	ug/kg	99
91) N-Butylbenzene	17.17	91	546073	50.51	ug/kg	99
92) DBCP	18.69	75	17366	53.76	ug/kg	97
93) Naphthalene	20.68	128	125269	52.22	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.96	180	94757	48.10	ug/kg	97
95) Hexachlorobutadiene	19.83	225	52846	42.91	ug/kg	99
96) 1,2,3-Trichlorobenzene	21.12	180	63247	49.47	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\012621\212AU002.D Vial: 2
Acq On : 26 Jan 2021 8:06 am Operator: KG
Sample : ccv1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 8:29 2021 Quant Results File: 011921.RES

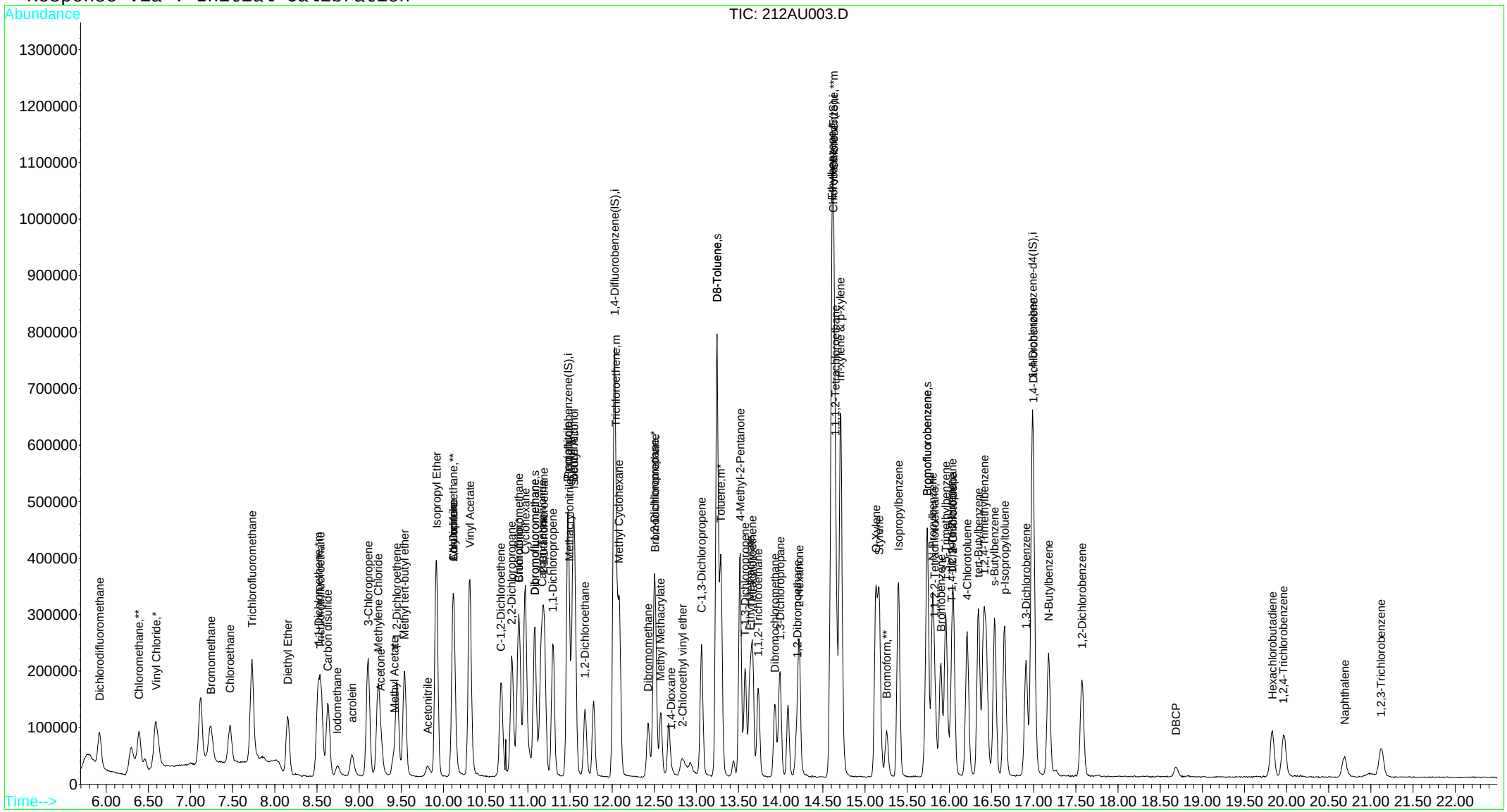
Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\012621\212AU003.D Vial: 3
Acq On : 26 Jan 2021 8:43 am Operator: KG
Sample : bs1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 13:07 2021 Quant Results File: 011921.RES

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012621\212AU003.D Vial: 3
Acq On : 26 Jan 2021 8:43 am Operator: KG
Sample : bs1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 13:07 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.48	168	324503	50.00	ug/kg	0.03
38) 1,4-Difluorobenzene(IS)	12.02	114	677646	50.00	ug/kg	0.03
56) Chlorobenzene-d5(IS)	14.62	82	321367	50.00	ug/kg	0.03
79) 1,4-Dichlorobenzene-d4(IS)	16.99	152	201276	50.00	ug/kg	0.03
System Monitoring Compounds						
30) Dibromofluoromethane	11.08	113	210566	57.08	ug/kg	0.03
Spiked Amount 50.000	Range 53 - 146		Recovery = 114.16%			
54) D8-Toluene	13.24	98	588775	51.32	ug/kg	0.03
Spiked Amount 50.000	Range 41 - 146		Recovery = 102.64%			
75) Bromofluorobenzene	15.74	95	224775	51.47	ug/kg	0.03
Spiked Amount 50.000	Range 41 - 142		Recovery = 102.94%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.92	85	93126	13.89	ug/kg	97
3) Chloromethane	6.39	50	128900	19.32	ug/kg	97
4) Vinyl Chloride	6.58	62	133587	23.64	ug/kg	92
5) Bromomethane	7.24	96	71990	20.19	ug/kg	99
6) Chloroethane	7.47	64	98134	24.83	ug/kg	99
7) Trichlorofluoromethane	7.73	101	229821	24.55	ug/kg	99
8) Trichlorotrifluoroethane	8.55	101	89602	28.42	ug/kg	97
9) acrolein	8.92	56	57132	414.86	ug/kg	98
10) Acetone	9.26	43	108711	156.00	ug/kg	95
11) 1,1-Dichloroethene	8.51	96	78575	25.00	ug/kg	99
12) 3-Chloropropene	9.11	76	50382	29.92	ug/kg	98
13) Acetonitrile	9.81	41	36217	125.78	ug/kg	95
14) Iodomethane	8.74	142	42402	12.92	ug/kg	98
15) Carbon disulfide	8.63	76	277692	35.67	ug/kg	99
16) Methylene Chloride	9.23	84	88708	27.12	ug/kg	98
17) Methyl tert-butyl ether	9.54	73	197496	28.14	ug/kg	98
18) Acrylonitrile	10.11	53	209511	138.08	ug/kg#	75
19) T-1,2-Dichloroethene	9.45	96	90969	26.94	ug/kg	96
20) Isopropyl Ether	9.92	45	489626	26.02	ug/kg	99
21) C-1,2-Dichloroethene	10.68	96	99109	24.83	ug/kg	98
22) 1,1-Dichloroethane	10.12	63	176711	23.81	ug/kg	100
23) Vinyl Acetate	10.31	43	289600	28.04	ug/kg	96
24) Chloroprene	10.12	88	78197	26.60	ug/kg	18
25) 2-Butanone	11.18	72	25051m	125.94	ug/kg	
26) Propionitrile	11.46	54	7933	27.80	ug/kg	100
27) 2,2-Dichloropropane	10.82	77	142833	28.20	ug/kg	92
28) Methacrylonitrile	11.50	67	26464	27.85	ug/kg	85
29) Chloroform	10.90	83	171552	27.95	ug/kg	94
31) Dibromofluoromethane	11.08	113	210566	57.08	ug/kg	100
32) Bromochloromethane	10.89	128	49897	25.40	ug/kg	93
33) 1,1,1-Trichloroethane	11.20	97	149890	25.31	ug/kg	98
34) 1,1-Dichloropropene	11.30	75	125124	25.05	ug/kg	98
35) Diethyl Ether	8.15	59	77368	30.48	ug/kg	99
36) Methyl Acetate	9.41	74	9243	29.62	ug/kg	92
37) Cyclohexane	10.97	56	163203	26.50	ug/kg	98
39) Methyl Cyclohexane	12.09	55	120502	23.17	ug/kg	98
40) Carbon Tetrachloride	11.16	117	153162	23.06	ug/kg	100
41) 1,2-Dichloroethane	11.68	62	124053	23.75	ug/kg	99
42) Benzene	11.54	78	329564	21.24	ug/kg#	69
43) Isobutyl Alcohol	11.56	43	106201	411.15	ug/kg#	1
44) Trichloroethene	12.05	130	97799	22.48	ug/kg	94
45) 1,2-Dichloropropane	12.50	63	93456	23.69	ug/kg	94
46) Methyl Methacrylate	12.58	100	17752	24.56	ug/kg	92
47) 1,4-Dioxane	12.71	88	6107	579.79	ug/kg	86
48) Bromodichloromethane	12.52	83	125798	23.41	ug/kg	99
49) Dibromomethane	12.43	93	55977	24.56	ug/kg	93
50) 4-Methyl-2-Pentanone	13.51	100	39900	114.04	ug/kg	95
51) 2-Chloroethyl vinyl ether	12.83	63	947	74.79	ug/kg#	100
52) 2-Hexanone	14.22	43	248319	114.39	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012621\212AU003.D Vial: 3
Acq On : 26 Jan 2021 8:43 am Operator: KG
Sample : bs1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 13:07 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

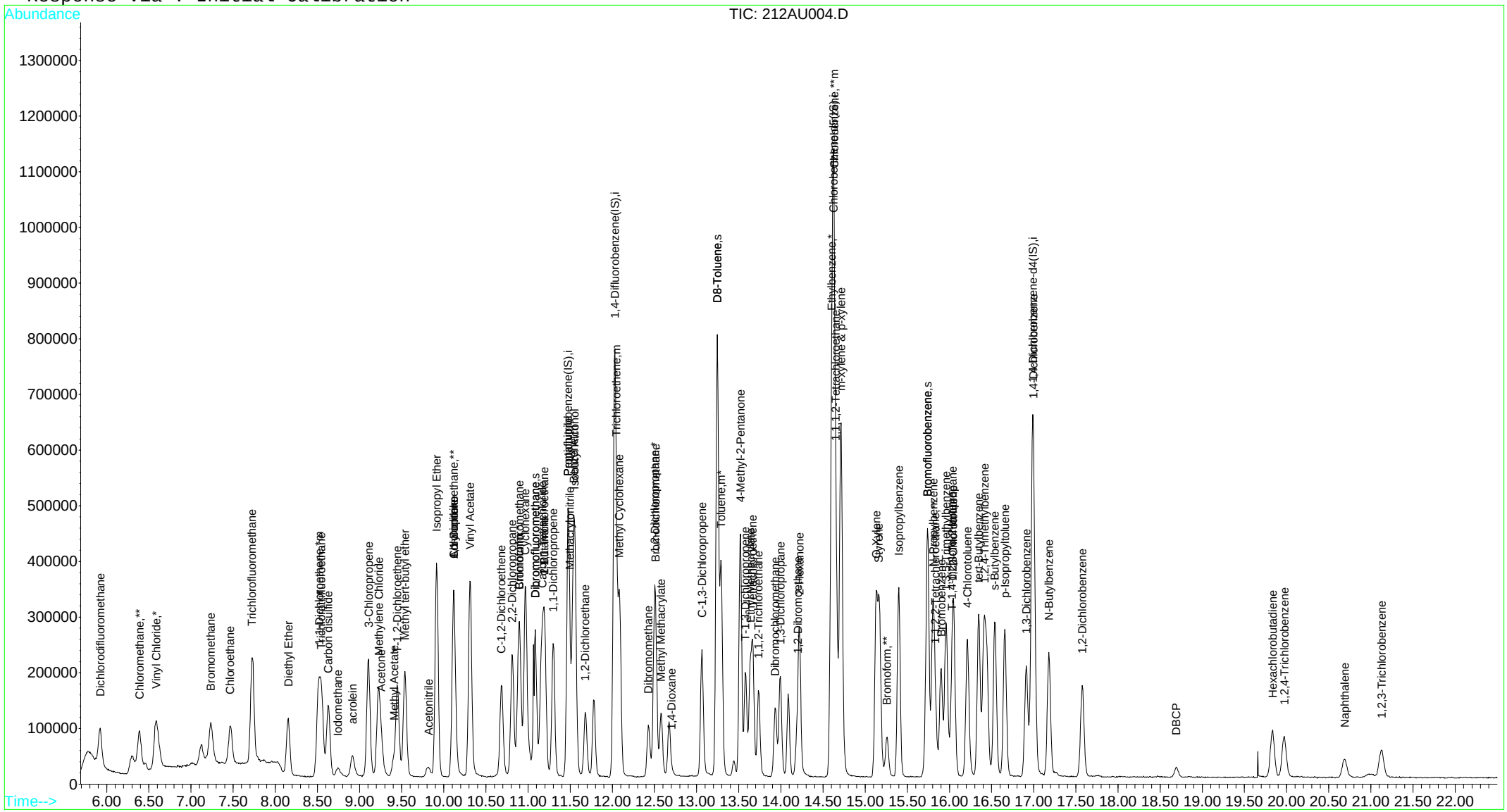
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.06	75	141204	23.12	ug/kg	93
55) D8-Toluene	13.24	98	588775	51.32	ug/kg	92
57) Toluene	13.29	92	198074	20.27	ug/kg	99
58) Ethyl Methacrylate	13.63	69	82687	22.33	ug/kg	91
59) T-1,3-Dichloropropene	13.58	75	120633	23.13	ug/kg	91
60) 1,1,2-Trichloroethane	13.73	97	62153	22.84	ug/kg	98
61) 1,3-Dichloropropane	13.99	76	116334	24.17	ug/kg	99
62) Tetrachloroethene	13.67	164	53365	19.46	ug/kg	97
63) Dibromochloromethane	13.93	129	89443	22.38	ug/kg	100
64) 1,2-Dibromoethane	14.19	107	69836	23.25	ug/kg	100
65) Chlorobenzene	14.64	112	220521	20.15	ug/kg	94
66) 1,1,1,2-Tetrachloroethane	14.66	131	88542	21.06	ug/kg#	44
67) Ethylbenzene	14.60	106	109345	20.09	ug/kg	97
68) m-xylene & p-xylene	14.71	106	257003	39.71	ug/kg	95
69) O-Xylene	15.13	106	126776	20.41	ug/kg	95
70) Bromoform	15.26	173	38321	22.53	ug/kg	100
71) Styrene	15.17	104	225673	20.69	ug/kg	98
72) Isopropylbenzene	15.40	105	328403	20.83	ug/kg	98
73) 1,2,3-Trichloropropane	16.03	75	66775	20.36	ug/kg	100
74) 1,1,2,2-Tetrachloroethane	15.83	83	61696	22.95	ug/kg	98
76) Bromofluorobenzene	15.74	95	224775	51.47	ug/kg#	71
77) T-1,4-dichloro-2-butene	16.02	53	13513	16.34	ug/kg#	64
78) N-Propylbenzene	15.80	91	359009	20.47	ug/kg	98
80) Bromobenzene	15.90	156	69640	21.16	ug/kg	97
81) 1,3,5-Trimethylbenzene	15.96	105	242105	20.71	ug/kg	99
82) 2-Chlorotoluene	16.05	91	218664	20.42	ug/kg	98
83) 4-Chlorotoluene	16.21	91	225570	20.81	ug/kg	99
84) 1,2,4-Trimethylbenzene	16.41	105	242598	20.99	ug/kg	98
85) s-Butylbenzene	16.54	105	304238	21.36	ug/kg	98
86) tert-Butylbenzene	16.34	119	220135	20.78	ug/kg	99
87) p-Isopropyltoluene	16.66	119	253259	21.07	ug/kg	98
88) 1,3-Dichlorobenzene	16.91	146	123915	20.92	ug/kg	99
89) 1,4-Dichlorobenzene	17.00	146	123797	20.16	ug/kg	96
90) 1,2-Dichlorobenzene	17.57	146	107763	21.72	ug/kg	99
91) N-Butylbenzene	17.18	91	201936	22.00	ug/kg	99
92) DBCP	18.68	75	7539	27.49	ug/kg	96
93) Naphthalene	20.69	128	67153	32.97	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.97	180	42509	25.41	ug/kg	99
95) Hexachlorobutadiene	19.83	225	23015	22.01	ug/kg	99
96) 1,2,3-Trichlorobenzene	21.12	180	31768	29.27	ug/kg	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\012621\212AU004.D Vial: 4
Acq On : 26 Jan 2021 9:24 am Operator: KG
Sample : 1a26010-ms1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 13:07 2021 Quant Results File: 011921.RES

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012621\212AU004.D Vial: 4
Acq On : 26 Jan 2021 9:24 am Operator: KG
Sample : 1a26010-ms1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 13:07 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.47	168	331145	50.00	ug/kg	0.03
38) 1,4-Difluorobenzene(IS)	12.02	114	698701	50.00	ug/kg	0.03
56) Chlorobenzene-d5(IS)	14.62	82	329572	50.00	ug/kg	0.03
79) 1,4-Dichlorobenzene-d4(IS)	16.99	152	204382	50.00	ug/kg	0.03
System Monitoring Compounds						
30) Dibromofluoromethane	11.09	113	211045	56.06	ug/kg	0.03
Spiked Amount 50.000	Range 53 - 146		Recovery = 112.12%			
54) D8-Toluene	13.25	98	595620	50.35	ug/kg	0.03
Spiked Amount 50.000	Range 41 - 146		Recovery = 100.70%			
75) Bromofluorobenzene	15.74	95	226094	50.49	ug/kg	0.03
Spiked Amount 50.000	Range 41 - 142		Recovery = 100.98%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.92	85	102480	14.98	ug/kg	98
3) Chloromethane	6.39	50	134144	19.70	ug/kg	100
4) Vinyl Chloride	6.58	62	144705	25.09	ug/kg	83
5) Bromomethane	7.24	96	78584	21.59	ug/kg	98
6) Chloroethane	7.47	64	100843	25.01	ug/kg	99
7) Trichlorofluoromethane	7.73	101	243608	25.50	ug/kg	99
8) Trichlorotrifluoroethane	8.55	101	94104	29.25	ug/kg	94
9) acrolein	8.92	56	56155	406.86	ug/kg	94
10) Acetone	9.26	43	108245	152.22	ug/kg	96
11) 1,1-Dichloroethene	8.51	96	80820	25.20	ug/kg	99
12) 3-Chloropropene	9.11	76	51651	30.05	ug/kg	98
13) Acetonitrile	9.81	41	35685	121.44	ug/kg	84
14) Iodomethane	8.74	142	37976	11.34	ug/kg	98
15) Carbon disulfide	8.63	76	274978	34.61	ug/kg	100
16) Methylene Chloride	9.22	84	86039	25.77	ug/kg	96
17) Methyl tert-butyl ether	9.54	73	198984	27.79	ug/kg	96
18) Acrylonitrile	10.12	53	210755	136.11	ug/kg#	77
19) T-1,2-Dichloroethene	9.45	96	89375	25.94	ug/kg	97
20) Isopropyl Ether	9.91	45	483238	25.17	ug/kg	98
21) C-1,2-Dichloroethene	10.69	96	95707	23.50	ug/kg	97
22) 1,1-Dichloroethane	10.12	63	174682	23.06	ug/kg	100
23) Vinyl Acetate	10.32	43	286255	27.16	ug/kg	97
24) Chloroprene	10.11	88	79725	26.58	ug/kg	16
25) 2-Butanone	11.18	72	27891m	137.40	ug/kg	
26) Propionitrile	11.48	54	7206	24.74	ug/kg	100
27) 2,2-Dichloropropane	10.82	77	148940	28.82	ug/kg	94
28) Methacrylonitrile	11.50	67	25788	26.59	ug/kg	77
29) Chloroform	10.90	83	167987	26.82	ug/kg	98
31) Dibromofluoromethane	11.09	113	211045	56.06	ug/kg	100
32) Bromochloromethane	10.89	128	49196	24.54	ug/kg	93
33) 1,1,1-Trichloroethane	11.20	97	151208	25.02	ug/kg	99
34) 1,1-Dichloropropene	11.30	75	126968	24.91	ug/kg	98
35) Diethyl Ether	8.15	59	76618	29.58	ug/kg	100
36) Methyl Acetate	9.40	74	9140	28.71	ug/kg	85
37) Cyclohexane	10.97	56	168238	26.77	ug/kg	98
39) Methyl Cyclohexane	12.09	55	122439	22.83	ug/kg	98
40) Carbon Tetrachloride	11.16	117	156045	22.78	ug/kg	98
41) 1,2-Dichloroethane	11.68	62	120250	22.33	ug/kg	99
42) Benzene	11.54	78	325115	20.32	ug/kg#	69
43) Isobutyl Alcohol	11.56	43	109436	410.91	ug/kg#	1
44) Trichloroethene	12.05	130	95481	21.28	ug/kg	93
45) 1,2-Dichloropropane	12.50	63	93332	22.95	ug/kg	96
46) Methyl Methacrylate	12.58	100	18699	25.09	ug/kg	97
47) 1,4-Dioxane	12.71	88	6053	557.34	ug/kg#	78
48) Bromodichloromethane	12.52	83	121896	22.00	ug/kg	98
49) Dibromomethane	12.43	93	52019	22.13	ug/kg	97
50) 4-Methyl-2-Pentanone	13.52	100	42923	118.98	ug/kg	90
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	14.22	43	274526	122.66	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\012621\212AU004.D Vial: 4
Acq On : 26 Jan 2021 9:24 am Operator: KG
Sample : 1a26010-ms1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 13:07 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	13.06	75	139808	22.21 ug/kg	94
55) D8-Toluene	13.25	98	595620	50.35 ug/kg	92
57) Toluene	13.29	92	195586	19.52 ug/kg	100
58) Ethyl Methacrylate	13.63	69	87967	23.17 ug/kg	88
59) T-1,3-Dichloropropene	13.58	75	117274	21.93 ug/kg	97
60) 1,1,2-Trichloroethane	13.73	97	60829	21.80 ug/kg	97
61) 1,3-Dichloropropane	13.99	76	111617	22.61 ug/kg	97
62) Tetrachloroethene	13.66	164	53934	19.18 ug/kg	97
63) Dibromochloromethane	13.93	129	87608	21.37 ug/kg	100
64) 1,2-Dibromoethane	14.19	107	67502	21.91 ug/kg	100
65) Chlorobenzene	14.64	112	219242	19.54 ug/kg	96
66) 1,1,1,2-Tetrachloroethane	14.66	131	85582	19.85 ug/kg#	39
67) Ethylbenzene	14.59	106	109194	19.56 ug/kg	99
68) m-xylene & p-xylene	14.72	106	257490	38.79 ug/kg	97
69) O-Xylene	15.13	106	124035	19.47 ug/kg	96
70) Bromoform	15.25	173	37662	21.59 ug/kg	98
71) Styrene	15.17	104	219722	19.64 ug/kg	98
72) Isopropylbenzene	15.40	105	321915	19.91 ug/kg	98
73) 1,2,3-Trichloropropane	16.03	75	67799	20.16 ug/kg	99
74) 1,1,2,2-Tetrachloroethane	15.84	83	61471	22.30 ug/kg	99
76) Bromofluorobenzene	15.74	95	226094	50.49 ug/kg#	71
77) T-1,4-dichloro-2-butene	16.02	53	14314	16.87 ug/kg#	72
78) N-Propylbenzene	15.80	91	356815	19.84 ug/kg	98
80) Bromobenzene	15.90	156	67094	20.08 ug/kg	92
81) 1,3,5-Trimethylbenzene	15.97	105	233836	19.70 ug/kg	100
82) 2-Chlorotoluene	16.05	91	213904	19.67 ug/kg	98
83) 4-Chlorotoluene	16.21	91	220951	20.08 ug/kg	98
84) 1,2,4-Trimethylbenzene	16.41	105	235391	20.06 ug/kg	97
85) s-Butylbenzene	16.54	105	307674	21.28 ug/kg	98
86) tert-Butylbenzene	16.35	119	217053	20.17 ug/kg	96
87) p-Isopropyltoluene	16.66	119	251868	20.64 ug/kg	98
88) 1,3-Dichlorobenzene	16.91	146	119395	19.85 ug/kg	98
89) 1,4-Dichlorobenzene	17.00	146	121415	19.47 ug/kg	98
90) 1,2-Dichlorobenzene	17.58	146	102626	20.37 ug/kg	99
91) N-Butylbenzene	17.18	91	205729	22.07 ug/kg	99
92) DBCP	18.69	75	7558	27.14 ug/kg	98
93) Naphthalene	20.70	128	61548	29.76 ug/kg	100
94) 1,2,4-Trichlorobenzene	19.98	180	41595	24.49 ug/kg	99
95) Hexachlorobutadiene	19.84	225	23479	22.11 ug/kg	99
96) 1,2,3-Trichlorobenzene	21.12	180	29489	26.75 ug/kg	94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012621\212AU005.D Vial: 5
Acq On : 26 Jan 2021 9:53 am Operator: KG
Sample : 1a26010-msd1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 13:07 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.47	168	305426	50.00	ug/kg	0.03
38) 1,4-Difluorobenzene(IS)	12.02	114	636767	50.00	ug/kg	0.03
56) Chlorobenzene-d5(IS)	14.61	82	309741	50.00	ug/kg	0.03
79) 1,4-Dichlorobenzene-d4(IS)	16.98	152	201759	50.00	ug/kg	0.03
System Monitoring Compounds						
30) Dibromofluoromethane	11.08	113	209370	60.30	ug/kg	0.03
Spiked Amount 50.000	Range 53 - 146		Recovery = 120.60%			
54) D8-Toluene	13.24	98	589051	54.64	ug/kg	0.03
Spiked Amount 50.000	Range 41 - 146		Recovery = 109.28%			
75) Bromofluorobenzene	15.73	95	229495	54.53	ug/kg	0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 109.06%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.91	85	88629	14.04	ug/kg	98
3) Chloromethane	6.38	50	120405	19.18	ug/kg	98
4) Vinyl Chloride	6.58	62	128101	24.08	ug/kg	97
5) Bromomethane	7.23	96	76255	22.72	ug/kg	96
6) Chloroethane	7.45	64	92856	24.97	ug/kg	97
7) Trichlorofluoromethane	7.72	101	230532	26.17	ug/kg	99
8) Trichlorotrifluoroethane	8.54	101	85365	28.77	ug/kg	94
9) acrolein	8.91	56	51972	407.59	ug/kg	100
10) Acetone	9.25	43	102851	156.81	ug/kg	94
11) 1,1-Dichloroethene	8.51	96	71088	24.03	ug/kg	99
12) 3-Chloropropene	9.10	76	45971	29.00	ug/kg	99
13) Acetonitrile	9.81	41	34028	125.55	ug/kg	92
14) Iodomethane	8.74	142	28915	9.37	ug/kg#	33
15) Carbon disulfide	8.63	76	238514	32.55	ug/kg	99
16) Methylene Chloride	9.22	84	78542	25.51	ug/kg	98
17) Methyl tert-butyl ether	9.54	73	185898	28.15	ug/kg	96
18) Acrylonitrile	10.11	53	187391	131.22	ug/kg#	77
19) T-1,2-Dichloroethene	9.45	96	81161	25.54	ug/kg	98
20) Isopropyl Ether	9.91	45	442315	24.97	ug/kg	98
21) C-1,2-Dichloroethene	10.68	96	86455	23.01	ug/kg	98
22) 1,1-Dichloroethane	10.12	63	160822	23.02	ug/kg	99
23) Vinyl Acetate	10.31	43	262210	26.97	ug/kg	96
24) Chloroprene	10.11	88	72410	26.17	ug/kg	15
25) 2-Butanone	11.18	72	24165m	129.07	ug/kg	
26) Propionitrile	11.46	54	7320	27.25	ug/kg	100
27) 2,2-Dichloropropane	10.81	77	133919	28.10	ug/kg	96
28) Methacrylonitrile	11.50	67	23901	26.72	ug/kg	85
29) Chloroform	10.89	83	153408	26.56	ug/kg	97
31) Dibromofluoromethane	11.08	113	209370	60.30	ug/kg	100
32) Bromochloromethane	10.89	128	45407	24.56	ug/kg	97
33) 1,1,1-Trichloroethane	11.19	97	137749	24.71	ug/kg	99
34) 1,1-Dichloropropene	11.30	75	114362	24.32	ug/kg	98
35) Diethyl Ether	8.14	59	69726	29.18	ug/kg	97
36) Methyl Acetate	9.40	74	9083	30.93	ug/kg	99
37) Cyclohexane	10.96	56	148284	25.58	ug/kg	99
39) Methyl Cyclohexane	12.09	55	109367	22.38	ug/kg	96
40) Carbon Tetrachloride	11.15	117	141643	22.69	ug/kg	99
41) 1,2-Dichloroethane	11.68	62	110287	22.47	ug/kg	98
42) Benzene	11.54	78	294599	20.21	ug/kg#	70
43) Isobutyl Alcohol	11.56	43	102762	423.38	ug/kg#	1
44) Trichloroethene	12.04	130	86678	21.20	ug/kg	93
45) 1,2-Dichloropropane	12.50	63	83710	22.58	ug/kg	96
46) Methyl Methacrylate	12.57	100	17414	25.64	ug/kg	95
47) 1,4-Dioxane	12.71	88	6132	619.53	ug/kg	100
48) Bromodichloromethane	12.51	83	110951	21.97	ug/kg	98
49) Dibromomethane	12.43	93	49270	23.00	ug/kg	97
50) 4-Methyl-2-Pentanone	13.51	100	41209	125.34	ug/kg	88
51) 2-Chloroethyl vinyl ether	12.67	63	619	52.02	ug/kg#	100
52) 2-Hexanone	14.21	43	271709	133.21	ug/kg	97

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\012621\212AU005.D Vial: 5
Acq On : 26 Jan 2021 9:53 am Operator: KG
Sample : 1a26010-msd1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 13:07 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

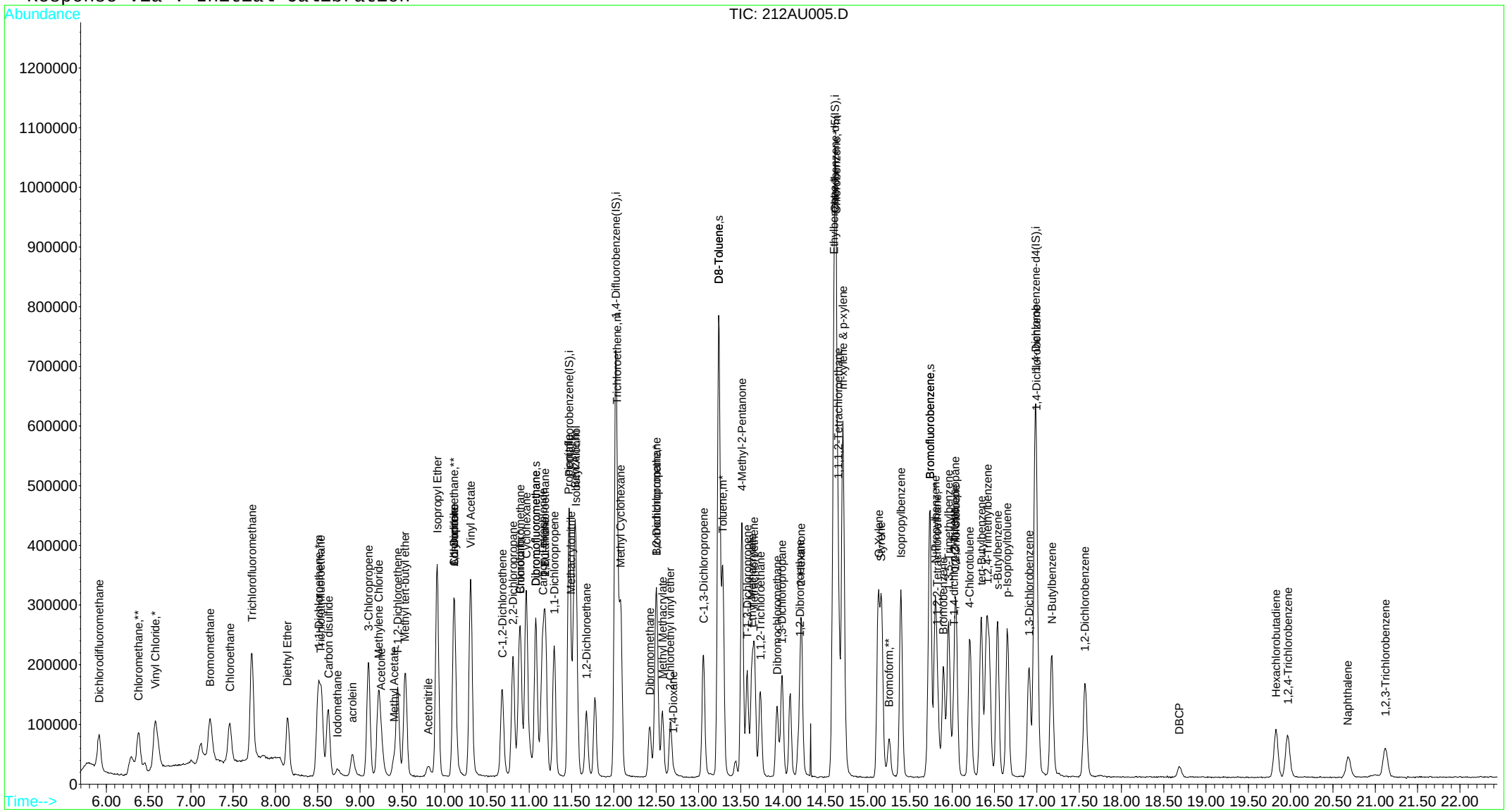
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	13.06	75	127201	22.17 ug/kg	94
55) D8-Toluene	13.24	98	589051	54.64 ug/kg	92
57) Toluene	13.29	92	178851	18.99 ug/kg	98
58) Ethyl Methacrylate	13.63	69	84878	23.78 ug/kg	96
59) T-1,3-Dichloropropene	13.58	75	108248	21.54 ug/kg	92
60) 1,1,2-Trichloroethane	13.73	97	55723	21.25 ug/kg	98
61) 1,3-Dichloropropane	13.99	76	105484	22.74 ug/kg	98
62) Tetrachloroethene	13.66	164	48652	18.41 ug/kg	97
63) Dibromochloromethane	13.93	129	82076	21.31 ug/kg	99
64) 1,2-Dibromoethane	14.19	107	63481	21.93 ug/kg	98
65) Chlorobenzene	14.64	112	199968	18.96 ug/kg	97
66) 1,1,1,2-Tetrachloroethane	14.66	131	78037	19.26 ug/kg#	36
67) Ethylbenzene	14.59	106	99993	19.06 ug/kg	98
68) m-xylene & p-xylene	14.71	106	234491	37.59 ug/kg	96
69) O-Xylene	15.12	106	115275	19.25 ug/kg	98
70) Bromoform	15.26	173	35078	21.40 ug/kg	99
71) Styrene	15.17	104	203041	19.31 ug/kg	97
72) Isopropylbenzene	15.39	105	294329	19.37 ug/kg	99
73) 1,2,3-Trichloropropane	16.03	75	63081	19.96 ug/kg	95
74) 1,1,2,2-Tetrachloroethane	15.83	83	59345	22.90 ug/kg	99
76) Bromofluorobenzene	15.73	95	229495	54.53 ug/kg#	71
77) T-1,4-dichloro-2-butene	16.01	53	13942	17.49 ug/kg#	76
78) N-Propylbenzene	15.80	91	336817	19.93 ug/kg	97
80) Bromobenzene	15.90	156	64271	19.48 ug/kg	98
81) 1,3,5-Trimethylbenzene	15.96	105	217388	18.55 ug/kg	100
82) 2-Chlorotoluene	16.04	91	197621	18.41 ug/kg	99
83) 4-Chlorotoluene	16.21	91	206683	19.02 ug/kg	98
84) 1,2,4-Trimethylbenzene	16.41	105	220037	18.99 ug/kg	97
85) s-Butylbenzene	16.54	105	278458	19.51 ug/kg	99
86) tert-Butylbenzene	16.35	119	199123	18.75 ug/kg	96
87) p-Isopropyltoluene	16.65	119	233721	19.40 ug/kg	98
88) 1,3-Dichlorobenzene	16.91	146	111900	18.84 ug/kg	97
89) 1,4-Dichlorobenzene	17.00	146	115216	18.72 ug/kg	97
90) 1,2-Dichlorobenzene	17.57	146	99696	20.05 ug/kg	99
91) N-Butylbenzene	17.18	91	189920	20.64 ug/kg	99
92) DBCP	18.69	75	7779	28.29 ug/kg	96
93) Naphthalene	20.68	128	64621	31.65 ug/kg	100
94) 1,2,4-Trichlorobenzene	19.98	180	40050	23.89 ug/kg	99
95) Hexachlorobutadiene	19.83	225	22755	21.71 ug/kg	97
96) 1,2,3-Trichlorobenzene	21.13	180	30674	28.19 ug/kg	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\012621\212AU005.D Vial: 5
Acq On : 26 Jan 2021 9:53 am Operator: KG
Sample : 1a26010-msd1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 13:07 2021 Quant Results File: 011921.RES

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012621\212AU008.D Vial: 7
Acq On : 26 Jan 2021 11:19 am Operator: KG
Sample : 1a26010-blk1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 13:08 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.47	168	294699	50.00	ug/kg	0.03
38) 1,4-Difluorobenzene(IS)	12.02	114	604071	50.00	ug/kg	0.03
56) Chlorobenzene-d5(IS)	14.62	82	274826	50.00	ug/kg	0.03
79) 1,4-Dichlorobenzene-d4(IS)	16.98	152	171064	50.00	ug/kg	0.03
System Monitoring Compounds						
30) Dibromofluoromethane	11.09	113	193819	57.85	ug/kg	0.03
Spiked Amount 50.000	Range 53 - 146		Recovery = 115.70%			
54) D8-Toluene	13.24	98	523287	51.17	ug/kg	0.03
Spiked Amount 50.000	Range 41 - 146		Recovery = 102.34%			
75) Bromofluorobenzene	15.74	95	192307	51.49	ug/kg	0.03
Spiked Amount 50.000	Range 41 - 142		Recovery = 102.98%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.		
3) Chloromethane	0.00	50	0	N.D. d		
4) Vinyl Chloride	0.00	62	0	N.D.		
5) Bromomethane	0.00	96	0	N.D. d		
6) Chloroethane	0.00	64	0	N.D. d		
7) Trichlorofluoromethane	0.00	101	0	N.D.		
8) Trichlorotrifluoroethane	0.00	101	0	N.D.		
9) acrolein	0.00	56	0	N.D.		
10) Acetone	0.00	43	0	N.D. d		
11) 1,1-Dichloroethene	0.00	96	0	N.D.		
12) 3-Chloropropene	0.00	76	0	N.D.		
13) Acetonitrile	0.00	41	0	N.D. d		
14) Iodomethane	0.00	142	0	N.D.		
15) Carbon disulfide	0.00	76	0	N.D. d		
16) Methylene Chloride	0.00	84	0	N.D.		
17) Methyl tert-butyl ether	0.00	73	0	N.D.		
18) Acrylonitrile	0.00	53	0	N.D.		
19) T-1,2-Dichloroethene	0.00	96	0	N.D.		
20) Isopropyl Ether	0.00	45	0	N.D.		
21) C-1,2-Dichloroethene	0.00	96	0	N.D.		
22) 1,1-Dichloroethane	0.00	63	0	N.D. d		
23) Vinyl Acetate	0.00	43	0	N.D. d		
24) Chloroprene	0.00	88	0	N.D.		
25) 2-Butanone	0.00	72	0	N.D. d		
26) Propionitrile	0.00	54	0	N.D.		
27) 2,2-Dichloropropane	0.00	77	0	N.D.		
28) Methacrylonitrile	0.00	67	0	N.D. d		
29) Chloroform	0.00	83	0	N.D.		
31) Dibromofluoromethane	11.09	113	193819	57.85	ug/kg	100
32) Bromochloromethane	0.00	128	0	N.D.		
33) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
34) 1,1-Dichloropropene	0.00	75	0	N.D.		
35) Diethyl Ether	0.00	59	0	N.D.		
36) Methyl Acetate	0.00	74	0	N.D.		
37) Cyclohexane	0.00	56	0	N.D.		
39) Methyl Cyclohexane	0.00	55	0	N.D. d		
40) Carbon Tetrachloride	0.00	117	0	N.D. d		
41) 1,2-Dichloroethane	0.00	62	0	N.D.		
42) Benzene	0.00	78	0	N.D. d		
43) Isobutyl Alcohol	0.00	43	0	N.D. d		
44) Trichloroethene	0.00	130	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Methyl Methacrylate	0.00	100	0	N.D.		
47) 1,4-Dioxane	0.00	88	0	N.D.		
48) Bromodichloromethane	0.00	83	0	N.D.		
49) Dibromomethane	0.00	93	0	N.D.		
50) 4-Methyl-2-Pentanone	0.00	100	0	N.D.		
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	0.00	43	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\012621\212AU008.D Vial: 7
Acq On : 26 Jan 2021 11:19 am Operator: KG
Sample : 1a26010-blk1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 13:08 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

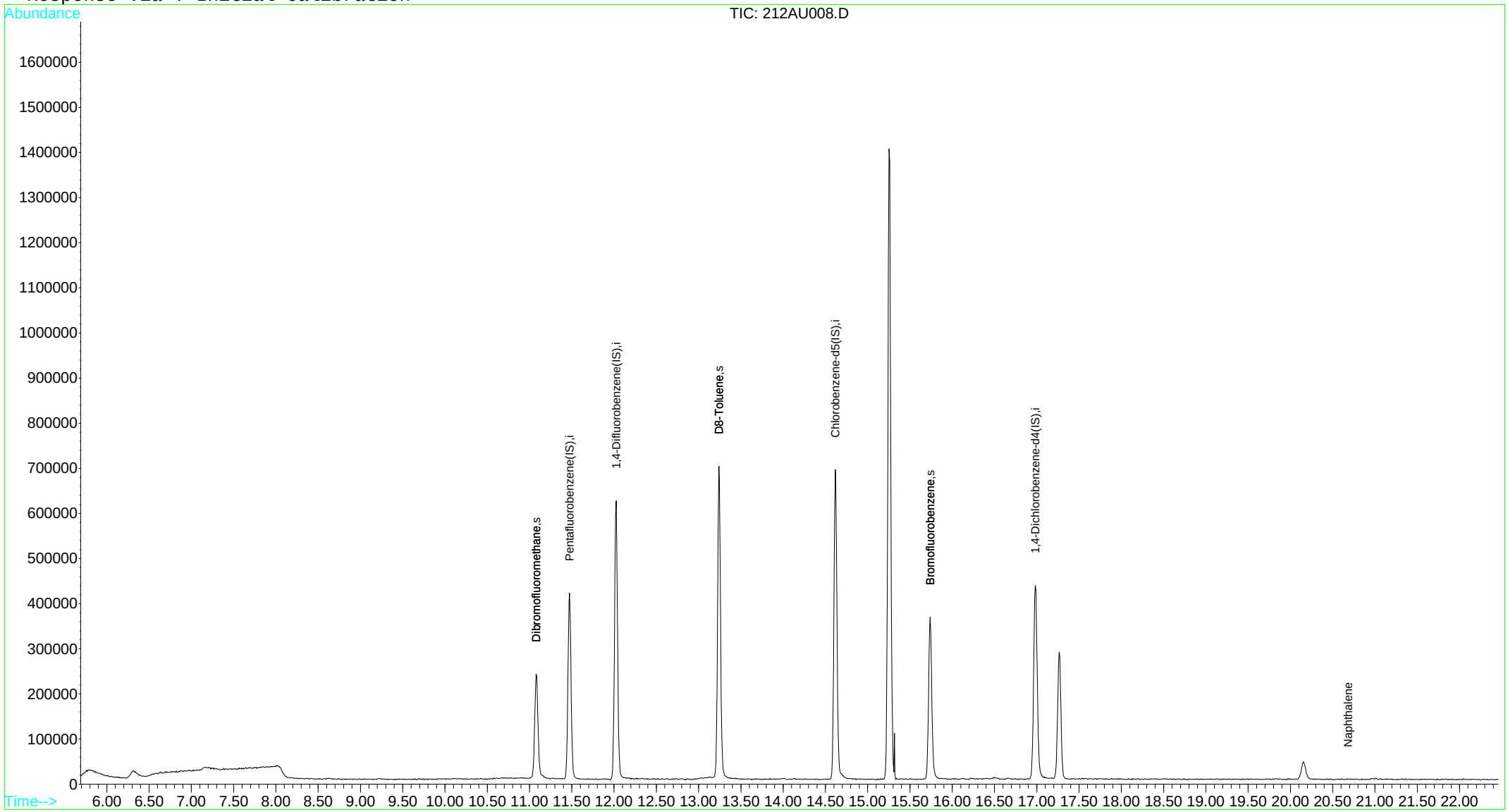
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	0.00	75	0	N.D.	
55) D8-Toluene	13.24	98	523287	51.17 ug/kg	92
57) Toluene	0.00	92	0	N.D.	
58) Ethyl Methacrylate	0.00	69	0	N.D.	
59) T-1,3-Dichloropropene	0.00	75	0	N.D.	
60) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
61) 1,3-Dichloropropane	0.00	76	0	N.D.	
62) Tetrachloroethene	0.00	164	0	N.D.	
63) Dibromochloromethane	0.00	129	0	N.D.	
64) 1,2-Dibromoethane	0.00	107	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
67) Ethylbenzene	0.00	106	0	N.D.	
68) m-xylene & p-xylene	0.00	106	0	N.D.	
69) O-Xylene	0.00	106	0	N.D. d	
70) Bromoform	0.00	173	0	N.D.	
71) Styrene	0.00	104	0	N.D. d	
72) Isopropylbenzene	0.00	105	0	N.D. d	
73) 1,2,3-Trichloropropane	0.00	75	0	N.D.	
74) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
76) Bromofluorobenzene	15.74	95	192307	51.49 ug/kg#	74
77) T-1,4-dichloro-2-butene	0.00	53	0	N.D.	
78) N-Propylbenzene	0.00	91	0	N.D. d	
80) Bromobenzene	0.00	156	0	N.D.	
81) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
82) 2-Chlorotoluene	0.00	91	0	N.D.	
83) 4-Chlorotoluene	0.00	91	0	N.D. d	
84) 1,2,4-Trimethylbenzene	0.00	105	0	N.D. d	
85) s-Butylbenzene	0.00	105	0	N.D. d	
86) tert-Butylbenzene	0.00	119	0	N.D.	
87) p-Isopropyltoluene	0.00	119	0	N.D. d	
88) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
89) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) N-Butylbenzene	0.00	91	0	N.D. d	
92) DBCP	0.00	75	0	N.D.	
93) Naphthalene	20.69	128	1245	0.72 ug/kg	100
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Hexachlorobutadiene	0.00	225	0	N.D.	
96) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\012621\212AU008.D Vial: 7
Acq On : 26 Jan 2021 11:19 am Operator: KG
Sample : 1a26010-blk1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 13:08 2021 Quant Results File: 011921.RES

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012621\212AU009.D Vial: 8
Acq On : 26 Jan 2021 12:02 pm Operator: KG
Sample : CRL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 13:11 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.48	168	287383	50.00	ug/kg	0.03
38) 1,4-Difluorobenzene(IS)	12.03	114	593855	50.00	ug/kg	0.03
56) Chlorobenzene-d5(IS)	14.62	82	273190	50.00	ug/kg	0.03
79) 1,4-Dichlorobenzene-d4(IS)	16.98	152	169027	50.00	ug/kg	0.03
System Monitoring Compounds						
30) Dibromofluoromethane	11.08	113	188711	57.76	ug/kg	0.03
Spiked Amount 50.000	Range 53 - 146		Recovery = 115.52%			
54) D8-Toluene	13.24	98	514730	51.20	ug/kg	0.03
Spiked Amount 50.000	Range 41 - 146		Recovery = 102.40%			
75) Bromofluorobenzene	15.74	95	188073	50.66	ug/kg	0.03
Spiked Amount 50.000	Range 41 - 142		Recovery = 101.32%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.91	85	8087	1.36	ug/kg	95
3) Chloromethane	6.38	50	8735	1.48	ug/kg	84
4) Vinyl Chloride	6.58	62	9196	1.84	ug/kg#	20
5) Bromomethane	7.24	96	9300	2.94	ug/kg	95
6) Chloroethane	7.46	64	6451	1.78	ug/kg	90
7) Trichlorofluoromethane	7.73	101	12590	1.52	ug/kg	95
8) Trichlorotrifluoroethane	8.55	101	5222	1.87	ug/kg	96
9) acrolein	8.91	56	5688	129.15	ug/kg	74
10) Acetone	9.26	43	7607	12.33	ug/kg	71
11) 1,1-Dichloroethene	8.52	96	5131	1.84	ug/kg	98
12) 3-Chloropropene	9.09	76	1777	1.19	ug/kg	61
13) Acetonitrile	9.76	41	226	0.89	ug/kg#	1
14) Iodomethane	8.74	142	1602	0.55	ug/kg	90
15) Carbon disulfide	8.63	76	44417	6.44	ug/kg	93
16) Methylene Chloride	9.22	84	5917	2.04	ug/kg	97
17) Methyl tert-butyl ether	9.55	73	12784	2.06	ug/kg	90
18) Acrylonitrile	10.11	53	9473	7.05	ug/kg#	35
19) T-1,2-Dichloroethene	9.45	96	5614	1.88	ug/kg	88
20) Isopropyl Ether	9.92	45	30197	1.81	ug/kg	97
21) C-1,2-Dichloroethene	10.69	96	6159	1.74	ug/kg	96
22) 1,1-Dichloroethane	10.13	63	11588	1.76	ug/kg	96
23) Vinyl Acetate	10.32	43	69356	7.58	ug/kg	96
24) Chloroprene	10.11	88	3575	1.37	ug/kg	16
25) 2-Butanone	11.18	72	1542	8.75	ug/kg#	78
26) Propionitrile	11.49	54	3567	14.11	ug/kg	100
27) 2,2-Dichloropropane	10.81	77	9740	2.17	ug/kg	50
28) Methacrylonitrile	11.50	67	12944	15.38	ug/kg	89
29) Chloroform	10.90	83	11291	2.08	ug/kg	91
31) Dibromofluoromethane	11.08	113	188711	57.76	ug/kg	100
32) Bromochloromethane	10.89	128	2811	1.62	ug/kg	80
33) 1,1,1-Trichloroethane	11.19	97	8728	1.66	ug/kg	97
34) 1,1-Dichloropropene	11.30	75	8403	1.90	ug/kg	95
35) Diethyl Ether	8.16	59	4697	2.09	ug/kg	87
36) Methyl Acetate	9.39	74	635	2.30	ug/kg#	1
37) Cyclohexane	10.97	56	8904	1.63	ug/kg	93
39) Methyl Cyclohexane	12.09	55	6441	1.41	ug/kg	91
40) Carbon Tetrachloride	11.16	117	8744	1.50	ug/kg	96
41) 1,2-Dichloroethane	11.67	62	7910	1.73	ug/kg	94
42) Benzene	11.54	78	19771	1.45	ug/kg	95
43) Isobutyl Alcohol	11.57	43	7360	32.51	ug/kg#	1
44) Trichloroethene	12.05	130	6004	1.57	ug/kg#	1
45) 1,2-Dichloropropane	12.50	63	6581	1.90	ug/kg	92
46) Methyl Methacrylate	12.58	100	929	1.47	ug/kg	65
47) 1,4-Dioxane	0.00	88	0	N.D.		
48) Bromodichloromethane	12.52	83	7879	1.67	ug/kg	99
49) Dibromomethane	12.43	93	3230	1.62	ug/kg	88
50) 4-Methyl-2-Pentanone	13.53	100	2474	8.07	ug/kg	92
51) 2-Chloroethyl vinyl ether	12.85	63	260	23.43	ug/kg#	100
52) 2-Hexanone	14.22	43	14240	7.49	ug/kg	93

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\012621\212AU009.D Vial: 8
Acq On : 26 Jan 2021 12:02 pm Operator: KG
Sample : CRL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 13:11 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

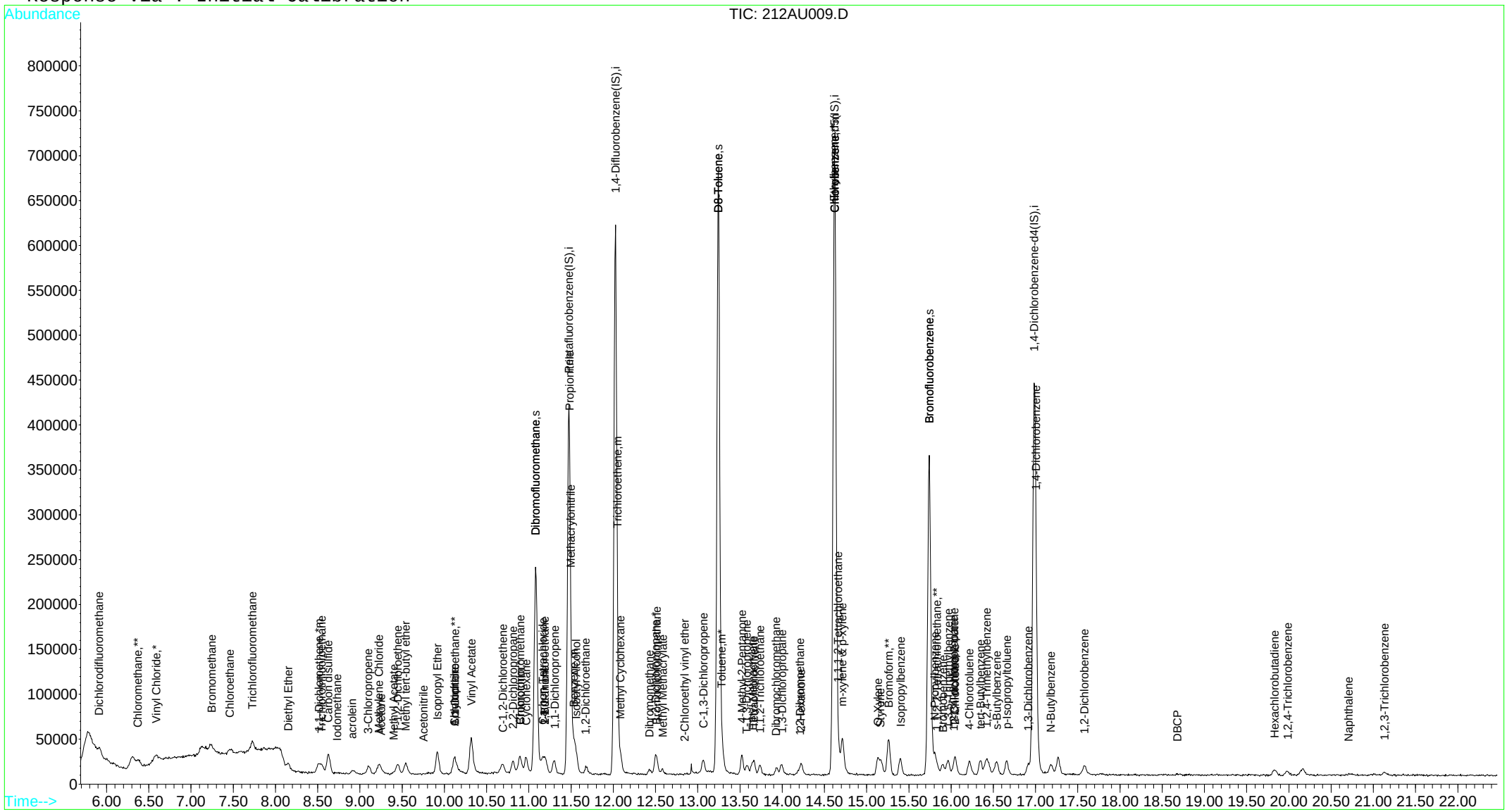
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.06	75	8521	1.59	ug/kg	84
55) D8-Toluene	13.24	98	514730	51.20	ug/kg	92
57) Toluene	13.29	92	11861	1.43	ug/kg	96
58) Ethyl Methacrylate	13.64	69	4121	1.31	ug/kg#	87
59) T-1,3-Dichloropropene	13.59	75	7175	1.62	ug/kg	86
60) 1,1,2-Trichloroethane	13.74	97	3967	1.72	ug/kg	97
61) 1,3-Dichloropropane	13.99	76	7629	1.86	ug/kg	89
62) Tetrachloroethene	13.67	164	2866	1.23	ug/kg	87
63) Dibromochloromethane	13.93	129	5552	1.63	ug/kg#	89
64) 1,2-Dibromoethane	14.20	107	4137	1.62	ug/kg#	94
65) Chlorobenzene	14.63	112	13217	1.42	ug/kg#	62
66) 1,1,1,2-Tetrachloroethane	14.67	131	5073	1.42	ug/kg#	1
67) Ethylbenzene	14.60	106	5862	1.27	ug/kg	74
68) m-xylene & p-xylene	14.71	106	14611	2.66	ug/kg	92
69) O-Xylene	15.13	106	7326	1.39	ug/kg	96
70) Bromoform	15.26	173	2150	1.49	ug/kg#	88
71) Styrene	15.17	104	12440	1.34	ug/kg	94
72) Isopropylbenzene	15.40	105	17243	1.29	ug/kg	96
73) 1,2,3-Trichloropropane	16.02	75	4457	1.60	ug/kg	63
74) 1,1,2,2-Tetrachloroethane	15.84	83	3628	1.59	ug/kg#	86
76) Bromofluorobenzene	15.74	95	188073	50.66	ug/kg#	73
77) T-1,4-dichloro-2-butene	16.03	53	798	1.13	ug/kg#	39
78) N-Propylbenzene	15.80	91	20098	1.35	ug/kg	96
80) Bromobenzene	15.90	156	4094	1.48	ug/kg	97
81) 1,3,5-Trimethylbenzene	15.96	105	13047	1.33	ug/kg	100
82) 2-Chlorotoluene	16.05	91	12911	1.44	ug/kg	91
83) 4-Chlorotoluene	16.21	91	13133	1.44	ug/kg	95
84) 1,2,4-Trimethylbenzene	16.41	105	12820	1.32	ug/kg	98
85) s-Butylbenzene	16.53	105	15451	1.29	ug/kg	100
86) tert-Butylbenzene	16.35	119	12080	1.36	ug/kg	92
87) p-Isopropyltoluene	16.65	119	13731	1.36	ug/kg	97
88) 1,3-Dichlorobenzene	16.91	146	7135	1.43	ug/kg	99
89) 1,4-Dichlorobenzene	17.01	146	7210m	1.40	ug/kg	
90) 1,2-Dichlorobenzene	17.57	146	5998	1.44	ug/kg	94
91) N-Butylbenzene	17.19	91	10315	1.34	ug/kg	97
92) DBCP	18.68	75	269	1.17	ug/kg#	6
93) Naphthalene	20.71	128	3461	2.02	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.99	180	2542	1.81	ug/kg	87
95) Hexachlorobutadiene	19.84	225	1548	1.76	ug/kg	81
96) 1,2,3-Trichlorobenzene	21.14	180	1859	2.04	ug/kg#	63

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\012621\212AU009.D Vial: 8
Acq On : 26 Jan 2021 12:02 pm Operator: KG
Sample : CRL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 13:11 2021 Quant Results File: 011921.RES

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012621\212AU017.D Vial: 16
Acq On : 26 Jan 2021 3:52 pm Operator: KG
Sample : AE00066-11RE1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 27 6:55 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.47	168	193931	50.00	ug/kg	0.02
38) 1,4-Difluorobenzene(IS)	12.02	114	383784	50.00	ug/kg	0.02
56) Chlorobenzene-d5(IS)	14.62	82	191378	50.00	ug/kg	0.03
79) 1,4-Dichlorobenzene-d4(IS)	16.99	152	134955	50.00	ug/kg	0.03
System Monitoring Compounds						
30) Dibromofluoromethane	11.07	113	121564	55.14	ug/kg	0.02
Spiked Amount 50.000	Range 53 - 146		Recovery = 110.28%			
54) D8-Toluene	13.24	98	355666	54.74	ug/kg	0.03
Spiked Amount 50.000	Range 41 - 146		Recovery = 109.48%			
75) Bromofluorobenzene	15.74	95	139788	53.75	ug/kg	0.03
Spiked Amount 50.000	Range 41 - 142		Recovery = 107.50%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.		
3) Chloromethane	0.00	50	0	N.D. d		
4) Vinyl Chloride	6.54	62	327792	97.05	ug/kg	97
5) Bromomethane	0.00	96	0	N.D.		
6) Chloroethane	0.00	64	0	N.D. d		
7) Trichlorofluoromethane	0.00	101	0	N.D.		
8) Trichlorotrifluoroethane	0.00	101	0	N.D.		
9) acrolein	0.00	56	0	N.D.		
10) Acetone	0.00	43	0	N.D. d		
11) 1,1-Dichloroethene	0.00	96	0	N.D.		
12) 3-Chloropropene	0.00	76	0	N.D.		
13) Acetonitrile	0.00	41	0	N.D. d		
14) Iodomethane	0.00	142	0	N.D.		
15) Carbon disulfide	0.00	76	0	N.D. d		
16) Methylene Chloride	0.00	84	0	N.D.		
17) Methyl tert-butyl ether	0.00	73	0	N.D.		
18) Acrylonitrile	0.00	53	0	N.D.		
19) T-1,2-Dichloroethene	0.00	96	0	N.D.		
20) Isopropyl Ether	0.00	45	0	N.D. d		
21) C-1,2-Dichloroethene	0.00	96	0	N.D.		
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	0.00	43	0	N.D. d		
24) Chloroprene	0.00	88	0	N.D.		
25) 2-Butanone	0.00	72	0	N.D.		
26) Propionitrile	0.00	54	0	N.D.		
27) 2,2-Dichloropropane	0.00	77	0	N.D.		
28) Methacrylonitrile	0.00	67	0	N.D. d		
29) Chloroform	0.00	83	0	N.D.		
31) Dibromofluoromethane	11.07	113	121564	55.14	ug/kg	100
32) Bromochloromethane	0.00	128	0	N.D.		
33) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
34) 1,1-Dichloropropene	0.00	75	0	N.D.		
35) Diethyl Ether	0.00	59	0	N.D.		
36) Methyl Acetate	0.00	74	0	N.D.		
37) Cyclohexane	0.00	56	0	N.D.		
39) Methyl Cyclohexane	0.00	55	0	N.D. d		
40) Carbon Tetrachloride	0.00	117	0	N.D.		
41) 1,2-Dichloroethane	0.00	62	0	N.D.		
42) Benzene	0.00	78	0	N.D. d		
43) Isobutyl Alcohol	0.00	43	0	N.D. d		
44) Trichloroethene	0.00	130	0	N.D. d		
45) 1,2-Dichloropropane	0.00	63	0	N.D. d		
46) Methyl Methacrylate	0.00	100	0	N.D.		
47) 1,4-Dioxane	0.00	88	0	N.D.		
48) Bromodichloromethane	0.00	83	0	N.D.		
49) Dibromomethane	0.00	93	0	N.D.		
50) 4-Methyl-2-Pentanone	0.00	100	0	N.D. d		
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	0.00	43	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012621\212AU017.D Vial: 16
Acq On : 26 Jan 2021 3:52 pm Operator: KG
Sample : AE00066-11RE1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 27 6:55 2021 Quant Results File: 011921.RES

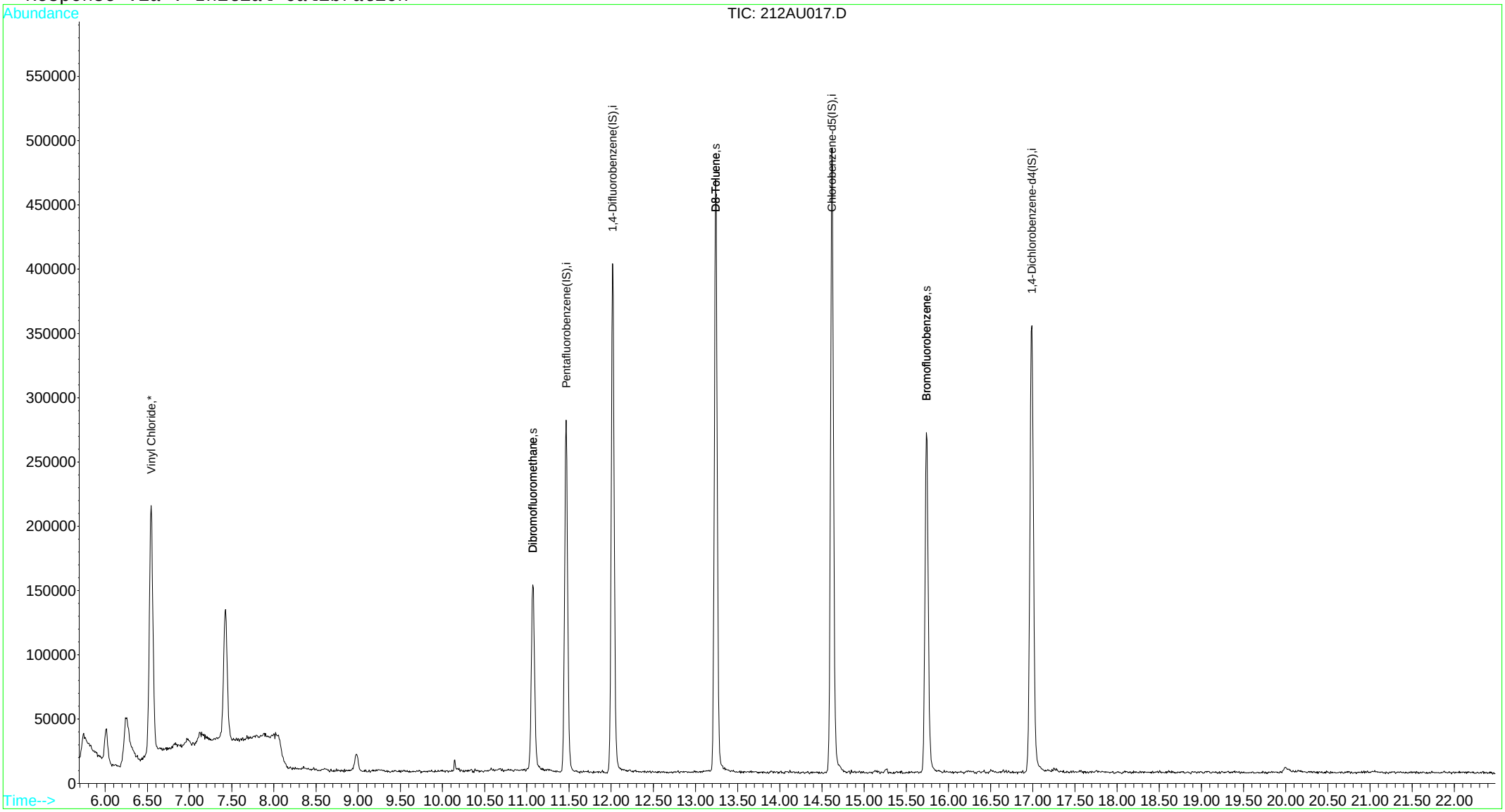
Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	0.00	75	0	N.D.	
55) D8-Toluene	13.24	98	355666	54.74 ug/kg	93
57) Toluene	0.00	92	0	N.D.	
58) Ethyl Methacrylate	0.00	69	0	N.D.	
59) T-1,3-Dichloropropene	0.00	75	0	N.D.	
60) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
61) 1,3-Dichloropropane	0.00	76	0	N.D.	
62) Tetrachloroethene	0.00	164	0	N.D.	
63) Dibromochloromethane	0.00	129	0	N.D.	
64) 1,2-Dibromoethane	0.00	107	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
67) Ethylbenzene	0.00	106	0	N.D.	
68) m-xylene & p-xylene	0.00	106	0	N.D.	
69) O-Xylene	0.00	106	0	N.D.	
70) Bromoform	0.00	173	0	N.D.	
71) Styrene	0.00	104	0	N.D.	
72) Isopropylbenzene	0.00	105	0	N.D.	
73) 1,2,3-Trichloropropane	0.00	75	0	N.D.	
74) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
76) Bromofluorobenzene	15.74	95	139788	53.75 ug/kg#	74
77) T-1,4-dichloro-2-butene	0.00	53	0	N.D.	
78) N-Propylbenzene	0.00	91	0	N.D. d	
80) Bromobenzene	0.00	156	0	N.D.	
81) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
82) 2-Chlorotoluene	0.00	91	0	N.D.	
83) 4-Chlorotoluene	0.00	91	0	N.D.	
84) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.	
85) s-Butylbenzene	0.00	105	0	N.D.	
86) tert-Butylbenzene	0.00	119	0	N.D.	
87) p-Isopropyltoluene	0.00	119	0	N.D. d	
88) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
89) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) N-Butylbenzene	0.00	91	0	N.D.	
92) DBCP	0.00	75	0	N.D.	
93) Naphthalene	0.00	128	0	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Hexachlorobutadiene	0.00	225	0	N.D.	
96) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.	

Quantitation Report

Data File : C:\HPCHEM\1\DATA\012621\212AU017.D Vial: 16
Acq On : 26 Jan 2021 3:52 pm Operator: KG
Sample : AE00066-11RE1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 27 6:55 2021 Quant Results File: 011921.RES

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Initial Calibration



ANALYSIS SEQUENCE

AA63653

Instrument: OVGCMS5

Calibration ID: 2011113

Printed: 11/20/2020 10:14:21AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA63653-TUN1	QC		1		A0F0994			
AA63653-CAL1	QC		2		A0K1094	A0H0536		
AA63653-CAL2	QC		3		A0K1095	A0H0536		
AA63653-CAL3	QC		4		A0K1096	A0H0536		
AA63653-CAL4	QC		5		A0K1097	A0H0536		
AA63653-CAL5	QC		6		A0K1098	A0H0536		
AA63653-CAL6	QC		7		A0K1099	A0H0536		
AA63653-CAL7	QC		8		A0K1100	A0H0536		
AA63653-CAL8	QC		9		A0K1101	A0H0536		
AA63653-SCV1	QC		10		A0K1038	A0H0536		

Samples Loaded By Date

Data Processed By Date

VOLATILES GC/MS LOGBOOK (EPA Method 624.1 / SW-846 Method 8260D)

Tune Start Date: 11/12/20	Surrogate: AOF0892	8260 Mix: AOK0852
Sequence: AA63653 / AA63657	Internal: AOH0535	8260 Add: AOK0725
Batch: OK19040	LCS Mix 2⁰: AOK0835	8260 Ac/Ac: AOK1075
Method: 8260	LCS Acrolein 2⁰: AOK0868	8260 Gases: AOE1012
Analyst: JCN	LCS Gas 2⁰: AOK1023	Instrument #: MS-5
Instrument EM Voltage: 1706		

205KN

Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)	Comments	LIMS
001	Tun			1				
002	Tun			1			Pass	
003	CAL1 1ppb			2			✓	
004	CAL2 2ppb			3			✓	
005	CAL3 5ppb			4			✓	
006	CAL4 10ppb			5			✓	
007	CAL5 20ppb			6			✓ Undersp.ked Acrolein / Acrylonitrile	
008	CAL6 50ppb			7			✓	
009	CAL7 80ppb			8			✓	
010	CAL8 100ppb			9			✓	
011	Rnse			10				
012	SCV		1/20	11		N	✓	
013	BS		1/20	12		1/20	✓	
014	BLK			13			✓	
015	AD06553-03	H	1	14	✓	N	✓ MS/MSD	
016	AD06553-13	E	1	15	✓	N	✓	
017	AD06553-14	D	1	16	✓	N	✓	
018	AD06553-15	D	1	17	✓	N	✓	
019	AD06553-16	D	1	18	✓	N	✓	
020	AD06553-17	E	1	19	✓	N	✓	
021	AD06553-18	D	1	20	✓	N	✓	

Response Factor Report OVGCMS5

Method Path : C:\msdchem\1\methods\
Method File : 111920W.M
Title : ENCO SOP VGCMS05; Element Cal
Last Update : Thu Nov 19 13:02:55 2020
Response Via : Initial Calibration

Calibration Files
1 =205KN003.D 2 =205KN004.D 5 =205KN005.D 20 =205KN007.D 100 =205KN010.D 50 =205KN008.D 80 =205KN009.D 10 =205KN(

	Compound	1	2	5	20	100	50	80	10	Avg	%RSD
1) I	PENTAFLUOROBENZENE...	----------	ISTD	----------							
2)	Dichlorodifluo...	0.732	0.531	0.620	0.629	0.673	0.688	0.709	0.583	0.645	10.47
3) P	Chloromethane	0.964	0.768	0.753	0.667	0.733	0.662	0.754	0.644	0.743	13.64
4) C	Vinyl Chloride	0.639	0.496	0.594	0.610	0.665	0.618	0.687	0.518	0.603	11.04
5)	Bromomethane	0.549	0.394	0.247	0.154	0.219	0.181	0.205	0.180	0.266	51.25
6)	Chloroethane	0.510	0.336	0.273	0.297	0.260	0.264	0.323			29.51
7)	Trichlorofluor...	0.796	0.619	0.687	0.758	0.815	0.793	0.830	0.707	0.751	9.78
8)	Diethyl ether	0.518	0.368	0.387	0.388	0.432	0.430	0.456	0.360	0.417	12.66
9) C	1,1-Dichloroet...	0.530	0.372	0.392	0.413	0.456	0.449	0.465	0.375	0.432	12.52
10)	Trichlorotrifl...	0.261	0.264	0.293	0.261	0.306	0.306	0.313	0.308	0.289	7.99
11)	Acrolein	0.103	0.071	0.088	0.042	0.093	0.099	0.101	0.098	0.087#	24.14
12)	Iodomethane	0.324	0.307	0.371	0.456	0.460	0.473	0.466	0.432	0.411	16.35
13)	Carbon Disulfide	1.626	1.279	1.418	1.452	1.296	1.421	1.393	1.427	1.414	7.52
14)	3-chloropropene	1.169	0.669	0.682	0.774	0.864	0.852	0.844	0.712	0.821	19.61
15)	Acetone	0.164	0.076	0.113	0.108	0.115	0.117	0.122	0.127	0.118	20.50
16)	Methylene Chlo...	0.949	0.680	0.585	0.479	0.515	0.526	0.538	0.495	0.596	26.19
17)	Methyl Acetate	0.752	0.373	0.342	0.331	0.358	0.362	0.385	0.374	0.410	34.05
18)	t-1,2-Dichloro...	0.632	0.429	0.448	0.474	0.518	0.520	0.544	0.431	0.499	13.82
19)	Methyl tert-bu...	1.208	1.067	1.181	1.219	1.336	1.418	1.459	1.226	1.264	10.33
20)	Acetonitrile	0.133	0.087	0.083	0.083	0.092	0.096	0.101	0.093	0.096#	16.96
21)	Isopropyl ether	1.694	1.497	1.582	1.599	1.799	1.820	1.914	1.521	1.678	9.10
22)	Chloroprene	0.511	0.397	0.476	0.495	0.500	0.505	0.508	0.435	0.478	8.66
23) P	1,1-Dichloroet...	1.150	0.746	1.073	0.985	1.079	1.109	1.134	0.943	1.027	13.07
24)	Acrylonitrile	0.171	0.135	0.157	0.083	0.167	0.177	0.183	0.168	0.155	21.11
25)	Vinyl Acetate	1.109	0.868	1.055	1.064	1.035	1.119	1.124	1.046	1.053	7.80
26)	c-1,2-Dichloro...	0.554	0.424	0.524	0.525	0.553	0.576	0.602	0.474	0.529	10.76
27)	2,2-Dichloropr...	0.987	0.574	0.726	0.745	0.872	0.884	0.932	0.636	0.795	18.48
28)	Bromochloromet...	0.174	0.176	0.238	0.191	0.160	0.194	0.174	0.188	0.187	12.53
29)	Cyclohexane	1.446	0.816	1.112	1.011	1.098	1.139	1.151	0.901	1.084	17.43
30) C	Chloroform	1.008	0.818	1.017	0.944	0.995	1.032	1.078	0.957	0.981	7.97
31) s	Dibromofluorom...	0.499	0.517	0.518	0.502	0.484	0.557	0.508	0.540	0.516	4.57
32)	Dibromofluorom...	0.499	0.517	0.518	0.502	0.484	0.557	0.508	0.540	0.516	4.57
33)	2-Butanone	0.095	0.029	0.061	0.046	0.058	0.058	0.061	0.045	0.057#	33.56
34)	1,1,1-Trichlor...	0.886	0.648	0.744	0.804	0.874	0.894	0.933	0.697	0.810	12.79
35)	1,1-Dichloropr...	0.995	0.693	0.799	0.777	0.841	0.869	0.895	0.723	0.824	11.87
36)	Propionitrile	0.073	0.071	0.073	0.070	0.065	0.070	0.072	0.069	0.070#	3.49
37)	Methacrylonitrile	0.399	0.336	0.360	0.337	0.311	0.348	0.341	0.345	0.347	7.26
38)	Isobutyl Alcohol	0.039	0.041	0.042	0.039	0.041	0.045	0.045	0.043	0.042#	5.18

Method Path : C:\msdchem\1\methods\
Method File : 111920W.M

39)	I	1,4-DIFLUOROBENZEN...	----------ISTD----------									
40)		Carbon Tetrach...	0.356	0.266	0.280	0.310	0.381	0.359	0.377	0.269	0.325	15.08
41)		Benzene	1.369	0.895	1.012	1.161	1.252	1.202	1.234	1.020	1.143	13.58
42)		1,2-Dichloroet...	0.530	0.325	0.356	0.380	0.419	0.395	0.426	0.327	0.395	16.85
43)		Trichloroethene	0.243	0.207	0.209	0.223	0.254	0.244	0.248	0.219	0.231	8.07
44)		Methyl cyclohe...	1.297	0.764	0.651	0.549	0.571	0.571	0.580	0.498	0.685	37.89
45)		Dibromomethane	0.175	0.131	0.166	0.162	0.171	0.170	0.178	0.145	0.162	9.97
46)	C	1,2-Dichloropr...	0.417	0.274	0.279	0.316	0.368	0.337	0.367	0.304	0.333	14.80
47)		Bromodichlorom...	0.339	0.218	0.314	0.331	0.411	0.377	0.405	0.312	0.338	18.35
48)		Methyl Methacr...	0.209	0.116	0.173	0.191	0.216	0.207	0.211	0.180	0.188	17.59
49)		1,4-Dioxane	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.003#	15.13
50)		2-Chloroethyl ...	0.164	0.132	0.148	0.164	0.174	0.176	0.176	0.155	0.161	9.70
51)		C-1,3-Dichloro...	0.388	0.337	0.396	0.444	0.557	0.515	0.549	0.386	0.447	18.77
52)	s	D8-Toluene	1.242	1.219	1.181	1.198	1.256	1.317	1.203	1.265	1.235	3.56
53)		D8-Toluene	1.242	1.219	1.181	1.198	1.256	1.317	1.203	1.265	1.235	3.56
54)		4-Methyl-2-pen...	0.054	0.035	0.032	0.032	0.034	0.034	0.035	0.031	0.036#	20.52
55)		CHLOROBENZENE-D5 (IS)	----------ISTD----------									
56)	C	Toluene	1.301	0.813	1.029	1.066	1.109	1.126	1.145	0.947	1.067	13.57
57)		T-1,3-Dichloro...	0.578	0.396	0.539	0.558	0.630	0.608	0.660	0.515	0.561	14.59
58)		Tetrachloroethene	0.355	0.217	0.245	0.289	0.295	0.281	0.297	0.261	0.280	14.66
59)		Ethyl methacry...	0.788	0.476	0.467	0.517	0.560	0.573	0.583	0.495	0.557	18.49
60)		1,1,2-Trichlor...	0.426	0.257	0.309	0.332	0.358	0.354	0.369	0.316	0.340	14.59
61)		Dibromochlorom...	0.262	0.193	0.219	0.271	0.363	0.324	0.377	0.234	0.280	24.18
62)		1,3-Dichloropr...	0.786	0.497	0.586	0.666	0.713	0.696	0.746	0.649	0.667	13.77
63)		1,2-Dibromoethane	0.378	0.275	0.309	0.325	0.360	0.368	0.378	0.290	0.336	12.25
64)		2-Hexanone	0.280	0.209	0.227	0.239	0.255	0.255	0.265	0.235	0.246	9.21
65)	C	Ethylbenzene	0.837	0.505	0.535	0.608	0.646	0.639	0.660	0.582	0.626	16.13
66)	P	Chlorobenzene	1.227	0.919	1.089	1.029	1.086	1.084	1.135	1.030	1.075	8.30
67)		1,1,1,2-Tetrac...	0.325	0.266	0.294	0.319	0.372	0.355	0.375	0.267	0.322	13.59
68)		m-xylene & p-x...	0.771	0.630	0.752	0.782	0.767	0.793	0.800	0.727	0.753	7.24
69)		o-xylene	0.827	0.550	0.798	0.758	0.823	0.841	0.863	0.715	0.772	13.16
70)		Styrene	1.185	0.949	1.198	1.329	1.404	1.372	1.466	1.179	1.260	13.20
71)	P	Bromoform	0.224	0.133	0.111	0.151	0.225	0.198	0.216	0.134	0.174	26.86
72)		Isopropylbenzene	2.119	1.613	1.958	2.054	2.160	2.204	2.274	1.869	2.031	10.53
73)	s	Bromofluoroben...	0.942	0.897	0.855	0.869	0.844	0.927	0.868	0.941	0.893	4.41
74)		Bromofluoroben...	0.942	0.897	0.855	0.869	0.844	0.927	0.868	0.941	0.893	4.41
75)		n-Propylbenzene	2.779	2.232	2.681	2.705	2.871	2.885	3.015	2.557	2.716	8.87
76)	P	1,1,2,2-Tetrac...	0.575	0.424	0.467	0.489	0.518	0.530	0.560	0.467	0.504	10.18
77)		1,2,3-Trichlor...	0.235	0.146	0.161	0.180	0.187	0.187	0.189	0.188	0.184	13.95
78)		T-1,4-Dichloro...	0.121	0.127	0.190	0.191	0.198	0.188	0.206	0.188	0.176	18.47
79)		1,4-DICHLOROBENZEN...	----------ISTD----------									
80)		Bromobenzene	0.491	0.463	0.517	0.513	0.522	0.515	0.541	0.466	0.503	5.46
81)		1,2,4-Trimethy...	2.482	1.775	2.358	2.398	2.416	2.462	2.548	2.288	2.341	10.33
82)		2-Chlorotoluene	2.119	1.605	1.920	2.021	2.048	2.052	2.168	1.808	1.968	9.39
83)		4-Chlorotoluene	2.103	1.725	2.035	2.091	2.145	2.166	2.252	1.920	2.055	8.04

Method Path : C:\msdchem\1\methods\
Method File : 111920W.M

84)	tert-Butylbenzene	1.917	1.425	1.700	1.829	1.869	1.859	1.971	1.656	1.778	9.97
85)	1,3,5-Trimethy...	2.490	1.694	2.251	2.291	2.388	2.406	2.450	2.172	2.268	11.25
86)	p-Isopropyltol...	2.229	1.689	2.180	2.250	2.350	2.377	2.484	2.112	2.209	10.91
87)	s-Butylbenzene	2.516	2.130	2.702	2.757	2.812	2.890	2.983	2.495	2.661	10.24
88)	1,3-Dichlorobe...	1.060	0.831	0.915	1.006	1.121	1.076	1.133	0.926	1.009	10.77
89)	1,4-Dichlorobe...	1.342	0.942	0.985	1.048	1.121	1.090	1.143	0.977	1.081	11.81
90)	n-Butylbenzene	2.456	1.647	2.037	2.410	2.489	2.528	2.635	2.174	2.297	14.24
91)	1,2-Dichlorobe...	1.133	0.693	0.930	0.896	1.007	1.003	1.071	0.881	0.952	14.22
92)	DBCP	0.146	0.037	0.037	0.067	0.082	0.078	0.086	0.067	0.075#	45.78
93)	Hexachlorobuta...	0.179	0.172	0.213	0.199	0.252	0.230	0.254	0.186	0.211	15.26
94)	1,2,4-Trichlor...	0.444	0.216	0.367	0.393	0.486	0.481	0.524	0.368	0.410	23.82
95)	Naphthalene	0.860	0.626	0.684	0.841	1.037	1.012	1.109	0.795	0.870	19.70
96)	1,2,3-Trichlor...	0.242	0.250	0.204	0.239	0.307	0.284	0.319	0.234	0.260	15.18

(#) = Out of Range

Manual Integration Review Form

ENVIRONMENTAL CONSERVATION LABORATORIES, INC. ☐ Cary ☐ Jacksonville ☒ Orlando

I hereby attest that the manual integrations contained in this package have been thoroughly reviewed and are in agreement with the associated hardcopy data.

The electronic files listed below have been reviewed for accuracy, completeness and comply with ENCO labs QA-11 Manual Integration Policy including:

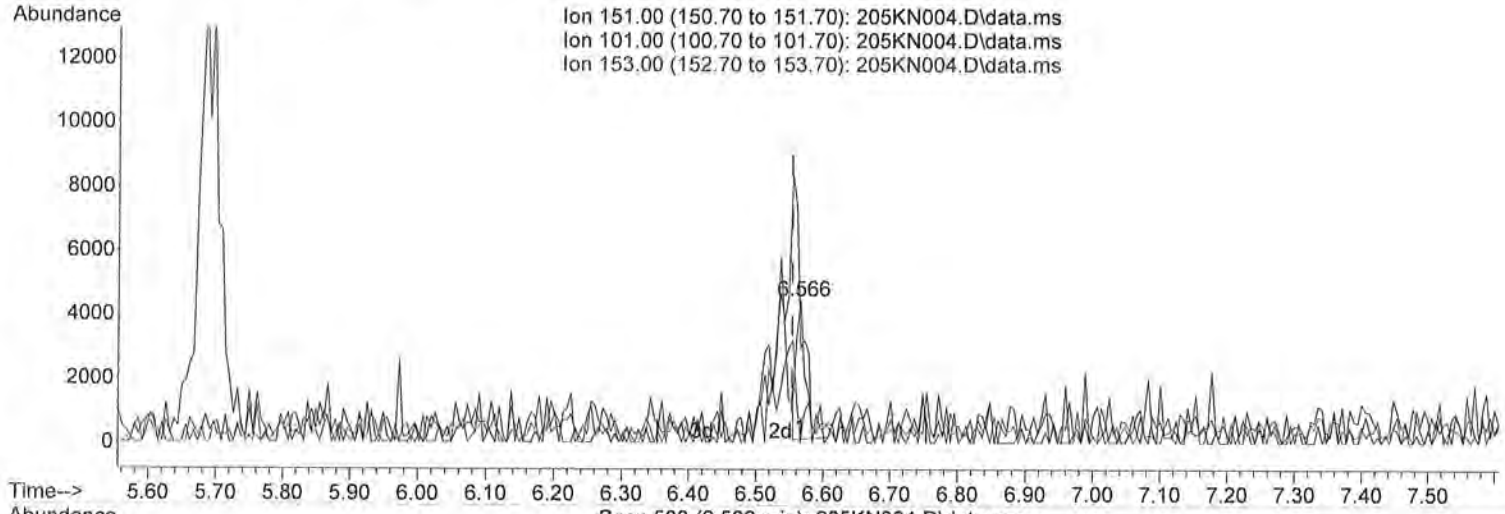
- "Before" and "After" chromatograms are provided
- Manual integrations are indicated on expanded scale "after" chromatograms at a scale large enough to see the manual integration performed.
- Reintegration technique marked if available on the data system
- Technical justification for manual integration
- Appropriate flags indicating which analytes were manually integrated are included in the raw data
- Analyst's initials and date.

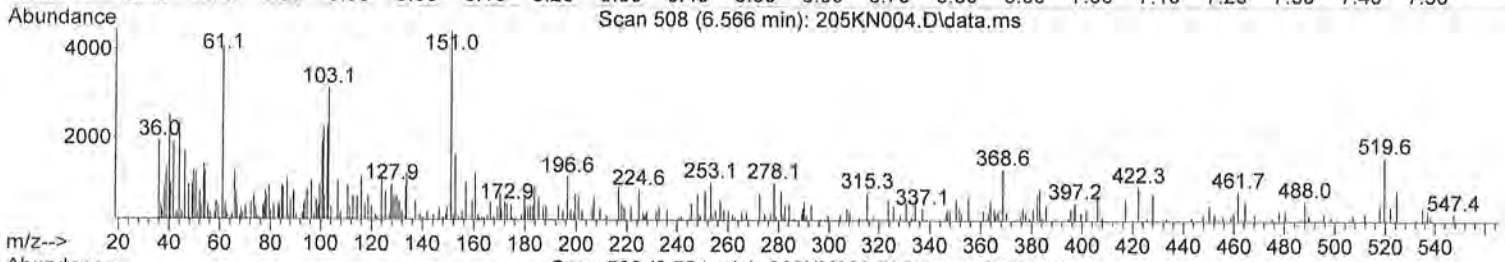
Instrument ID:	OVGCMS-5
Sequence/Batch ID:	AA63053
Data File Prefix:	205KN
Date and Time Range of MIs:	11/19/20 12:16 - 11/20/20 0737
Reviewer Print Name:	Karie Gonzalez
Reviewer Signature:	Karie Gonzalez
Date of Review:	11/20/2020

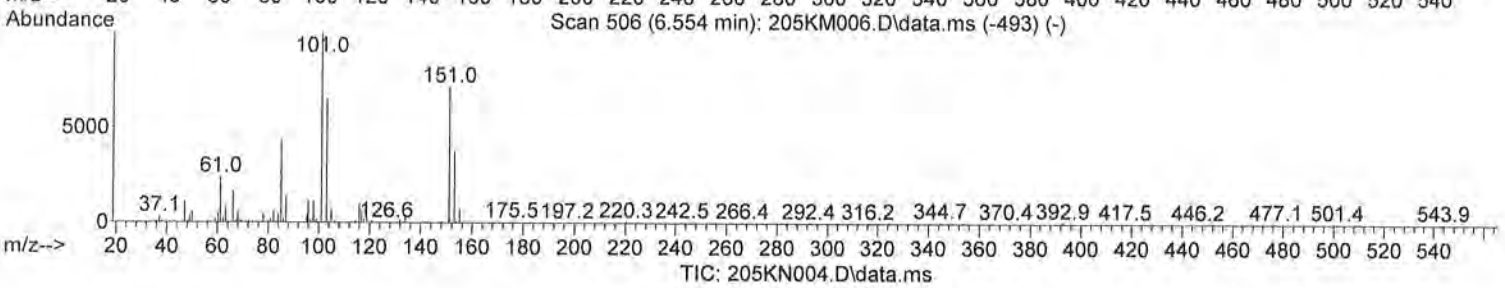
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN004.D\data.ms

(10) Trichlorotrifluoroethane

6.566min (+ 0.012) 0.52 ug/L

response 4301

Ion	Exp%	Act%
151.00	100.00	100.00
101.00	154.20	0.00#
153.00	62.50	40.66#
0.00	0.00	0.00

[ ] Manual Integration

Reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

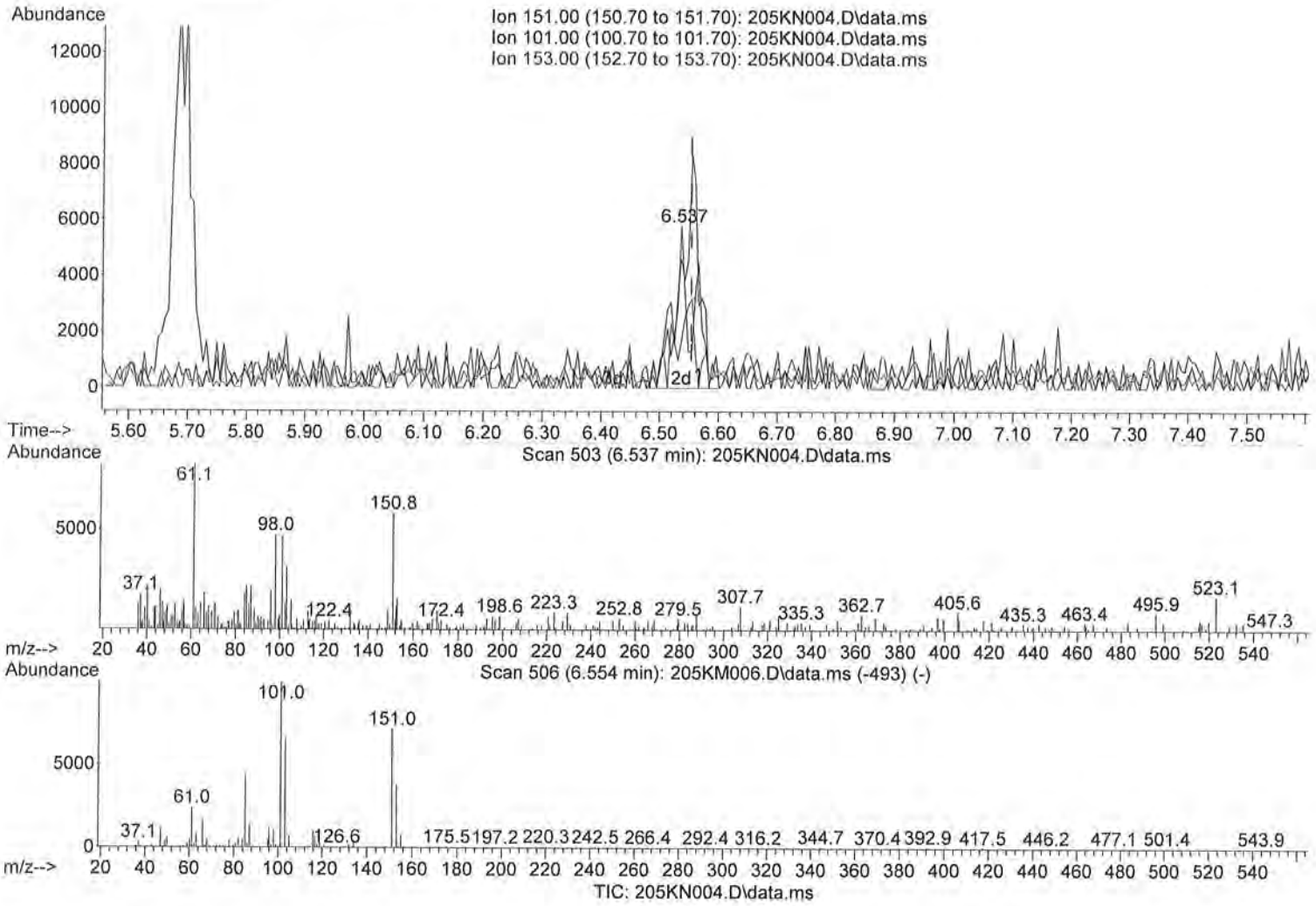
Review by/Date: 11/23/20

Review 2 by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



(10) Trichlorotrifluoroethane

6.537min (-0.017) 1.54 ug/L m

response 12736

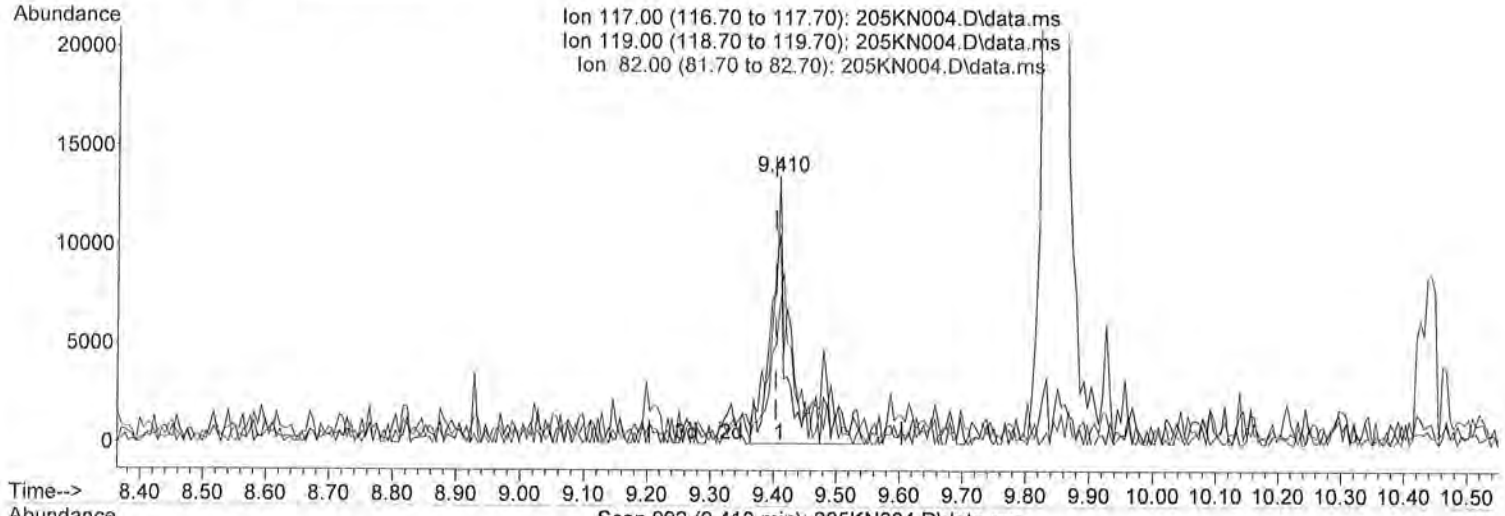
Ion	Exp%	Act%
151.00	100.00	100.00
101.00	154.20	0.00#
153.00	62.50	13.73#
0.00	0.00	0.00

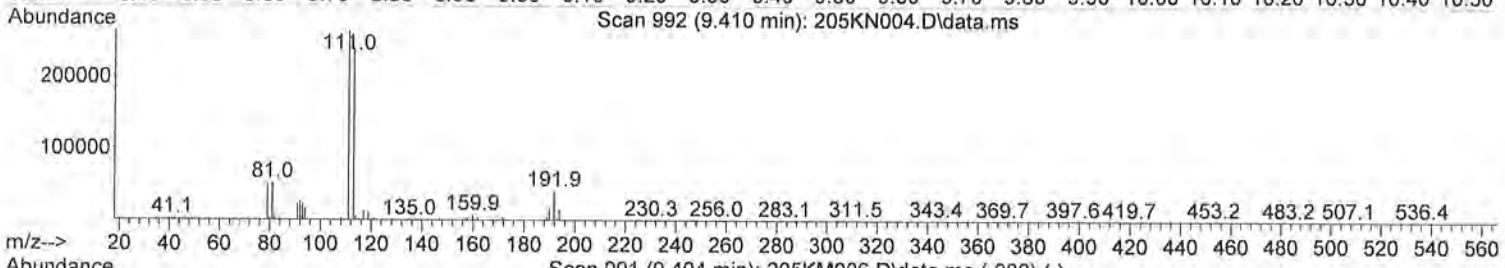
Reason for manual integration:
[X] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date: 11/20/20
Review by/Date:

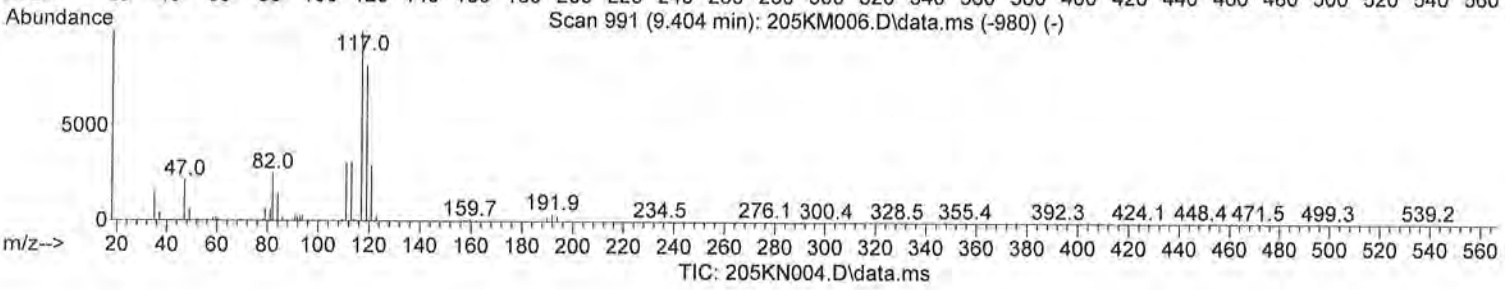
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN004.D\data.ms

(40) Carbon Tetrachloride

9.410min (+ 0.006) 2.08 ug/L

response 32862

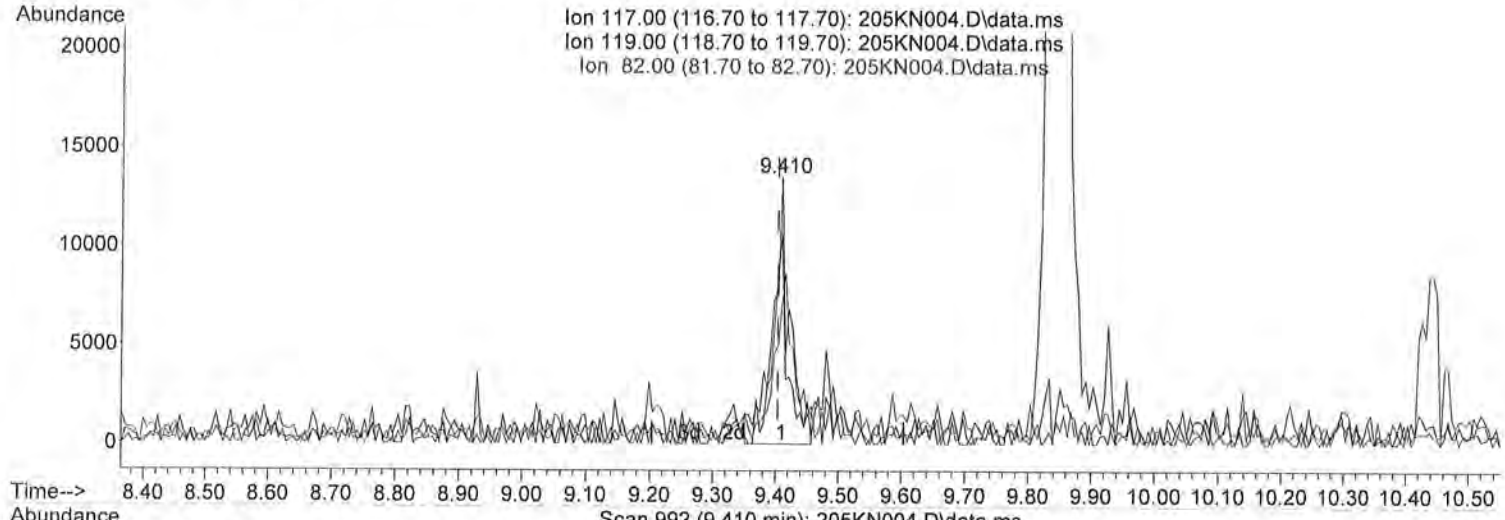
Ion	Exp%	Act%
117.00	100.00	100.00
119.00	93.20	54.94#
82.00	27.60	58.67#
0.00	0.00	0.00

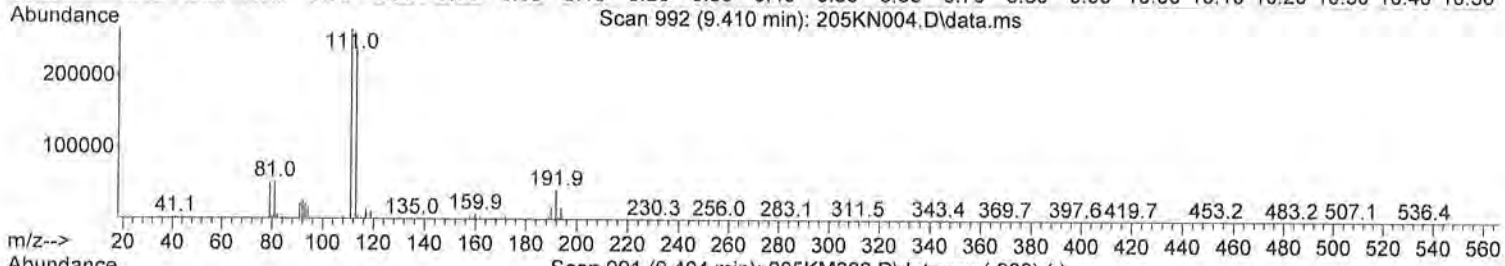
[X] Manual Integration [ ] Manual Integration
Select reason for manual integration:
[X] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date: W 11/23/20
Review by/Date:

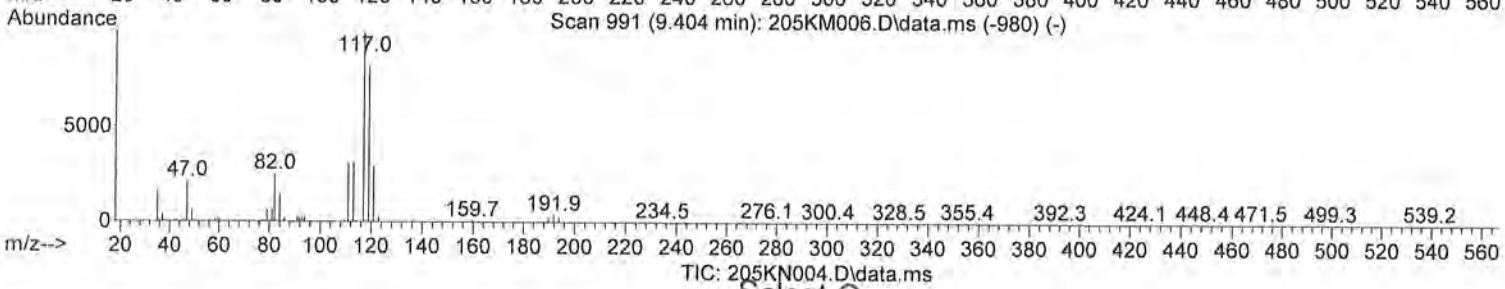
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN004.D\data.ms

(40) Carbon Tetrachloride

9.410min (+ 0.006) 1.62 ug/L m

response 25567

Ion	Exp%	Act%
117.00	100.00	100.00
119.00	93.20	70.61#
82.00	27.60	75.41#
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

[ ] Other:

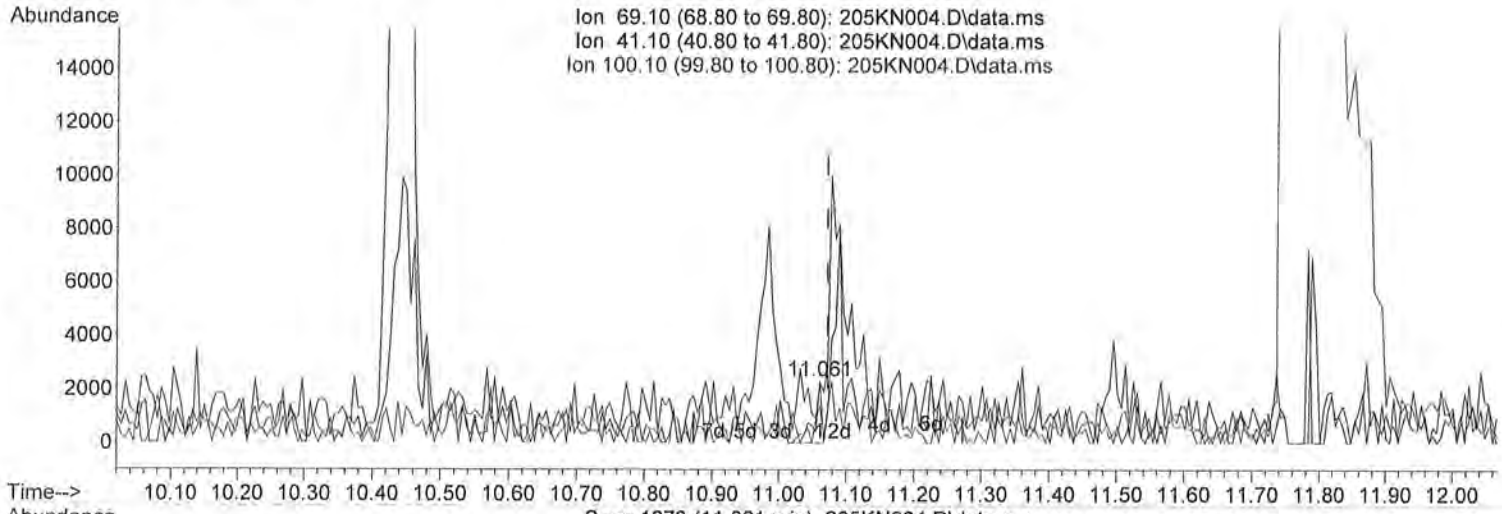
Review by/Date 11/20/20

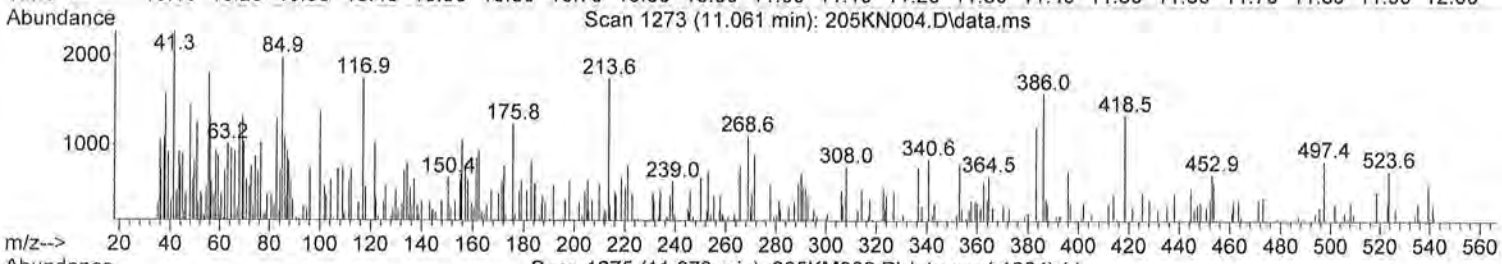
Review by/Date:

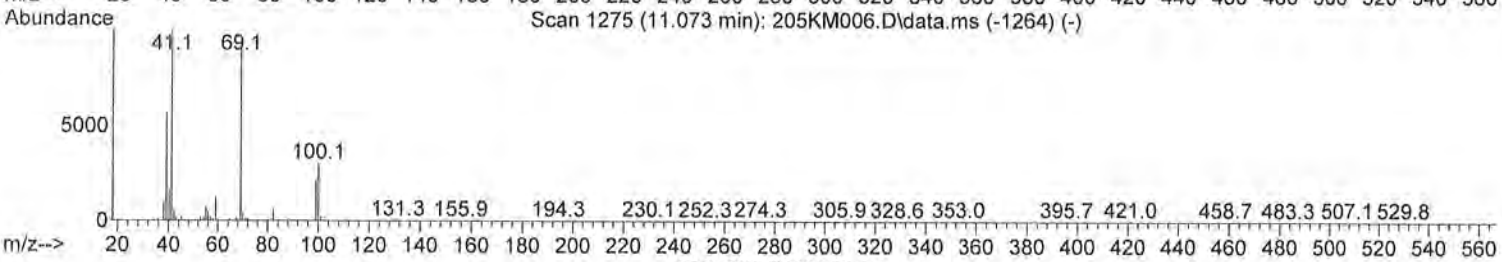
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN004.D\data.ms

(48) Methyl Methacrylate

11.061min (-0.012) 0.14 ug/L

response 1750

Ion	Exp%	Act%
69.10	100.00	100.00
41.10	124.40	141.03
100.10	35.70	69.43#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (baseline selection)

[ ] Missed peak(s) found

[ ] Overlapping peaks

[ ] Co-elution

[ ] Other:

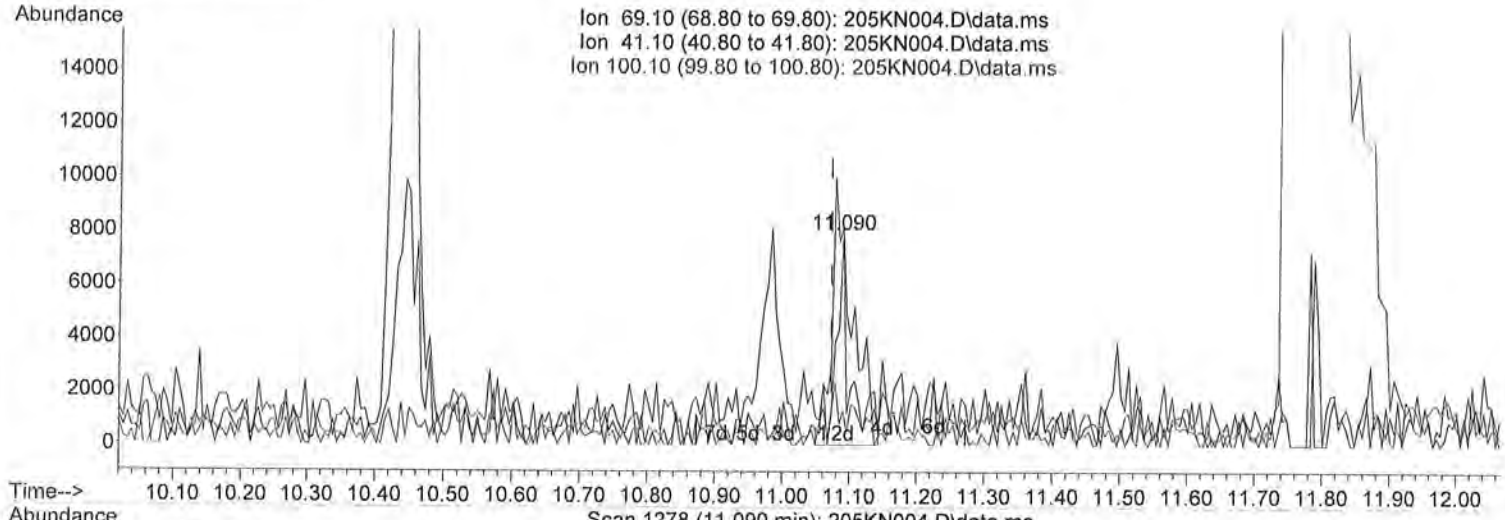
Review by/Date KKW 11/19/20

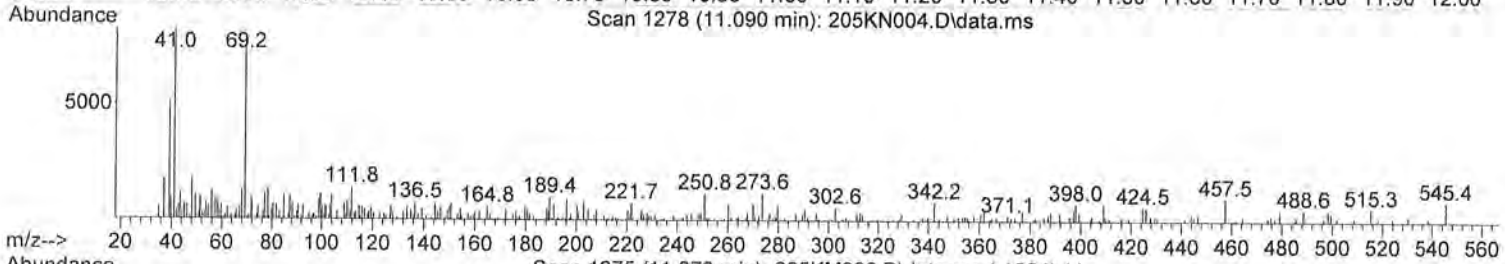
Review by/Date:

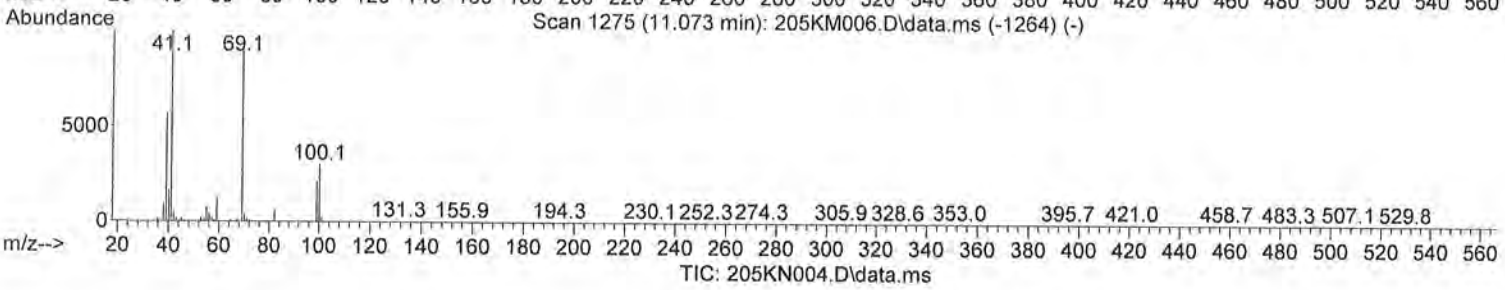
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN004.D\data.ms

(48) Methyl Methacrylate

11.090min (+ 0.017) 0.86 ug/L m

response 11122

Ion	Exp%	Act%
69.10	100.00	100.00
41.10	124.40	22.19#
100.10	35.70	10.92#
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

[ ] ISTD reintegration

[ ] Other:

Review by/Date 11/20/20

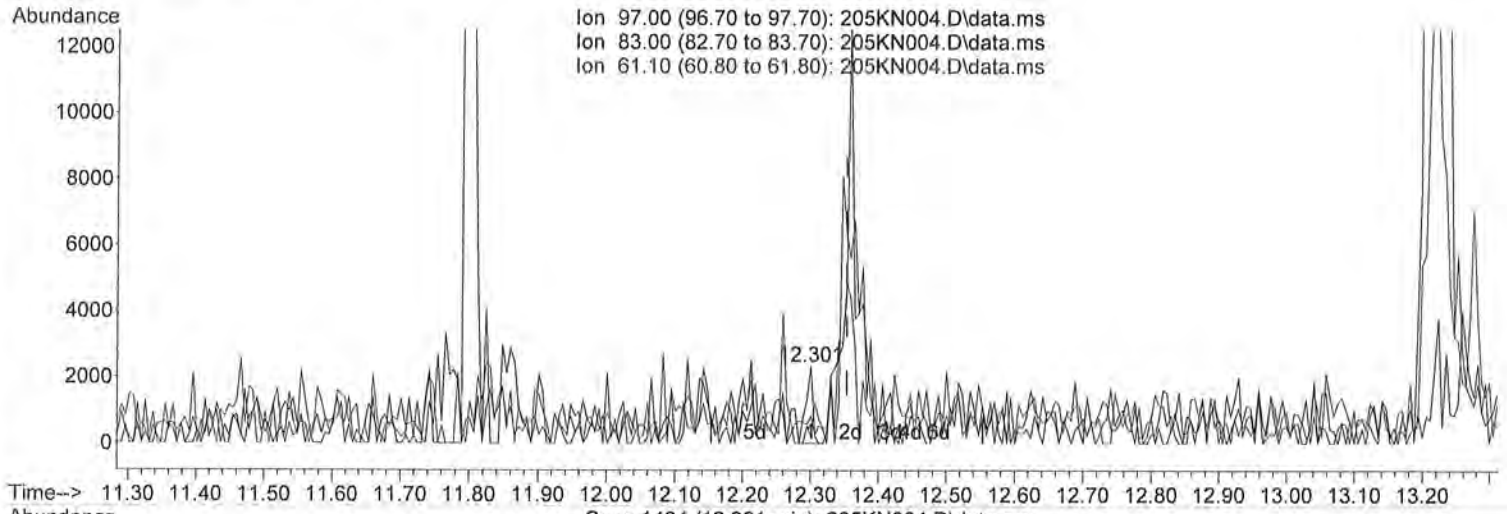
111920W.M Thu Nov 19 12:17:22 2020

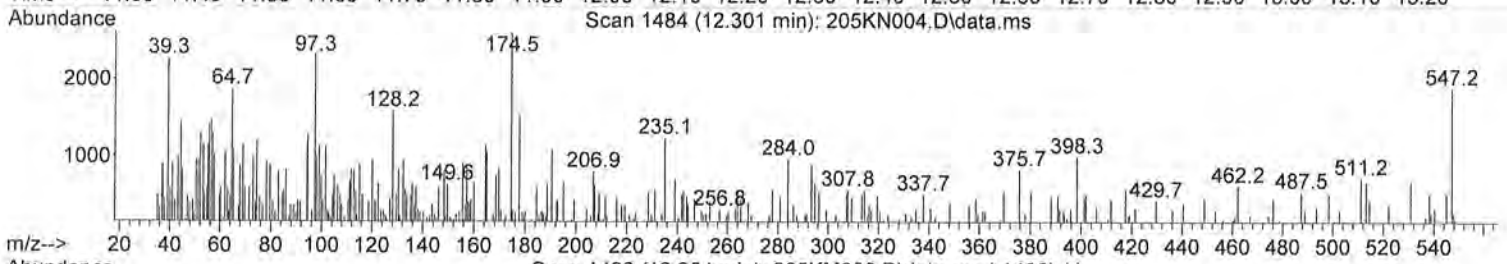
Review by/Date: Page: 1

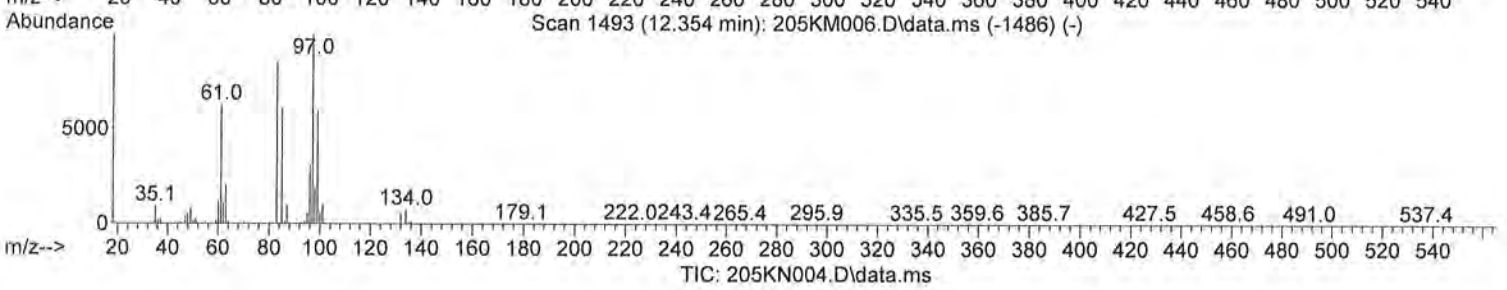
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN004.D\data.ms

(60) 1,1,2-Trichloroethane

12.301min (-0.053) 0.12 ug/L

response 1625

Ion	Exp%	Act%
97.00	100.00	100.00
83.00	90.90	103.69
61.10	65.40	78.09
0.00	0.00	0.00

Select One:

[ ] Manual Integration

[ ] Unassigned peak selection/Peak not found

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

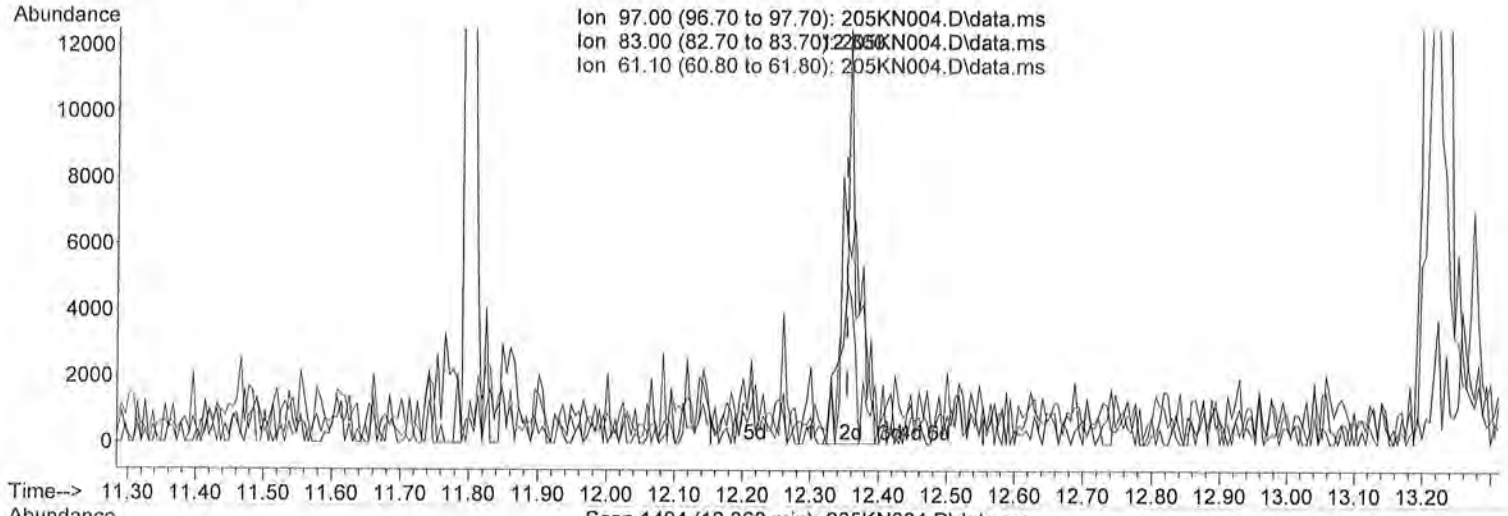
Review by/Date

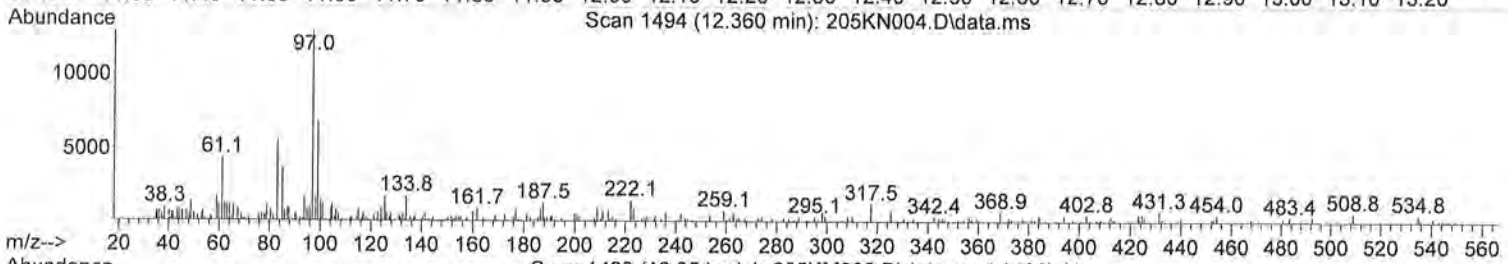
Review by/Date:

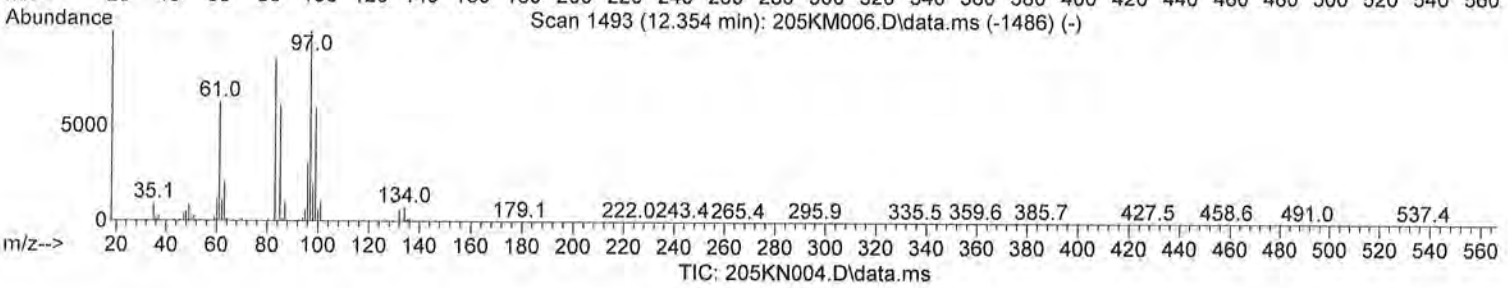
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN004.D\data.ms

(60) 1,1,2-Trichloroethane

12.360min (+ 0.006) 1.20 ug/L m

response 16136

Ion	Exp%	Act%
97.00	100.00	100.00
83.00	90.90	10.44#
61.10	65.40	7.86#
0.00	0.00	0.00

Select One:

[ ] Original Integration

[ ] Reintegration

[ ] Reintegration (baseline selection)

[ ] Compound not found

[ ] Reintegration

[ ] Reintegration (to spot peaks

[ ] ISTD reintegration

[ ] Other:

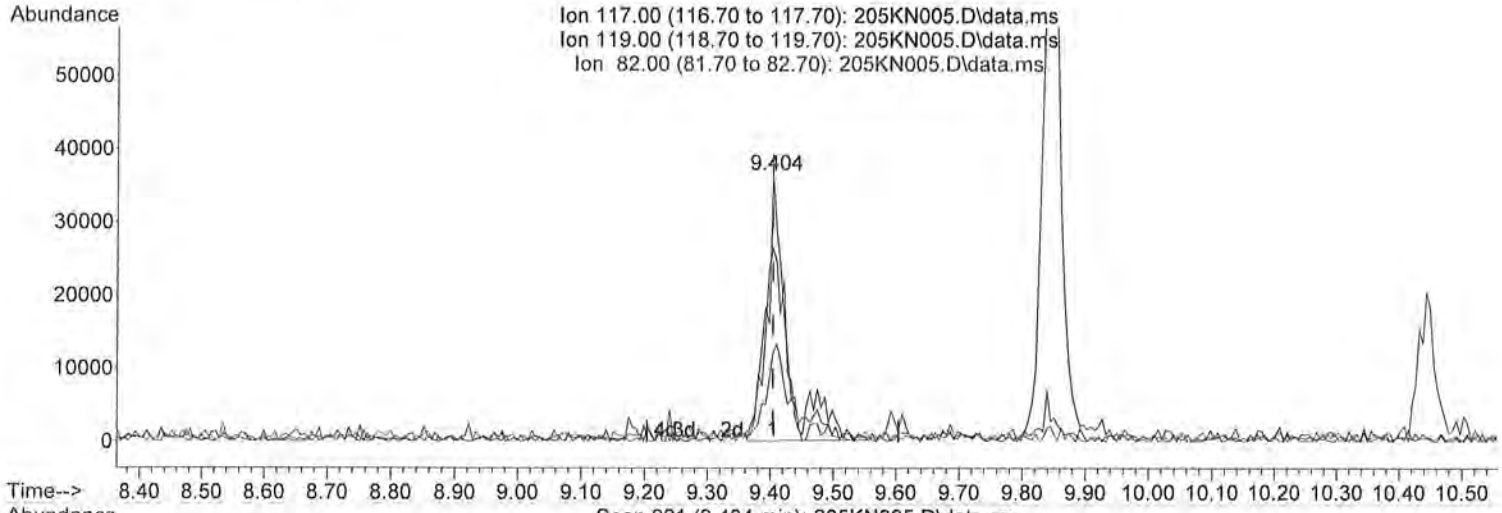
Review by/Date: 11/20/20

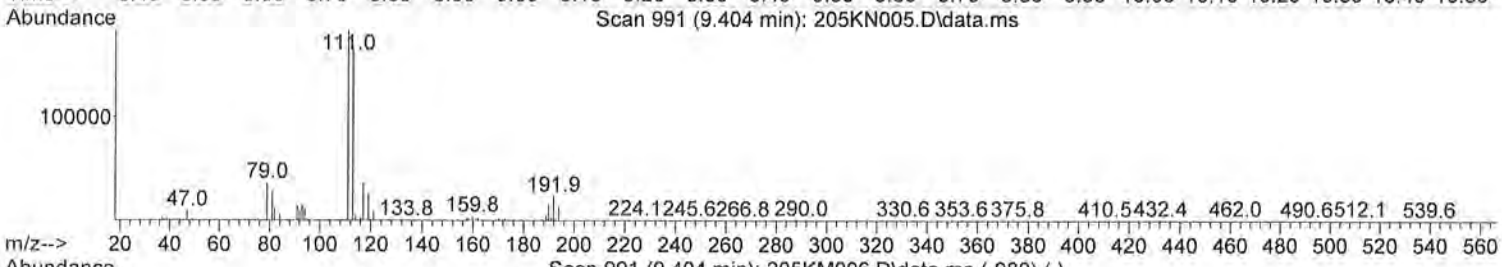
Review by/Date:

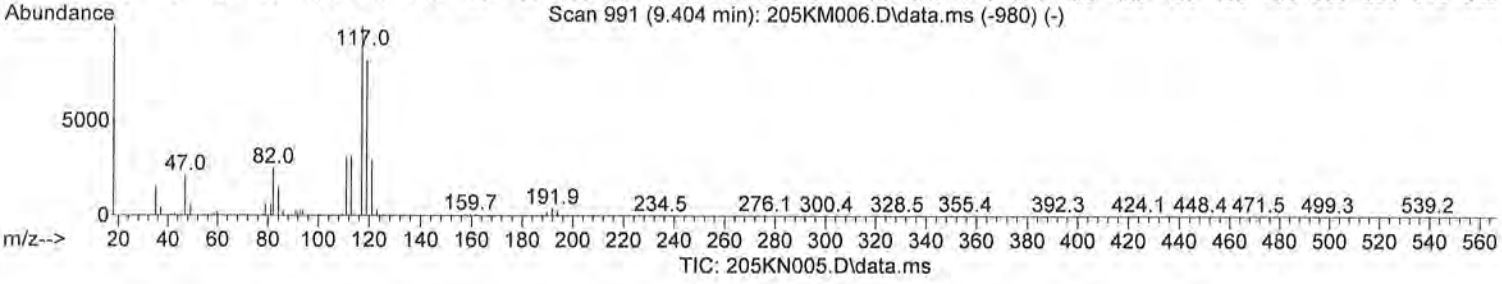
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN005.D
Acq On : 19 Nov 2020 9:47 am
Operator : KKW
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 19 12:13:14 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN005.D\data.ms

(40) Carbon Tetrachloride

9.404min (+ 0.000) 4.90 ug/L

response 78732

Ion	Exp%	Act%
117.00	100.00	100.00
119.00	93.20	79.64
82.00	27.60	40.68#
0.00	0.00	0.00

Select One:

[ ] Other:

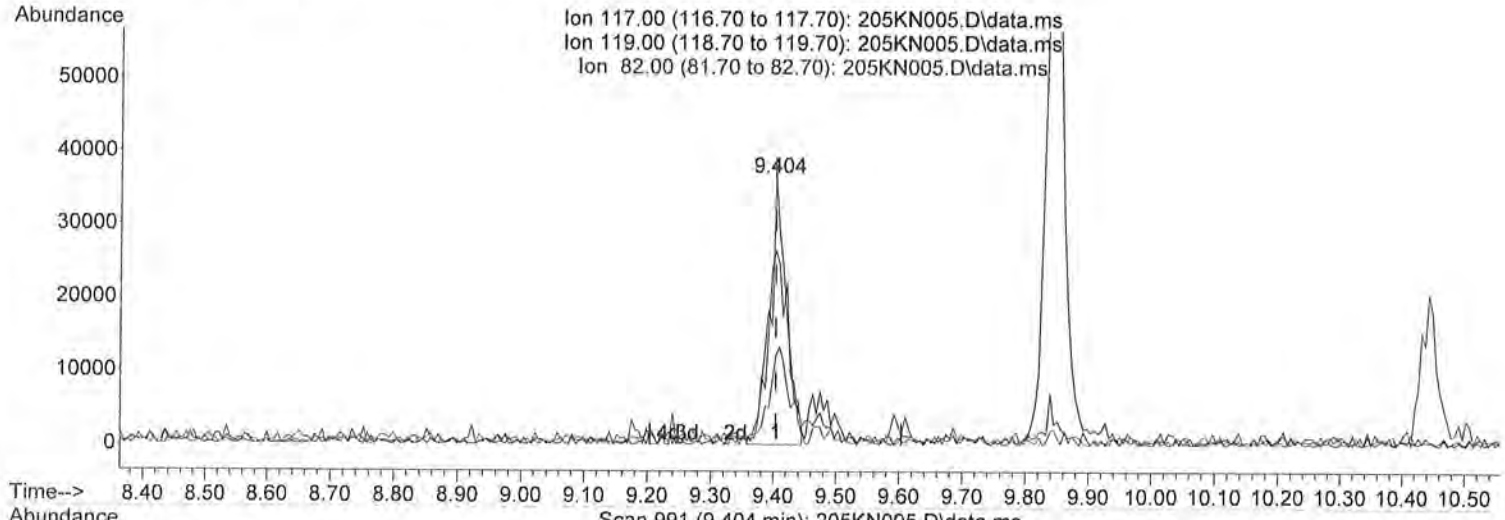
Review by/Date Wlukasik

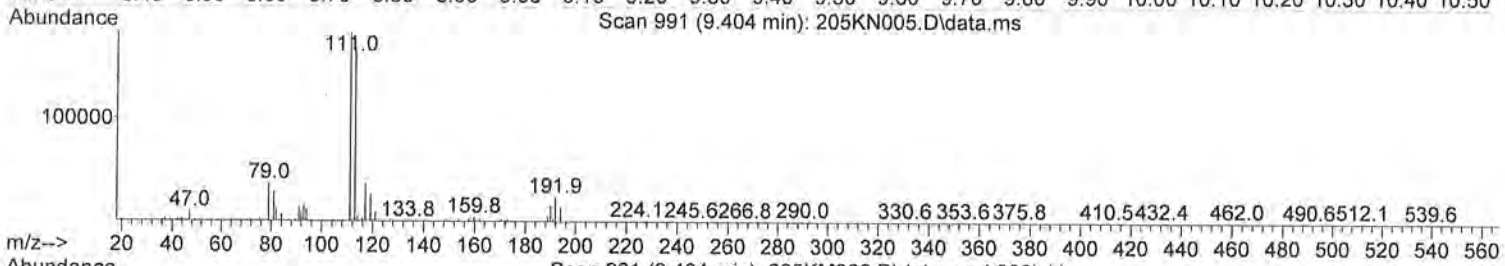
Review by/Date:

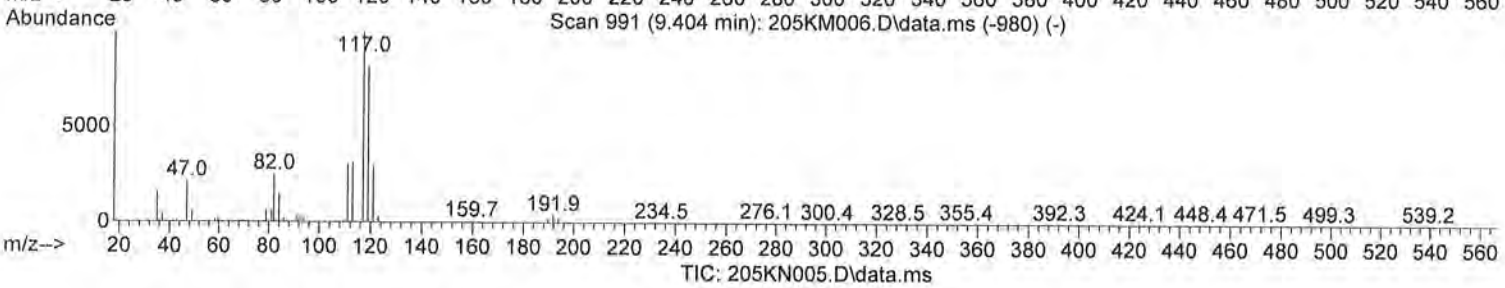
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN005.D
Acq On : 19 Nov 2020 9:47 am
Operator : KKW
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 19 12:13:14 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN005.D\data.ms

(40) Carbon Tetrachloride

9.404min (+ 0.000) 4.27 ug/L m

response 68664

Ion	Exp%	Act%
117.00	100.00	100.00
119.00	93.20	91.32
82.00	27.60	46.64#
0.00	0.00	0.00

Select One:

[ ] Other:

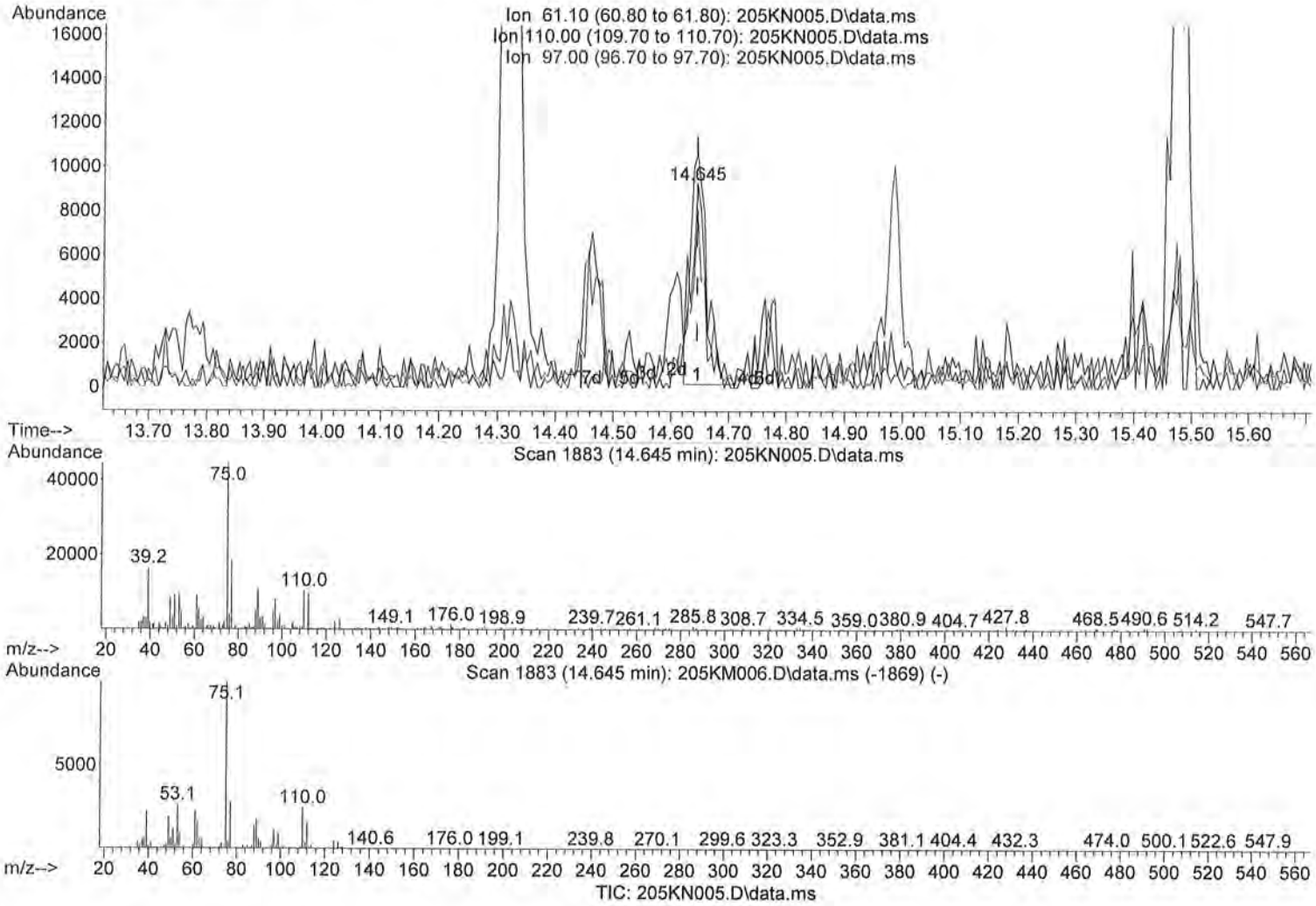
Review by/Date KW 11/20/20

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN005.D
Acq On : 19 Nov 2020 9:47 am
Operator : KKW
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 19 12:13:14 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 2.18 ug/L

response 16030

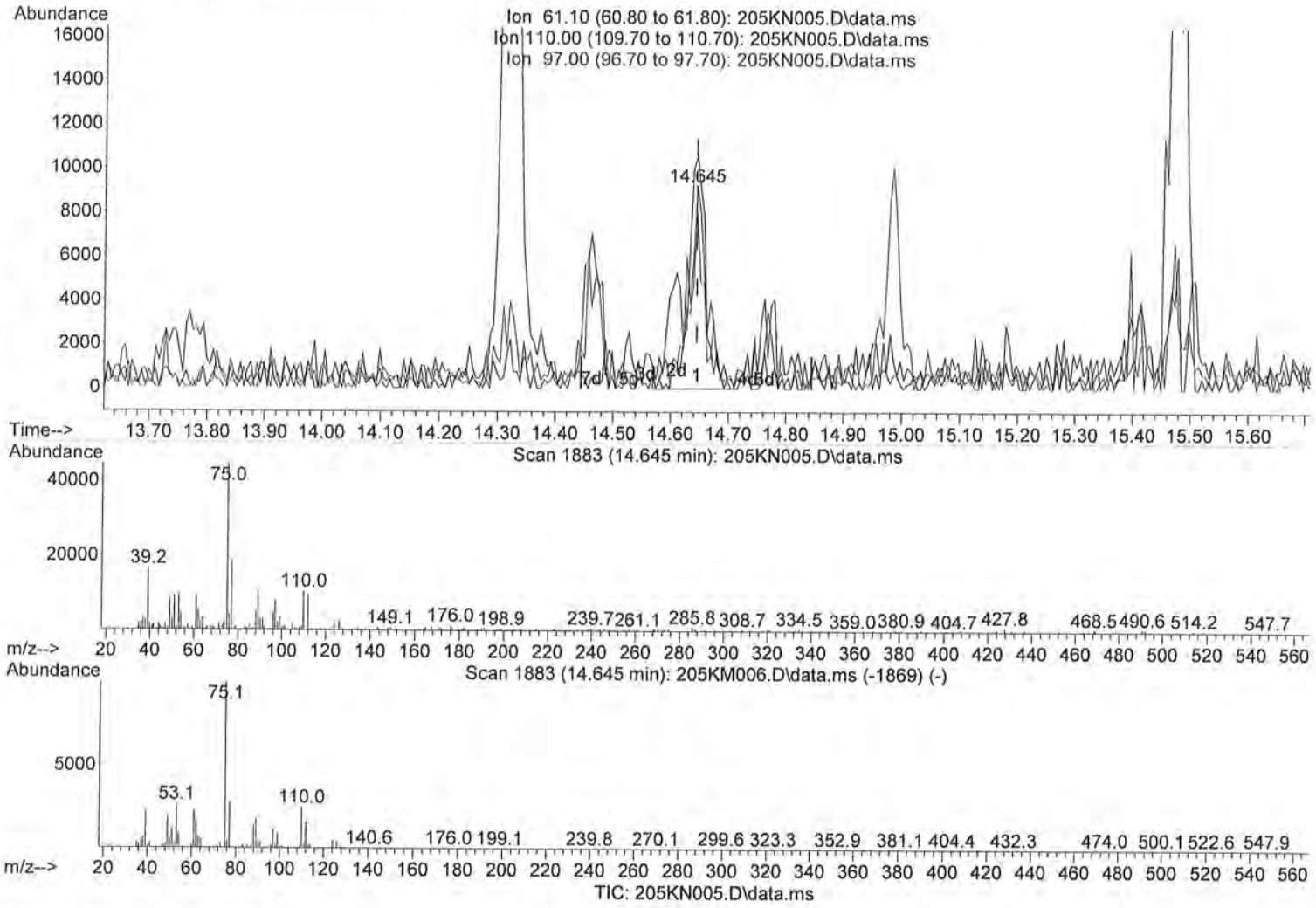
Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	142.51#
97.00	45.60	94.38#
0.00	0.00	0.00

Select One:
[ ] Original integration [ ] Manual Integration
Select reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date 11/20/20
Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN005.D
Acq On : 19 Nov 2020 9:47 am
Operator : KKW
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 19 12:13:14 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 3.52 ug/L m

response 25913

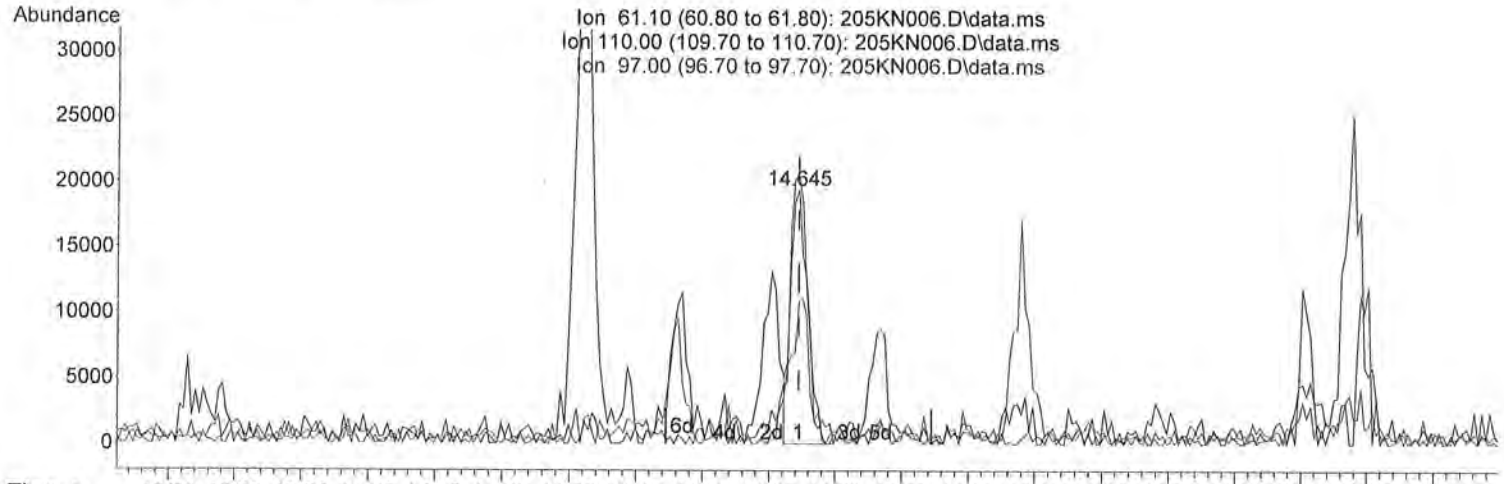
Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	88.16
97.00	45.60	58.38#
0.00	0.00	0.00

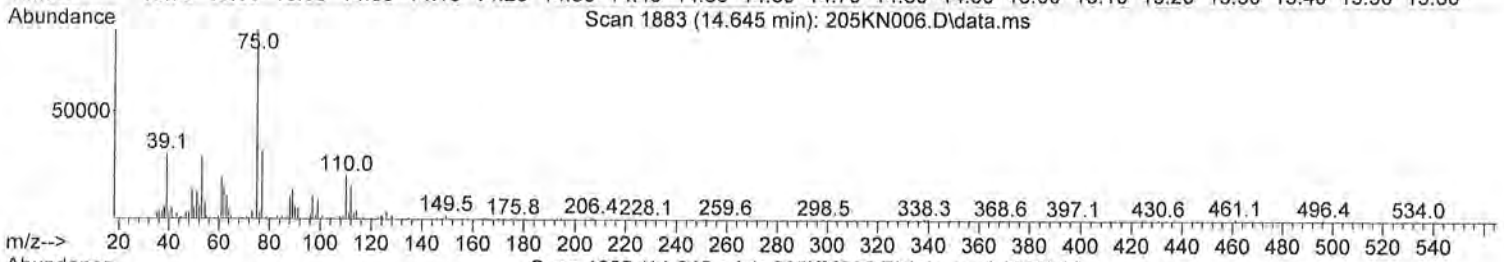
Select One:
[ ] Original Integration [ ] Manual Integration
Select reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date 11/19/20
Review by/Date:

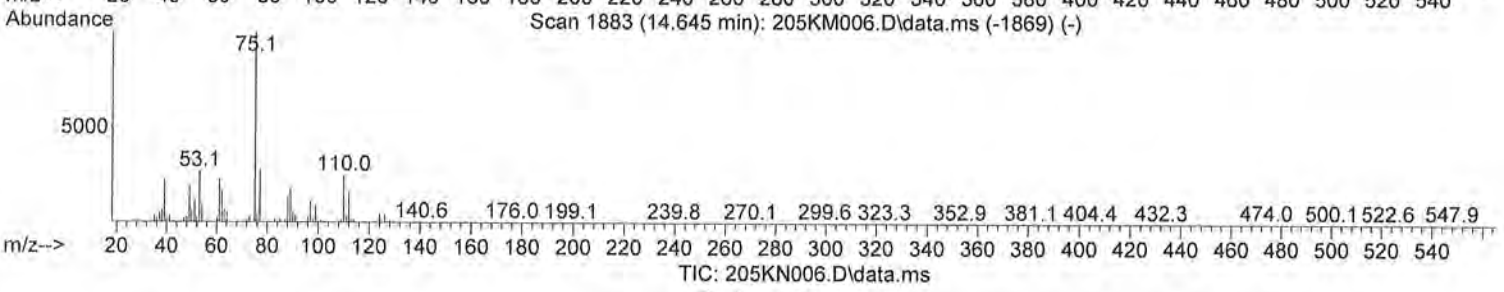
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN006.D
Acq On : 19 Nov 2020 10:18 am
Operator : KKW
Sample : CAL4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 19 12:13:19 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN006.D\data.ms

(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 4.92 ug/L

response 35588

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	115.40#
97.00	45.60	74.17#
0.00	0.00	0.00

Select One:

[ ] Manual Integration

[ ] Manual integration: (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Manual integration

[ ] Baseline drop for split peaks

[ ] IS/TD reintegration

[ ] Other:

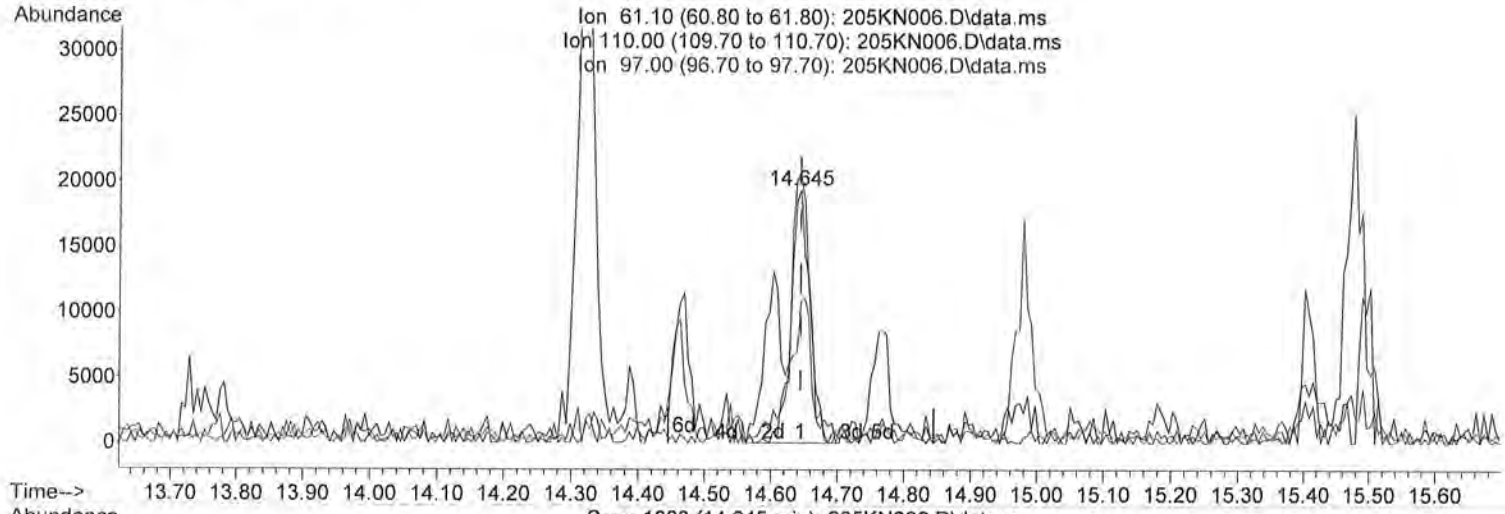
Review by/Date 11/23/20

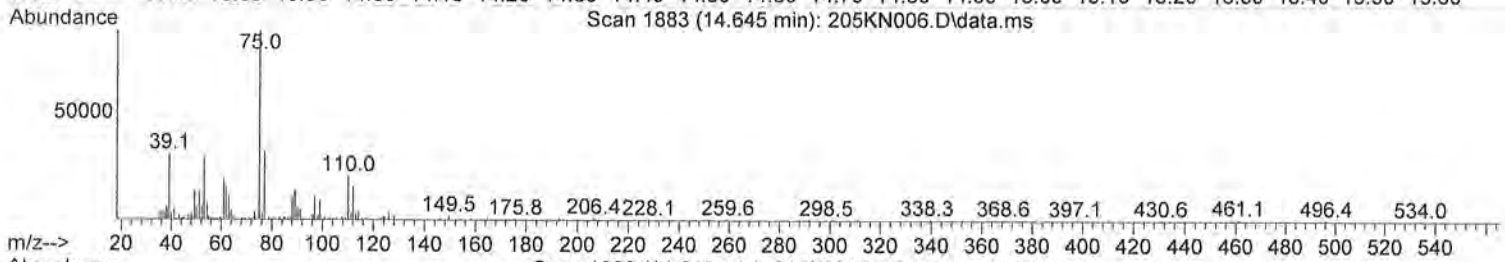
Review by/Date:

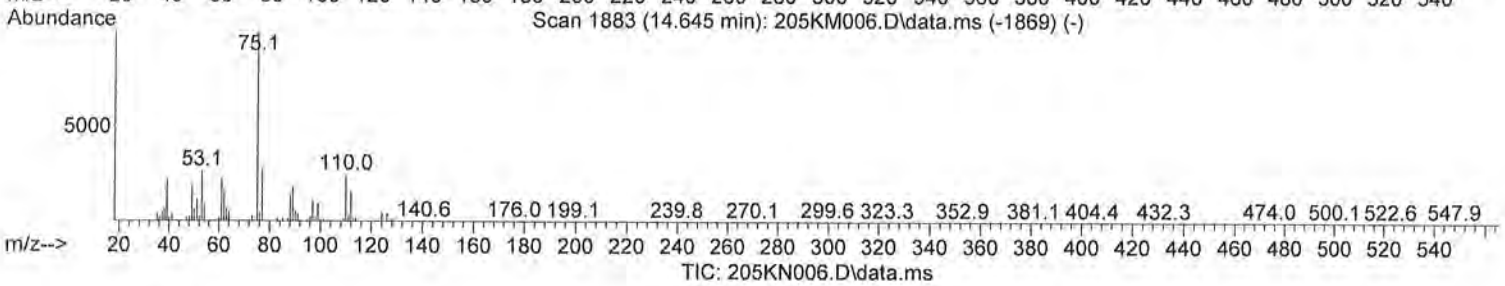
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN006.D
Acq On : 19 Nov 2020 10:18 am
Operator : KKW
Sample : CAL4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 19 12:13:19 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN006.D\data.ms

(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 8.20 ug/L m

response 59327

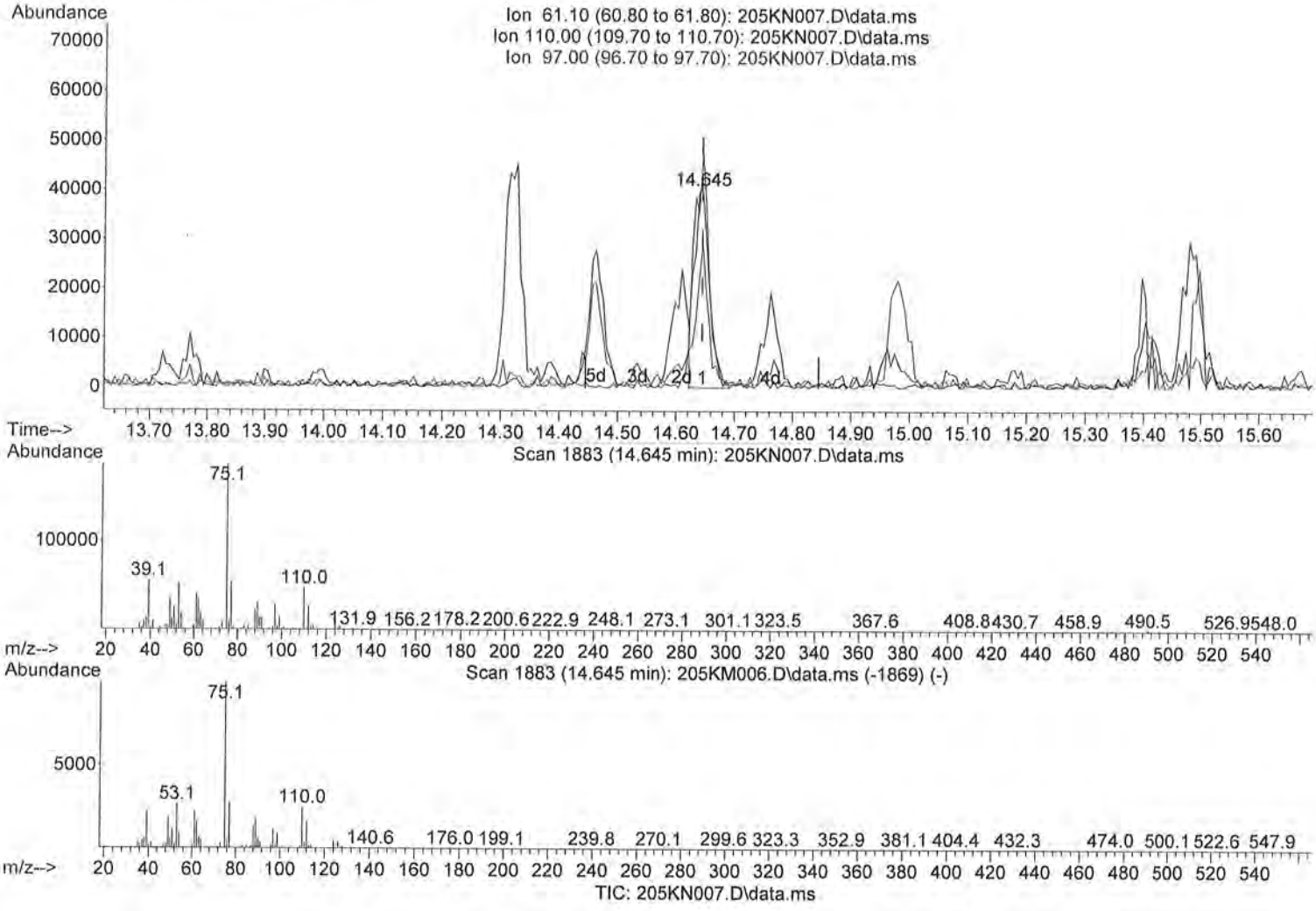
Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	69.22
97.00	45.60	44.49
0.00	0.00	0.00

Select One:
[ ] Manual Integration
[ ] Integration:
[ ] Peak selection (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump Integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date 11/23/20
Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN007.D
Acq On : 19 Nov 2020 10:49 am
Operator : KKW
Sample : CAL5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 19 12:13:23 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 9.98 ug/L

response 72138

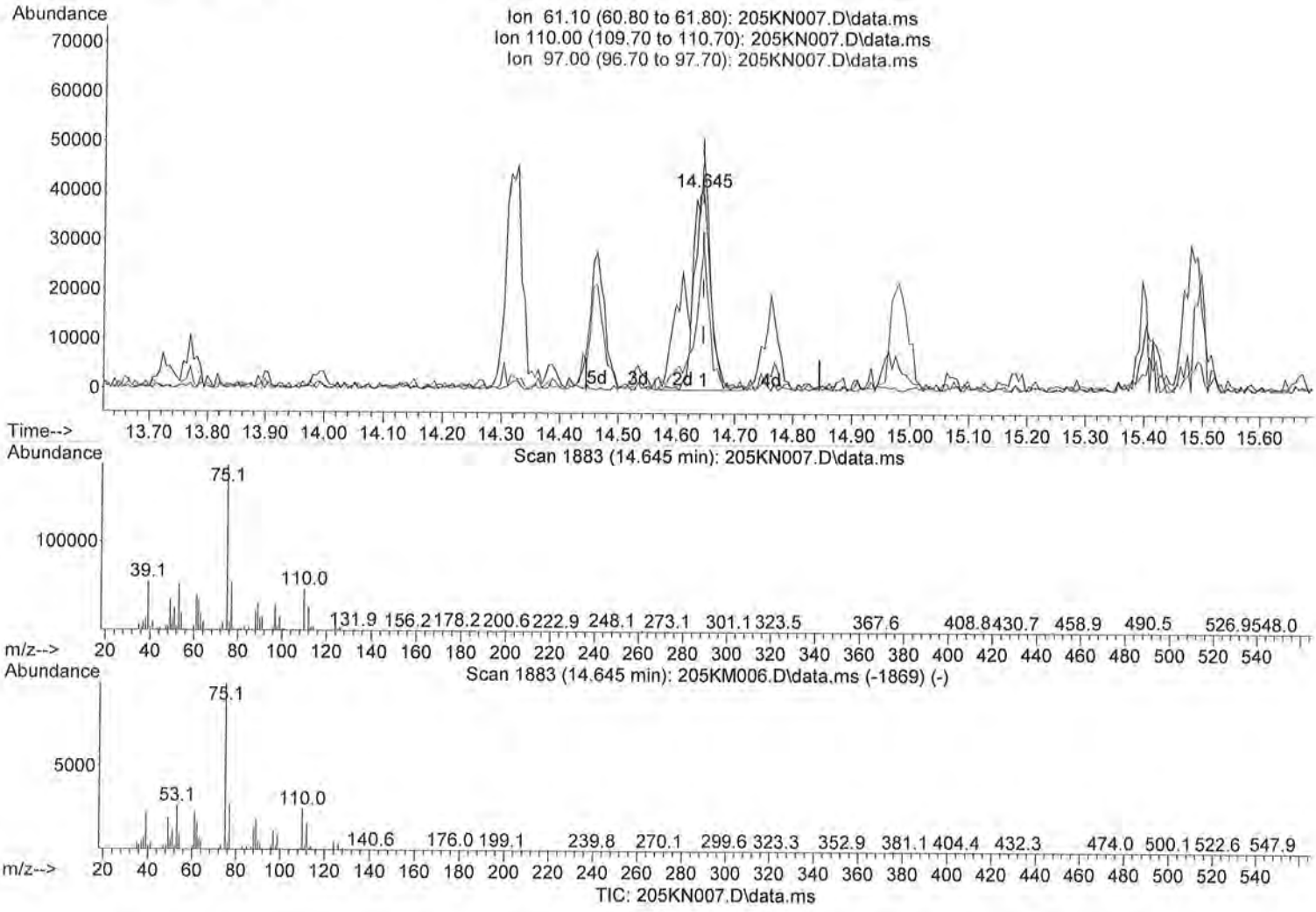
Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	122.36#
97.00	45.60	76.42#
0.00	0.00	0.00

Select One:
[X] Manual Integration [ ] Manual Integration
[ ] Reason for manual integration:
[ ] Poor peak definition (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Co-elution
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date W 11/20/20
Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN007.D
Acq On : 19 Nov 2020 10:49 am
Operator : KKW
Sample : CAL5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 19 12:13:23 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 15.74 ug/L m

response 113773

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	77.58
97.00	45.60	48.45
0.00	0.00	0.00

Select One:

[ ] Manual Integration

[ ] Integration:

[ ] (peak tailing, baseline selection)

[ ] Peak not found

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

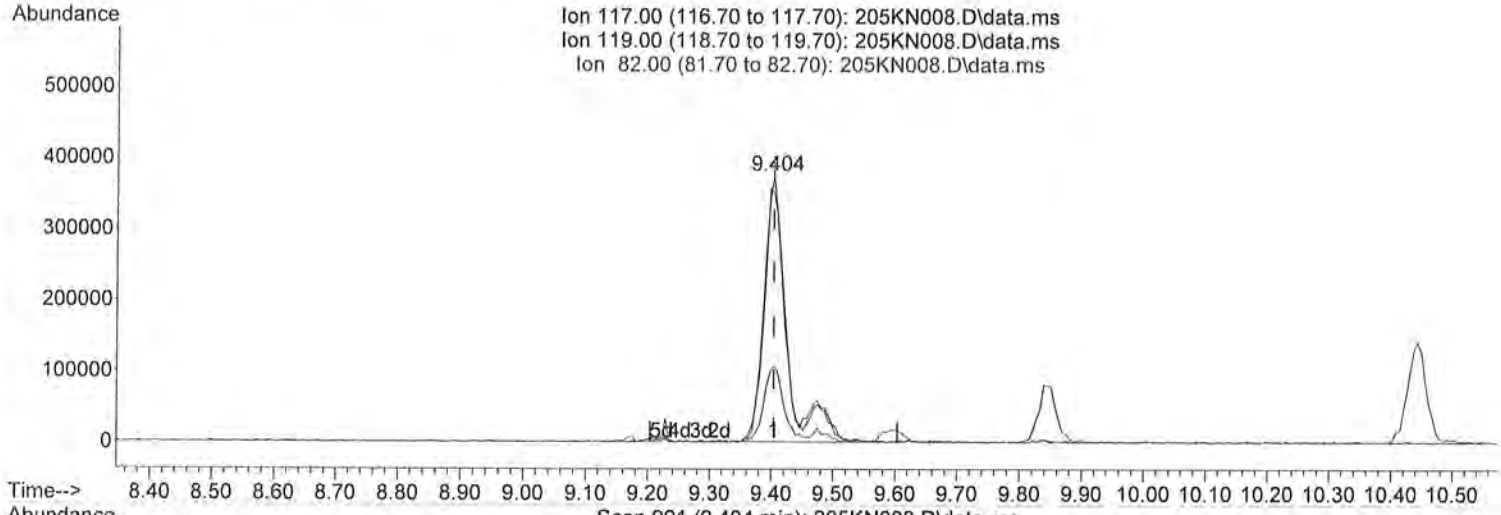
Review by/Date

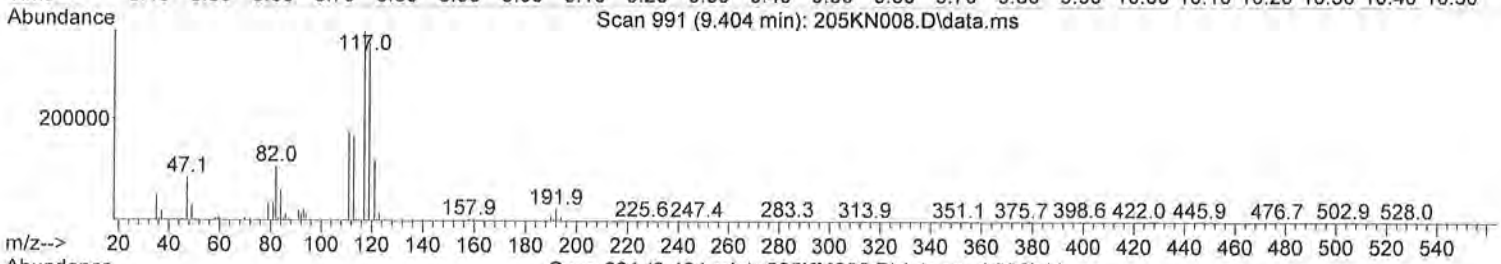
Review by/Date:

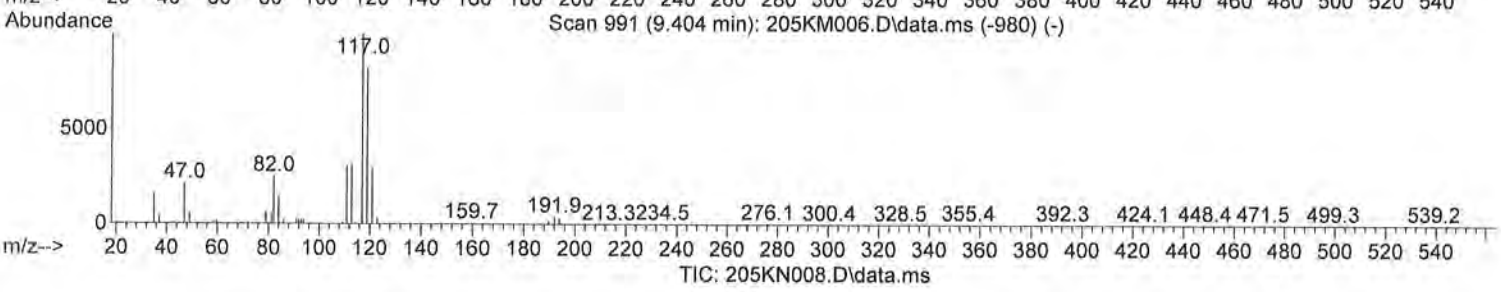
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN008.D
Acq On : 19 Nov 2020 11:20 am
Operator : KKW
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 19 12:13:26 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN008.D\data.ms

(40) Carbon Tetrachloride

9.404min (+ 0.000) 63.70 ug/L

response 983486

Ion	Exp%	Act%
117.00	100.00	100.00
119.00	93.20	93.44
82.00	27.60	24.71
0.00	0.00	0.00

Select One:

[ ] Manual integration

[ ] Other:

[ ] Peak not found (baseline selection)

[ ] Peak not found

[ ] Peak not found

[ ] Baseline drop for split peaks

[ ] IS ID reintegration

[ ] Other:

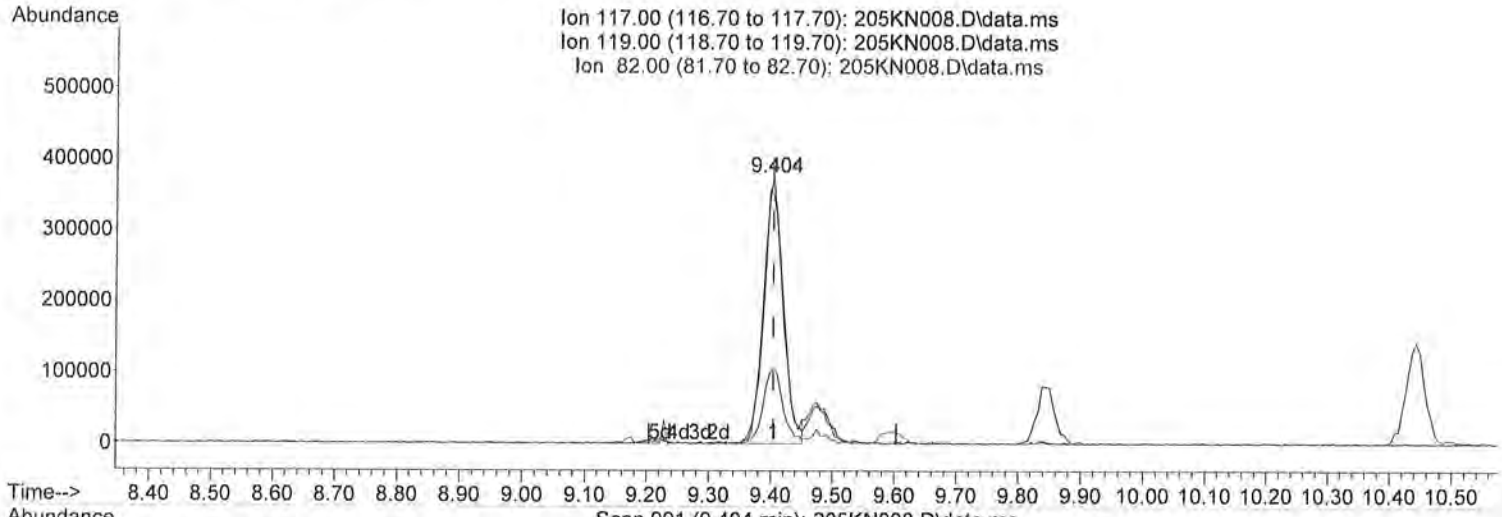
Review by/Date: KJ 11/19/20

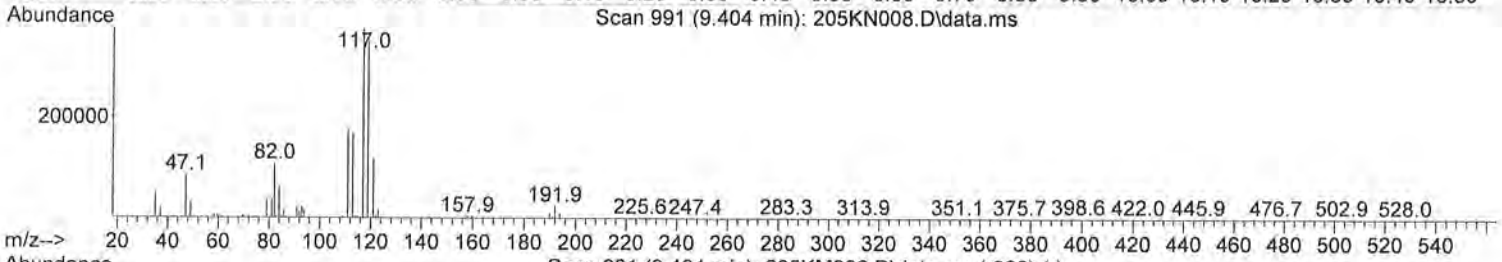
Review by/Date:

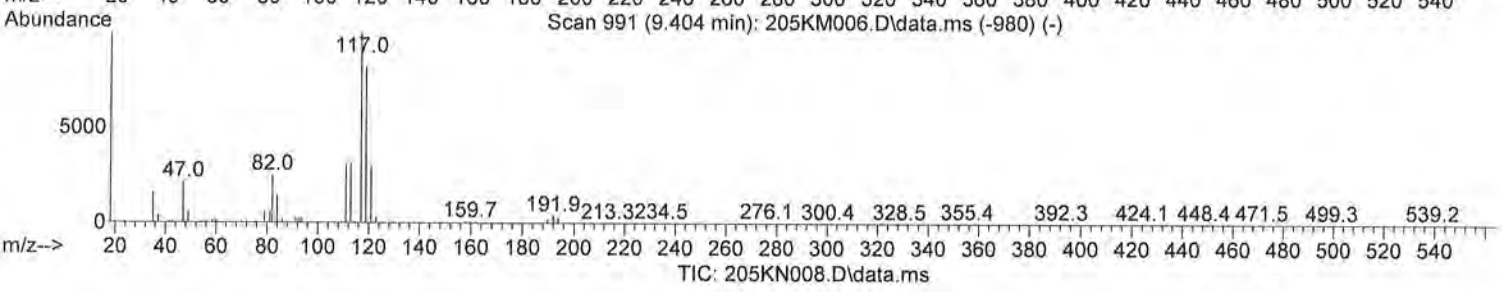
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN008.D
Acq On : 19 Nov 2020 11:20 am
Operator : KKW
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 19 12:13:26 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN008.D\data.ms

(40) Carbon Tetrachloride

9.404min (+ 0.000) 54.69 ug/L m

response 844268

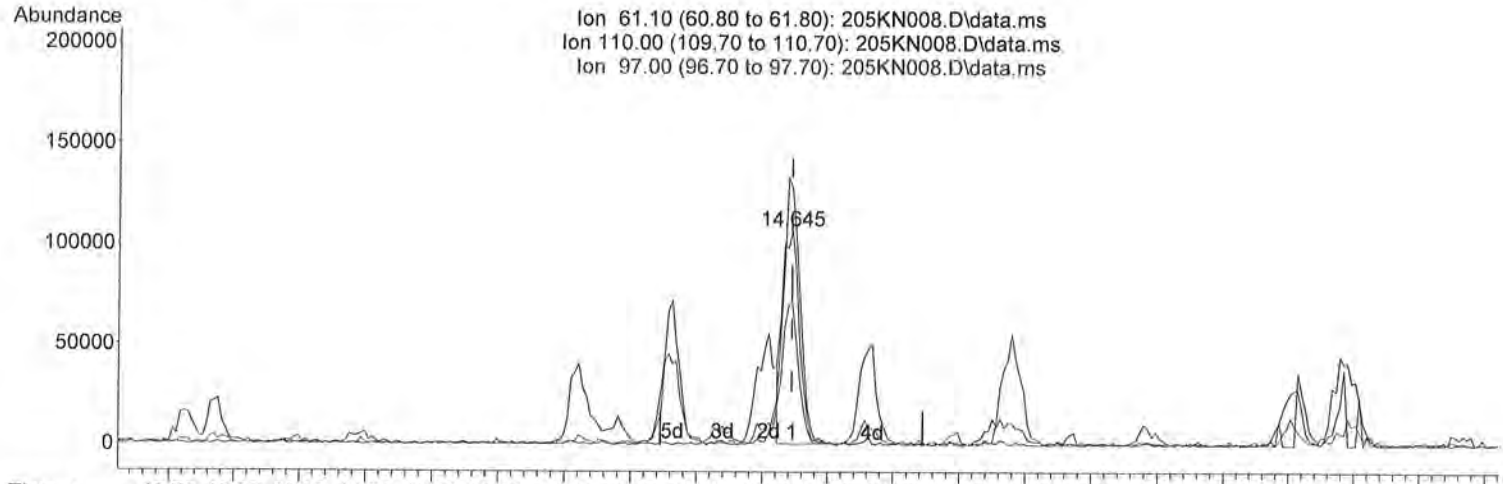
Ion	Exp%	Act%
117.00	100.00	100.00
119.00	93.20	108.85
82.00	27.60	28.79
0.00	0.00	0.00

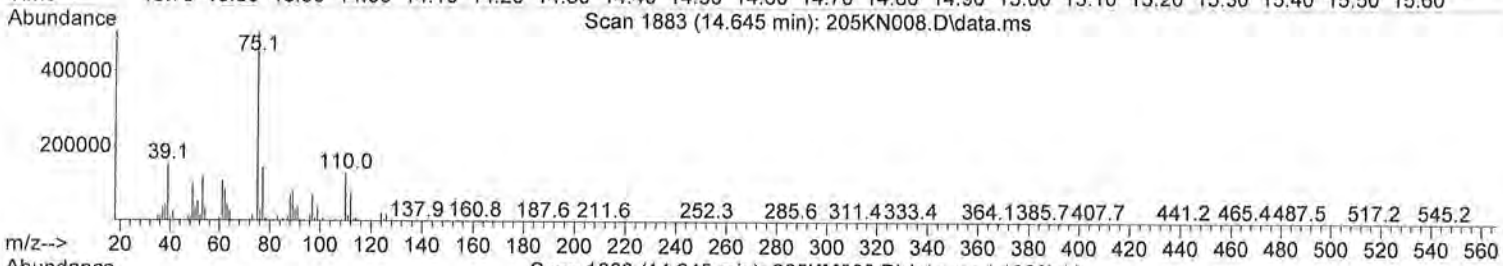
Select Item:
[ ] Other integration (not manual integration
Select reason for manual integration:
[X] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date W 11/20/20
Review by/Data:

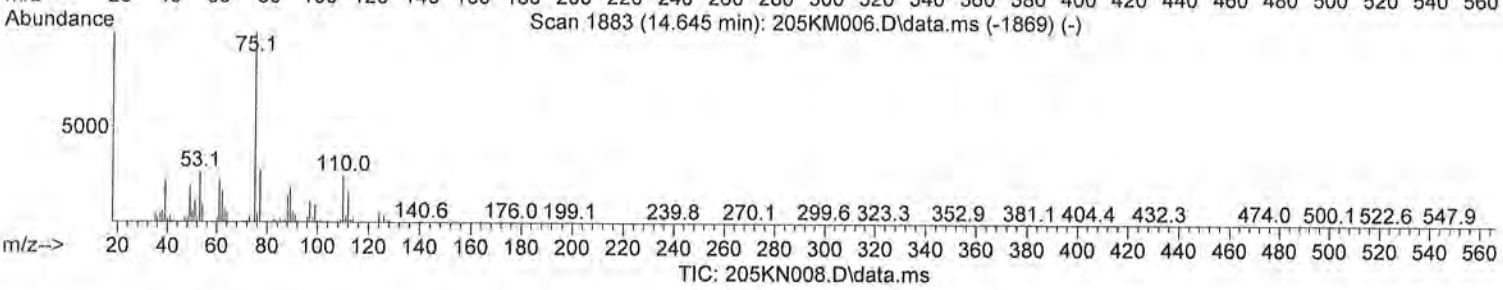
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN008.D
Acq On : 19 Nov 2020 11:20 am
Operator : KKW
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 19 12:13:26 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN008.D\data.ms

(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 26.33 ug/L

response 194191

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	128.20#
97.00	45.60	76.22#
0.00	0.00	0.00

Select One:

[ ] Manual Integration

[ ] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Valley integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

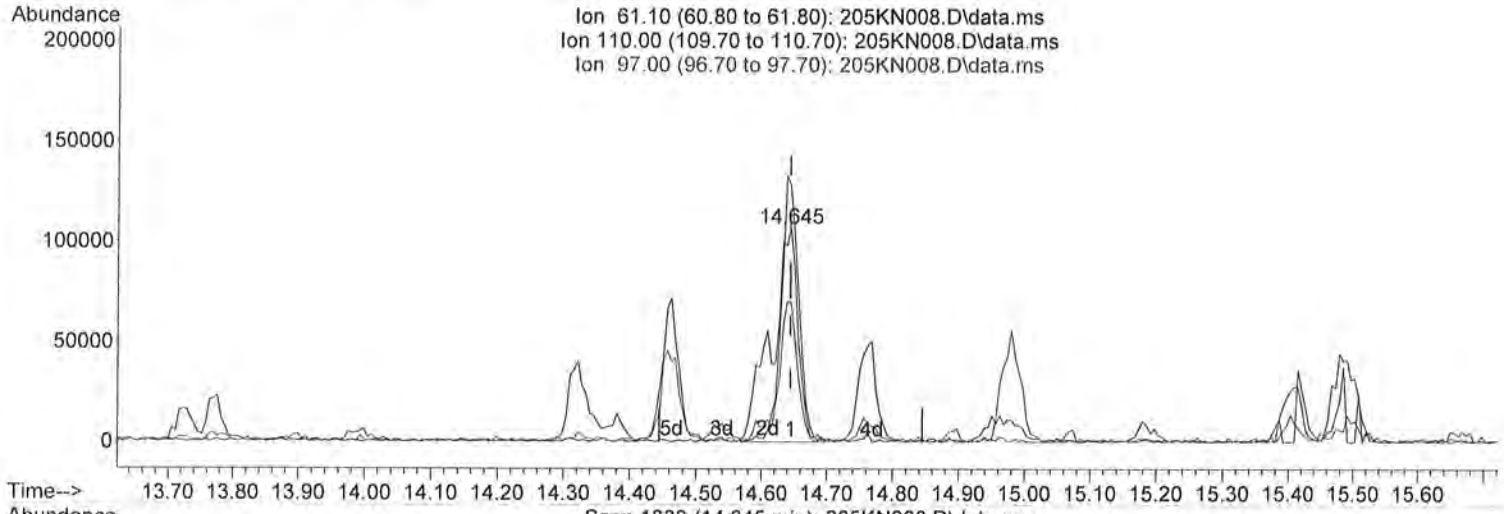
Review by/Date W 11/24/21

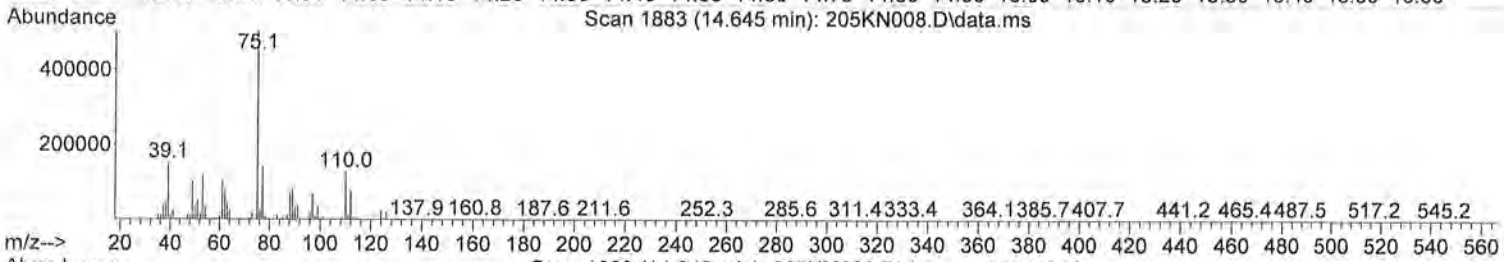
Review by/Date:

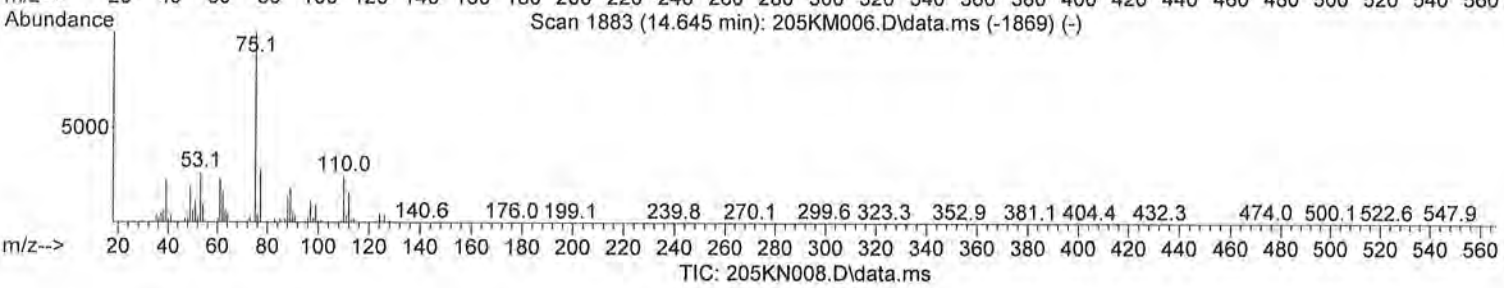
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN008.D
Acq On : 19 Nov 2020 11:20 am
Operator : KKW
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 19 12:13:26 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN008.D\data.ms

(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 40.84 ug/L m

response 301262

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	82.64
97.00	45.60	49.13
0.00	0.00	0.00

Select Case:

[ ] Correct as is / Manual Integration

[ ] Reintegrate (peak finding, baseline selection)

[ ] Incorrect Peak Selection/Peak not found

[ ] Change Integration

[ ] Baseline drop (or split peaks

[ ] ISTD reintegration

[ ] Other:

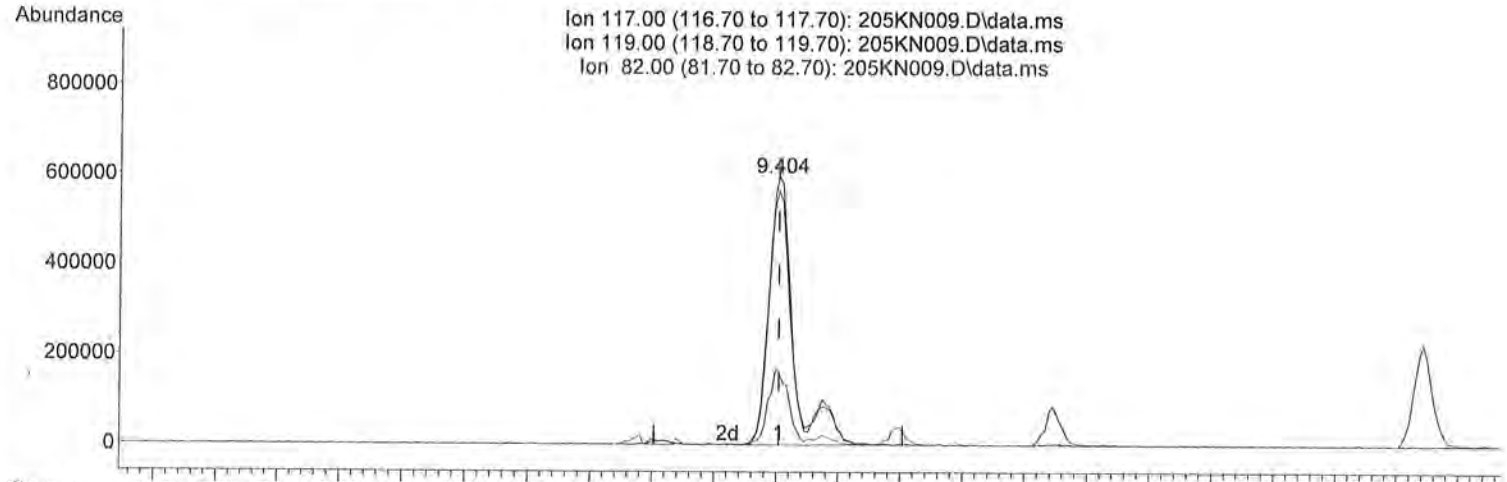
Review by/Date W 11/20/20

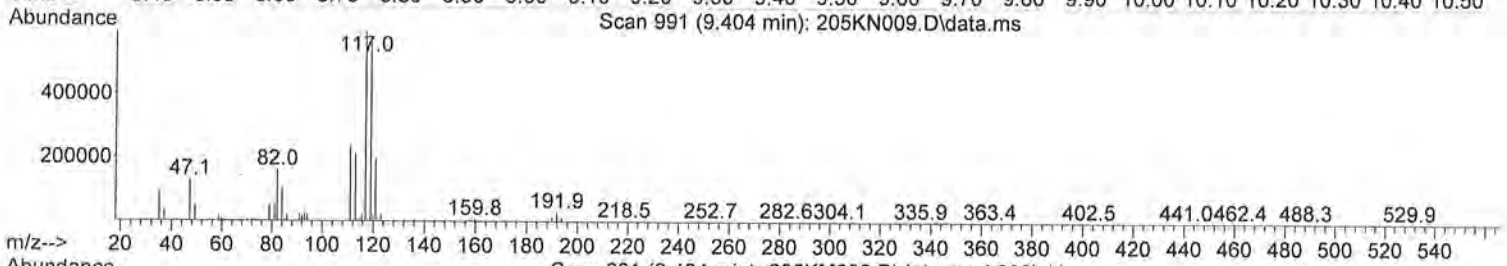
Review by/Date:

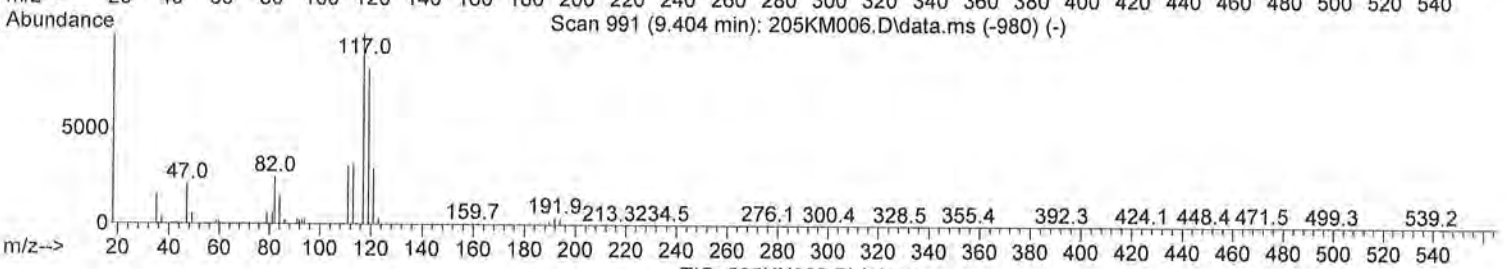
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN009.D
Acq On : 19 Nov 2020 11:51 am
Operator : KKW
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 19 12:26:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN009.D\data.ms

(40) Carbon Tetrachloride

9.404min (+ 0.000) 107.51 ug/L

response 1638930

Ion	Exp%	Act%
117.00	100.00	100.00
119.00	93.20	81.21
82.00	27.60	26.61
0.00	0.00	0.00

Select One:

[ ] Other:

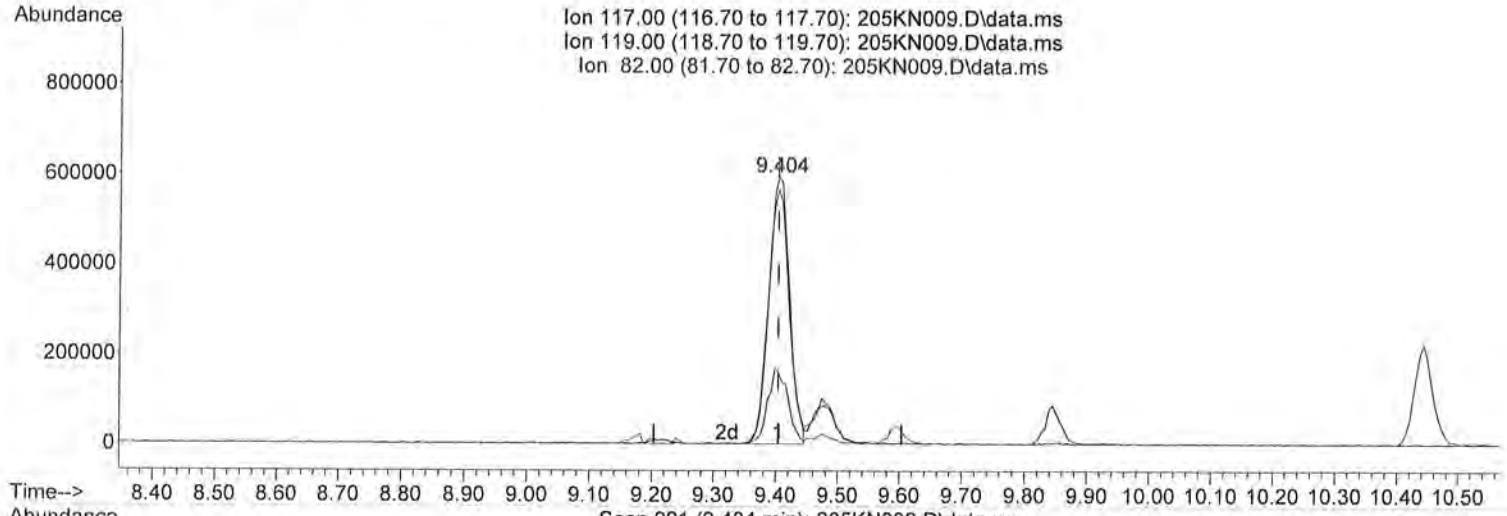
Review by/Date W 11/20/20

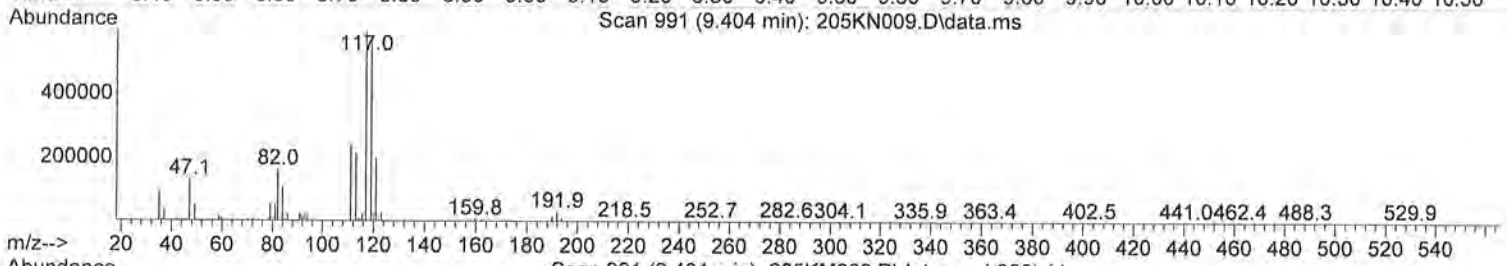
Review by/Date:

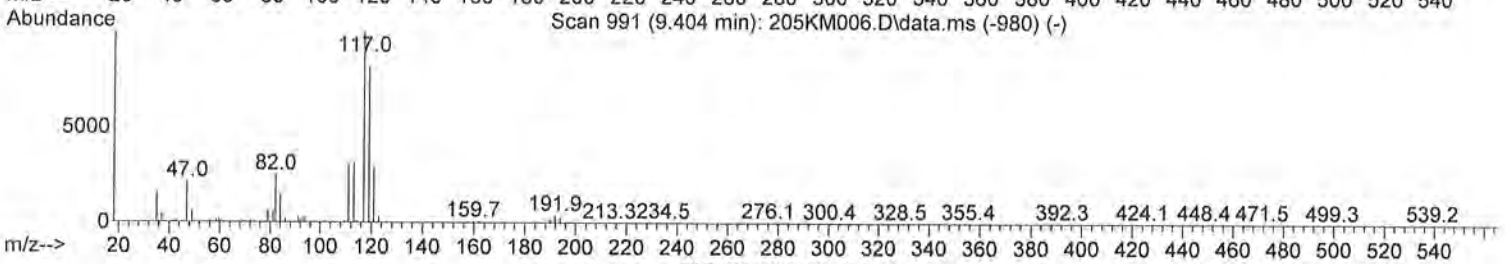
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN009.D
Acq On : 19 Nov 2020 11:51 am
Operator : KKW
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 19 12:26:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN009.D\data.ms

(40) Carbon Tetrachloride

9.404min (+ 0.000) 91.88 ug/L m

response 1400654

Ion	Exp%	Act%
117.00	100.00	100.00
119.00	93.20	95.03
82.00	27.60	31.13
0.00	0.00	0.00

11/23/20

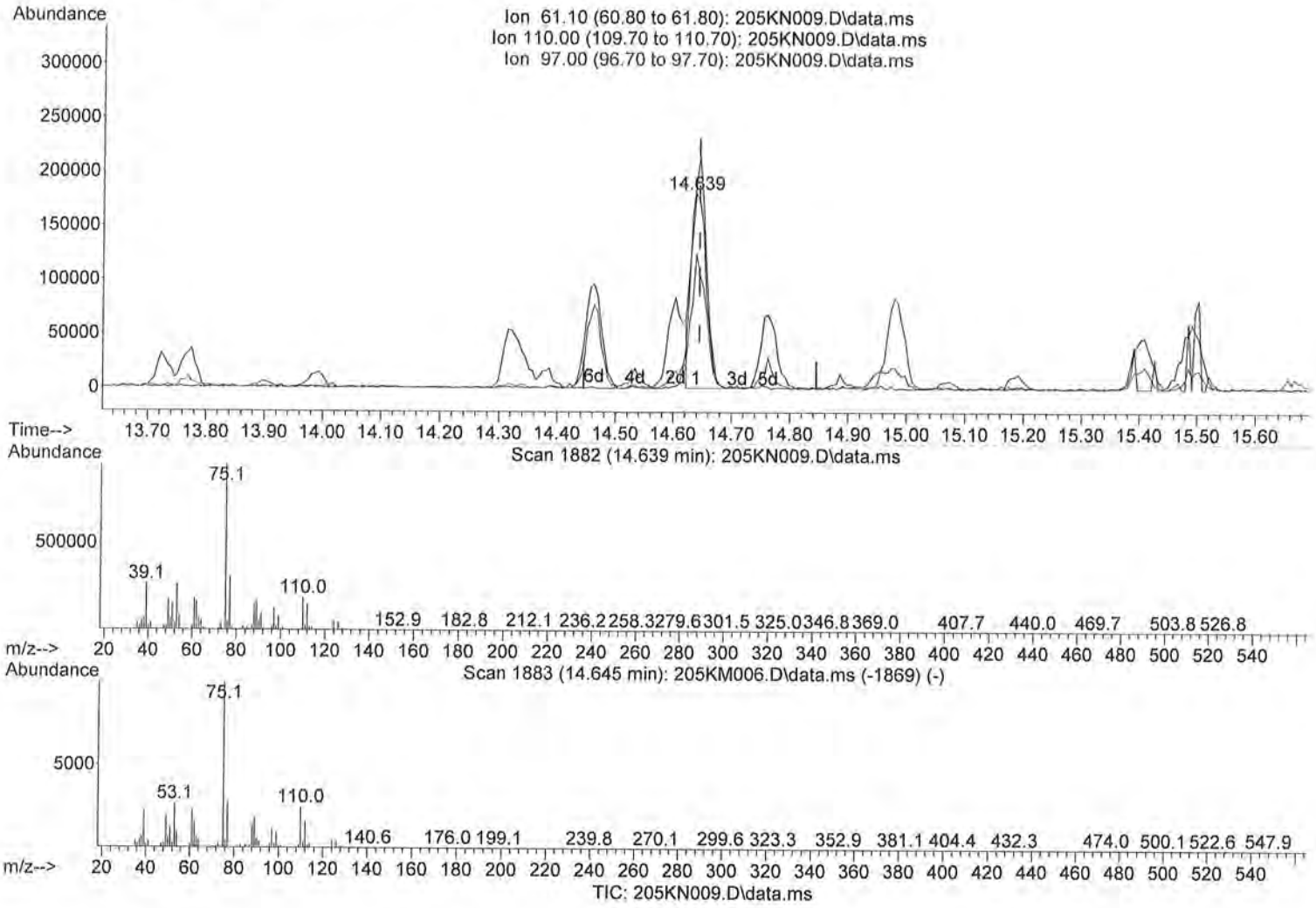
Select One:

[ ] Manual Integration
[ ] Other:
[ ] Incorrect baseline selection)
[ ] Peak(s) not found
[ ] Other:
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date: 11/23/20
Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN009.D
Acq On : 19 Nov 2020 11:51 am
Operator : KKW
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 19 12:26:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



TIC: 205KN009.D\data.ms

(77) 1,2,3-Trichloropropane

14.639min (-0.006) 43.53 ug/L

response 321564

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	120.75#
97.00	45.60	76.71#
0.00	0.00	0.00

Select One:

[X] [illegible] integration

[X] [illegible] baseline selection)

[illegible] peak not found

[illegible] for split peaks

[ ] Manual integration

[ ] Other:

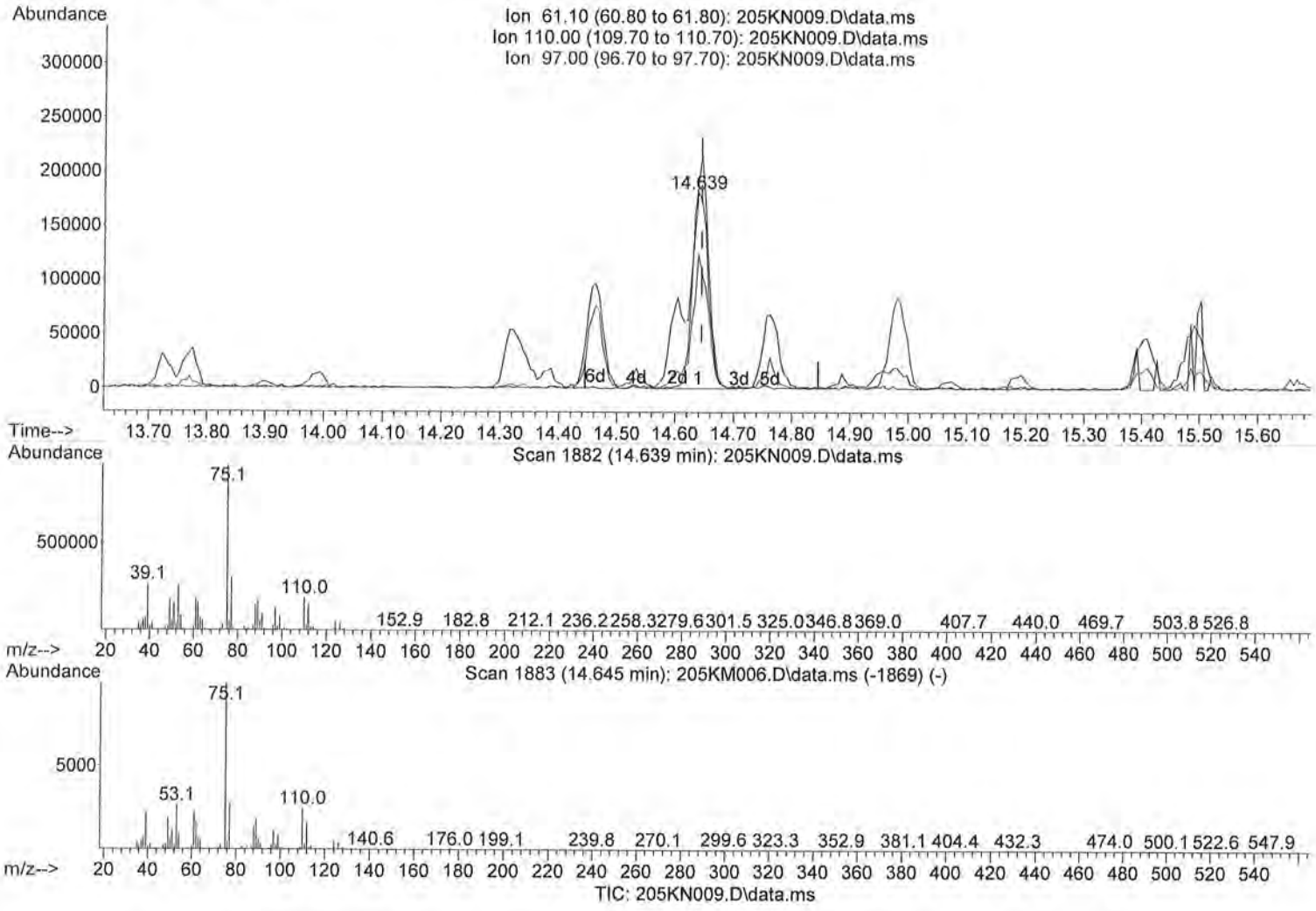
Review by/Date: [illegible] 11/20/20

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN009.D
Acq On : 19 Nov 2020 11:51 am
Operator : KKW
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 19 12:26:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



(77) 1,2,3-Trichloropropane

14.639min (-0.006) 66.05 ug/L m

response 487875

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	79.59
97.00	45.60	50.56
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Sat

[ ] Unreviewed

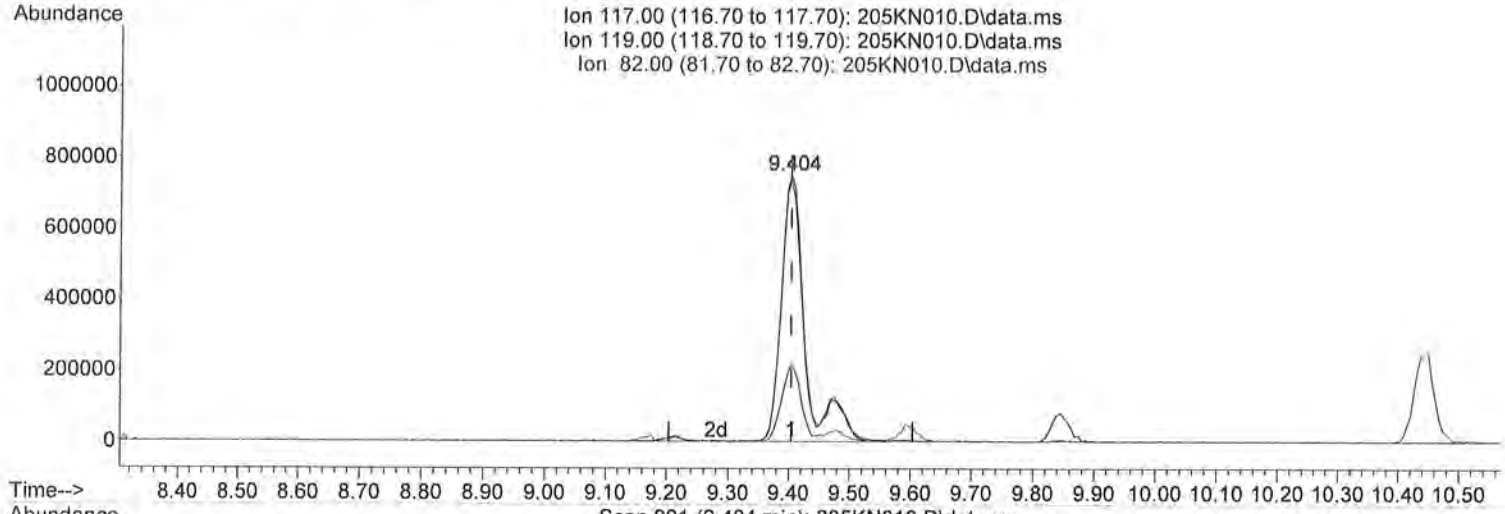
Review by/Date W 11/20/20

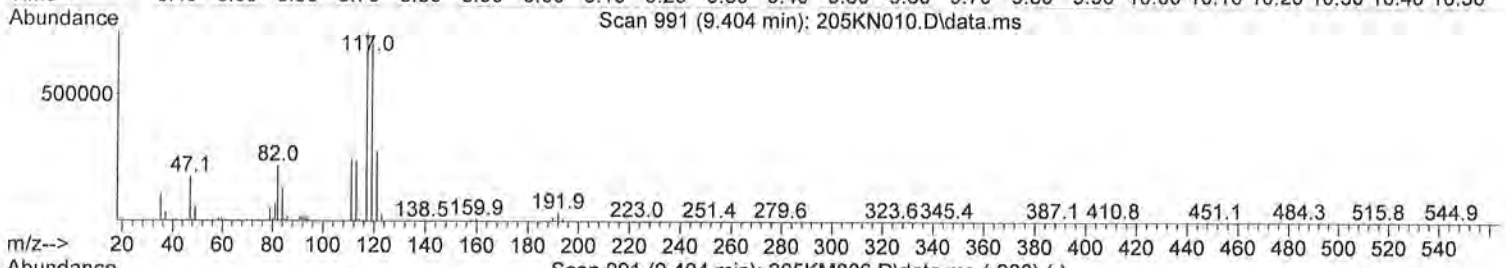
Review by/Date:

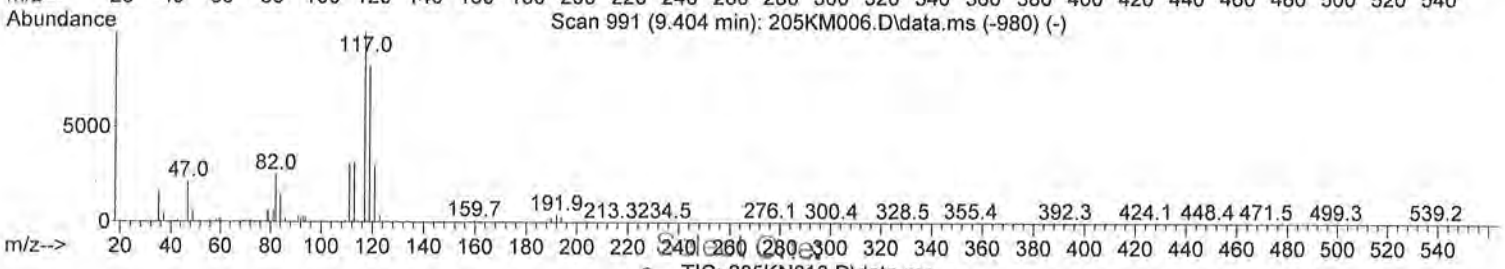
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN010.D
Acq On : 19 Nov 2020 12:22 pm
Operator : KKW
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 19 12:45:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN010.D\data.ms

(40) Carbon Tetrachloride

9.404min (+ 0.000) 137.08 ug/L

response 2070325

Ion	Exp%	Act%
117.00	100.00	100.00
119.00	93.20	95.53
82.00	27.60	26.74
0.00	0.00	0.00

[X] Original Integration [ ] Manual Integration

Select reason for manual integration

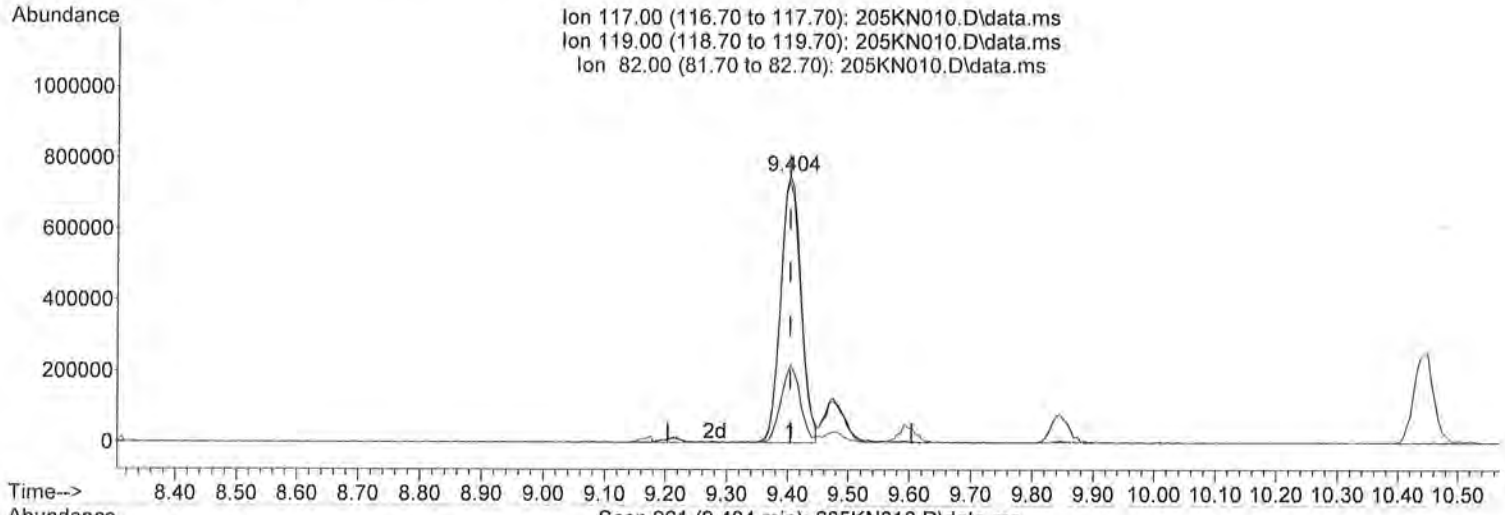
Review by/Date: 11/19/20

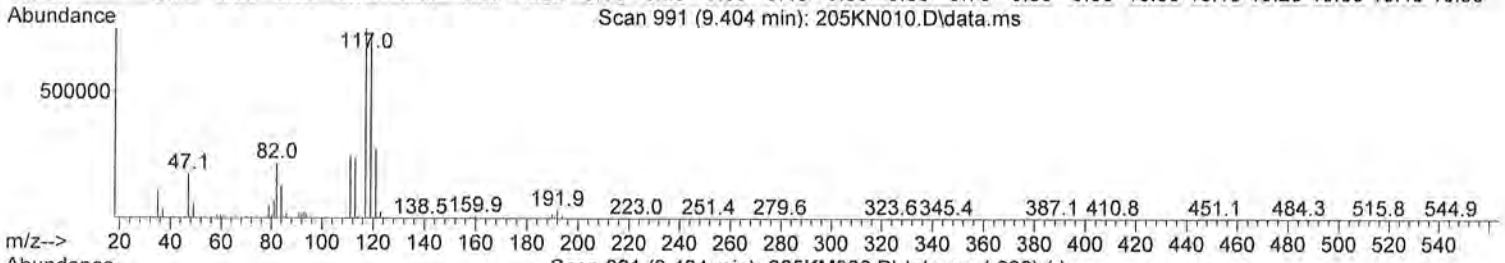
Review by/Date:

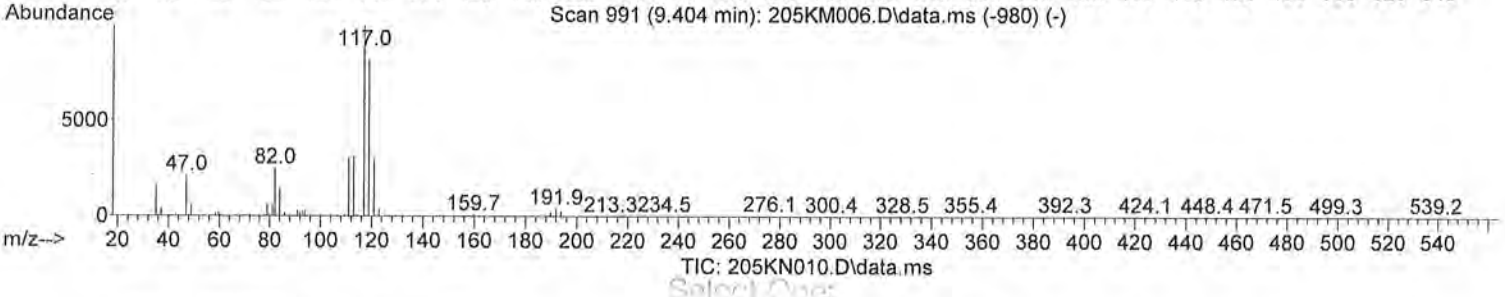
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN010.D
Acq On : 19 Nov 2020 12:22 pm
Operator : KKW
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 19 12:45:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN010.D\data.ms

(40) Carbon Tetrachloride

9.404min (+ 0.000) 116.24 ug/L m

response 1755533

Ion	Exp%	Act%
117.00	100.00	100.00
119.00	93.20	112.66#
82.00	27.60	31.54
0.00	0.00	0.00

Select One:

[ ] Manual Integration

[ ] Manual integration:

[ ] Incorrect (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Reintegration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

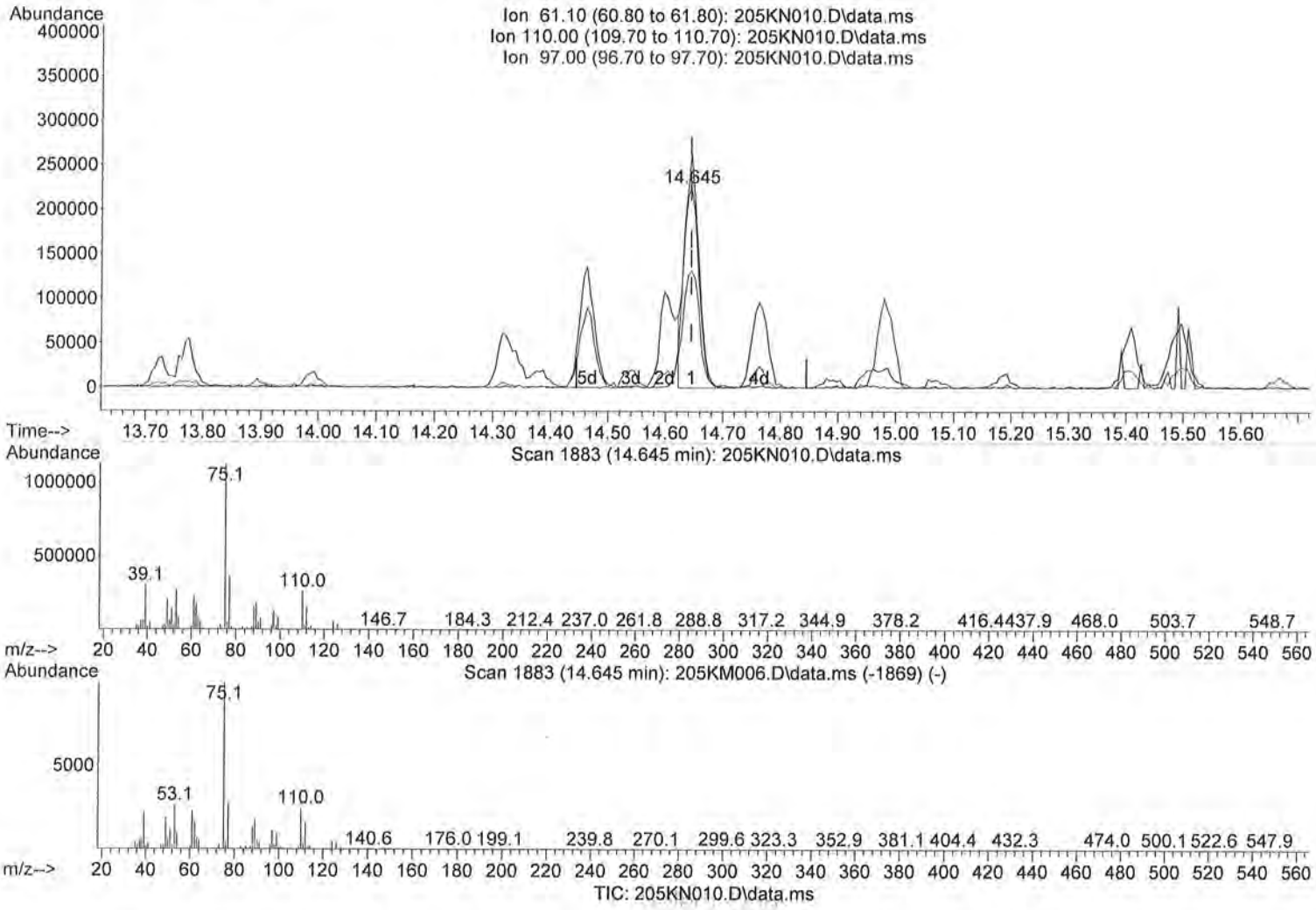
Review by/Date: W 11/20/20

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN010.D
Acq On : 19 Nov 2020 12:22 pm
Operator : KKW
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 19 12:45:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 54.53 ug/L

response 415382

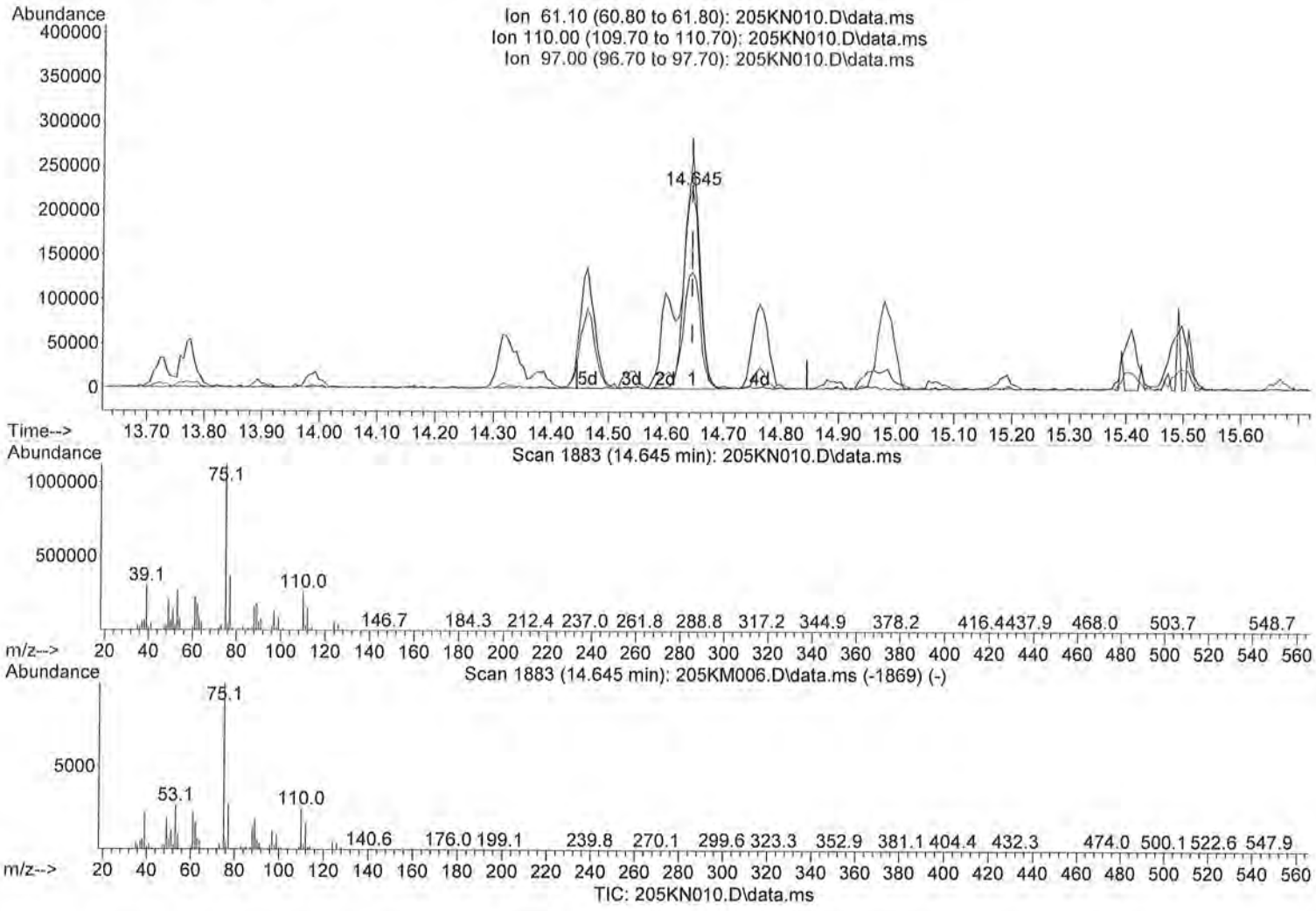
Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	115.68#
97.00	45.60	72.11#
0.00	0.00	0.00

[ ] Manual Integration
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date W 11/20/20
Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN010.D
Acq On : 19 Nov 2020 12:22 pm
Operator : KKW
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 19 12:45:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 81.80 ug/L m

response 623122

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	77.12
97.00	45.60	48.07
0.00	0.00	0.00

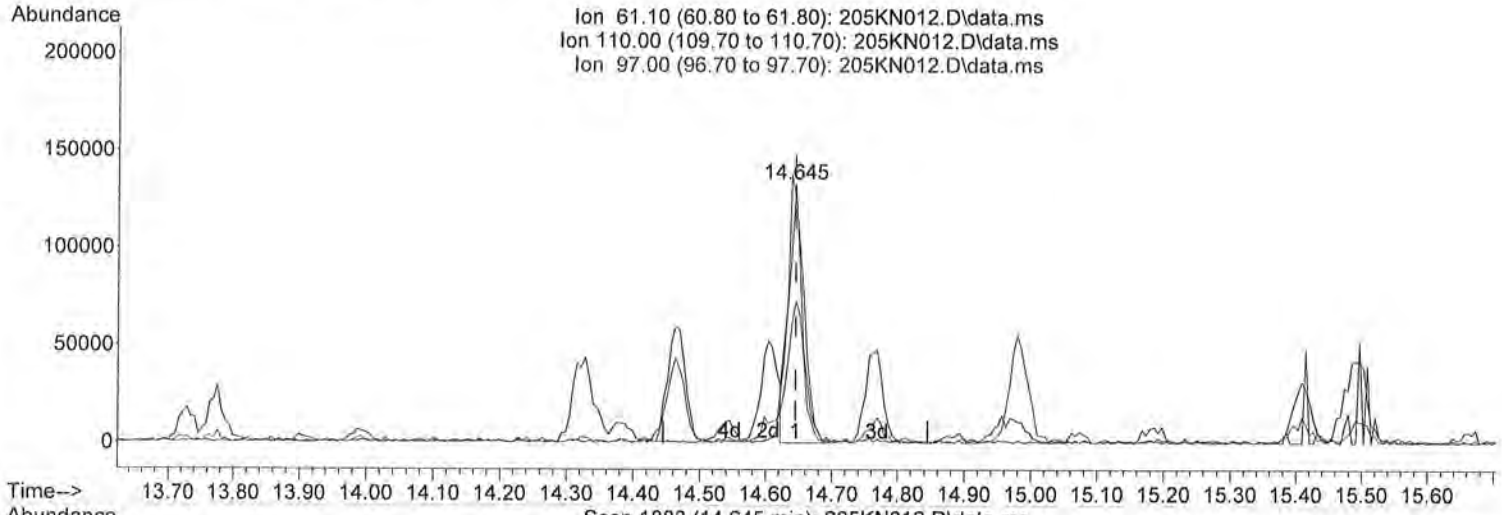
Manual Integration

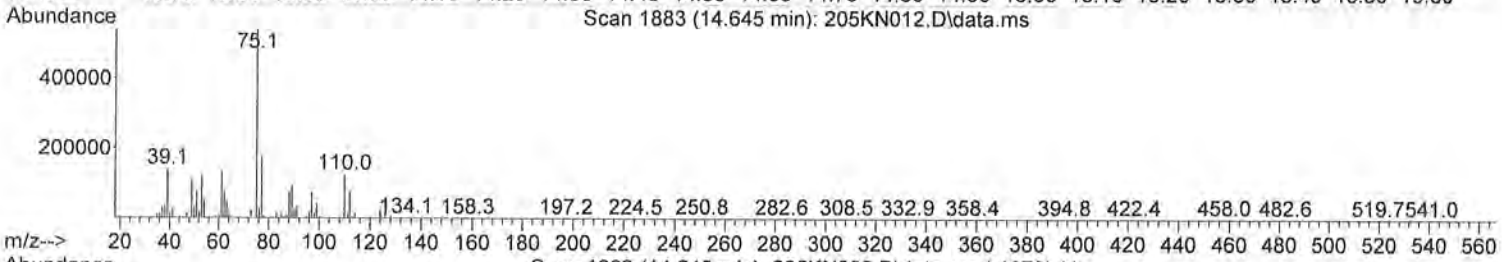
111920W.M Thu Nov 19 12:46:41 2020 Page: 1

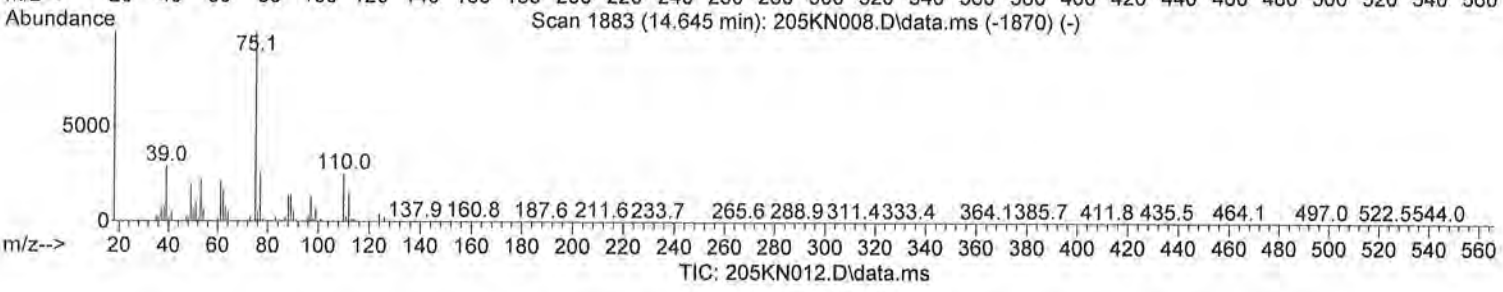
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN012.D
Acq On : 19 Nov 2020 1:24 pm
Operator : KKW
Sample : SCV
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Nov 20 07:34:48 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 13:02:55 2020
Response via : Initial Calibration







TIC: 205KN012.D\data.ms

(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 31.90 ug/L

response 194193

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.60	122.25#
97.00	49.10	75.45#
0.00	0.00	0.00

Select One:

[ ] Integration

[ ] Other:

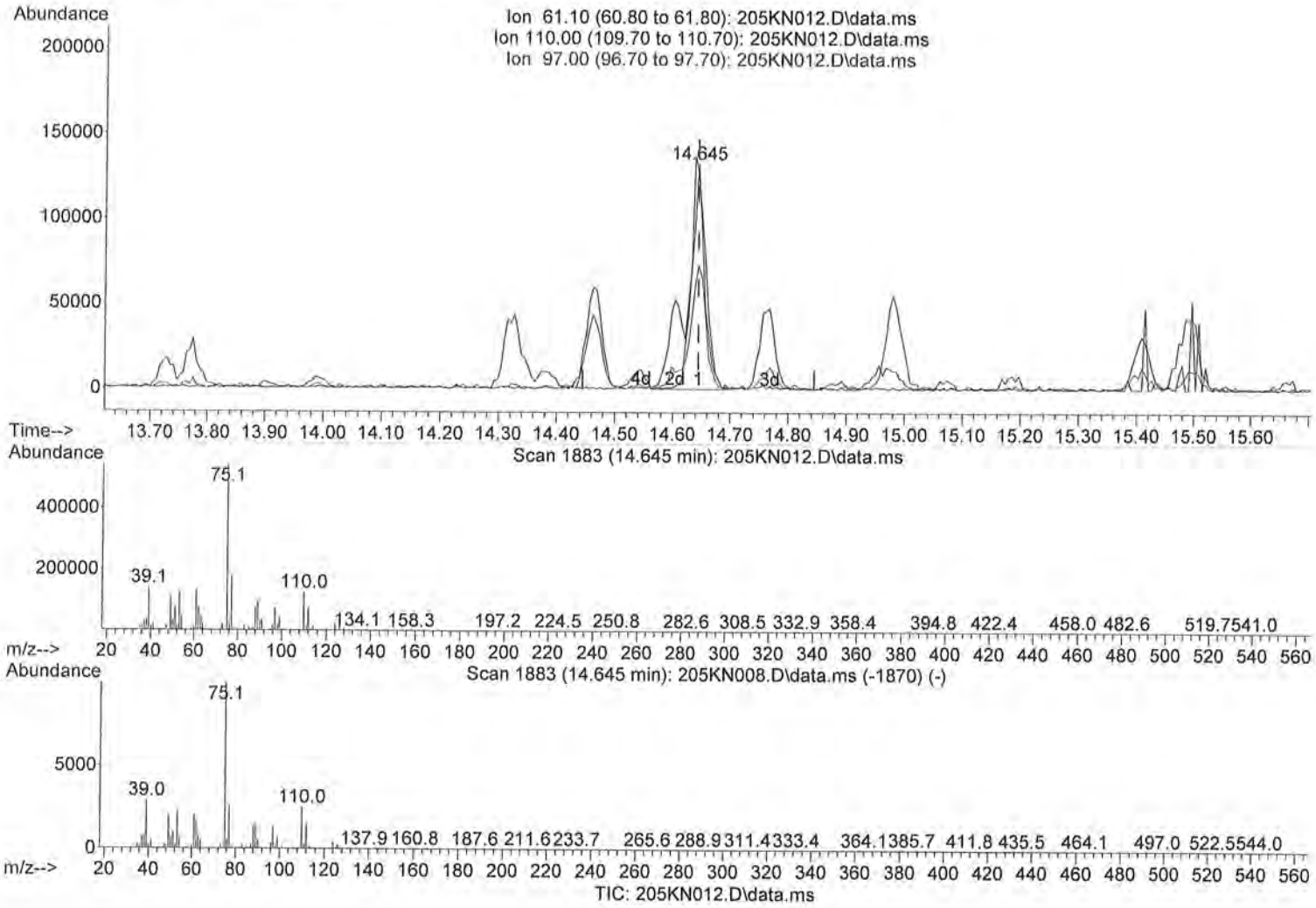
Review by/Date

Review by/Date

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN012.D
Acq On : 19 Nov 2020 1:24 pm
Operator : KKW
Sample : SCV
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Nov 20 07:34:48 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 13:02:55 2020
Response via : Initial Calibration



(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 47.38 ug/L m

response 288427

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.60	82.31
97.00	49.10	50.80
0.00	0.00	0.00

Select One:

[] Original Integration [X] Manual Integration

Select reason for manual integration

[X]

[] Other:

Review by/Date

Review by/Date:

Compound List Report OVGCMS5

Method Path : C:\msdchem\1\methods\
Method File : 111920W.M
Title : ENCO SOP VGCMS05; Element Cal
Last Update : Thu Nov 19 13:02:55 2020
Response Via : Initial Calibration

Total Cpnds : 96

PK#	Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1 I	PENTAFLUOROBENZENE (IS)	168	9.845	1.000	A	3	A	B
2	Dichlorodifluoromethane	85	3.969	0.403	A	2	A	B
3 P	Chloromethane	50	4.392	0.446	A	1	A	B
4 C	Vinyl Chloride	62	4.574	0.465	A	1	A	B
5	Bromomethane	94	5.221	0.530	QO	2	A	B
6	Chloroethane	64	5.421	0.551	LO	2	A	B
7	Trichlorofluoromethane	101	5.679	0.577	A	2	A	B
8	Diethyl ether	59	6.173	0.627	A	2	A	B
9 C	1,1-Dichloroethene	96	6.519	0.662	A	2	A	B
10	Trichlorotrifluoroethane	151	6.543	0.665	A	2	A	B
11	Acrolein	56	7.007	0.712	A	1	A	B
12	Iodomethane	142	6.766	0.687	LO	2	A	B
13	Carbon Disulfide	76	6.613	0.672	A	2	A	B
14	3-chloropropene	41	7.183	0.730	LO	2	A	B
15	Acetone	43	7.389	0.751	LO	1	A	R
16	Methylene Chloride	84	7.330	0.745	LO	1	A	R
17	Methyl Acetate	43	7.512	0.763	LO	2	A	B
18	t-1,2-Dichloroethene	96	7.542	0.766	A	2	A	B
19	Methyl tert-butyl ether	73	7.624	0.774	A	2	A	B
20	Acetonitrile	41	8.006	0.813	LO	2	A	B
21	Isopropyl ether	45	8.047	0.817	A	2	A	B
22	Chloroprene	88	8.264	0.839	A	2	A	B
23 P	1,1-Dichloroethane	63	8.305	0.844	A	3	A	B
24	Acrylonitrile	53	8.376	0.851	A	2	A	B
25	Vinyl Acetate	43	8.529	0.866	A	1	A	B
26	c-1,2-Dichloroethene	96	8.940	0.908	A	2	A	B
27	2,2-Dichloropropane	77	9.063	0.921	QO	2	A	B
28	Bromochloromethane	128	9.175	0.932	A	1	A	B
29	Cyclohexane	56	9.181	0.933	LO	2	A	B
30 C	Chloroform	83	9.210	0.936	A	2	A	B
31 S	Dibromofluoromethane	113	9.416	0.956	A	2	A	B
32	Dibromofluoromethane	113	9.428	0.958	A	2	A	B
33	2-Butanone	72	9.539	0.969	QO	1	A	R
34	1,1,1-Trichloroethane	97	9.481	0.963	A	2	A	B
35	1,1-Dichloropropene	75	9.592	0.974	A	2	A	B
36	Propionitrile	54	9.892	1.005	A	2	A	B
37	Methacrylonitrile	41	9.904	1.006	A	1	A	R
38	Isobutyl Alcohol	43	9.898	1.005	A	2	A	B
39 I	1,4-DIFLUOROBENZENE (IS)	114	10.438	1.000	A	2	A	B
40	Carbon Tetrachloride	117	9.404	0.901	LO	2	A	B
41	Benzene	78	9.868	0.945	A	1	A	B
42	1,2-Dichloroethane	62	10.080	0.966	LO	2	A	B
43	Trichloroethene	130	10.444	1.001	A	2	A	B
44	Methyl cyclohexane	83	10.438	1.000	LO	2	A	B
45	Dibromomethane	93	10.891	1.043	A	2	A	B
46 C	1,2-Dichloropropane	63	10.973	1.051	QO	2	A	B
47	Bromodichloromethane	83	11.008	1.055	QO	2	A	B
48	Methyl Methacrylate	69	11.073	1.061	LO	2	A	B
49	1,4-Dioxane	88	11.190	1.072	LO	1	A	R
50	2-Chloroethyl vinyl ether	63	11.478	1.100	A	2	A	B
51	C-1,3-Dichloropropene	75	11.602	1.111	QO	2	A	B
52 S	D8-Toluene	98	11.772	1.128	A	2	A	B
53	D8-Toluene	98	11.778	1.128	A	2	A	B
54	4-Methyl-2-pentanone	100	12.125	1.162	LO	2	A	B

55	I	CHLOROBENZENE-D5 (IS)	82	13.217	1.000	A	2	A	B
56	C	Toluene	92	11.819	0.894	A	2	A	B
57		T-1,3-Dichloropropene	75	12.189	0.922	LO	2	A	B
58		Tetrachloroethene	164	12.201	0.923	LO	2	A	B
59		Ethyl methacrylate	69	12.236	0.926	LO	2	A	B
60		1,1,2-Trichloroethane	97	12.354	0.935	LO	2	A	B
61		Dibromochloromethane	129	12.542	0.949	QO	2	A	B
62		1,3-Dichloropropane	76	12.618	0.955	A	2	A	B
63		1,2-Dibromoethane	107	12.806	0.969	A	2	A	B
64		2-Hexanone	43	12.871	0.974	A	2	A	B
65	C	Ethylbenzene	106	13.200	0.999	LO	2	A	B
66	P	Chlorobenzene	112	13.235	1.001	A	1	A	B
67		1,1,1,2-Tetrachloroethane	131	13.270	1.004	A	2	A	B
68		m-xylene & p-xylene	106	13.317	1.008	A	1	A	B
69		o-xylene	106	13.729	1.039	A	1	A	B
70		Styrene	104	13.770	1.042	A	2	A	B
71	P	Bromoform	173	13.870	1.049	QO	1	A	B
72		Isopropylbenzene	105	13.987	1.058	A	2	A	B
73	S	Bromofluorobenzene	95	14.322	1.084	A	2	A	B
74		Bromofluorobenzene	95	14.322	1.084	A	2	A	B
75		n-Propylbenzene	91	14.381	1.088	A	2	A	B
76	P	1,1,2,2-Tetrachloroethane	83	14.463	1.094	A	3	A	B
77		1,2,3-Trichloropropane	61	14.645	1.108	A	2	A	B
78		T-1,4-Dichloro-2-Butene	53	14.346	1.085	LO	2	A	B
79	I	1,4-DICHLOROBENZENE-D4 (IS)	152	15.474	1.000	A	3	A	B
80		Bromobenzene	156	14.457	0.934	A	2	A	B
81		1,2,4-Trimethylbenzene	105	14.951	0.966	A	2	A	B
82		2-Chlorotoluene	91	14.604	0.944	A	2	A	R
83		4-Chlorotoluene	91	14.763	0.954	A	2	A	R
84		tert-Butylbenzene	119	14.892	0.962	A	2	A	B
85		1,3,5-Trimethylbenzene	105	14.539	0.940	A	2	A	B
86		p-Isopropyltoluene	119	15.186	0.981	A	2	A	B
87		s-Butylbenzene	105	15.068	0.974	A	2	A	B
88		1,3-Dichlorobenzene	146	15.409	0.996	A	2	A	R
89		1,4-Dichlorobenzene	146	15.497	1.002	A	2	A	R
90		n-Butylbenzene	91	15.668	1.013	A	2	A	B
91		1,2-Dichlorobenzene	146	16.014	1.035	A	2	A	B
92		DBCP	157	17.078	1.104	QO	1	A	B
93		Hexachlorobutadiene	225	17.965	1.161	QO	2	A	B
94		1,2,4-Trichlorobenzene	180	18.129	1.172	QO	2	A	B
95		Naphthalene	128	18.758	1.212	QO	2	A	B
96		1,2,3-Trichlorobenzene	180	19.146	1.237	QO	2	A	B

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

Compound Name Duplication Report

Quant Method: C:\msdchem\1\methods\111920W.M
Number of Compounds: 96

31 Dibromofluoromethane = 32 Dibromofluoromethane
52 D8-Toluene = 53 D8-Toluene
73 Bromofluorobenzene = 74 Bromofluorobenzene

3 Duplicate Names Detected!!!

111920W.M Fri Nov 20 09:31:15 2020

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN003.D
Acq On : 19 Nov 2020 8:46 am
Operator : KKW
Sample : CAL1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 19 12:13:03 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.851	168	1250058	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2384669	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.223	82	1608704	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.480	152	1323293	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.422	113	623489	70.75	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 141.50%#				
52) D8-Toluene	11.778	98	2961300	71.07	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 142.14%#				
73) Bromofluorobenzene	14.322	95	1515651	80.75	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 161.50%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.975	85	18296	1.05	ug/L		92
3) Chloromethane	4.398	50	24090	1.04	ug/L	#	64
4) Vinyl Chloride	4.575	62	15975	0.86	ug/L	#	40
5) Bromomethane	5.227	94	13720	3.79	ug/L	#	85
6) Chloroethane	5.444	64	12739	1.59	ug/L	#	87
7) Trichlorofluoromethane	5.679	101	19911	1.01	ug/L	#	38
8) Diethyl ether	6.184	59	12948	0.98	ug/L	#	54
9) 1,1-Dichloroethene	6.525	96	13263	1.04	ug/L	#	87
10) Trichlorotrifluoroethane	6.543	151	6524	0.76	ug/L	#	61
11) Acrolein	7.025	56	25649	6.51	ug/L		99
12) Iodomethane	6.778	142	40512	4.66	ug/L	#	89
13) Carbon Disulfide	6.613	76	203203	8.96	ug/L		95
14) 3-chloropropene	7.189	41	29238	1.45	ug/L	#	78
15) Acetone	7.401	43	20512	4.24	ug/L	#	82
16) Methylene Chloride	7.336	84	23731	0.91	ug/L	#	70
17) Methyl Acetate	7.530	43	18811	1.38	ug/L	#	94
18) t-1,2-Dichloroethene	7.536	96	15808	1.14	ug/L	#	1
19) Methyl tert-butyl ether	7.618	73	30197	0.83	ug/L	#	76
20) Acetonitrile	8.047	41	33337	11.03	ug/L	#	68
21) Isopropyl ether	8.053	45	42345	0.90	ug/L	#	90
22) Chloroprene	8.276	88	12782	1.01	ug/L	#	75
23) 1,1-Dichloroethane	8.311	63	28756	1.00	ug/L	#	95
24) Acrylonitrile	8.388	53	42630	5.96	ug/L		91
25) Vinyl Acetate	8.546	43	138673	4.83	ug/L	#	100
26) c-1,2-Dichloroethene	8.946	96	13851	0.87	ug/L	#	82
27) 2,2-Dichloropropane	9.069	77	24680	1.13	ug/L	#	71
28) Bromochloromethane	9.193	128	4358	0.77	ug/L	#	5
29) Cyclohexane	9.181	56	36143	1.30	ug/L		91
30) Chloroform	9.234	83	25212	0.94	ug/L	#	77
32) Dibromofluoromethane	9.422	113	623489	70.75	ug/L	#	84
33) 2-Butanone	9.563	72	11859	5.48	ug/L	#	52
34) 1,1,1-Trichloroethane	9.481	97	22143	1.02	ug/L	#	85
35) 1,1-Dichloropropene	9.604	75	24888	1.18	ug/L	#	94
36) Propionitrile	9.898	54	18232	7.06	ug/L	#	47
37) Methacrylonitrile	9.904	41	99844	8.86	ug/L		98
38) Isobutyl Alcohol	9.898	43	19639	12.58	ug/L	#	67
40) Carbon Tetrachloride	9.398	117	16992	1.09	ug/L	#	63
41) Benzene	9.880	78	65290	1.05	ug/L	#	80
42) 1,2-Dichloroethane	10.098	62	25267	1.28	ug/L		93
43) Trichloroethene	10.444	130	11606	0.88	ug/L	#	1
44) Methyl cyclohexane	10.438	83	61837	1.83	ug/L	#	78
45) Dibromomethane	10.897	93	8357	0.94	ug/L		90
46) 1,2-Dichloropropane	10.979	63	19883	1.09	ug/L	#	86
47) Bromodichloromethane	11.014	83	16171	0.95	ug/L	#	84
48) Methyl Methacrylate	11.096	69	9981	0.78	ug/L	#	86
49) 1,4-Dioxane	11.191	88	2274	7.99	ug/L	#	1
50) 2-Chloroethyl vinyl ether	11.484	63	38992	4.48	ug/L	#	91
51) C-1,3-Dichloropropene	11.602	75	18485	0.77	ug/L	#	74

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN003.D
Acq On : 19 Nov 2020 8:46 am
Operator : KKW
Sample : CAL1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 19 12:13:03 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

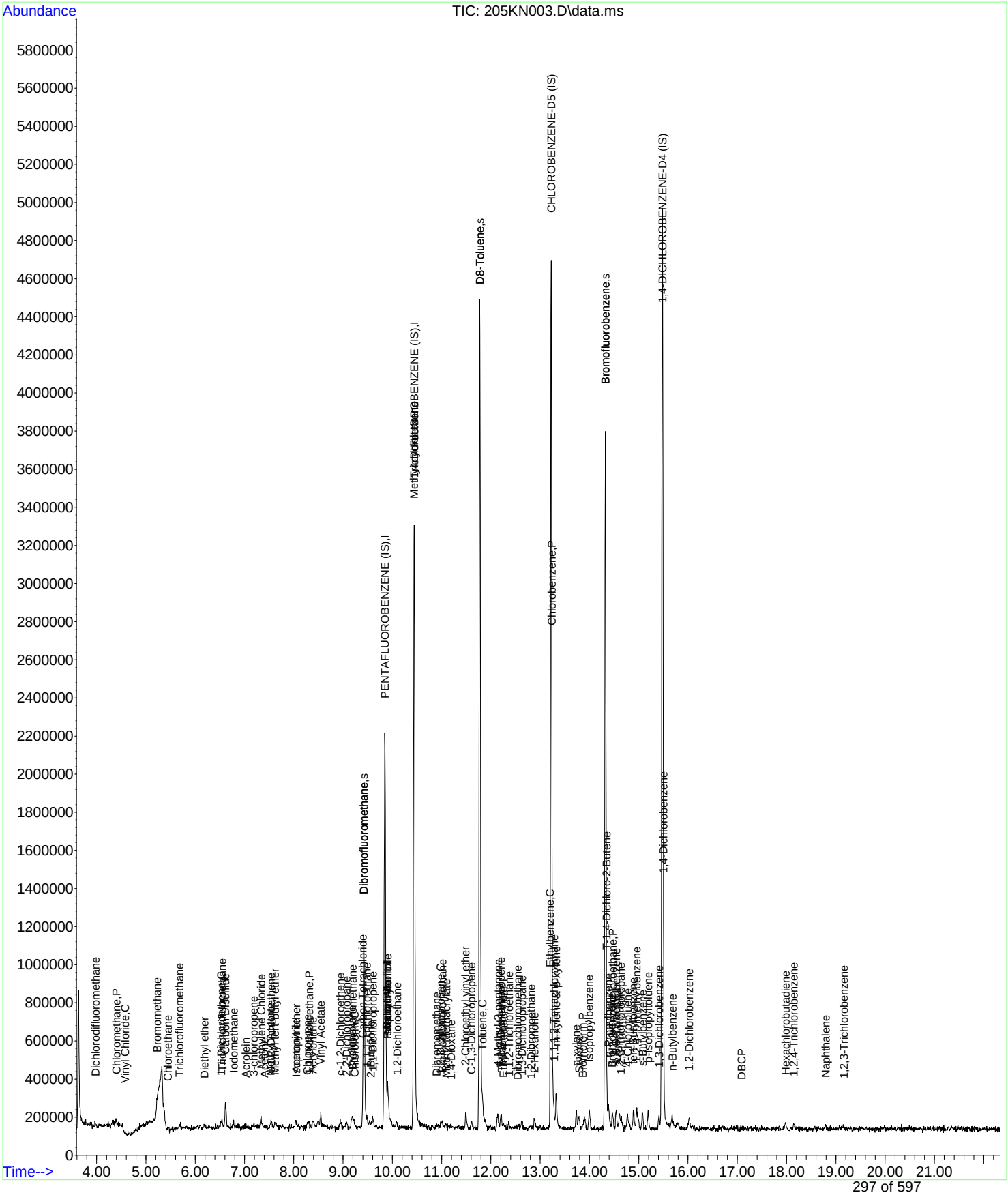
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	2961300	71.07	ug/L		97
54) 4-Methyl-2-pentanone	12.142	100	12783	5.15	ug/L	#	58
56) Toluene	11.831	92	41866	0.91	ug/L	#	79
57) T-1,3-Dichloropropene	12.201	75	18604	0.81	ug/L	#	81
58) Tetrachloroethene	12.219	164	11415	1.09	ug/L		89
59) Ethyl methacrylate	12.248	69	25350	1.17	ug/L	#	83
60) 1,1,2-Trichloroethane	12.366	97	13702	0.99	ug/L	#	72
61) Dibromochloromethane	12.542	129	8416	0.76	ug/L	#	87
62) 1,3-Dichloropropane	12.630	76	25304	0.97	ug/L	#	82
63) 1,2-Dibromoethane	12.818	107	12150	0.91	ug/L	#	81
64) 2-Hexanone	12.883	43	45037	3.33	ug/L	#	97
65) Ethylbenzene	13.200	106	26930	1.14	ug/L	#	79
66) Chlorobenzene	13.235	112	39482	0.98	ug/L	#	42
67) 1,1,1,2-Tetrachloroethane	13.282	131	10455	0.84	ug/L	#	85
68) m-xylene & p-xylene	13.323	106	49610	1.75	ug/L		95
69) o-xylene	13.729	106	26619	0.91	ug/L		95
70) Styrene	13.793	104	38113	0.74	ug/L	#	77
71) Bromoform	13.864	173	7220	1.08	ug/L		96
72) Isopropylbenzene	13.993	105	68183	0.90	ug/L	#	96
74) Bromofluorobenzene	14.322	95	1515651	80.75	ug/L	#	82
75) n-Propylbenzene	14.387	91	89415	0.94	ug/L		97
76) 1,1,2,2-Tetrachloroethane	14.469	83	18496	0.88	ug/L	#	97
77) 1,2,3-Trichloropropane	14.639	61	7568	1.03	ug/L	#	59
78) T-1,4-Dichloro-2-Butene	14.346	53	3904	0.50	ug/L	#	25
80) Bromobenzene	14.457	156	12991	0.77	ug/L	#	62
81) 1,2,4-Trimethylbenzene	14.957	105	65688	1.02	ug/L		88
82) 2-Chlorotoluene	14.610	91	56094	1.00	ug/L		99
83) 4-Chlorotoluene	14.775	91	55670	0.96	ug/L	#	89
84) tert-Butylbenzene	14.886	119	50745	0.92	ug/L		95
85) 1,3,5-Trimethylbenzene	14.540	105	65899	1.02	ug/L	#	91
86) p-Isopropyltoluene	15.192	119	58999	0.89	ug/L	#	91
87) s-Butylbenzene	15.080	105	66592	0.81	ug/L	#	90
88) 1,3-Dichlorobenzene	15.415	146	28042	0.90	ug/L		91
89) 1,4-Dichlorobenzene	15.503	146	35527	1.06	ug/L	#	1
90) n-Butylbenzene	15.685	91	64987	0.95	ug/L		99
91) 1,2-Dichlorobenzene	16.020	146	29991	1.01	ug/L		95
92) DBCP	17.090	157	3870	1.12	ug/L	#	38
93) Hexachlorobutadiene	17.983	225	4733	0.53	ug/L	#	14
94) 1,2,4-Trichlorobenzene	18.141	180	11751	0.74	ug/L	#	59
95) Naphthalene	18.794	128	22751	0.55	ug/L	#	79
96) 1,2,3-Trichlorobenzene	19.164	180	6414	0.50	ug/L	#	71

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN003.D
Acq On : 19 Nov 2020 8:46 am
Operator : KKW
Sample : CAL1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 19 12:13:03 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.845	168	1204238	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.438	114	2405138	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.217	82	1568806	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.480	152	1312583	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.422	113	684693	80.65	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 161.30%#				
52) D8-Toluene	11.772	98	3225098	76.74	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 153.48%#				
73) Bromofluorobenzene	14.322	95	1548116	84.58	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 169.16%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.969	85	25586	1.52	ug/L	#	95
3) Chloromethane	4.392	50	36985	1.66	ug/L		96
4) Vinyl Chloride	4.574	62	23897	1.33	ug/L	#	72
5) Bromomethane	5.221	94	18964	5.44	ug/L	#	71
6) Chloroethane	5.432	64	16169	2.09	ug/L		91
7) Trichlorofluoromethane	5.685	101	29809	1.57	ug/L	#	77
8) Diethyl ether	6.173	59	17712	1.39	ug/L		89
9) 1,1-Dichloroethene	6.525	96	17932	1.46	ug/L		89
10) Trichlorotrifluoroethane	6.537	151	12736m	1.54	ug/L		
11) Acrolein	7.019	56	34067	8.97	ug/L		93
12) Iodomethane	6.772	142	74024	8.84	ug/L	#	86
13) Carbon Disulfide	6.613	76	308072	14.10	ug/L		96
14) 3-chloropropene	7.183	41	32217	1.66	ug/L	#	76
15) Acetone	7.401	43	18401	3.95	ug/L		92
16) Methylene Chloride	7.336	84	32753	1.31	ug/L	#	75
17) Methyl Acetate	7.530	43	17987	1.37	ug/L	#	63
18) t-1,2-Dichloroethene	7.553	96	20681	1.55	ug/L	#	1
19) Methyl tert-butyl ether	7.624	73	51397	1.46	ug/L	#	89
20) Acetonitrile	8.053	41	41973	14.42	ug/L	#	73
21) Isopropyl ether	8.047	45	72128	1.58	ug/L		98
22) Chloroprene	8.276	88	19106	1.56	ug/L	#	94
23) 1,1-Dichloroethane	8.305	63	35911	1.30	ug/L	#	93
24) Acrylonitrile	8.388	53	64927	9.43	ug/L	#	89
25) Vinyl Acetate	8.546	43	209163	7.56	ug/L	#	100
26) c-1,2-Dichloroethene	8.958	96	20443	1.33	ug/L		89
27) 2,2-Dichloropropane	9.069	77	27636	1.31	ug/L	#	82
28) Bromochloromethane	9.181	128	8462	1.55	ug/L	#	77
29) Cyclohexane	9.181	56	39303	1.47	ug/L		89
30) Chloroform	9.222	83	39382	1.52	ug/L	#	85
32) Dibromofluoromethane	9.422	113	684725	80.65	ug/L	#	87
33) 2-Butanone	9.545	72	6992	3.35	ug/L	#	1
34) 1,1,1-Trichloroethane	9.475	97	31237	1.49	ug/L		96
35) 1,1-Dichloropropene	9.598	75	33405	1.64	ug/L	#	83
36) Propionitrile	9.898	54	34088	13.71	ug/L	#	62
37) Methacrylonitrile	9.904	41	161695	14.89	ug/L		99
38) Isobutyl Alcohol	9.904	43	39900	26.53	ug/L	#	100
40) Carbon Tetrachloride	9.410	117	25567m	1.62	ug/L		
41) Benzene	9.874	78	86139	1.38	ug/L		94
42) 1,2-Dichloroethane	10.080	62	31232	1.56	ug/L	#	78
43) Trichloroethene	10.444	130	19889	1.49	ug/L	#	1
44) Methyl cyclohexane	10.444	83	73539	2.16	ug/L	#	76
45) Dibromomethane	10.897	93	12606	1.40	ug/L	#	86
46) 1,2-Dichloropropane	10.979	63	26377	1.43	ug/L	#	92
47) Bromodichloromethane	11.008	83	21020	1.23	ug/L	#	69
48) Methyl Methacrylate	11.090	69	11122m	0.86	ug/L		
49) 1,4-Dioxane	11.184	88	3651	12.73	ug/L	#	57
50) 2-Chloroethyl vinyl ether	11.490	63	63403	7.23	ug/L	#	90
51) C-1,3-Dichloropropene	11.602	75	32438	1.34	ug/L	#	82

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

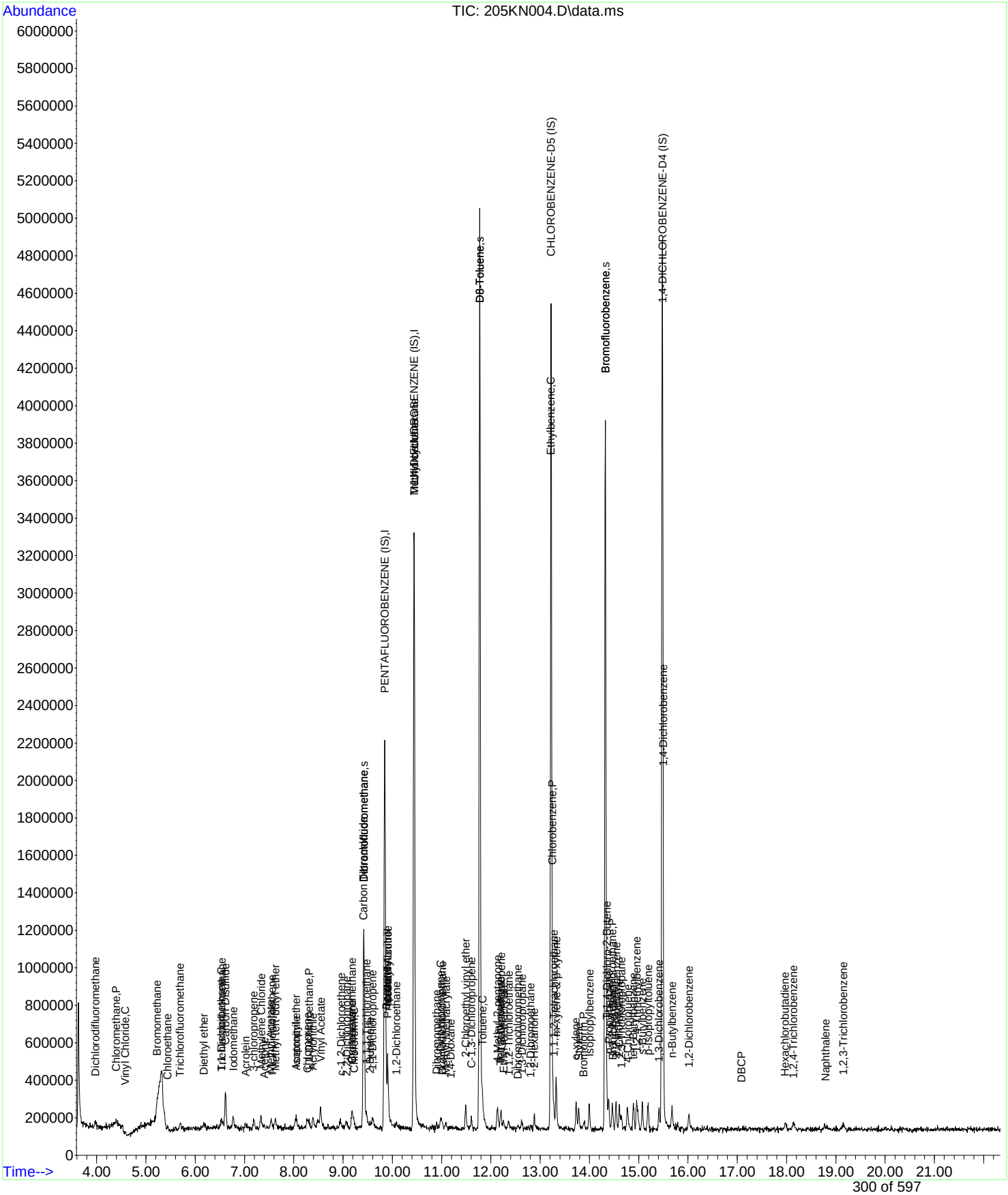
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.772	98	3225098	76.74	ug/L		98
54) 4-Methyl-2-pentanone	12.130	100	16767	6.70	ug/L		87
56) Toluene	11.831	92	50990	1.14	ug/L	#	83
57) T-1,3-Dichloropropene	12.207	75	24871	1.11	ug/L	#	82
58) Tetrachloroethene	12.195	164	13605	1.33	ug/L		97
59) Ethyl methacrylate	12.254	69	29880	1.41	ug/L		95
60) 1,1,2-Trichloroethane	12.360	97	16136m	1.20	ug/L		
61) Dibromochloromethane	12.542	129	12102	1.12	ug/L	#	88
62) 1,3-Dichloropropane	12.630	76	31210	1.23	ug/L	#	69
63) 1,2-Dibromoethane	12.800	107	17274	1.32	ug/L	#	85
64) 2-Hexanone	12.877	43	65549	4.97	ug/L	#	95
65) Ethylbenzene	13.212	106	31671	1.37	ug/L	#	83
66) Chlorobenzene	13.241	112	57651	1.47	ug/L	#	68
67) 1,1,1,2-Tetrachloroethane	13.276	131	16700	1.37	ug/L	#	82
68) m-xylene & p-xylene	13.329	106	79130	2.86	ug/L		91
69) o-xylene	13.723	106	34486	1.21	ug/L		73
70) Styrene	13.781	104	59534	1.18	ug/L	#	81
71) Bromoform	13.876	173	8315	1.27	ug/L	#	40
72) Isopropylbenzene	13.999	105	101194	1.37	ug/L		95
74) Bromofluorobenzene	14.322	95	1548116	84.58	ug/L		84
75) n-Propylbenzene	14.393	91	140081	1.51	ug/L	#	92
76) 1,1,2,2-Tetrachloroethane	14.463	83	26618	1.30	ug/L	#	88
77) 1,2,3-Trichloropropane	14.645	61	9189	1.28	ug/L		95
78) T-1,4-Dichloro-2-Butene	14.351	53	7999	1.05	ug/L	#	1
80) Bromobenzene	14.469	156	24323	1.46	ug/L		98
81) 1,2,4-Trimethylbenzene	14.957	105	93218	1.45	ug/L		98
82) 2-Chlorotoluene	14.604	91	84274	1.51	ug/L		92
83) 4-Chlorotoluene	14.774	91	90552	1.57	ug/L	#	94
84) tert-Butylbenzene	14.886	119	74805	1.37	ug/L		94
85) 1,3,5-Trimethylbenzene	14.545	105	88928	1.38	ug/L		92
86) p-Isopropyltoluene	15.192	119	88659	1.35	ug/L		94
87) s-Butylbenzene	15.074	105	111856	1.37	ug/L	#	92
88) 1,3-Dichlorobenzene	15.409	146	43620	1.41	ug/L	#	93
89) 1,4-Dichlorobenzene	15.497	146	49462	1.48	ug/L	#	1
90) n-Butylbenzene	15.673	91	86450	1.28	ug/L		93
91) 1,2-Dichlorobenzene	16.014	146	36400	1.23	ug/L	#	84
92) DBCP	17.084	157	1967	0.58	ug/L		97
93) Hexachlorobutadiene	17.965	225	9033	1.02	ug/L	#	80
94) 1,2,4-Trichlorobenzene	18.135	180	11315	0.72	ug/L	#	35
95) Naphthalene	18.787	128	32865	0.80	ug/L	#	83
96) 1,2,3-Trichlorobenzene	19.146	180	13123	1.04	ug/L	#	80

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN005.D
Acq On : 19 Nov 2020 9:47 am
Operator : KKW
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 19 12:13:14 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.845	168	1203996	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.438	114	2450219	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.217	82	1607155	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.480	152	1325758	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.422	113	748431	88.17	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 176.34%#				
52) D8-Toluene	11.772	98	3472304	81.11	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 162.22%#				
73) Bromofluorobenzene	14.322	95	1649261	87.95	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 175.90%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.975	85	74605	4.45	ug/L	#	84
3) Chloromethane	4.392	50	90702	4.06	ug/L		95
4) Vinyl Chloride	4.580	62	71482	3.99	ug/L		96
5) Bromomethane	5.221	94	29725	8.53	ug/L	#	76
6) Chloroethane	5.421	64	32917	4.25	ug/L		99
7) Trichlorofluoromethane	5.685	101	82668	4.36	ug/L	#	96
8) Diethyl ether	6.173	59	46647	3.66	ug/L		94
9) 1,1-Dichloroethene	6.525	96	47209	3.83	ug/L		88
10) Trichlorotrifluoroethane	6.543	151	35223	4.26	ug/L		98
11) Acrolein	7.013	56	106122	27.96	ug/L		88
12) Iodomethane	6.772	142	223049	26.65	ug/L	#	86
13) Carbon Disulfide	6.613	76	853754	39.09	ug/L		98
14) 3-chloropropene	7.189	41	82112	4.23	ug/L	#	84
15) Acetone	7.395	43	68203	14.65	ug/L		93
16) Methylene Chloride	7.324	84	70431	2.81	ug/L		96
17) Methyl Acetate	7.524	43	41189	3.14	ug/L	#	75
18) t-1,2-Dichloroethene	7.542	96	53904	4.03	ug/L	#	1
19) Methyl tert-butyl ether	7.630	73	142206	4.05	ug/L		98
20) Acetonitrile	8.023	41	100254	34.44	ug/L		94
21) Isopropyl ether	8.053	45	190415	4.18	ug/L		97
22) Chloroprene	8.264	88	57323	4.68	ug/L		99
23) 1,1-Dichloroethane	8.300	63	129239	4.67	ug/L	#	91
24) Acrylonitrile	8.382	53	189148	27.46	ug/L		89
25) Vinyl Acetate	8.535	43	635408	22.98	ug/L	#	100
26) c-1,2-Dichloroethene	8.946	96	63131	4.10	ug/L		88
27) 2,2-Dichloropropane	9.069	77	87442	4.14	ug/L	#	95
28) Bromochloromethane	9.187	128	28669	5.26	ug/L		99
29) Cyclohexane	9.181	56	133857	5.00	ug/L		89
30) Chloroform	9.216	83	122395	4.72	ug/L		92
32) Dibromofluoromethane	9.422	113	748431	88.17	ug/L	#	89
33) 2-Butanone	9.539	72	36738	17.61	ug/L		70
34) 1,1,1-Trichloroethane	9.475	97	89627	4.28	ug/L		95
35) 1,1-Dichloropropene	9.592	75	96148	4.73	ug/L		93
36) Propionitrile	9.898	54	87631	35.25	ug/L	#	73
37) Methacrylonitrile	9.904	41	433810	39.95	ug/L		98
38) Isobutyl Alcohol	9.904	43	101382	67.43	ug/L	#	98
40) Carbon Tetrachloride	9.404	117	68664m	4.27	ug/L		
41) Benzene	9.874	78	248057	3.89	ug/L		97
42) 1,2-Dichloroethane	10.080	62	87269	4.29	ug/L	#	95
43) Trichloroethene	10.438	130	51268	3.78	ug/L	#	1
44) Methyl cyclohexane	10.444	83	159388	4.59	ug/L	#	83
45) Dibromomethane	10.897	93	40717	4.45	ug/L	#	84
46) 1,2-Dichloropropane	10.985	63	68338	3.64	ug/L		99
47) Bromodichloromethane	11.014	83	76839	4.42	ug/L		95
48) Methyl Methacrylate	11.079	69	42500	3.24	ug/L		96
49) 1,4-Dioxane	11.202	88	15649	53.54	ug/L		92
50) 2-Chloroethyl vinyl ether	11.484	63	180854	20.24	ug/L	#	97
51) C-1,3-Dichloropropene	11.608	75	97087	3.92	ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN005.D
Acq On : 19 Nov 2020 9:47 am
Operator : KKW
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 19 12:13:14 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

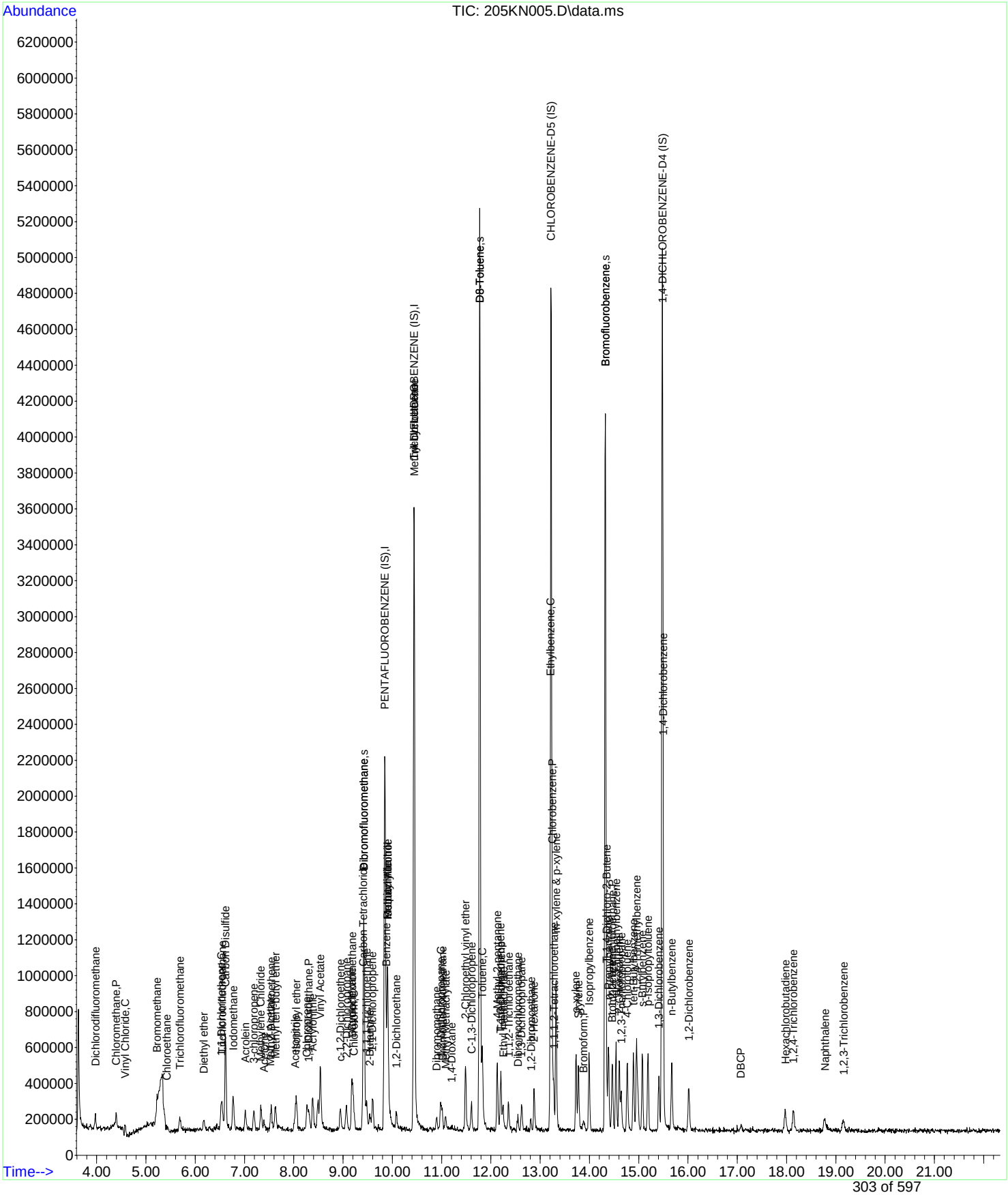
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.772	98	3472304	81.11	ug/L		98
54) 4-Methyl-2-pentanone	12.125	100	38753	15.19	ug/L		86
56) Toluene	11.825	92	165393	3.60	ug/L		98
57) T-1,3-Dichloropropene	12.195	75	86647	3.76	ug/L		92
58) Tetrachloroethene	12.207	164	39337	3.74	ug/L	#	86
59) Ethyl methacrylate	12.248	69	74987	3.46	ug/L	#	89
60) 1,1,2-Trichloroethane	12.360	97	49583	3.58	ug/L		91
61) Dibromochloromethane	12.548	129	35140	3.19	ug/L	#	91
62) 1,3-Dichloropropane	12.618	76	94212	3.62	ug/L	#	84
63) 1,2-Dibromoethane	12.812	107	49651	3.71	ug/L		94
64) 2-Hexanone	12.871	43	182740	13.52	ug/L	#	93
65) Ethylbenzene	13.206	106	86003	3.64	ug/L	#	80
66) Chlorobenzene	13.241	112	174992	4.36	ug/L		99
67) 1,1,1,2-Tetrachloroethane	13.282	131	47239	3.79	ug/L		98
68) m-xylene & p-xylene	13.323	106	241684	8.52	ug/L		97
69) o-xylene	13.723	106	128266	4.39	ug/L		94
70) Styrene	13.776	104	192498	3.74	ug/L		96
71) Bromoform	13.875	173	17891	2.67	ug/L	#	58
72) Isopropylbenzene	13.993	105	314697	4.15	ug/L		97
74) Bromofluorobenzene	14.322	95	1649261	87.95	ug/L	#	83
75) n-Propylbenzene	14.387	91	430878	4.54	ug/L		98
76) 1,1,2,2-Tetrachloroethane	14.463	83	75011	3.57	ug/L	#	97
77) 1,2,3-Trichloropropane	14.645	61	25913m	3.52	ug/L		
78) T-1,4-Dichloro-2-Butene	14.346	53	30582	3.90	ug/L	#	25
80) Bromobenzene	14.457	156	68481	4.07	ug/L		95
81) 1,2,4-Trimethylbenzene	14.957	105	312679	4.83	ug/L		96
82) 2-Chlorotoluene	14.604	91	254584	4.52	ug/L		98
83) 4-Chlorotoluene	14.763	91	269745	4.64	ug/L		96
84) tert-Butylbenzene	14.892	119	225427	4.10	ug/L		95
85) 1,3,5-Trimethylbenzene	14.539	105	298492	4.59	ug/L		97
86) p-Isopropyltoluene	15.186	119	288991	4.35	ug/L		97
87) s-Butylbenzene	15.074	105	358245	4.33	ug/L		99
88) 1,3-Dichlorobenzene	15.409	146	121305	3.89	ug/L	#	88
89) 1,4-Dichlorobenzene	15.497	146	130629	3.88	ug/L	#	1
90) n-Butylbenzene	15.668	91	270003	3.95	ug/L		94
91) 1,2-Dichlorobenzene	16.014	146	123325	4.13	ug/L		98
92) DBCP	17.072	157	4885	1.42	ug/L		94
93) Hexachlorobutadiene	17.977	225	28258	3.17	ug/L	#	73
94) 1,2,4-Trichlorobenzene	18.135	180	48590	3.06	ug/L	#	88
95) Naphthalene	18.782	128	90648	2.20	ug/L	#	76
96) 1,2,3-Trichlorobenzene	19.158	180	27107	2.12	ug/L	#	63

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN005.D
Acq On : 19 Nov 2020 9:47 am
Operator : KKW
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 19 12:13:14 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN006.D
Acq On : 19 Nov 2020 10:18 am
Operator : KKW
Sample : CAL4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 19 12:13:19 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.845	168	1172592	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.438	114	2346408	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.223	82	1580434	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.480	152	1299188	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.422	113	633611	76.64	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 153.28%#				
52) D8-Toluene	11.772	98	2967040	72.37	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 144.74%#				
73) Bromofluorobenzene	14.322	95	1486454	80.61	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 161.22%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.969	85	136642	8.36	ug/L	#	98
3) Chloromethane	4.392	50	150941	6.94	ug/L		98
4) Vinyl Chloride	4.574	62	121568	6.97	ug/L		97
5) Bromomethane	5.221	94	42104	12.41	ug/L	#	85
6) Chloroethane	5.438	64	61911	8.21	ug/L	#	92
7) Trichlorofluoromethane	5.685	101	165911	8.98	ug/L		92
8) Diethyl ether	6.173	59	84419	6.81	ug/L		94
9) 1,1-Dichloroethene	6.525	96	87918	7.33	ug/L		97
10) Trichlorotrifluoroethane	6.537	151	72300	8.97	ug/L		92
11) Acrolein	7.019	56	230022	62.23	ug/L		98
12) Iodomethane	6.766	142	506927	62.20	ug/L	#	91
13) Carbon Disulfide	6.613	76	1673298	78.66	ug/L		99
14) 3-chloropropene	7.183	41	167038	8.84	ug/L		98
15) Acetone	7.389	43	148978	32.85	ug/L		90
16) Methylene Chloride	7.324	84	116078	4.75	ug/L		95
17) Methyl Acetate	7.518	43	87612	6.86	ug/L	#	91
18) t-1,2-Dichloroethene	7.536	96	101037	7.76	ug/L	#	1
19) Methyl tert-butyl ether	7.630	73	287472	8.40	ug/L		95
20) Acetonitrile	8.012	41	217380	76.68	ug/L		97
21) Isopropyl ether	8.041	45	356646	8.05	ug/L		96
22) Chloroprene	8.270	88	101968	8.55	ug/L		94
23) 1,1-Dichloroethane	8.305	63	221157	8.21	ug/L		96
24) Acrylonitrile	8.382	53	395143	58.91	ug/L		97
25) Vinyl Acetate	8.535	43	1226867	45.56	ug/L	#	100
26) c-1,2-Dichloroethene	8.940	96	111210	7.41	ug/L		89
27) 2,2-Dichloropropane	9.058	77	149262	7.26	ug/L	#	92
28) Bromochloromethane	9.169	128	44116	8.31	ug/L		92
29) Cyclohexane	9.187	56	211253	8.10	ug/L		93
30) Chloroform	9.210	83	224502	8.89	ug/L		96
32) Dibromofluoromethane	9.422	113	633611	76.64	ug/L	#	91
33) 2-Butanone	9.551	72	52854	26.02	ug/L	#	56
34) 1,1,1-Trichloroethane	9.469	97	163488	8.02	ug/L		95
35) 1,1-Dichloropropene	9.592	75	169450	8.57	ug/L		95
36) Propionitrile	9.892	54	162895	67.28	ug/L	#	73
37) Methacrylonitrile	9.898	41	807949	76.39	ug/L		93
38) Isobutyl Alcohol	9.892	43	201685	137.74	ug/L	#	97
40) Carbon Tetrachloride	9.398	117	126351	8.21	ug/L	#	93
41) Benzene	9.868	78	478492	7.84	ug/L		98
42) 1,2-Dichloroethane	10.086	62	153491	7.87	ug/L		96
43) Trichloroethene	10.438	130	102612	7.91	ug/L	#	58
44) Methyl cyclohexane	10.444	83	233746	7.02	ug/L		94
45) Dibromomethane	10.897	93	68274	7.78	ug/L	#	90
46) 1,2-Dichloropropane	10.973	63	142560	7.94	ug/L		99
47) Bromodichloromethane	11.008	83	146577	8.80	ug/L		96
48) Methyl Methacrylate	11.073	69	84258	6.70	ug/L		99
49) 1,4-Dioxane	11.196	88	27005	96.48	ug/L		98
50) 2-Chloroethyl vinyl ether	11.484	63	363921	42.52	ug/L	#	99
51) C-1,3-Dichloropropene	11.602	75	181119	7.64	ug/L		91

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN006.D
Acq On : 19 Nov 2020 10:18 am
Operator : KKW
Sample : CAL4
Misc :
ALS Vial : 5 Sample Multiplier: 1

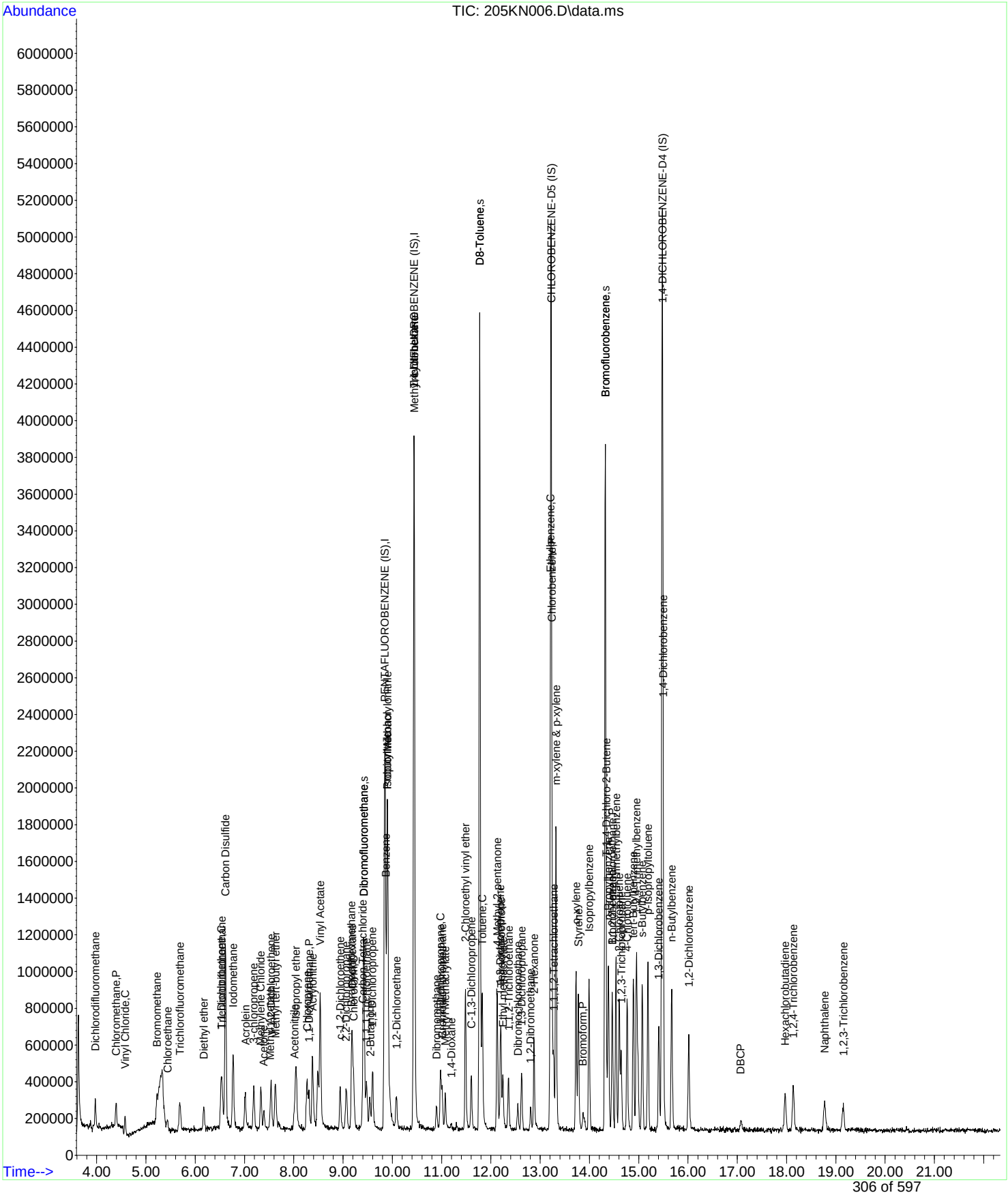
Quant Time: Nov 19 12:13:19 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.772	98	2967040	72.37	ug/L		98
54) 4-Methyl-2-pentanone	12.125	100	73800	30.21	ug/L		96
56) Toluene	11.825	92	299260	6.63	ug/L		94
57) T-1,3-Dichloropropene	12.189	75	162803	7.18	ug/L		97
58) Tetrachloroethene	12.207	164	82473	7.98	ug/L		91
59) Ethyl methacrylate	12.242	69	156564	7.34	ug/L		97
60) 1,1,2-Trichloroethane	12.360	97	99991	7.35	ug/L		95
61) Dibromochloromethane	12.548	129	73988	6.82	ug/L		96
62) 1,3-Dichloropropane	12.624	76	205100	8.00	ug/L		99
63) 1,2-Dibromoethane	12.800	107	91595	6.95	ug/L	#	97
64) 2-Hexanone	12.877	43	371113	27.92	ug/L		99
65) Ethylbenzene	13.206	106	183869	7.91	ug/L		93
66) Chlorobenzene	13.235	112	325558	8.26	ug/L		98
67) 1,1,1,2-Tetrachloroethane	13.276	131	84396	6.89	ug/L	#	91
68) m-xylene & p-xylene	13.323	106	459298	16.47	ug/L		100
69) o-xylene	13.729	106	226034	7.87	ug/L		98
70) Styrene	13.776	104	372814	7.36	ug/L		97
71) Bromoform	13.864	173	42258	6.41	ug/L		95
72) Isopropylbenzene	13.993	105	590842	7.93	ug/L		97
74) Bromofluorobenzene	14.322	95	1486454	80.61	ug/L	#	83
75) n-Propylbenzene	14.381	91	808182	8.66	ug/L		98
76) 1,1,2,2-Tetrachloroethane	14.463	83	147516	7.14	ug/L	#	98
77) 1,2,3-Trichloropropane	14.645	61	59327m	8.20	ug/L		
78) T-1,4-Dichloro-2-Butene	14.340	53	59486	7.72	ug/L	#	1
80) Bromobenzene	14.463	156	121209	7.35	ug/L		91
81) 1,2,4-Trimethylbenzene	14.951	105	594469	9.37	ug/L		98
82) 2-Chlorotoluene	14.604	91	469789	8.52	ug/L		97
83) 4-Chlorotoluene	14.763	91	498816	8.75	ug/L		98
84) tert-Butylbenzene	14.886	119	430271	7.98	ug/L		93
85) 1,3,5-Trimethylbenzene	14.539	105	564368	8.87	ug/L		98
86) p-Isopropyltoluene	15.186	119	548845	8.44	ug/L		99
87) s-Butylbenzene	15.068	105	648219	7.99	ug/L		99
88) 1,3-Dichlorobenzene	15.403	146	240604	7.88	ug/L	#	89
89) 1,4-Dichlorobenzene	15.497	146	253916	7.69	ug/L	#	36
90) n-Butylbenzene	15.668	91	564995	8.44	ug/L		99
91) 1,2-Dichlorobenzene	16.014	146	229022	7.83	ug/L		99
92) DBCP	17.066	157	17355	5.14	ug/L		92
93) Hexachlorobutadiene	17.971	225	48211	5.52	ug/L	#	93
94) 1,2,4-Trichlorobenzene	18.135	180	95682	6.14	ug/L		98
95) Naphthalene	18.770	128	206620	5.11	ug/L	#	91
96) 1,2,3-Trichlorobenzene	19.152	180	60810	4.85	ug/L	#	87

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN006.D
Acq On : 19 Nov 2020 10:18 am
Operator : KKW
Sample : CAL4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 19 12:13:19 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN007.D
Acq On : 19 Nov 2020 10:49 am
Operator : KKW
Sample : CAL5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 19 12:13:23 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.845	168	1203065	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.438	114	2330356	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.217	82	1579586	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.480	152	1295652	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.422	113	785195	92.57	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 185.14%#				
52) D8-Toluene	11.772	98	3631138	89.18	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 178.36%#				
73) Bromofluorobenzene	14.322	95	1784745	96.84	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 193.68%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.975	85	302749	18.06	ug/L	#	96
3) Chloromethane	4.392	50	320743	14.37	ug/L		100
4) Vinyl Chloride	4.574	62	293406	16.39	ug/L		96
5) Bromomethane	5.221	94	73935	21.23	ug/L	#	91
6) Chloroethane	5.438	64	142983	18.49	ug/L	#	91
7) Trichlorofluoromethane	5.685	101	364707	19.24	ug/L		95
8) Diethyl ether	6.179	59	186506	14.66	ug/L		96
9) 1,1-Dichloroethene	6.525	96	198942	16.17	ug/L		97
10) Trichlorotrifluoroethane	6.549	151	125657	15.20	ug/L		88
11) Acrolein	7.007	56	200300	52.81	ug/L		96
12) Iodomethane	6.766	142	1096522	131.13	ug/L	#	92
13) Carbon Disulfide	6.613	76	3494366	160.10	ug/L		99
14) 3-chloropropene	7.183	41	372388	19.21	ug/L		94
15) Acetone	7.389	43	259911	55.85	ug/L		99
16) Methylene Chloride	7.336	84	230585	9.20	ug/L		94
17) Methyl Acetate	7.518	43	159405	12.17	ug/L	#	93
18) t-1,2-Dichloroethene	7.542	96	228051	17.07	ug/L	#	1
19) Methyl tert-butyl ether	7.624	73	586463	16.71	ug/L		96
20) Acetonitrile	8.006	41	398425	136.97	ug/L	#	60
21) Isopropyl ether	8.047	45	769298	16.92	ug/L		98
22) Chloroprene	8.270	88	238292	19.47	ug/L		93
23) 1,1-Dichloroethane	8.306	63	474217	17.17	ug/L		98
24) Acrylonitrile	8.376	53	397768	57.80	ug/L		94
25) Vinyl Acetate	8.535	43	2559621	92.65	ug/L	#	100
26) c-1,2-Dichloroethene	8.940	96	252680	16.41	ug/L		97
27) 2,2-Dichloropropane	9.069	77	358578	17.00	ug/L		99
28) Bromochloromethane	9.169	128	91814	16.86	ug/L		100
29) Cyclohexane	9.187	56	486603	18.19	ug/L		97
30) Chloroform	9.210	83	454400	17.54	ug/L		99
32) Dibromofluoromethane	9.422	113	785195	92.57	ug/L	#	89
33) 2-Butanone	9.539	72	109766	52.66	ug/L		72
34) 1,1,1-Trichloroethane	9.481	97	386747	18.48	ug/L		99
35) 1,1-Dichloropropene	9.598	75	374086	18.43	ug/L		100
36) Propionitrile	9.886	54	337913	136.04	ug/L	#	79
37) Methacrylonitrile	9.898	41	1621006	149.38	ug/L		94
38) Isobutyl Alcohol	9.898	43	378850	252.19	ug/L	#	97
40) Carbon Tetrachloride	9.404	117	288935	18.91	ug/L	#	94
41) Benzene	9.868	78	1081865	17.84	ug/L		100
42) 1,2-Dichloroethane	10.080	62	354638	18.31	ug/L		95
43) Trichloroethene	10.444	130	207547	16.10	ug/L	#	78
44) Methyl cyclohexane	10.444	83	512091	15.49	ug/L		96
45) Dibromomethane	10.903	93	150740	17.31	ug/L		88
46) 1,2-Dichloropropane	10.979	63	294721	16.53	ug/L		98
47) Bromodichloromethane	11.008	83	308117	18.62	ug/L		98
48) Methyl Methacrylate	11.067	69	177753	14.23	ug/L		98
49) 1,4-Dioxane	11.190	88	54003	194.27	ug/L		93
50) 2-Chloroethyl vinyl ether	11.484	63	766428	90.17	ug/L		99
51) C-1,3-Dichloropropene	11.602	75	413509	17.57	ug/L		98

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN007.D
Acq On : 19 Nov 2020 10:49 am
Operator : KKW
Sample : CAL5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 19 12:13:23 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

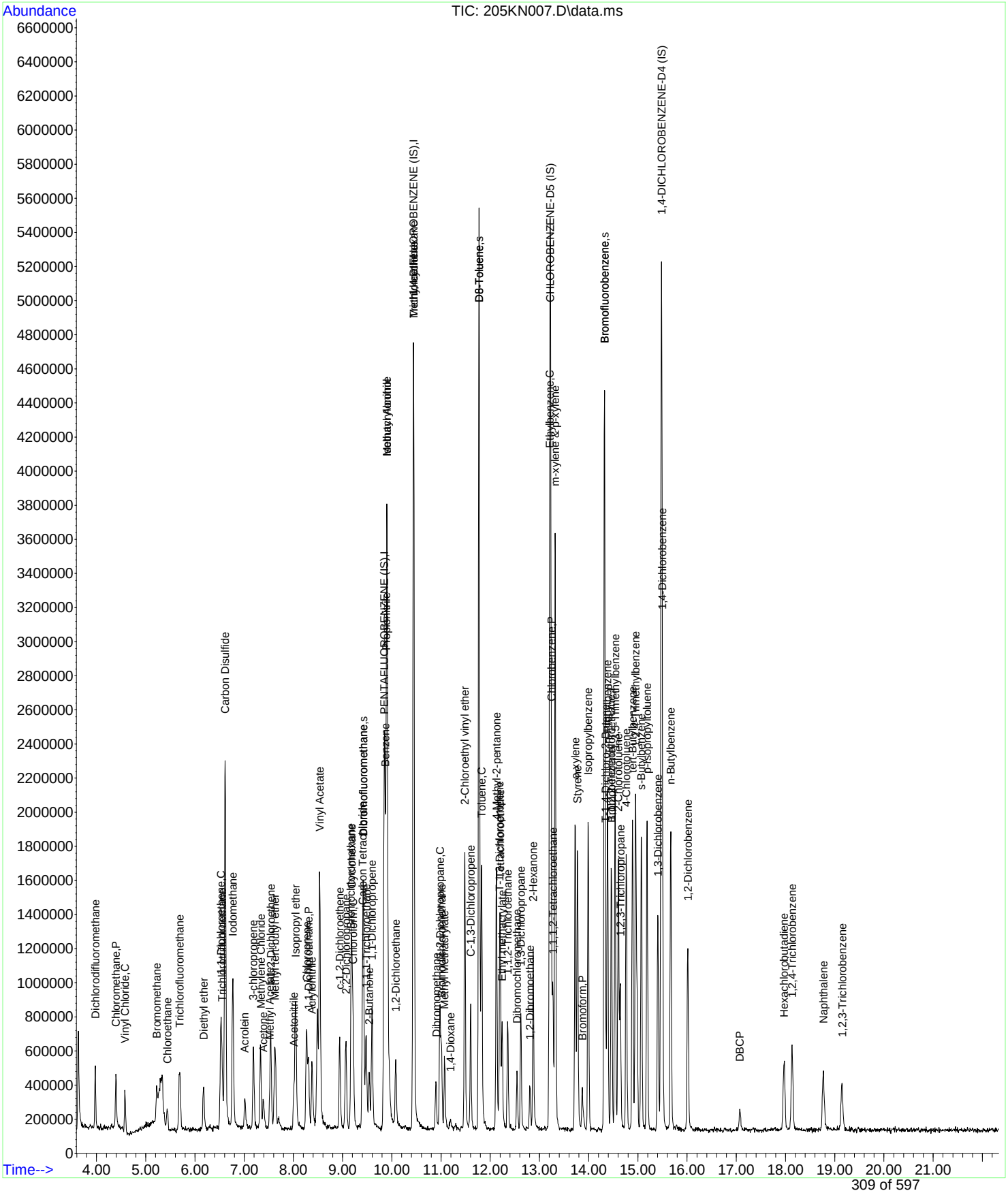
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.772	98	3630051	89.15 ug/L	97
54) 4-Methyl-2-pentanone	12.125	100	151280	62.35 ug/L	93
56) Toluene	11.825	92	673431	14.93 ug/L	98
57) T-1,3-Dichloropropene	12.189	75	352662	15.56 ug/L	98
58) Tetrachloroethene	12.201	164	182474	17.67 ug/L	95
59) Ethyl methacrylate	12.236	69	326927	15.34 ug/L	99
60) 1,1,2-Trichloroethane	12.354	97	209734	15.43 ug/L	98
61) Dibromochloromethane	12.542	129	171344	15.80 ug/L	95
62) 1,3-Dichloropropane	12.624	76	420496	16.42 ug/L	94
63) 1,2-Dibromoethane	12.806	107	205658	15.62 ug/L #	97
64) 2-Hexanone	12.871	43	754731	56.82 ug/L	96
65) Ethylbenzene	13.206	106	384105	16.52 ug/L	95
66) Chlorobenzene	13.241	112	650080	16.50 ug/L	96
67) 1,1,1,2-Tetrachloroethane	13.276	131	201298	16.44 ug/L	98
68) m-xylene & p-xylene	13.317	106	987588	35.44 ug/L	99
69) o-xylene	13.729	106	478796	16.67 ug/L	93
70) Styrene	13.770	104	839743	16.59 ug/L	99
71) Bromoform	13.870	173	95673	14.53 ug/L	99
72) Isopropylbenzene	13.987	105	1298038	17.44 ug/L	97
74) Bromofluorobenzene	14.322	95	1784745	96.84 ug/L #	80
75) n-Propylbenzene	14.381	91	1709278	18.32 ug/L	98
76) 1,1,2,2-Tetrachloroethane	14.457	83	309106	14.97 ug/L	98
77) 1,2,3-Trichloropropane	14.645	61	113773m	15.74 ug/L	
78) T-1,4-Dichloro-2-Butene	14.340	53	120576	15.65 ug/L #	52
80) Bromobenzene	14.463	156	265636	16.16 ug/L	94
81) 1,2,4-Trimethylbenzene	14.951	105	1242925	19.64 ug/L	97
82) 2-Chlorotoluene	14.604	91	1047191	19.04 ug/L	98
83) 4-Chlorotoluene	14.763	91	1083494	19.06 ug/L	99
84) tert-Butylbenzene	14.892	119	947987	17.64 ug/L	97
85) 1,3,5-Trimethylbenzene	14.539	105	1187445	18.70 ug/L	99
86) p-Isopropyltoluene	15.186	119	1166109	17.97 ug/L	100
87) s-Butylbenzene	15.068	105	1428842	17.67 ug/L	98
88) 1,3-Dichlorobenzene	15.409	146	521603	17.12 ug/L	90
89) 1,4-Dichlorobenzene	15.497	146	543117	16.49 ug/L #	70
90) n-Butylbenzene	15.668	91	1248886	18.71 ug/L	97
91) 1,2-Dichlorobenzene	16.014	146	464540	15.93 ug/L	89
92) DBCP	17.072	157	34505	10.24 ug/L	98
93) Hexachlorobutadiene	17.971	225	103201	11.85 ug/L	95
94) 1,2,4-Trichlorobenzene	18.135	180	203777	13.12 ug/L #	94
95) Naphthalene	18.770	128	436068	10.81 ug/L	100
96) 1,2,3-Trichlorobenzene	19.152	180	123784	9.90 ug/L #	87

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN007.D
Acq On : 19 Nov 2020 10:49 am
Operator : KKW
Sample : CAL5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 19 12:13:23 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN008.D
Acq On : 19 Nov 2020 11:20 am
Operator : KKW
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 19 12:13:26 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.845	168	1217120	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.438	114	2353990	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.217	82	1612072	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.474	152	1366836	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.416	113	678489	79.07	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 158.14%#				
52) D8-Toluene	11.772	98	3101508	75.41	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 150.82%#				
73) Bromofluorobenzene	14.322	95	1494289	79.44	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 158.88%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.969	85	836993	49.35	ug/L		99
3) Chloromethane	4.392	50	805584	35.67	ug/L		97
4) Vinyl Chloride	4.574	62	752003	41.53	ug/L		98
5) Bromomethane	5.221	94	219770	62.38	ug/L		90
6) Chloroethane	5.421	64	316629	40.47	ug/L		96
7) Trichlorofluoromethane	5.679	101	965285	50.35	ug/L		99
8) Diethyl ether	6.173	59	522992	40.63	ug/L		98
9) 1,1-Dichloroethene	6.519	96	546417	43.90	ug/L		95
10) Trichlorotrifluoroethane	6.543	151	372819	44.57	ug/L		94
11) Acrolein	7.007	56	1204139	313.84	ug/L		99
12) Iodomethane	6.766	142	2879969	340.42	ug/L	#	90
13) Carbon Disulfide	6.613	76	8649511	391.72	ug/L		99
14) 3-chloropropene	7.183	41	1037538	52.90	ug/L		97
15) Acetone	7.389	43	709256	150.65	ug/L		98
16) Methylene Chloride	7.330	84	640448	25.25	ug/L		100
17) Methyl Acetate	7.512	43	441064	33.30	ug/L	#	96
18) t-1,2-Dichloroethene	7.542	96	633261	46.87	ug/L	#	1
19) Methyl tert-butyl ether	7.624	73	1725407	48.58	ug/L		96
20) Acetonitrile	8.006	41	1168765	397.17	ug/L		98
21) Isopropyl ether	8.047	45	2215010	48.14	ug/L		99
22) Chloroprene	8.264	88	614319	49.62	ug/L		97
23) 1,1-Dichloroethane	8.305	63	1349675	48.29	ug/L		100
24) Acrylonitrile	8.376	53	2151787	309.07	ug/L		99
25) Vinyl Acetate	8.529	43	6808531	243.61	ug/L	#	100
26) c-1,2-Dichloroethene	8.940	96	700871	44.98	ug/L		95
27) 2,2-Dichloropropane	9.063	77	1076528	50.46	ug/L		98
28) Bromochloromethane	9.175	128	235594	42.76	ug/L		95
29) Cyclohexane	9.181	56	1386813	51.24	ug/L		96
30) Chloroform	9.210	83	1255758	47.91	ug/L		99
32) Dibromofluoromethane	9.416	113	678489	79.07	ug/L	#	89
33) 2-Butanone	9.539	72	353229	167.51	ug/L		95
34) 1,1,1-Trichloroethane	9.481	97	1088150	51.41	ug/L		99
35) 1,1-Dichloropropene	9.592	75	1057919	51.52	ug/L		98
36) Propionitrile	9.892	54	847412	337.21	ug/L	#	73
37) Methacrylonitrile	9.904	41	4240505	386.26	ug/L		95
38) Isobutyl Alcohol	9.898	43	1088288	716.08	ug/L	#	89
40) Carbon Tetrachloride	9.404	117	844268m	54.69	ug/L		
41) Benzene	9.868	78	2829189	46.19	ug/L		99
42) 1,2-Dichloroethane	10.080	62	930071	47.54	ug/L		96
43) Trichloroethene	10.444	130	575171	44.17	ug/L		95
44) Methyl cyclohexane	10.438	83	1343230	40.23	ug/L		98
45) Dibromomethane	10.891	93	399997	45.46	ug/L		91
46) 1,2-Dichloropropane	10.973	63	793038	44.02	ug/L		97
47) Bromodichloromethane	11.008	83	887527	53.08	ug/L		99
48) Methyl Methacrylate	11.073	69	486732	38.58	ug/L		99
49) 1,4-Dioxane	11.190	88	137914	491.15	ug/L		95
50) 2-Chloroethyl vinyl ether	11.478	63	2074511	241.63	ug/L		99
51) C-1,3-Dichloropropene	11.602	75	1213246	51.02	ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN008.D
Acq On : 19 Nov 2020 11:20 am
Operator : KKW
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 19 12:13:26 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

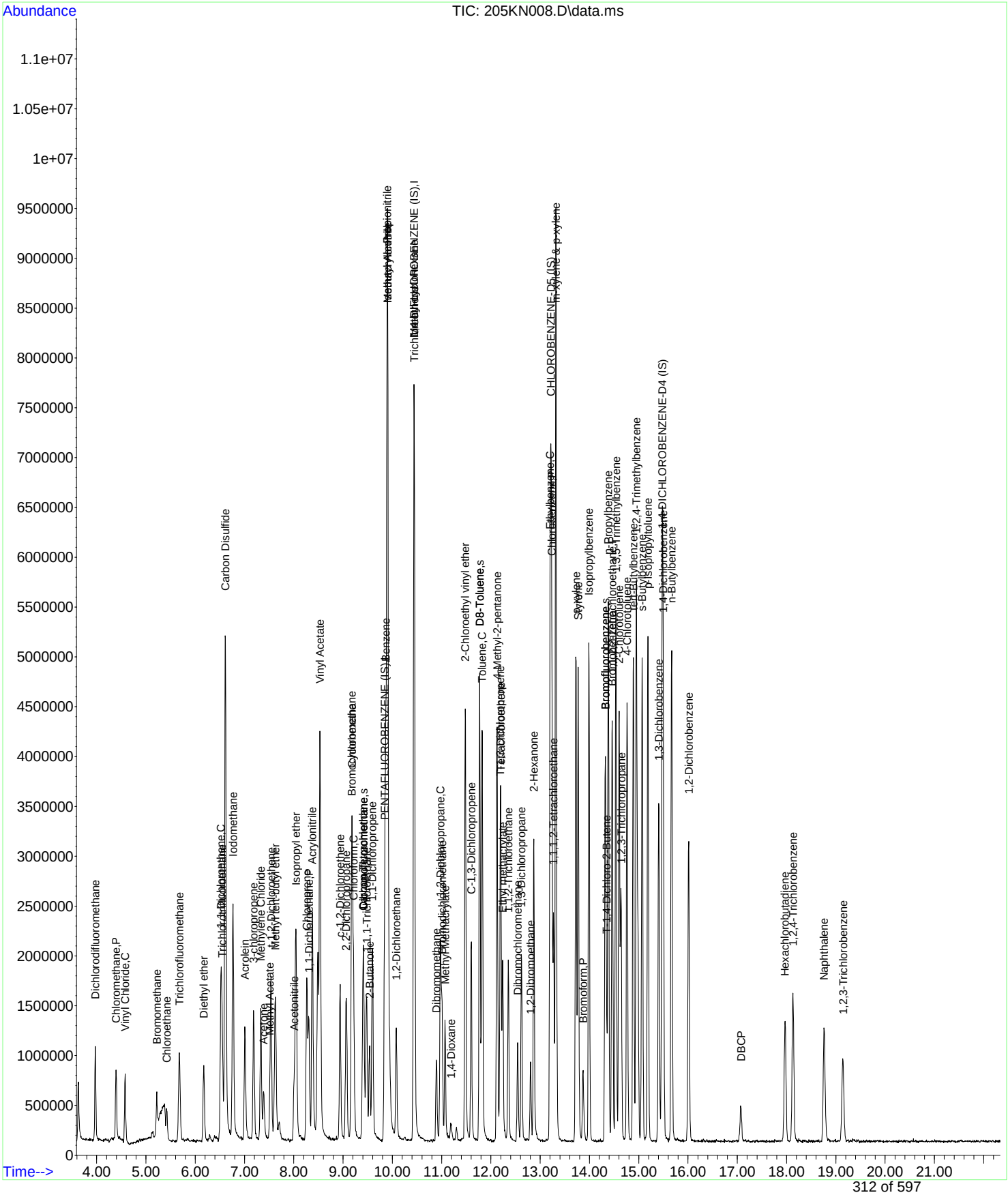
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.772	98	3099476	75.36	ug/L		99
54) 4-Methyl-2-pentanone	12.125	100	395380	161.32	ug/L		95
56) Toluene	11.819	92	1814837	39.43	ug/L		99
57) T-1,3-Dichloropropene	12.189	75	980489	42.40	ug/L		96
58) Tetrachloroethene	12.201	164	452738	42.95	ug/L		97
59) Ethyl methacrylate	12.236	69	923118	42.43	ug/L		99
60) 1,1,2-Trichloroethane	12.354	97	571249	41.17	ug/L		98
61) Dibromochloromethane	12.542	129	522815	47.25	ug/L		99
62) 1,3-Dichloropropane	12.618	76	1122001	42.93	ug/L		95
63) 1,2-Dibromoethane	12.806	107	593930	44.20	ug/L		96
64) 2-Hexanone	12.871	43	2057085	151.75	ug/L		96
65) Ethylbenzene	13.200	106	1029541	43.40	ug/L		98
66) Chlorobenzene	13.235	112	1747854	43.46	ug/L		98
67) 1,1,1,2-Tetrachloroethane	13.270	131	572785	45.85	ug/L		99
68) m-xylene & p-xylene	13.317	106	2555424	89.85	ug/L		99
69) o-xylene	13.729	106	1356099	46.27	ug/L		98
70) Styrene	13.770	104	2212182	42.81	ug/L		98
71) Bromoform	13.870	173	319258	47.50	ug/L		100
72) Isopropylbenzene	13.987	105	3552836	46.76	ug/L		97
74) Bromofluorobenzene	14.322	95	1494289	79.44	ug/L	#	83
75) n-Propylbenzene	14.381	91	4650659	48.83	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.463	83	853912	40.52	ug/L		98
77) 1,2,3-Trichloropropane	14.645	61	301262m	40.84	ug/L		
78) T-1,4-Dichloro-2-Butene	14.346	53	303268	38.58	ug/L	#	82
80) Bromobenzene	14.457	156	703749	40.57	ug/L		93
81) 1,2,4-Trimethylbenzene	14.951	105	3364816	50.40	ug/L		99
82) 2-Chlorotoluene	14.604	91	2804184	48.32	ug/L		98
83) 4-Chlorotoluene	14.763	91	2961213	49.37	ug/L		99
84) tert-Butylbenzene	14.892	119	2540489	44.80	ug/L		94
85) 1,3,5-Trimethylbenzene	14.539	105	3288125	49.10	ug/L		99
86) p-Isopropyltoluene	15.186	119	3248592	47.46	ug/L		97
87) s-Butylbenzene	15.068	105	3950643	46.31	ug/L		99
88) 1,3-Dichlorobenzene	15.409	146	1470644	45.76	ug/L		94
89) 1,4-Dichlorobenzene	15.497	146	1490431	42.91	ug/L		92
90) n-Butylbenzene	15.668	91	3454884	49.07	ug/L		100
91) 1,2-Dichlorobenzene	16.014	146	1370743	44.57	ug/L		97
92) DBCP	17.078	157	106714	30.01	ug/L		97
93) Hexachlorobutadiene	17.965	225	314949	34.28	ug/L		97
94) 1,2,4-Trichlorobenzene	18.129	180	657865	40.15	ug/L		97
95) Naphthalene	18.758	128	1383722	32.51	ug/L		99
96) 1,2,3-Trichlorobenzene	19.146	180	388718	29.46	ug/L		93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN008.D
Acq On : 19 Nov 2020 11:20 am
Operator : KKW
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 19 12:13:26 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN009.D
Acq On : 19 Nov 2020 11:51 am
Operator : KKW
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 19 12:26:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.845	168	1208553	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.438	114	2324329	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.217	82	1614423	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.480	152	1389872	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.416	113	859067	100.82	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 201.64%#				
52) D8-Toluene	11.772	98	3914979	96.40	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 192.80%#				
73) Bromofluorobenzene	14.322	95	1962092	104.16	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 208.32%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.969	85	1371350	81.43	ug/L		100
3) Chloromethane	4.392	50	1458184	65.02	ug/L		98
4) Vinyl Chloride	4.574	62	1327646	73.85	ug/L		97
5) Bromomethane	5.215	94	396760	113.42	ug/L		97
6) Chloroethane	5.421	64	338272	43.55	ug/L		97
7) Trichlorofluoromethane	5.667	101	1605213	84.32	ug/L		99
8) Diethyl ether	6.173	59	882717	69.07	ug/L		99
9) 1,1-Dichloroethene	6.519	96	899184	72.75	ug/L		96
10) Trichlorotrifluoroethane	6.543	151	605807	72.94	ug/L		94
11) Acrolein	7.007	56	1957408	513.78	ug/L		98
12) Iodomethane	6.766	142	4503159	536.06	ug/L	#	90
13) Carbon Disulfide	6.607	76	13463864	614.08	ug/L		99
14) 3-chloropropene	7.183	41	1631725	83.79	ug/L		98
15) Acetone	7.389	43	1177504	251.89	ug/L		97
16) Methylene Chloride	7.330	84	1040221	41.30	ug/L		99
17) Methyl Acetate	7.512	43	745030	56.64	ug/L		98
18) t-1,2-Dichloroethene	7.536	96	1051524	78.37	ug/L	#	1
19) Methyl tert-butyl ether	7.624	73	2822105	80.03	ug/L		95
20) Acetonitrile	8.006	41	1944065	665.32	ug/L		98
21) Isopropyl ether	8.047	45	3700268	81.00	ug/L		99
22) Chloroprene	8.258	88	983163	79.98	ug/L		98
23) 1,1-Dichloroethane	8.305	63	2193522	79.05	ug/L		99
24) Acrylonitrile	8.376	53	3548204	513.26	ug/L		99
25) Vinyl Acetate	8.529	43	10869613	391.68	ug/L	#	100
26) c-1,2-Dichloroethene	8.940	96	1163928	75.23	ug/L		96
27) 2,2-Dichloropropane	9.063	77	1802386	85.09	ug/L		98
28) Bromochloromethane	9.175	128	336411	61.49	ug/L		86
29) Cyclohexane	9.181	56	2224726	82.79	ug/L		96
30) Chloroform	9.210	83	2084702	80.10	ug/L		99
32) Dibromofluoromethane	9.416	113	859067	100.82	ug/L	#	89
33) 2-Butanone	9.533	72	589997	281.78	ug/L		98
34) 1,1,1-Trichloroethane	9.475	97	1804040	85.83	ug/L		98
35) 1,1-Dichloropropene	9.592	75	1731510	84.93	ug/L		98
36) Propionitrile	9.886	54	1385608	555.28	ug/L	#	78
37) Methacrylonitrile	9.904	41	6602548	605.68	ug/L		98
38) Isobutyl Alcohol	9.898	43	1741977	1154.32	ug/L	#	92
40) Carbon Tetrachloride	9.404	117	1400654m	91.88	ug/L		
41) Benzene	9.868	78	4588735	75.86	ug/L		100
42) 1,2-Dichloroethane	10.080	62	1583942	82.00	ug/L		96
43) Trichloroethene	10.444	130	922489	71.75	ug/L		98
44) Methyl cyclohexane	10.444	83	2157736	65.44	ug/L		97
45) Dibromomethane	10.897	93	662363	76.24	ug/L		94
46) 1,2-Dichloropropane	10.979	63	1365225	76.75	ug/L		98
47) Bromodichloromethane	11.008	83	1507069	91.29	ug/L		98
48) Methyl Methacrylate	11.073	69	784575	62.98	ug/L		97
49) 1,4-Dioxane	11.196	88	226181	815.78	ug/L		90
50) 2-Chloroethyl vinyl ether	11.484	63	3267574	385.45	ug/L		98
51) C-1,3-Dichloropropene	11.602	75	2042491	87.00	ug/L		97

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN009.D
Acq On : 19 Nov 2020 11:51 am
Operator : KKW
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 19 12:26:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

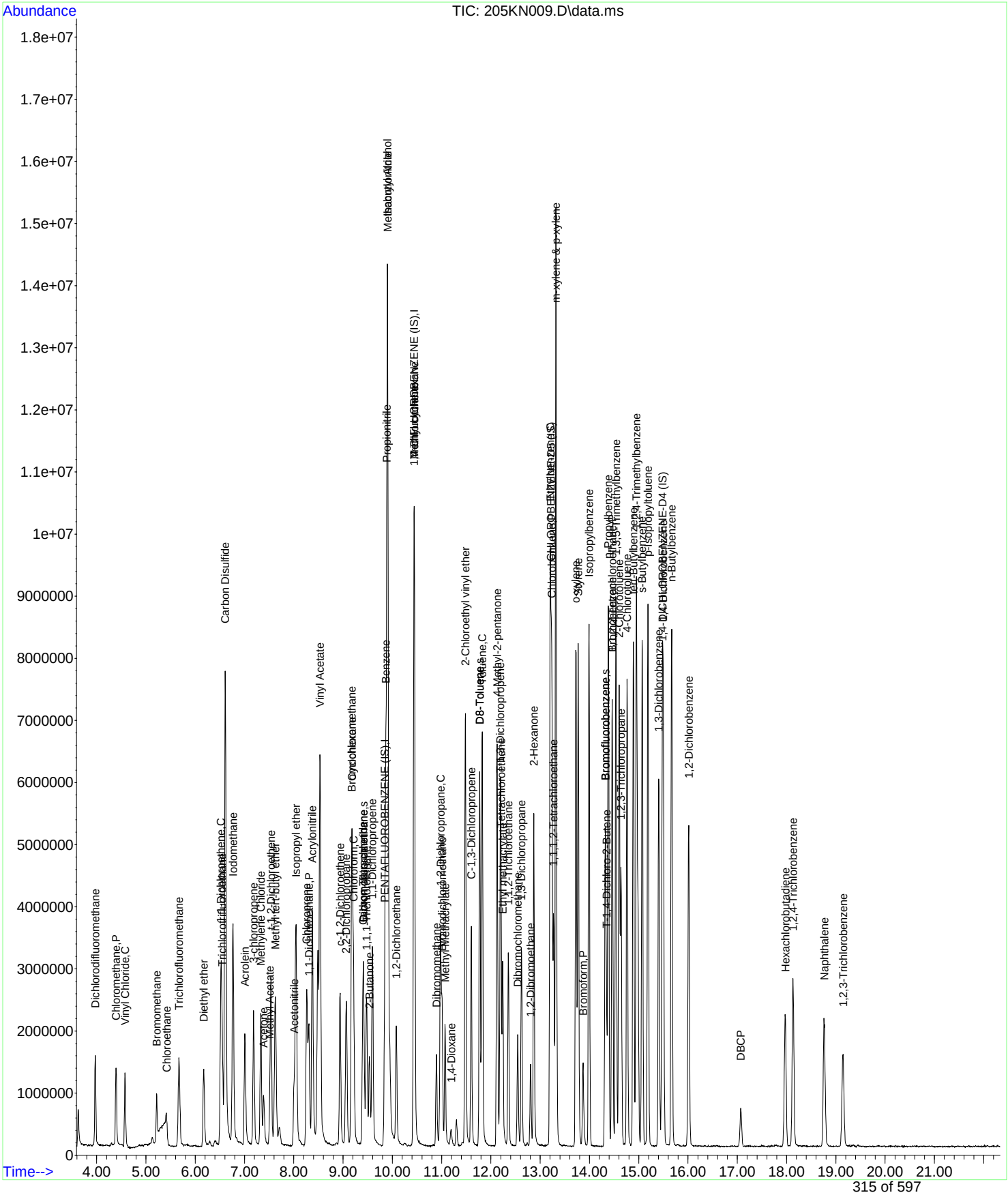
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.772	98	3914979	96.40	ug/L		98
54) 4-Methyl-2-pentanone	12.125	100	642904	265.66	ug/L		98
56) Toluene	11.825	92	2957735	64.17	ug/L		99
57) T-1,3-Dichloropropene	12.189	75	1705784	73.65	ug/L		99
58) Tetrachloroethene	12.207	164	766005	72.57	ug/L		98
59) Ethyl methacrylate	12.236	69	1505263	69.09	ug/L		99
60) 1,1,2-Trichloroethane	12.354	97	953126	68.60	ug/L		99
61) Dibromochloromethane	12.542	129	973442	87.85	ug/L		98
62) 1,3-Dichloropropane	12.618	76	1926010	73.59	ug/L		96
63) 1,2-Dibromoethane	12.806	107	977066	72.60	ug/L		100
64) 2-Hexanone	12.871	43	3425404	252.32	ug/L		98
65) Ethylbenzene	13.206	106	1705057	71.77	ug/L		99
66) Chlorobenzene	13.235	112	2931384	72.78	ug/L		100
67) 1,1,1,2-Tetrachloroethane	13.270	131	967791	77.35	ug/L		98
68) m-xylene & p-xylene	13.317	106	4131704	145.06	ug/L		98
69) o-xylene	13.723	106	2228011	75.92	ug/L		96
70) Styrene	13.770	104	3788012	73.20	ug/L		98
71) Bromoform	13.870	173	558705	83.00	ug/L		95
72) Isopropylbenzene	13.993	105	5873794	77.19	ug/L		97
74) Bromofluorobenzene	14.322	95	1962092	104.16	ug/L	#	83
75) n-Propylbenzene	14.381	91	7786988	81.65	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.463	83	1447067	68.57	ug/L		96
77) 1,2,3-Trichloropropane	14.639	61	487875m	66.05	ug/L		
78) T-1,4-Dichloro-2-Butene	14.346	53	531782	67.54	ug/L		93
80) Bromobenzene	14.463	156	1203554	68.24	ug/L		93
81) 1,2,4-Trimethylbenzene	14.951	105	5665226	83.44	ug/L		99
82) 2-Chlorotoluene	14.604	91	4821335	81.71	ug/L		98
83) 4-Chlorotoluene	14.763	91	5008377	82.12	ug/L		98
84) tert-Butylbenzene	14.892	119	4383506	76.02	ug/L		97
85) 1,3,5-Trimethylbenzene	14.539	105	5448477	80.00	ug/L		99
86) p-Isopropyltoluene	15.186	119	5524575	79.38	ug/L		98
87) s-Butylbenzene	15.068	105	6633423	76.47	ug/L		99
88) 1,3-Dichlorobenzene	15.403	146	2520522	77.12	ug/L		92
89) 1,4-Dichlorobenzene	15.497	146	2541465	71.95	ug/L		97
90) n-Butylbenzene	15.668	91	5860785	81.86	ug/L		99
91) 1,2-Dichlorobenzene	16.014	146	2382455	76.18	ug/L		97
92) DBCP	17.072	157	190666	52.73	ug/L		100
93) Hexachlorobutadiene	17.977	225	565022	60.48	ug/L		98
94) 1,2,4-Trichlorobenzene	18.129	180	1164591	69.90	ug/L		97
95) Naphthalene	18.764	128	2466369	56.99	ug/L	#	85
96) 1,2,3-Trichlorobenzene	19.146	180	710050	52.92	ug/L		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN009.D
Acq On : 19 Nov 2020 11:51 am
Operator : KKW
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 19 12:26:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN010.D
Acq On : 19 Nov 2020 12:22 pm
Operator : KKW
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 19 12:45:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.845	168	1285587	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.438	114	2302813	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.218	82	1664856	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.480	152	1435917	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.422	113	933861	103.03	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 206.06%#				
52) D8-Toluene	11.772	98	4337450	107.80	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 215.60%#				
73) Bromofluorobenzene	14.322	95	2108455	108.54	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 217.08%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.969	85	1729312	96.53	ug/L		99
3) Chloromethane	4.392	50	1884981	79.02	ug/L		99
4) Vinyl Chloride	4.575	62	1709609	89.39	ug/L		97
5) Bromomethane	5.221	94	562300	151.12	ug/L		92
6) Chloroethane	5.427	64	330195	39.96	ug/L		93
7) Trichlorofluoromethane	5.667	101	2094954	103.45	ug/L		99
8) Diethyl ether	6.173	59	1111643	81.77	ug/L		100
9) 1,1-Dichloroethene	6.519	96	1173403	89.25	ug/L		99
10) Trichlorotrifluoroethane	6.543	151	786588	89.03	ug/L		98
11) Acrolein	7.007	56	2396965	591.46	ug/L		98
12) Iodomethane	6.766	142	5907666	661.12	ug/L	#	93
13) Carbon Disulfide	6.608	76	16659424	714.30	ug/L		99
14) 3-chloropropene	7.183	41	2222281	107.28	ug/L		97
15) Acetone	7.389	43	1481571	297.94	ug/L		96
16) Methylene Chloride	7.330	84	1324748	49.44	ug/L		99
17) Methyl Acetate	7.512	43	920388	65.78	ug/L	#	94
18) t-1,2-Dichloroethene	7.536	96	1331120	93.26	ug/L	#	1
19) Methyl tert-butyl ether	7.624	73	3435059	91.57	ug/L		95
20) Acetonitrile	8.012	41	2370312	762.58	ug/L		99
21) Isopropyl ether	8.041	45	4624660	95.17	ug/L		99
22) Chloroprene	8.259	88	1285297	98.29	ug/L		99
23) 1,1-Dichloroethane	8.306	63	2773122	93.94	ug/L		99
24) Acrylonitrile	8.376	53	4303032	585.15	ug/L		98
25) Vinyl Acetate	8.529	43	13302716	450.63	ug/L	#	100
26) c-1,2-Dichloroethene	8.940	96	1421324	86.36	ug/L		92
27) 2,2-Dichloropropane	9.064	77	2243269	99.55	ug/L		98
28) Bromochloromethane	9.175	128	412367	70.85	ug/L		94
29) Cyclohexane	9.181	56	2822334	98.73	ug/L		96
30) Chloroform	9.210	83	2558648	92.42	ug/L		100
32) Dibromofluoromethane	9.422	113	933861	103.03	ug/L	#	90
33) 2-Butanone	9.534	72	741450	332.90	ug/L		97
34) 1,1,1-Trichloroethane	9.475	97	2246059	100.46	ug/L		98
35) 1,1-Dichloropropene	9.598	75	2161746	99.68	ug/L		97
36) Propionitrile	9.892	54	1676766	631.70	ug/L	#	75
37) Methacrylonitrile	9.904	41	8006829	690.49	ug/L		97
38) Isobutyl Alcohol	9.898	43	2112005	1315.66	ug/L	#	92
40) Carbon Tetrachloride	9.404	117	1755533m	116.24	ug/L		
41) Benzene	9.868	78	5766714	96.23	ug/L		99
42) 1,2-Dichloroethane	10.080	62	1930831	100.90	ug/L		98
43) Trichloroethene	10.444	130	1169448	91.81	ug/L		97
44) Methyl cyclohexane	10.444	83	2631438	80.56	ug/L		97
45) Dibromomethane	10.891	93	789742	91.75	ug/L		93
46) 1,2-Dichloropropane	10.979	63	1695005	96.18	ug/L		99
47) Bromodichloromethane	11.008	83	1894020	115.80	ug/L		99
48) Methyl Methacrylate	11.067	69	994020	80.53	ug/L		98
49) 1,4-Dioxane	11.191	88	257887	938.82	ug/L		96
50) 2-Chloroethyl vinyl ether	11.484	63	4011514	477.62	ug/L		100
51) C-1,3-Dichloropropene	11.602	75	2565944	110.31	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN010.D
Acq On : 19 Nov 2020 12:22 pm
Operator : KKW
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 19 12:45:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

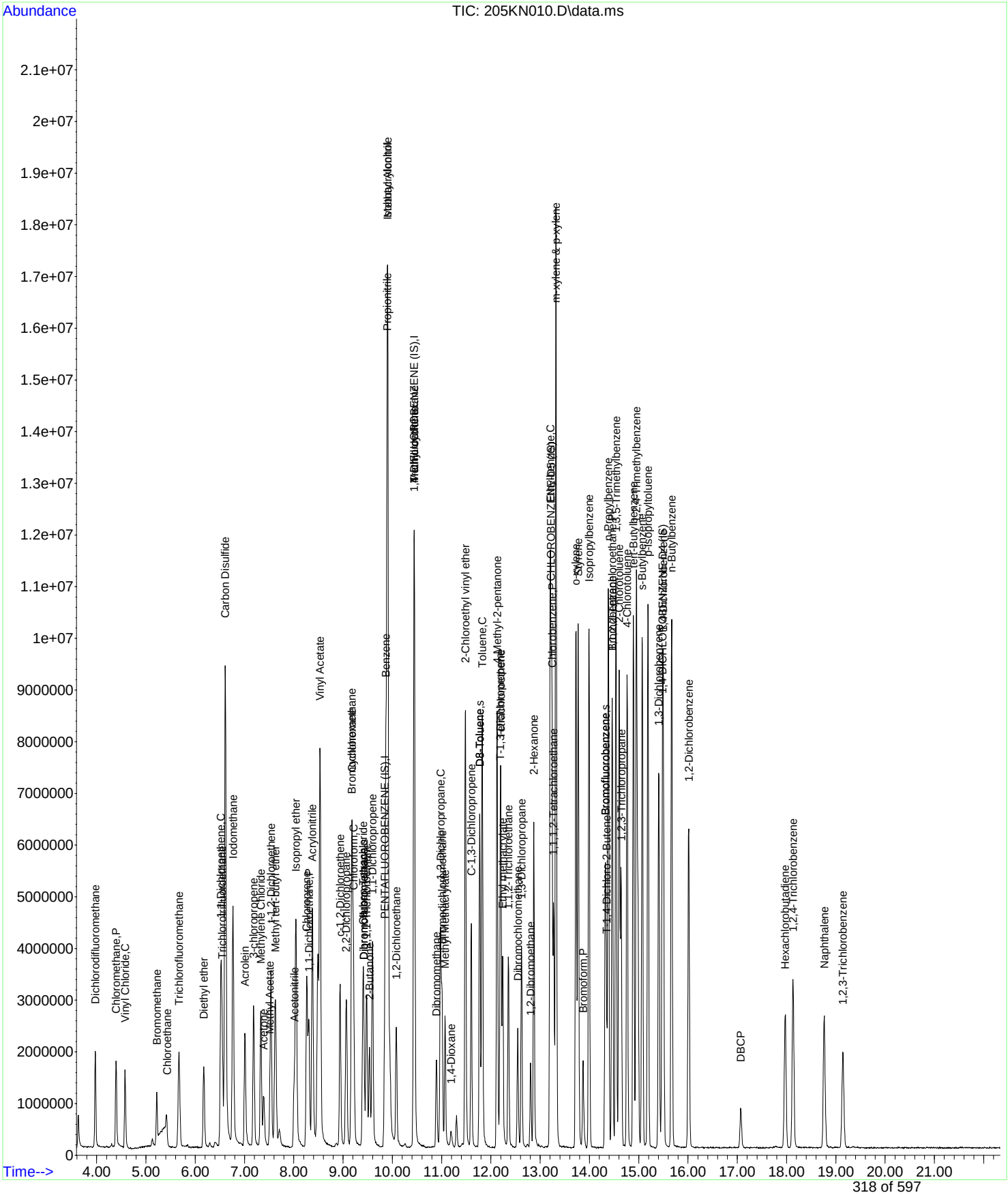
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.772	98	4337573	107.80 ug/L	98
54) 4-Methyl-2-pentanone	12.125	100	775468	323.43 ug/L	93
56) Toluene	11.825	92	3691514	77.66 ug/L	99
57) T-1,3-Dichloropropene	12.189	75	2097211	87.81 ug/L	98
58) Tetrachloroethene	12.201	164	983418	90.35 ug/L	97
59) Ethyl methacrylate	12.236	69	1865494	83.03 ug/L	98
60) 1,1,2-Trichloroethane	12.354	97	1193110	83.27 ug/L	98
61) Dibromochloromethane	12.548	129	1209740	105.87 ug/L	99
62) 1,3-Dichloropropane	12.624	76	2375424	88.01 ug/L	98
63) 1,2-Dibromoethane	12.806	107	1199542	86.44 ug/L	99
64) 2-Hexanone	12.871	43	4248110	303.44 ug/L	98
65) Ethylbenzene	13.206	106	2150547	87.78 ug/L	100
66) Chlorobenzene	13.241	112	3615945	87.06 ug/L	100
67) 1,1,1,2-Tetrachloroethane	13.270	131	1239896	96.10 ug/L	99
68) m-xylene & p-xylene	13.317	106	5107094	173.87 ug/L	95
69) o-xylene	13.723	106	2739594	90.52 ug/L	96
70) Styrene	13.770	104	4673554	87.58 ug/L	98
71) Bromoform	13.870	173	749514	107.97 ug/L	99
72) Isopropylbenzene	13.993	105	7193576	91.67 ug/L	98
74) Bromofluorobenzene	14.322	95	2108455	108.54 ug/L	84
75) n-Propylbenzene	14.381	91	9558022	97.18 ug/L	99
76) 1,1,2,2-Tetrachloroethane	14.463	83	1725499	79.29 ug/L	97
77) 1,2,3-Trichloropropane	14.645	61	623122m	81.80 ug/L	
78) T-1,4-Dichloro-2-Butene	14.346	53	657623	81.00 ug/L #	91
80) Bromobenzene	14.463	156	1499222	82.28 ug/L	95
81) 1,2,4-Trimethylbenzene	14.951	105	6937425	98.90 ug/L	99
82) 2-Chlorotoluene	14.604	91	5882946	96.50 ug/L	99
83) 4-Chlorotoluene	14.763	91	6159101	97.75 ug/L	99
84) tert-Butylbenzene	14.892	119	5367420	90.10 ug/L	96
85) 1,3,5-Trimethylbenzene	14.540	105	6856962	97.46 ug/L	99
86) p-Isopropyltoluene	15.186	119	6748507	93.85 ug/L	98
87) s-Butylbenzene	15.068	105	8074381	90.10 ug/L	99
88) 1,3-Dichlorobenzene	15.403	146	3220656	95.38 ug/L	96
89) 1,4-Dichlorobenzene	15.497	146	3220603	88.26 ug/L	97
90) n-Butylbenzene	15.668	91	7147393	96.63 ug/L	100
91) 1,2-Dichlorobenzene	16.014	146	2892946	89.54 ug/L	97
92) DBCP	17.072	157	236625	63.35 ug/L	99
93) Hexachlorobutadiene	17.971	225	722622	74.88 ug/L	98
94) 1,2,4-Trichlorobenzene	18.130	180	1395430	81.07 ug/L	96
95) Naphthalene	18.764	128	2976771	66.58 ug/L #	89
96) 1,2,3-Trichlorobenzene	19.140	180	880580	63.53 ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN010.D
Acq On : 19 Nov 2020 12:22 pm
Operator : KKW
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 19 12:45:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN012.D
Acq On : 19 Nov 2020 1:24 pm
Operator : KKW
Sample : SCV
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Nov 20 07:34:48 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 13:02:55 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.851	168	1335071	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2438645	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.223	82	1652574	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.480	152	1403353	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.422	113	685210	49.76	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 99.52%				
52) D8-Toluene	11.772	98	3142816	52.18	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 104.36%				
73) Bromofluorobenzene	14.322	95	1543298	52.29	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 104.58%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.975	85	354802	20.59	ug/L		99
3) Chloromethane	4.392	50	396453	19.98	ug/L		99
4) Vinyl Chloride	4.574	62	333797	20.72	ug/L		99
5) Bromomethane	5.221	94	110552	24.95	ug/L	#	94
6) Chloroethane	5.432	64	153751	21.69	ug/L		99
7) Trichlorofluoromethane	5.685	101	412512	20.58	ug/L		98
8) Diethyl ether	6.173	59	554603	49.76	ug/L		97
9) 1,1-Dichloroethene	6.525	96	564914	49.01	ug/L		93
10) Trichlorotrifluoroethane	6.549	151	394789	51.14	ug/L		94
11) Acrolein	7.007	56	547444	236.15	ug/L		99
12) Iodomethane	6.772	142	594142	48.06	ug/L		94
13) Carbon Disulfide	6.613	76	1963334	52.00	ug/L		98
14) 3-chloropropene	7.189	41	1102445	48.40	ug/L		95
15) Acetone	7.389	43	750521	239.27	ug/L		97
16) Methylene Chloride	7.336	84	659865	47.21	ug/L		98
17) Methyl Acetate	7.518	43	372876	38.04	ug/L		94
18) t-1,2-Dichloroethene	7.542	96	638351	47.86	ug/L		99
19) Methyl tert-butyl ether	7.630	73	1657107	49.09	ug/L		99
20) Acetonitrile	8.041	41	785041	308.73	ug/L	#	90
21) Isopropyl ether	8.047	45	2283591	50.97	ug/L		98
22) Chloroprene	8.264	88	634995	49.71	ug/L		93
23) 1,1-Dichloroethane	8.311	63	1308548	47.70	ug/L		99
24) Acrylonitrile	8.376	53	249323	60.18	ug/L	#	99
25) Vinyl Acetate	8.535	43	1300608	46.27	ug/L		100
26) c-1,2-Dichloroethene	8.940	96	705586	49.95	ug/L		96
27) 2,2-Dichloropropane	9.063	77	1095632	46.78	ug/L		99
28) Bromochloromethane	9.175	128	266834	53.48	ug/L		96
29) Cyclohexane	9.181	56	1373332	46.02	ug/L		96
30) Chloroform	9.216	83	1281179	48.90	ug/L		100
32) Dibromofluoromethane	9.422	113	685210	49.76	ug/L	#	91
33) 2-Butanone	9.533	72	375785	245.67	ug/L		89
34) 1,1,1-Trichloroethane	9.481	97	1094873	50.62	ug/L		99
35) 1,1-Dichloropropene	9.598	75	1049130	47.68	ug/L		99
36) Propionitrile	9.898	54	103230	54.97	ug/L	#	1
37) Methacrylonitrile	9.904	41	623847	67.28	ug/L	#	82
38) Isobutyl Alcohol	9.898	43	631905	563.50	ug/L	#	72
40) Carbon Tetrachloride	9.410	117	1013178	55.46	ug/L		87
41) Benzene	9.868	78	2985915	53.56	ug/L		99
42) 1,2-Dichloroethane	10.080	62	932453	45.85	ug/L		96
43) Trichloroethene	10.444	130	605829	53.80	ug/L		95
44) Methyl cyclohexane	10.444	83	1328496	47.49	ug/L		98
45) Dibromomethane	10.897	93	387497	48.92	ug/L		94
46) 1,2-Dichloropropane	10.979	63	828991	49.81	ug/L		96
47) Bromodichloromethane	11.008	83	913394	49.93	ug/L		99
48) Methyl Methacrylate	11.073	69	508778	49.14	ug/L		96
49) 1,4-Dioxane	11.190	88	124499	880.66	ug/L		100
50) 2-Chloroethyl vinyl ether	11.484	63	2098051	267.05	ug/L		99
51) C-1,3-Dichloropropene	11.602	75	1207357	48.81	ug/L		100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN012.D
Acq On : 19 Nov 2020 1:24 pm
Operator : KKW
Sample : SCV
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Nov 20 07:34:48 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 13:02:55 2020
Response via : Initial Calibration

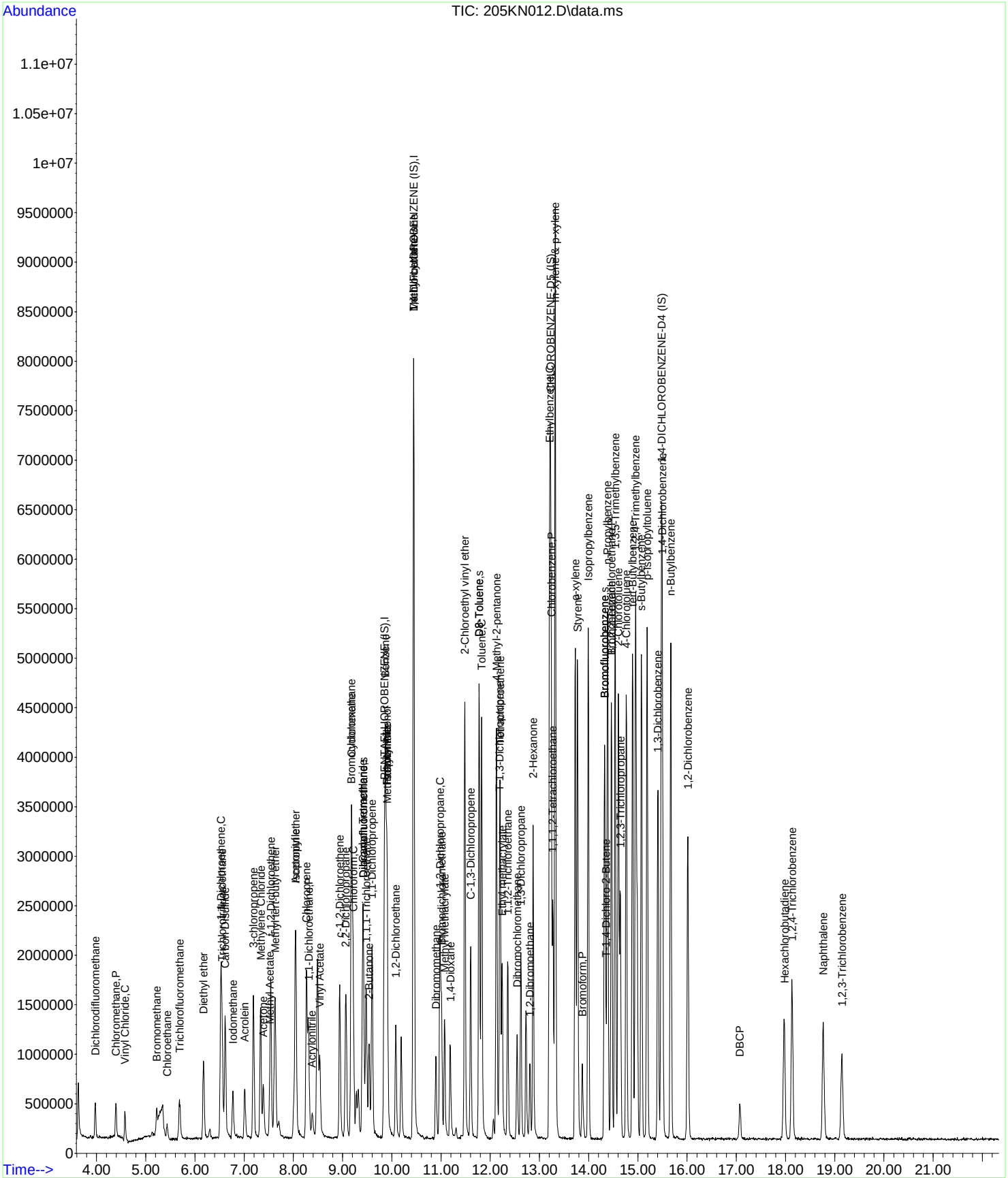
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.772	98	3142816	52.18	ug/L		97
54) 4-Methyl-2-pentanone	12.125	100	383259	231.64	ug/L		95
56) Toluene	11.825	92	1866440	52.93	ug/L		98
57) T-1,3-Dichloropropene	12.189	75	1033154	49.24	ug/L		99
58) Tetrachloroethene	12.201	164	470073	48.46	ug/L		97
59) Ethyl methacrylate	12.242	69	931908	49.65	ug/L		99
60) 1,1,2-Trichloroethane	12.354	97	593568	49.82	ug/L		99
61) Dibromochloromethane	12.548	129	570220	51.92	ug/L		99
62) 1,3-Dichloropropane	12.624	76	1136370	51.51	ug/L		97
63) 1,2-Dibromoethane	12.806	107	573185	51.69	ug/L		93
64) 2-Hexanone	12.871	43	2041750	251.42	ug/L		100
65) Ethylbenzene	13.206	106	1045939	48.81	ug/L		98
66) Chlorobenzene	13.241	112	1837265	51.72	ug/L		99
67) 1,1,1,2-Tetrachloroethane	13.270	131	607147	57.12	ug/L		98
68) m-xylene & p-xylene	13.317	106	2627132	105.62	ug/L		99
69) o-xylene	13.729	106	1344899	52.72	ug/L		99
70) Styrene	13.776	104	2296941	55.15	ug/L		99
71) Bromoform	13.870	173	332797	51.92	ug/L		100
72) Isopropylbenzene	13.993	105	3652042	54.39	ug/L		99
74) Bromofluorobenzene	14.322	95	1543298	52.29	ug/L		85
75) n-Propylbenzene	14.381	91	4786801	53.33	ug/L		100
76) 1,1,2,2-Tetrachloroethane	14.463	83	859359	51.62	ug/L		98
77) 1,2,3-Trichloropropane	14.645	61	288427m	47.38	ug/L		
78) T-1,4-Dichloro-2-Butene	14.351	53	318781	48.51	ug/L		95
80) Bromobenzene	14.463	156	749613	53.05	ug/L		96
81) 1,2,4-Trimethylbenzene	14.951	105	3477379	52.93	ug/L		99
82) 2-Chlorotoluene	14.604	91	2933062	53.11	ug/L		99
83) 4-Chlorotoluene	14.763	91	3049254	52.88	ug/L		99
84) tert-Butylbenzene	14.892	119	2595739	52.01	ug/L		96
85) 1,3,5-Trimethylbenzene	14.539	105	3405478	53.50	ug/L		100
86) p-Isopropyltoluene	15.186	119	3361992	54.23	ug/L		98
87) s-Butylbenzene	15.068	105	4051789	54.26	ug/L		99
88) 1,3-Dichlorobenzene	15.403	146	1547832	54.68	ug/L		99
89) 1,4-Dichlorobenzene	15.497	146	1537044	50.65	ug/L		98
90) n-Butylbenzene	15.668	91	3443258	53.41	ug/L		99
91) 1,2-Dichlorobenzene	16.014	146	1386436	51.89	ug/L		98
92) DBCP	17.072	157	121400	54.71	ug/L		84
93) Hexachlorobutadiene	17.983	225	335097	51.35	ug/L		98
94) 1,2,4-Trichlorobenzene	18.135	180	663064	49.00	ug/L		98
95) Naphthalene	18.764	128	1360689	47.72	ug/L	#	88
96) 1,2,3-Trichlorobenzene	19.146	180	408536	50.47	ug/L		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN012.D
Acq On : 19 Nov 2020 1:24 pm
Operator : KKW
Sample : SCV
Misc :
ALS Vial : 11 Sample Multiplier: 1

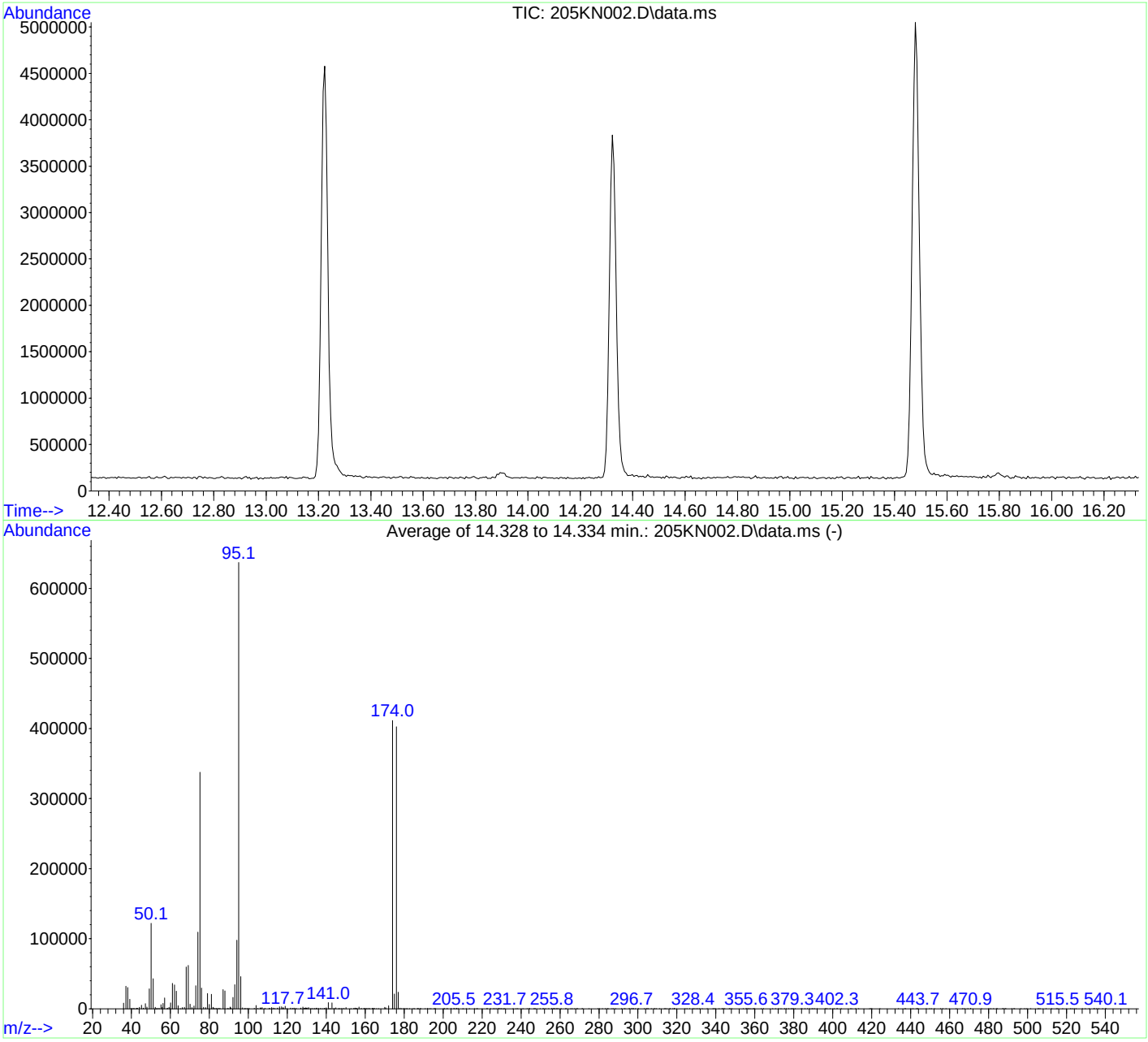
Quant Time: Nov 20 07:34:48 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 13:02:55 2020
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\111920\
Data File : 205KN002.D
Acq On : 19 Nov 2020 8:07 am
Operator : KKW
Sample : TUN1
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\methods\111920W.M
Title : ENCO SOP VGCMS05; Element Cal 2011113
Last Update : Fri Nov 20 09:50:30 2020



Spectrum Information: Average of 14.328 to 14.334 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
95	174	50	200	154.9	636951	PASS
96	95	5	9	7.2	46014	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	200	64.6	411328	PASS
175	174	5	9	5.1	21111	PASS
176	174	95	105	97.9	402612	PASS
177	176	5	10	5.8	23424	PASS

ANALYSIS SEQUENCE

AA64539

Instrument: OVGCMS2

Calibration ID: UNASSIGNED

Printed: 1/19/2021 1:05:52PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA64539-TUN1	QC		1		A0I0903			
AA64539-CAL1	QC		2		A1A0926	A0K0862		
AA64539-CAL2	QC		3		A1A0927	A0K0862		
AA64539-CAL3	QC		4		A1A0928	A0K0862		
AA64539-CAL4	QC		5		A1A0929	A0K0862		
AA64539-CAL5	QC		6		A1A0930	A0K0862		
AA64539-CAL6	QC		7		A1A0932	A0K0862		
AA64539-CAL7	QC		8		A1A0934	A0K0862		
AA64539-CAL8	QC		9		A1A0935	A0K0862		
AA64539-SCV1	QC		10		A1A0936	A0K0862		

Samples Loaded By Date

Data Processed By Date

VOLATILES GC/MS LOGBOOK (EPA Method 624.1 / SW-846 Method 8260D)

Tune Start Date: 01/19/21
Sequence: AA64539 / AA64557
Batch: IA19035
Method: 5260
Analyst: KJ
Instrument EM Voltage: 1741

Surrogate: A0I0902
Internal: A0K0801
LCS Mix 2°: A1A0898
LCS Acrolein 2°: A1A0830
LCS Gas 2°: A1A0920

8260 Mix: A1A0764
8260 Add: A1A0635
8260 Ac/Ac: A1A0543
8260 Gases: A1A0899
Instrument #: MS-2

212AN

Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)	Comments	LIMS
001	TUN			1				
002	CAL1			2			✓	
003	CAL2			3			✓	
004	CAL3			4			✓	
005	CAL4			5			Incorrect Vial Purged	
006	CAL4			6			✓	
007	CAL5			7			✓	
008	CAL6			8			✓	
009	CAL7			9			✓	
010	CAL8			10			✓	
011	Rinse			11				
012	Rinse			12				
013	AA64539-SCV1			13				
014	IA19035-BS1		1/19/21	14		1/19/21		
015	IA19035-MS1	E	1	15				
016	IA19035-MSD1	E	1	15				
017	IA19035-BLK			16		1/19/21		
018	AD08736-01 RE1	C	1	17				
019	AE00311-02	G	1	18			✓	
020	AE00311-03	F	1	19			✓	
021	AE00311-04	F	1	20			✓	

Manual Integration Review Form

ENVIRONMENTAL CONSERVATION LABORATORIES, INC. ☐ Cary ☐ Jacksonville ☑ Orlando

I hereby attest that the manual integrations contained in this package have been thoroughly reviewed and are in agreement with the associated hardcopy data.

The electronic files listed below have been reviewed for accuracy, completeness and comply with ENCO labs QA-11 Manual Integration Policy including:

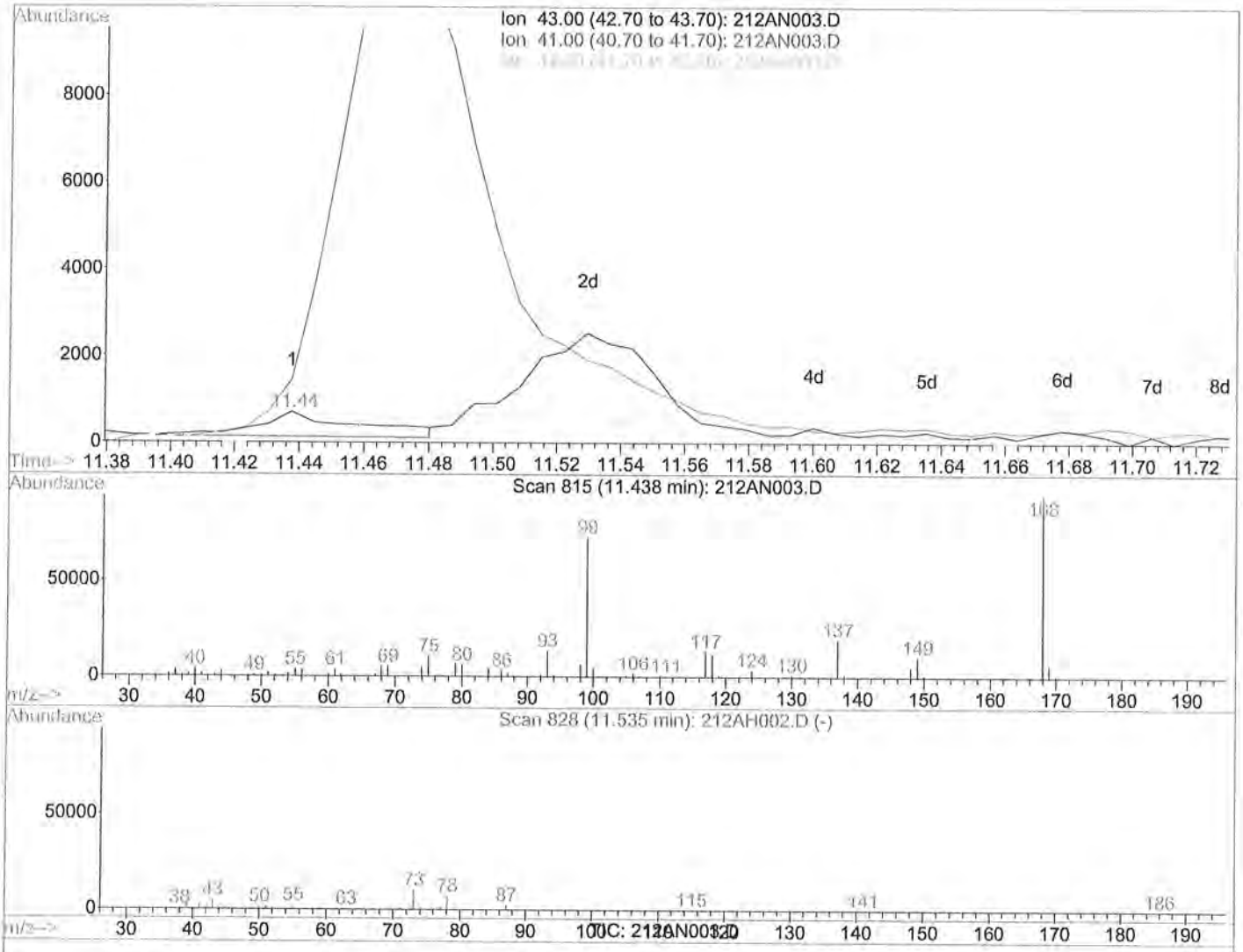
- "Before" and "After" chromatograms are provided
- Manual integrations are indicated on expanded scale "after" chromatograms at a scale large enough to see the manual integration performed.
- Reintegration technique marked if available on the data system
- Technical justification for manual integration
- Appropriate flags indicating which analytes were manually integrated are included in the raw data
- Analyst's initials and date.

Instrument ID:	OVGCMS2
Sequence/Batch ID:	AA64539 |
Data File Prefix:	212AN
Date and Time Range of MIs:	1/19/21 12:38 - 12:51 1/20/21 10:28
Reviewer Print Name:	Karen Watson
Reviewer Signature:	
Date of Review:	01/20/21

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\011921\212AN003.D Vial: 3
Acq On : 19 Jan 2021 8:52 am Operator: KKW
Sample : AA64539-CAL2 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 10:49 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 09:09:11 2021
Response via : Multiple Level Calibration



(43) Isobutyl Alcohol

11.44min 15.31ug/kg

response 1258

Ion	Exp%	Act%
43.00	100	100
41.00	1850.50	3242.93#
42.00	140.90	200.56#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

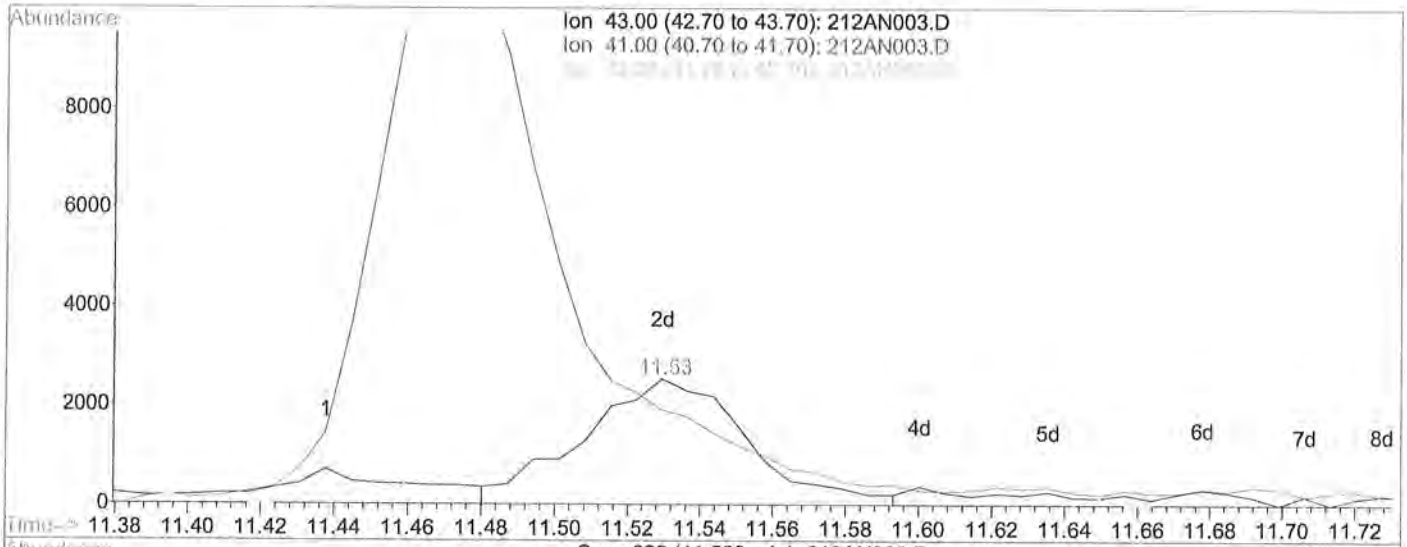
Review by/Date KW 1/20/21

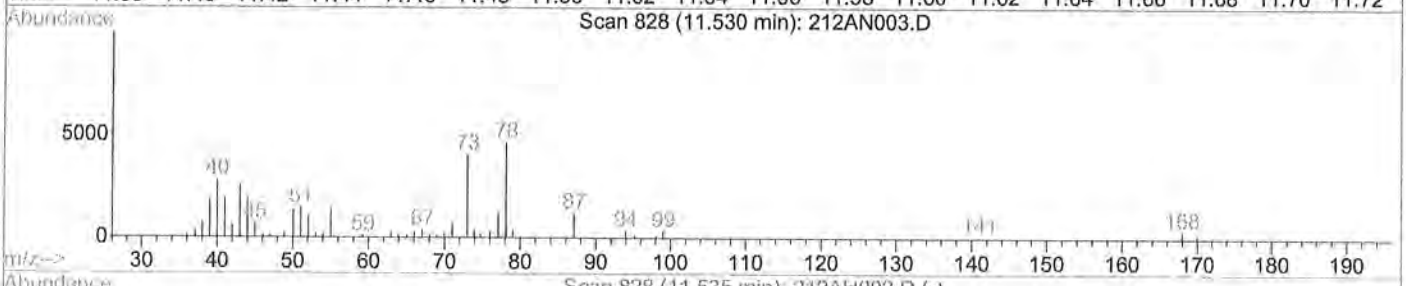
Review by/Date:

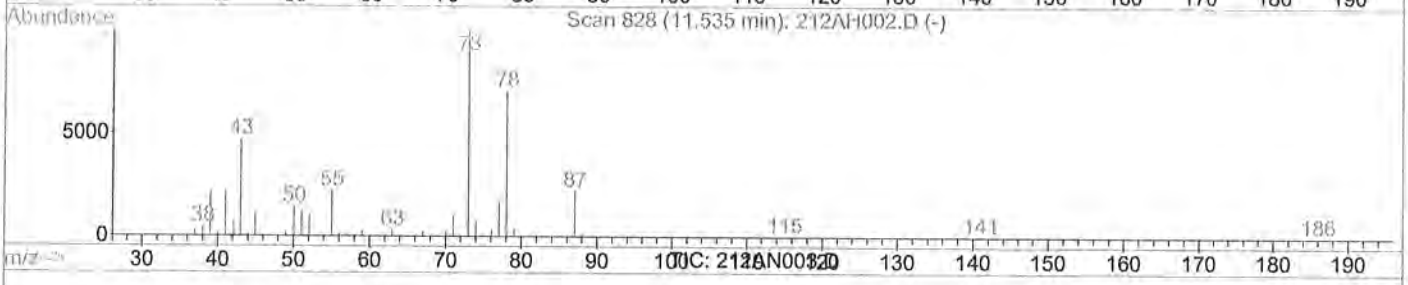
Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\011921\212AN003.D Vial: 3
Acq On : 19 Jan 2021 8:52 am Operator: KKW
Sample : AA64539-CAL2 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 12:38 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 09:09:11 2021
Response via : Multiple Level Calibration







(43) Isobutyl Alcohol

11.53min 96.12ug/kg m

response 7896

Ion	Exp%	Act%
43.00	100	100
41.00	1850.50	516.67#
42.00	140.90	31.95#
0.00	0.00	0.00

Select One:

[ ] Original Integration [x] Manual Integration

Select reason for manual integration:

[x] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date KK 1/20/21

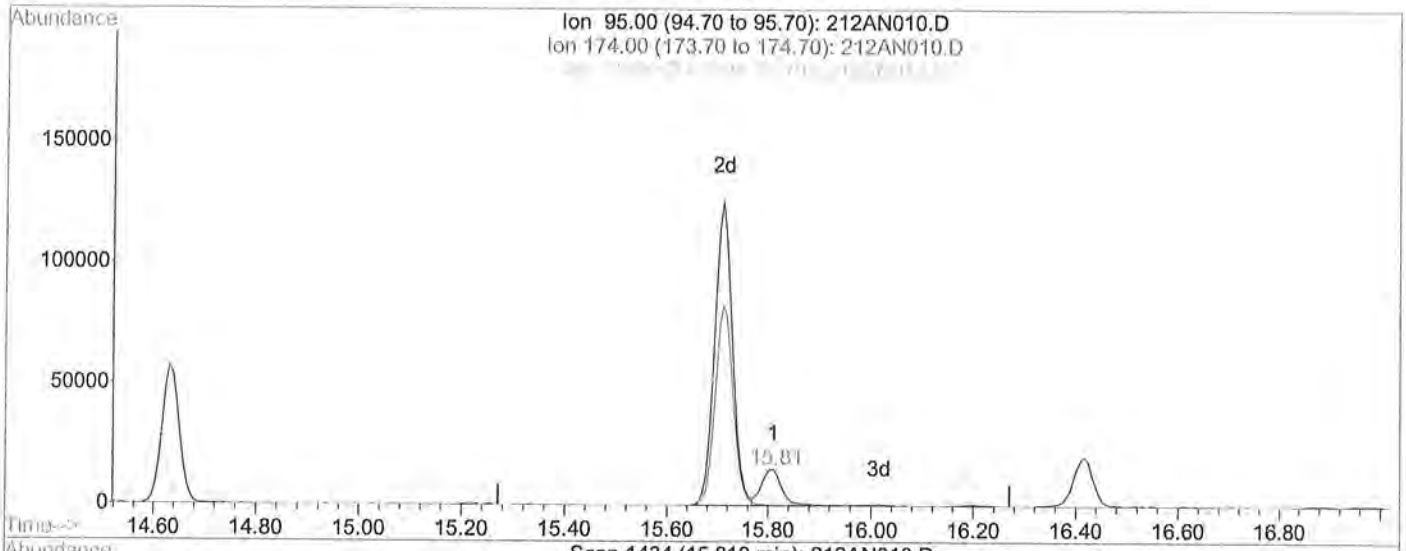
Review by/Date:

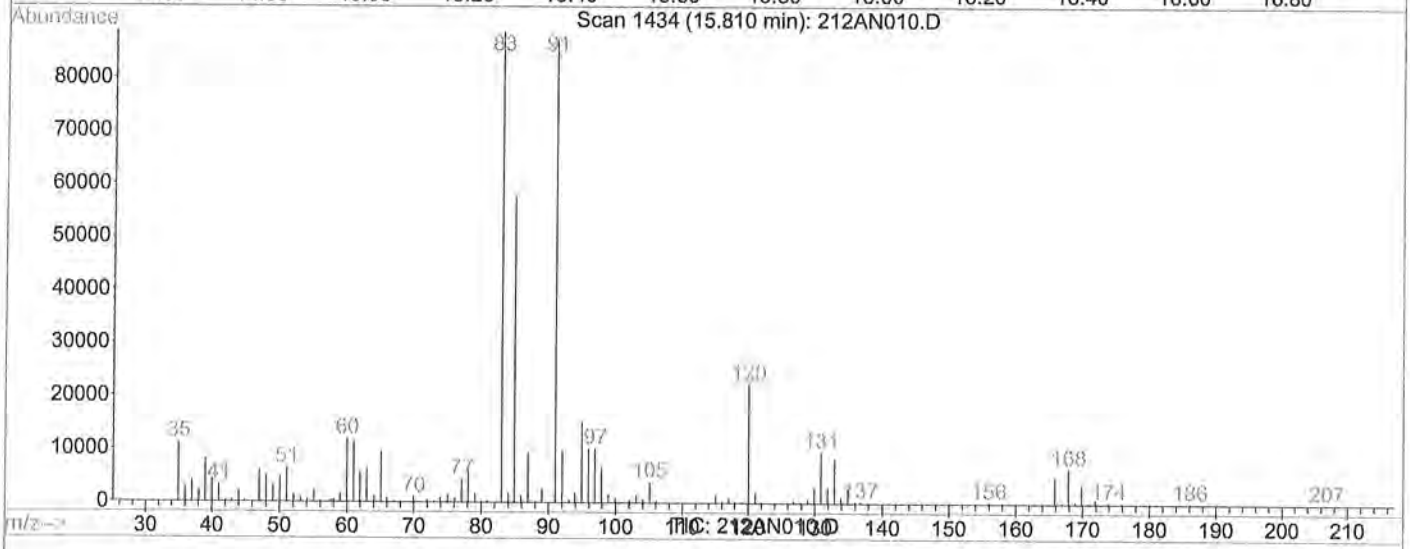
212AN003.D 011921.M Tue Jan 19 12:38:55 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\011921\212AN010.D Vial: 10
Acq On : 19 Jan 2021 12:12 pm Operator: KKW
Sample : AA64539-CAL8 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 12:35 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 12:41:36 2021
Response via : Multiple Level Calibration





(76) Bromofluorobenzene

15.81min 9.14ug/kg

response 40818

Ion	Exp%	Act%
95.00	100	100
174.00	102.10	0.00#
75.00	48.20	25.77#
0.00	0.00	0.00

Select One:

[x] Original Integration [ ] Manual Integration

Select reason for manual integration:

[x] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date KH 1/20/21

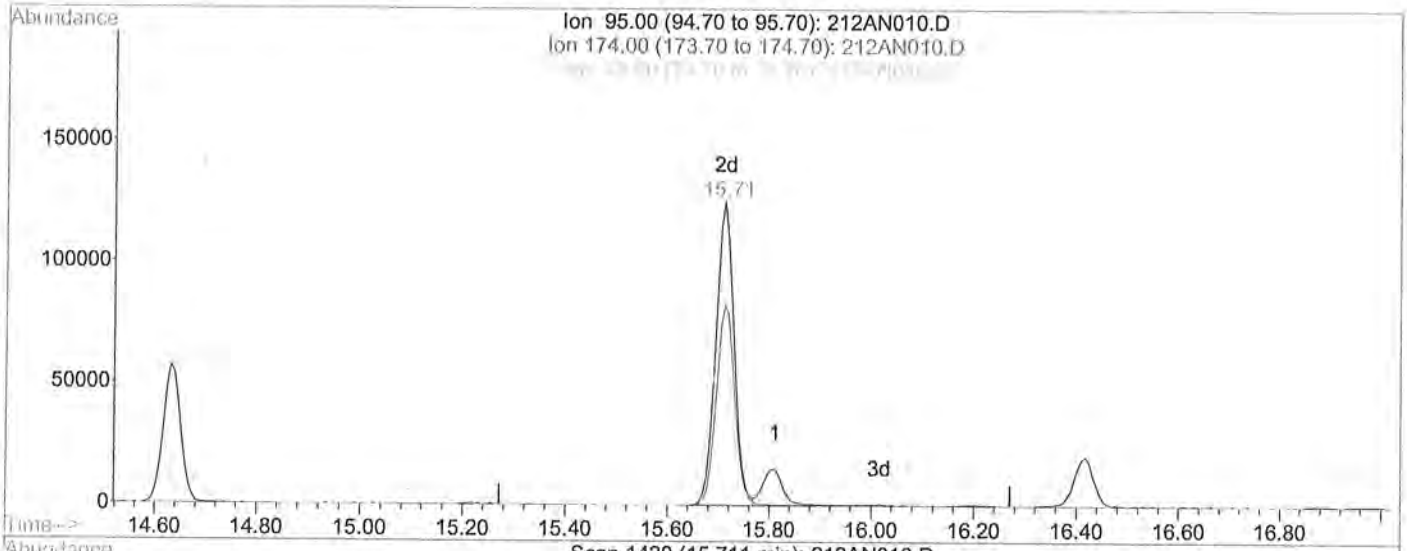
Review by/Date:

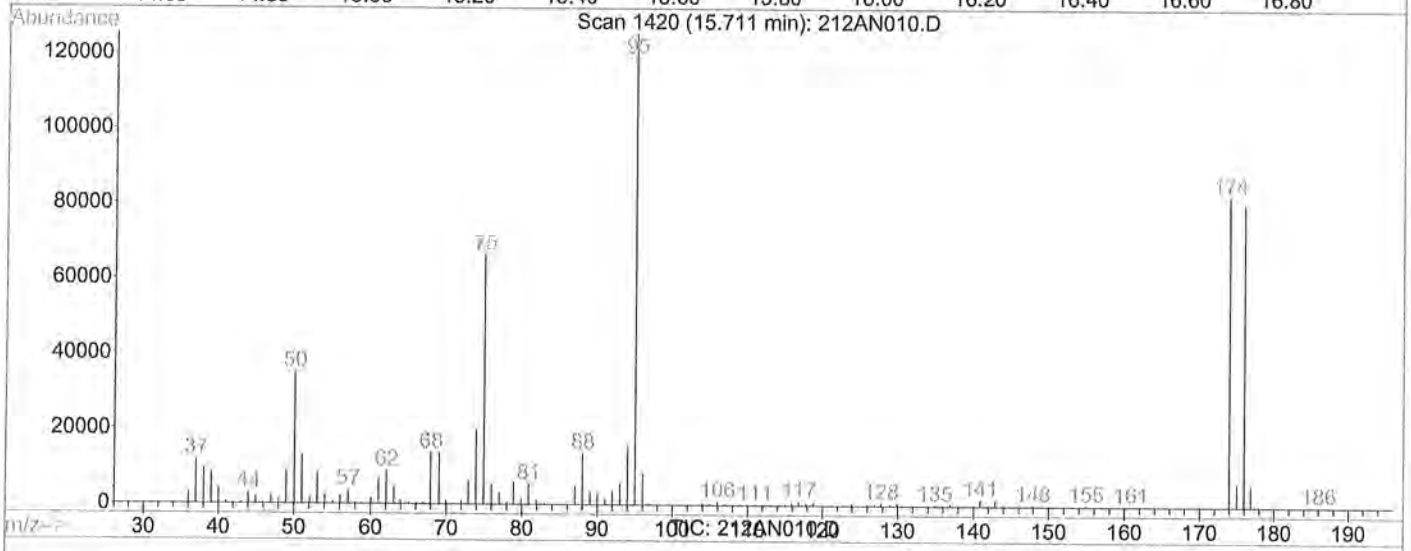
212AN010.D 011921.M Tue Jan 19 12:51:13 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\011921\212AN010.D Vial: 10
Acq On : 19 Jan 2021 12:12 pm Operator: KKW
Sample : AA64539-CAL8 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 12:51 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 12:41:36 2021
Response via : Multiple Level Calibration





(76) Bromofluorobenzene

15.71min 69.34ug/kg m

response 309769

Ion	Exp%	Act%
95.00	100	100
174.00	102.10	0.00#
75.00	48.20	3.40#
0.00	0.00	0.00

Select One:

[X] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date KKW 1/20/21

Review by/Date:

Compound List Report OVGCMS2

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Wed Jan 20 07:36:38 2021
Response via : Initial Calibration
Total Cpnds : 96

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	Pentafluorobenzene(IS)	168	11.45	1.000	A	2	A	B
2		Dichlorodifluoromethane	85	5.87	0.513	A	3	A	B
3	**	Chloromethane	50	6.34	0.554	LO	2	A	B
4	*	Vinyl Chloride	62	6.54	0.571	LO	2	A	B
5		Bromomethane	96	7.18	0.627	LO	2	A	B
6		Chloroethane	64	7.42	0.648	QO	2	A	B
7		Trichlorofluoromethane	101	7.68	0.671	A	2	A	B
8		Trichlorotrifluoroethane	101	8.51	0.743	LO	1	A	B
9		acrolein	56	8.87	0.775	QO	1	A	B
10		Acetone	43	9.21	0.805	LO	1	A	B
11	*m	1,1-Dichloroethene	96	8.47	0.740	A	2	A	B
12		3-Chloropropene	76	9.06	0.791	LO	1	A	B
13		Acetonitrile	41	9.77	0.853	LO	2	A	B
14		Iodomethane	142	8.70	0.760	QO	2	A	B
15		Carbon disulfide	76	8.59	0.750	LO	1	A	B
16		Methylene Chloride	84	9.18	0.802	LO	3	A	B
17		Methyl tert-butyl ether	73	9.50	0.830	A	2	A	B
18		Acrylonitrile	53	10.08	0.881	A	2	A	B
19		T-1,2-Dichloroethene	96	9.41	0.822	LO	2	A	B
20		Isopropyl Ether	45	9.88	0.863	A	1	A	B
21		C-1,2-Dichloroethene	96	10.65	0.930	A	2	A	B
22	**	1,1-Dichloroethane	63	10.08	0.881	A	3	A	B
23		Vinyl Acetate	43	10.27	0.898	A	1	A	B
24		Chloroprene	88	10.08	0.880	A	2	A	B
25		2-Butanone	72	11.15	0.974	A	2	A	B
26		Propionitrile	54	11.43	0.999	LO	0	A	B
27		2,2-Dichloropropane	77	10.78	0.941	LO	1	A	B
28		Methacrylonitrile	67	11.46	1.001	A	1	A	B
29	*	Chloroform	83	10.87	0.949	LO	2	A	B
30	S	Dibromofluoromethane	113	11.05	0.965	A	0	A	B
31		Dibromofluoromethane	113	11.10	0.970	A	0	A	B
32		Bromochloromethane	128	10.85	0.948	A	2	A	B
33		1,1,1-Trichloroethane	97	11.16	0.975	A	2	A	B
34		1,1-Dichloropropene	75	11.26	0.984	A	2	A	B
35		Diethyl Ether	59	8.11	0.708	LO	2	A	B
36		Methyl Acetate	74	9.36	0.818	LO	2	A	B
37		Cyclohexane	56	10.93	0.955	A	2	A	B
38	I	1,4-Difluorobenzene(IS)	114	12.00	1.000	A	2	A	B
39		Methyl Cyclohexane	55	12.05	1.005	A	2	A	B
40		Carbon Tetrachloride	117	11.13	0.928	A	2	A	B
41		1,2-Dichloroethane	62	11.64	0.971	A	2	A	B
42	m	Benzene	78	11.50	0.959	A	2	A	B
43		Isobutyl Alcohol	43	11.52	0.961	LO	2	A	B
44	m	Trichloroethene	130	12.02	1.002	A	3	A	B
45	*	1,2-Dichloropropane	63	12.46	1.039	LO	2	A	B
46		Methyl Methacrylate	100	12.55	1.046	LO	1	A	B
47		1,4-Dioxane	88	12.68	1.057	LO	1	A	B
48		Bromodichloromethane	83	12.48	1.041	A	2	A	B
49		Dibromomethane	93	12.39	1.033	A	2	A	B
50		4-Methyl-2-Pentanone	100	13.49	1.124	LO	3	A	B
51		2-Chloroethyl vinyl ether	63	12.79	1.066	A	2	A	B
52		2-Hexanone	43	14.19	1.183	LO	3	A	B
53		C-1,3-Dichloropropene	75	13.03	1.086	A	2	A	B
54	S	D8-Toluene	98	13.21	1.101	A	2	A	B
55		D8-Toluene	98	13.27	1.106	A	2	A	B
56	I	Chlorobenzene-d5(IS)	82	14.59	1.000	A	2	A	B
57	m*	Toluene	92	13.26	0.909	A	2	A	B
58		Ethyl Methacrylate	69	13.61	0.933	A	3	A	B
59		T-1,3-Dichloropropene	75	13.55	0.929	A	2	A	B
60		1,1,2-Trichloroethane	97	13.71	0.939	A	3	A	B
61		1,3-Dichloropropane	76	13.96	0.957	LO	1	A	B
62		Tetrachloroethene	164	13.64	0.935	A	3	A	B
63		Dibromochloromethane	129	13.90	0.953	A	2	A	B
64		1,2-Dibromoethane	107	14.16	0.970	A	2	A	B
65	**m	Chlorobenzene	112	14.61	1.001	A	2	A	B

66		1,1,1,2-Tetrachloroethane	131	14.63	1.003	A	2	A	B
67	*	Ethylbenzene	106	14.57	0.999	A	1	A	B
68		m-xylene & p-xylene	106	14.68	1.006	A	1	A	B
69		O-Xylene	106	15.10	1.035	A	1	A	B
70	**	Bromoform	173	15.23	1.044	A	3	A	B
71		Styrene	104	15.14	1.038	A	2	A	B
72		Isopropylbenzene	105	15.37	1.053	A	1	A	B
73		1,2,3-Trichloropropane	75	16.00	1.097	A	1	A	B
74	**	1,1,2,2-Tetrachloroethane	83	15.80	1.083	A	3	A	B
75	S	Bromofluorobenzene	95	15.71	1.077	A	2	A	B
76		Bromofluorobenzene	95	15.77	1.081	A	2	A	B
77		T-1,4-dichloro-2-butene	53	15.99	1.096	A	2	A	B
78		N-Propylbenzene	91	15.78	1.081	A	1	A	B
79	I	1,4-Dichlorobenzene-d4(IS)	152	16.95	1.000	A	2	A	B
80		Bromobenzene	156	15.87	0.936	A	2	A	B
81		1,3,5-Trimethylbenzene	105	15.93	0.940	A	1	A	B
82		2-Chlorotoluene	91	16.02	0.945	A	1	A	B
83		4-Chlorotoluene	91	16.18	0.954	A	1	A	B
84		1,2,4-Trimethylbenzene	105	16.38	0.966	A	1	A	B
85		s-Butylbenzene	105	16.51	0.974	A	1	A	B
86		tert-Butylbenzene	119	16.32	0.963	A	2	A	B
87		p-Isopropyltoluene	119	16.62	0.980	A	2	A	B
88		1,3-Dichlorobenzene	146	16.88	0.996	A	2	A	B
89		1,4-Dichlorobenzene	146	16.98	1.001	A	2	A	B
90		1,2-Dichlorobenzene	146	17.54	1.035	A	2	A	B
91		N-Butylbenzene	91	17.15	1.011	A	2	A	B
92		DBCP	75	18.65	1.100	LO	2	A	B
93		Naphthalene	128	20.64	1.217	A	0	A	B
94		1,2,4-Trichlorobenzene	180	19.93	1.176	A	2	A	B
95		Hexachlorobutadiene	225	19.79	1.167	A	2	A	B
96		1,2,3-Trichlorobenzene	180	21.07	1.243	A	2	A	B

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

011921.M Wed Jan 20 07:52:55 2021

Compound Name Duplication Report

Quant Method: C:\HPCHEM\1\METHODS\011921.M
Number of Compounds: 96

30 Dibromofluoromethane = 31 Dibromofluoromethane
54 D8-Toluene = 55 D8-Toluene
75 Bromofluorobenzene = 76 Bromofluorobenzene

3 Duplicate Names Detected!!!

Response Factor Report OVGCMS2

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Wed Jan 20 07:36:38 2021
Response via : Initial Calibration

Calibration Files
1 =212AN002.D 5 =212AN004.D 20 =212AN007.D
50 =212AN008.D 100 =212AN010.D 10 =212AN006.D

		Compound	1	5	20	50	100	10	Avg	%RSD
1)	i	Pentafluorobenzene(IS	----------	ISTD	----------					
2)		Dichlorodifluoromet	1.132	1.100	1.094	0.937	0.981	0.991	1.033	7.42
3)	**	Chloromethane	1.281	1.178	1.044	0.903	1.083	1.150	1.111	11.84
4)	*	Vinyl Chloride	1.382	1.103	1.029	0.877	0.881	0.938	1.030	18.13
5)		Bromomethane	2.625	1.381	0.697	0.615	0.522	0.753	1.131	68.49
6)		Chloroethane	0.980	0.744	0.690	0.574	0.549	0.640	0.715	25.37
7)		Trichlorofluorometh	1.534	1.602	1.543	1.316	1.306	1.424	1.442	9.14
8)		Trichlorotrifluoroe	0.707	0.631	0.522	0.495	0.481	0.508	0.558	15.42
9)		acrolein	0.026	0.020	0.021	0.025	0.051	0.024	0.028#	36.89
10)		Acetone	0.183	0.130	0.110	0.103	0.108	0.112	0.123	21.54
11)	*m	1,1-Dichloroethene	0.596	0.537	0.454	0.438	0.434	0.442	0.484	12.92
12)		3-Chloropropene	0.487	0.278	0.257	0.250	0.264	0.274	0.298	26.61
13)		Acetonitrile	0.080	0.042	0.040	0.042	0.045	0.039	0.046#	29.90
14)		Iodomethane	0.055	0.315	0.530	0.544	0.573	0.466	0.389	56.38
15)		Carbon disulfide	2.042	1.478	1.260	1.179	1.206	1.292	1.378	20.83
16)		Methylene Chloride	0.871	0.660	0.537	0.503	0.498	0.567	0.611	22.27
17)		Methyl tert-butyl e	1.329	1.202	0.998	0.978	0.980	0.971	1.081	12.93
18)		Acrylonitrile	0.290	0.233	0.223	0.223	0.233	0.219	0.234	10.09
19)		T-1,2-Dichloroethen	0.770	0.617	0.520	0.519	0.521	0.498	0.570	15.95
20)		Isopropyl Ether	3.694	3.242	2.654	2.585	2.599	2.596	2.899	14.68
21)		C-1,2-Dichloroethen	0.754	0.660	0.574	0.571	0.578	0.565	0.615	10.76
22)	**	1,1-Dichloroethane	1.447	1.240	1.034	1.032	1.054	1.013	1.144	13.77
23)		Vinyl Acetate	2.031	1.651	1.520	1.513	1.532	1.502	1.592	11.71
24)		Chloroprene	0.591	0.456	0.423	0.434	0.448	0.415	0.453	12.84
25)		2-Butanone	0.039	0.036	0.029	0.027	0.028	0.029	0.031#	13.82
26)		Propionitrile	0.062	0.047	0.044	0.042	0.044	0.041	0.046#	15.34
27)		2,2-Dichloropropane	1.203	1.015	0.817	0.791	0.782	0.803	0.892	17.29
28)		Methacrylonitrile	0.187	0.150	0.137	0.141	0.140	0.131	0.146	11.92
29)	*	Chloroform	1.505	1.218	1.000	0.960	0.929	0.977	1.095	18.38
30)	s	Dibromofluoromethan	0.585	0.623	0.555	0.531	0.546	0.601	0.568	6.38
31)		Dibromofluoromethan	0.585	0.623	0.555	0.531	0.546	0.601	0.568	6.38
32)		Bromochloromethane	0.367	0.321	0.278	0.282	0.285	0.267	0.303	11.39
33)		1,1,1-Trichloroetha	1.139	1.013	0.870	0.826	0.820	0.834	0.913	13.03
34)		1,1-Dichloropropene	0.970	0.839	0.723	0.702	0.696	0.701	0.770	13.01
35)		Diethyl Ether	0.627	0.507	0.415	0.390	0.387	0.413	0.455	18.65
36)		Methyl Acetate	0.074	0.070	0.050	0.049	0.047	0.050	0.056#	19.14
37)		Cyclohexane	1.165	1.022	0.915	0.886	0.882	0.872	0.949	10.68
38)	i	1,4-Difluorobenzene(I	----------	ISTD	----------					
39)		Methyl Cyclohexane	0.434	0.405	0.362	0.364	0.367	0.360	0.384	7.88
40)		Carbon Tetrachlorid	0.573	0.531	0.469	0.467	0.467	0.427	0.490	9.16
41)		1,2-Dichloroethane	0.476	0.410	0.352	0.346	0.366	0.334	0.385	12.21
42)	m	Benzene	1.322	1.187	1.077	1.132	1.082	0.982	1.145	8.88
43)		Isobutyl Alcohol	0.027	0.020	0.017	0.018	0.019	0.017	0.020#	15.91
44)	m	Trichloroethene	0.403	0.338	0.306	0.315	0.317	0.280	0.321	11.49
45)	*	1,2-Dichloropropane	0.432	0.334	0.286	0.290	0.287	0.269	0.317	16.55
46)		Methyl Methacrylate	0.061	0.051	0.050	0.052	0.053	0.044	0.048#	25.67
47)		1,4-Dioxane	0.001	0.001	0.001	0.001	0.001	0.001	0.001#	19.01
48)		Bromodichloromethan	0.490	0.414	0.366	0.373	0.370	0.345	0.396	11.69
49)		Dibromomethane	0.200	0.179	0.157	0.160	0.162	0.146	0.168	9.72
50)		4-Methyl-2-Pentanon	0.042	0.027	0.023	0.025	0.026	0.021	0.027#	23.84
51)		2-Chloroethyl vinyl				0.000	0.001	0.001	0.001#	56.31
52)		2-Hexanone	0.224	0.162	0.142	0.149	0.161	0.133	0.161	17.17
53)		C-1,3-Dichloroprope	0.528	0.460	0.417	0.436	0.447	0.397	0.451	8.58
54)	s	D8-Toluene	0.840	0.905	0.822	0.821	0.853	0.840	0.847	3.12
55)		D8-Toluene	0.840	0.905	0.822	0.821	0.853	0.840	0.847	3.12
56)	i	Chlorobenzene-d5(IS)	----------	ISTD	----------					

(#) = Out of Range ### Number of calibration levels exceeded format ###

Response Factor Report OVGCMS2

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Wed Jan 20 07:36:38 2021
Response via : Initial Calibration

Calibration Files
1 =212AN002.D 5 =212AN004.D 20 =212AN007.D
50 =212AN008.D 100 =212AN010.D 10 =212AN006.D

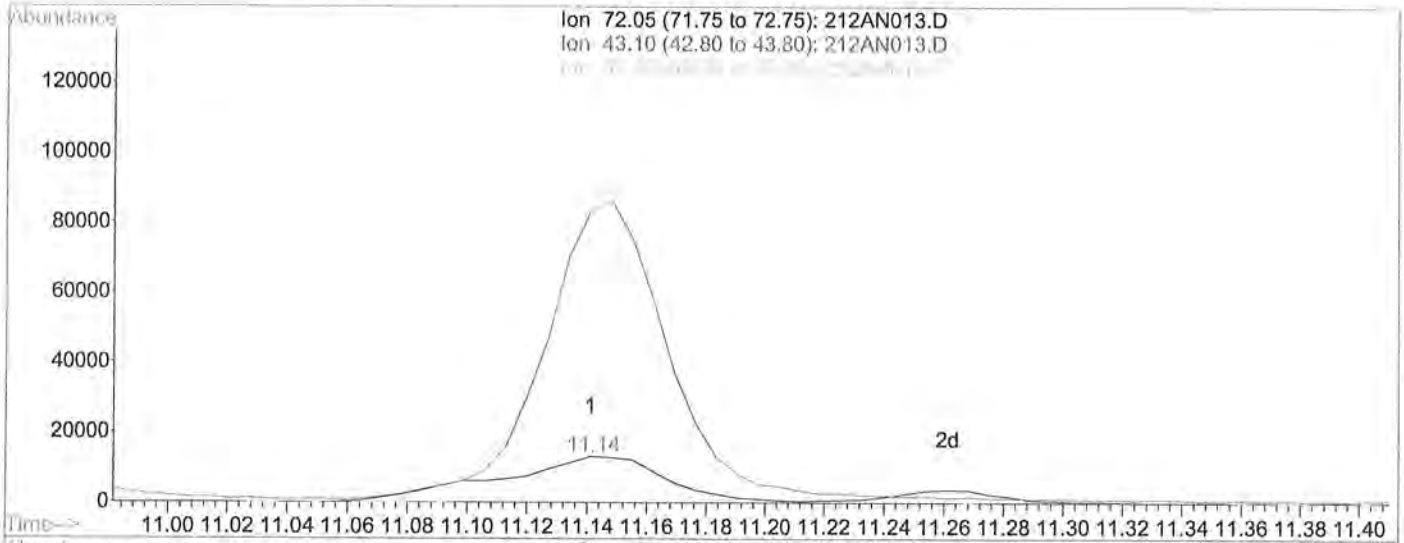
		Compound	1	5	20	50	100	10	Avg	%RSD
57)	m*	Toluene	1.931	1.626	1.441	1.433	1.387	1.315	1.520	12.91
58)		Ethyl Methacrylate	0.779	0.577	0.538	0.557	0.554	0.512	0.576	14.69
59)		T-1,3-Dichloroprope	1.008	0.844	0.769	0.768	0.761	0.715	0.811	11.32
60)		1,1,2-Trichloroetha	0.487	0.463	0.386	0.407	0.389	0.389	0.423	9.45
61)		1,3-Dichloropropane	1.085	0.936	0.742	0.762	0.740	0.733	0.834	15.62
62)		Tetrachloroethene	0.480	0.452	0.417	0.410	0.410	0.371	0.427	8.04
63)		Dibromochloromethan	0.758	0.631	0.582	0.595	0.588	0.543	0.622	10.98
64)		1,2-Dibromoethane	0.524	0.497	0.438	0.456	0.450	0.418	0.467	7.54
65)	**m	Chlorobenzene	2.118	1.775	1.606	1.632	1.597	1.469	1.703	11.63
66)		1,1,1,2-Tetrachloro	0.800	0.702	0.616	0.626	0.618	0.581	0.654	10.57
67)	*	Ethylbenzene	1.041	0.875	0.789	0.814	0.829	0.707	0.847	11.36
68)		m-xylene & p-xylene	1.166	1.042	0.942	1.002	0.992	0.873	1.007	8.34
69)		O-Xylene	1.029	0.983	0.896	0.967	0.997	0.816	0.967	7.89
70)	**	Bromoform	0.324	0.260	0.246	0.257	0.266	0.225	0.265	10.64
71)		Styrene	1.929	1.731	1.596	1.737	1.739	1.390	1.697	9.16
72)		Isopropylbenzene	2.878	2.458	2.279	2.440	2.525	2.073	2.452	9.36
73)		1,2,3-Trichloroprop	0.633	0.515	0.449	0.475	0.490	0.446	0.510	12.37
74)	**	1,1,2,2-Tetrachloro	0.502	0.439	0.396	0.398	0.395	0.375	0.418	9.55
75)	s	Bromofluorobenzene	0.680	0.721	0.666	0.664	0.700	0.661	0.679	3.16
76)		Bromofluorobenzene	0.680	0.721	0.666	0.664	0.700	0.661	0.679	3.16
77)		T-1,4-dichloro-2-bu	0.155	0.129	0.119	0.120	0.132	0.119	0.129	9.66
78)		N-Propylbenzene	3.283	2.714	2.515	2.668	2.743	2.308	2.728	10.24
79)	i	1,4-Dichlorobenzene-d	----------	ISTD	----------					
80)		Bromobenzene	0.946	0.850	0.778	0.799	0.815	0.683	0.817	9.08
81)		1,3,5-Trimethylbenz	3.386	3.029	2.698	2.858	2.888	2.416	2.904	9.59
82)		2-Chlorotoluene	3.326	2.809	2.460	2.526	2.557	2.222	2.661	12.21
83)		4-Chlorotoluene	3.332	2.769	2.474	2.573	2.613	2.267	2.692	11.61
84)		1,2,4-Trimethylbenz	3.334	2.916	2.734	2.884	2.943	2.300	2.871	10.09
85)		s-Butylbenzene	4.000	3.645	3.352	3.507	3.545	3.038	3.538	7.71
86)		tert-Butylbenzene	2.995	2.784	2.458	2.595	2.642	2.275	2.632	8.11
87)		p-Isopropyltoluene	3.376	3.097	2.828	2.996	3.083	2.448	2.986	9.02
88)		1,3-Dichlorobenzene	1.879	1.514	1.364	1.390	1.450	1.213	1.472	12.94
89)		1,4-Dichlorobenzene	1.879	1.595	1.406	1.420	1.478	1.284	1.526	11.91
90)		1,2-Dichlorobenzene	1.465	1.293	1.156	1.174	1.206	1.043	1.232	9.95
91)		N-Butylbenzene	2.422	2.380	2.207	2.300	2.412	1.863	2.280	8.30
92)		DBCP	0.023	0.103	0.062	0.065	0.066	0.069	0.064#	35.20
93)		Naphthalene	0.452	0.514	0.476	0.488	0.596	0.405	0.506	13.31
94)		1,2,4-Trichlorobenz	0.455	0.449	0.384	0.383	0.426	0.339	0.416	10.04
95)		Hexachlorobutadiene	0.262	0.304	0.251	0.244	0.253	0.245	0.260	7.68
96)		1,2,3-Trichlorobenz	0.266	0.300	0.254	0.254	0.287	0.216	0.270	10.49

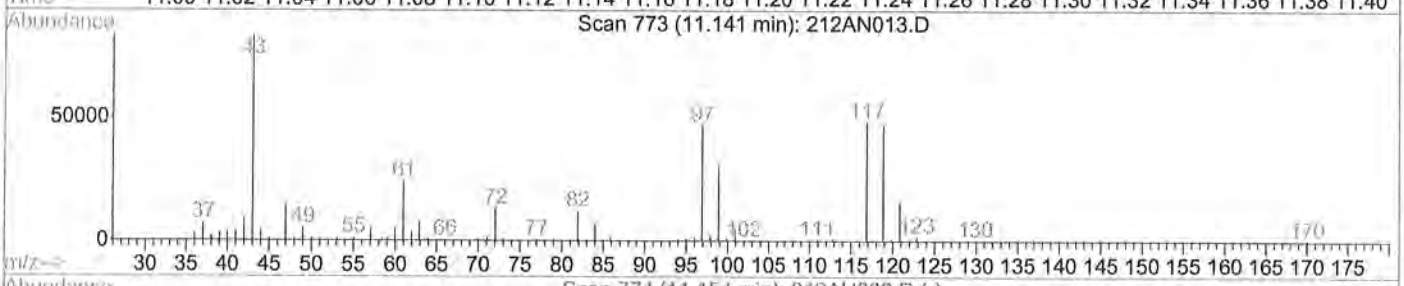
(#) = Out of Range ### Number of calibration levels exceeded format ###

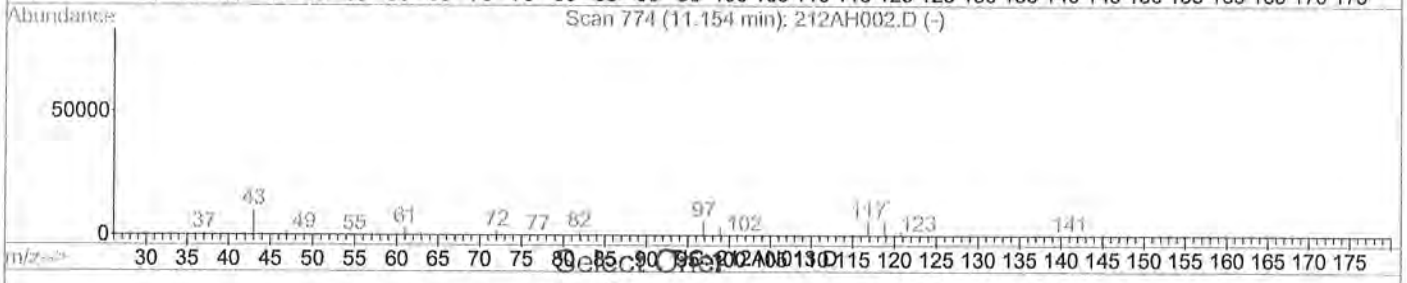
Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\011921\212AN013.D Vial: 13
Acq On : 19 Jan 2021 1:38 pm Operator: KKW
Sample : AA64539-SCV1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 14:01 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Wed Jan 20 08:36:49 2021
Response via : Multiple Level Calibration







(25) 2-Butanone

11.14min 358.25ug/kg

response 51146

Ion	Exp%	Act%
72.05	100	100
43.10	656.50	487.74
57.00	39.40	27.53#
0.00	0.00	0.00

Select One:

[x] Original Integration [ ] Manual Integration

Select reason for manual integration:

[x] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

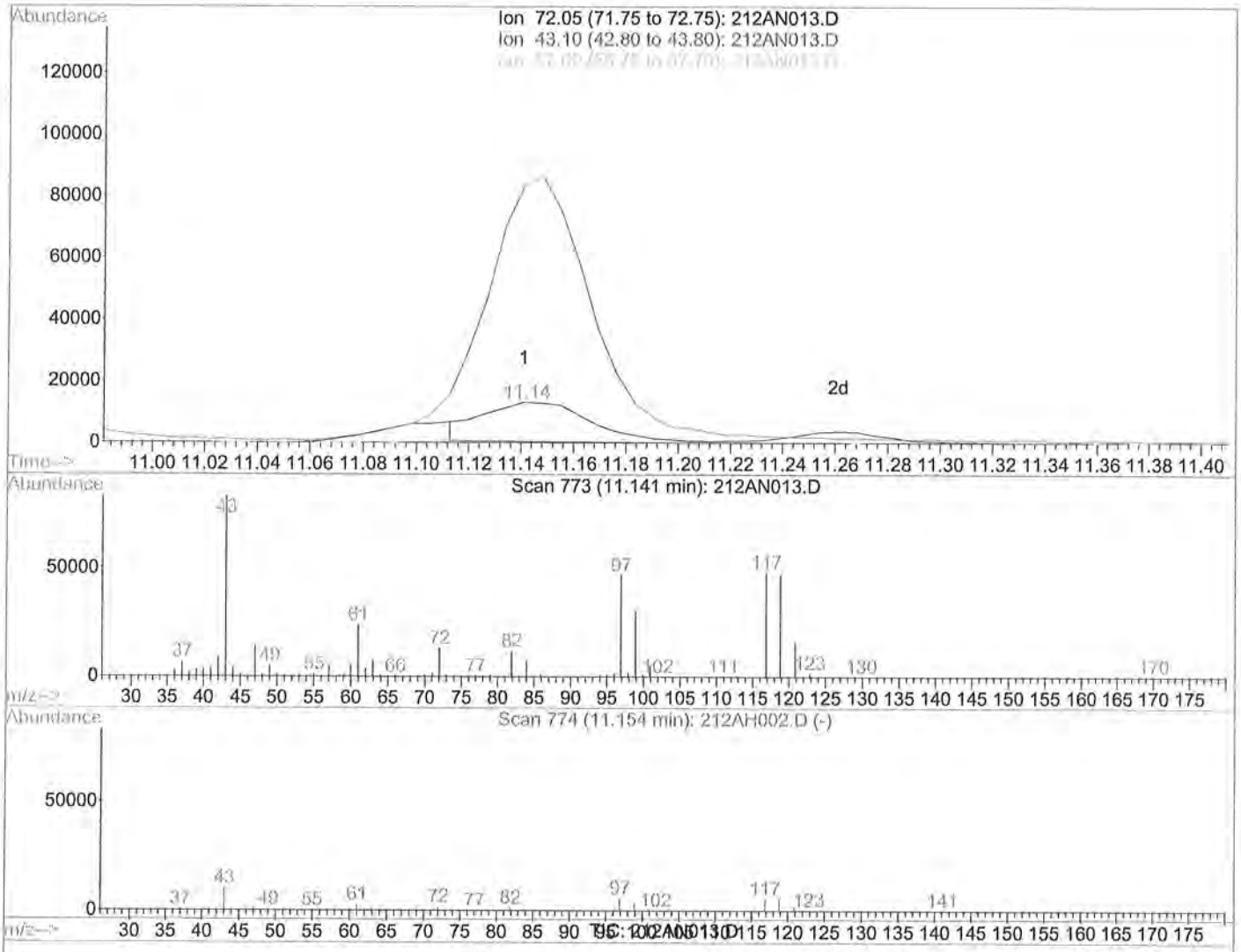
Review by/Date KH 1/20/21

Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\011921\212AN013.D Vial: 13
Acq On : 19 Jan 2021 1:38 pm Operator: KKW
Sample : AA64539-SCV1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 20 10:28 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Wed Jan 20 08:36:49 2021
Response via : Multiple Level Calibration



(25) 2-Butanone

11.14min 254.67ug/kg m

response 36358

Ion	Exp%	Act%
72.05	100	100
43.10	656.50	686.11
57.00	39.40	38.73
0.00	0.00	0.00

Select One:

[ ] Original Integration [✓] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

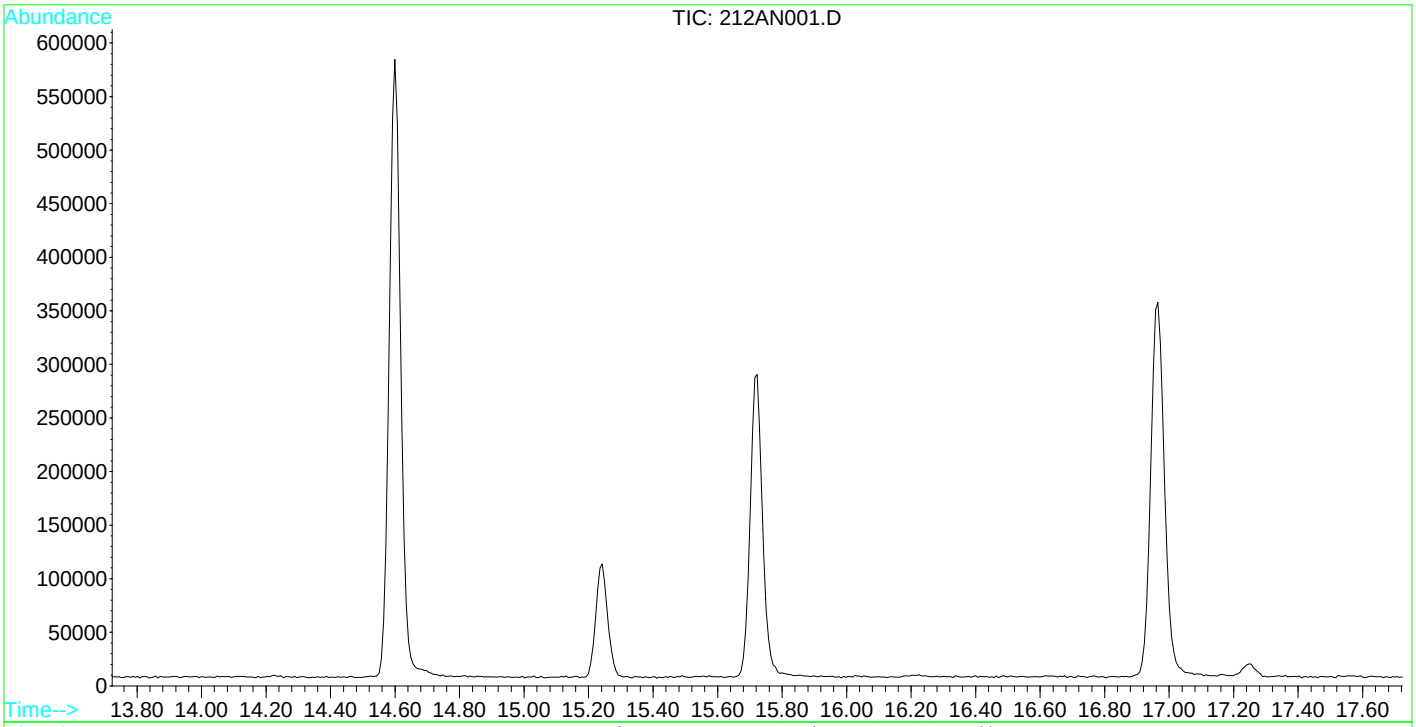
[ ] Other:

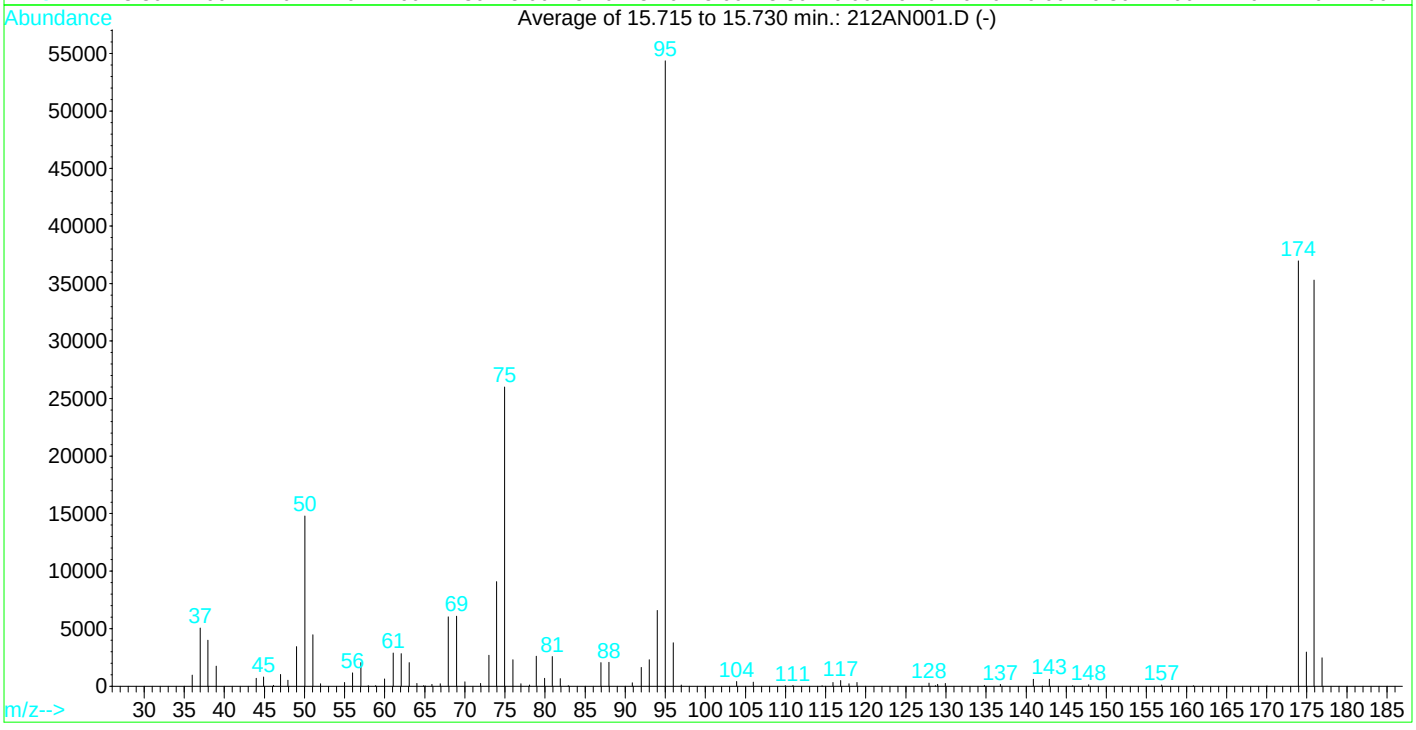
Review by/Date KK 1/20/21

Review by/Date:

212AN013.D 011921.M Wed Jan 20 10:28:52 2021

Data File : C:\HPCHEM\1\DATA\011921\212AN001.D Vial: 1
Acq On : 19 Jan 2021 7:42 am Operator: KKW
Sample : Tun1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal





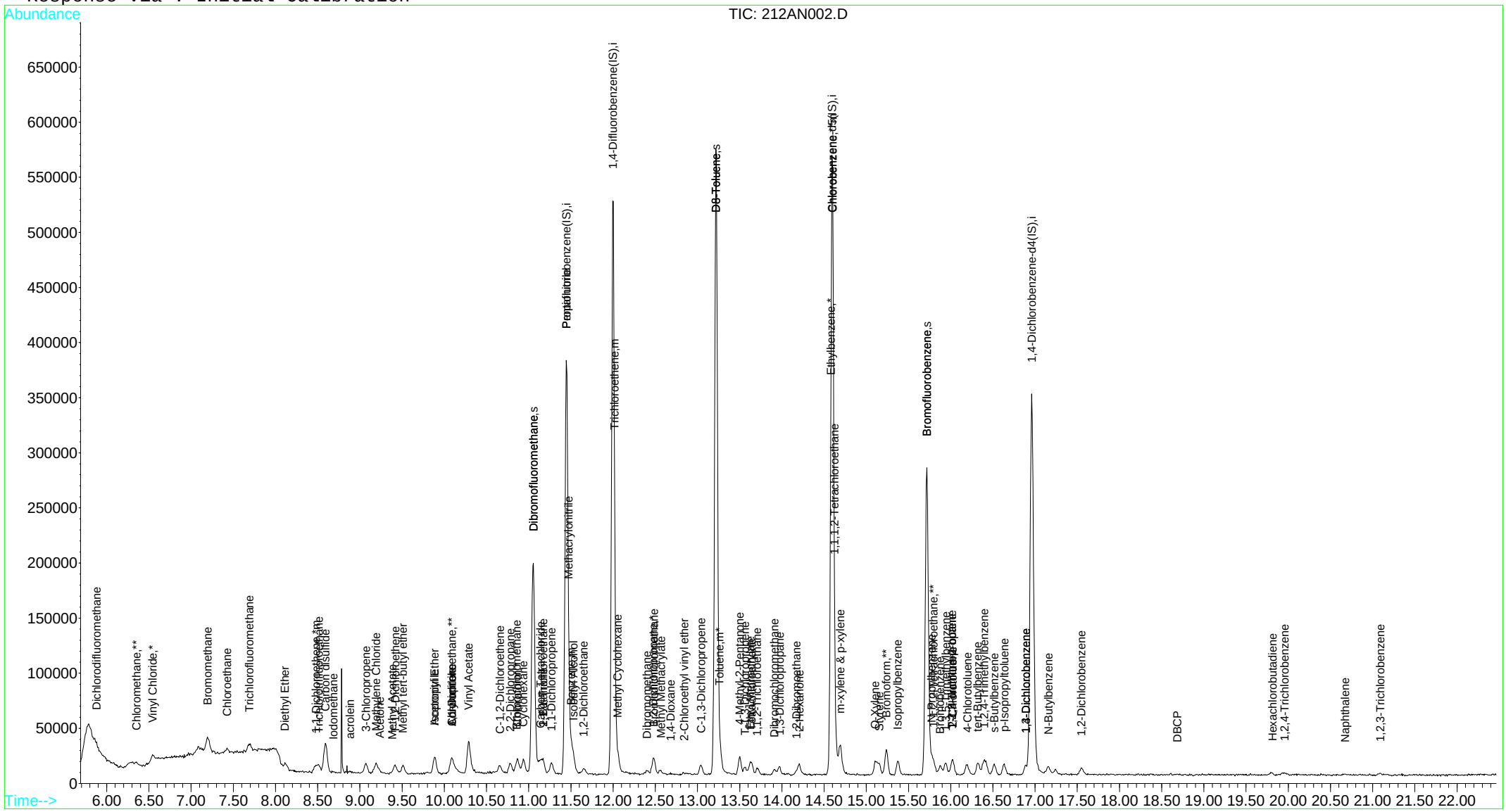
AutoFind: Scans 1420, 1421, 1422; Background Corrected with Scan 1409

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
95	174	50	200	147.0	54357	PASS
96	95	5	9	6.9	3768	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	200	68.0	36965	PASS
175	174	5	9	8.0	2968	PASS
176	174	95	105	95.5	35309	PASS
177	176	5	10	7.0	2456	PASS

Quantitation Report

Data File : C:\HPCHEM\1\DATA\011921\212AN002.D Vial: 2
Acq On : 19 Jan 2021 8:23 am Operator: KKW
Sample : AA64539-CAL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 10:47 2021 Quant Results File: 011921.RES

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 29 08:15:08 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011921\212AN002.D Vial: 2
Acq On : 19 Jan 2021 8:23 am Operator: KKW
Sample : AA64539-CAL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 10:47 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 09:09:11 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.44	168	274242	50.00	ug/kg	-0.02
38) 1,4-Difluorobenzene(IS)	12.00	114	530522	50.00	ug/kg	-0.02
56) Chlorobenzene-d5(IS)	14.59	82	220188	50.00	ug/kg	-0.02
79) 1,4-Dichlorobenzene-d4(IS)	16.96	152	135369	50.00	ug/kg	-0.02
System Monitoring Compounds						
30) Dibromofluoromethane	11.06	113	160417	52.64	ug/kg	-0.02
Spiked Amount 50.000	Range 53 - 146		Recovery = 105.28%			
54) D8-Toluene	13.22	98	445659	50.44	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 100.88%			
75) Bromofluorobenzene	15.72	95	149621	44.86	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 89.72%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.88	85	6210	1.55	ug/kg#	75
3) Chloromethane	6.35	50	7024	1.24	ug/kg	94
4) Vinyl Chloride	6.54	62	7578	2.29	ug/kg	73
5) Bromomethane	7.20	96	14398	8.42	ug/kg	95
6) Chloroethane	7.43	64	5374	2.79	ug/kg	82
7) Trichlorofluoromethane	7.69	101	8416	1.92	ug/kg	94
8) Trichlorotrifluoroethane	8.52	101	3876	1.57	ug/kg	92
9) acrolein	8.88	56	1415	5.98	ug/kg#	21
10) Acetone	9.24	43	5028	6.87	ug/kg	83
11) 1,1-Dichloroethene	8.47	96	3271	1.41	ug/kg	89
12) 3-Chloropropene	9.07	76	2671	1.76	ug/kg	99
13) Acetonitrile	9.88	41	4410	18.22	ug/kg	78
14) Iodomethane	8.68	142	1501	0.33	ug/kg#	38
15) Carbon disulfide	8.59	76	56011	6.59	ug/kg	99
16) Methylene Chloride	9.18	84	4776	1.74	ug/kg	79
17) Methyl tert-butyl ether	9.51	73	7292	2.29	ug/kg	76
18) Acrylonitrile	10.08	53	15904	14.96	ug/kg#	34
19) T-1,2-Dichloroethene	9.42	96	4221	1.67	ug/kg	98
20) Isopropyl Ether	9.89	45	20259	1.66	ug/kg#	92
21) C-1,2-Dichloroethene	10.65	96	4137	1.51	ug/kg	92
22) 1,1-Dichloroethane	10.09	63	7934	1.72	ug/kg	90
23) Vinyl Acetate	10.29	43	55698	8.73	ug/kg	96
24) Chloroprene	10.09	88	3241	1.51	ug/kg	92
25) 2-Butanone	11.18	72	1061	5.82	ug/kg#	35
26) Propionitrile	11.45	54	3396	14.58	ug/kg	100
27) 2,2-Dichloropropane	10.79	77	6600	2.15	ug/kg	59
28) Methacrylonitrile	11.48	67	10280	14.74	ug/kg	76
29) Chloroform	10.87	83	8257	1.90	ug/kg	85
31) Dibromofluoromethane	11.06	113	160417	52.64	ug/kg	100
32) Bromochloromethane	10.85	128	2014	1.34	ug/kg#	62
33) 1,1,1-Trichloroethane	11.17	97	6245	1.76	ug/kg	92
34) 1,1-Dichloropropene	11.27	75	5319	1.66	ug/kg	80
35) Diethyl Ether	8.12	59	3437	1.67	ug/kg	94
36) Methyl Acetate	9.38	74	408	1.33	ug/kg#	61
37) Cyclohexane	10.94	56	6388	1.56	ug/kg	99
39) Methyl Cyclohexane	12.06	55	4609	1.48	ug/kg#	84
40) Carbon Tetrachloride	11.13	117	6082	1.51	ug/kg	98
41) 1,2-Dichloroethane	11.66	62	5053	1.69	ug/kg	94
42) Benzene	11.51	78	14027	1.51	ug/kg	93
43) Isobutyl Alcohol	11.54	43	5671	67.18	ug/kg#	1
44) Trichloroethene	12.02	130	4274	1.45	ug/kg#	1
45) 1,2-Dichloropropane	12.48	63	4584	1.64	ug/kg	83
46) Methyl Methacrylate	12.56	100	644	1.10	ug/kg#	53
47) 1,4-Dioxane	12.69	88	220	15.51	ug/kg	89
48) Bromodichloromethane	12.49	83	5202	1.58	ug/kg	95
49) Dibromomethane	12.40	93	2122	1.37	ug/kg#	80
50) 4-Methyl-2-Pentanone	13.50	100	2243	7.31	ug/kg	91
51) 2-Chloroethyl vinyl ether	12.84	63	220	26.48	ug/kg#	59
52) 2-Hexanone	14.21	43	11906	7.57	ug/kg#	85

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011921\212AN002.D Vial: 2
Acq On : 19 Jan 2021 8:23 am Operator: KKW
Sample : AA64539-CAL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 10:47 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 09:09:11 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.03	75	5600	1.37	ug/kg	64
55) D8-Toluene	13.22	98	445659	50.44	ug/kg	93
57) Toluene	13.27	92	8503	1.42	ug/kg	97
58) Ethyl Methacrylate	13.62	69	3430	1.25	ug/kg#	65
59) T-1,3-Dichloropropene	13.56	75	4438	1.37	ug/kg	77
60) 1,1,2-Trichloroethane	13.71	97	2145	1.09	ug/kg	90
61) 1,3-Dichloropropane	13.97	76	4777	1.27	ug/kg	83
62) Tetrachloroethene	13.64	164	2115	1.06	ug/kg	89
63) Dibromochloromethane	13.91	129	3340	1.14	ug/kg#	88
64) 1,2-Dibromoethane	14.16	107	2309	1.02	ug/kg#	88
65) Chlorobenzene	14.61	112	9328	1.38	ug/kg#	59
66) 1,1,1,2-Tetrachloroethane	14.63	131	3525	1.29	ug/kg#	1
67) Ethylbenzene	14.57	106	4585	1.33	ug/kg	91
68) m-xylene & p-xylene	14.69	106	10267	2.51	ug/kg	99
69) O-Xylene	15.11	106	4532	1.10	ug/kg	76
70) Bromoform	15.24	173	1427	1.05	ug/kg	89
71) Styrene	15.15	104	8494	1.18	ug/kg	92
72) Isopropylbenzene	15.38	105	12673	1.25	ug/kg	95
73) 1,2,3-Trichloropropane	16.01	75	2786	1.21	ug/kg	86
74) 1,1,2,2-Tetrachloroethane	15.80	83	2212	1.06	ug/kg	94
76) Bromofluorobenzene	15.72	95	149621	44.86	ug/kg#	76
77) T-1,4-dichloro-2-butene	16.01	53	684	1.16	ug/kg#	84
78) N-Propylbenzene	15.78	91	14456	1.30	ug/kg	94
80) Bromobenzene	15.87	156	2562	1.29	ug/kg	87
81) 1,3,5-Trimethylbenzene	15.94	105	9168	1.50	ug/kg	92
82) 2-Chlorotoluene	16.03	91	9005	1.67	ug/kg	87
83) 4-Chlorotoluene	16.19	91	9022	1.61	ug/kg	90
84) 1,2,4-Trimethylbenzene	16.39	105	9026	1.47	ug/kg	97
85) s-Butylbenzene	16.52	105	10829	1.46	ug/kg	97
86) tert-Butylbenzene	16.32	119	8109	1.44	ug/kg	91
87) p-Isopropyltoluene	16.64	119	9139	1.39	ug/kg	93
88) 1,3-Dichlorobenzene	16.89	146	5088	1.42	ug/kg	97
89) 1,4-Dichlorobenzene	16.89	146	5088	1.39	ug/kg	97
90) 1,2-Dichlorobenzene	17.55	146	3967	1.24	ug/kg	95
91) N-Butylbenzene	17.16	91	6558	1.28	ug/kg	97
92) DBCP	18.68	75	62	0.31	ug/kg	72
93) Naphthalene	20.68	128	1225	0.61	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.96	180	1233	0.92	ug/kg	89
95) Hexachlorobutadiene	19.81	225	708	1.00	ug/kg#	63
96) 1,2,3-Trichlorobenzene	21.09	180	721	0.76	ug/kg	68

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011921\212AN003.D Vial: 3
Acq On : 19 Jan 2021 8:52 am Operator: KKW
Sample : AA64539-CAL2 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 12:38 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 09:09:11 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.44	168	267255	50.00	ug/kg	-0.02
38) 1,4-Difluorobenzene(IS)	12.00	114	516243	50.00	ug/kg	-0.02
56) Chlorobenzene-d5(IS)	14.59	82	215044	50.00	ug/kg	-0.02
79) 1,4-Dichlorobenzene-d4(IS)	16.96	152	132912	50.00	ug/kg	-0.02
System Monitoring Compounds						
30) Dibromofluoromethane	11.05	113	172575	58.11	ug/kg	-0.03
Spiked Amount 50.000	Range 53 - 146		Recovery = 116.22%			
54) D8-Toluene	13.22	98	481299	55.98	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 111.96%			
75) Bromofluorobenzene	15.71	95	161119	49.47	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 98.94%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.88	85	11564	2.95	ug/kg	90
3) Chloromethane	6.35	50	13482	2.45	ug/kg	95
4) Vinyl Chloride	6.54	62	12694	3.94	ug/kg#	44
5) Bromomethane	7.19	96	20377	12.22	ug/kg	97
6) Chloroethane	7.43	64	10628	5.67	ug/kg	93
7) Trichlorofluoromethane	7.69	101	16551	3.88	ug/kg	96
8) Trichlorotrifluoroethane	8.51	101	6767	2.81	ug/kg	90
9) acrolein	8.88	56	2473	10.72	ug/kg#	60
10) Acetone	9.23	43	6762	9.48	ug/kg	89
11) 1,1-Dichloroethene	8.47	96	5713	2.53	ug/kg	91
12) 3-Chloropropene	9.07	76	3437	2.32	ug/kg	95
13) Acetonitrile	9.79	41	4148	17.59	ug/kg	70
14) Iodomethane	8.70	142	3435	0.77	ug/kg	84
15) Carbon disulfide	8.58	76	73444	8.87	ug/kg	97
16) Methylene Chloride	9.18	84	7951	2.97	ug/kg	87
17) Methyl tert-butyl ether	9.50	73	12783	4.12	ug/kg	87
18) Acrylonitrile	10.09	53	23275	22.47	ug/kg#	39
19) T-1,2-Dichloroethene	9.41	96	6358	2.59	ug/kg	89
20) Isopropyl Ether	9.88	45	34328	2.89	ug/kg	95
21) C-1,2-Dichloroethene	10.65	96	6810	2.54	ug/kg	92
22) 1,1-Dichloroethane	10.09	63	13582	3.03	ug/kg	93
23) Vinyl Acetate	10.29	43	77384	12.44	ug/kg	96
24) Chloroprene	10.08	88	4379	2.09	ug/kg	94
25) 2-Butanone	11.16	72	1486	8.36	ug/kg#	40
26) Propionitrile	11.44	54	4285	18.88	ug/kg	100
27) 2,2-Dichloropropane	10.78	77	10172	3.40	ug/kg	55
28) Methacrylonitrile	11.47	67	15191	22.35	ug/kg	80
29) Chloroform	10.87	83	12952	3.06	ug/kg	90
31) Dibromofluoromethane	11.05	113	172575	58.11	ug/kg	100
32) Bromochloromethane	10.85	128	3568	2.44	ug/kg	81
33) 1,1,1-Trichloroethane	11.17	97	10488	3.03	ug/kg	92
34) 1,1-Dichloropropene	11.26	75	8853	2.83	ug/kg	96
35) Diethyl Ether	8.12	59	5388	2.69	ug/kg	91
36) Methyl Acetate	9.38	74	614	2.06	ug/kg#	11
37) Cyclohexane	10.93	56	10318	2.58	ug/kg	97
39) Methyl Cyclohexane	12.06	55	8619	2.85	ug/kg#	80
40) Carbon Tetrachloride	11.13	117	10282	2.63	ug/kg	97
41) 1,2-Dichloroethane	11.65	62	8598	2.95	ug/kg	92
42) Benzene	11.51	78	24734	2.73	ug/kg	86
43) Isobutyl Alcohol	11.53	43	7896m	96.12	ug/kg	
44) Trichloroethene	12.02	130	6381	2.22	ug/kg#	1
45) 1,2-Dichloropropane	12.48	63	7033	2.59	ug/kg	80
46) Methyl Methacrylate	12.56	100	411	0.72	ug/kg#	1
47) 1,4-Dioxane	12.67	88	250	18.11	ug/kg#	51
48) Bromodichloromethane	12.49	83	8828	2.76	ug/kg	99
49) Dibromomethane	12.41	93	3569	2.37	ug/kg	90
50) 4-Methyl-2-Pentanone	13.49	100	2989	10.01	ug/kg	89
51) 2-Chloroethyl vinyl ether	12.82	63	148	18.31	ug/kg#	20
52) 2-Hexanone	14.19	43	15744	10.29	ug/kg#	87

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011921\212AN003.D Vial: 3
Acq On : 19 Jan 2021 8:52 am Operator: KKW
Sample : AA64539-CAL2 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 12:38 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 09:09:11 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

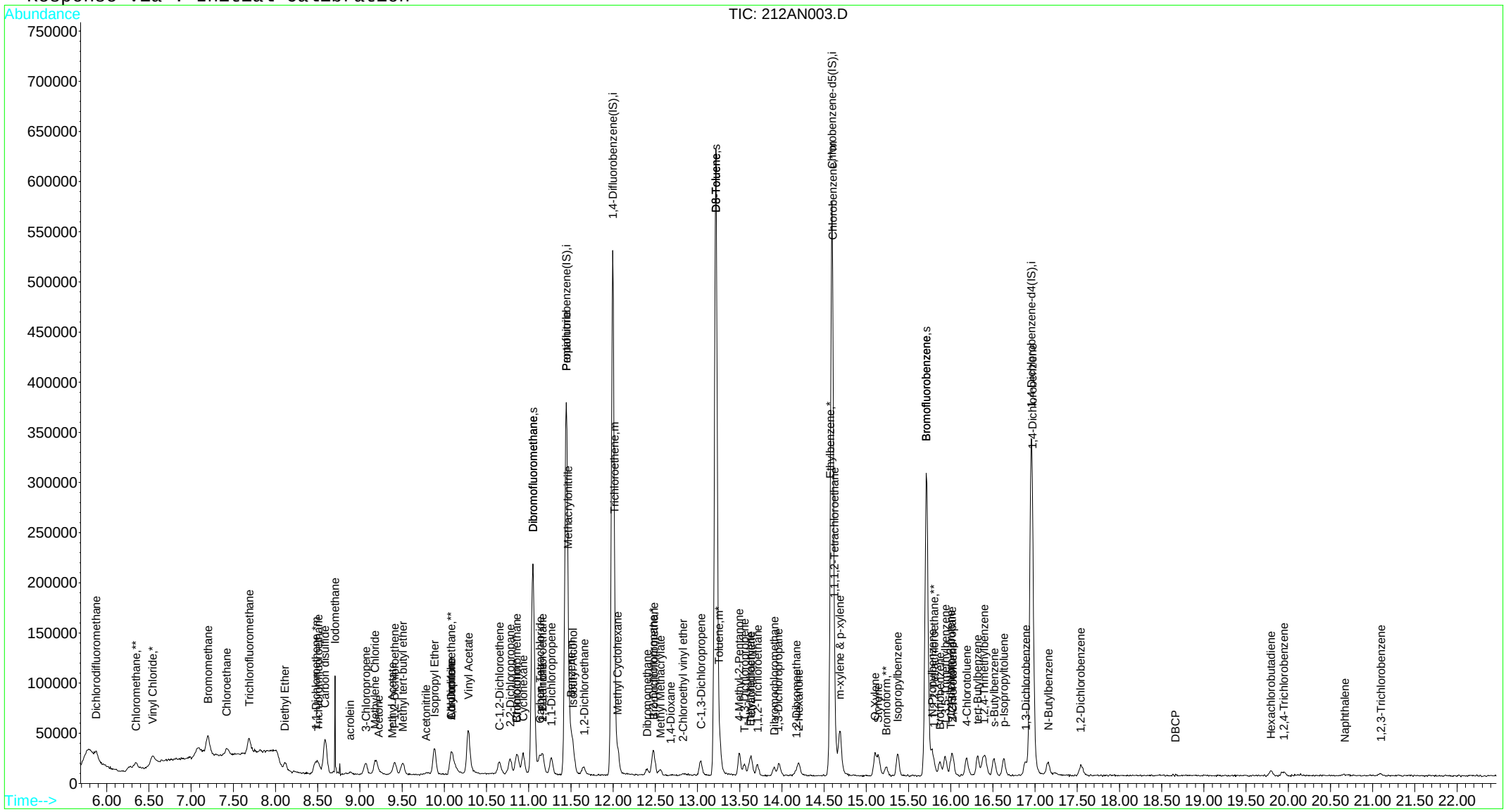
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.03	75	9492	2.39	ug/kg	77
55) D8-Toluene	13.22	98	481299	55.98	ug/kg	93
57) Toluene	13.26	92	13800	2.35	ug/kg	97
58) Ethyl Methacrylate	13.62	69	4523	1.69	ug/kg	73
59) T-1,3-Dichloropropene	13.56	75	7376	2.34	ug/kg	86
60) 1,1,2-Trichloroethane	13.70	97	3949	2.05	ug/kg	96
61) 1,3-Dichloropropane	13.97	76	7890	2.15	ug/kg	79
62) Tetrachloroethene	13.63	164	3925	2.01	ug/kg	96
63) Dibromochloromethane	13.91	129	5860	2.05	ug/kg#	92
64) 1,2-Dibromoethane	14.16	107	4261	1.93	ug/kg#	99
65) Chlorobenzene	14.61	112	15502	2.35	ug/kg#	73
66) 1,1,1,2-Tetrachloroethane	14.63	131	5691	2.13	ug/kg#	1
67) Ethylbenzene	14.57	106	7634	2.26	ug/kg	92
68) m-xylene & p-xylene	14.69	106	17710	4.43	ug/kg	94
69) O-Xylene	15.10	106	9038	2.25	ug/kg	100
70) Bromoform	15.23	173	2323	1.76	ug/kg	96
71) Styrene	15.15	104	14441	2.06	ug/kg	89
72) Isopropylbenzene	15.37	105	20859	2.11	ug/kg	97
73) 1,2,3-Trichloropropane	16.01	75	4893	2.18	ug/kg	85
74) 1,1,2,2-Tetrachloroethane	15.81	83	3727	1.83	ug/kg#	32
76) Bromofluorobenzene	15.71	95	161119	49.47	ug/kg#	75
77) T-1,4-dichloro-2-butene	15.99	53	1045	1.81	ug/kg	87
78) N-Propylbenzene	15.78	91	24430	2.24	ug/kg	93
80) Bromobenzene	15.87	156	4509	2.31	ug/kg	85
81) 1,3,5-Trimethylbenzene	15.94	105	15827	2.63	ug/kg	96
82) 2-Chlorotoluene	16.03	91	14707	2.78	ug/kg	94
83) 4-Chlorotoluene	16.19	91	15053	2.73	ug/kg	96
84) 1,2,4-Trimethylbenzene	16.39	105	15138	2.51	ug/kg	99
85) s-Butylbenzene	16.52	105	19115	2.63	ug/kg	96
86) tert-Butylbenzene	16.32	119	13882	2.50	ug/kg	93
87) p-Isopropyltoluene	16.64	119	15622	2.41	ug/kg	94
88) 1,3-Dichlorobenzene	16.89	146	7923	2.25	ug/kg	93
89) 1,4-Dichlorobenzene	16.97	146	8745	2.44	ug/kg	81
90) 1,2-Dichlorobenzene	17.55	146	6737	2.15	ug/kg	98
91) N-Butylbenzene	17.15	91	11866	2.36	ug/kg	97
92) DBCP	18.66	75	266	1.34	ug/kg#	55
93) Naphthalene	20.68	128	2731	1.38	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.94	180	2358	1.80	ug/kg#	22
95) Hexachlorobutadiene	19.79	225	1318	1.89	ug/kg#	34
96) 1,2,3-Trichlorobenzene	21.10	180	1500	1.61	ug/kg	89

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\011921\212AN003.D Vial: 3
Acq On : 19 Jan 2021 8:52 am Operator: KKW
Sample : AA64539-CAL2 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 12:38 2021 Quant Results File: 011921.RES

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 29 08:15:08 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011921\212AN004.D Vial: 4
Acq On : 19 Jan 2021 9:20 am Operator: KKW
Sample : AA64539-CAL3 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 9:43 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 09:09:11 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.45	168	259637	50.00	ug/kg	-0.02
38) 1,4-Difluorobenzene(IS)	12.00	114	509917	50.00	ug/kg	-0.02
56) Chlorobenzene-d5(IS)	14.60	82	220093	50.00	ug/kg	-0.01
79) 1,4-Dichlorobenzene-d4(IS)	16.95	152	135848	50.00	ug/kg	-0.02
System Monitoring Compounds						
30) Dibromofluoromethane	11.05	113	194177	67.30	ug/kg	-0.03
Spiked Amount 50.000	Range 53 - 146		Recovery = 134.60%			
54) D8-Toluene	13.22	98	554071	65.24	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 130.48%			
75) Bromofluorobenzene	15.71	95	190494	57.14	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 114.28%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.87	85	28552	7.51	ug/kg	94
3) Chloromethane	6.34	50	30593	5.72	ug/kg	96
4) Vinyl Chloride	6.54	62	28640	9.16	ug/kg	97
5) Bromomethane	7.19	96	35865	22.15	ug/kg	98
6) Chloroethane	7.42	64	19315	10.60	ug/kg	99
7) Trichlorofluoromethane	7.69	101	41596	10.03	ug/kg	97
8) Trichlorotrifluoroethane	8.51	101	16376	7.01	ug/kg	90
9) acrolein	8.88	56	5156	23.01	ug/kg	93
10) Acetone	9.23	43	16913	24.40	ug/kg	94
11) 1,1-Dichloroethene	8.47	96	13946	6.35	ug/kg	88
12) 3-Chloropropene	9.06	76	7218	5.02	ug/kg	55
13) Acetonitrile	9.79	41	10964	47.85	ug/kg	97
14) Iodomethane	8.69	142	40925	9.50	ug/kg	89
15) Carbon disulfide	8.59	76	191894	23.86	ug/kg	99
16) Methylene Chloride	9.19	84	17133	6.58	ug/kg	87
17) Methyl tert-butyl ether	9.50	73	31214	10.36	ug/kg	98
18) Acrylonitrile	10.08	53	60490	60.11	ug/kg	98
19) T-1,2-Dichloroethene	9.41	96	16008	6.71	ug/kg	91
20) Isopropyl Ether	9.88	45	84165	7.29	ug/kg	94
21) C-1,2-Dichloroethene	10.65	96	17146	6.59	ug/kg	92
22) 1,1-Dichloroethane	10.09	63	32191	7.38	ug/kg	95
23) Vinyl Acetate	10.28	43	214296	35.47	ug/kg	97
24) Chloroprene	10.08	88	11847	5.81	ug/kg	99
25) 2-Butanone	11.16	72	4672	27.05	ug/kg	90
26) Propionitrile	11.45	54	12278	55.69	ug/kg	100
27) 2,2-Dichloropropane	10.77	77	26355	9.07	ug/kg	99
28) Methacrylonitrile	11.47	67	39047	59.14	ug/kg	78
29) Chloroform	10.87	83	31611	7.69	ug/kg	95
31) Dibromofluoromethane	11.05	113	194177	67.30	ug/kg	100
32) Bromochloromethane	10.85	128	8339	5.88	ug/kg#	74
33) 1,1,1-Trichloroethane	11.17	97	26298	7.81	ug/kg	96
34) 1,1-Dichloropropene	11.26	75	21778	7.17	ug/kg	97
35) Diethyl Ether	8.11	59	13170	6.77	ug/kg	94
36) Methyl Acetate	9.36	74	1827	6.30	ug/kg	83
37) Cyclohexane	10.94	56	26537	6.83	ug/kg	97
39) Methyl Cyclohexane	12.06	55	20658	6.92	ug/kg	84
40) Carbon Tetrachloride	11.13	117	27073	7.01	ug/kg	98
41) 1,2-Dichloroethane	11.66	62	20905	7.25	ug/kg	96
42) Benzene	11.51	78	60532	6.76	ug/kg	95
43) Isobutyl Alcohol	11.53	43	20174	248.64	ug/kg#	1
44) Trichloroethene	12.02	130	17248	6.09	ug/kg#	64
45) 1,2-Dichloropropane	12.47	63	17056	6.36	ug/kg	89
46) Methyl Methacrylate	12.55	100	2604	4.63	ug/kg	80
47) 1,4-Dioxane	12.70	88	872	63.96	ug/kg#	10
48) Bromodichloromethane	12.49	83	21103	6.69	ug/kg	99
49) Dibromomethane	12.41	93	9116	6.14	ug/kg	92
50) 4-Methyl-2-Pentanone	13.49	100	6761	22.92	ug/kg	70
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	14.19	43	41325	27.33	ug/kg	90

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\011921\212AN004.D Vial: 4
Acq On : 19 Jan 2021 9:20 am Operator: KKW
Sample : AA64539-CAL3 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 9:43 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 09:09:11 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.03	75	23479	5.99	ug/kg	85
55) D8-Toluene	13.22	98	554071	65.24	ug/kg	92
57) Toluene	13.26	92	35797	5.97	ug/kg	98
58) Ethyl Methacrylate	13.61	69	12707	4.63	ug/kg	81
59) T-1,3-Dichloropropene	13.56	75	18577	5.76	ug/kg	93
60) 1,1,2-Trichloroethane	13.71	97	10192	5.18	ug/kg	96
61) 1,3-Dichloropropane	13.97	76	20598	5.47	ug/kg	95
62) Tetrachloroethene	13.63	164	9951	4.98	ug/kg	91
63) Dibromochloromethane	13.91	129	13895	4.75	ug/kg#	98
64) 1,2-Dibromoethane	14.16	107	10930	4.84	ug/kg#	98
65) Chlorobenzene	14.61	112	39067	5.79	ug/kg	88
66) 1,1,1,2-Tetrachloroethane	14.63	131	15454	5.66	ug/kg#	1
67) Ethylbenzene	14.57	106	19251	5.58	ug/kg	95
68) m-xylene & p-xylene	14.69	106	45867	11.22	ug/kg	94
69) O-Xylene	15.10	106	21642	5.26	ug/kg	92
70) Bromoform	15.24	173	5732	4.24	ug/kg#	95
71) Styrene	15.15	104	38102	5.31	ug/kg	92
72) Isopropylbenzene	15.37	105	54091	5.34	ug/kg	97
73) 1,2,3-Trichloropropane	16.01	75	11324	4.94	ug/kg	92
74) 1,1,2,2-Tetrachloroethane	15.81	83	9673	4.65	ug/kg	96
76) Bromofluorobenzene	15.71	95	190494	57.14	ug/kg#	75
77) T-1,4-dichloro-2-butene	15.99	53	2843	4.82	ug/kg#	83
78) N-Propylbenzene	15.77	91	59726	5.36	ug/kg	96
80) Bromobenzene	15.87	156	11542	5.80	ug/kg	89
81) 1,3,5-Trimethylbenzene	15.94	105	41148	6.69	ug/kg	95
82) 2-Chlorotoluene	16.02	91	38156	7.04	ug/kg	94
83) 4-Chlorotoluene	16.19	91	37616	6.67	ug/kg	96
84) 1,2,4-Trimethylbenzene	16.38	105	39617	6.42	ug/kg	100
85) s-Butylbenzene	16.51	105	49512	6.66	ug/kg	96
86) tert-Butylbenzene	16.32	119	37815	6.67	ug/kg	94
87) p-Isopropyltoluene	16.63	119	42072	6.36	ug/kg	96
88) 1,3-Dichlorobenzene	16.88	146	20563	5.72	ug/kg	95
89) 1,4-Dichlorobenzene	16.98	146	21664	5.91	ug/kg	90
90) 1,2-Dichlorobenzene	17.55	146	17562	5.49	ug/kg	97
91) N-Butylbenzene	17.15	91	32327	6.29	ug/kg	95
92) DBCP	18.65	75	1402	6.90	ug/kg#	47
93) Naphthalene	20.65	128	6980	3.45	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.95	180	6096	4.54	ug/kg	91
95) Hexachlorobutadiene	19.80	225	4126	5.80	ug/kg	96
96) 1,2,3-Trichlorobenzene	21.08	180	4082	4.29	ug/kg	93

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011921\212AN006.D Vial: 6
Acq On : 19 Jan 2021 10:17 am Operator: KKW
Sample : AA64539-CAL4 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 10:46 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 09:09:11 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.45	168	253281	50.00	ug/kg	-0.02
38) 1,4-Difluorobenzene(IS)	11.99	114	506895	50.00	ug/kg	-0.02
56) Chlorobenzene-d5(IS)	14.59	82	216205	50.00	ug/kg	-0.02
79) 1,4-Dichlorobenzene-d4(IS)	16.96	152	135032	50.00	ug/kg	-0.02
System Monitoring Compounds						
30) Dibromofluoromethane	11.05	113	152235	54.09	ug/kg	-0.03
Spiked Amount 50.000	Range 53 - 146		Recovery = 108.18%			
54) D8-Toluene	13.22	98	425876	50.44	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 100.88%			
75) Bromofluorobenzene	15.71	95	142861	43.63	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 87.26%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.89	85	50194	13.53	ug/kg	94
3) Chloromethane	6.35	50	58249	11.16	ug/kg	100
4) Vinyl Chloride	6.54	62	47529	15.58	ug/kg	99
5) Bromomethane	7.21	96	38123	24.13	ug/kg	96
6) Chloroethane	7.42	64	32408	18.24	ug/kg	96
7) Trichlorofluoromethane	7.69	101	72121	17.82	ug/kg	99
8) Trichlorotrifluoroethane	8.51	101	25750	11.29	ug/kg	98
9) acrolein	8.88	56	12318	56.36	ug/kg	86
10) Acetone	9.23	43	28324	41.90	ug/kg	90
11) 1,1-Dichloroethene	8.47	96	22393	10.45	ug/kg	91
12) 3-Chloropropene	9.06	76	13861	9.88	ug/kg	84
13) Acetonitrile	9.78	41	19868	88.89	ug/kg	88
14) Iodomethane	8.70	142	118071	28.11	ug/kg	91
15) Carbon disulfide	8.59	76	327326	41.73	ug/kg	99
16) Methylene Chloride	9.18	84	28699	11.30	ug/kg	85
17) Methyl tert-butyl ether	9.51	73	49179	16.73	ug/kg	93
18) Acrylonitrile	10.09	53	110813	112.87	ug/kg	99
19) T-1,2-Dichloroethene	9.42	96	25247	10.85	ug/kg	93
20) Isopropyl Ether	9.88	45	131500	11.68	ug/kg	95
21) C-1,2-Dichloroethene	10.66	96	28604	11.27	ug/kg	97
22) 1,1-Dichloroethane	10.09	63	51290	12.06	ug/kg	98
23) Vinyl Acetate	10.28	43	380308	64.53	ug/kg	96
24) Chloroprene	10.08	88	21025	10.58	ug/kg	95
25) 2-Butanone	11.15	72	7359	43.67	ug/kg	89
26) Propionitrile	11.44	54	20875	97.06	ug/kg	100
27) 2,2-Dichloropropane	10.78	77	40694	14.36	ug/kg	95
28) Methacrylonitrile	11.47	67	66437	103.16	ug/kg	77
29) Chloroform	10.87	83	49515	12.34	ug/kg	95
31) Dibromofluoromethane	11.05	113	152235	54.09	ug/kg	100
32) Bromochloromethane	10.85	128	13538	9.79	ug/kg#	74
33) 1,1,1-Trichloroethane	11.17	97	42232	12.86	ug/kg	96
34) 1,1-Dichloropropene	11.27	75	35500	11.98	ug/kg	96
35) Diethyl Ether	8.12	59	20913	11.01	ug/kg	99
36) Methyl Acetate	9.36	74	2526	8.93	ug/kg#	71
37) Cyclohexane	10.93	56	44165	11.65	ug/kg	95
39) Methyl Cyclohexane	12.06	55	36498	12.30	ug/kg#	82
40) Carbon Tetrachloride	11.13	117	43274	11.28	ug/kg	99
41) 1,2-Dichloroethane	11.65	62	33893	11.83	ug/kg	97
42) Benzene	11.51	78	99579	11.19	ug/kg	96
43) Isobutyl Alcohol	11.53	43	34037	421.99	ug/kg#	1
44) Trichloroethene	12.02	130	28345	10.06	ug/kg#	78
45) 1,2-Dichloropropane	12.47	63	27311	10.25	ug/kg	88
46) Methyl Methacrylate	12.56	100	4415	7.89	ug/kg	75
47) 1,4-Dioxane	12.68	88	1286	94.89	ug/kg	92
48) Bromodichloromethane	12.49	83	34928	11.14	ug/kg	96
49) Dibromomethane	12.40	93	14802	10.03	ug/kg	92
50) 4-Methyl-2-Pentanone	13.49	100	10634	36.26	ug/kg	61
51) 2-Chloroethyl vinyl ether	12.81	63	731	92.09	ug/kg#	17
52) 2-Hexanone	14.19	43	67615	44.99	ug/kg	92

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\011921\212AN006.D Vial: 6
Acq On : 19 Jan 2021 10:17 am Operator: KKW
Sample : AA64539-CAL4 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 10:46 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 09:09:11 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

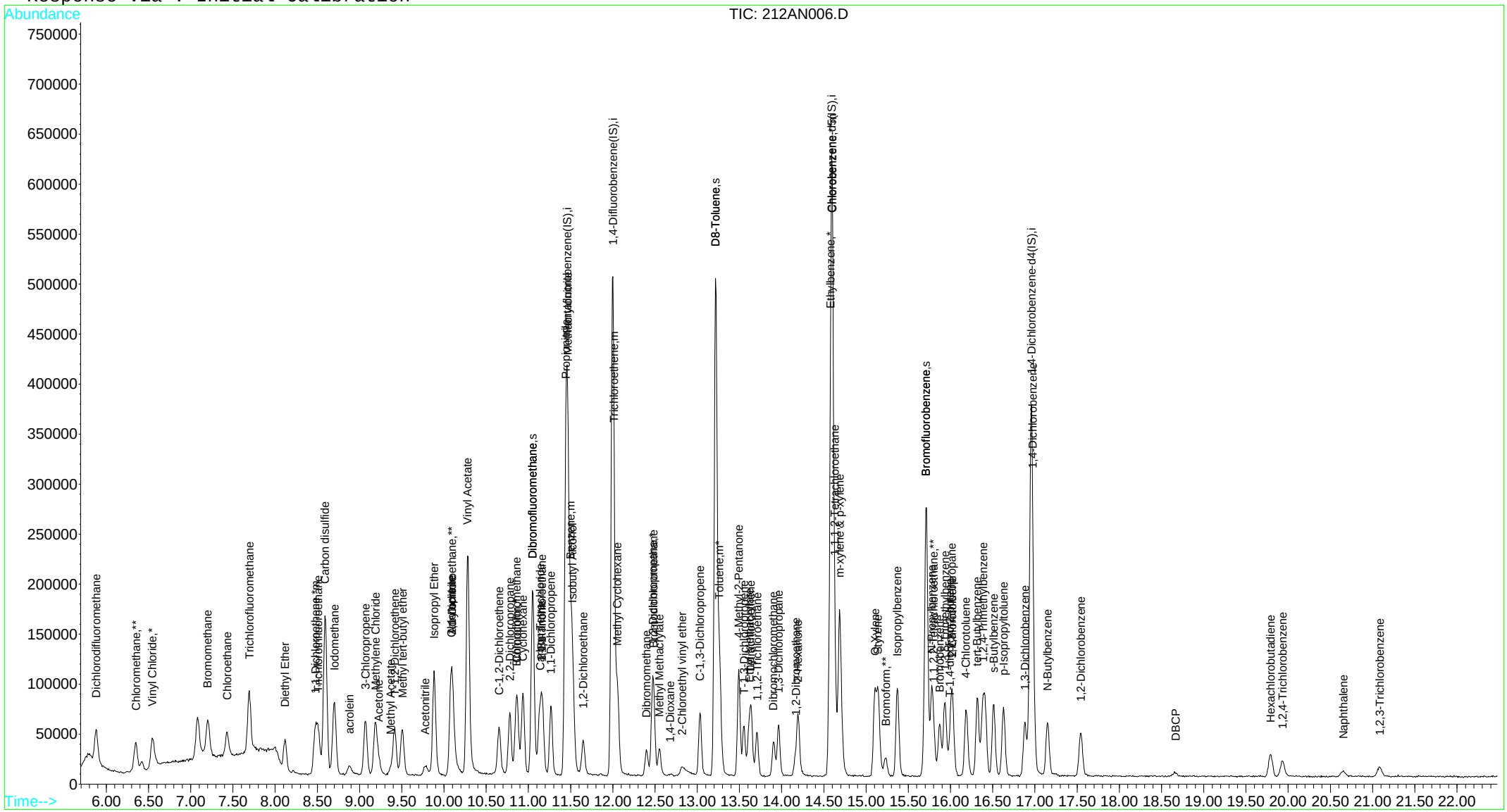
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.03	75	40265	10.33	ug/kg	87
55) D8-Toluene	13.22	98	425876	50.44	ug/kg	94
57) Toluene	13.27	92	56877	9.65	ug/kg	97
58) Ethyl Methacrylate	13.61	69	22159	8.22	ug/kg	82
59) T-1,3-Dichloropropene	13.55	75	30913	9.75	ug/kg	90
60) 1,1,2-Trichloroethane	13.71	97	16837	8.71	ug/kg	98
61) 1,3-Dichloropropane	13.96	76	31695	8.57	ug/kg	93
62) Tetrachloroethene	13.64	164	16060	8.18	ug/kg	95
63) Dibromochloromethane	13.91	129	23480	8.17	ug/kg#	96
64) 1,2-Dibromoethane	14.16	107	18059	8.14	ug/kg#	99
65) Chlorobenzene	14.61	112	63515	9.59	ug/kg	94
66) 1,1,1,2-Tetrachloroethane	14.64	131	25104	9.35	ug/kg#	1
67) Ethylbenzene	14.57	106	30550	9.01	ug/kg	93
68) m-xylene & p-xylene	14.69	106	75469	18.79	ug/kg	97
69) O-Xylene	15.11	106	35277	8.73	ug/kg	91
70) Bromoform	15.24	173	9740	7.33	ug/kg	96
71) Styrene	15.14	104	60125	8.53	ug/kg	97
72) Isopropylbenzene	15.37	105	89636	9.00	ug/kg	97
73) 1,2,3-Trichloropropane	16.01	75	19290	8.56	ug/kg	100
74) 1,1,2,2-Tetrachloroethane	15.81	83	16229	7.95	ug/kg	97
76) Bromofluorobenzene	15.71	95	142861	43.63	ug/kg#	76
77) T-1,4-dichloro-2-butene	15.98	53	5128	8.85	ug/kg#	76
78) N-Propylbenzene	15.78	91	99790	9.12	ug/kg	95
80) Bromobenzene	15.87	156	18450	9.32	ug/kg	84
81) 1,3,5-Trimethylbenzene	15.93	105	65240	10.67	ug/kg	97
82) 2-Chlorotoluene	16.02	91	60018	11.15	ug/kg	96
83) 4-Chlorotoluene	16.18	91	61224	10.92	ug/kg	96
84) 1,2,4-Trimethylbenzene	16.39	105	62110	10.12	ug/kg	100
85) s-Butylbenzene	16.51	105	82047	11.10	ug/kg	98
86) tert-Butylbenzene	16.32	119	61434	10.90	ug/kg	96
87) p-Isopropyltoluene	16.63	119	66111	10.06	ug/kg	95
88) 1,3-Dichlorobenzene	16.88	146	32754	9.16	ug/kg	95
89) 1,4-Dichlorobenzene	16.98	146	34665	9.51	ug/kg	94
90) 1,2-Dichlorobenzene	17.54	146	28174	8.86	ug/kg	97
91) N-Butylbenzene	17.15	91	50304	9.85	ug/kg	95
92) DBCP	18.67	75	1853	9.18	ug/kg	67
93) Naphthalene	20.65	128	10947	5.44	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.94	180	9165	6.87	ug/kg	99
95) Hexachlorobutadiene	19.80	225	6623	9.36	ug/kg	99
96) 1,2,3-Trichlorobenzene	21.09	180	5828	6.16	ug/kg	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\011921\212AN006.D Vial: 6
Acq On : 19 Jan 2021 10:17 am Operator: KKW
Sample : AA64539-CAL4 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 10:46 2021 Quant Results File: 011921.RES

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 29 08:15:08 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011921\212AN007.D Vial: 7
Acq On : 19 Jan 2021 10:46 am Operator: KKW
Sample : AA64539-CAL5 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 11:09 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 09:09:11 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.45	168	285339	50.00	ug/kg	-0.02
38) 1,4-Difluorobenzene(IS)	12.00	114	550117	50.00	ug/kg	-0.02
56) Chlorobenzene-d5(IS)	14.59	82	239824	50.00	ug/kg	-0.02
79) 1,4-Dichlorobenzene-d4(IS)	16.95	152	149699	50.00	ug/kg	-0.02
System Monitoring Compounds						
30) Dibromofluoromethane	11.05	113	205896	64.93	ug/kg	-0.03
Spiked Amount 50.000	Range 53 - 146		Recovery = 129.86%			
54) D8-Toluene	13.22	98	587621	64.13	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 128.26%			
75) Bromofluorobenzene	15.71	95	207579	57.15	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 114.30%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.87	85	124919	29.89	ug/kg	97
3) Chloromethane	6.35	50	119212	20.27	ug/kg	99
4) Vinyl Chloride	6.54	62	117431	34.18	ug/kg	100
5) Bromomethane	7.19	96	79597	44.72	ug/kg	99
6) Chloroethane	7.42	64	78732	39.33	ug/kg	99
7) Trichlorofluoromethane	7.69	101	176093	38.63	ug/kg	98
8) Trichlorotrifluoroethane	8.51	101	59537	23.18	ug/kg	93
9) acrolein	8.88	56	23596	95.83	ug/kg	96
10) Acetone	9.22	43	62627	82.23	ug/kg	92
11) 1,1-Dichloroethene	8.47	96	51765	21.45	ug/kg	90
12) 3-Chloropropene	9.07	76	29343	18.57	ug/kg	78
13) Acetonitrile	9.77	41	45484	180.63	ug/kg	93
14) Iodomethane	8.70	142	302241	63.87	ug/kg	90
15) Carbon disulfide	8.59	76	719122	81.38	ug/kg	99
16) Methylene Chloride	9.18	84	61257	21.42	ug/kg	89
17) Methyl tert-butyl ether	9.50	73	113943	34.42	ug/kg	93
18) Acrylonitrile	10.09	53	254126	229.77	ug/kg	99
19) T-1,2-Dichloroethene	9.41	96	59334	22.63	ug/kg	93
20) Isopropyl Ether	9.88	45	302927	23.88	ug/kg	95
21) C-1,2-Dichloroethene	10.65	96	65460	22.90	ug/kg	95
22) 1,1-Dichloroethane	10.09	63	118006	24.63	ug/kg	99
23) Vinyl Acetate	10.27	43	867232	130.61	ug/kg	97
24) Chloroprene	10.08	88	48296	21.57	ug/kg	96
25) 2-Butanone	11.15	72	16687	87.90	ug/kg	83
26) Propionitrile	11.43	54	49867	205.82	ug/kg	100
27) 2,2-Dichloropropane	10.78	77	93273	29.21	ug/kg	96
28) Methacrylonitrile	11.47	67	155882	214.85	ug/kg	79
29) Chloroform	10.87	83	114125	25.25	ug/kg	95
31) Dibromofluoromethane	11.05	113	205896	64.93	ug/kg	100
32) Bromochloromethane	10.85	128	31741	20.37	ug/kg	78
33) 1,1,1-Trichloroethane	11.16	97	99289	26.83	ug/kg	97
34) 1,1-Dichloropropene	11.26	75	82575	24.74	ug/kg	96
35) Diethyl Ether	8.11	59	47333	22.13	ug/kg	93
36) Methyl Acetate	9.36	74	5742	18.02	ug/kg#	75
37) Cyclohexane	10.93	56	104456	24.47	ug/kg	96
39) Methyl Cyclohexane	12.05	55	79593	24.72	ug/kg	91
40) Carbon Tetrachloride	11.13	117	103298	24.80	ug/kg	98
41) 1,2-Dichloroethane	11.64	62	77410	24.90	ug/kg	99
42) Benzene	11.50	78	236898	24.52	ug/kg	95
43) Isobutyl Alcohol	11.52	43	75080	857.71	ug/kg#	1
44) Trichloroethene	12.02	130	67316	22.02	ug/kg	90
45) 1,2-Dichloropropane	12.47	63	62897	21.76	ug/kg	90
46) Methyl Methacrylate	12.55	100	11031	18.17	ug/kg	88
47) 1,4-Dioxane	12.68	88	2861	194.51	ug/kg	85
48) Bromodichloromethane	12.48	83	80529	23.66	ug/kg	97
49) Dibromomethane	12.39	93	34607	21.61	ug/kg	90
50) 4-Methyl-2-Pentanone	13.49	100	25196	79.17	ug/kg	63
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	14.19	43	156713	96.08	ug/kg	92

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\011921\212AN007.D Vial: 7
Acq On : 19 Jan 2021 10:46 am Operator: KKW
Sample : AA64539-CAL5 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 11:09 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 09:09:11 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

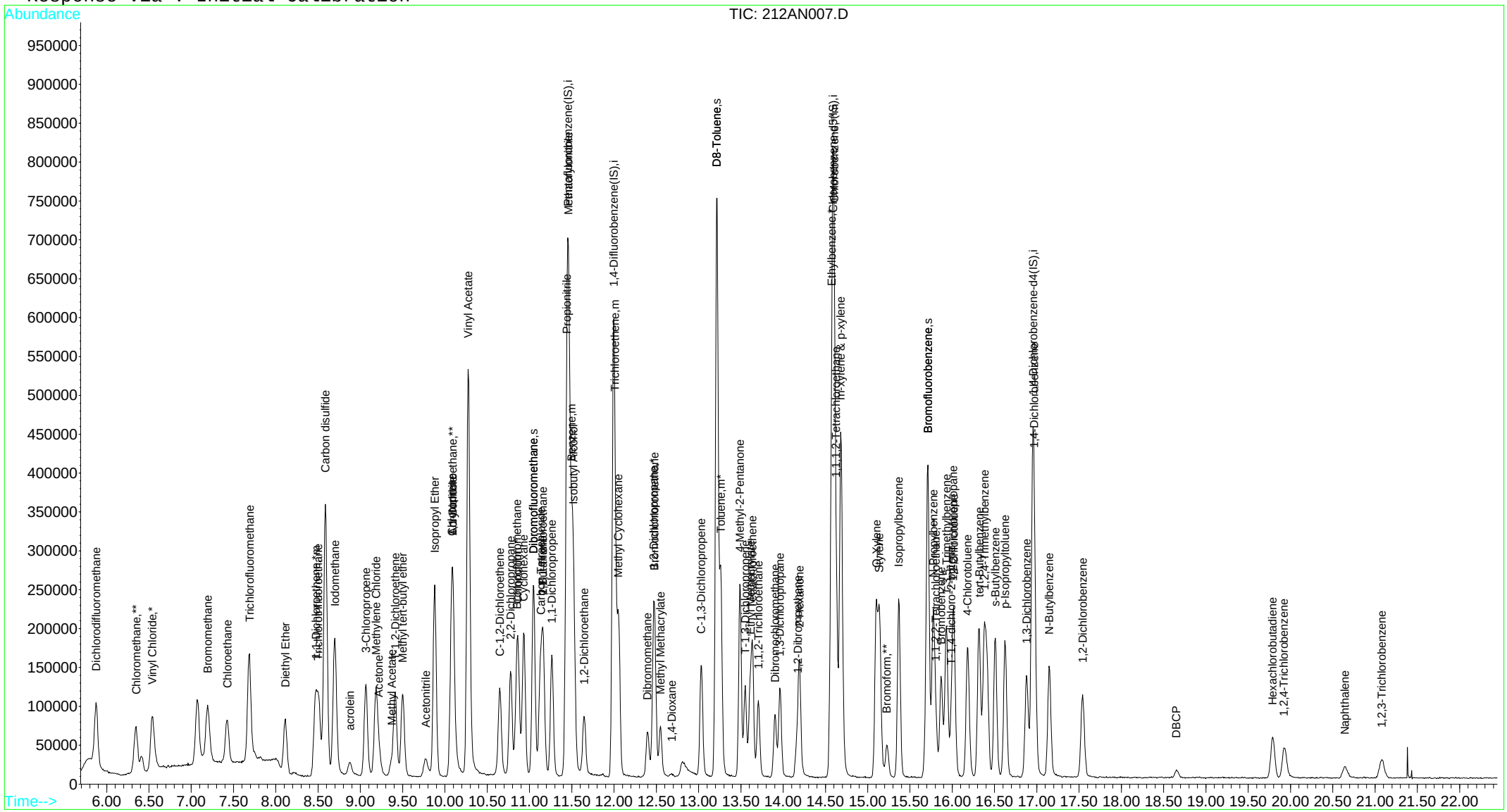
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	13.04	75	91738	21.70 ug/kg	87
55) D8-Toluene	13.22	98	587621	64.13 ug/kg	92
57) Toluene	13.26	92	138201	21.14 ug/kg	99
58) Ethyl Methacrylate	13.61	69	51603	17.26 ug/kg	83
59) T-1,3-Dichloropropene	13.55	75	73811	20.99 ug/kg	93
60) 1,1,2-Trichloroethane	13.71	97	37060	17.29 ug/kg	98
61) 1,3-Dichloropropane	13.96	76	71198	17.36 ug/kg	98
62) Tetrachloroethene	13.64	164	40040	18.39 ug/kg	97
63) Dibromochloromethane	13.90	129	55816	17.51 ug/kg	99
64) 1,2-Dibromoethane	14.17	107	42027	17.08 ug/kg	98
65) Chlorobenzene	14.61	112	154071	20.97 ug/kg	97
66) 1,1,1,2-Tetrachloroethane	14.63	131	59077	19.84 ug/kg#	25
67) Ethylbenzene	14.57	106	75712	20.14 ug/kg	98
68) m-xylene & p-xylene	14.68	106	180809	40.58 ug/kg	97
69) O-Xylene	15.10	106	85940	19.18 ug/kg	94
70) Bromoform	15.22	173	23599	16.02 ug/kg	98
71) Styrene	15.14	104	153066	19.58 ug/kg	97
72) Isopropylbenzene	15.37	105	218669	19.80 ug/kg	98
73) 1,2,3-Trichloropropane	16.00	75	43112	17.24 ug/kg	99
74) 1,1,2,2-Tetrachloroethane	15.81	83	37950	16.75 ug/kg	99
76) Bromofluorobenzene	15.71	95	207579	57.15 ug/kg#	75
77) T-1,4-dichloro-2-butene	15.98	53	11372	17.69 ug/kg#	81
78) N-Propylbenzene	15.78	91	241308	19.87 ug/kg	96
80) Bromobenzene	15.87	156	46575	21.23 ug/kg	88
81) 1,3,5-Trimethylbenzene	15.93	105	161552	23.83 ug/kg	97
82) 2-Chlorotoluene	16.02	91	147316	24.68 ug/kg	96
83) 4-Chlorotoluene	16.18	91	148171	23.85 ug/kg	97
84) 1,2,4-Trimethylbenzene	16.38	105	163709	24.06 ug/kg	99
85) s-Butylbenzene	16.51	105	200719	24.50 ug/kg	96
86) tert-Butylbenzene	16.32	119	147194	23.56 ug/kg	94
87) p-Isopropyltoluene	16.62	119	169355	23.24 ug/kg	96
88) 1,3-Dichlorobenzene	16.88	146	81703	20.62 ug/kg	97
89) 1,4-Dichlorobenzene	16.98	146	84175	20.82 ug/kg	95
90) 1,2-Dichlorobenzene	17.54	146	69217	19.63 ug/kg	97
91) N-Butylbenzene	17.15	91	132180	23.34 ug/kg	97
92) DBCP	18.65	75	3691	16.49 ug/kg	83
93) Naphthalene	20.65	128	28502	12.77 ug/kg	100
94) 1,2,4-Trichlorobenzene	19.93	180	23011	15.57 ug/kg	99
95) Hexachlorobutadiene	19.79	225	15036	19.18 ug/kg	99
96) 1,2,3-Trichlorobenzene	21.09	180	15225	14.52 ug/kg	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\011921\212AN007.D Vial: 7
Acq On : 19 Jan 2021 10:46 am Operator: KKW
Sample : AA64539-CAL5 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 11:09 2021 Quant Results File: 011921.RES

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 29 08:15:08 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011921\212AN008.D Vial: 8
Acq On : 19 Jan 2021 11:15 am Operator: KKW
Sample : AA64539-CAL6 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 11:37 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 09:09:11 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.45	168	320158	50.00	ug/kg	-0.02
38) 1,4-Difluorobenzene(IS)	12.00	114	592335	50.00	ug/kg	-0.02
56) Chlorobenzene-d5(IS)	14.59	82	268151	50.00	ug/kg	-0.02
79) 1,4-Dichlorobenzene-d4(IS)	16.95	152	170474	50.00	ug/kg	-0.02
System Monitoring Compounds						
30) Dibromofluoromethane	11.05	113	169958	47.77	ug/kg	-0.03
Spiked Amount 50.000	Range 53 - 146		Recovery = 95.54%			
54) D8-Toluene	13.21	98	486249	49.29	ug/kg	-0.03
Spiked Amount 50.000	Range 41 - 146		Recovery = 98.58%			
75) Bromofluorobenzene	15.71	95	178139	43.86	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 87.72%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.87	85	300122	63.99	ug/kg	98
3) Chloromethane	6.34	50	289115	43.81	ug/kg	100
4) Vinyl Chloride	6.54	62	280729	72.82	ug/kg	100
5) Bromomethane	7.18	96	196887	98.59	ug/kg	97
6) Chloroethane	7.42	64	183899	81.88	ug/kg	99
7) Trichlorofluoromethane	7.68	101	421371	82.39	ug/kg	100
8) Trichlorotrifluoroethane	8.51	101	158574	55.01	ug/kg	95
9) acrolein	8.87	56	78822	285.30	ug/kg	96
10) Acetone	9.21	43	164311	192.28	ug/kg	95
11) 1,1-Dichloroethene	8.47	96	140130	51.75	ug/kg	90
12) 3-Chloropropene	9.06	76	80139	45.21	ug/kg	75
13) Acetonitrile	9.77	41	133397	472.15	ug/kg	100
14) Iodomethane	8.70	142	870873	164.01	ug/kg	92
15) Carbon disulfide	8.59	76	1887336	190.35	ug/kg	100
16) Methylene Chloride	9.18	84	161025	50.18	ug/kg	90
17) Methyl tert-butyl ether	9.50	73	313026	84.27	ug/kg	96
18) Acrylonitrile	10.08	53	712538	574.18	ug/kg	99
19) T-1,2-Dichloroethene	9.41	96	166096	56.45	ug/kg	95
20) Isopropyl Ether	9.88	45	827705	58.15	ug/kg	96
21) C-1,2-Dichloroethene	10.65	96	182946	57.03	ug/kg	95
22) 1,1-Dichloroethane	10.08	63	330517	61.47	ug/kg	100
23) Vinyl Acetate	10.27	43	2421381	325.02	ug/kg	98
24) Chloroprene	10.08	88	139051	55.35	ug/kg	100
25) 2-Butanone	11.15	72	43787	205.57	ug/kg	78
26) Propionitrile	11.43	54	133062	489.47	ug/kg	100
27) 2,2-Dichloropropane	10.78	77	253267	70.69	ug/kg	98
28) Methacrylonitrile	11.46	67	450622	553.53	ug/kg	87
29) Chloroform	10.87	83	307495	60.63	ug/kg	94
31) Dibromofluoromethane	11.05	113	169958	47.77	ug/kg	100
32) Bromochloromethane	10.85	128	90126	51.54	ug/kg	83
33) 1,1,1-Trichloroethane	11.16	97	264511	63.71	ug/kg	97
34) 1,1-Dichloropropene	11.26	75	224604	59.97	ug/kg	97
35) Diethyl Ether	8.11	59	124960	52.06	ug/kg	95
36) Methyl Acetate	9.36	74	15544	43.48	ug/kg#	77
37) Cyclohexane	10.93	56	283750	59.23	ug/kg	95
39) Methyl Cyclohexane	12.05	55	215401	62.12	ug/kg	95
40) Carbon Tetrachloride	11.13	117	276818	61.72	ug/kg	100
41) 1,2-Dichloroethane	11.64	62	204865	61.20	ug/kg	97
42) Benzene	11.50	78	670248	64.43	ug/kg	95
43) Isobutyl Alcohol	11.52	43	217307	2305.57	ug/kg#	1
44) Trichloroethene	12.02	130	186396	56.63	ug/kg	95
45) 1,2-Dichloropropane	12.46	63	171852	55.21	ug/kg	92
46) Methyl Methacrylate	12.55	100	30541	46.72	ug/kg	90
47) 1,4-Dioxane	12.68	88	8155	514.91	ug/kg	98
48) Bromodichloromethane	12.48	83	220873	60.26	ug/kg	97
49) Dibromomethane	12.39	93	94664	54.90	ug/kg	94
50) 4-Methyl-2-Pentanone	13.49	100	72880	212.68	ug/kg	72
51) 2-Chloroethyl vinyl ether	12.79	63	720	77.62	ug/kg#	35
52) 2-Hexanone	14.19	43	441391	251.32	ug/kg	94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011921\212AN008.D Vial: 8
Acq On : 19 Jan 2021 11:15 am Operator: KKW
Sample : AA64539-CAL6 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 11:37 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 09:09:11 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

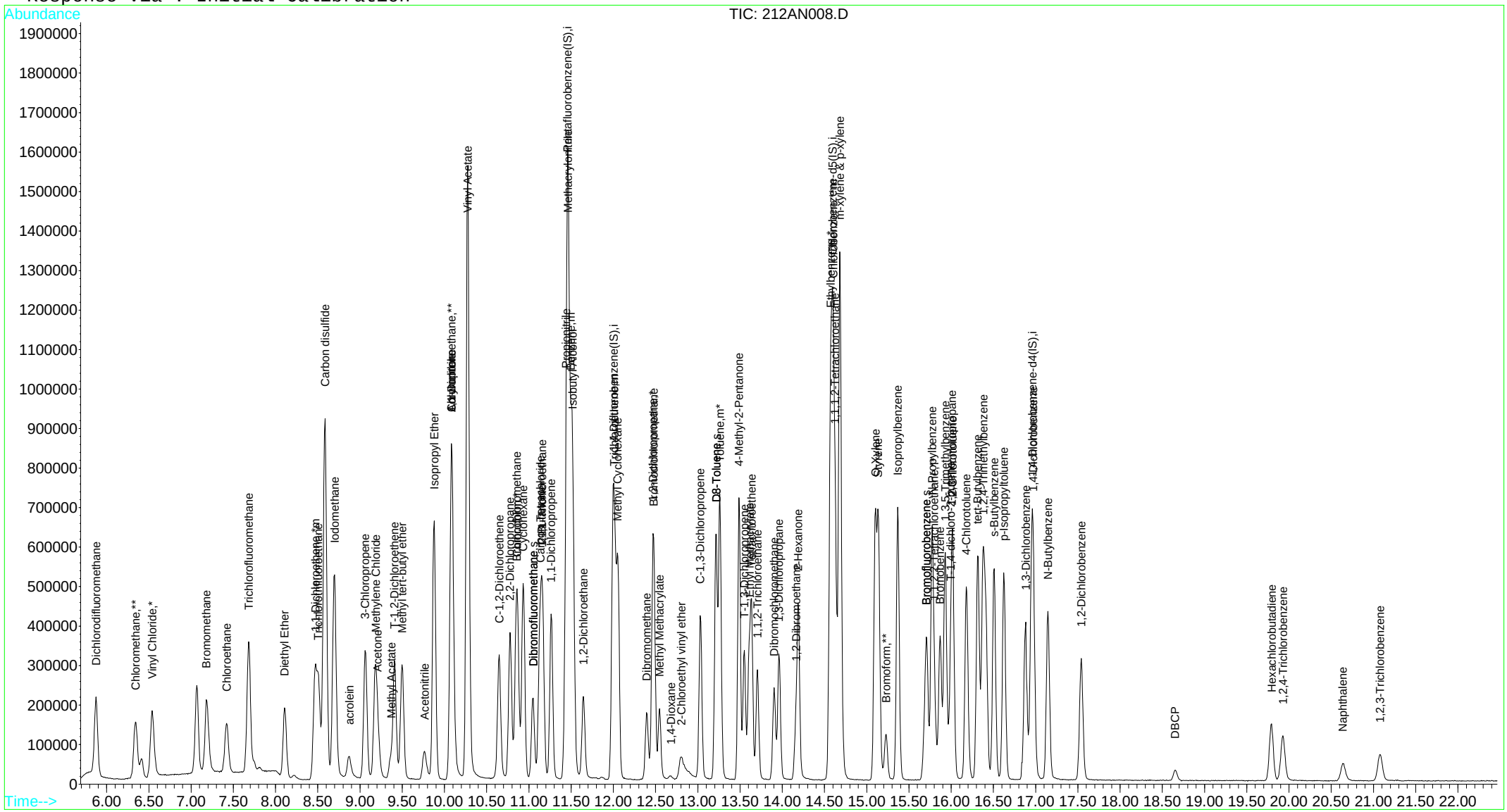
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.03	75	258078	56.68	ug/kg	89
55) D8-Toluene	13.21	98	486249	49.29	ug/kg	92
57) Toluene	13.26	92	384172	52.55	ug/kg	99
58) Ethyl Methacrylate	13.61	69	149300	44.66	ug/kg	91
59) T-1,3-Dichloropropene	13.55	75	205828	52.36	ug/kg	93
60) 1,1,2-Trichloroethane	13.71	97	109178	45.56	ug/kg	98
61) 1,3-Dichloropropane	13.96	76	204269	44.55	ug/kg	99
62) Tetrachloroethene	13.64	164	110059	45.21	ug/kg	96
63) Dibromochloromethane	13.90	129	159617	44.78	ug/kg	99
64) 1,2-Dibromoethane	14.16	107	122263	44.44	ug/kg	99
65) Chlorobenzene	14.61	112	437613	53.28	ug/kg	98
66) 1,1,1,2-Tetrachloroethane	14.63	131	167878	50.42	ug/kg	97
67) Ethylbenzene	14.57	106	218261	51.92	ug/kg	96
68) m-xylene & p-xylene	14.68	106	537384	107.86	ug/kg	98
69) O-Xylene	15.10	106	259375	51.77	ug/kg	96
70) Bromoform	15.23	173	68977	41.87	ug/kg	98
71) Styrene	15.14	104	465799	53.29	ug/kg	98
72) Isopropylbenzene	15.37	105	654363	53.00	ug/kg	99
73) 1,2,3-Trichloropropane	16.00	75	127463	45.60	ug/kg	98
74) 1,1,2,2-Tetrachloroethane	15.80	83	106670	42.11	ug/kg	99
76) Bromofluorobenzene	15.71	95	178139	43.86	ug/kg#	69
77) T-1,4-dichloro-2-butene	15.99	53	32209	44.82	ug/kg#	86
78) N-Propylbenzene	15.78	91	715494	52.70	ug/kg	97
80) Bromobenzene	15.87	156	136268	54.54	ug/kg	90
81) 1,3,5-Trimethylbenzene	15.93	105	487233	63.12	ug/kg	97
82) 2-Chlorotoluene	16.02	91	430693	63.36	ug/kg	96
83) 4-Chlorotoluene	16.18	91	438565	61.98	ug/kg	96
84) 1,2,4-Trimethylbenzene	16.38	105	491625	63.45	ug/kg	99
85) s-Butylbenzene	16.51	105	597776	64.06	ug/kg	97
86) tert-Butylbenzene	16.32	119	442352	62.17	ug/kg	96
87) p-Isopropyltoluene	16.62	119	510824	61.55	ug/kg	98
88) 1,3-Dichlorobenzene	16.88	146	236972	52.52	ug/kg	97
89) 1,4-Dichlorobenzene	16.98	146	242093	52.59	ug/kg	98
90) 1,2-Dichlorobenzene	17.54	146	200158	49.84	ug/kg	97
91) N-Butylbenzene	17.15	91	392034	60.78	ug/kg	97
92) DBCP	18.65	75	11148	43.73	ug/kg	77
93) Naphthalene	20.64	128	83189	32.72	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.93	180	65374	38.83	ug/kg	98
95) Hexachlorobutadiene	19.79	225	41568	46.55	ug/kg	99
96) 1,2,3-Trichlorobenzene	21.07	180	43223	36.20	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\011921\212AN008.D Vial: 8
Acq On : 19 Jan 2021 11:15 am Operator: KKW
Sample : AA64539-CAL6 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 11:37 2021 Quant Results File: 011921.RES

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 29 08:15:08 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011921\212AN009.D Vial: 9
Acq On : 19 Jan 2021 11:43 am Operator: KKW
Sample : AA64539-CAL7 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 12:06 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 09:09:11 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.45	168	331924	50.00	ug/kg	-0.02
38) 1,4-Difluorobenzene(IS)	12.00	114	589225	50.00	ug/kg	-0.02
56) Chlorobenzene-d5(IS)	14.59	82	284238	50.00	ug/kg	-0.02
79) 1,4-Dichlorobenzene-d4(IS)	16.96	152	179167	50.00	ug/kg	-0.02
System Monitoring Compounds						
30) Dibromofluoromethane	11.05	113	241371	65.44	ug/kg	-0.03
Spiked Amount 50.000	Range 53 - 146		Recovery = 130.88%			
54) D8-Toluene	13.22	98	695460	70.87	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 141.74%			
75) Bromofluorobenzene	15.71	95	263602	61.23	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 122.46%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.88	85	503848	103.63	ug/kg	98
3) Chloromethane	6.34	50	524496	76.67	ug/kg	100
4) Vinyl Chloride	6.54	62	445967	111.57	ug/kg	99
5) Bromomethane	7.18	96	292052	141.06	ug/kg	97
6) Chloroethane	7.42	64	291028	124.98	ug/kg	100
7) Trichlorofluoromethane	7.68	101	671769	126.69	ug/kg	100
8) Trichlorotrifluoroethane	8.51	101	258238	86.41	ug/kg	93
9) acrolein	8.87	56	191512	668.60	ug/kg	96
10) Acetone	9.22	43	286181	323.02	ug/kg	92
11) 1,1-Dichloroethene	8.47	96	232908	82.97	ug/kg	91
12) 3-Chloropropene	9.07	76	135915	73.96	ug/kg	74
13) Acetonitrile	9.76	41	237175	809.70	ug/kg	99
14) Iodomethane	8.70	142	1490011	270.67	ug/kg	93
15) Carbon disulfide	8.59	76	3164702	307.86	ug/kg	100
16) Methylene Chloride	9.19	84	270868	81.41	ug/kg	90
17) Methyl tert-butyl ether	9.50	73	528660	137.27	ug/kg	95
18) Acrylonitrile	10.09	53	1235695	960.46	ug/kg	98
19) T-1,2-Dichloroethene	9.42	96	275905	90.45	ug/kg	95
20) Isopropyl Ether	9.88	45	1388570	94.10	ug/kg	96
21) C-1,2-Dichloroethene	10.65	96	308373	92.72	ug/kg	96
22) 1,1-Dichloroethane	10.09	63	562812	100.97	ug/kg#	69
23) Vinyl Acetate	10.28	43	4081545	528.44	ug/kg	98
24) Chloroprene	10.08	88	236625	90.85	ug/kg	97
25) 2-Butanone	11.15	72	75899	343.70	ug/kg	80
26) Propionitrile	11.43	54	241525	856.96	ug/kg	100
27) 2,2-Dichloropropane	10.78	77	408436	109.96	ug/kg	98
28) Methacrylonitrile	11.47	67	760349	900.89	ug/kg	87
29) Chloroform	10.87	83	510092	97.01	ug/kg	94
31) Dibromofluoromethane	11.05	113	241371	65.44	ug/kg	100
32) Bromochloromethane	10.86	128	152672	84.21	ug/kg	84
33) 1,1,1-Trichloroethane	11.17	97	434564	100.97	ug/kg	98
34) 1,1-Dichloropropene	11.27	75	371121	95.58	ug/kg	97
35) Diethyl Ether	8.11	59	209939	84.36	ug/kg	95
36) Methyl Acetate	9.37	74	25779	69.56	ug/kg#	71
37) Cyclohexane	10.94	56	469548	94.54	ug/kg	95
39) Methyl Cyclohexane	12.06	55	340141	98.62	ug/kg	95
40) Carbon Tetrachloride	11.13	117	460596	103.24	ug/kg	100
41) 1,2-Dichloroethane	11.65	62	359777	108.05	ug/kg	98
42) Benzene	11.51	78	1110738	107.34	ug/kg	95
43) Isobutyl Alcohol	11.53	43	377241	4023.55	ug/kg#	1
44) Trichloroethene	12.02	130	283956	86.73	ug/kg	96
45) 1,2-Dichloropropane	12.47	63	281513	90.91	ug/kg	92
46) Methyl Methacrylate	12.55	100	51285	78.87	ug/kg	88
47) 1,4-Dioxane	12.68	88	15134	960.61	ug/kg	95
48) Bromodichloromethane	12.49	83	364796	100.05	ug/kg	98
49) Dibromomethane	12.40	93	159447	92.95	ug/kg	93
50) 4-Methyl-2-Pentanone	13.49	100	126291	370.48	ug/kg	72
51) 2-Chloroethyl vinyl ether	12.90	63	3906	423.30	ug/kg	85
52) 2-Hexanone	14.19	43	777943	445.28	ug/kg	94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011921\212AN009.D Vial: 9
Acq On : 19 Jan 2021 11:43 am Operator: KKW
Sample : AA64539-CAL7 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 12:06 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 09:09:11 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

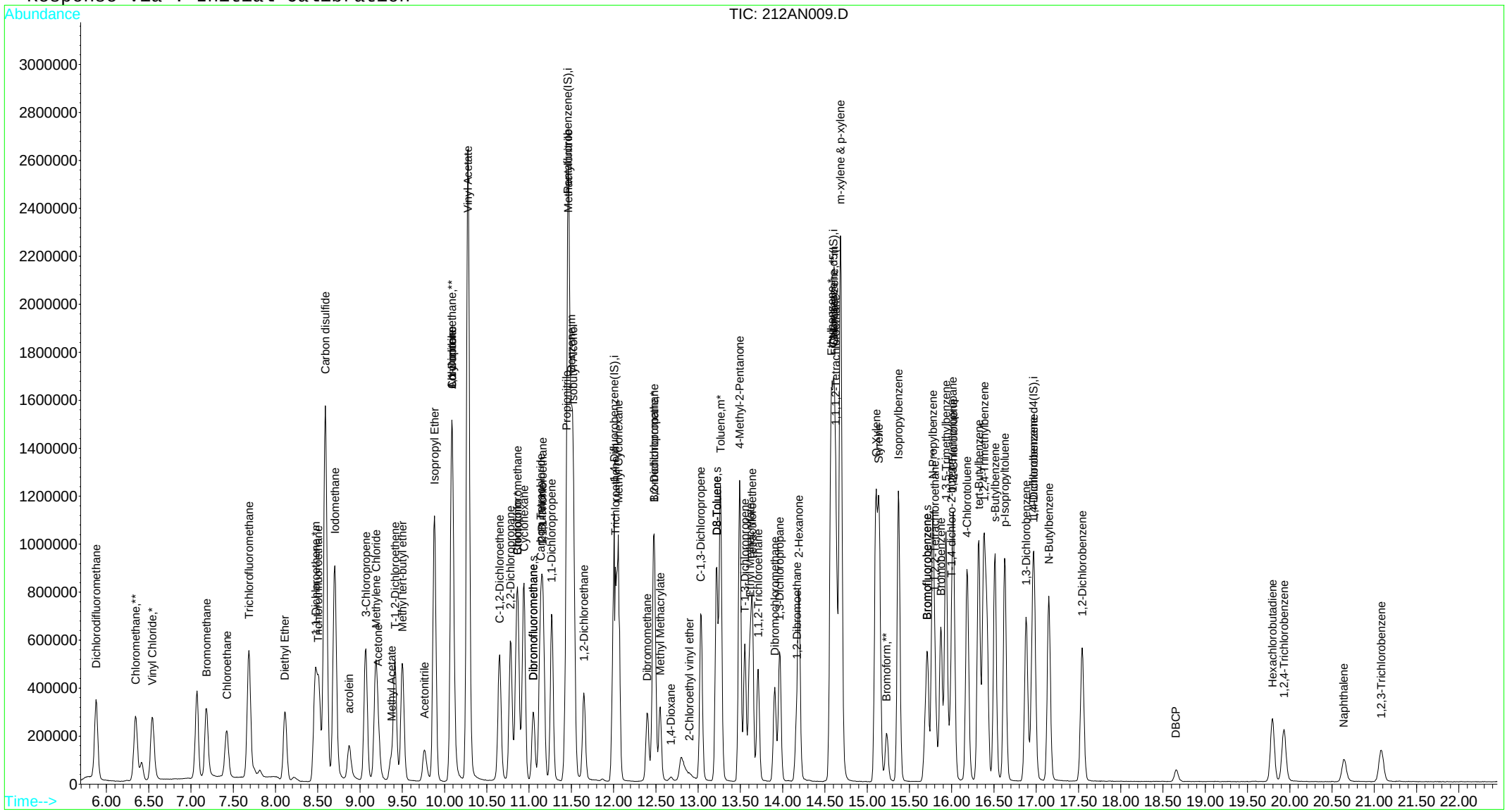
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.04	75	433769	95.78	ug/kg	89
55) D8-Toluene	13.22	98	695460	70.87	ug/kg	93
57) Toluene	13.26	92	648289	83.66	ug/kg	99
58) Ethyl Methacrylate	13.61	69	257223	72.59	ug/kg	89
59) T-1,3-Dichloropropene	13.55	75	349681	83.92	ug/kg	92
60) 1,1,2-Trichloroethane	13.71	97	184145	72.49	ug/kg	99
61) 1,3-Dichloropropane	13.96	76	344589	70.90	ug/kg	99
62) Tetrachloroethene	13.64	164	188642	73.10	ug/kg	96
63) Dibromochloromethane	13.91	129	270735	71.66	ug/kg	99
64) 1,2-Dibromoethane	14.16	107	209564	71.86	ug/kg	100
65) Chlorobenzene	14.61	112	737372	84.69	ug/kg	98
66) 1,1,1,2-Tetrachloroethane	14.63	131	285328	80.85	ug/kg#	56
67) Ethylbenzene	14.57	106	378942	85.04	ug/kg	97
68) m-xylene & p-xylene	14.68	106	918410	173.90	ug/kg	99
69) O-Xylene	15.11	106	451843	85.09	ug/kg	96
70) Bromoform	15.23	173	122179	69.97	ug/kg	99
71) Styrene	15.14	104	807539	87.16	ug/kg	99
72) Isopropylbenzene	15.37	105	1155907	88.32	ug/kg	98
73) 1,2,3-Trichloropropane	16.00	75	229737	77.53	ug/kg	99
74) 1,1,2,2-Tetrachloroethane	15.81	83	185107	68.93	ug/kg	99
76) Bromofluorobenzene	15.71	95	263602	61.23	ug/kg#	67
77) T-1,4-dichloro-2-butene	15.99	53	60997	80.07	ug/kg#	77
78) N-Propylbenzene	15.78	91	1252922	87.06	ug/kg	97
80) Bromobenzene	15.87	156	235309	89.61	ug/kg	88
81) 1,3,5-Trimethylbenzene	15.93	105	854848	105.38	ug/kg	97
82) 2-Chlorotoluene	16.02	91	750602	105.07	ug/kg	96
83) 4-Chlorotoluene	16.18	91	767772	103.25	ug/kg	96
84) 1,2,4-Trimethylbenzene	16.38	105	863579	106.05	ug/kg	98
85) s-Butylbenzene	16.51	105	1037799	105.83	ug/kg	97
86) tert-Butylbenzene	16.32	119	773321	103.41	ug/kg	96
87) p-Isopropyltoluene	16.63	119	894290	102.52	ug/kg	97
88) 1,3-Dichlorobenzene	16.88	146	422277	89.04	ug/kg	97
89) 1,4-Dichlorobenzene	16.98	146	429339	88.73	ug/kg	98
90) 1,2-Dichlorobenzene	17.54	146	359724	85.22	ug/kg	97
91) N-Butylbenzene	17.15	91	695269	102.56	ug/kg	97
92) DBCP	18.65	75	20916	78.07	ug/kg	78
93) Naphthalene	20.64	128	172752	64.66	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.93	180	127163	71.87	ug/kg	99
95) Hexachlorobutadiene	19.79	225	77733	82.83	ug/kg	99
96) 1,2,3-Trichlorobenzene	21.08	180	85373	68.03	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\011921\212AN009.D Vial: 9
Acq On : 19 Jan 2021 11:43 am Operator: KKW
Sample : AA64539-CAL7 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 12:06 2021 Quant Results File: 011921.RES

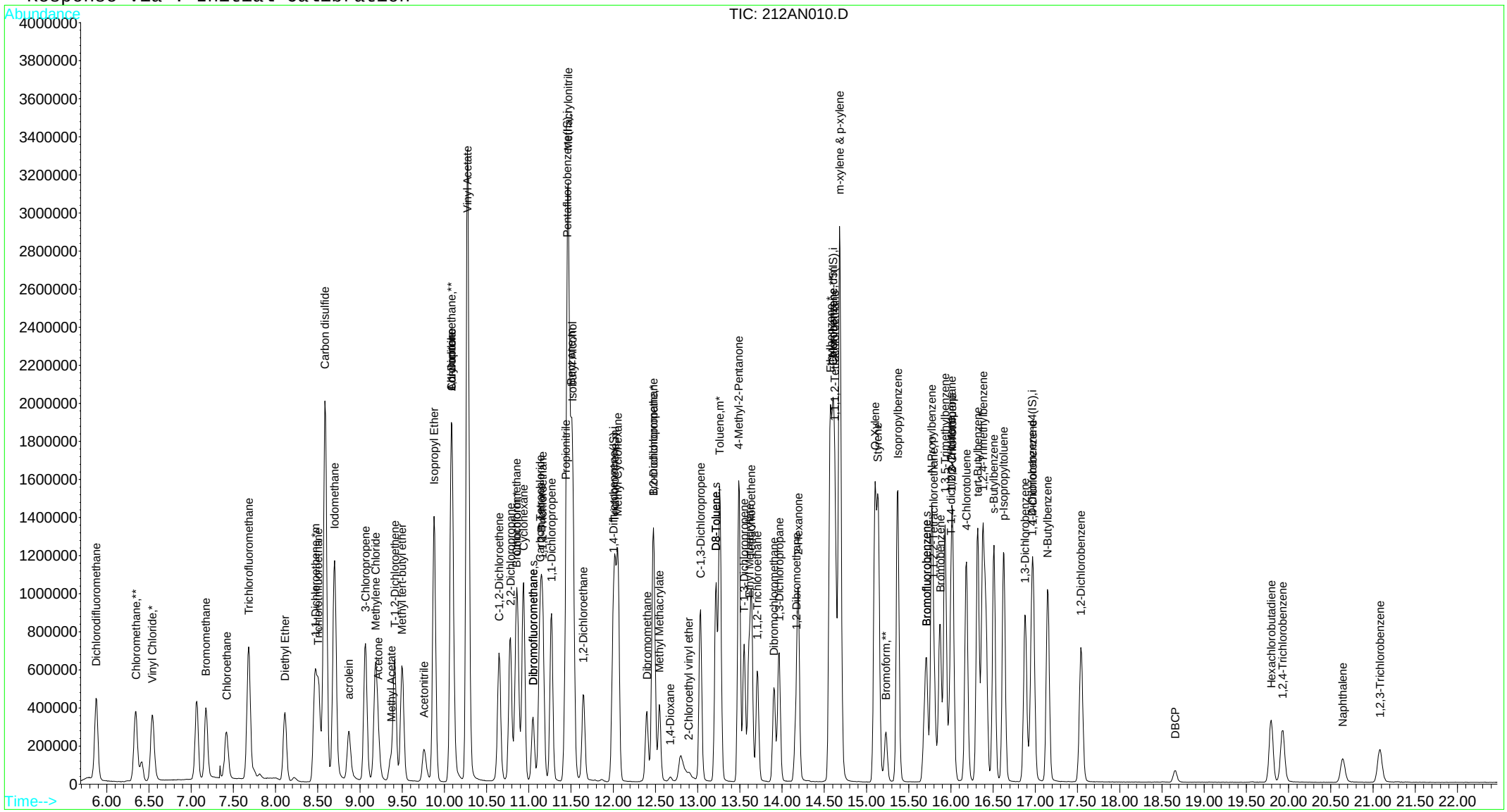
Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 29 08:15:08 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\011921\212AN010.D Vial: 10
Acq On : 19 Jan 2021 12:12 pm Operator: KKW
Sample : AA64539-CAL8 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 12:51 2021 Quant Results File: 011921.RES

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 29 08:15:08 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011921\212AN010.D Vial: 10
Acq On : 19 Jan 2021 12:12 pm Operator: KKW
Sample : AA64539-CAL8 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 12:51 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 09:09:11 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.45	168	335499	50.00	ug/kg	-0.02
38) 1,4-Difluorobenzene(IS)	12.00	114	624473	50.00	ug/kg	-0.02
56) Chlorobenzene-d5(IS)	14.60	82	294938	50.00	ug/kg	-0.01
79) 1,4-Dichlorobenzene-d4(IS)	16.95	152	191016	50.00	ug/kg	-0.02
System Monitoring Compounds						
30) Dibromofluoromethane	11.05	113	274606	73.66	ug/kg	-0.03
Spiked Amount 50.000	Range 53 - 146		Recovery = 147.32%#			
54) D8-Toluene	13.22	98	799216	76.84	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 153.68%#			
75) Bromofluorobenzene	15.71	95	309767	69.34	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 138.68%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.88	85	658142	133.92	ug/kg	99
3) Chloromethane	6.34	50	726367	105.04	ug/kg	100
4) Vinyl Chloride	6.54	62	591434	146.39	ug/kg	99
5) Bromomethane	7.17	96	350276	167.38	ug/kg	98
6) Chloroethane	7.42	64	368671	156.64	ug/kg	100
7) Trichlorofluoromethane	7.68	101	876249	163.49	ug/kg	100
8) Trichlorotrifluoroethane	8.51	101	322791	106.86	ug/kg	92
9) acrolein	8.87	56	340364	1175.61	ug/kg	97
10) Acetone	9.22	43	362640	404.96	ug/kg	94
11) 1,1-Dichloroethene	8.47	96	291082	102.59	ug/kg	91
12) 3-Chloropropene	9.07	76	177092	95.34	ug/kg	76
13) Acetonitrile	9.76	41	302571	1021.95	ug/kg	99
14) Iodomethane	8.70	142	1923709	345.73	ug/kg	92
15) Carbon disulfide	8.59	76	4045121	389.31	ug/kg	99
16) Methylene Chloride	9.19	84	334222	99.39	ug/kg	89
17) Methyl tert-butyl ether	9.50	73	657583	168.92	ug/kg	95
18) Acrylonitrile	10.08	53	1563556	1202.35	ug/kg	98
19) T-1,2-Dichloroethene	9.41	96	349683	113.41	ug/kg	94
20) Isopropyl Ether	9.88	45	1743899	116.92	ug/kg	96
21) C-1,2-Dichloroethene	10.65	96	387844	115.37	ug/kg	94
22) 1,1-Dichloroethane	10.09	63	707449	125.57	ug/kg	99
23) Vinyl Acetate	10.27	43	5139724	658.35	ug/kg	98
24) Chloroprene	10.08	88	300680	114.21	ug/kg	98
25) 2-Butanone	11.15	72	95563	428.14	ug/kg	81
26) Propionitrile	11.43	54	292821	1027.89	ug/kg	100
27) 2,2-Dichloropropane	10.78	77	524991	139.84	ug/kg	98
28) Methacrylonitrile	11.47	67	938027	1099.56	ug/kg	84
29) Chloroform	10.87	83	623507	117.31	ug/kg	95
31) Dibromofluoromethane	11.05	113	274606	73.66	ug/kg	100
32) Bromochloromethane	10.85	128	191328	104.41	ug/kg	84
33) 1,1,1-Trichloroethane	11.17	97	549899	126.40	ug/kg	98
34) 1,1-Dichloropropene	11.27	75	467078	119.01	ug/kg	97
35) Diethyl Ether	8.11	59	259793	103.28	ug/kg	94
36) Methyl Acetate	9.36	74	31863	85.06	ug/kg#	66
37) Cyclohexane	10.94	56	591548	117.84	ug/kg	95
39) Methyl Cyclohexane	12.05	55	458622	125.46	ug/kg	94
40) Carbon Tetrachloride	11.13	117	583290	123.37	ug/kg	99
41) 1,2-Dichloroethane	11.64	62	457707	129.70	ug/kg	99
42) Benzene	11.51	78	1351424	123.22	ug/kg	97
43) Isobutyl Alcohol	11.52	43	467871	4708.52	ug/kg#	1
44) Trichloroethene	12.02	130	395664	114.03	ug/kg	97
45) 1,2-Dichloropropane	12.47	63	358137	109.13	ug/kg	90
46) Methyl Methacrylate	12.55	100	66599	96.64	ug/kg	90
47) 1,4-Dioxane	12.67	88	19720	1181.05	ug/kg	96
48) Bromodichloromethane	12.48	83	462076	119.58	ug/kg	98
49) Dibromomethane	12.40	93	201818	111.02	ug/kg	93
50) 4-Methyl-2-Pentanone	13.49	100	160203	443.44	ug/kg	70
51) 2-Chloroethyl vinyl ether	12.90	63	7639	781.13	ug/kg	89
52) 2-Hexanone	14.19	43	1004164	542.32	ug/kg	94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011921\212AN010.D Vial: 10
Acq On : 19 Jan 2021 12:12 pm Operator: KKW
Sample : AA64539-CAL8 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 12:51 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 09:09:11 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

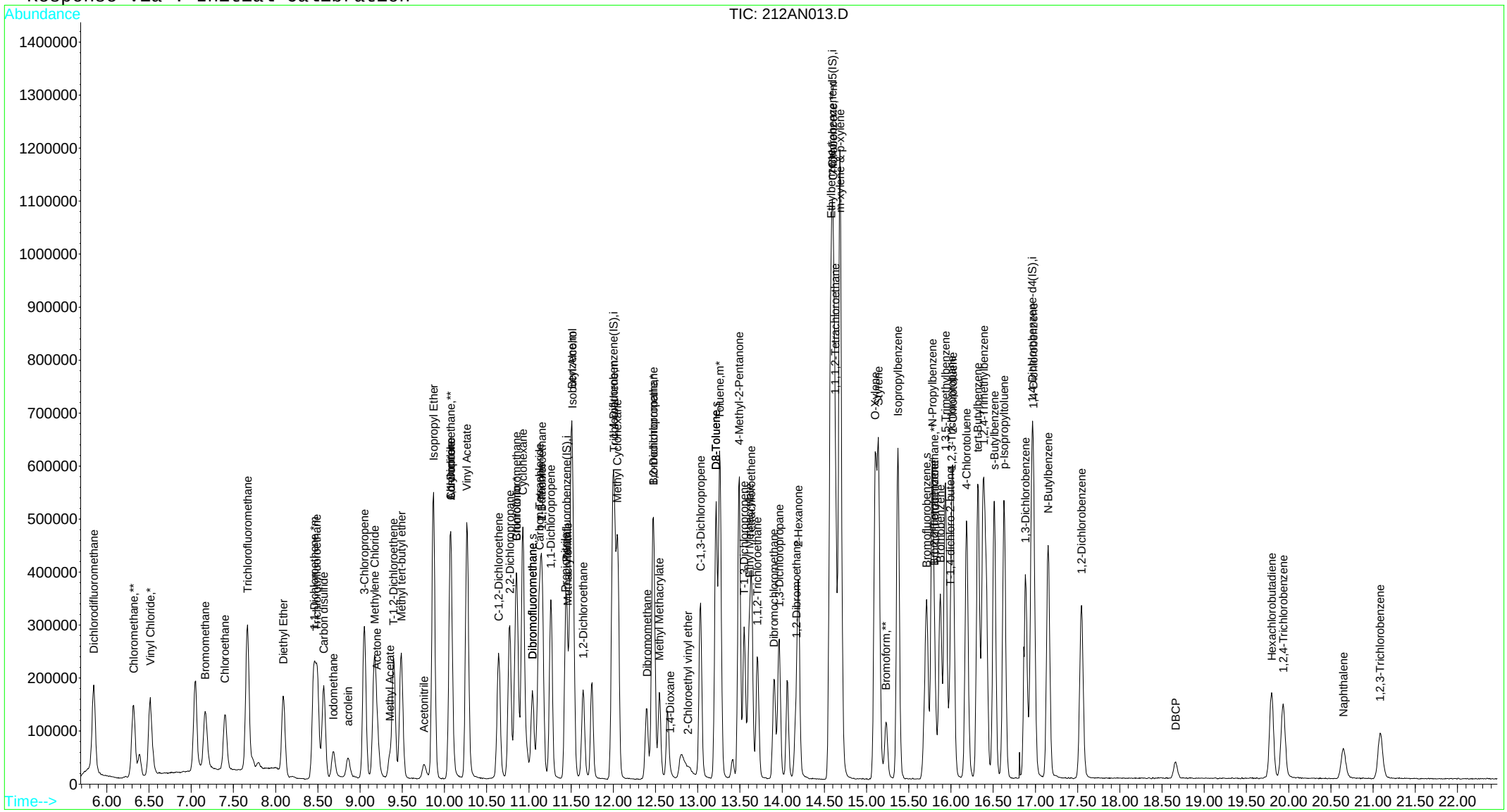
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	13.03	75	557809	116.21 ug/kg	88
55) D8-Toluene	13.22	98	799216	76.84 ug/kg	92
57) Toluene	13.26	92	818181	101.75 ug/kg	100
58) Ethyl Methacrylate	13.61	69	326692	88.85 ug/kg	88
59) T-1,3-Dichloropropene	13.55	75	448860	103.81 ug/kg	93
60) 1,1,2-Trichloroethane	13.71	97	229688	87.14 ug/kg	99
61) 1,3-Dichloropropane	13.97	76	436386	86.53 ug/kg	98
62) Tetrachloroethene	13.64	164	241689	90.26 ug/kg	96
63) Dibromochloromethane	13.90	129	346948	88.50 ug/kg	99
64) 1,2-Dibromoethane	14.16	107	265468	87.73 ug/kg	99
65) Chlorobenzene	14.61	112	941864	104.25 ug/kg	98
66) 1,1,1,2-Tetrachloroethane	14.63	131	364457	99.52 ug/kg#	56
67) Ethylbenzene	14.57	106	489230	105.80 ug/kg	98
68) m-xylene & p-xylene	14.68	106	1170107	213.52 ug/kg	99
69) O-Xylene	15.10	106	588287	106.76 ug/kg	97
70) Bromoform	15.23	173	156667	86.46 ug/kg	99
71) Styrene	15.14	104	1025614	106.68 ug/kg	99
72) Isopropylbenzene	15.37	105	1489315	109.67 ug/kg	98
73) 1,2,3-Trichloropropane	16.00	75	289049	94.01 ug/kg	100
74) 1,1,2,2-Tetrachloroethane	15.80	83	233095	83.65 ug/kg	99
76) Bromofluorobenzene	15.71	95	309769m	69.34 ug/kg	
77) T-1,4-dichloro-2-butene	15.99	53	77959	98.62 ug/kg#	77
78) N-Propylbenzene	15.77	91	1618025	108.35 ug/kg	98
80) Bromobenzene	15.87	156	311258	111.18 ug/kg	91
81) 1,3,5-Trimethylbenzene	15.93	105	1103463	127.59 ug/kg	98
82) 2-Chlorotoluene	16.02	91	976902	128.27 ug/kg	97
83) 4-Chlorotoluene	16.18	91	998408	125.94 ug/kg	97
84) 1,2,4-Trimethylbenzene	16.38	105	1124285	129.51 ug/kg	99
85) s-Butylbenzene	16.51	105	1354338	129.54 ug/kg	97
86) tert-Butylbenzene	16.32	119	1009440	126.62 ug/kg	96
87) p-Isopropyltoluene	16.63	119	1177857	126.66 ug/kg	98
88) 1,3-Dichlorobenzene	16.88	146	554029	109.58 ug/kg	97
89) 1,4-Dichlorobenzene	16.98	146	564682	109.46 ug/kg	98
90) 1,2-Dichlorobenzene	17.54	146	460789	102.39 ug/kg	98
91) N-Butylbenzene	17.14	91	921435	127.49 ug/kg	98
92) DBCP	18.66	75	25180	88.15 ug/kg	82
93) Naphthalene	20.64	128	227611	79.90 ug/kg	100
94) 1,2,4-Trichlorobenzene	19.93	180	162617	86.21 ug/kg	99
95) Hexachlorobutadiene	19.80	225	96827	96.77 ug/kg	99
96) 1,2,3-Trichlorobenzene	21.08	180	109598	81.91 ug/kg	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\011921\212AN013.D Vial: 13
Acq On : 19 Jan 2021 1:38 pm Operator: KKW
Sample : AA64539-SCV1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 20 10:28 2021 Quant Results File: 011921.RES

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 29 08:15:08 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011921\212AN013.D Vial: 13
Acq On : 19 Jan 2021 1:38 pm Operator: KKW
Sample : AA64539-SCV1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 20 10:28 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 13:57:55 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.44	168	232904	50.00	ug/kg	0.00
38) 1,4-Difluorobenzene(IS)	12.00	114	448821	50.00	ug/kg	0.00
56) Chlorobenzene-d5(IS)	14.59	82	230350	50.00	ug/kg	0.00
79) 1,4-Dichlorobenzene-d4(IS)	16.95	152	165080	50.00	ug/kg	0.00
System Monitoring Compounds						
30) Dibromofluoromethane	11.04	113	130934	49.45	ug/kg	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 98.90%			
54) D8-Toluene	13.22	98	397158	52.27	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 146		Recovery = 104.54%			
75) Bromofluorobenzene	15.71	95	164379	52.52	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 142		Recovery = 105.04%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.84	85	240869	50.05	ug/kg	99
3) Chloromethane	6.32	50	264504	55.24	ug/kg	99
4) Vinyl Chloride	6.52	62	228398	56.31	ug/kg	99
5) Bromomethane	7.17	96	120410	47.05	ug/kg	98
6) Chloroethane	7.41	64	151490	55.94	ug/kg	99
7) Trichlorofluoromethane	7.67	101	344270	51.24	ug/kg	99
8) Trichlorotrifluoroethane	8.49	101	124080	54.83	ug/kg	97
9) acrolein	8.86	56	54263	479.58	ug/kg	99
10) Acetone	9.21	43	156179	312.26	ug/kg	97
11) 1,1-Dichloroethene	8.45	96	104438	46.31	ug/kg	99
12) 3-Chloropropene	9.05	76	70080	57.98	ug/kg	98
13) Acetonitrile	9.76	41	53554	259.13	ug/kg	99
14) Iodomethane	8.68	142	102821	43.28	ug/kg	99
15) Carbon disulfide	8.57	76	359427	64.32	ug/kg	99
16) Methylene Chloride	9.17	84	124333	52.95	ug/kg	98
17) Methyl tert-butyl ether	9.49	73	253513	50.34	ug/kg	98
18) Acrylonitrile	10.07	53	290278	266.55	ug/kg#	75
19) T-1,2-Dichloroethene	9.40	96	122736	50.64	ug/kg	98
20) Isopropyl Ether	9.87	45	681142	50.43	ug/kg	99
21) C-1,2-Dichloroethene	10.64	96	136341	47.59	ug/kg	98
22) 1,1-Dichloroethane	10.08	63	251432	47.19	ug/kg	100
23) Vinyl Acetate	10.27	43	391541	52.81	ug/kg	97
24) Chloroprene	10.07	88	113818	53.95	ug/kg	13
25) 2-Butanone	11.14	72	36358m	254.67	ug/kg	
26) Propionitrile	11.42	54	10537	51.44	ug/kg	100
27) 2,2-Dichloropropane	10.77	77	198598	54.64	ug/kg	100
28) Methacrylonitrile	11.47	67	33662	49.35	ug/kg	87
29) Chloroform	10.86	83	241733	54.88	ug/kg	98
31) Dibromofluoromethane	11.04	113	130934	49.45	ug/kg	100
32) Bromochloromethane	10.84	128	72396	51.34	ug/kg	98
33) 1,1,1-Trichloroethane	11.16	97	215089	50.60	ug/kg	98
34) 1,1-Dichloropropene	11.26	75	177394	49.48	ug/kg	99
35) Diethyl Ether	8.08	59	106726	58.58	ug/kg	100
36) Methyl Acetate	9.35	74	12211	54.53	ug/kg#	87
37) Cyclohexane	10.93	56	228411	51.68	ug/kg	100
39) Methyl Cyclohexane	12.05	55	173081	50.24	ug/kg	99
40) Carbon Tetrachloride	11.12	117	219611	49.91	ug/kg	99
41) 1,2-Dichloroethane	11.64	62	169863	49.11	ug/kg	100
42) Benzene	11.50	78	505361	49.18	ug/kg#	68
43) Isobutyl Alcohol	11.52	43	135670	793.02	ug/kg#	1
44) Trichloroethene	12.02	130	141896	49.24	ug/kg	99
45) 1,2-Dichloropropane	12.47	63	133445	51.08	ug/kg	98
46) Methyl Methacrylate	12.55	100	25281	52.81	ug/kg	97
47) 1,4-Dioxane	12.68	88	6516	934.01	ug/kg	84
48) Bromodichloromethane	12.48	83	174813	49.12	ug/kg	98
49) Dibromomethane	12.39	93	76562	50.72	ug/kg	98
50) 4-Methyl-2-Pentanone	13.49	100	58011	250.33	ug/kg	97
51) 2-Chloroethyl vinyl ether	12.89	63	2136	153.23	ug/kg#	100
52) 2-Hexanone	14.19	43	371839	258.63	ug/kg	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011921\212AN013.D Vial: 13
Acq On : 19 Jan 2021 1:38 pm Operator: KKW
Sample : AA64539-SCV1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 20 10:28 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 13:57:55 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.03	75	205566	50.83	ug/kg	98
55) D8-Toluene	13.22	98	397158	52.27	ug/kg	92
57) Toluene	13.26	92	324409	46.32	ug/kg	99
58) Ethyl Methacrylate	13.61	69	127851	48.17	ug/kg	97
59) T-1,3-Dichloropropene	13.55	75	179900	48.13	ug/kg	96
60) 1,1,2-Trichloroethane	13.70	97	91455	46.90	ug/kg	99
61) 1,3-Dichloropropane	13.97	76	164826	47.78	ug/kg	100
62) Tetrachloroethene	13.64	164	90886	46.25	ug/kg	99
63) Dibromochloromethane	13.91	129	132770	46.35	ug/kg	100
64) 1,2-Dibromoethane	14.16	107	101475	47.13	ug/kg	98
65) Chlorobenzene	14.61	112	384477	49.02	ug/kg	99
66) 1,1,1,2-Tetrachloroethane	14.64	131	142543	47.31	ug/kg	100
67) Ethylbenzene	14.57	106	190953	48.94	ug/kg	100
68) m-xylene & p-xylene	14.69	106	489477	105.51	ug/kg	100
69) O-Xylene	15.10	106	233933	52.53	ug/kg	99
70) Bromoform	15.23	173	63119	51.77	ug/kg	99
71) Styrene	15.14	104	425176	54.38	ug/kg	99
72) Isopropylbenzene	15.37	105	600002	53.11	ug/kg	100
73) 1,2,3-Trichloropropane	16.00	75	115506	49.14	ug/kg	100
74) 1,1,2,2-Tetrachloroethane	15.81	83	101697	52.78	ug/kg	98
76) Bromofluorobenzene	15.81	95	18450	5.89	ug/kg#	4
77) T-1,4-dichloro-2-butene	15.99	53	29893	50.42	ug/kg	96
78) N-Propylbenzene	15.78	91	676471	53.82	ug/kg	100
80) Bromobenzene	15.87	156	126876	47.01	ug/kg	98
81) 1,3,5-Trimethylbenzene	15.94	105	475688	49.61	ug/kg	100
82) 2-Chlorotoluene	16.02	91	410122	46.69	ug/kg	99
83) 4-Chlorotoluene	16.18	91	422666	47.55	ug/kg	100
84) 1,2,4-Trimethylbenzene	16.38	105	481856	50.83	ug/kg	100
85) s-Butylbenzene	16.52	105	587516	50.30	ug/kg	100
86) tert-Butylbenzene	16.32	119	427521	49.19	ug/kg	99
87) p-Isopropyltoluene	16.63	119	510359	51.77	ug/kg	99
88) 1,3-Dichlorobenzene	16.88	146	242263	49.86	ug/kg	99
89) 1,4-Dichlorobenzene	16.98	146	241209	47.89	ug/kg	99
90) 1,2-Dichlorobenzene	17.55	146	210742	51.79	ug/kg	100
91) N-Butylbenzene	17.15	91	402279	53.44	ug/kg	99
92) DBCP	18.66	75	12465	55.41	ug/kg	97
93) Naphthalene	20.65	128	104829	62.75	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.93	180	80822	58.91	ug/kg	97
95) Hexachlorobutadiene	19.80	225	48053	56.03	ug/kg	98
96) 1,2,3-Trichlorobenzene	21.08	180	53691	60.31	ug/kg	96

(#) = qualifier out of range (m) = manual integration

ENCO Orlando

SDG: AE00066-TE016

CLASS: 06_VOA_AIR

METHOD: TO-15

ANALYSES DATA PACKAGE COVER PAGE

TO-15

Laboratory: ENCO Orlando

SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-VMP01-20210120	AE00066-13
CRCA-VMP01-20210120	AE00066-13RE1
CRCA-VMP02-20210120	AE00066-14
CRCA-VMP03-20210120	AE00066-15
CRCA-VMP03-20210120	AE00066-15RE1
CRCA-VMP04-20210120	AE00066-16
CRCA-VMP04-20210120	AE00066-16RE1
CRCA-SYSAIR-20210120	AE00066-17

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP01-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Air Laboratory ID: AE00066-13RE1 File ID: 217AS012.D

Sampled: 01/20/21 11:03 Prepared: 01/25/21 09:00 Analyzed: 01/25/21 10:36

Solids: Preparation: NO PREP 2 Initial/Final: 400 mL / 400 mL

Batch: 1A25023 Sequence: AA64633 Calibration: 2101005 Instrument: OVGCMS7

CAS NO.	COMPOUND	DILUTION	CONC. (ppbv)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1.34	0.74	UD	0.74	3.4
115-07-1	Propene	1.34	0.74	UD	0.74	3.4
74-87-3	Chloromethane	1.34	0.64	UD	0.64	3.4
75-01-4	Vinyl chloride	1.34	0.75	UD	0.75	3.4
74-83-9	Bromomethane	1.34	0.44	UD	0.44	3.4
75-00-3	Chloroethane	1.34	0.43	UD	0.43	3.4
75-69-4	Trichlorofluoromethane	1.34	0.46	UD	0.46	3.4
593-60-2	Bromoethene	1.34	0.44	UD	0.44	3.4
75-34-3	1,1-Dichloroethane	1.34	0.48	UD	0.48	3.4
67-64-1	Acetone	1.34	5.9	D	0.47	3.4
75-09-2	Methylene chloride	1.34	0.75	JBD	0.27	3.4
76-13-1	Freon 113	1.34	3.9	D	0.43	3.4
107-05-1	3-Chloropropene	1.34	0.52	UD	0.52	3.4
156-60-5	trans-1,2-Dichloroethene	1.34	0.43	UD	0.43	3.4
75-35-4	1,1-Dichloroethene	1.34	0.51	UD	0.51	3.4
156-59-2	cis-1,2-Dichloroethene	1.34	0.51	UD	0.51	3.4
67-66-3	Chloroform	1.34	0.51	UD	0.51	3.4
107-06-2	1,2-Dichloroethane	1.34	0.50	UD	0.50	3.4
71-55-6	1,1,1-Trichloroethane	1.34	0.46	UD	0.46	3.4
56-23-5	Carbon tetrachloride	1.34	0.36	UD	0.36	3.4
78-87-5	1,2-Dichloropropane	1.34	0.54	UD	0.54	3.4
79-01-6	Trichloroethene	1.34	0.47	UD	0.47	3.4
75-27-4	Bromodichloromethane	1.34	0.46	UD	0.46	3.4
10061-01-5	cis-1,3-Dichloropropene	1.34	0.51	UD	0.51	3.4
10061-02-6	trans-1,3-Dichloropropene	1.34	0.46	UD	0.46	3.4
79-00-5	1,1,2-Trichloroethane	1.34	0.47	UD	0.47	3.4
106-93-4	1,2-Dibromoethane	1.34	0.48	UD	0.48	3.4
127-18-4	Tetrachloroethene	1.34	0.42	UD	0.42	3.4
124-48-1	Dibromochloromethane	1.34	0.44	UD	0.44	3.4
108-90-7	Chlorobenzene	1.34	0.44	UD	0.44	3.4
75-25-2	Bromoform	1.34	0.51	UD	0.51	3.4
79-34-5	1,1,2,2-Tetrachloroethane	1.34	0.48	UD	0.48	3.4
541-73-1	1,3-Dichlorobenzene	1.34	0.38	UD	0.38	3.4
106-46-7	1,4-Dichlorobenzene	1.34	0.42	UD	0.42	3.4
95-50-1	1,2-Dichlorobenzene	1.34	0.36	UD	0.36	3.4
87-68-3	Hexachlorobutadiene	1.34	0.50	UD	0.50	3.4
76-14-2	Freon 114	1.34	0.70	UD	0.70	3.4

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	28	90	70 - 130	

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP01-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Air Laboratory ID: AE00066-13RE1 File ID: 217AS012.D

Sampled: 01/20/21 11:03 Prepared: 01/25/21 09:00 Analyzed: 01/25/21 10:36

Solids: Preparation: NO PREP 2 Initial/Final: 400 mL / 400 mL

Batch: 1A25023 Sequence: AA64633 Calibration: 2101005 Instrument: OVGCMS7

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	394787	10.98	368179	11	
1,4-Difluorobenzene	1326946	12.49	1236730	12.5	
Chlorobenzene-d5	966269	15.89	944742	15.9	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP02-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Air Laboratory ID: AE00066-14 File ID: 217AS013.D

Sampled: 01/20/21 11:06 Prepared: 01/25/21 09:00 Analyzed: 01/25/21 11:18

Solids: Preparation: NO PREP 2 Initial/Final: 200 mL / 400 mL

Batch: 1A25023 Sequence: AA64633 Calibration: 2101005 Instrument: OVGCMS7

CAS NO.	COMPOUND	DILUTION	CONC. (ppbv)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1.35	1.5	UD	1.5	6.8
115-07-1	Propene	1.35	1.5	UD	1.5	6.8
74-87-3	Chloromethane	1.35	1.3	UD	1.3	6.8
75-01-4	Vinyl chloride	1.35	1.5	UD	1.5	6.8
74-83-9	Bromomethane	1.35	0.89	UD	0.89	6.8
75-00-3	Chloroethane	1.35	0.86	UD	0.86	6.8
75-69-4	Trichlorofluoromethane	1.35	0.92	UD	0.92	6.8
593-60-2	Bromoethene	1.35	0.89	UD	0.89	6.8
75-34-3	1,1-Dichloroethane	1.35	0.97	UD	0.97	6.8
67-64-1	Acetone	1.35	3.5	JD	0.94	6.8
75-09-2	Methylene chloride	1.35	0.97	JBD	0.54	6.8
76-13-1	Freon 113	1.35	120	DE	0.86	6.8
107-05-1	3-Chloropropene	1.35	1.1	UD	1.1	6.8
156-60-5	trans-1,2-Dichloroethene	1.35	5.5	JD	0.86	6.8
75-35-4	1,1-Dichloroethene	1.35	1.0	UD	1.0	6.8
156-59-2	cis-1,2-Dichloroethene	1.35	1.0	UD	1.0	6.8
67-66-3	Chloroform	1.35	1.0	UD	1.0	6.8
107-06-2	1,2-Dichloroethane	1.35	1.0	UD	1.0	6.8
71-55-6	1,1,1-Trichloroethane	1.35	0.92	UD	0.92	6.8
56-23-5	Carbon tetrachloride	1.35	0.73	UD	0.73	6.8
78-87-5	1,2-Dichloropropane	1.35	1.1	UD	1.1	6.8
79-01-6	Trichloroethene	1.35	0.94	UD	0.94	6.8
75-27-4	Bromodichloromethane	1.35	0.92	UD	0.92	6.8
10061-01-5	cis-1,3-Dichloropropene	1.35	1.0	UD	1.0	6.8
10061-02-6	trans-1,3-Dichloropropene	1.35	0.92	UD	0.92	6.8
79-00-5	1,1,2-Trichloroethane	1.35	0.94	UD	0.94	6.8
106-93-4	1,2-Dibromoethane	1.35	0.97	UD	0.97	6.8
127-18-4	Tetrachloroethene	1.35	0.84	UD	0.84	6.8
124-48-1	Dibromochloromethane	1.35	0.89	UD	0.89	6.8
108-90-7	Chlorobenzene	1.35	0.89	UD	0.89	6.8
75-25-2	Bromoform	1.35	1.0	UD	1.0	6.8
79-34-5	1,1,2,2-Tetrachloroethane	1.35	0.97	UD	0.97	6.8
541-73-1	1,3-Dichlorobenzene	1.35	0.76	UD	0.76	6.8
106-46-7	1,4-Dichlorobenzene	1.35	0.84	UD	0.84	6.8
95-50-1	1,2-Dichlorobenzene	1.35	0.73	UD	0.73	6.8
87-68-3	Hexachlorobutadiene	1.35	1.0	UD	1.0	6.8
76-14-2	Freon 114	1.35	1.4	UD	1.4	6.8

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	27	87	70 - 130	

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP02-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Air Laboratory ID: AE00066-14 File ID: 217AS013.D

Sampled: 01/20/21 11:06 Prepared: 01/25/21 09:00 Analyzed: 01/25/21 11:18

Solids: Preparation: NO PREP 2 Initial/Final: 200 mL / 400 mL

Batch: 1A25023 Sequence: AA64633 Calibration: 2101005 Instrument: OVGCMS7

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	376564	10.98	368179	11	
1,4-Difluorobenzene	1276814	12.49	1236730	12.5	
Chlorobenzene-d5	910527	15.89	944742	15.9	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP03-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Air Laboratory ID: AE00066-15RE1 File ID: 217AS017.D

Sampled: 01/20/21 11:15 Prepared: 01/25/21 09:00 Analyzed: 01/25/21 14:06

Solids: Preparation: NO PREP 2 Initial/Final: 400 mL / 400 mL

Batch: 1A25023 Sequence: AA64633 Calibration: 2101005 Instrument: OVGCMS7

CAS NO.	COMPOUND	DILUTION	CONC. (ppbv)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1.59	0.87	UD	0.87	4.0
115-07-1	Propene	1.59	0.87	UD	0.87	4.0
74-87-3	Chloromethane	1.59	0.76	UD	0.76	4.0
75-01-4	Vinyl chloride	1.59	0.89	UD	0.89	4.0
74-83-9	Bromomethane	1.59	0.52	UD	0.52	4.0
75-00-3	Chloroethane	1.59	0.51	UD	0.51	4.0
75-69-4	Trichlorofluoromethane	1.59	0.54	UD	0.54	4.0
593-60-2	Bromoethene	1.59	0.52	UD	0.52	4.0
75-34-3	1,1-Dichloroethane	1.59	0.57	UD	0.57	4.0
67-64-1	Acetone	1.59	4.1	D	0.56	4.0
75-09-2	Methylene chloride	1.59	1.1	JBD	0.32	4.0
76-13-1	Freon 113	1.59	8.1	D	0.51	4.0
107-05-1	3-Chloropropene	1.59	0.62	UD	0.62	4.0
156-60-5	trans-1,2-Dichloroethene	1.59	0.51	UD	0.51	4.0
75-35-4	1,1-Dichloroethene	1.59	0.60	UD	0.60	4.0
156-59-2	cis-1,2-Dichloroethene	1.59	0.60	UD	0.60	4.0
67-66-3	Chloroform	1.59	1.9	JD	0.60	4.0
107-06-2	1,2-Dichloroethane	1.59	0.59	UD	0.59	4.0
71-55-6	1,1,1-Trichloroethane	1.59	0.54	UD	0.54	4.0
56-23-5	Carbon tetrachloride	1.59	0.43	UD	0.43	4.0
78-87-5	1,2-Dichloropropane	1.59	0.64	UD	0.64	4.0
79-01-6	Trichloroethene	1.59	0.56	UD	0.56	4.0
75-27-4	Bromodichloromethane	1.59	0.54	UD	0.54	4.0
10061-01-5	cis-1,3-Dichloropropene	1.59	0.60	UD	0.60	4.0
10061-02-6	trans-1,3-Dichloropropene	1.59	0.54	UD	0.54	4.0
79-00-5	1,1,2-Trichloroethane	1.59	0.56	UD	0.56	4.0
106-93-4	1,2-Dibromoethane	1.59	0.57	UD	0.57	4.0
127-18-4	Tetrachloroethene	1.59	0.49	UD	0.49	4.0
124-48-1	Dibromochloromethane	1.59	0.52	UD	0.52	4.0
108-90-7	Chlorobenzene	1.59	0.52	UD	0.52	4.0
75-25-2	Bromoform	1.59	0.60	UD	0.60	4.0
79-34-5	1,1,2,2-Tetrachloroethane	1.59	0.57	UD	0.57	4.0
541-73-1	1,3-Dichlorobenzene	1.59	0.45	UD	0.45	4.0
106-46-7	1,4-Dichlorobenzene	1.59	0.49	UD	0.49	4.0
95-50-1	1,2-Dichlorobenzene	1.59	0.43	UD	0.43	4.0
87-68-3	Hexachlorobutadiene	1.59	0.59	UD	0.59	4.0
76-14-2	Freon 114	1.59	0.83	UD	0.83	4.0

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	27	88	70 - 130	

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP03-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Air
Laboratory ID: AE00066-15RE1
File ID: 217AS017.D
Sampled: 01/20/21 11:15
Prepared: 01/25/21 09:00
Analyzed: 01/25/21 14:06
Solids:
Preparation: NO PREP 2
Initial/Final: 400 mL / 400 mL
Batch: 1A25023
Sequence: AA64633
Calibration: 2101005
Instrument: OVGCMS7

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	374110	10.99	368179	11	
1,4-Difluorobenzene	1263633	12.5	1236730	12.5	
Chlorobenzene-d5	911241	15.9	944742	15.9	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP04-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Air Laboratory ID: AE00066-16RE1 File ID: 217AS018.D

Sampled: 01/20/21 11:22 Prepared: 01/25/21 09:00 Analyzed: 01/25/21 14:47

Solids: Preparation: NO PREP 2 Initial/Final: 200 mL / 400 mL

Batch: 1A25023 Sequence: AA64633 Calibration: 2101005 Instrument: OVGCMS7

CAS NO.	COMPOUND	DILUTION	CONC. (ppbv)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1.4	1.5	UD	1.5	7.0
115-07-1	Propene	1.4	1.5	UD	1.5	7.0
74-87-3	Chloromethane	1.4	1.3	UD	1.3	7.0
75-01-4	Vinyl chloride	1.4	1.6	UD	1.6	7.0
74-83-9	Bromomethane	1.4	0.92	UD	0.92	7.0
75-00-3	Chloroethane	1.4	0.90	UD	0.90	7.0
75-69-4	Trichlorofluoromethane	1.4	0.95	UD	0.95	7.0
593-60-2	Bromoethene	1.4	0.92	UD	0.92	7.0
75-34-3	1,1-Dichloroethane	1.4	1.0	UD	1.0	7.0
67-64-1	Acetone	1.4	31	D	0.98	7.0
75-09-2	Methylene chloride	1.4	1.1	JBD	0.56	7.0
76-13-1	Freon 113	1.4	34	D	0.90	7.0
107-05-1	3-Chloropropene	1.4	1.1	UD	1.1	7.0
156-60-5	trans-1,2-Dichloroethene	1.4	0.90	UD	0.90	7.0
75-35-4	1,1-Dichloroethene	1.4	1.1	UD	1.1	7.0
156-59-2	cis-1,2-Dichloroethene	1.4	1.1	UD	1.1	7.0
67-66-3	Chloroform	1.4	1.1	UD	1.1	7.0
107-06-2	1,2-Dichloroethane	1.4	1.0	UD	1.0	7.0
71-55-6	1,1,1-Trichloroethane	1.4	0.95	UD	0.95	7.0
56-23-5	Carbon tetrachloride	1.4	0.76	UD	0.76	7.0
78-87-5	1,2-Dichloropropane	1.4	1.1	UD	1.1	7.0
79-01-6	Trichloroethene	1.4	0.98	UD	0.98	7.0
75-27-4	Bromodichloromethane	1.4	0.95	UD	0.95	7.0
10061-01-5	cis-1,3-Dichloropropene	1.4	1.1	UD	1.1	7.0
10061-02-6	trans-1,3-Dichloropropene	1.4	0.95	UD	0.95	7.0
79-00-5	1,1,2-Trichloroethane	1.4	0.98	UD	0.98	7.0
106-93-4	1,2-Dibromoethane	1.4	1.0	UD	1.0	7.0
127-18-4	Tetrachloroethene	1.4	0.87	UD	0.87	7.0
124-48-1	Dibromochloromethane	1.4	0.92	UD	0.92	7.0
108-90-7	Chlorobenzene	1.4	0.92	UD	0.92	7.0
75-25-2	Bromoform	1.4	1.1	UD	1.1	7.0
79-34-5	1,1,2,2-Tetrachloroethane	1.4	1.0	UD	1.0	7.0
541-73-1	1,3-Dichlorobenzene	1.4	0.78	UD	0.78	7.0
106-46-7	1,4-Dichlorobenzene	1.4	0.87	UD	0.87	7.0
95-50-1	1,2-Dichlorobenzene	1.4	0.76	UD	0.76	7.0
87-68-3	Hexachlorobutadiene	1.4	1.0	UD	1.0	7.0
76-14-2	Freon 114	1.4	1.5	UD	1.5	7.0

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	28	89	70 - 130	

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP04-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Air
Laboratory ID: AE00066-16RE1
File ID: 217AS018.D
Sampled: 01/20/21 11:22
Prepared: 01/25/21 09:00
Analyzed: 01/25/21 14:47
Solids:
Preparation: NO PREP 2
Initial/Final: 200 mL / 400 mL
Batch: 1A25023
Sequence: AA64633
Calibration: 2101005
Instrument: OVGCMS7

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	405636	10.99	368179	11	
1,4-Difluorobenzene	1356274	12.49	1236730	12.5	
Chlorobenzene-d5	989168	15.9	944742	15.9	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-SYSAIR-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Air Laboratory ID: AE00066-17 File ID: 217AS016.D

Sampled: 01/20/21 17:03 Prepared: 01/25/21 09:00 Analyzed: 01/25/21 13:21

Solids: Preparation: NO PREP 2 Initial/Final: 400 mL / 400 mL

Batch: 1A25023 Sequence: AA64633 Calibration: 2101005 Instrument: OVGCMS7

CAS NO.	COMPOUND	DILUTION	CONC. (ppbv)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1.32	0.73	UD	0.73	3.3
115-07-1	Propene	1.32	0.73	UD	0.73	3.3
74-87-3	Chloromethane	1.32	0.63	UD	0.63	3.3
75-01-4	Vinyl chloride	1.32	0.74	UD	0.74	3.3
74-83-9	Bromomethane	1.32	0.44	UD	0.44	3.3
75-00-3	Chloroethane	1.32	0.42	UD	0.42	3.3
75-69-4	Trichlorofluoromethane	1.32	0.45	UD	0.45	3.3
593-60-2	Bromoethene	1.32	0.44	UD	0.44	3.3
75-34-3	1,1-Dichloroethane	1.32	0.48	UD	0.48	3.3
67-64-1	Acetone	1.32	2.6	JD	0.46	3.3
75-09-2	Methylene chloride	1.32	0.99	JBD	0.26	3.3
76-13-1	Freon 113	1.32	0.42	UD	0.42	3.3
107-05-1	3-Chloropropene	1.32	0.51	UD	0.51	3.3
156-60-5	trans-1,2-Dichloroethene	1.32	0.96	JD	0.42	3.3
75-35-4	1,1-Dichloroethene	1.32	0.50	UD	0.50	3.3
156-59-2	cis-1,2-Dichloroethene	1.32	0.50	UD	0.50	3.3
67-66-3	Chloroform	1.32	0.50	UD	0.50	3.3
107-06-2	1,2-Dichloroethane	1.32	0.49	UD	0.49	3.3
71-55-6	1,1,1-Trichloroethane	1.32	0.45	UD	0.45	3.3
56-23-5	Carbon tetrachloride	1.32	0.36	UD	0.36	3.3
78-87-5	1,2-Dichloropropane	1.32	0.53	UD	0.53	3.3
79-01-6	Trichloroethene	1.32	0.46	UD	0.46	3.3
75-27-4	Bromodichloromethane	1.32	0.45	UD	0.45	3.3
10061-01-5	cis-1,3-Dichloropropene	1.32	0.50	UD	0.50	3.3
10061-02-6	trans-1,3-Dichloropropene	1.32	0.45	UD	0.45	3.3
79-00-5	1,1,2-Trichloroethane	1.32	0.46	UD	0.46	3.3
106-93-4	1,2-Dibromoethane	1.32	0.48	UD	0.48	3.3
127-18-4	Tetrachloroethene	1.32	0.41	UD	0.41	3.3
124-48-1	Dibromochloromethane	1.32	0.44	UD	0.44	3.3
108-90-7	Chlorobenzene	1.32	0.44	UD	0.44	3.3
75-25-2	Bromoform	1.32	0.50	UD	0.50	3.3
79-34-5	1,1,2,2-Tetrachloroethane	1.32	0.48	UD	0.48	3.3
541-73-1	1,3-Dichlorobenzene	1.32	0.37	UD	0.37	3.3
106-46-7	1,4-Dichlorobenzene	1.32	0.41	UD	0.41	3.3
95-50-1	1,2-Dichlorobenzene	1.32	0.36	UD	0.36	3.3
87-68-3	Hexachlorobutadiene	1.32	0.49	UD	0.49	3.3
76-14-2	Freon 114	1.32	0.69	UD	0.69	3.3

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	28	89	70 - 130	

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-SYSAIR-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Air
Laboratory ID: AE00066-17
File ID: 217AS016.D
Sampled: 01/20/21 17:03
Prepared: 01/25/21 09:00
Analyzed: 01/25/21 13:21
Solids:
Preparation: NO PREP 2
Initial/Final: 400 mL / 400 mL
Batch: 1A25023
Sequence: AA64633
Calibration: 2101005
Instrument: OVGCMS7

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	379518	10.99	368179	11	
1,4-Difluorobenzene	1282254	12.49	1236730	12.5	
Chlorobenzene-d5	929975	15.9	944742	15.9	

* Values outside of QC limits

HOLDING TIME SUMMARY

TO-15

Laboratory: ENCO Orlando

SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-VMP01-20210120	01/20/21 11:03	01/21/21 15:10	01/25/21 09:00	4.91	NA	01/25/21 10:36	5.00	30.00	
CRCA-VMP02-20210120	01/20/21 11:06	01/21/21 15:10	01/25/21 09:00	4.91	NA	01/25/21 11:18	5.00	30.00	
CRCA-VMP03-20210120	01/20/21 11:15	01/21/21 15:10	01/25/21 09:00	4.91	NA	01/25/21 14:06	5.00	30.00	
CRCA-VMP04-20210120	01/20/21 11:22	01/21/21 15:10	01/25/21 09:00	4.90	NA	01/25/21 14:47	5.00	30.00	
CRCA-SYSAIR-20210120	01/20/21 17:03	01/21/21 15:10	01/25/21 09:00	4.66	NA	01/25/21 13:21	5.00	30.00	

PREPARATION BATCH SUMMARY

TO-15

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1A25023 Batch Matrix: Air Preparation: NO PREP 2

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1A25023-BLK1	217AS009.D	01/24/21 17:30	
LCS	1A25023-BS1	217AS006.D	01/24/21 17:30	
LCS Dup	1A25023-BSD1	217AS007.D	01/24/21 17:30	
CRCA-VMP01-20210120	AE00066-13RE1	217AS012.D	01/25/21 09:00	
CRCA-VMP02-20210120	AE00066-14	217AS013.D	01/25/21 09:00	
CRCA-VMP03-20210120	AE00066-15RE1	217AS017.D	01/25/21 09:00	
CRCA-VMP04-20210120	AE00066-16RE1	217AS018.D	01/25/21 09:00	
CRCA-SYSAIR-20210120	AE00066-17	217AS016.D	01/25/21 09:00	

METHOD BLANK DATA SHEET
TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Air	Laboratory ID:	1A25023-BLK1	File ID:	217AS009.D
Prepared:	01/24/21 17:30	Preparation:	NO PREP 2	Initial/Final:	400 mL / 400 mL
Analyzed:	01/25/21 00:37	Instrument:	OVGCMS7		
Batch:	1A25023	Sequence:	AA64633	Calibration:	2101005

CAS NO.	COMPOUND	CONC. (ppbv)	Q
75-71-8	Dichlorodifluoromethane	0.55	U
115-07-1	Propene	0.55	U
74-87-3	Chloromethane	0.48	U
75-01-4	Vinyl chloride	0.56	U
74-83-9	Bromomethane	0.33	U
75-00-3	Chloroethane	0.32	U
75-69-4	Trichlorofluoromethane	0.34	U
593-60-2	Bromoethene	0.33	U
75-34-3	1,1-Dichloroethane	0.36	U
67-64-1	Acetone	0.35	U
75-09-2	Methylene chloride	0.29	J
76-13-1	Freon 113	0.32	U
107-05-1	3-Chloropropene	0.39	U
156-60-5	trans-1,2-Dichloroethene	0.32	U
75-35-4	1,1-Dichloroethene	0.38	U
156-59-2	cis-1,2-Dichloroethene	0.38	U
67-66-3	Chloroform	0.38	U
107-06-2	1,2-Dichloroethane	0.37	U
71-55-6	1,1,1-Trichloroethane	0.34	U
56-23-5	Carbon tetrachloride	0.27	U
78-87-5	1,2-Dichloropropane	0.40	U
79-01-6	Trichloroethene	0.35	U
75-27-4	Bromodichloromethane	0.34	U
10061-01-5	cis-1,3-Dichloropropene	0.38	U
10061-02-6	trans-1,3-Dichloropropene	0.34	U
79-00-5	1,1,2-Trichloroethane	0.35	U
106-93-4	1,2-Dibromoethane	0.36	U
127-18-4	Tetrachloroethene	0.31	U
124-48-1	Dibromochloromethane	0.33	U
108-90-7	Chlorobenzene	0.33	U

METHOD BLANK DATA SHEET
TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Air	Laboratory ID:	1A25023-BLK1	File ID:	217AS009.D
Prepared:	01/24/21 17:30	Preparation:	NO PREP 2	Initial/Final:	400 mL / 400 mL
Analyzed:	01/25/21 00:37	Instrument:	OVGCMS7		
Batch:	1A25023	Sequence:	AA64633	Calibration:	2101005

CAS NO.	COMPOUND	CONC. (ppbv)	Q
75-25-2	Bromoform	0.38	U
79-34-5	1,1,2,2-Tetrachloroethane	0.36	U
541-73-1	1,3-Dichlorobenzene	0.28	U
106-46-7	1,4-Dichlorobenzene	0.31	U
95-50-1	1,2-Dichlorobenzene	0.27	U
87-68-3	Hexachlorobutadiene	0.37	U
76-14-2	Freon 114	0.52	U

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	27	87	70 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	396636	10.99	368179	11	
1,4-Difluorobenzene	1324496	12.49	1236730	12.5	
Chlorobenzene-d5	957252	15.89	944742	15.9	

LCS / LCS DUPLICATE RECOVERY

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Air		
Batch:	1A25023	Laboratory ID:	1A25023-BS1
Preparation:	NO PREP 2	Initial/Final:	400 mL / 400 mL

COMPOUND	SPIKE ADDED (ppbv)	LCS CONCENTRATION (ppbv)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	10.0	9.3	93	61 - 137
Propene	10.0	8.9	89	63 - 132
Chloromethane	10.0	10	100	55 - 142
Vinyl chloride	10.0	11	106	53 - 148
Bromomethane	10.0	9.9	99	69 - 130
Chloroethane	10.0	10	101	69 - 131
Trichlorofluoromethane	10.0	9.7	97	46 - 161
Bromoethene	10.0	9.5	95	69 - 132
1,1-Dichloroethane	10.0	12	119	70 - 130
Acetone	10.0	10	104	65 - 130
Methylene chloride	10.0	13	128	59 - 136
Freon 113	10.0	11	111	67 - 140
3-Chloropropene	10.0	11	113	70 - 130
trans-1,2-Dichloroethene	10.0	11	113	70 - 130
1,1-Dichloroethene	10.0	11	113	67 - 142
cis-1,2-Dichloroethene	10.0	12	122	70 - 130
Chloroform	10.0	11	111	70 - 130
1,2-Dichloroethane	10.0	10	102	70 - 130
1,1,1-Trichloroethane	10.0	10	100	70 - 130
Carbon tetrachloride	10.0	8.3	83	22 - 166
1,2-Dichloropropane	10.0	12	121	70 - 130
Trichloroethene	10.0	11	114	70 - 130
Bromodichloromethane	10.0	11	109	70 - 130
cis-1,3-Dichloropropene	10.0	12	122	70 - 137
trans-1,3-Dichloropropene	10.0	16	156	59 - 166
1,1,2-Trichloroethane	10.0	12	117	70 - 134
1,2-Dibromoethane	10.0	12	118	70 - 141
Tetrachloroethene	10.0	10	104	70 - 141
Dibromochloromethane	10.0	11	110	70 - 130
Chlorobenzene	10.0	11	107	70 - 134

LCS / LCS DUPLICATE RECOVERY

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Air		
Batch:	1A25023	Laboratory ID:	1A25023-BS1
Preparation:	NO PREP 2	Initial/Final:	400 mL / 400 mL

COMPOUND	SPIKE ADDED (ppbv)	LCS CONCENTRATION (ppbv)	LCS % REC. #	QC LIMITS REC.
Bromoform	10.0	11	110	62 - 149
1,1,2,2-Tetrachloroethane	10.0	12	119	52 - 163
1,3-Dichlorobenzene	10.0	9.8	98	47 - 178
1,4-Dichlorobenzene	10.0	9.2	92	45 - 180
1,2-Dichlorobenzene	10.0	10	102	37 - 180
Hexachlorobutadiene	10.0	9.1	91	24 - 180
Freon 114	10.0	9.8	98	62 - 147

COMPOUND	SPIKE ADDED (ppbv)	LCSD CONCENTRATION (ppbv)	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	10.0	8.1	81	13	25	61 - 137
Propene	10.0	7.8	78	13	25	63 - 132
Chloromethane	10.0	8.8	88	12	25	55 - 142
Vinyl chloride	10.0	9.2	92	14	25	53 - 148
Bromomethane	10.0	8.6	86	14	25	69 - 130
Chloroethane	10.0	8.7	87	14	25	69 - 131
Trichlorofluoromethane	10.0	8.7	87	11	25	46 - 161
Bromoethene	10.0	8.6	86	10	25	69 - 132
1,1-Dichloroethane	10.0	11	110	8	25	70 - 130
Acetone	10.0	9.5	95	10	25	65 - 130
Methylene chloride	10.0	12	123	5	25	59 - 136
Freon 113	10.0	10	103	8	25	67 - 140
3-Chloropropene	10.0	10	105	7	25	70 - 130
trans-1,2-Dichloroethene	10.0	10	105	7	25	70 - 130
1,1-Dichloroethene	10.0	10	103	9	25	67 - 142
cis-1,2-Dichloroethene	10.0	11	114	6	25	70 - 130
Chloroform	10.0	10	101	9	25	70 - 130
1,2-Dichloroethane	10.0	8.8	88	15	25	70 - 130
1,1,1-Trichloroethane	10.0	9.1	91	9	25	70 - 130
Carbon tetrachloride	10.0	7.5	75	10	25	22 - 166

LCS / LCS DUPLICATE RECOVERY

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Air		
Batch:	1A25023	Laboratory ID:	1A25023-BSD1
Preparation:	NO PREP 2	Initial/Final:	400 mL / 400 mL

COMPOUND	SPIKE ADDED (ppbv)	LCSD CONCENTRATION (ppbv)	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,2-Dichloropropane	10.0	11	113	7	25	70 - 130
Trichloroethene	10.0	11	108	5	25	70 - 130
Bromodichloromethane	10.0	10	100	8	25	70 - 130
cis-1,3-Dichloropropene	10.0	11	113	7	25	70 - 137
trans-1,3-Dichloropropene	10.0	15	146	7	25	59 - 166
1,1,2-Trichloroethane	10.0	11	110	6	25	70 - 134
1,2-Dibromoethane	10.0	11	110	7	25	70 - 141
Tetrachloroethene	10.0	9.8	98	6	25	70 - 141
Dibromochloromethane	10.0	10	103	7	25	70 - 130
Chlorobenzene	10.0	10	100	6	25	70 - 134
Bromoform	10.0	10	103	7	25	62 - 149
1,1,2,2-Tetrachloroethane	10.0	11	111	7	25	52 - 163
1,3-Dichlorobenzene	10.0	9.1	91	7	25	47 - 178
1,4-Dichlorobenzene	10.0	8.5	85	8	25	45 - 180
1,2-Dichlorobenzene	10.0	9.5	95	7	25	37 - 180
Hexachlorobutadiene	10.0	8.5	85	7	25	24 - 180
Freon 114	10.0	8.8	88	11	25	62 - 147

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64317
Instrument: OVGCMS7
Matrix: Air
Calibration: 2101005

Surrogate Compound	Spike Level ppbv	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA64317-SCV1)			Lab File ID: 207LZ017.D		Analyzed: 12/31/20 23:23			
4-Bromofluorobenzene	31.0	101	0 - 200	17.33	17.33	0.0000	+/-1.0	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64633
Instrument: OVGCMS7
Matrix: Air
Calibration: 2101005

Surrogate Compound	Spike Level ppbv	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA64633-CCV1)			Lab File ID: 217AS004.D		Analyzed: 01/24/21 21:16			
4-Bromofluorobenzene	31.0	101	0 - 200	17.32	17.33	-0.0100	+/-1.0	
Instrument RL Check (AA64633-CRL1)			Lab File ID: 217AS005.D		Analyzed: 01/24/21 21:55			
4-Bromofluorobenzene	31.0	91	0 - 200	17.32	17.33	-0.0100	+/-1.0	
LCS (1A25023-BS1)			Lab File ID: 217AS006.D		Analyzed: 01/24/21 22:34			
4-Bromofluorobenzene	31.0	102	70 - 130	17.32	17.33	-0.0100	+/-1.0	
LCS Dup (1A25023-BSD1)			Lab File ID: 217AS007.D		Analyzed: 01/24/21 23:13			
4-Bromofluorobenzene	31.0	100	70 - 130	17.32	17.33	-0.0100	+/-1.0	
Blank (1A25023-BLK1)			Lab File ID: 217AS009.D		Analyzed: 01/25/21 00:37			
4-Bromofluorobenzene	31.0	87	70 - 130	17.32	17.33	-0.0100	+/-1.0	
CRCA-VMP01-20210120 (AE00066-13RE1)			Lab File ID: 217AS012.D		Analyzed: 01/25/21 10:36			
4-Bromofluorobenzene	31.0	90	70 - 130	17.32	17.33	-0.0100	+/-1.0	
CRCA-VMP02-20210120 (AE00066-14)			Lab File ID: 217AS013.D		Analyzed: 01/25/21 11:18			
4-Bromofluorobenzene	31.0	87	70 - 130	17.33	17.33	0.0000	+/-1.0	
CRCA-SYSAIR-20210120 (AE00066-17)			Lab File ID: 217AS016.D		Analyzed: 01/25/21 13:21			
4-Bromofluorobenzene	31.0	89	70 - 130	17.33	17.33	0.0000	+/-1.0	
CRCA-VMP03-20210120 (AE00066-15RE1)			Lab File ID: 217AS017.D		Analyzed: 01/25/21 14:06			
4-Bromofluorobenzene	31.0	88	70 - 130	17.33	17.33	0.0000	+/-1.0	
CRCA-VMP04-20210120 (AE00066-16RE1)			Lab File ID: 217AS018.D		Analyzed: 01/25/21 14:47			
4-Bromofluorobenzene	31.0	89	70 - 130	17.33	17.33	0.0000	+/-1.0	

INTERNAL STANDARD AREA AND RT SUMMARY
TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA64317
Instrument: OVGCMS7
Matrix: Air
Calibration: 2101005

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA64317-CAL1)			Lab File ID: 207LZ005.D			Analyzed: 12/31/20 15:30			
Bromochloromethane	373148	10.99	368179	11	101	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1252006	12.49	1236730	12.5	101	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	940921	15.9	944742	15.9	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64317-CAL2)			Lab File ID: 207LZ006.D			Analyzed: 12/31/20 16:10			
Bromochloromethane	374682	10.99	368179	11	102	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1271464	12.49	1236730	12.5	103	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	980132	15.9	944742	15.9	104	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64317-CAL3)			Lab File ID: 207LZ007.D			Analyzed: 12/31/20 16:48			
Bromochloromethane	375020	10.99	368179	11	102	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1254271	12.49	1236730	12.5	101	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	928803	15.9	944742	15.9	98	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64317-CAL4)			Lab File ID: 207LZ008.D			Analyzed: 12/31/20 17:27			
Bromochloromethane	356879	10.98	368179	11	97	60 - 140	-0.0200	+/-0.50	
1,4-Difluorobenzene	1194813	12.49	1236730	12.5	97	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	889493	15.9	944742	15.9	94	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64317-CAL5)			Lab File ID: 207LZ009.D			Analyzed: 12/31/20 18:08			
Bromochloromethane	359052	10.99	368179	11	98	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1218151	12.49	1236730	12.5	98	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	912184	15.9	944742	15.9	97	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64317-CAL6)			Lab File ID: 207LZ010.D			Analyzed: 12/31/20 18:46			
Bromochloromethane	364591	10.99	368179	11	99	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1225340	12.49	1236730	12.5	99	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	929328	15.9	944742	15.9	98	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64317-CAL7)			Lab File ID: 207LZ011.D			Analyzed: 12/31/20 19:25			
Bromochloromethane	368179	11	368179	11	100	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	1236730	12.5	1236730	12.5	100	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	944742	15.9	944742	15.9	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64317-CAL8)			Lab File ID: 207LZ012.D			Analyzed: 12/31/20 20:06			
Bromochloromethane	377607	11	368179	11	103	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	1273648	12.5	1236730	12.5	103	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	978882	15.9	944742	15.9	104	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64317-CAL9)			Lab File ID: 207LZ013.D			Analyzed: 12/31/20 20:51			
Bromochloromethane	394710	11	368179	11	107	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	1251209	12.5	1236730	12.5	101	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	933690	15.9	944742	15.9	99	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA64317
Instrument: OVGCMS7
Matrix: Air
Calibration: 2101005

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA64317-SCV1)			Lab File ID: 207LZ017.D			Analyzed: 12/31/20 23:23			
Bromochloromethane	376726	10.99	368179	11	102	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1252079	12.5	1236730	12.5	101	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	969254	15.89	944742	15.9	103	50 - 200	-0.0100	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA64633
Instrument: OVGCMS7
Matrix: Air
Calibration: 2101005

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA64633-CCV1)			Lab File ID: 217AS004.D			Analyzed: 01/24/21 21:16			
Bromochloromethane	392339	10.99	368179	11	107	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1301381	12.49	1236730	12.5	105	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	987702	15.89	944742	15.9	105	50 - 200	-0.0100	+/-0.50	
Instrument RL Check (AA64633-CRL1)			Lab File ID: 217AS005.D			Analyzed: 01/24/21 21:55			
Bromochloromethane	403704	10.98	368179	11	110	60 - 140	-0.0200	+/-0.50	
1,4-Difluorobenzene	1353586	12.49	1236730	12.5	109	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	996591	15.89	944742	15.9	105	50 - 200	-0.0100	+/-0.50	
LCS (1A25023-BS1)			Lab File ID: 217AS006.D			Analyzed: 01/24/21 22:34			
Bromochloromethane	390017	10.99	368179	11	106	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1295134	12.49	1236730	12.5	105	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	976746	15.89	944742	15.9	103	50 - 200	-0.0100	+/-0.50	
LCS Dup (1A25023-BSD1)			Lab File ID: 217AS007.D			Analyzed: 01/24/21 23:13			
Bromochloromethane	408298	10.99	368179	11	111	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1353473	12.49	1236730	12.5	109	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	1023882	15.89	944742	15.9	108	50 - 200	-0.0100	+/-0.50	
Blank (1A25023-BLK1)			Lab File ID: 217AS009.D			Analyzed: 01/25/21 00:37			
Bromochloromethane	396636	10.99	368179	11	108	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1324496	12.49	1236730	12.5	107	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	957252	15.89	944742	15.9	101	50 - 200	-0.0100	+/-0.50	
CRCA-VMP01-20210120 (AE00066-13RE1)			Lab File ID: 217AS012.D			Analyzed: 01/25/21 10:36			
Bromochloromethane	394787	10.98	368179	11	107	60 - 140	-0.0200	+/-0.50	
1,4-Difluorobenzene	1326946	12.49	1236730	12.5	107	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	966269	15.89	944742	15.9	102	50 - 200	-0.0100	+/-0.50	
CRCA-VMP02-20210120 (AE00066-14)			Lab File ID: 217AS013.D			Analyzed: 01/25/21 11:18			
Bromochloromethane	376564	10.98	368179	11	102	60 - 140	-0.0200	+/-0.50	
1,4-Difluorobenzene	1276814	12.49	1236730	12.5	103	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	910527	15.89	944742	15.9	96	50 - 200	-0.0100	+/-0.50	
CRCA-SYSAIR-20210120 (AE00066-17)			Lab File ID: 217AS016.D			Analyzed: 01/25/21 13:21			
Bromochloromethane	379518	10.99	368179	11	103	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1282254	12.49	1236730	12.5	104	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	929975	15.9	944742	15.9	98	50 - 200	0.0000	+/-0.50	
CRCA-VMP03-20210120 (AE00066-15RE1)			Lab File ID: 217AS017.D			Analyzed: 01/25/21 14:06			
Bromochloromethane	374110	10.99	368179	11	102	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1263633	12.5	1236730	12.5	102	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	911241	15.9	944742	15.9	96	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA64633
Instrument: OVGCMS7
Matrix: Air
Calibration: 2101005

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
CRCA-VMP04-20210120 (AE00066-16RE1)			Lab File ID: 217AS018.D			Analyzed: 01/25/21 14:47			
Bromochloromethane	405636	10.99	368179	11	110	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1356274	12.49	1236730	12.5	110	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	989168	15.9	944742	15.9	105	50 - 200	0.0000	+/-0.50	

ANALYSIS BATCH (SEQUENCE) SUMMARY

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64317		
Calibration:	2101005	Instrument:	OVGCMS7

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA64317-TUN1	207LZ003.D	12/31/20 11:50
Cal Standard	AA64317-CAL1	207LZ005.D	12/31/20 15:30
Cal Standard	AA64317-CAL2	207LZ006.D	12/31/20 16:10
Cal Standard	AA64317-CAL3	207LZ007.D	12/31/20 16:48
Cal Standard	AA64317-CAL4	207LZ008.D	12/31/20 17:27
Cal Standard	AA64317-CAL5	207LZ009.D	12/31/20 18:08
Cal Standard	AA64317-CAL6	207LZ010.D	12/31/20 18:46
Cal Standard	AA64317-CAL7	207LZ011.D	12/31/20 19:25
Cal Standard	AA64317-CAL8	207LZ012.D	12/31/20 20:06
Cal Standard	AA64317-CAL9	207LZ013.D	12/31/20 20:51
Secondary Cal Check	AA64317-SCV1	207LZ017.D	12/31/20 23:23

ANALYSIS BATCH (SEQUENCE) SUMMARY

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64633		
Calibration:	2101005	Instrument:	OVGCMS7

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA64633-TUN1	217AS003.D	01/24/21 20:13
Calibration Check	AA64633-CCV1	217AS004.D	01/24/21 21:16
Instrument RL Check	AA64633-CRL1	217AS005.D	01/24/21 21:55
LCS	1A25023-BS1	217AS006.D	01/24/21 22:34
LCS Dup	1A25023-BSD1	217AS007.D	01/24/21 23:13
Blank	1A25023-BLK1	217AS009.D	01/25/21 00:37
CRCA-VMP01-20210120	AE00066-13RE1	217AS012.D	01/25/21 10:36
CRCA-VMP02-20210120	AE00066-14	217AS013.D	01/25/21 11:18
CRCA-SYSAIR-20210120	AE00066-17	217AS016.D	01/25/21 13:21
CRCA-VMP03-20210120	AE00066-15RE1	217AS017.D	01/25/21 14:06
CRCA-VMP04-20210120	AE00066-16RE1	217AS018.D	01/25/21 14:47

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	207LZ003.D	Injection Date:	12/31/20
Instrument ID:	OVGCMS7	Injection Time:	11:50
Sequence:	AA64317	Lab Sample ID:	AA64317-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8 - 40% of 95	25.8	PASS
75	30 - 66% of 95	47.4	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.65	PASS
173	Less than 2% of 174	0	PASS
174	50 - 120% of 95	72	PASS
175	4 - 9% of 174	5.68	PASS
176	95 - 101% of 174	99.9	PASS
177	5 - 9% of 176	6.72	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	217AS003.D	Injection Date:	01/24/21
Instrument ID:	OVGCMS7	Injection Time:	20:13
Sequence:	AA64633	Lab Sample ID:	AA64633-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8 - 40% of 95	24.3	PASS
75	30 - 66% of 95	44.1	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.79	PASS
173	Less than 2% of 174	0	PASS
174	50 - 120% of 95	70.2	PASS
175	4 - 9% of 174	5.38	PASS
176	95 - 101% of 174	101	PASS
177	5 - 9% of 176	6.55	PASS

CONTINUING CALIBRATION CHECK

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS7	Calibration:	2101005
Lab File ID:	217AS004.D	Calibration Date:	12/31/20 11:50
Sequence:	AA64633	Injection Date:	01/24/21
Lab Sample ID:	AA64633-CCV1	Injection Time:	21:16

		CONC. (ppbv)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Dichlorodifluoromethane	A	10.0	9.4	5.909758	5.571931		-5.7	30
Propene	A	10.0	9.7	3.46891	3.347509		-3.5	30
Chloromethane	A	10.0	11	3.270463	3.477462		6.3	30
Vinyl chloride	A	10.0	11	2.909119	3.098262		6.5	30
Bromomethane	A	10.0	8.7	2.155586	1.86725		-13	30
Chloroethane	A	10.0	9.1	1.196796	1.084687		-9.4	30
Trichlorofluoromethane	A	10.0	8.8	3.437972	3.024969		-12	30
Bromoethene	A	10.0	9.0	1.796391	1.62381		-9.6	30
1,1-Dichloroethane	A	10.0	10	4.245974	4.44449		4.7	30
Acetone	A	10.0	10	5.226221	5.376271		2.9	30
Methylene chloride	A	10.0	11	1.858963	2.116016		14	30
Freon 113	A	10.0	9.8	2.911353	2.848145		-2.2	30
3-Chloropropene	A	10.0	11	4.465711	4.794069		7.4	30
trans-1,2-Dichloroethene	A	10.0	11	3.501546	3.714652		6.1	30
1,1-Dichloroethene	A	10.0	10	4.047849	4.131448		2.1	30
cis-1,2-Dichloroethene	A	10.0	11	2.164079	2.307536		6.6	30
Chloroform	A	10.0	9.8	4.470508	4.388644		-1.8	30
1,2-Dichloroethane	A	10.0	9.1	3.063206	2.785582		-9.1	30
1,1,1-Trichloroethane	A	10.0	9.0	3.961147	3.564211		-10	30
Carbon tetrachloride	A	10.0	8.6	3.970871	3.432433		-14	30
1,2-Dichloropropane	A	10.0	11	0.7791529	0.8254162		5.9	30
Trichloroethene	A	10.0	10	0.7646966	0.7661047		0.20	30
Bromodichloromethane	A	10.0	10	1.331697	1.373903		3.2	30
cis-1,3-Dichloropropene	A	10.0	10	1.13546	1.14883		1.2	30
trans-1,3-Dichloropropene	A	10.0	11	0.7768079	0.702079		6.6	30
1,1,2-Trichloroethane	A	10.0	10	0.6845185	0.700483		2.3	30
1,2-Dibromoethane	A	10.0	10	1.077347	1.086352		0.80	30
Tetrachloroethene	A	10.0	9.4	0.9008099	0.8440822		-6.3	30
Dibromochloromethane	A	10.0	10	0.9321549	0.9778625		4.9	30

CONTINUING CALIBRATION CHECK

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS7	Calibration:	2101005
Lab File ID:	217AS004.D	Calibration Date:	12/31/20 11:50
Sequence:	AA64633	Injection Date:	01/24/21
Lab Sample ID:	AA64633-CCV1	Injection Time:	21:16

		CONC. (ppbv)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Chlorobenzene	A	10.0	9.5	1.827847	1.731006		-5.3	30
Bromoform	A	10.0	11	1.163951	1.236068		6.2	30
1,1,2,2-Tetrachloroethane	A	10.0	10	1.719508	1.543626		-0.2	30
1,3-Dichlorobenzene	A	10.0	8.6	1.111419	0.9707873		-14	30
1,4-Dichlorobenzene	A	10.0	8.1	0.9386015	0.8564639		-19	30
1,2-Dichlorobenzene	A	10.0	9.3	1.129182	0.9221265		-7.5	30
Hexachlorobutadiene	A	10.0	10	1.190627	0.3855925		0.50	30
Freon 114	A	10.0	9.7	3.615481	3.499855		-3.2	30

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64317
Instrument: OVGCMS7

Calibration: 2101005

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A0L0713	Air- VIRTUAL TUN-121120	AA64317-TUN1	207LZ003.D	12/31/20 11:50
A0L1267	Air- Virtual CAL1 123120	AA64317-CAL1	207LZ005.D	12/31/20 15:30
A0L1268	Air- Virtual CAL2 123120	AA64317-CAL2	207LZ006.D	12/31/20 16:10
A0L1269	Air- Virtual CAL3 123120	AA64317-CAL3	207LZ007.D	12/31/20 16:48
A0L1270	Air- Virtual CAL4 123120	AA64317-CAL4	207LZ008.D	12/31/20 17:27
A0L1271	Air- Virtual CAL5 123120	AA64317-CAL5	207LZ009.D	12/31/20 18:08
A0L1272	Air- Virtual CAL6 123120	AA64317-CAL6	207LZ010.D	12/31/20 18:46
A0L1273	Air- Virtual CAL7 123120	AA64317-CAL7	207LZ011.D	12/31/20 19:25
A0L1274	Air- Virtual CAL8 123120	AA64317-CAL8	207LZ012.D	12/31/20 20:06
A0L1275	Air- Virtual CAL9 123120	AA64317-CAL9	207LZ013.D	12/31/20 20:51
A0L1276	Air- Virtual SCV 123120	AA64317-SCV1	207LZ017.D	12/31/20 23:23

INITIAL CALIBRATION DATA

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101005
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 12/31/20 11:50

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF
Dichlorodifluoromethane	0.125	6.880101	0.25	6.46307	0.5	6.55892	1.25	6.475759	2.5	6.347673	5	5.180784
Propene	0.125	5.166722	0.25	3.918085	0.5	3.628708	1.25	3.34844	2.5	3.259381	5	2.6502
Chloromethane	0.125	3.432075	0.25	3.317085	0.5	3.377745	1.25	3.392706	2.5	3.422284	5	2.898886
Vinyl chloride	0.125	2.926303	0.25	2.910351	0.5	3.025108	1.25	2.903209	2.5	3.127041	5	2.606207
Bromomethane	0.125	2.69701	0.25	2.348071	0.5	2.223615	1.25	2.279177	2.5	2.168719	5	1.855863
Chloroethane	0.125	1.403004	0.25	1.301616	0.5	1.248861	1.25	1.252373	2.5	1.208704	5	1.008265
Trichlorofluoromethane	0.125	3.751755	0.25	3.61229	0.5	3.714842	1.25	3.731129	2.5	3.656952	5	3.000595
Bromoethene	0.125	1.847632	0.25	1.915523	0.5	1.893627	1.25	1.921505	2.5	1.90031	5	1.566176
1,1-Dichloroethane	0.125	4.587842	0.25	4.427082	0.5	4.502117	1.25	4.411519	2.5	4.354947	5	3.613587
Acetone	0.125	~~8.840053~~	0.25	~~7.938764~~	0.5	~~6.312917~~	1.25	5.890989	2.5	5.909937	5	4.526588
Methylene chloride	0.125	~~2.279632~~	0.25	~~2.149503~~	0.5	~~2.038782~~	1.25	2.007813	2.5	1.956844	5	1.620185
Freon 113	0.125	3.213417	0.25	3.054313	0.5	3.068258	1.25	3.065888	2.5	3.041704	5	2.441884
3-Chloropropene	0.125	5.221221	0.25	4.37744	0.5	4.685462	1.25	4.571835	2.5	4.473334	5	3.74963
trans-1,2-Dichloroethene	0.125	3.659374	0.25	3.577871	0.5	3.722116	1.25	3.652743	2.5	3.616235	5	3.033875
1,1-Dichloroethene	0.125	4.333294	0.25	4.132208	0.5	4.270663	1.25	4.268089	2.5	4.245297	5	3.504379
cis-1,2-Dichloroethene	0.125	2.361379	0.25	2.314645	0.5	2.269906	1.25	2.200582	2.5	2.184674	5	1.812244
Chloroform	0.125	4.986611	0.25	4.827528	0.5	4.756221	1.25	4.724647	2.5	4.634925	5	3.852189
1,2-Dichloroethane	0.125	3.45866	0.25	3.277702	0.5	3.270615	1.25	3.26241	2.5	3.196526	5	2.67297
1,1,1-Trichloroethane	0.125	4.546636	0.25	4.35659	0.5	4.310341	1.25	4.287824	2.5	4.185724	5	3.398078
Carbon tetrachloride	0.125	4.508753	0.25	4.30066	0.5	4.37085	1.25	4.338066	2.5	4.300139	5	3.453023
1,2-Dichloropropane	0.125	0.9056314	0.25	0.8308186	0.5	0.8147235	1.25	0.7831177	2.5	0.7741099	5	0.641737
Trichloroethene	0.125	0.9135547	0.25	0.7955145	0.5	0.7908482	1.25	0.7879539	2.5	0.7603373	5	0.6314858
Bromodichloromethane	0.125	1.390735	0.25	1.32732	0.5	1.384071	1.25	1.385696	2.5	1.37739	5	1.201869
cis-1,3-Dichloropropene	0.125	1.466798	0.25	1.270073	0.5	1.169293	1.25	1.11879	2.5	1.066899	5	0.919683
trans-1,3-Dichloropropene	0.125	1.149074	0.25	0.9235653	0.5	0.7734485	1.25	0.7374121	2.5	0.6990371	5	0.6082157
1,1,2-Trichloroethane	0.125	0.885229	0.25	0.7505553	0.5	0.6969291	1.25	0.6704728	2.5	0.6593885	5	0.5529321
1,2-Dibromoethane	0.125	1.449169	0.25	1.184933	0.5	1.064449	1.25	1.038214	2.5	1.002301	5	0.8779901
Tetrachloroethene	0.125	1.237815	0.25	1.017385	0.5	0.9396853	1.25	0.911662	2.5	0.8898493	5	0.7195064
Dibromochloromethane	0.125	0.9973435	0.25	0.9393644	0.5	0.9030074	1.25	0.9199645	2.5	0.916509	5	0.8581506
Chlorobenzene	0.125	2.647576	0.25	2.210825	0.5	1.867804	1.25	1.779592	2.5	1.705377	5	1.433636
Bromoform	0.125	1.313904	0.25	1.153171	0.5	1.082994	1.25	1.047519	2.5	1.04506	5	1.073963

INITIAL CALIBRATION DATA

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101005
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 12/31/20 11:50

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF
1,1,2,2-Tetrachloroethane	0.125	3.355793	0.25	2.357707	0.5	1.595921	1.25	1.338458	2.5	1.238526	5	1.221836
1,3-Dichlorobenzene	0.125	2.246947	0.25	1.556876	0.5	0.9183153	1.25	0.7635226	2.5	0.7169343	5	0.7228623
1,4-Dichlorobenzene	0.125	1.798349	0.25	1.290312	0.5	0.7310743	1.25	0.6060504	2.5	0.5870324	5	0.6175462
1,2-Dichlorobenzene	0.125	2.594862	0.25	1.748544	0.5	0.9581666	1.25	0.7459296	2.5	0.6719118	5	0.6888911
Hexachlorobutadiene	0.125	4.434064	0.25	2.65514	0.5	1.091672	1.25	0.6082809	2.5	0.4176	5	0.3728628
4-Bromofluorobenzene	31	0.3913357	31	0.4006491	31	0.3970659	31	0.399884	31	0.4068192	31	0.4208729
Freon 114	0.125	3.779669	0.25	3.607326	0.5	3.76725	1.25	3.744958	2.5	3.889755	5	3.26996

INITIAL CALIBRATION DATA (Continued)

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101005
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 12/31/20 11:50

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF
Dichlorodifluoromethane	10	5.615951	25	5.419369	50	4.246195						
Propene	10	3.008182	25	3.11672	50	3.123749						
Chloromethane	10	3.169506	25	3.251157	50	3.172724						
Vinyl chloride	10	2.853906	25	2.959224	50	2.87072						
Bromomethane	10	1.930807	25	1.977297	50	1.919713						
Chloroethane	10	1.110843	25	1.128034	50	1.109461						
Trichlorofluoromethane	10	3.233858	25	3.218693	50	3.021634						
Bromoethene	10	1.699582	25	1.741409	50	1.681756						
1,1-Dichloroethane	10	3.96112	25	4.132328	50	4.223222						
Acetone	10	4.897522	25	5.085341	50	5.046947						
Methylene chloride	10	1.776514	25	1.866688	50	1.925732						
Freon 113	10	2.707914	25	2.85663	50	2.752168						
3-Chloropropene	10	4.19237	25	4.433256	50	4.486855						
trans-1,2-Dichloroethene	10	3.33264	25	3.467828	50	3.451228						
1,1-Dichloroethene	10	3.862532	25	3.935975	50	3.878202						
cis-1,2-Dichloroethene	10	2.030001	25	2.119635	50	2.183642						
Chloroform	10	4.155904	25	4.228046	50	4.068504						
1,2-Dichloroethane	10	2.910748	25	2.902288	50	2.616938						
1,1,1-Trichloroethane	10	3.669862	25	3.606957	50	3.288307						
Carbon tetrachloride	10	3.694978	25	3.61008	50	3.16129						
1,2-Dichloropropane	10	0.7108671	25	0.7490648	50	0.8023065						
Trichloroethene	10	0.7060494	25	0.7406131	50	0.7559124						
Bromodichloromethane	10	1.303312	25	1.315934	50	1.298943						
cis-1,3-Dichloropropene	10	1.008858	25	1.070744	50	1.128002						
trans-1,3-Dichloropropene	10	0.6649786	25	0.658732	50	~~0.6284878~~						
1,1,2-Trichloroethane	10	0.6177992	25	0.6484286	50	0.6789318						
1,2-Dibromoethane	10	0.9720885	25	1.032365	50	1.074613						
Tetrachloroethene	10	0.8026817	25	0.8236732	50	0.7650315						
Dibromochloromethane	10	0.9408311	25	0.9708301	50	0.9433932						
Chlorobenzene	10	1.587282	25	1.631059	50	1.587469						
Bromoform	10	1.206311	25	1.275365	50	1.277273						

INITIAL CALIBRATION DATA (Continued)

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Calibration:	2101005	Instrument:	OVGCMS7
Matrix:	Air	Calibration Date:	12/31/20 11:50

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF
1,1,2,2-Tetrachloroethane	10	1.334683	25	1.448604	50	1.584043						
1,3-Dichlorobenzene	10	0.8604144	25	1.050722	50	1.166179						
1,4-Dichlorobenzene	10	0.7563342	25	0.9658522	50	1.094863						
1,2-Dichlorobenzene	10	0.7972424	25	0.9320236	50	1.025071						
Hexachlorobutadiene	10	0.3747693	25	0.3752485	50	0.3860044						
4-Bromofluorobenzene	31	0.4342106	31	0.4570122	31	0.5070762						
Freon 114	10	3.553778	25	3.567669	50	3.358967						

INITIAL CALIBRATION DATA (Continued)

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101005
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 12/31/20 11:50

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	5.909758	14.41643	4.554445	0.3657128			30	
Propene	3.46891	21.11997	4.434444	0.4079925			30	
Chloromethane	3.270463	5.251503	5.056667	0.3954954			30	
Vinyl chloride	2.909119	4.862303	5.304445	0.3416295			30	
Bromomethane	2.155586	12.47015	6.132222	0.2415321			30	
Chloroethane	1.196796	10.00664	6.456667	0.1737744			30	
Trichlorofluoromethane	3.437972	9.162249	6.782222	0.1918591			30	
Bromoethene	1.796391	7.130515	6.71	0.2358246			30	
1,1-Dichloroethane	4.245974	7.206655	10.02	6.831281E-02			30	
Acetone	5.226221	10.68406	8.961667	4.651208E-02			30	
Methylene chloride	1.858963	7.610124	8.843334	9.214839E-02			30	
Freon 113	2.911353	8.301482	7.925556	0.1285941			30	
3-Chloropropene	4.465711	8.770412	8.683333	0.1404623			30	
trans-1,2-Dichloroethene	3.501546	6.111153	9.106667	0.1230645			30	
1,1-Dichloroethene	4.047849	6.747121	7.827778	0.1533387			30	
cis-1,2-Dichloroethene	2.164079	7.639813	10.73333	4.565553E-02			30	
Chloroform	4.470508	8.908179	11.06333	4.393534E-02			30	
1,2-Dichloroethane	3.063206	9.680406	12.04222	3.036601E-02			30	
1,1,1-Trichloroethane	3.961147	11.8354	11.35778	5.881745E-02			30	
Carbon tetrachloride	3.970871	12.37318	11.27333	4.399863E-02			30	
1,2-Dichloropropane	0.7791529	9.621557	13.10111	3.082214E-02			30	
Trichloroethene	0.7646966	9.937085	12.48222	2.837714E-02			30	
Bromodichloromethane	1.331697	4.616314	13.14222	3.087056E-02			30	
cis-1,3-Dichloropropene	1.13546	13.95501	13.86556	3.722169E-02			30	
trans-1,3-Dichloropropene	0.7768079	22.95632	14.59	8.747303E-03	0.9995491		0.99	
1,1,2-Trichloroethane	0.6845185	13.54061	14.78889	1.842179E-02			30	
1,2-Dibromoethane	1.077347	15.03899	15.33111	1.893985E-02			30	
Tetrachloroethene	0.9008099	17.36702	14.60556	3.242749E-02			30	
Dibromochloromethane	0.9321549	4.277446	15.01222	3.204912E-02			30	
Chlorobenzene	1.827847	20.71857	15.92111	0.0130558			30	

INITIAL CALIBRATION DATA (Continued)

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101005
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 12/31/20 11:50

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Bromoform	1.163951	9.213024	16.72222	2.792253E-02			30	
1,1,2,2-Tetrachloroethane	1.719508	40.93741	17.51778	1.861973E-02	0.9968896		0.99	
1,3-Dichlorobenzene	1.111419	45.2394	18.63222	2.725701E-02	0.9934773		0.99	
1,4-Dichlorobenzene	0.9386015	42.97438	18.74	2.050293E-03	0.9909597		0.99	
1,2-Dichlorobenzene	1.129182	56.6263	19.29	1.680822E-02	0.9949822		0.99	
Hexachlorobutadiene	1.190627	119.732	21.13	8.897437E-03	0.9973281		0.99	
4-Bromofluorobenzene	0.4238806	8.874238	17.33	1.878086E-02			30	
Freon 114	3.615481	5.645776	4.94	0.3921453			30	

SECOND-SOURCE CALIBRATION VERIFICATION

TO-15

Laboratory: ENCO Orlando **SDG:** AE00066-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2101005 **Laboratory ID:** AA64317-SCV1

Sequence: AA64317 **Standard ID:** A0L1276

ANALYTE	EXPECTED (ppbv)	FOUND (ppbv)	% DRIFT	QC LIMIT
Dibromochloromethane	10.0	11	11.4	30.00
Chloroform	10.0	11	6.9	30.00
Acetone	10.0	10	0.4	30.00
Bromoethene	10.0	10	2.6	30.00
Carbon tetrachloride	10.0	11	5.1	30.00
1,3-Dichlorobenzene	10.0	8.9	-11.5	30.00
trans-1,2-Dichloroethene	10.0	10	4.1	30.00
cis-1,3-Dichloropropene	10.0	11	11.9	30.00
Tetrachloroethene	10.0	10	3.3	30.00
Chloromethane	10.0	9.8	-1.6	30.00
Propene	10.0	8.7	-12.7	30.00
Chlorobenzene	10.0	10	-0.08	30.00
1,2-Dichloroethane	10.0	11	9.4	30.00
3-Chloropropene	10.0	10	0.4	30.00
1,2-Dibromoethane	10.0	11	8.8	30.00
1,4-Dichlorobenzene	10.0	8.4	-16.4	30.00
trans-1,3-Dichloropropene	10.0	15	54.4 *	30.00
cis-1,2-Dichloroethene	10.0	11	6.7	30.00
1,1-Dichloroethene	10.0	11	8.3	30.00
Hexachlorobutadiene	10.0	11	6.7	30.00
1,1,2,2-Tetrachloroethane	10.0	10	3.9	30.00
Trichloroethene	10.0	11	6.9	30.00
1,1,2-Trichloroethane	10.0	11	5.9	30.00
1,2-Dichloropropane	10.0	11	5.9	30.00
Freon 114	10.0	10	4.0	30.00
Freon 113	10.0	11	6.3	30.00
1,1,1-Trichloroethane	10.0	11	7.1	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

TO-15

Laboratory: ENCO Orlando **SDG:** AE00066-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2101005 **Laboratory ID:** AA64317-SCV1

Sequence: AA64317 **Standard ID:** A0L1276

ANALYTE	EXPECTED (ppbv)	FOUND (ppbv)	% DRIFT	QC LIMIT
Trichlorofluoromethane	10.0	11	8.5	30.00
Bromomethane	10.0	11	6.2	30.00
1,1-Dichloroethane	10.0	11	6.8	30.00
Bromodichloromethane	10.0	11	8.4	30.00
Bromoform	10.0	11	13.1	30.00
Methylene chloride	10.0	11	9.5	30.00
Vinyl chloride	10.0	10	2.5	30.00
Chloroethane	10.0	10	2.4	30.00
1,2-Dichlorobenzene	10.0	9.5	-4.8	30.00
Dichlorodifluoromethane	10.0	11	10.2	30.00

* Values outside of QC limits

ENVIRONMENTAL CONSERVATION LABORATORIES, INC.

SUMMA Canister Pressure Logbook

☐ Cary ☐ Jacksonville ☐ Orlando

Instrument ID: N/A

SUMMA Can ID#	Sample ID#	Initial Pressure (psia)	Final Pressure (psia)	Dilution Factor (F.P./I.P.)	Analyst	Date	Comments
JS-062	AE00066-13	13.53	18.16	1.34	KS	1/25/21	
JS-063	AE00066-14	13.85	18.70	1.35	KS	1/25/21	
JS-069	AE00066-15	10.85	17.22	1.59	KS	1/25/21	
JS-070	AE00066-16	13.53	18.97	1.40	KS	1/25/21	
JS-016	AE00066-17	14.15	18.74	1.32	KS	1/25/21	
5600	AE00374-01	14.39	18.20	1.26	KS	1/26/21	
5599	AE00374-02	14.49	18.26	1.26	KS	1/26/21	
5123	AE00374-03	14.34	18.26	1.27	KS	1/26/21	

SUMMA CANISTER CLEANING LOGBOOK

	SUMMA Canister ID / Regulator ID	Initial Leak Check				Final Leak Check				Analysis Date- SUMMA Humid Air Certification (Include Chem Station File ID)	Target Analytes below MRL (DOD-1/2 LOQ) (Yes/No)	Comments
		Pressure (psia)	Date 2020	Time	Analyst	Pressure (psia)	Date 2020	Time	Analyst			
1	JS-051	47.53	8/19	10:40	[illegible]	47.16	8/21	9:00	[illegible]	207HT023 [illegible] 8/25/20	Yes	Toluene OK Non-DoD
2	JS-016	47.53	8/19	10:40	[illegible]	47.24	8/21	9:00	[illegible]	207HT025 [illegible] 8/25/20	No	Toluene OK Non-DoD
3	JS-080	47.53	8/19	10:40	[illegible]	47.14	8/21	9:00	[illegible]	207HT024 [illegible] 8/25/20	No	Toluene OK Non-DoD
4	~~JS-073~~ NC 8/18/20				[illegible] 8/19/20							
5	JS-093	48.46	8/20	10:05	[illegible]	20.10	8/21	13:45	[illegible]			Failed Leak Check
6	JS-073	48.46	8/20	10:05	[illegible]	47.50	8/21	13:45	[illegible]	207HT022 [illegible] 8/25/20	No	Toluene OK Non-DoD
7	JS-087	48.46	8/20	10:05	[illegible]	46.84	8/21	13:45	[illegible]	207HW013 [illegible] 8/29/20	No	DCM, Hexane, Toluene, Xylenes OK - Non DoD
8	JS 073	47.58	9/9	8:00	[illegible]	47.09	9/10	09:25	[illegible]	207IH014 [illegible] 9/14/20	Yes (DoD Acetone IPA)	
9	JS-071	47.58	9/9	8:00	[illegible]	47.18	9/10	09:25	[illegible]	207IH017 2E [illegible] 9/14/20 [illegible] 9/14/20	Yes (DoD IPA THF)	
10	JS-016	47.58	9/9	8:00	[illegible]	47.08	9/10	09:25	[illegible]	207IH016 [illegible] 9/14/20	Yes (DoD Acetone IPA)	

SUMMA CANISTER CLEANING LOGBOOK

	SUMMA Canister ID / Regulator ID	Initial Leak Check				Final Leak Check				Analysis Date- SUMMA Humid Air Certification (Include Chem Station File ID)	Target Analytes below MRL (DOD-1/2 LOQ) (Yes/No)	Comments
		Pressure (psia)	Date	Time	Analyst	Pressure (psia)	Date	Time	Analyst			
1	JS-051	47.59	9/9	8:00	KS	47.14	9/10	09:25	KS	207IH015 KS 9/14/20	No	THF >MRL
2	93215	46.77	9/15	10:25	KS	46.42	9/16	13:25	KS	207IK004 KS 9/16/20	Yes	DCM, IPA
3	JS-079	46.77	9/15	10:25	KS	46.40	9/16	13:25	KS	207IK002 KS 9/16/20	Yes	DCM IPA
4	JS-082	46.77	9/15	10:25	KS	41.22	9/16	13:25	KS			Leak -Retest for Leak
5	JS-084	46.77	9/15	10:25	KS	46.36	9/16	13:25	KS	207IK003 KS 9/16/20	Yes	DCM, IPA
6	JS-051	48.51	9/17	08:25	KS	47.83	9/18	10:15	KS	207IL027 KS 9/18/20	No	THF >MRL
7	JS-025	48.32	9/18	10:30	KS	47.94	9/21	09:25	KS			CCV can Leak Test
8	JS-043	47.44	9/22	09:10	KS	46.72	9/23	10:00	KS	207IR009 KS 9/23/20	Yes	~~DCM~~ N/A 9/24/20
9	JS-063	47.44	9/22	09:10	KS	46.79	9/23	10:00	KS	207IR010 KS 9/23/20	Yes	
10	JS-064	47.44	9/22	09:10	KS	46.69	9/23	10:00	KS	207IR011 KS 9/23/20	Yes	

SUMMA CANISTER CLEANING LOGBOOK

	SUMMA Canister ID / Regulator ID	Initial Leak Check				Final Leak Check				Analysis Date- SUMMA Humid Air Certification (Include Chem Station File ID)	Target Analytes below MRL (DOD-1/2 LOQ) (Yes/No)	Comments
		Pressure (psia)	Date	Time	Analyst	Pressure (psia)	Date	Time	Analyst			
1	JS-072	47.44	9/22	09:10	KS	46.70	9/23	10:00	KS	207IR012 KS 9/23/20	Yes	DoD - DCM
2	JS-082	48.17	9/23	10:40	KS	47.06	9/24	12:30	KS	207IS003 KS 9/24/20	Yes	DoD - DCM
3	JS-093	48.17	9/23	10:40	KS	39.67	9/24	12:30	KS			Leak Confirmed
4	JS-026	47.47	9/25	10:45	KS	46.89	9/28	09:20	KS	207IX024 KS 9/30/20	Yes	DoD - Acetone
5	JS-062	47.47	9/25	10:45	KS	47.02	9/28	09:20	KS	207IY010 KS 9/30/20	Yes	
6	JS-069	47.47	9/25	10:45	KS	46.91	9/28	09:20	KS	207IY011 KS 9/30/20	Yes	
7	JS-086	47.47	9/25	10:45	KS	46.80	9/28	09:20	KS	207IY013 KS 9/30/20	Yes	DoD - DCM, Hexane
8	JS-017	48.11	9/29	08:20	KS	46.80	9/30	10:40	KS	207IY017 KS 10/1/20	Yes	DoD - DCM
9	JS-032	48.11	9/29	08:20	KS	46.75	9/30	10:40	KS	207IY020 KS 10/1/20	No - DCM	DoD - DCM, ~~Hexane~~ ~~DCM~~ 10/2/20
10	JS-074	48.11	9/29	08:20	KS	46.64	9/30	10:40	KS	207IY021 KS 10/1/20	No - DCM	DoD - DCM

SUMMA CANISTER CLEANING LOGBOOK

	SUMMA Canister ID / Regulator ID	Initial Leak Check				Final Leak Check				Analysis Date- SUMMA Humid Air Certification (Include Chem Station File ID)	Target Analytes below MRL (DOD-1/2 LOQ) (Yes/No)	Comments
		Pressure (psia)	Date	Time	Analyst	Pressure (psia)	Date	Time	Analyst			
1	JS-070	49.73	10/14	10:30	KS	49.45	10/15	12:20	KS	207JI020 KS 10/15/20	Yes	
2	JS-080	49.73	10/14	10:30	KS	49.45	10/15	12:20	KS	207JI021 KS 10/15/20	Yes	
3	JS-047	48.36	10/20	08:30	KS	47.55	10/21	09:15	KS	207JP003 KS 10/21/20	Yes	
4	JS 068	48.36	10/20	08:30	KS	47.62	10/21	09:15	KS	207JP004 KS 10/21/20	Yes	
5	JS-078	48.36	10/20	08:30	KS	47.67	10/21	09:15	KS	207JP005 KS 10/21/20	Yes	
6	JMS 008										No	Cleanliness Check only - can returned unused.
7	JMS003	49.88	11/02	11:50	KS	37.30	11/03	12:50	KS			Leak Check only - Leaks
8	JMS006	49.88	11/02	11:50	KS	48.17	11/03	12:50	KS			Leak Check only
9	4909	48.90	11/05	09:20	KS	47.96	11/06	11:35	KS	207KE019 KS 11/11/20	Yes	
10	5125	48.90	11/05	09:20	KS	47.77	11/06	11:35	KS	207KE020 KS 11/12/20	Yes	

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\091320\207IH016.D Vial: 16
Acq On : 14 Sep 2020 4:19 pm Operator: rgg
Sample : js016 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 14 16:47 2020 Quant Results File: 090120.RES

Quant Method : C:\HPCHEM\1\METHODS\090120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2009010)
Last Update : Wed Sep 02 07:31:44 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	11.03	130	721547	31000.00	PPTV	0.00
36) 1,4-DIFLUOROBENZENE	12.53	114	2532440	31000.00	PPTV	0.00
51) D5-CHLOROBENZENE	15.92	117	1908112	31000.00	PPTV	0.00
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.36	174	852861	28492.06	PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery =	91.17%		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.58	85	132	N.D.		
3) Propene	4.38	41	317	N.D.		
4) Chloromethane	5.12	50	450	N.D.		
5) Freon 114	5.01	135	51	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	5.38	39	98	N.D.		
8) Bromomethane	6.19	94	269	N.D.		
9) Chloroethane	6.49	64	38	N.D.		
10) Trichlorofluoromethane	6.83	101	47	N.D.		
11) Bromoethene	6.76	106	38	N.D.		
12) 1,1-Dichloroethene	7.88	61	120	N.D.		
13) Acetone	9.01	43	12340	225.40	PPTV	96
14) Isopropyl Alcohol	8.82	45	50024	869.26	PPTV	95
15) Carbon Disulfide	7.92	76	3951	N.D.		
16) Methylene Chloride	8.89	84	4724	N.D.		
17) Freon 113	7.98	151	89	N.D.		
18) 3-chloro-1-propene	8.71	41	699	N.D.		
19) t-1,2-Dichloroethene	0.00	61	0	N.D.		
20) Methyl tert-butyl ether	9.23	73	227	N.D.		
21) Hexane	9.27	57	482	N.D.		
22) 1,1-Dichloroethane	10.04	63	89	N.D.		
23) Vinyl Acetate	10.39	43	813	N.D.		
24) c-1,2-Dichloroethene	10.79	96	76	N.D.		
25) Ethyl Acetate	11.23	43	455	N.D.		
26) 2-Butanone	11.50	43	2876	N.D.		
27) Chloroform	11.11	83	250	N.D.		
28) Tetrahydrofuran	11.36	42	4540	N.D.		
29) 2,2,4-Trimethylpentane	11.65	57	1275	N.D.		
30) 1,2-Dichloroethane	12.08	62	140	N.D.		
31) 1,1,1-Trichloroethane	11.39	97	150	N.D.		
32) Cyclohexane	11.05	56	346	N.D.		
33) Carbon Tetrachloride	11.29	117	84	N.D.		
34) Benzene	11.85	78	2055	N.D.		
35) Heptane	11.74	43	1052	N.D.		
37) TLPH	0.00	TIC	0	N.D.	d	
38) 1,2-Dichloropropane	13.14	63	305	N.D.		
39) Trichloroethene	12.51	130	223	N.D.		
40) 1,4-Dioxane	13.43	88	749	N.D.		
41) Bromodichloromethane	13.17	83	208	N.D.		
42) c-1,3-Dichloropropene	13.90	75	480	N.D.		
43) t-1,3-Dichloropropene	14.61	75	578	N.D.		
44) 1,1,2-Trichloroethane	14.82	97	213	N.D.		
45) Methyl Isobutyl Ketone	14.57	43	1162	N.D.		
46) Toluene	14.17	92	2419	N.D.		
47) 2-Hexanone	15.52	43	2140	N.D.		
48) 1,2-Dibromoethane	15.36	107	405	N.D.		
49) Tetrachloroethene	14.64	166	419	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\091320\207IH016.D Vial: 16
Acq On : 14 Sep 2020 4:19 pm Operator: rgg
Sample : js016 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 14 16:47 2020 Quant Results File: 090120.RES

Quant Method : C:\HPCHEM\1\METHODS\090120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2009010)
Last Update : Wed Sep 02 07:31:44 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

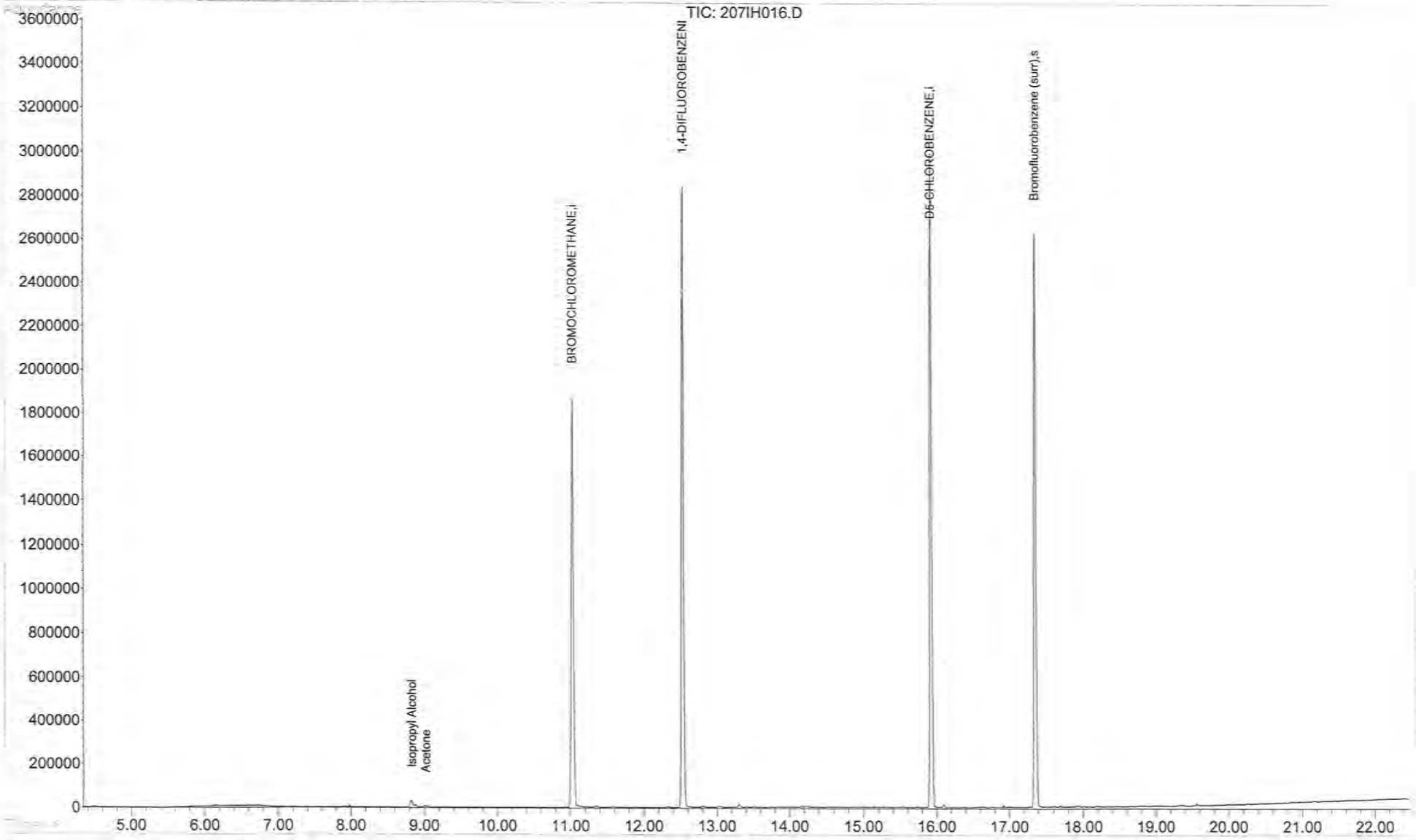
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
50) Dibromochloromethane	15.03	127	197	N.D.		
52) Chlorobenzene	15.95	112	869	N.D.		
53) Ethylbenzene	15.93	106	731	N.D.		
54) m-Xylene & p-Xylene	16.10	106	3661	N.D.		
55) Styrene	16.67	104	916	N.D.		
56) o-Xylene	16.61	106	1212	N.D.		
57) Bromoform	16.75	173	210	N.D.		
58) 1,1,2,2-Tetrachloroethane	17.54	83	1127	N.D.		
59) Bromofluorobenzene	17.36	174	852861	28492.06	PPTV	99
61) 4-ethyltoluene	17.60	105	2301	N.D.		
62) 1,3,5-Trimethylbenzene	17.69	105	1931	N.D.		
63) 1,2,4-Trimethylbenzene	18.18	105	2277	N.D.		
64) 1,3-Dichlorobenzene	18.66	146	1025	N.D.		
65) 1,4-Dichlorobenzene	18.76	146	874	N.D.		
66) Benzyl Chloride	19.05	91	806	N.D.		
67) 1,2-Dichlorobenzene	19.32	146	1099	N.D.		
68) 1,2,4-Trichlorobenzene	21.24	180	370	N.D.		
69) Hexachlorobutadiene	21.15	225	801	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\091320\207IH016.D Vial: 16
Acq On : 14 Sep 2020 4:19 pm Operator: rgg
Sample : js016 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 14 16:47 2020 Quant Results File: 090120.RES

Method : C:\HPCHEM\1\METHODS\090120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2009010)
Last Update : Wed Sep 02 07:31:44 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\093020\207IY010.D Vial: 10
Acq On : 30 Sep 2020 8:23 pm Operator: rgg
Sample : js062 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 30 20:45 2020 Quant Results File: 092920.RES

Quant Method : C:\HPCHEM\1\METHODS\092920.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2009161)
Last Update : Wed Sep 30 09:26:11 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) BROMOCHLOROMETHANE	11.00	130	146491	31000.00 PPTV	-0.04
36) 1,4-DIFLUOROBENZENE	12.51	114	496882	31000.00 PPTV	-0.03
51) D5-CHLOROBENZENE	15.91	117	389800	31000.00 PPTV	-0.02
System Monitoring Compounds					
60) Bromofluorobenzene (surr)	17.34	174	164808	29325.15 PPTV	-0.02
Spiked Amount 31250.000	Range 50 - 150		Recovery =	93.84%	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	4.58	85	2890	N.D.	
3) Propene	4.46	41	3086	N.D.	
4) Chloromethane	0.00	50	0	N.D.	
5) Freon 114	0.00	135	0	N.D.	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	0.00	39	0	N.D.	
8) Bromomethane	6.17	94	672	N.D.	
9) Chloroethane	6.63	64	215	N.D.	
10) Trichlorofluoromethane	6.80	101	1402	N.D.	
11) Bromoethene	0.00	106	0	N.D.	
12) 1,1-Dichloroethene	0.00	61	0	N.D.	
13) Acetone	8.98	43	36070	594.39 PPTV	99
14) Isopropyl Alcohol	0.00	45	0	N.D.	
15) Carbon Disulfide	0.00	76	0	N.D.	
16) Methylene Chloride	8.86	84	65709	852.62 PPTV	98
17) Freon 113	7.95	151	156	N.D.	
18) 3-chloro-1-propene	8.86	41	4567	N.D.	
19) t-1,2-Dichloroethene	0.00	61	0	N.D.	
20) Methyl tert-butyl ether	0.00	73	0	N.D.	
21) Hexane	0.00	57	0	N.D.	
22) 1,1-Dichloroethane	0.00	63	0	N.D.	
23) Vinyl Acetate	10.37	43	1379	N.D.	
24) c-1,2-Dichloroethene	10.76	96	191	N.D.	
25) Ethyl Acetate	0.00	43	0	N.D.	
26) 2-Butanone	11.48	43	5987	N.D.	
27) Chloroform	0.00	83	0	N.D.	
28) Tetrahydrofuran	0.00	42	0	N.D.	
29) 2,2,4-Trimethylpentane	11.63	57	2358	N.D.	
30) 1,2-Dichloroethane	0.00	62	0	N.D.	
31) 1,1,1-Trichloroethane	0.00	97	0	N.D.	
32) Cyclohexane	11.03	56	540	N.D.	
33) Carbon Tetrachloride	0.00	117	0	N.D.	
34) Benzene	11.83	78	2001	N.D.	
35) Heptane	11.72	43	2064	N.D.	
37) TLPH	14.18	TIC	-3380536m	Below Cal	
38) 1,2-Dichloropropane	0.00	63	0	N.D.	
39) Trichloroethene	12.50	130	235	N.D.	
40) 1,4-Dioxane	13.41	88	250	N.D.	
41) Bromodichloromethane	13.16	83	414	N.D.	
42) c-1,3-Dichloropropene	0.00	75	0	N.D.	
43) t-1,3-Dichloropropene	14.61	75	871	N.D.	
44) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
45) Methyl Isobutyl Ketone	0.00	43	0	N.D.	
46) Toluene	14.17	92	3122	N.D.	
47) 2-Hexanone	15.51	43	1843	N.D.	
48) 1,2-Dibromoethane	0.00	107	0	N.D.	
49) Tetrachloroethene	14.62	166	534	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\093020\207IY010.D Vial: 10
Acq On : 30 Sep 2020 8:23 pm Operator: rgg
Sample : js062 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 30 20:45 2020 Quant Results File: 092920.RES

Quant Method : C:\HPCHEM\1\METHODS\092920.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2009161)
Last Update : Wed Sep 30 09:26:11 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
50)	Dibromochloromethane	15.03	127	179	N.D.		
52)	Chlorobenzene	0.00	112	0	N.D.		
53)	Ethylbenzene	0.00	106	0	N.D.		
54)	m-Xylene & p-Xylene	16.09	106	3104	N.D.		
55)	Styrene	0.00	104	0	N.D.		
56)	o-Xylene	0.00	106	0	N.D.		
57)	Bromoform	0.00	173	0	N.D.		
58)	1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
59)	Bromofluorobenzene	17.34	174	164808	29325.15	PPTV	99
61)	4-ethyltoluene	0.00	105	0	N.D.		
62)	1,3,5-Trimethylbenzene	0.00	105	0	N.D.		
63)	1,2,4-Trimethylbenzene	0.00	105	0	N.D.		
64)	1,3-Dichlorobenzene	0.00	146	0	N.D.		
65)	1,4-Dichlorobenzene	0.00	146	0	N.D.		
66)	Benzyl Chloride	0.00	91	0	N.D.		
67)	1,2-Dichlorobenzene	19.30	146	691	N.D.		
68)	1,2,4-Trichlorobenzene	21.23	180	535	N.D.		
69)	Hexachlorobutadiene	21.16	225	620	N.D.		

(#) = qualifier out of range (m) = manual integration

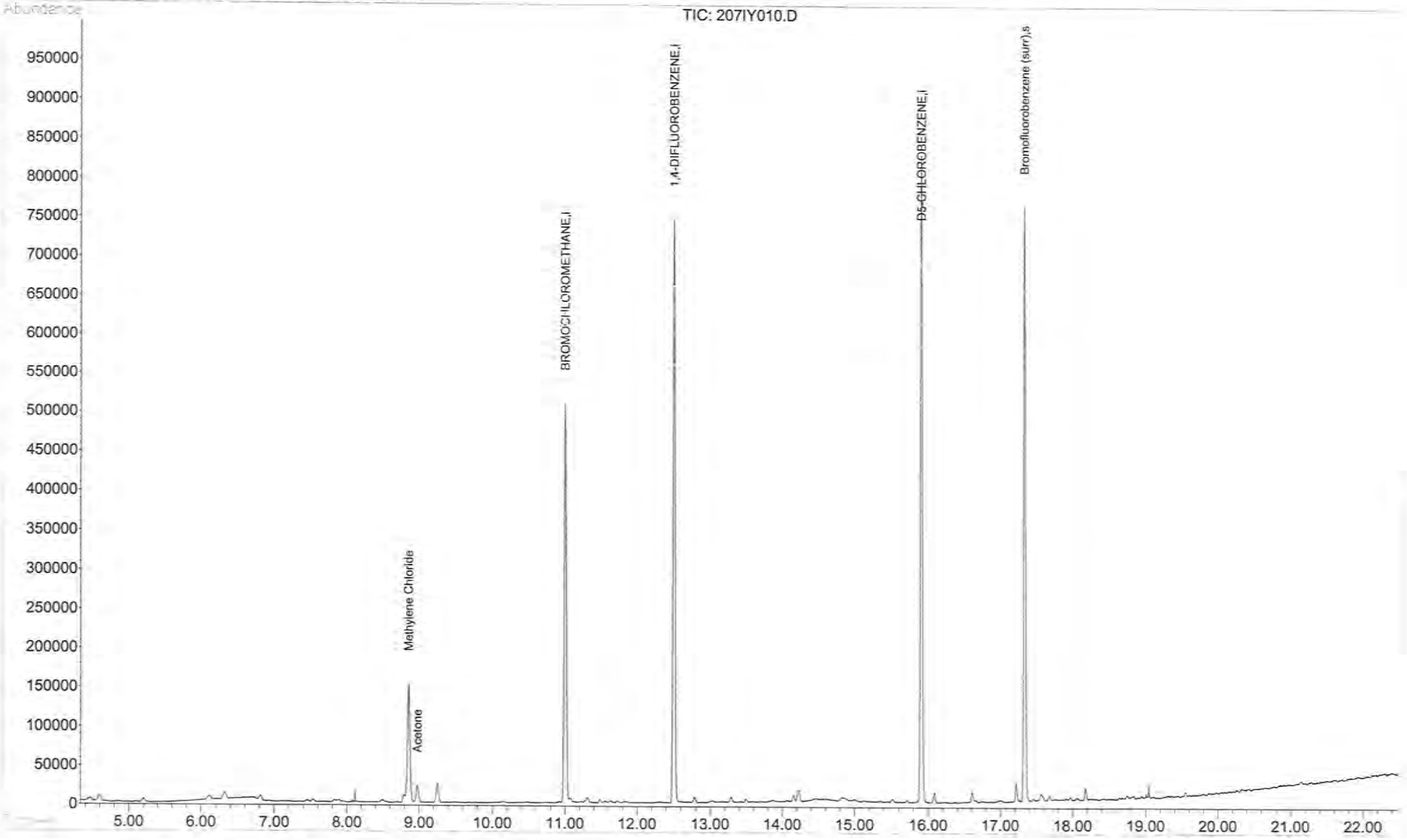
Quantitation Report

Data File : C:\HPCHEM\1\DATA\093020\207IY010.D
Acq On : 30 Sep 2020 8:23 pm
Sample : js062
Misc :
MS Integration Params: RTEINT.P
Quant Time: Sep 30 20:45 2020

Vial: 10
Operator: rgg
Inst : OVGCMS7
Multiplr: 1.00

Quant Results File: 092920.RES

Method : C:\HPCHEM\1\METHODS\092920.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2009161)
Last Update : Wed Sep 30 09:26:11 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\092320\207IR010.D Vial: 10
Acq On : 23 Sep 2020 3:59 pm Operator: rgg
Sample : js063 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 24 9:39 2020 Quant Results File: 092220A.RES

Quant Method : C:\HPCHEM\1\METHODS\092220A.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2009119)
Last Update : Thu Sep 24 08:09:44 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	11.01	130	323811	31000.00	PPTV	-0.01
36) 1,4-DIFLUOROBENZENE	12.52	114	1153737	31000.00	PPTV	0.00
51) D5-CHLOROBENZENE	15.92	117	877726	31000.00	PPTV	0.00
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.35	174	386501	28096.23	PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery =	89.91%		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.60	85	931	N.D.		
3) Propene	4.43	41	208	N.D.		
4) Chloromethane	5.07	50	76	N.D.		
5) Freon 114	4.96	135	44	N.D.		
6) Vinyl Chloride	5.34	62	47	N.D.		
7) 1,3-Butadiene	5.38	39	40	N.D.		
8) Bromomethane	5.99	94	72	N.D.		
9) Chloroethane	6.48	64	49	N.D.		
10) Trichlorofluoromethane	6.82	101	433	N.D.		
11) Bromoethene	0.00	106	0	N.D.		
12) 1,1-Dichloroethene	7.86	61	289	N.D.		
13) Acetone	8.99	43	23051	380.99	PPTV	97
14) Isopropyl Alcohol	8.82	45	3434	N.D.		
15) Carbon Disulfide	7.89	76	7183	N.D.		
16) Methylene Chloride	8.87	84	31814	1240.89	PPTV	97
17) Freon 113	7.95	151	85	N.D.		
18) 3-chloro-1-propene	8.71	41	666	N.D.		
19) t-1,2-Dichloroethene	9.13	61	137	N.D.		
20) Methyl tert-butyl ether	9.31	73	257	N.D.		
21) Hexane	9.26	57	4235	N.D.		
22) 1,1-Dichloroethane	10.05	63	200	N.D.		
23) Vinyl Acetate	10.38	43	1069	N.D.		
24) c-1,2-Dichloroethene	10.75	96	86	N.D.		
25) Ethyl Acetate	11.22	43	604	N.D.		
26) 2-Butanone	11.49	43	4465	N.D.		
27) Chloroform	11.09	83	563	N.D.		
28) Tetrahydrofuran	11.36	42	1093	N.D.		
29) 2,2,4-Trimethylpentane	11.64	57	1267	N.D.		
30) 1,2-Dichloroethane	12.07	62	149	N.D.		
31) 1,1,1-Trichloroethane	11.37	97	237	N.D.		
32) Cyclohexane	11.03	56	330	N.D.		
33) Carbon Tetrachloride	11.31	117	38	N.D.		
34) Benzene	11.95	78	665	N.D.		
35) Heptane	11.73	43	883	N.D.		
37) TLPH	0.00	TIC	0	N.D.	d	
38) 1,2-Dichloropropane	13.12	63	156	N.D.		
39) Trichloroethene	12.50	130	243	N.D.		
40) 1,4-Dioxane	13.40	88	188	N.D.		
41) Bromodichloromethane	13.15	83	256	N.D.		
42) c-1,3-Dichloropropene	13.88	75	712	N.D.		
43) t-1,3-Dichloropropene	14.61	75	719	N.D.		
44) 1,1,2-Trichloroethane	14.81	97	418	N.D.		
45) Methyl Isobutyl Ketone	14.57	43	1586	N.D.		
46) Toluene	14.17	92	2538	N.D.		
47) 2-Hexanone	15.52	43	2221	N.D.		
48) 1,2-Dibromoethane	15.35	107	720	N.D.		
49) Tetrachloroethene	14.62	166	642	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\092320\207IR010.D Vial: 10
Acq On : 23 Sep 2020 3:59 pm Operator: rgg
Sample : js063 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 24 9:39 2020 Quant Results File: 092220A.RES

Quant Method : C:\HPCHEM\1\METHODS\092220A.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2009119)
Last Update : Thu Sep 24 08:09:44 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

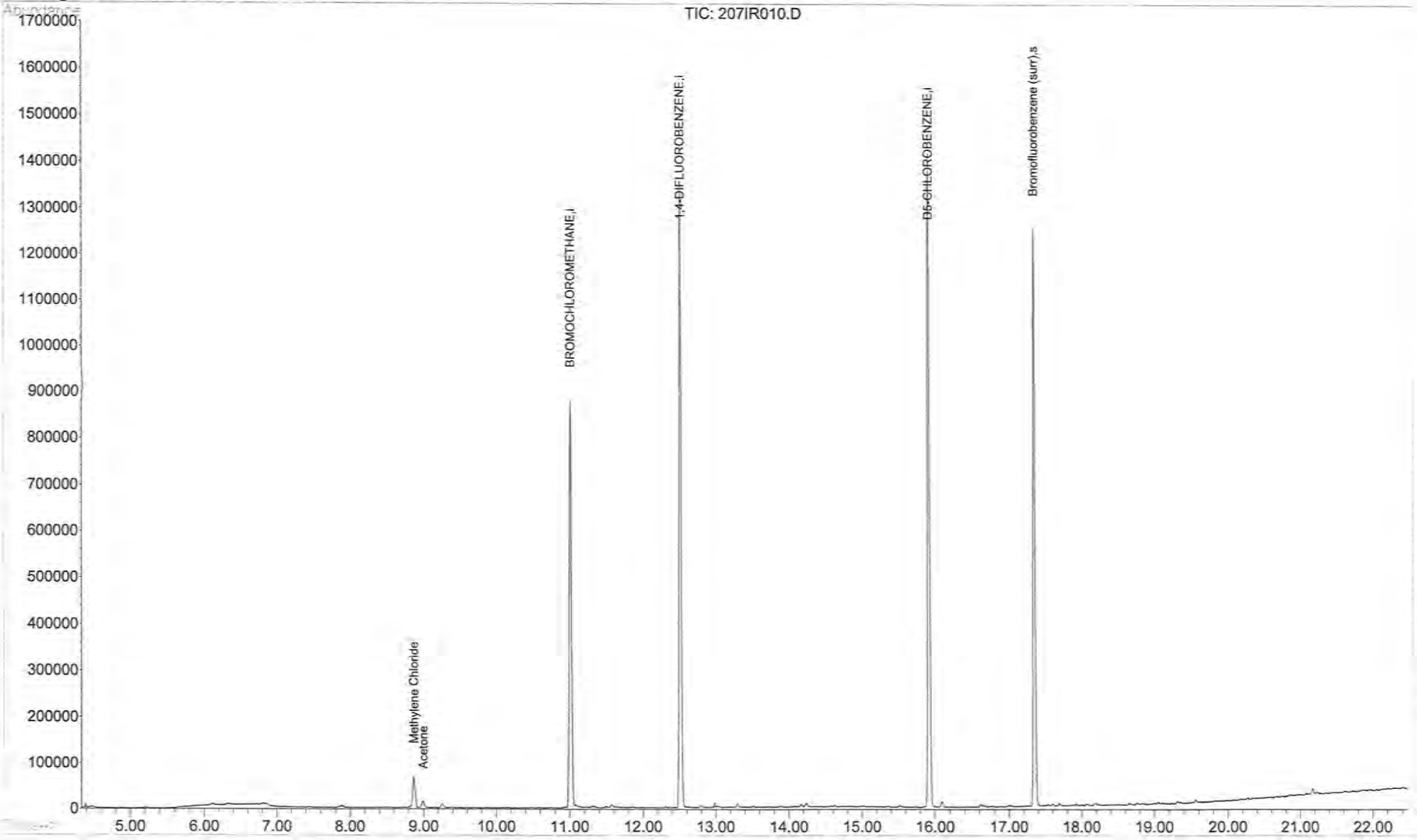
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
50) Dibromochloromethane	15.04	127	288	N.D.		
52) Chlorobenzene	15.94	112	1249	N.D.		
53) Ethylbenzene	15.93	106	897	N.D.		
54) m-Xylene & p-Xylene	16.09	106	3567	N.D.		
55) Styrene	16.67	104	1165	N.D.		
56) o-Xylene	16.62	106	1514	N.D.		
57) Bromoform	16.75	173	259	N.D.		
58) 1,1,2,2-Tetrachloroethane	17.54	83	1452	N.D.		
59) Bromofluorobenzene	17.35	174	386501	28096.23	PPTV	99
61) 4-ethyltoluene	17.60	105	3324	N.D.		
62) 1,3,5-Trimethylbenzene	17.69	105	2940	N.D.		
63) 1,2,4-Trimethylbenzene	18.19	105	3160	N.D.		
64) 1,3-Dichlorobenzene	18.66	146	1733	N.D.		
65) 1,4-Dichlorobenzene	18.76	146	1489	N.D.		
66) Benzyl Chloride	19.05	91	1565	N.D.		
67) 1,2-Dichlorobenzene	19.32	146	2152	N.D.		
68) 1,2,4-Trichlorobenzene	21.24	180	1484	N.D.		
69) Hexachlorobutadiene	21.16	225	1135	N.D.		

(#) = qualifier out of range (m) = manual integration
207IR010.D 092220A.M Thu Sep 24 09:40:41 2020

Quantitation Report

Data File : C:\HPCHEM\1\DATA\092320\207IR010.D Vial: 10
Acq On : 23 Sep 2020 3:59 pm Operator: rgg
Sample : js063 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 24 9:39 2020 Quant Results File: 092220A.RES

Method : C:\HPCHEM\1\METHODS\092220A.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2009119)
Last Update : Thu Sep 24 08:09:44 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\093020\207IY011.D Vial: 11
Acq On : 30 Sep 2020 9:06 pm Operator: rgg
Sample : js069 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 30 21:29 2020 Quant Results File: 092920.RES

Quant Method : C:\HPCHEM\1\METHODS\092920.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2009161)
Last Update : Wed Sep 30 09:26:11 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	11.01	130	142174	31000.00	PPTV	-0.03
36) 1,4-DIFLUOROBENZENE	12.51	114	477932	31000.00	PPTV	-0.02
51) D5-CHLOROBENZENE	15.91	117	379766	31000.00	PPTV	-0.02
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.34	174	161864	29562.28	PPTV	-0.02
Spiked Amount 31250.000	Range 50 - 150		Recovery = 94.60%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.		
3) Propene	0.00	41	0	N.D.		
4) Chloromethane	5.12	50	1815	N.D.		
5) Freon 114	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	39	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	6.50	64	423	N.D.		
10) Trichlorofluoromethane	6.83	101	1436	N.D.		
11) Bromoethene	0.00	106	0	N.D.		
12) 1,1-Dichloroethene	7.86	61	322	N.D.		
13) Acetone	8.98	43	16896	796.25	PPTV #	55
14) Isopropyl Alcohol	8.80	45	15068	281.19	PPTV #	61
15) Carbon Disulfide	0.00	76	0	N.D.		
16) Methylene Chloride	8.87	84	66420	1053.22	PPTV	97
17) Freon 113	0.00	151	0	N.D.		
18) 3-chloro-1-propene	8.87	41	4046	N.D.		
19) t-1,2-Dichloroethene	0.00	61	0	N.D.		
20) Methyl tert-butyl ether	9.37	73	613	N.D.		
21) Hexane	0.00	57	0	N.D.		
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	0.00	43	0	N.D.		
24) c-1,2-Dichloroethene	0.00	96	0	N.D.		
25) Ethyl Acetate	11.32	43	12184	N.D.		
26) 2-Butanone	11.32	43	9257	N.D.		
27) Chloroform	11.07	83	1472	N.D.		
28) Tetrahydrofuran	0.00	42	0	N.D.		
29) 2,2,4-Trimethylpentane	11.63	57	2413	N.D.		
30) 1,2-Dichloroethane	12.06	62	288	N.D.		
31) 1,1,1-Trichloroethane	11.37	97	366	N.D.		
32) Cyclohexane	11.03	56	525	N.D.		
33) Carbon Tetrachloride	0.00	117	0	N.D.		
34) Benzene	11.83	78	1977	N.D.		
35) Heptane	11.73	43	1875	N.D.		
37) TLPH	14.18	TIC	-2542046m	Below Cal		
38) 1,2-Dichloropropane	0.00	63	0	N.D.		
39) Trichloroethene	0.00	130	0	N.D.		
40) 1,4-Dioxane	13.41	88	166	N.D.		
41) Bromodichloromethane	13.16	83	439	N.D.		
42) c-1,3-Dichloropropene	0.00	75	0	N.D.		
43) t-1,3-Dichloropropene	0.00	75	0	N.D.		
44) 1,1,2-Trichloroethane	14.80	97	256	N.D.		
45) Methyl Isobutyl Ketone	14.56	43	1695	N.D.		
46) Toluene	0.00	92	0	N.D.		
47) 2-Hexanone	15.51	43	3964	N.D.		
48) 1,2-Dibromoethane	0.00	107	0	N.D.		
49) Tetrachloroethene	14.62	166	578	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\093020\207IY011.D Vial: 11
Acq On : 30 Sep 2020 9:06 pm Operator: rgg
Sample : js069 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 30 21:29 2020 Quant Results File: 092920.RES

Quant Method : C:\HPCHEM\1\METHODS\092920.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2009161)
Last Update : Wed Sep 30 09:26:11 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

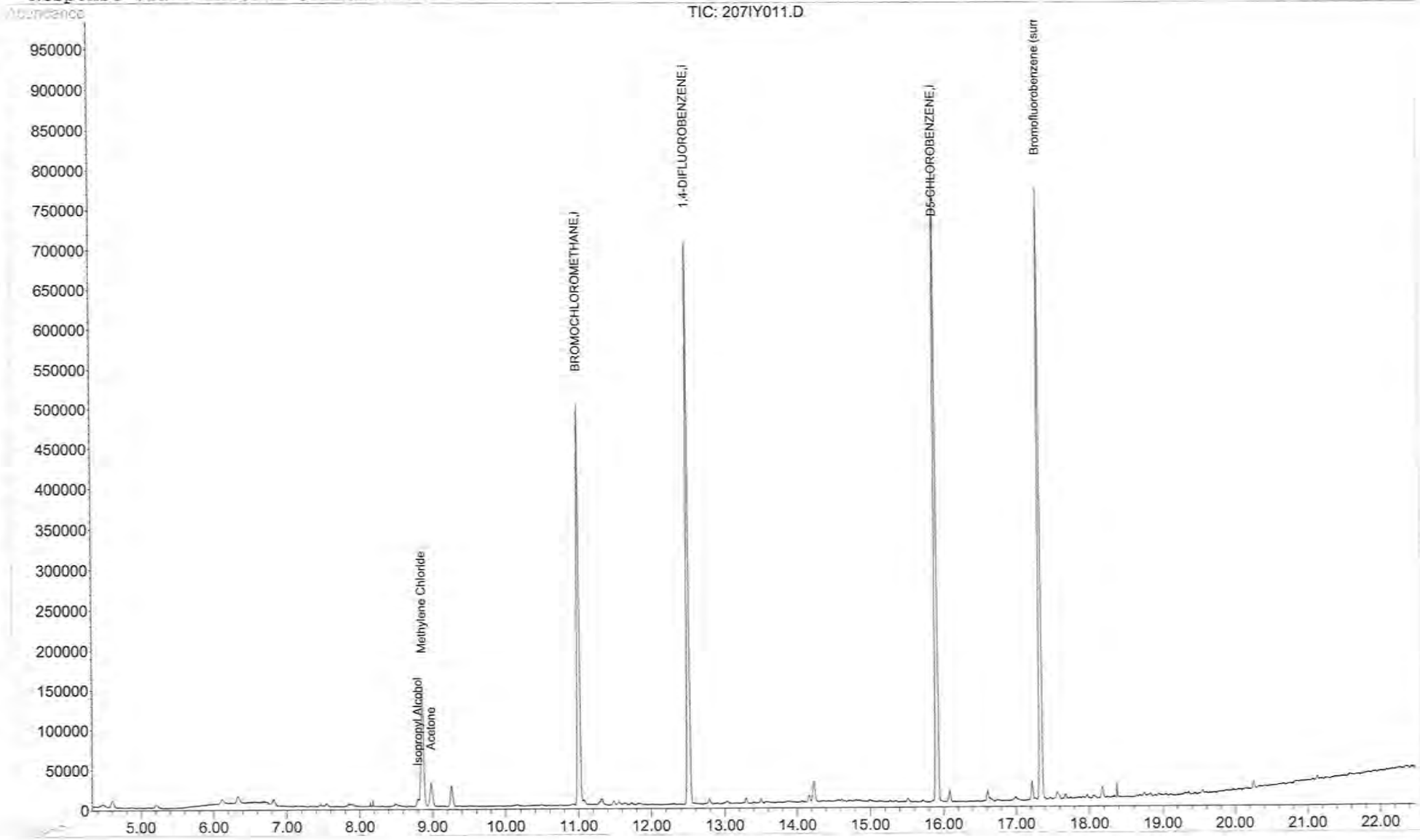
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
50) Dibromochloromethane	0.00	127	0	N.D.		
52) Chlorobenzene	15.93	112	564	N.D.		
53) Ethylbenzene	15.92	106	658	N.D.		
54) m-Xylene & p-Xylene	0.00	106	0	N.D.		
55) Styrene	0.00	104	0	N.D.		
56) o-Xylene	16.61	106	3004	N.D.		
57) Bromoform	0.00	173	0	N.D.		
58) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
59) Bromofluorobenzene	17.34	174	161864	29562.28	PPTV	99
61) 4-ethyltoluene	17.56	105	7549	N.D.		
62) 1,3,5-Trimethylbenzene	17.56	105	7549	N.D.		
63) 1,2,4-Trimethylbenzene	18.18	105	7007	N.D.		
64) 1,3-Dichlorobenzene	18.65	146	520	N.D.		
65) 1,4-Dichlorobenzene	18.76	146	460	N.D.		
66) Benzyl Chloride	0.00	91	0	N.D.		
67) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
68) 1,2,4-Trichlorobenzene	21.21	180	427	N.D.		
69) Hexachlorobutadiene	21.13	225	566	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\093020\207IY011.D Vial: 11
Acq On : 30 Sep 2020 9:06 pm Operator: rgg
Sample : js069 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 30 21:29 2020 Quant Results File: 092920.RES

Method : C:\HPCHEM\1\METHODS\092920.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2009161)
Last Update : Wed Sep 30 09:26:11 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\101420\207JI020.D Vial: 20
Acq On : 15 Oct 2020 5:33 pm Operator: rgg
Sample : js070 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 19:42 2020 Quant Results File: 100720.RES

Quant Method : C:\HPCHEM\1\METHODS\100720.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2009119)
Last Update : Thu Oct 08 09:55:52 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	11.02	130	290094	31000.00	PPTV	0.00
36) 1,4-DIFLUOROBENZENE	12.52	114	994642	31000.00	PPTV	0.00
51) D5-CHLOROBENZENE	15.92	117	764423	31000.00	PPTV	0.00
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.35	174	327647	30361.39	PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 97.16%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.61	85	40	N.D.		
3) Propene	4.42	41	166	N.D.		
4) Chloromethane	5.10	50	45	N.D.		
5) Freon 114	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	5.40	39	164	N.D.		
8) Bromomethane	6.20	94	534	N.D.		
9) Chloroethane	6.48	64	39	N.D.		
10) Trichlorofluoromethane	0.00	101	0	N.D.		
11) Bromoethene	0.00	106	0	N.D.		
12) 1,1-Dichloroethene	0.00	61	0	N.D.		
13) Acetone	9.01	43	13482	230.70	PPTV	97
14) Isopropyl Alcohol	8.81	45	4584	N.D.		
15) Carbon Disulfide	7.92	76	1516	N.D.		
16) Methylene Chloride	8.88	84	4388	231.71	PPTV	92
17) Freon 113	0.00	151	0	N.D.		
18) 3-chloro-1-propene	8.72	41	319	N.D.		
19) t-1,2-Dichloroethene	0.00	61	0	N.D.		
20) Methyl tert-butyl ether	9.48	73	235	N.D.		
21) Hexane	9.28	57	675	N.D.		
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	10.39	43	247	N.D.		
24) c-1,2-Dichloroethene	0.00	96	0	N.D.		
25) Ethyl Acetate	11.24	43	520	N.D.		
26) 2-Butanone	11.49	43	2882	N.D.		
27) Chloroform	11.09	83	122	N.D.		
28) Tetrahydrofuran	11.33	42	790	N.D.		
29) 2,2,4-Trimethylpentane	11.65	57	653	N.D.		
30) 1,2-Dichloroethane	0.00	62	0	N.D.		
31) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
32) Cyclohexane	11.04	56	43	N.D.		
33) Carbon Tetrachloride	0.00	117	0	N.D.		
34) Benzene	11.83	78	965	N.D.		
35) Heptane	11.74	43	586	N.D.		
37) TLPH	0.00	TIC	0	N.D.	d	
38) 1,2-Dichloropropane	13.03	63	38	N.D.		
39) Trichloroethene	0.00	130	0	N.D.		
40) 1,4-Dioxane	13.41	88	37	N.D.		
41) Bromodichloromethane	0.00	83	0	N.D.		
42) c-1,3-Dichloropropene	13.90	75	239	N.D.		
43) t-1,3-Dichloropropene	14.60	75	143	N.D.		
44) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
45) Methyl Isobutyl Ketone	14.57	43	1486	N.D.		
46) Toluene	14.17	92	1037	N.D.		
47) 2-Hexanone	15.51	43	1363	N.D.		
48) 1,2-Dibromoethane	15.35	107	83	N.D.		
49) Tetrachloroethene	14.63	166	40	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\101420\207JI020.D Vial: 20
Acq On : 15 Oct 2020 5:33 pm Operator: rgg
Sample : js070 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 19:42 2020 Quant Results File: 100720.RES

Quant Method : C:\HPCHEM\1\METHODS\100720.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2009119)
Last Update : Thu Oct 08 09:55:52 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

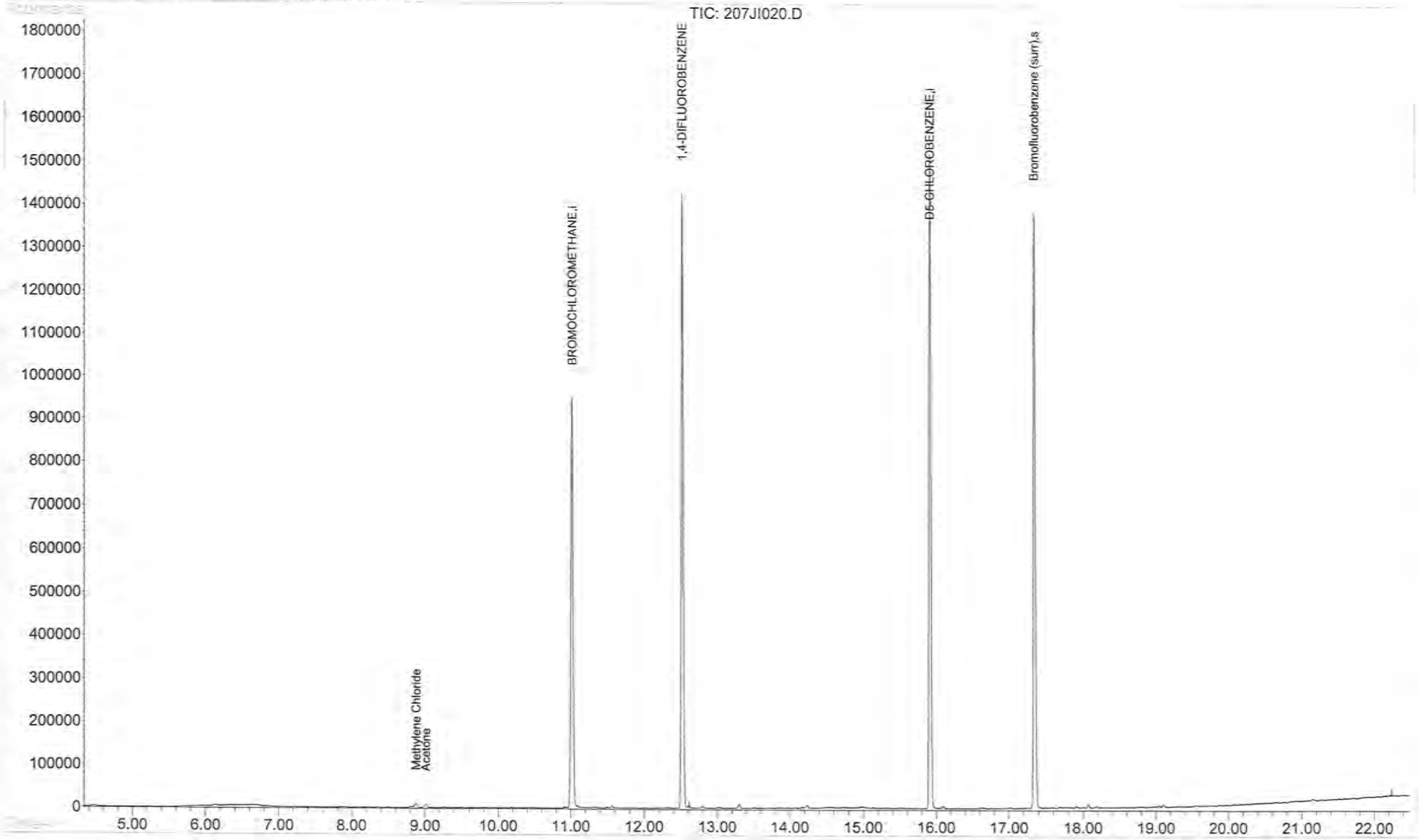
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
50) Dibromochloromethane	15.03	127	39	N.D.		
52) Chlorobenzene	15.94	112	261	N.D.		
53) Ethylbenzene	15.93	106	179	N.D.		
54) m-Xylene & p-Xylene	16.10	106	1360	N.D.		
55) Styrene	16.67	104	380	N.D.		
56) o-Xylene	16.61	106	689	N.D.		
57) Bromoform	0.00	173	0	N.D.		
58) 1,1,2,2-Tetrachloroethane	17.53	83	485	N.D.		
59) Bromofluorobenzene	17.35	174	327647	30361.39	PPTV	99
61) 4-ethyltoluene	17.59	105	1664	N.D.		
62) 1,3,5-Trimethylbenzene	17.69	105	1320	N.D.		
63) 1,2,4-Trimethylbenzene	18.19	105	1927	N.D.		
64) 1,3-Dichlorobenzene	18.65	146	359	N.D.		
65) 1,4-Dichlorobenzene	18.76	146	387	N.D.		
66) Benzyl Chloride	19.05	91	251	N.D.		
67) 1,2-Dichlorobenzene	19.31	146	411	N.D.		
68) 1,2,4-Trichlorobenzene	21.23	180	39	N.D.		
69) Hexachlorobutadiene	21.15	225	441	N.D.		

(#) = qualifier out of range (m) = manual integration
207JI020.D 100720.M Thu Oct 15 19:43:18 2020

Quantitation Report

Data File : C:\HPCHEM\1\DATA\101420\207JI020.D Vial: 20
Acq On : 15 Oct 2020 5:33 pm Operator: rgg
Sample : js070 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 19:42 2020 Quant Results File: 100720.RES

Method : C:\HPCHEM\1\METHODS\100720.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2009119)
Last Update : Thu Oct 08 09:55:52 2020
Response via : Initial Calibration



ANALYSIS SEQUENCE

AA64633

Instrument: OVGCMS7

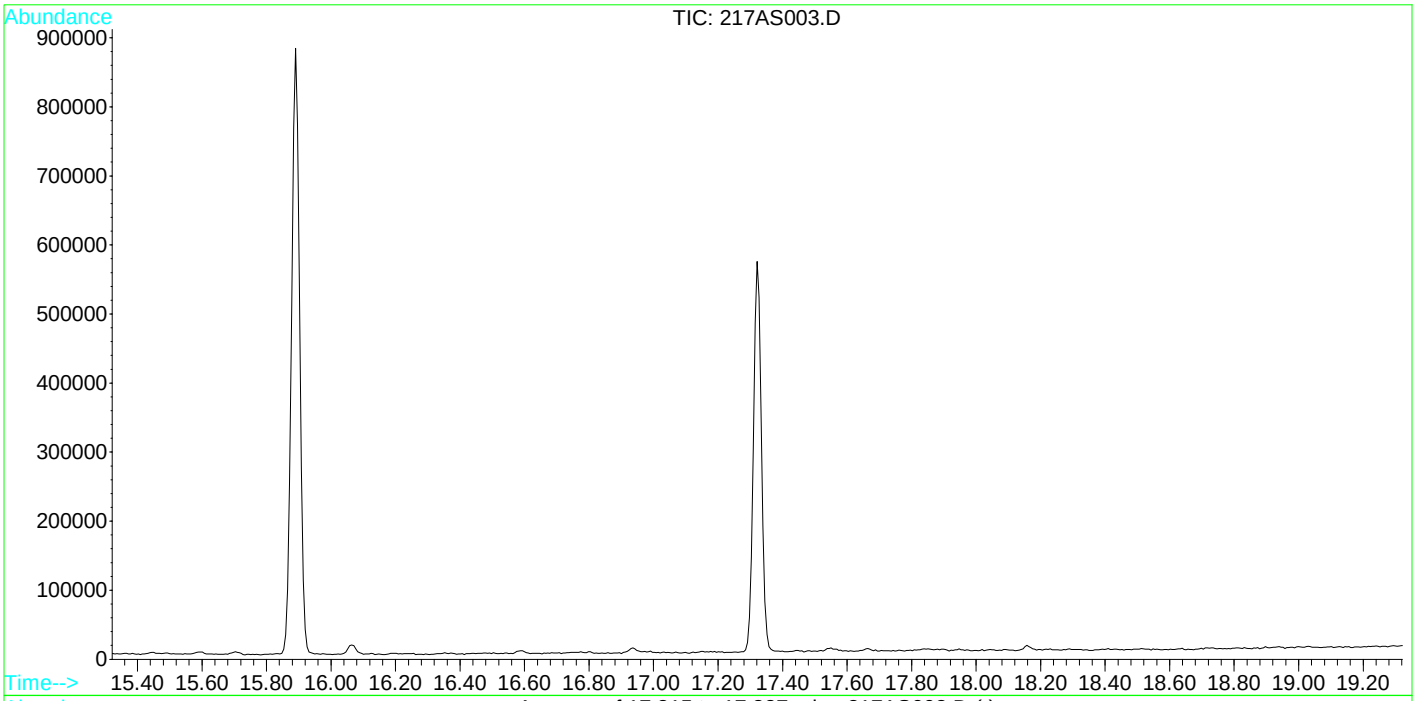
Calibration ID: 2101005 **Printed: 1/26/2021 10:19:29AM**

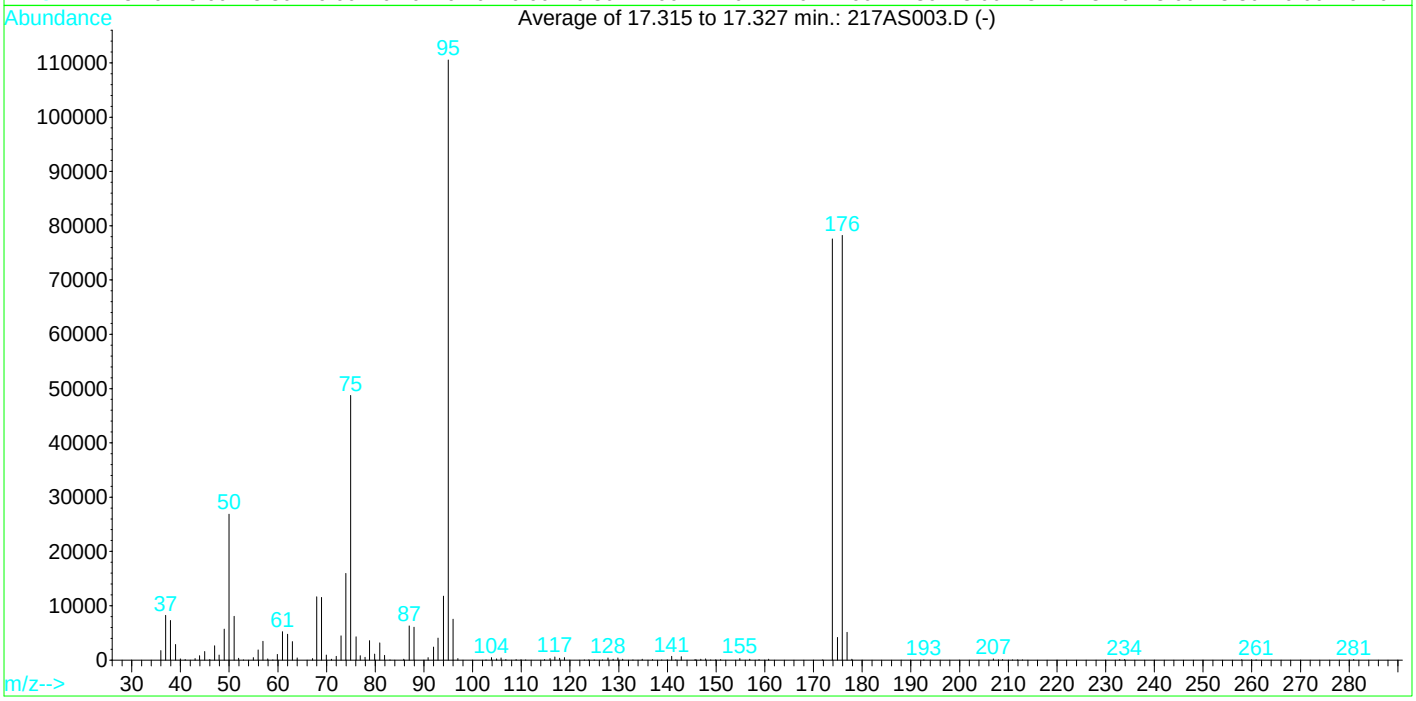
Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA64633-TUN1	QC		1		A1A0971			
AA64633-CCV1	QC		2		A0L1263	A1A0972		
AA64633-CRL1	QC		3		A0L1264	A1A0972		
1A25023-BS1	QC		4			A1A0972		
1A25023-BSD1	QC		5			A1A0972		
1A25023-BLK1	QC		6			A1A0972		
AE00066-13	TO15 (SUMMA)	A	7			A1A0972	Tetra Tech, Inc. (TE016)	CVOC custom. KD 7/8/20
AE00066-13RE1	TO15 (SUMMA)	A	8			A1A0972	Tetra Tech, Inc. (TE016)	run 400mL overdiluted Added 1/25/2(
AE00066-14	TO15 (SUMMA)	A	9			A1A0972	Tetra Tech, Inc. (TE016)	CVOC custom. KD 7/8/20
AE00066-15	TO15 (SUMMA)	A	10			A1A0972	Tetra Tech, Inc. (TE016)	CVOC custom. KD 7/8/20
AE00066-16	TO15 (SUMMA)	A	11			A1A0972	Tetra Tech, Inc. (TE016)	CVOC custom. KD 7/8/20
AE00066-17	TO15 (SUMMA)	A	12			A1A0972	Tetra Tech, Inc. (TE016)	CVOC custom. KD 7/8/20
AE00066-15RE1	TO15 (SUMMA)	A	13			A1A0972	Tetra Tech, Inc. (TE016)	run 400mL overdiluted Added 1/25/2(
AE00066-16RE1	TO15 (SUMMA)	A	14			A1A0972	Tetra Tech, Inc. (TE016)	run 200mL overdiluted Added 1/25/2(

Samples Loaded By Date

Data Processed By Date

Data File : C:\HPCHEM\1\DATA\012421\217AS003.D Vial: 3
Acq On : 24 Jan 2021 8:13 pm Operator: rgg
Sample : tun1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)





AutoFind: Scans 2159, 2160, 2161; Background Corrected with Scan 2150

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	24.3	26883	PASS
75	95	30	60	44.1	48756	PASS
95	95	100	100	100.0	110512	PASS
96	95	5	9	6.8	7507	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	70.2	77581	PASS
175	174	5	9	5.4	4176	PASS
176	174	95	101	100.8	78189	PASS
177	176	5	9	6.5	5119	PASS

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012421\217AS004.D Vial: 4
Acq On : 24 Jan 2021 9:16 pm Operator: rgg
Sample : ccv1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 10:15 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.99	130	392339	31000.00 PPTV	-0.01
36) 1,4-DIFLUOROBENZENE	12.49	114	1301381	31000.00 PPTV	0.00
51) D5-CHLOROBENZENE	15.89	117	987702	31000.00 PPTV	0.00
System Monitoring Compounds					
60) Bromofluorobenzene (surr)	17.32	174	424836	31456.72 PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 100.66%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	4.55	85	705189	9428.36 PPTV	99
3) Propene	4.43	41	423664	9650.03 PPTV	93
4) Chloromethane	5.05	50	440111	10632.94 PPTV	99
5) Freon 114	4.94	135	442945	9680.19 PPTV	98
6) Vinyl Chloride	5.31	62	392119	10650.17 PPTV	100
7) 1,3-Butadiene	5.38	39	384832	10164.75 PPTV	89
8) Bromomethane	6.12	94	236321	8662.38 PPTV	100
9) Chloroethane	6.45	64	137279	9063.26 PPTV	99
10) Trichlorofluoromethane	6.78	101	382843	8798.70 PPTV	100
11) Bromoethene	6.71	106	205511	9039.29 PPTV	100
12) 1,1-Dichloroethene	7.83	61	522880	10206.53 PPTV	91
13) Acetone	8.95	43	680426	10287.11 PPTV	89
14) Isopropyl Alcohol	8.77	45	687482	10234.19 PPTV	95
15) Carbon Disulfide	7.87	76	881727	10505.25 PPTV	97
16) Methylene Chloride	8.84	84	267805	11382.78 PPTV	92
17) Freon 113	7.93	151	360464	9782.89 PPTV	100
18) 3-chloro-1-propene	8.68	41	606742	10735.29 PPTV	83
19) t-1,2-Dichloroethene	9.10	61	470130	10608.61 PPTV	94
20) Methyl tert-butyl ether	9.31	73	796014	10184.31 PPTV	95
21) Hexane	9.23	57	544964	11335.68 PPTV	90
22) 1,1-Dichloroethane	10.01	63	562499	10467.54 PPTV	100
23) Vinyl Acetate	10.35	43	1211004	10785.53 PPTV	99
24) c-1,2-Dichloroethene	10.73	96	292044	10662.90 PPTV	97
25) Ethyl Acetate	11.20	43	1095505	10402.65 PPTV	97
26) 2-Butanone	11.45	43	962664	10488.70 PPTV	97
27) Chloroform	11.06	83	555431	9816.88 PPTV	99
28) Tetrahydrofuran	11.30	42	464075	10759.52 PPTV	99
29) 2,2,4-Trimethylpentane	11.62	57	1755537	10741.04 PPTV	93
30) 1,2-Dichloroethane	12.04	62	352546	9093.68 PPTV	100
31) 1,1,1-Trichloroethane	11.36	97	451090	8997.93 PPTV	99
32) Cyclohexane	11.01	56	553001	10756.42 PPTV	94
33) Carbon Tetrachloride	11.27	117	434412	8644.03 PPTV	99
34) Benzene	11.81	78	838534	9983.38 PPTV	99
35) Heptane	11.72	43	776352	10686.54 PPTV	98
37) TLPH	14.14	TIC	2185208m	10687.31 PPTV	
38) 1,2-Dichloropropane	13.09	63	346510	10593.76 PPTV	80
39) Trichloroethene	12.47	130	321611	10018.41 PPTV	99
40) 1,4-Dioxane	13.36	88	191750	10679.05 PPTV	97
41) Bromodichloromethane	13.14	83	576765	10316.94 PPTV	99
42) c-1,3-Dichloropropene	13.86	75	482279	10117.75 PPTV	98
43) t-1,3-Dichloropropene	14.59	75	294733	10662.53 PPTV	96
44) 1,1,2-Trichloroethane	14.78	97	294063	10233.22 PPTV	99
45) Methyl Isobutyl Ketone	14.53	43	1057876	10765.43 PPTV	96
46) Toluene	14.14	92	512467	10627.62 PPTV	100
47) 2-Hexanone	15.48	43	872944	10911.75 PPTV	94
48) 1,2-Dibromoethane	15.33	107	456051	10083.59 PPTV	100
49) Tetrachloroethene	14.60	166	354346	9370.26 PPTV	98
50) Dibromochloromethane	15.01	127	410507	10490.34 PPTV	99
52) Chlorobenzene	15.92	112	551522	9470.19 PPTV	94
53) Ethylbenzene	15.90	106	272442	11116.16 PPTV	93
54) m-Xylene & p-Xylene	16.07	106	686520	23088.11 PPTV	92
55) Styrene	16.64	104	485457	9782.70 PPTV	90
56) o-Xylene	16.59	106	335358	10499.63 PPTV	90
57) Bromoform	16.72	173	393828	10619.59 PPTV #	89

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012421\217AS004.D Vial: 4
Acq On : 24 Jan 2021 9:16 pm Operator: rgg
Sample : ccv1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 10:15 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

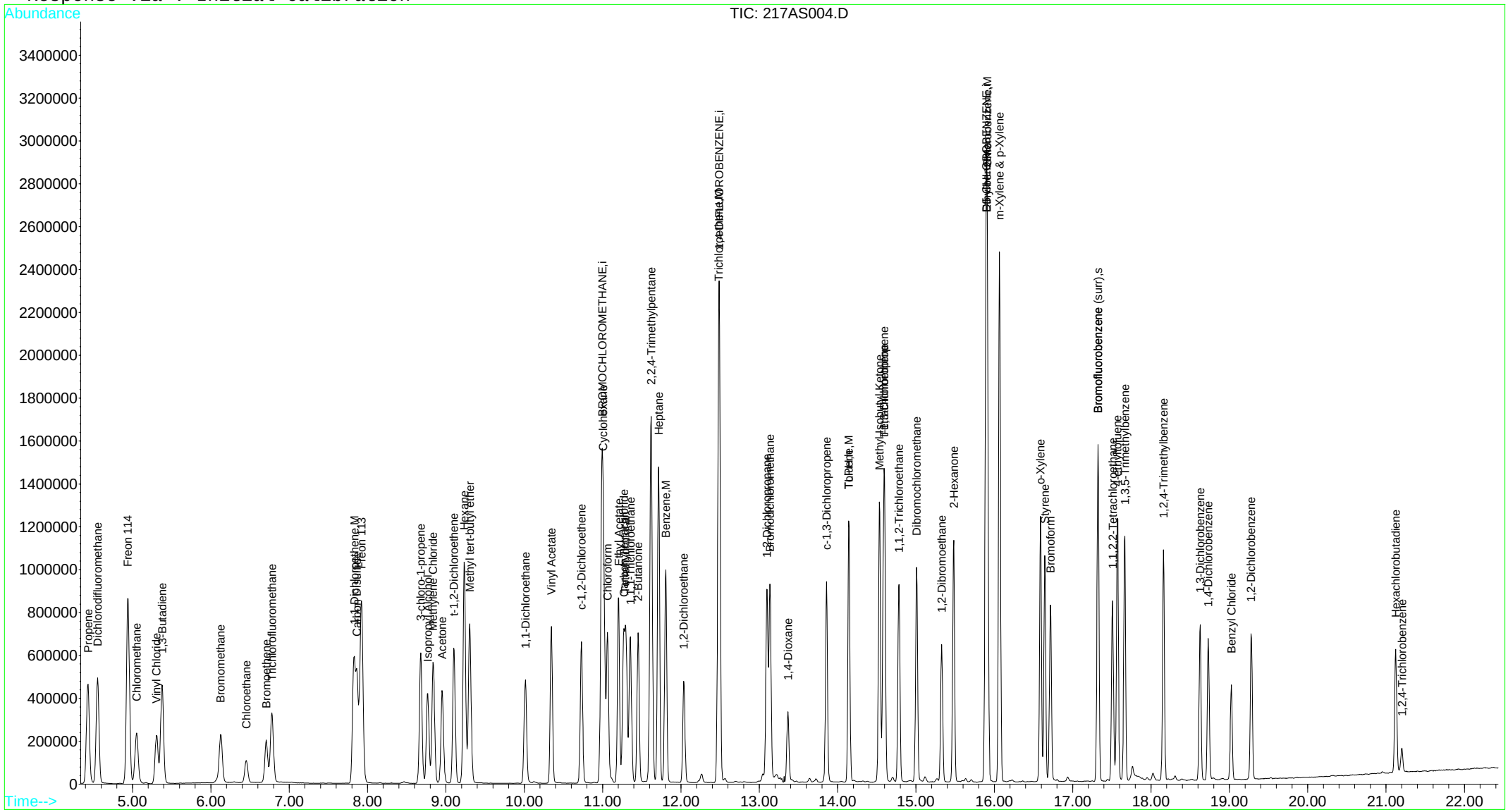
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.51	83	491820	9979.01 PPTV	99
59) Bromofluorobenzene	17.32	174	424836	31456.72 PPTV #	95
61) 4-ethyltoluene	17.58	105	858614	10634.83 PPTV	98
62) 1,3,5-Trimethylbenzene	17.67	105	636561	10624.12 PPTV	94
63) 1,2,4-Trimethylbenzene	18.16	105	603501	10318.72 PPTV	94
64) 1,3-Dichlorobenzene	18.63	146	309306	8589.64 PPTV	97
65) 1,4-Dichlorobenzene	18.73	146	272881	8119.43 PPTV	97
66) Benzyl Chloride	19.02	91	327369	7390.41 PPTV	94
67) 1,2-Dichlorobenzene	19.28	146	293802	9250.36 PPTV	96
68) 1,2,4-Trichlorobenzene	21.20	180	37978	5222.95 PPTV	99
69) Hexachlorobutadiene	21.12	225	122855	10047.23 PPTV	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\012421\217AS004.D Vial: 4
Acq On : 24 Jan 2021 9:16 pm Operator: rgg
Sample : ccv1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 10:15 2021 Quant Results File: 123120.RES

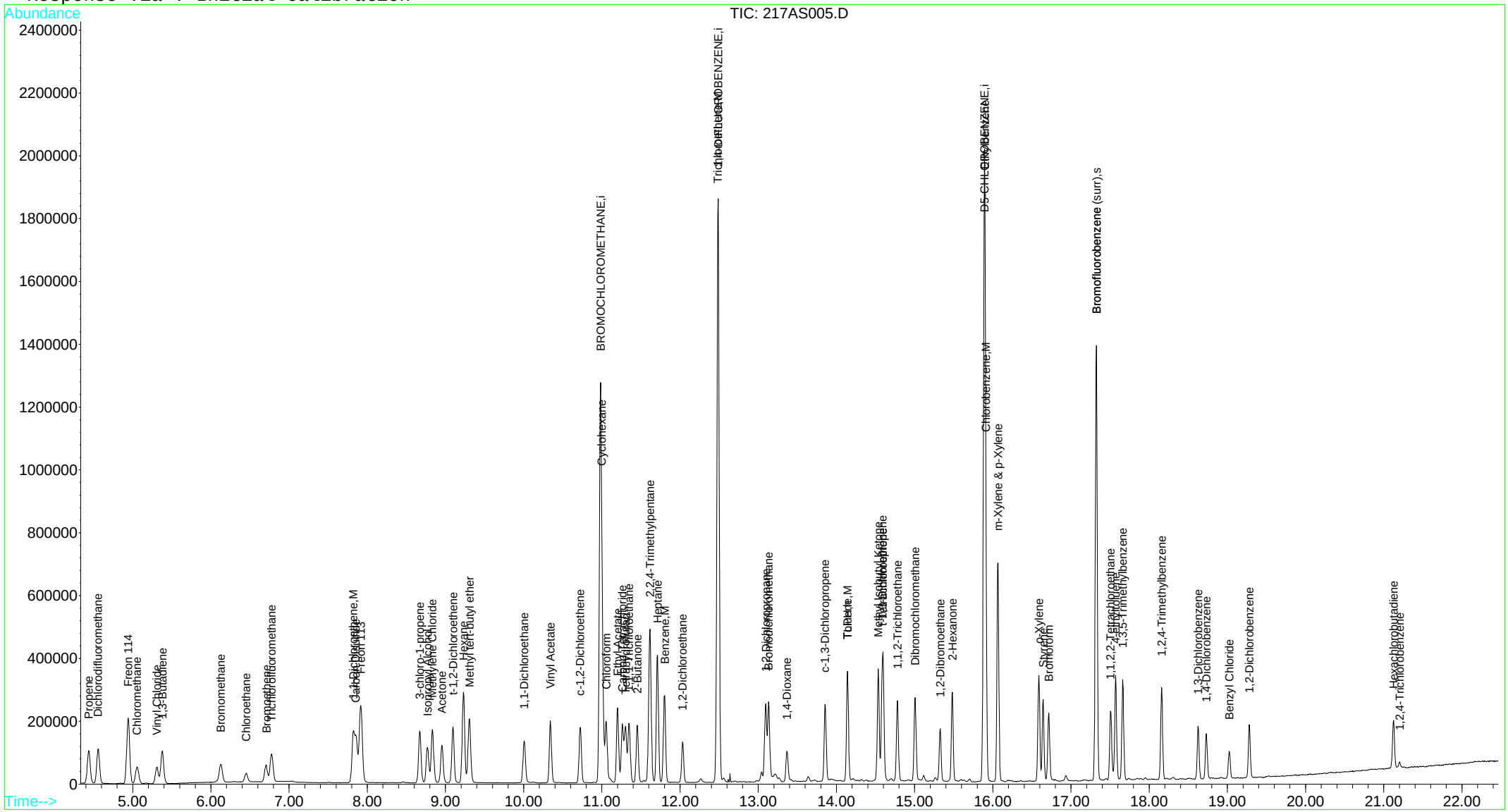
Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\012421\217AS005.D Vial: 5
Acq On : 24 Jan 2021 9:55 pm Operator: rgg
Sample : crl1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 10:16 2021 Quant Results File: 123120.RES

Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012421\217AS005.D Vial: 5
Acq On : 24 Jan 2021 9:55 pm Operator: rgg
Sample : crl1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 10:16 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.98	130	403704	31000.00	PPTV	-0.02
36) 1,4-DIFLUOROBENZENE	12.49	114	1353586	31000.00	PPTV	-0.01
51) D5-CHLOROBENZENE	15.89	117	996591	31000.00	PPTV	0.00
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.32	174	384503	28216.35	PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 90.29%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.56	85	161353	2096.55	PPTV	99
3) Propene	4.43	41	96242	2130.44	PPTV	92
4) Chloromethane	5.05	50	97644	2292.64	PPTV	100
5) Freon 114	4.94	135	108361	2301.47	PPTV	98
6) Vinyl Chloride	5.31	62	90154	2379.70	PPTV	100
7) 1,3-Butadiene	5.38	39	86883	2230.28	PPTV	88
8) Bromomethane	6.13	94	60001	2137.43	PPTV	100
9) Chloroethane	6.46	64	35465	2275.51	PPTV	95
10) Trichlorofluoromethane	6.77	101	100610	2247.18	PPTV	100
11) Bromoethene	6.71	106	53921	2304.92	PPTV	100
12) 1,1-Dichloroethene	7.82	61	139994	2655.73	PPTV	87
13) Acetone	8.95	43	186648	2742.42	PPTV	87
14) Isopropyl Alcohol	8.77	45	186701	2701.08	PPTV	95
15) Carbon Disulfide	7.86	76	245406	2841.55	PPTV	97
16) Methylene Chloride	8.83	84	78450	3240.57	PPTV	92
17) Freon 113	7.92	151	102158	2694.49	PPTV	99
18) 3-chloro-1-propene	8.67	41	161377	2774.91	PPTV	80
19) t-1,2-Dichloroethene	9.10	61	127130	2787.96	PPTV	91
20) Methyl tert-butyl ether	9.31	73	216677	2694.15	PPTV	92
21) Hexane	9.23	57	148835	3008.73	PPTV	88
22) 1,1-Dichloroethane	10.00	63	153261	2771.74	PPTV	99
23) Vinyl Acetate	10.34	43	317406	2747.32	PPTV	99
24) c-1,2-Dichloroethene	10.73	96	79851	2833.39	PPTV	97
25) Ethyl Acetate	11.20	43	296247	2733.90	PPTV	94
26) 2-Butanone	11.45	43	258263	2734.69	PPTV	96
27) Chloroform	11.06	83	151413	2600.79	PPTV	98
28) Tetrahydrofuran	11.30	42	126457	2849.35	PPTV	98
29) 2,2,4-Trimethylpentane	11.62	57	501315	2980.89	PPTV	93
30) 1,2-Dichloroethane	12.03	62	94736	2374.86	PPTV	100
31) 1,1,1-Trichloroethane	11.35	97	121486	2355.07	PPTV	98
32) Cyclohexane	11.00	56	153940	2909.99	PPTV	93
33) Carbon Tetrachloride	11.26	117	116582	2254.47	PPTV	100
34) Benzene	11.80	78	233215	2698.44	PPTV	100
35) Heptane	11.71	43	213820	2860.39	PPTV	98
37) TLPH	14.14	TIC	624382m	2935.92	PPTV	
38) 1,2-Dichloropropane	13.10	63	95345	2802.53	PPTV #	78
39) Trichloroethene	12.48	130	89359	2676.24	PPTV	98
40) 1,4-Dioxane	13.37	88	52455	2808.68	PPTV	96
41) Bromodichloromethane	13.13	83	154542	2657.77	PPTV	99
42) c-1,3-Dichloropropene	13.85	75	128470	2591.23	PPTV	98
43) t-1,3-Dichloropropene	14.58	75	79232	2755.82	PPTV	96
44) 1,1,2-Trichloroethane	14.78	97	80378	2689.23	PPTV	99
45) Methyl Isobutyl Ketone	14.53	43	282608	2765.03	PPTV	97
46) Toluene	14.14	92	142972	2850.62	PPTV	100
47) 2-Hexanone	15.48	43	220479	2649.68	PPTV	93
48) 1,2-Dibromoethane	15.33	107	120939	2570.91	PPTV	99
49) Tetrachloroethene	14.60	166	98323	2499.76	PPTV	99
50) Dibromochloromethane	15.01	127	108544	2666.82	PPTV	99
52) Chlorobenzene	15.92	112	150721	2564.95	PPTV	98
53) Ethylbenzene	15.91	106	77128	3118.90	PPTV	93
54) m-Xylene & p-Xylene	16.07	106	196537	6550.71	PPTV	91
55) Styrene	16.64	104	121336	2423.30	PPTV	92
56) o-Xylene	16.59	106	91952	2853.22	PPTV	90
57) Bromoform	16.72	173	102111	2728.87	PPTV #	89

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012421\217AS005.D Vial: 5
Acq On : 24 Jan 2021 9:55 pm Operator: rgg
Sample : crl1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 10:16 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.50	83	132460	2663.64	PPTV	100
59) Bromofluorobenzene	17.32	174	384503	28216.35	PPTV #	94
61) 4-ethyltoluene	17.57	105	226046	2774.84	PPTV	97
62) 1,3,5-Trimethylbenzene	17.66	105	170728	2824.01	PPTV	93
63) 1,2,4-Trimethylbenzene	18.16	105	163686	2773.76	PPTV	94
64) 1,3-Dichlorobenzene	18.62	146	71376	1964.48	PPTV	97
65) 1,4-Dichlorobenzene	18.73	146	58552	1726.64	PPTV	97
66) Benzyl Chloride	19.03	91	63078	1411.30	PPTV	95
67) 1,2-Dichlorobenzene	19.28	146	70698	2206.07	PPTV	97
68) 1,2,4-Trichlorobenzene	21.20	180	6275	855.28	PPTV #	89
69) Hexachlorobutadiene	21.13	225	31948	2589.44	PPTV	95

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012421\217AS006.D Vial: 6
Acq On : 24 Jan 2021 10:34 pm Operator: rgg
Sample : bs1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 10:17 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.99	130	390017	31000.00	PPTV	-0.01
36) 1,4-DIFLUOROBENZENE	12.49	114	1295134	31000.00	PPTV	0.00
51) D5-CHLOROBENZENE	15.89	117	976746	31000.00	PPTV	0.00
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.32	174	423653	31720.99	PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 101.51%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.54	85	691249	9297.00	PPTV	99
3) Propene	4.41	41	389846	8932.61	PPTV	93
4) Chloromethane	5.03	50	409960	9963.46	PPTV	99
5) Freon 114	4.93	135	445236	9788.19	PPTV	100
6) Vinyl Chloride	5.29	62	387904	10598.42	PPTV	99
7) 1,3-Butadiene	5.36	39	348933	9271.40	PPTV	86
8) Bromomethane	6.12	94	268328	9894.16	PPTV	99
9) Chloroethane	6.44	64	151376	10053.45	PPTV	99
10) Trichlorofluoromethane	6.77	101	418728	9680.72	PPTV	100
11) Bromoethene	6.70	106	215416	9531.37	PPTV	99
12) 1,1-Dichloroethene	7.82	61	577602	11341.82	PPTV	89
13) Acetone	8.95	43	685310	10422.63	PPTV	88
14) Isopropyl Alcohol	8.77	45	722103	10813.57	PPTV	94
15) Carbon Disulfide	7.86	76	946298	11341.69	PPTV	97
16) Methylene Chloride	8.84	84	300219	12836.47	PPTV	92
17) Freon 113	7.92	151	407268	11118.95	PPTV	99
18) 3-chloro-1-propene	8.68	41	633149	11269.21	PPTV	82
19) t-1,2-Dichloroethene	9.10	61	496518	11270.76	PPTV	93
20) Methyl tert-butyl ether	9.30	73	844536	10869.44	PPTV	94
21) Hexane	9.23	57	583247	12204.23	PPTV	90
22) 1,1-Dichloroethane	10.01	63	634871	11884.65	PPTV	100
23) Vinyl Acetate	10.35	43	1279718	11465.37	PPTV	99
24) c-1,2-Dichloroethene	10.73	96	330990	12156.82	PPTV	97
25) Ethyl Acetate	11.21	43	1175404	11227.80	PPTV	96
26) 2-Butanone	11.45	43	1024226	11225.89	PPTV	97
27) Chloroform	11.06	83	622283	11063.92	PPTV	98
28) Tetrahydrofuran	11.30	42	496089	11570.24	PPTV	98
29) 2,2,4-Trimethylpentane	11.62	57	1875509	11543.39	PPTV	93
30) 1,2-Dichloroethane	12.04	62	393251	10204.03	PPTV	99
31) 1,1,1-Trichloroethane	11.36	97	496039	9953.44	PPTV	99
32) Cyclohexane	11.01	56	593940	11621.51	PPTV	93
33) Carbon Tetrachloride	11.27	117	413110	8269.10	PPTV	100
34) Benzene	11.81	78	945066	11318.72	PPTV	99
35) Heptane	11.72	43	814900	11283.94	PPTV	98
37) TLPH	14.15	TIC	2484419m	12209.29	PPTV	
38) 1,2-Dichloropropane	13.10	63	394307	12113.20	PPTV	79
39) Trichloroethene	12.48	130	363329	11372.55	PPTV	98
40) 1,4-Dioxane	13.36	88	203908	11410.94	PPTV	98
41) Bromodichloromethane	13.14	83	605259	10878.85	PPTV	99
42) c-1,3-Dichloropropene	13.86	75	579625	12218.62	PPTV	98
43) t-1,3-Dichloropropene	14.59	75	428957	15593.19	PPTV	97
44) 1,1,2-Trichloroethane	14.78	97	335828	11742.99	PPTV	100
45) Methyl Isobutyl Ketone	14.54	43	1131813	11573.40	PPTV	96
46) Toluene	14.15	92	584262	12174.96	PPTV	99
47) 2-Hexanone	15.48	43	927669	11651.74	PPTV	93
48) 1,2-Dibromoethane	15.33	107	531385	11805.94	PPTV	100
49) Tetrachloroethene	14.60	166	393118	10445.68	PPTV	98
50) Dibromochloromethane	15.01	127	428627	11006.23	PPTV	98
52) Chlorobenzene	15.92	112	614242	10665.47	PPTV	93
53) Ethylbenzene	15.91	106	304160	12549.51	PPTV	93
54) m-Xylene & p-Xylene	16.07	106	768323	26129.04	PPTV	92
55) Styrene	16.65	104	576809	11753.96	PPTV	89
56) o-Xylene	16.59	106	378292	11976.69	PPTV	89
57) Bromoform	16.72	173	404054	11017.54	PPTV #	89

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012421\217AS006.D Vial: 6
Acq On : 24 Jan 2021 10:34 pm Operator: rgg
Sample : bs1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 10:17 2021 Quant Results File: 123120.RES

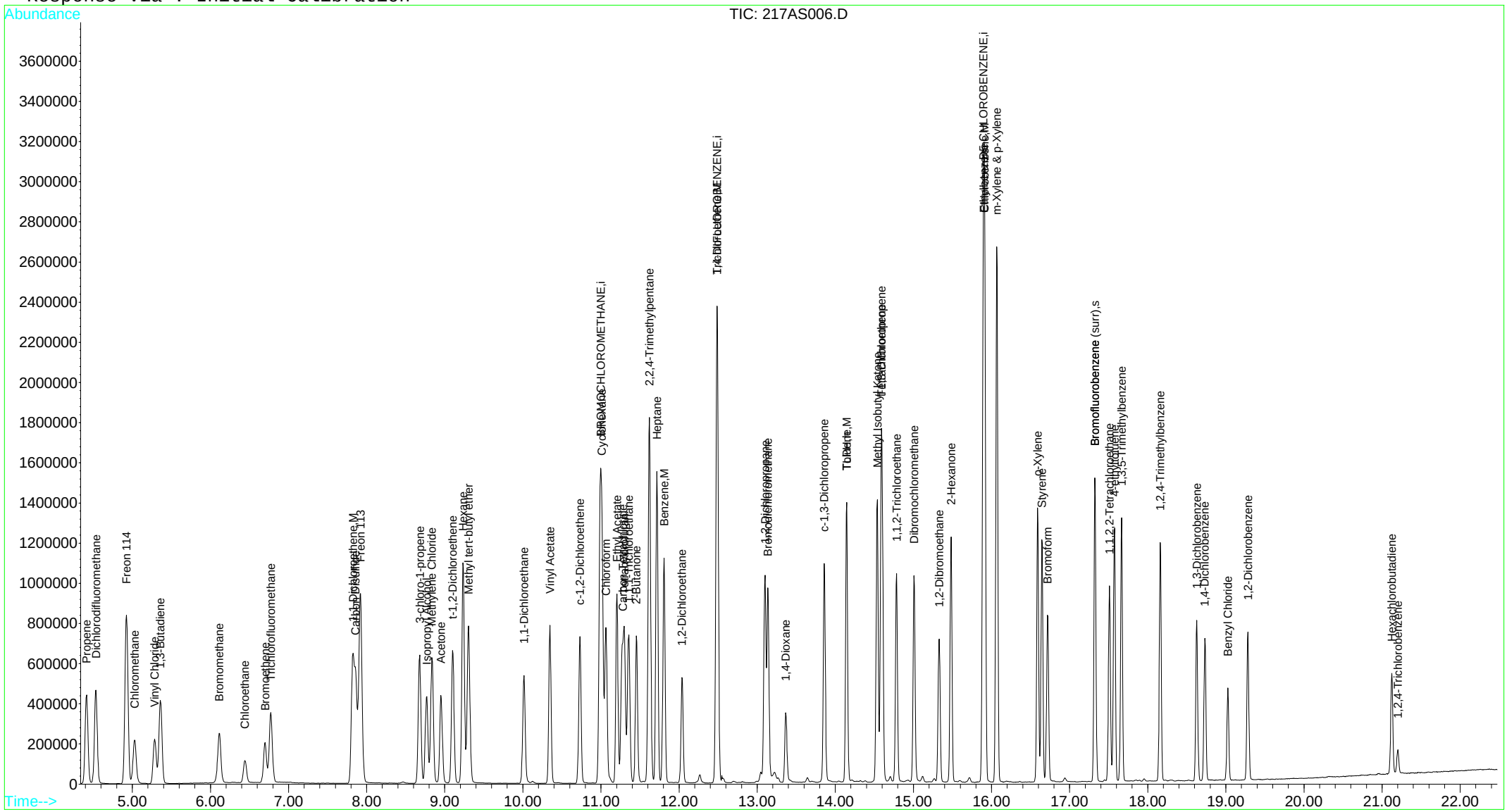
Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
58) 1,1,2,2-Tetrachloroethane	17.51	83	582205	11945.42	PPTV		99
59) Bromofluorobenzene	17.32	174	423653	31720.99	PPTV	#	93
61) 4-ethyltoluene	17.58	105	884635	11080.03	PPTV		98
62) 1,3,5-Trimethylbenzene	17.67	105	728606	12296.74	PPTV		94
63) 1,2,4-Trimethylbenzene	18.16	105	670539	11593.54	PPTV		93
64) 1,3-Dichlorobenzene	18.63	146	347752	9765.64	PPTV		97
65) 1,4-Dichlorobenzene	18.73	146	305335	9186.99	PPTV		96
66) Benzyl Chloride	19.02	91	332375	7587.59	PPTV		93
67) 1,2-Dichlorobenzene	19.28	146	319758	10180.51	PPTV		97
68) 1,2,4-Trichlorobenzene	21.20	180	40777	5670.78	PPTV		95
69) Hexachlorobutadiene	21.12	225	109510	9056.32	PPTV		96

Quantitation Report

Data File : C:\HPCHEM\1\DATA\012421\217AS006.D Vial: 6
Acq On : 24 Jan 2021 10:34 pm Operator: rgg
Sample : bs1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 10:17 2021 Quant Results File: 123120.RES

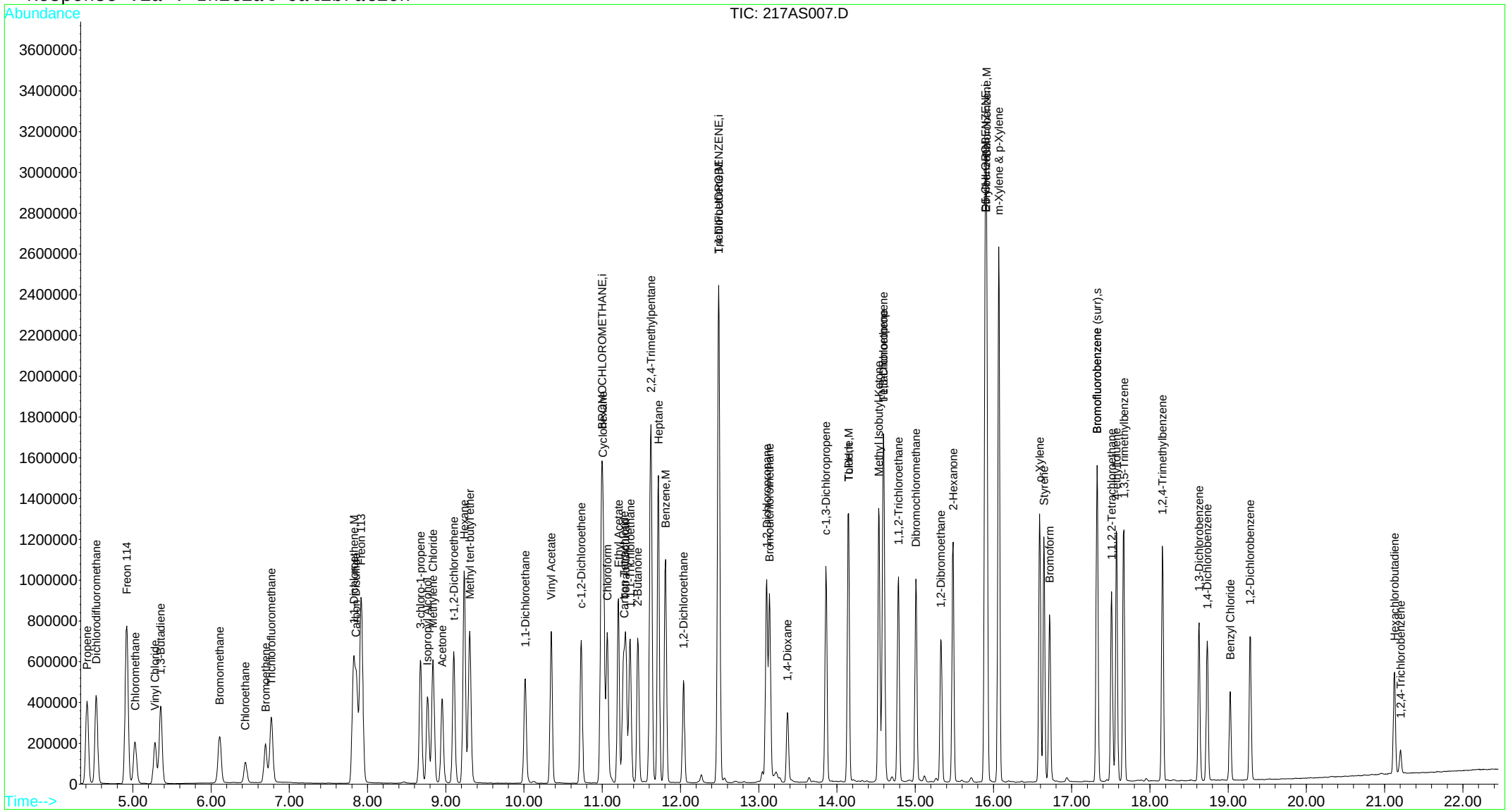
Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\012421\217AS007.D Vial: 7
Acq On : 24 Jan 2021 11:13 pm Operator: rgg
Sample : bsd1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 10:18 2021 Quant Results File: 123120.RES

Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012421\217AS007.D Vial: 7
Acq On : 24 Jan 2021 11:13 pm Operator: rgg
Sample : bsd1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 10:18 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.99	130	408298	31000.00	PPTV	-0.01
36) 1,4-DIFLUOROBENZENE	12.49	114	1353473	31000.00	PPTV	0.00
51) D5-CHLOROBENZENE	15.89	117	1023882	31000.00	PPTV	0.00
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.32	174	435960	31139.73	PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 99.65%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.53	85	633715	8141.58	PPTV	99
3) Propene	4.42	41	357041	7814.65	PPTV	93
4) Chloromethane	5.03	50	379051	8799.80	PPTV	100
5) Freon 114	4.92	135	418539	8789.30	PPTV	98
6) Vinyl Chloride	5.28	62	353862	9235.43	PPTV	99
7) 1,3-Butadiene	5.35	39	320967	8146.48	PPTV	87
8) Bromomethane	6.11	94	244654	8617.30	PPTV	99
9) Chloroethane	6.44	64	137870	8746.50	PPTV	99
10) Trichlorofluoromethane	6.77	101	394608	8714.61	PPTV	100
11) Bromoethene	6.70	106	203053	8582.09	PPTV	100
12) 1,1-Dichloroethene	7.82	61	550399	10323.76	PPTV	86
13) Acetone	8.95	43	651881	9470.33	PPTV #	86
14) Isopropyl Alcohol	8.77	45	701800	10038.98	PPTV	93
15) Carbon Disulfide	7.86	76	931948	10669.60	PPTV	96
16) Methylene Chloride	8.84	84	300235	12262.39	PPTV	89
17) Freon 113	7.92	151	394942	10299.66	PPTV	100
18) 3-chloro-1-propene	8.67	41	616790	10486.51	PPTV	80
19) t-1,2-Dichloroethene	9.10	61	482652	10465.47	PPTV	92
20) Methyl tert-butyl ether	9.31	73	816423	10037.15	PPTV	94
21) Hexane	9.23	57	562420	11241.52	PPTV	89
22) 1,1-Dichloroethane	10.02	63	615249	11001.66	PPTV	100
23) Vinyl Acetate	10.35	43	1233853	10559.51	PPTV	99
24) c-1,2-Dichloroethene	10.73	96	324856	11397.31	PPTV	96
25) Ethyl Acetate	11.21	43	1132728	10335.69	PPTV	96
26) 2-Butanone	11.45	43	988198	10346.06	PPTV	96
27) Chloroform	11.06	83	593477	10079.32	PPTV	98
28) Tetrahydrofuran	11.30	42	479633	10685.58	PPTV	98
29) 2,2,4-Trimethylpentane	11.62	57	1842906	10834.87	PPTV	92
30) 1,2-Dichloroethane	12.04	62	354811	8794.38	PPTV	99
31) 1,1,1-Trichloroethane	11.36	97	473010	9066.38	PPTV	98
32) Cyclohexane	11.01	56	581686	10872.13	PPTV	93
33) Carbon Tetrachloride	11.27	117	391235	7480.60	PPTV	99
34) Benzene	11.81	78	935308	10700.30	PPTV	99
35) Heptane	11.72	43	790070	10450.29	PPTV	97
37) TLPH	14.15	TIC	2416478m	11363.54	PPTV	
38) 1,2-Dichloropropane	13.10	63	385564	11334.07	PPTV #	78
39) Trichloroethene	12.48	130	359966	10781.63	PPTV	97
40) 1,4-Dioxane	13.37	88	201734	10802.68	PPTV	97
41) Bromodichloromethane	13.14	83	582808	10023.80	PPTV	99
42) c-1,3-Dichloropropene	13.86	75	562520	11346.93	PPTV	98
43) t-1,3-Dichloropropene	14.59	75	419852	14604.36	PPTV	96
44) 1,1,2-Trichloroethane	14.79	97	329426	11022.62	PPTV	99
45) Methyl Isobutyl Ketone	14.53	43	1093799	10702.59	PPTV	96
46) Toluene	14.15	92	572401	11413.67	PPTV	100
47) 2-Hexanone	15.48	43	899050	10805.54	PPTV	93
48) 1,2-Dibromoethane	15.33	107	516858	10988.23	PPTV	99
49) Tetrachloroethene	14.60	166	385908	9812.12	PPTV	98
50) Dibromochloromethane	15.01	127	417609	10261.10	PPTV	98
52) Chlorobenzene	15.92	112	605218	10024.99	PPTV	92
53) Ethylbenzene	15.91	106	297499	11709.60	PPTV	92
54) m-Xylene & p-Xylene	16.07	106	750999	24364.12	PPTV	90
55) Styrene	16.64	104	566554	11013.49	PPTV	88
56) o-Xylene	16.59	106	366481	11068.60	PPTV	89
57) Bromoform	16.72	173	394396	10259.11	PPTV #	88

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\012421\217AS007.D Vial: 7
Acq On : 24 Jan 2021 11:13 pm Operator: rgg
Sample : bsd1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 10:18 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

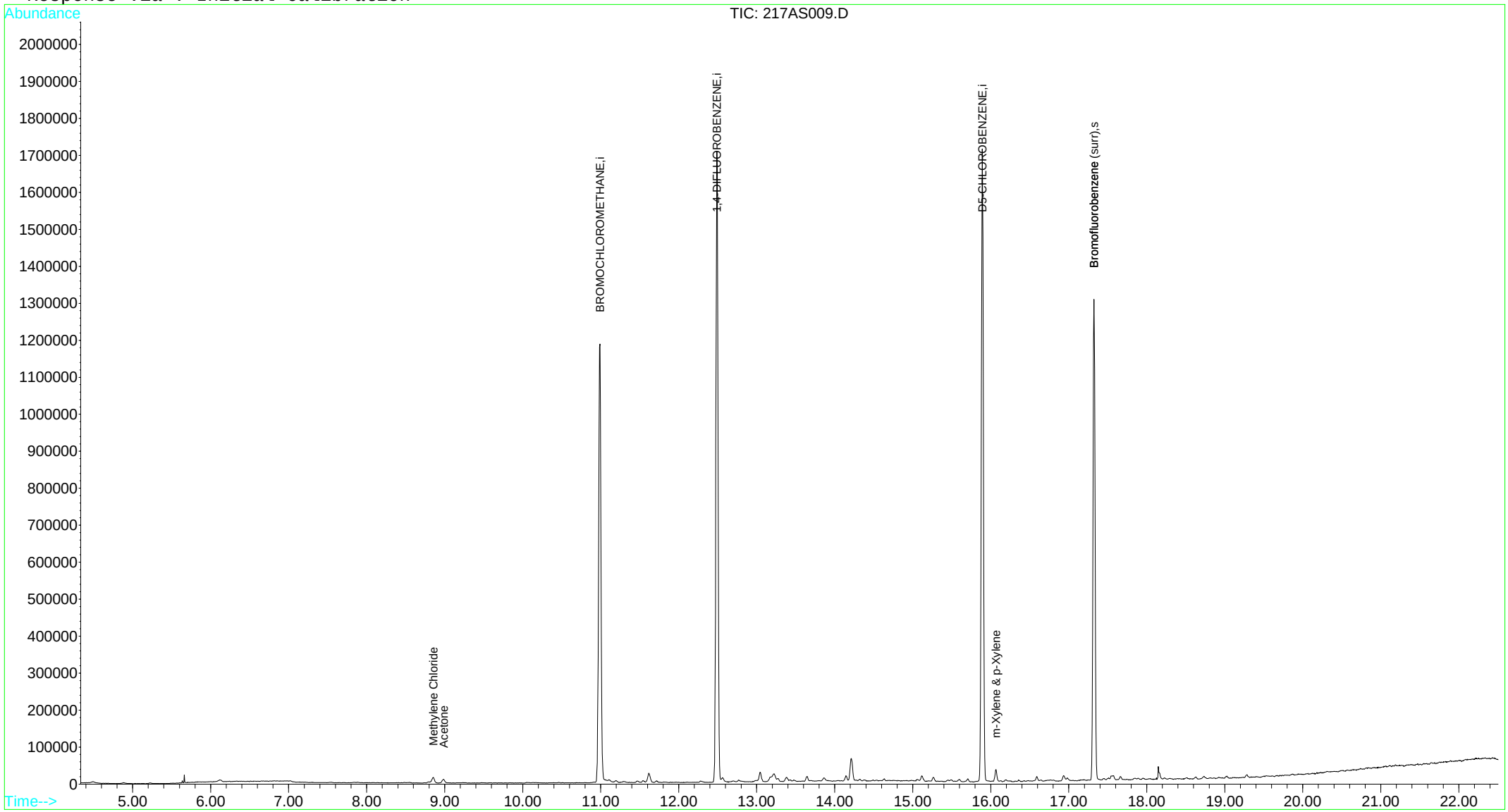
Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
58) 1,1,2,2-Tetrachloroethane	17.51	83	569164	11140.24	PPTV		99
59) Bromofluorobenzene	17.32	174	435960	31139.73	PPTV	#	93
61) 4-ethyltoluene	17.58	105	866995	10359.18	PPTV		98
62) 1,3,5-Trimethylbenzene	17.67	105	705519	11358.93	PPTV		93
63) 1,2,4-Trimethylbenzene	18.16	105	651950	10753.21	PPTV		93
64) 1,3-Dichlorobenzene	18.63	146	340685	9126.74	PPTV		97
65) 1,4-Dichlorobenzene	18.73	146	295012	8467.75	PPTV		97
66) Benzyl Chloride	19.03	91	323487	7044.72	PPTV		93
67) 1,2-Dichlorobenzene	19.28	146	313471	9520.88	PPTV		97
68) 1,2,4-Trichlorobenzene	21.20	180	39416	5229.16	PPTV		98
69) Hexachlorobutadiene	21.13	225	107354	8469.31	PPTV		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\012421\217AS009.D Vial: 9
Acq On : 25 Jan 2021 12:37 am Operator: rgg
Sample : blk1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 10:19 2021 Quant Results File: 123120.RES

Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012421\217AS009.D Vial: 9
Acq On : 25 Jan 2021 12:37 am Operator: rgg
Sample : blk1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 10:19 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.99	130	396636	31000.00	PPTV	-0.01
36) 1,4-DIFLUOROBENZENE	12.49	114	1324496	31000.00	PPTV	-0.01
51) D5-CHLOROBENZENE	15.89	117	957252	31000.00	PPTV	0.00
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.32	174	354024	27047.34	PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 86.55%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.		
3) Propene	4.50	41	3996	N.D.		
4) Chloromethane	5.11	50	96	N.D.		
5) Freon 114	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	5.40	39	310	N.D.		
8) Bromomethane	6.14	94	201	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Trichlorofluoromethane	0.00	101	0	N.D.		
11) Bromoethene	0.00	106	0	N.D.		
12) 1,1-Dichloroethene	0.00	61	0	N.D.		
13) Acetone	8.98	43	14974	223.93	PPTV	87
14) Isopropyl Alcohol	8.79	45	4370	N.D.		
15) Carbon Disulfide	7.89	76	1761	N.D.		
16) Methylene Chloride	8.86	84	7002	294.39	PPTV	87
17) Freon 113	0.00	151	0	N.D.		
18) 3-chloro-1-propene	8.69	41	24	N.D.		
19) t-1,2-Dichloroethene	0.00	61	0	N.D.		
20) Methyl tert-butyl ether	9.31	73	71	N.D.		
21) Hexane	9.23	57	342	N.D.		
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	10.37	43	229	N.D.		
24) c-1,2-Dichloroethene	10.73	96	39	N.D.		
25) Ethyl Acetate	11.20	43	2268	N.D.		
26) 2-Butanone	11.47	43	5229	N.D.		
27) Chloroform	10.99	83	177	N.D.		
28) Tetrahydrofuran	11.30	42	1117	N.D.		
29) 2,2,4-Trimethylpentane	11.62	57	24729	N.D.		
30) 1,2-Dichloroethane	0.00	62	0	N.D.		
31) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
32) Cyclohexane	11.01	56	140	N.D.		
33) Carbon Tetrachloride	0.00	117	0	N.D.		
34) Benzene	11.81	78	1385	N.D.		
35) Heptane	11.71	43	2223	N.D.		
37) TLPH	0.00	TIC	0	N.D. d		
38) 1,2-Dichloropropane	13.04	63	37	N.D.		
39) Trichloroethene	12.48	130	38	N.D.		
40) 1,4-Dioxane	13.38	88	192	N.D.		
41) Bromodichloromethane	13.14	83	43	N.D.		
42) c-1,3-Dichloropropene	13.87	75	761	N.D.		
43) t-1,3-Dichloropropene	14.58	75	802	N.D.		
44) 1,1,2-Trichloroethane	14.79	97	274	N.D.		
45) Methyl Isobutyl Ketone	14.54	43	2134	N.D.		
46) Toluene	14.14	92	5090	N.D.		
47) 2-Hexanone	15.49	43	4129	N.D.		
48) 1,2-Dibromoethane	15.32	107	382	N.D.		
49) Tetrachloroethene	14.59	166	114	N.D.		
50) Dibromochloromethane	15.00	127	205	N.D.		
52) Chlorobenzene	15.90	112	730	N.D.		
53) Ethylbenzene	15.90	106	2496	N.D.		
54) m-Xylene & p-Xylene	16.07	106	8460	293.57	PPTV	91
55) Styrene	16.65	104	1198	N.D.		
56) o-Xylene	16.59	106	3046	N.D.		
57) Bromoform	16.72	173	564	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012421\217AS009.D Vial: 9
Acq On : 25 Jan 2021 12:37 am Operator: rgg
Sample : blk1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 10:19 2021 Quant Results File: 123120.RES

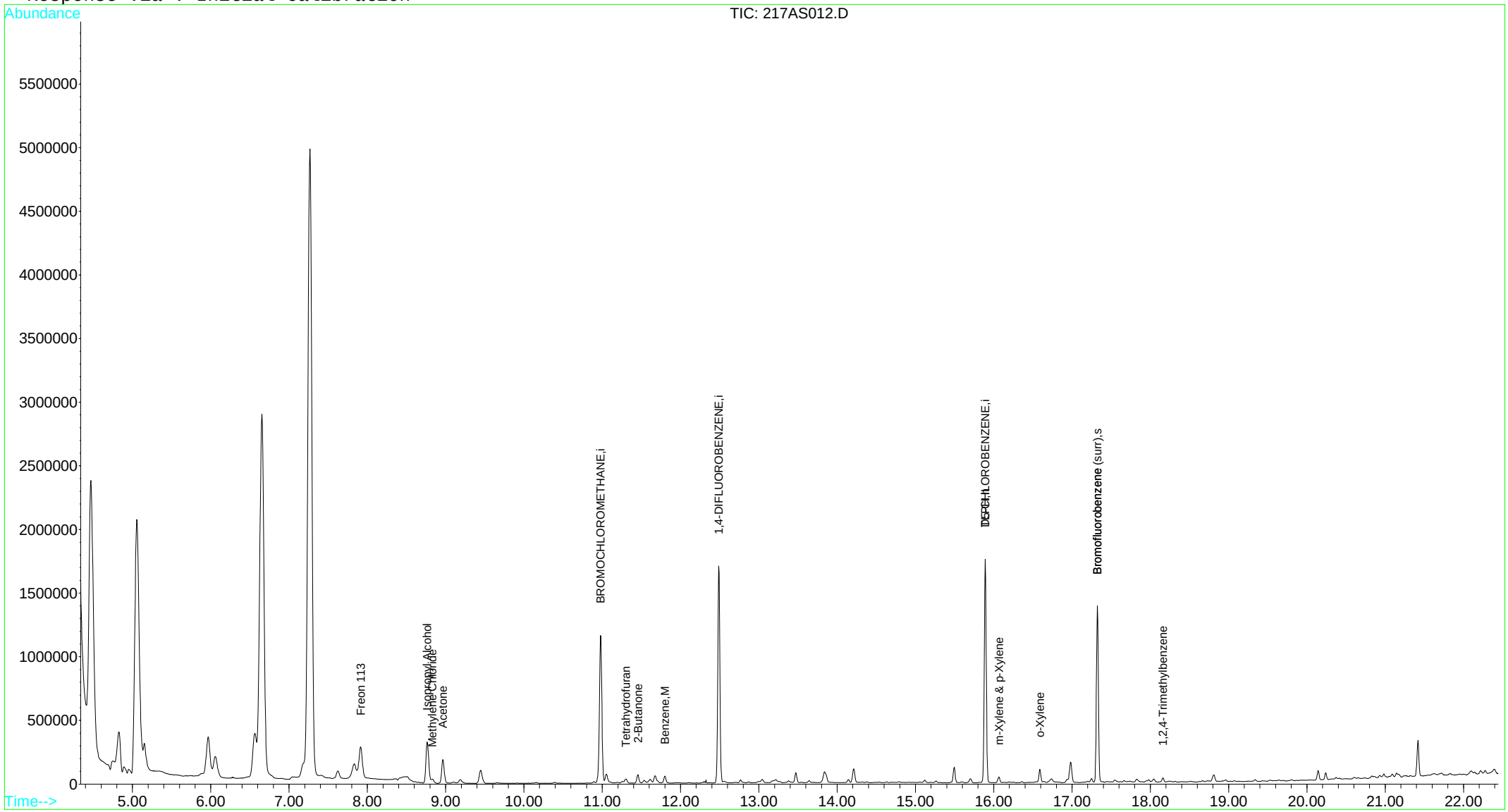
Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.51	83	2458	N.D.		
59) Bromofluorobenzene	17.32	174	354024	27047.34	PPTV #	94
61) 4-ethyltoluene	17.57	105	12551	N.D.		
62) 1,3,5-Trimethylbenzene	17.66	105	4719	N.D.		
63) 1,2,4-Trimethylbenzene	18.16	105	8037	N.D.		
64) 1,3-Dichlorobenzene	18.62	146	1890	N.D.		
65) 1,4-Dichlorobenzene	18.74	146	1549	N.D.		
66) Benzyl Chloride	19.03	91	2802	N.D.		
67) 1,2-Dichlorobenzene	19.29	146	3076	N.D.		
68) 1,2,4-Trichlorobenzene	21.19	180	1286	N.D.		
69) Hexachlorobutadiene	21.11	225	558	N.D.		

Quantitation Report

Data File : C:\HPCHEM\1\DATA\012421\217AS012.D Vial: 12
Acq On : 25 Jan 2021 10:36 am Operator: rgg
Sample : ae00066-13re1 Inst : OVGCMS7
Misc : 1.34 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 11:01 2021 Quant Results File: 123120.RES

Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012421\217AS012.D Vial: 12
Acq On : 25 Jan 2021 10:36 am Operator: rgg
Sample : ae00066-13re1 Inst : OVGCMS7
Misc : 1.34 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 11:01 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.98	130	394787	31000.00 PPTV	-0.02
36) 1,4-DIFLUOROBENZENE	12.49	114	1326946	31000.00 PPTV	-0.01
51) D5-CHLOROBENZENE	15.89	117	966269	31000.00 PPTV	0.00
System Monitoring Compounds					
60) Bromofluorobenzene (surr)	17.32	174	368789	27912.45 PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 89.32%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D. d	
3) Propene	0.00	41	0	N.D. d	
4) Chloromethane	0.00	50	0	N.D. d	
5) Freon 114	4.93	135	405	N.D.	
6) Vinyl Chloride	5.29	62	582	N.D.	
7) 1,3-Butadiene	5.35	39	3717	N.D.	
8) Bromomethane	6.16	94	281	N.D.	
9) Chloroethane	6.44	64	275	N.D.	
10) Trichlorofluoromethane	6.77	101	6840	N.D.	
11) Bromoethene	0.00	106	0	N.D.	
12) 1,1-Dichloroethene	7.92	61	282	N.D.	
13) Acetone	8.96	43	291645	4381.93 PPTV	89
14) Isopropyl Alcohol	8.76	45	536638	7939.12 PPTV	95
15) Carbon Disulfide	0.00	76	0	N.D. d	
16) Methylene Chloride	8.83	84	13270	560.53 PPTV	89
17) Freon 113	7.92	151	109122	2943.18 PPTV	100
18) 3-chloro-1-propene	0.00	41	0	N.D. d	
19) t-1,2-Dichloroethene	9.09	61	2820	N.D.	
20) Methyl tert-butyl ether	9.31	73	1481	N.D.	
21) Hexane	9.22	57	3182	N.D.	
22) 1,1-Dichloroethane	0.00	63	0	N.D.	
23) Vinyl Acetate	10.35	43	1739	N.D.	
24) c-1,2-Dichloroethene	10.75	96	41	N.D.	
25) Ethyl Acetate	0.00	43	0	N.D. d	
26) 2-Butanone	11.45	43	91456	990.28 PPTV	98
27) Chloroform	11.05	83	8717	N.D.	
28) Tetrahydrofuran	11.31	42	16601	382.51 PPTV	92
29) 2,2,4-Trimethylpentane	11.61	57	26936	N.D.	
30) 1,2-Dichloroethane	12.03	62	355	N.D.	
31) 1,1,1-Trichloroethane	0.00	97	0	N.D.	
32) Cyclohexane	11.01	56	780	N.D.	
33) Carbon Tetrachloride	11.26	117	1483	N.D.	
34) Benzene	11.80	78	45256	535.47 PPTV	98
35) Heptane	11.70	43	10061	N.D.	
37) TLPH	15.89	TIC	23067612m	110644.46 PPTV	
38) 1,2-Dichloropropane	13.09	63	97	N.D.	
39) Trichloroethene	12.47	130	44	N.D.	
40) 1,4-Dioxane	13.38	88	219	N.D.	
41) Bromodichloromethane	13.14	83	44	N.D.	
42) c-1,3-Dichloropropene	13.88	75	312	N.D.	
43) t-1,3-Dichloropropene	14.60	75	508	N.D.	
44) 1,1,2-Trichloroethane	14.78	97	168	N.D.	
45) Methyl Isobutyl Ketone	14.53	43	3493	N.D.	
46) Toluene	14.15	92	8718	N.D.	
47) 2-Hexanone	0.00	43	0	N.D. d	
48) 1,2-Dibromoethane	15.33	107	143	N.D.	
49) Tetrachloroethene	14.60	166	130	N.D.	
50) Dibromochloromethane	0.00	127	0	N.D.	
52) Chlorobenzene	15.92	112	460	N.D.	
53) Ethylbenzene	15.90	106	3218	N.D.	
54) m-Xylene & p-Xylene	16.07	106	11850	407.36 PPTV	94
55) Styrene	16.64	104	3555	N.D.	
56) o-Xylene	16.59	106	27059	865.97 PPTV	93
57) Bromoform	16.72	173	43	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012421\217AS012.D Vial: 12
Acq On : 25 Jan 2021 10:36 am Operator: rgg
Sample : ae00066-13re1 Inst : OVGCMS7
Misc : 1.34 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 11:01 2021 Quant Results File: 123120.RES

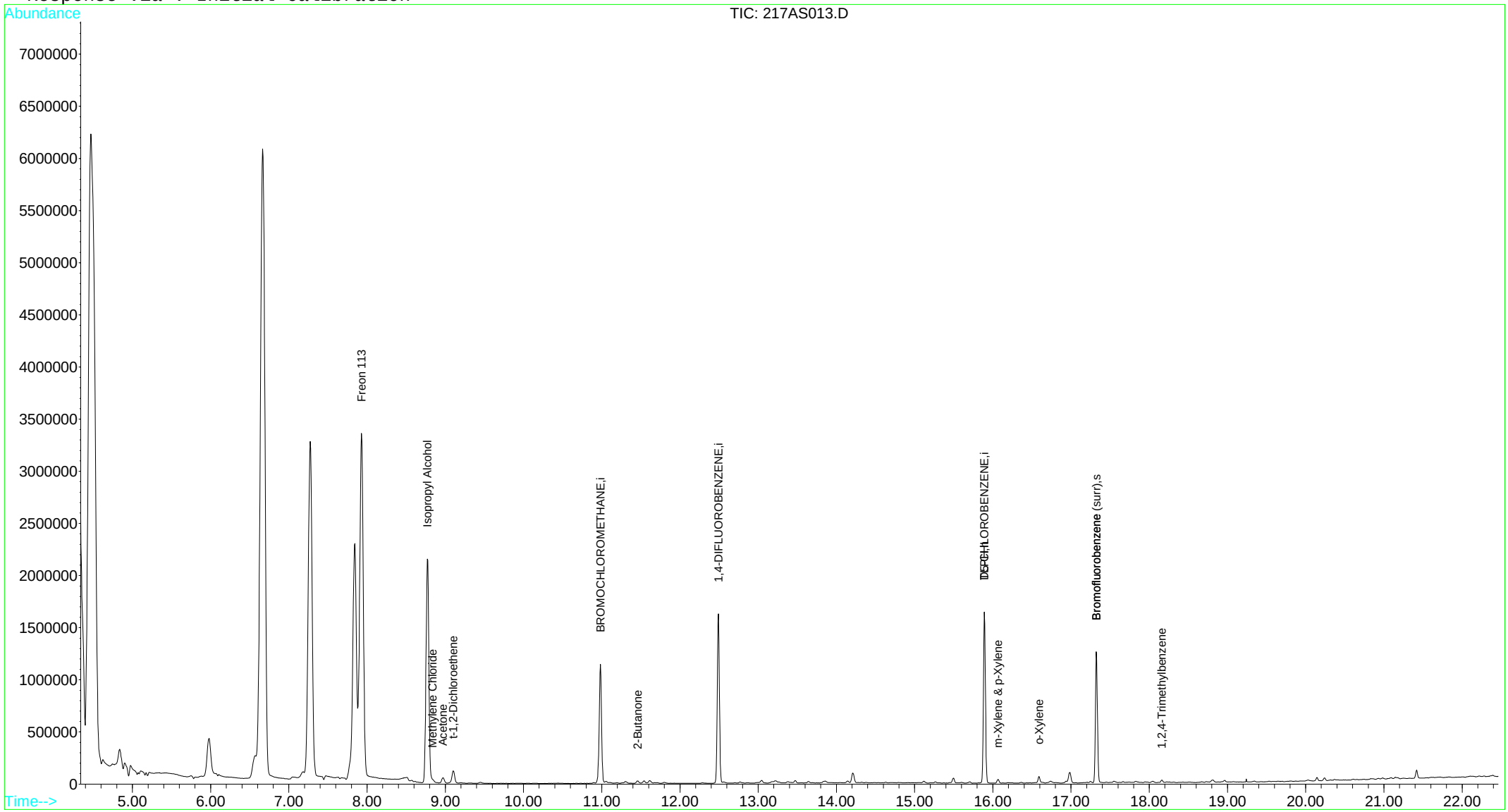
Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.50	83	1161	N.D.		
59) Bromofluorobenzene	17.32	174	368789	27912.45	PPTV #	95
61) 4-ethyltoluene	17.55	105	15487	N.D.		
62) 1,3,5-Trimethylbenzene	17.66	105	6110	N.D.		
63) 1,2,4-Trimethylbenzene	18.16	105	15081	263.58	PPTV	98
64) 1,3-Dichlorobenzene	18.63	146	1124	N.D.		
65) 1,4-Dichlorobenzene	18.73	146	603	N.D.		
66) Benzyl Chloride	19.00	91	1064	N.D.		
67) 1,2-Dichlorobenzene	19.28	146	606	N.D.		
68) 1,2,4-Trichlorobenzene	21.19	180	617	N.D.		
69) Hexachlorobutadiene	21.13	225	719	N.D.		

Quantitation Report

Data File : C:\HPCHEM\1\DATA\012421\217AS013.D Vial: 13
Acq On : 25 Jan 2021 11:18 am Operator: rgg
Sample : ae00066-14 Inst : OVGCMS7
Misc : 1.35 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 11:53 2021 Quant Results File: 123120.RES

Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012421\217AS013.D Vial: 13
Acq On : 25 Jan 2021 11:18 am Operator: rgg
Sample : ae00066-14 Inst : OVGCMS7
Misc : 1.35 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 11:53 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.98	130	376564	31000.00	PPTV	-0.02
36) 1,4-DIFLUOROBENZENE	12.49	114	1276814	31000.00	PPTV	0.00
51) D5-CHLOROBENZENE	15.89	117	910527	31000.00	PPTV	0.00
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.33	174	335481	26945.93	PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 86.23%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.53	85	6536	N.D.		
3) Propene	4.40	41	5399	N.D.		
4) Chloromethane	5.04	50	2156	N.D.		
5) Freon 114	0.00	135	0	N.D.		
6) Vinyl Chloride	5.28	62	51	N.D.		
7) 1,3-Butadiene	5.40	39	117	N.D.		
8) Bromomethane	6.15	94	356	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Trichlorofluoromethane	6.77	101	2110	N.D.		
11) Bromoethene	6.64	106	39	N.D.		
12) 1,1-Dichloroethene	7.84	61	2902	N.D.		
13) Acetone	8.97	43	81648	1286.12	PPTV	89
14) Isopropyl Alcohol	8.77	45	3760751	58329.65	PPTV	92
15) Carbon Disulfide	7.85	76	9726	N.D.		
16) Methylene Chloride	8.84	84	8117	359.46	PPTV	90
17) Freon 113	7.93	151	1621884	45861.46	PPTV	99
18) 3-chloro-1-propene	0.00	41	0	N.D. d		
19) t-1,2-Dichloroethene	9.10	61	86743	2039.38	PPTV	93
20) Methyl tert-butyl ether	9.30	73	324	N.D.		
21) Hexane	9.24	57	941	N.D.		
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	10.36	43	1180	N.D.		
24) c-1,2-Dichloroethene	10.72	96	198	N.D.		
25) Ethyl Acetate	11.30	43	10414	N.D.		
26) 2-Butanone	11.46	43	30648	347.91	PPTV	97
27) Chloroform	11.06	83	3109	N.D.		
28) Tetrahydrofuran	11.30	42	7484	N.D.		
29) 2,2,4-Trimethylpentane	11.61	57	24895	N.D.		
30) 1,2-Dichloroethane	0.00	62	0	N.D.		
31) 1,1,1-Trichloroethane	11.33	97	627	N.D.		
32) Cyclohexane	11.01	56	494	N.D.		
33) Carbon Tetrachloride	11.27	117	463	N.D.		
34) Benzene	11.81	78	6957	N.D.		
35) Heptane	11.71	43	3882	N.D.		
37) TLPH	15.89	TIC	19354579m	96479.79	PPTV	
38) 1,2-Dichloropropane	12.98	63	51	N.D.		
39) Trichloroethene	12.47	130	36	N.D.		
40) 1,4-Dioxane	13.38	88	122	N.D.		
41) Bromodichloromethane	13.12	83	114	N.D.		
42) c-1,3-Dichloropropene	13.85	75	452	N.D.		
43) t-1,3-Dichloropropene	14.60	75	119	N.D.		
44) 1,1,2-Trichloroethane	14.81	97	113	N.D.		
45) Methyl Isobutyl Ketone	14.53	43	1171	N.D.		
46) Toluene	14.14	92	6768	N.D.		
47) 2-Hexanone	15.49	43	12090	N.D.		
48) 1,2-Dibromoethane	15.32	107	75	N.D.		
49) Tetrachloroethene	14.60	166	84	N.D.		
50) Dibromochloromethane	0.00	127	0	N.D.		
52) Chlorobenzene	15.92	112	166	N.D.		
53) Ethylbenzene	15.90	106	2698	N.D.		
54) m-Xylene & p-Xylene	16.07	106	9354	341.24	PPTV	96
55) Styrene	16.65	104	2224	N.D.		
56) o-Xylene	16.59	106	16391	556.68	PPTV	91
57) Bromoform	0.00	173	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012421\217AS013.D Vial: 13
Acq On : 25 Jan 2021 11:18 am Operator: rgg
Sample : ae00066-14 Inst : OVGCMS7
Misc : 1.35 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 11:53 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.50	83	1004	N.D.		
59) Bromofluorobenzene	17.33	174	335481	26945.93	PPTV #	94
61) 4-ethyltoluene	17.55	105	11772	N.D.		
62) 1,3,5-Trimethylbenzene	17.67	105	4801	N.D.		
63) 1,2,4-Trimethylbenzene	18.16	105	11061	205.15	PPTV	95
64) 1,3-Dichlorobenzene	18.63	146	513	N.D.		
65) 1,4-Dichlorobenzene	18.75	146	467	N.D.		
66) Benzyl Chloride	19.03	91	682	N.D.		
67) 1,2-Dichlorobenzene	19.28	146	491	N.D.		
68) 1,2,4-Trichlorobenzene	21.20	180	251	N.D.		
69) Hexachlorobutadiene	21.12	225	618	N.D.		

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012421\217AS016.D Vial: 16
Acq On : 25 Jan 2021 1:21 pm Operator: rgg
Sample : ae00066-17 Inst : OVGCMS7
Misc : 1.32 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 13:45 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.99	130	379518	31000.00	PPTV	-0.01
36) 1,4-DIFLUOROBENZENE	12.49	114	1282254	31000.00	PPTV	0.00
51) D5-CHLOROBENZENE	15.90	117	929975	31000.00	PPTV	0.00
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.33	174	350716	27580.52	PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 88.26%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.54	85	24884	343.94	PPTV	99
3) Propene	0.00	41	0	N.D.	d	
4) Chloromethane	5.06	50	18566	463.70	PPTV	99
5) Freon 114	4.94	135	428	N.D.		
6) Vinyl Chloride	5.31	62	39	N.D.		
7) 1,3-Butadiene	5.37	39	542	N.D.		
8) Bromomethane	6.18	94	152	N.D.		
9) Chloroethane	6.46	64	225	N.D.		
10) Trichlorofluoromethane	6.77	101	6691	N.D.		
11) Bromoethene	0.00	106	0	N.D.		
12) 1,1-Dichloroethene	0.00	61	0	N.D.		
13) Acetone	8.96	43	125772	1965.74	PPTV	88
14) Isopropyl Alcohol	8.78	45	113457	1746.03	PPTV	96
15) Carbon Disulfide	7.86	76	3237	N.D.		
16) Methylene Chloride	8.84	84	17144	753.30	PPTV	92
17) Freon 113	7.92	151	8591	241.03	PPTV	99
18) 3-chloro-1-propene	8.66	41	492	N.D.		
19) t-1,2-Dichloroethene	9.10	61	31052	724.37	PPTV	92
20) Methyl tert-butyl ether	9.34	73	471	N.D.		
21) Hexane	9.23	57	2047	N.D.		
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	10.38	43	244	N.D.		
24) c-1,2-Dichloroethene	10.70	96	39	N.D.		
25) Ethyl Acetate	11.20	43	4878	N.D.		
26) 2-Butanone	11.46	43	28444	320.38	PPTV	100
27) Chloroform	11.06	83	1021	N.D.		
28) Tetrahydrofuran	11.31	42	1314	N.D.		
29) 2,2,4-Trimethylpentane	11.62	57	26178	N.D.		
30) 1,2-Dichloroethane	12.04	62	631	N.D.		
31) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
32) Cyclohexane	11.10	56	2580	N.D.		
33) Carbon Tetrachloride	11.26	117	2894	N.D.		
34) Benzene	11.80	78	7851	N.D.		
35) Heptane	11.71	43	3078	N.D.		
37) TLPH	12.49	TIC	18956858m	94096.31	PPTV	
38) 1,2-Dichloropropane	13.11	63	79	N.D.		
39) Trichloroethene	0.00	130	0	N.D.		
40) 1,4-Dioxane	13.38	88	129	N.D.		
41) Bromodichloromethane	13.22	83	39	N.D.		
42) c-1,3-Dichloropropene	13.84	75	603	N.D.		
43) t-1,3-Dichloropropene	14.60	75	511	N.D.		
44) 1,1,2-Trichloroethane	14.79	97	97	N.D.		
45) Methyl Isobutyl Ketone	14.54	43	2001	N.D.		
46) Toluene	14.15	92	7476	N.D.		
47) 2-Hexanone	15.50	43	9263	N.D.		
48) 1,2-Dibromoethane	15.34	107	38	N.D.		
49) Tetrachloroethene	14.61	166	43	N.D.		
50) Dibromochloromethane	0.00	127	0	N.D.		
52) Chlorobenzene	15.92	112	283	N.D.		
53) Ethylbenzene	15.91	106	2208	N.D.		
54) m-Xylene & p-Xylene	16.07	106	7944	283.75	PPTV	95
55) Styrene	16.65	104	505	N.D.		
56) o-Xylene	16.60	106	2860	N.D.		
57) Bromoform	0.00	173	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012421\217AS016.D Vial: 16
Acq On : 25 Jan 2021 1:21 pm Operator: rgg
Sample : ae00066-17 Inst : OVGCMS7
Misc : 1.32 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 13:45 2021 Quant Results File: 123120.RES

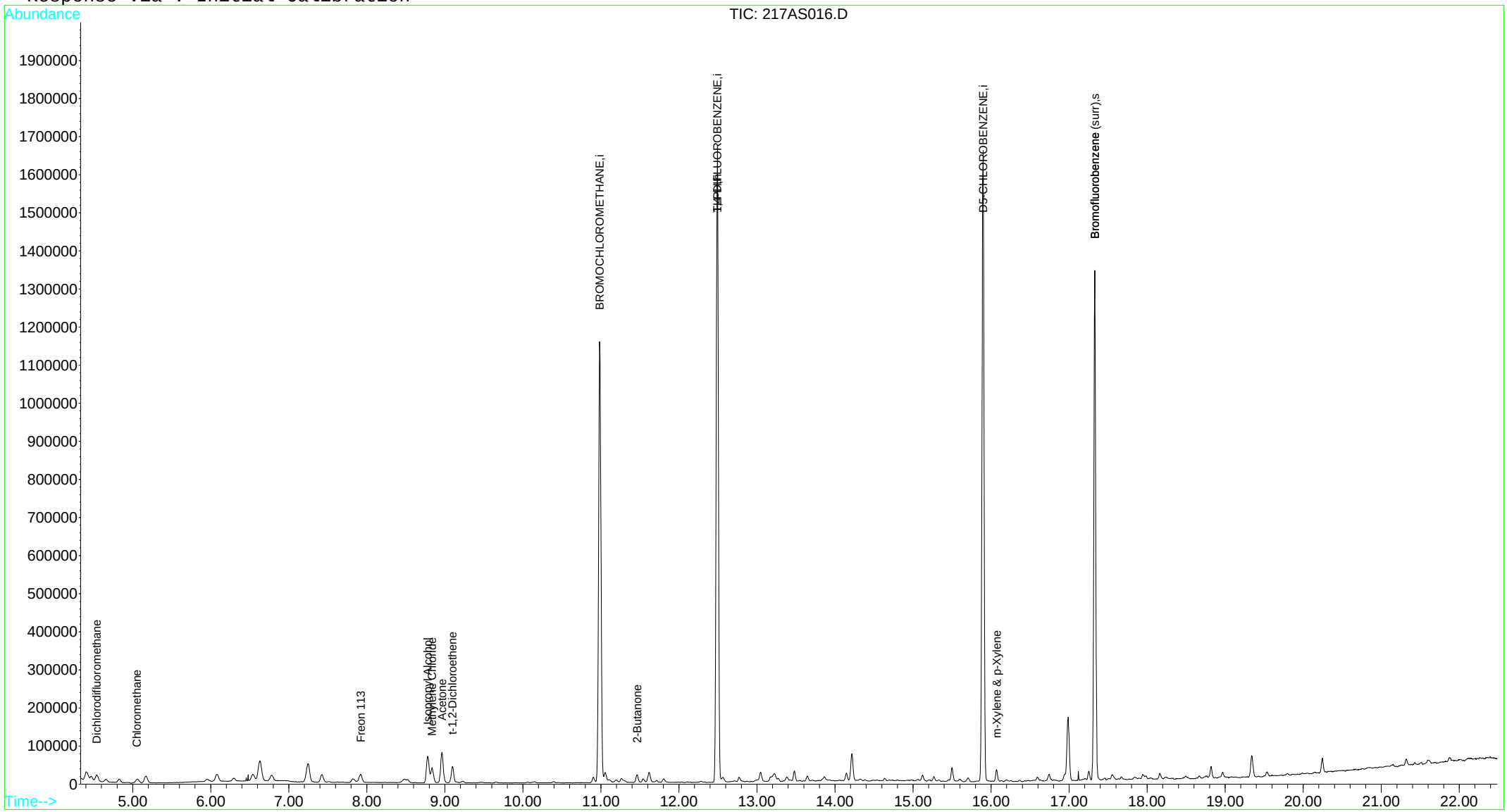
Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.52	83	618	N.D.		
59) Bromofluorobenzene	17.33	174	350716	27580.52	PPTV #	95
61) 4-ethyltoluene	17.55	105	10056	N.D.		
62) 1,3,5-Trimethylbenzene	17.67	105	3796	N.D.		
63) 1,2,4-Trimethylbenzene	18.17	105	7039	N.D.		
64) 1,3-Dichlorobenzene	18.64	146	287	N.D.		
65) 1,4-Dichlorobenzene	18.74	146	401	N.D.		
66) Benzyl Chloride	19.01	91	503	N.D.		
67) 1,2-Dichlorobenzene	19.29	146	394	N.D.		
68) 1,2,4-Trichlorobenzene	21.21	180	37	N.D.		
69) Hexachlorobutadiene	21.14	225	604	N.D.		

Quantitation Report

Data File : C:\HPCHEM\1\DATA\012421\217AS016.D Vial: 16
Acq On : 25 Jan 2021 1:21 pm Operator: rgg
Sample : ae00066-17 Inst : OVGCMS7
Misc : 1.32 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 13:45 2021 Quant Results File: 123120.RES

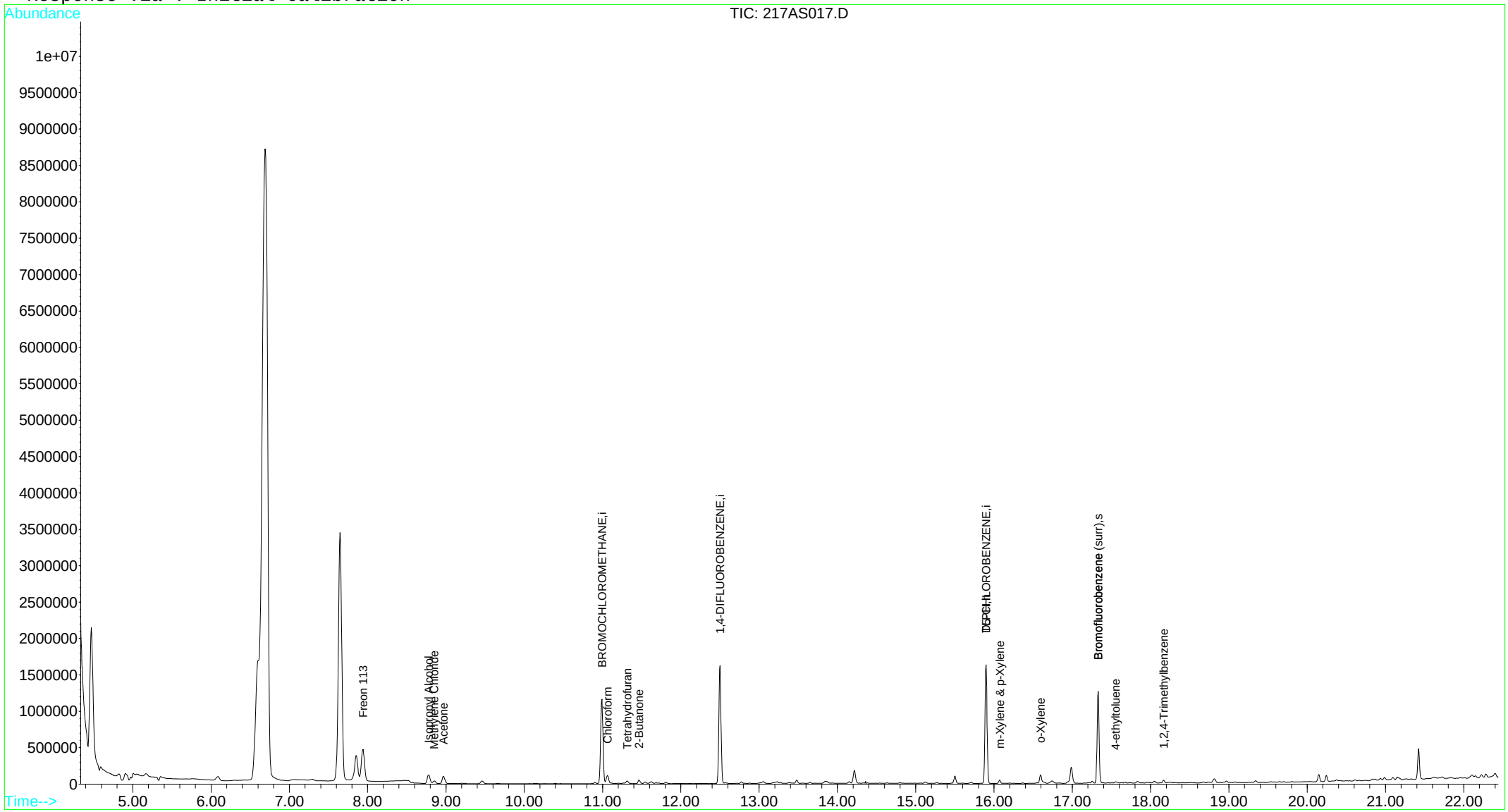
Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\012421\217AS017.D Vial: 17
Acq On : 25 Jan 2021 2:06 pm Operator: rgg
Sample : ae00066-15re1 Inst : OVGCMS7
Misc : 1.59 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 16:15 2021 Quant Results File: 123120.RES

Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012421\217AS017.D Vial: 17
Acq On : 25 Jan 2021 2:06 pm Operator: rgg
Sample : ae00066-15re1 Inst : OVGCMS7
Misc : 1.59 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 16:15 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.99	130	374110	31000.00	PPTV	-0.01
36) 1,4-DIFLUOROBENZENE	12.50	114	1263633	31000.00	PPTV	0.00
51) D5-CHLOROBENZENE	15.90	117	911241	31000.00	PPTV	0.00
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.33	174	338901	27199.30	PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 87.04%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.54	85	14011	N.D.		
3) Propene	0.00	41	0	N.D. d		
4) Chloromethane	5.05	50	2923	N.D.		
5) Freon 114	4.93	135	368	N.D.		
6) Vinyl Chloride	5.32	62	40	N.D.		
7) 1,3-Butadiene	5.42	39	156	N.D.		
8) Bromomethane	6.24	94	82	N.D.		
9) Chloroethane	6.49	64	676	N.D.		
10) Trichlorofluoromethane	6.79	101	4753	N.D.		
11) Bromoethene	0.00	106	0	N.D.		
12) 1,1-Dichloroethene	0.00	61	0	N.D.		
13) Acetone	8.97	43	163762	2596.50	PPTV	90
14) Isopropyl Alcohol	8.78	45	195487	3051.91	PPTV	97
15) Carbon Disulfide	0.00	76	0	N.D. d		
16) Methylene Chloride	8.86	84	15055	671.08	PPTV	93
17) Freon 113	7.94	151	179271	5102.44	PPTV	99
18) 3-chloro-1-propene	0.00	41	0	N.D. d		
19) t-1,2-Dichloroethene	9.11	61	1552	N.D.		
20) Methyl tert-butyl ether	9.33	73	302	N.D.		
21) Hexane	9.25	57	1525	N.D.		
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	10.34	43	380	N.D.		
24) c-1,2-Dichloroethene	10.80	96	36	N.D.		
25) Ethyl Acetate	11.20	43	3731	N.D.		
26) 2-Butanone	11.47	43	68173	778.97	PPTV	97
27) Chloroform	11.06	83	64705	1199.34	PPTV	100
28) Tetrahydrofuran	11.32	42	19550	475.35	PPTV	90
29) 2,2,4-Trimethylpentane	11.62	57	25741	N.D.		
30) 1,2-Dichloroethane	12.04	62	48	N.D.		
31) 1,1,1-Trichloroethane	11.36	97	43	N.D.		
32) Cyclohexane	11.01	56	686	N.D.		
33) Carbon Tetrachloride	11.26	117	1050	N.D.		
34) Benzene	11.81	78	13492	N.D.		
35) Heptane	11.71	43	4067	N.D.		
37) TLPH	15.90	TIC	23358185m	117651.76	PPTV	
38) 1,2-Dichloropropane	13.10	63	91	N.D.		
39) Trichloroethene	12.49	130	126	N.D.		
40) 1,4-Dioxane	13.39	88	141	N.D.		
41) Bromodichloromethane	13.13	83	104	N.D.		
42) c-1,3-Dichloropropene	13.88	75	782	N.D.		
43) t-1,3-Dichloropropene	14.60	75	471	N.D.		
44) 1,1,2-Trichloroethane	14.79	97	238	N.D.		
45) Methyl Isobutyl Ketone	14.54	43	2649	N.D.		
46) Toluene	14.15	92	8241	N.D.		
47) 2-Hexanone	0.00	43	0	N.D. d		
48) 1,2-Dibromoethane	15.33	107	38	N.D.		
49) Tetrachloroethene	14.60	166	241	N.D.		
50) Dibromochloromethane	0.00	127	0	N.D.		
52) Chlorobenzene	15.92	112	280	N.D.		
53) Ethylbenzene	15.91	106	3120	N.D.		
54) m-Xylene & p-Xylene	16.07	106	11723	427.33	PPTV	99
55) Styrene	16.65	104	4016	N.D.		
56) o-Xylene	16.60	106	31650	1074.07	PPTV	90
57) Bromoform	16.72	173	37	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012421\217AS017.D Vial: 17
Acq On : 25 Jan 2021 2:06 pm Operator: rgg
Sample : ae00066-15re1 Inst : OVGCMS7
Misc : 1.59 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 16:15 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.51	83	969	N.D.	
59) Bromofluorobenzene	17.33	174	338901	27199.30 PPTV #	94
61) 4-ethyltoluene	17.55	105	15259	204.86 PPTV	96
62) 1,3,5-Trimethylbenzene	17.67	105	6099	N.D.	
63) 1,2,4-Trimethylbenzene	18.17	105	16509	305.96 PPTV	97
64) 1,3-Dichlorobenzene	18.64	146	553	N.D.	
65) 1,4-Dichlorobenzene	18.73	146	388	N.D.	
66) Benzyl Chloride	19.08	91	2597	N.D.	
67) 1,2-Dichlorobenzene	19.29	146	524	N.D.	
68) 1,2,4-Trichlorobenzene	21.22	180	258	N.D.	
69) Hexachlorobutadiene	21.14	225	636	N.D.	

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012421\217AS018.D Vial: 18
Acq On : 25 Jan 2021 2:47 pm Operator: rgg
Sample : ae00066-16re1 Inst : OVGCMS7
Misc : 1.40 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 16:18 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.99	130	405636	31000.00	PPTV	-0.01
36) 1,4-DIFLUOROBENZENE	12.49	114	1356274	31000.00	PPTV	0.00
51) D5-CHLOROBENZENE	15.90	117	989168	31000.00	PPTV	0.00
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.33	174	374373	27679.14	PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 88.57%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.54	85	9418	N.D.		
3) Propene	0.00	41	0	N.D. d		
4) Chloromethane	5.04	50	6125	N.D.		
5) Freon 114	4.92	135	38	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	5.41	39	97	N.D.		
8) Bromomethane	6.15	94	199	N.D.		
9) Chloroethane	6.46	64	92	N.D.		
10) Trichlorofluoromethane	6.77	101	2890	N.D.		
11) Bromoethene	0.00	106	0	N.D.		
12) 1,1-Dichloroethene	7.92	61	1402	N.D.		
13) Acetone	8.96	43	761325	11132.88	PPTV	87
14) Isopropyl Alcohol	8.79	45	6692107	96356.26	PPTV	91
15) Carbon Disulfide	7.85	76	8254	N.D.		
16) Methylene Chloride	8.84	84	9928	408.15	PPTV	91
17) Freon 113	7.92	151	457110	11999.17	PPTV	100
18) 3-chloro-1-propene	0.00	41	0	N.D. d		
19) t-1,2-Dichloroethene	9.10	61	12241	267.17	PPTV	90
20) Methyl tert-butyl ether	9.37	73	380	N.D.		
21) Hexane	9.23	57	2415	N.D.		
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	10.35	43	491	N.D.		
24) c-1,2-Dichloroethene	10.74	96	119	N.D.		
25) Ethyl Acetate	11.21	43	10822	N.D.		
26) 2-Butanone	11.46	43	40947	431.51	PPTV	100
27) Chloroform	11.06	83	17462	298.51	PPTV	97
28) Tetrahydrofuran	11.31	42	8242	N.D.		
29) 2,2,4-Trimethylpentane	11.62	57	27103	N.D.		
30) 1,2-Dichloroethane	12.04	62	165	N.D.		
31) 1,1,1-Trichloroethane	11.36	97	286	N.D.		
32) Cyclohexane	11.01	56	982	N.D.		
33) Carbon Tetrachloride	11.26	117	1206	N.D.		
34) Benzene	11.81	78	11118	N.D.		
35) Heptane	11.71	43	5510	N.D.		
37) TLPH	15.90	TIC	20965800m	98388.49	PPTV	
38) 1,2-Dichloropropane	13.10	63	80	N.D.		
39) Trichloroethene	0.00	130	0	N.D.		
40) 1,4-Dioxane	13.24	88	39	N.D.		
41) Bromodichloromethane	13.14	83	235	N.D.		
42) c-1,3-Dichloropropene	13.86	75	237	N.D.		
43) t-1,3-Dichloropropene	14.58	75	681	N.D.		
44) 1,1,2-Trichloroethane	14.79	97	644	N.D.		
45) Methyl Isobutyl Ketone	14.54	43	2800	N.D.		
46) Toluene	14.15	92	19292	383.89	PPTV	99
47) 2-Hexanone	15.49	43	9987	N.D.		
48) 1,2-Dibromoethane	0.00	107	0	N.D.		
49) Tetrachloroethene	0.00	166	0	N.D.		
50) Dibromochloromethane	0.00	127	0	N.D.		
52) Chlorobenzene	15.93	112	267	N.D.		
53) Ethylbenzene	15.91	106	4865	N.D.		
54) m-Xylene & p-Xylene	16.07	106	20264	680.48	PPTV	93
55) Styrene	16.65	104	2311	N.D.		
56) o-Xylene	16.60	106	13695	428.14	PPTV	92
57) Bromoform	0.00	173	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012421\217AS018.D Vial: 18
Acq On : 25 Jan 2021 2:47 pm Operator: rgg
Sample : ae00066-16re1 Inst : OVGCMS7
Misc : 1.40 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 16:18 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

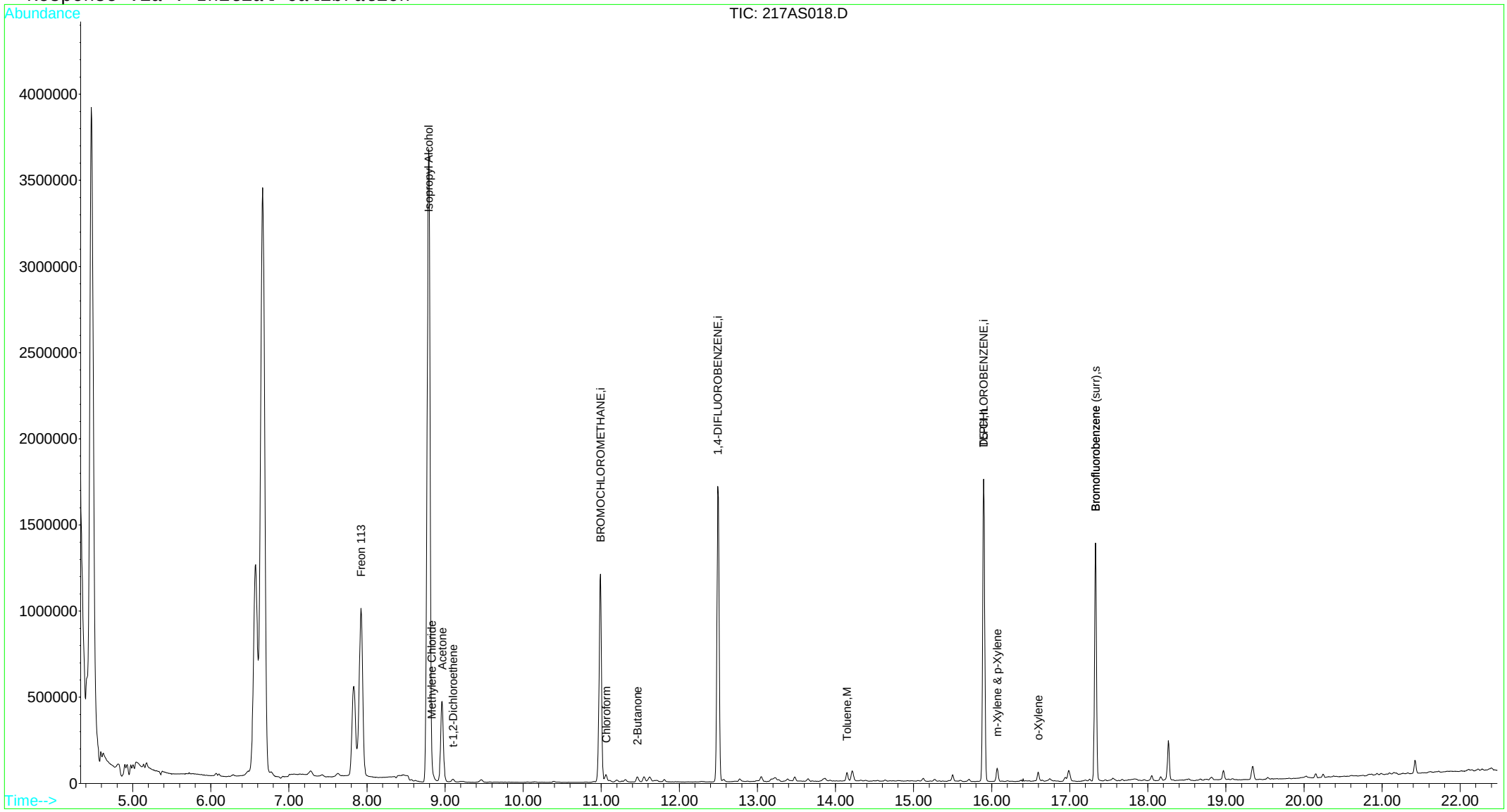
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.51	83	1209	N.D.		
59) Bromofluorobenzene	17.33	174	374373	27679.14	PPTV #	94
61) 4-ethyltoluene	17.55	105	12001	N.D.		
62) 1,3,5-Trimethylbenzene	17.67	105	4615	N.D.		
63) 1,2,4-Trimethylbenzene	18.17	105	10127	N.D.		
64) 1,3-Dichlorobenzene	18.63	146	367	N.D.		
65) 1,4-Dichlorobenzene	18.72	146	440	N.D.		
66) Benzyl Chloride	19.00	91	751	N.D.		
67) 1,2-Dichlorobenzene	19.28	146	486	N.D.		
68) 1,2,4-Trichlorobenzene	21.22	180	92	N.D.		
69) Hexachlorobutadiene	21.14	225	697	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\012421\217AS018.D Vial: 18
Acq On : 25 Jan 2021 2:47 pm Operator: rgg
Sample : ae00066-16re1 Inst : OVGCMS7
Misc : 1.40 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 16:18 2021 Quant Results File: 123120.RES

Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration



Response Factor Report OVGCMS7

Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration

Calibration Files
1 =207LZ005.D 2 =207LZ006.D 3 =207LZ007.D
4 =207LZ008.D 5 =207LZ009.D 6 =207LZ010.D

		Compound	1	2	3	4	5	6	Avg	%RSD
1)	i	BROMOCHLOROMETHANE	----------ISTD----------							
2)		Dichlorodifluoromet	6.880	6.463	6.559	6.476	6.348	5.181	5.910	14.42
3)		Propene	5.167	3.918	3.629	3.348	3.259	2.650	3.469	21.12
4)		Chloromethane	3.432	3.317	3.378	3.393	3.422	2.899	3.270	5.25
5)		Freon 114	3.780	3.607	3.767	3.745	3.890	3.270	3.615	5.65
6)		Vinyl Chloride	2.926	2.910	3.025	2.903	3.127	2.606	2.909	4.86
7)		1,3-Butadiene	3.475	3.292	3.056	3.054	3.044	2.566	2.991	9.27
8)		Bromomethane	2.697	2.348	2.224	2.279	2.169	1.856	2.156	12.47
9)		Chloroethane	1.403	1.302	1.249	1.252	1.209	1.008	1.197	10.01
10)		Trichlorofluorometh	3.752	3.612	3.715	3.731	3.657	3.001	3.438	9.16
11)		Bromoethene	1.848	1.916	1.894	1.922	1.900	1.566	1.796	7.13
12)	M	1,1-Dichloroethene	4.333	4.132	4.271	4.268	4.245	3.504	4.048	6.75
13)		Acetone				5.891	5.910	4.527	5.226	10.68
14)		Isopropyl Alcohol	6.303	5.941	5.383	5.370	5.309	4.357	5.308	10.73
15)		Carbon Disulfide	8.025	7.761	6.523	6.551	6.558	5.364	6.632	12.34
16)		Methylene Chloride				2.008	1.957	1.620	1.859	7.61
17)		Freon 113	3.213	3.054	3.068	3.066	3.042	2.442	2.911	8.30
18)		3-chloro-1-propene	5.221	4.377	4.685	4.572	4.473	3.750	4.466	8.77
19)		t-1,2-Dichloroethen	3.659	3.578	3.722	3.653	3.616	3.034	3.502	6.11
20)		Methyl tert-butyl e	6.821	6.250	6.556	6.388	6.377	5.303	6.176	7.20
21)		Hexane	4.053	3.871	3.976	3.929	3.969	3.326	3.799	6.22
22)		1,1-Dichloroethane	4.588	4.427	4.502	4.412	4.355	3.614	4.246	7.21
23)		Vinyl Acetate	9.299	8.816	8.974	9.026	8.906	7.709	8.872	5.77
24)		c-1,2-Dichloroethen	2.361	2.315	2.270	2.201	2.185	1.812	2.164	7.64
25)		Ethyl Acetate	9.428	8.744	8.639	8.380	8.409	7.040	8.321	7.92
26)		2-Butanone	8.088	7.845	7.322	7.336	7.275	6.193	7.252	7.64
27)		Chloroform	4.987	4.828	4.756	4.725	4.635	3.852	4.471	8.91
28)		Tetrahydrofuran	3.832	3.552	3.540	3.490	3.461	2.958	3.408	7.25
29)		2,2,4-Trimethylpent	1.487	1.399	1.333	1.335	1.314	1.074	1.291	E1 9.36
30)		1,2-Dichloroethane	3.459	3.278	3.271	3.262	3.197	2.673	3.063	9.68
31)		1,1,1-Trichloroetha	4.547	4.357	4.310	4.288	4.186	3.398	3.961	11.84
32)		Cyclohexane	4.283	4.306	4.256	4.199	4.168	3.460	4.062	6.69
33)		Carbon Tetrachlorid	4.509	4.301	4.371	4.338	4.300	3.453	3.971	12.37
34)	M	Benzene	8.584	7.758	6.883	6.691	6.554	5.226	6.637	15.43
35)		Heptane	6.509	6.224	5.956	5.966	5.914	4.928	5.740	8.79
36)	i	1,4-DIFLUOROBENZENE	----------ISTD----------							
37)	h	TLPH	1.029	0.911	0.657	0.609	0.581	0.428	0.628	E1 33.33
38)		1,2-Dichloropropane	0.906	0.831	0.815	0.783	0.774	0.642	0.779	9.62
39)	M	Trichloroethene	0.914	0.796	0.791	0.788	0.760	0.631	0.765	9.94
40)		1,4-Dioxane	0.509	0.420	0.436	0.425	0.407	0.358	0.428	9.99
41)		Bromodichloromethan	1.391	1.327	1.384	1.386	1.377	1.202	1.332	4.62
42)		c-1,3-Dichloroprope	1.467	1.270	1.169	1.119	1.067	0.920	1.135	13.96
43)		t-1,3-Dichloroprope	1.149	0.924	0.773	0.737	0.699	0.608	0.777	22.96
44)		1,1,2-Trichloroetha	0.885	0.751	0.697	0.670	0.659	0.553	0.685	13.54
45)		Methyl Isobutyl Ket	2.444	2.324	2.362	2.371	2.327	2.046	2.341	5.54
46)	M	Toluene	2.225	1.939	1.429	1.335	1.307	0.966	1.394	30.30
47)		2-Hexanone	2.115	1.870	1.811	1.792	1.784	1.658	1.906	9.09
48)		1,2-Dibromoethane	1.449	1.185	1.064	1.038	1.002	0.878	1.077	15.04
49)		Tetrachloroethene	1.238	1.017	0.940	0.912	0.890	0.720	0.901	17.37
50)		Dibromochloromethan	0.997	0.939	0.903	0.920	0.917	0.858	0.932	4.28
51)	i	D5-CHLOROBENZENE	----------ISTD----------							
52)	M	Chlorobenzene	2.648	2.211	1.868	1.780	1.705	1.434	1.828	20.72
53)		Ethylbenzene	1.676	1.388	1.021	0.963	0.918	0.715	1.003	32.37
54)		m-Xylene & p-Xylene	2.077	1.682	1.246	1.167	1.124	0.873	1.226	32.80
55)		Styrene	2.367	1.888	1.433	1.346	1.338	1.186	1.557	23.35
56)		o-Xylene	1.979	1.584	1.163	1.067	1.042	0.821	1.171	31.81
57)		Bromoform	1.314	1.153	1.083	1.048	1.045	1.074	1.164	9.21
58)		1,1,2,2-Tetrachloro	3.356	2.358	1.596	1.338	1.239	1.222	1.720	40.94
59)		Bromofluorobenzene	0.391	0.401	0.397	0.400	0.407	0.421	0.424	8.87
60)	s	Bromofluorobenzene	0.391	0.401	0.397	0.400	0.407	0.421	0.424	8.87
61)		4-ethyltoluene	3.652	3.077	2.129	2.129	2.158	2.081	2.534	21.01
62)		1,3,5-Trimethylbenz	5.566	3.966	2.389	2.073	1.944	1.644	2.562	51.86

(#) = Out of Range ### Number of calibration levels exceeded format ###

Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration

Calibration Files
1 =207LZ005.D 2 =207LZ006.D 3 =207LZ007.D
4 =207LZ008.D 5 =207LZ009.D 6 =207LZ010.D

	Compound	1	2	3	4	5	6	Avg	%RSD
63)	1,2,4-Trimethylbenz	5.312	3.878	2.137	1.842	1.732	1.519	2.416	53.69
64)	1,3-Dichlorobenzene	2.247	1.557	0.918	0.764	0.717	0.723	1.111	45.24
65)	1,4-Dichlorobenzene	1.798	1.290	0.731	0.606	0.587	0.618	0.939	42.97
66)	Benzyl Chloride	0.790	0.670	0.408	0.430	0.524	0.710	0.799	45.14
67)	1,2-Dichlorobenzene	2.595	1.749	0.958	0.746	0.672	0.689	1.129	56.63
68)	1,2,4-Trichlorobenz					0.096	0.084	0.149	44.85
69)	Hexachlorobutadiene	4.434	2.655	1.092	0.608	0.418	0.373	1.191	119.73

ANALYSIS SEQUENCE

AA64317

Instrument: OVGCMS7

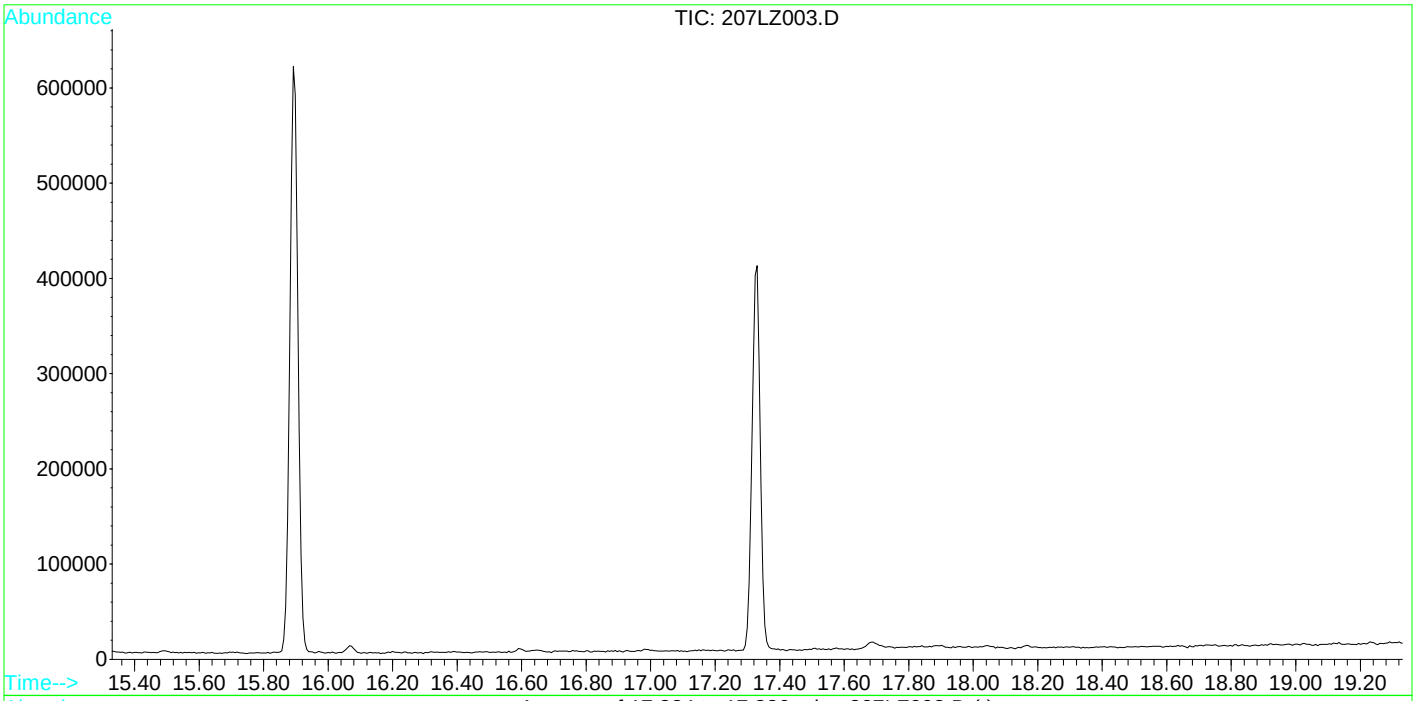
Calibration ID: 2101005 **Printed: 1/4/2021 12:31:23PM**

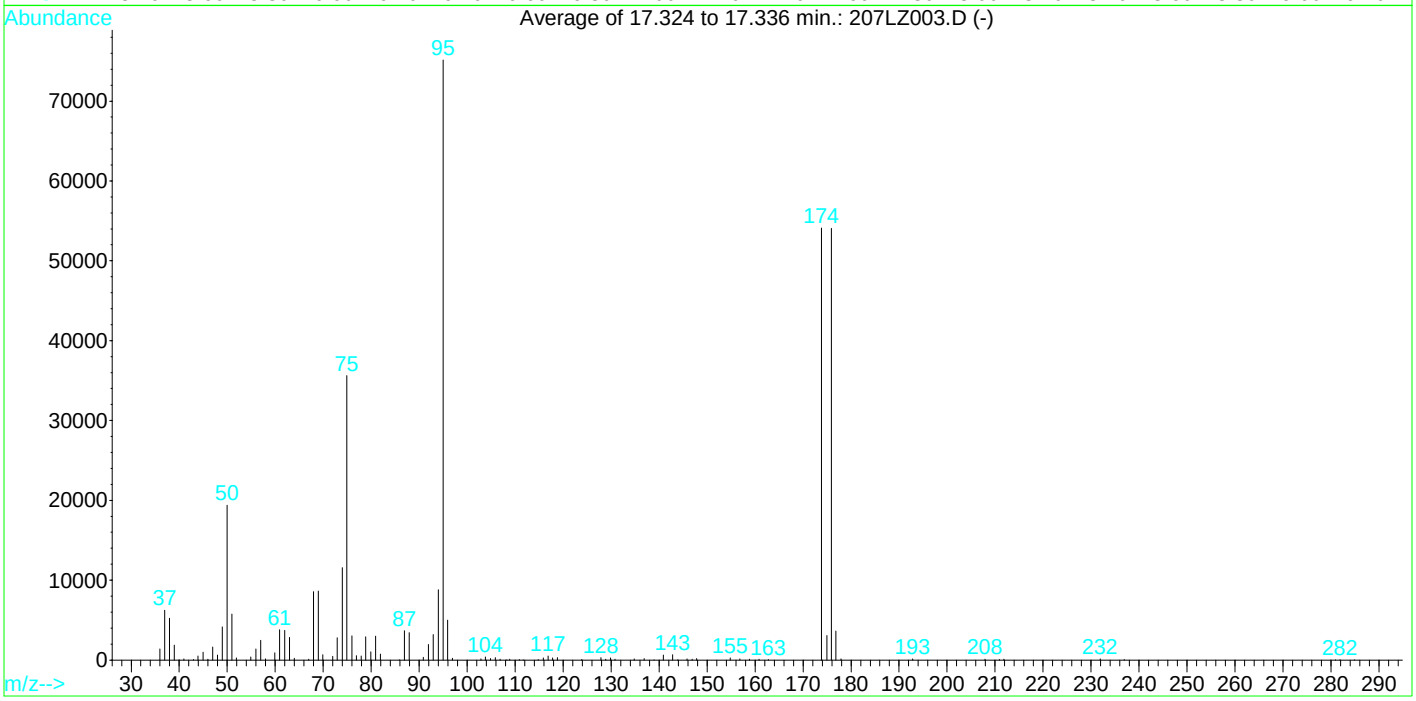
Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA64317-TUN1	QC		1		A0L0713			
AA64317-CAL1	QC		2		A0L1267	A0L0714		
AA64317-CAL2	QC		3		A0L1268	A0L0714		
AA64317-CAL3	QC		4		A0L1269	A0L0714		
AA64317-CAL4	QC		5		A0L1270	A0L0714		
AA64317-CAL5	QC		6		A0L1271	A0L0714		
AA64317-CAL6	QC		7		A0L1272	A0L0714		
AA64317-CAL7	QC		8		A0L1273	A0L0714		
AA64317-CAL8	QC		9		A0L1274	A0L0714		
AA64317-CAL9	QC		10		A0L1275	A0L0714		
AA64317-SCV1	QC		11		A0L1276	A0L0714		

Samples Loaded By Date

Data Processed By Date

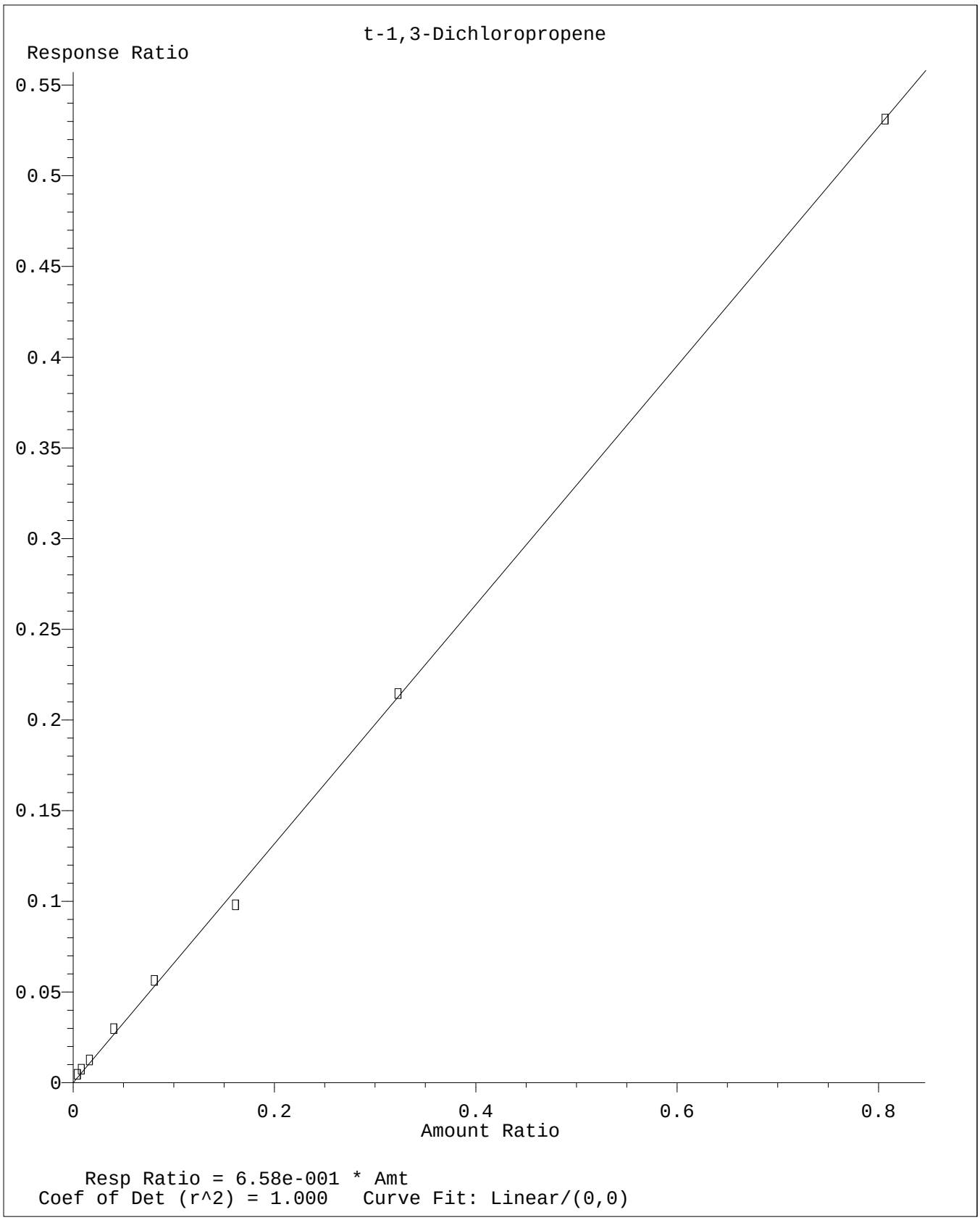
Data File : C:\HPCHEM\1\DATA\123120\207LZ003.D Vial: 3
Acq On : 31 Dec 2020 11:50 am Operator: rgg
Sample : tun1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)



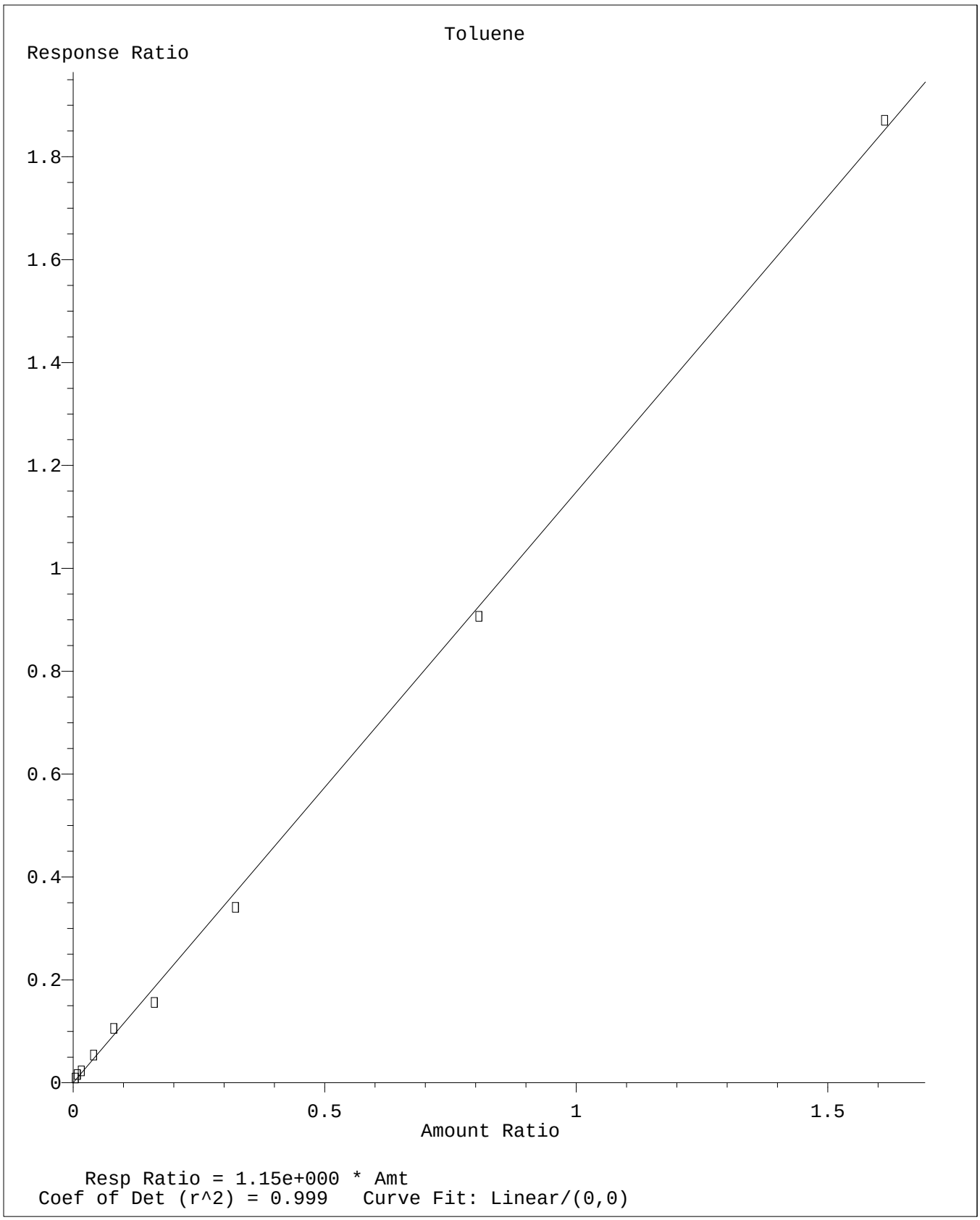


AutoFind: Scans 2160, 2161, 2162; Background Corrected with Scan 2151

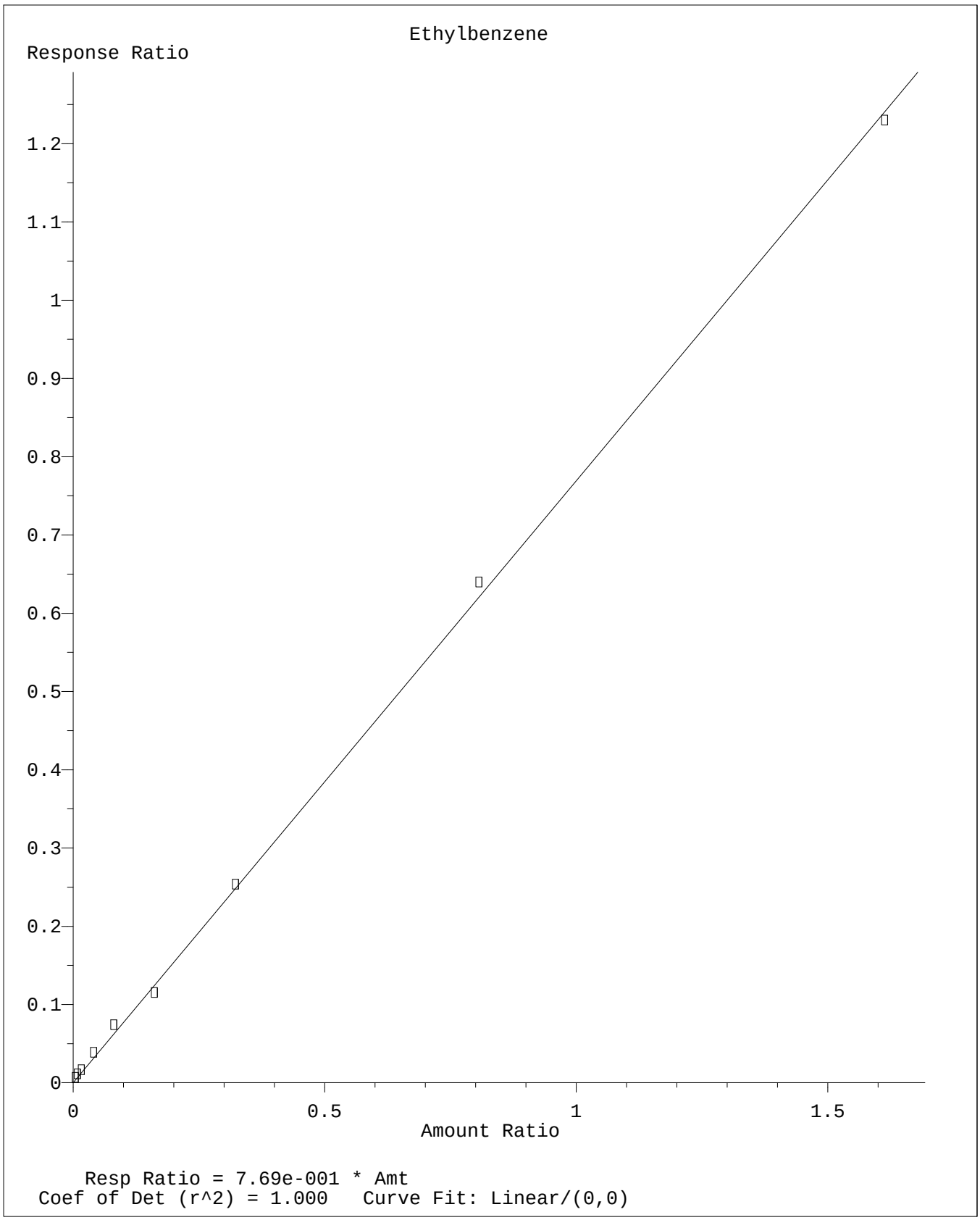
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	25.8	19403	PASS
75	95	30	60	47.4	35625	PASS
95	95	100	100	100.0	75144	PASS
96	95	5	9	6.6	4996	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	72.0	54099	PASS
175	174	5	9	5.7	3072	PASS
176	174	95	101	99.9	54069	PASS
177	176	5	9	6.7	3636	PASS



Method Name: C:\HPCHEM\1\METHODS\123120.M
Calibration Table Last Updated: Mon Jan 04 10:39:50 2021

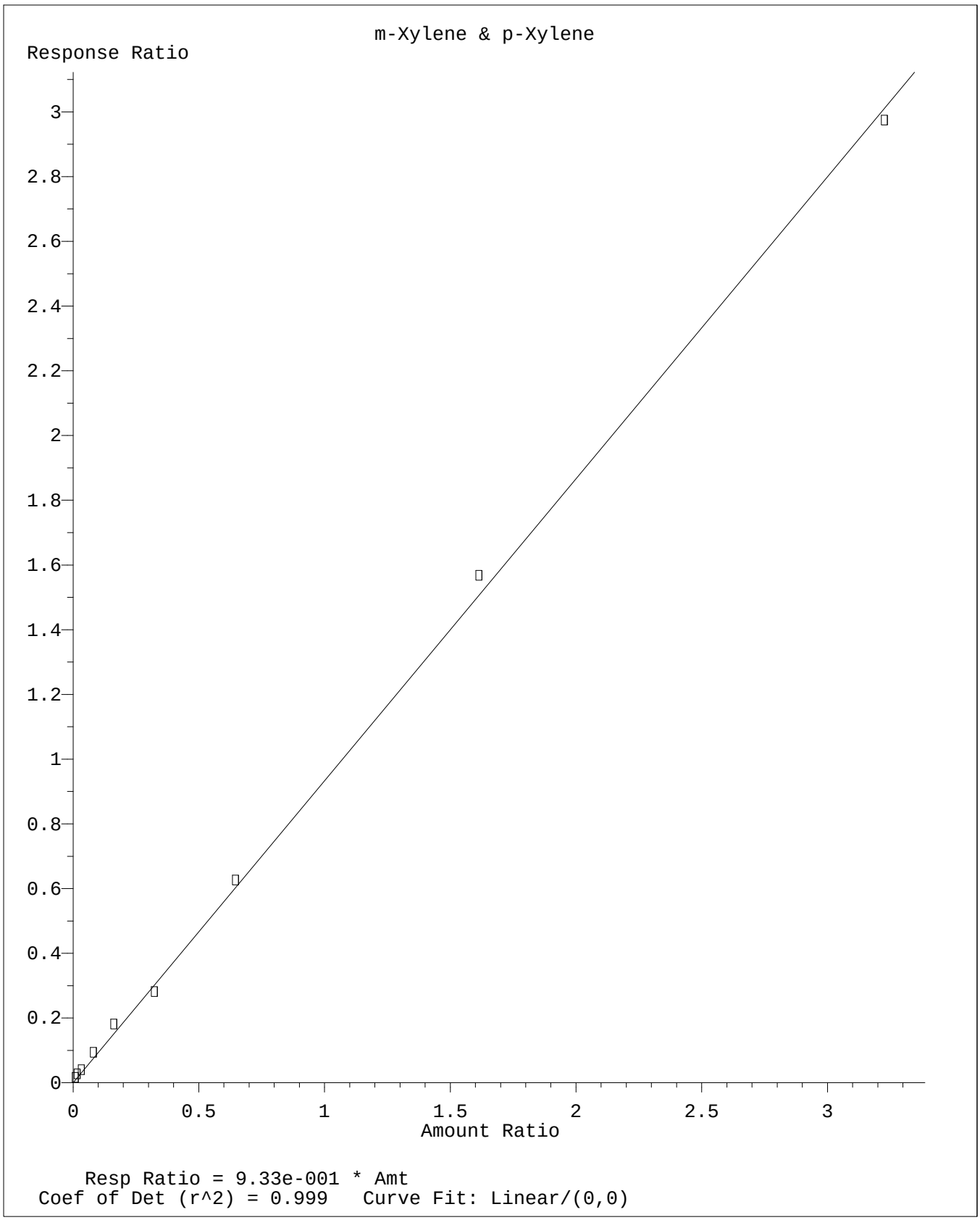


Method Name: C:\HPCHEM\1\METHODS\123120.M
Calibration Table Last Updated: Mon Jan 04 10:39:50 2021

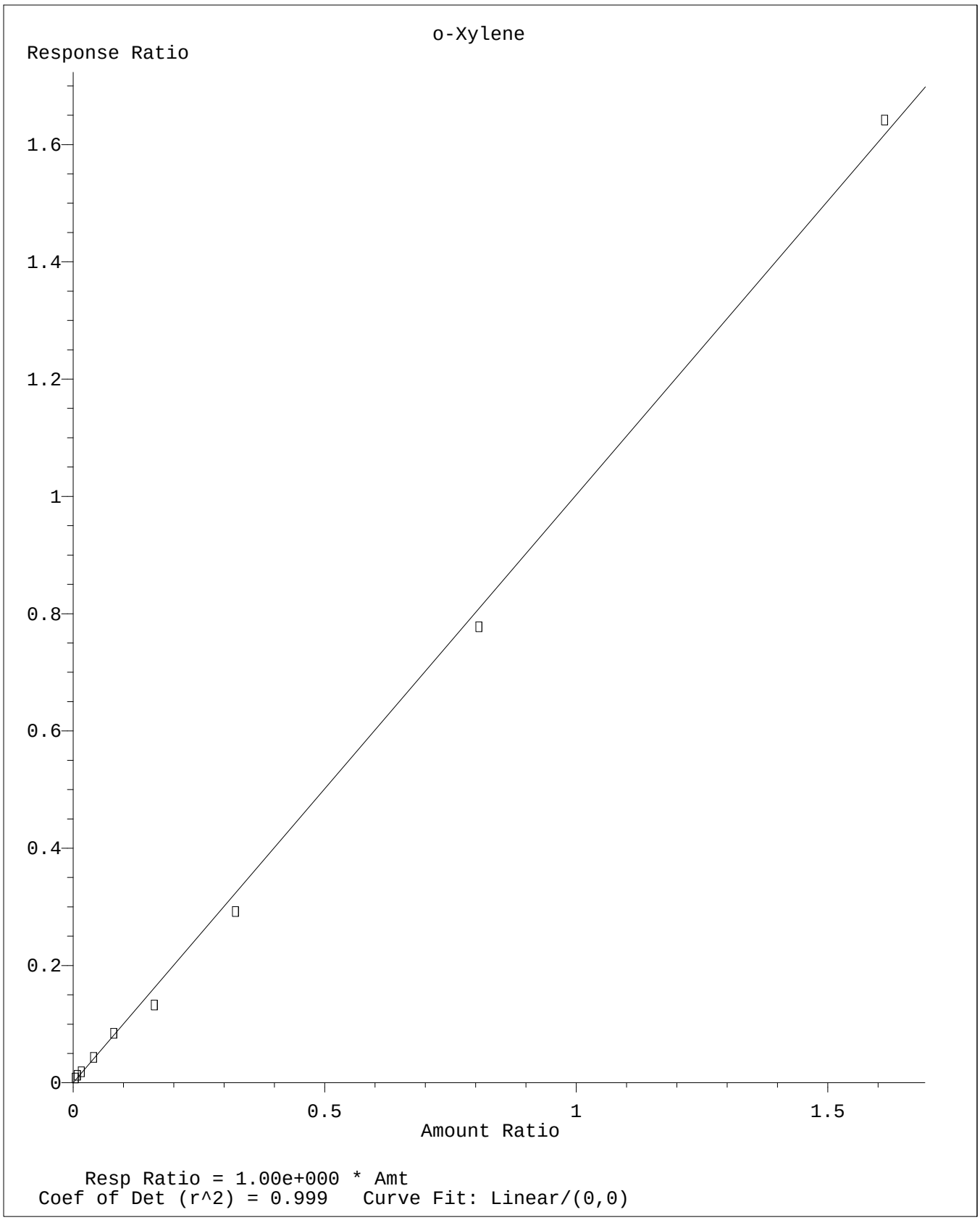


Resp Ratio = 7.69e-001 * Amt
Coef of Det (r^2) = 1.000 Curve Fit: Linear/(0,0)

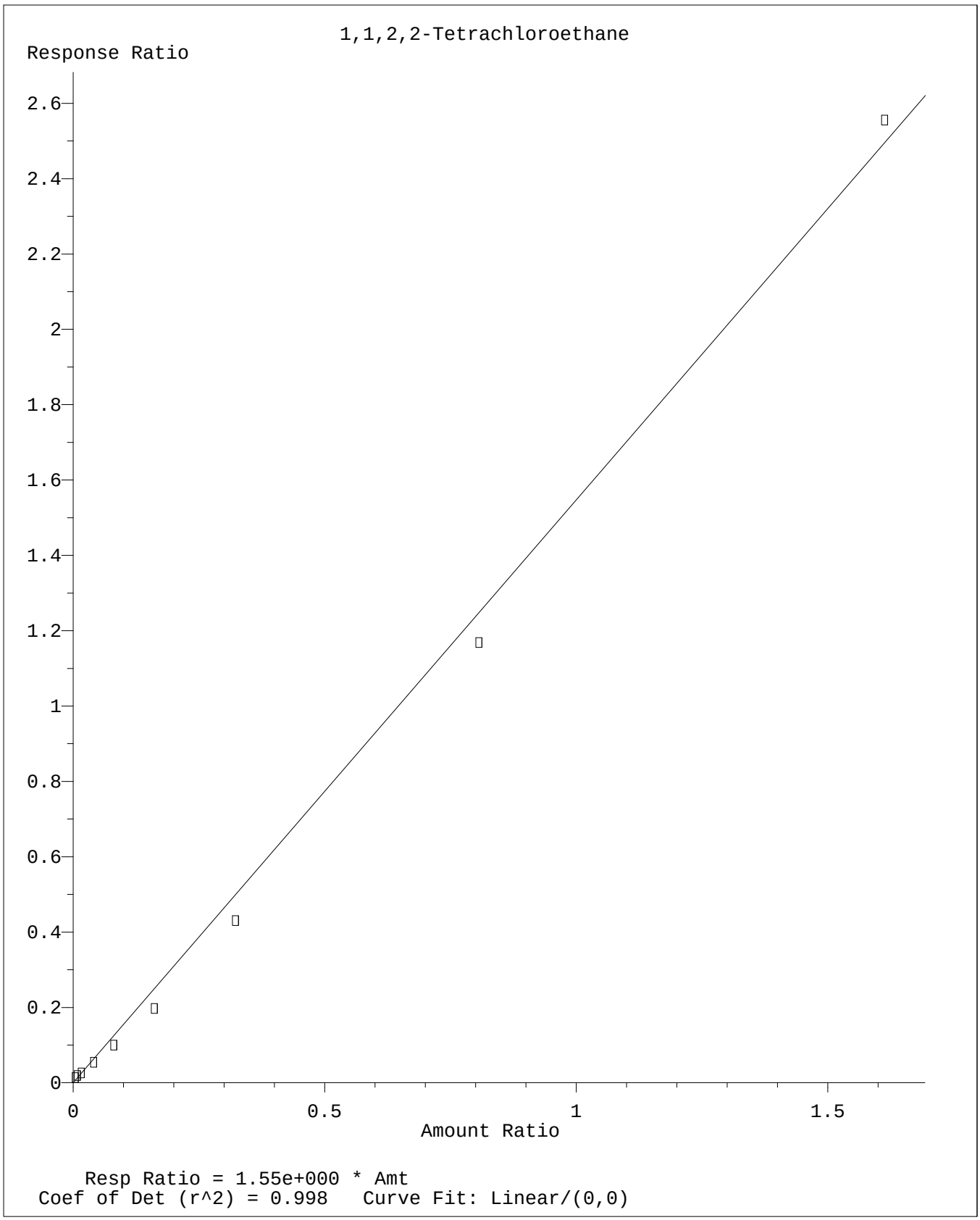
Method Name: C:\HPCHEM\1\METHODS\123120.M
Calibration Table Last Updated: Mon Jan 04 10:39:50 2021



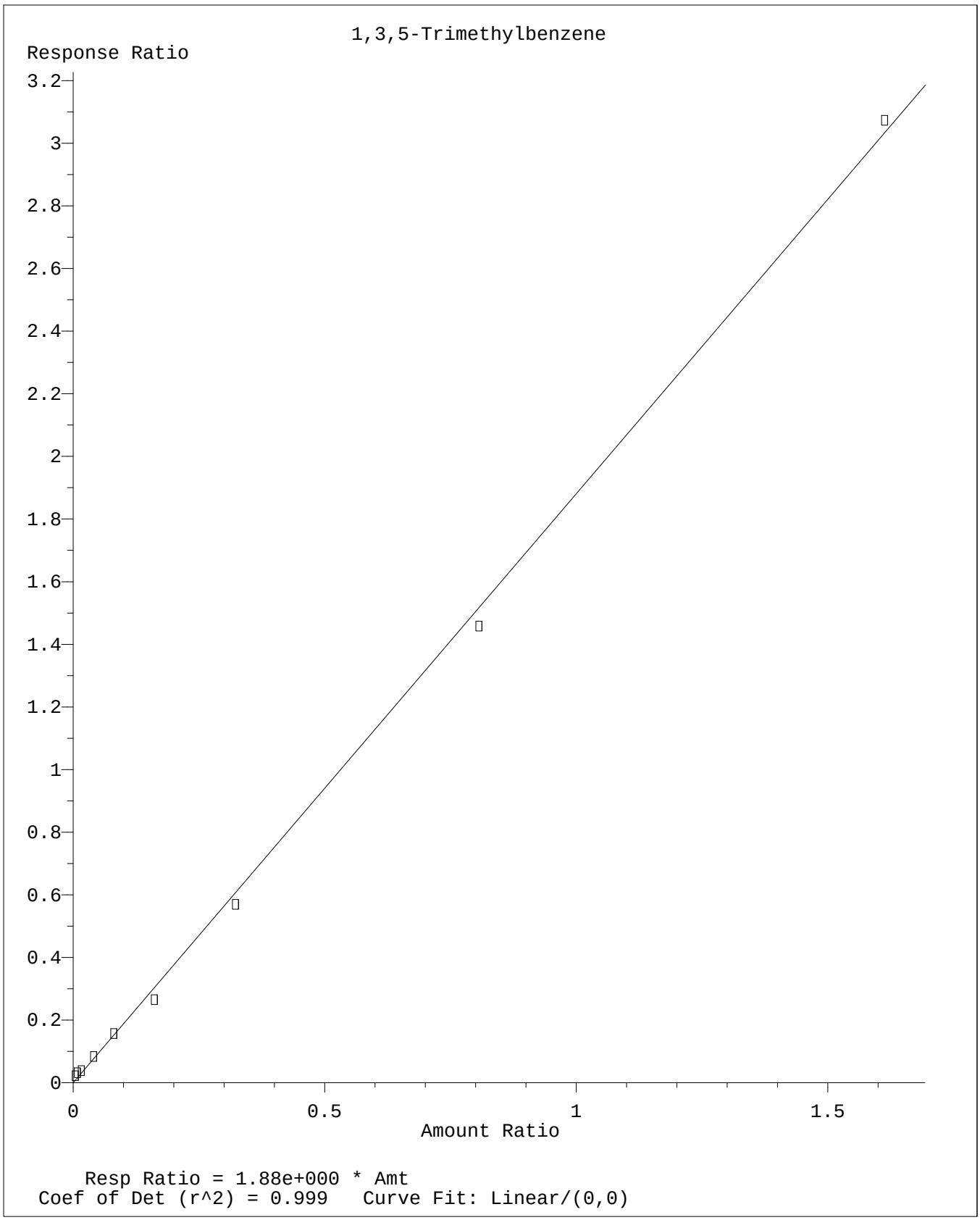
Method Name: C:\HPCHEM\1\METHODS\123120.M
Calibration Table Last Updated: Mon Jan 04 10:39:50 2021



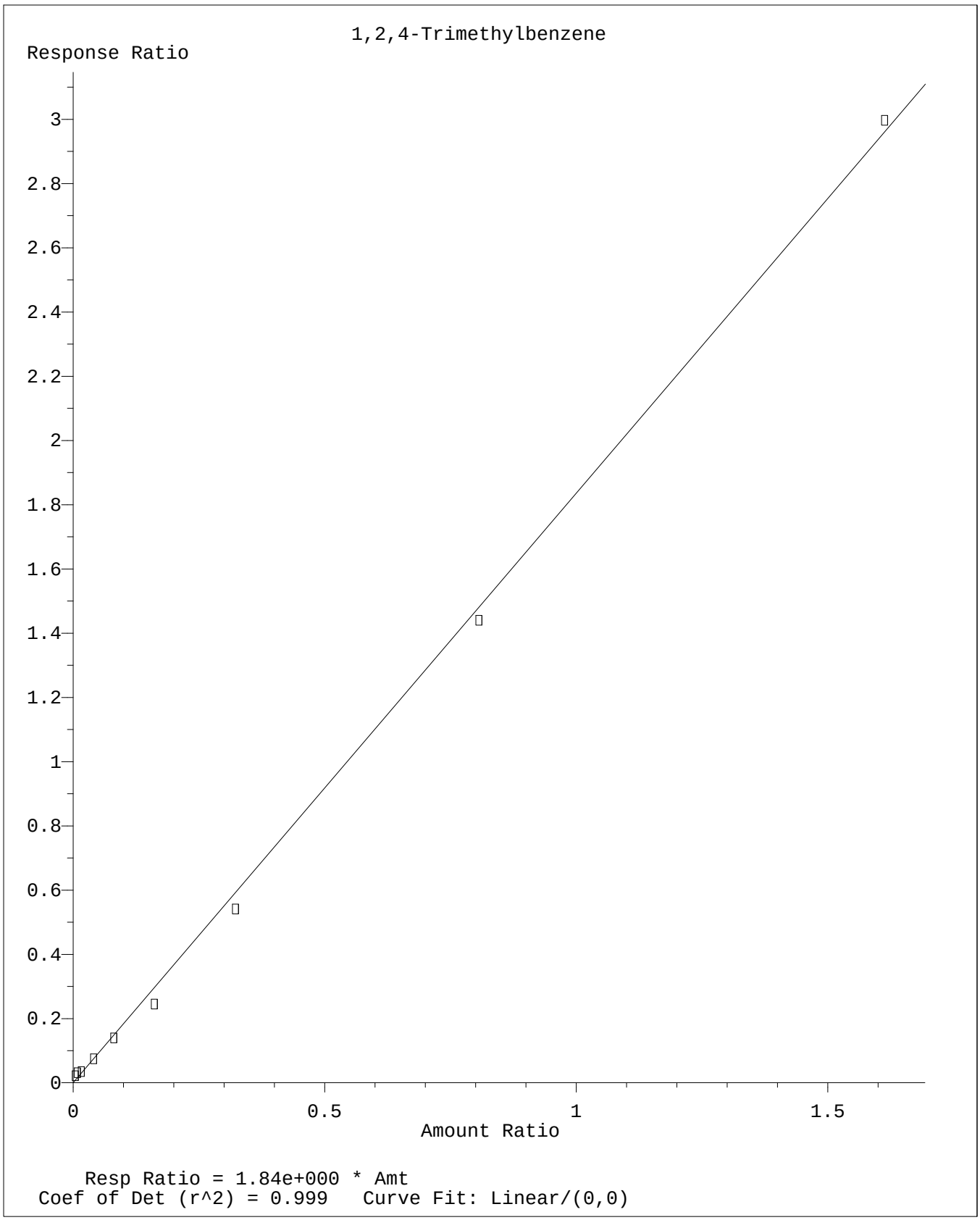
Method Name: C:\HPCHEM\1\METHODS\123120.M
Calibration Table Last Updated: Mon Jan 04 10:39:50 2021



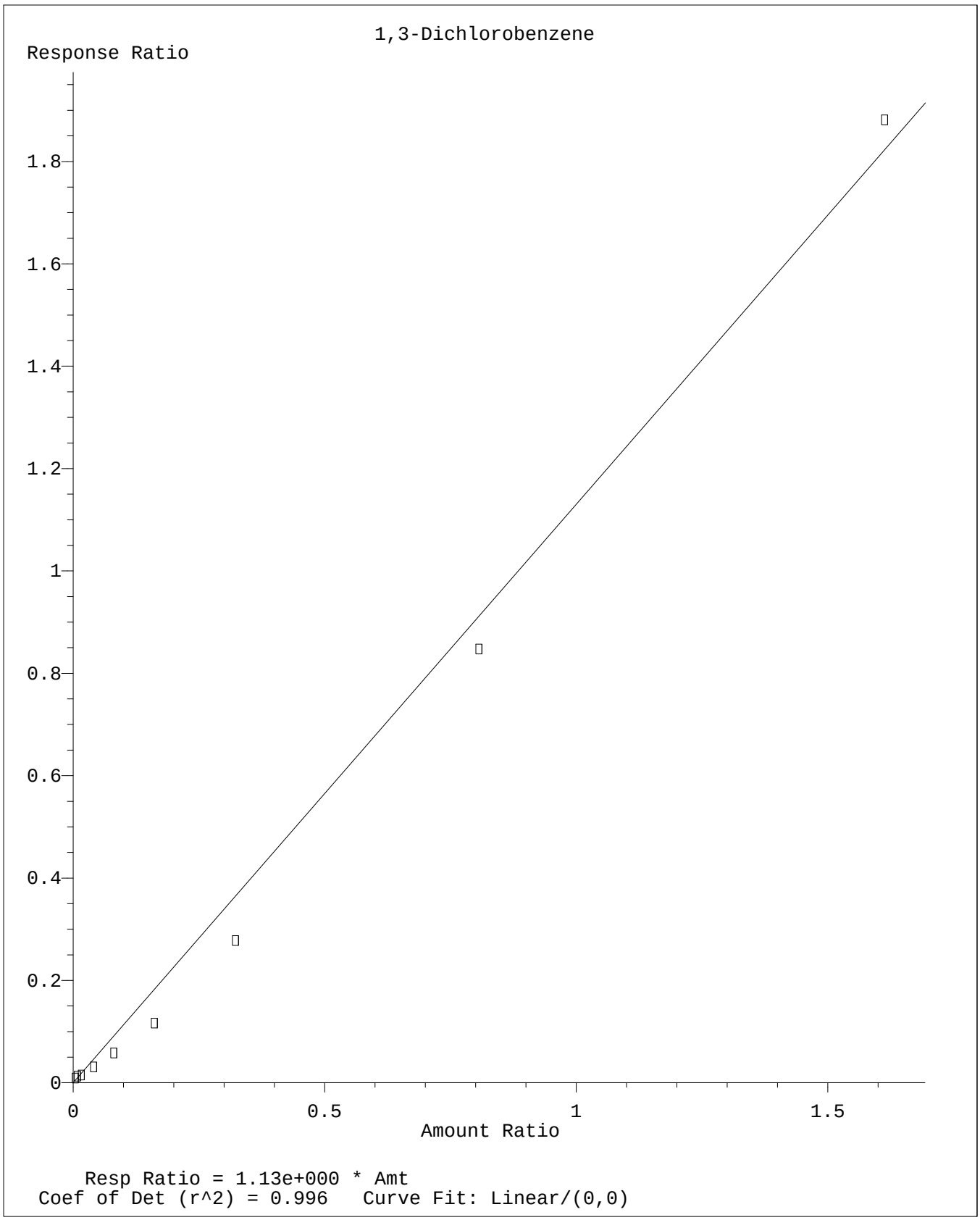
Method Name: C:\HPCHEM\1\METHODS\123120.M
Calibration Table Last Updated: Mon Jan 04 10:39:50 2021



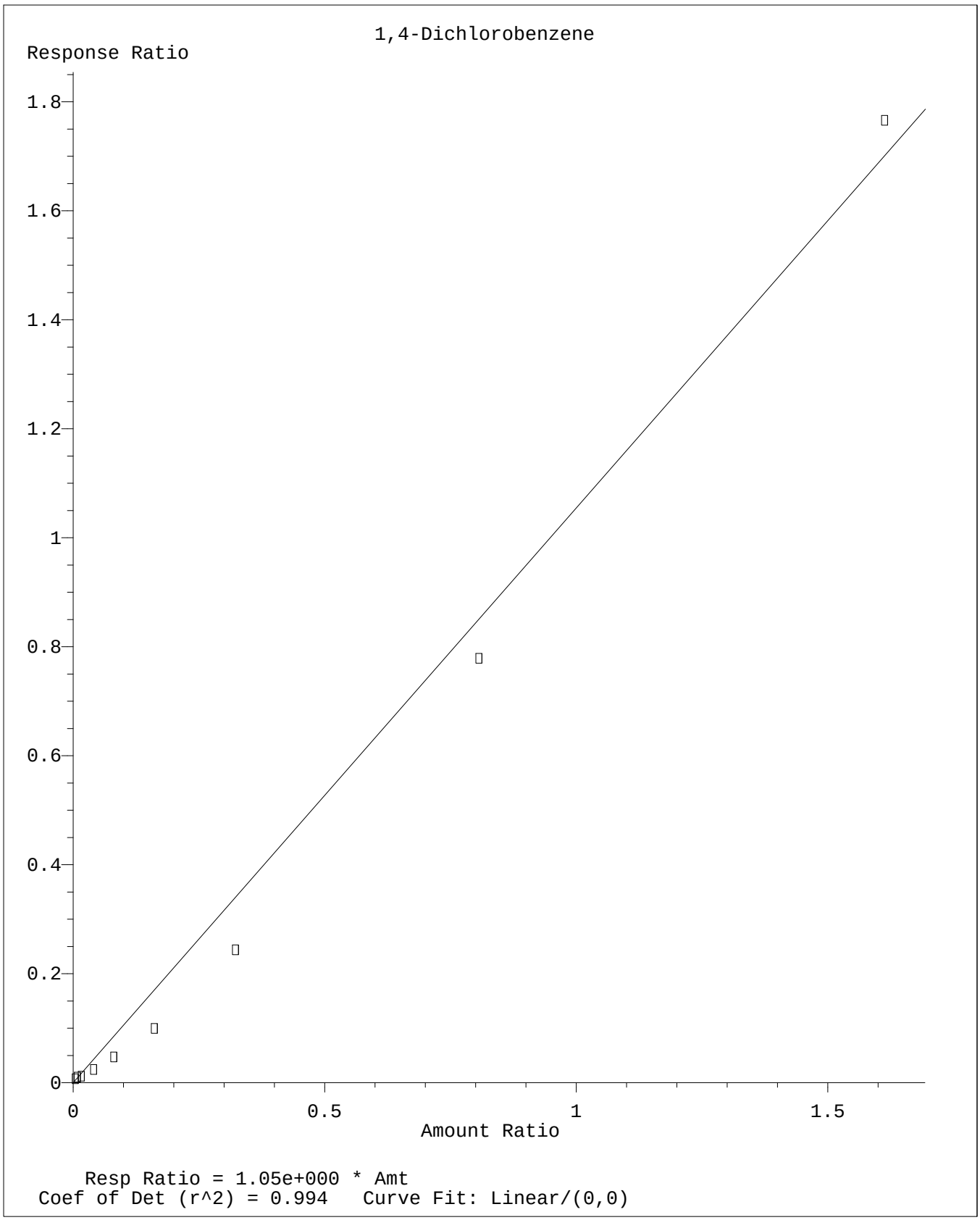
Method Name: C:\HPCHEM\1\METHODS\123120.M
Calibration Table Last Updated: Mon Jan 04 10:39:50 2021



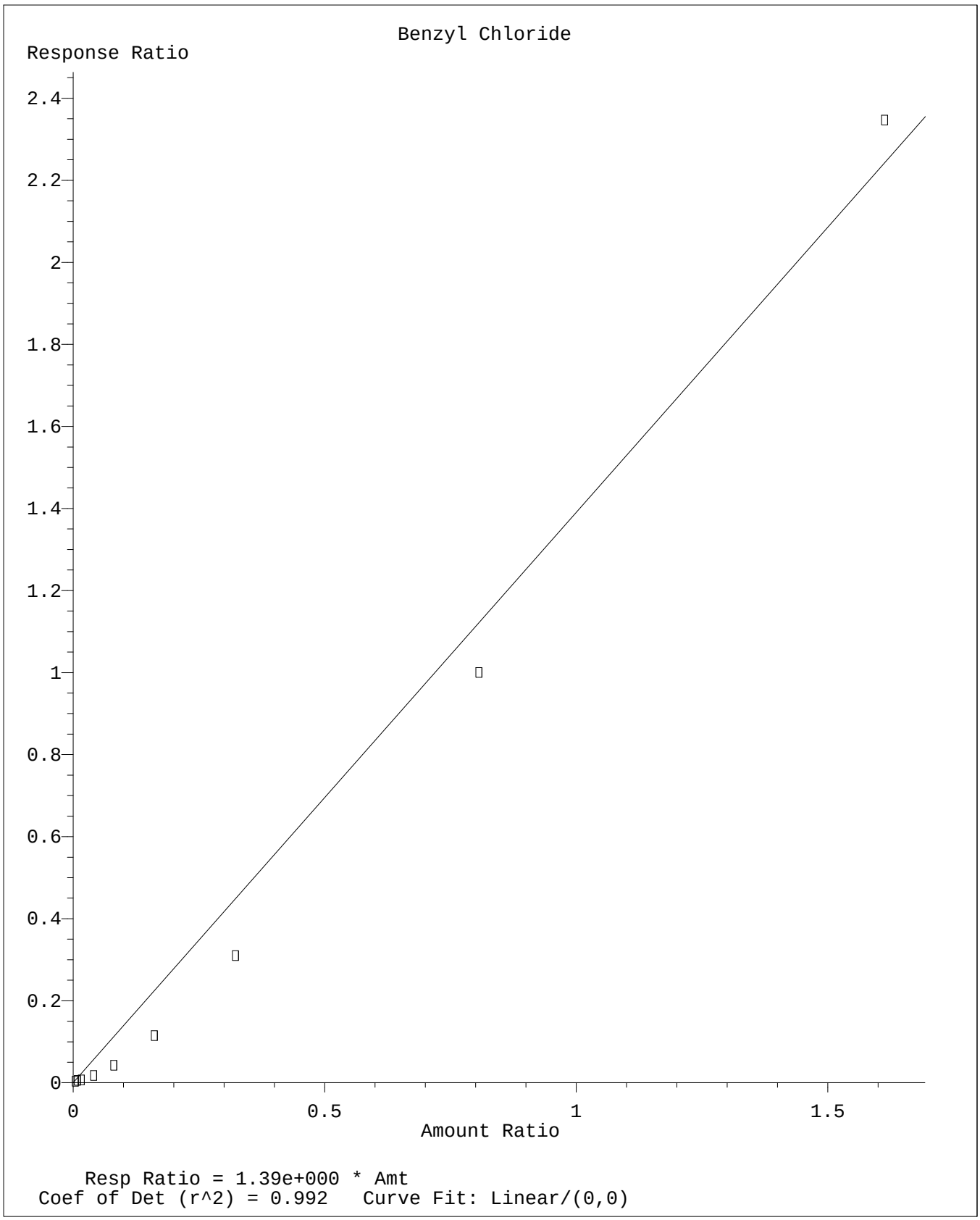
Method Name: C:\HPCHEM\1\METHODS\123120.M
Calibration Table Last Updated: Mon Jan 04 10:39:50 2021



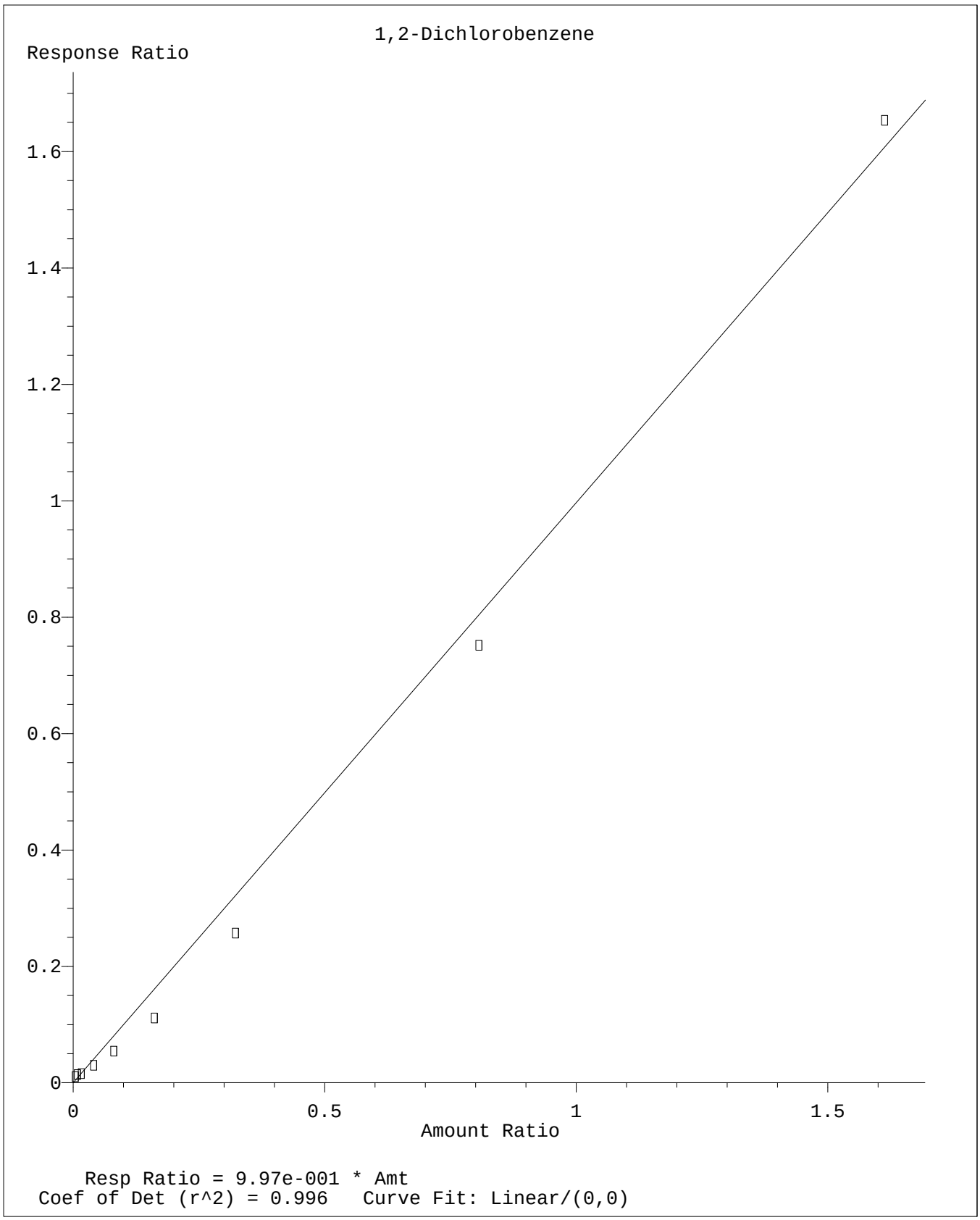
Method Name: C:\HPCHEM\1\METHODS\123120.M
Calibration Table Last Updated: Mon Jan 04 10:39:50 2021



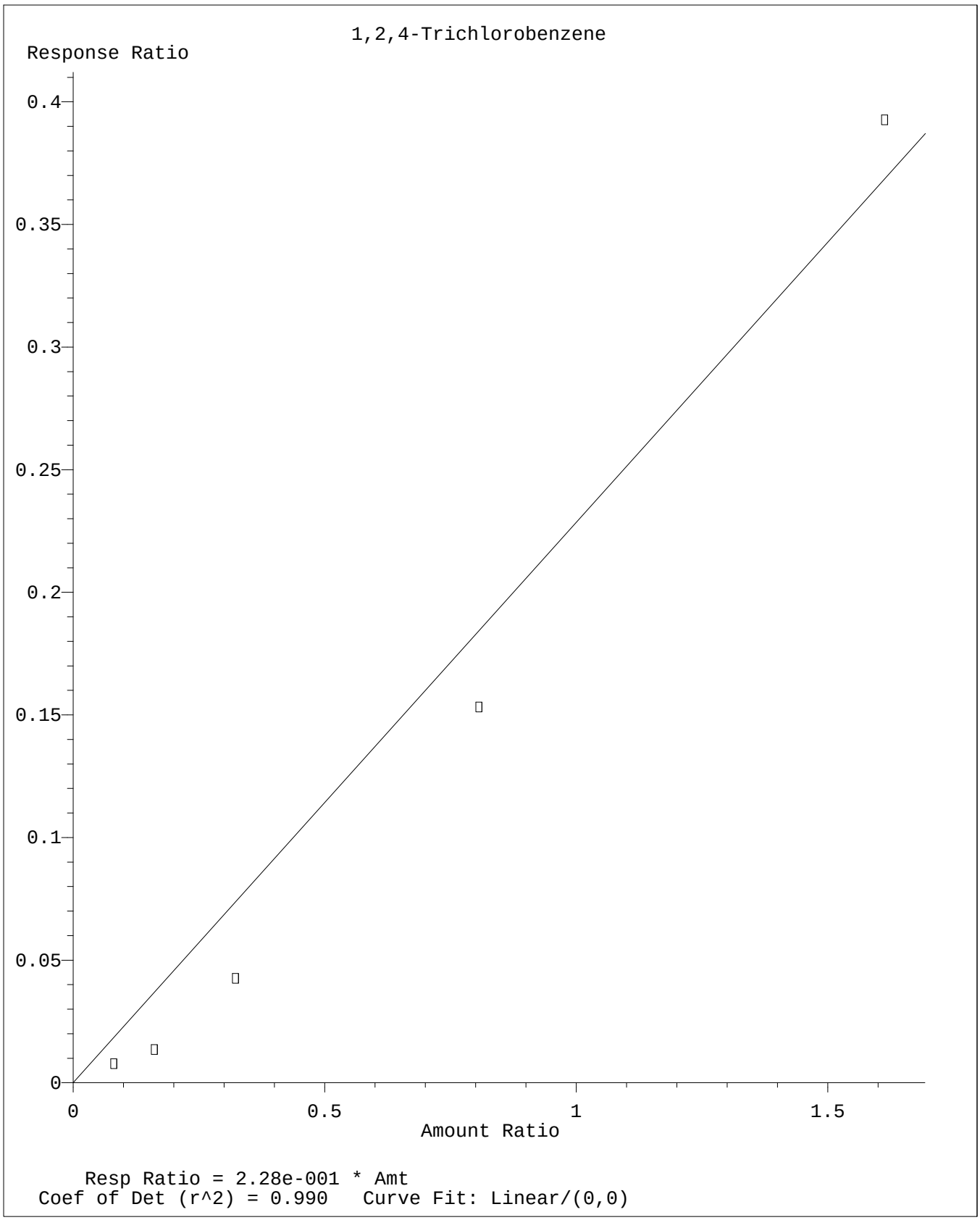
Method Name: C:\HPCHEM\1\METHODS\123120.M
Calibration Table Last Updated: Mon Jan 04 10:39:50 2021



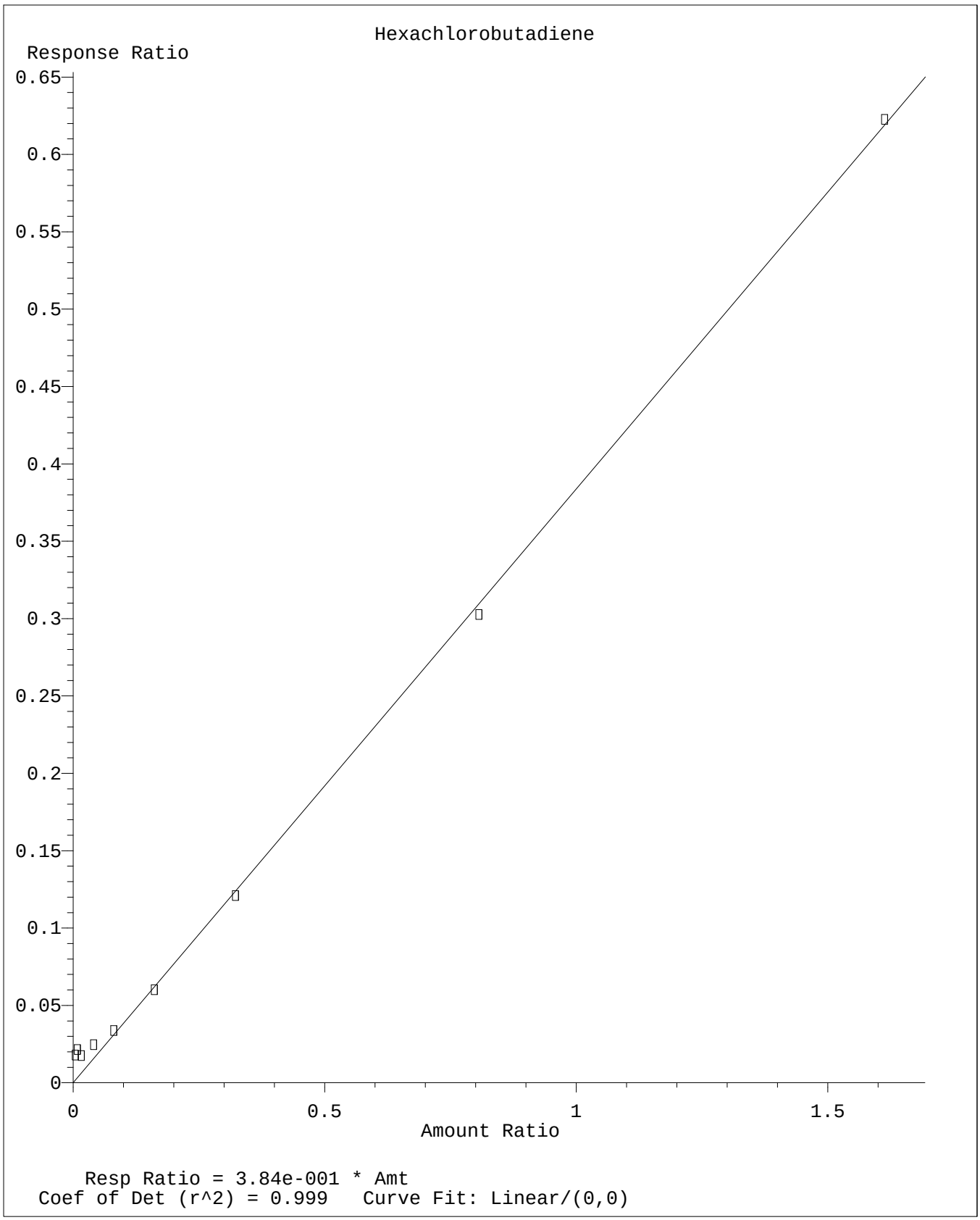
Method Name: C:\HPCHEM\1\METHODS\123120.M
Calibration Table Last Updated: Mon Jan 04 10:39:50 2021



Method Name: C:\HPCHEM\1\METHODS\123120.M
Calibration Table Last Updated: Mon Jan 04 10:39:50 2021



Method Name: C:\HPCHEM\1\METHODS\123120.M
Calibration Table Last Updated: Mon Jan 04 10:39:50 2021

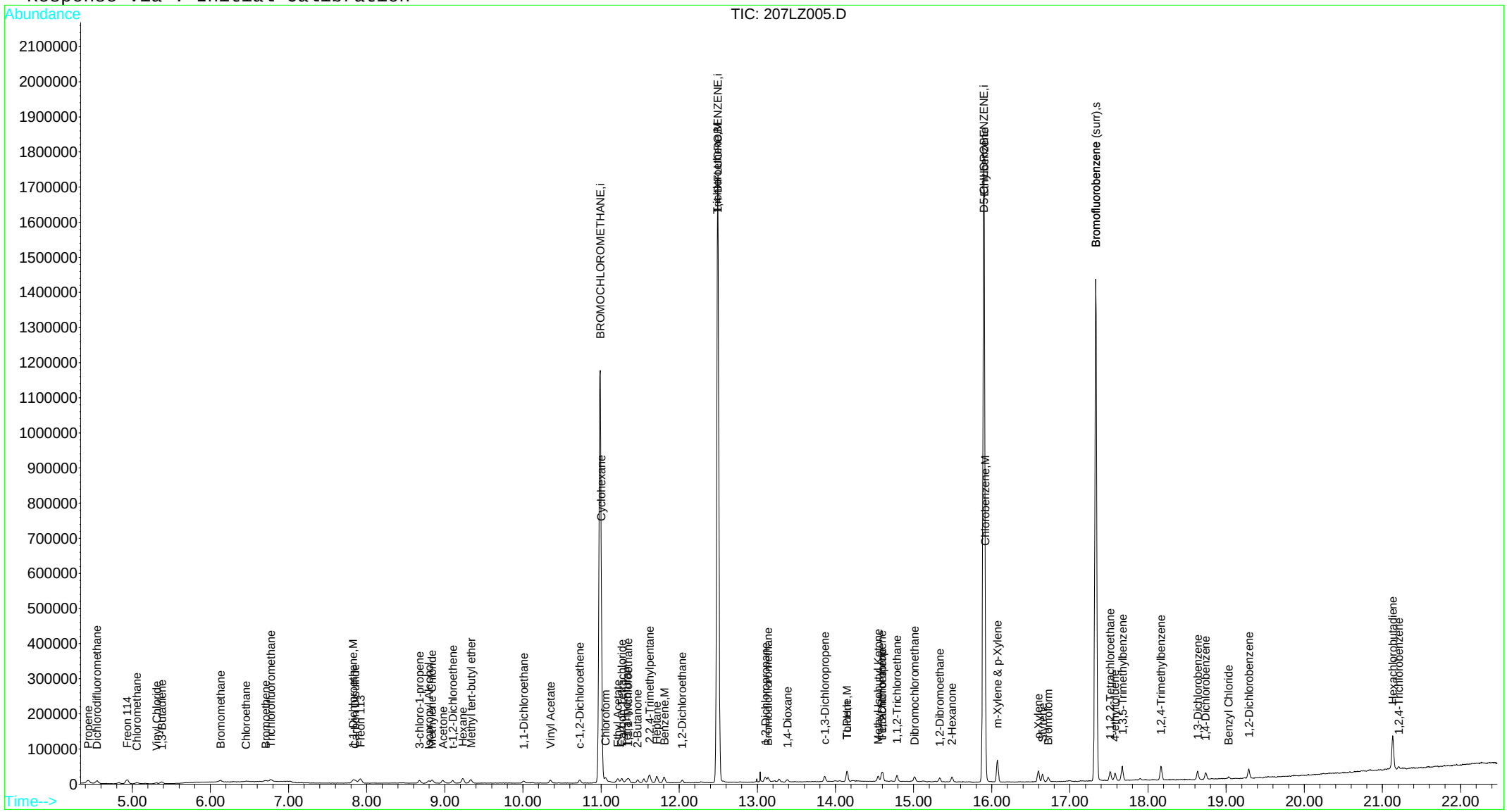


Method Name: C:\HPCHEM\1\METHODS\123120.M
Calibration Table Last Updated: Mon Jan 04 10:39:50 2021

Quantitation Report

Data File : C:\HPCHEM\1\DATA\123120\207LZ005.D Vial: 5
Acq On : 31 Dec 2020 3:30 pm Operator: rgg
Sample : aa64317-cal1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:04 2021 Quant Results File: 123120.RES

Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ005.D Vial: 5
Acq On : 31 Dec 2020 3:30 pm Operator: rgg
Sample : aa64317-cal1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:04 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Wed Dec 30 08:16:18 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) BROMOCHLOROMETHANE	10.99	130	373148	31000.00	PPTV		0.01
36) 1,4-DIFLUOROBENZENE	12.49	114	1252006	31000.00	PPTV		0.01
51) D5-CHLOROBENZENE	15.90	117	940921	31000.00	PPTV		0.01
System Monitoring Compounds							
60) Bromofluorobenzene (surr)	17.33	174	368216	28773.99	PPTV		0.01
Spiked Amount 31250.000	Range 50 - 150		Recovery = 92.08%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.55	85	10352	117.95	PPTV		99
3) Propene	4.43	41	7774	182.04	PPTV		94
4) Chloromethane	5.06	50	5164	118.36	PPTV		95
5) Freon 114	4.93	135	5687	108.73	PPTV		100
6) Vinyl Chloride	5.31	62	4403	111.96	PPTV		99
7) 1,3-Butadiene	5.38	39	5228	128.28	PPTV		92
8) Bromomethane	6.14	94	4058	128.85	PPTV		96
9) Chloroethane	6.46	64	2111	129.88	PPTV	#	72
10) Trichlorofluoromethane	6.77	101	5645	107.66	PPTV		98
11) Bromoethene	6.71	106	2780	103.24	PPTV		90
12) 1,1-Dichloroethene	7.82	61	6520	112.84	PPTV		91
13) Acetone	8.98	43	13301	190.13	PPTV		97
14) Isopropyl Alcohol	8.79	45	9483	150.21	PPTV	#	83
15) Carbon Disulfide	7.86	76	12075	125.48	PPTV		92
16) Methylene Chloride	8.84	84	3430	125.04	PPTV		97
17) Freon 113	7.92	151	4835	111.32	PPTV		97
18) 3-chloro-1-propene	8.67	41	7856	131.19	PPTV		86
19) t-1,2-Dichloroethene	9.10	61	5506	109.69	PPTV		93
20) Methyl tert-butyl ether	9.34	73	10263	114.95	PPTV		96
21) Hexane	9.23	57	6099	100.64	PPTV		93
22) 1,1-Dichloroethane	10.02	63	6903	115.75	PPTV		96
23) Vinyl Acetate	10.35	43	13991	116.55	PPTV		99
24) c-1,2-Dichloroethene	10.73	96	3553	112.78	PPTV		97
25) Ethyl Acetate	11.22	43	14186	117.37	PPTV	#	93
26) 2-Butanone	11.47	43	12170	111.74	PPTV		99
27) Chloroform	11.06	83	7503	114.84	PPTV		99
28) Tetrahydrofuran	11.33	42	5766	123.64	PPTV		95
29) 2,2,4-Trimethylpentane	11.62	57	22375	119.18	PPTV		97
30) 1,2-Dichloroethane	12.04	62	5204	120.28	PPTV		100
31) 1,1,1-Trichloroethane	11.35	97	6841	118.67	PPTV	#	96
32) Cyclohexane	11.01	56	6445	108.35	PPTV		88
33) Carbon Tetrachloride	11.27	117	6784	144.57	PPTV		100
34) Benzene	11.81	78	12916	137.79	PPTV		94
35) Heptane	11.71	43	9794	121.50	PPTV		96
37) TLPH	14.15	TIC	51924m	204.40	PPTV		
38) 1,2-Dichloropropane	13.10	63	4572	127.10	PPTV		89
39) Trichloroethene	12.48	130	4612	125.11	PPTV		98
40) 1,4-Dioxane	13.38	88	2569	133.82	PPTV	#	65
41) Bromodichloromethane	13.14	83	7021	107.95	PPTV		98
42) c-1,3-Dichloropropene	13.87	75	7405	142.76	PPTV		98
43) t-1,3-Dichloropropene	14.59	75	5801	164.59	PPTV		91
44) 1,1,2-Trichloroethane	14.79	97	4469	144.91	PPTV		95
45) Methyl Isobutyl Ketone	14.54	43	12338	118.86	PPTV		99
46) Toluene	14.15	92	11235	195.92	PPTV		98
47) 2-Hexanone	15.49	43	10675	130.81	PPTV		98
48) 1,2-Dibromoethane	15.33	107	7316	153.21	PPTV		99
49) Tetrachloroethene	14.60	166	6249	152.03	PPTV		97
50) Dibromochloromethane	15.01	127	5035	113.16	PPTV	#	97
52) Chlorobenzene	15.92	112	10045	171.59	PPTV	#	1
53) Ethylbenzene	15.91	106	6360	211.00	PPTV		93
54) m-Xylene & p-Xylene	16.07	106	15763	434.12	PPTV		98
55) Styrene	16.65	104	8981	188.63	PPTV		90
56) o-Xylene	16.60	106	7509	214.58	PPTV		98
57) Bromoform	16.73	173	4985	125.26	PPTV		92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ005.D Vial: 5
Acq On : 31 Dec 2020 3:30 pm Operator: rgg
Sample : aa64317-cal1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:04 2021 Quant Results File: 123120.RES

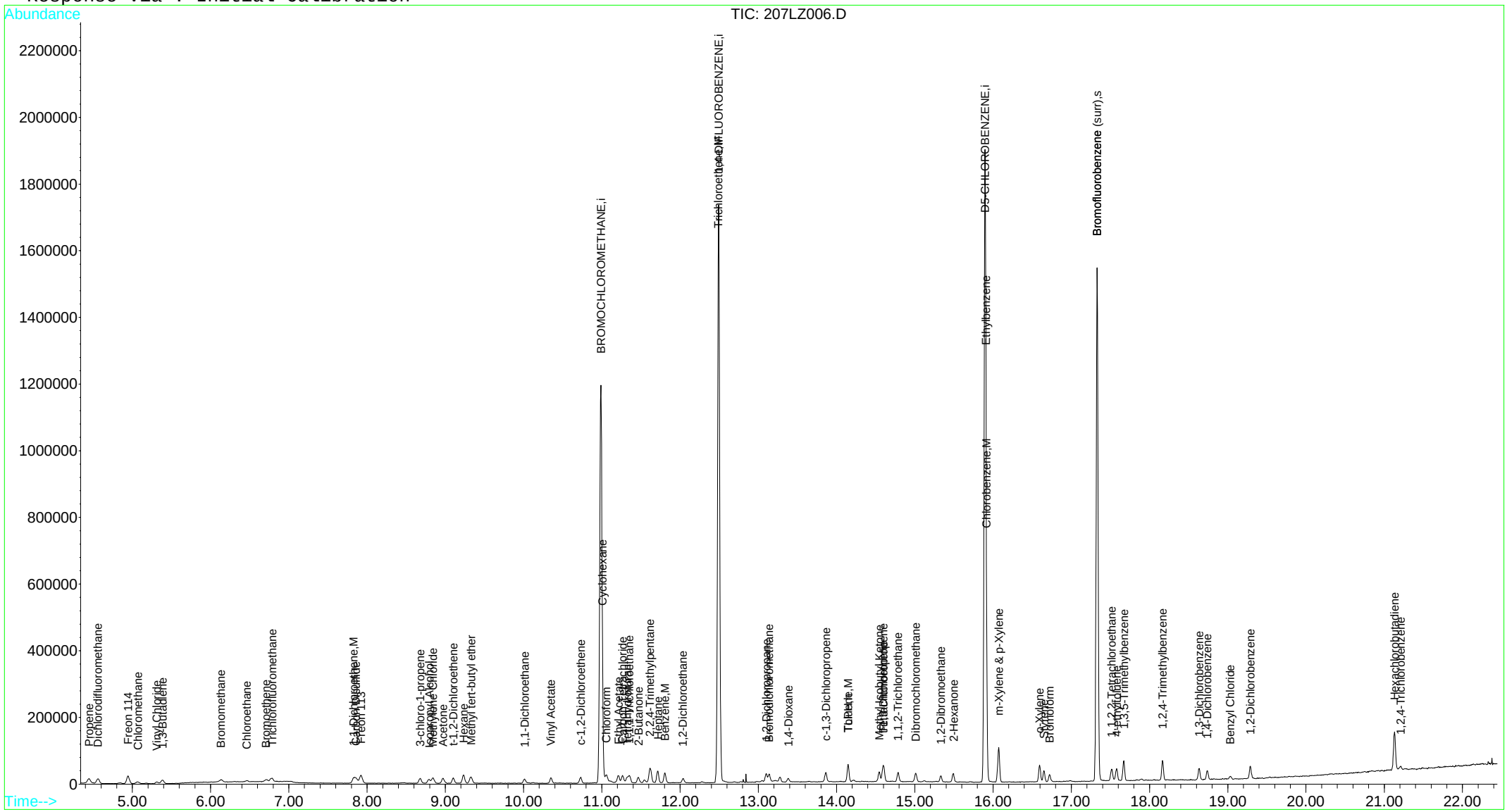
Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Wed Dec 30 08:16:18 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.52	83	12732	300.05	PPTV	99
59) Bromofluorobenzene	17.33	174	368216	28773.99	PPTV	95
61) 4-ethyltoluene	17.58	105	13855	166.71	PPTV	99
62) 1,3,5-Trimethylbenzene	17.67	105	21118	318.85	PPTV	99
63) 1,2,4-Trimethylbenzene	18.17	105	20154	332.51	PPTV	98
64) 1,3-Dichlorobenzene	18.63	146	8525	232.46	PPTV	97
65) 1,4-Dichlorobenzene	18.74	146	6823	208.00	PPTV	97
66) Benzyl Chloride	19.03	91	2998	73.12	PPTV	100
67) 1,2-Dichlorobenzene	19.29	146	9845	302.72	PPTV	97
68) 1,2,4-Trichlorobenzene	21.21	180	2195	415.76	PPTV	88
69) Hexachlorobutadiene	21.13	225	16823	1086.72	PPTV	96

Quantitation Report

Data File : C:\HPCHEM\1\DATA\123120\207LZ006.D Vial: 6
Acq On : 31 Dec 2020 4:10 pm Operator: rgg
Sample : aa64317-cal2 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:05 2021 Quant Results File: 123120.RES

Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration



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Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ006.D Vial: 6
Acq On : 31 Dec 2020 4:10 pm Operator: rgg
Sample : aa64317-cal2 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:05 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Wed Dec 30 08:16:18 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) BROMOCHLOROMETHANE	10.99	130	374682	31000.00	PPTV		0.00
36) 1,4-DIFLUOROBENZENE	12.49	114	1271464	31000.00	PPTV		0.00
51) D5-CHLOROBENZENE	15.90	117	980132	31000.00	PPTV		0.00
System Monitoring Compounds							
60) Bromofluorobenzene (surr)	17.33	174	392689	29458.78	PPTV		0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 94.27%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.56	85	19529	221.61	PPTV		99
3) Propene	4.45	41	11839	276.09	PPTV		95
4) Chloromethane	5.07	50	10023	228.78	PPTV		99
5) Freon 114	4.95	135	10900	207.54	PPTV		98
6) Vinyl Chloride	5.31	62	8794	222.71	PPTV		97
7) 1,3-Butadiene	5.38	39	9947	243.07	PPTV		96
8) Bromomethane	6.13	94	7095	224.36	PPTV		99
9) Chloroethane	6.45	64	3933	241.00	PPTV		90
10) Trichlorofluoromethane	6.79	101	10915	207.31	PPTV		98
11) Bromoethene	6.71	106	5788	214.06	PPTV		98
12) 1,1-Dichloroethene	7.83	61	12486	215.21	PPTV		93
13) Acetone	8.97	43	23988	341.48	PPTV		97
14) Isopropyl Alcohol	8.79	45	17952	283.19	PPTV	#	88
15) Carbon Disulfide	7.86	76	23450	242.68	PPTV		97
16) Methylene Chloride	8.84	84	6495	235.80	PPTV		96
17) Freon 113	7.92	151	9229	211.61	PPTV		99
18) 3-chloro-1-propene	8.68	41	13227	219.97	PPTV		99
19) t-1,2-Dichloroethene	9.10	61	10811	214.50	PPTV		94
20) Methyl tert-butyl ether	9.33	73	18884	210.64	PPTV		92
21) Hexane	9.23	57	11698	192.25	PPTV		98
22) 1,1-Dichloroethane	10.01	63	13377	223.39	PPTV		100
23) Vinyl Acetate	10.35	43	26639	221.01	PPTV		99
24) c-1,2-Dichloroethene	10.73	96	6994	221.09	PPTV		98
25) Ethyl Acetate	11.21	43	26421	217.70	PPTV	#	93
26) 2-Butanone	11.47	43	23706	216.77	PPTV		100
27) Chloroform	11.06	83	14587	222.35	PPTV		98
28) Tetrahydrofuran	11.32	42	10733	229.20	PPTV		97
29) 2,2,4-Trimethylpentane	11.62	57	42277	224.26	PPTV		97
30) 1,2-Dichloroethane	12.04	62	9904	227.98	PPTV		99
31) 1,1,1-Trichloroethane	11.35	97	13164	227.41	PPTV		98
32) Cyclohexane	11.01	56	13010	217.82	PPTV		93
33) Carbon Tetrachloride	11.27	117	12995	275.80	PPTV		98
34) Benzene	11.81	78	23441	249.05	PPTV		96
35) Heptane	11.71	43	18808	232.37	PPTV		98
37) TLPH	14.15	TIC	93365m	361.92	PPTV		
38) 1,2-Dichloropropane	13.10	63	8519	233.20	PPTV		90
39) Trichloroethene	12.48	130	8157	217.89	PPTV		97
40) 1,4-Dioxane	13.38	88	4310	221.08	PPTV	#	64
41) Bromodichloromethane	13.14	83	13610	206.06	PPTV		98
42) c-1,3-Dichloropropene	13.86	75	13023	247.23	PPTV		97
43) t-1,3-Dichloropropene	14.59	75	9470	264.58	PPTV		95
44) 1,1,2-Trichloroethane	14.79	97	7696	245.73	PPTV		94
45) Methyl Isobutyl Ketone	14.54	43	23831	226.07	PPTV		99
46) Toluene	14.15	92	19887	341.48	PPTV		99
47) 2-Hexanone	15.49	43	19171	231.33	PPTV		98
48) 1,2-Dibromoethane	15.33	107	12150	250.54	PPTV		91
49) Tetrachloroethene	14.60	166	10432	249.91	PPTV		99
50) Dibromochloromethane	15.01	127	9632	213.17	PPTV	#	97
52) Chlorobenzene	15.92	112	17475	286.58	PPTV	#	44
53) Ethylbenzene	15.92	106	10969	349.35	PPTV		95
54) m-Xylene & p-Xylene	16.07	106	26591	703.03	PPTV		96
55) Styrene	16.65	104	14923	300.90	PPTV		98
56) o-Xylene	16.60	106	12520	343.47	PPTV		95
57) Bromoform	16.72	173	9115	219.87	PPTV		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ006.D Vial: 6
Acq On : 31 Dec 2020 4:10 pm Operator: rgg
Sample : aa64317-cal2 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:05 2021 Quant Results File: 123120.RES

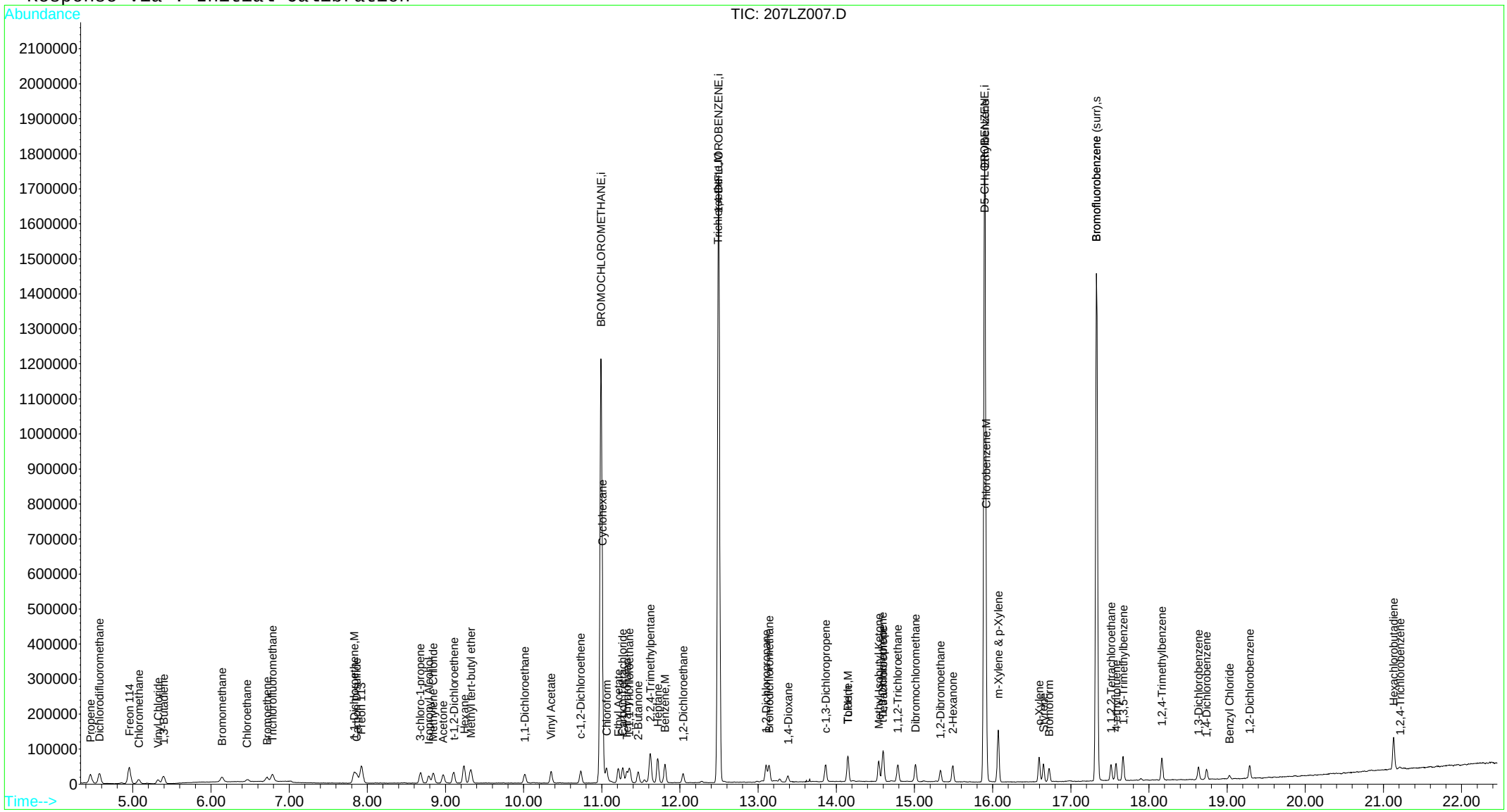
Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Wed Dec 30 08:16:18 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.52	83	18636	421.62	PPTV	99
59) Bromofluorobenzene	17.33	174	392689	29458.78	PPTV	95
61) 4-ethyltoluene	17.58	105	24321	280.93	PPTV	96
62) 1,3,5-Trimethylbenzene	17.67	105	31352	454.43	PPTV	98
63) 1,2,4-Trimethylbenzene	18.17	105	30653	485.50	PPTV	98
64) 1,3-Dichlorobenzene	18.63	146	12306	322.14	PPTV	98
65) 1,4-Dichlorobenzene	18.74	146	10199	298.48	PPTV	98
66) Benzyl Chloride	19.03	91	5294	123.95	PPTV	97
67) 1,2-Dichlorobenzene	19.29	146	13821	407.97	PPTV	98
68) 1,2,4-Trichlorobenzene	21.21	180	3320	603.69	PPTV	99
69) Hexachlorobutadiene	21.13	225	20987	1301.47	PPTV	96

Quantitation Report

Data File : C:\HPCHEM\1\DATA\123120\207LZ007.D Vial: 7
Acq On : 31 Dec 2020 4:48 pm Operator: rgg
Sample : aa64317-cal3 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:06 2021 Quant Results File: 123120.RES

Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ007.D Vial: 7
Acq On : 31 Dec 2020 4:48 pm Operator: rgg
Sample : aa64317-cal3 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:06 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Wed Dec 30 08:16:18 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.99	130	375020	31000.00	PPTV	0.00
36) 1,4-DIFLUOROBENZENE	12.49	114	1254271	31000.00	PPTV	0.00
51) D5-CHLOROBENZENE	15.90	117	928803	31000.00	PPTV	0.00
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.33	174	368796	29195.31	PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 93.42%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.57	85	39673	449.79	PPTV	98
3) Propene	4.46	41	21949	511.39	PPTV	99
4) Chloromethane	5.08	50	20431	465.94	PPTV	100
5) Freon 114	4.96	135	22787	433.49	PPTV	98
6) Vinyl Chloride	5.32	62	18298	462.98	PPTV	99
7) 1,3-Butadiene	5.40	39	18485	451.30	PPTV	95
8) Bromomethane	6.15	94	13450	424.93	PPTV	95
9) Chloroethane	6.47	64	7554	462.46	PPTV	93
10) Trichlorofluoromethane	6.79	101	22470	426.38	PPTV	100
11) Bromoethene	6.72	106	11454	423.23	PPTV	97
12) 1,1-Dichloroethene	7.83	61	25832	444.85	PPTV	94
13) Acetone	8.97	43	38185	543.09	PPTV	97
14) Isopropyl Alcohol	8.79	45	32559	513.15	PPTV	95
15) Carbon Disulfide	7.87	76	39453	407.93	PPTV	97
16) Methylene Chloride	8.85	84	12332	447.31	PPTV	98
17) Freon 113	7.93	151	18559	425.15	PPTV	98
18) 3-chloro-1-propene	8.69	41	28341	470.90	PPTV	90
19) t-1,2-Dichloroethene	9.11	61	22514	446.30	PPTV	96
20) Methyl tert-butyl ether	9.32	73	39654	441.93	PPTV	96
21) Hexane	9.24	57	24048	394.86	PPTV	95
22) 1,1-Dichloroethane	10.02	63	27232	454.35	PPTV	99
23) Vinyl Acetate	10.35	43	54282	449.95	PPTV	100
24) c-1,2-Dichloroethene	10.73	96	13730	433.64	PPTV	96
25) Ethyl Acetate	11.21	43	52254	430.17	PPTV	95
26) 2-Butanone	11.46	43	44291	404.64	PPTV	99
27) Chloroform	11.06	83	28769	438.14	PPTV	99
28) Tetrahydrofuran	11.31	42	21413	456.86	PPTV	98
29) 2,2,4-Trimethylpentane	11.62	57	80652	427.44	PPTV	96
30) 1,2-Dichloroethane	12.04	62	19783	454.97	PPTV	97
31) 1,1,1-Trichloroethane	11.36	97	26072	450.00	PPTV	99
32) Cyclohexane	11.01	56	25742	430.60	PPTV	97
33) Carbon Tetrachloride	11.27	117	26438	560.60	PPTV	99
34) Benzene	11.81	78	41631	441.91	PPTV	99
35) Heptane	11.72	43	36024	444.67	PPTV	98
37) TLPH	14.15	TIC	132900m	522.23	PPTV	
38) 1,2-Dichloropropane	13.10	63	16482	457.37	PPTV	89
39) Trichloroethene	12.48	130	15999	433.22	PPTV	98
40) 1,4-Dioxane	13.38	88	8819	458.56	PPTV #	86
41) Bromodichloromethane	13.14	83	28000	429.74	PPTV	99
42) c-1,3-Dichloropropene	13.86	75	23655	455.22	PPTV	94
43) t-1,3-Dichloropropene	14.59	75	15647	443.15	PPTV	98
44) 1,1,2-Trichloroethane	14.78	97	14099	456.34	PPTV	99
45) Methyl Isobutyl Ketone	14.54	43	47782	459.48	PPTV	99
46) Toluene	14.15	92	28915	503.31	PPTV	99
47) 2-Hexanone	15.49	43	36646	448.26	PPTV	97
48) 1,2-Dibromoethane	15.33	107	21534	450.14	PPTV	100
49) Tetrachloroethene	14.60	166	19010	461.65	PPTV	99
50) Dibromochloromethane	15.01	127	18268	409.84	PPTV #	96
52) Chlorobenzene	15.92	112	27981	484.22	PPTV #	68
53) Ethylbenzene	15.91	106	15298	514.15	PPTV	99
54) m-Xylene & p-Xylene	16.07	106	37330	1041.50	PPTV	96
55) Styrene	16.65	104	21468	456.79	PPTV	94
56) o-Xylene	16.60	106	17418	504.24	PPTV	97
57) Bromoform	16.72	173	16224	412.99	PPTV	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ007.D Vial: 7
Acq On : 31 Dec 2020 4:48 pm Operator: rgg
Sample : aa64317-cal3 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:06 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Wed Dec 30 08:16:18 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.52	83	23908	570.79	PPTV	100
59) Bromofluorobenzene	17.33	174	368796	29195.31	PPTV	95
61) 4-ethyltoluene	17.58	105	31892	388.74	PPTV	97
62) 1,3,5-Trimethylbenzene	17.67	105	35793	547.47	PPTV	96
63) 1,2,4-Trimethylbenzene	18.17	105	32020	535.18	PPTV	96
64) 1,3-Dichlorobenzene	18.63	146	13757	380.03	PPTV	98
65) 1,4-Dichlorobenzene	18.74	146	10952	338.23	PPTV	96
66) Benzyl Chloride	19.03	91	6119	151.18	PPTV	95
67) 1,2-Dichlorobenzene	19.29	146	14354	447.12	PPTV	99
68) 1,2,4-Trichlorobenzene	21.21	180	2479	475.68	PPTV	93
69) Hexachlorobutadiene	21.13	225	16354	1070.21	PPTV	98

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ008.D Vial: 8
Acq On : 31 Dec 2020 5:27 pm Operator: rgg
Sample : aa64317-cal4 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:06 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Wed Dec 30 08:16:18 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.98	130	356879	31000.00	PPTV	0.00
36) 1,4-DIFLUOROBENZENE	12.49	114	1194813	31000.00	PPTV	0.01
51) D5-CHLOROBENZENE	15.90	117	889493	31000.00	PPTV	0.01
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.33	174	355694	29402.52	PPTV	0.01
Spiked Amount 31250.000	Range 50 - 150		Recovery = 94.09%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.54	85	93188	1110.22	PPTV	99
3) Propene	4.42	41	48185	1179.74	PPTV	97
4) Chloromethane	5.04	50	48822	1170.00	PPTV	97
5) Freon 114	4.91	135	53891	1077.32	PPTV	97
6) Vinyl Chloride	5.28	62	41778	1110.81	PPTV	100
7) 1,3-Butadiene	5.35	39	43944	1127.40	PPTV	96
8) Bromomethane	6.11	94	32798	1088.87	PPTV	98
9) Chloroethane	6.44	64	18022	1159.40	PPTV	98
10) Trichlorofluoromethane	6.76	101	53692	1070.63	PPTV	99
11) Bromoethene	6.68	106	27651	1073.65	PPTV	100
12) 1,1-Dichloroethene	7.81	61	61419	1111.46	PPTV	95
13) Acetone	8.96	43	84773	1266.99	PPTV	95
14) Isopropyl Alcohol	8.78	45	77275	1279.81	PPTV	97
15) Carbon Disulfide	7.84	76	94273	1024.30	PPTV	100
16) Methylene Chloride	8.83	84	28893	1101.29	PPTV	97
17) Freon 113	7.91	151	44119	1062.05	PPTV	97
18) 3-chloro-1-propene	8.67	41	65790	1148.70	PPTV	91
19) t-1,2-Dichloroethene	9.09	61	52564	1094.96	PPTV	97
20) Methyl tert-butyl ether	9.31	73	91932	1076.63	PPTV	93
21) Hexane	9.23	57	56539	975.53	PPTV	97
22) 1,1-Dichloroethane	10.01	63	63483	1113.03	PPTV	100
23) Vinyl Acetate	10.35	43	129884	1131.35	PPTV	100
24) c-1,2-Dichloroethene	10.73	96	31667	1051.00	PPTV	97
25) Ethyl Acetate	11.21	43	120584	1043.14	PPTV	94
26) 2-Butanone	11.46	43	105571	1013.52	PPTV	99
27) Chloroform	11.06	83	67989	1088.07	PPTV	99
28) Tetrahydrofuran	11.31	42	50222	1126.00	PPTV	99
29) 2,2,4-Trimethylpentane	11.62	57	192103	1069.85	PPTV	96
30) 1,2-Dichloroethane	12.04	62	46947	1134.57	PPTV	100
31) 1,1,1-Trichloroethane	11.35	97	61703	1119.12	PPTV	99
32) Cyclohexane	11.01	56	60421	1062.06	PPTV	98
33) Carbon Tetrachloride	11.27	117	62426	1390.99	PPTV	99
34) Benzene	11.81	78	96283	1073.99	PPTV	99
35) Heptane	11.71	43	85854	1113.63	PPTV	99
37) TLPH	14.15	TIC	293276m	1209.78	PPTV	
38) 1,2-Dichloropropane	13.10	63	37729	1099.08	PPTV	90
39) Trichloroethene	12.48	130	37962	1079.09	PPTV	99
40) 1,4-Dioxane	13.38	88	20475	1117.62	PPTV	92
41) Bromodichloromethane	13.14	83	66760	1075.60	PPTV	100
42) c-1,3-Dichloropropene	13.86	75	53901	1088.89	PPTV	99
43) t-1,3-Dichloropropene	14.59	75	35527	1056.27	PPTV	99
44) 1,1,2-Trichloroethane	14.79	97	32302	1097.54	PPTV	99
45) Methyl Isobutyl Ketone	14.55	43	114207	1152.89	PPTV	99
46) Toluene	14.15	92	64326	1175.41	PPTV	100
47) 2-Hexanone	15.49	43	86316	1108.38	PPTV	98
48) 1,2-Dibromoethane	15.33	107	50019	1097.61	PPTV	99
49) Tetrachloroethene	14.61	166	43922	1119.70	PPTV	99
50) Dibromochloromethane	15.01	127	44322	1043.85	PPTV	100
52) Chlorobenzene	15.92	112	63828	1153.39	PPTV	88
53) Ethylbenzene	15.91	106	34530	1211.80	PPTV	98
54) m-Xylene & p-Xylene	16.07	106	83678	2437.78	PPTV	96
55) Styrene	16.65	104	48279	1072.67	PPTV	99
56) o-Xylene	16.60	106	38283	1157.25	PPTV	96
57) Bromoform	16.72	173	37571	998.65	PPTV	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ008.D Vial: 8
Acq On : 31 Dec 2020 5:27 pm Operator: rgg
Sample : aa64317-cal4 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:06 2021 Quant Results File: 123120.RES

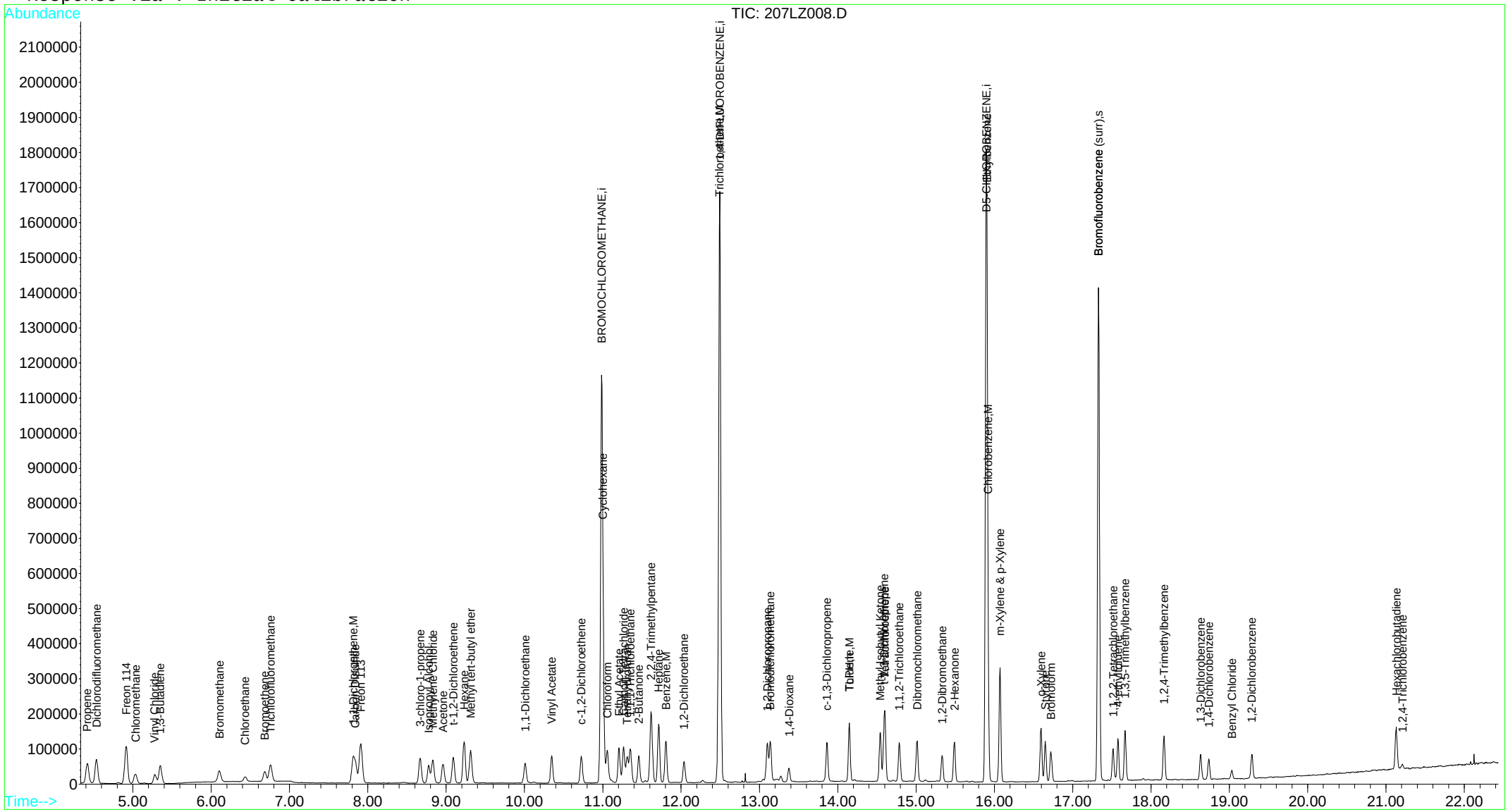
Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Wed Dec 30 08:16:18 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.52	83	48006	1196.76	PPTV	100
59) Bromofluorobenzene	17.33	174	355694	29402.52	PPTV	95
61) 4-ethyltoluene	17.58	105	76358	971.89	PPTV	98
62) 1,3,5-Trimethylbenzene	17.67	105	74334	1187.21	PPTV	95
63) 1,2,4-Trimethylbenzene	18.17	105	66067	1153.04	PPTV	97
64) 1,3-Dichlorobenzene	18.64	146	27385	789.93	PPTV	99
65) 1,4-Dichlorobenzene	18.74	146	21737	700.96	PPTV	98
66) Benzyl Chloride	19.03	91	15438	398.29	PPTV	95
67) 1,2-Dichlorobenzene	19.29	146	26754	870.20	PPTV	98
68) 1,2,4-Trichlorobenzene	21.21	180	3492	699.67	PPTV	94
69) Hexachlorobutadiene	21.13	225	21817	1490.80	PPTV	97

Quantitation Report

Data File : C:\HPCHEM\1\DATA\123120\207LZ008.D Vial: 8
Acq On : 31 Dec 2020 5:27 pm Operator: rgg
Sample : aa64317-cal4 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:06 2021 Quant Results File: 123120.RES

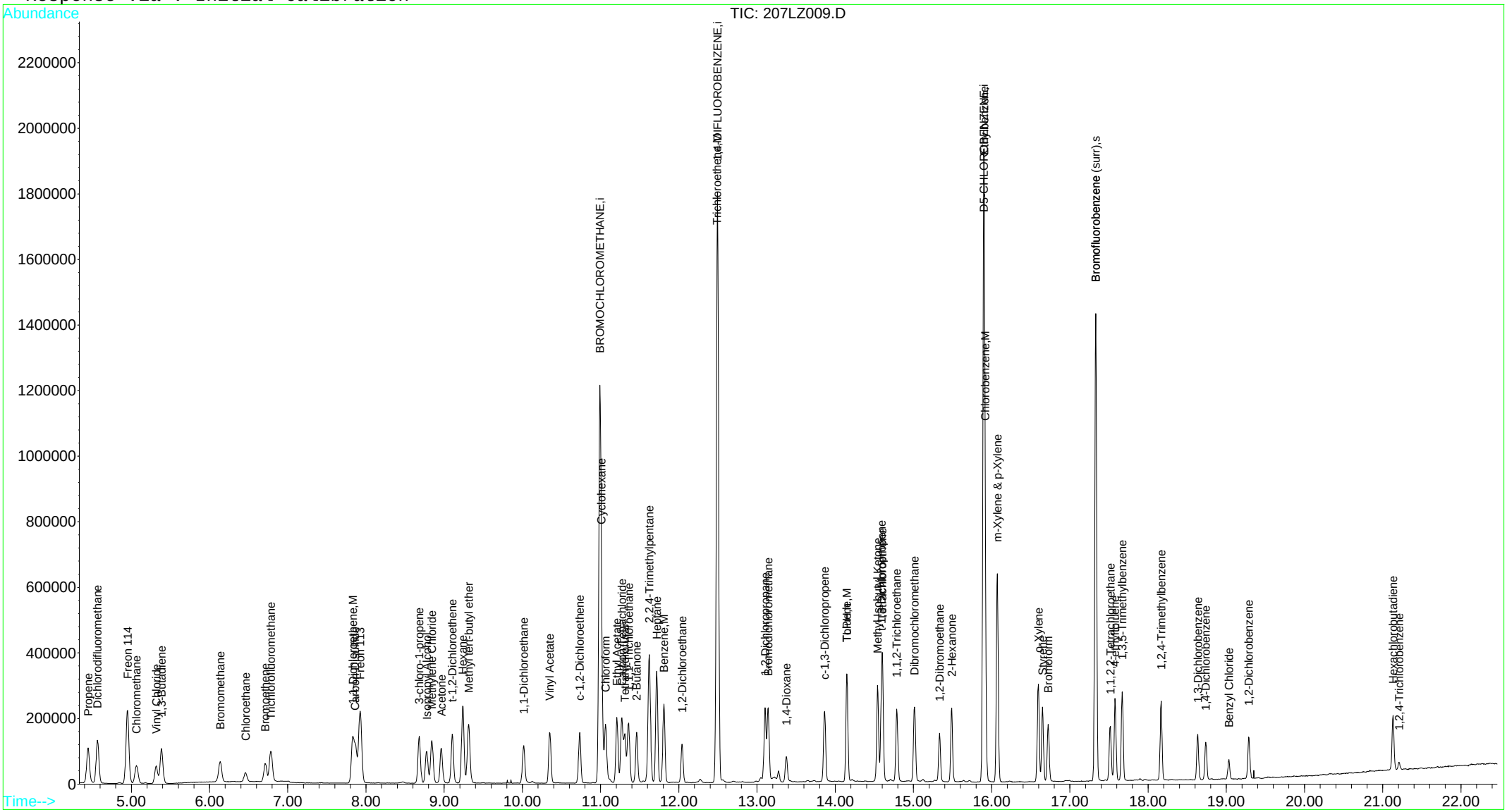
Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\123120\207LZ009.D Vial: 9
Acq On : 31 Dec 2020 6:08 pm Operator: rgg
Sample : aa64317-cal5 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:07 2021 Quant Results File: 123120.RES

Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ009.D Vial: 9
Acq On : 31 Dec 2020 6:08 pm Operator: rgg
Sample : aa64317-cal5 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:07 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Wed Dec 30 08:16:18 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.99	130	359052	31000.00	PPTV	0.01
36) 1,4-DIFLUOROBENZENE	12.49	114	1218151	31000.00	PPTV	0.01
51) D5-CHLOROBENZENE	15.90	117	912184	31000.00	PPTV	0.01
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.33	174	371094	29912.45	PPTV	0.01
Spiked Amount 31250.000	Range 50 - 150		Recovery = 95.72%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.57	85	183802	2176.51	PPTV	100
3) Propene	4.45	41	94378	2296.72	PPTV	96
4) Chloromethane	5.07	50	99095	2360.41	PPTV	99
5) Freon 114	4.95	135	112631	2237.94	PPTV	98
6) Vinyl Chloride	5.32	62	90546	2392.90	PPTV	100
7) 1,3-Butadiene	5.39	39	88127	2247.25	PPTV	94
8) Bromomethane	6.14	94	62797	2072.21	PPTV	100
9) Chloroethane	6.46	64	34999	2237.94	PPTV	97
10) Trichlorofluoromethane	6.78	101	105890	2098.70	PPTV	99
11) Bromoethene	6.71	106	55025	2123.61	PPTV	100
12) 1,1-Dichloroethene	7.83	61	122926	2211.05	PPTV	95
13) Acetone	8.96	43	171127	2542.13	PPTV	95
14) Isopropyl Alcohol	8.77	45	153736	2530.73	PPTV	99
15) Carbon Disulfide	7.86	76	189882	2050.63	PPTV	99
16) Methylene Chloride	8.84	84	56662	2146.67	PPTV	95
17) Freon 113	7.92	151	88075	2107.35	PPTV	97
18) 3-chloro-1-propene	8.68	41	129529	2247.90	PPTV	91
19) t-1,2-Dichloroethene	9.10	61	104711	2168.03	PPTV	98
20) Methyl tert-butyl ether	9.31	73	184656	2149.44	PPTV	94
21) Hexane	9.23	57	114922	1970.88	PPTV	95
22) 1,1-Dichloroethane	10.02	63	126101	2197.51	PPTV	99
23) Vinyl Acetate	10.35	43	257874	2232.61	PPTV	99
24) c-1,2-Dichloroethene	10.73	96	63259	2086.80	PPTV	99
25) Ethyl Acetate	11.21	43	243476	2093.50	PPTV	97
26) 2-Butanone	11.46	43	210657	2010.15	PPTV	98
27) Chloroform	11.06	83	134208	2134.82	PPTV	98
28) Tetrahydrofuran	11.31	42	100213	2233.22	PPTV	100
29) 2,2,4-Trimethylpentane	11.62	57	380524	2106.38	PPTV	96
30) 1,2-Dichloroethane	12.04	62	92558	2223.32	PPTV	100
31) 1,1,1-Trichloroethane	11.36	97	121201	2184.95	PPTV	99
32) Cyclohexane	11.02	56	120702	2108.82	PPTV	97
33) Carbon Tetrachloride	11.27	117	124514	2757.67	PPTV	100
34) Benzene	11.81	78	189769	2103.98	PPTV	100
35) Heptane	11.72	43	171236	2207.69	PPTV	99
37) TLPH	14.15	TIC	571028m	2310.39	PPTV	
38) 1,2-Dichloropropane	13.10	63	76047	2172.87	PPTV	89
39) Trichloroethene	12.48	130	74694	2082.54	PPTV	99
40) 1,4-Dioxane	13.37	88	40007	2141.93	PPTV	91
41) Bromodichloromethane	13.14	83	135312	2138.30	PPTV	99
42) c-1,3-Dichloropropene	13.87	75	104810	2076.77	PPTV	98
43) t-1,3-Dichloropropene	14.59	75	68672	2002.60	PPTV	98
44) 1,1,2-Trichloroethane	14.79	97	64777	2158.78	PPTV	98
45) Methyl Isobutyl Ketone	14.54	43	228604	2263.49	PPTV	99
46) Toluene	14.15	92	128404	2301.34	PPTV	100
47) 2-Hexanone	15.49	43	175278	2207.61	PPTV	98
48) 1,2-Dibromoethane	15.33	107	98464	2119.28	PPTV	99
49) Tetrachloroethene	14.61	166	87417	2185.82	PPTV	99
50) Dibromochloromethane	15.01	127	90036	2079.85	PPTV	99
52) Chlorobenzene	15.92	112	125453	2210.58	PPTV	94
53) Ethylbenzene	15.91	106	67505	2310.10	PPTV	98
54) m-Xylene & p-Xylene	16.07	106	165325	4696.58	PPTV	96
55) Styrene	16.65	104	98416	2132.22	PPTV	95
56) o-Xylene	16.60	106	76660	2259.70	PPTV	95
57) Bromoform	16.72	173	76878	1992.60	PPTV	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ009.D Vial: 9
Acq On : 31 Dec 2020 6:08 pm Operator: rgg
Sample : aa64317-cal5 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:07 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Wed Dec 30 08:16:18 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.52	83	91110	2214.82	PPTV	100
59) Bromofluorobenzene	17.33	174	371094	29912.45	PPTV	95
61) 4-ethyltoluene	17.58	105	158785	1970.76	PPTV	98
62) 1,3,5-Trimethylbenzene	17.67	105	142993	2226.97	PPTV	97
63) 1,2,4-Trimethylbenzene	18.17	105	127432	2168.69	PPTV	97
64) 1,3-Dichlorobenzene	18.64	146	52740	1483.45	PPTV	98
65) 1,4-Dichlorobenzene	18.74	146	43184	1357.93	PPTV	98
66) Benzyl Chloride	19.03	91	38529	969.29	PPTV	96
67) 1,2-Dichlorobenzene	19.29	146	49428	1567.71	PPTV	98
68) 1,2,4-Trichlorobenzene	21.21	180	7090	1385.24	PPTV	95
69) Hexachlorobutadiene	21.13	225	30720	2046.95	PPTV	97

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ010.D Vial: 10
Acq On : 31 Dec 2020 6:46 pm Operator: rgg
Sample : aa64317-cal6 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:07 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Wed Dec 30 08:16:18 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.99	130	364591	31000.00	PPTV	0.00
36) 1,4-DIFLUOROBENZENE	12.49	114	1225340	31000.00	PPTV	0.00
51) D5-CHLOROBENZENE	15.90	117	929328	31000.00	PPTV	0.00
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.33	174	391129	30945.79	PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 99.03%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.54	85	304656	3552.81	PPTV	100
3) Propene	4.42	41	155845	3734.91	PPTV	95
4) Chloromethane	5.03	50	170469	3998.82	PPTV	100
5) Freon 114	4.92	135	192290	3762.69	PPTV	96
6) Vinyl Chloride	5.28	62	153258	3988.68	PPTV	99
7) 1,3-Butadiene	5.35	39	150869	3788.73	PPTV	91
8) Bromomethane	6.11	94	109134	3546.55	PPTV	97
9) Chloroethane	6.44	64	59291	3733.65	PPTV	100
10) Trichlorofluoromethane	6.77	101	176450	3444.04	PPTV	100
11) Bromoethene	6.69	106	92099	3500.43	PPTV	98
12) 1,1-Dichloroethene	7.81	61	206075	3650.32	PPTV	95
13) Acetone	8.96	43	266186	3894.18	PPTV	95
14) Isopropyl Alcohol	8.77	45	256209	4153.51	PPTV	98
15) Carbon Disulfide	7.86	76	315452	3354.96	PPTV	99
16) Methylene Chloride	8.84	84	95275	3554.71	PPTV	96
17) Freon 113	7.92	151	143595	3383.57	PPTV	99
18) 3-chloro-1-propene	8.67	41	220497	3768.46	PPTV	89
19) t-1,2-Dichloroethene	9.10	61	178407	3637.77	PPTV	97
20) Methyl tert-butyl ether	9.31	73	311840	3574.74	PPTV	95
21) Hexane	9.23	57	195590	3303.35	PPTV	94
22) 1,1-Dichloroethane	10.02	63	212497	3646.84	PPTV	100
23) Vinyl Acetate	10.35	43	453337	3865.26	PPTV	100
24) c-1,2-Dichloroethene	10.73	96	106569	3462.10	PPTV	98
25) Ethyl Acetate	11.21	43	413985	3505.53	PPTV	98
26) 2-Butanone	11.46	43	364172	3422.24	PPTV	99
27) Chloroform	11.06	83	226528	3548.59	PPTV	98
28) Tetrahydrofuran	11.31	42	173919	3816.85	PPTV	100
29) 2,2,4-Trimethylpentane	11.62	57	631390	3441.94	PPTV	96
30) 1,2-Dichloroethane	12.04	62	157184	3718.33	PPTV	100
31) 1,1,1-Trichloroethane	11.36	97	199824	3547.60	PPTV	99
32) Cyclohexane	11.01	56	203453	3500.58	PPTV	96
33) Carbon Tetrachloride	11.27	117	203055	4428.83	PPTV	100
34) Benzene	11.81	78	307336	3355.68	PPTV	100
35) Heptane	11.72	43	289807	3679.62	PPTV	99
37) TLPH	14.15	TIC	845891m	3402.41	PPTV	
38) 1,2-Dichloropropane	13.10	63	126830	3602.61	PPTV	88
39) Trichloroethene	12.48	130	124804	3459.24	PPTV	99
40) 1,4-Dioxane	13.37	88	70736	3764.91	PPTV	99
41) Bromodichloromethane	13.14	83	237532	3731.64	PPTV	99
42) c-1,3-Dichloropropene	13.86	75	181762	3580.41	PPTV	99
43) t-1,3-Dichloropropene	14.59	75	120205	3484.82	PPTV	99
44) 1,1,2-Trichloroethane	14.79	97	109279	3620.51	PPTV	99
45) Methyl Isobutyl Ketone	14.54	43	404273	3979.37	PPTV	99
46) Toluene	14.15	92	190916	3401.65	PPTV	100
47) 2-Hexanone	15.49	43	327608	4101.98	PPTV	97
48) 1,2-Dibromoethane	15.33	107	173522	3712.87	PPTV	99
49) Tetrachloroethene	14.60	166	142200	3534.78	PPTV	98
50) Dibromochloromethane	15.01	127	169601	3894.84	PPTV	99
52) Chlorobenzene	15.92	112	214890	3716.67	PPTV	99
53) Ethylbenzene	15.91	106	107150	3599.15	PPTV	96
54) m-Xylene & p-Xylene	16.07	106	261801	7300.09	PPTV	96
55) Styrene	16.65	104	177794	3780.92	PPTV	95
56) o-Xylene	16.60	106	123126	3562.42	PPTV	95
57) Bromoform	16.72	173	160978	4095.42	PPTV	93

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ010.D Vial: 10
Acq On : 31 Dec 2020 6:46 pm Operator: rgg
Sample : aa64317-cal6 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:07 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Wed Dec 30 08:16:18 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.52	83	183143	4369.94	PPTV	99
59) Bromofluorobenzene	17.33	174	391129	30945.79	PPTV	94
61) 4-ethyltoluene	17.58	105	311994	3800.87	PPTV	99
62) 1,3,5-Trimethylbenzene	17.67	105	246459	3767.54	PPTV	98
63) 1,2,4-Trimethylbenzene	18.16	105	227659	3802.92	PPTV	96
64) 1,3-Dichlorobenzene	18.63	146	108351	2991.44	PPTV	98
65) 1,4-Dichlorobenzene	18.74	146	92565	2857.04	PPTV	97
66) Benzyl Chloride	19.03	91	106390	2627.11	PPTV	97
67) 1,2-Dichlorobenzene	19.29	146	103259	3214.64	PPTV	98
68) 1,2,4-Trichlorobenzene	21.21	180	12568	2410.23	PPTV	97
69) Hexachlorobutadiene	21.13	225	55889	3655.32	PPTV	98

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ010.D Vial: 10
Acq On : 31 Dec 2020 6:46 pm Operator: rgg
Sample : aa64317-cal6 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:07 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Wed Dec 30 08:16:18 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.99	130	364591	31000.00	PPTV	0.00
36) 1,4-DIFLUOROBENZENE	12.49	114	1225340	31000.00	PPTV	0.00
51) D5-CHLOROBENZENE	15.90	117	929328	31000.00	PPTV	0.00
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.33	174	391129	30945.79	PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 99.03%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.54	85	304656	3552.81	PPTV	100
3) Propene	4.42	41	155845	3734.91	PPTV	95
4) Chloromethane	5.03	50	170469	3998.82	PPTV	100
5) Freon 114	4.92	135	192290	3762.69	PPTV	96
6) Vinyl Chloride	5.28	62	153258	3988.68	PPTV	99
7) 1,3-Butadiene	5.35	39	150869	3788.73	PPTV	91
8) Bromomethane	6.11	94	109134	3546.55	PPTV	97
9) Chloroethane	6.44	64	59291	3733.65	PPTV	100
10) Trichlorofluoromethane	6.77	101	176450	3444.04	PPTV	100
11) Bromoethene	6.69	106	92099	3500.43	PPTV	98
12) 1,1-Dichloroethene	7.81	61	206075	3650.32	PPTV	95
13) Acetone	8.96	43	266186	3894.18	PPTV	95
14) Isopropyl Alcohol	8.77	45	256209	4153.51	PPTV	98
15) Carbon Disulfide	7.86	76	315452	3354.96	PPTV	99
16) Methylene Chloride	8.84	84	95275	3554.71	PPTV	96
17) Freon 113	7.92	151	143595	3383.57	PPTV	99
18) 3-chloro-1-propene	8.67	41	220497	3768.46	PPTV	89
19) t-1,2-Dichloroethene	9.10	61	178407	3637.77	PPTV	97
20) Methyl tert-butyl ether	9.31	73	311840	3574.74	PPTV	95
21) Hexane	9.23	57	195590	3303.35	PPTV	94
22) 1,1-Dichloroethane	10.02	63	212497	3646.84	PPTV	100
23) Vinyl Acetate	10.35	43	453337	3865.26	PPTV	100
24) c-1,2-Dichloroethene	10.73	96	106569	3462.10	PPTV	98
25) Ethyl Acetate	11.21	43	413985	3505.53	PPTV	98
26) 2-Butanone	11.46	43	364172	3422.24	PPTV	99
27) Chloroform	11.06	83	226528	3548.59	PPTV	98
28) Tetrahydrofuran	11.31	42	173919	3816.85	PPTV	100
29) 2,2,4-Trimethylpentane	11.62	57	631390	3441.94	PPTV	96
30) 1,2-Dichloroethane	12.04	62	157184	3718.33	PPTV	100
31) 1,1,1-Trichloroethane	11.36	97	199824	3547.60	PPTV	99
32) Cyclohexane	11.01	56	203453	3500.58	PPTV	96
33) Carbon Tetrachloride	11.27	117	203055	4428.83	PPTV	100
34) Benzene	11.81	78	307336	3355.68	PPTV	100
35) Heptane	11.72	43	289807	3679.62	PPTV	99
37) TLPH	14.15	TIC	845891m	3402.41	PPTV	
38) 1,2-Dichloropropane	13.10	63	126830	3602.61	PPTV	88
39) Trichloroethene	12.48	130	124804	3459.24	PPTV	99
40) 1,4-Dioxane	13.37	88	70736	3764.91	PPTV	99
41) Bromodichloromethane	13.14	83	237532	3731.64	PPTV	99
42) c-1,3-Dichloropropene	13.86	75	181762	3580.41	PPTV	99
43) t-1,3-Dichloropropene	14.59	75	120205	3484.82	PPTV	99
44) 1,1,2-Trichloroethane	14.79	97	109279	3620.51	PPTV	99
45) Methyl Isobutyl Ketone	14.54	43	404273	3979.37	PPTV	99
46) Toluene	14.15	92	190916	3401.65	PPTV	100
47) 2-Hexanone	15.49	43	327608	4101.98	PPTV	97
48) 1,2-Dibromoethane	15.33	107	173522	3712.87	PPTV	99
49) Tetrachloroethene	14.60	166	142200	3534.78	PPTV	98
50) Dibromochloromethane	15.01	127	169601	3894.84	PPTV	99
52) Chlorobenzene	15.92	112	214890	3716.67	PPTV	99
53) Ethylbenzene	15.91	106	107150	3599.15	PPTV	96
54) m-Xylene & p-Xylene	16.07	106	261801	7300.09	PPTV	96
55) Styrene	16.65	104	177794	3780.92	PPTV	95
56) o-Xylene	16.60	106	123126	3562.42	PPTV	95
57) Bromoform	16.72	173	160978	4095.42	PPTV	93

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ010.D Vial: 10
Acq On : 31 Dec 2020 6:46 pm Operator: rgg
Sample : aa64317-cal6 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:07 2021 Quant Results File: 123120.RES

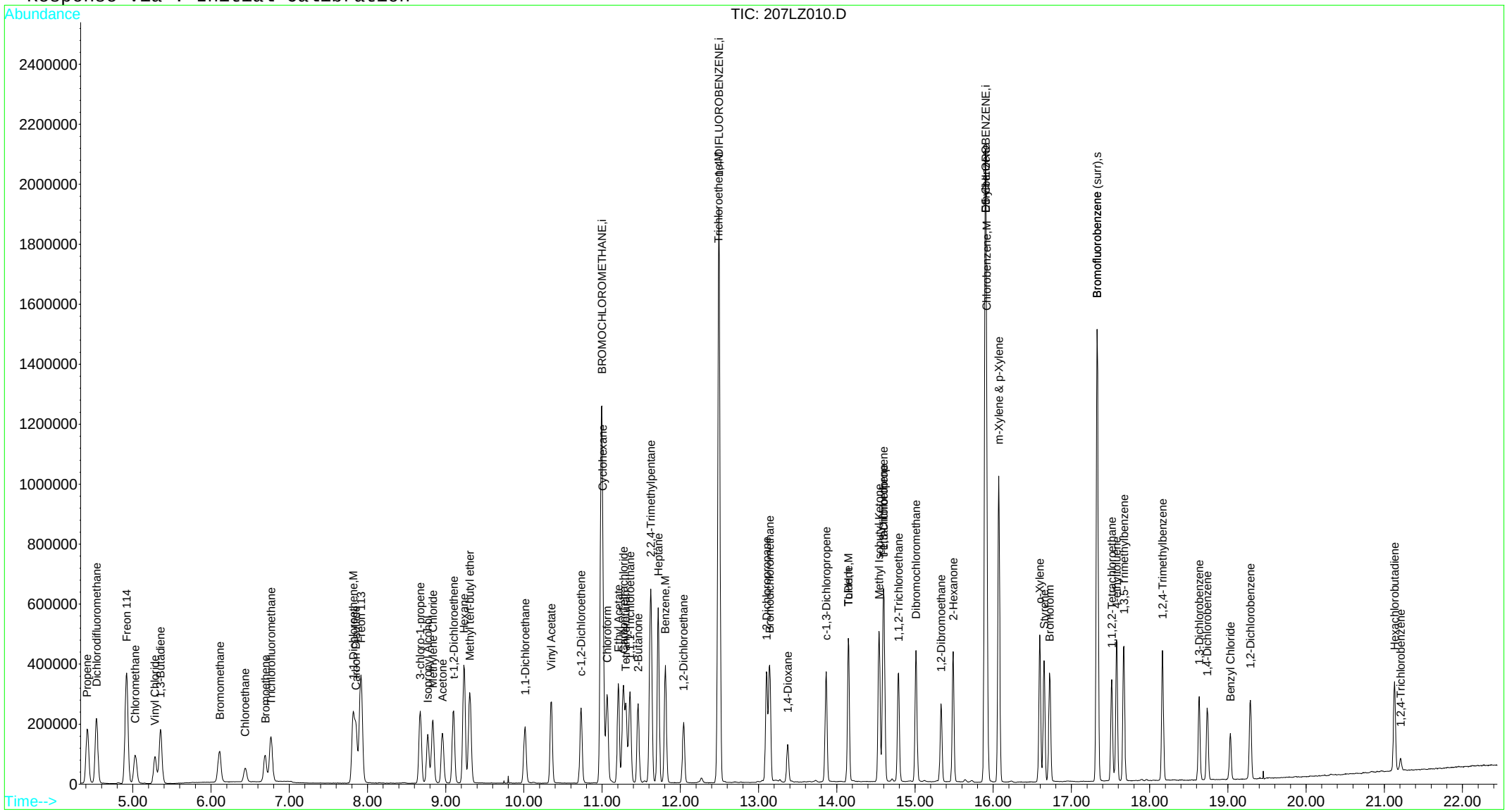
Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Wed Dec 30 08:16:18 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.52	83	183143	4369.94	PPTV	99
59) Bromofluorobenzene	17.33	174	391129	30945.79	PPTV	94
61) 4-ethyltoluene	17.58	105	311994	3800.87	PPTV	99
62) 1,3,5-Trimethylbenzene	17.67	105	246459	3767.54	PPTV	98
63) 1,2,4-Trimethylbenzene	18.16	105	227659	3802.92	PPTV	96
64) 1,3-Dichlorobenzene	18.63	146	108351	2991.44	PPTV	98
65) 1,4-Dichlorobenzene	18.74	146	92565	2857.04	PPTV	97
66) Benzyl Chloride	19.03	91	106390	2627.11	PPTV	97
67) 1,2-Dichlorobenzene	19.29	146	103259	3214.64	PPTV	98
68) 1,2,4-Trichlorobenzene	21.21	180	12568	2410.23	PPTV	97
69) Hexachlorobutadiene	21.13	225	55889	3655.32	PPTV	98

Quantitation Report

Data File : C:\HPCHEM\1\DATA\123120\207LZ010.D Vial: 10
Acq On : 31 Dec 2020 6:46 pm Operator: rgg
Sample : aa64317-cal6 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:07 2021 Quant Results File: 123120.RES

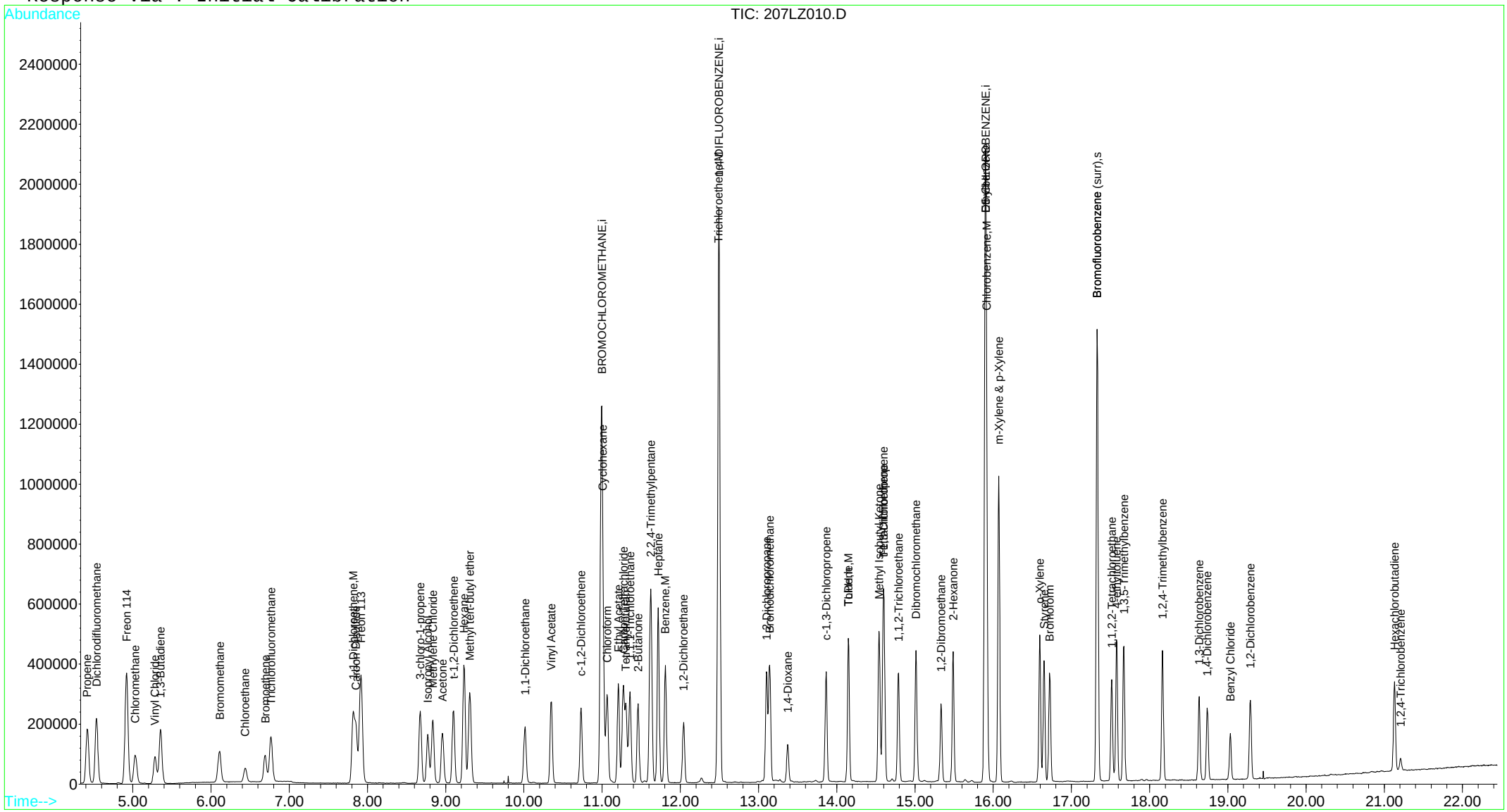
Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\123120\207LZ010.D Vial: 10
Acq On : 31 Dec 2020 6:46 pm Operator: rgg
Sample : aa64317-cal6 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:07 2021 Quant Results File: 123120.RES

Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration



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Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ011.D Vial: 11
Acq On : 31 Dec 2020 7:25 pm Operator: rgg
Sample : aa64317-cal7 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:08 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Wed Dec 30 08:16:18 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	11.00	130	368179	31000.00	PPTV	0.02
36) 1,4-DIFLUOROBENZENE	12.50	114	1236730	31000.00	PPTV	0.02
51) D5-CHLOROBENZENE	15.90	117	944742	31000.00	PPTV	0.01
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.33	174	410217	31926.47	PPTV	0.01
Spiked Amount 31250.000	Range 50 - 150		Recovery = 102.16%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.58	85	666992	7702.48	PPTV	99
3) Propene	4.45	41	357274	8478.83	PPTV	94
4) Chloromethane	5.08	50	376434	8744.25	PPTV	100
5) Freon 114	4.97	135	422073	8178.55	PPTV	97
6) Vinyl Chloride	5.33	62	338951	8735.54	PPTV	100
7) 1,3-Butadiene	5.40	39	330807	8226.51	PPTV	90
8) Bromomethane	6.15	94	229317	7379.53	PPTV	99
9) Chloroethane	6.47	64	131932	8227.00	PPTV	100
10) Trichlorofluoromethane	6.80	101	384077	7423.55	PPTV	99
11) Bromoethene	6.73	106	201855	7597.19	PPTV	98
12) 1,1-Dichloroethene	7.84	61	458743	8046.77	PPTV	95
13) Acetone	8.97	43	581666	8426.59	PPTV	94
14) Isopropyl Alcohol	8.78	45	573422	9205.40	PPTV	97
15) Carbon Disulfide	7.89	76	709127	7468.36	PPTV	98
16) Methylene Chloride	8.85	84	210992	7795.39	PPTV	96
17) Freon 113	7.94	151	321612	7504.38	PPTV	97
18) 3-chloro-1-propene	8.70	41	497917	8426.84	PPTV	90
19) t-1,2-Dichloroethene	9.12	61	395809	7992.01	PPTV	96
20) Methyl tert-butyl ether	9.32	73	691731	7852.30	PPTV	96
21) Hexane	9.25	57	418803	7004.30	PPTV	94
22) 1,1-Dichloroethane	10.03	63	470452	7995.15	PPTV	100
23) Vinyl Acetate	10.36	43	1011739	8542.26	PPTV	99
24) c-1,2-Dichloroethene	10.74	96	241098	7756.21	PPTV	98
25) Ethyl Acetate	11.21	43	923749	7745.86	PPTV	98
26) 2-Butanone	11.47	43	800805	7452.07	PPTV	99
27) Chloroform	11.07	83	493586	7656.75	PPTV	98
28) Tetrahydrofuran	11.31	42	384518	8356.45	PPTV	100
29) 2,2,4-Trimethylpentane	11.63	57	1408896	7605.56	PPTV	96
30) 1,2-Dichloroethane	12.05	62	345702	8098.21	PPTV	100
31) 1,1,1-Trichloroethane	11.36	97	435860	7662.69	PPTV	99
32) Cyclohexane	11.03	56	455935	7768.29	PPTV	96
33) Carbon Tetrachloride	11.28	117	438843	9478.32	PPTV	100
34) Benzene	11.81	78	682115	7375.16	PPTV	100
35) Heptane	11.72	43	638921	8033.20	PPTV	99
37) TLPH	14.15	TIC	1854857m	7392.05	PPTV	
38) 1,2-Dichloropropane	13.11	63	283597	7981.40	PPTV	87
39) Trichloroethene	12.49	130	281675	7735.38	PPTV	99
40) 1,4-Dioxane	13.37	88	159163	8393.41	PPTV	98
41) Bromodichloromethane	13.14	83	519950	8093.22	PPTV	99
42) c-1,3-Dichloropropene	13.87	75	402479	7855.16	PPTV	99
43) t-1,3-Dichloropropene	14.59	75	265290	7620.10	PPTV	99
44) 1,1,2-Trichloroethane	14.79	97	246468	8090.49	PPTV	99
45) Methyl Isobutyl Ketone	14.54	43	907701	8852.46	PPTV	98
46) Toluene	14.15	92	421254	7436.58	PPTV	99
47) 2-Hexanone	15.49	43	756575	9385.84	PPTV	96
48) 1,2-Dibromoethane	15.33	107	387810	8221.58	PPTV	99
49) Tetrachloroethene	14.61	166	320226	7886.81	PPTV	98
50) Dibromochloromethane	15.01	127	375340	8540.19	PPTV	99
52) Chlorobenzene	15.92	112	483733	8230.00	PPTV	95
53) Ethylbenzene	15.91	106	239601	7916.84	PPTV	94
54) m-Xylene & p-Xylene	16.07	106	591388	16221.29	PPTV	94
55) Styrene	16.65	104	413823	8656.67	PPTV	93
56) o-Xylene	16.60	106	275681	7846.17	PPTV	94
57) Bromoform	16.72	173	367630	9200.23	PPTV	92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ011.D Vial: 11
Acq On : 31 Dec 2020 7:25 pm Operator: rgg
Sample : aa64317-cal7 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:08 2021 Quant Results File: 123120.RES

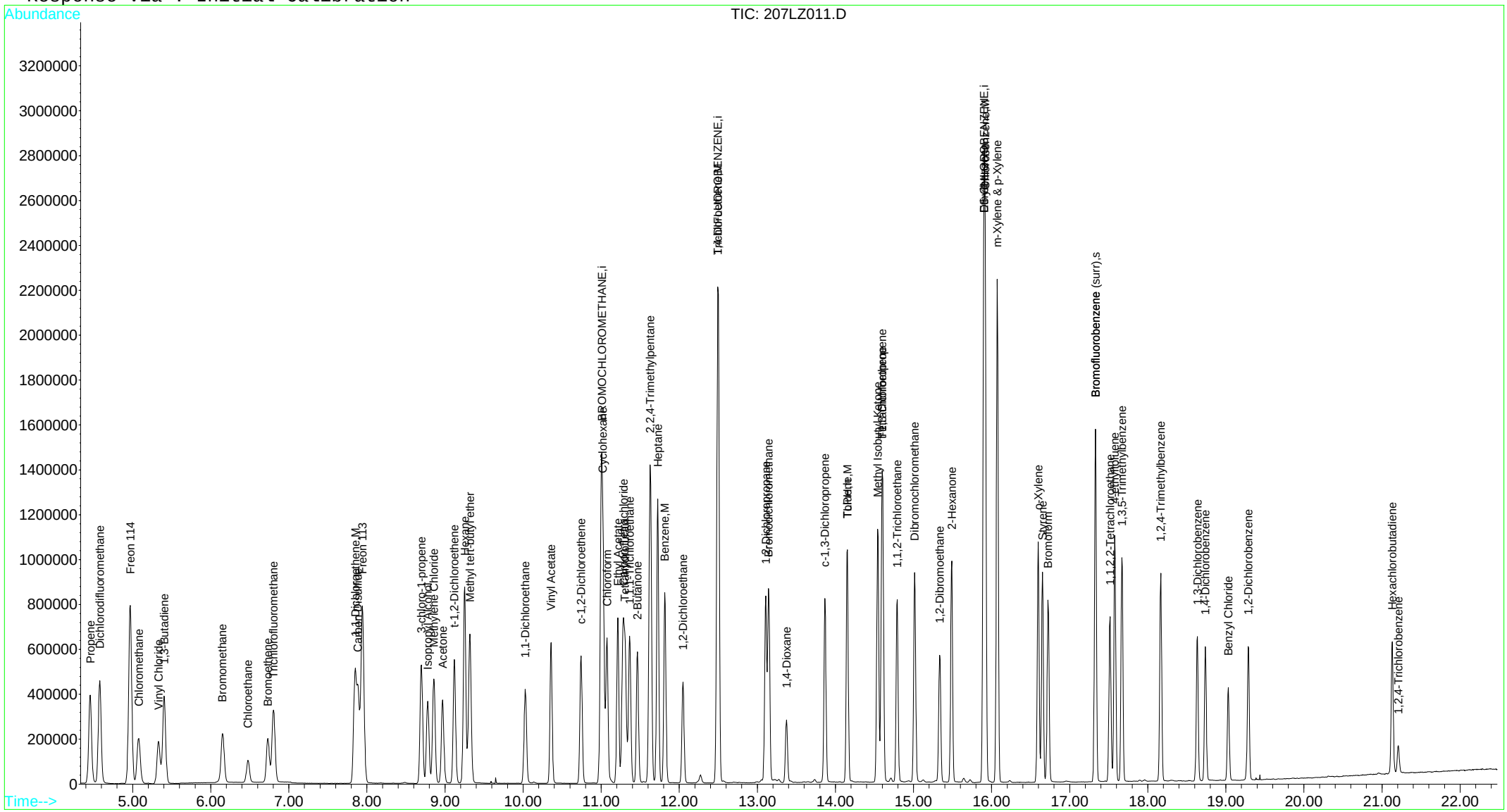
Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Wed Dec 30 08:16:18 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.52	83	406752	9547.08	PPTV	100
59) Bromofluorobenzene	17.33	174	410217	31926.47	PPTV	94
61) 4-ethyltoluene	17.58	105	717240	8595.23	PPTV	98
62) 1,3,5-Trimethylbenzene	17.67	105	537669	8085.08	PPTV	96
63) 1,2,4-Trimethylbenzene	18.17	105	511139	8398.99	PPTV	97
64) 1,3-Dichlorobenzene	18.63	146	262216	7121.35	PPTV	98
65) 1,4-Dichlorobenzene	18.74	146	230497	6998.26	PPTV	98
66) Benzyl Chloride	19.03	91	292618	7107.78	PPTV	96
67) 1,2-Dichlorobenzene	19.29	146	242964	7440.51	PPTV	98
68) 1,2,4-Trichlorobenzene	21.21	180	40219	7587.15	PPTV	98
69) Hexachlorobutadiene	21.13	225	114213	7348.02	PPTV	97

Quantitation Report

Data File : C:\HPCHEM\1\DATA\123120\207LZ011.D Vial: 11
Acq On : 31 Dec 2020 7:25 pm Operator: rgg
Sample : aa64317-cal7 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:08 2021 Quant Results File: 123120.RES

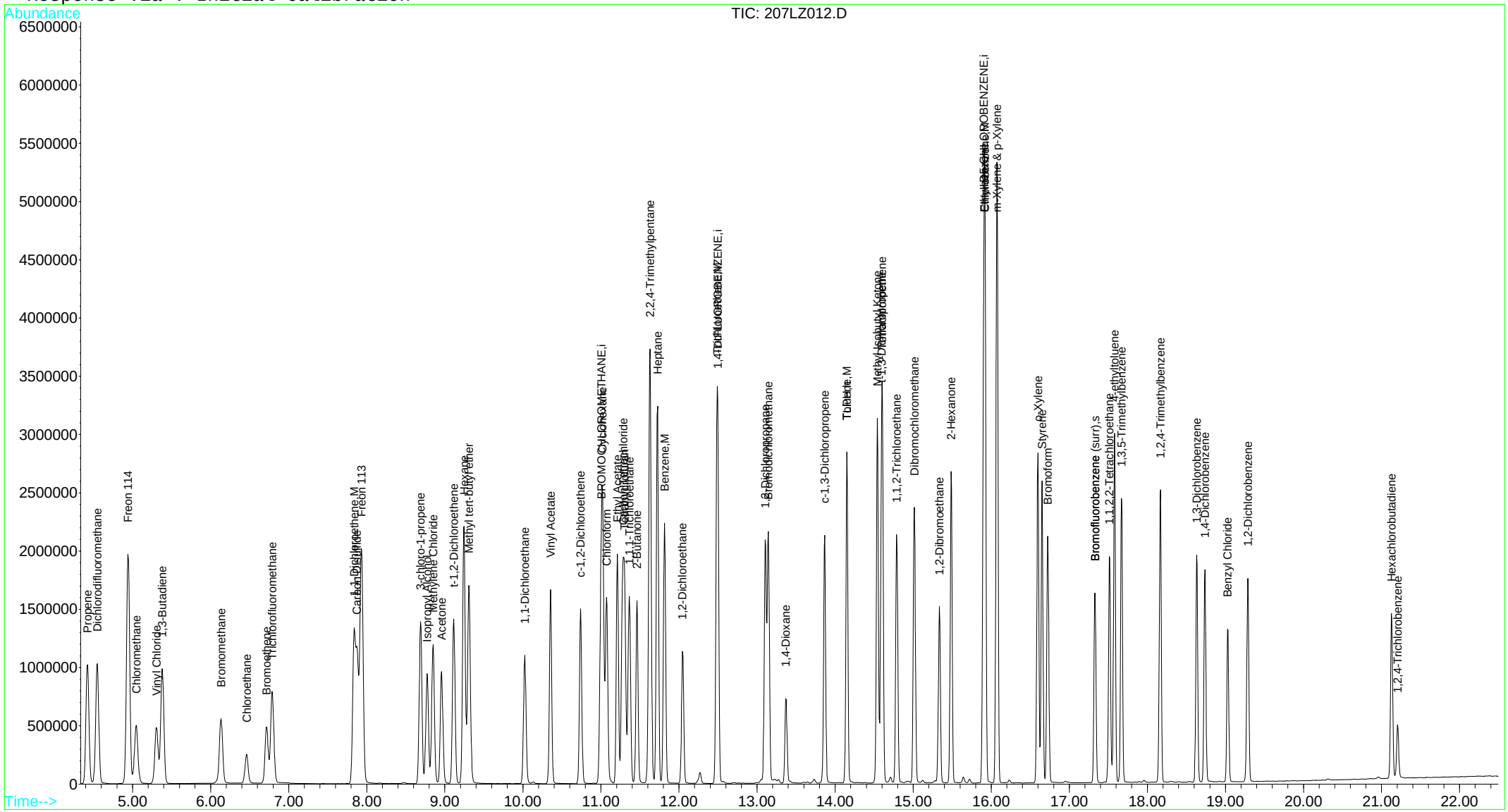
Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\123120\207LZ012.D Vial: 12
Acq On : 31 Dec 2020 8:06 pm Operator: rgg
Sample : aa64317-cal8 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:08 2021 Quant Results File: 123120.RES

Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ012.D Vial: 12
Acq On : 31 Dec 2020 8:06 pm Operator: rgg
Sample : aa64317-cal8 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:08 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Wed Dec 30 08:16:18 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	11.00	130	377607	31000.00	PPTV	0.02
36) 1,4-DIFLUOROBENZENE	12.50	114	1273648	31000.00	PPTV	0.02
51) D5-CHLOROBENZENE	15.90	117	978882	31000.00	PPTV	0.01
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.33	174	447361	33603.02	PPTV	0.01
Spiked Amount 31250.000	Range 50 - 150		Recovery = 107.53%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.55	85	1650316	18582.14	PPTV	99
3) Propene	4.42	41	949109	21961.89	PPTV	94
4) Chloromethane	5.05	50	990048	22423.78	PPTV	100
5) Freon 114	4.94	135	1086433	20526.30	PPTV	96
6) Vinyl Chloride	5.30	62	901148	22644.77	PPTV	100
7) 1,3-Butadiene	5.38	39	868642	21062.06	PPTV	89
8) Bromomethane	6.13	94	602130	18893.04	PPTV	100
9) Chloroethane	6.46	64	343511	20885.79	PPTV	99
10) Trichlorofluoromethane	6.79	101	980162	18471.85	PPTV	100
11) Bromoethene	6.72	106	530297	19460.39	PPTV	99
12) 1,1-Dichloroethene	7.84	61	1198590	20499.44	PPTV	93
13) Acetone	8.96	43	1548597	21874.37	PPTV	93
14) Isopropyl Alcohol	8.77	45	1549480	24253.42	PPTV	96
15) Carbon Disulfide	7.88	76	1939488	19916.25	PPTV	97
16) Methylene Chloride	8.85	84	568447	20477.69	PPTV	94
17) Freon 113	7.93	151	869906	19791.28	PPTV	96
18) 3-chloro-1-propene	8.69	41	1350023	22277.57	PPTV	88
19) t-1,2-Dichloroethene	9.12	61	1056029	20790.52	PPTV	95
20) Methyl tert-butyl ether	9.31	73	1851173	20489.24	PPTV	98
21) Hexane	9.25	57	1147511	18712.45	PPTV	91
22) 1,1-Dichloroethane	10.02	63	1258384	20851.79	PPTV	100
23) Vinyl Acetate	10.35	43	2789022	22960.16	PPTV	99
24) c-1,2-Dichloroethene	10.74	96	645475	20246.72	PPTV	98
25) Ethyl Acetate	11.21	43	2492957	20382.13	PPTV	98
26) 2-Butanone	11.46	43	2181453	19793.16	PPTV	99
27) Chloroform	11.07	83	1287532	19474.14	PPTV	98
28) Tetrahydrofuran	11.30	42	1022299	21662.18	PPTV	99
29) 2,2,4-Trimethylpentane	11.63	57	3835079	20185.79	PPTV	94
30) 1,2-Dichloroethane	12.04	62	883810	20186.68	PPTV	100
31) 1,1,1-Trichloroethane	11.36	97	1098397	18828.36	PPTV	99
32) Cyclohexane	11.02	56	1223613	20327.57	PPTV	95
33) Carbon Tetrachloride	11.28	117	1099348	23151.34	PPTV	100
34) Benzene	11.82	78	1859729	19605.70	PPTV	99
35) Heptane	11.73	43	1691409	20735.24	PPTV	98
37) TLPH	14.15	TIC	4967101m	19221.30	PPTV	
38) 1,2-Dichloropropane	13.10	63	769391	21025.67	PPTV	83
39) Trichloroethene	12.48	130	760710	20285.14	PPTV	98
40) 1,4-Dioxane	13.37	88	437116	22383.00	PPTV	96
41) Bromodichloromethane	13.15	83	1351642	20428.98	PPTV	99
42) c-1,3-Dichloropropene	13.87	75	1099799	20842.54	PPTV	99
43) t-1,3-Dichloropropene	14.59	75	676607	18871.30	PPTV	96
44) 1,1,2-Trichloroethane	14.79	97	666024	21229.01	PPTV	100
45) Methyl Isobutyl Ketone	14.54	43	2488556	23566.45	PPTV	97
46) Toluene	14.15	92	1154438	19789.05	PPTV	99
47) 2-Hexanone	15.48	43	2093242	25215.41	PPTV	96
48) 1,2-Dibromoethane	15.33	107	1060379	21828.46	PPTV	100
49) Tetrachloroethene	14.61	166	846024	20232.65	PPTV	99
50) Dibromochloromethane	15.02	127	997174	22031.25	PPTV	98
52) Chlorobenzene	15.92	112	1287592	21142.44	PPTV	91
53) Ethylbenzene	15.91	106	626267	19971.27	PPTV	94
54) m-Xylene & p-Xylene	16.07	106	1534810	40630.33	PPTV	93
55) Styrene	16.65	104	1177981	23782.49	PPTV	90
56) o-Xylene	16.60	106	760894	20900.57	PPTV	91
57) Bromoform	16.72	173	1006800	24317.21	PPTV #	90

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ012.D Vial: 12
Acq On : 31 Dec 2020 8:06 pm Operator: rgg
Sample : aa64317-cal8 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:08 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Wed Dec 30 08:16:18 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
58)	1,1,2,2-Tetrachloroethane	17.51	83	1143558	25904.91	PPTV		99
59)	Bromofluorobenzene	17.33	174	447361	33603.02	PPTV	#	94
61)	4-ethyltoluene	17.58	105	2029605	23474.01	PPTV		98
62)	1,3,5-Trimethylbenzene	17.67	105	1427187	20712.52	PPTV		95
63)	1,2,4-Trimethylbenzene	18.17	105	1409454	22352.27	PPTV		95
64)	1,3-Dichlorobenzene	18.63	146	829462	21741.14	PPTV		96
65)	1,4-Dichlorobenzene	18.74	146	762464	22342.24	PPTV		96
66)	Benzyl Chloride	19.03	91	979021	22951.34	PPTV		95
67)	1,2-Dichlorobenzene	19.29	146	735759	21745.99	PPTV		97
68)	1,2,4-Trichlorobenzene	21.21	180	149928	27296.88	PPTV		98
69)	Hexachlorobutadiene	21.13	225	296229	18393.55	PPTV		97

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ013.D Vial: 13
Acq On : 31 Dec 2020 8:51 pm Operator: rgg
Sample : aa64317-cal9 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:09 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Wed Dec 30 08:16:18 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	11.00	130	394710	31000.00	PPTV	0.02
36) 1,4-DIFLUOROBENZENE	12.50	114	1251209	31000.00	PPTV	0.02
51) D5-CHLOROBENZENE	15.90	117	933690	31000.00	PPTV	0.01
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.33	174	473452	37284.11	PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 119.31%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.53	85	2703251	29119.04	PPTV	99
3) Propene	4.41	41	1988669	44022.85	PPTV	93
4) Chloromethane	5.03	50	2019848	43765.62	PPTV	99
5) Freon 114	4.93	135	2138416	38651.10	PPTV	97
6) Vinyl Chloride	5.29	62	1827584	43935.03	PPTV	100
7) 1,3-Butadiene	5.37	39	1782193	41340.59	PPTV	89
8) Bromomethane	6.13	94	1222145	36685.64	PPTV	99
9) Chloroethane	6.46	64	706315	41083.79	PPTV	99
10) Trichlorofluoromethane	6.79	101	1923660	34681.89	PPTV	100
11) Bromoethene	6.72	106	1070655	37587.54	PPTV	99
12) 1,1-Dichloroethene	7.84	61	2468976	40397.09	PPTV	89
13) Acetone	8.96	43	3213033	43418.44	PPTV	91
14) Isopropyl Alcohol	8.77	45	3304376	49481.00	PPTV	94
15) Carbon Disulfide	7.88	76	4179082	41054.73	PPTV	96
16) Methylene Chloride	8.85	84	1225977	42250.83	PPTV	93
17) Freon 113	7.94	151	1752110	38135.09	PPTV	97
18) 3-chloro-1-propene	8.70	41	2856462	45093.81	PPTV	85
19) t-1,2-Dichloroethene	9.12	61	2197152	41382.00	PPTV	93
20) Methyl tert-butyl ether	9.31	73	3809304	40335.40	PPTV	98
21) Hexane	9.25	57	2398883	37423.53	PPTV	89
22) 1,1-Dichloroethane	10.03	63	2688626	42620.88	PPTV	99
23) Vinyl Acetate	10.36	43	6008399	47319.89	PPTV	99
24) c-1,2-Dichloroethene	10.74	96	1390170	41716.23	PPTV	96
25) Ethyl Acetate	11.21	43	5274344	41253.91	PPTV	98
26) 2-Butanone	11.46	43	4647836	40344.29	PPTV	98
27) Chloroform	11.07	83	2590128	37478.61	PPTV	99
28) Tetrahydrofuran	11.31	42	2065412	41869.02	PPTV	97
29) 2,2,4-Trimethylpentane	11.63	57	7860039	39578.38	PPTV	92
30) 1,2-Dichloroethane	12.05	62	1666019	36403.90	PPTV	100
31) 1,1,1-Trichloroethane	11.37	97	2093432	34330.01	PPTV	98
32) Cyclohexane	11.02	56	2566019	40781.51	PPTV	93
33) Carbon Tetrachloride	11.28	117	2012569	40546.53	PPTV	99
34) Benzene	11.82	78	3936436	39700.68	PPTV	99
35) Heptane	11.73	43	3329453	39047.69	PPTV	97
37) TLPH	14.15	TIC	9869604m	38877.56	PPTV	
38) 1,2-Dichloropropane	13.10	63	1619118	45040.26	PPTV	79
39) Trichloroethene	12.49	130	1525491	41408.36	PPTV	97
40) 1,4-Dioxane	13.37	88	947832	49405.18	PPTV	93
41) Bromodichloromethane	13.15	83	2621369	40330.42	PPTV	99
42) c-1,3-Dichloropropene	13.87	75	2276397	43914.18	PPTV	98
43) t-1,3-Dichloropropene	14.59	75	1268338	36009.74	PPTV	95
44) 1,1,2-Trichloroethane	14.79	97	1370138	44455.31	PPTV	99
45) Methyl Isobutyl Ketone	14.54	43	5036853	48554.06	PPTV	96
46) Toluene	14.15	92	2340557	40840.70	PPTV	98
47) 2-Hexanone	15.49	43	4414774	54134.57	PPTV	94
48) 1,2-Dibromoethane	15.34	107	2168654	45443.51	PPTV	100
49) Tetrachloroethene	14.61	166	1543894	37584.36	PPTV	99
50) Dibromochloromethane	15.02	127	1903842	42817.24	PPTV	97
52) Chlorobenzene	15.93	112	2390652	41154.83	PPTV	90
53) Ethylbenzene	15.91	106	1148334	38392.12	PPTV	95
54) m-Xylene & p-Xylene	16.08	106	2776919	77070.22	PPTV	94
55) Styrene	16.65	104	2423377	51294.14	PPTV	87
56) o-Xylene	16.60	106	1532559	44134.55	PPTV	91
57) Bromoform	16.73	173	1923512	48707.20	PPTV #	88

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ013.D Vial: 13
Acq On : 31 Dec 2020 8:51 pm Operator: rgg
Sample : aa64317-cal9 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:09 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Wed Dec 30 08:16:18 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

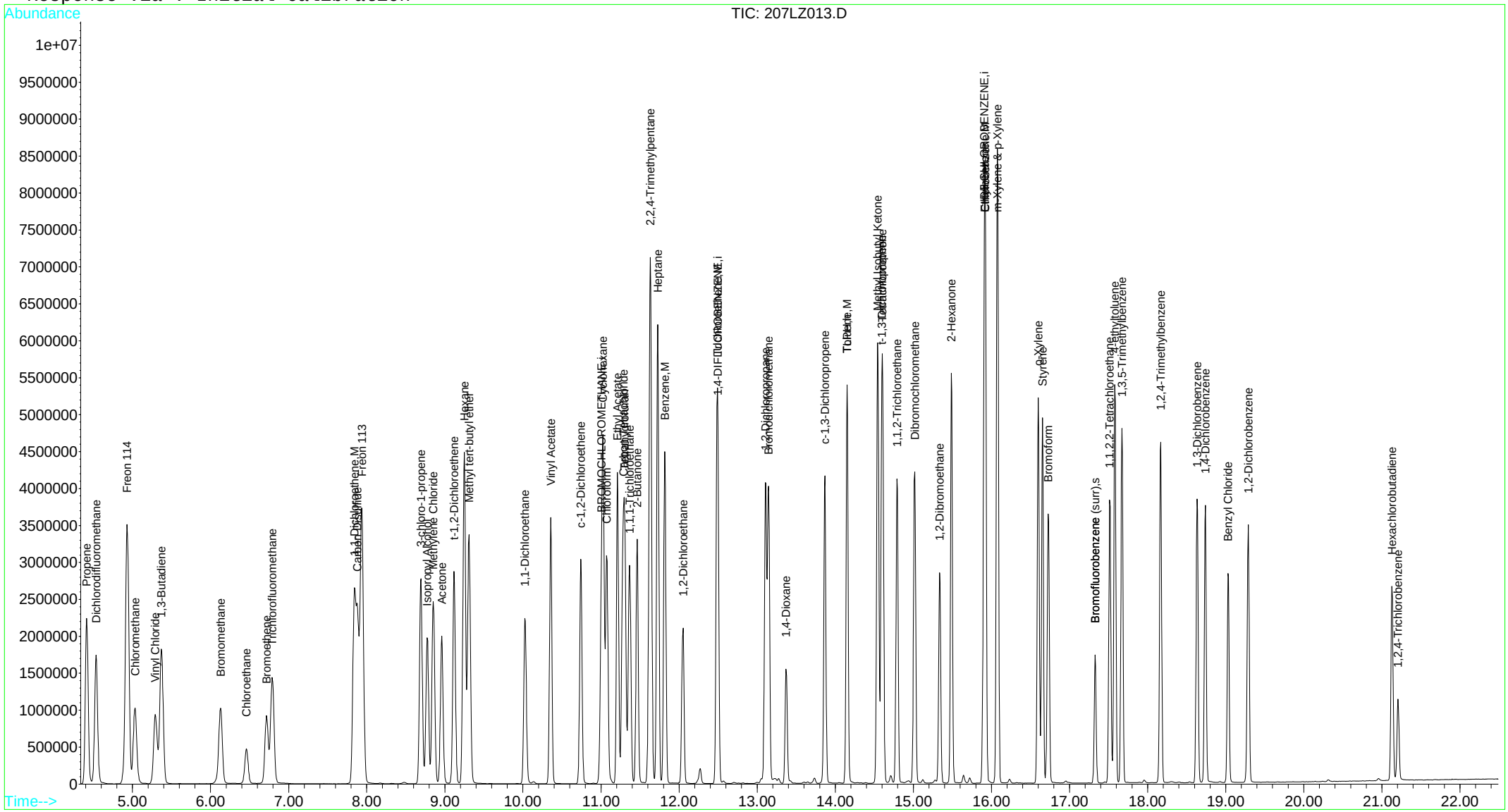
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
58)	1,1,2,2-Tetrachloroethane	17.51	83	2385492	56653.87	PPTV		99
59)	Bromofluorobenzene	17.33	174	473452	37284.11	PPTV	#	93
61)	4-ethyltoluene	17.58	105	3998054	48478.82	PPTV		98
62)	1,3,5-Trimethylbenzene	17.67	105	2869311	43657.34	PPTV		95
63)	1,2,4-Trimethylbenzene	18.17	105	2797836	46517.97	PPTV		94
64)	1,3-Dichlorobenzene	18.63	146	1756209	48260.26	PPTV		96
65)	1,4-Dichlorobenzene	18.74	146	1648810	50653.06	PPTV		96
66)	Benzyl Chloride	19.03	91	2190726	53843.31	PPTV		94
67)	1,2-Dichlorobenzene	19.29	146	1543708	47833.97	PPTV		96
68)	1,2,4-Trichlorobenzene	21.21	180	366574	69971.25	PPTV		98
69)	Hexachlorobutadiene	21.13	225	581304	37841.55	PPTV		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\123120\207LZ013.D Vial: 13
Acq On : 31 Dec 2020 8:51 pm Operator: rgg
Sample : aa64317-cal9 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:09 2021 Quant Results File: 123120.RES

Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ017.D Vial: 17
Acq On : 31 Dec 2020 11:23 pm Operator: rgg
Sample : aa64317-scv1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 4 11:07 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.99	130	376726	31000.00 PPTV	0.00
36) 1,4-DIFLUOROBENZENE	12.50	114	1252079	31000.00 PPTV	0.00
51) D5-CHLOROBENZENE	15.89	117	969254	31000.00 PPTV	0.00
System Monitoring Compounds					
60) Bromofluorobenzene (surr)	17.33	174	415926	31383.15 PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 100.43%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	4.53	85	791215	11016.94 PPTV	99
3) Propene	4.41	41	367872	8726.50 PPTV	96
4) Chloromethane	5.03	50	390994	9837.78 PPTV	100
5) Freon 114	4.93	135	456743	10395.42 PPTV	99
6) Vinyl Chloride	5.29	62	362428	10251.71 PPTV	100
7) 1,3-Butadiene	5.36	39	356033	9793.81 PPTV	93
8) Bromomethane	6.12	94	278139	10617.75 PPTV	99
9) Chloroethane	6.45	64	148910	10238.59 PPTV	100
10) Trichlorofluoromethane	6.78	101	453239	10848.28 PPTV	100
11) Bromoethene	6.70	106	223923	10257.32 PPTV	100
12) 1,1-Dichloroethene	7.82	61	532716	10829.48 PPTV	95
13) Acetone	8.95	43	637917	10044.13 PPTV	95
14) Isopropyl Alcohol	8.77	45	633006	9813.77 PPTV	97
15) Carbon Disulfide	7.86	76	780946	9690.12 PPTV	98
16) Methylene Chloride	8.84	84	247414	10951.91 PPTV	96
17) Freon 113	7.92	151	376072	10629.49 PPTV	98
18) 3-chloro-1-propene	8.68	41	544603	10035.19 PPTV	90
19) t-1,2-Dichloroethene	9.10	61	442968	10409.95 PPTV	97
20) Methyl tert-butyl ether	9.30	73	769030	10246.85 PPTV	96
21) Hexane	9.24	57	488300	10577.97 PPTV	93
22) 1,1-Dichloroethane	10.02	63	550876	10676.10 PPTV	100
23) Vinyl Acetate	10.35	43	1152121	10686.36 PPTV	100
24) c-1,2-Dichloroethene	10.73	96	280659	10671.91 PPTV	98
25) Ethyl Acetate	11.21	43	1034194	10227.45 PPTV	98
26) 2-Butanone	11.46	43	895391	10160.04 PPTV	99
27) Chloroform	11.06	83	580575	10686.55 PPTV	98
28) Tetrahydrofuran	11.30	42	432796	10450.19 PPTV	100
29) 2,2,4-Trimethylpentane	11.62	57	1582878	10086.02 PPTV	96
30) 1,2-Dichloroethane	12.04	62	407075	10935.39 PPTV	99
31) 1,1,1-Trichloroethane	11.36	97	515546	10709.83 PPTV	99
32) Cyclohexane	11.02	56	505035	10230.56 PPTV	96
33) Carbon Tetrachloride	11.27	117	507125	10509.10 PPTV	100
34) Benzene	11.81	78	817273	10133.51 PPTV	99
35) Heptane	11.72	43	708712	10159.78 PPTV	99
37) TLPH	14.15	TIC	2208858m	11228.36 PPTV	
38) 1,2-Dichloropropane	13.10	63	333205	10588.12 PPTV	87
39) Trichloroethene	12.48	130	330282	10693.64 PPTV	98
40) 1,4-Dioxane	13.37	88	172392	9979.01 PPTV	100
41) Bromodichloromethane	13.14	83	582950	10838.17 PPTV	100
42) c-1,3-Dichloropropene	13.86	75	513102	11188.24 PPTV	99
43) t-1,3-Dichloropropene	14.59	75	410707	15443.17 PPTV	98
44) 1,1,2-Trichloroethane	14.79	97	292736	10588.17 PPTV	99
45) Methyl Isobutyl Ketone	14.54	43	995476	10529.31 PPTV	98
46) Toluene	14.15	92	503525	10853.35 PPTV	100
47) 2-Hexanone	15.49	43	875658	11376.67 PPTV	97
48) 1,2-Dibromoethane	15.33	107	473414	10879.66 PPTV	99
49) Tetrachloroethene	14.60	166	375813	10329.25 PPTV	98
50) Dibromochloromethane	15.01	127	419381	11139.11 PPTV	99
52) Chlorobenzene	15.92	112	571045	9992.05 PPTV	94
53) Ethylbenzene	15.91	106	280330	11655.70 PPTV	96
54) m-Xylene & p-Xylene	16.07	106	700403	24003.34 PPTV	94
55) Styrene	16.65	104	513280	10540.24 PPTV	93
56) o-Xylene	16.59	106	326884	10429.11 PPTV	93
57) Bromoform	16.72	173	411774	11314.84 PPTV	92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ017.D Vial: 17
Acq On : 31 Dec 2020 11:23 pm Operator: rgg
Sample : aa64317-scv1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 4 11:07 2021 Quant Results File: 123120.RES

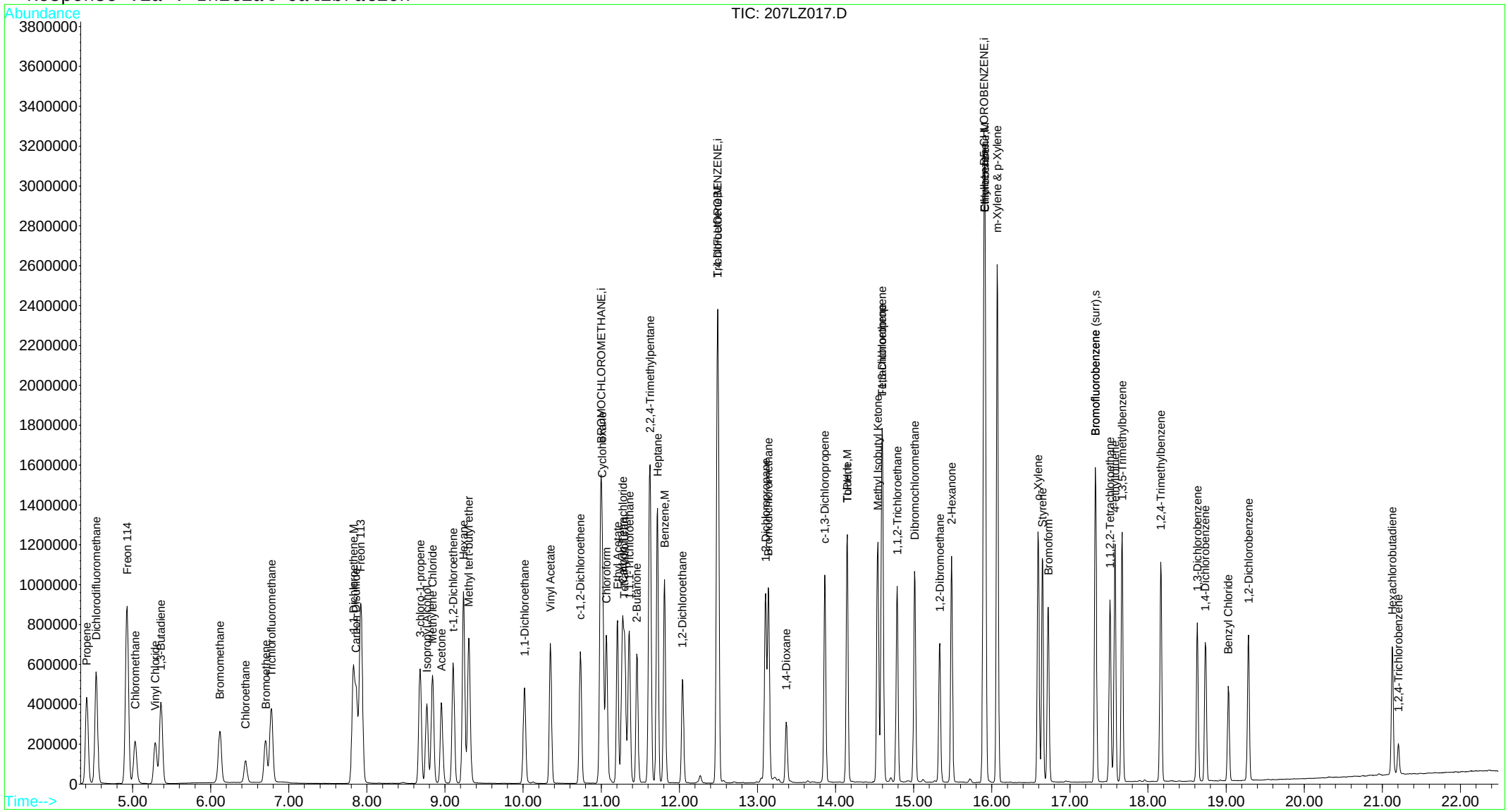
Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.51	83	502384	10387.36	PPTV	100
59) Bromofluorobenzene	17.33	174	415926	31383.15	PPTV	94
61) 4-ethyltoluene	17.58	105	782238	9873.24	PPTV	98
62) 1,3,5-Trimethylbenzene	17.67	105	672326	11434.60	PPTV	96
63) 1,2,4-Trimethylbenzene	18.16	105	614590	10708.33	PPTV	96
64) 1,3-Dichlorobenzene	18.63	146	312847	8853.34	PPTV	98
65) 1,4-Dichlorobenzene	18.73	146	275813	8362.87	PPTV	98
66) Benzyl Chloride	19.03	91	332790	7655.78	PPTV	96
67) 1,2-Dichlorobenzene	19.29	146	296755	9521.16	PPTV	97
68) 1,2,4-Trichlorobenzene	21.21	180	47931	6717.20	PPTV	98
69) Hexachlorobutadiene	21.13	225	128071	10673.15	PPTV	97

Quantitation Report

Data File : C:\HPCHEM\1\DATA\123120\207LZ017.D Vial: 17
Acq On : 31 Dec 2020 11:23 pm Operator: rgg
Sample : aa64317-scv1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 4 11:07 2021 Quant Results File: 123120.RES

Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration



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ENCO Orlando

SDG: AE00066-TE016

CLASS: 06_VOA_AIR_RSK

METHOD: RSK 175

ANALYSES DATA PACKAGE COVER PAGE

RSK 175

Laboratory: ENCO Orlando

SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-MW0031-058.0-20210120	AE00066-09
CRCA-MW0018-058.0-20210120	AE00066-11
CRCA-MW0018-058.0-20210120	AE00066-11RE1
CRCA-MW0019-058.0-20210120	AE00066-12

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0031-058.0-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-09 File ID: 21AU009.D

Sampled: 01/20/21 12:15 Prepared: 01/26/21 00:00 Analyzed: 01/26/21 11:20

Solids: Preparation: Same Initial/Final: 1 mL / 1 mL

Batch: 1A26006 Sequence: AA64653 Calibration: 2006012 Instrument: OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-82-8	Methane	1	0.152		0.00400	0.00500
74-85-1	Ethene	1	0.00510	U	0.00510	0.00600
74-84-0	Ethane	1	0.00510	U	0.00510	0.00600

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0018-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE00066-11
File ID: 21AU010.D
Sampled: 01/20/21 14:00
Prepared: 01/26/21 00:00
Analyzed: 01/26/21 11:36
Solids:
Preparation: Same
Initial/Final: 1 mL / 1 mL
Batch: 1A26006
Sequence: AA64653
Calibration: 2006012
Instrument: OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-85-1	Ethene	1	0.0216		0.00510	0.00600
74-84-0	Ethane	1	0.00510	U	0.00510	0.00600

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0018-058.0-20210120

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Ground Water	Laboratory ID:	AE00066-11RE1	File ID:	21AU012.D
Sampled:	01/20/21 14:00	Prepared:	01/26/21 00:00	Analyzed:	01/26/21 12:16
Solids:		Preparation:	Same	Initial/Final:	1 mL / 1 mL
Batch:	1A26006	Sequence:	AA64653	Calibration:	2006012
Instrument:	OVGCFID2				

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-82-8	Methane	10	2.09	D	0.0400	0.0500

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0019-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE00066-12
File ID: 21AU011.D
Sampled: 01/20/21 16:00
Prepared: 01/26/21 00:00
Analyzed: 01/26/21 11:52
Solids:
Preparation: Same
Initial/Final: 1 mL / 1 mL
Batch: 1A26006
Sequence: AA64653
Calibration: 2006012
Instrument: OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-82-8	Methane	1	0.510		0.00400	0.00500
74-85-1	Ethene	1	0.00510	U	0.00510	0.00600
74-84-0	Ethane	1	0.00510	U	0.00510	0.00600

* Values outside of QC limits

HOLDING TIME SUMMARY

RSK 175

Laboratory: ENCO Orlando

SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-MW0031-058.0-20210120	01/20/21 12:15	01/21/21 15:10	01/26/21 00:00	5.49	NA	01/26/21 11:20	6.00	14.00	
CRCA-MW0018-058.0-20210120	01/20/21 14:00	01/21/21 15:10	01/26/21 00:00	5.42	NA	01/26/21 11:36	6.00	14.00	
CRCA-MW0018-058.0-20210120	01/20/21 14:00	01/21/21 15:10	01/26/21 00:00	5.42	NA	01/26/21 12:16	6.00	14.00	
CRCA-MW0019-058.0-20210120	01/20/21 16:00	01/21/21 15:10	01/26/21 00:00	5.33	NA	01/26/21 11:52	6.00	14.00	

PREPARATION BATCH SUMMARY

RSK 175

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1A26006 Batch Matrix: Water Preparation: Same

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1A26006-BLK1	21AU005.D	01/26/21 00:00	
LCS	1A26006-BS1	21AU003.D	01/26/21 00:00	
LCS Dup	1A26006-BSD1	21AU004.D	01/26/21 00:00	
CRCA-MW0031-058.0-20210120	1A26006-DUP1	21AU013.D	01/26/21 00:00	
CRCA-MW0031-058.0-20210120	AE00066-09	21AU009.D	01/26/21 00:00	
CRCA-MW0018-058.0-20210120	AE00066-11	21AU010.D	01/26/21 00:00	
CRCA-MW0018-058.0-20210120	AE00066-11RE1	21AU012.D	01/26/21 00:00	
CRCA-MW0019-058.0-20210120	AE00066-12	21AU011.D	01/26/21 00:00	

METHOD BLANK DATA SHEET
RSK 175

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1A26006-BLK1	File ID:	21AU005.D
Prepared:	01/26/21 00:00	Preparation:	Same	Initial/Final:	1 mL / 1 mL
Analyzed:	01/26/21 10:17	Instrument:	OVGCFID2		
Batch:	1A26006	Sequence:	AA64653	Calibration:	2006012

CAS NO.	COMPOUND	CONC. (mg/L)	Q
74-82-8	Methane	0.00400	U
74-85-1	Ethene	0.00510	U
74-84-0	Ethane	0.00510	U

LCS / LCS DUPLICATE RECOVERY

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1A26006	Laboratory ID:	1A26006-BS1
Preparation:	Same	Initial/Final:	1 mL / 1 mL

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC. #	QC LIMITS REC.
Methane	0.172	0.187	109	70 - 130
Ethene	0.302	0.348	115	70 - 130
Ethane	0.323	0.395	122	70 - 130

COMPOUND	SPIKE ADDED (mg/L)	LCSD CONCENTRATION (mg/L)	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Methane	0.172	0.192	112	3	30	70 - 130
Ethene	0.302	0.354	117	2	30	70 - 130
Ethane	0.323	0.401	124	1	30	70 - 130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

DUPLICATES

RSK 175

CRCA-MW0031-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Water
Laboratory ID: 1A26006-DUP1
Batch: 1A26006
Lab Source ID: AE00066-09
Preparation: Same
Initial/Final: 1 mL / 1 mL
Source Sample Name: CRCA-MW0031-058.0-20210120
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/L)	C	DUPLICATE CONCENTRATION (mg/L)	C	RPD %	Q	METHOD
Methane	30	0.152		0.442		98	*	RSK 175
Ethene	30	0.000196		ND				RSK 175
Ethane	30	0.000295		ND				RSK 175

* Values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA60736		
Calibration:	2006012	Instrument:	OVGCFID2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	AA60736-CAL8	20F1009.D	06/01/20 12:05
Cal Standard	AA60736-CAL9	20F1010.D	06/01/20 12:21
Cal Standard	AA60736-CALA	20F1011.D	06/01/20 12:37
Cal Standard	AA60736-CALB	20F1012.D	06/01/20 12:53
Cal Standard	AA60736-CALC	20F1013.D	06/01/20 13:09
Cal Standard	AA60736-CALD	20F1014.D	06/01/20 13:25
Cal Standard	AA60736-CALE	20F1015.D	06/01/20 13:40
Secondary Cal Check	AA60736-SCV1	20F1019.D	06/01/20 15:20

ANALYSIS BATCH (SEQUENCE) SUMMARY

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64653		
Calibration:	2006012	Instrument:	OVGCFID2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA64653-CCV2	21AU002.D	01/26/21 08:53
LCS	1A26006-BS1	21AU003.D	01/26/21 09:33
LCS Dup	1A26006-BSD1	21AU004.D	01/26/21 09:54
Blank	1A26006-BLK1	21AU005.D	01/26/21 10:17
CRCA-MW0031-058.0-20210120	AE00066-09	21AU009.D	01/26/21 11:20
CRCA-MW0018-058.0-20210120	AE00066-11	21AU010.D	01/26/21 11:36
CRCA-MW0019-058.0-20210120	AE00066-12	21AU011.D	01/26/21 11:52
CRCA-MW0018-058.0-20210120	AE00066-11RE1	21AU012.D	01/26/21 12:16
CRCA-MW0031-058.0-20210120	1A26006-DUP1	21AU013.D	01/26/21 12:39
Calibration Check	AA64653-CCV3	21AU014.D	01/26/21 12:54

CONTINUING CALIBRATION CHECK

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCFID2	Calibration:	2006012
Lab File ID:	21AU002.D	Calibration Date:	06/01/20 15:24
Sequence:	AA64653	Injection Date:	01/26/21
Lab Sample ID:	AA64653-CCV2	Injection Time:	08:53

		CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Methane	A	0.174	0.194	1.126908E+08	1.255182E+08		11	20	
Ethene	A	0.302	0.354	7.423174E+07	8.694755E+07		17	20	
Ethane	A	0.323	0.402	9.625369E+07	1.197335E+08		24	20	*

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

CONTINUING CALIBRATION CHECK

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCFID2	Calibration:	2006012
Lab File ID:	21AU014.D	Calibration Date:	06/01/20 15:24
Sequence:	AA64653	Injection Date:	01/26/21
Lab Sample ID:	AA64653-CCV3	Injection Time:	12:54

		CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Methane	A	0.174	0.186	1.126908E+08	1.203125E+08		6.8	20
Ethene	A	0.302	0.338	7.423174E+07	8.309354E+07		12	20
Ethane	A	0.323	0.383	9.625369E+07	1.141398E+08		19	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA60736	Instrument:	OVGCFID2
Calibration:	2006012		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A0F0616	RSK175-Cal 1 06/01/2020	AA60736-CAL8	20F1009.D	06/01/20 12:05
A0F0617	RSK175-Cal 2 06/01/2020	AA60736-CAL9	20F1010.D	06/01/20 12:21
A0F0618	RSK175-Cal 3 06/01/2020	AA60736-CALA	20F1011.D	06/01/20 12:37
A0F0619	RSK175-Cal 4 06/01/2020	AA60736-CALB	20F1012.D	06/01/20 12:53
A0F0620	RSK175-Cal 5 06/01/2020	AA60736-CALC	20F1013.D	06/01/20 13:09
A0F0621	RSK175-Cal 6 06/01/2020	AA60736-CALD	20F1014.D	06/01/20 13:25
A0F0622	RSK175-Cal 7 06/01/2020	AA60736-CALE	20F1015.D	06/01/20 13:40
A0E1329	RSK175- SCV/BS water CO2 and MEE	AA60736-SCV1	20F1019.D	06/01/20 15:20

INITIAL CALIBRATION DATA

RSK 175

Laboratory: ENCO Orlando

SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Calibration: 2006012

Instrument: OVGCFID2

Matrix: Water

Calibration Date: 06/01/20 15:24

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Methane												
Ethene												
Ethane												

INITIAL CALIBRATION DATA (Continued)

RSK 175

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2006012
Instrument: OVGCFID2
Matrix: Water
Calibration Date: 06/01/20 15:24

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Methane			0.000869	1.542071E+08	0.00869	1.148276E+08	0.0348	1.096007E+08	0.0869	1.14924E+08	0.174	1.027563E+08
Ethene			0.00151	8.601126E+07	0.0151	7.321662E+07	0.0603	7.770179E+07	0.151	7.66896E+07	0.302	7.178556E+07
Ethane			0.00161	8.453354E+07	0.0161	1.035332E+08	0.0646	1.030982E+08	0.161	1.064607E+08	0.323	9.54717E+07

INITIAL CALIBRATION DATA

RSK 175

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2006012
Instrument: OVGCFID2
Matrix: Water
Calibration Date: 06/01/20 15:24

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Methane	0.348	1.073666E+08	0.695	8.515321E+07								
Ethene	0.603	7.388967E+07	1.21	6.03277E+07								
Ethane	0.646	1.002134E+08	1.29	8.046512E+07								

INITIAL CALIBRATION DATA (Continued)

RSK 175

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2006012
Instrument: OVGCFID2
Matrix: Water
Calibration Date: 06/01/20 15:24

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Methane	1.126908E+08	18.57182	1.965857	4.844227E-02			20	
Ethene	7.423174E+07	10.39554	3.747571	9.783909E-02			20	
Ethane	9.625369E+07	10.44924	4.679286	0.1221713			20	

SECOND-SOURCE CALIBRATION VERIFICATION

RSK 175

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2006012
Laboratory ID: AA60736-SCV1
Sequence: AA60736
Standard ID: A0E1329

ANALYTE	EXPECTED (mg/L)	FOUND (mg/L)	% DRIFT	QC LIMIT
Ethene	0.302	0.300	-0.6	25.00
Ethane	0.323	0.333	3.0	25.00
Methane	0.172	0.167	-2.7	25.00

* Values outside of QC limits

ANALYSIS SEQUENCE

AA64653

Instrument: OVGCFID2

Calibration ID: 2006012

Printed: 1/26/2021 1:07:09PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA64653-CCV1	QC		1		A0L0956			
AA64653-CCV2	QC		2		A0L0956			
1A26006-BS1	QC		3					
1A26006-BSD1	QC		4					
1A26006-BLK1	QC		5					
AE00066-09	RSK175	D	6				Tetra Tech, Inc. (TE016)	CLP like need raw data
AE00066-11	RSK175	D	7				Tetra Tech, Inc. (TE016)	CLP like need raw data
AE00066-12	RSK175	D	8				Tetra Tech, Inc. (TE016)	CLP like need raw data
AE00066-11RE1	RSK175	E	9				Tetra Tech, Inc. (TE016)	RR 10x for Methane 1/26/2021 by JM
1A26006-DUP1	QC		10					
AA64653-CCV3	QC		11		A0L0956			

Samples Loaded By Date

Data Processed By Date

VOLATILES GC/MS LOGBOOK (EPA Method 624.1 / SW-846 Method 8260D)

Tune Start Date: 1/26/2021
Sequence: AA646653
Batch: IA26006
Method: RSK
Analyst: JMW
Instrument EM Voltage: N/A

Surrogate: N/A
Internal: N/A
LCS Mix 2°: N/A AIA0923
LCS Acrolein 2°: N/A
LCS Gas 2°: N/A

8260 Mix: N/A
8260 Add: N/A
8260 Ac/Ac: N/A AOL0607
8260 Gases: N/A
Instrument #: OVGCFID2

21AU Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)	Comments	LIMS
001	AA646653-CCV1			1			Ethane ↑, RR A-01 see CCV2	✓
002	AA646653-CCV2			2				✓
003	IA26006-BS1	NC 1/27/21		3	NC 1/27/21			✓
004	IA26006-BSD1			4				✓
005	IA26006-BLK1			5				✓
006	AE00066-09	D	1	6			RR vial not loaded on instrument	✓
007	AE00066-11	D	1	7	NC 1/27/21		↓	✓
008	AE00066-12	D	1	8				✓
009	AE00066-09	D	1	9				✓
010	AE00066-11	D	1	10			RR @10x for Methane	✓
011	AE00066-12	D	1	11				✓
012	AE00066-11	E	10	12				✓
013	IA26006-DUP1	E	1	13				✓
014	AA646653-CCV3	NC 1/27/21		14				

JMW 1/26/2021

PREPARATION BENCH SHEET

Printed: 1/26/2021 12:03:10PM

Analysis
RSK175 [RSK 175]

1A26006

ENCO Orlando

Prepared using: Same

Surrogate Solution
—

Spiking Solution
A1A0933 **RSK175- SCV/BS water CO2 and MEE**

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl[(1)]	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
1A26006-BLK1		Blank		QC			1	1				
1A26006-BS1		LCS		QC			1	1	A1A0933	1000		
1A26006-BSD1		LCS Dup		QC			1	1	A1A0933	1000		
1A26006-DUP1		Duplicate [AE00066-09]		QC			1	1				
AE00066-09	C	CRCA-MW0031-058.0-20210120[R11]	28-Jan-21	RSK175			1	1				CLP like need raw data
AE00066-11	C	CRCA-MW0018-058.0-20210120[R11]	28-Jan-21	RSK175			1	1				CLP like need raw data
AE00066-11RE1	C	CRCA-MW0018-058.0-20210120[R11]	28-Jan-21	RSK175			1	1				RR 10x for Methane 1/26/2021 by JMW
AE00066-12	C	CRCA-MW0019-058.0-20210120[R11]	28-Jan-21	RSK175			1	1				CLP like need raw data

(1) Before solvent extraction proceeds, verify that there is no residual chlorine above 0.5 mg/L. Any sample above this must be treated to remove excess chlorine before extraction, and this documented as a comment.

Start Date _____

StopDate _____

Instrument ID _____

Standard ID#	Description	Manufacture Lot#

_____ _____

Samples Prepared By Date

_____ _____

Samples Prepared By Date

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU001.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 8:25 am
Operator : JMW
Sample : AA64653-CCV1
Misc :
ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 08:30:55 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.671	2.789	6554262	33305	13.355827	NoCal	#
2)	Methane	0.000	1.960	0	22302943	N.D.	0.197913	#
3)	Ethene	3.701f	3.730f	960562	26835952	NoCal	0.361516	#
4)	Ethyne	0.000	4.395f	0	5552459	N.D.	0.330512	#
5)	Ethane	4.634f	4.656f	47148405	38984919	NoCal	0.405040	#

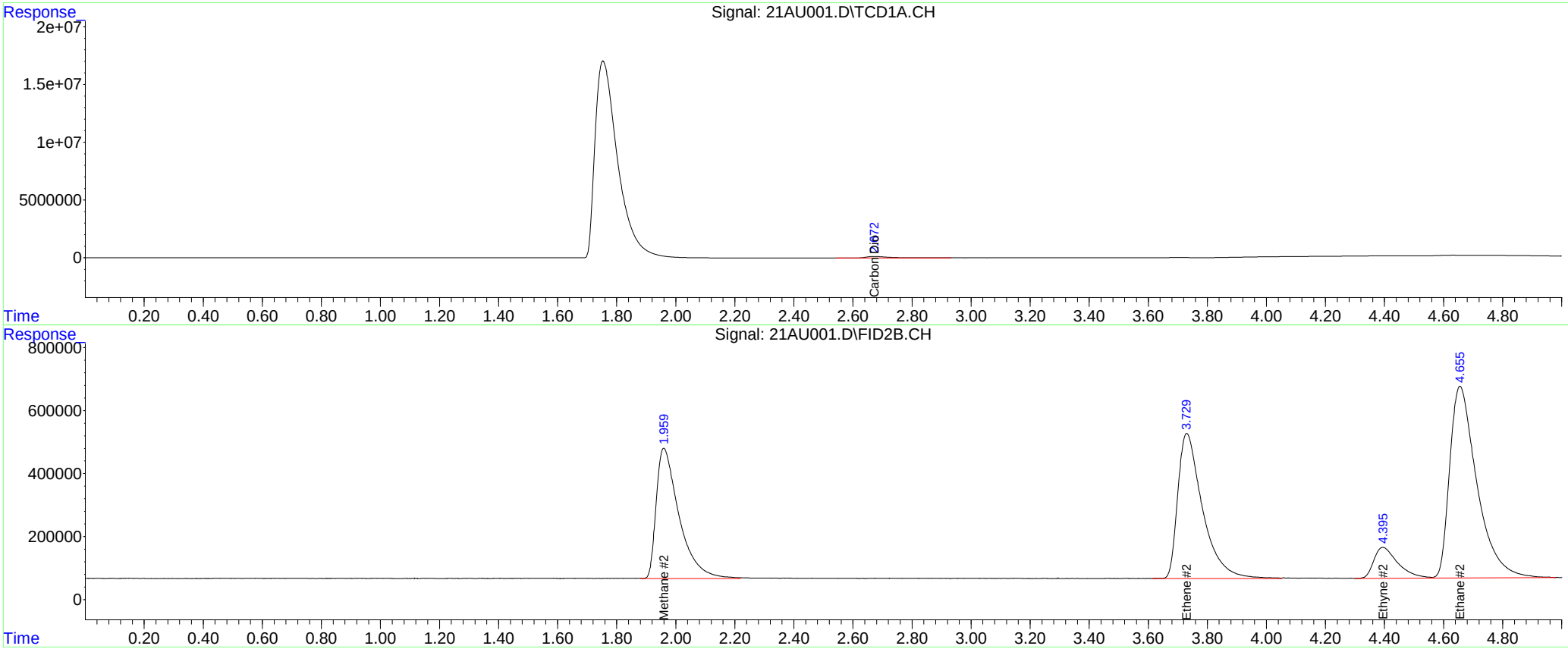
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU001.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 8:25 am
Operator : JMW
Sample : AA64653-CCV1
Misc :
ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 08:30:55 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU002.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 8:53 am
Operator : JMW
Sample : AA64653-CCV2
Misc :
ALS Vial : 2 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 08:58:47 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.677	2.808	5917327	15668	12.057923	NoCal	#
2)	Methane	0.000	1.964	0	21840162	N.D.	0.193806	#
3)	Ethene	3.709	3.737	841568	26258157	NoCal	0.353732	#
4)	Ethyne	0.000	4.402f	0	5516564	N.D.	0.328375	#
5)	Ethane	4.642	4.664f	42463518	38673926	NoCal	0.401809	#

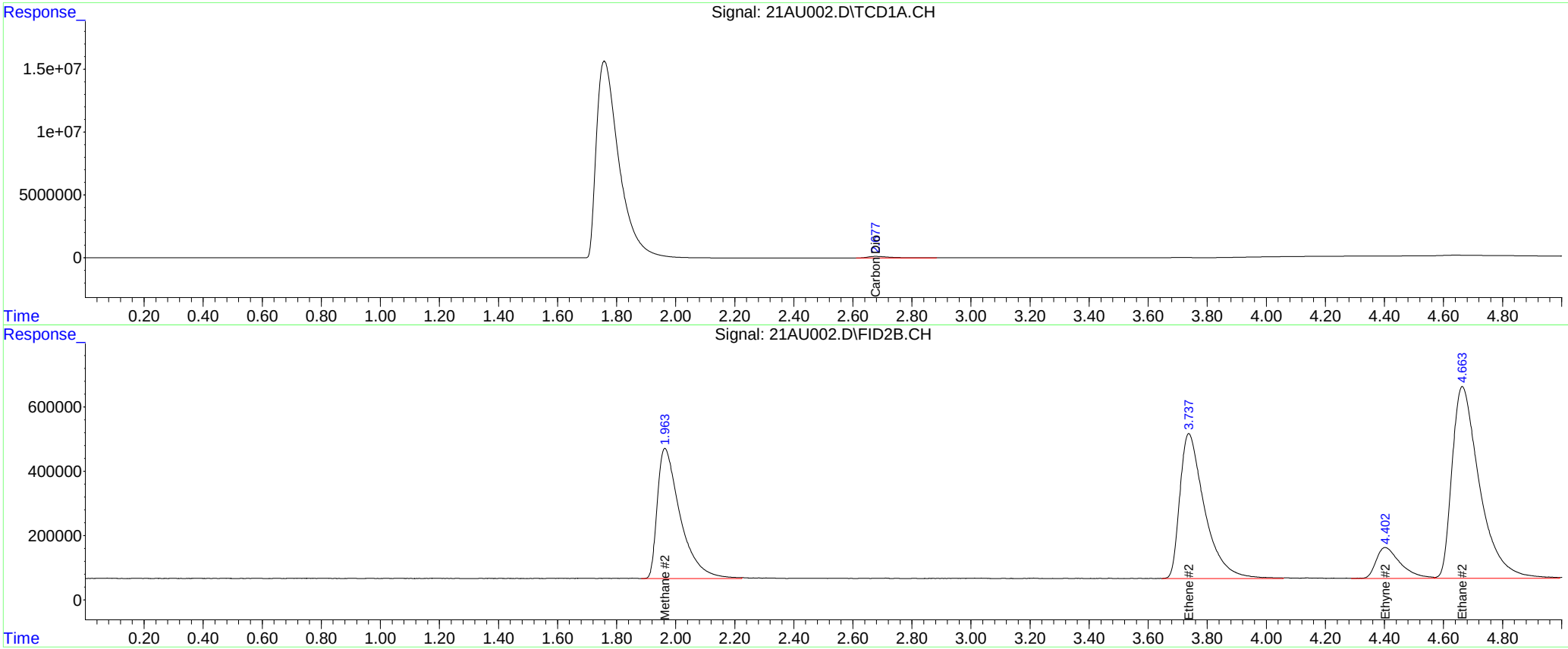
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU002.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 8:53 am
Operator : JMW
Sample : AA64653-CCV2
Misc :
ALS Vial : 2 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 08:58:47 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU003.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 9:33 am
Operator : JMW
Sample : 1A26006-BS1
Misc :
ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 09:38:16 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.667	2.781	34988604	36209	71.297381	NoCal	#
2)	Methane	0.000	1.966	0	21071884	N.D.	0.186989	#
3)	Ethene	3.712	3.742	822976	25869262	NoCal	0.348493	#
4)	Ethyne	0.000	4.409	0	5390391	N.D.	0.320865	#
5)	Ethane	4.644	4.669	30682947	38034406	NoCal	0.395164	#

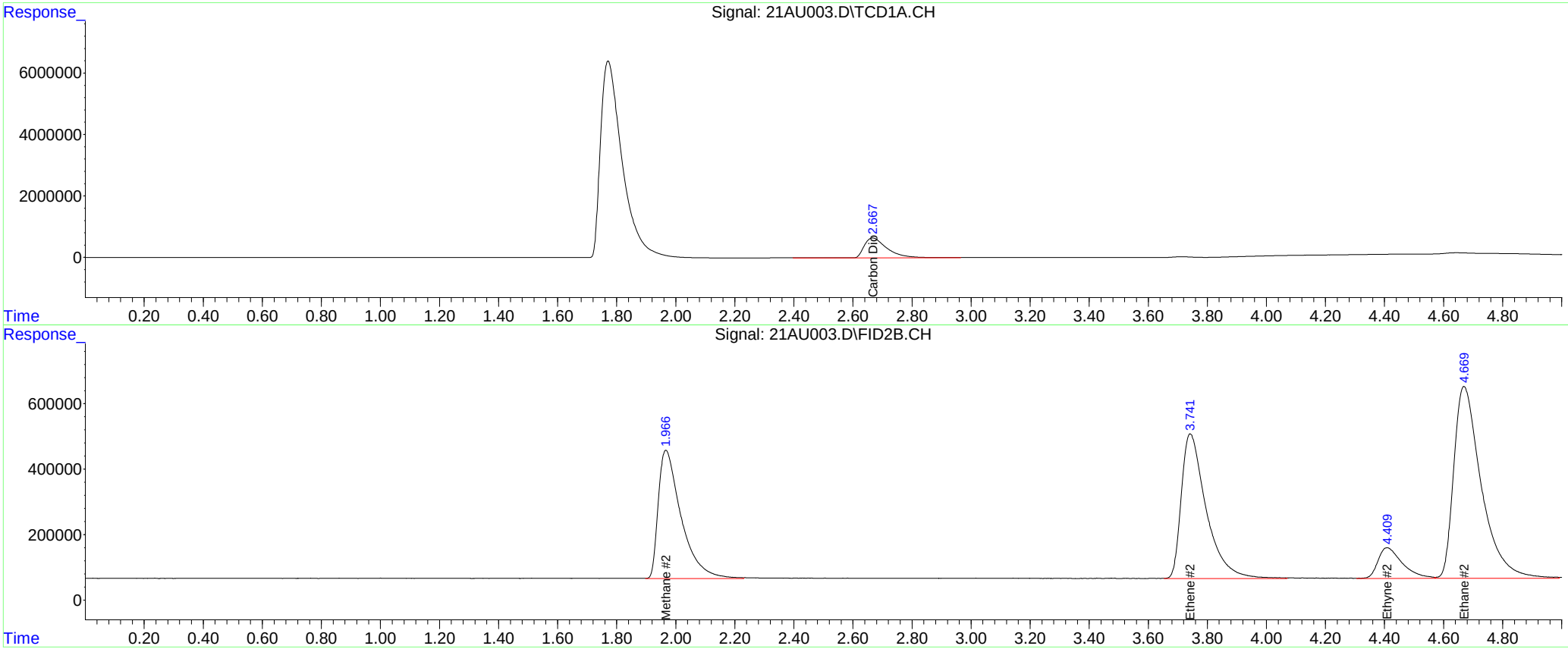
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU003.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 9:33 am
Operator : JMW
Sample : 1A26006-BS1
Misc :
ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 09:38:16 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU004.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 9:54 am
Operator : JMW
Sample : 1A26006-BSD1
Misc :
ALS Vial : 4 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 09:59:15 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.666	2.763	35191581	31558	71.710992	NoCal	#
2)	Methane	0.000	1.966	0	21665091	N.D.	0.192253	#
3)	Ethene	3.714	3.742	876565	26296628	NoCal	0.354250	#
4)	Ethyne	4.391	4.409	11324030	5494065	NoCal	0.327036	#
5)	Ethane	4.643	4.669	14734402	38589321	NoCal	0.400929	#

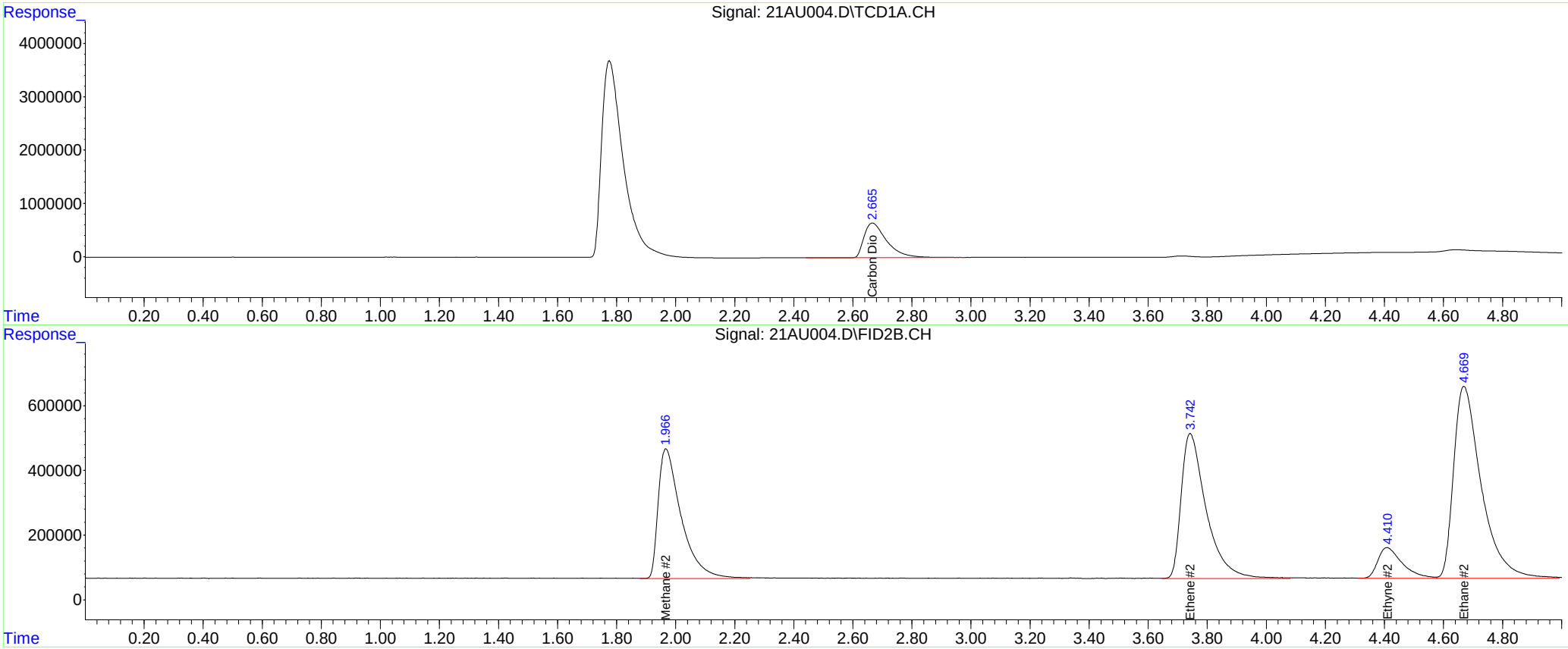
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU004.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 9:54 am
Operator : JMW
Sample : 1A26006-BSD1
Misc :
ALS Vial : 4 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 09:59:15 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU005.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 10:17 am
Operator : JMW
Sample : 1A26006-BLK1
Misc :
ALS Vial : 5 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 10:22:09 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.682	2.806	5407577	9033	11.019189	NoCal	#
2)	Methane	0.000	1.966	0	32613	N.D.	0.000289	#
3)	Ethene	0.000	3.741	0	9785	N.D.	0.000132	#
4)	Ethyne	0.000	4.407	0	18106	N.D.	0.001078	#
5)	Ethane	0.000	4.694	0	10004	N.D.	0.000104	#

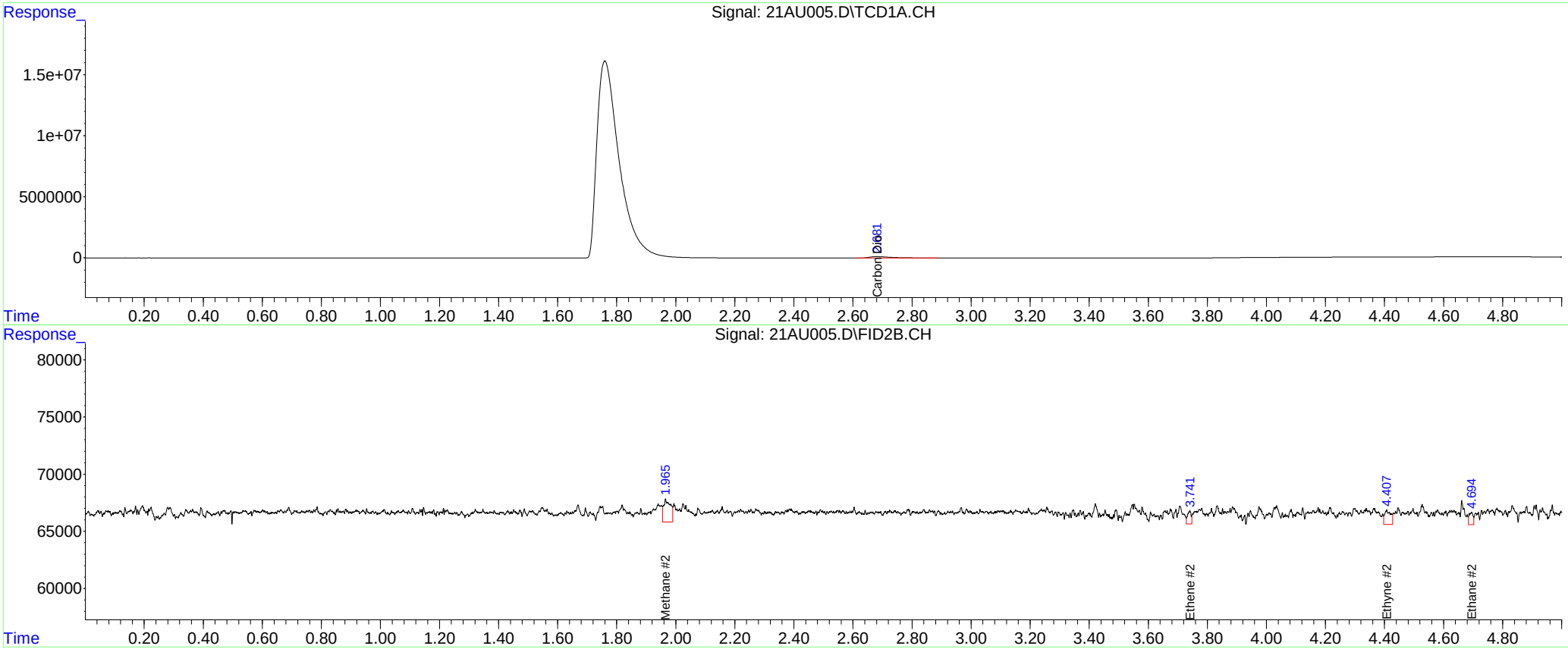
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU005.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 10:17 am
Operator : JMW
Sample : 1A26006-BLK1
Misc :
ALS Vial : 5 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 10:22:09 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU009.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 11:20 am
Operator : JMW
Sample : AE00066-09
Misc :
ALS Vial : 9 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 11:25:34 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.673	2.816	11205099	14078	22.832984	NoCal	#
2)	Methane	0.000	1.962	0	17107707	N.D.	0.151811	#
3)	Ethene	3.708	3.760	62712	14536	NoCal	0.000196	#
4)	Ethyne	0.000	4.417	0	11294	N.D.	0.000672	#
5)	Ethane	0.000	4.693	0	28412	N.D.	0.000295	#

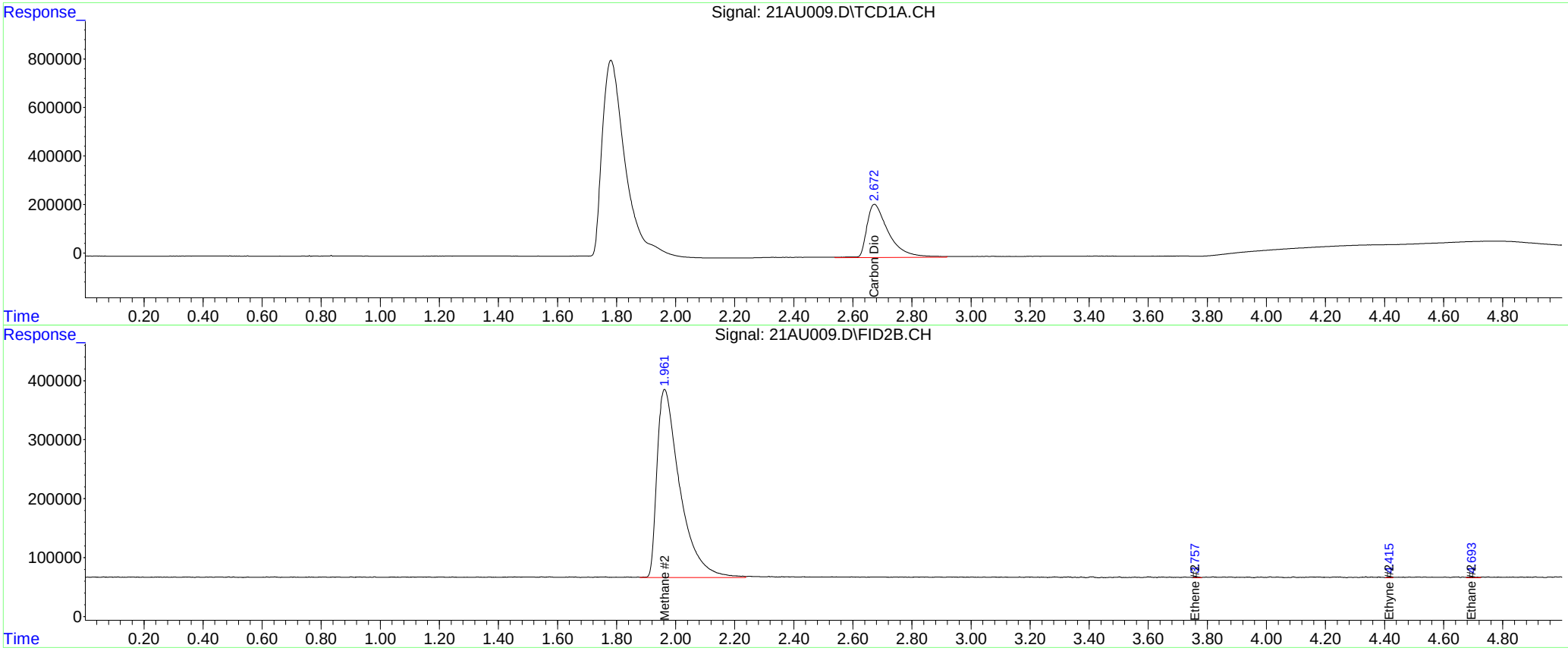
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU009.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 11:20 am
Operator : JMW
Sample : AE00066-09
Misc :
ALS Vial : 9 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 11:25:34 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU010.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 11:36 am
Operator : JMW
Sample : AE00066-11
Misc :
ALS Vial : 10 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 11:41:30 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.666	2.819	34772936	21915	70.857905	NoCal	#
2)	Methane	1.924f	1.964	14718805	158.0E6	NoCal	1.401871	#
3)	Ethene	3.710	3.742	127213	1601791	NoCal	0.021578	#
4)	Ethyne	0.000	4.424	0	21510	N.D.	0.001280	#
5)	Ethane	4.746f	4.698f	12146838	26311	NoCal	0.000273	#

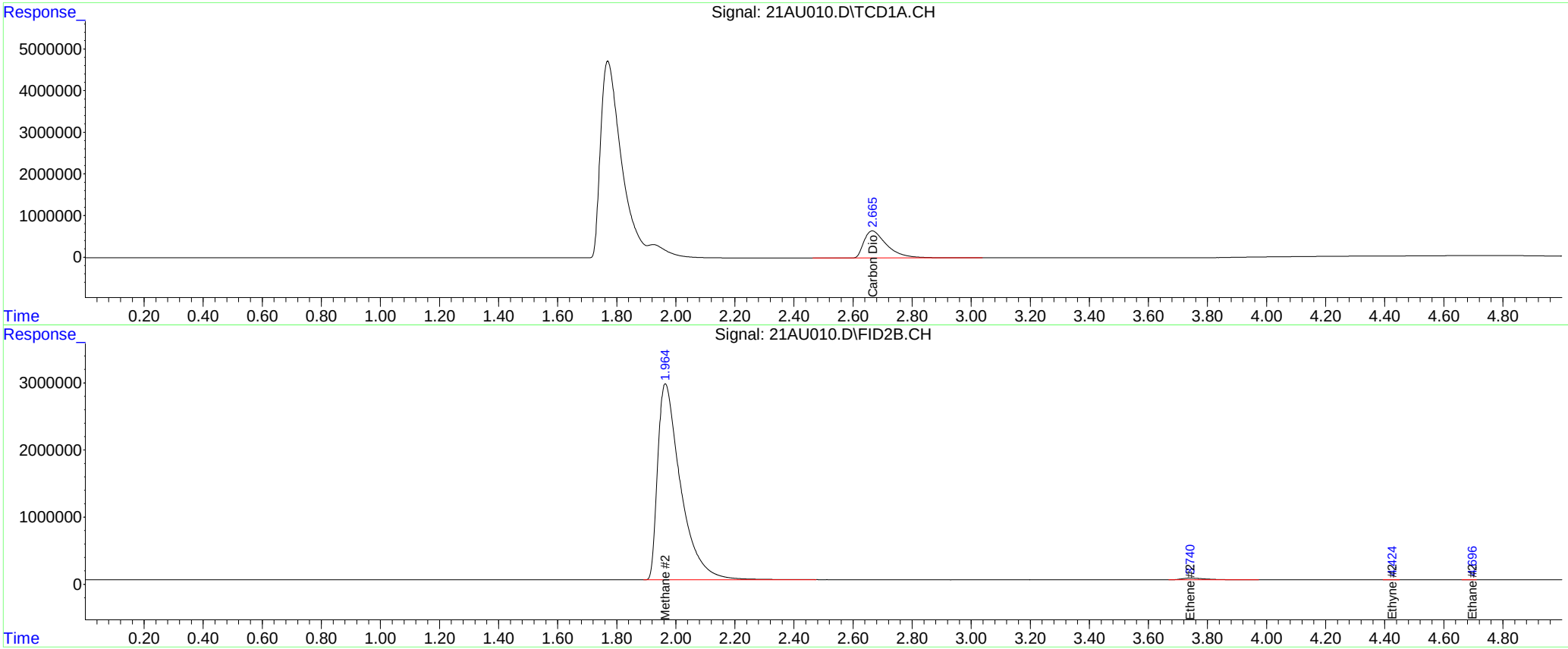
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU010.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 11:36 am
Operator : JMW
Sample : AE00066-11
Misc :
ALS Vial : 10 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 11:41:30 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU011.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 11:52 am
Operator : JMW
Sample : AE00066-12
Misc :
ALS Vial : 11 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 11:57:18 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.665	2.808	37809152	41521	77.044899	NoCal	#
2)	Methane	0.000	1.966	0	57475430	N.D.	0.510028	#
3)	Ethene	3.719	3.745	27859	100751	NoCal	0.001357	#
4)	Ethyne	0.000	4.403f	0	24190	N.D.	0.001440	#
5)	Ethane	4.572f	4.663f	7165651	38447	NoCal	0.000399	#

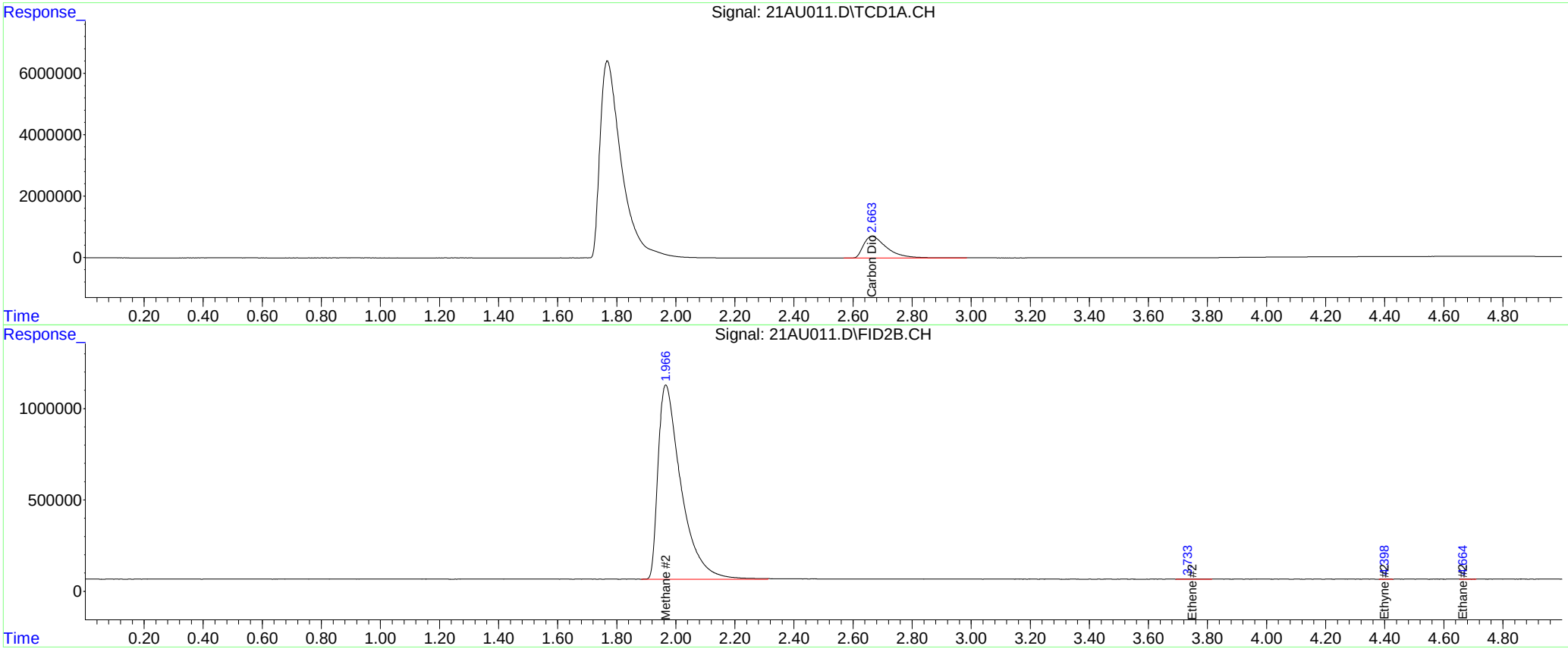
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU011.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 11:52 am
Operator : JMW
Sample : AE00066-12
Misc :
ALS Vial : 11 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 11:57:18 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU012.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 12:16 pm
Operator : JMW
Sample : AE00066-11RE1
Misc :
ALS Vial : 12 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 12:21:15 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.679	2.826	7994679	15764	16.291010	NoCal	#
2)	Methane	0.000	1.966	0	23583783	N.D.	0.209279	#
3)	Ethene	3.727	3.743	42291	133270	NoCal	0.001795	#
4)	Ethyne	0.000	4.428	0	46638	N.D.	0.002776	#
5)	Ethane	0.000	4.667	0	38030	N.D.	0.000395	#

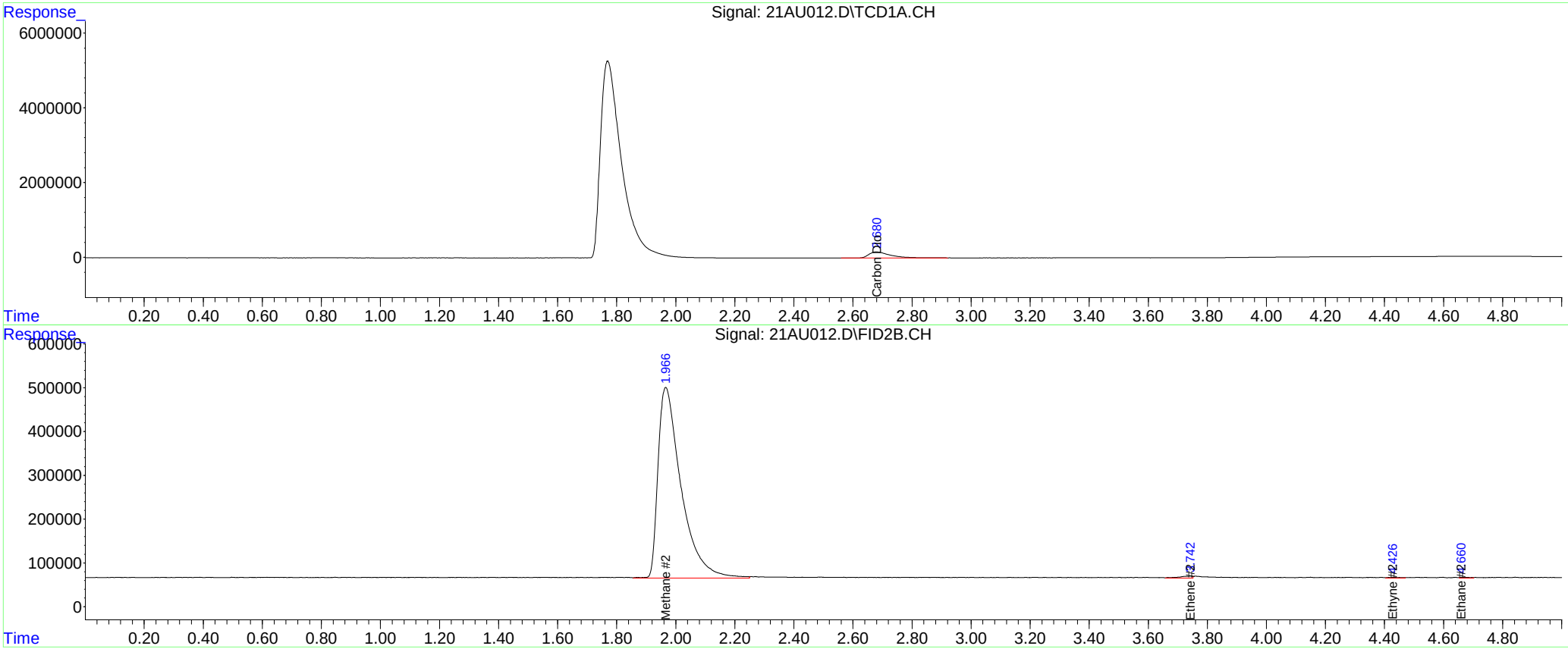
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU012.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 12:16 pm
Operator : JMW
Sample : AE00066-11RE1
Misc :
ALS Vial : 12 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 12:21:15 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU013.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 12:39 pm
Operator : JMW
Sample : 1A26006-DUP1
Misc :
ALS Vial : 13 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 12:44:07 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.665	2.800	36353492	28784	74.078656	NoCal	#
2)	Methane	0.000	1.966	0	49811203	N.D.	0.442017	#
3)	Ethene	3.647f	3.769f	28220	34434	NoCal	0.000464	#
4)	Ethyne	0.000	4.424	0	22033	N.D.	0.001312	#
5)	Ethane	4.744f	4.660f	6561398	47589	NoCal	0.000494	#

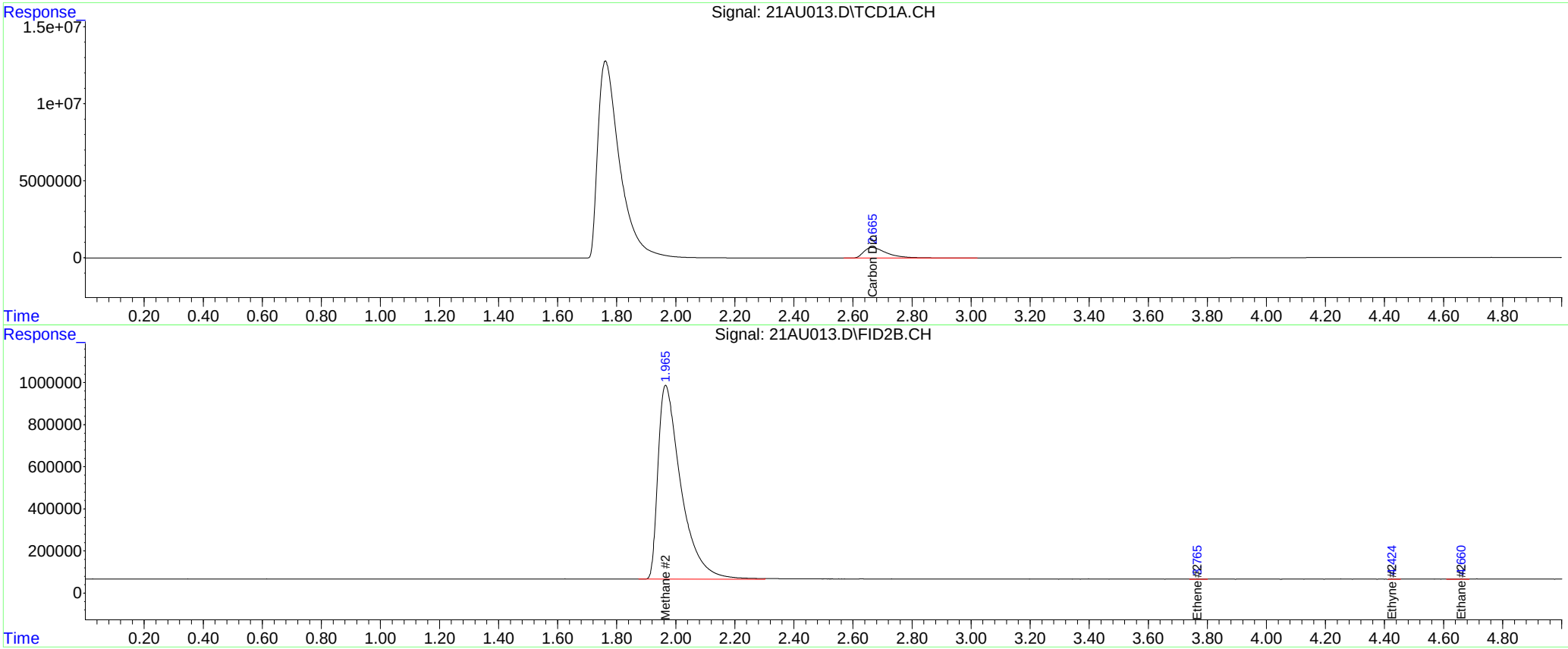
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU013.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 12:39 pm
Operator : JMW
Sample : 1A26006-DUP1
Misc :
ALS Vial : 13 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 12:44:07 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU014.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 12:54 pm
Operator : JMW
Sample : AA64653-CCV3
Misc :
ALS Vial : 14 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 12:59:59 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.681	2.771	5227331	27146	10.651896	NoCal	#
2)	Methane	0.000	1.966	0	20934374	N.D.	0.185768	#
3)	Ethene	3.713	3.741	937611	25094248	NoCal	0.338053	#
4)	Ethyne	4.389	4.408	3124387	5373812	NoCal	0.319878	#
5)	Ethane	4.641	4.668	4789080	36867165	NoCal	0.383037	#

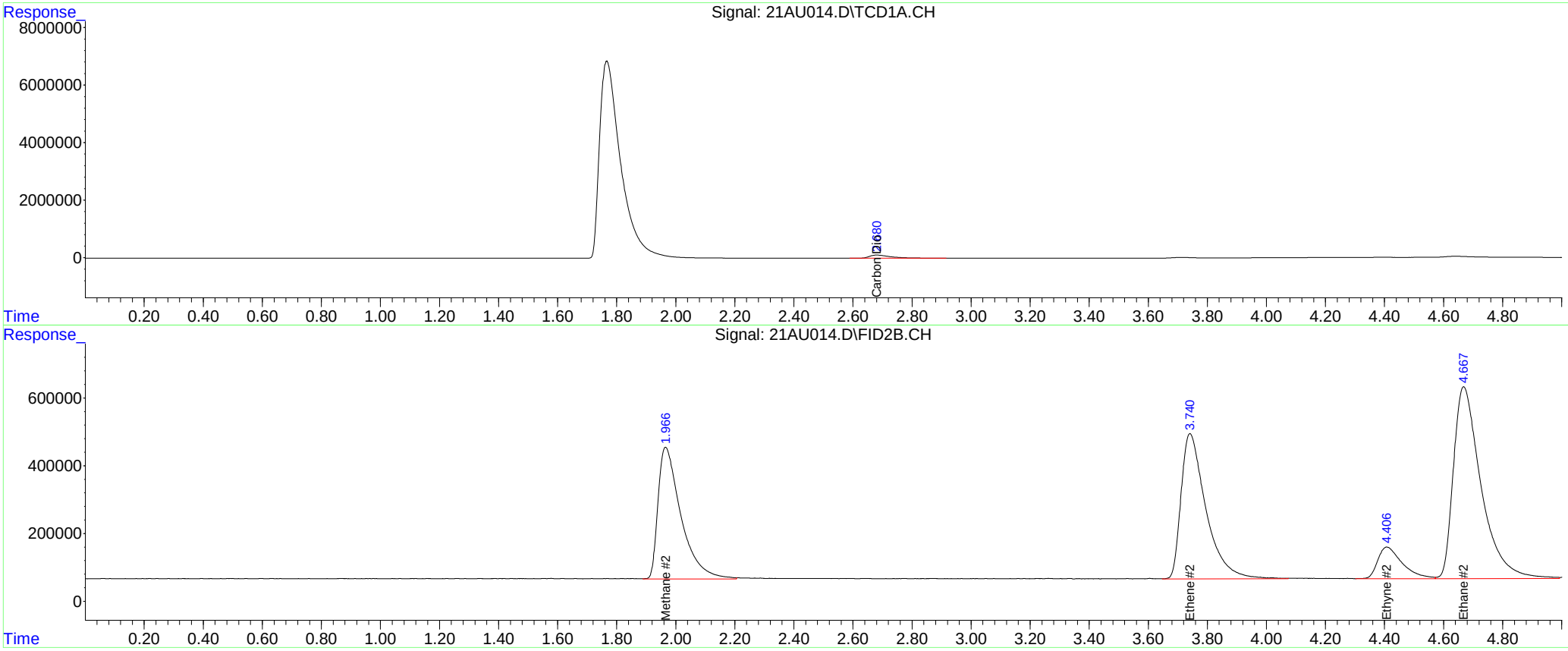
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU014.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 12:54 pm
Operator : JMW
Sample : AA64653-CCV3
Misc :
ALS Vial : 14 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 12:59:59 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



ANALYSIS SEQUENCE

AA60736

Instrument: OVGCFID2

Calibration ID: 2006012

Printed: 6/1/2020 4:11:40PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA60736-CAL1	QC		1		A0F0609			
AA60736-CAL2	QC		2		A0F0610			
AA60736-CAL3	QC		3		A0F0611			
AA60736-CAL4	QC		4		A0F0612			
AA60736-CAL5	QC		5		A0F0613			
AA60736-CAL6	QC		6		A0F0614			
AA60736-CAL7	QC		7		A0F0615			
AA60736-CAL8	QC		8		A0F0616			
AA60736-CAL9	QC		9		A0F0617			
AA60736-CALA	QC		10		A0F0618			
AA60736-CALB	QC		11		A0F0619			
AA60736-CALC	QC		12		A0F0620			
AA60736-CALD	QC		13		A0F0621			
AA60736-CALE	QC		14		A0F0622			
AA60736-SCV1	QC		15		A0E1329			

Samples Loaded By _____ Date _____

Data Processed By _____ Date _____

VOLATILES GC/MS LOGBOOK (EPA Method 624.1 / SW-846 Method 8260D)

Tune Start Date: 6/1/2020
Sequence: AA160736
Batch: DF01022
Method: RSK
Analyst: KH
Instrument EM Voltage: n/a

Surrogate: n/a
Internal: n/a
LCS Mix 2⁰: ADE1151
LCS Acrolein 2⁰: n/a
LCS Gas 2⁰: n/a

8260 Mix: n/a
8260 Add: n/a
8260 Ac/Ac: n/a
8260 Gases: n/a
RSK CO2 ADE1153
RSK MEE ADE1152
Instrument #: GVGCFID2

Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)	Comments	LIMS
20F1001 F1001	BLK			1			✓	✓
20F1002 F1002	Cal 1 CO_2			2			✓	✓
20F1003 F1003	Cal 2 CO_2			3			✓	✓
20F1004 F1004	Cal 3 CO_2			4			✓	✓
20F1005 F1005	Cal 4 CO_2			5			✓	✓
20F1006 1006	Cal 5 CO_2			6			✓	✓
20F1007 1007	Cal 6 CO_2			7			reprep, rerun; swap prep	
20F1008 1008	Cal 7 CO_2 kh 6/1/20			8			reprep, rerun	
20F1009 1009	Cal 1 MEE			9			✓	✓
20F1010 1010	Cal 2 MEE	NC 6/3/20		10			✓	✓
20F1011 1011	Cal 3 MEE			11			✓	✓
20F1012 1012	Cal 4 MEE			12			✓	✓
20F1013 1013	Cal 5 MEE			13			✓	✓
20F1014 1014	Cal 6 MEE			14			✓	✓
20F1015 1015	Cal 7 MEE			15			✓	✓
20F1016 kh 6/1/20	Cal 6 CO_2			16			✓ Reprep, kh 6/1/20	
20F1017	Cal 7 CO_2			17			✓ double spike, reprep kh 6/1/2020	
20F1018	Cal 7 CO_2			18			✓	
20F1019	SCV			19			✓	✓
		NC 6/3/20					kh 6/1/2020	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1002.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 10:14 am
Operator : KG
Sample : CAL1 CO2
Misc :
ALS Vial : 2 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:47:00 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
Target Compounds								
1)	Carbon Di...	2.685	2.806	721663	11255	1.539480	NoCal	#
2)	Methane	0.000	0.000	0	0	N.D. d	N.D. d	
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

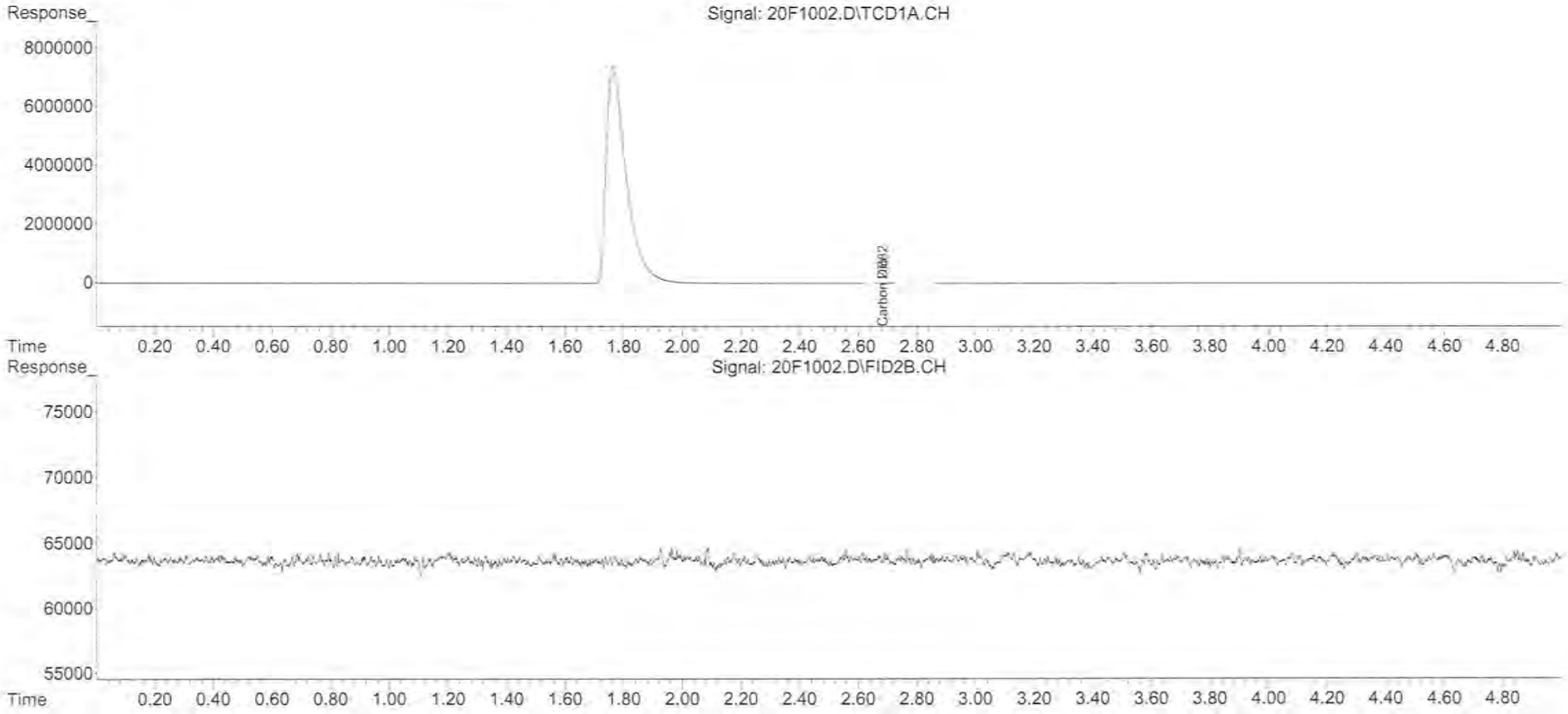
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1002.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 10:14 am
Operator : KG
Sample : CAL1 CO2
Misc :
ALS Vial : 2 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:47:00 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1003.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 10:30 am
Operator : KG
Sample : CAL2 CO2
Misc :
ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:02:26 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.681	2.790	2400420	7389	5.120669	NoCal	#
2)	Methane	0.000	0.000	0	0	N.D. d	N.D. d	
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

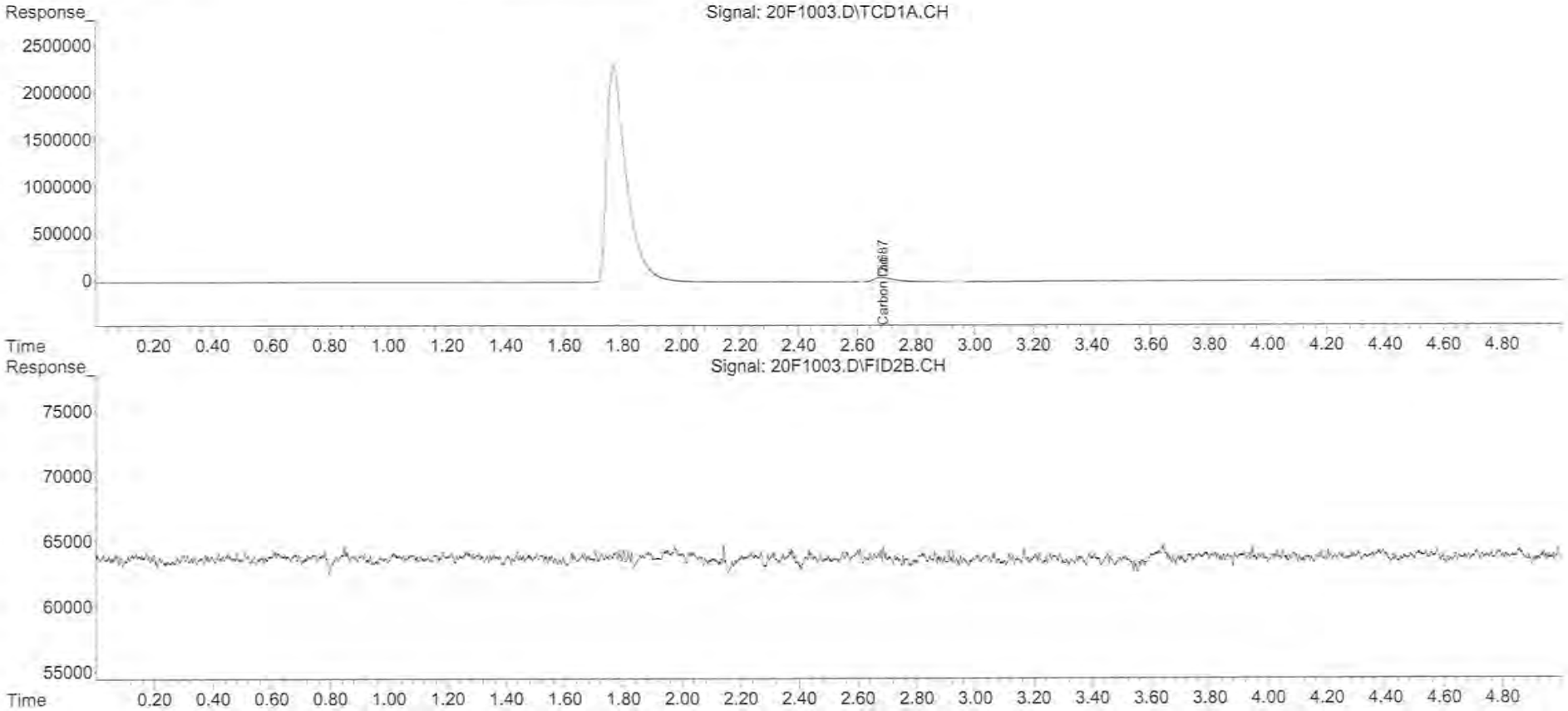
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1003.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 10:30 am
Operator : KG
Sample : CAL2 CO2
Misc :
ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:02:26 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1004.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 10:46 am
Operator : KG
Sample : CAL3 CO2
Misc :
ALS Vial : 4 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:03:07 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
Target Compounds								
1)	Carbon Di...	2.681	2.804	4373287	3461	9.329266	NoCal	#
2)	Methane	0.000	0.000	0	0	N.D. d	N.D. d	
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

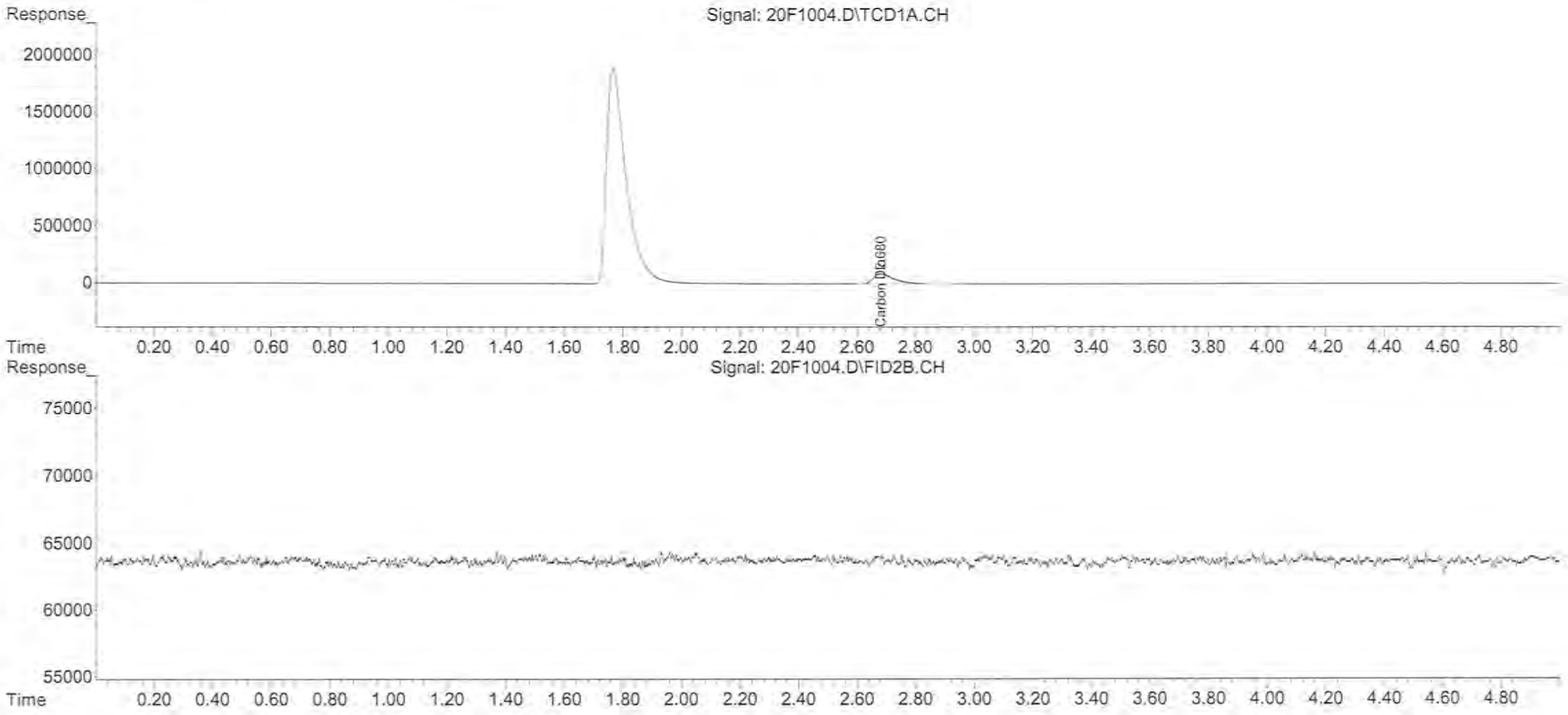
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1004.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 10:46 am
Operator : KG
Sample : CAL3 CO2
Misc :
ALS Vial : 4 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:03:07 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1005.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 11:02 am
Operator : KG
Sample : CAL4 CO2
Misc :
ALS Vial : 5 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:03:53 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.677	2.793	12281980	5873	26.200400	NoCal	#
2)	Methane	0.000	0.000	0	0	N.D. d	N.D. d	
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

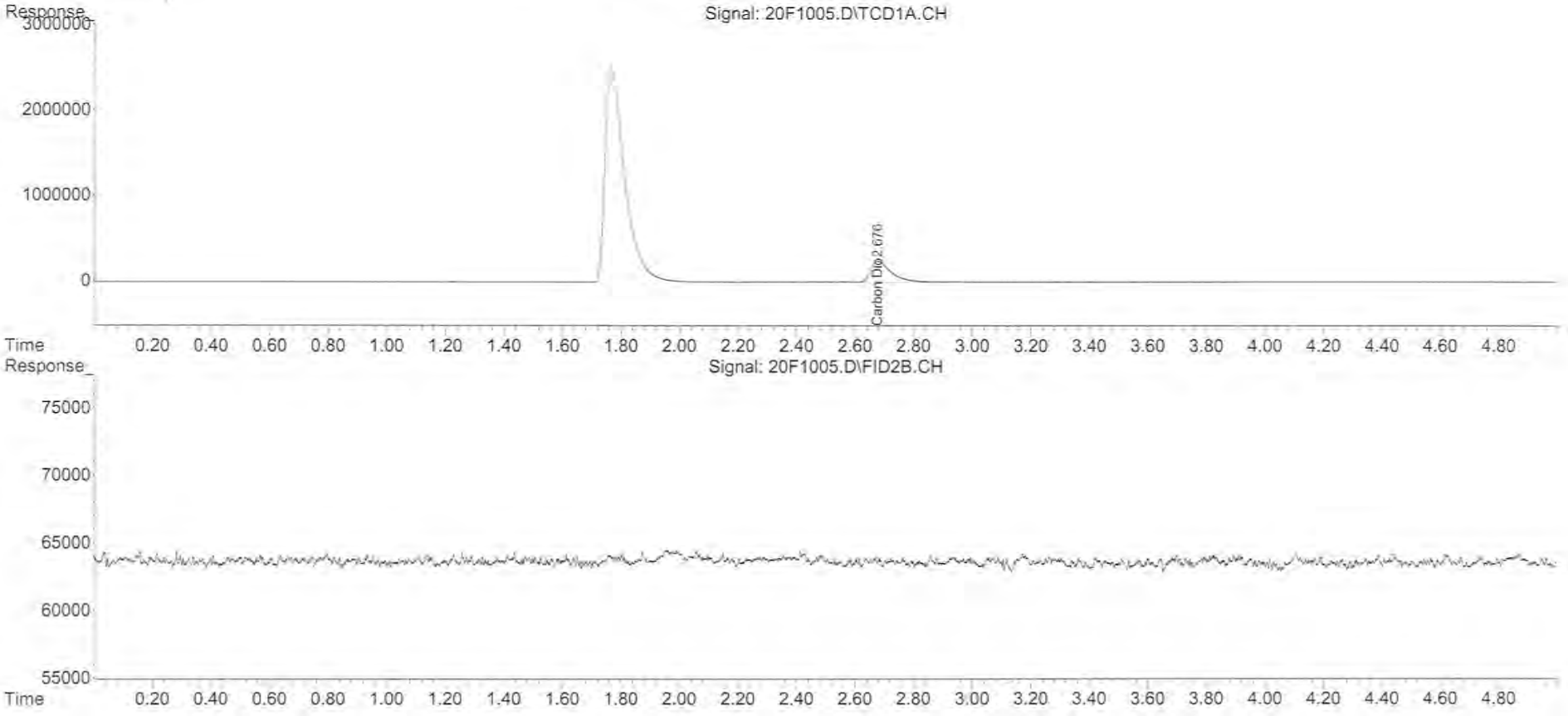
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1005.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 11:02 am
Operator : KG
Sample : CAL4 CO2
Misc :
ALS Vial : 5 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:03:53 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1006.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 11:18 am
Operator : KG
Sample : CAL5 CO2
Misc :
ALS Vial : 6 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:07:33 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.671	2.796	26615594	10925	56.777427	NoCal	#
2)	Methane	0.000	0.000	0	0	N.D. d	N.D. d	
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

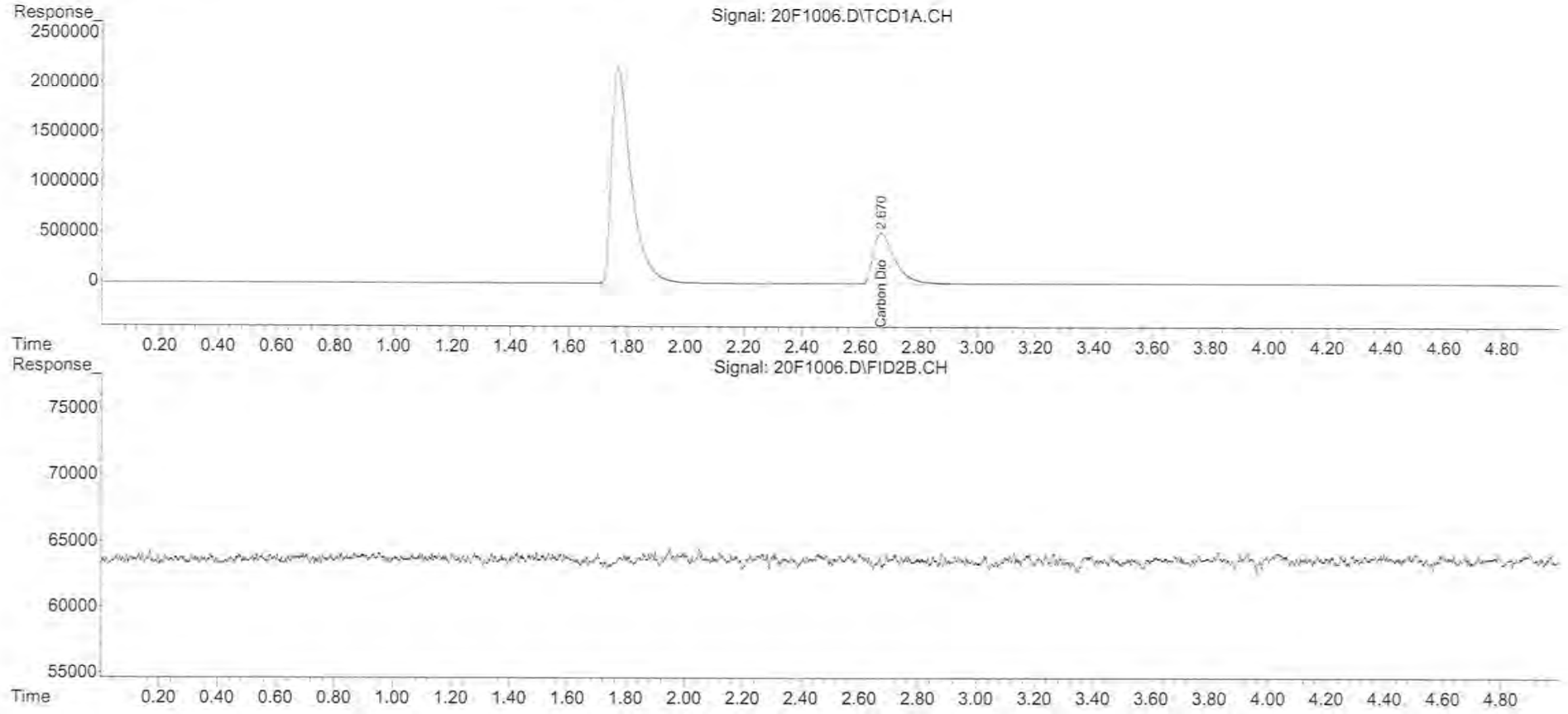
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1006.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 11:18 am
Operator : KG
Sample : CAL5 CO2
Misc :
ALS Vial : 6 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:07:33 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1009.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 12:05 pm
Operator : KG
Sample : CAL1 mee
Misc :
ALS Vial : 9 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:51:42 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L
	Target Compounds						
1)	Carbon Di...	0.000	0.000	0	0	N.D. d	N.D. d
2)	Methane	0.000	1.966	0	134006	N.D.	0.001055m#
3)	Ethene	3.697f	3.741	157759	129877	NoCal	0.001599m#
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d
5)	Ethane	4.645	4.682	82454	136099	NoCal	0.001263m#

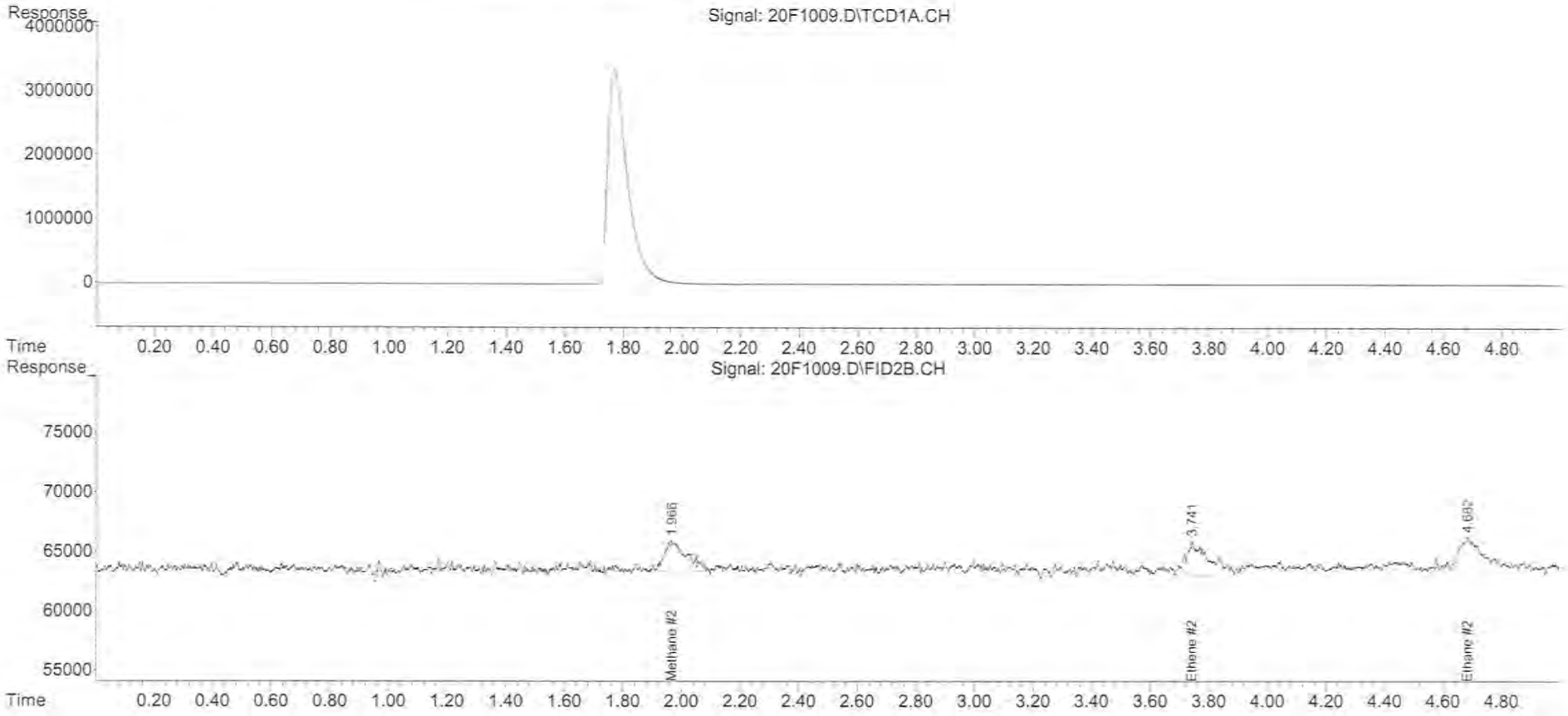
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1009.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 12:05 pm
Operator : KG
Sample : CAL1 mee
Misc :
ALS Vial : 9 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:51:42 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1010.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 12:21 pm
Operator : KG
Sample : CAL2 mee
Misc :
ALS Vial : 10 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:54:18 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L
	Target Compounds						
1)	Carbon Di...	0.000	0.000	0	0	N.D. d	N.D. d
2)	Methane	0.000	1.966	0	997852	N.D.	0.007853m#
3)	Ethene	3.717	3.748	143000	1105571	NoCal	0.013608m#
4)	Ethyne	0.000	4.410	0	231887	N.D.	0.013129 #
5)	Ethane	4.660	4.680	124428	1666884	NoCal	0.015470 #

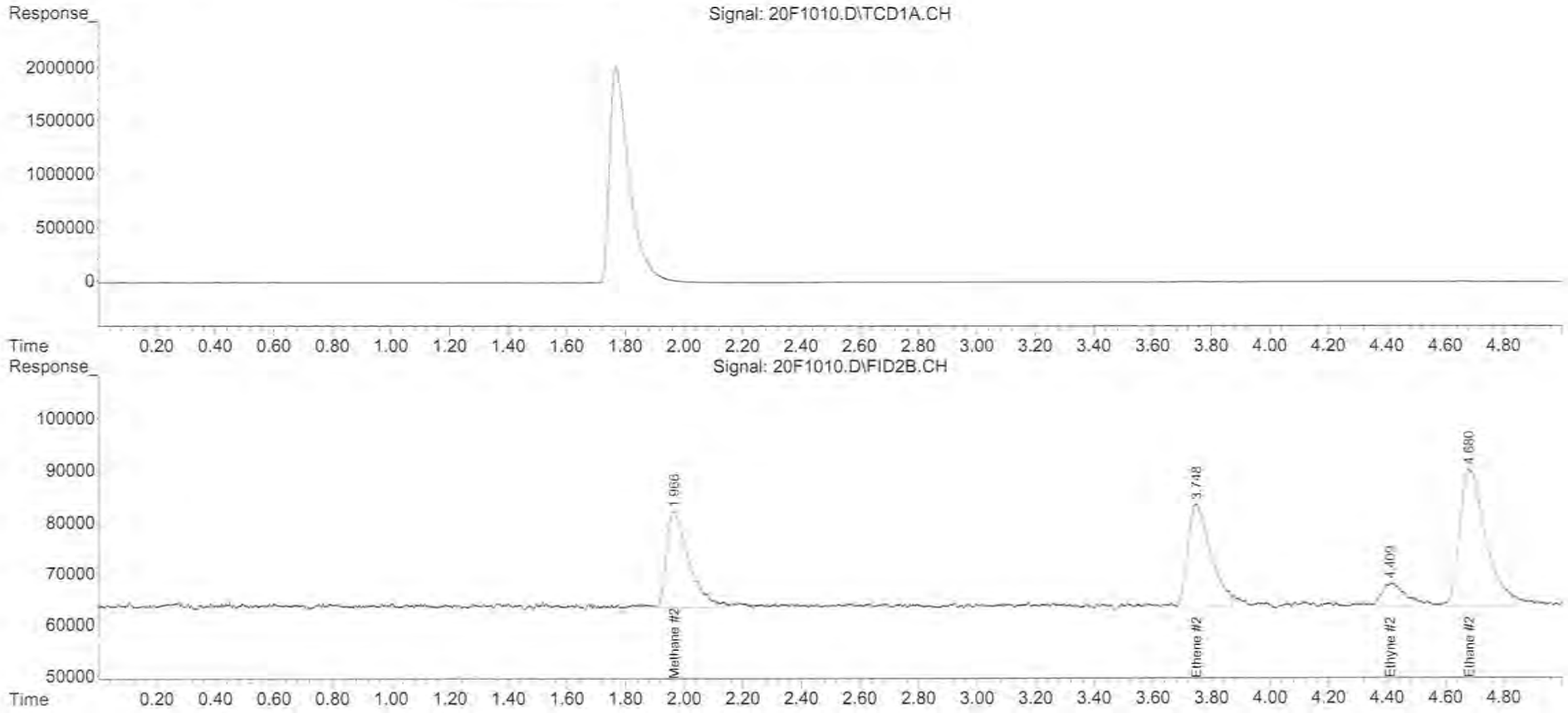
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1010.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 12:21 pm
Operator : KG
Sample : CAL2 mee
Misc :
ALS Vial : 10 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:54:18 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1011.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 12:37 pm
Operator : KG
Sample : CAL3 mee
Misc :
ALS Vial : 11 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:12:55 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L
	Target Compounds						
1)	Carbon Di...	0.000	0.000	0	0	N.D. d	N.D. d
2)	Methane	0.000	1.964	0	3814103	N.D.	0.030017m#
3)	Ethene	3.722	3.750	292147	4685418	NoCal	0.057672 #
4)	Ethyne	4.376	4.417	142974	1033383	NoCal	0.058507 #
5)	Ethane	4.653	4.685	426043	6660142	NoCal	0.061812 #

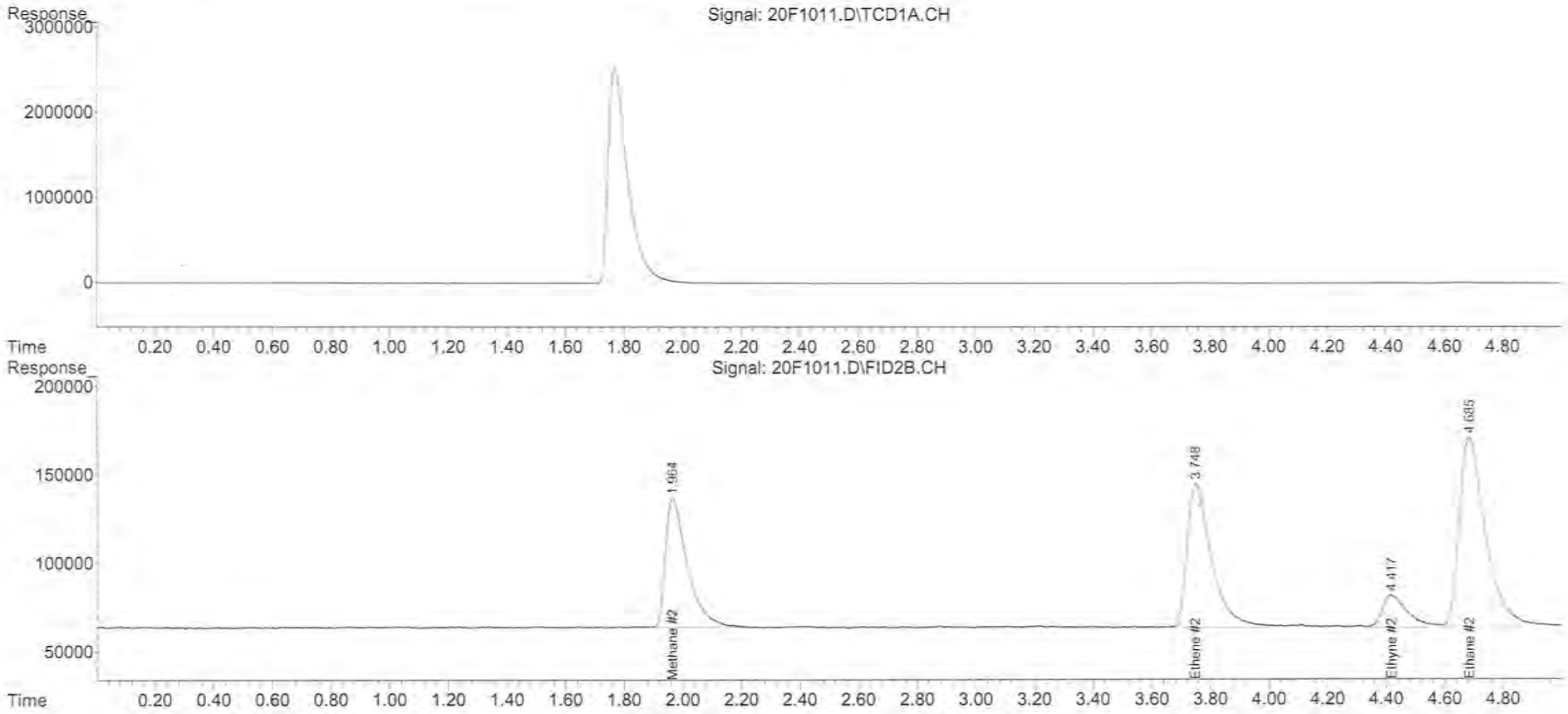
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1011.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 12:37 pm
Operator : KG
Sample : CAL3 mee
Misc :
ALS Vial : 11 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:12:55 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1012.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 12:53 pm
Operator : KG
Sample : CAL4 mee
Misc :
ALS Vial : 12 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:13:42 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L
	Target Compounds						
1)	Carbon Di...	0.000	0.000	0	0	N.D. d	N.D. d
2)	Methane	0.000	1.966	0	9986895	N.D.	0.078597 #
3)	Ethene	3.728	3.751	559705	11580125	NoCal	0.142538 #
4)	Ethyne	4.390	4.419	127570	2407110	NoCal	0.136282 #
5)	Ethane	4.653	4.683	906840	17140182	NoCal	0.159076 #

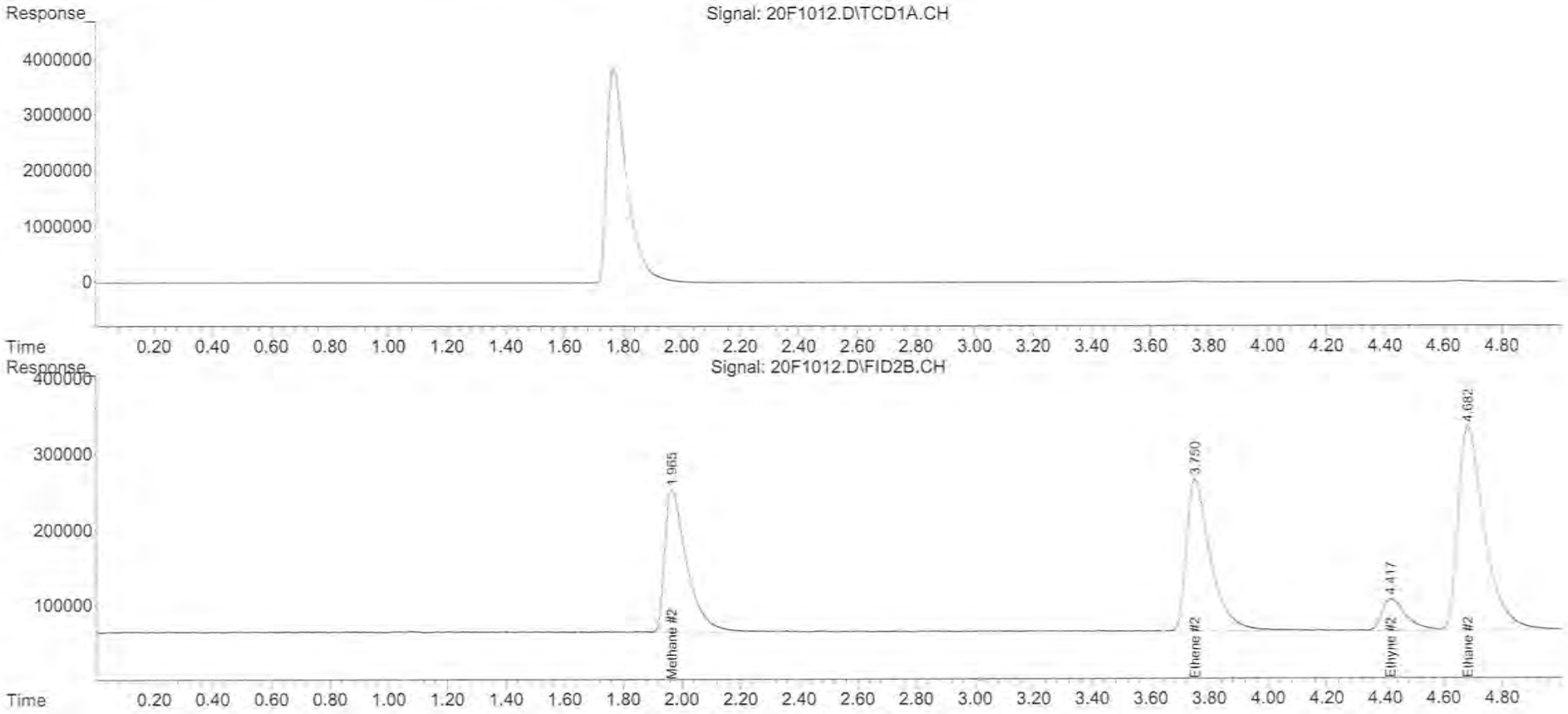
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1012.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 12:53 pm
Operator : KG
Sample : CAL4 mee
Misc :
ALS Vial : 12 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:13:42 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1013.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 1:09 pm
Operator : KG
Sample : CAL5 mee
Misc :
ALS Vial : 13 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:14:31 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L
	Target Compounds						
1)	Carbon Di...	0.000	0.000	0	0	N.D. d	N.D. d
2)	Methane	0.000	1.967	0	17879589	N.D.	0.140713 #
3)	Ethene	3.722	3.751	1053481	21679236	NoCal	0.266846 #
4)	Ethyne	4.389	4.420	283468	4815455	NoCal	0.272635 #
5)	Ethane	4.654	4.682	1690549	30837357	NoCal	0.286199 #

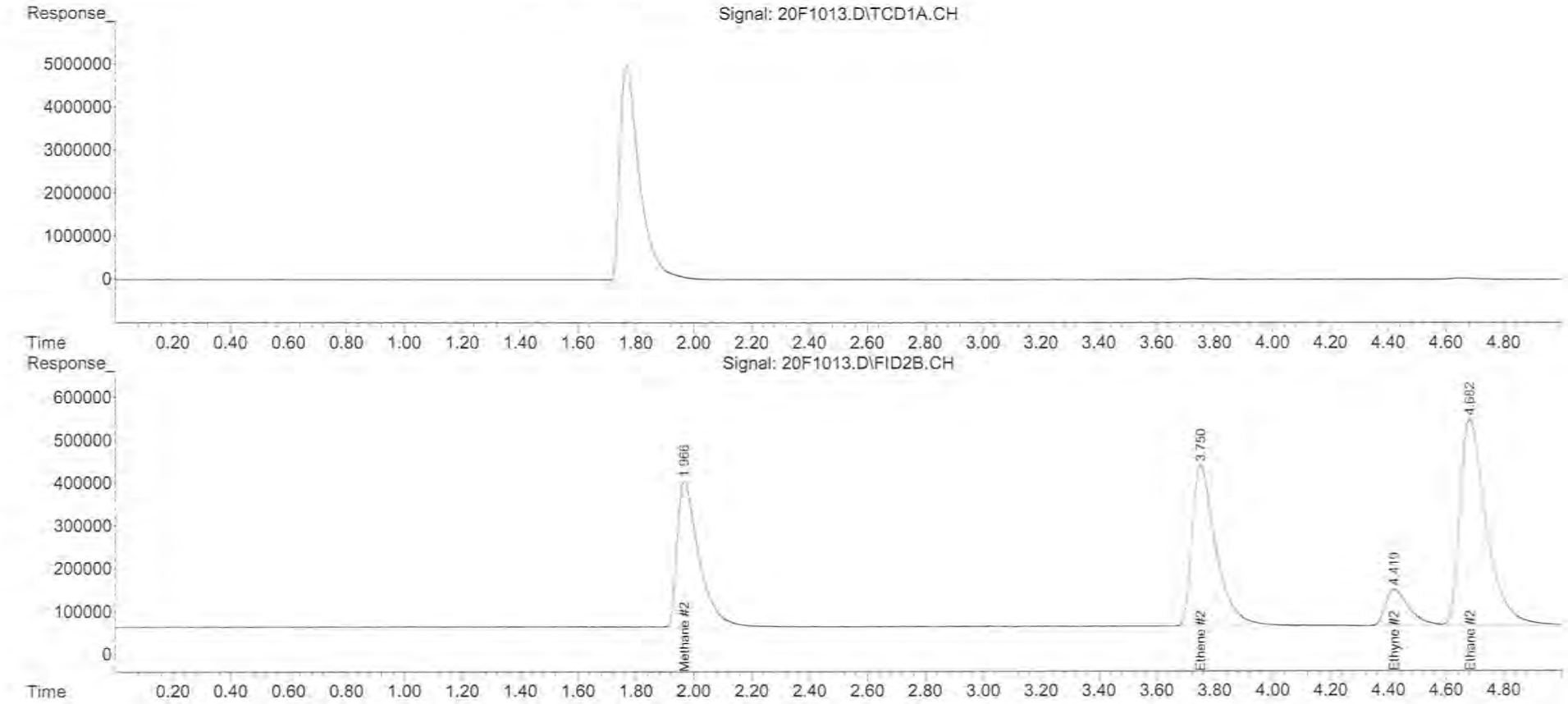
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1013.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 1:09 pm
Operator : KG
Sample : CAL5 mee
Misc :
ALS Vial : 13 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:14:31 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1014.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 1:25 pm
Operator : KG
Sample : CAL6 mee
Misc :
ALS Vial : 14 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:15:18 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L
	Target Compounds						
1)	Carbon Di...	0.000	0.000	0	0	N.D. d	N.D. d
2)	Methane	0.000	1.966	0	37363555	N.D.	0.294053 #
3)	Ethene	3.719	3.747	2182432	44555469	NoCal	0.548425 #
4)	Ethyne	4.390	4.416	452150	9580830	NoCal	0.542434 #
5)	Ethane	4.646	4.674	3507222	64737858	NoCal	0.600826 #

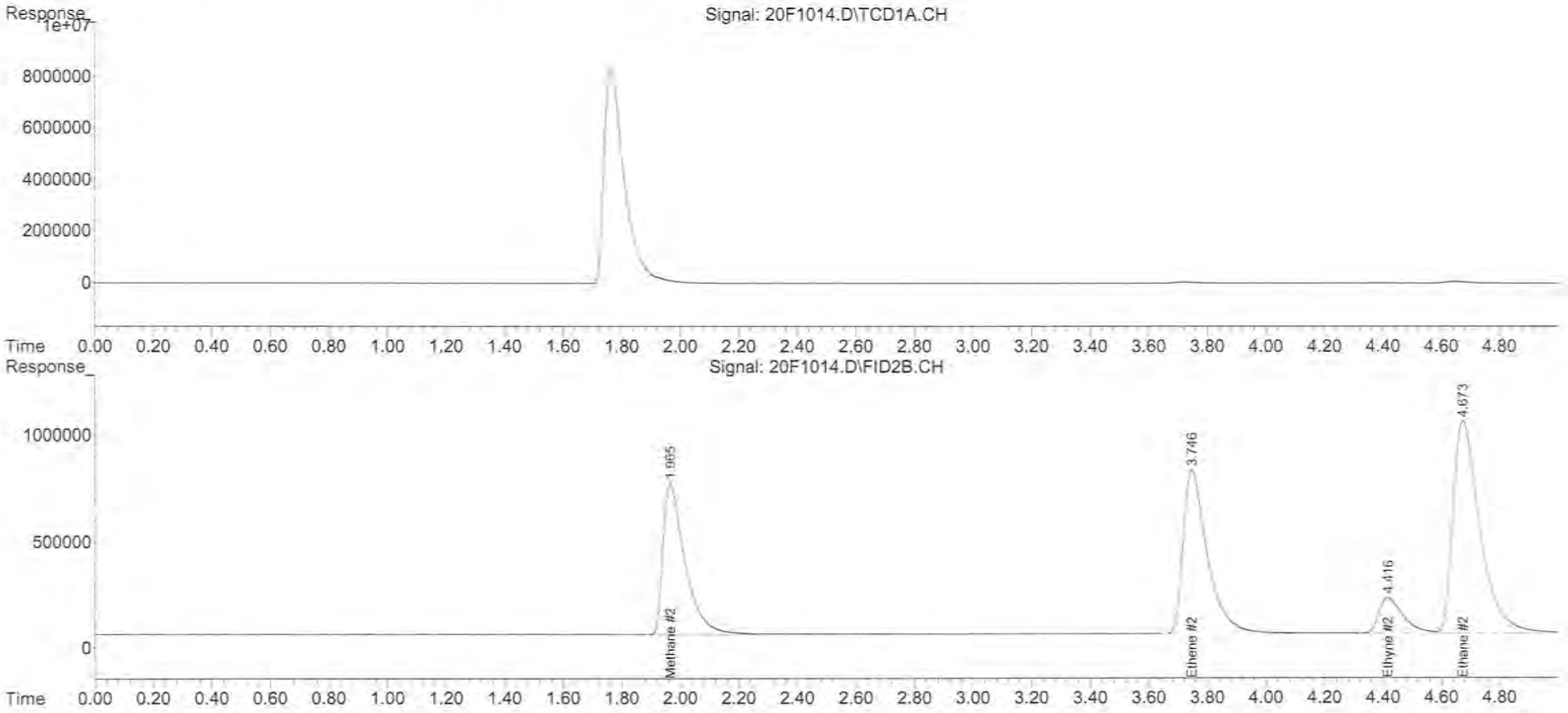
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1014.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 1:25 pm
Operator : KG
Sample : CAL6 mee
Misc :
ALS Vial : 14 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:15:18 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1015.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 1:40 pm
Operator : KG
Sample : CAL7 mee
Misc :
ALS Vial : 15 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 13:46:03 2020
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2003003::JVGCFID2
QLast Update : Wed May 20 12:03:42 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L
	Target Compounds						
1)	Carbon Di...	0.000	0.000	0	0	N.D. d	N.D. d
2)	Methane	0.000	1.966	0	59181475	N.D.	0.526084 #
3)	Ethene	3.716f	3.745	3207518	72996512	NoCal	0.961111 #
4)	Ethyne	0.000	4.416	0	16065092	N.D.	0.940023 #
5)	Ethane	4.640	4.669	5337942	103.8E6	NoCal	0.998252 #

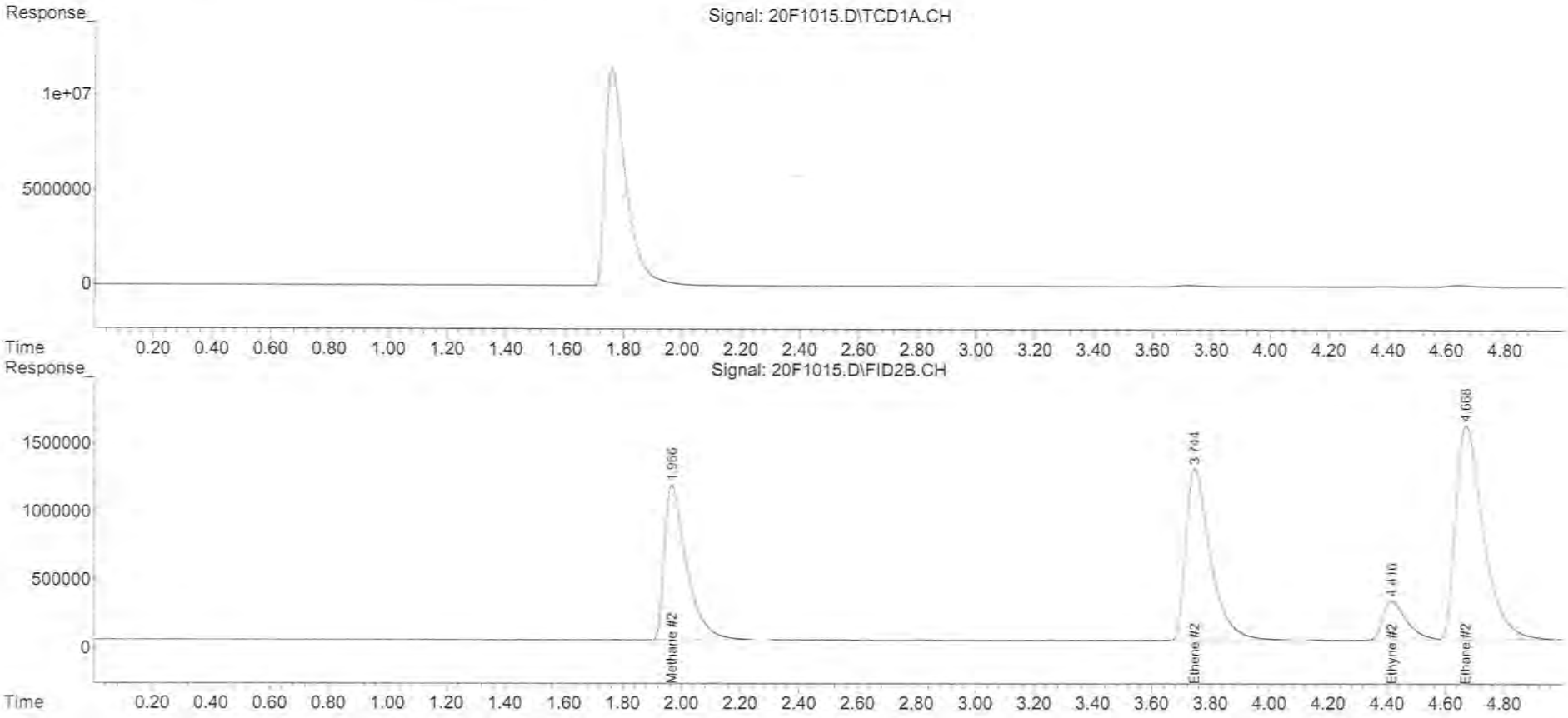
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1015.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 1:40 pm
Operator : KG
Sample : CAL7 mee
Misc :
ALS Vial : 15 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 13:46:03 2020
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2003003::JVGCFID2
QLast Update : Wed May 20 12:03:42 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1016.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 1:56 pm
Operator : KG
Sample : CAL6 co2
Misc :
ALS Vial : 16 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:49:12 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
Target Compounds								
1)	Carbon Di...	2.661	2.797	52729277	14958	112.484156	NoCal	#
2)	Methane	0.000	0.000	0	0	N.D. d	N.D. d	
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

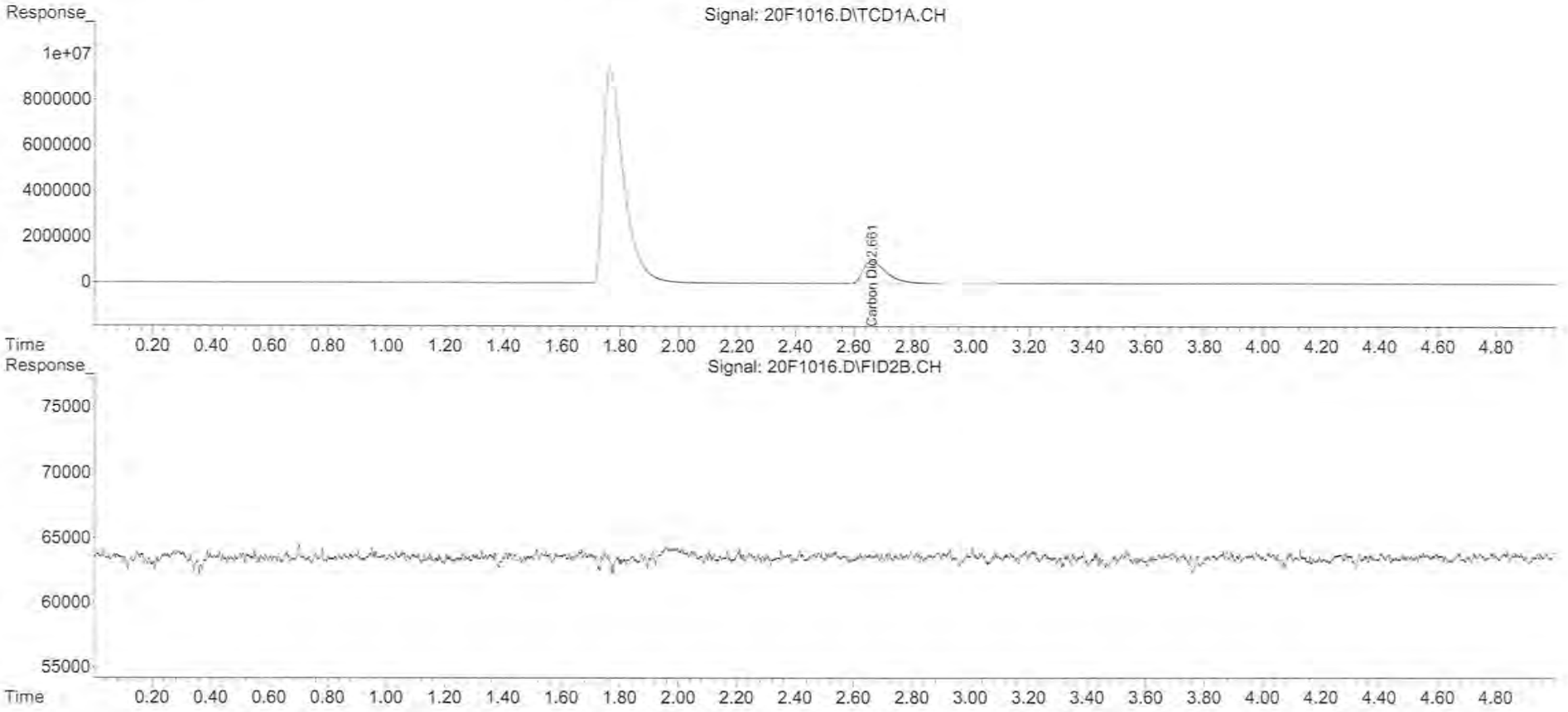
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1016.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 1:56 pm
Operator : KG
Sample : CAL6 co2
Misc :
ALS Vial : 16 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:49:12 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1018.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 2:46 pm
Operator : KG
Sample : CAL7 co2
Misc :
ALS Vial : 18 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:51:08 2020
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2003003::JVGCFID2
QLast Update : Wed May 20 12:03:42 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.650	0.000	95263377	0	181.428495	N.D.	#
2)	Methane	0.000	0.000	0	0	N.D.	N.D.	
3)	Ethene	0.000	0.000	0	0	N.D.	N.D.	
4)	Ethyne	0.000	0.000	0	0	N.D.	N.D.	
5)	Ethane	0.000	0.000	0	0	N.D.	N.D.	

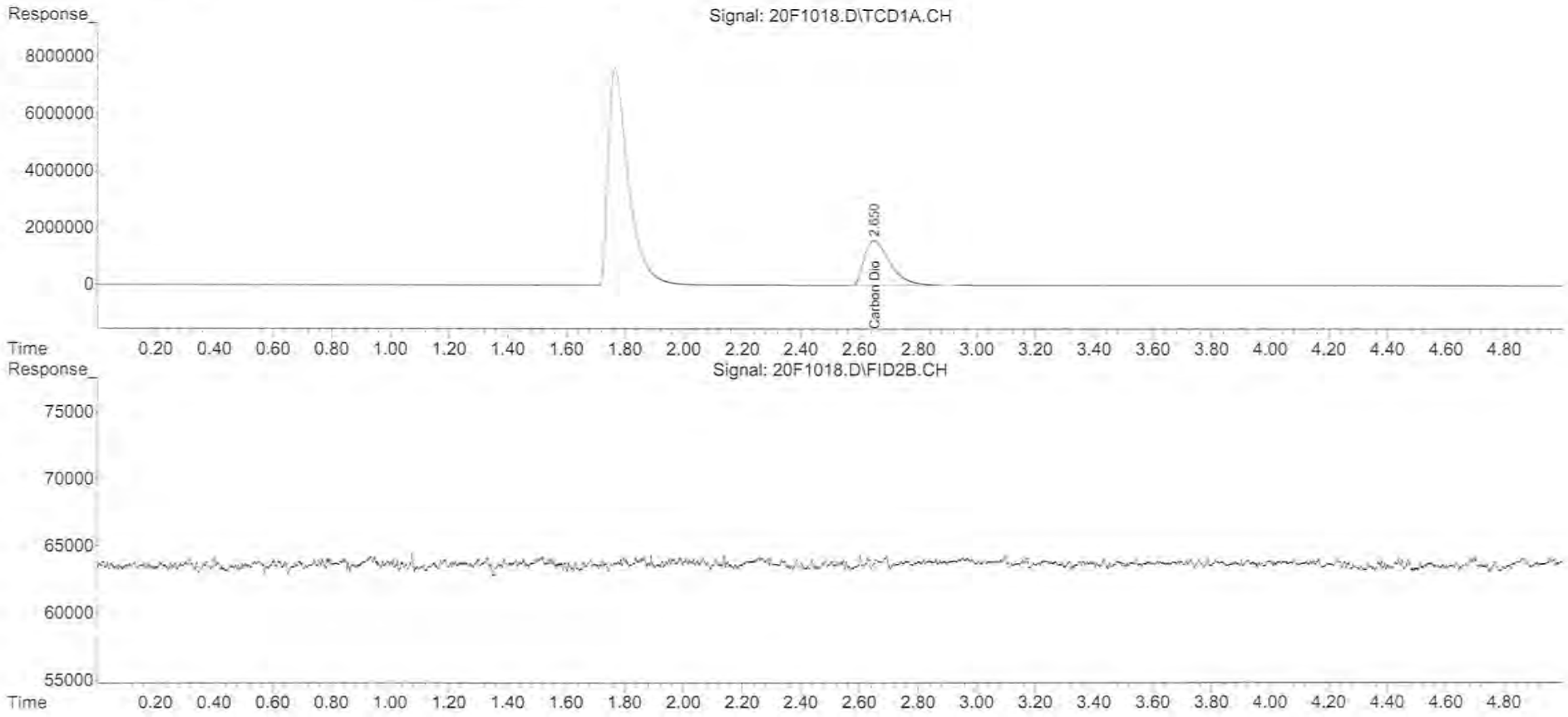
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1018.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 2:46 pm
Operator : KG
Sample : CAL7 co2
Misc :
ALS Vial : 18 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:51:08 2020
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2003003::JVGCFID2
QLast Update : Wed May 20 12:03:42 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1019.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 3:20 pm
Operator : KG
Sample : scv
Misc :
ALS Vial : 19 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 15:37:08 2020
Quant Method : C:\msdchem\1\methods\060120.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
Target Compounds								
1)	Carbon Di...	2.675	2.808	24137180	23532	49.185092	NoCal	#
2)	Methane	0.000	1.966	0	18867811	N.D.	0.167430	#
3)	Ethene	3.722	3.750	1086342	22283694	NoCal	0.300191	#
4)	Ethyne	4.394	4.419	231524	4784315	NoCal	0.284788	#
5)	Ethane	4.653	4.680	1750563	32024183	NoCal	0.332720	#

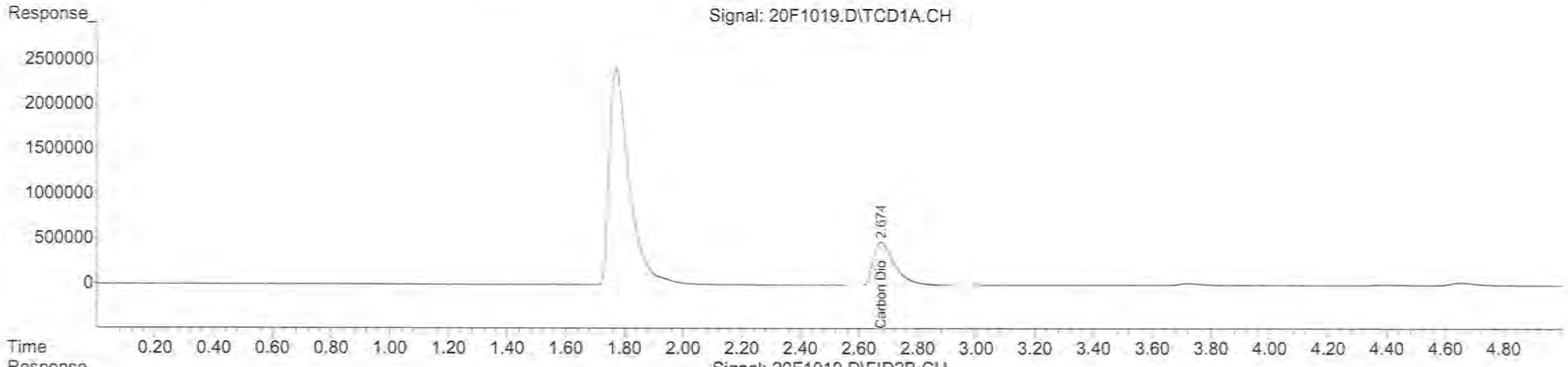
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

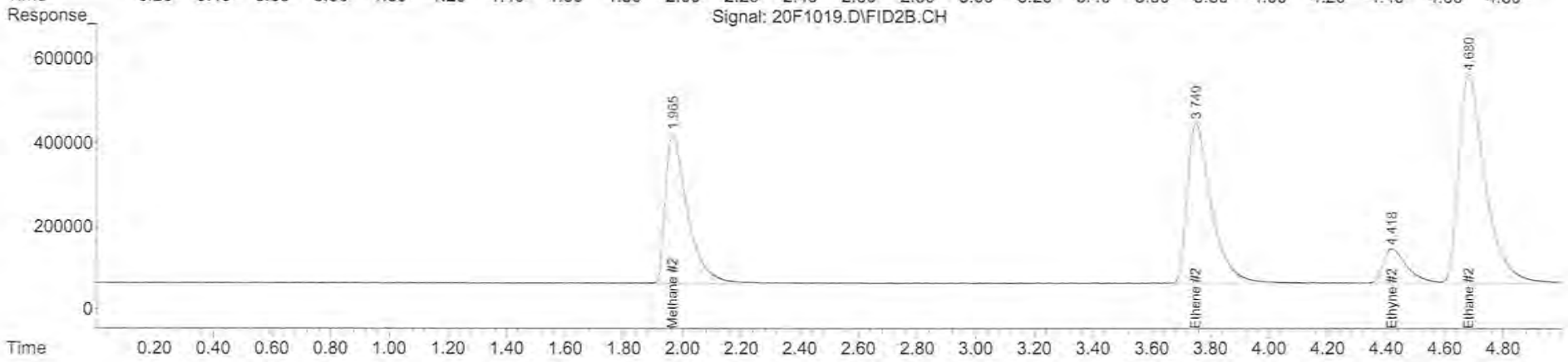
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1019.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 3:20 pm
Operator : KG
Sample : scv
Misc :
ALS Vial : 19 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 15:37:08 2020
Quant Method : C:\msdchem\1\methods\060120.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Manual Integration Review Form

ENVIRONMENTAL CONSERVATION LABORATORIES, INC. ☐ Cary ☐ Jacksonville ☑ Orlando

I hereby attest that the manual integrations contained in this package have been thoroughly reviewed and are in agreement with the associated hardcopy data.

The electronic files listed below have been reviewed for accuracy, completeness and comply with ENCO labs QA-11 Manual Integration Policy including:

- "Before" and "After" chromatograms are provided
- Manual integrations are indicated on expanded scale "after" chromatograms at a scale large enough to see the manual integration performed.
- Reintegration technique marked if available on the data system
- Technical justification for manual integration
- Appropriate flags indicating which analytes were manually integrated are included in the raw data
- Analyst's initials and date.

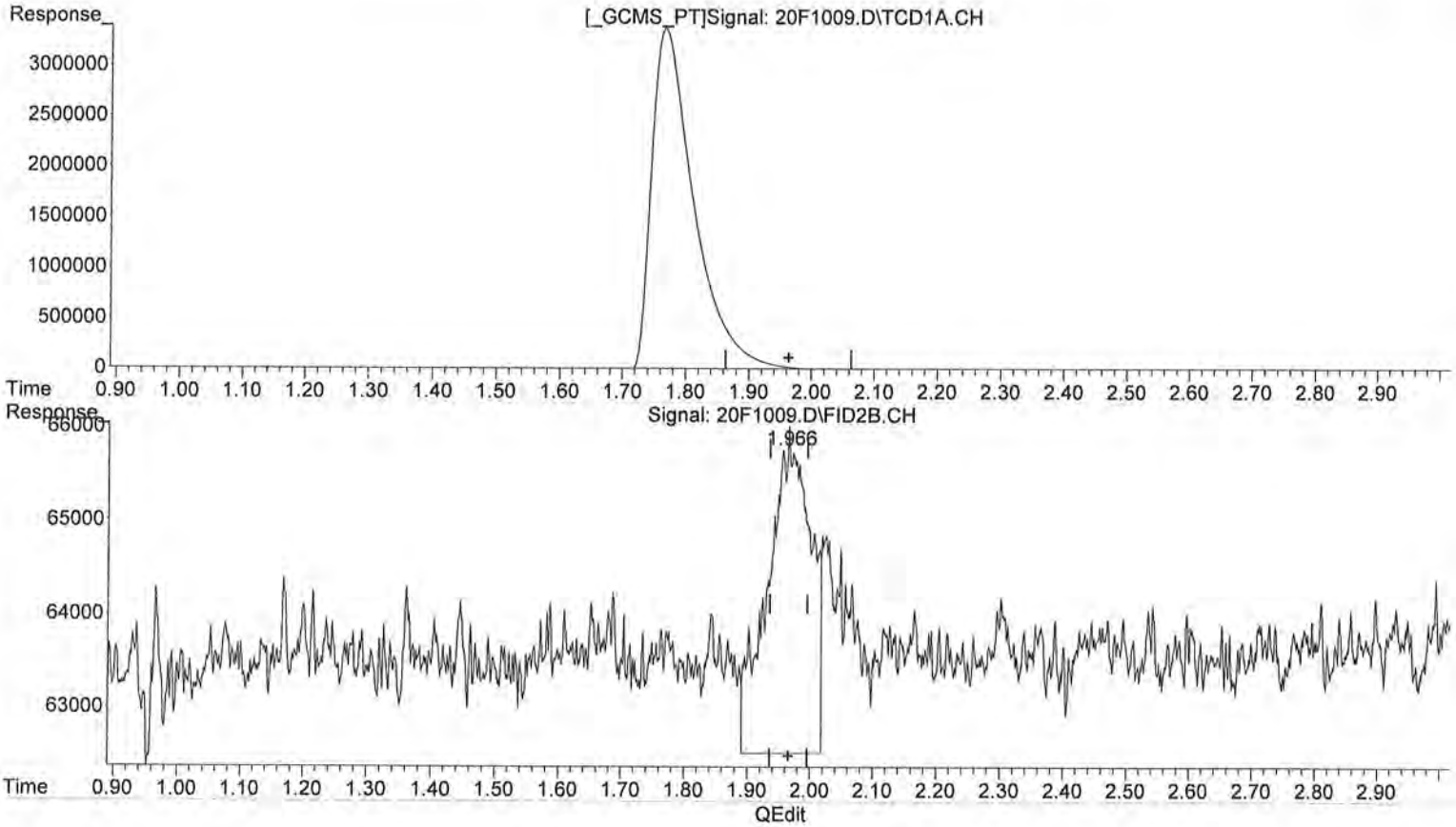
Instrument ID:	OVGCFID2
Sequence/Batch ID:	AA60736
Data File Prefix:	2DF1
Date and Time Range of MIs:	6/1/2020 14:52 - 14:55
Reviewer Print Name:	Karen Watson
Reviewer Signature:	
Date of Review:	06/02/20

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1009.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 12:05 pm
Operator : KG
Sample : CAL1 mee
Misc :
ALS Vial : 9 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:51:42 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(2) Methane

0.000min 0.000 mg/L

response 0

(2) Methane #2

1.967min 0.001 mg/L

response 163615

(+) = Expected Retention Time
052820.M Mon Jun 01 14:52:54 2020

Select One:

[✓] Original Integration [ ] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date KK 6/11/2020

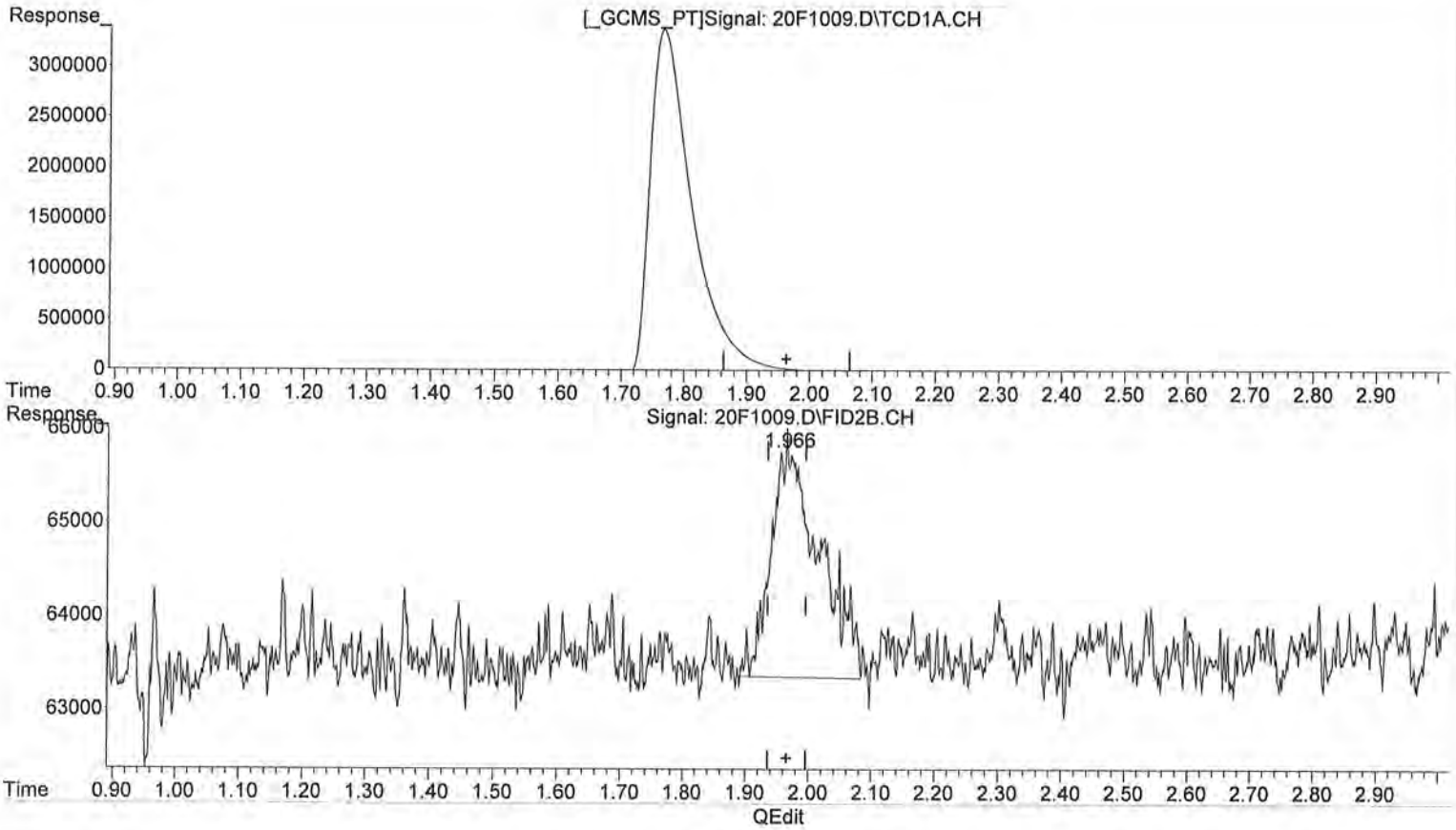
Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1009.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 12:05 pm
Operator : KG
Sample : CAL1 mee
Misc :
ALS Vial : 9 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:51:42 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(2) Methane

0.000min 0.000 mg/L

response 0

(2) Methane #2

1.966min 0.001 mg/L m

response 134006

(+) = Expected Retention Time

052820.M Mon Jun 01 14:53:24 2020

Select One:

[ ] Original Integration [✓] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date KG 6/1/2020

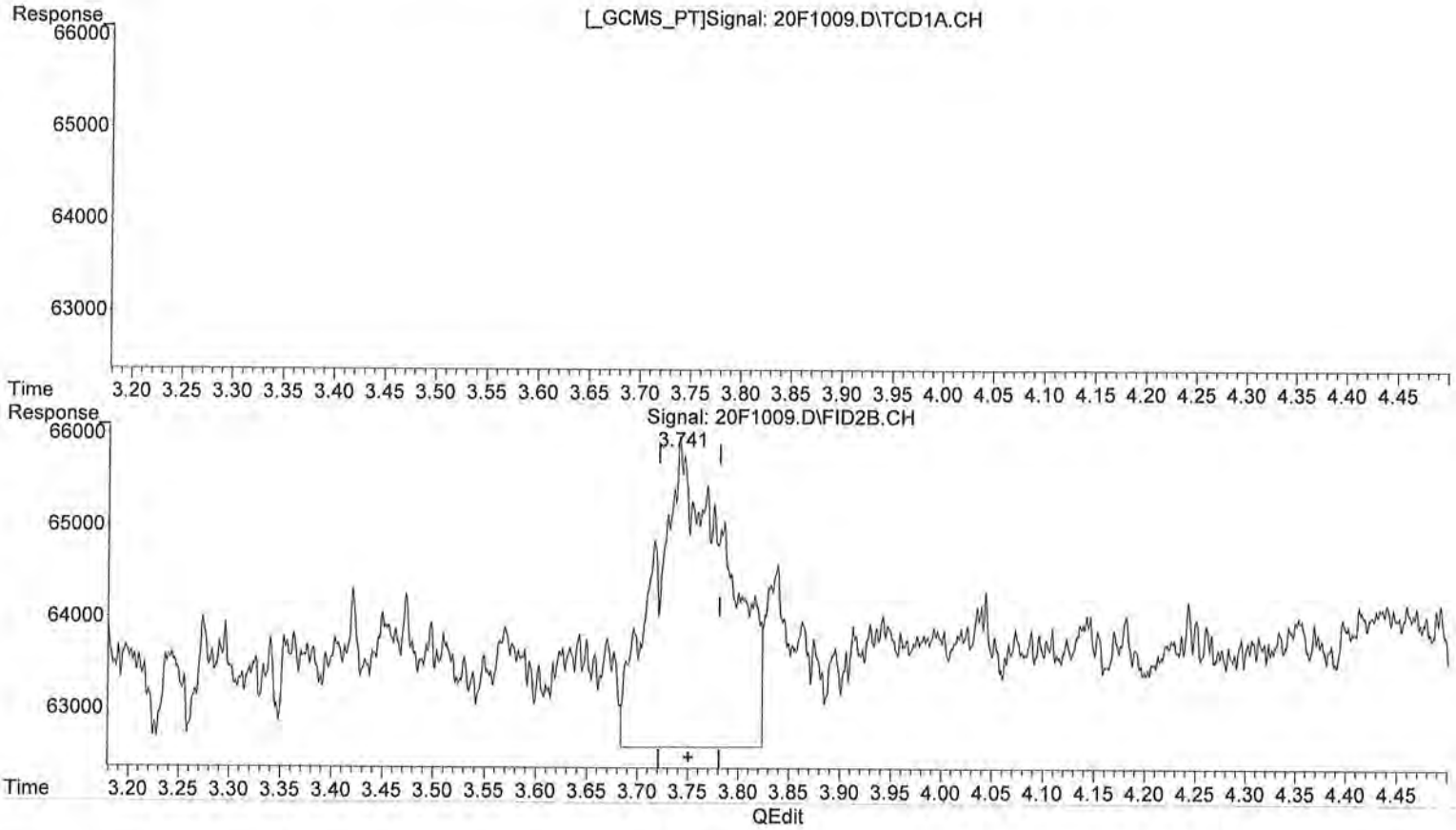
Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1009.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 12:05 pm
Operator : KG
Sample : CAL1 mee
Misc :
ALS Vial : 9 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:51:42 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(3) Ethene
3.697min 0.000 mg/L
response 157759

(3) Ethene #2
3.743min 0.002 mg/L
response 165714

(+) = Expected Retention Time
052820.M Mon Jun 01 14:53:35 2020

Select One:
[✓] Original Integration [ ] Manual Integration
Select reason for manual integration:
[✓] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date MB 6/01/2020
Review by/Date:

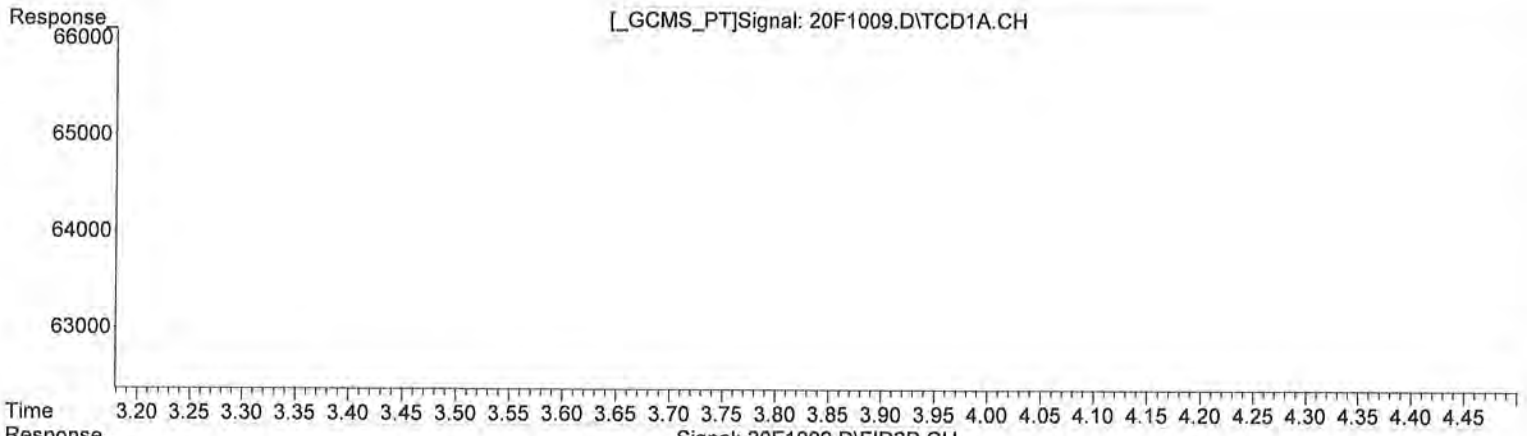
Page: 1

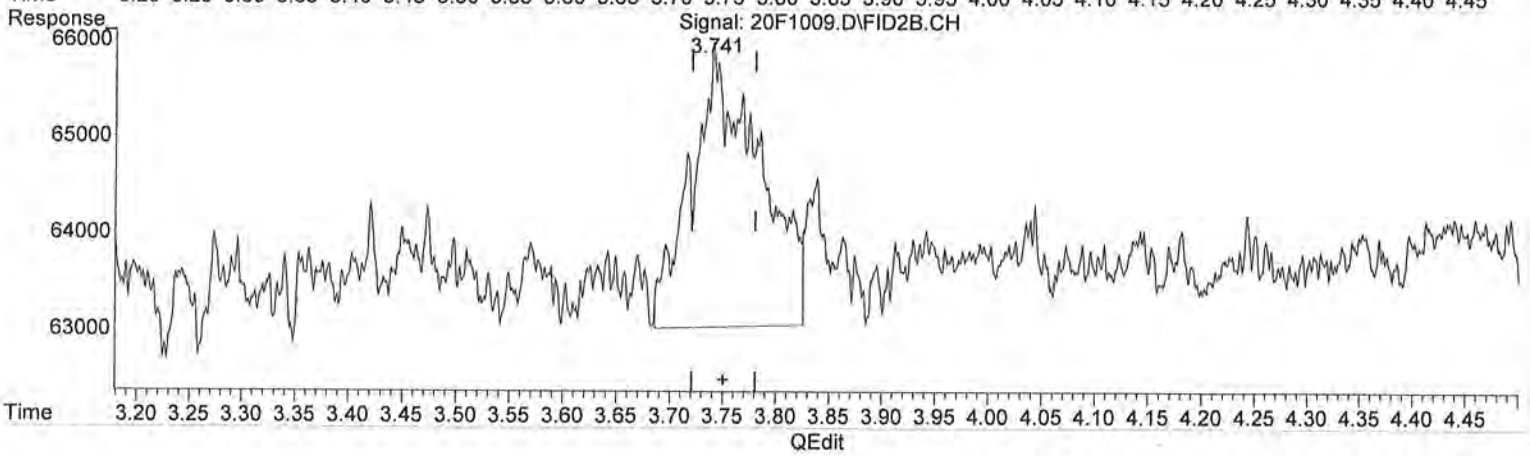
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1009.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 12:05 pm
Operator : KG
Sample : CAL1 mee
Misc :
ALS Vial : 9 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:51:42 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





(3) Ethene
3.697min 0.000 mg/L
response 157759

(3) Ethene #2
3.741min 0.002 mg/L m
response 129877

Select One:
[ ] Original Integration [✓] Manual Integration
Select reason for manual integration:
[✓] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date [illegible] 6/1/2020
Review by/Date:

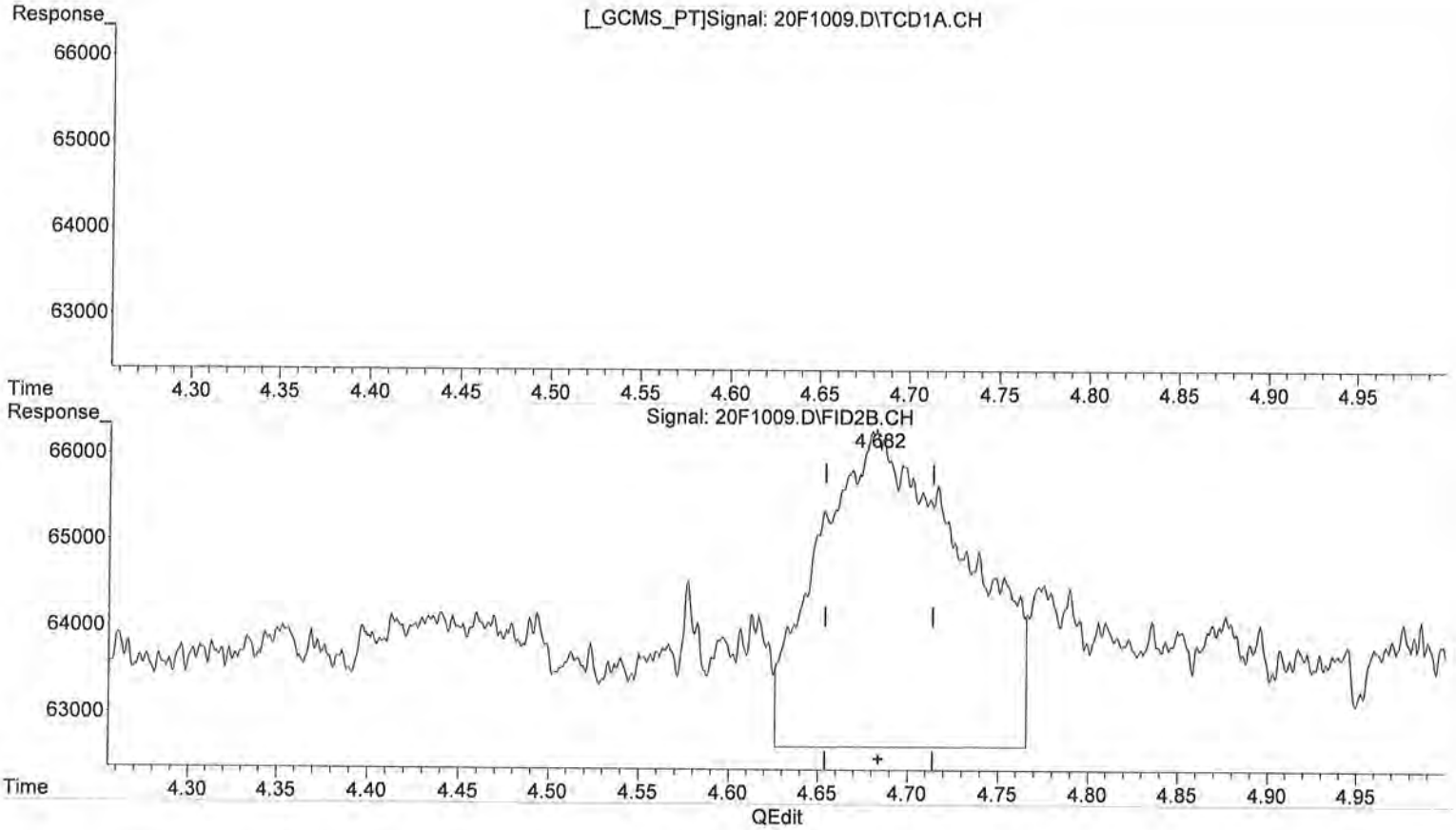
(+) = Expected Retention Time
052820.M Mon Jun 01 14:53:41 2020

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1009.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 12:05 pm
Operator : KG
Sample : CAL1 mee
Misc :
ALS Vial : 9 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:51:42 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(5) Ethane
4.645min 0.000 mg/L
response 82454

(5) Ethane #2
4.682min 0.002 mg/L
response 205250

(+) = Expected Retention Time

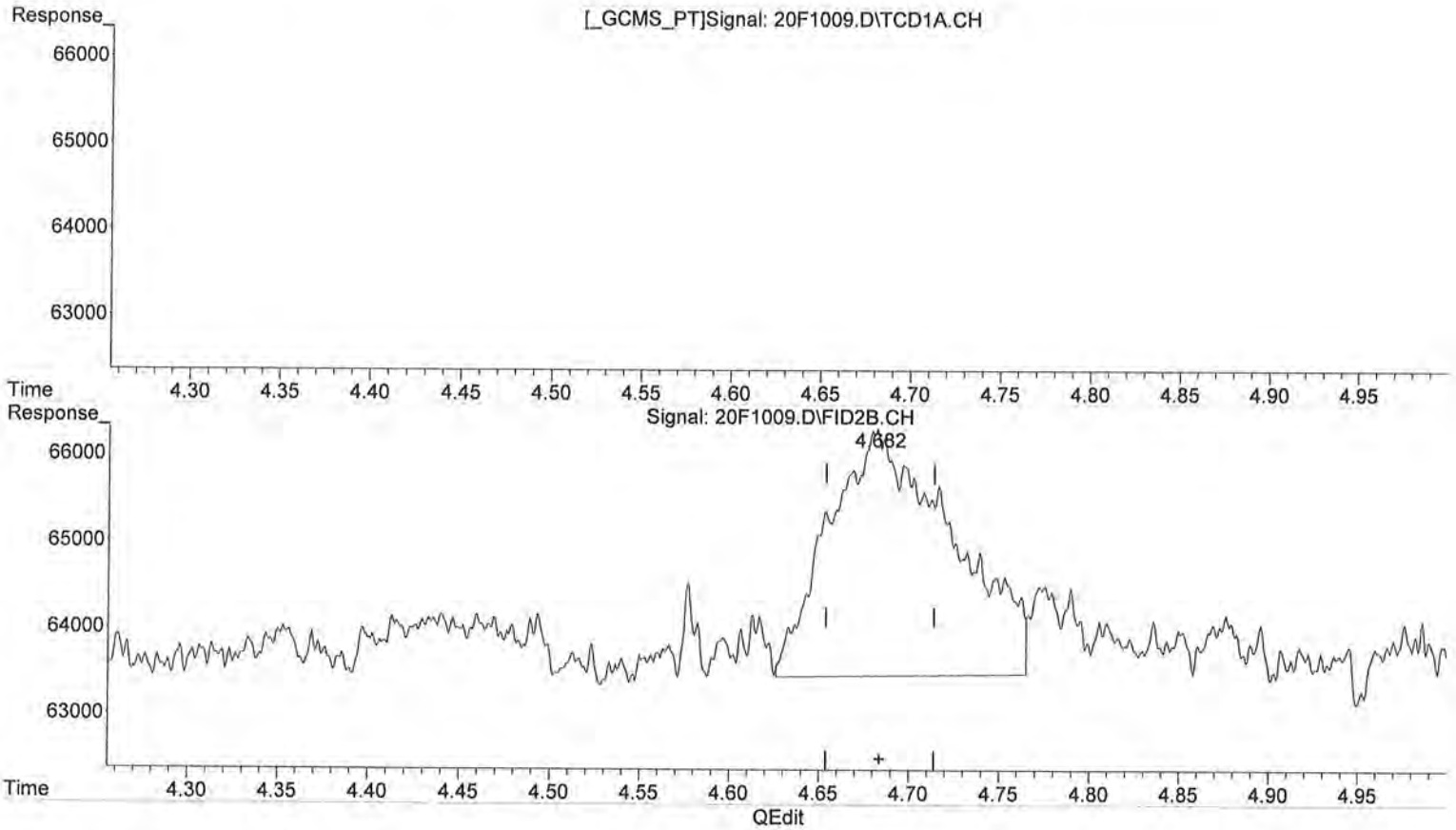
Select One:
[✓] Original Integration [ ] Manual Integration
Select reason for manual integration:
[✓] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date MF 6/1/2020
Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1009.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 12:05 pm
Operator : KG
Sample : CAL1 mee
Misc :
ALS Vial : 9 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:51:42 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(5) Ethane
4.645min 0.000 mg/L
response 82454

(5) Ethane #2
4.682min 0.001 mg/L m
response 136099

(+) = Expected Retention Time
052820.M Mon Jun 01 14:54:09 2020

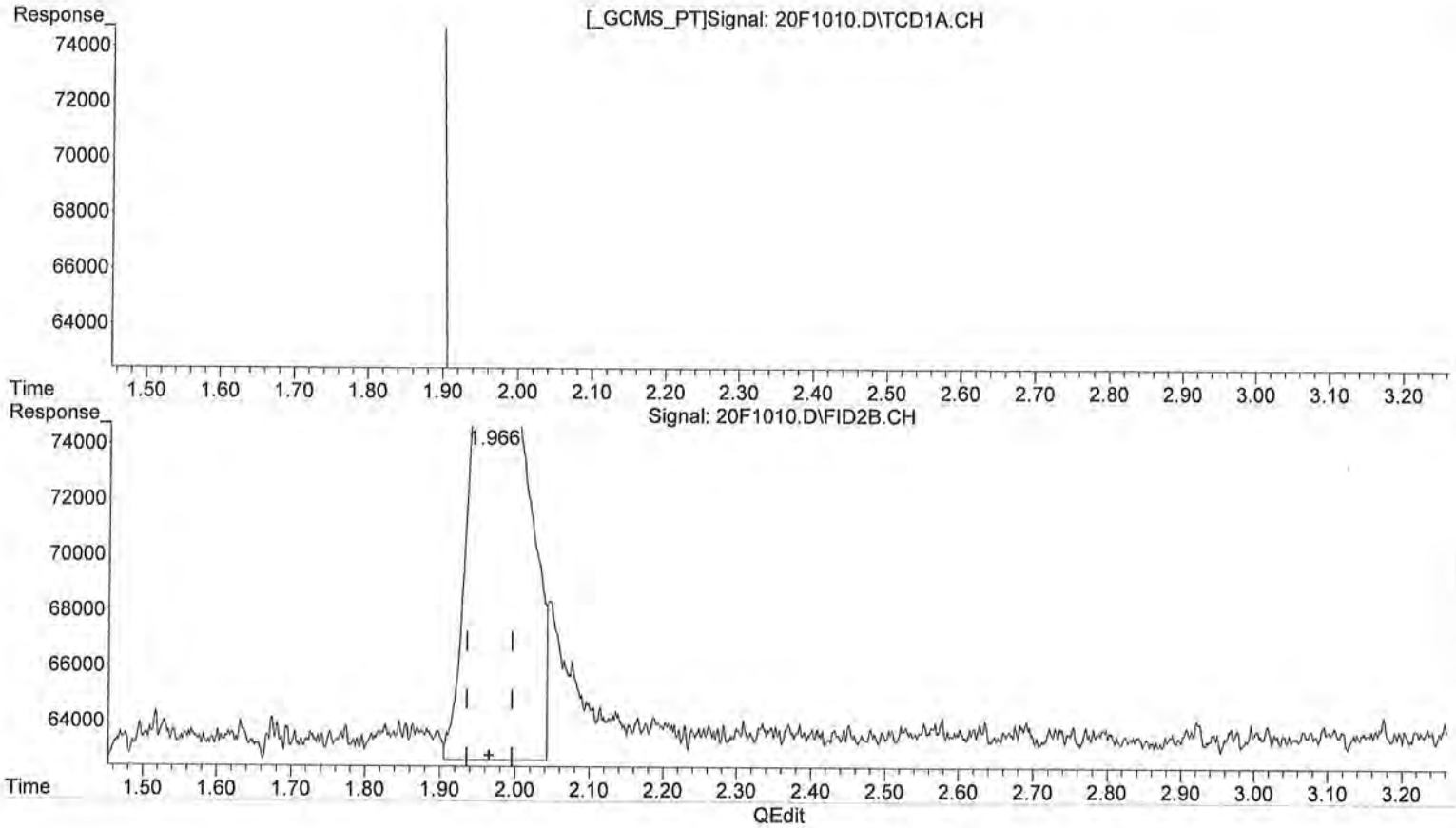
Select One:
[ ] Original Integration [X] Manual Integration
Select reason for manual integration:
[X] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date KG 6/1/2020
Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1010.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 12:21 pm
Operator : KG
Sample : CAL2 mee
Misc :
ALS Vial : 10 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:54:18 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(2) Methane

0.000min 0.000 mg/L

response 0

(2) Methane #2

1.966min 0.007 mg/L

response 923443

(+) = Expected Retention Time

052820.M Mon Jun 01 14:54:30 2020

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date LB 6/1/2020

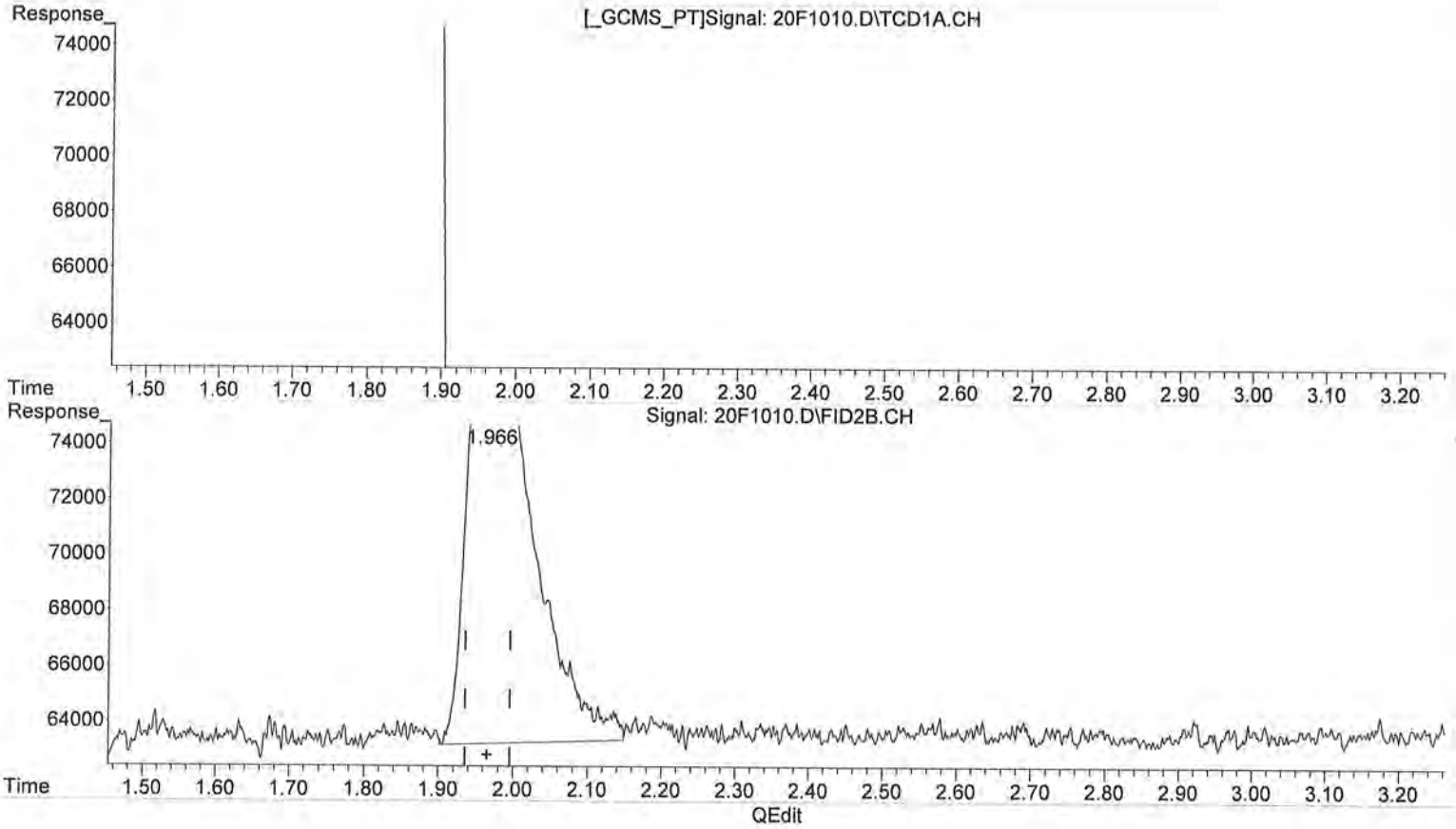
Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1010.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 12:21 pm
Operator : KG
Sample : CAL2 mee
Misc :
ALS Vial : 10 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:54:18 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(2) Methane

0.000min 0.000 mg/L

response 0

(2) Methane #2

1.966min 0.008 mg/L m

response 997852

(+) = Expected Retention Time

052820.M Mon Jun 01 14:54:37 2020

Select One:

[ ] Original Integration [✓] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date [illegible] 6/1/2020

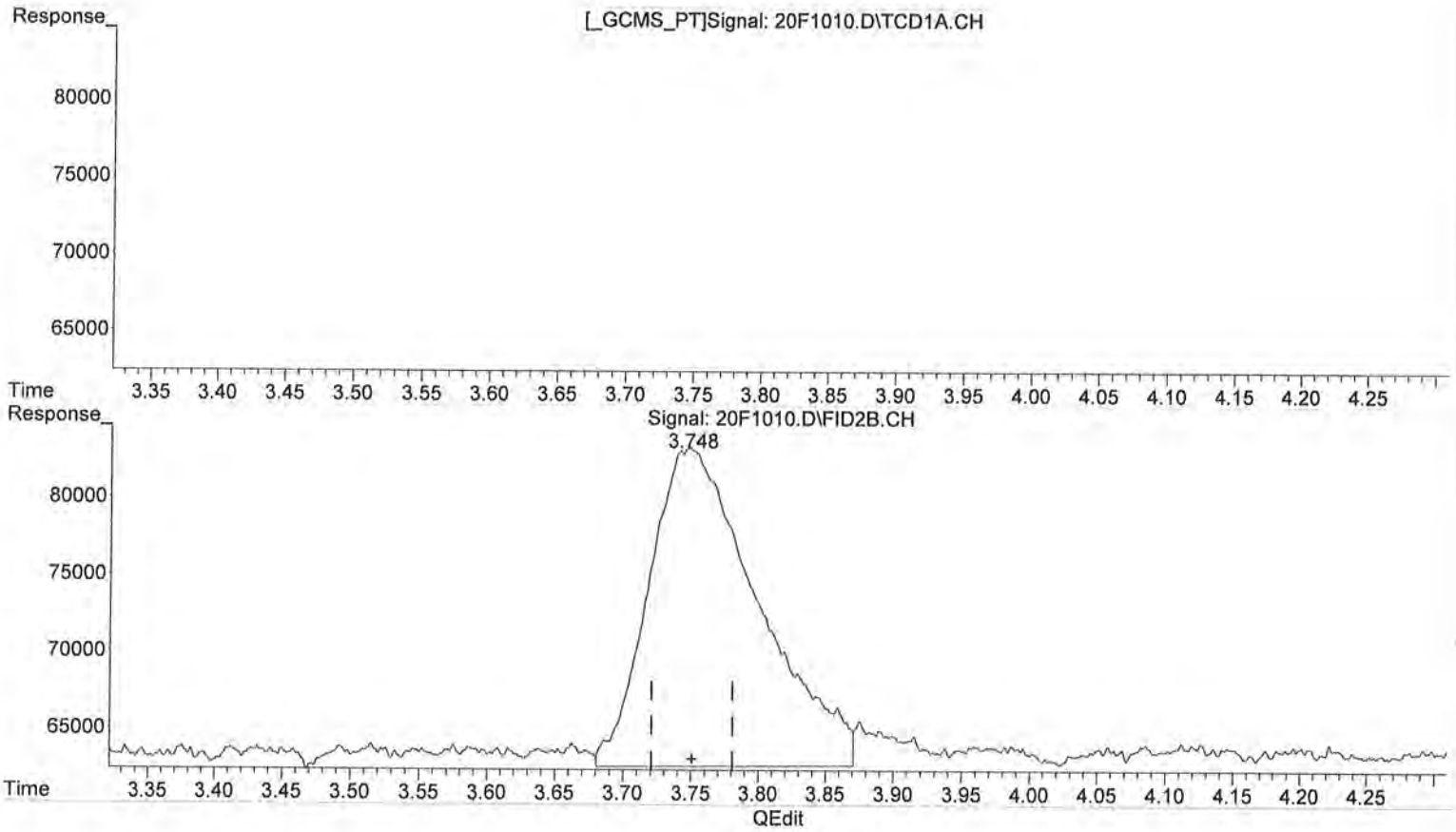
Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1010.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 12:21 pm
Operator : KG
Sample : CAL2 mee
Misc :
ALS Vial : 10 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:54:18 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(3) Ethene
3.717min 0.000 mg/L
response 143000

(3) Ethene #2
3.749min 0.014 mg/L
response 1162514

(+) = Expected Retention Time
052820.M Mon Jun 01 14:55:15 2020

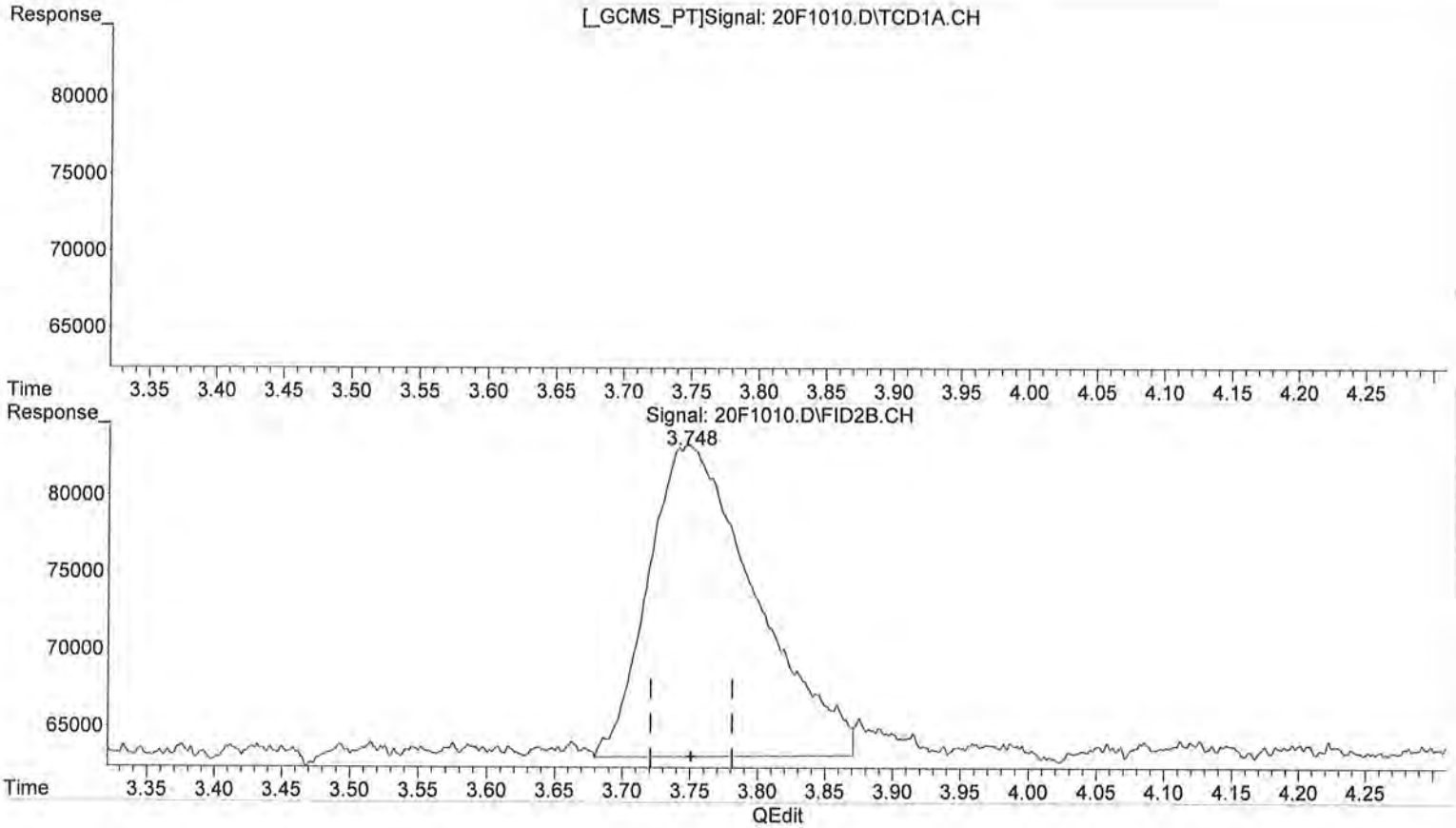
Select One:
[✓] Original Integration [ ] Manual Integration
Select reason for manual integration:
[✓] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date KS 6/1/2020
Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1010.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 12:21 pm
Operator : KG
Sample : CAL2 mee
Misc :
ALS Vial : 10 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:54:18 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(3) Ethene
3.717min 0.000 mg/L
response 143000

(3) Ethene #2
3.748min 0.014 mg/L m
response 1105571

Select One:
[ ] Original Integration [✓] Manual Integration
Select reason for manual integration:
[✓] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date ks 6/1/2020
Review by/Date:

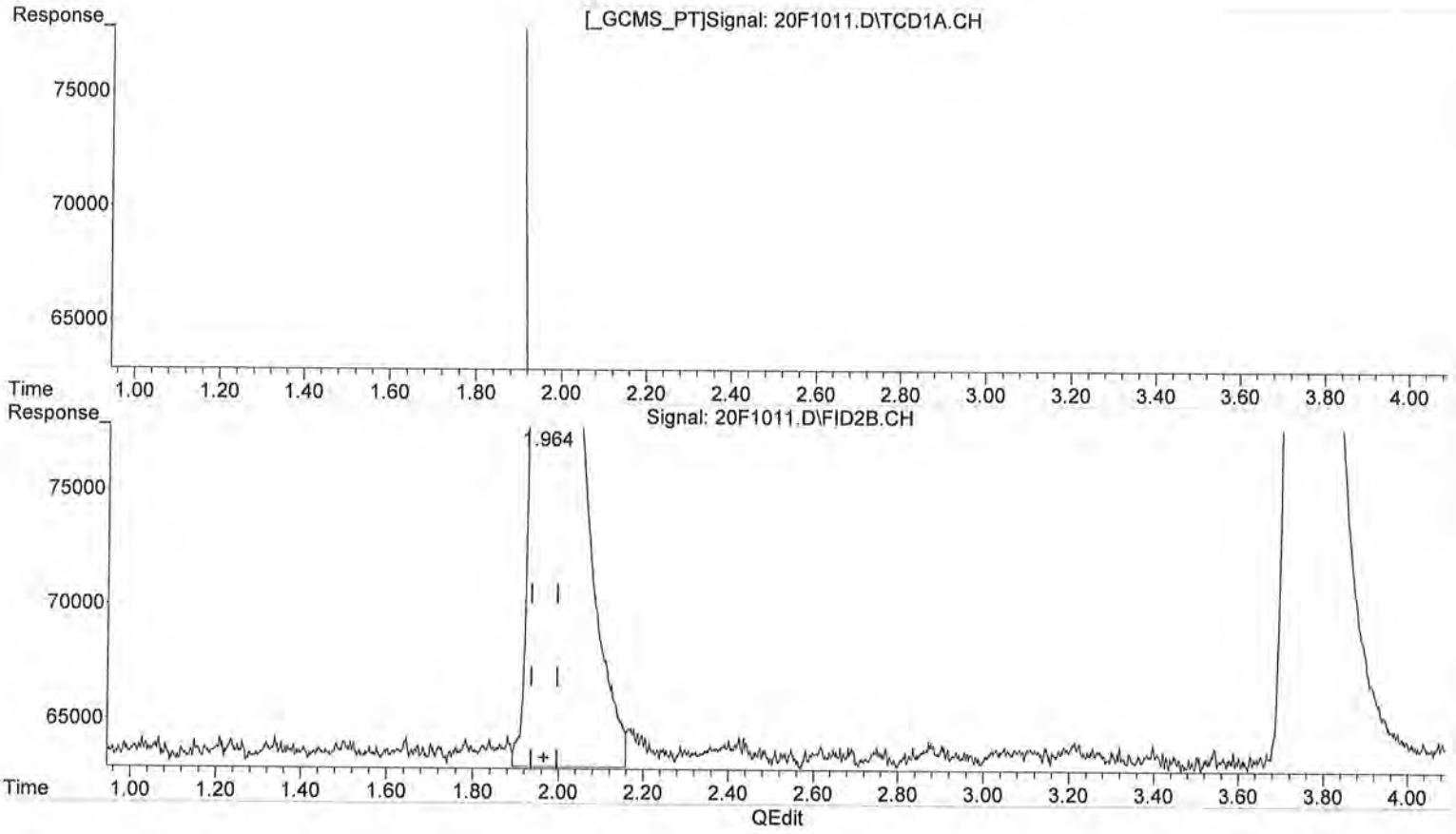
(+) = Expected Retention Time
052820.M Mon Jun 01 14:55:21 2020

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1011.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 12:37 pm
Operator : KG
Sample : CAL3 mee
Misc :
ALS Vial : 11 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:12:55 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(2) Methane

0.000min 0.000 mg/L

response 0

(2) Methane #2

1.965min 0.030 mg/L

response 3865957

(+) = Expected Retention Time
052820.M Mon Jun 01 14:55:42 2020

Select One:

[✓] Original Integration [ ] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date KR 6/1/2020

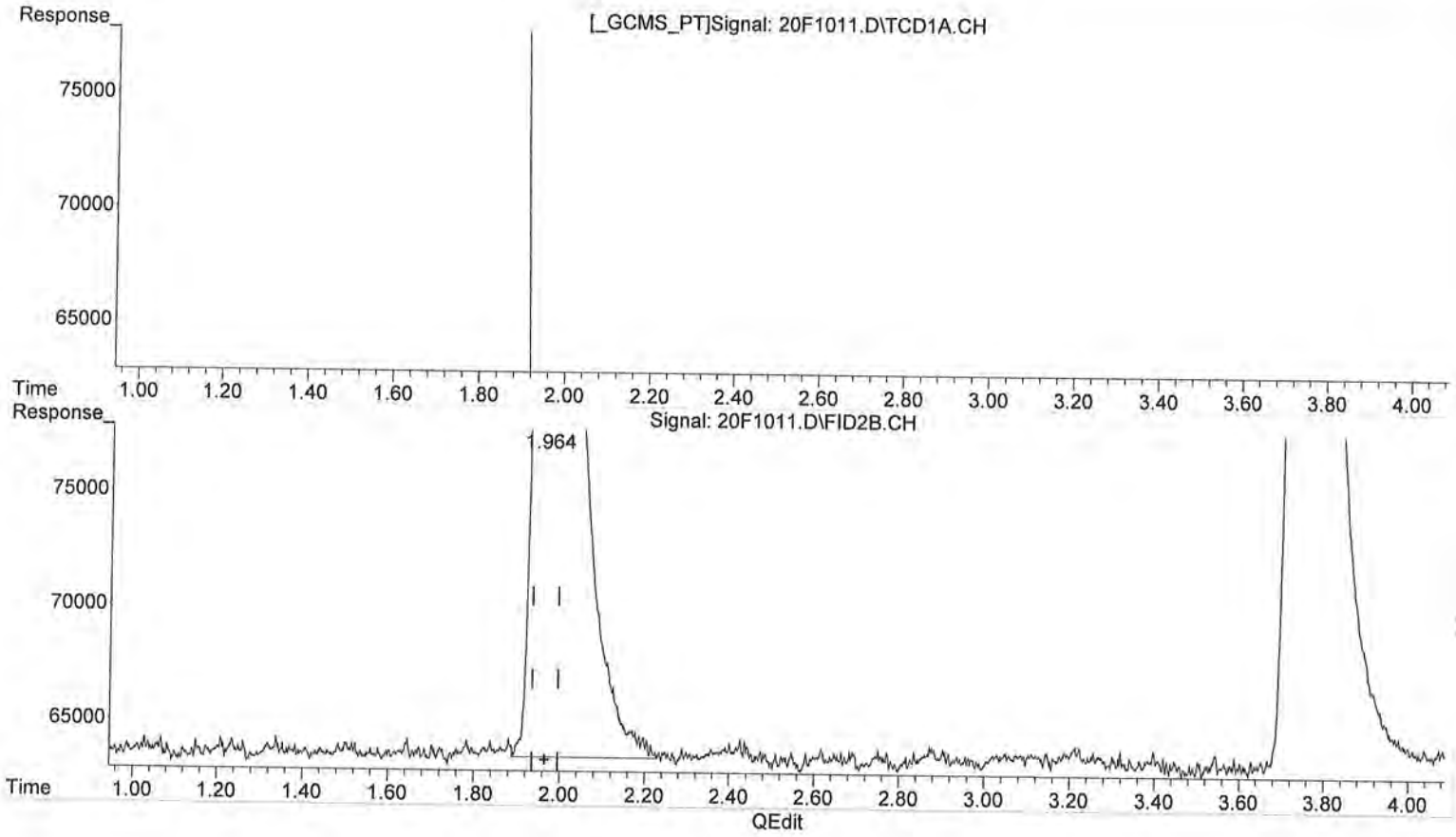
Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1011.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 12:37 pm
Operator : KG
Sample : CAL3 mee
Misc :
ALS Vial : 11 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:12:55 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(2) Methane

0.000min 0.000 mg/L

response 0

(2) Methane #2

1.964min 0.030 mg/L m

response 3814103

(+) = Expected Retention Time

052820.M Mon Jun 01 14:55:47 2020

Select One:

[ ] Original Integration [✓] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date KEF 6/1/2020

Review by/Date:

TETRA TECH ISG
TtNUS, Information Systems Group

Completion Ticket

On 2/4/2021 at 1:15 PM the following files were submitted to Tetra Tech by kdylnicki@encolabs.com with ENCO:

TE016AE00066A1.txt, TE016AE00066A3.txt

If you need to identify this session at a later date refer to Ticket Key:

202124_3028038536_ledd_ENCO

You may print this page by clicking on the "Print This Page" button

Thank you for using the Data Checker, to upload more files click the "Upload/Check Files" link on navigation menu.

Print this Page Back To Upload

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I Lori S. Mangrum, as the designated Quality Assurance Officer, hereby attest that all electronic deliverables have been thoroughly reviewed and are in agreement with the associated hardcopy data. The enclosed electronic files have been reviewed for accuracy (including significant figures), completeness and format. The laboratory will be responsible for any labor time necessary to correct enclosed electronic deliverables that have been found to be in error. I can be reached at (407) 826-5314 if there are any questions or problems with the enclosed electronic deliverables.

Signature:_____ Title: Quality Assurance Manager Date: February 10, 2021

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ENCO Laboratories

Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Thursday, January 28, 2021
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AE00066

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Thursday, January 21, 2021.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

www.encolabs.com

Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Client PM: Alex Murphy
Project Number: 112G08970
ENCO Project ID: AE00066
SDG: AE00066-TE016

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling and processing will be discussed in the Remarks section below.

Remarks

List of instruments used:

Analytical and Preparation Method	SOP Reference Instrument
EPA 8260D / 5030B_MS	OVGCMS2, OVGCMS5
TO-15	OVGCMS7
RSK-175	OVGCFID2

Analysis: EPA 8260D

Manual integrations were performed on samples associated with EPA 8260D. All data & explanations are included in the raw data section of the report.

Affected Samples: 1A25020-BS1, CRCA-MW0030-058.0-20210119[AE00066-01], CRCA-MW0029-035.0-20210119[AE00066-02], CRCA-MW0028-058.0-20210119[AE00066-03], CRCA-MW0027-035.0-20210119[AE00066-04], CRCA-MW0015-027.5-20210119[AE00066-05], CRCA-MW0013-027.5-20210119[AE00066-06], CRCA-MW0012-027.5-20210119[AE00066-07], CRCA-MW0002-032.5-20210119[AE00066-08], CRCA-MW0031-058.0-20210120[AE00066-09], CRCA-MW0032-058.0-20210120[AE00066-10], CRCA-MW0019-058.0-20210120[AE00066-12]
The associated laboratory control sample exhibited low bias for methyl acetate; the associated sample had ND (non-detect) results, but sensitivity was verified by analyzing a standard with a concentration equivalent to the reporting limit.

Affected Samples: CRCA-MW0032-058.0-20210120[AE00066-10], 1A25020-MS1, 1A25020-MSD1
Matrix spike recovery was outside acceptance limits for m,p-xylenes, methyl acetate, and/or styrene.

Affected Samples: 1A26010-BS1, CRCA-MW0018-058.0-20210120[AE00066-11RE1]
The associated laboratory control sample for multiple analytes exhibited high bias. Analyte(s) not detected in the sample.

Affected Samples: AA64658-CCV1, CRCA-MW0018-058.0-20210120[AE00066-11RE1]
The associated calibration verification standard for methyl acetate exhibited high bias. Analyte(s) not detected in the sample

Affected Samples: CRCA-MW0018-058.0-20210120[AE00066-11]
Sample was analyzed at a dilution due to suspected matrix interference.

Affected Samples: CRCA-MW0018-058.0-20210120[AE00066-11]
Initial analysis was over diluted. Sample was reanalyzed at a lower dilution.

Affected Samples: 1A26010-MS1, 1A26010-MSD1
Matrix spike recovery was outside acceptance limits for carbon disulfide, cyclohexane, and/or methyl acetate.

Affected Samples: AA64632-CCV1, AA64658-CCV1
The continuing calibration verification standard exhibited low bias for multiple analytes; the associated sample had ND (non-detect) results, but sensitivity was verified by analyzing a standard with a concentration equivalent to the reporting limit.

Analysis: TO-15

The calibration curve and the continuing calibration standards are in ppbv. Raw data is reported in pptv. Per request, results may be reported in a unit other than ppbv which is obtained through a conversion factor set up in the laboratories' database.

Methylene chloride is a common laboratory contaminant.

Affected Samples: 1A25023-BLK1, CRCA-VMP01-20210120[AE00066-13RE1], CRCA-VMP02-20210120[AE00066-14], CRCA-VMP03-20210120[AE00066-15RE1], CRCA-SYSAIR-20210120[AE00066-17]
Result for methylene chloride may be biased high due to positive results in the associated method blank.

Affected Samples: CRCA-VMP01-20210120[AE00066-13], CRCA-VMP03-20210120[AE00066-15], CRCA-VMP04-20210120[AE00066-16]
Sample was analyzed at a dilution due to suspected matrix interference.

Affected Samples: CRCA-VMP01-20210120[AE00066-13], CRCA-VMP03-20210120[AE00066-15], CRCA-VMP04-20210120[AE00066-16],
Initial analysis was over diluted. Sample was reanalyzed at a lower dilution.

Affected Samples: CRCA-VMP04-20210120[AE00066-16RE1]
Sample was analyzed at a dilution due to the presence of high non-target analytes.

Affected Samples: AA64317-SCV1
SCV recovery for trans-1,3-dichloropropene was outside acceptance limits. Analyte was not detected in the samples.

Analysis: RSK-175

Manual integrations were performed on samples associated with RSK-175. All data & explanations are included in the raw data section of the report.

Affected Samples: CRCA-MW0031-058.0-20210120[AE00066-09], CRCA-MW0018-058.0-20210120[AE00066-11], CRCA-MW0019-058.0-20210120[AE00066-12]
The associated calibration verification standard for ethane exhibited high bias. Analyte(s) not detected in the sample.

Affected Samples: CRCA-MW0031-058.0-20210120[AE00066-09], 1A26006-DUP1
Precision between duplicate samples was outside acceptance limits for methane.

Affected Samples: AA64653-CCV2, CRCA-MW0018-058.0-20210120[AE00066-11]
Initial result for methane was above the calibration range of the instrument. Sample was reanalyzed at a dilution.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-MW0030-058.0-20210119 **Lab ID: AE00066-01** **Sampled: 01/19/21 11:05** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 12:17

Client ID: CRCA-MW0029-035.0-20210119 **Lab ID: AE00066-02** **Sampled: 01/19/21 11:40** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 12:46

Client ID: CRCA-MW0028-058.0-20210119 **Lab ID: AE00066-03** **Sampled: 01/19/21 12:20** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 13:15

Client ID: CRCA-MW0027-035.0-20210119 **Lab ID: AE00066-04** **Sampled: 01/19/21 13:00** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 13:45

Client ID: CRCA-MW0015-027.5-20210119 **Lab ID: AE00066-05** **Sampled: 01/19/21 13:35** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 14:14

Client ID: CRCA-MW0013-027.5-20210119 **Lab ID: AE00066-06** **Sampled: 01/19/21 14:30** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 14:44

Client ID: CRCA-MW0012-027.5-20210119 **Lab ID: AE00066-07** **Sampled: 01/19/21 15:10** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 15:13

Client ID: CRCA-MW0002-032.5-20210119 **Lab ID: AE00066-08** **Sampled: 01/19/21 15:45** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 15:43

Client ID: CRCA-MW0031-058.0-20210120 **Lab ID: AE00066-09** **Sampled: 01/20/21 12:15** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/03/21	01/25/21 00:00	01/25/21 16:12
RSK 175	Same	02/03/21	01/26/21 00:00	01/26/21 11:20

Client ID: CRCA-MW0032-058.0-20210120 **Lab ID: AE00066-10** **Sampled: 01/20/21 13:00** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/03/21	01/25/21 00:00	01/25/21 11:47

Client ID: CRCA-MW0018-058.0-20210120 **Lab ID: AE00066-11** **Sampled: 01/20/21 14:00** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	02/03/21	01/26/21 00:00	01/26/21 11:36

Client ID: CRCA-MW0018-058.0-20210120 **Lab ID: AE00066-11RE1** **Sampled: 01/20/21 14:00** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/03/21	01/26/21 00:00	01/26/21 15:52
RSK 175	Same	02/03/21	01/26/21 00:00	01/26/21 12:16

Client ID: CRCA-MW0019-058.0-20210120 **Lab ID: AE00066-12** **Sampled: 01/20/21 16:00** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/03/21	01/25/21 00:00	01/25/21 17:11
RSK 175	Same	02/03/21	01/26/21 00:00	01/26/21 11:52

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-VMP01-20210120 **Lab ID: AE00066-13RE1** **Sampled: 01/20/21 11:03** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	02/19/21	01/25/21 09:00	01/25/21 10:36

Client ID: CRCA-VMP02-20210120 **Lab ID: AE00066-14** **Sampled: 01/20/21 11:06** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	02/19/21	01/25/21 09:00	01/25/21 11:18

Client ID: CRCA-VMP03-20210120 **Lab ID: AE00066-15RE1** **Sampled: 01/20/21 11:15** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	02/19/21	01/25/21 09:00	01/25/21 14:06

Client ID: CRCA-VMP04-20210120 **Lab ID: AE00066-16RE1** **Sampled: 01/20/21 11:22** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	02/19/21	01/25/21 09:00	01/25/21 14:47

Client ID: CRCA-SYSAIR-20210120 **Lab ID: AE00066-17** **Sampled: 01/20/21 17:03** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	02/19/21	01/25/21 09:00	01/25/21 13:21

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-MW0027-035.0-20210119 **Lab ID:** AE00066-04

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	7.0		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0013-027.5-20210119 **Lab ID:** AE00066-06

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	2.1	I	0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0002-032.5-20210119 **Lab ID:** AE00066-08

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	3.1		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0031-058.0-20210120 **Lab ID:** AE00066-09

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	0.152		0.00400	0.00500	mg/L	RSK 175	QM-12
Vinyl chloride	29		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0018-058.0-20210120 **Lab ID:** AE00066-11

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethene	0.0216		0.00510	0.00600	mg/L	RSK 175	

Client ID: CRCA-MW0018-058.0-20210120 **Lab ID:** AE00066-11RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	2.09		0.0400	0.0500	mg/L	RSK 175	
Vinyl chloride	97		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0019-058.0-20210120 **Lab ID:** AE00066-12

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	0.510		0.00400	0.00500	mg/L	RSK 175	
Vinyl chloride	2.8		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-VMP01-20210120 **Lab ID:** AE00066-13RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	5.9		0.47	3.4	ppbv	TO-15	
Freon 113	3.9		0.43	3.4	ppbv	TO-15	
Methylene chloride	0.75	IV	0.27	3.4	ppbv	TO-15	J-01, O-01

Client ID: CRCA-VMP02-20210120 **Lab ID:** AE00066-14

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	3.5	I	0.94	6.8	ppbv	TO-15	
Freon 113	120		0.86	6.8	ppbv	TO-15	
Methylene chloride	0.97	IV	0.54	6.8	ppbv	TO-15	J-01, O-01
trans-1,2-Dichloroethene	5.5	I	0.86	6.8	ppbv	TO-15	

Client ID: CRCA-VMP03-20210120 **Lab ID:** AE00066-15RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	4.1		0.56	4.0	ppbv	TO-15	
Chloroform	1.9	I	0.60	4.0	ppbv	TO-15	
Freon 113	8.1		0.51	4.0	ppbv	TO-15	
Methylene chloride	1.1	IV	0.32	4.0	ppbv	TO-15	J-01, O-01

Client ID: CRCA-VMP04-20210120 **Lab ID:** AE00066-16RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	31		0.98	7.0	ppbv	TO-15	
Freon 113	34		0.90	7.0	ppbv	TO-15	
Methylene chloride	1.1	IV	0.56	7.0	ppbv	TO-15	J-01, O-01, R-05

Client ID: CRCA-SYSAIR-20210120 **Lab ID:** AE00066-17

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	2.6	I	0.46	3.3	ppbv	TO-15	
Methylene chloride	0.99	IV	0.26	3.3	ppbv	TO-15	J-01, O-01
trans-1,2-Dichloroethene	0.96	I	0.42	3.3	ppbv	TO-15	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0030-058.0-20210119 **Lab Sample ID:** AE00066-01 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 11:05 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 12:17	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:17	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0030-058.0-20210119 **Lab Sample ID:** AE00066-01 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 11:05 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 12:17	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*106 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 12:17*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*115 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 12:17*	*KKW*	
Toluene-d8	*48*	*1*	*50.0*	*97 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 12:17*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0029-035.0-20210119 **Lab Sample ID:** AE00066-02 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 11:40 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 12:46	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:46	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0029-035.0-20210119 **Lab Sample ID:** AE00066-02 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 11:40 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 12:46	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*107 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 12:46*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*114 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 12:46*	*KKW*	
Toluene-d8	*48*	*1*	*50.0*	*96 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 12:46*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0028-058.0-20210119 **Lab Sample ID:** AE00066-03 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 12:20 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 13:15	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:15	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0028-058.0-20210119 **Lab Sample ID:** AE00066-03 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 12:20 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 13:15	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*105 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 13:15*	*KKW*	
Dibromofluoromethane	*56*	*1*	*50.0*	*111 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 13:15*	*KKW*	
Toluene-d8	*48*	*1*	*50.0*	*95 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 13:15*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0027-035.0-20210119 **Lab Sample ID:** AE00066-04 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 13:45	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:45	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0027-035.0-20210119 **Lab Sample ID:** AE00066-04 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Vinyl chloride [75-01-4]^	**7.0**		ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 13:45	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*52*	*1*	*50.0*	*104 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 13:45*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*115 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 13:45*	*KKW*	
Toluene-d8	*46*	*1*	*50.0*	*93 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 13:45*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0015-027.5-20210119 **Lab Sample ID:** AE00066-05 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:35 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 14:14	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:14	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0015-027.5-20210119 **Lab Sample ID:** AE00066-05 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:35 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 14:14	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*54*	*1*	*50.0*	*108 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 14:14*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*114 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 14:14*	*KKW*	
Toluene-d8	*47*	*1*	*50.0*	*94 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 14:14*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0013-027.5-20210119 **Lab Sample ID:** AE00066-06 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 14:30 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 14:44	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:44	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0013-027.5-20210119 **Lab Sample ID:** AE00066-06 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 14:30 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Vinyl chloride [75-01-4]^	**2.1**	I	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 14:44	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*55*	*1*	*50.0*	*109 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 14:44*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*114 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 14:44*	*KKW*	
Toluene-d8	*48*	*1*	*50.0*	*96 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 14:44*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0012-027.5-20210119 **Lab Sample ID:** AE00066-07 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 15:10 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 15:13	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:13	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0012-027.5-20210119 **Lab Sample ID:** AE00066-07 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 15:10 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 15:13	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*54*	*1*	*50.0*	*109 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 15:13*	*KKW*	
Dibromofluoromethane	*59*	*1*	*50.0*	*118 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 15:13*	*KKW*	
Toluene-d8	*48*	*1*	*50.0*	*96 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 15:13*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0002-032.5-20210119 **Lab Sample ID:** AE00066-08 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 15:45 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 15:43	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:43	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0002-032.5-20210119 **Lab Sample ID:** AE00066-08 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 15:45 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Vinyl chloride [75-01-4]^	**3.1**		ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 15:43	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*55*	*1*	*50.0*	*109 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 15:43*	*KKW*	
Dibromofluoromethane	*56*	*1*	*50.0*	*113 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 15:43*	*KKW*	
Toluene-d8	*49*	*1*	*50.0*	*97 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 15:43*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0031-058.0-20210120 **Lab Sample ID:** AE00066-09 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 12:15 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 16:12	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 16:12	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	

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ANALYTICAL RESULTS

Description: CRCA-MW0031-058.0-20210120 **Lab Sample ID:** AE00066-09 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 12:15 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Vinyl chloride [75-01-4]^	**29**		ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 16:12	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*52*	*1*	*50.0*	*105 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 16:12*	*KKW*	
Dibromofluoromethane	*59*	*1*	*50.0*	*118 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 16:12*	*KKW*	
Toluene-d8	*47*	*1*	*50.0*	*93 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 16:12*	*KKW*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1A26006	RSK 175	01/26/21 11:20	JMW	QV-01
Ethene [74-85-1]^	0.00510	U	mg/L	1	0.00510	0.00600	1A26006	RSK 175	01/26/21 11:20	JMW	
Methane [74-82-8]^	**0.152**		mg/L	1	0.00400	0.00500	1A26006	RSK 175	01/26/21 11:20	JMW	QM-12

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0032-058.0-20210120 **Lab Sample ID:** AE00066-10 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 13:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 11:47	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 11:47	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 11:47	KKW	QM-07
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	A-07, QM-19
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	QM-07
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0032-058.0-20210120 **Lab Sample ID:** AE00066-10 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 13:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 11:47	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*106 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 11:47*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*114 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 11:47*	*KKW*	
Toluene-d8	*47*	*1*	*50.0*	*94 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 11:47*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0018-058.0-20210120 **Lab Sample ID:** AE00066-11 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 14:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A26010	EPA 8260D	01/26/21 15:52	KG	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A26010	EPA 8260D	01/26/21 15:52	KG	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A26010	EPA 8260D	01/26/21 15:52	KG	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A26010	EPA 8260D	01/26/21 15:52	KG	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A26010	EPA 8260D	01/26/21 15:52	KG	QL-02
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	QL-02
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	QL-02
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A26010	EPA 8260D	01/26/21 15:52	KG	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	QL-02, QV-01
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A26010	EPA 8260D	01/26/21 15:52	KG	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	QL-02
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0018-058.0-20210120 **Lab Sample ID:** AE00066-11 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 14:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Vinyl chloride [75-01-4]^	**97**		ug/L	1	0.71	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A26010	EPA 8260D	01/26/21 15:52	KG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*54*	*1*	*50.0*	*108 %*	*41-142*	*1A26010*	*EPA 8260D*	*01/26/21 15:52*	*KG*	
Dibromofluoromethane	*55*	*1*	*50.0*	*110 %*	*53-146*	*1A26010*	*EPA 8260D*	*01/26/21 15:52*	*KG*	
Toluene-d8	*55*	*1*	*50.0*	*109 %*	*41-146*	*1A26010*	*EPA 8260D*	*01/26/21 15:52*	*KG*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1A26006	RSK 175	01/26/21 11:36	JMW	QV-01
Ethene [74-85-1]^	**0.0216**		mg/L	1	0.00510	0.00600	1A26006	RSK 175	01/26/21 11:36	JMW	
Methane [74-82-8]^	**2.09**		mg/L	10	0.0400	0.0500	1A26006	RSK 175	01/26/21 12:16	JMW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0019-058.0-20210120 **Lab Sample ID:** AE00066-12 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 16:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 17:11	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:11	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0019-058.0-20210120 **Lab Sample ID:** AE00066-12 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 16:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Vinyl chloride [75-01-4]^	**2.8**		ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 17:11	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*55*	*1*	*50.0*	*110 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 17:11*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*113 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 17:11*	*KKW*	
Toluene-d8	*47*	*1*	*50.0*	*95 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 17:11*	*KKW*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1A26006	RSK 175	01/26/21 11:52	JMW	QV-01
Ethene [74-85-1]^	0.00510	U	mg/L	1	0.00510	0.00600	1A26006	RSK 175	01/26/21 11:52	JMW	
Methane [74-82-8]^	**0.510**		mg/L	1	0.00400	0.00500	1A26006	RSK 175	01/26/21 11:52	JMW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-VMP01-20210120 | **Lab Sample ID:** AE00066-13 | **Received:** 01/21/21 15:10

Matrix: Air | **Sampled:** 01/20/21 11:03 | **Work Order:** AE00066

Project: NASA KSC CRCA | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.46	U	ppbv	1.34	0.46	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.48	U	ppbv	1.34	0.48	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.47	U	ppbv	1.34	0.47	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,1-Dichloroethane [75-34-3]^	0.48	U	ppbv	1.34	0.48	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,1-Dichloroethene [75-35-4]^	0.51	U	ppbv	1.34	0.51	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,2-Dibromoethane [106-93-4]^	0.48	U	ppbv	1.34	0.48	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.36	U	ppbv	1.34	0.36	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,2-Dichloroethane [107-06-2]^	0.50	U	ppbv	1.34	0.50	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,2-Dichloropropane [78-87-5]^	0.54	U	ppbv	1.34	0.54	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.38	U	ppbv	1.34	0.38	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.42	U	ppbv	1.34	0.42	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
3-Chloropropene [107-05-1]^	0.52	U	ppbv	1.34	0.52	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Acetone [67-64-1]^	**5.9**		ppbv	1.34	0.47	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Bromodichloromethane [75-27-4]^	0.46	U	ppbv	1.34	0.46	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Bromoethene [593-60-2]^	0.44	U	ppbv	1.34	0.44	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Bromoform [75-25-2]^	0.51	U	ppbv	1.34	0.51	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Bromomethane [74-83-9]^	0.44	U	ppbv	1.34	0.44	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Carbon tetrachloride [56-23-5]^	0.36	U	ppbv	1.34	0.36	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Chlorobenzene [108-90-7]^	0.44	U	ppbv	1.34	0.44	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Chloroethane [75-00-3]^	0.43	U	ppbv	1.34	0.43	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Chloroform [67-66-3]^	0.51	U	ppbv	1.34	0.51	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Chloromethane [74-87-3]^	0.64	U	ppbv	1.34	0.64	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
cis-1,2-Dichloroethene [156-59-2]^	0.51	U	ppbv	1.34	0.51	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	0.51	U	ppbv	1.34	0.51	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Dibromochloromethane [124-48-1]^	0.44	U	ppbv	1.34	0.44	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ppbv	1.34	0.74	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Freon 113 [76-13-1]^	**3.9**		ppbv	1.34	0.43	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Freon 114 [76-14-2]^	0.70	U	ppbv	1.34	0.70	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Hexachlorobutadiene [87-68-3]^	0.50	U	ppbv	1.34	0.50	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Methylene chloride [75-09-2]^	**0.75**	IV	ppbv	1.34	0.27	3.4	1A25023	TO-15	01/25/21 10:36	rgg	J-01, O-01
Propene [115-07-1]^	0.74	U	ppbv	1.34	0.74	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Tetrachloroethene [127-18-4]^	0.42	U	ppbv	1.34	0.42	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
trans-1,2-Dichloroethene [156-60-5]^	0.43	U	ppbv	1.34	0.43	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.46	U	ppbv	1.34	0.46	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Trichloroethene [79-01-6]^	0.47	U	ppbv	1.34	0.47	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Trichlorofluoromethane [75-69-4]^	0.46	U	ppbv	1.34	0.46	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Vinyl chloride [75-01-4]^	0.75	U	ppbv	1.34	0.75	3.4	1A25023	TO-15	01/25/21 10:36	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*28*	*1*	*31.0*	*90 %*	*70-130*	*1A25023*	*TO-15*	*01/25/21 10:36*	*rgg*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-VMP02-20210120 | **Lab Sample ID:** AE00066-14 | **Received:** 01/21/21 15:10

Matrix: Air | **Sampled:** 01/20/21 11:06 | **Work Order:** AE00066

Project: NASA KSC CRCA | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.92	U	ppbv	1.35	0.92	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.97	U	ppbv	1.35	0.97	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.94	U	ppbv	1.35	0.94	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,1-Dichloroethane [75-34-3]^	0.97	U	ppbv	1.35	0.97	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,1-Dichloroethene [75-35-4]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,2-Dibromoethane [106-93-4]^	0.97	U	ppbv	1.35	0.97	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ppbv	1.35	0.73	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,2-Dichloroethane [107-06-2]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,2-Dichloropropane [78-87-5]^	1.1	U	ppbv	1.35	1.1	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.76	U	ppbv	1.35	0.76	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.84	U	ppbv	1.35	0.84	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
3-Chloropropene [107-05-1]^	1.1	U	ppbv	1.35	1.1	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Acetone [67-64-1]^	**3.5**	I	ppbv	1.35	0.94	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Bromodichloromethane [75-27-4]^	0.92	U	ppbv	1.35	0.92	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Bromoethene [593-60-2]^	0.89	U	ppbv	1.35	0.89	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Bromoform [75-25-2]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Bromomethane [74-83-9]^	0.89	U	ppbv	1.35	0.89	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Carbon tetrachloride [56-23-5]^	0.73	U	ppbv	1.35	0.73	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Chlorobenzene [108-90-7]^	0.89	U	ppbv	1.35	0.89	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Chloroethane [75-00-3]^	0.86	U	ppbv	1.35	0.86	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Chloroform [67-66-3]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Chloromethane [74-87-3]^	1.3	U	ppbv	1.35	1.3	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
cis-1,2-Dichloroethene [156-59-2]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Dibromochloromethane [124-48-1]^	0.89	U	ppbv	1.35	0.89	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Dichlorodifluoromethane [75-71-8]^	1.5	U	ppbv	1.35	1.5	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Freon 113 [76-13-1]^	**120**		ppbv	1.35	0.86	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Freon 114 [76-14-2]^	1.4	U	ppbv	1.35	1.4	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Hexachlorobutadiene [87-68-3]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Methylene chloride [75-09-2]^	**0.97**	IV	ppbv	1.35	0.54	6.8	1A25023	TO-15	01/25/21 11:18	rgg	J-01, O-01
Propene [115-07-1]^	1.5	U	ppbv	1.35	1.5	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Tetrachloroethene [127-18-4]^	0.84	U	ppbv	1.35	0.84	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
trans-1,2-Dichloroethene [156-60-5]^	**5.5**	I	ppbv	1.35	0.86	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.92	U	ppbv	1.35	0.92	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Trichloroethene [79-01-6]^	0.94	U	ppbv	1.35	0.94	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Trichlorofluoromethane [75-69-4]^	0.92	U	ppbv	1.35	0.92	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Vinyl chloride [75-01-4]^	1.5	U	ppbv	1.35	1.5	6.8	1A25023	TO-15	01/25/21 11:18	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*27*	*1*	*31.0*	*87 %*	*70-130*	*1A25023*	*TO-15*	*01/25/21 11:18*	*rgg*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-VMP03-20210120 **Lab Sample ID:** AE00066-15 **Received:** 01/21/21 15:10

Matrix: Air **Sampled:** 01/20/21 11:15 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.54	U	ppbv	1.59	0.54	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.57	U	ppbv	1.59	0.57	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.56	U	ppbv	1.59	0.56	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,1-Dichloroethane [75-34-3]^	0.57	U	ppbv	1.59	0.57	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,1-Dichloroethene [75-35-4]^	0.60	U	ppbv	1.59	0.60	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,2-Dibromoethane [106-93-4]^	0.57	U	ppbv	1.59	0.57	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.43	U	ppbv	1.59	0.43	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,2-Dichloroethane [107-06-2]^	0.59	U	ppbv	1.59	0.59	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,2-Dichloropropane [78-87-5]^	0.64	U	ppbv	1.59	0.64	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.45	U	ppbv	1.59	0.45	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.49	U	ppbv	1.59	0.49	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
3-Chloropropene [107-05-1]^	0.62	U	ppbv	1.59	0.62	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Acetone [67-64-1]^	**4.1**		ppbv	1.59	0.56	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Bromodichloromethane [75-27-4]^	0.54	U	ppbv	1.59	0.54	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Bromoethene [593-60-2]^	0.52	U	ppbv	1.59	0.52	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Bromoform [75-25-2]^	0.60	U	ppbv	1.59	0.60	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Bromomethane [74-83-9]^	0.52	U	ppbv	1.59	0.52	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Carbon tetrachloride [56-23-5]^	0.43	U	ppbv	1.59	0.43	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Chlorobenzene [108-90-7]^	0.52	U	ppbv	1.59	0.52	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Chloroethane [75-00-3]^	0.51	U	ppbv	1.59	0.51	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Chloroform [67-66-3]^	**1.9**	I	ppbv	1.59	0.60	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Chloromethane [74-87-3]^	0.76	U	ppbv	1.59	0.76	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
cis-1,2-Dichloroethene [156-59-2]^	0.60	U	ppbv	1.59	0.60	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	0.60	U	ppbv	1.59	0.60	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Dibromochloromethane [124-48-1]^	0.52	U	ppbv	1.59	0.52	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Dichlorodifluoromethane [75-71-8]^	0.87	U	ppbv	1.59	0.87	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Freon 113 [76-13-1]^	**8.1**		ppbv	1.59	0.51	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Freon 114 [76-14-2]^	0.83	U	ppbv	1.59	0.83	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Hexachlorobutadiene [87-68-3]^	0.59	U	ppbv	1.59	0.59	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Methylene chloride [75-09-2]^	**1.1**	IV	ppbv	1.59	0.32	4.0	1A25023	TO-15	01/25/21 14:06	rgg	J-01, O-01
Propene [115-07-1]^	0.87	U	ppbv	1.59	0.87	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Tetrachloroethene [127-18-4]^	0.49	U	ppbv	1.59	0.49	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
trans-1,2-Dichloroethene [156-60-5]^	0.51	U	ppbv	1.59	0.51	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.54	U	ppbv	1.59	0.54	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Trichloroethene [79-01-6]^	0.56	U	ppbv	1.59	0.56	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Trichlorofluoromethane [75-69-4]^	0.54	U	ppbv	1.59	0.54	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Vinyl chloride [75-01-4]^	0.89	U	ppbv	1.59	0.89	4.0	1A25023	TO-15	01/25/21 14:06	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*27*	*1*	*31.0*	*88 %*	*70-130*	*1A25023*	*TO-15*	*01/25/21 14:06*	*rgg*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-VMP04-20210120 | **Lab Sample ID:** AE00066-16 | **Received:** 01/21/21 15:10

Matrix: Air | **Sampled:** 01/20/21 11:22 | **Work Order:** AE00066

Project: NASA KSC CRCA | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.95	U	ppbv	1.4	0.95	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,1,2,2-Tetrachloroethane [79-34-5]^	1.0	U	ppbv	1.4	1.0	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,1,2-Trichloroethane [79-00-5]^	0.98	U	ppbv	1.4	0.98	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,1-Dichloroethane [75-34-3]^	1.0	U	ppbv	1.4	1.0	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,1-Dichloroethene [75-35-4]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,2-Dibromoethane [106-93-4]^	1.0	U	ppbv	1.4	1.0	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,2-Dichlorobenzene [95-50-1]^	0.76	U	ppbv	1.4	0.76	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,2-Dichloroethane [107-06-2]^	1.0	U	ppbv	1.4	1.0	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,2-Dichloropropane [78-87-5]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,3-Dichlorobenzene [541-73-1]^	0.78	U	ppbv	1.4	0.78	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,4-Dichlorobenzene [106-46-7]^	0.87	U	ppbv	1.4	0.87	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
3-Chloropropene [107-05-1]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Acetone [67-64-1]^	**31**		ppbv	1.4	0.98	7.0	1A25023	TO-15	01/25/21 14:47	rgg	
Bromodichloromethane [75-27-4]^	0.95	U	ppbv	1.4	0.95	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Bromoethene [593-60-2]^	0.92	U	ppbv	1.4	0.92	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Bromoform [75-25-2]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Bromomethane [74-83-9]^	0.92	U	ppbv	1.4	0.92	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Carbon tetrachloride [56-23-5]^	0.76	U	ppbv	1.4	0.76	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Chlorobenzene [108-90-7]^	0.92	U	ppbv	1.4	0.92	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Chloroethane [75-00-3]^	0.90	U	ppbv	1.4	0.90	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Chloroform [67-66-3]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Chloromethane [74-87-3]^	1.3	U	ppbv	1.4	1.3	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
cis-1,2-Dichloroethene [156-59-2]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
cis-1,3-Dichloropropene [10061-01-5]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Dibromochloromethane [124-48-1]^	0.92	U	ppbv	1.4	0.92	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Dichlorodifluoromethane [75-71-8]^	1.5	U	ppbv	1.4	1.5	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Freon 113 [76-13-1]^	**34**		ppbv	1.4	0.90	7.0	1A25023	TO-15	01/25/21 14:47	rgg	
Freon 114 [76-14-2]^	1.5	U	ppbv	1.4	1.5	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Hexachlorobutadiene [87-68-3]^	1.0	U	ppbv	1.4	1.0	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Methylene chloride [75-09-2]^	**1.1**	IV	ppbv	1.4	0.56	7.0	1A25023	TO-15	01/25/21 14:47	rgg	J-01, O-01, R-05
Propene [115-07-1]^	1.5	U	ppbv	1.4	1.5	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Tetrachloroethene [127-18-4]^	0.87	U	ppbv	1.4	0.87	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
trans-1,2-Dichloroethene [156-60-5]^	0.90	U	ppbv	1.4	0.90	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
trans-1,3-Dichloropropene [10061-02-6]^	0.95	U	ppbv	1.4	0.95	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Trichloroethene [79-01-6]^	0.98	U	ppbv	1.4	0.98	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Trichlorofluoromethane [75-69-4]^	0.95	U	ppbv	1.4	0.95	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Vinyl chloride [75-01-4]^	1.6	U	ppbv	1.4	1.6	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*28*	*1*	*31.0*	*89 %*	*70-130*	*1A25023*	*TO-15*	*01/25/21 14:47*	*rgg*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-SYSAIR-20210120 | **Lab Sample ID:** AE00066-17 | **Received:** 01/21/21 15:10

Matrix: Air | **Sampled:** 01/20/21 17:03 | **Work Order:** AE00066

Project: NASA KSC CRCA | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.45	U	ppbv	1.32	0.45	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.48	U	ppbv	1.32	0.48	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.46	U	ppbv	1.32	0.46	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,1-Dichloroethane [75-34-3]^	0.48	U	ppbv	1.32	0.48	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,1-Dichloroethene [75-35-4]^	0.50	U	ppbv	1.32	0.50	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,2-Dibromoethane [106-93-4]^	0.48	U	ppbv	1.32	0.48	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.36	U	ppbv	1.32	0.36	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,2-Dichloroethane [107-06-2]^	0.49	U	ppbv	1.32	0.49	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,2-Dichloropropane [78-87-5]^	0.53	U	ppbv	1.32	0.53	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.37	U	ppbv	1.32	0.37	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.41	U	ppbv	1.32	0.41	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
3-Chloropropene [107-05-1]^	0.51	U	ppbv	1.32	0.51	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Acetone [67-64-1]^	**2.6**	I	ppbv	1.32	0.46	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Bromodichloromethane [75-27-4]^	0.45	U	ppbv	1.32	0.45	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Bromoethene [593-60-2]^	0.44	U	ppbv	1.32	0.44	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Bromoform [75-25-2]^	0.50	U	ppbv	1.32	0.50	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Bromomethane [74-83-9]^	0.44	U	ppbv	1.32	0.44	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Carbon tetrachloride [56-23-5]^	0.36	U	ppbv	1.32	0.36	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Chlorobenzene [108-90-7]^	0.44	U	ppbv	1.32	0.44	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Chloroethane [75-00-3]^	0.42	U	ppbv	1.32	0.42	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Chloroform [67-66-3]^	0.50	U	ppbv	1.32	0.50	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Chloromethane [74-87-3]^	0.63	U	ppbv	1.32	0.63	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
cis-1,2-Dichloroethene [156-59-2]^	0.50	U	ppbv	1.32	0.50	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	0.50	U	ppbv	1.32	0.50	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Dibromochloromethane [124-48-1]^	0.44	U	ppbv	1.32	0.44	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Dichlorodifluoromethane [75-71-8]^	0.73	U	ppbv	1.32	0.73	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Freon 113 [76-13-1]^	0.42	U	ppbv	1.32	0.42	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Freon 114 [76-14-2]^	0.69	U	ppbv	1.32	0.69	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Hexachlorobutadiene [87-68-3]^	0.49	U	ppbv	1.32	0.49	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Methylene chloride [75-09-2]^	**0.99**	IV	ppbv	1.32	0.26	3.3	1A25023	TO-15	01/25/21 13:21	rgg	J-01, O-01
Propene [115-07-1]^	0.73	U	ppbv	1.32	0.73	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Tetrachloroethene [127-18-4]^	0.41	U	ppbv	1.32	0.41	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
trans-1,2-Dichloroethene [156-60-5]^	**0.96**	I	ppbv	1.32	0.42	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.45	U	ppbv	1.32	0.45	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Trichloroethene [79-01-6]^	0.46	U	ppbv	1.32	0.46	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Trichlorofluoromethane [75-69-4]^	0.45	U	ppbv	1.32	0.45	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Vinyl chloride [75-01-4]^	0.74	U	ppbv	1.32	0.74	3.3	1A25023	TO-15	01/25/21 13:21	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*28*	*1*	*31.0*	*89 %*	*70-130*	*1A25023*	*TO-15*	*01/25/21 13:21*	*rgg*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS

Blank (1A25020-BLK1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 10:19

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

Blank (1A25020-BLK1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 10:19

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*54*			*ug/L*	*50.0*		*109*	*41-142*			
Dibromofluoromethane	*55*			*ug/L*	*50.0*		*111*	*53-146*			
Toluene-d8	*48*	*I*		*ug/L*	*50.0*		*96*	*41-146*			

LCS (1A25020-BS1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 09:20

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	19		2.5	ug/L	20.0		97	57-148			
1,1,2,2-Tetrachloroethane	21		2.5	ug/L	20.0		105	60-139			
1,1,2-Trichloroethane	21		2.5	ug/L	20.0		107	57-141			
1,1-Dichloroethane	19		2.5	ug/L	20.0		93	57-142			
1,1-Dichloroethene	20		2.5	ug/L	20.0		102	47-139			
1,2,4-Trichlorobenzene	17		2.5	ug/L	20.0		87	52-159			
1,2-Dibromo-3-chloropropane	20		2.5	ug/L	20.0		102	48-150			
1,2-Dibromoethane	22		2.5	ug/L	20.0		110	57-140			
1,2-Dichlorobenzene	23		2.5	ug/L	20.0		113	63-131			
1,2-Dichloroethane	15		2.5	ug/L	20.0		75	50-156			
1,2-Dichloropropane	16		2.5	ug/L	20.0		80	61-133			
1,3-Dichlorobenzene	24		2.5	ug/L	20.0		118	66-129			
1,4-Dichlorobenzene	21		2.5	ug/L	20.0		106	65-133			
2-Butanone	90		12	ug/L	100		90	10-180			
2-Hexanone	68		12	ug/L	100		68	12-180			
4-Methyl-2-pentanone	90		12	ug/L	100		90	19-180			
Acetone	71		25	ug/L	100		71	10-180			
Benzene	19		2.5	ug/L	20.0		94	56-136			
Bromodichloromethane	18		2.5	ug/L	20.0		89	58-135			
Bromoform	21		2.5	ug/L	20.0		107	46-148			
Bromomethane	8.7		2.5	ug/L	20.0		44	10-173			
Carbon disulfide	20		12	ug/L	20.0		102	43-153			
Carbon Tetrachloride	16		2.5	ug/L	20.0		80	54-156			
Chlorobenzene	24		2.5	ug/L	20.0		120	51-139			
Chloroethane	22		2.5	ug/L	20.0		109	27-180			
Chloroform	20		2.5	ug/L	20.0		99	58-139			
Chloromethane	9.3		2.5	ug/L	20.0		46	33-154			
cis-1,2-Dichloroethene	22		2.5	ug/L	20.0		109	56-128			
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0		87	64-128			
Cyclohexane	16		2.5	ug/L	20.0		82	70-130			
Dibromochloromethane	24		2.5	ug/L	20.0		118	50-140			
Dichlorodifluoromethane	12		2.5	ug/L	20.0		61	10-180			
Ethylbenzene	22		2.5	ug/L	20.0		108	63-133			
Freon 113	21		2.5	ug/L	20.0		104	47-173			
Isopropylbenzene	24		2.5	ug/L	20.0		118	60-132			
m,p-Xylenes	50		5.0	ug/L	40.0		125	64-133			
Methyl acetate	13		2.5	ug/L	20.0		65	70-130			A-07
Methyl cyclohexane	18		2.5	ug/L	20.0		89	70-130			
Methylene Chloride	20		12	ug/L	20.0		100	43-142			
Methyl-tert-Butyl Ether	20		2.5	ug/L	20.0		99	51-145			

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

LCS (1A25020-BS1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 09:20

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
o-Xylene	23		2.5	ug/L	20.0		117	61-129			
Styrene	25		2.5	ug/L	20.0		126	59-136			
Tetrachloroethene	21		2.5	ug/L	20.0		104	60-147			
Toluene	23		2.5	ug/L	20.0		114	64-131			
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0		108	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0		103	65-149			
Trichloroethene	21		2.5	ug/L	20.0		103	62-135			
Trichlorofluoromethane	20		2.5	ug/L	20.0		100	56-155			
Vinyl chloride	17		2.5	ug/L	20.0		85	20-167			
4-Bromofluorobenzene	*52*			*ug/L*	*50.0*		*105*	*41-142*			
Dibromofluoromethane	*55*			*ug/L*	*50.0*		*111*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*98*	*41-146*			

Matrix Spike (1A25020-MS1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 18:39

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	22		2.5	ug/L	20.0	0.80 U	110	57-148			
1,1,2,2-Tetrachloroethane	23		2.5	ug/L	20.0	0.54 U	114	60-139			
1,1,2-Trichloroethane	22		2.5	ug/L	20.0	0.76 U	110	57-141			
1,1-Dichloroethane	19		2.5	ug/L	20.0	0.62 U	96	57-142			
1,1-Dichloroethene	23		2.5	ug/L	20.0	0.94 U	114	47-139			
1,2,4-Trichlorobenzene	15		2.5	ug/L	20.0	0.70 U	74	52-159			
1,2-Dibromo-3-chloropropane	14		2.5	ug/L	20.0	0.96 U	72	48-150			
1,2-Dibromoethane	23		2.5	ug/L	20.0	0.78 U	115	57-140			
1,2-Dichlorobenzene	23		2.5	ug/L	20.0	0.73 U	114	63-131			
1,2-Dichloroethane	16		2.5	ug/L	20.0	0.63 U	79	50-156			
1,2-Dichloropropane	16		2.5	ug/L	20.0	0.80 U	79	61-133			
1,3-Dichlorobenzene	25		2.5	ug/L	20.0	0.77 U	125	66-129			
1,4-Dichlorobenzene	23		2.5	ug/L	20.0	0.76 U	114	65-133			
2-Butanone	88		12	ug/L	100	4.5 U	88	10-180			
2-Hexanone	62		12	ug/L	100	2.5 U	62	12-180			
4-Methyl-2-pentanone	87		12	ug/L	100	2.5 U	87	19-180			
Acetone	65		25	ug/L	100	10 U	65	10-180			
Benzene	20		2.5	ug/L	20.0	0.71 U	100	56-136			
Bromodichloromethane	19		2.5	ug/L	20.0	0.52 U	95	58-135			
Bromoform	22		2.5	ug/L	20.0	0.75 U	109	46-148			
Bromomethane	10		2.5	ug/L	20.0	0.95 U	50	10-173			
Carbon disulfide	21		12	ug/L	20.0	2.5 U	106	43-153			
Carbon Tetrachloride	18		2.5	ug/L	20.0	0.94 U	89	54-156			
Chlorobenzene	27		2.5	ug/L	20.0	0.72 U	135	51-139			
Chloroethane	23		2.5	ug/L	20.0	0.98 U	113	27-180			
Chloroform	21		2.5	ug/L	20.0	0.80 U	104	58-139			
Chloromethane	9.6		2.5	ug/L	20.0	0.82 U	48	33-154			
cis-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.53 U	110	56-128			
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0	0.59 U	85	64-128			
Cyclohexane	16		2.5	ug/L	20.0	0.93 U	82	70-130			
Dibromochloromethane	25		2.5	ug/L	20.0	0.50 U	127	50-140			
Dichlorodifluoromethane	13		2.5	ug/L	20.0	0.74 U	66	10-180			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

Matrix Spike (1A25020-MS1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 18:39

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	24		2.5	ug/L	20.0	0.69 U	119	63-133			
Freon 113	23		2.5	ug/L	20.0	0.73 U	115	47-173			
Isopropylbenzene	26		2.5	ug/L	20.0	0.67 U	131	60-132			
m,p-Xylenes	55		5.0	ug/L	40.0	1.3 U	137	64-133			QM-07
Methyl acetate	10		2.5	ug/L	20.0	0.95 U	51	70-130			QM-19
Methyl cyclohexane	19		2.5	ug/L	20.0	0.64 U	95	70-130			
Methylene Chloride	21		12	ug/L	20.0	2.5 U	105	43-142			
Methyl-tert-Butyl Ether	20		2.5	ug/L	20.0	0.60 U	100	51-145			
o-Xylene	25		2.5	ug/L	20.0	0.53 U	127	61-129			
Styrene	28		2.5	ug/L	20.0	0.61 U	140	59-136			QM-07
Tetrachloroethene	24		2.5	ug/L	20.0	0.76 U	122	60-147			
Toluene	24		2.5	ug/L	20.0	0.72 U	122	64-131			
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.73 U	111	54-134			
trans-1,3-Dichloropropene	20		2.5	ug/L	20.0	0.73 U	102	65-149			
Trichloroethene	24		2.5	ug/L	20.0	0.89 U	122	62-135			
Trichlorofluoromethane	23		2.5	ug/L	20.0	0.94 U	113	56-155			
Vinyl chloride	17		2.5	ug/L	20.0	0.71 U	84	20-167			
4-Bromofluorobenzene	*54*			*ug/L*	*50.0*		*109*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*112*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*97*	*41-146*			

Matrix Spike Dup (1A25020-MSD1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 19:09

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	20		2.5	ug/L	20.0	0.80 U	102	57-148	8	25	
1,1,2,2-Tetrachloroethane	22		2.5	ug/L	20.0	0.54 U	110	60-139	4	17	
1,1,2-Trichloroethane	21		2.5	ug/L	20.0	0.76 U	106	57-141	3	16	
1,1-Dichloroethane	18		2.5	ug/L	20.0	0.62 U	90	57-142	6	24	
1,1-Dichloroethene	21		2.5	ug/L	20.0	0.94 U	103	47-139	10	16	
1,2,4-Trichlorobenzene	16		2.5	ug/L	20.0	0.70 U	81	52-159	9	24	
1,2-Dibromo-3-chloropropane	18		2.5	ug/L	20.0	0.96 U	88	48-150	21	21	
1,2-Dibromoethane	22		2.5	ug/L	20.0	0.78 U	110	57-140	4	16	
1,2-Dichlorobenzene	23		2.5	ug/L	20.0	0.73 U	113	63-131	1	25	
1,2-Dichloroethane	15		2.5	ug/L	20.0	0.63 U	77	50-156	1	18	
1,2-Dichloropropane	15		2.5	ug/L	20.0	0.80 U	76	61-133	4	26	
1,3-Dichlorobenzene	24		2.5	ug/L	20.0	0.77 U	120	66-129	4	23	
1,4-Dichlorobenzene	22		2.5	ug/L	20.0	0.76 U	110	65-133	4	23	
2-Butanone	83		12	ug/L	100	4.5 U	83	10-180	5	29	
2-Hexanone	66		12	ug/L	100	2.5 U	66	12-180	5	28	
4-Methyl-2-pentanone	87		12	ug/L	100	2.5 U	87	19-180	0.5	24	
Acetone	70		25	ug/L	100	10 U	70	10-180	7	19	
Benzene	19		2.5	ug/L	20.0	0.71 U	96	56-136	5	14	
Bromodichloromethane	18		2.5	ug/L	20.0	0.52 U	89	58-135	7	19	
Bromoform	21		2.5	ug/L	20.0	0.75 U	106	46-148	2	18	
Bromomethane	11		2.5	ug/L	20.0	0.95 U	55	10-173	10	29	
Carbon disulfide	19		12	ug/L	20.0	2.5 U	94	43-153	12	26	
Carbon Tetrachloride	16		2.5	ug/L	20.0	0.94 U	79	54-156	12	27	
Chlorobenzene	26		2.5	ug/L	20.0	0.72 U	129	51-139	5	13	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

Matrix Spike Dup (1A25020-MSD1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 19:09

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloroethane	21		2.5	ug/L	20.0	0.98 U	105	27-180	7	22	
Chloroform	20		2.5	ug/L	20.0	0.80 U	102	58-139	2	17	
Chloromethane	9.0		2.5	ug/L	20.0	0.82 U	45	33-154	7	31	
cis-1,2-Dichloroethene	21		2.5	ug/L	20.0	0.53 U	104	56-128	5	17	
cis-1,3-Dichloropropene	16		2.5	ug/L	20.0	0.59 U	78	64-128	9	20	
Cyclohexane	15		2.5	ug/L	20.0	0.93 U	75	70-130	8	20	
Dibromochloromethane	23		2.5	ug/L	20.0	0.50 U	117	50-140	8	18	
Dichlorodifluoromethane	13		2.5	ug/L	20.0	0.74 U	63	10-180	4	26	
Ethylbenzene	22		2.5	ug/L	20.0	0.69 U	112	63-133	6	18	
Freon 113	21		2.5	ug/L	20.0	0.73 U	105	47-173	9	30	
Isopropylbenzene	24		2.5	ug/L	20.0	0.67 U	122	60-132	7	23	
m,p-Xylenes	51		5.0	ug/L	40.0	1.3 U	129	64-133	6	18	
Methyl acetate	9.5		2.5	ug/L	20.0	0.95 U	48	70-130	6	20	QM-19
Methyl cyclohexane	18		2.5	ug/L	20.0	0.64 U	91	70-130	4	20	
Methylene Chloride	19		12	ug/L	20.0	2.5 U	95	43-142	9	23	
Methyl-tert-Butyl Ether	19		2.5	ug/L	20.0	0.60 U	95	51-145	5	22	
o-Xylene	25		2.5	ug/L	20.0	0.53 U	123	61-129	4	16	
Styrene	26		2.5	ug/L	20.0	0.61 U	130	59-136	7	32	
Tetrachloroethene	23		2.5	ug/L	20.0	0.76 U	113	60-147	8	21	
Toluene	23		2.5	ug/L	20.0	0.72 U	117	64-131	4	16	
trans-1,2-Dichloroethene	21		2.5	ug/L	20.0	0.73 U	103	54-134	8	20	
trans-1,3-Dichloropropene	19		2.5	ug/L	20.0	0.73 U	97	65-149	5	17	
Trichloroethene	21		2.5	ug/L	20.0	0.89 U	107	62-135	12	20	
Trichlorofluoromethane	20		2.5	ug/L	20.0	0.94 U	102	56-155	10	22	
Vinyl chloride	15		2.5	ug/L	20.0	0.71 U	77	20-167	8	24	
4-Bromofluorobenzene	*55*			*ug/L*	*50.0*		*110*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*111*	*53-146*			
Toluene-d8	*48*	*I*		*ug/L*	*50.0*		*96*	*41-146*			

Batch 1A25023 - NO PREP 2

Blank (1A25023-BLK1) Prepared: 01/24/2021 17:30 Analyzed: 01/25/2021 00:37

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.34	U	2.5	ppbv							
1,1,2,2-Tetrachloroethane	0.36	U	2.5	ppbv							
1,1,2-Trichloroethane	0.35	U	2.5	ppbv							
1,1-Dichloroethane	0.36	U	2.5	ppbv							
1,1-Dichloroethene	0.38	U	2.5	ppbv							
1,2-Dibromoethane	0.36	U	2.5	ppbv							
1,2-Dichlorobenzene	0.27	U	2.5	ppbv							
1,2-Dichloroethane	0.37	U	2.5	ppbv							
1,2-Dichloropropane	0.40	U	2.5	ppbv							
1,3-Dichlorobenzene	0.28	U	2.5	ppbv							
1,4-Dichlorobenzene	0.31	U	2.5	ppbv							
3-Chloropropene	0.39	U	2.5	ppbv							
Acetone	0.35	U	2.5	ppbv							
Bromodichloromethane	0.34	U	2.5	ppbv							
Bromoethene	0.33	U	2.5	ppbv							

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25023 - NO PREP 2 - Continued

Blank (1A25023-BLK1) Continued Prepared: 01/24/2021 17:30 Analyzed: 01/25/2021 00:37

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Bromoform	0.38	U	2.5	ppbv							
Bromomethane	0.33	U	2.5	ppbv							
Carbon tetrachloride	0.27	U	2.5	ppbv							
Chlorobenzene	0.33	U	2.5	ppbv							
Chloroethane	0.32	U	2.5	ppbv							
Chloroform	0.38	U	2.5	ppbv							
Chloromethane	0.48	U	2.5	ppbv							
cis-1,2-Dichloroethene	0.38	U	2.5	ppbv							
cis-1,3-Dichloropropene	0.38	U	2.5	ppbv							
Dibromochloromethane	0.33	U	2.5	ppbv							
Dichlorodifluoromethane	0.55	U	2.5	ppbv							
Freon 113	0.32	U	2.5	ppbv							
Freon 114	0.52	U	2.5	ppbv							
Hexachlorobutadiene	0.37	U	2.5	ppbv							
Methylene chloride	**0.29**	**I**	2.5	ppbv							J-01, O-01
Propene	0.55	U	2.5	ppbv							
Tetrachloroethene	0.31	U	2.5	ppbv							
trans-1,2-Dichloroethene	0.32	U	2.5	ppbv							
trans-1,3-Dichloropropene	0.34	U	2.5	ppbv							
Trichloroethene	0.35	U	2.5	ppbv							
Trichlorofluoromethane	0.34	U	2.5	ppbv							
Vinyl chloride	0.56	U	2.5	ppbv							
4-Bromofluorobenzene	*27*			*ppbv*	*31.0*		*87*	*70-130*			

LCS (1A25023-BS1) Prepared: 01/24/2021 17:30 Analyzed: 01/24/2021 22:34

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	10		2.5	ppbv	10.0		100	70-130			
1,1,2,2-Tetrachloroethane	12		2.5	ppbv	10.0		119	52-163			
1,1,2-Trichloroethane	12		2.5	ppbv	10.0		117	70-134			
1,1-Dichloroethane	12		2.5	ppbv	10.0		119	70-130			
1,1-Dichloroethene	11		2.5	ppbv	10.0		113	67-142			
1,2-Dibromoethane	12		2.5	ppbv	10.0		118	70-141			
1,2-Dichlorobenzene	10		2.5	ppbv	10.0		102	37-180			
1,2-Dichloroethane	10		2.5	ppbv	10.0		102	70-130			
1,2-Dichloropropane	12		2.5	ppbv	10.0		121	70-130			
1,3-Dichlorobenzene	9.8		2.5	ppbv	10.0		98	47-178			
1,4-Dichlorobenzene	9.2		2.5	ppbv	10.0		92	45-180			
3-Chloropropene	11		2.5	ppbv	10.0		113	70-130			
Acetone	10		2.5	ppbv	10.0		104	65-130			
Bromodichloromethane	11		2.5	ppbv	10.0		109	70-130			
Bromoethene	9.5		2.5	ppbv	10.0		95	69-132			
Bromoform	11		2.5	ppbv	10.0		110	62-149			
Bromomethane	9.9		2.5	ppbv	10.0		99	69-130			
Carbon tetrachloride	8.3		2.5	ppbv	10.0		83	22-166			
Chlorobenzene	11		2.5	ppbv	10.0		107	70-134			
Chloroethane	10		2.5	ppbv	10.0		101	69-131			
Chloroform	11		2.5	ppbv	10.0		111	70-130			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25023 - NO PREP 2 - Continued

LCS (1A25023-BS1) Continued Prepared: 01/24/2021 17:30 Analyzed: 01/24/2021 22:34

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloromethane	10		2.5	ppbv	10.0		100	55-142			
cis-1,2-Dichloroethene	12		2.5	ppbv	10.0		122	70-130			
cis-1,3-Dichloropropene	12		2.5	ppbv	10.0		122	70-137			
Dibromochloromethane	11		2.5	ppbv	10.0		110	70-130			
Dichlorodifluoromethane	9.3		2.5	ppbv	10.0		93	61-137			
Freon 113	11		2.5	ppbv	10.0		111	67-140			
Freon 114	9.8		2.5	ppbv	10.0		98	62-147			
Hexachlorobutadiene	9.1		2.5	ppbv	10.0		91	24-180			
Methylene chloride	13		2.5	ppbv	10.0		128	59-136			
Propene	8.9		2.5	ppbv	10.0		89	63-132			
Tetrachloroethene	10		2.5	ppbv	10.0		104	70-141			
trans-1,2-Dichloroethene	11		2.5	ppbv	10.0		113	70-130			
trans-1,3-Dichloropropene	16		2.5	ppbv	10.0		156	59-166			
Trichloroethene	11		2.5	ppbv	10.0		114	70-130			
Trichlorofluoromethane	9.7		2.5	ppbv	10.0		97	46-161			
Vinyl chloride	11		2.5	ppbv	10.0		106	53-148			
4-Bromofluorobenzene	*32*			*ppbv*	*31.0*		*102*	*70-130*			

LCS Dup (1A25023-BSD1) Prepared: 01/24/2021 17:30 Analyzed: 01/24/2021 23:13

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	9.1		2.5	ppbv	10.0		91	70-130	9	25	
1,1,2,2-Tetrachloroethane	11		2.5	ppbv	10.0		111	52-163	7	25	
1,1,2-Trichloroethane	11		2.5	ppbv	10.0		110	70-134	6	25	
1,1-Dichloroethane	11		2.5	ppbv	10.0		110	70-130	8	25	
1,1-Dichloroethene	10		2.5	ppbv	10.0		103	67-142	9	25	
1,2-Dibromoethane	11		2.5	ppbv	10.0		110	70-141	7	25	
1,2-Dichlorobenzene	9.5		2.5	ppbv	10.0		95	37-180	7	25	
1,2-Dichloroethane	8.8		2.5	ppbv	10.0		88	70-130	15	25	
1,2-Dichloropropane	11		2.5	ppbv	10.0		113	70-130	7	25	
1,3-Dichlorobenzene	9.1		2.5	ppbv	10.0		91	47-178	7	25	
1,4-Dichlorobenzene	8.5		2.5	ppbv	10.0		85	45-180	8	25	
3-Chloropropene	10		2.5	ppbv	10.0		105	70-130	7	25	
Acetone	9.5		2.5	ppbv	10.0		95	65-130	10	25	
Bromodichloromethane	10		2.5	ppbv	10.0		100	70-130	8	25	
Bromoethene	8.6		2.5	ppbv	10.0		86	69-132	10	25	
Bromoform	10		2.5	ppbv	10.0		103	62-149	7	25	
Bromomethane	8.6		2.5	ppbv	10.0		86	69-130	14	25	
Carbon tetrachloride	7.5		2.5	ppbv	10.0		75	22-166	10	25	
Chlorobenzene	10		2.5	ppbv	10.0		100	70-134	6	25	
Chloroethane	8.7		2.5	ppbv	10.0		87	69-131	14	25	
Chloroform	10		2.5	ppbv	10.0		101	70-130	9	25	
Chloromethane	8.8		2.5	ppbv	10.0		88	55-142	12	25	
cis-1,2-Dichloroethene	11		2.5	ppbv	10.0		114	70-130	6	25	
cis-1,3-Dichloropropene	11		2.5	ppbv	10.0		113	70-137	7	25	
Dibromochloromethane	10		2.5	ppbv	10.0		103	70-130	7	25	
Dichlorodifluoromethane	8.1		2.5	ppbv	10.0		81	61-137	13	25	
Freon 113	10		2.5	ppbv	10.0		103	67-140	8	25	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25023 - NO PREP 2 - Continued

LCS Dup (1A25023-BSD1) Continued Prepared: 01/24/2021 17:30 Analyzed: 01/24/2021 23:13

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Freon 114	8.8		2.5	ppbv	10.0		88	62-147	11	25	
Hexachlorobutadiene	8.5		2.5	ppbv	10.0		85	24-180	7	25	
Methylene chloride	12		2.5	ppbv	10.0		123	59-136	5	25	
Propene	7.8		2.5	ppbv	10.0		78	63-132	13	25	
Tetrachloroethene	9.8		2.5	ppbv	10.0		98	70-141	6	25	
trans-1,2-Dichloroethene	10		2.5	ppbv	10.0		105	70-130	7	25	
trans-1,3-Dichloropropene	15		2.5	ppbv	10.0		146	59-166	7	25	
Trichloroethene	11		2.5	ppbv	10.0		108	70-130	5	25	
Trichlorofluoromethane	8.7		2.5	ppbv	10.0		87	46-161	11	25	
Vinyl chloride	9.2		2.5	ppbv	10.0		92	53-148	14	25	
4-Bromofluorobenzene	*31*			*ppbv*	*31.0*		*100*	*70-130*			

Batch 1A26010 - EPA 5030B_MS

Blank (1A26010-BLK1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 11:19

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A26010 - EPA 5030B_MS - Continued

Blank (1A26010-BLK1) Continued Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 11:19

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*51*			*ug/L*	*50.0*		*103*	*41-142*			
Dibromofluoromethane	*58*			*ug/L*	*50.0*		*116*	*53-146*			
Toluene-d8	*51*			*ug/L*	*50.0*		*102*	*41-146*			

LCS (1A26010-BS1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 08:43

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	25		2.5	ug/L	20.0		127	57-148			
1,1,2,2-Tetrachloroethane	23		2.5	ug/L	20.0		115	60-139			
1,1,2-Trichloroethane	23		2.5	ug/L	20.0		114	57-141			
1,1-Dichloroethane	24		2.5	ug/L	20.0		119	57-142			
1,1-Dichloroethene	25		2.5	ug/L	20.0		125	47-139			
1,2,4-Trichlorobenzene	25		2.5	ug/L	20.0		127	52-159			
1,2-Dibromo-3-chloropropane	27		2.5	ug/L	20.0		137	48-150			
1,2-Dibromoethane	23		2.5	ug/L	20.0		116	57-140			
1,2-Dichlorobenzene	22		2.5	ug/L	20.0		109	63-131			
1,2-Dichloroethane	24		2.5	ug/L	20.0		119	50-156			
1,2-Dichloropropane	24		2.5	ug/L	20.0		118	61-133			
1,3-Dichlorobenzene	21		2.5	ug/L	20.0		105	66-129			
1,4-Dichlorobenzene	20		2.5	ug/L	20.0		101	65-133			
2-Butanone	130		12	ug/L	100		126	10-180			
2-Hexanone	110		12	ug/L	100		114	12-180			
4-Methyl-2-pentanone	110		12	ug/L	100		114	19-180			
Acetone	160		25	ug/L	100		156	10-180			
Benzene	21		2.5	ug/L	20.0		106	56-136			
Bromodichloromethane	23		2.5	ug/L	20.0		117	58-135			
Bromoform	23		2.5	ug/L	20.0		113	46-148			
Bromomethane	20		2.5	ug/L	20.0		101	10-173			
Carbon disulfide	36		12	ug/L	20.0		178	43-153			QL-02
Carbon Tetrachloride	23		2.5	ug/L	20.0		115	54-156			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A26010 - EPA 5030B_MS - Continued

LCS (1A26010-BS1) Continued Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 08:43

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chlorobenzene	20		2.5	ug/L	20.0		101	51-139			
Chloroethane	25		2.5	ug/L	20.0		124	27-180			
Chloroform	28		2.5	ug/L	20.0		140	58-139			QL-02
Chloromethane	19		2.5	ug/L	20.0		97	33-154			
cis-1,2-Dichloroethene	25		2.5	ug/L	20.0		124	56-128			
cis-1,3-Dichloropropene	23		2.5	ug/L	20.0		116	64-128			
Cyclohexane	26		2.5	ug/L	20.0		132	70-130			QL-02
Dibromochloromethane	22		2.5	ug/L	20.0		112	50-140			
Dichlorodifluoromethane	14		2.5	ug/L	20.0		69	10-180			
Ethylbenzene	20		2.5	ug/L	20.0		100	63-133			
Freon 113	28		2.5	ug/L	20.0		142	47-173			
Isopropylbenzene	21		2.5	ug/L	20.0		104	60-132			
m,p-Xylenes	40		5.0	ug/L	40.0		99	64-133			
Methyl acetate	30		2.5	ug/L	20.0		148	70-130			QL-02
Methyl cyclohexane	23		2.5	ug/L	20.0		116	70-130			
Methylene Chloride	27		12	ug/L	20.0		136	43-142			
Methyl-tert-Butyl Ether	28		2.5	ug/L	20.0		141	51-145			
o-Xylene	20		2.5	ug/L	20.0		102	61-129			
Styrene	21		2.5	ug/L	20.0		103	59-136			
Tetrachloroethene	19		2.5	ug/L	20.0		97	60-147			
Toluene	20		2.5	ug/L	20.0		101	64-131			
trans-1,2-Dichloroethene	27		2.5	ug/L	20.0		135	54-134			QL-02
trans-1,3-Dichloropropene	23		2.5	ug/L	20.0		116	65-149			
Trichloroethene	22		2.5	ug/L	20.0		112	62-135			
Trichlorofluoromethane	25		2.5	ug/L	20.0		123	56-155			
Vinyl chloride	24		2.5	ug/L	20.0		118	20-167			
4-Bromofluorobenzene	*51*			*ug/L*	*50.0*		*103*	*41-142*			
Dibromofluoromethane	*57*			*ug/L*	*50.0*		*114*	*53-146*			
Toluene-d8	*51*			*ug/L*	*50.0*		*103*	*41-146*			

Matrix Spike (1A26010-MS1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 09:24

Source: AD08635-03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	25		2.5	ug/L	20.0	0.80 U	125	57-148			
1,1,2,2-Tetrachloroethane	22		2.5	ug/L	20.0	0.54 U	112	60-139			
1,1,2-Trichloroethane	22		2.5	ug/L	20.0	0.76 U	109	57-141			
1,1-Dichloroethane	23		2.5	ug/L	20.0	0.62 U	115	57-142			
1,1-Dichloroethene	25		2.5	ug/L	20.0	0.94 U	126	47-139			
1,2,4-Trichlorobenzene	24		2.5	ug/L	20.0	0.70 U	122	52-159			
1,2-Dibromo-3-chloropropane	27		2.5	ug/L	20.0	0.96 U	136	48-150			
1,2-Dibromoethane	22		2.5	ug/L	20.0	0.78 U	110	57-140			
1,2-Dichlorobenzene	20		2.5	ug/L	20.0	0.73 U	102	63-131			
1,2-Dichloroethane	22		2.5	ug/L	20.0	0.63 U	112	50-156			
1,2-Dichloropropane	23		2.5	ug/L	20.0	0.80 U	115	61-133			
1,3-Dichlorobenzene	20		2.5	ug/L	20.0	0.77 U	99	66-129			
1,4-Dichlorobenzene	19		2.5	ug/L	20.0	0.76 U	97	65-133			
2-Butanone	140		12	ug/L	100	4.5 U	137	10-180			
2-Hexanone	120		12	ug/L	100	2.5 U	123	12-180			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A26010 - EPA 5030B_MS - Continued

Matrix Spike (1A26010-MS1) Continued Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 09:24

Source: AD08635-03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
4-Methyl-2-pentanone	120		12	ug/L	100	2.5 U	119	19-180			
Acetone	150		25	ug/L	100	10 U	152	10-180			
Benzene	20		2.5	ug/L	20.0	0.71 U	102	56-136			
Bromodichloromethane	22		2.5	ug/L	20.0	0.52 U	110	58-135			
Bromoform	22		2.5	ug/L	20.0	0.75 U	108	46-148			
Bromomethane	22		2.5	ug/L	20.0	0.95 U	108	10-173			
Carbon disulfide	35		12	ug/L	20.0	2.5 U	173	43-153			QM-19
Carbon Tetrachloride	23		2.5	ug/L	20.0	0.94 U	114	54-156			
Chlorobenzene	20		2.5	ug/L	20.0	0.72 U	98	51-139			
Chloroethane	25		2.5	ug/L	20.0	0.98 U	125	27-180			
Chloroform	27		2.5	ug/L	20.0	0.80 U	134	58-139			
Chloromethane	20		2.5	ug/L	20.0	0.82 U	98	33-154			
cis-1,2-Dichloroethene	24		2.5	ug/L	20.0	0.53 U	118	56-128			
cis-1,3-Dichloropropene	22		2.5	ug/L	20.0	0.59 U	111	64-128			
Cyclohexane	27		2.5	ug/L	20.0	0.93 U	134	70-130			QM-19
Dibromochloromethane	21		2.5	ug/L	20.0	0.50 U	107	50-140			
Dichlorodifluoromethane	15		2.5	ug/L	20.0	0.74 U	75	10-180			
Ethylbenzene	20		2.5	ug/L	20.0	0.69 U	98	63-133			
Freon 113	29		2.5	ug/L	20.0	0.73 U	146	47-173			
Isopropylbenzene	20		2.5	ug/L	20.0	0.67 U	100	60-132			
m,p-Xylenes	39		5.0	ug/L	40.0	1.3 U	97	64-133			
Methyl acetate	29		2.5	ug/L	20.0	0.95 U	144	70-130			QM-19
Methyl cyclohexane	23		2.5	ug/L	20.0	0.64 U	114	70-130			
Methylene Chloride	26		12	ug/L	20.0	2.5 U	129	43-142			
Methyl-tert-Butyl Ether	28		2.5	ug/L	20.0	0.60 U	139	51-145			
o-Xylene	19		2.5	ug/L	20.0	0.53 U	97	61-129			
Styrene	20		2.5	ug/L	20.0	0.61 U	98	59-136			
Tetrachloroethene	19		2.5	ug/L	20.0	0.76 U	96	60-147			
Toluene	20		2.5	ug/L	20.0	0.72 U	98	64-131			
trans-1,2-Dichloroethene	26		2.5	ug/L	20.0	0.73 U	130	54-134			
trans-1,3-Dichloropropene	22		2.5	ug/L	20.0	0.73 U	110	65-149			
Trichloroethene	21		2.5	ug/L	20.0	0.89 U	106	62-135			
Trichlorofluoromethane	26		2.5	ug/L	20.0	0.94 U	128	56-155			
Vinyl chloride	25		2.5	ug/L	20.0	0.71 U	125	20-167			
4-Bromofluorobenzene	*50*			*ug/L*	*50.0*		*101*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*112*	*53-146*			
Toluene-d8	*50*			*ug/L*	*50.0*		*101*	*41-146*			

Matrix Spike Dup (1A26010-MSD1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 09:53

Source: AD08635-03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	25		2.5	ug/L	20.0	0.80 U	124	57-148	1	25	
1,1,2,2-Tetrachloroethane	23		2.5	ug/L	20.0	0.54 U	114	60-139	3	17	
1,1,2-Trichloroethane	21		2.5	ug/L	20.0	0.76 U	106	57-141	3	16	
1,1-Dichloroethane	23		2.5	ug/L	20.0	0.62 U	115	57-142	0.2	24	
1,1-Dichloroethene	24		2.5	ug/L	20.0	0.94 U	120	47-139	5	16	
1,2,4-Trichlorobenzene	24		2.5	ug/L	20.0	0.70 U	119	52-159	2	24	
1,2-Dibromo-3-chloropropane	28		2.5	ug/L	20.0	0.96 U	141	48-150	4	21	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A26010 - EPA 5030B_MS - Continued

Matrix Spike Dup (1A26010-MSD1) Continued Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 09:53

Source: AD08635-03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,2-Dibromoethane	22		2.5	ug/L	20.0	0.78 U	110	57-140	0.09	16	
1,2-Dichlorobenzene	20		2.5	ug/L	20.0	0.73 U	100	63-131	2	25	
1,2-Dichloroethane	22		2.5	ug/L	20.0	0.63 U	112	50-156	0.6	18	
1,2-Dichloropropane	23		2.5	ug/L	20.0	0.80 U	113	61-133	2	26	
1,3-Dichlorobenzene	19		2.5	ug/L	20.0	0.77 U	94	66-129	5	23	
1,4-Dichlorobenzene	19		2.5	ug/L	20.0	0.76 U	94	65-133	4	23	
2-Butanone	130		12	ug/L	100	4.5 U	129	10-180	6	29	
2-Hexanone	130		12	ug/L	100	2.5 U	133	12-180	8	28	
4-Methyl-2-pentanone	130		12	ug/L	100	2.5 U	125	19-180	5	24	
Acetone	160		25	ug/L	100	10 U	157	10-180	3	19	
Benzene	20		2.5	ug/L	20.0	0.71 U	101	56-136	0.5	14	
Bromodichloromethane	22		2.5	ug/L	20.0	0.52 U	110	58-135	0.1	19	
Bromoform	21		2.5	ug/L	20.0	0.75 U	107	46-148	0.9	18	
Bromomethane	23		2.5	ug/L	20.0	0.95 U	114	10-173	5	29	
Carbon disulfide	33		12	ug/L	20.0	2.5 U	163	43-153	6	26	QM-19
Carbon Tetrachloride	23		2.5	ug/L	20.0	0.94 U	113	54-156	0.4	27	
Chlorobenzene	19		2.5	ug/L	20.0	0.72 U	95	51-139	3	13	
Chloroethane	25		2.5	ug/L	20.0	0.98 U	125	27-180	0.2	22	
Chloroform	27		2.5	ug/L	20.0	0.80 U	133	58-139	1	17	
Chloromethane	19		2.5	ug/L	20.0	0.82 U	96	33-154	3	31	
cis-1,2-Dichloroethene	23		2.5	ug/L	20.0	0.53 U	115	56-128	2	17	
cis-1,3-Dichloropropene	22		2.5	ug/L	20.0	0.59 U	111	64-128	0.2	20	
Cyclohexane	26		2.5	ug/L	20.0	0.93 U	128	70-130	5	20	
Dibromochloromethane	21		2.5	ug/L	20.0	0.50 U	107	50-140	0.3	18	
Dichlorodifluoromethane	14		2.5	ug/L	20.0	0.74 U	70	10-180	6	26	
Ethylbenzene	19		2.5	ug/L	20.0	0.69 U	95	63-133	3	18	
Freon 113	29		2.5	ug/L	20.0	0.73 U	144	47-173	2	30	
Isopropylbenzene	19		2.5	ug/L	20.0	0.67 U	97	60-132	3	23	
m,p-Xylenes	38		5.0	ug/L	40.0	1.3 U	94	64-133	3	18	
Methyl acetate	31		2.5	ug/L	20.0	0.95 U	155	70-130	7	20	QM-19
Methyl cyclohexane	22		2.5	ug/L	20.0	0.64 U	112	70-130	2	20	
Methylene Chloride	26		12	ug/L	20.0	2.5 U	128	43-142	1	23	
Methyl-tert-Butyl Ether	28		2.5	ug/L	20.0	0.60 U	141	51-145	1	22	
o-Xylene	19		2.5	ug/L	20.0	0.53 U	96	61-129	1	16	
Styrene	19		2.5	ug/L	20.0	0.61 U	97	59-136	2	32	
Tetrachloroethene	18		2.5	ug/L	20.0	0.76 U	92	60-147	4	21	
Toluene	19		2.5	ug/L	20.0	0.72 U	95	64-131	3	16	
trans-1,2-Dichloroethene	26		2.5	ug/L	20.0	0.73 U	128	54-134	2	20	
trans-1,3-Dichloropropene	22		2.5	ug/L	20.0	0.73 U	108	65-149	2	17	
Trichloroethene	21		2.5	ug/L	20.0	0.89 U	106	62-135	0.4	20	
Trichlorofluoromethane	26		2.5	ug/L	20.0	0.94 U	131	56-155	3	22	
Vinyl chloride	24		2.5	ug/L	20.0	0.71 U	120	20-167	4	24	
4-Bromofluorobenzene	*55*			*ug/L*	*50.0*		*109*	*41-142*			
Dibromofluoromethane	*60*			*ug/L*	*50.0*		*121*	*53-146*			
Toluene-d8	*55*			*ug/L*	*50.0*		*109*	*41-146*			

Dissolved Gases by GC - Quality Control

Batch 1A26006 - Same

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Dissolved Gases by GC - Quality Control

Batch 1A26006 - Same - Continued

Blank (1A26006-BLK1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 10:17

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.00510	U	0.00600	mg/L							
Ethene	0.00510	U	0.00600	mg/L							
Methane	0.00400	U	0.00500	mg/L							

LCS (1A26006-BS1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 09:33

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.395		0.00600	mg/L	0.323		122	70-130			
Ethene	0.348		0.00600	mg/L	0.302		115	70-130			
Methane	0.187		0.00500	mg/L	0.172		109	70-130			

LCS Dup (1A26006-BSD1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 09:54

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.401		0.00600	mg/L	0.323		124	70-130	1	30	
Ethene	0.354		0.00600	mg/L	0.302		117	70-130	2	30	
Methane	0.192		0.00500	mg/L	0.172		112	70-130	3	30	

Duplicate (1A26006-DUP1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 12:39

Source: AE00066-09

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.00510	U	0.00600	mg/L		0.00510 U				30	QV-01
Ethene	0.00510	U	0.00600	mg/L		0.00510 U				30	
Methane	0.442		0.00500	mg/L		0.152			98	30	QM-12

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
A-07	Analyte biased low in LCS but detected in the reporting limit standard. Since the analyte in the associated sample was not detected, there is no impact on data quality.
J-01	Result may be biased high due to positive results in the associated method blank at a concentration above the MDL and/or greater than one-half the MRL.
O-01	This compound is a common laboratory contaminant.
QL-02	The associated laboratory control sample exhibited high bias; since the result is ND, there is no impact.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-12	Precision between duplicate samples was outside acceptance limits.
QM-19	The spike recovery was outside acceptance limits for the MS and/or MSD.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.
R-05	The sample was diluted due to the presence of high levels of non-target analytes resulting in elevated reporting limits.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported result is an estimated value.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence (85% or greater confidence) to make a “tentative identification".
Q	One or more quality control criteria failed.

AE000606

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 2220 | PAGE 1 OF 2

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G08970	KSC- CRCA	Alex Murphy	321-292-0842	ENCO, Kaitlin Dylnicki
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER: Melissa Bennett	PHONE NUMBER: 321-914-9394	ADDRESS
		CARRIER/WAYBILL NUMBER		CITY, STATE: Orlando, FL

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE (YEAR 2021)	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	TYPE OF ANALYSIS: VOC	MEE	COMMENTS
								CONTAINER TYPE PLASTIC (P) or GLASS (G)	G	G	
								PRESERVATIVE USED	HCl	ice	
1/19	1105	CRCA-MW0030-058.0-20210119	30	53	63	GW	G	3	X		
1/19	1140	CRCA-MW0029-035.0-20210119	29	30	40	GW	G	3	X		
1/19	1220	CRCA-MW0028-058.0-20210119	28	53	63	GW	G	3	X		
1/19	1300	CRCA-MW0027-035.0-20210119	27	30	40	GW	G	3	X		
1/19	1335	CRCA-MW0015-027.5-20210119	15	25	30	GW	G	3	X		
1/19	1430	CRCA-MW0013-027.5-20210119	13	25	30	GW	G	3	X		
1/19	1510	CRCA-MW0012-027.5-20210119	12	25	30	GW	G	3	X		
1/19	1545	CRCA-MW0002-032.5-20210119	2	30	35	GW	G	3	X		
1/20	1215	CRCA-MW0031-058.0-20210120	31	53	63	GW	G	6	X	X	
1/20	1300	CRCA-MW0032-058.0-20210120	32	53	63	GW	G	6	X	X MB	VOC analysis only
1/20	1400	CRCA-MW0018-058.0-20210120	18	53	63	GW	G	6	X	X	
1/20	1600	CRCA-MW0019-058.0-20210120	19	53	63	GW	G	6	X	X	

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	1-21-21	1500	1. RECEIVED BY	1/21/21	1500
2. RELINQUISHED BY	1/21/21	1500	2. RECEIVED BY	1/21/21	1500
3. RELINQUISHED BY	1/21/21		3. RECEIVED BY	1/22/21	1510

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

(-025 4.29, 6001 24.19C, 1002 23.9

4/02R FORM NO. TtNUS-001

AE000166

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 2222 | PAGE 2 OF 2

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G08970	CRCA	Alex Murphy	321-292-0842	ENCO
SAMPLERS (SIGNATURE)		**FIELD OPERATIONS LEADER** Melissa Bennett	**PHONE NUMBER** 321-914-9394	**ADDRESS**
		CARRIER/WAYBILL NUMBER		**CITY, STATE** Orlando, FL

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2021	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TYPE OF ANALYSIS: VOC TO-15	COMMENTS
											Summa /	
1/20	1103	CRCA-VMP01-20210120	VMP1	—	—	air	G	1			X	1001-1103
1/20	1106	CRCA-VMP02-20210120	VMP2	—	—	air	G	1			X	1008-1106
1/20	1115	CRCA-VMP03-20210120	VMP3	—	—	air	G	1			X	1014-1115
1/20	1122	CRCA-VMP04-20210120	VMP4	—	—	air	G	1			X	1022-1122
1/20	1703	CRCA-SYSAIR-20210120	SYS	—	-	air	G	1			X	1900-1703

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	1-21-21	1500	1. RECEIVED BY KE	Date	15:10
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY KE	DATE 1/21/21	TIME 15:10	3. RECEIVED BY	DATE 1-21-21	TIME 1500
COMMENTS	1-21-21	15 10	James W Gregory	1/21/21	1510

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

C-025 4.2°C Box 1 24.1 °C, Box 2 23.1°C

4/02R FORM NO. TtNUS-001

Environmental Conservation Laboratories, Inc.
10775 Central Port Drive, Orlando, FL 32824
4810 Executive Park Court, Suite 211,Jacksonville, FL 32216
102-A Woodwinds Industrial Ct, Cary, NC 27511

www.encolabs.com

COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

General Information

SITE LOCATION:	KSC- CRCA .
SITE ADDRESS:	Contractor Road
SAMPLER ID:	CRCA- VMPol- 20210120
SAMPLING DATE:	1-20-21
OPERATOR:	Tetra tech / melisse Bennett
SHIPPING DATE:	1/13/21
CANISTER SERIAL NO.:	1158
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	JAK-P-14

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	60°F	-14 mmHg	1001	1HR
STOP		-14mmHg	1103	

Signature/Title: / Env. Engineer

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COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15
CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

2

General Information

SITE LOCATION:	KSC- CBCA
SITE ADDRESS:	Contractor Road
SAMPLER ID:	CBCA – VM002-20210120
SAMPLING DATE:	1-2021
OPERATOR:	Tetra tech / melissa Bennett
SHIPPING DATE:	113121
CANISTER SERIAL NO.:	15863
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	JAY-R-056

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	60°F	-30mmHg	1008	1HR
STOP		-13mmHg	1100	1HR

Signature/Title: [signature] / Env. Engineer

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COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

3

General Information

SITE LOCATION:	KSC- CRCA
SITE ADDRESS:	Contractor Road
SAMPLER ID:	CRCA- VMP03-20210120
SAMPLING DATE:	1-20-21
OPERATOR:	Tetra tech / Melissa Bennett
SHIPPING DATE:	1/13/21
CANISTER SERIAL NO.:	1S-069
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	1A10-14-059

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	60°F	-30mmHg	1014	1HR
STOP	60°F	-13 mmHg	1115	1HR

Signature/Title: [signature] / Env. Engineer

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COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

4

General Information

SITE LOCATION:	KSC- CRCA
SITE ADDRESS:	Contractor Road
SAMPLER ID:	CRCA-UMP04-20210120
SAMPLING DATE:	1-20-21
OPERATOR:	Tetra tech / Melissa Bennett
SHIPPING DATE:	1/15/21
CANISTER SERIAL NO.:	0S-070
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	JAV-R-04

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	60°F	-30 mm Hg	1022	1 HR
STOP	60°F	-9 mm Hg	1122	1 HR

Signature/Title: [signature] / Env. Engineer

Environmental Conservation Laboratories, Inc.
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4810 Executive Park Court, Suite 211,Jacksonville, FL 32216
102-A Woodwinds Industrial Ct, Cary, NC 27511

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COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

SYSAIR

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

General Information

SITE LOCATION:	KSC- CRCA ,
SITE ADDRESS:	Contractor Road
SAMPLER ID:	CRCA- SYSAIR-20210120
SAMPLING DATE:	1-20-21
OPERATOR:	Tetra tech / Melissa Bennett
SHIPPING DATE:	1/21/21
CANISTER SERIAL NO.:	18-016
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	6685

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	55°F	-30mm Hg	0900	8 HR
STOP	72°F	0mmHg	1703	8 HR

Signature/Title: [signature] / Env. Engineer

1/22/2021

Environmental Conservation Labs, Inc.

Alex Murphy
Tetra Tech, Inc. (TE016)
11 Riverside Drive, Suite 204
Cocoa, FL 32922
Phone: (321) 636-6470
Fax: (321) 636-6473

Reference : **Sample Receipt Confirmation - *Please Review***
Project Name / Number : NASA KSC CRCA / 112G08970
Purchase Order # : 1165883

Lab Reference # : AE00066 Lab Receipt Date: 21-Jan-21 15:10
Anticipated ***(Estimated)*** Completion Date: 28-Jan-21 19:00

This is an automated notification from our laboratory information management system (LIMS), indicating the samples we have recently received and their associated analyses. Should any of the following information be in error, please contact us immediately.

Thank you for choosing Environmental Conservation Laboratories. Should any events occur that delay the processing of your samples or inhibit our ability to complete the project within the projected time frame you will be contacted.

Sincerely,

Kaitlin Dylnicki

Client: Tetra Tech, Inc. (TE016) **Project Name:** NASA KSC CRCA
Requested TAT: 5 **Project Number:** 112G08970

Analysis	TAT	Expires	Status
Sample ID: CRCA-MW0030-058.0-20210119(Lab ID: AE00066-01), Matrix: Ground Water, Sampled: 19-Jan-21 11:05 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received
Sample ID: CRCA-MW0029-035.0-20210119(Lab ID: AE00066-02), Matrix: Ground Water, Sampled: 19-Jan-21 11:40 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received
Sample ID: CRCA-MW0028-058.0-20210119(Lab ID: AE00066-03), Matrix: Ground Water, Sampled: 19-Jan-21 12:20 (GMT-05:00) Eastern Time (US & Canada)			
Sample Comments: Time on Vials is 1215			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received
Sample ID: CRCA-MW0027-035.0-20210119(Lab ID: AE00066-04), Matrix: Ground Water, Sampled: 19-Jan-21 13:00 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received
Sample ID: CRCA-MW0015-027.5-20210119(Lab ID: AE00066-05), Matrix: Ground Water, Sampled: 19-Jan-21 13:35 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received
Sample ID: CRCA-MW0013-027.5-20210119(Lab ID: AE00066-06), Matrix: Ground Water, Sampled: 19-Jan-21 14:30 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received
Sample ID: CRCA-MW0012-0.275-20210119(Lab ID: AE00066-07), Matrix: Ground Water, Sampled: 19-Jan-21 15:10 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received
Sample ID: CRCA-MW0002-032.5-20210119(Lab ID: AE00066-08), Matrix: Ground Water, Sampled: 19-Jan-21 15:45 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received

Client: Tetra Tech, Inc. (TE016)
Requested TAT: 5

Project Name: NASA KSC CRCA
Project Number: 112G08970

Analysis	TAT	Expires	Status
Sample ID: CRCA-MW0031-058.0-20210120(Lab ID: AE00066-09), Matrix: Ground Water, Sampled: 20-Jan-21 12:15 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	03-Feb-21 23:59	Received
RSK175	5	03-Feb-21 23:59	Received
Sample ID: CRCA-MW0032-058.0-20210120(Lab ID: AE00066-10), Matrix: Ground Water, Sampled: 20-Jan-21 13:00 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	03-Feb-21 23:59	Received
Sample ID: CRCA-MW0018-058.0-20210120(Lab ID: AE00066-11), Matrix: Ground Water, Sampled: 20-Jan-21 14:00 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	03-Feb-21 23:59	Received
RSK175	5	03-Feb-21 23:59	Received
Sample ID: CRCA-MW0019-058.0-20210120(Lab ID: AE00066-12), Matrix: Ground Water, Sampled: 20-Jan-21 16:00 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	03-Feb-21 23:59	Received
RSK175	5	03-Feb-21 23:59	Received
Sample ID: CRCA-VMP01-20210120(Lab ID: AE00066-13), Matrix: Air, Sampled: 20-Jan-21 11:03 (GMT-05:00) Eastern Time (US & Canada)			
Sample Comments: 1001-1103			
TO15 (SUMMA)	5	19-Feb-21 23:59	Received
Sample ID: CRCA-VMP02-20210120(Lab ID: AE00066-14), Matrix: Air, Sampled: 20-Jan-21 11:06 (GMT-05:00) Eastern Time (US & Canada)			
Sample Comments: 1008-1106			
TO15 (SUMMA)	5	19-Feb-21 23:59	Received
Sample ID: CRCA-VMP03-20210120(Lab ID: AE00066-15), Matrix: Air, Sampled: 20-Jan-21 11:15 (GMT-05:00) Eastern Time (US & Canada)			
Sample Comments: 1014-1115			
TO15 (SUMMA)	5	19-Feb-21 23:59	Received
Sample ID: CRCA-VMP04-20210120(Lab ID: AE00066-16), Matrix: Air, Sampled: 20-Jan-21 11:22 (GMT-05:00) Eastern Time (US & Canada)			
Sample Comments: 1022-1122			
TO15 (SUMMA)	5	19-Feb-21 23:59	Received
Sample ID: CRCA-SYSAIR-20210120(Lab ID: AE00066-17), Matrix: Air, Sampled: 20-Jan-21 17:03 (GMT-05:00) Eastern Time (US & Canada)			
Sample Comments: 1900-1703			
TO15 (SUMMA)	5	19-Feb-21 23:59	Received

Analysis Groups included in this work order

ENCO Orlando

SDG: AE00066-TE016

CLASS: 01_VOA_MS

METHOD: EPA 8260D

ANALYSES DATA PACKAGE COVER PAGE

EPA 8260D

Laboratory: ENCO Orlando

SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-MW0030-058.0-20210119	AE00066-01
CRCA-MW0029-035.0-20210119	AE00066-02
CRCA-MW0028-058.0-20210119	AE00066-03
CRCA-MW0027-035.0-20210119	AE00066-04
CRCA-MW0015-027.5-20210119	AE00066-05
CRCA-MW0013-027.5-20210119	AE00066-06
CRCA-MW0012-027.5-20210119	AE00066-07
CRCA-MW0002-032.5-20210119	AE00066-08
CRCA-MW0031-058.0-20210120	AE00066-09
CRCA-MW0032-058.0-20210120	AE00066-10
CRCA-MW0018-058.0-20210120	AE00066-11
CRCA-MW0018-058.0-20210120	AE00066-11RE1
CRCA-MW0019-058.0-20210120	AE00066-12

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0030-058.0-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-01 File ID: 215AT010.D

Sampled: 01/19/21 11:05 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 12:17

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0030-058.0-20210119

Laboratory: ENCO Orlando | SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) | Project: NASA KSC CRCA

Matrix: Ground Water | Laboratory ID: AE00066-01 | File ID: 215AT010.D

Sampled: 01/19/21 11:05 | Prepared: 01/25/21 00:00 | Analyzed: 01/25/21 12:17

Solids: | Preparation: EPA 5030B_MS | Initial/Final: 5 mL / 5 mL

Batch: 1A25020 | Sequence: AA64632 | Calibration: 2011113 | Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	57	115	53 - 146	
Toluene-d8	50.0	48	97	41 - 146	
4-Bromofluorobenzene	50.0	53	106	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1351808	9.863	1217120	9.845	
1,4-Difluorobenzene	2866333	10.456	2353990	10.438	
Chlorobenzene-d5	1635734	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1522320	15.491	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0029-035.0-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-02 File ID: 215AT011.D

Sampled: 01/19/21 11:40 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 12:46

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0029-035.0-20210119

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE00066-02
File ID: 215AT011.D
Sampled: 01/19/21 11:40
Prepared: 01/25/21 00:00
Analyzed: 01/25/21 12:46
Solids:
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Batch: 1A25020
Sequence: AA64632
Calibration: 2011113
Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	57	114	53 - 146	
Toluene-d8	50.0	48	96	41 - 146	
4-Bromofluorobenzene	50.0	53	107	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1334319	9.863	1217120	9.845	
1,4-Difluorobenzene	2846320	10.456	2353990	10.438	
Chlorobenzene-d5	1622830	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1514443	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0028-058.0-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-03 File ID: 215AT012.D

Sampled: 01/19/21 12:20 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 13:15

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0028-058.0-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-03 File ID: 215AT012.D

Sampled: 01/19/21 12:20 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 13:15

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	56	111	53 - 146	
Toluene-d8	50.0	48	95	41 - 146	
4-Bromofluorobenzene	50.0	53	105	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1325539	9.862	1217120	9.845	
1,4-Difluorobenzene	2841226	10.456	2353990	10.438	
Chlorobenzene-d5	1602227	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1534202	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0027-035.0-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-04 File ID: 215AT013.D

Sampled: 01/19/21 13:00 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 13:45

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	7.0		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0027-035.0-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-04 File ID: 215AT013.D

Sampled: 01/19/21 13:00 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 13:45

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	57	115	53 - 146	
Toluene-d8	50.0	46	93	41 - 146	
4-Bromofluorobenzene	50.0	52	104	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1342454	9.863	1217120	9.845	
1,4-Difluorobenzene	2980618	10.462	2353990	10.438	
Chlorobenzene-d5	1652145	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1560174	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0015-027.5-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-05 File ID: 215AT014.D

Sampled: 01/19/21 13:35 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 14:14

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0015-027.5-20210119

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE00066-05
File ID: 215AT014.D
Sampled: 01/19/21 13:35
Prepared: 01/25/21 00:00
Analyzed: 01/25/21 14:14
Solids:
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Batch: 1A25020
Sequence: AA64632
Calibration: 2011113
Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	57	114	53 - 146	
Toluene-d8	50.0	47	94	41 - 146	
4-Bromofluorobenzene	50.0	54	108	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1353784	9.868	1217120	9.845	
1,4-Difluorobenzene	2923690	10.462	2353990	10.438	
Chlorobenzene-d5	1584476	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1534322	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0013-027.5-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-06 File ID: 215AT015.D

Sampled: 01/19/21 14:30 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 14:44

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	2.1	J	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0013-027.5-20210119

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE00066-06
File ID: 215AT015.D
Sampled: 01/19/21 14:30
Prepared: 01/25/21 00:00
Analyzed: 01/25/21 14:44
Solids:
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Batch: 1A25020
Sequence: AA64632
Calibration: 2011113
Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	57	114	53 - 146	
Toluene-d8	50.0	48	96	41 - 146	
4-Bromofluorobenzene	50.0	55	109	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1323227	9.868	1217120	9.845	
1,4-Difluorobenzene	2812403	10.462	2353990	10.438	
Chlorobenzene-d5	1560555	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1499588	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0012-027.5-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-07 File ID: 215AT016.D

Sampled: 01/19/21 15:10 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 15:13

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0012-027.5-20210119

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE00066-07
File ID: 215AT016.D
Sampled: 01/19/21 15:10
Prepared: 01/25/21 00:00
Analyzed: 01/25/21 15:13
Solids:
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Batch: 1A25020
Sequence: AA64632
Calibration: 2011113
Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	59	118	53 - 146	
Toluene-d8	50.0	48	96	41 - 146	
4-Bromofluorobenzene	50.0	54	109	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1311393	9.868	1217120	9.845	
1,4-Difluorobenzene	2857206	10.462	2353990	10.438	
Chlorobenzene-d5	1588971	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1519324	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0002-032.5-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-08 File ID: 215AT017.D

Sampled: 01/19/21 15:45 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 15:43

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	3.1		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0002-032.5-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-08 File ID: 215AT017.D

Sampled: 01/19/21 15:45 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 15:43

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	56	113	53 - 146	
Toluene-d8	50.0	49	97	41 - 146	
4-Bromofluorobenzene	50.0	55	109	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1324243	9.863	1217120	9.845	
1,4-Difluorobenzene	2844356	10.456	2353990	10.438	
Chlorobenzene-d5	1569592	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1496442	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0031-058.0-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-09 File ID: 215AT018.D

Sampled: 01/20/21 12:15 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 16:12

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	29		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0031-058.0-20210120

Laboratory: ENCO Orlando | SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) | Project: NASA KSC CRCA

Matrix: Ground Water | Laboratory ID: AE00066-09 | File ID: 215AT018.D

Sampled: 01/20/21 12:15 | Prepared: 01/25/21 00:00 | Analyzed: 01/25/21 16:12

Solids: | Preparation: EPA 5030B_MS | Initial/Final: 5 mL / 5 mL

Batch: 1A25020 | Sequence: AA64632 | Calibration: 2011113 | Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	59	118	53 - 146	
Toluene-d8	50.0	47	93	41 - 146	
4-Bromofluorobenzene	50.0	52	105	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1346166	9.863	1217120	9.845	
1,4-Difluorobenzene	3057273	10.462	2353990	10.438	
Chlorobenzene-d5	1666053	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1548120	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0032-058.0-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-10 File ID: 215AT009.D

Sampled: 01/20/21 13:00 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 11:47

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0032-058.0-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-10 File ID: 215AT009.D

Sampled: 01/20/21 13:00 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 11:47

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	57	114	53 - 146	
Toluene-d8	50.0	47	94	41 - 146	
4-Bromofluorobenzene	50.0	53	106	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1353992	9.863	1217120	9.845	
1,4-Difluorobenzene	2910142	10.456	2353990	10.438	
Chlorobenzene-d5	1676020	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1554117	15.491	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0018-058.0-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-11RE1 File ID: 212AU017.D

Sampled: 01/20/21 14:00 Prepared: 01/26/21 00:00 Analyzed: 01/26/21 15:52

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A26010 Sequence: AA64658 Calibration: 2101077 Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	97		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0018-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE00066-11RE1
File ID: 212AU017.D
Sampled: 01/20/21 14:00
Prepared: 01/26/21 00:00
Analyzed: 01/26/21 15:52
Solids:
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Batch: 1A26010
Sequence: AA64658
Calibration: 2101077
Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	55	110	53 - 146	
Toluene-d8	50.0	55	109	41 - 146	
4-Bromofluorobenzene	50.0	54	108	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	193931	11.47	253281	11.45	
1,4-Difluorobenzene	383784	12.02	506895	11.99	
Chlorobenzene-d5	191378	14.62	216205	14.59	
1,4-Dichlorobenzene-d4	134955	16.99	135032	16.96	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0019-058.0-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-12 File ID: 215AT020.D

Sampled: 01/20/21 16:00 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 17:11

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	2.8		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0019-058.0-20210120

Laboratory: ENCO Orlando | SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) | Project: NASA KSC CRCA

Matrix: Ground Water | Laboratory ID: AE00066-12 | File ID: 215AT020.D

Sampled: 01/20/21 16:00 | Prepared: 01/25/21 00:00 | Analyzed: 01/25/21 17:11

Solids: | Preparation: EPA 5030B_MS | Initial/Final: 5 mL / 5 mL

Batch: 1A25020 | Sequence: AA64632 | Calibration: 2011113 | Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	57	113	53 - 146	
Toluene-d8	50.0	47	95	41 - 146	
4-Bromofluorobenzene	50.0	55	110	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1326429	9.868	1217120	9.845	
1,4-Difluorobenzene	2844280	10.462	2353990	10.438	
Chlorobenzene-d5	1585901	13.241	1612072	13.217	
1,4-Dichlorobenzene-d4	1547465	15.497	1366836	15.474	

* Values outside of QC limits

HOLDING TIME SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-MW0030-058.0-20210119	01/19/21 11:05	01/21/21 15:10	01/25/21 00:00	5.54	NA	01/25/21 12:17	6.00	14.00	
CRCA-MW0029-035.0-20210119	01/19/21 11:40	01/21/21 15:10	01/25/21 00:00	5.51	NA	01/25/21 12:46	6.00	14.00	
CRCA-MW0028-058.0-20210119	01/19/21 12:20	01/21/21 15:10	01/25/21 00:00	5.49	NA	01/25/21 13:15	6.00	14.00	
CRCA-MW0027-035.0-20210119	01/19/21 13:00	01/21/21 15:10	01/25/21 00:00	5.46	NA	01/25/21 13:45	6.00	14.00	
CRCA-MW0015-027.5-20210119	01/19/21 13:35	01/21/21 15:10	01/25/21 00:00	5.43	NA	01/25/21 14:14	6.00	14.00	
CRCA-MW0013-027.5-20210119	01/19/21 14:30	01/21/21 15:10	01/25/21 00:00	5.40	NA	01/25/21 14:44	6.00	14.00	
CRCA-MW0012-027.5-20210119	01/19/21 15:10	01/21/21 15:10	01/25/21 00:00	5.37	NA	01/25/21 15:13	6.00	14.00	
CRCA-MW0002-032.5-20210119	01/19/21 15:45	01/21/21 15:10	01/25/21 00:00	5.34	NA	01/25/21 15:43	6.00	14.00	
CRCA-MW0031-058.0-20210120	01/20/21 12:15	01/21/21 15:10	01/25/21 00:00	4.49	NA	01/25/21 16:12	5.00	14.00	
CRCA-MW0032-058.0-20210120	01/20/21 13:00	01/21/21 15:10	01/25/21 00:00	4.46	NA	01/25/21 11:47	5.00	14.00	
CRCA-MW0018-058.0-20210120	01/20/21 14:00	01/21/21 15:10	01/26/21 00:00	5.42	NA	01/26/21 15:52	6.00	14.00	
CRCA-MW0019-058.0-20210120	01/20/21 16:00	01/21/21 15:10	01/25/21 00:00	4.33	NA	01/25/21 17:11	5.00	14.00	

PREPARATION BATCH SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1A25020 Batch Matrix: Water Preparation: EPA 5030B_MS

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1A25020-BLK1	215AT006.D	01/25/21 00:00	
LCS	1A25020-BS1	215AT004.D	01/25/21 00:00	
CRCA-MW0032-058.0-20210120	1A25020-MS1	215AT023.D	01/25/21 00:00	
CRCA-MW0032-058.0-20210120	1A25020-MSD1	215AT024.D	01/25/21 00:00	
CRCA-MW0030-058.0-20210119	AE00066-01	215AT010.D	01/25/21 00:00	
CRCA-MW0029-035.0-20210119	AE00066-02	215AT011.D	01/25/21 00:00	
CRCA-MW0028-058.0-20210119	AE00066-03	215AT012.D	01/25/21 00:00	
CRCA-MW0027-035.0-20210119	AE00066-04	215AT013.D	01/25/21 00:00	
CRCA-MW0015-027.5-20210119	AE00066-05	215AT014.D	01/25/21 00:00	
CRCA-MW0013-027.5-20210119	AE00066-06	215AT015.D	01/25/21 00:00	
CRCA-MW0012-027.5-20210119	AE00066-07	215AT016.D	01/25/21 00:00	
CRCA-MW0002-032.5-20210119	AE00066-08	215AT017.D	01/25/21 00:00	
CRCA-MW0031-058.0-20210120	AE00066-09	215AT018.D	01/25/21 00:00	
CRCA-MW0032-058.0-20210120	AE00066-10	215AT009.D	01/25/21 00:00	
CRCA-MW0019-058.0-20210120	AE00066-12	215AT020.D	01/25/21 00:00	

PREPARATION BATCH SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1A26010 Batch Matrix: Water Preparation: EPA 5030B_MS

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1A26010-BLK1	212AU008.D	01/26/21 00:00	
LCS	1A26010-BS1	212AU003.D	01/26/21 00:00	
MW-3R	1A26010-MS1	212AU004.D	01/26/21 00:00	
MW-3R	1A26010-MSD1	212AU005.D	01/26/21 00:00	
CRCA-MW0018-058.0-20210120	AE00066-11RE1	212AU017.D	01/26/21 00:00	

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1A25020-BLK1	File ID:	215AT006.D
Prepared:	01/25/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	01/25/21 10:19	Instrument:	OVGCMS5		
Batch:	1A25020	Sequence:	AA64632	Calibration:	2011113

CAS NO.	COMPOUND	CONC. (ug/L)	Q
75-71-8	Dichlorodifluoromethane	0.74	U
74-87-3	Chloromethane	0.82	U
75-01-4	Vinyl chloride	0.71	U
74-83-9	Bromomethane	0.95	U
75-00-3	Chloroethane	0.98	U
75-69-4	Trichlorofluoromethane	0.94	U
76-13-1	Freon 113	0.73	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	0.94	U
75-15-0	Carbon disulfide	2.5	U
75-09-2	Methylene Chloride	2.5	U
1634-04-4	Methyl-tert-Butyl Ether	0.60	U
156-60-5	trans-1,2-Dichloroethene	0.73	U
156-59-2	cis-1,2-Dichloroethene	0.53	U
75-34-3	1,1-Dichloroethane	0.62	U
78-93-3	2-Butanone	4.5	U
67-66-3	Chloroform	0.80	U
71-55-6	1,1,1-Trichloroethane	0.80	U
79-20-9	Methyl acetate	0.95	U
110-82-7	Cyclohexane	0.93	U
108-87-2	Methyl cyclohexane	0.64	U
56-23-5	Carbon Tetrachloride	0.94	U
107-06-2	1,2-Dichloroethane	0.63	U
71-43-2	Benzene	0.71	U
79-01-6	Trichloroethene	0.89	U
78-87-5	1,2-Dichloropropane	0.80	U
75-27-4	Bromodichloromethane	0.52	U
108-10-1	4-Methyl-2-pentanone	2.5	U
591-78-6	2-Hexanone	2.5	U
10061-01-5	cis-1,3-Dichloropropene	0.59	U

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1A25020-BLK1	File ID:	215AT006.D
Prepared:	01/25/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	01/25/21 10:19	Instrument:	OVGCMS5		
Batch:	1A25020	Sequence:	AA64632	Calibration:	2011113

CAS NO.	COMPOUND	CONC. (ug/L)	Q
108-88-3	Toluene	0.72	U
10061-02-6	trans-1,3-Dichloropropene	0.73	U
79-00-5	1,1,2-Trichloroethane	0.76	U
127-18-4	Tetrachloroethene	0.76	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.78	U
108-90-7	Chlorobenzene	0.72	U
100-41-4	Ethylbenzene	0.69	U
108-38-3/106-42-3	m,p-Xylenes	1.3	U
95-47-6	o-Xylene	0.53	U
75-25-2	Bromoform	0.75	U
100-42-5	Styrene	0.61	U
98-82-8	Isopropylbenzene	0.67	U
79-34-5	1,1,2,2-Tetrachloroethane	0.54	U
120-82-1	1,2,4-Trichlorobenzene	0.70	U
541-73-1	1,3-Dichlorobenzene	0.77	U
106-46-7	1,4-Dichlorobenzene	0.76	U
95-50-1	1,2-Dichlorobenzene	0.73	U
96-12-8	1,2-Dibromo-3-chloropropane	0.96	U
1330-20-7	Xylenes (Total)	1.3	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	55	111	53 - 146	
Toluene-d8	50.0	48	96	41 - 146	
4-Bromofluorobenzene	50.0	54	109	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1492905	9.857	1217120	9.845	
1,4-Difluorobenzene	3146822	10.456	2353990	10.438	
Chlorobenzene-d5	1772986	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1644956	15.491	1366836	15.474	

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1A26010-BLK1	File ID:	212AU008.D
Prepared:	01/26/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	01/26/21 11:19	Instrument:	OVGCMS2		
Batch:	1A26010	Sequence:	AA64658	Calibration:	2101077

CAS NO.	COMPOUND	CONC. (ug/L)	Q
75-71-8	Dichlorodifluoromethane	0.74	U
74-87-3	Chloromethane	0.82	U
75-01-4	Vinyl chloride	0.71	U
74-83-9	Bromomethane	0.95	U
75-00-3	Chloroethane	0.98	U
75-69-4	Trichlorofluoromethane	0.94	U
76-13-1	Freon 113	0.73	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	0.94	U
75-15-0	Carbon disulfide	2.5	U
75-09-2	Methylene Chloride	2.5	U
1634-04-4	Methyl-tert-Butyl Ether	0.60	U
156-60-5	trans-1,2-Dichloroethene	0.73	U
156-59-2	cis-1,2-Dichloroethene	0.53	U
75-34-3	1,1-Dichloroethane	0.62	U
78-93-3	2-Butanone	4.5	U
67-66-3	Chloroform	0.80	U
71-55-6	1,1,1-Trichloroethane	0.80	U
79-20-9	Methyl acetate	0.95	U
110-82-7	Cyclohexane	0.93	U
108-87-2	Methyl cyclohexane	0.64	U
56-23-5	Carbon Tetrachloride	0.94	U
107-06-2	1,2-Dichloroethane	0.63	U
71-43-2	Benzene	0.71	U
79-01-6	Trichloroethene	0.89	U
78-87-5	1,2-Dichloropropane	0.80	U
75-27-4	Bromodichloromethane	0.52	U
108-10-1	4-Methyl-2-pentanone	2.5	U
591-78-6	2-Hexanone	2.5	U
10061-01-5	cis-1,3-Dichloropropene	0.59	U

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1A26010-BLK1	File ID:	212AU008.D
Prepared:	01/26/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	01/26/21 11:19	Instrument:	OVGCMS2		
Batch:	1A26010	Sequence:	AA64658	Calibration:	2101077

CAS NO.	COMPOUND	CONC. (ug/L)	Q
108-88-3	Toluene	0.72	U
10061-02-6	trans-1,3-Dichloropropene	0.73	U
79-00-5	1,1,2-Trichloroethane	0.76	U
127-18-4	Tetrachloroethene	0.76	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.78	U
108-90-7	Chlorobenzene	0.72	U
100-41-4	Ethylbenzene	0.69	U
108-38-3/106-42-3	m,p-Xylenes	1.3	U
95-47-6	o-Xylene	0.53	U
75-25-2	Bromoform	0.75	U
100-42-5	Styrene	0.61	U
98-82-8	Isopropylbenzene	0.67	U
79-34-5	1,1,2,2-Tetrachloroethane	0.54	U
120-82-1	1,2,4-Trichlorobenzene	0.70	U
541-73-1	1,3-Dichlorobenzene	0.77	U
106-46-7	1,4-Dichlorobenzene	0.76	U
95-50-1	1,2-Dichlorobenzene	0.73	U
96-12-8	1,2-Dibromo-3-chloropropane	0.96	U
1330-20-7	Xylenes (Total)	1.3	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	58	116	53 - 146	
Toluene-d8	50.0	51	102	41 - 146	
4-Bromofluorobenzene	50.0	51	103	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	294699	11.47	253281	11.45	
1,4-Difluorobenzene	604071	12.02	506895	11.99	
Chlorobenzene-d5	274826	14.62	216205	14.59	
1,4-Dichlorobenzene-d4	171064	16.98	135032	16.96	

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1A25020	Laboratory ID:	1A25020-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	12	61	10 - 180
Chloromethane	20.0	9.3	46	33 - 154
Vinyl chloride	20.0	17	85	20 - 167
Bromomethane	20.0	8.7	44	10 - 173
Chloroethane	20.0	22	109	27 - 180
Trichlorofluoromethane	20.0	20	100	56 - 155
Freon 113	20.0	21	104	47 - 173
Acetone	100	71	71	10 - 180
1,1-Dichloroethene	20.0	20	102	47 - 139
Carbon disulfide	20.0	20	102	43 - 153
Methylene Chloride	20.0	20	100	43 - 142
Methyl-tert-Butyl Ether	20.0	20	99	51 - 145
trans-1,2-Dichloroethene	20.0	22	108	54 - 134
cis-1,2-Dichloroethene	20.0	22	109	56 - 128
1,1-Dichloroethane	20.0	19	93	57 - 142
2-Butanone	100	90	90	10 - 180
Chloroform	20.0	20	99	58 - 139
1,1,1-Trichloroethane	20.0	19	97	57 - 148
Methyl acetate	20.0	13	65 *	70 - 130
Cyclohexane	20.0	16	82	70 - 130
Methyl cyclohexane	20.0	18	89	70 - 130
Carbon Tetrachloride	20.0	16	80	54 - 156
1,2-Dichloroethane	20.0	15	75	50 - 156
Benzene	20.0	19	94	56 - 136
Trichloroethene	20.0	21	103	62 - 135
1,2-Dichloropropane	20.0	16	80	61 - 133
Bromodichloromethane	20.0	18	89	58 - 135
4-Methyl-2-pentanone	100	90	90	19 - 180
2-Hexanone	100	68	68	12 - 180
cis-1,3-Dichloropropene	20.0	17	87	64 - 128

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1A25020	Laboratory ID:	1A25020-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Toluene	20.0	23	114	64 - 131
trans-1,3-Dichloropropene	20.0	21	103	65 - 149
1,1,2-Trichloroethane	20.0	21	107	57 - 141
Tetrachloroethene	20.0	21	104	60 - 147
Dibromochloromethane	20.0	24	118	50 - 140
1,2-Dibromoethane	20.0	22	110	57 - 140
Chlorobenzene	20.0	24	120	51 - 139
Ethylbenzene	20.0	22	108	63 - 133
m,p-Xylenes	40.0	50	125	64 - 133
o-Xylene	20.0	23	117	61 - 129
Bromoform	20.0	21	107	46 - 148
Styrene	20.0	25	126	59 - 136
Isopropylbenzene	20.0	24	118	60 - 132
1,1,2,2-Tetrachloroethane	20.0	21	105	60 - 139
1,2,4-Trichlorobenzene	20.0	17	87	52 - 159
1,3-Dichlorobenzene	20.0	24	118	66 - 129
1,4-Dichlorobenzene	20.0	21	106	65 - 133
1,2-Dichlorobenzene	20.0	23	113	63 - 131
1,2-Dibromo-3-chloropropane	20.0	20	102	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1A26010	Laboratory ID:	1A26010-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	14	69	10 - 180
Chloromethane	20.0	19	97	33 - 154
Vinyl chloride	20.0	24	118	20 - 167
Bromomethane	20.0	20	101	10 - 173
Chloroethane	20.0	25	124	27 - 180
Trichlorofluoromethane	20.0	25	123	56 - 155
Freon 113	20.0	28	142	47 - 173
Acetone	100	160	156	10 - 180
1,1-Dichloroethene	20.0	25	125	47 - 139
Carbon disulfide	20.0	36	178 *	43 - 153
Methylene Chloride	20.0	27	136	43 - 142
Methyl-tert-Butyl Ether	20.0	28	141	51 - 145
trans-1,2-Dichloroethene	20.0	27	135 *	54 - 134
cis-1,2-Dichloroethene	20.0	25	124	56 - 128
1,1-Dichloroethane	20.0	24	119	57 - 142
2-Butanone	100	130	126	10 - 180
Chloroform	20.0	28	140 *	58 - 139
1,1,1-Trichloroethane	20.0	25	127	57 - 148
Methyl acetate	20.0	30	148 *	70 - 130
Cyclohexane	20.0	26	132 *	70 - 130
Methyl cyclohexane	20.0	23	116	70 - 130
Carbon Tetrachloride	20.0	23	115	54 - 156
1,2-Dichloroethane	20.0	24	119	50 - 156
Benzene	20.0	21	106	56 - 136
Trichloroethene	20.0	22	112	62 - 135
1,2-Dichloropropane	20.0	24	118	61 - 133
Bromodichloromethane	20.0	23	117	58 - 135
4-Methyl-2-pentanone	100	110	114	19 - 180
2-Hexanone	100	110	114	12 - 180
cis-1,3-Dichloropropene	20.0	23	116	64 - 128

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1A26010	Laboratory ID:	1A26010-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Toluene	20.0	20	101	64 - 131
trans-1,3-Dichloropropene	20.0	23	116	65 - 149
1,1,2-Trichloroethane	20.0	23	114	57 - 141
Tetrachloroethene	20.0	19	97	60 - 147
Dibromochloromethane	20.0	22	112	50 - 140
1,2-Dibromoethane	20.0	23	116	57 - 140
Chlorobenzene	20.0	20	101	51 - 139
Ethylbenzene	20.0	20	100	63 - 133
m,p-Xylenes	40.0	40	99	64 - 133
o-Xylene	20.0	20	102	61 - 129
Bromoform	20.0	23	113	46 - 148
Styrene	20.0	21	103	59 - 136
Isopropylbenzene	20.0	21	104	60 - 132
1,1,2,2-Tetrachloroethane	20.0	23	115	60 - 139
1,2,4-Trichlorobenzene	20.0	25	127	52 - 159
1,3-Dichlorobenzene	20.0	21	105	66 - 129
1,4-Dichlorobenzene	20.0	20	101	65 - 133
1,2-Dichlorobenzene	20.0	22	109	63 - 131
1,2-Dibromo-3-chloropropane	20.0	27	137	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0032-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A25020
Laboratory ID: 1A25020-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0032-058.0-20210120

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	ND	13	66	10 - 180
Chloromethane	20.0	ND	9.6	48	33 - 154
Vinyl chloride	20.0	ND	17	84	20 - 167
Bromomethane	20.0	ND	10	50	10 - 173
Chloroethane	20.0	ND	23	113	27 - 180
Trichlorofluoromethane	20.0	ND	23	113	56 - 155
Freon 113	20.0	ND	23	115	47 - 173
Acetone	100	ND	65	65	10 - 180
1,1-Dichloroethene	20.0	ND	23	114	47 - 139
Carbon disulfide	20.0	ND	21	106	43 - 153
Methylene Chloride	20.0	ND	21	105	43 - 142
Methyl-tert-Butyl Ether	20.0	ND	20	100	51 - 145
trans-1,2-Dichloroethene	20.0	ND	22	111	54 - 134
cis-1,2-Dichloroethene	20.0	ND	22	110	56 - 128
1,1-Dichloroethane	20.0	ND	19	96	57 - 142
2-Butanone	100	ND	88	88	10 - 180
Chloroform	20.0	ND	21	104	58 - 139
1,1,1-Trichloroethane	20.0	ND	22	110	57 - 148
Methyl acetate	20.0	ND	10	51 *	70 - 130
Cyclohexane	20.0	ND	16	82	70 - 130
Methyl cyclohexane	20.0	ND	19	95	70 - 130
Carbon Tetrachloride	20.0	ND	18	89	54 - 156
1,2-Dichloroethane	20.0	ND	16	79	50 - 156
Benzene	20.0	ND	20	100	56 - 136
Trichloroethene	20.0	ND	24	122	62 - 135
1,2-Dichloropropane	20.0	ND	16	79	61 - 133
Bromodichloromethane	20.0	ND	19	95	58 - 135
4-Methyl-2-pentanone	100	ND	87	87	19 - 180
2-Hexanone	100	ND	62	62	12 - 180
cis-1,3-Dichloropropene	20.0	ND	17	85	64 - 128
Toluene	20.0	ND	24	122	64 - 131

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0032-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A25020
Laboratory ID: 1A25020-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0032-058.0-20210120

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
trans-1,3-Dichloropropene	20.0	ND	20	102	65 - 149
1,1,2-Trichloroethane	20.0	ND	22	110	57 - 141
Tetrachloroethene	20.0	ND	24	122	60 - 147
Dibromochloromethane	20.0	ND	25	127	50 - 140
1,2-Dibromoethane	20.0	ND	23	115	57 - 140
Chlorobenzene	20.0	ND	27	135	51 - 139
Ethylbenzene	20.0	ND	24	119	63 - 133
m,p-Xylenes	40.0	ND	55	137 *	64 - 133
o-Xylene	20.0	ND	25	127	61 - 129
Bromoform	20.0	ND	22	109	46 - 148
Styrene	20.0	ND	28	140 *	59 - 136
Isopropylbenzene	20.0	ND	26	131	60 - 132
1,1,2,2-Tetrachloroethane	20.0	ND	23	114	60 - 139
1,2,4-Trichlorobenzene	20.0	ND	15	74	52 - 159
1,3-Dichlorobenzene	20.0	ND	25	125	66 - 129
1,4-Dichlorobenzene	20.0	ND	23	114	65 - 133
1,2-Dichlorobenzene	20.0	ND	23	114	63 - 131
1,2-Dibromo-3-chloropropane	20.0	ND	14	72	48 - 150

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0032-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A25020
Laboratory ID: 1A25020-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0032-058.0-20210120

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20.0	13	63	4	26	10 - 180
Chloromethane	20.0	9.0	45	7	31	33 - 154
Vinyl chloride	20.0	15	77	8	24	20 - 167
Bromomethane	20.0	11	55	10	29	10 - 173
Chloroethane	20.0	21	105	7	22	27 - 180
Trichlorofluoromethane	20.0	20	102	10	22	56 - 155
Freon 113	20.0	21	105	9	30	47 - 173
Acetone	100	70	70	7	19	10 - 180
1,1-Dichloroethene	20.0	21	103	10	16	47 - 139
Carbon disulfide	20.0	19	94	12	26	43 - 153
Methylene Chloride	20.0	19	95	9	23	43 - 142
Methyl-tert-Butyl Ether	20.0	19	95	5	22	51 - 145
trans-1,2-Dichloroethene	20.0	21	103	8	20	54 - 134
cis-1,2-Dichloroethene	20.0	21	104	5	17	56 - 128
1,1-Dichloroethane	20.0	18	90	6	24	57 - 142
2-Butanone	100	83	83	5	29	10 - 180
Chloroform	20.0	20	102	2	17	58 - 139
1,1,1-Trichloroethane	20.0	20	102	8	25	57 - 148
Methyl acetate	20.0	9.5	48 *	6	20	70 - 130
Cyclohexane	20.0	15	75	8	20	70 - 130
Methyl cyclohexane	20.0	18	91	4	20	70 - 130
Carbon Tetrachloride	20.0	16	79	12	27	54 - 156
1,2-Dichloroethane	20.0	15	77	1	18	50 - 156
Benzene	20.0	19	96	5	14	56 - 136
Trichloroethene	20.0	21	107	12	20	62 - 135
1,2-Dichloropropane	20.0	15	76	4	26	61 - 133
Bromodichloromethane	20.0	18	89	7	19	58 - 135
4-Methyl-2-pentanone	100	87	87	0.5	24	19 - 180
2-Hexanone	100	66	66	5	28	12 - 180
cis-1,3-Dichloropropene	20.0	16	78	9	20	64 - 128
Toluene	20.0	23	117	4	16	64 - 131
trans-1,3-Dichloropropene	20.0	19	97	5	17	65 - 149

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0032-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A25020
Laboratory ID: 1A25020-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0032-058.0-20210120

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,2-Trichloroethane	20.0	21	106	3	16	57 - 141
Tetrachloroethene	20.0	23	113	8	21	60 - 147
Dibromochloromethane	20.0	23	117	8	18	50 - 140
1,2-Dibromoethane	20.0	22	110	4	16	57 - 140
Chlorobenzene	20.0	26	129	5	13	51 - 139
Ethylbenzene	20.0	22	112	6	18	63 - 133
m,p-Xylenes	40.0	51	129	6	18	64 - 133
o-Xylene	20.0	25	123	4	16	61 - 129
Bromoform	20.0	21	106	2	18	46 - 148
Styrene	20.0	26	130	7	32	59 - 136
Isopropylbenzene	20.0	24	122	7	23	60 - 132
1,1,2,2-Tetrachloroethane	20.0	22	110	4	17	60 - 139
1,2,4-Trichlorobenzene	20.0	16	81	9	24	52 - 159
1,3-Dichlorobenzene	20.0	24	120	4	23	66 - 129
1,4-Dichlorobenzene	20.0	22	110	4	23	65 - 133
1,2-Dichlorobenzene	20.0	23	113	1	25	63 - 131
1,2-Dibromo-3-chloropropane	20.0	18	88	21	21	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-3R

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A26010
Laboratory ID: 1A26010-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-3R

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	ND	15	75	10 - 180
Chloromethane	20.0	ND	20	98	33 - 154
Vinyl chloride	20.0	ND	25	125	20 - 167
Bromomethane	20.0	ND	22	108	10 - 173
Chloroethane	20.0	ND	25	125	27 - 180
Trichlorofluoromethane	20.0	ND	26	128	56 - 155
Freon 113	20.0	ND	29	146	47 - 173
Acetone	100	ND	150	152	10 - 180
1,1-Dichloroethene	20.0	ND	25	126	47 - 139
Carbon disulfide	20.0	ND	35	173 *	43 - 153
Methylene Chloride	20.0	ND	26	129	43 - 142
Methyl-tert-Butyl Ether	20.0	ND	28	139	51 - 145
trans-1,2-Dichloroethene	20.0	ND	26	130	54 - 134
cis-1,2-Dichloroethene	20.0	ND	24	118	56 - 128
1,1-Dichloroethane	20.0	ND	23	115	57 - 142
2-Butanone	100	ND	140	137	10 - 180
Chloroform	20.0	ND	27	134	58 - 139
1,1,1-Trichloroethane	20.0	ND	25	125	57 - 148
Methyl acetate	20.0	ND	29	144 *	70 - 130
Cyclohexane	20.0	ND	27	134 *	70 - 130
Methyl cyclohexane	20.0	ND	23	114	70 - 130
Carbon Tetrachloride	20.0	ND	23	114	54 - 156
1,2-Dichloroethane	20.0	ND	22	112	50 - 156
Benzene	20.0	ND	20	102	56 - 136
Trichloroethene	20.0	ND	21	106	62 - 135
1,2-Dichloropropane	20.0	ND	23	115	61 - 133
Bromodichloromethane	20.0	ND	22	110	58 - 135
4-Methyl-2-pentanone	100	ND	120	119	19 - 180
2-Hexanone	100	ND	120	123	12 - 180
cis-1,3-Dichloropropene	20.0	ND	22	111	64 - 128
Toluene	20.0	ND	20	98	64 - 131

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-3R

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A26010
Laboratory ID: 1A26010-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-3R

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
trans-1,3-Dichloropropene	20.0	ND	22	110	65 - 149
1,1,2-Trichloroethane	20.0	ND	22	109	57 - 141
Tetrachloroethene	20.0	ND	19	96	60 - 147
Dibromochloromethane	20.0	ND	21	107	50 - 140
1,2-Dibromoethane	20.0	ND	22	110	57 - 140
Chlorobenzene	20.0	ND	20	98	51 - 139
Ethylbenzene	20.0	ND	20	98	63 - 133
m,p-Xylenes	40.0	ND	39	97	64 - 133
o-Xylene	20.0	ND	19	97	61 - 129
Bromoform	20.0	ND	22	108	46 - 148
Styrene	20.0	ND	20	98	59 - 136
Isopropylbenzene	20.0	ND	20	100	60 - 132
1,1,2,2-Tetrachloroethane	20.0	ND	22	112	60 - 139
1,2,4-Trichlorobenzene	20.0	ND	24	122	52 - 159
1,3-Dichlorobenzene	20.0	ND	20	99	66 - 129
1,4-Dichlorobenzene	20.0	ND	19	97	65 - 133
1,2-Dichlorobenzene	20.0	ND	20	102	63 - 131
1,2-Dibromo-3-chloropropane	20.0	ND	27	136	48 - 150

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-3R

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A26010
Laboratory ID: 1A26010-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-3R

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #		% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20.0	14	70		6	26	10 - 180
Chloromethane	20.0	19	96		3	31	33 - 154
Vinyl chloride	20.0	24	120		4	24	20 - 167
Bromomethane	20.0	23	114		5	29	10 - 173
Chloroethane	20.0	25	125		0.2	22	27 - 180
Trichlorofluoromethane	20.0	26	131		3	22	56 - 155
Freon 113	20.0	29	144		2	30	47 - 173
Acetone	100	160	157		3	19	10 - 180
1,1-Dichloroethene	20.0	24	120		5	16	47 - 139
Carbon disulfide	20.0	33	163	*	6	26	43 - 153
Methylene Chloride	20.0	26	128		1	23	43 - 142
Methyl-tert-Butyl Ether	20.0	28	141		1	22	51 - 145
trans-1,2-Dichloroethene	20.0	26	128		2	20	54 - 134
cis-1,2-Dichloroethene	20.0	23	115		2	17	56 - 128
1,1-Dichloroethane	20.0	23	115		0.2	24	57 - 142
2-Butanone	100	130	129		6	29	10 - 180
Chloroform	20.0	27	133		1	17	58 - 139
1,1,1-Trichloroethane	20.0	25	124		1	25	57 - 148
Methyl acetate	20.0	31	155	*	7	20	70 - 130
Cyclohexane	20.0	26	128		5	20	70 - 130
Methyl cyclohexane	20.0	22	112		2	20	70 - 130
Carbon Tetrachloride	20.0	23	113		0.4	27	54 - 156
1,2-Dichloroethane	20.0	22	112		0.6	18	50 - 156
Benzene	20.0	20	101		0.5	14	56 - 136
Trichloroethene	20.0	21	106		0.4	20	62 - 135
1,2-Dichloropropane	20.0	23	113		2	26	61 - 133
Bromodichloromethane	20.0	22	110		0.1	19	58 - 135
4-Methyl-2-pentanone	100	130	125		5	24	19 - 180
2-Hexanone	100	130	133		8	28	12 - 180
cis-1,3-Dichloropropene	20.0	22	111		0.2	20	64 - 128
Toluene	20.0	19	95		3	16	64 - 131
trans-1,3-Dichloropropene	20.0	22	108		2	17	65 - 149

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-3R

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A26010
Laboratory ID: 1A26010-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-3R

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,2-Trichloroethane	20.0	21	106	3	16	57 - 141
Tetrachloroethene	20.0	18	92	4	21	60 - 147
Dibromochloromethane	20.0	21	107	0.3	18	50 - 140
1,2-Dibromoethane	20.0	22	110	0.09	16	57 - 140
Chlorobenzene	20.0	19	95	3	13	51 - 139
Ethylbenzene	20.0	19	95	3	18	63 - 133
m,p-Xylenes	40.0	38	94	3	18	64 - 133
o-Xylene	20.0	19	96	1	16	61 - 129
Bromoform	20.0	21	107	0.9	18	46 - 148
Styrene	20.0	19	97	2	32	59 - 136
Isopropylbenzene	20.0	19	97	3	23	60 - 132
1,1,2,2-Tetrachloroethane	20.0	23	114	3	17	60 - 139
1,2,4-Trichlorobenzene	20.0	24	119	2	24	52 - 159
1,3-Dichlorobenzene	20.0	19	94	5	23	66 - 129
1,4-Dichlorobenzene	20.0	19	94	4	23	65 - 133
1,2-Dichlorobenzene	20.0	20	100	2	25	63 - 131
1,2-Dibromo-3-chloropropane	20.0	28	141	4	21	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA63653
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA63653-SCV1)			Lab File ID: 205KN012.D		Analyzed: 11/19/20 13:24			
Dibromofluoromethane	50.0	100	70 - 130	9.422	9.4205	0.0015	+/-0.5	
Toluene-d8	50.0	104	70 - 130	11.772	11.77275	-0.0008	+/-0.5	
4-Bromofluorobenzene	50.0	105	70 - 130	14.322	14.322	0.0000	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64539
Instrument: OVGCMS2
Matrix: Water
Calibration: 2101077

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA64539-SCV1)			Lab File ID: 212AN013.D		Analyzed: 01/19/21 13:38			
Dibromofluoromethane	50.0	99	70 - 130	11.04	11.05125	-0.0113	+/-0.5	
Toluene-d8	50.0	105	70 - 130	13.22	13.21875	0.0013	+/-0.5	
4-Bromofluorobenzene	50.0	105	70 - 130	15.71	15.71125	-0.0012	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64632
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA64632-CCV1)			Lab File ID: 215AT003.D		Analyzed: 01/25/21 08:47			
Dibromofluoromethane	50.0	107	80 - 120	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	99	80 - 120	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	103	80 - 120	14.334	14.322	0.0120	+/-0.5	
LCS (1A25020-BS1)			Lab File ID: 215AT004.D		Analyzed: 01/25/21 09:20			
Dibromofluoromethane	50.0	111	53 - 146	9.434	9.4205	0.0135	+/-0.5	
Toluene-d8	50.0	98	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	105	41 - 142	14.334	14.322	0.0120	+/-0.5	
Blank (1A25020-BLK1)			Lab File ID: 215AT006.D		Analyzed: 01/25/21 10:19			
Dibromofluoromethane	50.0	111	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	96	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	14.34	14.322	0.0180	+/-0.5	
Instrument RL Check (AA64632-CRL1)			Lab File ID: 215AT007.D		Analyzed: 01/25/21 10:48			
Dibromofluoromethane	50.0	108	1 - 199	9.434	9.4205	0.0135	+/-0.5	
Toluene-d8	50.0	95	1 - 199	11.784	11.77275	0.0113	+/-0.5	
4-Bromofluorobenzene	50.0	106	1 - 199	14.334	14.322	0.0120	+/-0.5	
CRCA-MW0032-058.0-20210120 (AE00066-10)			Lab File ID: 215AT009.D		Analyzed: 01/25/21 11:47			
Dibromofluoromethane	50.0	114	53 - 146	9.434	9.4205	0.0135	+/-0.5	
Toluene-d8	50.0	94	41 - 146	11.784	11.77275	0.0113	+/-0.5	
4-Bromofluorobenzene	50.0	106	41 - 142	14.334	14.322	0.0120	+/-0.5	
CRCA-MW0030-058.0-20210119 (AE00066-01)			Lab File ID: 215AT010.D		Analyzed: 01/25/21 12:17			
Dibromofluoromethane	50.0	115	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	97	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	106	41 - 142	14.334	14.322	0.0120	+/-0.5	
CRCA-MW0029-035.0-20210119 (AE00066-02)			Lab File ID: 215AT011.D		Analyzed: 01/25/21 12:46			
Dibromofluoromethane	50.0	114	53 - 146	9.44	9.4205	0.0195	+/-0.5	
Toluene-d8	50.0	96	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	107	41 - 142	14.34	14.322	0.0180	+/-0.5	
CRCA-MW0028-058.0-20210119 (AE00066-03)			Lab File ID: 215AT012.D		Analyzed: 01/25/21 13:15			
Dibromofluoromethane	50.0	111	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	95	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	105	41 - 142	14.34	14.322	0.0180	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64632
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
CRCA-MW0027-035.0-20210119 (AE00066-04)			Lab File ID: 215AT013.D		Analyzed: 01/25/21 13:45			
Dibromofluoromethane	50.0	115	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	93	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	104	41 - 142	14.34	14.322	0.0180	+/-0.5	
CRCA-MW0015-027.5-20210119 (AE00066-05)			Lab File ID: 215AT014.D		Analyzed: 01/25/21 14:14			
Dibromofluoromethane	50.0	114	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	94	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	108	41 - 142	14.34	14.322	0.0180	+/-0.5	
CRCA-MW0013-027.5-20210119 (AE00066-06)			Lab File ID: 215AT015.D		Analyzed: 01/25/21 14:44			
Dibromofluoromethane	50.0	114	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	96	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	14.34	14.322	0.0180	+/-0.5	
CRCA-MW0012-027.5-20210119 (AE00066-07)			Lab File ID: 215AT016.D		Analyzed: 01/25/21 15:13			
Dibromofluoromethane	50.0	118	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	96	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	14.34	14.322	0.0180	+/-0.5	
CRCA-MW0002-032.5-20210119 (AE00066-08)			Lab File ID: 215AT017.D		Analyzed: 01/25/21 15:43			
Dibromofluoromethane	50.0	113	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	97	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	14.34	14.322	0.0180	+/-0.5	
CRCA-MW0031-058.0-20210120 (AE00066-09)			Lab File ID: 215AT018.D		Analyzed: 01/25/21 16:12			
Dibromofluoromethane	50.0	118	53 - 146	9.44	9.4205	0.0195	+/-0.5	
Toluene-d8	50.0	93	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	105	41 - 142	14.34	14.322	0.0180	+/-0.5	
CRCA-MW0019-058.0-20210120 (AE00066-12)			Lab File ID: 215AT020.D		Analyzed: 01/25/21 17:11			
Dibromofluoromethane	50.0	113	53 - 146	9.445	9.4205	0.0245	+/-0.5	
Toluene-d8	50.0	95	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	110	41 - 142	14.34	14.322	0.0180	+/-0.5	
Matrix Spike (1A25020-MS1)			Lab File ID: 215AT023.D		Analyzed: 01/25/21 18:39			
Dibromofluoromethane	50.0	112	53 - 146	9.44	9.4205	0.0195	+/-0.5	
Toluene-d8	50.0	97	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	14.34	14.322	0.0180	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64632
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Matrix Spike Dup (1A25020-MSD1)			Lab File ID: 215AT024.D		Analyzed: 01/25/21 19:09			
Dibromofluoromethane	50.0	111	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	96	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	110	41 - 142	14.34	14.322	0.0180	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64658
Instrument: OVGCMS2
Matrix: Water
Calibration: 2101077

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA64658-CCV1)				Lab File ID: 212AU002.D		Analyzed: 01/26/21 08:06		
Dibromofluoromethane	50.0	100	80 - 120	11.08	11.05125	0.0288	+/-0.5	
Toluene-d8	50.0	99	80 - 120	13.24	13.21875	0.0213	+/-0.5	
4-Bromofluorobenzene	50.0	100	80 - 120	15.74	15.71125	0.0288	+/-0.5	
LCS (1A26010-BS1)				Lab File ID: 212AU003.D		Analyzed: 01/26/21 08:43		
Dibromofluoromethane	50.0	114	53 - 146	11.08	11.05125	0.0288	+/-0.5	
Toluene-d8	50.0	103	41 - 146	13.24	13.21875	0.0213	+/-0.5	
4-Bromofluorobenzene	50.0	103	41 - 142	15.74	15.71125	0.0288	+/-0.5	
Matrix Spike (1A26010-MS1)				Lab File ID: 212AU004.D		Analyzed: 01/26/21 09:24		
Dibromofluoromethane	50.0	112	53 - 146	11.09	11.05125	0.0388	+/-0.5	
Toluene-d8	50.0	101	41 - 146	13.25	13.21875	0.0313	+/-0.5	
4-Bromofluorobenzene	50.0	101	41 - 142	15.74	15.71125	0.0288	+/-0.5	
Matrix Spike Dup (1A26010-MSD1)				Lab File ID: 212AU005.D		Analyzed: 01/26/21 09:53		
Dibromofluoromethane	50.0	121	53 - 146	11.08	11.05125	0.0288	+/-0.5	
Toluene-d8	50.0	109	41 - 146	13.24	13.21875	0.0213	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	15.73	15.71125	0.0188	+/-0.5	
Blank (1A26010-BLK1)				Lab File ID: 212AU008.D		Analyzed: 01/26/21 11:19		
Dibromofluoromethane	50.0	116	53 - 146	11.09	11.05125	0.0388	+/-0.5	
Toluene-d8	50.0	102	41 - 146	13.24	13.21875	0.0213	+/-0.5	
4-Bromofluorobenzene	50.0	103	41 - 142	15.74	15.71125	0.0288	+/-0.5	
Instrument RL Check (AA64658-CRL1)				Lab File ID: 212AU009.D		Analyzed: 01/26/21 12:02		
Dibromofluoromethane	50.0	116	1 - 199	11.08	11.05125	0.0288	+/-0.5	
Toluene-d8	50.0	102	1 - 199	13.24	13.21875	0.0213	+/-0.5	
4-Bromofluorobenzene	50.0	101	1 - 199	15.74	15.71125	0.0288	+/-0.5	
CRCA-MW0018-058.0-20210120 (AE00066-11RE1)				Lab File ID: 212AU017.D		Analyzed: 01/26/21 15:52		
Dibromofluoromethane	50.0	110	53 - 146	11.07	11.05125	0.0188	+/-0.5	
Toluene-d8	50.0	109	41 - 146	13.24	13.21875	0.0213	+/-0.5	
4-Bromofluorobenzene	50.0	108	41 - 142	15.74	15.71125	0.0288	+/-0.5	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA63653
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA63653-CAL1)			Lab File ID: 205KN003.D			Analyzed: 11/19/20 08:46			
Pentafluorobenzene	1250058	9.851	1217120	9.845	103	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2384669	10.444	2353990	10.438	101	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1608704	13.223	1612072	13.217	100	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1323293	15.48	1366836	15.474	97	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL2)			Lab File ID: 205KN004.D			Analyzed: 11/19/20 09:16			
Pentafluorobenzene	1204238	9.845	1217120	9.845	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2405138	10.438	2353990	10.438	102	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1568806	13.217	1612072	13.217	97	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1312583	15.48	1366836	15.474	96	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL3)			Lab File ID: 205KN005.D			Analyzed: 11/19/20 09:47			
Pentafluorobenzene	1203996	9.845	1217120	9.845	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2450219	10.438	2353990	10.438	104	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1607155	13.217	1612072	13.217	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1325758	15.48	1366836	15.474	97	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL4)			Lab File ID: 205KN006.D			Analyzed: 11/19/20 10:18			
Pentafluorobenzene	1172592	9.845	1217120	9.845	96	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2346408	10.438	2353990	10.438	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1580434	13.223	1612072	13.217	98	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1299188	15.48	1366836	15.474	95	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL5)			Lab File ID: 205KN007.D			Analyzed: 11/19/20 10:49			
Pentafluorobenzene	1203065	9.845	1217120	9.845	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2330356	10.438	2353990	10.438	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1579586	13.217	1612072	13.217	98	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1295652	15.48	1366836	15.474	95	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL6)			Lab File ID: 205KN008.D			Analyzed: 11/19/20 11:20			
Pentafluorobenzene	1217120	9.845	1217120	9.845	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2353990	10.438	2353990	10.438	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1612072	13.217	1612072	13.217	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1366836	15.474	1366836	15.474	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA63653-CAL7)			Lab File ID: 205KN009.D			Analyzed: 11/19/20 11:51			
Pentafluorobenzene	1208553	9.845	1217120	9.845	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2324329	10.438	2353990	10.438	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1614423	13.217	1612072	13.217	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1389872	15.48	1366836	15.474	102	50 - 200	0.0060	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA63653
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA63653-CAL8)			Lab File ID: 205KN010.D			Analyzed: 11/19/20 12:22			
Pentafluorobenzene	1285587	9.845	1217120	9.845	106	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2302813	10.438	2353990	10.438	98	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1664856	13.218	1612072	13.217	103	50 - 200	0.0010	+/-0.50	
1,4-Dichlorobenzene-d4	1435917	15.48	1366836	15.474	105	50 - 200	0.0060	+/-0.50	
Secondary Cal Check (AA63653-SCV1)			Lab File ID: 205KN012.D			Analyzed: 11/19/20 13:24			
Pentafluorobenzene	1335071	9.851	1217120	9.845	110	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2438645	10.444	2353990	10.438	104	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1652574	13.223	1612072	13.217	103	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1403353	15.48	1366836	15.474	103	50 - 200	0.0060	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64539
Instrument: OVGCMS2
Matrix: Water
Calibration: 2101077

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA64539-CAL1)			Lab File ID: 212AN002.D			Analyzed: 01/19/21 08:23			
Pentafluorobenzene	274242	11.44	253281	11.45	108	50 - 200	-0.0100	+/-0.50	
1,4-Difluorobenzene	530522	12	506895	11.99	105	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	220188	14.59	216205	14.59	102	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	135369	16.96	135032	16.96	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64539-CAL2)			Lab File ID: 212AN003.D			Analyzed: 01/19/21 08:52			
Pentafluorobenzene	267255	11.44	253281	11.45	106	50 - 200	-0.0100	+/-0.50	
1,4-Difluorobenzene	516243	12	506895	11.99	102	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	215044	14.59	216205	14.59	99	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	132912	16.96	135032	16.96	98	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64539-CAL3)			Lab File ID: 212AN004.D			Analyzed: 01/19/21 09:20			
Pentafluorobenzene	259637	11.45	253281	11.45	103	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	509917	12	506895	11.99	101	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	220093	14.6	216205	14.59	102	50 - 200	0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	135848	16.95	135032	16.96	101	50 - 200	-0.0100	+/-0.50	
Cal Standard (AA64539-CAL4)			Lab File ID: 212AN006.D			Analyzed: 01/19/21 10:17			
Pentafluorobenzene	253281	11.45	253281	11.45	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	506895	11.99	506895	11.99	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	216205	14.59	216205	14.59	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	135032	16.96	135032	16.96	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64539-CAL5)			Lab File ID: 212AN007.D			Analyzed: 01/19/21 10:46			
Pentafluorobenzene	285339	11.45	253281	11.45	113	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	550117	12	506895	11.99	109	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	239824	14.59	216205	14.59	111	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	149699	16.95	135032	16.96	111	50 - 200	-0.0100	+/-0.50	
Cal Standard (AA64539-CAL6)			Lab File ID: 212AN008.D			Analyzed: 01/19/21 11:15			
Pentafluorobenzene	320158	11.45	253281	11.45	126	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	592335	12	506895	11.99	117	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	268151	14.59	216205	14.59	124	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	170474	16.95	135032	16.96	126	50 - 200	-0.0100	+/-0.50	
Cal Standard (AA64539-CAL7)			Lab File ID: 212AN009.D			Analyzed: 01/19/21 11:43			
Pentafluorobenzene	331924	11.45	253281	11.45	131	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	589225	12	506895	11.99	116	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	284238	14.59	216205	14.59	131	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	179167	16.96	135032	16.96	133	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64539
Instrument: OVGCMS2
Matrix: Water
Calibration: 2101077

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA64539-CAL8)			Lab File ID: 212AN010.D			Analyzed: 01/19/21 12:12			
Pentafluorobenzene	335499	11.45	253281	11.45	132	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	624473	12	506895	11.99	123	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	294938	14.6	216205	14.59	136	50 - 200	0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	191016	16.95	135032	16.96	141	50 - 200	-0.0100	+/-0.50	
Secondary Cal Check (AA64539-SCV1)			Lab File ID: 212AN013.D			Analyzed: 01/19/21 13:38			
Pentafluorobenzene	232904	11.44	253281	11.45	92	50 - 200	-0.0100	+/-0.50	
1,4-Difluorobenzene	448821	12	506895	11.99	89	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	230350	14.59	216205	14.59	107	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	165080	16.95	135032	16.96	122	50 - 200	-0.0100	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64632
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA64632-CCV1)			Lab File ID: 215AT003.D			Analyzed: 01/25/21 08:47			
Pentafluorobenzene	1707380	9.862	1217120	9.845	140	50 - 200	0.0170	+/-0.50	
1,4-Difluorobenzene	3441893	10.456	2353990	10.438	146	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	2103106	13.235	1612072	13.217	130	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1782629	15.497	1366836	15.474	130	50 - 200	0.0230	+/-0.50	
LCS (1A25020-BS1)			Lab File ID: 215AT004.D			Analyzed: 01/25/21 09:20			
Pentafluorobenzene	1599715	9.862	1217120	9.845	131	50 - 200	0.0170	+/-0.50	
1,4-Difluorobenzene	3376621	10.456	2353990	10.438	143	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1975824	13.235	1612072	13.217	123	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1733612	15.497	1366836	15.474	127	50 - 200	0.0230	+/-0.50	
Blank (1A25020-BLK1)			Lab File ID: 215AT006.D			Analyzed: 01/25/21 10:19			
Pentafluorobenzene	1492905	9.857	1217120	9.845	123	50 - 200	0.0120	+/-0.50	
1,4-Difluorobenzene	3146822	10.456	2353990	10.438	134	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1772986	13.235	1612072	13.217	110	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1644956	15.491	1366836	15.474	120	50 - 200	0.0170	+/-0.50	
Instrument RL Check (AA64632-CRL1)			Lab File ID: 215AT007.D			Analyzed: 01/25/21 10:48			
Pentafluorobenzene	1450199	9.863	1217120	9.845	119	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	3054870	10.456	2353990	10.438	130	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1722975	13.235	1612072	13.217	107	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1562753	15.491	1366836	15.474	114	50 - 200	0.0170	+/-0.50	
CRCA-MW0032-058.0-20210120 (AE00066-10)			Lab File ID: 215AT009.D			Analyzed: 01/25/21 11:47			
Pentafluorobenzene	1353992	9.863	1217120	9.845	111	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	2910142	10.456	2353990	10.438	124	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1676020	13.235	1612072	13.217	104	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1554117	15.491	1366836	15.474	114	50 - 200	0.0170	+/-0.50	
CRCA-MW0030-058.0-20210119 (AE00066-01)			Lab File ID: 215AT010.D			Analyzed: 01/25/21 12:17			
Pentafluorobenzene	1351808	9.863	1217120	9.845	111	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	2866333	10.456	2353990	10.438	122	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1635734	13.235	1612072	13.217	101	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1522320	15.491	1366836	15.474	111	50 - 200	0.0170	+/-0.50	
CRCA-MW0029-035.0-20210119 (AE00066-02)			Lab File ID: 215AT011.D			Analyzed: 01/25/21 12:46			
Pentafluorobenzene	1334319	9.863	1217120	9.845	110	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	2846320	10.456	2353990	10.438	121	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1622830	13.235	1612072	13.217	101	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1514443	15.497	1366836	15.474	111	50 - 200	0.0230	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA64632
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
CRCA-MW0028-058.0-20210119 (AE00066-03)			Lab File ID: 215AT012.D			Analyzed: 01/25/21 13:15			
Pentafluorobenzene	1325539	9.862	1217120	9.845	109	50 - 200	0.0170	+/-0.50	
1,4-Difluorobenzene	2841226	10.456	2353990	10.438	121	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1602227	13.235	1612072	13.217	99	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1534202	15.497	1366836	15.474	112	50 - 200	0.0230	+/-0.50	
CRCA-MW0027-035.0-20210119 (AE00066-04)			Lab File ID: 215AT013.D			Analyzed: 01/25/21 13:45			
Pentafluorobenzene	1342454	9.863	1217120	9.845	110	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	2980618	10.462	2353990	10.438	127	50 - 200	0.0240	+/-0.50	
Chlorobenzene-d5	1652145	13.235	1612072	13.217	102	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1560174	15.497	1366836	15.474	114	50 - 200	0.0230	+/-0.50	
CRCA-MW0015-027.5-20210119 (AE00066-05)			Lab File ID: 215AT014.D			Analyzed: 01/25/21 14:14			
Pentafluorobenzene	1353784	9.868	1217120	9.845	111	50 - 200	0.0230	+/-0.50	
1,4-Difluorobenzene	2923690	10.462	2353990	10.438	124	50 - 200	0.0240	+/-0.50	
Chlorobenzene-d5	1584476	13.235	1612072	13.217	98	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1534322	15.497	1366836	15.474	112	50 - 200	0.0230	+/-0.50	
CRCA-MW0013-027.5-20210119 (AE00066-06)			Lab File ID: 215AT015.D			Analyzed: 01/25/21 14:44			
Pentafluorobenzene	1323227	9.868	1217120	9.845	109	50 - 200	0.0230	+/-0.50	
1,4-Difluorobenzene	2812403	10.462	2353990	10.438	119	50 - 200	0.0240	+/-0.50	
Chlorobenzene-d5	1560555	13.235	1612072	13.217	97	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1499588	15.497	1366836	15.474	110	50 - 200	0.0230	+/-0.50	
CRCA-MW0012-027.5-20210119 (AE00066-07)			Lab File ID: 215AT016.D			Analyzed: 01/25/21 15:13			
Pentafluorobenzene	1311393	9.868	1217120	9.845	108	50 - 200	0.0230	+/-0.50	
1,4-Difluorobenzene	2857206	10.462	2353990	10.438	121	50 - 200	0.0240	+/-0.50	
Chlorobenzene-d5	1588971	13.235	1612072	13.217	99	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1519324	15.497	1366836	15.474	111	50 - 200	0.0230	+/-0.50	
CRCA-MW0002-032.5-20210119 (AE00066-08)			Lab File ID: 215AT017.D			Analyzed: 01/25/21 15:43			
Pentafluorobenzene	1324243	9.863	1217120	9.845	109	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	2844356	10.456	2353990	10.438	121	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1569592	13.235	1612072	13.217	97	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1496442	15.497	1366836	15.474	109	50 - 200	0.0230	+/-0.50	
CRCA-MW0031-058.0-20210120 (AE00066-09)			Lab File ID: 215AT018.D			Analyzed: 01/25/21 16:12			
Pentafluorobenzene	1346166	9.863	1217120	9.845	111	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	3057273	10.462	2353990	10.438	130	50 - 200	0.0240	+/-0.50	
Chlorobenzene-d5	1666053	13.235	1612072	13.217	103	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1548120	15.497	1366836	15.474	113	50 - 200	0.0230	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA64632
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
CRCA-MW0019-058.0-20210120 (AE00066-12)			Lab File ID: 215AT020.D			Analyzed: 01/25/21 17:11			
Pentafluorobenzene	1326429	9.868	1217120	9.845	109	50 - 200	0.0230	+/-0.50	
1,4-Difluorobenzene	2844280	10.462	2353990	10.438	121	50 - 200	0.0240	+/-0.50	
Chlorobenzene-d5	1585901	13.241	1612072	13.217	98	50 - 200	0.0240	+/-0.50	
1,4-Dichlorobenzene-d4	1547465	15.497	1366836	15.474	113	50 - 200	0.0230	+/-0.50	
Matrix Spike (1A25020-MS1)			Lab File ID: 215AT023.D			Analyzed: 01/25/21 18:39			
Pentafluorobenzene	1347954	9.863	1217120	9.845	111	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	2823243	10.456	2353990	10.438	120	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1642590	13.235	1612072	13.217	102	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1598011	15.497	1366836	15.474	117	50 - 200	0.0230	+/-0.50	
Matrix Spike Dup (1A25020-MSD1)			Lab File ID: 215AT024.D			Analyzed: 01/25/21 19:09			
Pentafluorobenzene	1455730	9.862	1217120	9.845	120	50 - 200	0.0170	+/-0.50	
1,4-Difluorobenzene	3018464	10.456	2353990	10.438	128	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1707516	13.235	1612072	13.217	106	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1611682	15.497	1366836	15.474	118	50 - 200	0.0230	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64658
Instrument: OVGCMS2
Matrix: Water
Calibration: 2101077

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA64658-CCV1)			Lab File ID: 212AU002.D			Analyzed: 01/26/21 08:06			
Pentafluorobenzene	380115	11.47	253281	11.45	150	50 - 200	0.0200	+/-0.50	
1,4-Difluorobenzene	741405	12.03	506895	11.99	146	50 - 200	0.0400	+/-0.50	
Chlorobenzene-d5	366094	14.62	216205	14.59	169	50 - 200	0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	237068	16.98	135032	16.96	176	50 - 200	0.0200	+/-0.50	
LCS (1A26010-BS1)			Lab File ID: 212AU003.D			Analyzed: 01/26/21 08:43			
Pentafluorobenzene	324503	11.48	253281	11.45	128	50 - 200	0.0300	+/-0.50	
1,4-Difluorobenzene	677646	12.02	506895	11.99	134	50 - 200	0.0300	+/-0.50	
Chlorobenzene-d5	321367	14.62	216205	14.59	149	50 - 200	0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	201276	16.99	135032	16.96	149	50 - 200	0.0300	+/-0.50	
Matrix Spike (1A26010-MS1)			Lab File ID: 212AU004.D			Analyzed: 01/26/21 09:24			
Pentafluorobenzene	331145	11.47	253281	11.45	131	50 - 200	0.0200	+/-0.50	
1,4-Difluorobenzene	698701	12.02	506895	11.99	138	50 - 200	0.0300	+/-0.50	
Chlorobenzene-d5	329572	14.62	216205	14.59	152	50 - 200	0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	204382	16.99	135032	16.96	151	50 - 200	0.0300	+/-0.50	
Matrix Spike Dup (1A26010-MSD1)			Lab File ID: 212AU005.D			Analyzed: 01/26/21 09:53			
Pentafluorobenzene	305426	11.47	253281	11.45	121	50 - 200	0.0200	+/-0.50	
1,4-Difluorobenzene	636767	12.02	506895	11.99	126	50 - 200	0.0300	+/-0.50	
Chlorobenzene-d5	309741	14.61	216205	14.59	143	50 - 200	0.0200	+/-0.50	
1,4-Dichlorobenzene-d4	201759	16.98	135032	16.96	149	50 - 200	0.0200	+/-0.50	
Blank (1A26010-BLK1)			Lab File ID: 212AU008.D			Analyzed: 01/26/21 11:19			
Pentafluorobenzene	294699	11.47	253281	11.45	116	50 - 200	0.0200	+/-0.50	
1,4-Difluorobenzene	604071	12.02	506895	11.99	119	50 - 200	0.0300	+/-0.50	
Chlorobenzene-d5	274826	14.62	216205	14.59	127	50 - 200	0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	171064	16.98	135032	16.96	127	50 - 200	0.0200	+/-0.50	
Instrument RL Check (AA64658-CRL1)			Lab File ID: 212AU009.D			Analyzed: 01/26/21 12:02			
Pentafluorobenzene	287383	11.48	253281	11.45	113	50 - 200	0.0300	+/-0.50	
1,4-Difluorobenzene	593855	12.03	506895	11.99	117	50 - 200	0.0400	+/-0.50	
Chlorobenzene-d5	273190	14.62	216205	14.59	126	50 - 200	0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	169027	16.98	135032	16.96	125	50 - 200	0.0200	+/-0.50	
CRCA-MW0018-058.0-20210120 (AE00066-11RE1)			Lab File ID: 212AU017.D			Analyzed: 01/26/21 15:52			
Pentafluorobenzene	193931	11.47	253281	11.45	77	50 - 200	0.0200	+/-0.50	
1,4-Difluorobenzene	383784	12.02	506895	11.99	76	50 - 200	0.0300	+/-0.50	
Chlorobenzene-d5	191378	14.62	216205	14.59	89	50 - 200	0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	134955	16.99	135032	16.96	100	50 - 200	0.0300	+/-0.50	

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA63653		
Calibration:	2011113	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA63653-TUN1	205KN002.D	11/19/20 08:07
Cal Standard	AA63653-CAL1	205KN003.D	11/19/20 08:46
Cal Standard	AA63653-CAL2	205KN004.D	11/19/20 09:16
Cal Standard	AA63653-CAL3	205KN005.D	11/19/20 09:47
Cal Standard	AA63653-CAL4	205KN006.D	11/19/20 10:18
Cal Standard	AA63653-CAL5	205KN007.D	11/19/20 10:49
Cal Standard	AA63653-CAL6	205KN008.D	11/19/20 11:20
Cal Standard	AA63653-CAL7	205KN009.D	11/19/20 11:51
Cal Standard	AA63653-CAL8	205KN010.D	11/19/20 12:22
Secondary Cal Check	AA63653-SCV1	205KN012.D	11/19/20 13:24

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64539		
Calibration:	2101077	Instrument:	OVGCMS2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA64539-TUN1	212AN001.D	01/19/21 07:42
Cal Standard	AA64539-CAL1	212AN002.D	01/19/21 08:23
Cal Standard	AA64539-CAL2	212AN003.D	01/19/21 08:52
Cal Standard	AA64539-CAL3	212AN004.D	01/19/21 09:20
Cal Standard	AA64539-CAL4	212AN006.D	01/19/21 10:17
Cal Standard	AA64539-CAL5	212AN007.D	01/19/21 10:46
Cal Standard	AA64539-CAL6	212AN008.D	01/19/21 11:15
Cal Standard	AA64539-CAL7	212AN009.D	01/19/21 11:43
Cal Standard	AA64539-CAL8	212AN010.D	01/19/21 12:12
Secondary Cal Check	AA64539-SCV1	212AN013.D	01/19/21 13:38

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64632		
Calibration:	2011113	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA64632-CCV1	215AT003.D	01/25/21 08:47
LCS	1A25020-BS1	215AT004.D	01/25/21 09:20
Blank	1A25020-BLK1	215AT006.D	01/25/21 10:19
Instrument RL Check	AA64632-CRL1	215AT007.D	01/25/21 10:48
CRCA-MW0032-058.0-20210120	AE00066-10	215AT009.D	01/25/21 11:47
CRCA-MW0030-058.0-20210119	AE00066-01	215AT010.D	01/25/21 12:17
CRCA-MW0029-035.0-20210119	AE00066-02	215AT011.D	01/25/21 12:46
CRCA-MW0028-058.0-20210119	AE00066-03	215AT012.D	01/25/21 13:15
CRCA-MW0027-035.0-20210119	AE00066-04	215AT013.D	01/25/21 13:45
CRCA-MW0015-027.5-20210119	AE00066-05	215AT014.D	01/25/21 14:14
CRCA-MW0013-027.5-20210119	AE00066-06	215AT015.D	01/25/21 14:44
CRCA-MW0012-027.5-20210119	AE00066-07	215AT016.D	01/25/21 15:13
CRCA-MW0002-032.5-20210119	AE00066-08	215AT017.D	01/25/21 15:43
CRCA-MW0031-058.0-20210120	AE00066-09	215AT018.D	01/25/21 16:12
CRCA-MW0019-058.0-20210120	AE00066-12	215AT020.D	01/25/21 17:11
CRCA-MW0032-058.0-20210120	1A25020-MS1	215AT023.D	01/25/21 18:39
CRCA-MW0032-058.0-20210120	1A25020-MSD1	215AT024.D	01/25/21 19:09

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64658		
Calibration:	2101077	Instrument:	OVGCMS2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA64658-TUN1	212AU001.D	01/26/21 07:32
Calibration Check	AA64658-CCV1	212AU002.D	01/26/21 08:06
LCS	1A26010-BS1	212AU003.D	01/26/21 08:43
MW-3R	1A26010-MS1	212AU004.D	01/26/21 09:24
MW-3R	1A26010-MSD1	212AU005.D	01/26/21 09:53
Blank	1A26010-BLK1	212AU008.D	01/26/21 11:19
Instrument RL Check	AA64658-CRL1	212AU009.D	01/26/21 12:02
CRCA-MW0018-058.0-20210120	AE00066-11RE1	212AU017.D	01/26/21 15:52

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	205KN002.D	Injection Date:	11/19/20
Instrument ID:	OVGCMS5	Injection Time:	08:07
Sequence:	AA63653	Lab Sample ID:	AA63653-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	155	PASS
96	5 - 9% of 95	7.22	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	64.6	PASS
175	5 - 9% of 174	5.13	PASS
176	95 - 105% of 174	97.9	PASS
177	5 - 10% of 176	5.82	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	212AN001.D	Injection Date:	01/19/21
Instrument ID:	OVGCMS2	Injection Time:	07:42
Sequence:	AA64539	Lab Sample ID:	AA64539-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	147	PASS
96	5 - 9% of 95	6.93	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	68	PASS
175	5 - 9% of 174	8.03	PASS
176	95 - 105% of 174	95.5	PASS
177	5 - 10% of 176	6.96	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	212AU001.D	Injection Date:	01/26/21
Instrument ID:	OVGCMS2	Injection Time:	07:32
Sequence:	AA64658	Lab Sample ID:	AA64658-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	157	PASS
96	5 - 9% of 95	6.64	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	63.7	PASS
175	5 - 9% of 174	7.39	PASS
176	95 - 105% of 174	97.2	PASS
177	5 - 10% of 176	6.78	PASS

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2011113
Lab File ID:	215AT003.D	Calibration Date:	11/19/20 00:00
Sequence:	AA64632	Injection Date:	01/25/21
Lab Sample ID:	AA64632-CCV1	Injection Time:	08:47

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Dichlorodifluoromethane	A	20.0	19	0.6454795	0.6065492		-6	20	
Chloromethane	A	20.0	12	0.7429916	0.4439653		-40	20	*
Vinyl chloride	A	20.0	19	0.6032767	0.5739686		-4.9	20	
Bromomethane	A	20.0	19	0.2658711	0.149807		-7.2	20	
Chloroethane	A	20.0	20	0.3233106	0.2720557		2.5	20	
Trichlorofluoromethane	A	20.0	20	0.739293	0.7547265		2.1	20	
Freon 113	A	50.0	50	0.2891047	0.2868658		-0.8	20	
Acetone	A	250	180	0.1178043	8.350467E-02		-29	20	*
1,1-Dichloroethene	A	50.0	49	0.4316853	0.4258747		-1.3	20	
Carbon disulfide	A	250	150	1.413985	0.8728756		-38	20	*
Methylene Chloride	A	50.0	45	0.5959536	0.4701877		-10	20	
Methyl-tert-Butyl Ether	A	50.0	45	1.264184	1.149021		-9.1	20	
trans-1,2-Dichloroethene	A	50.0	49	0.4994822	0.489495		-2	20	
cis-1,2-Dichloroethene	A	50.0	50	0.5290745	0.5271984		-0.4	20	
1,1-Dichloroethane	A	50.0	41	1.027426	0.8473456		-18	20	
2-Butanone	A	250	220	5.654494E-02	5.142944E-02		-10	20	
Chloroform	A	50.0	45	0.9811366	0.8818576		-10	20	
1,1,1-Trichloroethane	A	50.0	46	0.8099887	0.7425781		-8.3	20	
Methyl acetate	A	50.0	31	0.4097982	0.2287546		-38	20	*
Cyclohexane	A	50.0	36	1.084118	0.8065902		-28	20	*
Methyl cyclohexane	A	50.0	41	0.6851364	0.4685979		-18	20	
Carbon Tetrachloride	A	50.0	39	0.3247415	0.2907839		-22	20	*
1,2-Dichloroethane	A	50.0	36	0.3947961	0.2986964		-28	20	*
Benzene	A	50.0	44	1.143102	1.009598		-12	20	
Trichloroethene	A	50.0	50	0.2308676	0.2294848		-0.6	20	
1,2-Dichloropropane	A	50.0	35	0.3327441	0.2311986		-30	20	*
Bromodichloromethane	A	50.0	41	0.3384447	0.3043776		-17	20	
4-Methyl-2-pentanone	A	250	260	3.573082E-02	3.583226E-02		5.6	20	
2-Hexanone	A	250	190	0.1672315	0.116342		-30	20	*

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2011113
Lab File ID:	215AT003.D	Calibration Date:	11/19/20 00:00
Sequence:	AA64632	Injection Date:	01/25/21
Lab Sample ID:	AA64632-CCV1	Injection Time:	08:47

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
cis-1,3-Dichloropropene	A	50.0	41	0.4465376	0.410246		-18	20	
Toluene	A	50.0	51	1.066872	1.094805		2.6	20	
trans-1,3-Dichloropropene	A	50.0	46	0.5606682	0.5777288		-9	20	
1,1,2-Trichloroethane	A	50.0	48	0.3401845	0.3445765		-4.4	20	
Tetrachloroethene	A	50.0	47	0.2798513	0.273757		-6.7	20	
Dibromochloromethane	A	50.0	52	0.2803526	0.3436893		3.5	20	
1,2-Dibromoethane	A	50.0	52	0.3355065	0.3483481		3.8	20	
Chlorobenzene	A	50.0	54	1.074819	1.151012		7.1	20	
Ethylbenzene	A	50.0	52	0.6263821	0.6735562		3.9	20	
m,p-Xylenes	A	100	110	0.7525839	0.8321309		11	20	
o-Xylene	A	50.0	54	0.7718014	0.8358423		8.3	20	
Bromoform	A	50.0	47	0.1740972	0.178584		-6.2	20	
Styrene	A	50.0	57	1.260238	1.447695		15	20	
Isopropylbenzene	A	50.0	54	2.031474	2.17933		7.3	20	
1,1,2,2-Tetrachloroethane	A	50.0	49	0.5037271	0.4924835		-2.2	20	
1,2,4-Trichlorobenzene	A	50.0	38	0.4097947	0.3618818		-24	20	*
1,3-Dichlorobenzene	A	50.0	53	1.008577	1.072036		6.3	20	
1,4-Dichlorobenzene	A	50.0	51	1.081206	1.09674		1.4	20	
1,2-Dichlorobenzene	A	50.0	51	0.9520015	0.9653383		1.4	20	
1,2-Dibromo-3-chloropropane	A	50.0	45	7.396002E-02	6.969369E-02		-11	20	

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS2	Calibration:	2101077
Lab File ID:	212AU002.D	Calibration Date:	01/20/21 08:19
Sequence:	AA64658	Injection Date:	01/26/21
Lab Sample ID:	AA64658-CCV1	Injection Time:	08:06

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Dichlorodifluoromethane	A	50.0	46	1.033247	0.9560186		-7.5	20	
Chloromethane	A	50.0	43	1.11095	0.8811912		-14	20	
Vinyl chloride	A	50.0	51	1.029662	0.8920274		2.4	20	
Bromomethane	A	50.0	50	1.131179	0.5546506		0.90	20	
Chloroethane	A	50.0	52	0.7149129	0.6073004		3.8	20	
Trichlorofluoromethane	A	50.0	49	1.442281	1.409345		-2.3	20	
Freon 113	A	50.0	58	0.5578733	0.5662076		17	20	
Acetone	A	250	300	0.1225261	0.127594		19	20	
1,1-Dichloroethene	A	50.0	52	0.4841962	0.5072833		4.8	20	
Carbon disulfide	A	250	200	1.377947	0.9361635		-22	20	*
Methylene Chloride	A	50.0	57	0.6110932	0.5700038		13	20	
Methyl-tert-Butyl Ether	A	50.0	60	1.081225	1.292033		20	20	
trans-1,2-Dichloroethene	A	50.0	56	0.5698231	0.5869434		13	20	
cis-1,2-Dichloroethene	A	50.0	53	0.6149954	0.6469963		5.2	20	
1,1-Dichloroethane	A	50.0	53	1.143718	1.202412		5.1	20	
2-Butanone	A	250	280	3.064923E-02	3.390974E-02		11	20	
Chloroform	A	50.0	59	1.095255	1.119782		18	20	
1,1,1-Trichloroethane	A	50.0	53	0.9125193	0.975831		6.9	20	
Methyl acetate	A	50.0	65	5.586777E-02	6.273628E-02		31	20	*
Cyclohexane	A	50.0	54	0.9488744	1.019076		7.4	20	
Methyl cyclohexane	A	50.0	52	0.3837839	0.3984705		3.8	20	
Carbon Tetrachloride	A	50.0	53	0.4901592	0.5204079		6.2	20	
1,2-Dichloroethane	A	50.0	57	0.3853295	0.4362879		13	20	
Benzene	A	50.0	53	1.144684	1.216519		6.3	20	
Trichloroethene	A	50.0	53	0.3210324	0.3386934		5.5	20	
1,2-Dichloropropane	A	50.0	55	0.3172264	0.3218915		11	20	
Bromodichloromethane	A	50.0	53	0.3964913	0.4239289		6.9	20	
4-Methyl-2-pentanone	A	250	280	2.733494E-02	2.885494E-02		12	20	
2-Hexanone	A	250	280	0.1612112	0.1821674		14	20	

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS2	Calibration:	2101077
Lab File ID:	212AU002.D	Calibration Date:	01/20/21 08:19
Sequence:	AA64658	Injection Date:	01/26/21
Lab Sample ID:	AA64658-CCV1	Injection Time:	08:06

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
cis-1,3-Dichloropropene	A	50.0	56	0.4505496	0.5022612		12	20
Toluene	A	50.0	48	1.520353	1.445754		-4.9	20
trans-1,3-Dichloropropene	A	50.0	51	0.8113847	0.8306173		2.4	20
1,1,2-Trichloroethane	A	50.0	51	0.4232997	0.432348		2.1	20
Tetrachloroethene	A	50.0	46	0.4265574	0.394609		-7.5	20
Dibromochloromethane	A	50.0	51	0.6218249	0.6359487		2.3	20
1,2-Dibromoethane	A	50.0	53	0.4673533	0.4960038		6.1	20
Chlorobenzene	A	50.0	48	1.702551	1.642045		-3.6	20
Ethylbenzene	A	50.0	49	0.8469553	0.821748		-3	20
m,p-Xylenes	A	100	99	1.006971	0.9926877		-1.4	20
o-Xylene	A	50.0	51	0.9666193	0.9816441		1.6	20
Bromoform	A	50.0	54	0.2646587	0.2849459		7.7	20
Styrene	A	50.0	52	1.697042	1.768628		4.2	20
Isopropylbenzene	A	50.0	51	2.452443	2.500123		1.9	20
1,1,2,2-Tetrachloroethane	A	50.0	53	0.4182472	0.4432086		6.0	20
1,2,4-Trichlorobenzene	A	50.0	48	0.4155094	0.3997039		-3.8	20
1,3-Dichlorobenzene	A	50.0	48	1.471736	1.401083		-4.8	20
1,4-Dichlorobenzene	A	50.0	48	1.525519	1.450398		-4.9	20
1,2-Dichlorobenzene	A	50.0	47	1.232439	1.169221		-5.1	20
1,2-Dibromo-3-chloropropane	A	50.0	54	6.383229E-02	7.325324E-02		7.5	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA63653
Instrument: OVGCMS5
Calibration: 2011113

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A0F0994	MS Tune (lower conc.)	AA63653-TUN1	205KN002.D	11/19/20 08:07
A0K1094	8260 CAL 1 PPB	AA63653-CAL1	205KN003.D	11/19/20 08:46
A0K1095	8260 CAL 2 PPB	AA63653-CAL2	205KN004.D	11/19/20 09:16
A0K1096	8260 CAL 5 PPB	AA63653-CAL3	205KN005.D	11/19/20 09:47
A0K1097	8260 CAL 10 PPB	AA63653-CAL4	205KN006.D	11/19/20 10:18
A0K1098	8260 CAL 20 PPB	AA63653-CAL5	205KN007.D	11/19/20 10:49
A0K1099	8260 CAL 50 PPB	AA63653-CAL6	205KN008.D	11/19/20 11:20
A0K1100	8260 CAL 80 PPB	AA63653-CAL7	205KN009.D	11/19/20 11:51
A0K1101	8260 CAL 100 PPB	AA63653-CAL8	205KN010.D	11/19/20 12:22
A0K1038	8260 SCV 50 PPB/20 Gases (Surr. Lower Conc.)	AA63653-SCV1	205KN012.D	11/19/20 13:24

INITIAL CALIBRATION STANDARDS

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64539	Instrument:	OVGCMS2
Calibration:	2101077		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A0I0903	MS Tune	AA64539-TUN1	212AN001.D	01/19/21 07:42
A1A0926	8260 Cal 1PPB	AA64539-CAL1	212AN002.D	01/19/21 08:23
A1A0927	8260 Cal 2 PPB	AA64539-CAL2	212AN003.D	01/19/21 08:52
A1A0928	8260 Cal 5 PPB	AA64539-CAL3	212AN004.D	01/19/21 09:20
A1A0929	8260 Cal 10 PPB	AA64539-CAL4	212AN006.D	01/19/21 10:17
A1A0930	8260 Cal 20 PPB	AA64539-CAL5	212AN007.D	01/19/21 10:46
A1A0932	8260 Cal 50 PPB	AA64539-CAL6	212AN008.D	01/19/21 11:15
A1A0934	8260 Cal 80PPB	AA64539-CAL7	212AN009.D	01/19/21 11:43
A1A0935	8260 Cal 100 PPB	AA64539-CAL8	212AN010.D	01/19/21 12:12
A1A0936	8260 SCV 50 PPB	AA64539-SCV1	212AN013.D	01/19/21 13:38

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	1	0.731806	2	0.5311658	5	0.6196449	10	0.5826494	20	0.6291202	50	0.6876832
Chloromethane	1	0.9635553	2	0.7678092	5	0.7533414	10	0.6436211	20	0.6665122	50	0.6618772
Vinyl chloride	1	0.6389704	2	0.4961021	5	0.5937063	10	0.518373	20	0.6097052	50	0.6178544
Bromomethane	1	0.5487745	2	0.3936929	5	0.2468862	10	0.1795339	20	0.1536388	50	0.1805656
Chloroethane	1	0.5095364	2	0.3356687	5	0.2733979	10	0.2639921	20	0.2971223	50	0.2601461
Trichlorofluoromethane	1	0.796403	2	0.6188353	5	0.6866136	10	0.7074541	20	0.7578705	50	0.7930894
Freon 113	1	0.2609479	2	0.2643996	5	0.2925508	10	0.3082914	20	0.2611185	50	0.3063124
Acetone	5	0.1640884	10	7.640101E-02	25	0.1132944	50	0.1270502	100	0.1080203	250	0.1165466
1,1-Dichloroethene	1	0.5304954	2	0.3722686	5	0.3921026	10	0.3748874	20	0.4134066	50	0.4489426
Carbon disulfide	5	1.625549	10	1.279116	25	1.418201	50	1.427008	100	1.452276	250	1.421308
Methylene Chloride	1	0.949196	2	0.6799528	5	0.584977	10	0.4949633	20	0.4791616	50	0.5261996
Methyl-tert-Butyl Ether	1	1.207824	2	1.067003	5	1.181117	10	1.225797	20	1.218685	50	1.417615
trans-1,2-Dichloroethene	1	0.6322907	2	0.4293379	5	0.4477091	10	0.4308276	20	0.4738958	50	0.5202946
cis-1,2-Dichloroethene	1	0.5540143	2	0.424397	5	0.5243456	10	0.4742059	20	0.5250755	50	0.5758438
1,1-Dichloroethane	1	1.150187	2	0.7455129	5	1.073417	10	0.9430262	20	0.9854351	50	1.108909
2-Butanone	5	0.0948676	10	2.903081E-02	25	6.102678E-02	50	0.0450745	100	4.561931E-02	250	5.804341E-02
Chloroform	1	1.008433	2	0.8175709	5	1.016573	10	0.9572895	20	0.9442549	50	1.031745
1,1,1-Trichloroethane	1	0.8856789	2	0.6484806	5	0.7444128	10	0.6971223	20	0.8036702	50	0.8940367
Methyl acetate	1	0.7524051	2	0.3734104	5	0.3421025	10	0.3735826	20	0.3312477	50	0.3623833
Cyclohexane	1	1.445653	2	0.8159309	5	1.111773	10	0.900795	20	1.011174	50	1.139422
Methyl cyclohexane	1	1.296553	2	0.7643948	5	0.6505051	10	0.4980933	20	0.5493699	50	0.5706184
Carbon Tetrachloride	1	0.3562759	2	0.265754	5	0.2802362	10	0.2692435	20	0.3099687	50	0.358654
1,2-Dichloroethane	1	0.52978	2	0.3246383	5	0.3561682	10	0.3270765	20	0.3804547	50	0.3951041
Benzene	1	1.368953	2	0.8953644	5	1.012387	10	1.019627	20	1.160622	50	1.20187
Trichloroethene	1	0.2433461	2	0.2067345	5	0.2092384	10	0.2186576	20	0.2226559	50	0.2443388
1,2-Dichloropropane	1	0.4168922	2	0.2741735	5	0.2789057	10	0.3037835	20	0.3161759	50	0.336891
Bromodichloromethane	1	0.3390617	2	0.2184906	5	0.3136005	10	0.3123434	20	0.3305471	50	0.3770309
4-Methyl-2-pentanone	5	5.360492E-02	10	3.485663E-02	25	3.163227E-02	50	3.145233E-02	100	3.245856E-02	250	3.359233E-02
2-Hexanone	5	0.1888606	10	0.1362687	25	0.1491622	50	0.1581622	100	0.1619347	250	0.1747743
cis-1,3-Dichloropropene	1	0.38758	2	0.337174	5	0.3962381	10	0.3859495	20	0.4436114	50	0.5153998
Toluene	1	1.301234	2	0.8125606	5	1.029104	10	0.9467653	20	1.065835	50	1.125779

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	1	0.5782294	2	0.3963364	5	0.5391328	10	0.5150579	20	0.5581557	50	0.6082166
1,1,2-Trichloroethane	1	0.4258708	2	0.2571382	5	0.3085141	10	0.3163403	20	0.3319446	50	0.354357
Tetrachloroethene	1	0.3547887	2	0.216805	5	0.2447617	10	0.2609188	20	0.2888004	50	0.2808423
Dibromochloromethane	1	0.261577	2	0.1928537	5	0.2186472	10	0.2340749	20	0.271185	50	0.3243124
1,2-Dibromoethane	1	0.3776332	2	0.275273	5	0.3089372	10	0.289778	20	0.3254935	50	0.3684265
Chlorobenzene	1	1.227137	2	0.9187082	5	1.088831	10	1.029964	20	1.028877	50	1.084228
Ethylbenzene	1	0.8370092	2	0.5046991	5	0.5351257	10	0.5817041	20	0.6079204	50	0.6386446
m,p-Xylenes	2	0.7709622	4	0.6304954	10	0.7519001	20	0.7265378	40	0.7815244	100	0.7925899
o-Xylene	1	0.827343	2	0.5495581	5	0.7980935	10	0.715101	20	0.7577872	50	0.8412149
Bromoform	1	0.2244042	2	0.1325052	5	0.1113209	10	0.1336911	20	0.151421	50	0.198042
Styrene	1	1.184587	2	0.9487151	5	1.197756	10	1.179467	20	1.329056	50	1.37226
Isopropylbenzene	1	2.11919	2	1.612596	5	1.9581	10	1.86924	20	2.054396	50	2.203894
1,1,2,2-Tetrachloroethane	1	0.5748727	2	0.4241761	5	0.4667316	10	0.4666946	20	0.48922	50	0.5296984
1,2,4-Trichlorobenzene	1	0.444006	2	0.2155102	5	0.3665073	10	0.3682377	20	0.3931939	50	0.481305
1,3-Dichlorobenzene	1	1.059554	2	0.8308046	5	0.914986	10	0.9259784	20	1.006449	50	1.075948
1,4-Dichlorobenzene	1	1.342371	2	0.9420738	5	0.9853156	10	0.9772104	20	1.047961	50	1.090424
1,2-Dichlorobenzene	1	1.133196	2	0.6932895	5	0.9302226	10	0.8814044	20	0.8963441	50	1.002858
1,2-Dibromo-3-chloropropane	1	0.1462261	2	0.0374643	5	3.684685E-02	10	6.679172E-02	20	6.657845E-02	50	7.807374E-02
Dibromofluoromethane	50	0.4987681	55	0.5168814	57.5	0.5405413	50	0.5403508	65	0.5020478	50	0.5574545
Toluene-d8	50	1.241808	55	1.219018	57.5	1.232296	50	1.264503	65	1.198608	50	1.317554
4-Bromofluorobenzene	50	0.9421565	55	0.8971015	57.5	0.892347	50	0.9405353	65	0.8691396	50	0.9269369

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	80	0.70919	100	0.6725768								
Chloromethane	80	0.754096	100	0.7331207								
Vinyl chloride	80	0.6865886	100	0.6649138								
Bromomethane	80	0.2051834	100	0.2186939								
Chloroethane	80	~~0.1749365~~	100	~~0.1284219~~								
Trichlorofluoromethane	80	~~0.8301317~~	100	0.814785								
Freon 113	80	0.3132915	100	0.3059256								
Acetone	400	0.1217886	500	0.1152447								
1,1-Dichloroethene	80	0.4650106	100	0.4563686								
Carbon disulfide	400	1.39256	500	1.295861								
Methylene Chloride	80	0.5379475	100	0.5152308								
Methyl-tert-Butyl Ether	80	1.459444	100	1.335989								
trans-1,2-Dichloroethene	80	0.5437929	100	0.517709								
cis-1,2-Dichloroethene	80	0.6019223	100	0.5527918								
1,1-Dichloroethane	80	1.134374	100	1.078543								
2-Butanone	400	6.102308E-02	500	5.767404E-02								
Chloroform	80	1.078098	100	0.9951283								
1,1,1-Trichloroethane	80	0.9329545	100	0.8735539								
Methyl acetate	80	0.3852903	100	0.3579641								
Cyclohexane	80	1.150511	100	1.097683								
Methyl cyclohexane	80	0.580204	100	0.5713529								
Carbon Tetrachloride	80	0.3766286	100	0.3811714								
1,2-Dichloroethane	80	0.4259138	100	0.4192331								
Benzene	80	1.233887	100	1.252102								
Trichloroethene	80	0.2480525	100	0.2539173								
1,2-Dichloropropane	80	0.3671019	100	0.3680292								
Bromodichloromethane	80	0.405243	100	0.4112405								
4-Methyl-2-pentanone	400	3.457471E-02	500	3.367481E-02								
2-Hexanone	400	0.1842147	500	0.1844748								
cis-1,3-Dichloropropene	80	0.5492152	100	0.5571325								
Toluene	80	1.145043	100	1.108659								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	80	0.6603691	100	0.6298476								
1,1,2-Trichloroethane	80	0.3689886	100	0.3583223								
Tetrachloroethene	80	0.2965475	100	0.2953463								
Dibromochloromethane	80	0.3768537	100	0.3633167								
1,2-Dibromoethane	80	0.3782567	100	0.360254								
Chlorobenzene	80	1.134842	100	1.085963								
Ethylbenzene	80	0.6600876	100	0.6458658								
m,p-Xylenes	160	0.7997641	200	0.7668973								
o-Xylene	80	0.8625415	100	0.8227721								
Bromoform	80	0.2162944	100	0.2250987								
Styrene	80	1.466473	100	1.403591								
Isopropylbenzene	80	2.273953	100	2.16042								
1,1,2,2-Tetrachloroethane	80	0.5602106	100	0.5182127								
1,2,4-Trichlorobenzene	80	0.5236953	100	0.485902								
1,3-Dichlorobenzene	80	1.133433	100	1.121463								
1,4-Dichlorobenzene	80	1.14285	100	1.121445								
1,2-Dichlorobenzene	80	1.071346	100	1.007351								
1,2-Dibromo-3-chloropropane	80	8.573901E-02	100	~~8.239508E-02~~								
Dibromofluoromethane	70	0.5077306	75	0.4842722								
Toluene-d8	70	1.203106	75	1.255696								
4-Bromofluorobenzene	70	0.8681085	75	0.8442992								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	0.6454795	10.47099	3.97125	7.848416E-02			20	
Chloromethane	0.7429916	13.64009	4.39275	4.507071E-02			20	
Vinyl chloride	0.6032767	11.0407	4.575	4.400144E-02			20	
Bromomethane	0.2658711	51.25071	5.221	5.968524E-02		0.9984319	0.99	
Chloroethane	0.3233106	29.51129	5.432333	0.1760207	0.9952741		0.99	
Trichlorofluoromethane	0.739293	9.643804	5.680714	0.1191043			20	
Freon 113	0.2891047	7.985007	6.54225	5.909168E-02			20	
Acetone	0.1178043	20.49874	7.39275	7.521591E-02	0.9984468		0.99	
1,1-Dichloroethene	0.4316853	12.51718	6.52275	4.626374E-02			20	
Carbon disulfide	1.413985	7.516358	6.611625	4.231748E-02			20	
Methylene Chloride	0.5959536	26.19116	7.33075	6.734604E-02	0.9988511		0.99	
Methyl-tert-Butyl Ether	1.264184	10.32773	7.62475	5.009821E-02			20	
trans-1,2-Dichloroethene	0.4994822	13.81611	7.540375	0.0786285			20	
cis-1,2-Dichloroethene	0.5290745	10.75978	8.94375	6.951434E-02			20	
1,1-Dichloroethane	1.027426	13.07056	8.305375	3.359958E-02			20	
2-Butanone	5.654494E-02	33.55672	9.542875	0.1054762		0.9965506	0.99	
Chloroform	0.9811366	7.973652	9.21525	9.664849E-02			20	
1,1,1-Trichloroethane	0.8099887	12.78922	9.4765	4.549804E-02			20	
Methyl acetate	0.4097982	34.05137	7.5195	0.1021645	0.9973892		0.99	
Cyclohexane	1.084118	17.43103	9.1825	2.763801E-02	0.9983605		0.99	
Methyl cyclohexane	0.6851364	37.89251	10.4425	2.481194E-02	0.9994238		0.99	
Carbon Tetrachloride	0.3247415	15.07661	9.40325	3.946246E-02	0.997318		0.99	
1,2-Dichloroethane	0.3947961	16.85402	10.083	6.413568E-02	0.998277		0.99	
Benzene	1.143102	13.57666	9.871	4.625673E-02			20	
Trichloroethene	0.2308676	8.071231	10.4425	2.481194E-02			20	
1,2-Dichloropropane	0.3327441	14.79548	10.97825	3.768472E-02		0.9995583	0.99	
Bromodichloromethane	0.3384447	18.35051	11.0095	2.483783E-02		0.9995909	0.99	
4-Methyl-2-pentanone	3.573082E-02	20.51705	12.12775	4.882009E-02	0.9995377		0.99	
2-Hexanone	0.1672315	11.31414	12.874	0.0309941			20	
cis-1,3-Dichloropropene	0.4465376	18.76753	11.60275	0.0283524		0.999376	0.99	

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Toluene	1.066872	13.57287	11.82575	3.641946E-02			20	
trans-1,3-Dichloropropene	0.5606682	14.59159	12.1935	6.110681E-02	0.9976126		0.99	
1,1,2-Trichloroethane	0.3401845	14.58738	12.35775	3.776279E-02	0.9991086		0.99	
Tetrachloroethene	0.2798513	14.65878	12.20475	6.050502E-02	0.9992435		0.99	
Dibromochloromethane	0.2803526	24.18079	12.54425	2.540952E-02		0.9966995	0.99	
1,2-Dibromoethane	0.3355065	12.24976	12.80675	5.029451E-02			20	
Chlorobenzene	1.074819	8.299772	13.238	2.555814E-02			20	
Ethylbenzene	0.6263821	16.13499	13.20525	2.269002E-02	0.9993938		0.99	
m,p-Xylenes	0.7525839	7.241605	13.32075	3.483174E-02			20	
o-Xylene	0.7718014	13.16143	13.726	2.743597E-02			20	
Bromoform	0.1740972	26.85684	13.86988	2.962488E-02		0.9990525	0.99	
Styrene	1.260238	13.19508	13.77575	6.052145E-02			20	
Isopropylbenzene	2.031474	10.53359	13.99225	2.532555E-02			20	
1,1,2,2-Tetrachloroethane	0.5037271	10.18228	14.463	1.928567E-02			20	
1,2,4-Trichlorobenzene	0.4097947	23.81543	18.13363	0.0263798		0.9955535	0.99	
1,3-Dichlorobenzene	1.008577	10.77426	15.4075	2.626486E-02			20	
1,4-Dichlorobenzene	1.081206	11.81261	15.49775	7.350592E-03			20	
1,2-Dichlorobenzene	0.9520015	14.21603	16.01475	1.858857E-02			20	
1,2-Dibromo-3-chloropropane	7.396002E-02	49.9638	17.07629	4.554431E-02		0.9992021	0.99	
Dibromofluoromethane	0.5185058	4.852246	9.4205	3.503454E-02			20	
Toluene-d8	1.241574	3.107317	11.77275	1.495661E-03			20	
4-Bromofluorobenzene	0.8975781	4.047299	14.322	1.411585E-02			20	

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101077
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 01/20/21 08:19

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	1	1.132212	2	1.081738	5	1.099689	10	0.9908757	20	1.094479	50	0.9374184
Chloromethane	1	1.280621	2	1.261155	5	1.178299	10	1.149889	20	1.044477	50	0.9030385
Vinyl chloride	1	1.381626	2	1.187443	5	1.103079	10	0.9382662	20	1.028873	50	0.8768452
Bromomethane	1	2.625054	2	1.906138	5	1.381352	10	0.7525831	20	0.6973898	50	0.6149682
Chloroethane	1	0.9797916	2	0.9941816	5	0.7439232	10	0.6397637	20	0.6898111	50	0.5744008
Trichlorofluoromethane	1	1.534411	2	1.54824	5	1.602083	10	1.423735	20	1.54284	50	1.316135
Freon 113	1	0.7066751	2	0.6330097	5	0.6307267	10	0.5083287	20	0.5216339	50	0.4952992
Acetone	5	0.1833417	10	0.1265084	25	0.1302819	50	0.1118284	100	0.1097414	250	0.1026437
1,1-Dichloroethene	1	0.5963711	2	0.5344147	5	0.5371345	10	0.4420584	20	0.4535395	50	0.4376901
Carbon disulfide	5	2.042393	10	1.374044	25	1.478171	50	1.292343	100	1.260119	250	1.179003
Methylene Chloride	1	0.8707638	2	0.7437653	5	0.6598828	10	0.5665447	20	0.5367037	50	0.5029548
Methyl-tert-Butyl Ether	1	1.329483	2	1.195768	5	1.202217	10	0.9708387	20	0.9983125	50	0.9777235
trans-1,2-Dichloroethene	1	0.7695758	2	0.5947503	5	0.6165531	10	0.498399	20	0.5198553	50	0.5187938
cis-1,2-Dichloroethene	1	0.7542608	2	0.637032	5	0.6603835	10	0.5646693	20	0.5735283	50	0.5714241
1,1-Dichloroethane	1	1.446533	2	1.270509	5	1.239846	10	1.012512	20	1.033911	50	1.032356
2-Butanone	5	3.868846E-02	10	2.780116E-02	25	3.598871E-02	50	2.905469E-02	100	2.924066E-02	250	2.735337E-02
Chloroform	1	1.505422	2	1.211577	5	1.217508	10	0.9774717	20	0.9999071	50	0.9604477
1,1,1-Trichloroethane	1	1.138593	2	0.9810855	5	1.012876	10	0.8336985	20	0.8699214	50	0.8261889
Methyl acetate	1	7.438686E-02	2	5.743578E-02	5	7.036747E-02	10	4.986556E-02	20	5.030858E-02	50	4.855103E-02
Cyclohexane	1	1.164665	2	0.9651831	5	1.022081	10	0.8718577	20	0.9151921	50	0.8862811
Methyl cyclohexane	1	0.4343835	2	0.4173906	5	0.4051248	10	0.3600154	20	0.3617094	50	0.3636473
Carbon Tetrachloride	1	0.573209	2	0.4979244	5	0.5309295	10	0.4268537	20	0.4694365	50	0.4673335
1,2-Dichloroethane	1	0.4762291	2	0.4163737	5	0.4099687	10	0.3343197	20	0.3517888	50	0.34586
Benzene	1	1.322	2	1.197789	5	1.187095	10	0.9822448	20	1.07658	50	1.131535
Trichloroethene	1	0.4028108	2	0.3090115	5	0.3382511	10	0.2795944	20	0.3059167	50	0.31468
1,2-Dichloropropane	1	0.4320273	2	0.3405857	5	0.3344858	10	0.269395	20	0.2858346	50	0.2901264
Bromodichloromethane	1	0.4902718	2	0.4275119	5	0.4138517	10	0.3445289	20	0.3659631	50	0.3728853
4-Methyl-2-pentanone	5	4.227911E-02	10	2.894955E-02	25	2.651804E-02	50	0.0209787	100	2.290058E-02	250	0.0246077
2-Hexanone	5	0.2244205	10	0.1524863	25	0.1620852	50	0.1333905	100	0.1424361	250	0.1490342
cis-1,3-Dichloropropene	1	0.5277821	2	0.4596672	5	0.4604475	10	0.397173	20	0.4169022	50	0.435696
Toluene	1	1.93085	2	1.604323	5	1.626449	10	1.315349	20	1.44065	50	1.43267

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101077
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 01/20/21 08:19

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	1	1.007775	2	0.8574989	5	0.8440523	10	0.7149002	20	0.7694288	50	0.7675824
1,1,2-Trichloroethane	1	0.4870838	2	0.4590921	5	0.463077	10	0.3893758	20	0.386325	50	0.4071512
Tetrachloroethene	1	0.4802714	2	0.456302	5	0.4521271	10	0.3714068	20	0.4173894	50	0.4104367
Dibromochloromethane	1	0.7584428	2	0.6812559	5	0.631324	10	0.5430032	20	0.5818434	50	0.5952504
1,2-Dibromoethane	1	0.5243247	2	0.4953637	5	0.4966083	10	0.417636	20	0.4381025	50	0.4559483
Chlorobenzene	1	2.11819	2	1.802189	5	1.775022	10	1.468861	20	1.606084	50	1.631965
Ethylbenzene	1	1.041156	2	0.8874928	5	0.8746757	10	0.7065054	20	0.7892454	50	0.8139481
m,p-Xylenes	2	1.165708	4	1.02944	10	1.041991	20	0.8726556	40	0.9424046	100	1.002018
o-Xylene	1	1.029121	2	1.050715	5	0.9833116	10	0.8158229	20	0.8958653	50	0.9672722
Bromoform	1	0.3240413	2	0.270061	5	0.2604354	10	0.2252492	20	0.2460033	50	0.2572319
Styrene	1	1.928806	2	1.678842	5	1.731177	10	1.390463	20	1.595608	50	1.737077
Isopropylbenzene	1	2.877768	2	2.424969	5	2.457643	10	2.07294	20	2.279474	50	2.440278
1,1,2,2-Tetrachloroethane	1	0.502298	2	0.4332834	5	0.439496	10	0.3753151	20	0.3956026	50	0.3977983
1,2,4-Trichlorobenzene	1	0.4554218	2	0.4435265	5	0.4487368	10	0.339364	20	0.3842878	50	0.3834837
1,3-Dichlorobenzene	1	1.879308	2	1.490272	5	1.513677	10	1.212824	20	1.364455	50	1.390077
1,4-Dichlorobenzene	1	1.879308	2	1.644885	5	1.594724	10	1.283585	20	1.405738	50	1.420117
1,2-Dichlorobenzene	1	1.465254	2	1.267192	5	1.292768	10	1.043234	20	1.155936	50	1.174126
1,2-Dibromo-3-chloropropane	1	2.290037E-02	2	0.0500331	5	0.1032036	10	6.861337E-02	20	6.164036E-02	50	6.539414E-02
Dibromofluoromethane	50	0.5849469	55	0.5870287	60	0.6232323	50	0.6010518	65	0.5550645	50	0.5308566
Toluene-d8	50	0.8400387	55	0.8475554	60	0.9054921	50	0.8401661	65	0.8216728	50	0.820902
4-Bromofluorobenzene	50	0.6795148	55	0.6811249	60	0.7212633	50	0.6607664	65	0.6658056	50	0.6643235

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101077
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 01/20/21 08:19

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	80	0.9487262	100	0.9808405								
Chloromethane	80	0.9876056	100	1.082517								
Vinyl chloride	80	0.8397385	100	0.8814244								
Bromomethane	80	0.5499226	100	0.5220224								
Chloroethane	80	0.5479944	100	0.5494368								
Trichlorofluoromethane	80	1.264915	100	1.305889								
Freon 113	80	0.4862521	100	0.481061								
Acetone	400	0.1077735	500	0.1080897								
1,1-Dichloroethene	80	0.4385567	100	0.4338046								
Carbon disulfide	400	1.191802	500	1.205703								
Methylene Chloride	80	0.5100339	100	0.4980969								
Methyl-tert-Butyl Ether	80	0.9954462	100	0.9800074								
trans-1,2-Dichloroethene	80	0.5195184	100	0.5211387								
cis-1,2-Dichloroethene	80	0.5806544	100	0.5780107								
1,1-Dichloroethane	80	1.059753	100	1.054324								
2-Butanone	400	2.858297E-02	500	2.848384E-02								
Chloroform	80	0.9604834	100	0.9292233								
1,1,1-Trichloroethane	80	0.8182671	100	0.8195241								
Methyl acetate	80	4.854086E-02	100	4.748598E-02								
Cyclohexane	80	0.8841406	100	0.8815943								
Methyl cyclohexane	80	0.3607928	100	0.3672072								
Carbon Tetrachloride	80	0.4885612	100	0.4670258								
1,2-Dichloroethane	80	0.381621	100	0.3664746								
Benzene	80	1.178177	100	1.082052								
Trichloroethene	80	0.3011965	100	0.3167983								
1,2-Dichloropropane	80	0.2986052	100	0.2867514								
Bromodichloromethane	80	0.3869447	100	0.3699728								
4-Methyl-2-pentanone	400	2.679176E-02	500	2.565411E-02								
2-Hexanone	400	0.1650352	500	0.1608018								
cis-1,3-Dichloropropene	80	0.4601054	100	0.4466238								
Toluene	80	1.425498	100	1.387039								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101077
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 01/20/21 08:19

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	80	0.7689001	100	0.7609396								
1,1,2-Trichloroethane	80	0.4049094	100	0.3893835								
Tetrachloroethene	80	0.4147976	100	0.4097285								
Dibromochloromethane	80	0.5953088	100	0.5881711								
1,2-Dibromoethane	80	0.4608022	100	0.4500403								
Chlorobenzene	80	1.621379	100	1.596715								
Ethylbenzene	80	0.833241	100	0.8293777								
m,p-Xylenes	160	1.009728	200	0.9918246								
o-Xylene	80	0.9935402	100	0.9973062								
Bromoform	80	0.2686547	100	0.2655931								
Styrene	80	1.775666	100	1.738694								
Isopropylbenzene	80	2.541679	100	2.524793								
1,1,2,2-Tetrachloroethane	80	0.4070247	100	0.3951593								
1,2,4-Trichlorobenzene	80	0.443591	100	0.4256633								
1,3-Dichlorobenzene	80	1.473057	100	1.450216								
1,4-Dichlorobenzene	80	1.497691	100	1.478101								
1,2-Dichlorobenzene	80	1.254849	100	1.206153								
1,2-Dibromo-3-chloropropane	80	7.296265E-02	100	6.591071E-02								
Dibromofluoromethane	70	0.5194197	75	0.5456668								
Toluene-d8	70	0.8430687	75	0.8532165								
4-Bromofluorobenzene	70	0.6624278	75	0.7001856								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2101077
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 01/20/21 08:19

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	1.033247	7.422996	5.8775	0.1198878			20	
Chloromethane	1.11095	11.8379	6.345	8.425355E-02	0.9927055		0.99	
Vinyl chloride	1.029662	18.1291	6.54	1.353011E-02	0.9974044		0.99	
Bromomethane	1.131179	68.49097	7.18875	0.1738033	0.996		0.99	
Chloroethane	0.7149129	25.36914	7.4225	6.189921E-02		0.9982915	0.99	
Trichlorofluoromethane	1.442281	9.141456	7.68625	6.810643E-02			20	
Freon 113	0.5578733	15.42109	8.51125	4.342495E-02	0.9993003		0.99	
Acetone	0.1225261	21.53556	9.225	0.1017803	0.9992732		0.99	
1,1-Dichloroethene	0.4841962	12.92318	8.47	1.404484E-02			20	
Carbon disulfide	1.377947	20.82942	8.58875	0.0394861	0.999531		0.99	
Methylene Chloride	0.6110932	22.26659	9.18375	5.802199E-02	0.9990741		0.99	
Methyl-tert-Butyl Ether	1.081225	12.9278	9.5025	4.782094E-02			20	
trans-1,2-Dichloroethene	0.5698231	15.94811	9.41375	5.524527E-02	0.9998645		0.99	
cis-1,2-Dichloroethene	0.6149954	10.75752	10.65125	3.471958E-02			20	
1,1-Dichloroethane	1.143718	13.77425	10.08875	3.844483E-02			20	
2-Butanone	3.064923E-02	13.82049	11.15625	9.569697E-02			20	
Chloroform	1.095255	18.37698	10.87	9.768114E-03	0.9990787		0.99	
1,1,1-Trichloroethane	0.9125193	13.02548	11.1675	3.725675E-02			20	
Methyl acetate	5.586777E-02	19.136	9.36625	0.0994785	0.9990959		0.99	
Cyclohexane	0.9488744	10.68026	10.935	4.938657E-02			20	
Methyl cyclohexane	0.3837839	7.882556	12.05625	3.694256E-02			20	
Carbon Tetrachloride	0.4901592	9.161404	11.13	1.615315E-02			20	
1,2-Dichloroethane	0.3853295	12.20707	11.64875	7.128164E-02			20	
Benzene	1.144684	8.878515	11.5075	0.0379681			20	
Trichloroethene	0.3210324	11.491	12.02	1.613154E-02			20	
1,2-Dichloropropane	0.3172264	16.55493	12.47125	4.719873E-02	0.9992204		0.99	
Bromodichloromethane	0.3964913	11.69154	12.48625	3.738691E-02			20	
4-Methyl-2-pentanone	2.733494E-02	23.83835	13.49125	1.808956E-02	0.9977426		0.99	
2-Hexanone	0.1612112	17.16777	14.1925	5.296872E-02	0.9975808		0.99	
cis-1,3-Dichloropropene	0.4505496	8.577485	13.0325	3.879666E-02			20	

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101077
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 01/20/21 08:19

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Toluene	1.520353	12.90949	13.2625	3.467364E-02			20	
trans-1,3-Dichloropropene	0.8113847	11.32455	13.55375	3.988811E-02			20	
1,1,2-Trichloroethane	0.4232997	9.449146	13.70875	1.851086E-02			20	
Tetrachloroethene	0.4265574	8.038834	13.6375	3.135631E-02			20	
Dibromochloromethane	0.6218249	10.9814	13.90625	0.0389754			20	
1,2-Dibromoethane	0.4673533	7.537445	14.16125	2.800208E-02			20	
Chlorobenzene	1.702551	11.63378	14.61	1.172072E-02			20	
Ethylbenzene	0.8469553	11.35726	14.57	1.758415E-02			20	
m,p-Xylenes	1.006971	8.342498	14.685	3.483417E-02			20	
o-Xylene	0.9666193	7.885543	15.10375	3.299662E-02			20	
Bromoform	0.2646587	10.63585	15.2325	4.612938E-02			20	
Styrene	1.697042	9.156187	15.14375	3.225299E-02			20	
Isopropylbenzene	2.452443	9.361543	15.37125	0.0191395			20	
1,1,2,2-Tetrachloroethane	0.4182472	9.553144	15.80625	3.206999E-02			20	
1,2,4-Trichlorobenzene	0.4155094	10.03589	19.93875	5.693414E-02			20	
1,3-Dichlorobenzene	1.471736	12.94042	16.8825	0.0122198			20	
1,4-Dichlorobenzene	1.525519	11.91359	16.9675	0.1844742			20	
1,2-Dichlorobenzene	1.232439	9.951522	17.54375	3.282852E-02			20	
1,2-Dibromo-3-chloropropane	6.383229E-02	35.19873	18.65875	5.922873E-02	0.9945011		0.99	
Dibromofluoromethane	0.5684084	6.37686	11.05125	2.725859E-02			20	
Toluene-d8	0.846514	3.122799	13.21875	0.0214707			20	
4-Bromofluorobenzene	0.6794265	3.164043	15.71125	2.770036E-02			20	

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE00066-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2011113 **Laboratory ID:** AA63653-SCV1

Sequence: AA63653 **Standard ID:** A0K1038

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Cyclohexane	50.0	46	-8.0	30.00
Ethylbenzene	50.0	49	-2.4	30.00
Carbon Tetrachloride	50.0	55	10.9	30.00
1,3-Dichlorobenzene	50.0	55	9.4	30.00
4-Bromofluorobenzene	50.0	52	4.6	30.00
Toluene-d8	50.0	52	4.4	30.00
Dibromofluoromethane	50.0	50	-0.5	30.00
Methyl-tert-Butyl Ether	50.0	49	-1.8	30.00
trans-1,2-Dichloroethene	50.0	48	-4.3	30.00
cis-1,2-Dichloroethene	50.0	50	-0.1	30.00
Tetrachloroethene	50.0	48	-3.1	30.00
Acetone	250	240	-4.3	30.00
1,2,4-Trichlorobenzene	50.0	49	-2.0	30.00
Chloroform	50.0	49	-2.2	30.00
Chlorobenzene	50.0	52	3.4	30.00
Toluene	50.0	53	5.9	30.00
Methyl cyclohexane	50.0	47	-5.0	30.00
m,p-Xylenes	100	110	5.6	30.00
4-Methyl-2-pentanone	250	230	-7.3	30.00
1,2-Dichloroethane	50.0	46	-8.3	30.00
1,2-Dibromoethane	50.0	52	3.4	30.00
1,4-Dichlorobenzene	50.0	51	1.3	30.00
trans-1,3-Dichloropropene	50.0	49	-1.5	30.00
cis-1,3-Dichloropropene	50.0	49	-2.4	30.00
Styrene	50.0	55	10.3	30.00
Dibromochloromethane	50.0	52	3.8	30.00
1,1-Dichloroethene	50.0	49	-2.0	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE00066-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2011113 **Laboratory ID:** AA63653-SCV1

Sequence: AA63653 **Standard ID:** A0K1038

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
1,2-Dibromo-3-chloropropane	50.0	55	9.4	30.00
1,2-Dichlorobenzene	50.0	52	3.8	30.00
o-Xylene	50.0	53	5.4	30.00
1,1,2,2-Tetrachloroethane	50.0	52	3.2	30.00
Methyl acetate	50.0	38	-23.9	30.00
Trichloroethene	50.0	54	7.6	30.00
1,1,2-Trichloroethane	50.0	50	-0.4	30.00
2-Butanone	250	250	-1.7	30.00
1,2-Dichloropropane	50.0	50	-0.4	30.00
Freon 113	50.0	51	2.3	30.00
2-Hexanone	250	250	0.6	30.00
Trichlorofluoromethane	20.0	21	2.9	30.00
Isopropylbenzene	50.0	54	8.8	30.00
1,1-Dichloroethane	50.0	48	-4.6	30.00
Bromodichloromethane	50.0	50	-0.1	30.00
Bromoform	50.0	52	3.8	30.00
Carbon disulfide	50.0	52	4.0	30.00
Methylene Chloride	50.0	47	-5.6	30.00
Vinyl chloride	20.0	21	3.6	30.00
Chloroethane	20.0	22	8.4	30.00
Chloromethane	20.0	20	-0.1	30.00
Bromomethane	20.0	25	24.8	30.00
1,1,1-Trichloroethane	50.0	51	1.2	30.00
Benzene	50.0	54	7.1	30.00
Dichlorodifluoromethane	20.0	21	3.0	30.00

* Values outside of QC limits

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2101077
Laboratory ID: AA64539-SCV1
Sequence: AA64539
Standard ID: A1A0936

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Cyclohexane	50.0	52	3.4	30.00
Ethylbenzene	50.0	49	-2.1	30.00
Carbon Tetrachloride	50.0	50	-0.2	30.00
1,3-Dichlorobenzene	50.0	50	-0.3	30.00
4-Bromofluorobenzene	50.0	53	5.0	30.00
Toluene-d8	50.0	52	4.5	30.00
Dibromofluoromethane	50.0	49	-1.1	30.00
Methyl-tert-Butyl Ether	50.0	50	0.7	30.00
trans-1,2-Dichloroethene	50.0	51	1.3	30.00
cis-1,2-Dichloroethene	50.0	48	-4.8	30.00
Tetrachloroethene	50.0	46	-7.5	30.00
Acetone	250	310	24.9	30.00
1,2,4-Trichlorobenzene	50.0	59	17.8	30.00
Chloroform	50.0	55	9.8	30.00
Chlorobenzene	50.0	49	-2.0	30.00
Toluene	50.0	46	-7.4	30.00
Methyl cyclohexane	50.0	50	0.5	30.00
m,p-Xylenes	100	110	5.5	30.00
4-Methyl-2-pentanone	250	250	0.1	30.00
1,2-Dichloroethane	50.0	49	-1.8	30.00
1,2-Dibromoethane	50.0	47	-5.7	30.00
1,4-Dichlorobenzene	50.0	48	-4.2	30.00
trans-1,3-Dichloropropene	50.0	48	-3.7	30.00
cis-1,3-Dichloropropene	50.0	51	1.7	30.00
Styrene	50.0	54	8.8	30.00
Dibromochloromethane	50.0	46	-7.3	30.00
1,1-Dichloroethene	50.0	46	-7.4	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE00066-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2101077 **Laboratory ID:** AA64539-SCV1

Sequence: AA64539 **Standard ID:** A1A0936

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
1,2-Dibromo-3-chloropropane	50.0	55	10.8	30.00
1,2-Dichlorobenzene	50.0	52	3.6	30.00
o-Xylene	50.0	53	5.1	30.00
1,1,2,2-Tetrachloroethane	50.0	53	5.6	30.00
Methyl acetate	50.0	55	9.1	30.00
Trichloroethene	50.0	49	-1.5	30.00
1,1,2-Trichloroethane	50.0	47	-6.2	30.00
2-Butanone	250	250	1.9	30.00
1,2-Dichloropropane	50.0	51	2.2	30.00
Freon 113	50.0	55	9.7	30.00
2-Hexanone	250	260	3.5	30.00
Trichlorofluoromethane	50.0	51	2.5	30.00
Isopropylbenzene	50.0	53	6.2	30.00
1,1-Dichloroethane	50.0	47	-5.6	30.00
Bromodichloromethane	50.0	49	-1.8	30.00
Bromoform	50.0	52	3.5	30.00
Carbon disulfide	50.0	64	28.6	30.00
Methylene Chloride	50.0	53	5.9	30.00
Vinyl chloride	50.0	56	12.6	30.00
Chloroethane	50.0	56	11.9	30.00
Chloromethane	50.0	55	10.5	30.00
Bromomethane	50.0	47	-5.9	30.00
1,1,1-Trichloroethane	50.0	51	1.2	30.00
Benzene	50.0	49	-1.6	30.00
Dichlorodifluoromethane	50.0	50	0.1	30.00

* Values outside of QC limits

ENCO Orlando

SDG: AE00066-TE016

CLASS: 06_VOA_AIR

METHOD: TO-15

ANALYSES DATA PACKAGE COVER PAGE

TO-15

Laboratory: ENCO Orlando

SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-VMP01-20210120	AE00066-13
CRCA-VMP01-20210120	AE00066-13RE1
CRCA-VMP02-20210120	AE00066-14
CRCA-VMP03-20210120	AE00066-15
CRCA-VMP03-20210120	AE00066-15RE1
CRCA-VMP04-20210120	AE00066-16
CRCA-VMP04-20210120	AE00066-16RE1
CRCA-SYSAIR-20210120	AE00066-17

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP01-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Air Laboratory ID: AE00066-13RE1 File ID: 217AS012.D

Sampled: 01/20/21 11:03 Prepared: 01/25/21 09:00 Analyzed: 01/25/21 10:36

Solids: Preparation: NO PREP 2 Initial/Final: 400 mL / 400 mL

Batch: 1A25023 Sequence: AA64633 Calibration: 2101005 Instrument: OVGCMS7

CAS NO.	COMPOUND	DILUTION	CONC. (ppbv)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1.34	0.74	UD	0.74	3.4
115-07-1	Propene	1.34	0.74	UD	0.74	3.4
74-87-3	Chloromethane	1.34	0.64	UD	0.64	3.4
75-01-4	Vinyl chloride	1.34	0.75	UD	0.75	3.4
74-83-9	Bromomethane	1.34	0.44	UD	0.44	3.4
75-00-3	Chloroethane	1.34	0.43	UD	0.43	3.4
75-69-4	Trichlorofluoromethane	1.34	0.46	UD	0.46	3.4
593-60-2	Bromoethene	1.34	0.44	UD	0.44	3.4
75-34-3	1,1-Dichloroethane	1.34	0.48	UD	0.48	3.4
67-64-1	Acetone	1.34	5.9	D	0.47	3.4
75-09-2	Methylene chloride	1.34	0.75	JBD	0.27	3.4
76-13-1	Freon 113	1.34	3.9	D	0.43	3.4
107-05-1	3-Chloropropene	1.34	0.52	UD	0.52	3.4
156-60-5	trans-1,2-Dichloroethene	1.34	0.43	UD	0.43	3.4
75-35-4	1,1-Dichloroethene	1.34	0.51	UD	0.51	3.4
156-59-2	cis-1,2-Dichloroethene	1.34	0.51	UD	0.51	3.4
67-66-3	Chloroform	1.34	0.51	UD	0.51	3.4
107-06-2	1,2-Dichloroethane	1.34	0.50	UD	0.50	3.4
71-55-6	1,1,1-Trichloroethane	1.34	0.46	UD	0.46	3.4
56-23-5	Carbon tetrachloride	1.34	0.36	UD	0.36	3.4
78-87-5	1,2-Dichloropropane	1.34	0.54	UD	0.54	3.4
79-01-6	Trichloroethene	1.34	0.47	UD	0.47	3.4
75-27-4	Bromodichloromethane	1.34	0.46	UD	0.46	3.4
10061-01-5	cis-1,3-Dichloropropene	1.34	0.51	UD	0.51	3.4
10061-02-6	trans-1,3-Dichloropropene	1.34	0.46	UD	0.46	3.4
79-00-5	1,1,2-Trichloroethane	1.34	0.47	UD	0.47	3.4
106-93-4	1,2-Dibromoethane	1.34	0.48	UD	0.48	3.4
127-18-4	Tetrachloroethene	1.34	0.42	UD	0.42	3.4
124-48-1	Dibromochloromethane	1.34	0.44	UD	0.44	3.4
108-90-7	Chlorobenzene	1.34	0.44	UD	0.44	3.4
75-25-2	Bromoform	1.34	0.51	UD	0.51	3.4
79-34-5	1,1,2,2-Tetrachloroethane	1.34	0.48	UD	0.48	3.4
541-73-1	1,3-Dichlorobenzene	1.34	0.38	UD	0.38	3.4
106-46-7	1,4-Dichlorobenzene	1.34	0.42	UD	0.42	3.4
95-50-1	1,2-Dichlorobenzene	1.34	0.36	UD	0.36	3.4
87-68-3	Hexachlorobutadiene	1.34	0.50	UD	0.50	3.4
76-14-2	Freon 114	1.34	0.70	UD	0.70	3.4

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	28	90	70 - 130	

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP01-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Air Laboratory ID: AE00066-13RE1 File ID: 217AS012.D

Sampled: 01/20/21 11:03 Prepared: 01/25/21 09:00 Analyzed: 01/25/21 10:36

Solids: Preparation: NO PREP 2 Initial/Final: 400 mL / 400 mL

Batch: 1A25023 Sequence: AA64633 Calibration: 2101005 Instrument: OVGCMS7

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	394787	10.98	368179	11	
1,4-Difluorobenzene	1326946	12.49	1236730	12.5	
Chlorobenzene-d5	966269	15.89	944742	15.9	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP02-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Air Laboratory ID: AE00066-14 File ID: 217AS013.D

Sampled: 01/20/21 11:06 Prepared: 01/25/21 09:00 Analyzed: 01/25/21 11:18

Solids: Preparation: NO PREP 2 Initial/Final: 200 mL / 400 mL

Batch: 1A25023 Sequence: AA64633 Calibration: 2101005 Instrument: OVGCMS7

CAS NO.	COMPOUND	DILUTION	CONC. (ppbv)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1.35	1.5	UD	1.5	6.8
115-07-1	Propene	1.35	1.5	UD	1.5	6.8
74-87-3	Chloromethane	1.35	1.3	UD	1.3	6.8
75-01-4	Vinyl chloride	1.35	1.5	UD	1.5	6.8
74-83-9	Bromomethane	1.35	0.89	UD	0.89	6.8
75-00-3	Chloroethane	1.35	0.86	UD	0.86	6.8
75-69-4	Trichlorofluoromethane	1.35	0.92	UD	0.92	6.8
593-60-2	Bromoethene	1.35	0.89	UD	0.89	6.8
75-34-3	1,1-Dichloroethane	1.35	0.97	UD	0.97	6.8
67-64-1	Acetone	1.35	3.5	JD	0.94	6.8
75-09-2	Methylene chloride	1.35	0.97	JBD	0.54	6.8
76-13-1	Freon 113	1.35	120	DE	0.86	6.8
107-05-1	3-Chloropropene	1.35	1.1	UD	1.1	6.8
156-60-5	trans-1,2-Dichloroethene	1.35	5.5	JD	0.86	6.8
75-35-4	1,1-Dichloroethene	1.35	1.0	UD	1.0	6.8
156-59-2	cis-1,2-Dichloroethene	1.35	1.0	UD	1.0	6.8
67-66-3	Chloroform	1.35	1.0	UD	1.0	6.8
107-06-2	1,2-Dichloroethane	1.35	1.0	UD	1.0	6.8
71-55-6	1,1,1-Trichloroethane	1.35	0.92	UD	0.92	6.8
56-23-5	Carbon tetrachloride	1.35	0.73	UD	0.73	6.8
78-87-5	1,2-Dichloropropane	1.35	1.1	UD	1.1	6.8
79-01-6	Trichloroethene	1.35	0.94	UD	0.94	6.8
75-27-4	Bromodichloromethane	1.35	0.92	UD	0.92	6.8
10061-01-5	cis-1,3-Dichloropropene	1.35	1.0	UD	1.0	6.8
10061-02-6	trans-1,3-Dichloropropene	1.35	0.92	UD	0.92	6.8
79-00-5	1,1,2-Trichloroethane	1.35	0.94	UD	0.94	6.8
106-93-4	1,2-Dibromoethane	1.35	0.97	UD	0.97	6.8
127-18-4	Tetrachloroethene	1.35	0.84	UD	0.84	6.8
124-48-1	Dibromochloromethane	1.35	0.89	UD	0.89	6.8
108-90-7	Chlorobenzene	1.35	0.89	UD	0.89	6.8
75-25-2	Bromoform	1.35	1.0	UD	1.0	6.8
79-34-5	1,1,2,2-Tetrachloroethane	1.35	0.97	UD	0.97	6.8
541-73-1	1,3-Dichlorobenzene	1.35	0.76	UD	0.76	6.8
106-46-7	1,4-Dichlorobenzene	1.35	0.84	UD	0.84	6.8
95-50-1	1,2-Dichlorobenzene	1.35	0.73	UD	0.73	6.8
87-68-3	Hexachlorobutadiene	1.35	1.0	UD	1.0	6.8
76-14-2	Freon 114	1.35	1.4	UD	1.4	6.8

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	27	87	70 - 130	

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP02-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Air
Laboratory ID: AE00066-14
File ID: 217AS013.D
Sampled: 01/20/21 11:06
Prepared: 01/25/21 09:00
Analyzed: 01/25/21 11:18
Solids:
Preparation: NO PREP 2
Initial/Final: 200 mL / 400 mL
Batch: 1A25023
Sequence: AA64633
Calibration: 2101005
Instrument: OVGCMS7

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	376564	10.98	368179	11	
1,4-Difluorobenzene	1276814	12.49	1236730	12.5	
Chlorobenzene-d5	910527	15.89	944742	15.9	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP03-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Air Laboratory ID: AE00066-15RE1 File ID: 217AS017.D

Sampled: 01/20/21 11:15 Prepared: 01/25/21 09:00 Analyzed: 01/25/21 14:06

Solids: Preparation: NO PREP 2 Initial/Final: 400 mL / 400 mL

Batch: 1A25023 Sequence: AA64633 Calibration: 2101005 Instrument: OVGCMS7

CAS NO.	COMPOUND	DILUTION	CONC. (ppbv)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1.59	0.87	UD	0.87	4.0
115-07-1	Propene	1.59	0.87	UD	0.87	4.0
74-87-3	Chloromethane	1.59	0.76	UD	0.76	4.0
75-01-4	Vinyl chloride	1.59	0.89	UD	0.89	4.0
74-83-9	Bromomethane	1.59	0.52	UD	0.52	4.0
75-00-3	Chloroethane	1.59	0.51	UD	0.51	4.0
75-69-4	Trichlorofluoromethane	1.59	0.54	UD	0.54	4.0
593-60-2	Bromoethene	1.59	0.52	UD	0.52	4.0
75-34-3	1,1-Dichloroethane	1.59	0.57	UD	0.57	4.0
67-64-1	Acetone	1.59	4.1	D	0.56	4.0
75-09-2	Methylene chloride	1.59	1.1	JBD	0.32	4.0
76-13-1	Freon 113	1.59	8.1	D	0.51	4.0
107-05-1	3-Chloropropene	1.59	0.62	UD	0.62	4.0
156-60-5	trans-1,2-Dichloroethene	1.59	0.51	UD	0.51	4.0
75-35-4	1,1-Dichloroethene	1.59	0.60	UD	0.60	4.0
156-59-2	cis-1,2-Dichloroethene	1.59	0.60	UD	0.60	4.0
67-66-3	Chloroform	1.59	1.9	JD	0.60	4.0
107-06-2	1,2-Dichloroethane	1.59	0.59	UD	0.59	4.0
71-55-6	1,1,1-Trichloroethane	1.59	0.54	UD	0.54	4.0
56-23-5	Carbon tetrachloride	1.59	0.43	UD	0.43	4.0
78-87-5	1,2-Dichloropropane	1.59	0.64	UD	0.64	4.0
79-01-6	Trichloroethene	1.59	0.56	UD	0.56	4.0
75-27-4	Bromodichloromethane	1.59	0.54	UD	0.54	4.0
10061-01-5	cis-1,3-Dichloropropene	1.59	0.60	UD	0.60	4.0
10061-02-6	trans-1,3-Dichloropropene	1.59	0.54	UD	0.54	4.0
79-00-5	1,1,2-Trichloroethane	1.59	0.56	UD	0.56	4.0
106-93-4	1,2-Dibromoethane	1.59	0.57	UD	0.57	4.0
127-18-4	Tetrachloroethene	1.59	0.49	UD	0.49	4.0
124-48-1	Dibromochloromethane	1.59	0.52	UD	0.52	4.0
108-90-7	Chlorobenzene	1.59	0.52	UD	0.52	4.0
75-25-2	Bromoform	1.59	0.60	UD	0.60	4.0
79-34-5	1,1,2,2-Tetrachloroethane	1.59	0.57	UD	0.57	4.0
541-73-1	1,3-Dichlorobenzene	1.59	0.45	UD	0.45	4.0
106-46-7	1,4-Dichlorobenzene	1.59	0.49	UD	0.49	4.0
95-50-1	1,2-Dichlorobenzene	1.59	0.43	UD	0.43	4.0
87-68-3	Hexachlorobutadiene	1.59	0.59	UD	0.59	4.0
76-14-2	Freon 114	1.59	0.83	UD	0.83	4.0

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	27	88	70 - 130	

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP03-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Air
Laboratory ID: AE00066-15RE1
File ID: 217AS017.D
Sampled: 01/20/21 11:15
Prepared: 01/25/21 09:00
Analyzed: 01/25/21 14:06
Solids:
Preparation: NO PREP 2
Initial/Final: 400 mL / 400 mL
Batch: 1A25023
Sequence: AA64633
Calibration: 2101005
Instrument: OVGCMS7

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	374110	10.99	368179	11	
1,4-Difluorobenzene	1263633	12.5	1236730	12.5	
Chlorobenzene-d5	911241	15.9	944742	15.9	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP04-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Air Laboratory ID: AE00066-16RE1 File ID: 217AS018.D

Sampled: 01/20/21 11:22 Prepared: 01/25/21 09:00 Analyzed: 01/25/21 14:47

Solids: Preparation: NO PREP 2 Initial/Final: 200 mL / 400 mL

Batch: 1A25023 Sequence: AA64633 Calibration: 2101005 Instrument: OVGCMS7

CAS NO.	COMPOUND	DILUTION	CONC. (ppbv)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1.4	1.5	UD	1.5	7.0
115-07-1	Propene	1.4	1.5	UD	1.5	7.0
74-87-3	Chloromethane	1.4	1.3	UD	1.3	7.0
75-01-4	Vinyl chloride	1.4	1.6	UD	1.6	7.0
74-83-9	Bromomethane	1.4	0.92	UD	0.92	7.0
75-00-3	Chloroethane	1.4	0.90	UD	0.90	7.0
75-69-4	Trichlorofluoromethane	1.4	0.95	UD	0.95	7.0
593-60-2	Bromoethene	1.4	0.92	UD	0.92	7.0
75-34-3	1,1-Dichloroethane	1.4	1.0	UD	1.0	7.0
67-64-1	Acetone	1.4	31	D	0.98	7.0
75-09-2	Methylene chloride	1.4	1.1	JBD	0.56	7.0
76-13-1	Freon 113	1.4	34	D	0.90	7.0
107-05-1	3-Chloropropene	1.4	1.1	UD	1.1	7.0
156-60-5	trans-1,2-Dichloroethene	1.4	0.90	UD	0.90	7.0
75-35-4	1,1-Dichloroethene	1.4	1.1	UD	1.1	7.0
156-59-2	cis-1,2-Dichloroethene	1.4	1.1	UD	1.1	7.0
67-66-3	Chloroform	1.4	1.1	UD	1.1	7.0
107-06-2	1,2-Dichloroethane	1.4	1.0	UD	1.0	7.0
71-55-6	1,1,1-Trichloroethane	1.4	0.95	UD	0.95	7.0
56-23-5	Carbon tetrachloride	1.4	0.76	UD	0.76	7.0
78-87-5	1,2-Dichloropropane	1.4	1.1	UD	1.1	7.0
79-01-6	Trichloroethene	1.4	0.98	UD	0.98	7.0
75-27-4	Bromodichloromethane	1.4	0.95	UD	0.95	7.0
10061-01-5	cis-1,3-Dichloropropene	1.4	1.1	UD	1.1	7.0
10061-02-6	trans-1,3-Dichloropropene	1.4	0.95	UD	0.95	7.0
79-00-5	1,1,2-Trichloroethane	1.4	0.98	UD	0.98	7.0
106-93-4	1,2-Dibromoethane	1.4	1.0	UD	1.0	7.0
127-18-4	Tetrachloroethene	1.4	0.87	UD	0.87	7.0
124-48-1	Dibromochloromethane	1.4	0.92	UD	0.92	7.0
108-90-7	Chlorobenzene	1.4	0.92	UD	0.92	7.0
75-25-2	Bromoform	1.4	1.1	UD	1.1	7.0
79-34-5	1,1,2,2-Tetrachloroethane	1.4	1.0	UD	1.0	7.0
541-73-1	1,3-Dichlorobenzene	1.4	0.78	UD	0.78	7.0
106-46-7	1,4-Dichlorobenzene	1.4	0.87	UD	0.87	7.0
95-50-1	1,2-Dichlorobenzene	1.4	0.76	UD	0.76	7.0
87-68-3	Hexachlorobutadiene	1.4	1.0	UD	1.0	7.0
76-14-2	Freon 114	1.4	1.5	UD	1.5	7.0

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	28	89	70 - 130	

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP04-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Air Laboratory ID: AE00066-16RE1 File ID: 217AS018.D

Sampled: 01/20/21 11:22 Prepared: 01/25/21 09:00 Analyzed: 01/25/21 14:47

Solids: Preparation: NO PREP 2 Initial/Final: 200 mL / 400 mL

Batch: 1A25023 Sequence: AA64633 Calibration: 2101005 Instrument: OVGCMS7

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	405636	10.99	368179	11	
1,4-Difluorobenzene	1356274	12.49	1236730	12.5	
Chlorobenzene-d5	989168	15.9	944742	15.9	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-SYSAIR-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Air Laboratory ID: AE00066-17 File ID: 217AS016.D

Sampled: 01/20/21 17:03 Prepared: 01/25/21 09:00 Analyzed: 01/25/21 13:21

Solids: Preparation: NO PREP 2 Initial/Final: 400 mL / 400 mL

Batch: 1A25023 Sequence: AA64633 Calibration: 2101005 Instrument: OVGCMS7

CAS NO.	COMPOUND	DILUTION	CONC. (ppbv)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1.32	0.73	UD	0.73	3.3
115-07-1	Propene	1.32	0.73	UD	0.73	3.3
74-87-3	Chloromethane	1.32	0.63	UD	0.63	3.3
75-01-4	Vinyl chloride	1.32	0.74	UD	0.74	3.3
74-83-9	Bromomethane	1.32	0.44	UD	0.44	3.3
75-00-3	Chloroethane	1.32	0.42	UD	0.42	3.3
75-69-4	Trichlorofluoromethane	1.32	0.45	UD	0.45	3.3
593-60-2	Bromoethene	1.32	0.44	UD	0.44	3.3
75-34-3	1,1-Dichloroethane	1.32	0.48	UD	0.48	3.3
67-64-1	Acetone	1.32	2.6	JD	0.46	3.3
75-09-2	Methylene chloride	1.32	0.99	JBD	0.26	3.3
76-13-1	Freon 113	1.32	0.42	UD	0.42	3.3
107-05-1	3-Chloropropene	1.32	0.51	UD	0.51	3.3
156-60-5	trans-1,2-Dichloroethene	1.32	0.96	JD	0.42	3.3
75-35-4	1,1-Dichloroethene	1.32	0.50	UD	0.50	3.3
156-59-2	cis-1,2-Dichloroethene	1.32	0.50	UD	0.50	3.3
67-66-3	Chloroform	1.32	0.50	UD	0.50	3.3
107-06-2	1,2-Dichloroethane	1.32	0.49	UD	0.49	3.3
71-55-6	1,1,1-Trichloroethane	1.32	0.45	UD	0.45	3.3
56-23-5	Carbon tetrachloride	1.32	0.36	UD	0.36	3.3
78-87-5	1,2-Dichloropropane	1.32	0.53	UD	0.53	3.3
79-01-6	Trichloroethene	1.32	0.46	UD	0.46	3.3
75-27-4	Bromodichloromethane	1.32	0.45	UD	0.45	3.3
10061-01-5	cis-1,3-Dichloropropene	1.32	0.50	UD	0.50	3.3
10061-02-6	trans-1,3-Dichloropropene	1.32	0.45	UD	0.45	3.3
79-00-5	1,1,2-Trichloroethane	1.32	0.46	UD	0.46	3.3
106-93-4	1,2-Dibromoethane	1.32	0.48	UD	0.48	3.3
127-18-4	Tetrachloroethene	1.32	0.41	UD	0.41	3.3
124-48-1	Dibromochloromethane	1.32	0.44	UD	0.44	3.3
108-90-7	Chlorobenzene	1.32	0.44	UD	0.44	3.3
75-25-2	Bromoform	1.32	0.50	UD	0.50	3.3
79-34-5	1,1,2,2-Tetrachloroethane	1.32	0.48	UD	0.48	3.3
541-73-1	1,3-Dichlorobenzene	1.32	0.37	UD	0.37	3.3
106-46-7	1,4-Dichlorobenzene	1.32	0.41	UD	0.41	3.3
95-50-1	1,2-Dichlorobenzene	1.32	0.36	UD	0.36	3.3
87-68-3	Hexachlorobutadiene	1.32	0.49	UD	0.49	3.3
76-14-2	Freon 114	1.32	0.69	UD	0.69	3.3

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	28	89	70 - 130	

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-SYSAIR-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Air
Laboratory ID: AE00066-17
File ID: 217AS016.D
Sampled: 01/20/21 17:03
Prepared: 01/25/21 09:00
Analyzed: 01/25/21 13:21
Solids:
Preparation: NO PREP 2
Initial/Final: 400 mL / 400 mL
Batch: 1A25023
Sequence: AA64633
Calibration: 2101005
Instrument: OVGCMS7

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	379518	10.99	368179	11	
1,4-Difluorobenzene	1282254	12.49	1236730	12.5	
Chlorobenzene-d5	929975	15.9	944742	15.9	

* Values outside of QC limits

HOLDING TIME SUMMARY

TO-15

Laboratory: ENCO Orlando

SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-VMP01-20210120	01/20/21 11:03	01/21/21 15:10	01/25/21 09:00	4.91	NA	01/25/21 10:36	5.00	30.00	
CRCA-VMP02-20210120	01/20/21 11:06	01/21/21 15:10	01/25/21 09:00	4.91	NA	01/25/21 11:18	5.00	30.00	
CRCA-VMP03-20210120	01/20/21 11:15	01/21/21 15:10	01/25/21 09:00	4.91	NA	01/25/21 14:06	5.00	30.00	
CRCA-VMP04-20210120	01/20/21 11:22	01/21/21 15:10	01/25/21 09:00	4.90	NA	01/25/21 14:47	5.00	30.00	
CRCA-SYSAIR-20210120	01/20/21 17:03	01/21/21 15:10	01/25/21 09:00	4.66	NA	01/25/21 13:21	5.00	30.00	

PREPARATION BATCH SUMMARY

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Batch: 1A25023 Batch Matrix: Air Preparation: NO PREP 2

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1A25023-BLK1	217AS009.D	01/24/21 17:30	
LCS	1A25023-BS1	217AS006.D	01/24/21 17:30	
LCS Dup	1A25023-BSD1	217AS007.D	01/24/21 17:30	
CRCA-VMP01-20210120	AE00066-13RE1	217AS012.D	01/25/21 09:00	
CRCA-VMP02-20210120	AE00066-14	217AS013.D	01/25/21 09:00	
CRCA-VMP03-20210120	AE00066-15RE1	217AS017.D	01/25/21 09:00	
CRCA-VMP04-20210120	AE00066-16RE1	217AS018.D	01/25/21 09:00	
CRCA-SYSAIR-20210120	AE00066-17	217AS016.D	01/25/21 09:00	

METHOD BLANK DATA SHEET
TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Air	Laboratory ID:	1A25023-BLK1	File ID:	217AS009.D
Prepared:	01/24/21 17:30	Preparation:	NO PREP 2	Initial/Final:	400 mL / 400 mL
Analyzed:	01/25/21 00:37	Instrument:	OVGCMS7		
Batch:	1A25023	Sequence:	AA64633	Calibration:	2101005

CAS NO.	COMPOUND	CONC. (ppbv)	Q
75-71-8	Dichlorodifluoromethane	0.55	U
115-07-1	Propene	0.55	U
74-87-3	Chloromethane	0.48	U
75-01-4	Vinyl chloride	0.56	U
74-83-9	Bromomethane	0.33	U
75-00-3	Chloroethane	0.32	U
75-69-4	Trichlorofluoromethane	0.34	U
593-60-2	Bromoethene	0.33	U
75-34-3	1,1-Dichloroethane	0.36	U
67-64-1	Acetone	0.35	U
75-09-2	Methylene chloride	0.29	J
76-13-1	Freon 113	0.32	U
107-05-1	3-Chloropropene	0.39	U
156-60-5	trans-1,2-Dichloroethene	0.32	U
75-35-4	1,1-Dichloroethene	0.38	U
156-59-2	cis-1,2-Dichloroethene	0.38	U
67-66-3	Chloroform	0.38	U
107-06-2	1,2-Dichloroethane	0.37	U
71-55-6	1,1,1-Trichloroethane	0.34	U
56-23-5	Carbon tetrachloride	0.27	U
78-87-5	1,2-Dichloropropane	0.40	U
79-01-6	Trichloroethene	0.35	U
75-27-4	Bromodichloromethane	0.34	U
10061-01-5	cis-1,3-Dichloropropene	0.38	U
10061-02-6	trans-1,3-Dichloropropene	0.34	U
79-00-5	1,1,2-Trichloroethane	0.35	U
106-93-4	1,2-Dibromoethane	0.36	U
127-18-4	Tetrachloroethene	0.31	U
124-48-1	Dibromochloromethane	0.33	U
108-90-7	Chlorobenzene	0.33	U

METHOD BLANK DATA SHEET
TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Air	Laboratory ID:	1A25023-BLK1	File ID:	217AS009.D
Prepared:	01/24/21 17:30	Preparation:	NO PREP 2	Initial/Final:	400 mL / 400 mL
Analyzed:	01/25/21 00:37	Instrument:	OVGCMS7		
Batch:	1A25023	Sequence:	AA64633	Calibration:	2101005

CAS NO.	COMPOUND	CONC. (ppbv)	Q
75-25-2	Bromoform	0.38	U
79-34-5	1,1,2,2-Tetrachloroethane	0.36	U
541-73-1	1,3-Dichlorobenzene	0.28	U
106-46-7	1,4-Dichlorobenzene	0.31	U
95-50-1	1,2-Dichlorobenzene	0.27	U
87-68-3	Hexachlorobutadiene	0.37	U
76-14-2	Freon 114	0.52	U

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	27	87	70 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	396636	10.99	368179	11	
1,4-Difluorobenzene	1324496	12.49	1236730	12.5	
Chlorobenzene-d5	957252	15.89	944742	15.9	

LCS / LCS DUPLICATE RECOVERY

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Air		
Batch:	1A25023	Laboratory ID:	1A25023-BS1
Preparation:	NO PREP 2	Initial/Final:	400 mL / 400 mL

COMPOUND	SPIKE ADDED (ppbv)	LCS CONCENTRATION (ppbv)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	10.0	9.3	93	61 - 137
Propene	10.0	8.9	89	63 - 132
Chloromethane	10.0	10	100	55 - 142
Vinyl chloride	10.0	11	106	53 - 148
Bromomethane	10.0	9.9	99	69 - 130
Chloroethane	10.0	10	101	69 - 131
Trichlorofluoromethane	10.0	9.7	97	46 - 161
Bromoethene	10.0	9.5	95	69 - 132
1,1-Dichloroethane	10.0	12	119	70 - 130
Acetone	10.0	10	104	65 - 130
Methylene chloride	10.0	13	128	59 - 136
Freon 113	10.0	11	111	67 - 140
3-Chloropropene	10.0	11	113	70 - 130
trans-1,2-Dichloroethene	10.0	11	113	70 - 130
1,1-Dichloroethene	10.0	11	113	67 - 142
cis-1,2-Dichloroethene	10.0	12	122	70 - 130
Chloroform	10.0	11	111	70 - 130
1,2-Dichloroethane	10.0	10	102	70 - 130
1,1,1-Trichloroethane	10.0	10	100	70 - 130
Carbon tetrachloride	10.0	8.3	83	22 - 166
1,2-Dichloropropane	10.0	12	121	70 - 130
Trichloroethene	10.0	11	114	70 - 130
Bromodichloromethane	10.0	11	109	70 - 130
cis-1,3-Dichloropropene	10.0	12	122	70 - 137
trans-1,3-Dichloropropene	10.0	16	156	59 - 166
1,1,2-Trichloroethane	10.0	12	117	70 - 134
1,2-Dibromoethane	10.0	12	118	70 - 141
Tetrachloroethene	10.0	10	104	70 - 141
Dibromochloromethane	10.0	11	110	70 - 130
Chlorobenzene	10.0	11	107	70 - 134

LCS / LCS DUPLICATE RECOVERY

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Air		
Batch:	1A25023	Laboratory ID:	1A25023-BS1
Preparation:	NO PREP 2	Initial/Final:	400 mL / 400 mL

COMPOUND	SPIKE ADDED (ppbv)	LCS CONCENTRATION (ppbv)	LCS % REC. #	QC LIMITS REC.
Bromoform	10.0	11	110	62 - 149
1,1,2,2-Tetrachloroethane	10.0	12	119	52 - 163
1,3-Dichlorobenzene	10.0	9.8	98	47 - 178
1,4-Dichlorobenzene	10.0	9.2	92	45 - 180
1,2-Dichlorobenzene	10.0	10	102	37 - 180
Hexachlorobutadiene	10.0	9.1	91	24 - 180
Freon 114	10.0	9.8	98	62 - 147

COMPOUND	SPIKE ADDED (ppbv)	LCSD CONCENTRATION (ppbv)	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	10.0	8.1	81	13	25	61 - 137
Propene	10.0	7.8	78	13	25	63 - 132
Chloromethane	10.0	8.8	88	12	25	55 - 142
Vinyl chloride	10.0	9.2	92	14	25	53 - 148
Bromomethane	10.0	8.6	86	14	25	69 - 130
Chloroethane	10.0	8.7	87	14	25	69 - 131
Trichlorofluoromethane	10.0	8.7	87	11	25	46 - 161
Bromoethene	10.0	8.6	86	10	25	69 - 132
1,1-Dichloroethane	10.0	11	110	8	25	70 - 130
Acetone	10.0	9.5	95	10	25	65 - 130
Methylene chloride	10.0	12	123	5	25	59 - 136
Freon 113	10.0	10	103	8	25	67 - 140
3-Chloropropene	10.0	10	105	7	25	70 - 130
trans-1,2-Dichloroethene	10.0	10	105	7	25	70 - 130
1,1-Dichloroethene	10.0	10	103	9	25	67 - 142
cis-1,2-Dichloroethene	10.0	11	114	6	25	70 - 130
Chloroform	10.0	10	101	9	25	70 - 130
1,2-Dichloroethane	10.0	8.8	88	15	25	70 - 130
1,1,1-Trichloroethane	10.0	9.1	91	9	25	70 - 130
Carbon tetrachloride	10.0	7.5	75	10	25	22 - 166

LCS / LCS DUPLICATE RECOVERY

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Air		
Batch:	1A25023	Laboratory ID:	1A25023-BSD1
Preparation:	NO PREP 2	Initial/Final:	400 mL / 400 mL

COMPOUND	SPIKE ADDED (ppbv)	LCSD CONCENTRATION (ppbv)	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,2-Dichloropropane	10.0	11	113	7	25	70 - 130
Trichloroethene	10.0	11	108	5	25	70 - 130
Bromodichloromethane	10.0	10	100	8	25	70 - 130
cis-1,3-Dichloropropene	10.0	11	113	7	25	70 - 137
trans-1,3-Dichloropropene	10.0	15	146	7	25	59 - 166
1,1,2-Trichloroethane	10.0	11	110	6	25	70 - 134
1,2-Dibromoethane	10.0	11	110	7	25	70 - 141
Tetrachloroethene	10.0	9.8	98	6	25	70 - 141
Dibromochloromethane	10.0	10	103	7	25	70 - 130
Chlorobenzene	10.0	10	100	6	25	70 - 134
Bromoform	10.0	10	103	7	25	62 - 149
1,1,2,2-Tetrachloroethane	10.0	11	111	7	25	52 - 163
1,3-Dichlorobenzene	10.0	9.1	91	7	25	47 - 178
1,4-Dichlorobenzene	10.0	8.5	85	8	25	45 - 180
1,2-Dichlorobenzene	10.0	9.5	95	7	25	37 - 180
Hexachlorobutadiene	10.0	8.5	85	7	25	24 - 180
Freon 114	10.0	8.8	88	11	25	62 - 147

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64317
Instrument: OVGCMS7
Matrix: Air
Calibration: 2101005

Surrogate Compound	Spike Level ppbv	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA64317-SCV1)			Lab File ID: 207LZ017.D		Analyzed: 12/31/20 23:23			
4-Bromofluorobenzene	31.0	101	0 - 200	17.33	17.33	0.0000	+/-1.0	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64633
Instrument: OVGCMS7
Matrix: Air
Calibration: 2101005

Surrogate Compound	Spike Level ppbv	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA64633-CCV1)			Lab File ID: 217AS004.D		Analyzed: 01/24/21 21:16			
4-Bromofluorobenzene	31.0	101	0 - 200	17.32	17.33	-0.0100	+/-1.0	
Instrument RL Check (AA64633-CRL1)			Lab File ID: 217AS005.D		Analyzed: 01/24/21 21:55			
4-Bromofluorobenzene	31.0	91	0 - 200	17.32	17.33	-0.0100	+/-1.0	
LCS (1A25023-BS1)			Lab File ID: 217AS006.D		Analyzed: 01/24/21 22:34			
4-Bromofluorobenzene	31.0	102	70 - 130	17.32	17.33	-0.0100	+/-1.0	
LCS Dup (1A25023-BSD1)			Lab File ID: 217AS007.D		Analyzed: 01/24/21 23:13			
4-Bromofluorobenzene	31.0	100	70 - 130	17.32	17.33	-0.0100	+/-1.0	
Blank (1A25023-BLK1)			Lab File ID: 217AS009.D		Analyzed: 01/25/21 00:37			
4-Bromofluorobenzene	31.0	87	70 - 130	17.32	17.33	-0.0100	+/-1.0	
CRCA-VMP01-20210120 (AE00066-13RE1)			Lab File ID: 217AS012.D		Analyzed: 01/25/21 10:36			
4-Bromofluorobenzene	31.0	90	70 - 130	17.32	17.33	-0.0100	+/-1.0	
CRCA-VMP02-20210120 (AE00066-14)			Lab File ID: 217AS013.D		Analyzed: 01/25/21 11:18			
4-Bromofluorobenzene	31.0	87	70 - 130	17.33	17.33	0.0000	+/-1.0	
CRCA-SYSAIR-20210120 (AE00066-17)			Lab File ID: 217AS016.D		Analyzed: 01/25/21 13:21			
4-Bromofluorobenzene	31.0	89	70 - 130	17.33	17.33	0.0000	+/-1.0	
CRCA-VMP03-20210120 (AE00066-15RE1)			Lab File ID: 217AS017.D		Analyzed: 01/25/21 14:06			
4-Bromofluorobenzene	31.0	88	70 - 130	17.33	17.33	0.0000	+/-1.0	
CRCA-VMP04-20210120 (AE00066-16RE1)			Lab File ID: 217AS018.D		Analyzed: 01/25/21 14:47			
4-Bromofluorobenzene	31.0	89	70 - 130	17.33	17.33	0.0000	+/-1.0	

INTERNAL STANDARD AREA AND RT SUMMARY
TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA64317
Instrument: OVGCMS7
Matrix: Air
Calibration: 2101005

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA64317-CAL1)			Lab File ID: 207LZ005.D			Analyzed: 12/31/20 15:30			
Bromochloromethane	373148	10.99	368179	11	101	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1252006	12.49	1236730	12.5	101	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	940921	15.9	944742	15.9	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64317-CAL2)			Lab File ID: 207LZ006.D			Analyzed: 12/31/20 16:10			
Bromochloromethane	374682	10.99	368179	11	102	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1271464	12.49	1236730	12.5	103	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	980132	15.9	944742	15.9	104	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64317-CAL3)			Lab File ID: 207LZ007.D			Analyzed: 12/31/20 16:48			
Bromochloromethane	375020	10.99	368179	11	102	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1254271	12.49	1236730	12.5	101	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	928803	15.9	944742	15.9	98	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64317-CAL4)			Lab File ID: 207LZ008.D			Analyzed: 12/31/20 17:27			
Bromochloromethane	356879	10.98	368179	11	97	60 - 140	-0.0200	+/-0.50	
1,4-Difluorobenzene	1194813	12.49	1236730	12.5	97	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	889493	15.9	944742	15.9	94	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64317-CAL5)			Lab File ID: 207LZ009.D			Analyzed: 12/31/20 18:08			
Bromochloromethane	359052	10.99	368179	11	98	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1218151	12.49	1236730	12.5	98	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	912184	15.9	944742	15.9	97	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64317-CAL6)			Lab File ID: 207LZ010.D			Analyzed: 12/31/20 18:46			
Bromochloromethane	364591	10.99	368179	11	99	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1225340	12.49	1236730	12.5	99	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	929328	15.9	944742	15.9	98	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64317-CAL7)			Lab File ID: 207LZ011.D			Analyzed: 12/31/20 19:25			
Bromochloromethane	368179	11	368179	11	100	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	1236730	12.5	1236730	12.5	100	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	944742	15.9	944742	15.9	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64317-CAL8)			Lab File ID: 207LZ012.D			Analyzed: 12/31/20 20:06			
Bromochloromethane	377607	11	368179	11	103	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	1273648	12.5	1236730	12.5	103	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	978882	15.9	944742	15.9	104	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64317-CAL9)			Lab File ID: 207LZ013.D			Analyzed: 12/31/20 20:51			
Bromochloromethane	394710	11	368179	11	107	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	1251209	12.5	1236730	12.5	101	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	933690	15.9	944742	15.9	99	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA64317
Instrument: OVGCMS7
Matrix: Air
Calibration: 2101005

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA64317-SCV1)			Lab File ID: 207LZ017.D			Analyzed: 12/31/20 23:23			
Bromochloromethane	376726	10.99	368179	11	102	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1252079	12.5	1236730	12.5	101	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	969254	15.89	944742	15.9	103	50 - 200	-0.0100	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64633
Instrument: OVGCMS7
Matrix: Air
Calibration: 2101005

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA64633-CCV1)			Lab File ID: 217AS004.D			Analyzed: 01/24/21 21:16			
Bromochloromethane	392339	10.99	368179	11	107	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1301381	12.49	1236730	12.5	105	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	987702	15.89	944742	15.9	105	50 - 200	-0.0100	+/-0.50	
Instrument RL Check (AA64633-CRL1)			Lab File ID: 217AS005.D			Analyzed: 01/24/21 21:55			
Bromochloromethane	403704	10.98	368179	11	110	60 - 140	-0.0200	+/-0.50	
1,4-Difluorobenzene	1353586	12.49	1236730	12.5	109	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	996591	15.89	944742	15.9	105	50 - 200	-0.0100	+/-0.50	
LCS (1A25023-BS1)			Lab File ID: 217AS006.D			Analyzed: 01/24/21 22:34			
Bromochloromethane	390017	10.99	368179	11	106	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1295134	12.49	1236730	12.5	105	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	976746	15.89	944742	15.9	103	50 - 200	-0.0100	+/-0.50	
LCS Dup (1A25023-BSD1)			Lab File ID: 217AS007.D			Analyzed: 01/24/21 23:13			
Bromochloromethane	408298	10.99	368179	11	111	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1353473	12.49	1236730	12.5	109	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	1023882	15.89	944742	15.9	108	50 - 200	-0.0100	+/-0.50	
Blank (1A25023-BLK1)			Lab File ID: 217AS009.D			Analyzed: 01/25/21 00:37			
Bromochloromethane	396636	10.99	368179	11	108	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1324496	12.49	1236730	12.5	107	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	957252	15.89	944742	15.9	101	50 - 200	-0.0100	+/-0.50	
CRCA-VMP01-20210120 (AE00066-13RE1)			Lab File ID: 217AS012.D			Analyzed: 01/25/21 10:36			
Bromochloromethane	394787	10.98	368179	11	107	60 - 140	-0.0200	+/-0.50	
1,4-Difluorobenzene	1326946	12.49	1236730	12.5	107	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	966269	15.89	944742	15.9	102	50 - 200	-0.0100	+/-0.50	
CRCA-VMP02-20210120 (AE00066-14)			Lab File ID: 217AS013.D			Analyzed: 01/25/21 11:18			
Bromochloromethane	376564	10.98	368179	11	102	60 - 140	-0.0200	+/-0.50	
1,4-Difluorobenzene	1276814	12.49	1236730	12.5	103	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	910527	15.89	944742	15.9	96	50 - 200	-0.0100	+/-0.50	
CRCA-SYSAIR-20210120 (AE00066-17)			Lab File ID: 217AS016.D			Analyzed: 01/25/21 13:21			
Bromochloromethane	379518	10.99	368179	11	103	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1282254	12.49	1236730	12.5	104	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	929975	15.9	944742	15.9	98	50 - 200	0.0000	+/-0.50	
CRCA-VMP03-20210120 (AE00066-15RE1)			Lab File ID: 217AS017.D			Analyzed: 01/25/21 14:06			
Bromochloromethane	374110	10.99	368179	11	102	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1263633	12.5	1236730	12.5	102	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	911241	15.9	944742	15.9	96	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA64633
Instrument: OVGCMS7
Matrix: Air
Calibration: 2101005

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
CRCA-VMP04-20210120 (AE00066-16RE1)			Lab File ID: 217AS018.D			Analyzed: 01/25/21 14:47			
Bromochloromethane	405636	10.99	368179	11	110	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1356274	12.49	1236730	12.5	110	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	989168	15.9	944742	15.9	105	50 - 200	0.0000	+/-0.50	

ANALYSIS BATCH (SEQUENCE) SUMMARY

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64317		
Calibration:	2101005	Instrument:	OVGCMS7

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA64317-TUN1	207LZ003.D	12/31/20 11:50
Cal Standard	AA64317-CAL1	207LZ005.D	12/31/20 15:30
Cal Standard	AA64317-CAL2	207LZ006.D	12/31/20 16:10
Cal Standard	AA64317-CAL3	207LZ007.D	12/31/20 16:48
Cal Standard	AA64317-CAL4	207LZ008.D	12/31/20 17:27
Cal Standard	AA64317-CAL5	207LZ009.D	12/31/20 18:08
Cal Standard	AA64317-CAL6	207LZ010.D	12/31/20 18:46
Cal Standard	AA64317-CAL7	207LZ011.D	12/31/20 19:25
Cal Standard	AA64317-CAL8	207LZ012.D	12/31/20 20:06
Cal Standard	AA64317-CAL9	207LZ013.D	12/31/20 20:51
Secondary Cal Check	AA64317-SCV1	207LZ017.D	12/31/20 23:23

ANALYSIS BATCH (SEQUENCE) SUMMARY

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64633		
Calibration:	2101005	Instrument:	OVGCMS7

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA64633-TUN1	217AS003.D	01/24/21 20:13
Calibration Check	AA64633-CCV1	217AS004.D	01/24/21 21:16
Instrument RL Check	AA64633-CRL1	217AS005.D	01/24/21 21:55
LCS	1A25023-BS1	217AS006.D	01/24/21 22:34
LCS Dup	1A25023-BSD1	217AS007.D	01/24/21 23:13
Blank	1A25023-BLK1	217AS009.D	01/25/21 00:37
CRCA-VMP01-20210120	AE00066-13RE1	217AS012.D	01/25/21 10:36
CRCA-VMP02-20210120	AE00066-14	217AS013.D	01/25/21 11:18
CRCA-SYSAIR-20210120	AE00066-17	217AS016.D	01/25/21 13:21
CRCA-VMP03-20210120	AE00066-15RE1	217AS017.D	01/25/21 14:06
CRCA-VMP04-20210120	AE00066-16RE1	217AS018.D	01/25/21 14:47

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	207LZ003.D	Injection Date:	12/31/20
Instrument ID:	OVGCMS7	Injection Time:	11:50
Sequence:	AA64317	Lab Sample ID:	AA64317-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8 - 40% of 95	25.8	PASS
75	30 - 66% of 95	47.4	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.65	PASS
173	Less than 2% of 174	0	PASS
174	50 - 120% of 95	72	PASS
175	4 - 9% of 174	5.68	PASS
176	95 - 101% of 174	99.9	PASS
177	5 - 9% of 176	6.72	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	217AS003.D	Injection Date:	01/24/21
Instrument ID:	OVGCMS7	Injection Time:	20:13
Sequence:	AA64633	Lab Sample ID:	AA64633-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8 - 40% of 95	24.3	PASS
75	30 - 66% of 95	44.1	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.79	PASS
173	Less than 2% of 174	0	PASS
174	50 - 120% of 95	70.2	PASS
175	4 - 9% of 174	5.38	PASS
176	95 - 101% of 174	101	PASS
177	5 - 9% of 176	6.55	PASS

CONTINUING CALIBRATION CHECK

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS7	Calibration:	2101005
Lab File ID:	217AS004.D	Calibration Date:	12/31/20 11:50
Sequence:	AA64633	Injection Date:	01/24/21
Lab Sample ID:	AA64633-CCV1	Injection Time:	21:16

		CONC. (ppbv)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Dichlorodifluoromethane	A	10.0	9.4	5.909758	5.571931		-5.7	30
Propene	A	10.0	9.7	3.46891	3.347509		-3.5	30
Chloromethane	A	10.0	11	3.270463	3.477462		6.3	30
Vinyl chloride	A	10.0	11	2.909119	3.098262		6.5	30
Bromomethane	A	10.0	8.7	2.155586	1.86725		-13	30
Chloroethane	A	10.0	9.1	1.196796	1.084687		-9.4	30
Trichlorofluoromethane	A	10.0	8.8	3.437972	3.024969		-12	30
Bromoethene	A	10.0	9.0	1.796391	1.62381		-9.6	30
1,1-Dichloroethane	A	10.0	10	4.245974	4.44449		4.7	30
Acetone	A	10.0	10	5.226221	5.376271		2.9	30
Methylene chloride	A	10.0	11	1.858963	2.116016		14	30
Freon 113	A	10.0	9.8	2.911353	2.848145		-2.2	30
3-Chloropropene	A	10.0	11	4.465711	4.794069		7.4	30
trans-1,2-Dichloroethene	A	10.0	11	3.501546	3.714652		6.1	30
1,1-Dichloroethene	A	10.0	10	4.047849	4.131448		2.1	30
cis-1,2-Dichloroethene	A	10.0	11	2.164079	2.307536		6.6	30
Chloroform	A	10.0	9.8	4.470508	4.388644		-1.8	30
1,2-Dichloroethane	A	10.0	9.1	3.063206	2.785582		-9.1	30
1,1,1-Trichloroethane	A	10.0	9.0	3.961147	3.564211		-10	30
Carbon tetrachloride	A	10.0	8.6	3.970871	3.432433		-14	30
1,2-Dichloropropane	A	10.0	11	0.7791529	0.8254162		5.9	30
Trichloroethene	A	10.0	10	0.7646966	0.7661047		0.20	30
Bromodichloromethane	A	10.0	10	1.331697	1.373903		3.2	30
cis-1,3-Dichloropropene	A	10.0	10	1.13546	1.14883		1.2	30
trans-1,3-Dichloropropene	A	10.0	11	0.7768079	0.702079		6.6	30
1,1,2-Trichloroethane	A	10.0	10	0.6845185	0.700483		2.3	30
1,2-Dibromoethane	A	10.0	10	1.077347	1.086352		0.80	30
Tetrachloroethene	A	10.0	9.4	0.9008099	0.8440822		-6.3	30
Dibromochloromethane	A	10.0	10	0.9321549	0.9778625		4.9	30

CONTINUING CALIBRATION CHECK

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS7	Calibration:	2101005
Lab File ID:	217AS004.D	Calibration Date:	12/31/20 11:50
Sequence:	AA64633	Injection Date:	01/24/21
Lab Sample ID:	AA64633-CCV1	Injection Time:	21:16

		CONC. (ppbv)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Chlorobenzene	A	10.0	9.5	1.827847	1.731006		-5.3	30
Bromoform	A	10.0	11	1.163951	1.236068		6.2	30
1,1,2,2-Tetrachloroethane	A	10.0	10	1.719508	1.543626		-0.2	30
1,3-Dichlorobenzene	A	10.0	8.6	1.111419	0.9707873		-14	30
1,4-Dichlorobenzene	A	10.0	8.1	0.9386015	0.8564639		-19	30
1,2-Dichlorobenzene	A	10.0	9.3	1.129182	0.9221265		-7.5	30
Hexachlorobutadiene	A	10.0	10	1.190627	0.3855925		0.50	30
Freon 114	A	10.0	9.7	3.615481	3.499855		-3.2	30

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64317
Instrument: OVGCMS7

Calibration: 2101005

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A0L0713	Air- VIRTUAL TUN-121120	AA64317-TUN1	207LZ003.D	12/31/20 11:50
A0L1267	Air- Virtual CAL1 123120	AA64317-CAL1	207LZ005.D	12/31/20 15:30
A0L1268	Air- Virtual CAL2 123120	AA64317-CAL2	207LZ006.D	12/31/20 16:10
A0L1269	Air- Virtual CAL3 123120	AA64317-CAL3	207LZ007.D	12/31/20 16:48
A0L1270	Air- Virtual CAL4 123120	AA64317-CAL4	207LZ008.D	12/31/20 17:27
A0L1271	Air- Virtual CAL5 123120	AA64317-CAL5	207LZ009.D	12/31/20 18:08
A0L1272	Air- Virtual CAL6 123120	AA64317-CAL6	207LZ010.D	12/31/20 18:46
A0L1273	Air- Virtual CAL7 123120	AA64317-CAL7	207LZ011.D	12/31/20 19:25
A0L1274	Air- Virtual CAL8 123120	AA64317-CAL8	207LZ012.D	12/31/20 20:06
A0L1275	Air- Virtual CAL9 123120	AA64317-CAL9	207LZ013.D	12/31/20 20:51
A0L1276	Air- Virtual SCV 123120	AA64317-SCV1	207LZ017.D	12/31/20 23:23

INITIAL CALIBRATION DATA

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101005
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 12/31/20 11:50

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF
Dichlorodifluoromethane	0.125	6.880101	0.25	6.46307	0.5	6.55892	1.25	6.475759	2.5	6.347673	5	5.180784
Propene	0.125	5.166722	0.25	3.918085	0.5	3.628708	1.25	3.34844	2.5	3.259381	5	2.6502
Chloromethane	0.125	3.432075	0.25	3.317085	0.5	3.377745	1.25	3.392706	2.5	3.422284	5	2.898886
Vinyl chloride	0.125	2.926303	0.25	2.910351	0.5	3.025108	1.25	2.903209	2.5	3.127041	5	2.606207
Bromomethane	0.125	2.69701	0.25	2.348071	0.5	2.223615	1.25	2.279177	2.5	2.168719	5	1.855863
Chloroethane	0.125	1.403004	0.25	1.301616	0.5	1.248861	1.25	1.252373	2.5	1.208704	5	1.008265
Trichlorofluoromethane	0.125	3.751755	0.25	3.61229	0.5	3.714842	1.25	3.731129	2.5	3.656952	5	3.000595
Bromoethene	0.125	1.847632	0.25	1.915523	0.5	1.893627	1.25	1.921505	2.5	1.90031	5	1.566176
1,1-Dichloroethane	0.125	4.587842	0.25	4.427082	0.5	4.502117	1.25	4.411519	2.5	4.354947	5	3.613587
Acetone	0.125	~~8.840053~~	0.25	~~7.938764~~	0.5	~~6.312917~~	1.25	5.890989	2.5	5.909937	5	4.526588
Methylene chloride	0.125	~~2.279632~~	0.25	~~2.149503~~	0.5	~~2.038782~~	1.25	2.007813	2.5	1.956844	5	1.620185
Freon 113	0.125	3.213417	0.25	3.054313	0.5	3.068258	1.25	3.065888	2.5	3.041704	5	2.441884
3-Chloropropene	0.125	5.221221	0.25	4.37744	0.5	4.685462	1.25	4.571835	2.5	4.473334	5	3.74963
trans-1,2-Dichloroethene	0.125	3.659374	0.25	3.577871	0.5	3.722116	1.25	3.652743	2.5	3.616235	5	3.033875
1,1-Dichloroethene	0.125	4.333294	0.25	4.132208	0.5	4.270663	1.25	4.268089	2.5	4.245297	5	3.504379
cis-1,2-Dichloroethene	0.125	2.361379	0.25	2.314645	0.5	2.269906	1.25	2.200582	2.5	2.184674	5	1.812244
Chloroform	0.125	4.986611	0.25	4.827528	0.5	4.756221	1.25	4.724647	2.5	4.634925	5	3.852189
1,2-Dichloroethane	0.125	3.45866	0.25	3.277702	0.5	3.270615	1.25	3.26241	2.5	3.196526	5	2.67297
1,1,1-Trichloroethane	0.125	4.546636	0.25	4.35659	0.5	4.310341	1.25	4.287824	2.5	4.185724	5	3.398078
Carbon tetrachloride	0.125	4.508753	0.25	4.30066	0.5	4.37085	1.25	4.338066	2.5	4.300139	5	3.453023
1,2-Dichloropropane	0.125	0.9056314	0.25	0.8308186	0.5	0.8147235	1.25	0.7831177	2.5	0.7741099	5	0.641737
Trichloroethene	0.125	0.9135547	0.25	0.7955145	0.5	0.7908482	1.25	0.7879539	2.5	0.7603373	5	0.6314858
Bromodichloromethane	0.125	1.390735	0.25	1.32732	0.5	1.384071	1.25	1.385696	2.5	1.37739	5	1.201869
cis-1,3-Dichloropropene	0.125	1.466798	0.25	1.270073	0.5	1.169293	1.25	1.11879	2.5	1.066899	5	0.919683
trans-1,3-Dichloropropene	0.125	1.149074	0.25	0.9235653	0.5	0.7734485	1.25	0.7374121	2.5	0.6990371	5	0.6082157
1,1,2-Trichloroethane	0.125	0.885229	0.25	0.7505553	0.5	0.6969291	1.25	0.6704728	2.5	0.6593885	5	0.5529321
1,2-Dibromoethane	0.125	1.449169	0.25	1.184933	0.5	1.064449	1.25	1.038214	2.5	1.002301	5	0.8779901
Tetrachloroethene	0.125	1.237815	0.25	1.017385	0.5	0.9396853	1.25	0.911662	2.5	0.8898493	5	0.7195064
Dibromochloromethane	0.125	0.9973435	0.25	0.9393644	0.5	0.9030074	1.25	0.9199645	2.5	0.916509	5	0.8581506
Chlorobenzene	0.125	2.647576	0.25	2.210825	0.5	1.867804	1.25	1.779592	2.5	1.705377	5	1.433636
Bromoform	0.125	1.313904	0.25	1.153171	0.5	1.082994	1.25	1.047519	2.5	1.04506	5	1.073963

INITIAL CALIBRATION DATA

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101005
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 12/31/20 11:50

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF
1,1,2,2-Tetrachloroethane	0.125	3.355793	0.25	2.357707	0.5	1.595921	1.25	1.338458	2.5	1.238526	5	1.221836
1,3-Dichlorobenzene	0.125	2.246947	0.25	1.556876	0.5	0.9183153	1.25	0.7635226	2.5	0.7169343	5	0.7228623
1,4-Dichlorobenzene	0.125	1.798349	0.25	1.290312	0.5	0.7310743	1.25	0.6060504	2.5	0.5870324	5	0.6175462
1,2-Dichlorobenzene	0.125	2.594862	0.25	1.748544	0.5	0.9581666	1.25	0.7459296	2.5	0.6719118	5	0.6888911
Hexachlorobutadiene	0.125	4.434064	0.25	2.65514	0.5	1.091672	1.25	0.6082809	2.5	0.4176	5	0.3728628
4-Bromofluorobenzene	31	0.3913357	31	0.4006491	31	0.3970659	31	0.399884	31	0.4068192	31	0.4208729
Freon 114	0.125	3.779669	0.25	3.607326	0.5	3.76725	1.25	3.744958	2.5	3.889755	5	3.26996

INITIAL CALIBRATION DATA (Continued)

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101005
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 12/31/20 11:50

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF
Dichlorodifluoromethane	10	5.615951	25	5.419369	50	4.246195						
Propene	10	3.008182	25	3.11672	50	3.123749						
Chloromethane	10	3.169506	25	3.251157	50	3.172724						
Vinyl chloride	10	2.853906	25	2.959224	50	2.87072						
Bromomethane	10	1.930807	25	1.977297	50	1.919713						
Chloroethane	10	1.110843	25	1.128034	50	1.109461						
Trichlorofluoromethane	10	3.233858	25	3.218693	50	3.021634						
Bromoethene	10	1.699582	25	1.741409	50	1.681756						
1,1-Dichloroethane	10	3.96112	25	4.132328	50	4.223222						
Acetone	10	4.897522	25	5.085341	50	5.046947						
Methylene chloride	10	1.776514	25	1.866688	50	1.925732						
Freon 113	10	2.707914	25	2.85663	50	2.752168						
3-Chloropropene	10	4.19237	25	4.433256	50	4.486855						
trans-1,2-Dichloroethene	10	3.33264	25	3.467828	50	3.451228						
1,1-Dichloroethene	10	3.862532	25	3.935975	50	3.878202						
cis-1,2-Dichloroethene	10	2.030001	25	2.119635	50	2.183642						
Chloroform	10	4.155904	25	4.228046	50	4.068504						
1,2-Dichloroethane	10	2.910748	25	2.902288	50	2.616938						
1,1,1-Trichloroethane	10	3.669862	25	3.606957	50	3.288307						
Carbon tetrachloride	10	3.694978	25	3.61008	50	3.16129						
1,2-Dichloropropane	10	0.7108671	25	0.7490648	50	0.8023065						
Trichloroethene	10	0.7060494	25	0.7406131	50	0.7559124						
Bromodichloromethane	10	1.303312	25	1.315934	50	1.298943						
cis-1,3-Dichloropropene	10	1.008858	25	1.070744	50	1.128002						
trans-1,3-Dichloropropene	10	0.6649786	25	0.658732	50	~~0.6284878~~						
1,1,2-Trichloroethane	10	0.6177992	25	0.6484286	50	0.6789318						
1,2-Dibromoethane	10	0.9720885	25	1.032365	50	1.074613						
Tetrachloroethene	10	0.8026817	25	0.8236732	50	0.7650315						
Dibromochloromethane	10	0.9408311	25	0.9708301	50	0.9433932						
Chlorobenzene	10	1.587282	25	1.631059	50	1.587469						
Bromoform	10	1.206311	25	1.275365	50	1.277273						

INITIAL CALIBRATION DATA (Continued)

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101005
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 12/31/20 11:50

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF
1,1,2,2-Tetrachloroethane	10	1.334683	25	1.448604	50	1.584043						
1,3-Dichlorobenzene	10	0.8604144	25	1.050722	50	1.166179						
1,4-Dichlorobenzene	10	0.7563342	25	0.9658522	50	1.094863						
1,2-Dichlorobenzene	10	0.7972424	25	0.9320236	50	1.025071						
Hexachlorobutadiene	10	0.3747693	25	0.3752485	50	0.3860044						
4-Bromofluorobenzene	31	0.4342106	31	0.4570122	31	0.5070762						
Freon 114	10	3.553778	25	3.567669	50	3.358967						

INITIAL CALIBRATION DATA (Continued)

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101005
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 12/31/20 11:50

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	5.909758	14.41643	4.554445	0.3657128			30	
Propene	3.46891	21.11997	4.434444	0.4079925			30	
Chloromethane	3.270463	5.251503	5.056667	0.3954954			30	
Vinyl chloride	2.909119	4.862303	5.304445	0.3416295			30	
Bromomethane	2.155586	12.47015	6.132222	0.2415321			30	
Chloroethane	1.196796	10.00664	6.456667	0.1737744			30	
Trichlorofluoromethane	3.437972	9.162249	6.782222	0.1918591			30	
Bromoethene	1.796391	7.130515	6.71	0.2358246			30	
1,1-Dichloroethane	4.245974	7.206655	10.02	6.831281E-02			30	
Acetone	5.226221	10.68406	8.961667	4.651208E-02			30	
Methylene chloride	1.858963	7.610124	8.843334	9.214839E-02			30	
Freon 113	2.911353	8.301482	7.925556	0.1285941			30	
3-Chloropropene	4.465711	8.770412	8.683333	0.1404623			30	
trans-1,2-Dichloroethene	3.501546	6.111153	9.106667	0.1230645			30	
1,1-Dichloroethene	4.047849	6.747121	7.827778	0.1533387			30	
cis-1,2-Dichloroethene	2.164079	7.639813	10.73333	4.565553E-02			30	
Chloroform	4.470508	8.908179	11.06333	4.393534E-02			30	
1,2-Dichloroethane	3.063206	9.680406	12.04222	3.036601E-02			30	
1,1,1-Trichloroethane	3.961147	11.8354	11.35778	5.881745E-02			30	
Carbon tetrachloride	3.970871	12.37318	11.27333	4.399863E-02			30	
1,2-Dichloropropane	0.7791529	9.621557	13.10111	3.082214E-02			30	
Trichloroethene	0.7646966	9.937085	12.48222	2.837714E-02			30	
Bromodichloromethane	1.331697	4.616314	13.14222	3.087056E-02			30	
cis-1,3-Dichloropropene	1.13546	13.95501	13.86556	3.722169E-02			30	
trans-1,3-Dichloropropene	0.7768079	22.95632	14.59	8.747303E-03	0.9995491		0.99	
1,1,2-Trichloroethane	0.6845185	13.54061	14.78889	1.842179E-02			30	
1,2-Dibromoethane	1.077347	15.03899	15.33111	1.893985E-02			30	
Tetrachloroethene	0.9008099	17.36702	14.60556	3.242749E-02			30	
Dibromochloromethane	0.9321549	4.277446	15.01222	3.204912E-02			30	
Chlorobenzene	1.827847	20.71857	15.92111	0.0130558			30	

INITIAL CALIBRATION DATA (Continued)

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101005
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 12/31/20 11:50

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Bromoform	1.163951	9.213024	16.72222	2.792253E-02			30	
1,1,2,2-Tetrachloroethane	1.719508	40.93741	17.51778	1.861973E-02	0.9968896		0.99	
1,3-Dichlorobenzene	1.111419	45.2394	18.63222	2.725701E-02	0.9934773		0.99	
1,4-Dichlorobenzene	0.9386015	42.97438	18.74	2.050293E-03	0.9909597		0.99	
1,2-Dichlorobenzene	1.129182	56.6263	19.29	1.680822E-02	0.9949822		0.99	
Hexachlorobutadiene	1.190627	119.732	21.13	8.897437E-03	0.9973281		0.99	
4-Bromofluorobenzene	0.4238806	8.874238	17.33	1.878086E-02			30	
Freon 114	3.615481	5.645776	4.94	0.3921453			30	

SECOND-SOURCE CALIBRATION VERIFICATION

TO-15

Laboratory: ENCO Orlando **SDG:** AE00066-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2101005 **Laboratory ID:** AA64317-SCV1

Sequence: AA64317 **Standard ID:** A0L1276

ANALYTE	EXPECTED (ppbv)	FOUND (ppbv)	% DRIFT	QC LIMIT
Dibromochloromethane	10.0	11	11.4	30.00
Chloroform	10.0	11	6.9	30.00
Acetone	10.0	10	0.4	30.00
Bromoethene	10.0	10	2.6	30.00
Carbon tetrachloride	10.0	11	5.1	30.00
1,3-Dichlorobenzene	10.0	8.9	-11.5	30.00
trans-1,2-Dichloroethene	10.0	10	4.1	30.00
cis-1,3-Dichloropropene	10.0	11	11.9	30.00
Tetrachloroethene	10.0	10	3.3	30.00
Chloromethane	10.0	9.8	-1.6	30.00
Propene	10.0	8.7	-12.7	30.00
Chlorobenzene	10.0	10	-0.08	30.00
1,2-Dichloroethane	10.0	11	9.4	30.00
3-Chloropropene	10.0	10	0.4	30.00
1,2-Dibromoethane	10.0	11	8.8	30.00
1,4-Dichlorobenzene	10.0	8.4	-16.4	30.00
trans-1,3-Dichloropropene	10.0	15	54.4 *	30.00
cis-1,2-Dichloroethene	10.0	11	6.7	30.00
1,1-Dichloroethene	10.0	11	8.3	30.00
Hexachlorobutadiene	10.0	11	6.7	30.00
1,1,2,2-Tetrachloroethane	10.0	10	3.9	30.00
Trichloroethene	10.0	11	6.9	30.00
1,1,2-Trichloroethane	10.0	11	5.9	30.00
1,2-Dichloropropane	10.0	11	5.9	30.00
Freon 114	10.0	10	4.0	30.00
Freon 113	10.0	11	6.3	30.00
1,1,1-Trichloroethane	10.0	11	7.1	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

TO-15

Laboratory: ENCO Orlando **SDG:** AE00066-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2101005 **Laboratory ID:** AA64317-SCV1

Sequence: AA64317 **Standard ID:** A0L1276

ANALYTE	EXPECTED (ppbv)	FOUND (ppbv)	% DRIFT	QC LIMIT
Trichlorofluoromethane	10.0	11	8.5	30.00
Bromomethane	10.0	11	6.2	30.00
1,1-Dichloroethane	10.0	11	6.8	30.00
Bromodichloromethane	10.0	11	8.4	30.00
Bromoform	10.0	11	13.1	30.00
Methylene chloride	10.0	11	9.5	30.00
Vinyl chloride	10.0	10	2.5	30.00
Chloroethane	10.0	10	2.4	30.00
1,2-Dichlorobenzene	10.0	9.5	-4.8	30.00
Dichlorodifluoromethane	10.0	11	10.2	30.00

* Values outside of QC limits

ENCO Orlando

SDG: AE00066-TE016

CLASS: 06_VOA_AIR_RSK

METHOD: RSK 175

ANALYSES DATA PACKAGE COVER PAGE

RSK 175

Laboratory: ENCO Orlando

SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-MW0031-058.0-20210120	AE00066-09
CRCA-MW0018-058.0-20210120	AE00066-11
CRCA-MW0018-058.0-20210120	AE00066-11RE1
CRCA-MW0019-058.0-20210120	AE00066-12

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0031-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE00066-09
File ID: 21AU009.D
Sampled: 01/20/21 12:15
Prepared: 01/26/21 00:00
Analyzed: 01/26/21 11:20
Solids:
Preparation: Same
Initial/Final: 1 mL / 1 mL
Batch: 1A26006
Sequence: AA64653
Calibration: 2006012
Instrument: OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-82-8	Methane	1	0.152		0.00400	0.00500
74-85-1	Ethene	1	0.00510	U	0.00510	0.00600
74-84-0	Ethane	1	0.00510	U	0.00510	0.00600

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0018-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE00066-11
File ID: 21AU010.D
Sampled: 01/20/21 14:00
Prepared: 01/26/21 00:00
Analyzed: 01/26/21 11:36
Solids:
Preparation: Same
Initial/Final: 1 mL / 1 mL
Batch: 1A26006
Sequence: AA64653
Calibration: 2006012
Instrument: OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-85-1	Ethene	1	0.0216		0.00510	0.00600
74-84-0	Ethane	1	0.00510	U	0.00510	0.00600

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0018-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE00066-11RE1
File ID: 21AU012.D
Sampled: 01/20/21 14:00
Prepared: 01/26/21 00:00
Analyzed: 01/26/21 12:16
Solids:
Preparation: Same
Initial/Final: 1 mL / 1 mL
Batch: 1A26006
Sequence: AA64653
Calibration: 2006012
Instrument: OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-82-8	Methane	10	2.09	D	0.0400	0.0500

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0019-058.0-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-12 File ID: 21AU011.D

Sampled: 01/20/21 16:00 Prepared: 01/26/21 00:00 Analyzed: 01/26/21 11:52

Solids: Preparation: Same Initial/Final: 1 mL / 1 mL

Batch: 1A26006 Sequence: AA64653 Calibration: 2006012 Instrument: OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-82-8	Methane	1	0.510		0.00400	0.00500
74-85-1	Ethene	1	0.00510	U	0.00510	0.00600
74-84-0	Ethane	1	0.00510	U	0.00510	0.00600

* Values outside of QC limits

HOLDING TIME SUMMARY

RSK 175

Laboratory: ENCO Orlando

SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-MW0031-058.0-20210120	01/20/21 12:15	01/21/21 15:10	01/26/21 00:00	5.49	NA	01/26/21 11:20	6.00	14.00	
CRCA-MW0018-058.0-20210120	01/20/21 14:00	01/21/21 15:10	01/26/21 00:00	5.42	NA	01/26/21 11:36	6.00	14.00	
CRCA-MW0018-058.0-20210120	01/20/21 14:00	01/21/21 15:10	01/26/21 00:00	5.42	NA	01/26/21 12:16	6.00	14.00	
CRCA-MW0019-058.0-20210120	01/20/21 16:00	01/21/21 15:10	01/26/21 00:00	5.33	NA	01/26/21 11:52	6.00	14.00	

PREPARATION BATCH SUMMARY

RSK 175

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1A26006 Batch Matrix: Water Preparation: Same

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1A26006-BLK1	21AU005.D	01/26/21 00:00	
LCS	1A26006-BS1	21AU003.D	01/26/21 00:00	
LCS Dup	1A26006-BSD1	21AU004.D	01/26/21 00:00	
CRCA-MW0031-058.0-20210120	1A26006-DUP1	21AU013.D	01/26/21 00:00	
CRCA-MW0031-058.0-20210120	AE00066-09	21AU009.D	01/26/21 00:00	
CRCA-MW0018-058.0-20210120	AE00066-11	21AU010.D	01/26/21 00:00	
CRCA-MW0018-058.0-20210120	AE00066-11RE1	21AU012.D	01/26/21 00:00	
CRCA-MW0019-058.0-20210120	AE00066-12	21AU011.D	01/26/21 00:00	

METHOD BLANK DATA SHEET
RSK 175

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1A26006-BLK1	File ID:	21AU005.D
Prepared:	01/26/21 00:00	Preparation:	Same	Initial/Final:	1 mL / 1 mL
Analyzed:	01/26/21 10:17	Instrument:	OVGCFID2		
Batch:	1A26006	Sequence:	AA64653	Calibration:	2006012

CAS NO.	COMPOUND	CONC. (mg/L)	Q
74-82-8	Methane	0.00400	U
74-85-1	Ethene	0.00510	U
74-84-0	Ethane	0.00510	U

LCS / LCS DUPLICATE RECOVERY

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1A26006	Laboratory ID:	1A26006-BS1
Preparation:	Same	Initial/Final:	1 mL / 1 mL

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC. #	QC LIMITS REC.
Methane	0.172	0.187	109	70 - 130
Ethene	0.302	0.348	115	70 - 130
Ethane	0.323	0.395	122	70 - 130

COMPOUND	SPIKE ADDED (mg/L)	LCSD CONCENTRATION (mg/L)	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Methane	0.172	0.192	112	3	30	70 - 130
Ethene	0.302	0.354	117	2	30	70 - 130
Ethane	0.323	0.401	124	1	30	70 - 130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

DUPLICATES

RSK 175

CRCA-MW0031-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Water
Laboratory ID: 1A26006-DUP1
Batch: 1A26006
Lab Source ID: AE00066-09
Preparation: Same
Initial/Final: 1 mL / 1 mL
Source Sample Name: CRCA-MW0031-058.0-20210120
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/L)	C	DUPLICATE CONCENTRATION (mg/L)	C	RPD %	Q	METHOD
Methane	30	0.152		0.442		98	*	RSK 175
Ethene	30	0.000196		ND				RSK 175
Ethane	30	0.000295		ND				RSK 175

* Values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA60736		
Calibration:	2006012	Instrument:	OVGCFID2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	AA60736-CAL8	20F1009.D	06/01/20 12:05
Cal Standard	AA60736-CAL9	20F1010.D	06/01/20 12:21
Cal Standard	AA60736-CALA	20F1011.D	06/01/20 12:37
Cal Standard	AA60736-CALB	20F1012.D	06/01/20 12:53
Cal Standard	AA60736-CALC	20F1013.D	06/01/20 13:09
Cal Standard	AA60736-CALD	20F1014.D	06/01/20 13:25
Cal Standard	AA60736-CALE	20F1015.D	06/01/20 13:40
Secondary Cal Check	AA60736-SCV1	20F1019.D	06/01/20 15:20

ANALYSIS BATCH (SEQUENCE) SUMMARY

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64653		
Calibration:	2006012	Instrument:	OVGCFID2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA64653-CCV2	21AU002.D	01/26/21 08:53
LCS	1A26006-BS1	21AU003.D	01/26/21 09:33
LCS Dup	1A26006-BSD1	21AU004.D	01/26/21 09:54
Blank	1A26006-BLK1	21AU005.D	01/26/21 10:17
CRCA-MW0031-058.0-20210120	AE00066-09	21AU009.D	01/26/21 11:20
CRCA-MW0018-058.0-20210120	AE00066-11	21AU010.D	01/26/21 11:36
CRCA-MW0019-058.0-20210120	AE00066-12	21AU011.D	01/26/21 11:52
CRCA-MW0018-058.0-20210120	AE00066-11RE1	21AU012.D	01/26/21 12:16
CRCA-MW0031-058.0-20210120	1A26006-DUP1	21AU013.D	01/26/21 12:39
Calibration Check	AA64653-CCV3	21AU014.D	01/26/21 12:54

CONTINUING CALIBRATION CHECK

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCFID2	Calibration:	2006012
Lab File ID:	21AU002.D	Calibration Date:	06/01/20 15:24
Sequence:	AA64653	Injection Date:	01/26/21
Lab Sample ID:	AA64653-CCV2	Injection Time:	08:53

		CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Methane	A	0.174	0.194	1.126908E+08	1.255182E+08		11	20	
Ethene	A	0.302	0.354	7.423174E+07	8.694755E+07		17	20	
Ethane	A	0.323	0.402	9.625369E+07	1.197335E+08		24	20	*

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

CONTINUING CALIBRATION CHECK

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCFID2	Calibration:	2006012
Lab File ID:	21AU014.D	Calibration Date:	06/01/20 15:24
Sequence:	AA64653	Injection Date:	01/26/21
Lab Sample ID:	AA64653-CCV3	Injection Time:	12:54

		CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Methane	A	0.174	0.186	1.126908E+08	1.203125E+08		6.8	20
Ethene	A	0.302	0.338	7.423174E+07	8.309354E+07		12	20
Ethane	A	0.323	0.383	9.625369E+07	1.141398E+08		19	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA60736	Instrument:	OVGCFID2
Calibration:	2006012		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A0F0616	RSK175-Cal 1 06/01/2020	AA60736-CAL8	20F1009.D	06/01/20 12:05
A0F0617	RSK175-Cal 2 06/01/2020	AA60736-CAL9	20F1010.D	06/01/20 12:21
A0F0618	RSK175-Cal 3 06/01/2020	AA60736-CALA	20F1011.D	06/01/20 12:37
A0F0619	RSK175-Cal 4 06/01/2020	AA60736-CALB	20F1012.D	06/01/20 12:53
A0F0620	RSK175-Cal 5 06/01/2020	AA60736-CALC	20F1013.D	06/01/20 13:09
A0F0621	RSK175-Cal 6 06/01/2020	AA60736-CALD	20F1014.D	06/01/20 13:25
A0F0622	RSK175-Cal 7 06/01/2020	AA60736-CALE	20F1015.D	06/01/20 13:40
A0E1329	RSK175- SCV/BS water CO2 and MEE	AA60736-SCV1	20F1019.D	06/01/20 15:20

INITIAL CALIBRATION DATA

RSK 175

Laboratory: ENCO Orlando

SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Calibration: 2006012

Instrument: OVGCFID2

Matrix: Water

Calibration Date: 06/01/20 15:24

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Methane												
Ethene												
Ethane												

INITIAL CALIBRATION DATA (Continued)

RSK 175

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2006012
Instrument: OVGCFID2
Matrix: Water
Calibration Date: 06/01/20 15:24

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Methane			0.000869	1.542071E+08	0.00869	1.148276E+08	0.0348	1.096007E+08	0.0869	1.14924E+08	0.174	1.027563E+08
Ethene			0.00151	8.601126E+07	0.0151	7.321662E+07	0.0603	7.770179E+07	0.151	7.66896E+07	0.302	7.178556E+07
Ethane			0.00161	8.453354E+07	0.0161	1.035332E+08	0.0646	1.030982E+08	0.161	1.064607E+08	0.323	9.54717E+07

INITIAL CALIBRATION DATA

RSK 175

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2006012
Instrument: OVGCFID2
Matrix: Water
Calibration Date: 06/01/20 15:24

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Methane	0.348	1.073666E+08	0.695	8.515321E+07								
Ethene	0.603	7.388967E+07	1.21	6.03277E+07								
Ethane	0.646	1.002134E+08	1.29	8.046512E+07								

INITIAL CALIBRATION DATA (Continued)

RSK 175

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2006012
Instrument: OVGCFID2
Matrix: Water
Calibration Date: 06/01/20 15:24

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Methane	1.126908E+08	18.57182	1.965857	4.844227E-02			20	
Ethene	7.423174E+07	10.39554	3.747571	9.783909E-02			20	
Ethane	9.625369E+07	10.44924	4.679286	0.1221713			20	

SECOND-SOURCE CALIBRATION VERIFICATION

RSK 175

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2006012
Laboratory ID: AA60736-SCV1
Sequence: AA60736
Standard ID: A0E1329

ANALYTE	EXPECTED (mg/L)	FOUND (mg/L)	% DRIFT	QC LIMIT
Ethene	0.302	0.300	-0.6	25.00
Ethane	0.323	0.333	3.0	25.00
Methane	0.172	0.167	-2.7	25.00

* Values outside of QC limits

TETRA TECH ISG
TtNUS, Information Systems Group

Completion Ticket

On 2/4/2021 at 1:15 PM the following files were submitted to Tetra Tech by kdylnicki@encolabs.com with ENCO:

TE016AE00066A1.txt, TE016AE00066A3.txt

If you need to identify this session at a later date refer to Ticket Key:

202124_3028038536_ledd_ENCO

You may print this page by clicking on the "Print This Page" button

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I Lori S. mangrum, as the designated Quality Assurance Officer, hereby attest that all electronic deliverables have been thoroughly reviewed and are in agreement with the associated hardcopy data. The enclosed electronic files have been reviewed for accuracy (including significant figures), completeness and format. The laboratory will be responsible for any labor time necessary to correct enclosed electronic deliverables that have been found to be in error. I can be reached at (407) 826-5314 if there are any questions or problems with the enclosed electronic deliverables.

Signature:_____ Title: Quality Assurance Manager Date: February 10, 2021

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ENCO Laboratories
Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Monday, April 26, 2021
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA Airs
ENCO Workorder(s): AE02772

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Friday, April 16, 2021.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

www.encolabs.com

Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA Airs
Client PM: Alex Murphy
Project Number: 112G08970
ENCO Project ID: AE02772
SDG: AE02772-TE016

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling and processing will be discussed in the Remarks section below.

Remarks

List of instruments used:

Analytical and Preparation Method	SOP Reference Instrument
TO-15	OVGCMS7

Analysis: TO-15

The calibration curve and the continuing calibration standards are in ppbv. Raw data is reported in pptv. Per request, results may be reported in a unit other than ppbv which is obtained through a conversion factor set up in the laboratories' database.

Manual integrations were performed on samples associated with TO-15. All data & explanations are included in the raw data section of the report.

Acetone is a common laboratory contaminant.

Affected Samples: 1D20052-BLK1, CRCA-AMB-20210414[AE02772-01], CRCA-VMP01-20210414[AE02772-02], CRCA-VMP03-20210414[AE02772-04], CRCA-VMP04-20210414[AE02772-05]
The method blank had a positive result for the acetone; however, the concentration in the method blank is less than 10% of the sample result.

Affected Samples: 1D20052-BLK1, CRCA-VMP02-20210414[AE02772-03]
Result for acetone may be biased high due to positive results in the associated method blank.

Affected Samples: AA65685-SCV1
Recovery for trans-1,3-dichloropropane was outside acceptance limits. Analyte was not detected in the samples.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Kaitlin Dylnicki
Project Manager

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-AMB-20210414 | **Lab ID: AE02772-01** | **Sampled: 04/14/21 08:17** | **Received: 04/16/21 14:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	05/14/21	04/21/21 08:00	04/21/21 10:25

Client ID: CRCA-VMP01-20210414 | **Lab ID: AE02772-02** | **Sampled: 04/14/21 14:15** | **Received: 04/16/21 14:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	05/14/21	04/21/21 08:00	04/21/21 11:10

Client ID: CRCA-VMP02-20210414 | **Lab ID: AE02772-03** | **Sampled: 04/14/21 14:16** | **Received: 04/16/21 14:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	05/14/21	04/21/21 08:00	04/21/21 11:55

Client ID: CRCA-VMP02-20210414 | **Lab ID: AE02772-03RE1** | **Sampled: 04/14/21 14:16** | **Received: 04/16/21 14:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	05/14/21	04/21/21 08:00	04/21/21 15:31

Client ID: CRCA-VMP03-20210414 | **Lab ID: AE02772-04** | **Sampled: 04/14/21 14:19** | **Received: 04/16/21 14:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	05/14/21	04/21/21 08:00	04/21/21 12:41

Client ID: CRCA-VMP04-20210414 | **Lab ID: AE02772-05** | **Sampled: 04/14/21 14:22** | **Received: 04/16/21 14:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	05/14/21	04/21/21 08:00	04/21/21 13:26

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-AMB-20210414 **Lab ID: AE02772-01**

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	5.3	V	0.47	3.4	ppbv	TO-15	QB-01
Chloromethane	0.66	I	0.65	3.4	ppbv	TO-15	
trans-1,2-Dichloroethene	7.2		0.43	3.4	ppbv	TO-15	

Client ID: CRCA-VMP01-20210414 **Lab ID: AE02772-02**

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	11	V	0.46	3.2	ppbv	TO-15	QB-01
Freon 113	3.6		0.42	3.2	ppbv	TO-15	
trans-1,2-Dichloroethene	0.69	I	0.42	3.2	ppbv	TO-15	

Client ID: CRCA-VMP02-20210414 **Lab ID: AE02772-03**

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	4.0	V	0.47	3.4	ppbv	TO-15	J-01, O-01
Methylene chloride	0.76	I	0.27	3.4	ppbv	TO-15	
trans-1,2-Dichloroethene	1.8	I	0.43	3.4	ppbv	TO-15	

Client ID: CRCA-VMP02-20210414 **Lab ID: AE02772-03RE1**

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Freon 113	72		0.86	6.8	ppbv	TO-15	

Client ID: CRCA-VMP03-20210414 **Lab ID: AE02772-04**

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	8.3	V	0.46	3.2	ppbv	TO-15	QB-01
Chloroform	2.4	I	0.49	3.2	ppbv	TO-15	
Freon 113	2.7	I	0.42	3.2	ppbv	TO-15	
trans-1,2-Dichloroethene	0.52	I	0.42	3.2	ppbv	TO-15	

Client ID: CRCA-VMP04-20210414 **Lab ID: AE02772-05**

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	18	V	0.45	3.2	ppbv	TO-15	QB-01
Chloroform	1.4	I	0.49	3.2	ppbv	TO-15	
Freon 113	21		0.41	3.2	ppbv	TO-15	
trans-1,2-Dichloroethene	1.0	I	0.41	3.2	ppbv	TO-15	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-AMB-20210414 | **Lab Sample ID:** AE02772-01 | **Received:** 04/16/21 14:16
Matrix: Air | **Sampled:** 04/14/21 08:17 | **Work Order:** AE02772
Project: NASA KSC CRCA Airs | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.46	U	ppbv	1.35	0.46	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.49	U	ppbv	1.35	0.49	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.47	U	ppbv	1.35	0.47	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
1,1-Dichloroethane [75-34-3]^	0.49	U	ppbv	1.35	0.49	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
1,1-Dichloroethene [75-35-4]^	0.51	U	ppbv	1.35	0.51	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
1,2-Dibromoethane [106-93-4]^	0.49	U	ppbv	1.35	0.49	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.36	U	ppbv	1.35	0.36	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
1,2-Dichloroethane [107-06-2]^	0.50	U	ppbv	1.35	0.50	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
1,2-Dichloropropane [78-87-5]^	0.54	U	ppbv	1.35	0.54	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.38	U	ppbv	1.35	0.38	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.42	U	ppbv	1.35	0.42	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
3-Chloropropene [107-05-1]^	0.53	U	ppbv	1.35	0.53	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Acetone [67-64-1]^	**5.3**	V	ppbv	1.35	0.47	3.4	1D20052	TO-15	04/21/21 10:25	rgg	QB-01
Bromodichloromethane [75-27-4]^	0.46	U	ppbv	1.35	0.46	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Bromoethene [593-60-2]^	0.45	U	ppbv	1.35	0.45	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Bromoform [75-25-2]^	0.51	U	ppbv	1.35	0.51	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Bromomethane [74-83-9]^	0.45	U	ppbv	1.35	0.45	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Carbon tetrachloride [56-23-5]^	0.36	U	ppbv	1.35	0.36	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Chlorobenzene [108-90-7]^	0.45	U	ppbv	1.35	0.45	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Chloroethane [75-00-3]^	0.43	U	ppbv	1.35	0.43	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Chloroform [67-66-3]^	0.51	U	ppbv	1.35	0.51	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Chloromethane [74-87-3]^	**0.66**	I	ppbv	1.35	0.65	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
cis-1,2-Dichloroethene [156-59-2]^	0.51	U	ppbv	1.35	0.51	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	0.51	U	ppbv	1.35	0.51	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Dibromochloromethane [124-48-1]^	0.45	U	ppbv	1.35	0.45	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ppbv	1.35	0.74	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Freon 113 [76-13-1]^	0.43	U	ppbv	1.35	0.43	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Freon 114 [76-14-2]^	0.70	U	ppbv	1.35	0.70	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Hexachlorobutadiene [87-68-3]^	0.50	U	ppbv	1.35	0.50	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Methylene chloride [75-09-2]^	0.27	U	ppbv	1.35	0.27	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Propene [115-07-1]^	0.74	U	ppbv	1.35	0.74	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Tetrachloroethene [127-18-4]^	0.42	U	ppbv	1.35	0.42	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
trans-1,2-Dichloroethene [156-60-5]^	**7.2**		ppbv	1.35	0.43	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.46	U	ppbv	1.35	0.46	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Trichloroethene [79-01-6]^	0.47	U	ppbv	1.35	0.47	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Trichlorofluoromethane [75-69-4]^	0.46	U	ppbv	1.35	0.46	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Vinyl chloride [75-01-4]^	0.76	U	ppbv	1.35	0.76	3.4	1D20052	TO-15	04/21/21 10:25	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*29*	*1*	*31.0*	*93 %*	*70-130*	*1D20052*	*TO-15*	*04/21/21 10:25*	*rgg*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-VMP01-20210414 | **Lab Sample ID:** AE02772-02 | **Received:** 04/16/21 14:16

Matrix: Air | **Sampled:** 04/14/21 14:15 | **Work Order:** AE02772

Project: NASA KSC CRCA Airs | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.44	U	ppbv	1.3	0.44	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.47	U	ppbv	1.3	0.47	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.46	U	ppbv	1.3	0.46	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
1,1-Dichloroethane [75-34-3]^	0.47	U	ppbv	1.3	0.47	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
1,1-Dichloroethene [75-35-4]^	0.49	U	ppbv	1.3	0.49	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
1,2-Dibromoethane [106-93-4]^	0.47	U	ppbv	1.3	0.47	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.35	U	ppbv	1.3	0.35	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
1,2-Dichloroethane [107-06-2]^	0.48	U	ppbv	1.3	0.48	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
1,2-Dichloropropane [78-87-5]^	0.52	U	ppbv	1.3	0.52	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.36	U	ppbv	1.3	0.36	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.40	U	ppbv	1.3	0.40	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
3-Chloropropene [107-05-1]^	0.51	U	ppbv	1.3	0.51	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Acetone [67-64-1]^	**11**	V	ppbv	1.3	0.46	3.2	1D20052	TO-15	04/21/21 11:10	rgg	QB-01
Bromodichloromethane [75-27-4]^	0.44	U	ppbv	1.3	0.44	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Bromoethene [593-60-2]^	0.43	U	ppbv	1.3	0.43	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Bromoform [75-25-2]^	0.49	U	ppbv	1.3	0.49	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Bromomethane [74-83-9]^	0.43	U	ppbv	1.3	0.43	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Carbon tetrachloride [56-23-5]^	0.35	U	ppbv	1.3	0.35	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Chlorobenzene [108-90-7]^	0.43	U	ppbv	1.3	0.43	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Chloroethane [75-00-3]^	0.42	U	ppbv	1.3	0.42	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Chloroform [67-66-3]^	0.49	U	ppbv	1.3	0.49	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Chloromethane [74-87-3]^	0.62	U	ppbv	1.3	0.62	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
cis-1,2-Dichloroethene [156-59-2]^	0.49	U	ppbv	1.3	0.49	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	0.49	U	ppbv	1.3	0.49	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Dibromochloromethane [124-48-1]^	0.43	U	ppbv	1.3	0.43	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Dichlorodifluoromethane [75-71-8]^	0.72	U	ppbv	1.3	0.72	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Freon 113 [76-13-1]^	**3.6**		ppbv	1.3	0.42	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Freon 114 [76-14-2]^	0.68	U	ppbv	1.3	0.68	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Hexachlorobutadiene [87-68-3]^	0.48	U	ppbv	1.3	0.48	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Methylene chloride [75-09-2]^	0.26	U	ppbv	1.3	0.26	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Propene [115-07-1]^	0.72	U	ppbv	1.3	0.72	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Tetrachloroethene [127-18-4]^	0.40	U	ppbv	1.3	0.40	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
trans-1,2-Dichloroethene [156-60-5]^	**0.69**	I	ppbv	1.3	0.42	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.44	U	ppbv	1.3	0.44	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Trichloroethene [79-01-6]^	0.46	U	ppbv	1.3	0.46	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Trichlorofluoromethane [75-69-4]^	0.44	U	ppbv	1.3	0.44	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Vinyl chloride [75-01-4]^	0.73	U	ppbv	1.3	0.73	3.2	1D20052	TO-15	04/21/21 11:10	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*29*	*1*	*31.0*	*94 %*	*70-130*	*1D20052*	*TO-15*	*04/21/21 11:10*	*rgg*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-VMP02-20210414 | **Lab Sample ID:** AE02772-03 | **Received:** 04/16/21 14:16

Matrix: Air | **Sampled:** 04/14/21 14:16 | **Work Order:** AE02772

Project: NASA KSC CRCA Airs | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.46	U	ppbv	1.35	0.46	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.49	U	ppbv	1.35	0.49	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.47	U	ppbv	1.35	0.47	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
1,1-Dichloroethane [75-34-3]^	0.49	U	ppbv	1.35	0.49	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
1,1-Dichloroethene [75-35-4]^	0.51	U	ppbv	1.35	0.51	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
1,2-Dibromoethane [106-93-4]^	0.49	U	ppbv	1.35	0.49	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.36	U	ppbv	1.35	0.36	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
1,2-Dichloroethane [107-06-2]^	0.50	U	ppbv	1.35	0.50	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
1,2-Dichloropropane [78-87-5]^	0.54	U	ppbv	1.35	0.54	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.38	U	ppbv	1.35	0.38	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.42	U	ppbv	1.35	0.42	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
3-Chloropropene [107-05-1]^	0.53	U	ppbv	1.35	0.53	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Acetone [67-64-1]^	**4.0**	V	ppbv	1.35	0.47	3.4	1D20052	TO-15	04/21/21 11:55	rgg	J-01, O-01
Bromodichloromethane [75-27-4]^	0.46	U	ppbv	1.35	0.46	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Bromoethene [593-60-2]^	0.45	U	ppbv	1.35	0.45	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Bromoform [75-25-2]^	0.51	U	ppbv	1.35	0.51	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Bromomethane [74-83-9]^	0.45	U	ppbv	1.35	0.45	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Carbon tetrachloride [56-23-5]^	0.36	U	ppbv	1.35	0.36	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Chlorobenzene [108-90-7]^	0.45	U	ppbv	1.35	0.45	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Chloroethane [75-00-3]^	0.43	U	ppbv	1.35	0.43	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Chloroform [67-66-3]^	0.51	U	ppbv	1.35	0.51	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Chloromethane [74-87-3]^	0.65	U	ppbv	1.35	0.65	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
cis-1,2-Dichloroethene [156-59-2]^	0.51	U	ppbv	1.35	0.51	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	0.51	U	ppbv	1.35	0.51	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Dibromochloromethane [124-48-1]^	0.45	U	ppbv	1.35	0.45	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ppbv	1.35	0.74	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Freon 113 [76-13-1]^	**72**		ppbv	1.35	0.86	6.8	1D20052	TO-15	04/21/21 15:31	rgg	
Freon 114 [76-14-2]^	0.70	U	ppbv	1.35	0.70	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Hexachlorobutadiene [87-68-3]^	0.50	U	ppbv	1.35	0.50	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Methylene chloride [75-09-2]^	**0.76**	I	ppbv	1.35	0.27	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Propene [115-07-1]^	0.74	U	ppbv	1.35	0.74	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Tetrachloroethene [127-18-4]^	0.42	U	ppbv	1.35	0.42	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
trans-1,2-Dichloroethene [156-60-5]^	**1.8**	I	ppbv	1.35	0.43	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.46	U	ppbv	1.35	0.46	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Trichloroethene [79-01-6]^	0.47	U	ppbv	1.35	0.47	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Trichlorofluoromethane [75-69-4]^	0.46	U	ppbv	1.35	0.46	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Vinyl chloride [75-01-4]^	0.76	U	ppbv	1.35	0.76	3.4	1D20052	TO-15	04/21/21 11:55	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*29*	*1*	*31.0*	*93 %*	*70-130*	*1D20052*	*TO-15*	*04/21/21 11:55*	*rgg*	
4-Bromofluorobenzene	*29*	*1*	*31.0*	*93 %*	*70-130*	*1D20052*	*TO-15*	*04/21/21 15:31*	*rgg*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-VMP03-20210414 | **Lab Sample ID:** AE02772-04 | **Received:** 04/16/21 14:16
Matrix: Air | **Sampled:** 04/14/21 14:19 | **Work Order:** AE02772
Project: NASA KSC CRCA Airs | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.44	U	ppbv	1.3	0.44	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.47	U	ppbv	1.3	0.47	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.46	U	ppbv	1.3	0.46	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
1,1-Dichloroethane [75-34-3]^	0.47	U	ppbv	1.3	0.47	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
1,1-Dichloroethene [75-35-4]^	0.49	U	ppbv	1.3	0.49	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
1,2-Dibromoethane [106-93-4]^	0.47	U	ppbv	1.3	0.47	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.35	U	ppbv	1.3	0.35	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
1,2-Dichloroethane [107-06-2]^	0.48	U	ppbv	1.3	0.48	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
1,2-Dichloropropane [78-87-5]^	0.52	U	ppbv	1.3	0.52	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.36	U	ppbv	1.3	0.36	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.40	U	ppbv	1.3	0.40	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
3-Chloropropene [107-05-1]^	0.51	U	ppbv	1.3	0.51	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Acetone [67-64-1]^	**8.3**	V	ppbv	1.3	0.46	3.2	1D20052	TO-15	04/21/21 12:41	rgg	QB-01
Bromodichloromethane [75-27-4]^	0.44	U	ppbv	1.3	0.44	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Bromoethene [593-60-2]^	0.43	U	ppbv	1.3	0.43	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Bromoform [75-25-2]^	0.49	U	ppbv	1.3	0.49	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Bromomethane [74-83-9]^	0.43	U	ppbv	1.3	0.43	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Carbon tetrachloride [56-23-5]^	0.35	U	ppbv	1.3	0.35	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Chlorobenzene [108-90-7]^	0.43	U	ppbv	1.3	0.43	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Chloroethane [75-00-3]^	0.42	U	ppbv	1.3	0.42	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Chloroform [67-66-3]^	**2.4**	I	ppbv	1.3	0.49	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Chloromethane [74-87-3]^	0.62	U	ppbv	1.3	0.62	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
cis-1,2-Dichloroethene [156-59-2]^	0.49	U	ppbv	1.3	0.49	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	0.49	U	ppbv	1.3	0.49	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Dibromochloromethane [124-48-1]^	0.43	U	ppbv	1.3	0.43	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Dichlorodifluoromethane [75-71-8]^	0.72	U	ppbv	1.3	0.72	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Freon 113 [76-13-1]^	**2.7**	I	ppbv	1.3	0.42	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Freon 114 [76-14-2]^	0.68	U	ppbv	1.3	0.68	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Hexachlorobutadiene [87-68-3]^	0.48	U	ppbv	1.3	0.48	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Methylene chloride [75-09-2]^	0.26	U	ppbv	1.3	0.26	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Propene [115-07-1]^	0.72	U	ppbv	1.3	0.72	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Tetrachloroethene [127-18-4]^	0.40	U	ppbv	1.3	0.40	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
trans-1,2-Dichloroethene [156-60-5]^	**0.52**	I	ppbv	1.3	0.42	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.44	U	ppbv	1.3	0.44	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Trichloroethene [79-01-6]^	0.46	U	ppbv	1.3	0.46	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Trichlorofluoromethane [75-69-4]^	0.44	U	ppbv	1.3	0.44	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Vinyl chloride [75-01-4]^	0.73	U	ppbv	1.3	0.73	3.2	1D20052	TO-15	04/21/21 12:41	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*29*	*1*	*31.0*	*94 %*	*70-130*	*1D20052*	*TO-15*	*04/21/21 12:41*	*rgg*	

ANALYTICAL RESULTS

Description: CRCA-VMP04-20210414 | **Lab Sample ID:** AE02772-05 | **Received:** 04/16/21 14:16
Matrix: Air | **Sampled:** 04/14/21 14:22 | **Work Order:** AE02772
Project: NASA KSC CRCA Airs | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.44	U	ppbv	1.29	0.44	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.46	U	ppbv	1.29	0.46	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.45	U	ppbv	1.29	0.45	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
1,1-Dichloroethane [75-34-3]^	0.46	U	ppbv	1.29	0.46	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
1,1-Dichloroethene [75-35-4]^	0.49	U	ppbv	1.29	0.49	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
1,2-Dibromoethane [106-93-4]^	0.46	U	ppbv	1.29	0.46	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.35	U	ppbv	1.29	0.35	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
1,2-Dichloroethane [107-06-2]^	0.48	U	ppbv	1.29	0.48	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
1,2-Dichloropropane [78-87-5]^	0.52	U	ppbv	1.29	0.52	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.36	U	ppbv	1.29	0.36	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.40	U	ppbv	1.29	0.40	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
3-Chloropropene [107-05-1]^	0.50	U	ppbv	1.29	0.50	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Acetone [67-64-1]^	**18**	V	ppbv	1.29	0.45	3.2	1D20052	TO-15	04/21/21 13:26	rgg	QB-01
Bromodichloromethane [75-27-4]^	0.44	U	ppbv	1.29	0.44	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Bromoethene [593-60-2]^	0.43	U	ppbv	1.29	0.43	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Bromoform [75-25-2]^	0.49	U	ppbv	1.29	0.49	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Bromomethane [74-83-9]^	0.43	U	ppbv	1.29	0.43	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Carbon tetrachloride [56-23-5]^	0.35	U	ppbv	1.29	0.35	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Chlorobenzene [108-90-7]^	0.43	U	ppbv	1.29	0.43	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Chloroethane [75-00-3]^	0.41	U	ppbv	1.29	0.41	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Chloroform [67-66-3]^	**1.4**	I	ppbv	1.29	0.49	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Chloromethane [74-87-3]^	0.62	U	ppbv	1.29	0.62	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
cis-1,2-Dichloroethene [156-59-2]^	0.49	U	ppbv	1.29	0.49	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	0.49	U	ppbv	1.29	0.49	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Dibromochloromethane [124-48-1]^	0.43	U	ppbv	1.29	0.43	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Dichlorodifluoromethane [75-71-8]^	0.71	U	ppbv	1.29	0.71	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Freon 113 [76-13-1]^	**21**		ppbv	1.29	0.41	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Freon 114 [76-14-2]^	0.67	U	ppbv	1.29	0.67	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Hexachlorobutadiene [87-68-3]^	0.48	U	ppbv	1.29	0.48	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Methylene chloride [75-09-2]^	0.26	U	ppbv	1.29	0.26	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Propene [115-07-1]^	0.71	U	ppbv	1.29	0.71	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Tetrachloroethene [127-18-4]^	0.40	U	ppbv	1.29	0.40	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
trans-1,2-Dichloroethene [156-60-5]^	**1.0**	I	ppbv	1.29	0.41	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.44	U	ppbv	1.29	0.44	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Trichloroethene [79-01-6]^	0.45	U	ppbv	1.29	0.45	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Trichlorofluoromethane [75-69-4]^	0.44	U	ppbv	1.29	0.44	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Vinyl chloride [75-01-4]^	0.72	U	ppbv	1.29	0.72	3.2	1D20052	TO-15	04/21/21 13:26	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*29*	*1*	*31.0*	*94 %*	*70-130*	*1D20052*	*TO-15*	*04/21/21 13:26*	*rgg*	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D20052 - NO PREP 2

Blank (1D20052-BLK1) Prepared: 04/20/2021 18:21 Analyzed: 04/21/2021 00:06

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.34	U	2.5	ppbv							
1,1,2,2-Tetrachloroethane	0.36	U	2.5	ppbv							
1,1,2-Trichloroethane	0.35	U	2.5	ppbv							
1,1-Dichloroethane	0.36	U	2.5	ppbv							
1,1-Dichloroethene	0.38	U	2.5	ppbv							
1,2-Dibromoethane	0.36	U	2.5	ppbv							
1,2-Dichlorobenzene	0.27	U	2.5	ppbv							
1,2-Dichloroethane	0.37	U	2.5	ppbv							
1,2-Dichloropropane	0.40	U	2.5	ppbv							
1,3-Dichlorobenzene	0.28	U	2.5	ppbv							
1,4-Dichlorobenzene	0.31	U	2.5	ppbv							
3-Chloropropene	0.39	U	2.5	ppbv							
Acetone	**0.39**	**I**	2.5	ppbv							J-01, O-01, QE
Bromodichloromethane	0.34	U	2.5	ppbv							
Bromoethene	0.33	U	2.5	ppbv							
Bromoform	0.38	U	2.5	ppbv							
Bromomethane	0.33	U	2.5	ppbv							
Carbon tetrachloride	0.27	U	2.5	ppbv							
Chlorobenzene	0.33	U	2.5	ppbv							
Chloroethane	0.32	U	2.5	ppbv							
Chloroform	0.38	U	2.5	ppbv							
Chloromethane	0.48	U	2.5	ppbv							
cis-1,2-Dichloroethene	0.38	U	2.5	ppbv							
cis-1,3-Dichloropropene	0.38	U	2.5	ppbv							
Dibromochloromethane	0.33	U	2.5	ppbv							
Dichlorodifluoromethane	0.55	U	2.5	ppbv							
Freon 113	0.32	U	2.5	ppbv							
Freon 114	0.52	U	2.5	ppbv							
Hexachlorobutadiene	0.37	U	2.5	ppbv							
Methylene chloride	0.20	U	2.5	ppbv							
Propene	0.55	U	2.5	ppbv							
Tetrachloroethene	0.31	U	2.5	ppbv							
trans-1,2-Dichloroethene	0.32	U	2.5	ppbv							
trans-1,3-Dichloropropene	0.34	U	2.5	ppbv							
Trichloroethene	0.35	U	2.5	ppbv							
Trichlorofluoromethane	0.34	U	2.5	ppbv							
Vinyl chloride	0.56	U	2.5	ppbv							
4-Bromofluorobenzene	*29*			*ppbv*	*31.0*		*93*	*70-130*			

LCS (1D20052-BS1) Prepared: 04/20/2021 18:21 Analyzed: 04/20/2021 21:59

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	12		2.5	ppbv	10.0		119	70-130			
1,1,2,2-Tetrachloroethane	12		2.5	ppbv	10.0		115	52-163			
1,1,2-Trichloroethane	11		2.5	ppbv	10.0		110	70-134			
1,1-Dichloroethane	11		2.5	ppbv	10.0		114	70-130			
1,1-Dichloroethene	12		2.5	ppbv	10.0		118	67-142			
1,2-Dibromoethane	12		2.5	ppbv	10.0		116	70-141			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D20052 - NO PREP 2 - Continued

LCS (1D20052-BS1) Continued Prepared: 04/20/2021 18:21 Analyzed: 04/20/2021 21:59

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,2-Dichlorobenzene	11		2.5	ppbv	10.0		112	37-180			
1,2-Dichloroethane	13		2.5	ppbv	10.0		127	70-130			
1,2-Dichloropropane	11		2.5	ppbv	10.0		110	70-130			
1,3-Dichlorobenzene	11		2.5	ppbv	10.0		108	47-178			
1,4-Dichlorobenzene	11		2.5	ppbv	10.0		109	45-180			
3-Chloropropene	11		2.5	ppbv	10.0		109	70-130			
Acetone	11		2.5	ppbv	10.0		113	65-130			
Bromodichloromethane	12		2.5	ppbv	10.0		116	70-130			
Bromoethene	11		2.5	ppbv	10.0		110	69-132			
Bromoform	11		2.5	ppbv	10.0		111	62-149			
Bromomethane	12		2.5	ppbv	10.0		117	69-130			
Carbon tetrachloride	11		2.5	ppbv	10.0		112	22-166			
Chlorobenzene	10		2.5	ppbv	10.0		105	70-134			
Chloroethane	12		2.5	ppbv	10.0		118	69-131			
Chloroform	12		2.5	ppbv	10.0		115	70-130			
Chloromethane	10		2.5	ppbv	10.0		104	55-142			
cis-1,2-Dichloroethene	11		2.5	ppbv	10.0		107	70-130			
cis-1,3-Dichloropropene	12		2.5	ppbv	10.0		120	70-137			
Dibromochloromethane	11		2.5	ppbv	10.0		112	70-130			
Dichlorodifluoromethane	12		2.5	ppbv	10.0		119	61-137			
Freon 113	11		2.5	ppbv	10.0		109	67-140			
Freon 114	11		2.5	ppbv	10.0		110	62-147			
Hexachlorobutadiene	13		2.5	ppbv	10.0		131	24-180			
Methylene chloride	11		2.5	ppbv	10.0		109	59-136			
Propene	9.1		2.5	ppbv	10.0		91	63-132			
Tetrachloroethene	10		2.5	ppbv	10.0		104	70-141			
trans-1,2-Dichloroethene	11		2.5	ppbv	10.0		109	70-130			
trans-1,3-Dichloropropene	16		2.5	ppbv	10.0		163	59-166			
Trichloroethene	11		2.5	ppbv	10.0		106	70-130			
Trichlorofluoromethane	8.5		2.5	ppbv	10.0		85	46-161			
Vinyl chloride	11		2.5	ppbv	10.0		111	53-148			
4-Bromofluorobenzene	*31*			*ppbv*	*31.0*		*99*	*70-130*			

LCS Dup (1D20052-BSD1) Prepared: 04/20/2021 18:21 Analyzed: 04/20/2021 22:39

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	12		2.5	ppbv	10.0		115	70-130	3	25	
1,1,2,2-Tetrachloroethane	11		2.5	ppbv	10.0		115	52-163	0.6	25	
1,1,2-Trichloroethane	11		2.5	ppbv	10.0		108	70-134	2	25	
1,1-Dichloroethane	11		2.5	ppbv	10.0		111	70-130	3	25	
1,1-Dichloroethene	12		2.5	ppbv	10.0		116	67-142	2	25	
1,2-Dibromoethane	12		2.5	ppbv	10.0		115	70-141	0.5	25	
1,2-Dichlorobenzene	11		2.5	ppbv	10.0		111	37-180	0.2	25	
1,2-Dichloroethane	12		2.5	ppbv	10.0		123	70-130	3	25	
1,2-Dichloropropane	11		2.5	ppbv	10.0		107	70-130	3	25	
1,3-Dichlorobenzene	11		2.5	ppbv	10.0		108	47-178	0.5	25	
1,4-Dichlorobenzene	11		2.5	ppbv	10.0		110	45-180	0.9	25	
3-Chloropropene	11		2.5	ppbv	10.0		106	70-130	2	25	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D20052 - NO PREP 2 - Continued

LCS Dup (1D20052-BSD1) Continued Prepared: 04/20/2021 18:21 Analyzed: 04/20/2021 22:39

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Acetone	11		2.5	ppbv	10.0		111	65-130	2	25	
Bromodichloromethane	11		2.5	ppbv	10.0		113	70-130	3	25	
Bromoethene	11		2.5	ppbv	10.0		109	69-132	1	25	
Bromoform	11		2.5	ppbv	10.0		110	62-149	0.8	25	
Bromomethane	12		2.5	ppbv	10.0		115	69-130	2	25	
Carbon tetrachloride	11		2.5	ppbv	10.0		109	22-166	3	25	
Chlorobenzene	10		2.5	ppbv	10.0		103	70-134	1	25	
Chloroethane	12		2.5	ppbv	10.0		117	69-131	1	25	
Chloroform	11		2.5	ppbv	10.0		113	70-130	3	25	
Chloromethane	10		2.5	ppbv	10.0		104	55-142	0.5	25	
cis-1,2-Dichloroethene	11		2.5	ppbv	10.0		106	70-130	0.7	25	
cis-1,3-Dichloropropene	12		2.5	ppbv	10.0		118	70-137	2	25	
Dibromochloromethane	11		2.5	ppbv	10.0		110	70-130	2	25	
Dichlorodifluoromethane	11		2.5	ppbv	10.0		115	61-137	3	25	
Freon 113	11		2.5	ppbv	10.0		107	67-140	2	25	
Freon 114	11		2.5	ppbv	10.0		109	62-147	0.7	25	
Hexachlorobutadiene	13		2.5	ppbv	10.0		131	24-180	0.06	25	
Methylene chloride	11		2.5	ppbv	10.0		107	59-136	2	25	
Propene	9.0		2.5	ppbv	10.0		90	63-132	0.7	25	
Tetrachloroethene	10		2.5	ppbv	10.0		102	70-141	2	25	
trans-1,2-Dichloroethene	11		2.5	ppbv	10.0		106	70-130	2	25	
trans-1,3-Dichloropropene	16		2.5	ppbv	10.0		161	59-166	1	25	
Trichloroethene	11		2.5	ppbv	10.0		105	70-130	0.3	25	
Trichlorofluoromethane	8.3		2.5	ppbv	10.0		83	46-161	3	25	
Vinyl chloride	11		2.5	ppbv	10.0		112	53-148	0.8	25	
4-Bromofluorobenzene	*31*			*ppbv*	*31.0*		*99*	*70-130*			

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FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
J-01	Result may be biased high due to positive results in the associated method blank at a concentration above the MDL and/or greater than one-half the MRL.
O-01	This compound is a common laboratory contaminant.
QB-01	The method blank had a positive result for the analyte; however, the concentration in the method blank is less than 10% of the sample result. There is minimal impact to the data.

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B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported result is an estimated value.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence (85% or greater confidence) to make a “tentative identification".
Q	One or more quality control criteria failed.

AE02772

SGS North America Inc - Orlando

Chain of Custody

4405 Vineland Road, Suite C-15 Orlando, Fl 32811
TEL. 407-425-6700 FAX: 407-425-0707
www.sgs.com

SGS - ORLANDO JOB # : PAGE 1 OF 1

SGS - ORLANDO Quote # | SKIFF #

Client / Reporting Information

Company Name: Tetra tech
Address: 11 Riverside Dr
City: Cocoa State: FL Zip:
Project Contact: Alex Murphy Email: Alex.murphy@tetratech.com
Phone #:
Sampler(s) Name(s) (Printed)
Sampler 1: Melissa Benn Sampler 2:

Project Information

Project Name: CRCA
Street
City NASA State FL
Project # 112G08970
Fax #
Client Purchase Order #

Analytical Information

TP-15

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid

SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION DATE	TIME	SAMPLED BY:	CONTAINER INFORMATION MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	HCl	NaOH	HNO3	H2SO4	NAOH+ZNAC	DI WATER	MEOH	TP-15	LAB USE ONLY
	CRCA-AMB-20210414	4-14-21	0817	MB	Air	1		X								X	
	CRCA-AMB VMP01-20210414	4-14-21	1415	MB	Air	1		X								X	
	CRCA-VMP02-20210414	4-14-21	1416	MB	Air	1		X								X	
	CRCA-VMP03-20210414	4-14-21	1419	MB	Air	1		X								X	
	CRCA-VMP04-20210414	4-14-21	1422	MB	Air	1		X								X	

Turnaround Time (Business days)

10 Day (Business) Approved By: / Date:
7 Day
5 Day
3 Day *RUSH*
2 Day *RUSH*
1 Day *RUSH*
Other
Rush T/A Data Available VIA Email or Lablink

Data Deliverable Information

- [ ] COMMERCIAL "A" (RESULTS ONLY)
- [ ] COMMERCIAL "B" (RESULTS PLUS QC)
- [ ] REDT1 (EPA LEVEL 3)
- [ ] FULLT1 (EPA LEVEL 4)
- [ ] EDD'S

Comments / Remarks

See accompanying field sheets.

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler/Affiliation	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	Received By/Affiliation
1	MB	4-14-21 1200	2 Tetra Tech	3	4/14/21	4 James W. Knapp
5	Relinquished by/Affiliation	Date Time:	6 Received By/Affiliation	7 Relinquished By/Affiliation	Date Time:	8 Received By/Affiliation

Lab Use Only : Cooler Temperature (s) Celsius (corrected): Box 23.6°C

http://www.sgs.com/en/terms-and-conditions

ENCO Orlando

SDG: AE02772-TE016

CLASS: 06_VOA_AIR

METHOD: TO-15

ANALYSES DATA PACKAGE COVER PAGE

TO-15

Laboratory: ENCO Orlando

SDG: AE02772-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA Airs

Client Sample Id:	Lab Sample Id:
CRCA-AMB-20210414	AE02772-01
CRCA-VMP01-20210414	AE02772-02
CRCA-VMP02-20210414	AE02772-03
CRCA-VMP02-20210414	AE02772-03RE1
CRCA-VMP03-20210414	AE02772-04
CRCA-VMP04-20210414	AE02772-05

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-AMB-20210414

Laboratory: ENCO Orlando
SDG: AE02772-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA Airs

Matrix: Air
Laboratory ID: AE02772-01
File ID: 217DO014.D
Sampled: 04/14/21 08:17
Prepared: 04/21/21 08:00
Analyzed: 04/21/21 10:25
Solids:
Preparation: NO PREP 2
Initial/Final: 400 mL / 400 mL
Batch: 1D20052
Sequence: AA66011
Calibration: 2103167
Instrument: OVGCMS7

CAS NO.	COMPOUND	DILUTION	CONC. (ppbv)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1.35	0.74	UD	0.74	3.4
115-07-1	Propene	1.35	0.74	UD	0.74	3.4
74-87-3	Chloromethane	1.35	0.66	JD	0.65	3.4
75-01-4	Vinyl chloride	1.35	0.76	UD	0.76	3.4
74-83-9	Bromomethane	1.35	0.45	UD	0.45	3.4
75-00-3	Chloroethane	1.35	0.43	UD	0.43	3.4
75-69-4	Trichlorofluoromethane	1.35	0.46	UD	0.46	3.4
593-60-2	Bromoethene	1.35	0.45	UD	0.45	3.4
75-34-3	1,1-Dichloroethane	1.35	0.49	UD	0.49	3.4
67-64-1	Acetone	1.35	5.3	BD	0.47	3.4
75-09-2	Methylene chloride	1.35	0.27	UD	0.27	3.4
76-13-1	Freon 113	1.35	0.43	UD	0.43	3.4
107-05-1	3-Chloropropene	1.35	0.53	UD	0.53	3.4
156-60-5	trans-1,2-Dichloroethene	1.35	7.2	D	0.43	3.4
75-35-4	1,1-Dichloroethene	1.35	0.51	UD	0.51	3.4
156-59-2	cis-1,2-Dichloroethene	1.35	0.51	UD	0.51	3.4
67-66-3	Chloroform	1.35	0.51	UD	0.51	3.4
107-06-2	1,2-Dichloroethane	1.35	0.50	UD	0.50	3.4
71-55-6	1,1,1-Trichloroethane	1.35	0.46	UD	0.46	3.4
56-23-5	Carbon tetrachloride	1.35	0.36	UD	0.36	3.4
78-87-5	1,2-Dichloropropane	1.35	0.54	UD	0.54	3.4
79-01-6	Trichloroethene	1.35	0.47	UD	0.47	3.4
75-27-4	Bromodichloromethane	1.35	0.46	UD	0.46	3.4
10061-01-5	cis-1,3-Dichloropropene	1.35	0.51	UD	0.51	3.4
10061-02-6	trans-1,3-Dichloropropene	1.35	0.46	UD	0.46	3.4
79-00-5	1,1,2-Trichloroethane	1.35	0.47	UD	0.47	3.4
106-93-4	1,2-Dibromoethane	1.35	0.49	UD	0.49	3.4
127-18-4	Tetrachloroethene	1.35	0.42	UD	0.42	3.4
124-48-1	Dibromochloromethane	1.35	0.45	UD	0.45	3.4
108-90-7	Chlorobenzene	1.35	0.45	UD	0.45	3.4
75-25-2	Bromoform	1.35	0.51	UD	0.51	3.4
79-34-5	1,1,2,2-Tetrachloroethane	1.35	0.49	UD	0.49	3.4
541-73-1	1,3-Dichlorobenzene	1.35	0.38	UD	0.38	3.4
106-46-7	1,4-Dichlorobenzene	1.35	0.42	UD	0.42	3.4
95-50-1	1,2-Dichlorobenzene	1.35	0.36	UD	0.36	3.4
87-68-3	Hexachlorobutadiene	1.35	0.50	UD	0.50	3.4
76-14-2	Freon 114	1.35	0.70	UD	0.70	3.4

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	29	93	70 - 130	

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-AMB-20210414

Laboratory: ENCO Orlando SDG: AE02772-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA Airs

Matrix: Air Laboratory ID: AE02772-01 File ID: 217DO014.D

Sampled: 04/14/21 08:17 Prepared: 04/21/21 08:00 Analyzed: 04/21/21 10:25

Solids: Preparation: NO PREP 2 Initial/Final: 400 mL / 400 mL

Batch: 1D20052 Sequence: AA66011 Calibration: 2103167 Instrument: OVGCMS7

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	384346	10.96	410314	10.97	
1,4-Difluorobenzene	1253612	12.46	1596494	12.47	
Chlorobenzene-d5	935186	15.86	1196660	15.87	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP01-20210414

Laboratory: ENCO Orlando SDG: AE02772-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA Airs

Matrix: Air Laboratory ID: AE02772-02 File ID: 217DO015.D

Sampled: 04/14/21 14:15 Prepared: 04/21/21 08:00 Analyzed: 04/21/21 11:10

Solids: Preparation: NO PREP 2 Initial/Final: 400 mL / 400 mL

Batch: 1D20052 Sequence: AA66011 Calibration: 2103167 Instrument: OVGCMS7

CAS NO.	COMPOUND	DILUTION	CONC. (ppbv)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1.3	0.72	UD	0.72	3.2
115-07-1	Propene	1.3	0.72	UD	0.72	3.2
74-87-3	Chloromethane	1.3	0.62	UD	0.62	3.2
75-01-4	Vinyl chloride	1.3	0.73	UD	0.73	3.2
74-83-9	Bromomethane	1.3	0.43	UD	0.43	3.2
75-00-3	Chloroethane	1.3	0.42	UD	0.42	3.2
75-69-4	Trichlorofluoromethane	1.3	0.44	UD	0.44	3.2
593-60-2	Bromoethene	1.3	0.43	UD	0.43	3.2
75-34-3	1,1-Dichloroethane	1.3	0.47	UD	0.47	3.2
67-64-1	Acetone	1.3	11	BD	0.46	3.2
75-09-2	Methylene chloride	1.3	0.26	UD	0.26	3.2
76-13-1	Freon 113	1.3	3.6	D	0.42	3.2
107-05-1	3-Chloropropene	1.3	0.51	UD	0.51	3.2
156-60-5	trans-1,2-Dichloroethene	1.3	0.69	JD	0.42	3.2
75-35-4	1,1-Dichloroethene	1.3	0.49	UD	0.49	3.2
156-59-2	cis-1,2-Dichloroethene	1.3	0.49	UD	0.49	3.2
67-66-3	Chloroform	1.3	0.49	UD	0.49	3.2
107-06-2	1,2-Dichloroethane	1.3	0.48	UD	0.48	3.2
71-55-6	1,1,1-Trichloroethane	1.3	0.44	UD	0.44	3.2
56-23-5	Carbon tetrachloride	1.3	0.35	UD	0.35	3.2
78-87-5	1,2-Dichloropropane	1.3	0.52	UD	0.52	3.2
79-01-6	Trichloroethene	1.3	0.46	UD	0.46	3.2
75-27-4	Bromodichloromethane	1.3	0.44	UD	0.44	3.2
10061-01-5	cis-1,3-Dichloropropene	1.3	0.49	UD	0.49	3.2
10061-02-6	trans-1,3-Dichloropropene	1.3	0.44	UD	0.44	3.2
79-00-5	1,1,2-Trichloroethane	1.3	0.46	UD	0.46	3.2
106-93-4	1,2-Dibromoethane	1.3	0.47	UD	0.47	3.2
127-18-4	Tetrachloroethene	1.3	0.40	UD	0.40	3.2
124-48-1	Dibromochloromethane	1.3	0.43	UD	0.43	3.2
108-90-7	Chlorobenzene	1.3	0.43	UD	0.43	3.2
75-25-2	Bromoform	1.3	0.49	UD	0.49	3.2
79-34-5	1,1,2,2-Tetrachloroethane	1.3	0.47	UD	0.47	3.2
541-73-1	1,3-Dichlorobenzene	1.3	0.36	UD	0.36	3.2
106-46-7	1,4-Dichlorobenzene	1.3	0.40	UD	0.40	3.2
95-50-1	1,2-Dichlorobenzene	1.3	0.35	UD	0.35	3.2
87-68-3	Hexachlorobutadiene	1.3	0.48	UD	0.48	3.2
76-14-2	Freon 114	1.3	0.68	UD	0.68	3.2

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	29	94	70 - 130	

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP01-20210414

Laboratory: ENCO Orlando SDG: AE02772-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA Airs

Matrix: Air Laboratory ID: AE02772-02 File ID: 217DO015.D

Sampled: 04/14/21 14:15 Prepared: 04/21/21 08:00 Analyzed: 04/21/21 11:10

Solids: Preparation: NO PREP 2 Initial/Final: 400 mL / 400 mL

Batch: 1D20052 Sequence: AA66011 Calibration: 2103167 Instrument: OVGCMS7

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	389379	10.96	410314	10.97	
1,4-Difluorobenzene	1266536	12.47	1596494	12.47	
Chlorobenzene-d5	936361	15.86	1196660	15.87	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP02-20210414

Laboratory: ENCO Orlando SDG: AE02772-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA Airs

Matrix: Air Laboratory ID: AE02772-03 File ID: 217DO016.D

Sampled: 04/14/21 14:16 Prepared: 04/21/21 08:00 Analyzed: 04/21/21 11:55

Solids: Preparation: NO PREP 2 Initial/Final: 400 mL / 400 mL

Batch: 1D20052 Sequence: AA66011 Calibration: 2103167 Instrument: OVGCMS7

CAS NO.	COMPOUND	DILUTION	CONC. (ppbv)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1.35	0.74	UD	0.74	3.4
115-07-1	Propene	1.35	0.74	UD	0.74	3.4
74-87-3	Chloromethane	1.35	0.65	UD	0.65	3.4
75-01-4	Vinyl chloride	1.35	0.76	UD	0.76	3.4
74-83-9	Bromomethane	1.35	0.45	UD	0.45	3.4
75-00-3	Chloroethane	1.35	0.43	UD	0.43	3.4
75-69-4	Trichlorofluoromethane	1.35	0.46	UD	0.46	3.4
593-60-2	Bromoethene	1.35	0.45	UD	0.45	3.4
75-34-3	1,1-Dichloroethane	1.35	0.49	UD	0.49	3.4
67-64-1	Acetone	1.35	4.0	BD	0.47	3.4
75-09-2	Methylene chloride	1.35	0.76	JD	0.27	3.4
107-05-1	3-Chloropropene	1.35	0.53	UD	0.53	3.4
156-60-5	trans-1,2-Dichloroethene	1.35	1.8	JD	0.43	3.4
75-35-4	1,1-Dichloroethene	1.35	0.51	UD	0.51	3.4
156-59-2	cis-1,2-Dichloroethene	1.35	0.51	UD	0.51	3.4
67-66-3	Chloroform	1.35	0.51	UD	0.51	3.4
107-06-2	1,2-Dichloroethane	1.35	0.50	UD	0.50	3.4
71-55-6	1,1,1-Trichloroethane	1.35	0.46	UD	0.46	3.4
56-23-5	Carbon tetrachloride	1.35	0.36	UD	0.36	3.4
78-87-5	1,2-Dichloropropane	1.35	0.54	UD	0.54	3.4
79-01-6	Trichloroethene	1.35	0.47	UD	0.47	3.4
75-27-4	Bromodichloromethane	1.35	0.46	UD	0.46	3.4
10061-01-5	cis-1,3-Dichloropropene	1.35	0.51	UD	0.51	3.4
10061-02-6	trans-1,3-Dichloropropene	1.35	0.46	UD	0.46	3.4
79-00-5	1,1,2-Trichloroethane	1.35	0.47	UD	0.47	3.4
106-93-4	1,2-Dibromoethane	1.35	0.49	UD	0.49	3.4
127-18-4	Tetrachloroethene	1.35	0.42	UD	0.42	3.4
124-48-1	Dibromochloromethane	1.35	0.45	UD	0.45	3.4
108-90-7	Chlorobenzene	1.35	0.45	UD	0.45	3.4
75-25-2	Bromoform	1.35	0.51	UD	0.51	3.4
79-34-5	1,1,2,2-Tetrachloroethane	1.35	0.49	UD	0.49	3.4
541-73-1	1,3-Dichlorobenzene	1.35	0.38	UD	0.38	3.4
106-46-7	1,4-Dichlorobenzene	1.35	0.42	UD	0.42	3.4
95-50-1	1,2-Dichlorobenzene	1.35	0.36	UD	0.36	3.4
87-68-3	Hexachlorobutadiene	1.35	0.50	UD	0.50	3.4
76-14-2	Freon 114	1.35	0.70	UD	0.70	3.4

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	29	93	70 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP02-20210414

Laboratory: ENCO Orlando
SDG: AE02772-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA Airs

Matrix: Air
Laboratory ID: AE02772-03
File ID: 217DO016.D
Sampled: 04/14/21 14:16
Prepared: 04/21/21 08:00
Analyzed: 04/21/21 11:55
Solids:
Preparation: NO PREP 2
Initial/Final: 400 mL / 400 mL
Batch: 1D20052
Sequence: AA66011
Calibration: 2103167
Instrument: OVGCMS7

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	392415	10.96	410314	10.97	
1,4-Difluorobenzene	1277948	12.47	1596494	12.47	
Chlorobenzene-d5	945869	15.86	1196660	15.87	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP02-20210414

Laboratory: ENCO Orlando
SDG: AE02772-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA Airs

Matrix: Air
Laboratory ID: AE02772-03RE1
File ID: 217DO021.D
Sampled: 04/14/21 14:16
Prepared: 04/21/21 08:00
Analyzed: 04/21/21 15:31
Solids:
Preparation: NO PREP 2
Initial/Final: 200 mL / 400 mL
Batch: 1D20052
Sequence: AA66011
Calibration: 2103167
Instrument: OVGCMS7

CAS NO.	COMPOUND	DILUTION	CONC. (ppbv)	Q	MDL	MRL
76-13-1	Freon 113	1.35	72	DE	0.86	6.8

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	29	93	70 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	417888	10.96	410314	10.97	
1,4-Difluorobenzene	1394655	12.47	1596494	12.47	
Chlorobenzene-d5	1012325	15.87	1196660	15.87	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP03-20210414

Laboratory: ENCO Orlando SDG: AE02772-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA Airs

Matrix: Air Laboratory ID: AE02772-04 File ID: 217DO017.D

Sampled: 04/14/21 14:19 Prepared: 04/21/21 08:00 Analyzed: 04/21/21 12:41

Solids: Preparation: NO PREP 2 Initial/Final: 400 mL / 400 mL

Batch: 1D20052 Sequence: AA66011 Calibration: 2103167 Instrument: OVGCMS7

CAS NO.	COMPOUND	DILUTION	CONC. (ppbv)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1.3	0.72	UD	0.72	3.2
115-07-1	Propene	1.3	0.72	UD	0.72	3.2
74-87-3	Chloromethane	1.3	0.62	UD	0.62	3.2
75-01-4	Vinyl chloride	1.3	0.73	UD	0.73	3.2
74-83-9	Bromomethane	1.3	0.43	UD	0.43	3.2
75-00-3	Chloroethane	1.3	0.42	UD	0.42	3.2
75-69-4	Trichlorofluoromethane	1.3	0.44	UD	0.44	3.2
593-60-2	Bromoethene	1.3	0.43	UD	0.43	3.2
75-34-3	1,1-Dichloroethane	1.3	0.47	UD	0.47	3.2
67-64-1	Acetone	1.3	8.3	BD	0.46	3.2
75-09-2	Methylene chloride	1.3	0.26	UD	0.26	3.2
76-13-1	Freon 113	1.3	2.7	JD	0.42	3.2
107-05-1	3-Chloropropene	1.3	0.51	UD	0.51	3.2
156-60-5	trans-1,2-Dichloroethene	1.3	0.52	JD	0.42	3.2
75-35-4	1,1-Dichloroethene	1.3	0.49	UD	0.49	3.2
156-59-2	cis-1,2-Dichloroethene	1.3	0.49	UD	0.49	3.2
67-66-3	Chloroform	1.3	2.4	JD	0.49	3.2
107-06-2	1,2-Dichloroethane	1.3	0.48	UD	0.48	3.2
71-55-6	1,1,1-Trichloroethane	1.3	0.44	UD	0.44	3.2
56-23-5	Carbon tetrachloride	1.3	0.35	UD	0.35	3.2
78-87-5	1,2-Dichloropropane	1.3	0.52	UD	0.52	3.2
79-01-6	Trichloroethene	1.3	0.46	UD	0.46	3.2
75-27-4	Bromodichloromethane	1.3	0.44	UD	0.44	3.2
10061-01-5	cis-1,3-Dichloropropene	1.3	0.49	UD	0.49	3.2
10061-02-6	trans-1,3-Dichloropropene	1.3	0.44	UD	0.44	3.2
79-00-5	1,1,2-Trichloroethane	1.3	0.46	UD	0.46	3.2
106-93-4	1,2-Dibromoethane	1.3	0.47	UD	0.47	3.2
127-18-4	Tetrachloroethene	1.3	0.40	UD	0.40	3.2
124-48-1	Dibromochloromethane	1.3	0.43	UD	0.43	3.2
108-90-7	Chlorobenzene	1.3	0.43	UD	0.43	3.2
75-25-2	Bromoform	1.3	0.49	UD	0.49	3.2
79-34-5	1,1,2,2-Tetrachloroethane	1.3	0.47	UD	0.47	3.2
541-73-1	1,3-Dichlorobenzene	1.3	0.36	UD	0.36	3.2
106-46-7	1,4-Dichlorobenzene	1.3	0.40	UD	0.40	3.2
95-50-1	1,2-Dichlorobenzene	1.3	0.35	UD	0.35	3.2
87-68-3	Hexachlorobutadiene	1.3	0.48	UD	0.48	3.2
76-14-2	Freon 114	1.3	0.68	UD	0.68	3.2

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	29	94	70 - 130	

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP03-20210414

Laboratory: ENCO Orlando SDG: AE02772-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA Airs

Matrix: Air Laboratory ID: AE02772-04 File ID: 217DO017.D

Sampled: 04/14/21 14:19 Prepared: 04/21/21 08:00 Analyzed: 04/21/21 12:41

Solids: Preparation: NO PREP 2 Initial/Final: 400 mL / 400 mL

Batch: 1D20052 Sequence: AA66011 Calibration: 2103167 Instrument: OVGCMS7

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	392593	10.96	410314	10.97	
1,4-Difluorobenzene	1280780	12.47	1596494	12.47	
Chlorobenzene-d5	949894	15.86	1196660	15.87	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP04-20210414

Laboratory: ENCO Orlando SDG: AE02772-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA Airs

Matrix: Air Laboratory ID: AE02772-05 File ID: 217DO018.D

Sampled: 04/14/21 14:22 Prepared: 04/21/21 08:00 Analyzed: 04/21/21 13:26

Solids: Preparation: NO PREP 2 Initial/Final: 400 mL / 400 mL

Batch: 1D20052 Sequence: AA66011 Calibration: 2103167 Instrument: OVGCMS7

CAS NO.	COMPOUND	DILUTION	CONC. (ppbv)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1.29	0.71	UD	0.71	3.2
115-07-1	Propene	1.29	0.71	UD	0.71	3.2
74-87-3	Chloromethane	1.29	0.62	UD	0.62	3.2
75-01-4	Vinyl chloride	1.29	0.72	UD	0.72	3.2
74-83-9	Bromomethane	1.29	0.43	UD	0.43	3.2
75-00-3	Chloroethane	1.29	0.41	UD	0.41	3.2
75-69-4	Trichlorofluoromethane	1.29	0.44	UD	0.44	3.2
593-60-2	Bromoethene	1.29	0.43	UD	0.43	3.2
75-34-3	1,1-Dichloroethane	1.29	0.46	UD	0.46	3.2
67-64-1	Acetone	1.29	18	BD	0.45	3.2
75-09-2	Methylene chloride	1.29	0.26	UD	0.26	3.2
76-13-1	Freon 113	1.29	21	D	0.41	3.2
107-05-1	3-Chloropropene	1.29	0.50	UD	0.50	3.2
156-60-5	trans-1,2-Dichloroethene	1.29	1.0	JD	0.41	3.2
75-35-4	1,1-Dichloroethene	1.29	0.49	UD	0.49	3.2
156-59-2	cis-1,2-Dichloroethene	1.29	0.49	UD	0.49	3.2
67-66-3	Chloroform	1.29	1.4	JD	0.49	3.2
107-06-2	1,2-Dichloroethane	1.29	0.48	UD	0.48	3.2
71-55-6	1,1,1-Trichloroethane	1.29	0.44	UD	0.44	3.2
56-23-5	Carbon tetrachloride	1.29	0.35	UD	0.35	3.2
78-87-5	1,2-Dichloropropane	1.29	0.52	UD	0.52	3.2
79-01-6	Trichloroethene	1.29	0.45	UD	0.45	3.2
75-27-4	Bromodichloromethane	1.29	0.44	UD	0.44	3.2
10061-01-5	cis-1,3-Dichloropropene	1.29	0.49	UD	0.49	3.2
10061-02-6	trans-1,3-Dichloropropene	1.29	0.44	UD	0.44	3.2
79-00-5	1,1,2-Trichloroethane	1.29	0.45	UD	0.45	3.2
106-93-4	1,2-Dibromoethane	1.29	0.46	UD	0.46	3.2
127-18-4	Tetrachloroethene	1.29	0.40	UD	0.40	3.2
124-48-1	Dibromochloromethane	1.29	0.43	UD	0.43	3.2
108-90-7	Chlorobenzene	1.29	0.43	UD	0.43	3.2
75-25-2	Bromoform	1.29	0.49	UD	0.49	3.2
79-34-5	1,1,2,2-Tetrachloroethane	1.29	0.46	UD	0.46	3.2
541-73-1	1,3-Dichlorobenzene	1.29	0.36	UD	0.36	3.2
106-46-7	1,4-Dichlorobenzene	1.29	0.40	UD	0.40	3.2
95-50-1	1,2-Dichlorobenzene	1.29	0.35	UD	0.35	3.2
87-68-3	Hexachlorobutadiene	1.29	0.48	UD	0.48	3.2
76-14-2	Freon 114	1.29	0.67	UD	0.67	3.2

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	29	94	70 - 130	

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP04-20210414

Laboratory: ENCO Orlando SDG: AE02772-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA Airs

Matrix: Air Laboratory ID: AE02772-05 File ID: 217DO018.D

Sampled: 04/14/21 14:22 Prepared: 04/21/21 08:00 Analyzed: 04/21/21 13:26

Solids: Preparation: NO PREP 2 Initial/Final: 400 mL / 400 mL

Batch: 1D20052 Sequence: AA66011 Calibration: 2103167 Instrument: OVGCMS7

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	398062	10.97	410314	10.97	
1,4-Difluorobenzene	1289785	12.47	1596494	12.47	
Chlorobenzene-d5	950817	15.87	1196660	15.87	

* Values outside of QC limits

HOLDING TIME SUMMARY

TO-15

Laboratory: ENCO Orlando SDG: AE02772-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA Airs

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-AMB-20210414	04/14/21 08:17	04/16/21 14:16	04/21/21 08:00	6.99	NA	04/21/21 10:25	7.00	30.00	
CRCA-VMP01-20210414	04/14/21 14:15	04/16/21 14:16	04/21/21 08:00	6.74	NA	04/21/21 11:10	7.00	30.00	
CRCA-VMP02-20210414	04/14/21 14:16	04/16/21 14:16	04/21/21 08:00	6.74	NA	04/21/21 11:55	7.00	30.00	
CRCA-VMP02-20210414	04/14/21 14:16	04/16/21 14:16	04/21/21 08:00	6.74	NA	04/21/21 15:31	7.00	30.00	
CRCA-VMP03-20210414	04/14/21 14:19	04/16/21 14:16	04/21/21 08:00	6.74	NA	04/21/21 12:41	7.00	30.00	
CRCA-VMP04-20210414	04/14/21 14:22	04/16/21 14:16	04/21/21 08:00	6.73	NA	04/21/21 13:26	7.00	30.00	

PREPARATION BATCH SUMMARY

TO-15

Laboratory: ENCO Orlando SDG: AE02772-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA Airs

Batch: 1D20052 Batch Matrix: Air Preparation: NO PREP 2

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1D20052-BLK1	217DO008.D	04/20/21 18:21	
LCS	1D20052-BS1	217DO005.D	04/20/21 18:21	
LCS Dup	1D20052-BSD1	217DO006.D	04/20/21 18:21	
CRCA-AMB-20210414	AE02772-01	217DO014.D	04/21/21 08:00	
CRCA-VMP01-20210414	AE02772-02	217DO015.D	04/21/21 08:00	
CRCA-VMP02-20210414	AE02772-03	217DO016.D	04/21/21 08:00	
CRCA-VMP02-20210414	AE02772-03RE1	217DO021.D	04/21/21 08:00	
CRCA-VMP03-20210414	AE02772-04	217DO017.D	04/21/21 08:00	
CRCA-VMP04-20210414	AE02772-05	217DO018.D	04/21/21 08:00	

METHOD BLANK DATA SHEET
TO-15

Laboratory:	ENCO Orlando	SDG:	AE02772-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA Airs

Matrix:	Air	Laboratory ID:	1D20052-BLK1	File ID:	217DO008.D
Prepared:	04/20/21 18:21	Preparation:	NO PREP 2	Initial/Final:	400 mL / 400 mL
Analyzed:	04/21/21 00:06	Instrument:	OVGCMS7		
Batch:	1D20052	Sequence:	AA66011	Calibration:	2103167

CAS NO.	COMPOUND	CONC. (ppbv)	Q
75-71-8	Dichlorodifluoromethane	0.55	U
115-07-1	Propene	0.55	U
74-87-3	Chloromethane	0.48	U
75-01-4	Vinyl chloride	0.56	U
74-83-9	Bromomethane	0.33	U
75-00-3	Chloroethane	0.32	U
75-69-4	Trichlorofluoromethane	0.34	U
593-60-2	Bromoethene	0.33	U
75-34-3	1,1-Dichloroethane	0.36	U
67-64-1	Acetone	0.39	J
75-09-2	Methylene chloride	0.20	U
76-13-1	Freon 113	0.32	U
107-05-1	3-Chloropropene	0.39	U
156-60-5	trans-1,2-Dichloroethene	0.32	U
75-35-4	1,1-Dichloroethene	0.38	U
156-59-2	cis-1,2-Dichloroethene	0.38	U
67-66-3	Chloroform	0.38	U
107-06-2	1,2-Dichloroethane	0.37	U
71-55-6	1,1,1-Trichloroethane	0.34	U
56-23-5	Carbon tetrachloride	0.27	U
78-87-5	1,2-Dichloropropane	0.40	U
79-01-6	Trichloroethene	0.35	U
75-27-4	Bromodichloromethane	0.34	U
10061-01-5	cis-1,3-Dichloropropene	0.38	U
10061-02-6	trans-1,3-Dichloropropene	0.34	U
79-00-5	1,1,2-Trichloroethane	0.35	U
106-93-4	1,2-Dibromoethane	0.36	U
127-18-4	Tetrachloroethene	0.31	U
124-48-1	Dibromochloromethane	0.33	U
108-90-7	Chlorobenzene	0.33	U

METHOD BLANK DATA SHEET
TO-15

Laboratory:	ENCO Orlando	SDG:	AE02772-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA Airs

Matrix:	Air	Laboratory ID:	1D20052-BLK1	File ID:	217DO008.D
Prepared:	04/20/21 18:21	Preparation:	NO PREP 2	Initial/Final:	400 mL / 400 mL
Analyzed:	04/21/21 00:06	Instrument:	OVGCMS7		
Batch:	1D20052	Sequence:	AA66011	Calibration:	2103167

CAS NO.	COMPOUND	CONC. (ppbv)	Q
75-25-2	Bromoform	0.38	U
79-34-5	1,1,2,2-Tetrachloroethane	0.36	U
541-73-1	1,3-Dichlorobenzene	0.28	U
106-46-7	1,4-Dichlorobenzene	0.31	U
95-50-1	1,2-Dichlorobenzene	0.27	U
87-68-3	Hexachlorobutadiene	0.37	U
76-14-2	Freon 114	0.52	U

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	29	93	70 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	377546	10.96	410314	10.97	
1,4-Difluorobenzene	1245674	12.46	1596494	12.47	
Chlorobenzene-d5	909226	15.87	1196660	15.87	

LCS / LCS DUPLICATE RECOVERY

TO-15

Laboratory:	ENCO Orlando	SDG:	AE02772-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA Airs
Matrix:	Air		
Batch:	1D20052	Laboratory ID:	1D20052-BS1
Preparation:	NO PREP 2	Initial/Final:	400 mL / 400 mL

COMPOUND	SPIKE ADDED (ppbv)	LCS CONCENTRATION (ppbv)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	10.0	12	119	61 - 137
Propene	10.0	9.1	91	63 - 132
Chloromethane	10.0	10	104	55 - 142
Vinyl chloride	10.0	11	111	53 - 148
Bromomethane	10.0	12	117	69 - 130
Chloroethane	10.0	12	118	69 - 131
Trichlorofluoromethane	10.0	8.5	85	46 - 161
Bromoethene	10.0	11	110	69 - 132
1,1-Dichloroethane	10.0	11	114	70 - 130
Acetone	10.0	11	113	65 - 130
Methylene chloride	10.0	11	109	59 - 136
Freon 113	10.0	11	109	67 - 140
3-Chloropropene	10.0	11	109	70 - 130
trans-1,2-Dichloroethene	10.0	11	109	70 - 130
1,1-Dichloroethene	10.0	12	118	67 - 142
cis-1,2-Dichloroethene	10.0	11	107	70 - 130
Chloroform	10.0	12	115	70 - 130
1,2-Dichloroethane	10.0	13	127	70 - 130
1,1,1-Trichloroethane	10.0	12	119	70 - 130
Carbon tetrachloride	10.0	11	112	22 - 166
1,2-Dichloropropane	10.0	11	110	70 - 130
Trichloroethene	10.0	11	106	70 - 130
Bromodichloromethane	10.0	12	116	70 - 130
cis-1,3-Dichloropropene	10.0	12	120	70 - 137
trans-1,3-Dichloropropene	10.0	16	163	59 - 166
1,1,2-Trichloroethane	10.0	11	110	70 - 134
1,2-Dibromoethane	10.0	12	116	70 - 141
Tetrachloroethene	10.0	10	104	70 - 141
Dibromochloromethane	10.0	11	112	70 - 130
Chlorobenzene	10.0	10	105	70 - 134

LCS / LCS DUPLICATE RECOVERY

TO-15

Laboratory:	ENCO Orlando	SDG:	AE02772-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA Airs
Matrix:	Air		
Batch:	1D20052	Laboratory ID:	1D20052-BS1
Preparation:	NO PREP 2	Initial/Final:	400 mL / 400 mL

COMPOUND	SPIKE ADDED (ppbv)	LCS CONCENTRATION (ppbv)	LCS % REC. #	QC LIMITS REC.
Bromoform	10.0	11	111	62 - 149
1,1,2,2-Tetrachloroethane	10.0	12	115	52 - 163
1,3-Dichlorobenzene	10.0	11	108	47 - 178
1,4-Dichlorobenzene	10.0	11	109	45 - 180
1,2-Dichlorobenzene	10.0	11	112	37 - 180
Hexachlorobutadiene	10.0	13	131	24 - 180
Freon 114	10.0	11	110	62 - 147

COMPOUND	SPIKE ADDED (ppbv)	LCSD CONCENTRATION (ppbv)	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	10.0	11	115	3	25	61 - 137
Propene	10.0	9.0	90	0.7	25	63 - 132
Chloromethane	10.0	10	104	0.5	25	55 - 142
Vinyl chloride	10.0	11	112	0.8	25	53 - 148
Bromomethane	10.0	12	115	2	25	69 - 130
Chloroethane	10.0	12	117	1	25	69 - 131
Trichlorofluoromethane	10.0	8.3	83	3	25	46 - 161
Bromoethene	10.0	11	109	1	25	69 - 132
1,1-Dichloroethane	10.0	11	111	3	25	70 - 130
Acetone	10.0	11	111	2	25	65 - 130
Methylene chloride	10.0	11	107	2	25	59 - 136
Freon 113	10.0	11	107	2	25	67 - 140
3-Chloropropene	10.0	11	106	2	25	70 - 130
trans-1,2-Dichloroethene	10.0	11	106	2	25	70 - 130
1,1-Dichloroethene	10.0	12	116	2	25	67 - 142
cis-1,2-Dichloroethene	10.0	11	106	0.7	25	70 - 130
Chloroform	10.0	11	113	3	25	70 - 130
1,2-Dichloroethane	10.0	12	123	3	25	70 - 130
1,1,1-Trichloroethane	10.0	12	115	3	25	70 - 130
Carbon tetrachloride	10.0	11	109	3	25	22 - 166

LCS / LCS DUPLICATE RECOVERY

TO-15

Laboratory:	ENCO Orlando	SDG:	AE02772-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA Airs
Matrix:	Air		
Batch:	1D20052	Laboratory ID:	1D20052-BSD1
Preparation:	NO PREP 2	Initial/Final:	400 mL / 400 mL

COMPOUND	SPIKE ADDED (ppbv)	LCSD CONCENTRATION (ppbv)	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,2-Dichloropropane	10.0	11	107	3	25	70 - 130
Trichloroethene	10.0	11	105	0.3	25	70 - 130
Bromodichloromethane	10.0	11	113	3	25	70 - 130
cis-1,3-Dichloropropene	10.0	12	118	2	25	70 - 137
trans-1,3-Dichloropropene	10.0	16	161	1	25	59 - 166
1,1,2-Trichloroethane	10.0	11	108	2	25	70 - 134
1,2-Dibromoethane	10.0	12	115	0.5	25	70 - 141
Tetrachloroethene	10.0	10	102	2	25	70 - 141
Dibromochloromethane	10.0	11	110	2	25	70 - 130
Chlorobenzene	10.0	10	103	1	25	70 - 134
Bromoform	10.0	11	110	0.8	25	62 - 149
1,1,2,2-Tetrachloroethane	10.0	11	115	0.6	25	52 - 163
1,3-Dichlorobenzene	10.0	11	108	0.5	25	47 - 178
1,4-Dichlorobenzene	10.0	11	110	0.9	25	45 - 180
1,2-Dichlorobenzene	10.0	11	111	0.2	25	37 - 180
Hexachlorobutadiene	10.0	13	131	0.06	25	24 - 180
Freon 114	10.0	11	109	0.7	25	62 - 147

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

TO-15

Laboratory: ENCO Orlando
SDG: AE02772-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA Airs

Sequence: AA65685
Instrument: OVGCMS7
Matrix: Air
Calibration: 2103167

Surrogate Compound	Spike Level ppbv	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA65685-SCV1)			Lab File ID: 217CZ016.D		Analyzed: 04/01/21 01:45			
4-Bromofluorobenzene	31.0	102	0 - 200	17.3	17.3	0.0000	+/-1.0	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

TO-15

Laboratory: ENCO Orlando
SDG: AE02772-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA Airs

Sequence: AA66011
Instrument: OVGCMS7
Matrix: Air
Calibration: 2103167

Surrogate Compound	Spike Level ppbv	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA66011-CCV1)			Lab File ID: 217DO003.D		Analyzed: 04/20/21 20:40			
4-Bromofluorobenzene	31.0	99	0 - 200	17.3	17.3	0.0000	+/-1.0	
Instrument RL Check (AA66011-CRL1)			Lab File ID: 217DO004.D		Analyzed: 04/20/21 21:20			
4-Bromofluorobenzene	31.0	94	0 - 200	17.3	17.3	0.0000	+/-1.0	
LCS (1D20052-BS1)			Lab File ID: 217DO005.D		Analyzed: 04/20/21 21:59			
4-Bromofluorobenzene	31.0	99	70 - 130	17.3	17.3	0.0000	+/-1.0	
LCS Dup (1D20052-BSD1)			Lab File ID: 217DO006.D		Analyzed: 04/20/21 22:39			
4-Bromofluorobenzene	31.0	99	70 - 130	17.3	17.3	0.0000	+/-1.0	
Blank (1D20052-BLK1)			Lab File ID: 217DO008.D		Analyzed: 04/21/21 00:06			
4-Bromofluorobenzene	31.0	93	70 - 130	17.3	17.3	0.0000	+/-1.0	
CRCA-AMB-20210414 (AE02772-01)			Lab File ID: 217DO014.D		Analyzed: 04/21/21 10:25			
4-Bromofluorobenzene	31.0	93	70 - 130	17.3	17.3	0.0000	+/-1.0	
CRCA-VMP01-20210414 (AE02772-02)			Lab File ID: 217DO015.D		Analyzed: 04/21/21 11:10			
4-Bromofluorobenzene	31.0	94	70 - 130	17.29	17.3	-0.0100	+/-1.0	
CRCA-VMP02-20210414 (AE02772-03)			Lab File ID: 217DO016.D		Analyzed: 04/21/21 11:55			
4-Bromofluorobenzene	31.0	93	70 - 130	17.3	17.3	0.0000	+/-1.0	
CRCA-VMP03-20210414 (AE02772-04)			Lab File ID: 217DO017.D		Analyzed: 04/21/21 12:41			
4-Bromofluorobenzene	31.0	94	70 - 130	17.3	17.3	0.0000	+/-1.0	
CRCA-VMP04-20210414 (AE02772-05)			Lab File ID: 217DO018.D		Analyzed: 04/21/21 13:26			
4-Bromofluorobenzene	31.0	94	70 - 130	17.3	17.3	0.0000	+/-1.0	
CRCA-VMP02-20210414 (AE02772-03RE1)			Lab File ID: 217DO021.D		Analyzed: 04/21/21 15:31			
4-Bromofluorobenzene	31.0	93	70 - 130	17.3	17.3	0.0000	+/-1.0	

INTERNAL STANDARD AREA AND RT SUMMARY
TO-15

Laboratory: ENCO Orlando
SDG: AE02772-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA Airs
Sequence: AA65685
Instrument: OVGCMS7
Matrix: Air
Calibration: 2103167

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA65685-CAL1)			Lab File ID: 217CZ002.D			Analyzed: 03/31/21 15:32			
Bromochloromethane	483938	10.97	410314	10.97	118	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	1569689	12.47	1596494	12.47	98	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	1167168	15.87	1196660	15.87	98	60 - 140	0.0000	+/-0.50	
Cal Standard (AA65685-CAL2)			Lab File ID: 217CZ003.D			Analyzed: 03/31/21 16:14			
Bromochloromethane	484907	10.97	410314	10.97	118	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	1577449	12.47	1596494	12.47	99	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	1154884	15.87	1196660	15.87	97	60 - 140	0.0000	+/-0.50	
Cal Standard (AA65685-CAL3)			Lab File ID: 217CZ004.D			Analyzed: 03/31/21 16:56			
Bromochloromethane	431227	10.97	410314	10.97	105	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	1417918	12.47	1596494	12.47	89	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	1044354	15.87	1196660	15.87	87	60 - 140	0.0000	+/-0.50	
Cal Standard (AA65685-CAL4)			Lab File ID: 217CZ005.D			Analyzed: 03/31/21 17:36			
Bromochloromethane	481792	10.97	410314	10.97	117	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	1574428	12.47	1596494	12.47	99	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	1164958	15.87	1196660	15.87	97	60 - 140	0.0000	+/-0.50	
Cal Standard (AA65685-CAL5)			Lab File ID: 217CZ006.D			Analyzed: 03/31/21 18:19			
Bromochloromethane	484725	10.97	410314	10.97	118	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	1565412	12.47	1596494	12.47	98	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	1166723	15.87	1196660	15.87	97	60 - 140	0.0000	+/-0.50	
Cal Standard (AA65685-CAL6)			Lab File ID: 217CZ007.D			Analyzed: 03/31/21 18:58			
Bromochloromethane	479989	10.97	410314	10.97	117	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	1566277	12.47	1596494	12.47	98	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	1180699	15.87	1196660	15.87	99	60 - 140	0.0000	+/-0.50	
Cal Standard (AA65685-CAL7)			Lab File ID: 217CZ009.D			Analyzed: 03/31/21 20:36			
Bromochloromethane	410314	10.97	410314	10.97	100	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	1596494	12.47	1596494	12.47	100	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	1196660	15.87	1196660	15.87	100	60 - 140	0.0000	+/-0.50	
Cal Standard (AA65685-CAL8)			Lab File ID: 217CZ011.D			Analyzed: 03/31/21 22:06			
Bromochloromethane	499257	10.97	410314	10.97	122	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	1558506	12.47	1596494	12.47	98	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	1175355	15.87	1196660	15.87	98	60 - 140	0.0000	+/-0.50	
Cal Standard (AA65685-CAL9)			Lab File ID: 217CZ013.D			Analyzed: 03/31/21 23:42			
Bromochloromethane	487575	10.98	410314	10.97	119	60 - 140	0.0100	+/-0.50	
1,4-Difluorobenzene	1463213	12.48	1596494	12.47	92	60 - 140	0.0100	+/-0.50	
Chlorobenzene-d5	1096162	15.87	1196660	15.87	92	60 - 140	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
TO-15

Laboratory: ENCO Orlando
SDG: AE02772-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA Airs
Sequence: AA65685
Instrument: OVGCMS7
Matrix: Air
Calibration: 2103167

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA65685-SCV1)			Lab File ID: 217CZ016.D			Analyzed: 04/01/21 01:45			
Bromochloromethane	486420	10.97	410314	10.97	119	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	1568006	12.47	1596494	12.47	98	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	1182914	15.87	1196660	15.87	99	60 - 140	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
TO-15

Laboratory: ENCO Orlando
SDG: AE02772-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA Airs
Sequence: AA66011
Instrument: OVGCMS7
Matrix: Air
Calibration: 2103167

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA66011-CCV1)			Lab File ID: 217DO003.D			Analyzed: 04/20/21 20:40			
Bromochloromethane	370939	10.97	410314	10.97	90	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	1197864	12.47	1596494	12.47	75	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	916509	15.87	1196660	15.87	77	60 - 140	0.0000	+/-0.50	
Instrument RL Check (AA66011-CRL1)			Lab File ID: 217DO004.D			Analyzed: 04/20/21 21:20			
Bromochloromethane	378211	10.97	410314	10.97	92	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	1224357	12.47	1596494	12.47	77	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	910942	15.87	1196660	15.87	76	60 - 140	0.0000	+/-0.50	
LCS (1D20052-BS1)			Lab File ID: 217DO005.D			Analyzed: 04/20/21 21:59			
Bromochloromethane	371786	10.97	410314	10.97	91	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	1212226	12.47	1596494	12.47	76	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	928074	15.87	1196660	15.87	78	60 - 140	0.0000	+/-0.50	
LCS Dup (1D20052-BSD1)			Lab File ID: 217DO006.D			Analyzed: 04/20/21 22:39			
Bromochloromethane	381197	10.97	410314	10.97	93	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	1236152	12.47	1596494	12.47	77	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	942109	15.87	1196660	15.87	79	60 - 140	0.0000	+/-0.50	
Blank (1D20052-BLK1)			Lab File ID: 217DO008.D			Analyzed: 04/21/21 00:06			
Bromochloromethane	377546	10.96	410314	10.97	92	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1245674	12.46	1596494	12.47	78	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	909226	15.87	1196660	15.87	76	60 - 140	0.0000	+/-0.50	
CRCA-AMB-20210414 (AE02772-01)			Lab File ID: 217DO014.D			Analyzed: 04/21/21 10:25			
Bromochloromethane	384346	10.96	410314	10.97	94	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1253612	12.46	1596494	12.47	79	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	935186	15.86	1196660	15.87	78	60 - 140	-0.0100	+/-0.50	
CRCA-VMP01-20210414 (AE02772-02)			Lab File ID: 217DO015.D			Analyzed: 04/21/21 11:10			
Bromochloromethane	389379	10.96	410314	10.97	95	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1266536	12.47	1596494	12.47	79	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	936361	15.86	1196660	15.87	78	60 - 140	-0.0100	+/-0.50	
CRCA-VMP02-20210414 (AE02772-03)			Lab File ID: 217DO016.D			Analyzed: 04/21/21 11:55			
Bromochloromethane	392415	10.96	410314	10.97	96	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1277948	12.47	1596494	12.47	80	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	945869	15.86	1196660	15.87	79	60 - 140	-0.0100	+/-0.50	
CRCA-VMP03-20210414 (AE02772-04)			Lab File ID: 217DO017.D			Analyzed: 04/21/21 12:41			
Bromochloromethane	392593	10.96	410314	10.97	96	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1280780	12.47	1596494	12.47	80	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	949894	15.86	1196660	15.87	79	60 - 140	-0.0100	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
TO-15

Laboratory: ENCO Orlando
SDG: AE02772-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA Airs
Sequence: AA66011
Instrument: OVGCMS7
Matrix: Air
Calibration: 2103167

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
CRCA-VMP04-20210414 (AE02772-05)			Lab File ID: 217DO018.D			Analyzed: 04/21/21 13:26			
Bromochloromethane	398062	10.97	410314	10.97	97	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	1289785	12.47	1596494	12.47	81	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	950817	15.87	1196660	15.87	79	60 - 140	0.0000	+/-0.50	
CRCA-VMP02-20210414 (AE02772-03RE1)			Lab File ID: 217DO021.D			Analyzed: 04/21/21 15:31			
Bromochloromethane	417888	10.96	410314	10.97	102	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1394655	12.47	1596494	12.47	87	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	1012325	15.87	1196660	15.87	85	60 - 140	0.0000	+/-0.50	

ANALYSIS BATCH (SEQUENCE) SUMMARY

TO-15

Laboratory:	ENCO Orlando	SDG:	AE02772-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA Airs
Sequence:	AA65685		
Calibration:	2103167	Instrument:	OVGCMS7

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA65685-TUN1	217CZ001.D	03/31/21 14:43
Cal Standard	AA65685-CAL1	217CZ002.D	03/31/21 15:32
Cal Standard	AA65685-CAL2	217CZ003.D	03/31/21 16:14
Cal Standard	AA65685-CAL3	217CZ004.D	03/31/21 16:56
Cal Standard	AA65685-CAL4	217CZ005.D	03/31/21 17:36
Cal Standard	AA65685-CAL5	217CZ006.D	03/31/21 18:19
Cal Standard	AA65685-CAL6	217CZ007.D	03/31/21 18:58
Cal Standard	AA65685-CAL7	217CZ009.D	03/31/21 20:36
Cal Standard	AA65685-CAL8	217CZ011.D	03/31/21 22:06
Cal Standard	AA65685-CAL9	217CZ013.D	03/31/21 23:42
Secondary Cal Check	AA65685-SCV1	217CZ016.D	04/01/21 01:45

ANALYSIS BATCH (SEQUENCE) SUMMARY

TO-15

Laboratory:	ENCO Orlando	SDG:	AE02772-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA Airs
Sequence:	AA66011		
Calibration:	2103167	Instrument:	OVGCMS7

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA66011-TUN1	217DO002.D	04/20/21 19:59
Calibration Check	AA66011-CCV1	217DO003.D	04/20/21 20:40
Instrument RL Check	AA66011-CRL1	217DO004.D	04/20/21 21:20
LCS	1D20052-BS1	217DO005.D	04/20/21 21:59
LCS Dup	1D20052-BSD1	217DO006.D	04/20/21 22:39
Blank	1D20052-BLK1	217DO008.D	04/21/21 00:06
CRCA-AMB-20210414	AE02772-01	217DO014.D	04/21/21 10:25
CRCA-VMP01-20210414	AE02772-02	217DO015.D	04/21/21 11:10
CRCA-VMP02-20210414	AE02772-03	217DO016.D	04/21/21 11:55
CRCA-VMP03-20210414	AE02772-04	217DO017.D	04/21/21 12:41
CRCA-VMP04-20210414	AE02772-05	217DO018.D	04/21/21 13:26
CRCA-VMP02-20210414	AE02772-03RE1	217DO021.D	04/21/21 15:31

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

TO-15

Laboratory:	ENCO Orlando	SDG:	AE02772-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA Airs
Lab File ID:	217CZ001.D	Injection Date:	03/31/21
Instrument ID:	OVGCMS7	Injection Time:	14:43
Sequence:	AA65685	Lab Sample ID:	AA65685-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8 - 40% of 95	21.6	PASS
75	30 - 66% of 95	43.2	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.62	PASS
173	Less than 2% of 174	0	PASS
174	50 - 120% of 95	81.6	PASS
175	4 - 9% of 174	8.25	PASS
176	95 - 101% of 174	96	PASS
177	5 - 9% of 176	6.52	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

TO-15

Laboratory:	ENCO Orlando	SDG:	AE02772-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA Airs
Lab File ID:	217DO002.D	Injection Date:	04/20/21
Instrument ID:	OVGCMS7	Injection Time:	19:59
Sequence:	AA66011	Lab Sample ID:	AA66011-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8 - 40% of 95	25.1	PASS
75	30 - 66% of 95	47	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.77	PASS
173	Less than 2% of 174	0	PASS
174	50 - 120% of 95	73.3	PASS
175	4 - 9% of 174	8.49	PASS
176	95 - 101% of 174	95.5	PASS
177	5 - 9% of 176	6.8	PASS

CONTINUING CALIBRATION CHECK

TO-15

Laboratory:	ENCO Orlando	SDG:	AE02772-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA Airs
Instrument ID:	OVGCMS7	Calibration:	2103167
Lab File ID:	217DO003.D	Calibration Date:	03/31/21 00:00
Sequence:	AA66011	Injection Date:	04/20/21
Lab Sample ID:	AA66011-CCV1	Injection Time:	20:40

		CONC. (ppbv)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Dichlorodifluoromethane	A	10.0	11	5.0039	5.734907		15	30
Propene	A	10.0	8.8	3.103845	2.727772		-12	30
Chloromethane	A	10.0	10	2.904965	2.912064		0.20	30
Vinyl chloride	A	10.0	10	2.485318	2.520272		1.4	30
Bromomethane	A	10.0	10	1.693085	1.76989		4.5	30
Chloroethane	A	10.0	11	0.8516122	0.932869		9.5	30
Trichlorofluoromethane	A	10.0	8.1	3.920738	3.160121		-19	30
Bromoethene	A	10.0	11	1.479624	1.592776		7.6	30
1,1-Dichloroethane	A	10.0	11	3.763689	4.021721		6.9	30
Acetone	A	10.0	11	4.355915	4.999702		15	30
Methylene chloride	A	10.0	10	1.757898	1.839371		4.6	30
Freon 113	A	10.0	10	3.011125	3.085876		2.5	30
3-Chloropropene	A	10.0	11	3.883778	4.209673		8.4	30
trans-1,2-Dichloroethene	A	10.0	11	2.996114	3.263625		8.9	30
1,1-Dichloroethene	A	10.0	11	3.330683	3.744864		12	30
cis-1,2-Dichloroethene	A	10.0	10	2.037699	2.053707		0.80	30
Chloroform	A	10.0	11	3.932209	4.317339		9.8	30
1,2-Dichloroethane	A	10.0	12	2.458029	2.982373		21	30
1,1,1-Trichloroethane	A	10.0	11	3.453102	3.905004		13	30
Carbon tetrachloride	A	10.0	10	3.12405	3.225834		3.3	30
1,2-Dichloropropane	A	10.0	10	0.7193571	0.7430053		3.3	30
Trichloroethene	A	10.0	10	0.8098647	0.835933		3.2	30
Bromodichloromethane	A	10.0	12	1.196554	1.38829		16	30
cis-1,3-Dichloropropene	A	10.0	11	1.019334	1.077621		5.7	30
trans-1,3-Dichloropropene	A	10.0	11	0.6004615	0.647632		7.9	30
1,1,2-Trichloroethane	A	10.0	10	0.6568551	0.6753928		2.8	30
1,2-Dibromoethane	A	10.0	11	1.070637	1.126717		5.2	30
Tetrachloroethene	A	10.0	9.9	0.8895147	0.8828032		-0.8	30
Dibromochloromethane	A	10.0	11	0.966109	1.085152		12	30

CONTINUING CALIBRATION CHECK

TO-15

Laboratory:	ENCO Orlando	SDG:	AE02772-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA Airs
Instrument ID:	OVGCMS7	Calibration:	2103167
Lab File ID:	217DO003.D	Calibration Date:	03/31/21 00:00
Sequence:	AA66011	Injection Date:	04/20/21
Lab Sample ID:	AA66011-CCV1	Injection Time:	20:40

		CONC. (ppbv)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Chlorobenzene	A	10.0	9.8	1.836412	1.798368		-2.1	30
Bromoform	A	10.0	11	1.262552	1.396613		11	30
1,1,2,2-Tetrachloroethane	A	10.0	9.9	1.479737	1.47153		-0.6	30
1,3-Dichlorobenzene	A	10.0	9.7	1.250121	1.218019		-2.6	30
1,4-Dichlorobenzene	A	10.0	9.9	1.146538	1.131809		-1.3	30
1,2-Dichlorobenzene	A	10.0	9.9	1.145963	1.102859		-0.7	30
Hexachlorobutadiene	A	10.0	12	0.3476883	0.4327341		25	30
Freon 114	A	10.0	10	3.62478	3.677171		1.4	30

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

TO-15

Laboratory: ENCO Orlando
SDG: AE02772-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA Airs

Sequence: AA65685
Instrument: OVGCMS7

Calibration: 2103167

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A1C1113	Air- VIRTUAL TUN-032321	AA65685-TUN1	217CZ001.D	03/31/21 14:43
A1C0718	Air- Virtual CAL1 030821	AA65685-CAL1	217CZ002.D	03/31/21 15:32
A1C0719	Air- Virtual CAL2 030821	AA65685-CAL2	217CZ003.D	03/31/21 16:14
A1C0720	Air- Virtual CAL3 030821	AA65685-CAL3	217CZ004.D	03/31/21 16:56
A1C0721	Air- Virtual CAL4 030821	AA65685-CAL4	217CZ005.D	03/31/21 17:36
A1C0722	Air- Virtual CAL5 030821	AA65685-CAL5	217CZ006.D	03/31/21 18:19
A1C0723	Air- Virtual CAL6 030821	AA65685-CAL6	217CZ007.D	03/31/21 18:58
A1C0724	Air- Virtual CAL7 030821	AA65685-CAL7	217CZ009.D	03/31/21 20:36
A1C0725	Air- Virtual CAL8 030821	AA65685-CAL8	217CZ011.D	03/31/21 22:06
A1C0726	Air- Virtual CAL9 030821	AA65685-CAL9	217CZ013.D	03/31/21 23:42
A1C0677	Air- Virtual SCV 030521	AA65685-SCV1	217CZ016.D	04/01/21 01:45

INITIAL CALIBRATION DATA

TO-15

Laboratory: ENCO Orlando
SDG: AE02772-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA Airs
Calibration: 2103167
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 03/31/21 00:00

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF
Dichlorodifluoromethane	0.125	5.33832	0.25	5.204907	0.5	7.13703	1.25	5.084548	2.5	4.982691	5	4.463754
Propene	0.125	4.536317	0.25	3.807402	0.5	4.159002	1.25	2.769173	2.5	2.670761	5	2.377561
Chloromethane	0.125	3.034802	0.25	2.943583	0.5	3.985465	1.25	2.817096	2.5	2.766283	5	2.525718
Vinyl chloride	0.125	2.359889	0.25	2.415523	0.5	3.319639	1.25	2.483644	2.5	2.41203	5	2.2266
Bromomethane	0.125	1.736222	0.25	1.785942	0.5	2.396023	1.25	1.662317	2.5	1.629031	5	1.462433
Chloroethane	0.125	0.8727234	0.25	0.8840211	0.5	1.158401	1.25	0.8273496	2.5	0.8270248	5	0.766738
Trichlorofluoromethane	0.125	3.817332	0.25	3.886675	0.5	5.567142	1.25	3.987832	2.5	3.838737	5	3.485991
Bromoethene	0.125	1.42772	0.25	1.570371	0.5	1.961389	1.25	1.46028	2.5	1.400051	5	1.321987
1,1-Dichloroethane	0.125	3.720989	0.25	3.697699	0.5	5.306764	1.25	3.766492	2.5	3.645033	5	3.361007
Acetone	0.125	~~11.41869~~	0.25	~~9.690221~~	0.5	~~7.113307~~	1.25	4.947008	2.5	4.667936	5	4.066195
Methylene chloride	0.125	~~7.877059~~	0.25	~~7.071657~~	0.5	~~3.377006~~	1.25	2.204035	2.5	2.084791	5	1.664648
Freon 113	0.125	3.137807	0.25	3.064538	0.5	4.343323	1.25	3.062835	2.5	3.061749	5	2.792647
3-Chloropropene	0.125	3.63797	0.25	3.86008	0.5	5.36945	1.25	3.755373	2.5	3.765983	5	3.481509
trans-1,2-Dichloroethene	0.125	3.053251	0.25	2.983731	0.5	4.185169	1.25	2.977902	2.5	2.980144	5	2.716347
1,1-Dichloroethene	0.125	3.264385	0.25	3.258885	0.5	4.654885	1.25	3.384139	2.5	3.317871	5	3.042823
cis-1,2-Dichloroethene	0.125	2.193339	0.25	1.93963	0.5	2.886155	1.25	2.000247	2.5	1.984409	5	1.818037
Chloroform	0.125	3.948522	0.25	4.113754	0.5	5.52516	1.25	3.857087	2.5	3.835462	5	3.513504
1,2-Dichloroethane	0.125	2.408061	0.25	2.362589	0.5	3.389945	1.25	2.456106	2.5	2.374323	5	2.201218
1,1,1-Trichloroethane	0.125	3.470395	0.25	3.395694	0.5	5.026977	1.25	3.478338	2.5	3.424316	5	3.086534
Carbon tetrachloride	0.125	3.593386	0.25	3.55961	0.5	3.568371	1.25	2.672453	2.5	2.537507	5	3.110456
1,2-Dichloropropane	0.125	0.7637385	0.25	0.7246865	0.5	0.9475879	1.25	0.7087186	2.5	0.6988432	5	0.6367018
Trichloroethene	0.125	0.8659601	0.25	0.8228678	0.5	1.099667	1.25	0.7977475	2.5	0.7816519	5	0.7244484
Bromodichloromethane	0.125	1.138814	0.25	1.130068	0.5	1.638241	1.25	1.158683	2.5	1.17933	5	1.121883
cis-1,3-Dichloropropene	0.125	1.128861	0.25	1.034952	0.5	1.338193	1.25	0.9581791	2.5	0.9565765	5	0.9087727
trans-1,3-Dichloropropene	0.125	0.5994257	0.25	0.6742202	0.5	0.8615787	1.25	0.5477357	2.5	0.5680319	5	0.5359241
1,1,2-Trichloroethane	0.125	0.6924837	0.25	0.6794869	0.5	0.887552	1.25	0.6189494	2.5	0.6232509	5	0.5882823
1,2-Dibromoethane	0.125	1.150032	0.25	1.068832	0.5	1.376803	1.25	1.006679	2.5	1.010726	5	0.9791853
Tetrachloroethene	0.125	1.022847	0.25	0.9750528	0.5	1.216678	1.25	0.8649917	2.5	0.8618702	5	0.7821267
Dibromochloromethane	0.125	0.9751333	0.25	0.9286741	0.5	1.217159	1.25	0.9020241	2.5	0.897896	5	0.9492398
Chlorobenzene	0.125	2.18727	0.25	2.088134	0.5	2.48468	1.25	1.728356	2.5	1.725922	5	1.635159
Bromoform	0.125	1.260645	0.25	1.234004	0.5	1.480847	1.25	1.084044	2.5	1.099749	5	1.269092

INITIAL CALIBRATION DATA

TO-15

Laboratory: ENCO Orlando
SDG: AE02772-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA Airs
Calibration: 2103167
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 03/31/21 00:00

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF
1,1,2,2-Tetrachloroethane	0.125	2.017286	0.25	1.823359	0.5	1.680853	1.25	1.164578	2.5	1.176962	5	1.306953
1,3-Dichlorobenzene	0.125	1.841565	0.25	1.6404	0.5	1.335338	1.25	0.9414121	2.5	0.9717021	5	1.057199
1,4-Dichlorobenzene	0.125	1.70834	0.25	1.497491	0.5	1.179204	1.25	0.8549603	2.5	0.8603201	5	0.9659027
1,2-Dichlorobenzene	0.125	1.826267	0.25	1.594338	0.5	1.192917	1.25	0.8228362	2.5	0.8292117	5	0.9545288
Hexachlorobutadiene	0.125	~~1.117008~~	0.25	~~1.008635~~	0.5	0.3957987	1.25	0.282198	2.5	0.2809208	5	0.3710026
4-Bromofluorobenzene	31	0.464856	31	0.4761742	31	0.4708231	31	0.4737089	31	0.4793623	31	0.485686
Freon 114	0.125	3.47142	0.25	3.537874	0.5	5.044517	1.25	3.633379	2.5	3.62815	5	3.248022

INITIAL CALIBRATION DATA (Continued)

TO-15

Laboratory: ENCO Orlando
SDG: AE02772-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA Airs
Calibration: 2103167
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 03/31/21 00:00

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF
Dichlorodifluoromethane	10	5.089727	25	4.070883	50	3.663242						
Propene	10	2.660998	25	2.390734	50	2.562653						
Chloromethane	10	2.844083	25	2.543098	50	2.684561						
Vinyl chloride	10	2.509849	25	2.269082	50	2.37161						
Bromomethane	10	1.555878	25	1.495574	50	1.514349						
Chloroethane	10	0.8034717	25	0.7610029	50	0.7637772						
Trichlorofluoromethane	10	3.806894	25	3.476501	50	3.419536						
Bromoethene	10	1.365495	25	1.50607	50	1.303251						
1,1-Dichloroethane	10	3.356045	25	3.453346	50	3.56583						
Acetone	10	4.161663	25	4.146765	50	4.145925						
Methylene chloride	10	1.512534	25	1.634641	50	1.446738						
Freon 113	10	2.54458	25	2.711358	50	2.381287						
3-Chloropropene	10	3.534559	25	3.883544	50	3.665534						
trans-1,2-Dichloroethene	10	2.7342	25	2.73767	50	2.596612						
1,1-Dichloroethene	10	3.134489	25	3.058104	50	2.860562						
cis-1,2-Dichloroethene	10	1.707239	25	1.881788	50	1.928446						
Chloroform	10	3.638949	25	3.517624	50	3.439817						
1,2-Dichloroethane	10	2.510997	25	2.209027	50	2.209991						
1,1,1-Trichloroethane	10	3.333569	25	2.984197	50	2.877901						
Carbon tetrachloride	10	3.421398	25	2.924278	50	2.728988						
1,2-Dichloropropane	10	0.5986411	25	0.6769976	50	0.7182983						
Trichloroethene	10	0.6849967	25	0.7492746	50	0.7621687						
Bromodichloromethane	10	1.07327	25	1.162645	50	1.166056						
cis-1,3-Dichloropropene	10	0.8564401	25	0.9714251	50	1.020607						
trans-1,3-Dichloropropene	10	0.5090679	25	0.5604341	50	0.5477354						
1,1,2-Trichloroethane	10	0.5539749	25	0.6198647	50	0.6478514						
1,2-Dibromoethane	10	0.9258384	25	1.041142	50	1.076496						
Tetrachloroethene	10	0.7381717	25	0.7948906	50	0.7490035						
Dibromochloromethane	10	0.8935179	25	0.9692259	50	0.9621105						
Chlorobenzene	10	1.508694	25	1.617667	50	1.551822						
Bromoform	10	1.228933	25	1.355818	50	1.349836						

INITIAL CALIBRATION DATA (Continued)

TO-15

Laboratory: ENCO Orlando
SDG: AE02772-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA Airs
Calibration: 2103167
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 03/31/21 00:00

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF
1,1,2,2-Tetrachloroethane	10	1.241977	25	1.401736	50	1.503929						
1,3-Dichlorobenzene	10	0.9999343	25	1.183459	50	1.280076						
1,4-Dichlorobenzene	10	0.9140941	25	1.115217	50	1.223315						
1,2-Dichlorobenzene	10	0.9089596	25	1.047896	50	1.136717						
Hexachlorobutadiene	10	0.342001	25	0.3702883	50	0.3916084						
4-Bromofluorobenzene	31	0.4948724	31	0.5294009	31	0.5828117						
Freon 114	10	3.666957	25	3.206522	50	3.186175						

INITIAL CALIBRATION DATA (Continued)

TO-15

Laboratory: ENCO Orlando
SDG: AE02772-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA Airs
Calibration: 2103167
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 03/31/21 00:00

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	5.0039	19.57612	4.584444	0.5465588			30	
Propene	3.103845	26.67717	4.466667	0.5814456			30	
Chloromethane	2.904965	15.10262	5.081111	0.5339955			30	
Vinyl chloride	2.485318	13.10998	5.332222	0.4377134			30	
Bromomethane	1.693085	16.8699	6.15	0.2936307			30	
Chloroethane	0.8516122	14.51597	6.47	0.2185316			30	
Trichlorofluoromethane	3.920738	16.5889	6.797778	0.2048565			30	
Bromoethene	1.479624	13.50457	6.723333	0.2465812			30	
1,1-Dichloroethane	3.763689	15.9006	9.998889	5.984338E-02			30	
Acetone	4.355915	8.31711	8.936667	8.987979E-02			30	
Methylene chloride	1.757898	17.75009	8.833333	5.355514E-02			30	
Freon 113	3.011125	18.75288	7.928889	0.1836272			30	
3-Chloropropene	3.883778	14.76306	8.675556	8.319488E-02			30	
trans-1,2-Dichloroethene	2.996114	15.7928	9.093334	5.621992E-02			30	
1,1-Dichloroethene	3.330683	15.68281	7.832222	0.1238394			30	
cis-1,2-Dichloroethene	2.037699	16.92607	10.71222	4.129955E-02			30	
Chloroform	3.932209	16.23746	11.04222	5.983294E-02			30	
1,2-Dichloroethane	2.458029	14.9435	12.01222	4.127228E-02			30	
1,1,1-Trichloroethane	3.453102	18.26264	11.33444	4.239353E-02			30	
Carbon tetrachloride	3.12405	13.58041	11.25333	6.273842E-02			30	
1,2-Dichloropropane	0.7193571	13.71068	13.07444	3.841812E-02			30	
Trichloroethene	0.8098647	14.93758	12.45778	3.791692E-02			30	
Bromodichloromethane	1.196554	14.09107	13.11111	1.866223E-02			30	
cis-1,3-Dichloropropene	1.019334	13.98809	13.83444	3.631076E-02			30	
trans-1,3-Dichloropropene	0.6004615	18.08644	14.56	1.731851E-02			30	
1,1,2-Trichloroethane	0.6568551	14.67214	14.75444	3.514638E-02			30	
1,2-Dibromoethane	1.070637	12.26556	15.30111	2.736814E-02			30	
Tetrachloroethene	0.8895147	17.62489	14.58	3.638984E-02			30	
Dibromochloromethane	0.966109	10.27603	14.98111	2.574154E-02			30	
Chlorobenzene	1.836412	18.3388	15.89111	2.059262E-02			30	

INITIAL CALIBRATION DATA (Continued)

TO-15

Laboratory: ENCO Orlando
SDG: AE02772-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA Airs
Calibration: 2103167
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 03/31/21 00:00

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Bromoform	1.262552	9.874063	16.69222	2.694955E-02			30	
1,1,2,2-Tetrachloroethane	1.479737	20.43562	17.48111	1.881541E-02			30	
1,3-Dichlorobenzene	1.250121	25.0951	18.6	1.590774E-02			30	
1,4-Dichlorobenzene	1.146538	25.80583	18.70778	0.0187985			30	
1,2-Dichlorobenzene	1.145963	30.43774	19.25667	2.285956E-02	0.9967171		0.99	
Hexachlorobutadiene	0.3476883	13.93129	21.1	1.240742E-02			30	
4-Bromofluorobenzene	0.4952995	7.663395	17.3	1.289701E-02			30	
Freon 114	3.62478	15.59951	4.971111	0.4546491			30	

SECOND-SOURCE CALIBRATION VERIFICATION

TO-15

Laboratory: ENCO Orlando **SDG:** AE02772-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA Airs

Calibration: 2103167 **Laboratory ID:** AA65685-SCV1

Sequence: AA65685 **Standard ID:** A1C0677

ANALYTE	EXPECTED (ppbv)	FOUND (ppbv)	% DRIFT	QC LIMIT
Dibromochloromethane	10.0	9.9	-1.1	30.00
Chloroform	10.0	9.7	-2.5	30.00
Acetone	10.0	9.0	-10.2	30.00
Bromoethene	10.0	9.6	-3.5	30.00
Carbon tetrachloride	10.0	8.3	-17.1	30.00
1,3-Dichlorobenzene	10.0	10	0.4	30.00
trans-1,2-Dichloroethene	10.0	8.4	-15.9	30.00
cis-1,3-Dichloropropene	10.0	11	7.6	30.00
Tetrachloroethene	10.0	9.7	-2.7	30.00
Chloromethane	10.0	9.0	-10.0	30.00
Propene	10.0	7.8	-22.3	30.00
Chlorobenzene	10.0	9.8	-1.5	30.00
1,2-Dichloroethane	10.0	9.8	-1.9	30.00
3-Chloropropene	10.0	9.1	-8.9	30.00
1,2-Dibromoethane	10.0	11	7.6	30.00
1,4-Dichlorobenzene	10.0	10	2.0	30.00
trans-1,3-Dichloropropene	10.0	14	39.5 *	30.00
cis-1,2-Dichloroethene	10.0	10	0.2	30.00
1,1-Dichloroethene	10.0	9.1	-8.8	30.00
Hexachlorobutadiene	10.0	12	21.3	30.00
1,1,2,2-Tetrachloroethane	10.0	11	6.5	30.00
Trichloroethene	10.0	9.9	-0.7	30.00
1,1,2-Trichloroethane	10.0	10	1.8	30.00
1,2-Dichloropropane	10.0	10	0.04	30.00
Freon 114	10.0	9.7	-2.9	30.00
Freon 113	10.0	8.4	-16.2	30.00
1,1,1-Trichloroethane	10.0	9.6	-3.9	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

TO-15

Laboratory: ENCO Orlando **SDG:** AE02772-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA Airs

Calibration: 2103167 **Laboratory ID:** AA65685-SCV1

Sequence: AA65685 **Standard ID:** A1C0677

ANALYTE	EXPECTED (ppbv)	FOUND (ppbv)	% DRIFT	QC LIMIT
Trichlorofluoromethane	10.0	9.9	-0.7	30.00
Bromomethane	10.0	9.5	-5.4	30.00
1,1-Dichloroethane	10.0	9.9	-0.6	30.00
Bromodichloromethane	10.0	9.7	-2.9	30.00
Bromoform	10.0	10	2.0	30.00
Methylene chloride	10.0	8.5	-14.6	30.00
Vinyl chloride	10.0	9.8	-2.3	30.00
Chloroethane	10.0	9.3	-7.2	30.00
1,2-Dichlorobenzene	10.0	10	4.0	30.00
Dichlorodifluoromethane	10.0	9.8	-2.2	30.00

* Values outside of QC limits

ENVIRONMENTAL CONSERVATION LABORATORIES, INC.

SUMMA Canister Pressure Logbook

☐ Cary ☐ Jacksonville ☑ Orlando

Instrument ID: N/A

SUMMA Can ID#	Sample ID#	Initial Pressure (psia)	Final Pressure (psia)	Dilution Factor (F.P./I.P.)	Analyst	Date	Comments
JS-062	AE02772-01	13.55	18.36	1.35	Ko	4/21/21	
JS-069	AE02772-02	13.82	17.94	1.30	Ko	4/21/21	
JS-034	AE02772-03	13.31	17.97	1.35	Ko	4/21/21	
JS-014	AE02772-04	14.07	18.29	1.30	Ko	4/21/21	
JS-060	AE02772-05	14.47	18.70	1.29	Ko	4/21/21	

SUMMA CANISTER CLEANING LOGBOOK

	SUMMA Canister ID / Regulator ID	Initial Leak Check				Final Leak Check				Analysis Date- SUMMA Humid Air Certification (Include Chem Station File ID)	Target Analytes below MRL (DOD-1/2 LOQ) (Yes/No)	Comments
		Pressure (psia)	Date	Time	Analyst	Pressure (psia)	Date	Time	Analyst			
1	5604	51.44	3/11	11:10	KS	50.95	3/12	12:15	KS	217CF015 K 3/11/21	Yes	
2	5607	51.44	3/11	11:10	KS	51.03	3/12	12:15	KS	217CF016 KS 3/11/21	Yes	
3	5595	45.51	3/12	12:15	KS	44.87	3/15	08:50	KS	217CJ002 K 3/15/21	Yes — DCM >RL	
4	JS-014	51.71	3/16	10:15	KS	51.22	3/17	11:40	KS	217CK027 KS 3/16/21	Yes	
5	JS-034	51.71	3/16	10:15	KS	50.51	3/17	11:40	KS	217CK028 KS 3/16/21	Yes	
6	JS-060	51.71	3/16	10:15	KS	51.14	3/17	11:40	KS	217CK029 K 3/16/21	Yes	
7	JS068	51.71	3/16	10:15	KS	51.17	3/17	11:40	KS	217CK030 KS 3/16/21	Yes	
8	4679	51.34	3/18	10:15	KS	50.42	3/19	10:30	KS	217CM017 KS 3/18/21	Yes	
9	5045	51.34	3/18	10:15	KS	50.35	3/19	10:30	KS	217CM018 K 3/18/21	Yes	
10	5126	51.03	3/18	10:15	KS	49.96	3/19	10:30	KS	217CM019 K 3/18/21	Yes	

SUMMA CANISTER CLEANING LOGBOOK

	SUMMA Canister ID / Regulator ID	Initial Leak Check				Final Leak Check				Analysis Date- SUMMA Humid Air Certification (Include Chem Station File ID)	Target Analytes below MRL (DOD-1/2 LOQ) (Yes/No)	Comments
		Pressure (psia)	Date	Time	Analyst	Pressure (psia)	Date	Time	Analyst			
1	5597	51.03	3/18	10:15	KS	50.07	3/19	10:30	KS	217CM020 KS 3/18/21	Yes	
2	5608	51.03	3/18	10:15	KS	50.15	3/19	10:30	KS	217CM021 KS 3/18/21	Yes	
3	5599	50.61	3/23	09:55	KS	49.01	3/24	11:00	KS	217CR023 KS 3/23/21	Yes	
4	5602	50.61	3/23	09:55	KS	49.28	3/24	11:00	KS	217CR024 KS 3/23/21	Yes	
5	5609	50.27	3/23	09:55	KS	48.86	3/24	11:00	KS	217CS014 KS 3/24/21	Yes	
6	5610	50.27	3/23	09:55	KS	48.52	3/24	11:00	KS	217CS015 KS 3/24/21	Yes	
7	JS-062	50.40	3/30	11:05	KS	49.76	3/31	13:55	KS	217CZ028 KS 3/31/21	Yes	
8	JS-063	50.40	3/30	11:05	KS	49.68	3/31	13:55	KS	217CZ029 KS 3/31/21	Yes	
9	JS-069	50.40	3/30	11:05	KS	49.49	3/31	13:55	KS	217D1019 KS 4/1/21	Yes	
10	JS-070	50.40	3/30	11:05	KS	49.55	3/31	13:55	KS	217D1020 KS 4/1/21	Yes	

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\033121\217CZ028.D Vial: 28
Acq On : 1 Apr 2021 4:09 pm Operator: rgg
Sample : js062 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 1 16:33 2021 Quant Results File: 033121.RES

Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.96	130	365345	31000.00	PPTV	0.00
36) 1,4-DIFLUOROBENZENE	12.46	114	1203625	31000.00	PPTV	0.00
51) D5-CHLOROBENZENE	15.87	117	882311	31000.00	PPTV	0.00
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.30	174	409596	29055.46	PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery =	92.98%		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.56	85	195	N.D.		
3) Propene	4.41	41	248	N.D.		
4) Chloromethane	5.10	50	109	N.D.		
5) Freon 114	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	5.38	39	166	N.D.		
8) Bromomethane	6.13	94	102	N.D.		
9) Chloroethane	6.49	64	44	N.D.		
10) Trichlorofluoromethane	6.81	101	95	N.D.		
11) Bromoethene	6.70	106	39	N.D.		
12) 1,1-Dichloroethene	7.85	61	47	N.D.		
13) Acetone	8.95	43	17861	347.92	PPTV	99
14) Isopropyl Alcohol	8.76	45	6489	N.D.		
15) Carbon Disulfide	7.88	76	1380	N.D.		
16) Methylene Chloride	8.83	84	3392	N.D.		
17) Freon 113	7.92	151	48	N.D.		
18) 3-chloro-1-propene	8.66	41	623	N.D.		
19) t-1,2-Dichloroethene	0.00	61	0	N.D.		
20) Methyl tert-butyl ether	9.19	73	226	N.D.		
21) Hexane	9.23	57	940	N.D.		
22) 1,1-Dichloroethane	9.98	63	137	N.D.		
23) Vinyl Acetate	10.32	43	560	N.D.		
24) c-1,2-Dichloroethene	10.71	96	65	N.D.		
25) Ethyl Acetate	11.18	43	986	N.D.		
26) 2-Butanone	11.44	43	4192	N.D.		
27) Chloroform	10.99	83	43	N.D.		
28) Tetrahydrofuran	11.27	42	1282	N.D.		
29) 2,2,4-Trimethylpentane	11.60	57	2413	N.D.		
30) 1,2-Dichloroethane	12.01	62	39	N.D.		
31) 1,1,1-Trichloroethane	11.35	97	84	N.D.		
32) Cyclohexane	10.98	56	502	N.D.		
33) Carbon Tetrachloride	11.25	117	87	N.D.		
34) Benzene	11.77	78	820	N.D.		
35) Heptane	11.70	43	1205	N.D.		
37) TLPH	0.00	TIC	0	N.D.	d	
38) 1,2-Dichloropropane	13.08	63	39	N.D.		
39) Trichloroethene	0.00	130	0	N.D.		
40) 1,4-Dioxane	13.35	88	577	N.D.		
41) Bromodichloromethane	13.10	83	298	N.D.		
42) c-1,3-Dichloropropene	13.81	75	1011	N.D.		
43) t-1,3-Dichloropropene	14.54	75	472	N.D.		
44) 1,1,2-Trichloroethane	14.75	97	220	N.D.		
45) Methyl Isobutyl Ketone	14.52	43	805	N.D.		
46) Toluene	14.12	92	3337	N.D.		
47) 2-Hexanone	15.47	43	1662	N.D.		
48) 1,2-Dibromoethane	15.30	107	536	N.D.		
49) Tetrachloroethene	14.56	166	229	N.D.		

(#) = qualifier out of range (m) = manual integration
217CZ028.D 033121.M Thu Apr 01 16:34:42 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\033121\217CZ028.D Vial: 28
Acq On : 1 Apr 2021 4:09 pm Operator: rgg
Sample : js062 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 1 16:33 2021 Quant Results File: 033121.RES

Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
50) Dibromochloromethane	14.99	127	184	N.D.	
52) Chlorobenzene	15.88	112	641	N.D.	
53) Ethylbenzene	15.88	106	1797	N.D.	
54) m-Xylene & p-Xylene	16.04	106	8362	244.96 PPTV	97
55) Styrene	16.62	104	545	N.D.	
56) o-Xylene	16.56	106	3892	N.D.	
57) Bromoform	16.69	173	273	N.D.	
58) 1,1,2,2-Tetrachloroethane	17.48	83	1161	N.D.	
59) Bromofluorobenzene	17.30	174	409596	29055.46 PPTV #	90
61) 4-ethyltoluene	17.53	105	31248	329.88 PPTV	93
62) 1,3,5-Trimethylbenzene	17.63	105	9257	N.D.	
63) 1,2,4-Trimethylbenzene	18.13	105	16306	291.21 PPTV	92
64) 1,3-Dichlorobenzene	18.60	146	565	N.D.	
65) 1,4-Dichlorobenzene	18.71	146	743	N.D.	
66) Benzyl Chloride	19.00	91	1410	N.D.	
67) 1,2-Dichlorobenzene	19.25	146	750	N.D.	
68) 1,2,4-Trichlorobenzene	21.18	180	860	N.D.	
69) Hexachlorobutadiene	21.10	225	767	N.D.	

(#) = qualifier out of range (m) = manual integration
217CZ028.D 033121.M Thu Apr 01 16:34:42 2021

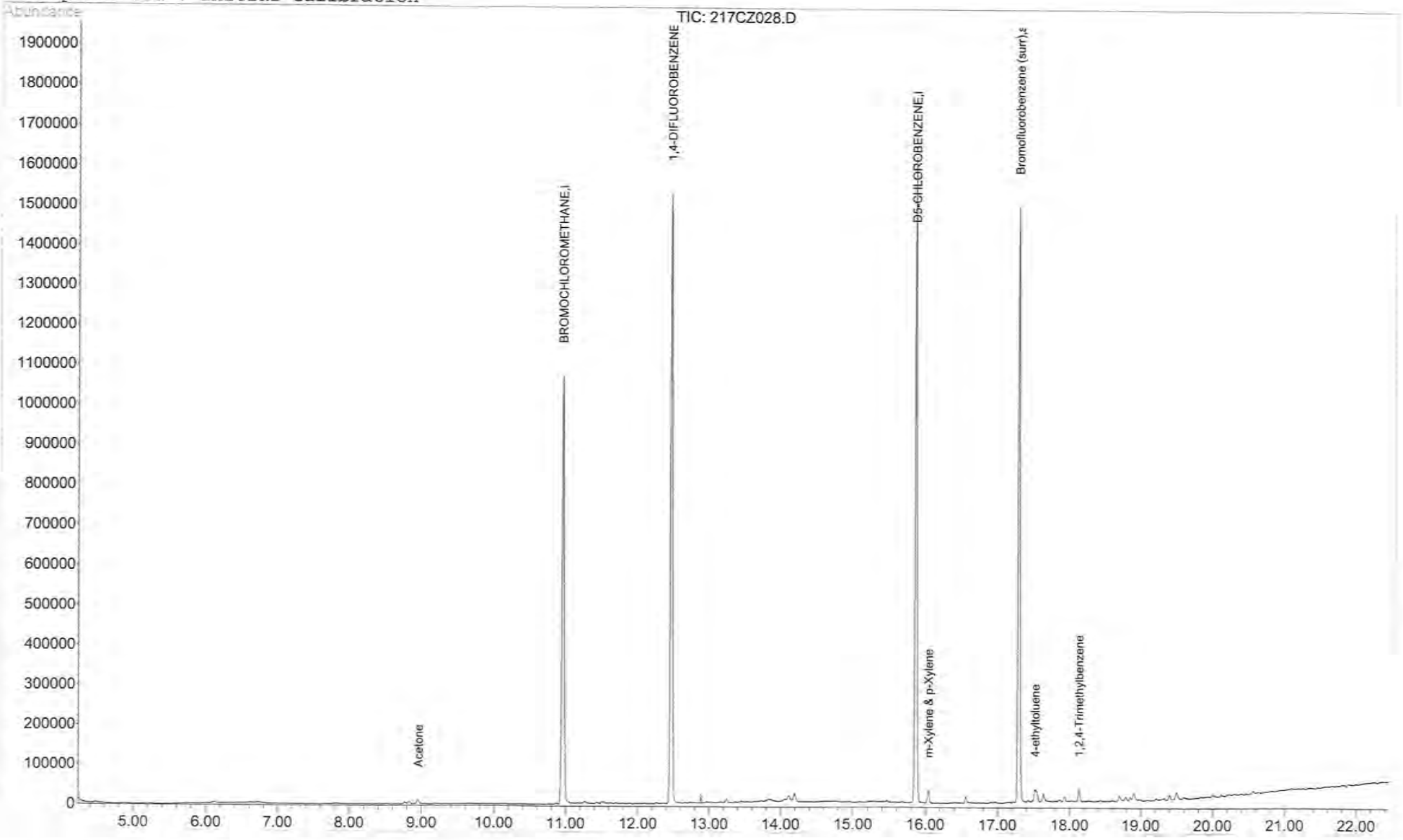
Quantitation Report

Data File : C:\HPCHEM\1\DATA\033121\217CZ028.D
Acq On : 1 Apr 2021 4:09 pm
Sample : js062
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 1 16:33 2021

Vial: 28
Operator: rgg
Inst : OVGCMS7
Multiplr: 1.00

Quant Results File: 033121.RES

Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\040121\217D1019.D Vial: 19
Acq On : 2 Apr 2021 2:28 pm Operator: rgg
Sample : js069 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 10:02 2021 Quant Results File: 033121.RES

Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.95	130	369069	31000.00	PPTV	-0.02
36) 1,4-DIFLUOROBENZENE	12.45	114	1206614	31000.00	PPTV	-0.02
51) D5-CHLOROBENZENE	15.86	117	891377	31000.00	PPTV	-0.01
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.29	174	401856	28216.48	PPTV	-0.01
Spiked Amount 31250.000	Range 50 - 150		Recovery =	90.29%		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.56	85	111	N.D.		
3) Propene	4.41	41	250	N.D.		
4) Chloromethane	5.07	50	40	N.D.		
5) Freon 114	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	5.37	39	181	N.D.		
8) Bromomethane	6.29	94	54	N.D.		
9) Chloroethane	6.46	64	43	N.D.		
10) Trichlorofluoromethane	0.00	101	0	N.D.		
11) Bromoethene	0.00	106	0	N.D.		
12) 1,1-Dichloroethene	0.00	61	0	N.D.		
13) Acetone	8.94	43	27030	521.22	PPTV	100
14) Isopropyl Alcohol	8.77	45	1757	N.D.		
15) Carbon Disulfide	7.85	76	1114	N.D.		
16) Methylene Chloride	8.81	84	2990	N.D.		
17) Freon 113	0.00	151	0	N.D.		
18) 3-chloro-1-propene	8.66	41	450	N.D.		
19) t-1,2-Dichloroethene	0.00	61	0	N.D.		
20) Methyl tert-butyl ether	9.43	73	196	N.D.		
21) Hexane	9.21	57	778	N.D.		
22) 1,1-Dichloroethane	9.98	63	56	N.D.		
23) Vinyl Acetate	10.32	43	723	N.D.		
24) c-1,2-Dichloroethene	10.69	96	53	N.D.		
25) Ethyl Acetate	11.17	43	973	N.D.		
26) 2-Butanone	11.42	43	6120	N.D.		
27) Chloroform	11.02	83	119	N.D.		
28) Tetrahydrofuran	11.33	42	180	N.D.		
29) 2,2,4-Trimethylpentane	11.58	57	1663	N.D.		
30) 1,2-Dichloroethane	11.99	62	89	N.D.		
31) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
32) Cyclohexane	10.97	56	40	N.D.		
33) Carbon Tetrachloride	0.00	117	0	N.D.		
34) Benzene	11.76	78	737	N.D.		
35) Heptane	11.69	43	1121	N.D.		
37) TLPH	0.00	TIC	0	N.D.	d	
38) 1,2-Dichloropropane	13.04	63	52	N.D.		
39) Trichloroethene	12.44	130	38	N.D.		
40) 1,4-Dioxane	13.34	88	505	N.D.		
41) Bromodichloromethane	13.11	83	45	N.D.		
42) c-1,3-Dichloropropene	13.81	75	599	N.D.		
43) t-1,3-Dichloropropene	14.54	75	912	N.D.		
44) 1,1,2-Trichloroethane	14.74	97	103	N.D.		
45) Methyl Isobutyl Ketone	14.50	43	859	N.D.		
46) Toluene	14.10	92	1740	N.D.		
47) 2-Hexanone	15.45	43	2223	N.D.		
48) 1,2-Dibromoethane	15.29	107	206	N.D.		
49) Tetrachloroethene	14.56	166	250	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\040121\217D1019.D Vial: 19
Acq On : 2 Apr 2021 2:28 pm Operator: rgg
Sample : js069 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 10:02 2021 Quant Results File: 033121.RES

Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
50) Dibromochloromethane	14.96	127	131	N.D.		
52) Chlorobenzene	15.87	112	577	N.D.		
53) Ethylbenzene	15.87	106	687	N.D.		
54) m-Xylene & p-Xylene	16.03	106	2312	N.D.		
55) Styrene	16.61	104	466	N.D.		
56) o-Xylene	16.55	106	1136	N.D.		
57) Bromoform	16.67	173	173	N.D.		
58) 1,1,2,2-Tetrachloroethane	17.47	83	943	N.D.		
59) Bromofluorobenzene	17.29	174	401856	28216.48	PPTV	92
61) 4-ethyltoluene	17.51	105	4836	N.D.		
62) 1,3,5-Trimethylbenzene	17.63	105	2691	N.D.		
63) 1,2,4-Trimethylbenzene	18.13	105	4467	N.D.		
64) 1,3-Dichlorobenzene	18.59	146	761	N.D.		
65) 1,4-Dichlorobenzene	18.69	146	739	N.D.		
66) Benzyl Chloride	18.98	91	890	N.D.		
67) 1,2-Dichlorobenzene	19.25	146	1054	N.D.		
68) 1,2,4-Trichlorobenzene	21.16	180	866	N.D.		
69) Hexachlorobutadiene	21.09	225	722	N.D.		

(#) = qualifier out of range (m) = manual integration

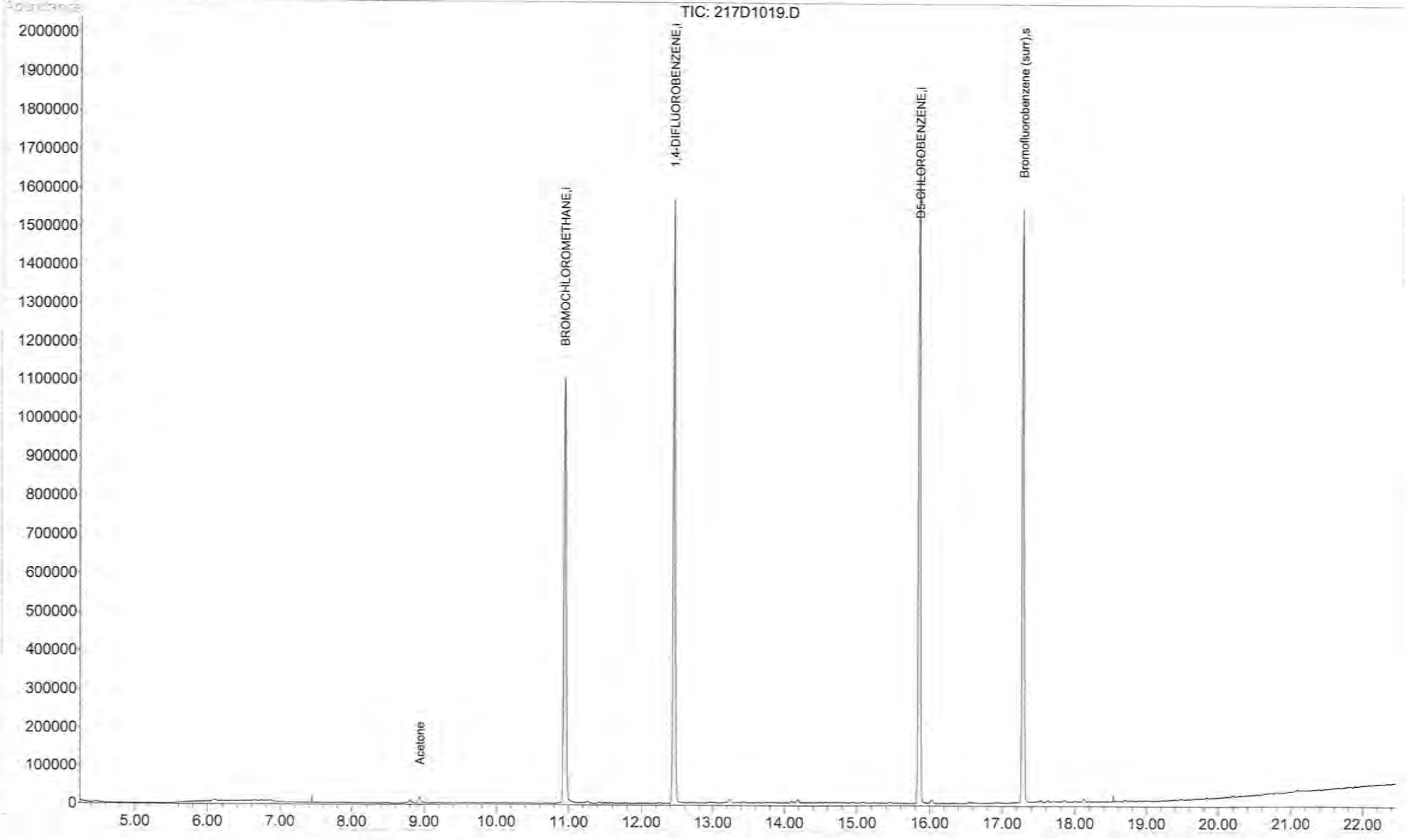
Quantitation Report

Data File : C:\HPCHEM\1\DATA\040121\217D1019.D
Acq On : 2 Apr 2021 2:28 pm
Sample : js069
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 5 10:02 2021

Vial: 19
Operator: rgg
Inst : OVGCMS7
Multiplr: 1.00

Quant Results File: 033121.RES

Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\031621\217CK028.D Vial: 28
Acq On : 17 Mar 2021 1:35 pm Operator: rgg
Sample : js034 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 17 14:11 2021 Quant Results File: 030721.RES

Quant Method : C:\HPCHEM\1\METHODS\030721.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103039)
Last Update : Mon Mar 08 17:28:32 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.97	130	456349	31000.00	PPTV	0.02
36) 1,4-DIFLUOROBENZENE	12.46	114	1494578	31000.00	PPTV	0.00
51) D5-CHLOROBENZENE	15.87	117	1081599	31000.00	PPTV	0.02
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.30	174	499360	29069.53	PPTV	0.02
Spiked Amount 31250.000	Range 50 - 150		Recovery =	93.02%		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.59	85	102	N.D.		
3) Propene	4.37	41	194	N.D.		
4) Chloromethane	5.09	50	45	N.D.		
5) Freon 114	0.00	135	0	N.D.		
6) Vinyl Chloride	5.34	62	54	N.D.		
7) 1,3-Butadiene	5.38	39	206	N.D.		
8) Bromomethane	6.13	94	275	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Trichlorofluoromethane	0.00	101	0	N.D.		
11) Bromoethene	0.00	106	0	N.D.		
12) 1,1-Dichloroethene	7.83	61	60	N.D.		
13) Acetone	8.95	43	15390	231.89	PPTV	94
14) Isopropyl Alcohol	8.76	45	8032	N.D.		
15) Carbon Disulfide	7.88	76	1554	N.D.		
16) Methylene Chloride	8.83	84	10215	321.20	PPTV	86
17) Freon 113	7.91	151	40	N.D.		
18) 3-chloro-1-propene	8.63	41	118	N.D.		
19) t-1,2-Dichloroethene	9.09	61	144	N.D.		
20) Methyl tert-butyl ether	9.28	73	233	N.D.		
21) Hexane	9.24	57	429	N.D.		
22) 1,1-Dichloroethane	9.99	63	93	N.D.		
23) Vinyl Acetate	10.33	43	690	N.D.		
24) c-1,2-Dichloroethene	10.69	96	40	N.D.		
25) Ethyl Acetate	11.20	43	1008	N.D.		
26) 2-Butanone	11.44	43	3349	N.D.		
27) Chloroform	11.03	83	736	N.D.		
28) Tetrahydrofuran	11.26	42	134	N.D.		
29) 2,2,4-Trimethylpentane	11.60	57	1788	N.D.		
30) 1,2-Dichloroethane	0.00	62	0	N.D.		
31) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
32) Cyclohexane	10.98	56	48	N.D.		
33) Carbon Tetrachloride	11.24	117	108	N.D.		
34) Benzene	11.79	78	443	N.D.		
35) Heptane	11.70	43	641	N.D.		
37) TLPH	0.00	TIC	0	N.D. d		
38) 1,2-Dichloropropane	13.08	63	135	N.D.		
39) Trichloroethene	12.46	130	258	N.D.		
40) 1,4-Dioxane	13.35	88	1230	N.D.		
41) Bromodichloromethane	13.11	83	79	N.D.		
42) c-1,3-Dichloropropene	13.83	75	710	N.D.		
43) t-1,3-Dichloropropene	14.56	75	1233	N.D.		
44) 1,1,2-Trichloroethane	14.76	97	161	N.D.		
45) Methyl Isobutyl Ketone	14.45	43	15501	N.D.		
46) Toluene	14.12	92	2142	N.D.		
47) 2-Hexanone	15.41	43	226	N.D.		
48) 1,2-Dibromoethane	15.30	107	406	N.D.		
49) Tetrachloroethene	14.58	166	341	N.D.		

(#) = qualifier out of range (m) = manual integration
217CK028.D 030721.M Wed Mar 17 14:11:27 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\031621\217CK028.D Vial: 28
Acq On : 17 Mar 2021 1:35 pm Operator: rgg
Sample : js034 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 17 14:11 2021 Quant Results File: 030721.RES

Quant Method : C:\HPCHEM\1\METHODS\030721.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103039)
Last Update : Mon Mar 08 17:28:32 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
50) Dibromochloromethane	14.98	127	202	N.D.	
52) Chlorobenzene	15.89	112	645	N.D.	
53) Ethylbenzene	15.89	106	1009	N.D.	
54) m-Xylene & p-Xylene	16.04	106	3650	N.D.	
55) Styrene	16.62	104	673	N.D.	
56) o-Xylene	16.57	106	1625	N.D.	
57) Bromoform	16.69	173	319	N.D.	
58) 1,1,2,2-Tetrachloroethane	17.48	83	857	N.D.	
59) Bromofluorobenzene	17.30	174	499360	29069.53 PPTV #	85
61) 4-ethyltoluene	17.53	105	5878	N.D.	
62) 1,3,5-Trimethylbenzene	17.64	105	3072	N.D.	
63) 1,2,4-Trimethylbenzene	18.13	105	4908	N.D.	
64) 1,3-Dichlorobenzene	18.60	146	996	N.D.	
65) 1,4-Dichlorobenzene	18.71	146	809	N.D.	
66) Benzyl Chloride	19.00	91	786	N.D.	
67) 1,2-Dichlorobenzene	19.26	146	892	N.D.	
68) 1,2,4-Trichlorobenzene	21.18	180	948	N.D.	
69) Hexachlorobutadiene	21.10	225	1340	N.D.	

(#) = qualifier out of range (m) = manual integration

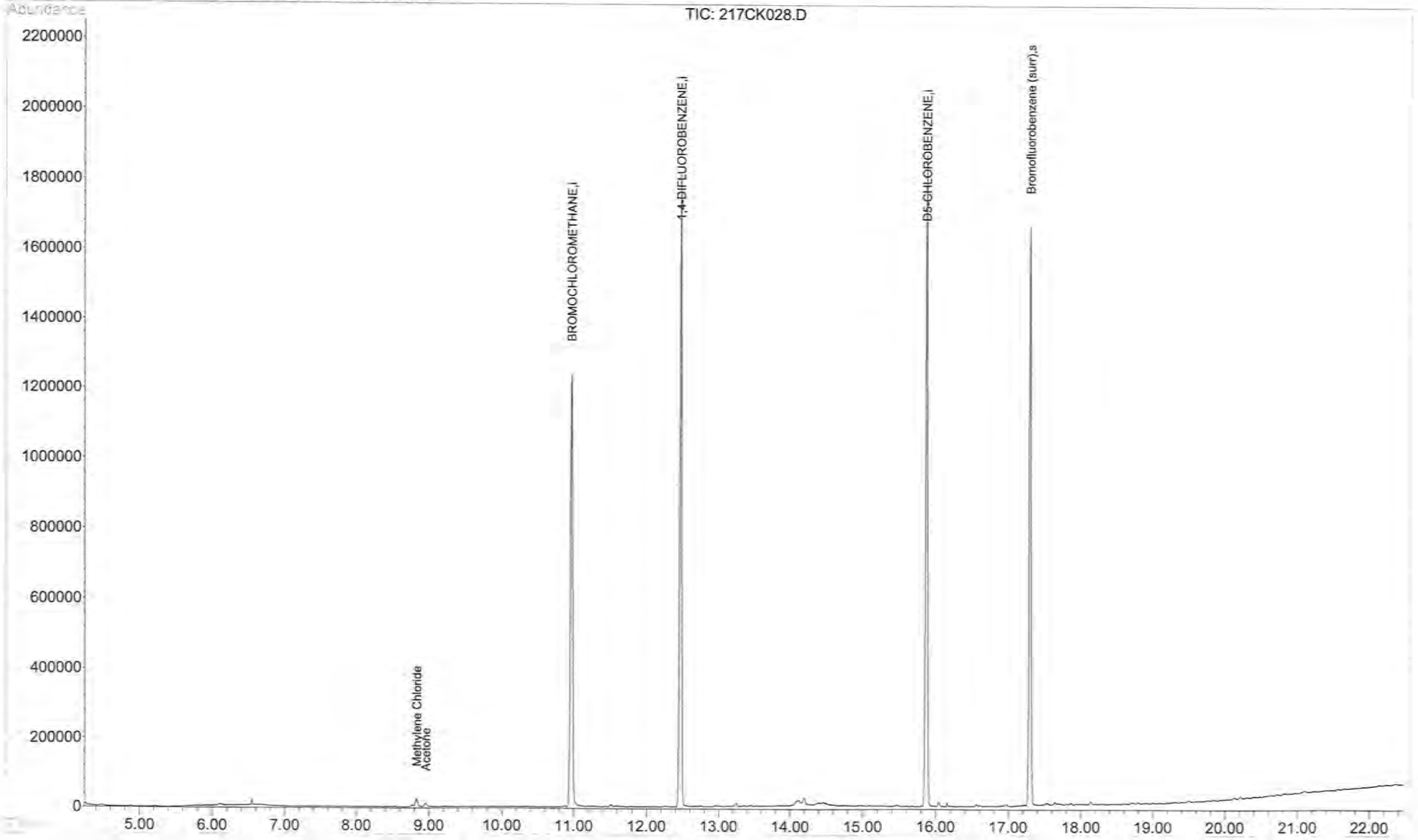
Quantitation Report

Data File : C:\HPCHEM\1\DATA\031621\217CK028.D
Acq On : 17 Mar 2021 1:35 pm
Sample : js034
Misc :
MS Integration Params: RTEINT.P
Quant Time: Mar 17 14:11 2021

Vial: 28
Operator: rgg
Inst : OVGCMS7
Multiplr: 1.00

Quant Results File: 030721.RES

Method : C:\HPCHEM\1\METHODS\030721.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103039)
Last Update : Mon Mar 08 17:28:32 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\031621\217CK027.D Vial: 27
Acq On : 17 Mar 2021 12:51 pm Operator: rgg
Sample : js014 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 17 13:16 2021 Quant Results File: 030721.RES

Quant Method : C:\HPCHEM\1\METHODS\030721.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103039)
Last Update : Mon Mar 08 17:28:32 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.96	130	426811	31000.00	PPTV	0.01
36) 1,4-DIFLUOROBENZENE	12.47	114	1396842	31000.00	PPTV	0.01
51) D5-CHLOROBENZENE	15.86	117	1006282	31000.00	PPTV	0.01
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.30	174	462930	28965.84	PPTV	0.02
Spiked Amount 31250.000	Range 50 - 150		Recovery = 92.69%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.58	85	38	N.D.		
3) Propene	4.49	41	3265	N.D.		
4) Chloromethane	5.11	50	324	N.D.		
5) Freon 114	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	5.38	39	186	N.D.		
8) Bromomethane	6.11	94	1045	N.D.		
9) Chloroethane	6.47	64	39	N.D.		
10) Trichlorofluoromethane	0.00	101	0	N.D.		
11) Bromoethene	0.00	106	0	N.D.		
12) 1,1-Dichloroethene	0.00	61	0	N.D.		
13) Acetone	8.96	43	17348	279.48	PPTV	98
14) Isopropyl Alcohol	8.76	45	8040	N.D.		
15) Carbon Disulfide	7.88	76	1636	N.D.		
16) Methylene Chloride	8.84	84	9794	329.27	PPTV	88
17) Freon 113	0.00	151	0	N.D.		
18) 3-chloro-1-propene	8.64	41	241	N.D.		
19) t-1,2-Dichloroethene	9.09	61	80	N.D.		
20) Methyl tert-butyl ether	9.28	73	84	N.D.		
21) Hexane	9.23	57	483	N.D.		
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	10.30	43	234	N.D.		
24) c-1,2-Dichloroethene	10.70	96	123	N.D.		
25) Ethyl Acetate	11.19	43	909	N.D.		
26) 2-Butanone	11.44	43	4288	N.D.		
27) Chloroform	11.04	83	825	N.D.		
28) Tetrahydrofuran	11.26	42	1502	N.D.		
29) 2,2,4-Trimethylpentane	11.61	57	1743	N.D.		
30) 1,2-Dichloroethane	0.00	62	0	N.D.		
31) 1,1,1-Trichloroethane	11.33	97	38	N.D.		
32) Cyclohexane	10.99	56	45	N.D.		
33) Carbon Tetrachloride	11.24	117	53	N.D.		
34) Benzene	11.78	78	793	N.D.		
35) Heptane	11.69	43	613	N.D.		
37) TLPH	0.00	TIC	0	N.D.	d	
38) 1,2-Dichloropropane	13.06	63	101	N.D.		
39) Trichloroethene	12.44	130	186	N.D.		
40) 1,4-Dioxane	13.35	88	924	N.D.		
41) Bromodichloromethane	13.10	83	122	N.D.		
42) c-1,3-Dichloropropene	13.80	75	166	N.D.		
43) t-1,3-Dichloropropene	14.55	75	790	N.D.		
44) 1,1,2-Trichloroethane	14.76	97	134	N.D.		
45) Methyl Isobutyl Ketone	0.00	43	0	N.D.	d	
46) Toluene	14.12	92	2119	N.D.		
47) 2-Hexanone	15.47	43	2603	N.D.		
48) 1,2-Dibromoethane	15.29	107	323	N.D.		
49) Tetrachloroethene	14.57	166	278	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\031621\217CK027.D Vial: 27
Acq On : 17 Mar 2021 12:51 pm Operator: rgg
Sample : js014 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 17 13:16 2021 Quant Results File: 030721.RES

Quant Method : C:\HPCHEM\1\METHODS\030721.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103039)
Last Update : Mon Mar 08 17:28:32 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
50) Dibromochloromethane	14.98	127	175	N.D.	
52) Chlorobenzene	15.89	112	575	N.D.	
53) Ethylbenzene	15.88	106	1067	N.D.	
54) m-Xylene & p-Xylene	16.04	106	3234	N.D.	
55) Styrene	16.62	104	764	N.D.	
56) o-Xylene	16.57	106	1431	N.D.	
57) Bromoform	16.69	173	320	N.D.	
58) 1,1,2,2-Tetrachloroethane	17.48	83	813	N.D.	
59) Bromofluorobenzene	17.30	174	462930	28965.84 PPTV #	85
61) 4-ethyltoluene	17.55	105	5443	N.D.	
62) 1,3,5-Trimethylbenzene	17.64	105	3191	N.D.	
63) 1,2,4-Trimethylbenzene	18.13	105	4704	N.D.	
64) 1,3-Dichlorobenzene	18.60	146	813	N.D.	
65) 1,4-Dichlorobenzene	18.70	146	761	N.D.	
66) Benzyl Chloride	19.00	91	747	N.D.	
67) 1,2-Dichlorobenzene	19.24	146	881	N.D.	
68) 1,2,4-Trichlorobenzene	21.17	180	739	N.D.	
69) Hexachlorobutadiene	21.10	225	1062	N.D.	

(#) = qualifier out of range (m) = manual integration

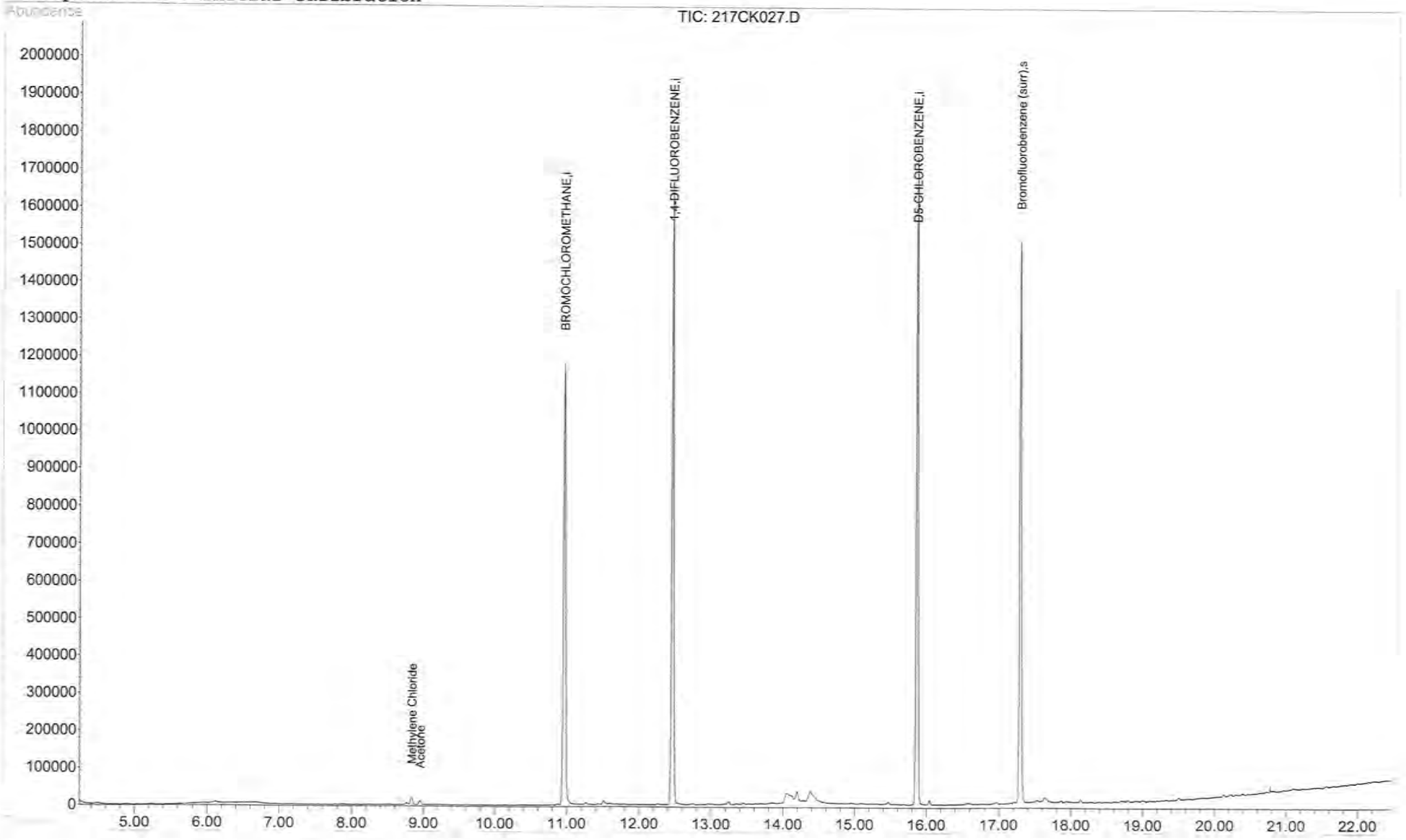
Quantitation Report

Data File : C:\HPCHEM\1\DATA\031621\217CK027.D
Acq On : 17 Mar 2021 12:51 pm
Sample : js014
Misc :
MS Integration Params: RTEINT.P
Quant Time: Mar 17 13:16 2021

Vial: 27
Operator: rgg
Inst : OVGCMS7
Multiplr: 1.00

Quant Results File: 030721.RES

Method : C:\HPCHEM\1\METHODS\030721.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103039)
Last Update : Mon Mar 08 17:28:32 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\031621\217CK029.D Vial: 29
Acq On : 17 Mar 2021 2:23 pm Operator: rgg
Sample : js060 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 17 16:36 2021 Quant Results File: 030721.RES

Quant Method : C:\HPCHEM\1\METHODS\030721.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103039)
Last Update : Mon Mar 08 17:28:32 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.97	130	405794	31000.00	PPTV	0.02
36) 1,4-DIFLUOROBENZENE	12.48	114	1305138	31000.00	PPTV	0.02
51) D5-CHLOROBENZENE	15.87	117	949402	31000.00	PPTV	0.02
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.30	174	434455	28812.78	PPTV	0.02
Spiked Amount 31250.000	Range 50 - 150		Recovery = 92.20%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.66	85	130	N.D.		
3) Propene	4.54	41	3013	N.D.		
4) Chloromethane	5.16	50	261	N.D.		
5) Freon 114	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	5.36	39	226	N.D.		
8) Bromomethane	6.16	94	190	N.D.		
9) Chloroethane	6.58	64	48	N.D.		
10) Trichlorofluoromethane	6.83	101	85	N.D.		
11) Bromoethene	6.64	106	41	N.D.		
12) 1,1-Dichloroethene	0.00	61	0	N.D.		
13) Acetone	8.97	43	13501	228.77	PPTV	95
14) Isopropyl Alcohol	8.78	45	7388	N.D.		
15) Carbon Disulfide	7.90	76	1430	N.D.		
16) Methylene Chloride	8.85	84	9122	322.57	PPTV	91
17) Freon 113	0.00	151	0	N.D.		
18) 3-chloro-1-propene	8.67	41	370	N.D.		
19) t-1,2-Dichloroethene	9.11	61	62	N.D.		
20) Methyl tert-butyl ether	9.12	73	199	N.D.		
21) Hexane	9.23	57	576	N.D.		
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	10.28	43	59	N.D.		
24) c-1,2-Dichloroethene	10.70	96	81	N.D.		
25) Ethyl Acetate	11.16	43	90	N.D.		
26) 2-Butanone	11.45	43	3028	N.D.		
27) Chloroform	11.04	83	736	N.D.		
28) Tetrahydrofuran	11.27	42	339	N.D.		
29) 2,2,4-Trimethylpentane	11.62	57	1569	N.D.		
30) 1,2-Dichloroethane	0.00	62	0	N.D.		
31) 1,1,1-Trichloroethane	11.33	97	37	N.D.		
32) Cyclohexane	10.99	56	160	N.D.		
33) Carbon Tetrachloride	11.26	117	100	N.D.		
34) Benzene	11.78	78	889	N.D.		
35) Heptane	11.70	43	751	N.D.		
37) TLPH	0.00	TIC	0	N.D.	d	
38) 1,2-Dichloropropane	13.07	63	91	N.D.		
39) Trichloroethene	12.48	130	278	N.D.		
40) 1,4-Dioxane	13.37	88	1011	N.D.		
41) Bromodichloromethane	13.12	83	142	N.D.		
42) c-1,3-Dichloropropene	13.83	75	807	N.D.		
43) t-1,3-Dichloropropene	14.57	75	1310	N.D.		
44) 1,1,2-Trichloroethane	14.76	97	131	N.D.		
45) Methyl Isobutyl Ketone	14.51	43	964	N.D.		
46) Toluene	14.12	92	1726	N.D.		
47) 2-Hexanone	15.40	43	103	N.D.		
48) 1,2-Dibromoethane	15.31	107	337	N.D.		
49) Tetrachloroethene	14.58	166	203	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\031621\217CK029.D Vial: 29
Acq On : 17 Mar 2021 2:23 pm Operator: rgg
Sample : js060 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 17 16:36 2021 Quant Results File: 030721.RES

Quant Method : C:\HPCHEM\1\METHODS\030721.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103039)
Last Update : Mon Mar 08 17:28:32 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
50)	Dibromochloromethane	14.99	127	140	N.D.		
52)	Chlorobenzene	15.88	112	601	N.D.		
53)	Ethylbenzene	15.88	106	866	N.D.		
54)	m-Xylene & p-Xylene	16.04	106	2899	N.D.		
55)	Styrene	16.63	104	665	N.D.		
56)	o-Xylene	16.56	106	1159	N.D.		
57)	Bromoform	16.69	173	272	N.D.		
58)	1,1,2,2-Tetrachloroethane	17.48	83	761	N.D.		
59)	Bromofluorobenzene	17.30	174	434455	28812.78	PPTV #	86
61)	4-ethyltoluene	17.53	105	4802	N.D.		
62)	1,3,5-Trimethylbenzene	17.65	105	2800	N.D.		
63)	1,2,4-Trimethylbenzene	18.14	105	4162	N.D.		
64)	1,3-Dichlorobenzene	18.61	146	788	N.D.		
65)	1,4-Dichlorobenzene	18.71	146	1032	N.D.		
66)	Benzyl Chloride	19.01	91	597	N.D.		
67)	1,2-Dichlorobenzene	19.26	146	916	N.D.		
68)	1,2,4-Trichlorobenzene	21.18	180	636	N.D.		
69)	Hexachlorobutadiene	21.10	225	1126	N.D.		

(#) = qualifier out of range (m) = manual integration

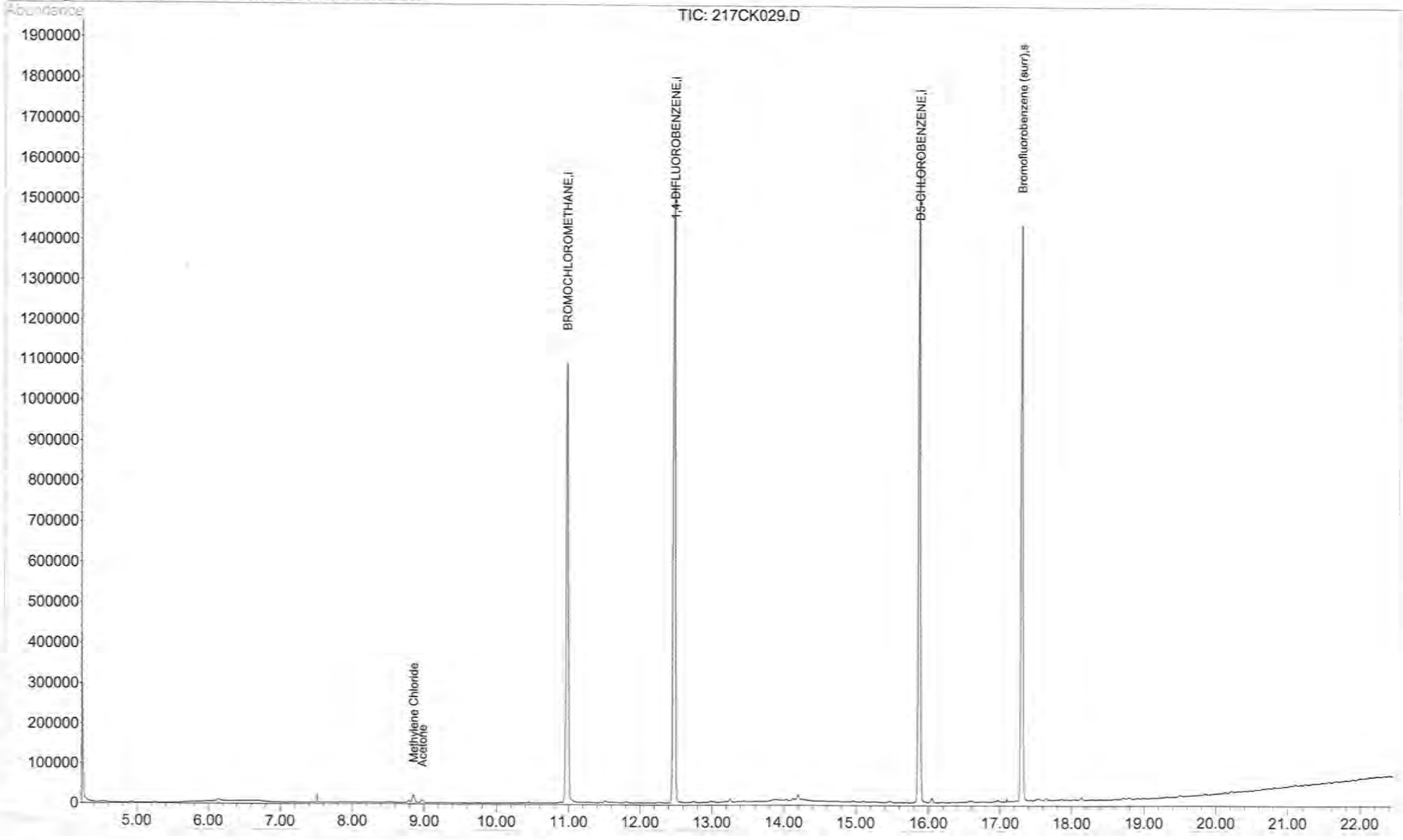
Quantitation Report

Data File : C:\HPCHEM\1\DATA\031621\217CK029.D
Acq On : 17 Mar 2021 2:23 pm
Sample : js060
Misc :
MS Integration Params: RTEINT.P
Quant Time: Mar 17 16:36 2021

Vial: 29
Operator: rgg
Inst : OVGCMS7
Multiplr: 1.00

Quant Results File: 030721.RES

Method : C:\HPCHEM\1\METHODS\030721.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103039)
Last Update : Mon Mar 08 17:28:32 2021
Response via : Initial Calibration



ANALYSIS SEQUENCE

AA66011

Instrument: OVGCMS7

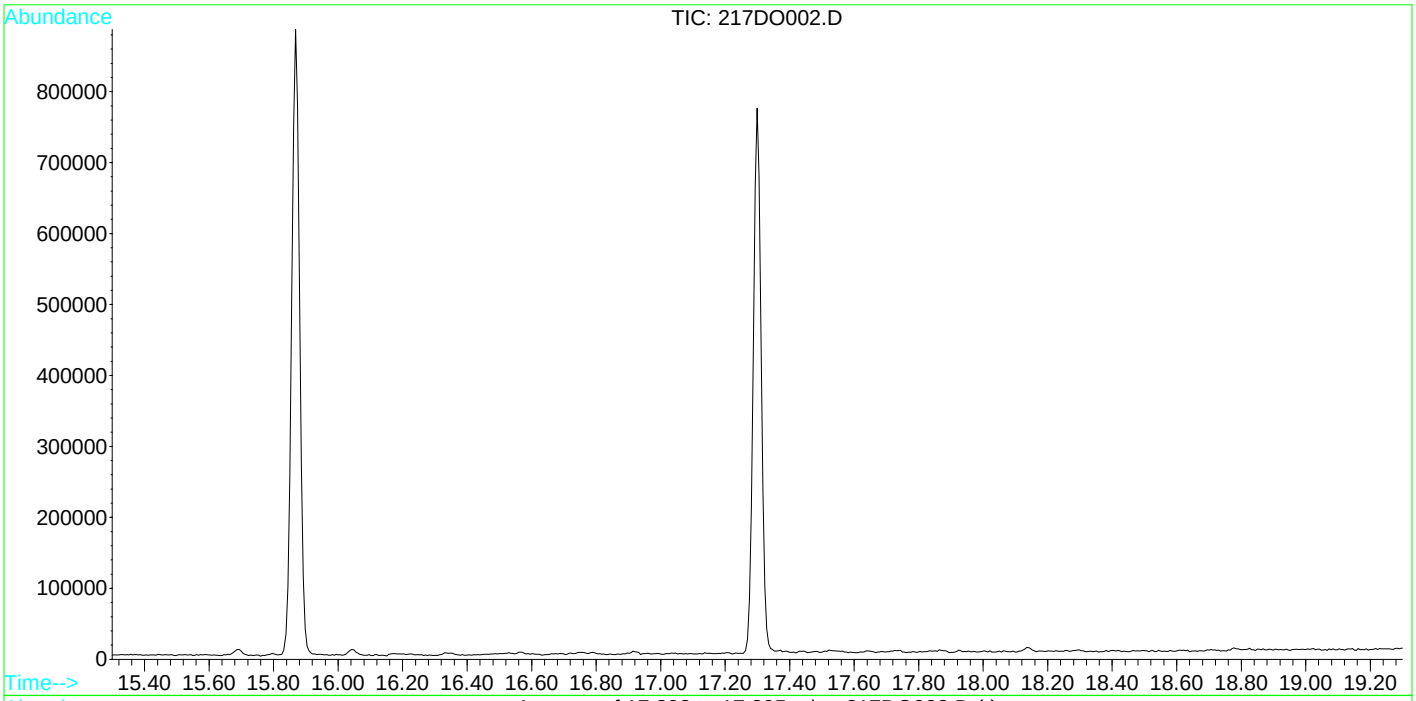
Calibration ID: 2103167 **Printed: 4/22/2021 8:57:30AM**

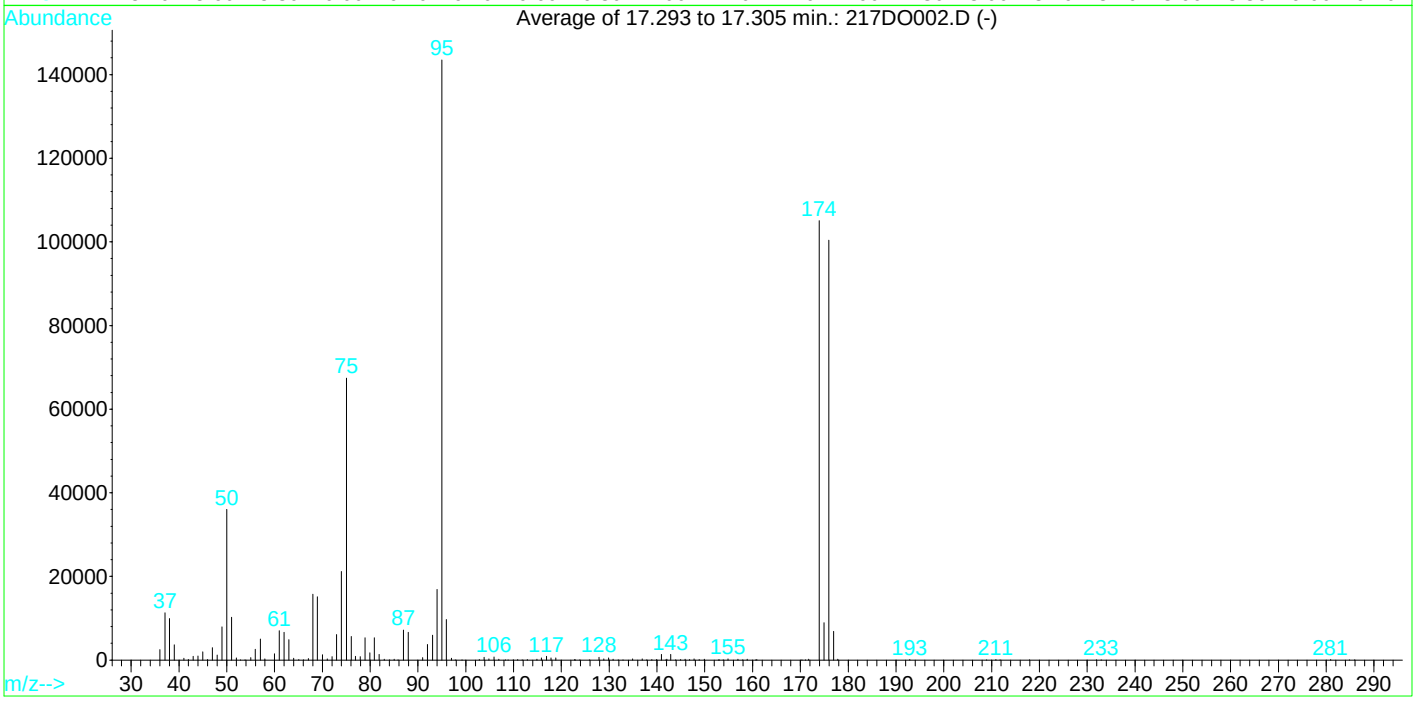
Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA66011-TUN1	QC		1		A1D1003			
AA66011-CCV1	QC		2		A1C0714	A1D1004		
AA66011-CRL1	QC		3		A1C0715	A1D1004		
1D20052-BS1	QC		4			A1D1004		
1D20052-BSD1	QC		5			A1D1004		
1D20052-BLK1	QC		6			A1D1004		
AE02770-01	TO15 (SUMMA)	A	7			A1D1004	Tetra Tech, Inc. (TE016)	CLP Like
AE02770-02	TO15 (SUMMA)	A	8			A1D1004	Tetra Tech, Inc. (TE016)	CLP Like
AE02770-03	TO15 (SUMMA)	A	9			A1D1004	Tetra Tech, Inc. (TE016)	CLP Like
AE03176-01RE2	TO15 Modified	A	10			A1D1004		
AE02772-01	TO15 (SUMMA)	A	11			A1D1004	Tetra Tech, Inc. (TE016)	CVOC custom. KD 7/8/20
AE02772-02	TO15 (SUMMA)	A	12			A1D1004	Tetra Tech, Inc. (TE016)	CVOC custom. KD 7/8/20
AE02772-03	TO15 (SUMMA)	A	13			A1D1004	Tetra Tech, Inc. (TE016)	CVOC custom. KD 7/8/20
AE02772-04	TO15 (SUMMA)	A	14			A1D1004	Tetra Tech, Inc. (TE016)	CVOC custom. KD 7/8/20
AE02772-05	TO15 (SUMMA)	A	15			A1D1004	Tetra Tech, Inc. (TE016)	CVOC custom. KD 7/8/20
AE03302-03	Method 18 Modified	A	16			A1D1004		hist 100mL rgg 4/21/21 mg/m3
AE03302-04	Method 18 Modified	A	17			A1D1004		hist 100mL rgg 4/21/21 mg/m3
AE02772-03RE1	TO15 (SUMMA)	A	18			A1D1004	Tetra Tech, Inc. (TE016)	run 200mL freon 113 Added 4/21/202

Samples Loaded By Date

Data Processed By Date

Data File : C:\HPCHEM\1\DATA\042021\217DO002.D Vial: 2
Acq On : 20 Apr 2021 7:59 pm Operator: rgg
Sample : aa66011-tun1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)





AutoFind: Scans 2173, 2174, 2175; Background Corrected with Scan 2164

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	25.1	35997	PASS
75	95	30	60	47.0	67443	PASS
95	95	100	100	100.0	143488	PASS
96	95	5	9	6.8	9716	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	73.3	105109	PASS
175	174	5	9	8.5	8922	PASS
176	174	95	101	95.5	100416	PASS
177	176	5	9	6.8	6832	PASS

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\042021\217DO003.D Vial: 3
Acq On : 20 Apr 2021 8:40 pm Operator: rgg
Sample : aa66011-ccv1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 9:16 2021 Quant Results File: 033121.RES

Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.97	130	370939	31000.00	PPTV	0.00
36) 1,4-DIFLUOROBENZENE	12.47	114	1197864	31000.00	PPTV	0.00
51) D5-CHLOROBENZENE	15.87	117	916509	31000.00	PPTV	0.00
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.30	174	449664	30707.55	PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 98.26%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.56	85	686226	11460.87	PPTV	98
3) Propene	4.44	41	326399	8788.36	PPTV	97
4) Chloromethane	5.06	50	348451	10024.44	PPTV	99
5) Freon 114	4.95	135	440002	10144.54	PPTV	83
6) Vinyl Chloride	5.31	62	301570	10140.64	PPTV	100
7) 1,3-Butadiene	5.38	39	328013	10773.88	PPTV	97
8) Bromomethane	6.13	94	211781	10453.63	PPTV	98
9) Chloroethane	6.45	64	111625	10954.15	PPTV	100
10) Trichlorofluoromethane	6.78	101	378133	8060.02	PPTV	97
11) Bromoethene	6.70	106	190588	10764.74	PPTV	97
12) 1,1-Dichloroethene	7.82	61	448102	11243.53	PPTV	91
13) Acetone	8.94	43	598253	11477.96	PPTV	96
14) Isopropyl Alcohol	8.75	45	552295	12139.95	PPTV	99
15) Carbon Disulfide	7.87	76	732321	10051.98	PPTV	97
16) Methylene Chloride	8.83	84	220095	10463.47	PPTV	95
17) Freon 113	7.92	151	369249	10248.25	PPTV	89
18) 3-chloro-1-propene	8.67	41	503720	10839.12	PPTV	91
19) t-1,2-Dichloroethene	9.09	61	390518	10892.86	PPTV	93
20) Methyl tert-butyl ether	9.30	73	685070	10630.73	PPTV	99
21) Hexane	9.23	57	446250	10673.43	PPTV	95
22) 1,1-Dichloroethane	10.00	63	481230	10685.58	PPTV	99
23) Vinyl Acetate	10.33	43	971504	11059.69	PPTV	100
24) c-1,2-Dichloroethene	10.72	96	245742	10078.56	PPTV	95
25) Ethyl Acetate	11.18	43	934988	11120.39	PPTV	99
26) 2-Butanone	11.43	43	820839	10646.72	PPTV	99
27) Chloroform	11.05	83	516603	10979.42	PPTV	98
28) Tetrahydrofuran	11.28	42	377162	10777.93	PPTV	99
29) 2,2,4-Trimethylpentane	11.61	57	1399252	10774.57	PPTV	97
30) 1,2-Dichloroethane	12.01	62	356864	12133.19	PPTV	100
31) 1,1,1-Trichloroethane	11.33	97	467264	11308.68	PPTV	97
32) Cyclohexane	11.00	56	439438	10377.90	PPTV	98
33) Carbon Tetrachloride	11.26	117	385996	10325.81	PPTV	100
34) Benzene	11.79	78	683677	10160.12	PPTV	100
35) Heptane	11.70	43	633366	10960.53	PPTV	100
37) TLPH	14.12	TIC	1994433m	10086.61	PPTV	
38) 1,2-Dichloropropane	13.08	63	287103	10328.74	PPTV	90
39) Trichloroethene	12.46	130	323011	10321.88	PPTV	96
40) 1,4-Dioxane	13.34	88	165857	9835.59	PPTV	98
41) Bromodichloromethane	13.11	83	536446	11602.40	PPTV	96
42) c-1,3-Dichloropropene	13.84	75	416401	10571.81	PPTV	98
43) t-1,3-Dichloropropene	14.56	75	250250	10785.57	PPTV	97
44) 1,1,2-Trichloroethane	14.76	97	260977	10282.22	PPTV	99
45) Methyl Isobutyl Ketone	14.51	43	943904	11732.22	PPTV	99
46) Toluene	14.12	92	469293	9962.11	PPTV	97
47) 2-Hexanone	15.45	43	828524	11908.15	PPTV	98
48) 1,2-Dibromoethane	15.30	107	435372	10523.80	PPTV	99
49) Tetrachloroethene	14.58	166	341122	9924.55	PPTV	97
50) Dibromochloromethane	14.98	127	419311	11232.19	PPTV	98
52) Chlorobenzene	15.89	112	531684	9792.84	PPTV	89
53) Ethylbenzene	15.89	106	260655	9411.01	PPTV	89
54) m-Xylene & p-Xylene	16.05	106	660622	18630.20	PPTV	90
55) Styrene	16.63	104	487911	10302.73	PPTV	89
56) o-Xylene	16.57	106	322786	9094.63	PPTV	89
57) Bromoform	16.69	173	412906	11061.83	PPTV #	91

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\042021\217DO003.D Vial: 3
Acq On : 20 Apr 2021 8:40 pm Operator: rgg
Sample : aa66011-ccv1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 9:16 2021 Quant Results File: 033121.RES

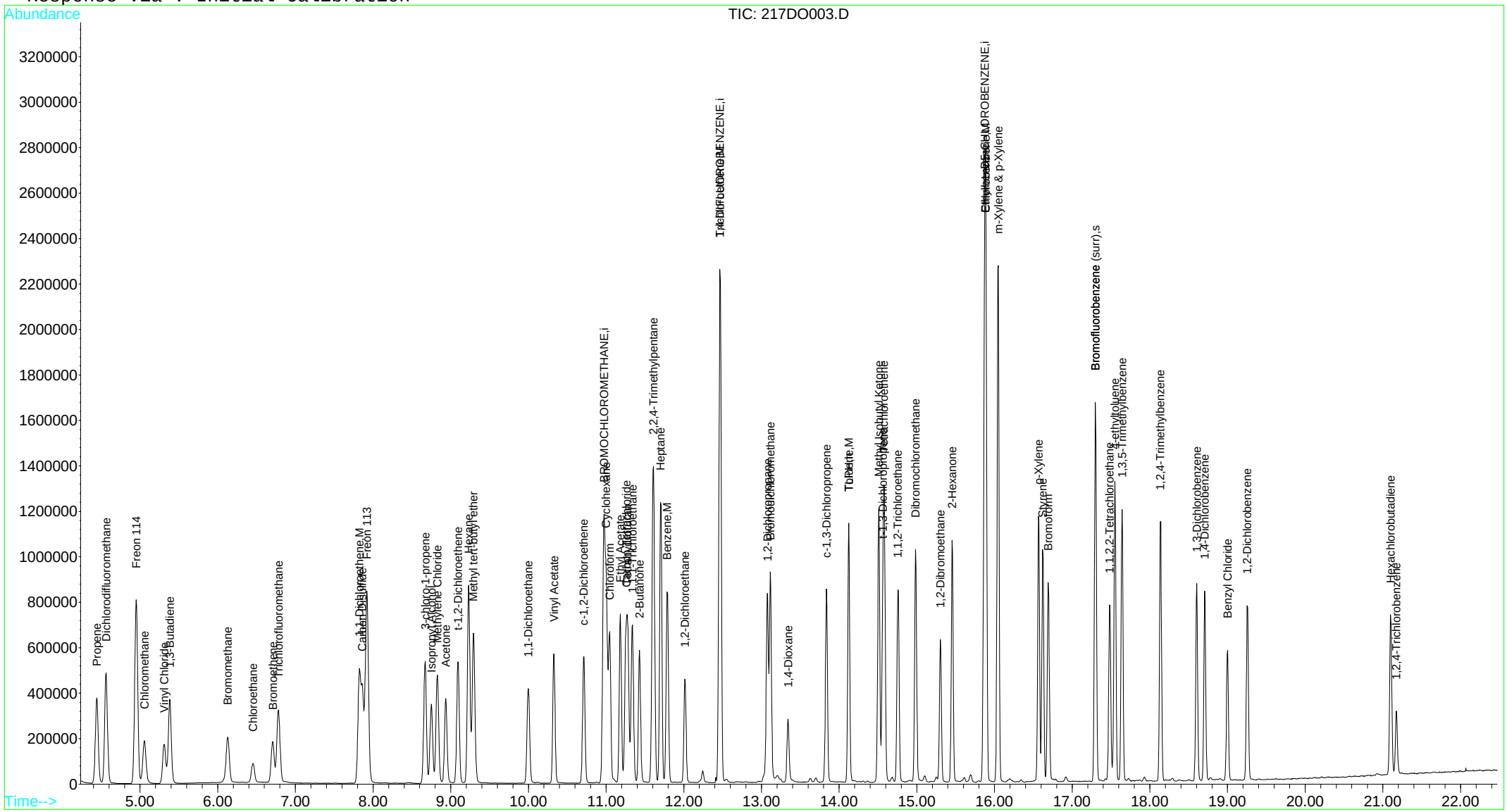
Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
58)	1,1,2,2-Tetrachloroethane	17.49	83	435055	9944.54 PPTV	96
59)	Bromofluorobenzene	17.30	174	449664	30707.55 PPTV #	90
61)	4-ethyltoluene	17.55	105	896174	9107.81 PPTV	95
62)	1,3,5-Trimethylbenzene	17.64	105	655336	11239.18 PPTV	94
63)	1,2,4-Trimethylbenzene	18.14	105	644210	11075.75 PPTV	93
64)	1,3-Dichlorobenzene	18.60	146	360105	9743.21 PPTV	98
65)	1,4-Dichlorobenzene	18.71	146	334617	9871.53 PPTV	97
66)	Benzyl Chloride	19.00	91	412715	11246.56 PPTV	94
67)	1,2-Dichlorobenzene	19.26	146	326058	9930.60 PPTV	97
68)	1,2,4-Trichlorobenzene	21.18	180	86637	8580.15 PPTV	98
69)	Hexachlorobutadiene	21.10	225	127937	12446.04 PPTV	99

Quantitation Report

Data File : C:\HPCHEM\1\DATA\042021\217DO003.D Vial: 3
Acq On : 20 Apr 2021 8:40 pm Operator: rgg
Sample : aa66011-ccv1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 9:16 2021 Quant Results File: 033121.RES

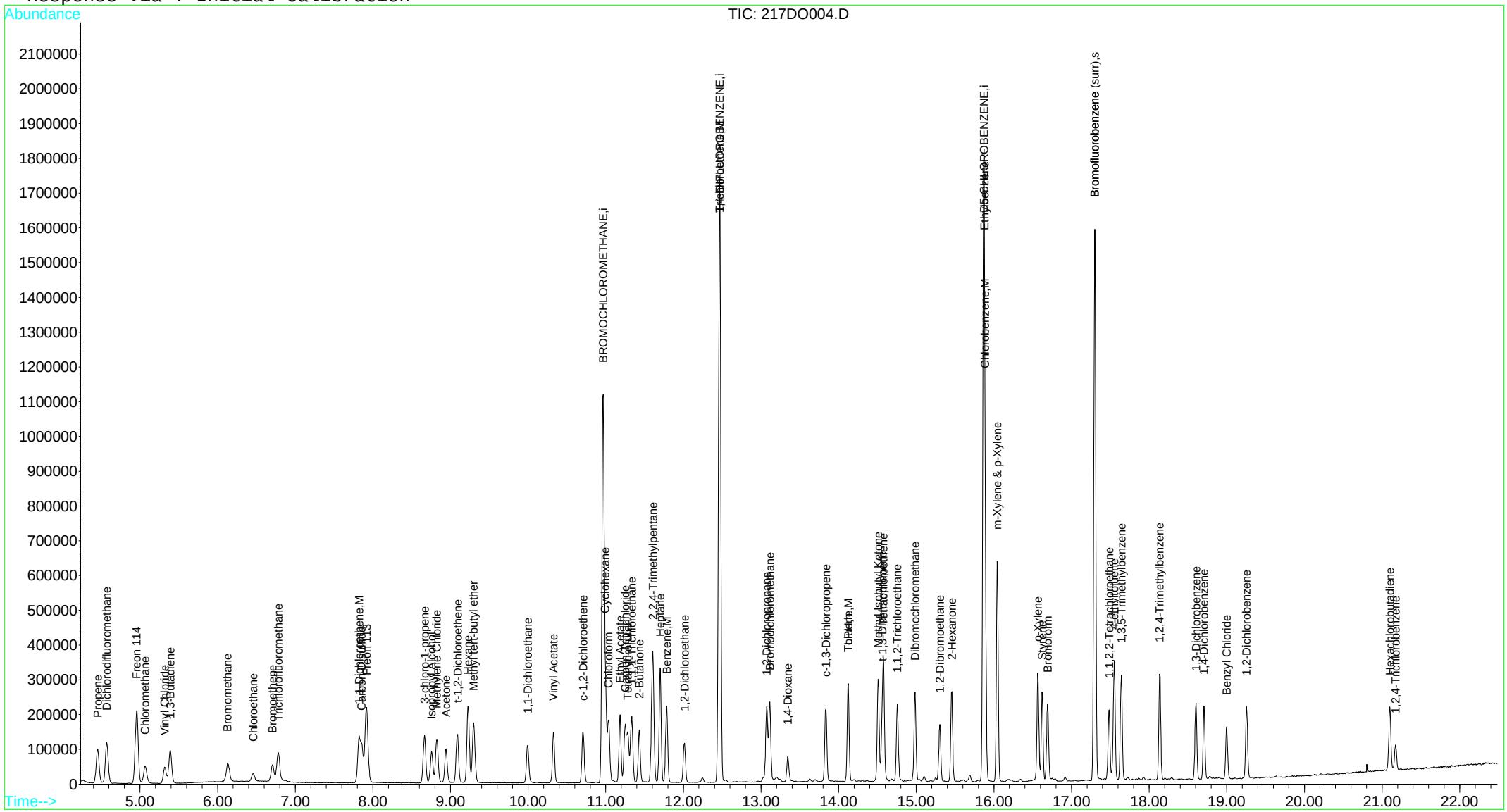
Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\042021\217DO004.D Vial: 4
Acq On : 20 Apr 2021 9:20 pm Operator: rgg
Sample : aa66011-crl1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 9:17 2021 Quant Results File: 033121.RES

Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\042021\217DO004.D Vial: 4
Acq On : 20 Apr 2021 9:20 pm Operator: rgg
Sample : aa66011-crl1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 9:17 2021 Quant Results File: 033121.RES

Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.97	130	378211	31000.00	PPTV	0.00
36) 1,4-DIFLUOROBENZENE	12.47	114	1224357	31000.00	PPTV	0.00
51) D5-CHLOROBENZENE	15.87	117	910942	31000.00	PPTV	0.00
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.30	174	426201	29283.13	PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 93.71%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.57	85	169854	2782.24	PPTV	99
3) Propene	4.46	41	88528	2337.80	PPTV	96
4) Chloromethane	5.06	50	91507	2581.91	PPTV	100
5) Freon 114	4.96	135	116404	2632.17	PPTV	83
6) Vinyl Chloride	5.32	62	80529	2655.81	PPTV	99
7) 1,3-Butadiene	5.39	39	81457	2624.09	PPTV	93
8) Bromomethane	6.13	94	57440	2780.76	PPTV	95
9) Chloroethane	6.46	64	29304	2820.41	PPTV	97
10) Trichlorofluoromethane	6.78	101	94158	1968.42	PPTV	96
11) Bromoethene	6.70	106	49686	2752.39	PPTV	96
12) 1,1-Dichloroethene	7.82	61	112631	2771.74	PPTV	89
13) Acetone	8.94	43	153833	2894.66	PPTV	96
14) Isopropyl Alcohol	8.75	45	139898	3015.96	PPTV	98
15) Carbon Disulfide	7.86	76	185097	2491.83	PPTV	98
16) Methylene Chloride	8.82	84	56277	2624.01	PPTV	97
17) Freon 113	7.91	151	94372	2568.87	PPTV	88
18) 3-chloro-1-propene	8.66	41	124973	2637.48	PPTV	93
19) t-1,2-Dichloroethene	9.09	61	99650	2726.13	PPTV	93
20) Methyl tert-butyl ether	9.30	73	175603	2672.57	PPTV	96
21) Hexane	9.22	57	108925	2555.18	PPTV	97
22) 1,1-Dichloroethane	9.99	63	122037	2657.70	PPTV	99
23) Vinyl Acetate	10.32	43	238097	2658.40	PPTV	100
24) c-1,2-Dichloroethene	10.71	96	61599	2477.77	PPTV	95
25) Ethyl Acetate	11.18	43	241241	2814.06	PPTV	98
26) 2-Butanone	11.43	43	203622	2590.30	PPTV	99
27) Chloroform	11.04	83	134197	2797.27	PPTV	97
28) Tetrahydrofuran	11.29	42	96041	2691.74	PPTV	99
29) 2,2,4-Trimethylpentane	11.60	57	362222	2735.57	PPTV	98
30) 1,2-Dichloroethane	12.01	62	89053	2969.54	PPTV	99
31) 1,1,1-Trichloroethane	11.33	97	119096	2826.93	PPTV	97
32) Cyclohexane	11.00	56	115360	2671.99	PPTV	99
33) Carbon Tetrachloride	11.25	117	99008	2597.65	PPTV	99
34) Benzene	11.79	78	175894	2563.70	PPTV	100
35) Heptane	11.70	43	160199	2718.97	PPTV	98
37) TLPH	14.12	TIC	509886m	2522.89	PPTV	
38) 1,2-Dichloropropane	13.07	63	72517	2552.40	PPTV	90
39) Trichloroethene	12.46	130	81752	2555.87	PPTV	95
40) 1,4-Dioxane	13.34	88	41619	2414.67	PPTV	95
41) Bromodichloromethane	13.11	83	135884	2875.34	PPTV	96
42) c-1,3-Dichloropropene	13.84	75	104209	2588.47	PPTV	98
43) t-1,3-Dichloropropene	14.56	75	64140	2704.56	PPTV	98
44) 1,1,2-Trichloroethane	14.76	97	66576	2566.27	PPTV	99
45) Methyl Isobutyl Ketone	14.51	43	231159	2811.01	PPTV	99
46) Toluene	14.12	92	118929	2469.99	PPTV	95
47) 2-Hexanone	15.46	43	202762	2851.18	PPTV	99
48) 1,2-Dibromoethane	15.30	107	108975	2577.14	PPTV	98
49) Tetrachloroethene	14.58	166	86010	2448.21	PPTV	98
50) Dibromochloromethane	14.98	127	103248	2705.88	PPTV	99
52) Chlorobenzene	15.89	112	136588	2531.12	PPTV	95
53) Ethylbenzene	15.89	106	67897	2466.42	PPTV	89
54) m-Xylene & p-Xylene	16.04	106	174279	4944.88	PPTV	91
55) Styrene	16.62	104	119985	2549.09	PPTV	90
56) o-Xylene	16.57	106	81516	2310.78	PPTV	92
57) Bromoform	16.69	173	100660	2713.18	PPTV	91

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\042021\217DO004.D Vial: 4
Acq On : 20 Apr 2021 9:20 pm Operator: rgg
Sample : aa66011-crl1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 9:17 2021 Quant Results File: 033121.RES

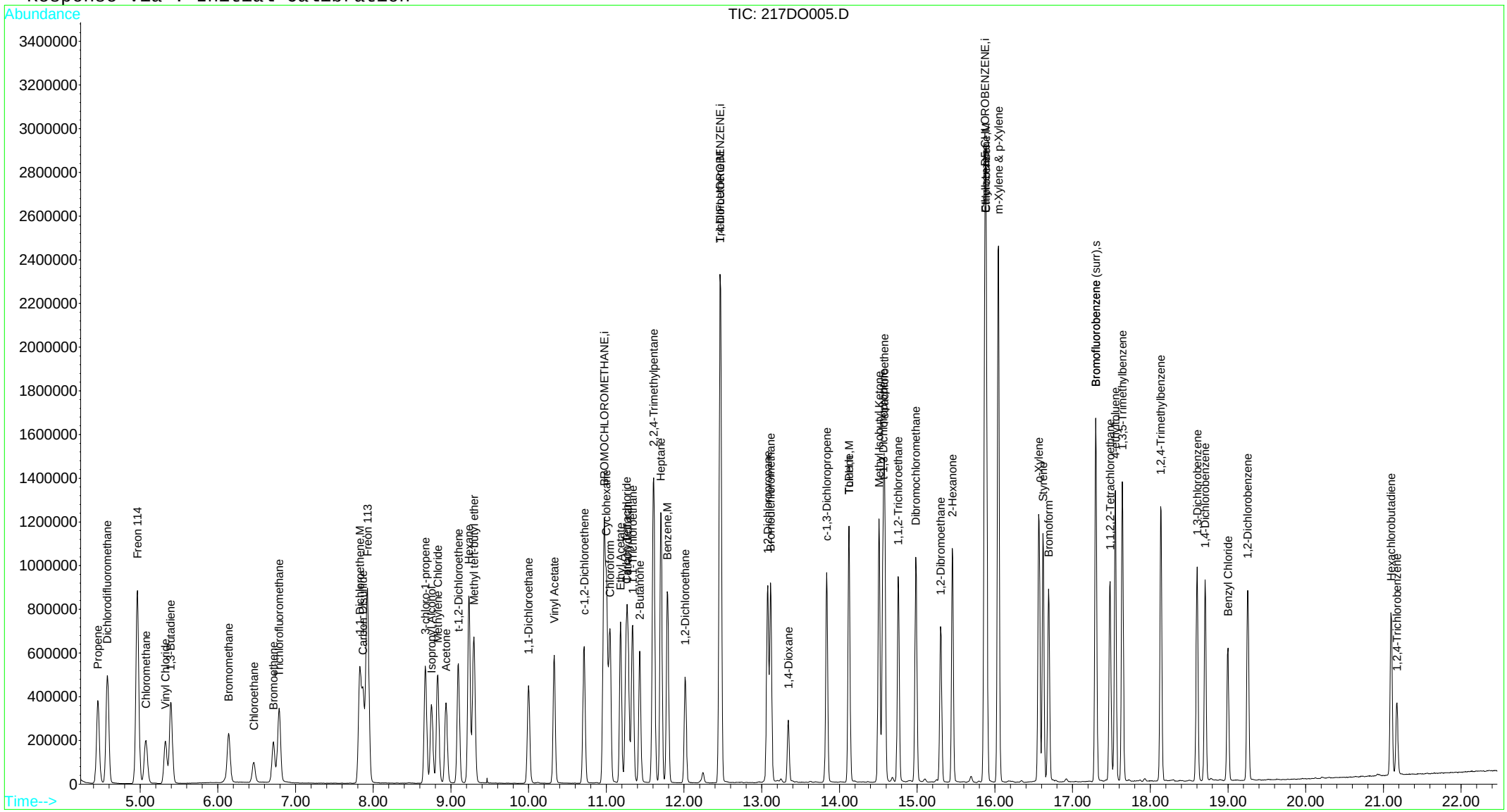
Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.48	83	111044	2553.77	PPTV	96
59) Bromofluorobenzene	17.30	174	426201	29283.13	PPTV #	90
61) 4-ethyltoluene	17.55	105	228696	2338.44	PPTV	95
62) 1,3,5-Trimethylbenzene	17.64	105	164448	2837.56	PPTV	93
63) 1,2,4-Trimethylbenzene	18.13	105	165783	2867.69	PPTV	93
64) 1,3-Dichlorobenzene	18.60	146	89436	2434.62	PPTV	98
65) 1,4-Dichlorobenzene	18.71	146	82839	2458.77	PPTV	97
66) Benzyl Chloride	19.00	91	104422	2862.91	PPTV	94
67) 1,2-Dichlorobenzene	19.25	146	83299	2552.50	PPTV	98
68) 1,2,4-Trichlorobenzene	21.18	180	22600	2251.88	PPTV	95
69) Hexachlorobutadiene	21.10	225	32494	3180.42	PPTV	99

Quantitation Report

Data File : C:\HPCHEM\1\DATA\042021\217DO005.D Vial: 5
Acq On : 20 Apr 2021 9:59 pm Operator: rgg
Sample : 1d20052-bs1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 9:18 2021 Quant Results File: 033121.RES

Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\042021\217DO005.D Vial: 5
Acq On : 20 Apr 2021 9:59 pm Operator: rgg
Sample : 1d20052-bs1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 9:18 2021 Quant Results File: 033121.RES

Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.97	130	371786	31000.00	PPTV	0.00
36) 1,4-DIFLUOROBENZENE	12.47	114	1212226	31000.00	PPTV	0.00
51) D5-CHLOROBENZENE	15.87	117	928074	31000.00	PPTV	0.00
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.30	174	454896	30677.74	PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 98.17%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.58	85	713033	11881.46	PPTV	97
3) Propene	4.46	41	337319	9061.70	PPTV	96
4) Chloromethane	5.07	50	362790	10413.17	PPTV	100
5) Freon 114	4.97	135	477496	10983.91	PPTV	83
6) Vinyl Chloride	5.33	62	330090	11074.37	PPTV	99
7) 1,3-Butadiene	5.39	39	328602	10768.64	PPTV	96
8) Bromomethane	6.14	94	238064	11724.21	PPTV	98
9) Chloroethane	6.46	64	120549	11802.95	PPTV	100
10) Trichlorofluoromethane	6.79	101	398411	8472.90	PPTV	96
11) Bromoethene	6.72	106	195923	11040.86	PPTV	94
12) 1,1-Dichloroethene	7.83	61	472334	11824.55	PPTV	90
13) Acetone	8.93	43	591263	11318.01	PPTV	95
14) Isopropyl Alcohol	8.75	45	583239	12790.92	PPTV	97
15) Carbon Disulfide	7.87	76	728639	9978.66	PPTV	97
16) Methylene Chloride	8.83	84	230729	10944.03	PPTV	96
17) Freon 113	7.92	151	392204	10860.55	PPTV	88
18) 3-chloro-1-propene	8.67	41	505489	10852.40	PPTV	90
19) t-1,2-Dichloroethene	9.10	61	389959	10852.49	PPTV	92
20) Methyl tert-butyl ether	9.30	73	692281	10718.16	PPTV	100
21) Hexane	9.23	57	442330	10555.57	PPTV	94
22) 1,1-Dichloroethane	10.00	63	514213	11391.95	PPTV	99
23) Vinyl Acetate	10.33	43	976836	11095.06	PPTV	99
24) c-1,2-Dichloroethene	10.71	96	260407	10655.68	PPTV	95
25) Ethyl Acetate	11.18	43	940094	11155.65	PPTV	99
26) 2-Butanone	11.43	43	823562	10657.70	PPTV	99
27) Chloroform	11.05	83	544248	11540.61	PPTV	98
28) Tetrahydrofuran	11.28	42	387814	11057.08	PPTV	100
29) 2,2,4-Trimethylpentane	11.61	57	1374926	10563.13	PPTV	97
30) 1,2-Dichloroethane	12.01	62	373267	12661.97	PPTV	99
31) 1,1,1-Trichloroethane	11.34	97	494781	11947.37	PPTV	97
32) Cyclohexane	11.00	56	447579	10546.08	PPTV	98
33) Carbon Tetrachloride	11.26	117	419191	11188.26	PPTV	100
34) Benzene	11.78	78	727230	10782.74	PPTV	100
35) Heptane	11.70	43	634728	10959.08	PPTV	99
37) TLPH	14.12	TIC	2086670m	10428.05	PPTV	
38) 1,2-Dichloropropane	13.08	63	310614	11042.17	PPTV	89
39) Trichloroethene	12.46	130	334841	10573.15	PPTV	96
40) 1,4-Dioxane	13.34	88	170569	9995.18	PPTV	92
41) Bromodichloromethane	13.11	83	541055	11563.44	PPTV	95
42) c-1,3-Dichloropropene	13.83	75	479509	12029.80	PPTV	98
43) t-1,3-Dichloropropene	14.56	75	383141	16317.42	PPTV	97
44) 1,1,2-Trichloroethane	14.75	97	282761	11008.50	PPTV	99
45) Methyl Isobutyl Ketone	14.51	43	951839	11690.68	PPTV	99
46) Toluene	14.12	92	489934	10277.06	PPTV	97
47) 2-Hexanone	15.45	43	843179	11975.20	PPTV	98
48) 1,2-Dibromoethane	15.30	107	484616	11575.34	PPTV	99
49) Tetrachloroethene	14.58	166	362341	10416.99	PPTV	98
50) Dibromochloromethane	14.98	127	422715	11189.22	PPTV	98
52) Chlorobenzene	15.89	112	574710	10453.41	PPTV	88
53) Ethylbenzene	15.89	106	280200	9990.62	PPTV	89
54) m-Xylene & p-Xylene	16.05	106	710346	19782.84	PPTV	90
55) Styrene	16.62	104	541929	11300.77	PPTV	88
56) o-Xylene	16.57	106	343627	9561.18	PPTV	89
57) Bromoform	16.69	173	417954	11057.53	PPTV #	91

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\042021\217DO005.D Vial: 5
Acq On : 20 Apr 2021 9:59 pm Operator: rgg
Sample : 1d20052-bs1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 9:18 2021 Quant Results File: 033121.RES

Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.48	83	511407	11544.13	PPTV	96
59) Bromofluorobenzene	17.30	174	454896	30677.74	PPTV #	90
61) 4-ethyltoluene	17.55	105	895789	8990.45	PPTV	95
62) 1,3,5-Trimethylbenzene	17.64	105	759951	12870.94	PPTV	93
63) 1,2,4-Trimethylbenzene	18.14	105	724498	12300.90	PPTV	93
64) 1,3-Dichlorobenzene	18.60	146	402460	10753.50	PPTV	97
65) 1,4-Dichlorobenzene	18.71	146	375115	10928.36	PPTV	97
66) Benzyl Chloride	19.00	91	432254	11632.22	PPTV	93
67) 1,2-Dichlorobenzene	19.26	146	371371	11169.73	PPTV	97
68) 1,2,4-Trichlorobenzene	21.18	180	102834	10057.32	PPTV	99
69) Hexachlorobutadiene	21.10	225	136641	13127.14	PPTV	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\042021\217DO006.D Vial: 6
Acq On : 20 Apr 2021 10:39 pm Operator: rgg
Sample : 1d20052-bsd1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 9:18 2021 Quant Results File: 033121.RES

Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.97	130	381197	31000.00	PPTV	0.00
36) 1,4-DIFLUOROBENZENE	12.47	114	1236152	31000.00	PPTV	0.00
51) D5-CHLOROBENZENE	15.87	117	942109	31000.00	PPTV	0.00
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.30	174	460634	30601.92	PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 97.93%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.56	85	706488	11481.76	PPTV	98
3) Propene	4.44	41	343369	8996.49	PPTV	95
4) Chloromethane	5.05	50	369964	10356.92	PPTV	100
5) Freon 114	4.94	135	486260	10909.36	PPTV	83
6) Vinyl Chloride	5.30	62	341107	11161.45	PPTV	99
7) 1,3-Butadiene	5.37	39	334310	10685.22	PPTV	94
8) Bromomethane	6.12	94	239713	11513.96	PPTV	98
9) Chloroethane	6.45	64	122346	11683.15	PPTV	99
10) Trichlorofluoromethane	6.78	101	397979	8254.76	PPTV	96
11) Bromoethene	6.70	106	198534	10911.79	PPTV	95
12) 1,1-Dichloroethene	7.82	61	473680	11565.49	PPTV	90
13) Acetone	8.94	43	596151	11129.84	PPTV	95
14) Isopropyl Alcohol	8.75	45	589545	12610.02	PPTV	97
15) Carbon Disulfide	7.86	76	734736	9813.74	PPTV	97
16) Methylene Chloride	8.83	84	231179	10694.66	PPTV	95
17) Freon 113	7.92	151	395589	10683.85	PPTV	88
18) 3-chloro-1-propene	8.66	41	506490	10605.44	PPTV	90
19) t-1,2-Dichloroethene	9.09	61	391320	10621.50	PPTV	93
20) Methyl tert-butyl ether	9.30	73	694609	10488.70	PPTV	96
21) Hexane	9.23	57	434262	10107.19	PPTV	96
22) 1,1-Dichloroethane	10.00	63	513188	11088.55	PPTV	100
23) Vinyl Acetate	10.33	43	997804	11053.42	PPTV	99
24) c-1,2-Dichloroethene	10.71	96	265207	10584.18	PPTV	96
25) Ethyl Acetate	11.18	43	939604	10874.56	PPTV	99
26) 2-Butanone	11.43	43	825339	10417.01	PPTV	100
27) Chloroform	11.05	83	544178	11254.25	PPTV	98
28) Tetrahydrofuran	11.28	42	389249	10824.00	PPTV	100
29) 2,2,4-Trimethylpentane	11.60	57	1381663	10352.83	PPTV	97
30) 1,2-Dichloroethane	12.01	62	372242	12315.46	PPTV	99
31) 1,1,1-Trichloroethane	11.33	97	490323	11547.42	PPTV	97
32) Cyclohexane	11.00	56	455493	10467.58	PPTV	97
33) Carbon Tetrachloride	11.26	117	418686	10898.90	PPTV	99
34) Benzene	11.79	78	728473	10534.51	PPTV	100
35) Heptane	11.70	43	631483	10633.87	PPTV	100
37) TLPH	14.12	TIC	2091489m	10249.83	PPTV	
38) 1,2-Dichloropropane	13.07	63	307919	10734.50	PPTV	88
39) Trichloroethene	12.46	130	340532	10544.72	PPTV	95
40) 1,4-Dioxane	13.34	88	171804	9872.69	PPTV	95
41) Bromodichloromethane	13.11	83	537735	11270.04	PPTV	96
42) c-1,3-Dichloropropene	13.84	75	479323	11792.38	PPTV	97
43) t-1,3-Dichloropropene	14.56	75	384967	16077.86	PPTV	97
44) 1,1,2-Trichloroethane	14.76	97	283174	10811.19	PPTV	99
45) Methyl Isobutyl Ketone	14.51	43	953431	11483.58	PPTV	98
46) Toluene	14.12	92	491610	10112.62	PPTV	98
47) 2-Hexanone	15.45	43	858374	11955.05	PPTV	98
48) 1,2-Dibromoethane	15.30	107	491548	11513.66	PPTV	100
49) Tetrachloroethene	14.58	166	363357	10244.01	PPTV	97
50) Dibromochloromethane	14.98	127	422375	10963.82	PPTV	98
52) Chlorobenzene	15.89	112	576785	10334.86	PPTV	88
53) Ethylbenzene	15.89	106	280821	9863.60	PPTV	89
54) m-Xylene & p-Xylene	16.04	106	715162	19620.25	PPTV	89
55) Styrene	16.62	104	550338	11305.16	PPTV	87
56) o-Xylene	16.57	106	346997	9511.12	PPTV	89
57) Bromoform	16.69	173	420711	10964.66	PPTV #	90

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\042021\217DO006.D Vial: 6
Acq On : 20 Apr 2021 10:39 pm Operator: rgg
Sample : 1d20052-bsd1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 9:18 2021 Quant Results File: 033121.RES

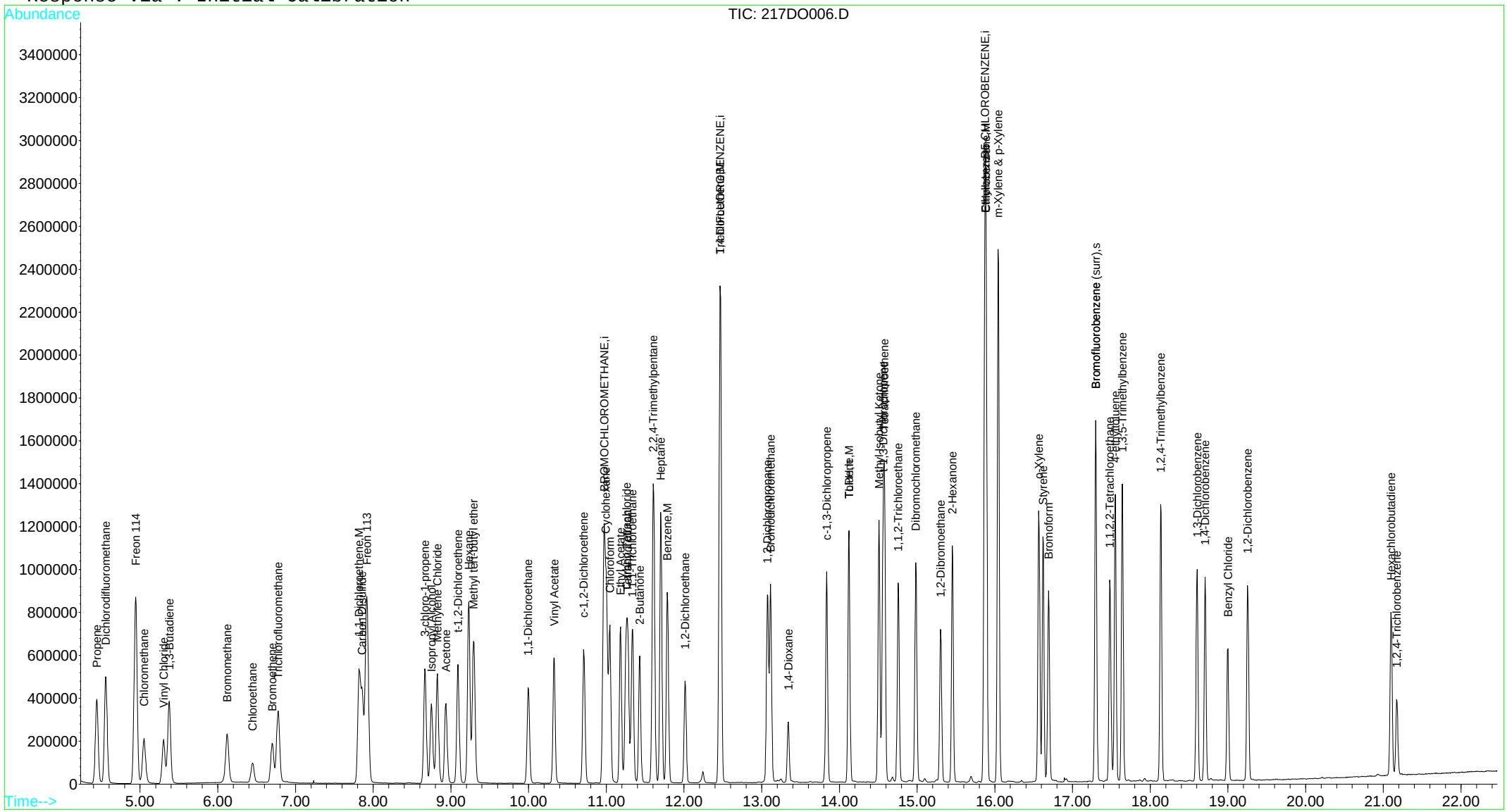
Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
58) 1,1,2,2-Tetrachloroethane	17.48	83	516186	11478.42	PPTV		96
59) Bromofluorobenzene	17.30	174	460634	30601.92	PPTV	#	89
61) 4-ethyltoluene	17.55	105	907686	8974.14	PPTV		96
62) 1,3,5-Trimethylbenzene	17.64	105	765130	12765.61	PPTV		93
63) 1,2,4-Trimethylbenzene	18.13	105	735698	12304.97	PPTV		94
64) 1,3-Dichlorobenzene	18.60	146	410506	10805.08	PPTV		97
65) 1,4-Dichlorobenzene	18.71	146	384060	11022.27	PPTV		97
66) Benzyl Chloride	19.00	91	446596	11839.13	PPTV		93
67) 1,2-Dichlorobenzene	19.25	146	376284	11148.90	PPTV		97
68) 1,2,4-Trichlorobenzene	21.18	180	110455	10641.74	PPTV		99
69) Hexachlorobutadiene	21.10	225	138619	13118.77	PPTV		99

Quantitation Report

Data File : C:\HPCHEM\1\DATA\042021\217DO006.D Vial: 6
Acq On : 20 Apr 2021 10:39 pm Operator: rgg
Sample : 1d20052-bsd1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 9:18 2021 Quant Results File: 033121.RES

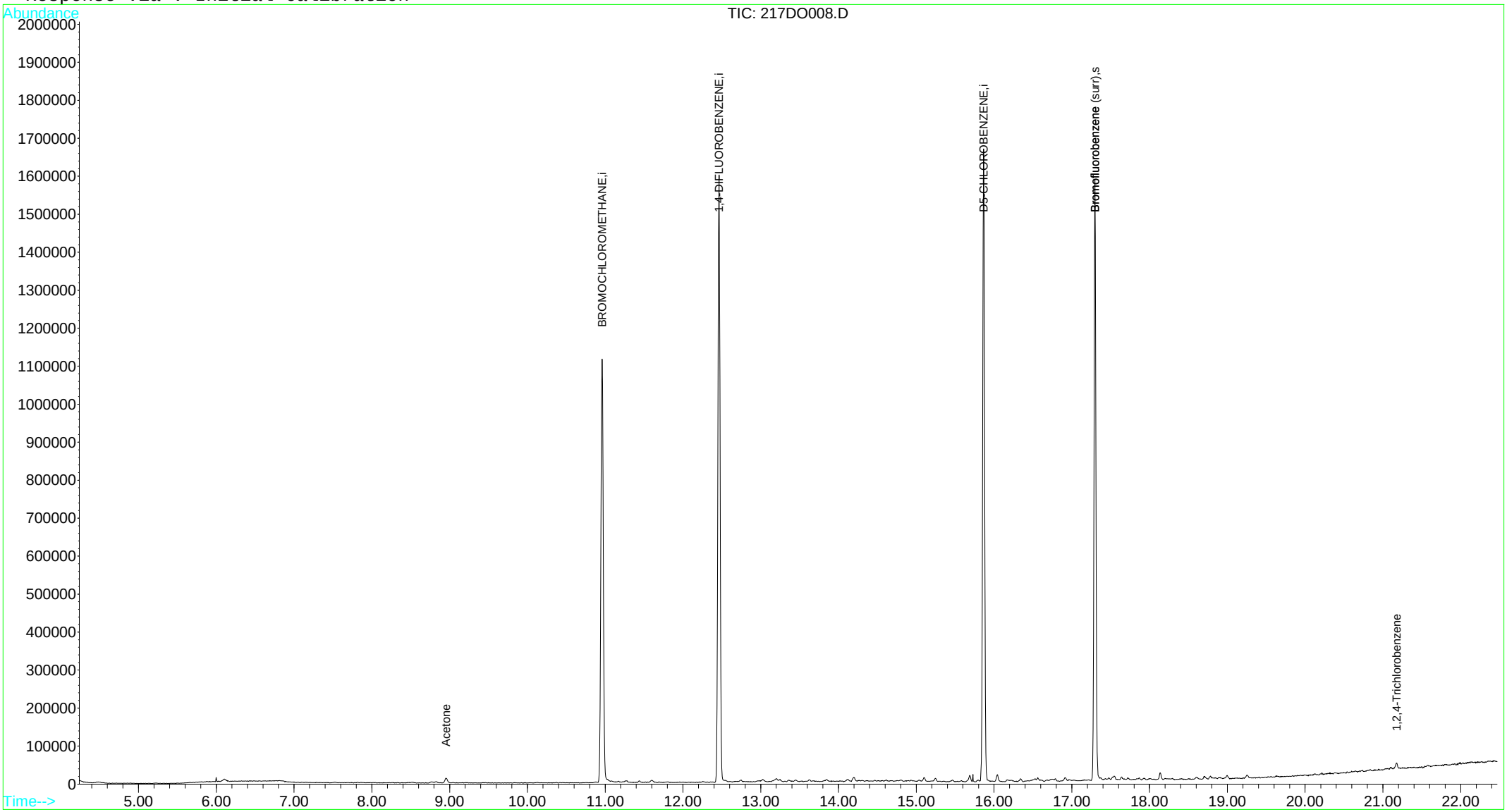
Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\042021\217DO008.D Vial: 8
Acq On : 21 Apr 2021 12:06 am Operator: rgg
Sample : 1d20052-blk1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 7:16 2021 Quant Results File: 033121.RES

Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\042021\217DO008.D Vial: 8
Acq On : 21 Apr 2021 12:06 am Operator: rgg
Sample : 1d20052-blk1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 7:16 2021 Quant Results File: 033121.RES

Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.96	130	377546	31000.00	PPTV	0.00
36) 1,4-DIFLUOROBENZENE	12.46	114	1245674	31000.00	PPTV	0.00
51) D5-CHLOROBENZENE	15.87	117	909226	31000.00	PPTV	0.00
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.30	174	419463	28874.58	PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 92.40%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.55	85	235	N.D.		
3) Propene	4.48	41	3126	N.D.		
4) Chloromethane	5.08	50	44	N.D.		
5) Freon 114	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	5.34	39	222	N.D.		
8) Bromomethane	6.18	94	474	N.D.		
9) Chloroethane	6.61	64	43	N.D.		
10) Trichlorofluoromethane	0.00	101	0	N.D.		
11) Bromoethene	0.00	106	0	N.D.		
12) 1,1-Dichloroethene	0.00	61	0	N.D.		
13) Acetone	8.95	43	20427	385.05	PPTV	99
14) Isopropyl Alcohol	8.77	45	4029	N.D.		
15) Carbon Disulfide	7.87	76	841	N.D.		
16) Methylene Chloride	8.82	84	1328	N.D.		
17) Freon 113	0.00	151	0	N.D.		
18) 3-chloro-1-propene	8.67	41	542	N.D.		
19) t-1,2-Dichloroethene	9.20	61	43	N.D.		
20) Methyl tert-butyl ether	9.22	73	752	N.D.		
21) Hexane	9.22	57	181	N.D.		
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	10.33	43	55	N.D.		
24) c-1,2-Dichloroethene	10.71	96	41	N.D.		
25) Ethyl Acetate	11.09	43	671	N.D.		
26) 2-Butanone	11.44	43	5610	N.D.		
27) Chloroform	10.97	83	258	N.D.		
28) Tetrahydrofuran	11.28	42	766	N.D.		
29) 2,2,4-Trimethylpentane	11.60	57	5405	N.D.		
30) 1,2-Dichloroethane	0.00	62	0	N.D.		
31) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
32) Cyclohexane	11.00	56	134	N.D.		
33) Carbon Tetrachloride	0.00	117	0	N.D.		
34) Benzene	11.93	78	801	N.D.		
35) Heptane	11.69	43	839	N.D.		
37) TLPH	0.00	TIC	0	N.D.	d	
38) 1,2-Dichloropropane	13.05	63	51	N.D.		
39) Trichloroethene	12.46	130	44	N.D.		
40) 1,4-Dioxane	13.36	88	426	N.D.		
41) Bromodichloromethane	13.12	83	78	N.D.		
42) c-1,3-Dichloropropene	13.85	75	726	N.D.		
43) t-1,3-Dichloropropene	14.57	75	904	N.D.		
44) 1,1,2-Trichloroethane	14.75	97	62	N.D.		
45) Methyl Isobutyl Ketone	14.52	43	999	N.D.		
46) Toluene	14.12	92	1640	N.D.		
47) 2-Hexanone	15.45	43	2825	N.D.		
48) 1,2-Dibromoethane	15.30	107	262	N.D.		
49) Tetrachloroethene	14.57	166	38	N.D.		
50) Dibromochloromethane	14.99	127	87	N.D.		
52) Chlorobenzene	15.89	112	744	N.D.		
53) Ethylbenzene	15.88	106	1251	N.D.		
54) m-Xylene & p-Xylene	16.04	106	4785	N.D.		
55) Styrene	16.62	104	1114	N.D.		
56) o-Xylene	16.56	106	2256	N.D.		
57) Bromoform	16.70	173	559	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\042021\217DO008.D Vial: 8
Acq On : 21 Apr 2021 12:06 am Operator: rgg
Sample : 1d20052-blk1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 7:16 2021 Quant Results File: 033121.RES

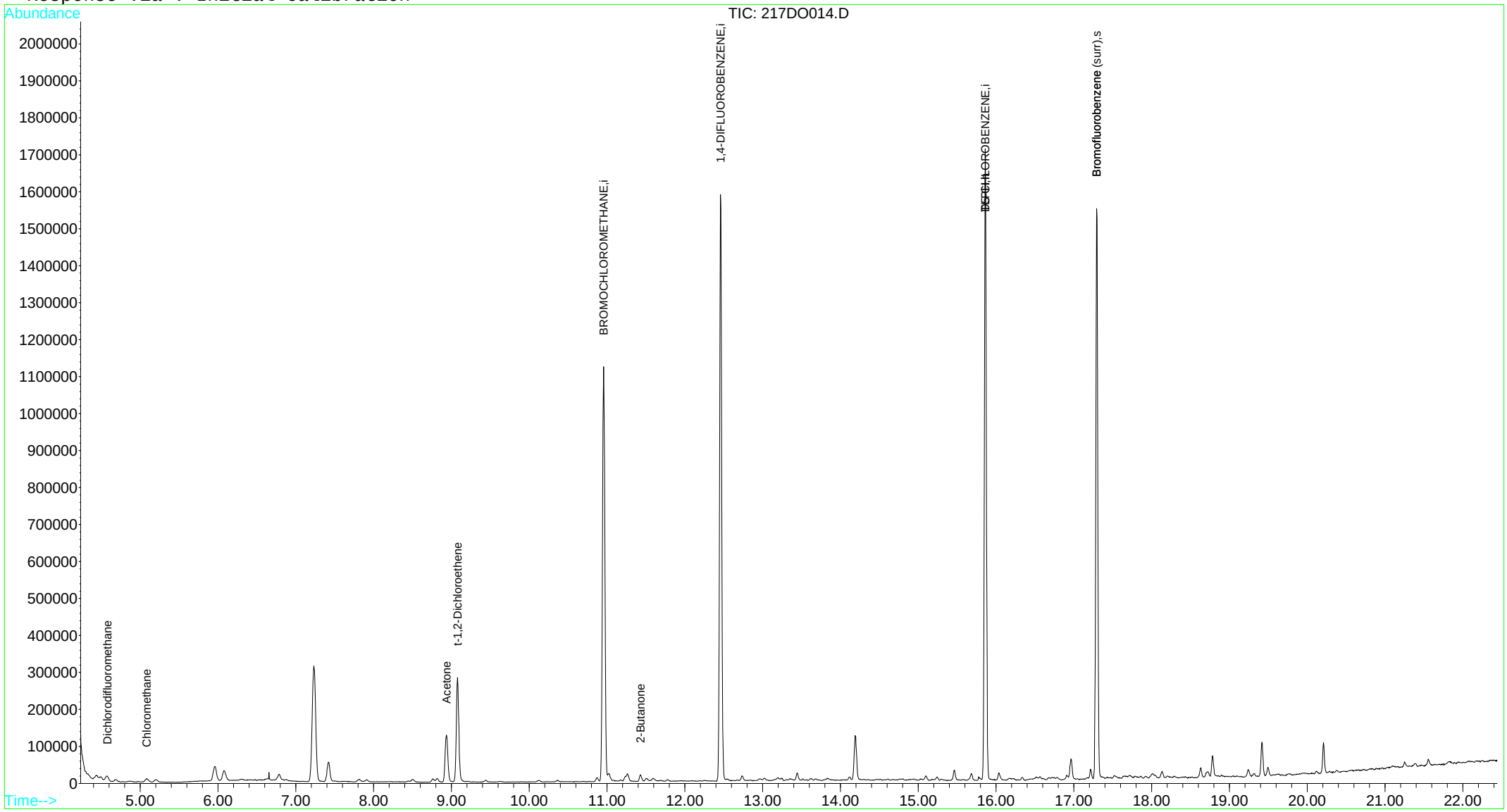
Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.48	83	2277	N.D.		
59) Bromofluorobenzene	17.30	174	419463	28874.58	PPTV #	91
61) 4-ethyltoluene	17.54	105	9872	N.D.		
62) 1,3,5-Trimethylbenzene	17.65	105	3734	N.D.		
63) 1,2,4-Trimethylbenzene	18.14	105	7293	N.D.		
64) 1,3-Dichlorobenzene	18.60	146	2148	N.D.		
65) 1,4-Dichlorobenzene	18.71	146	2034	N.D.		
66) Benzyl Chloride	19.00	91	5116	N.D.		
67) 1,2-Dichlorobenzene	19.25	146	3039	N.D.		
68) 1,2,4-Trichlorobenzene	21.17	180	4153	414.59	PPTV #	91
69) Hexachlorobutadiene	21.10	225	887	N.D.		

Quantitation Report

Data File : C:\HPCHEM\1\DATA\042021\217DO014.D Vial: 14
Acq On : 21 Apr 2021 10:25 am Operator: rgg
Sample : ae02772-01 Inst : OVGCMS7
Misc : 1.35 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 11:05 2021 Quant Results File: 033121.RES

Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\042021\217DO014.D Vial: 14
Acq On : 21 Apr 2021 10:25 am Operator: rgg
Sample : ae02772-01 Inst : OVGCMS7
Misc : 1.35 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 11:05 2021 Quant Results File: 033121.RES

Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.96	130	384346	31000.00	PPTV	-0.01
36) 1,4-DIFLUOROBENZENE	12.46	114	1253612	31000.00	PPTV	0.00
51) D5-CHLOROBENZENE	15.86	117	935186	31000.00	PPTV	0.00
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.30	174	431042	28847.98	PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 92.31%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.58	85	22455	361.95	PPTV	98
3) Propene	4.44	41	7197	N.D.		
4) Chloromethane	5.08	50	17654	490.16	PPTV	94
5) Freon 114	4.97	135	608	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	5.36	39	109	N.D.		
8) Bromomethane	6.10	94	92	N.D.		
9) Chloroethane	6.48	64	47	N.D.		
10) Trichlorofluoromethane	6.78	101	6655	N.D.		
11) Bromoethene	0.00	106	0	N.D.		
12) 1,1-Dichloroethene	0.00	61	0	N.D.		
13) Acetone	8.94	43	210315	3894.31	PPTV	96
14) Isopropyl Alcohol	0.00	45	0	N.D. d		
15) Carbon Disulfide	7.87	76	1827	N.D.		
16) Methylene Chloride	8.82	84	4194	N.D.		
17) Freon 113	7.91	151	2406	N.D.		
18) 3-chloro-1-propene	8.69	41	227	N.D.		
19) t-1,2-Dichloroethene	9.08	61	199040	5358.23	PPTV	92
20) Methyl tert-butyl ether	9.31	73	222	N.D.		
21) Hexane	9.22	57	627	N.D.		
22) 1,1-Dichloroethane	9.99	63	42	N.D.		
23) Vinyl Acetate	10.29	43	457	N.D.		
24) c-1,2-Dichloroethene	10.70	96	169	N.D.		
25) Ethyl Acetate	0.00	43	0	N.D. d		
26) 2-Butanone	11.43	43	24139	302.17	PPTV	99
27) Chloroform	11.03	83	741	N.D.		
28) Tetrahydrofuran	11.27	42	4416	N.D.		
29) 2,2,4-Trimethylpentane	11.60	57	6004	N.D.		
30) 1,2-Dichloroethane	12.00	62	457	N.D.		
31) 1,1,1-Trichloroethane	11.34	97	37	N.D.		
32) Cyclohexane	10.99	56	647	N.D.		
33) Carbon Tetrachloride	11.24	117	2879	N.D.		
34) Benzene	11.77	78	3220	N.D.		
35) Heptane	11.70	43	906	N.D.		
37) TLPH	15.86	TIC	18326035m	88560.18	PPTV	
38) 1,2-Dichloropropane	13.08	63	41	N.D.		
39) Trichloroethene	12.46	130	36	N.D.		
40) 1,4-Dioxane	13.35	88	423	N.D.		
41) Bromodichloromethane	0.00	83	0	N.D.		
42) c-1,3-Dichloropropene	13.85	75	790	N.D.		
43) t-1,3-Dichloropropene	14.54	75	177	N.D.		
44) 1,1,2-Trichloroethane	14.78	97	308	N.D.		
45) Methyl Isobutyl Ketone	14.52	43	2298	N.D.		
46) Toluene	14.12	92	3656	N.D.		
47) 2-Hexanone	15.46	43	8186	N.D.		
48) 1,2-Dibromoethane	15.28	107	39	N.D.		
49) Tetrachloroethene	14.58	166	252	N.D.		
50) Dibromochloromethane	0.00	127	0	N.D.		
52) Chlorobenzene	15.88	112	436	N.D.		
53) Ethylbenzene	15.88	106	1190	N.D.		
54) m-Xylene & p-Xylene	16.04	106	4909	N.D.		
55) Styrene	16.61	104	631	N.D.		
56) o-Xylene	16.56	106	2085	N.D.		
57) Bromoform	16.69	173	92	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\042021\217DO014.D Vial: 14
Acq On : 21 Apr 2021 10:25 am Operator: rgg
Sample : ae02772-01 Inst : OVGCMS7
Misc : 1.35 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 11:05 2021 Quant Results File: 033121.RES

Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

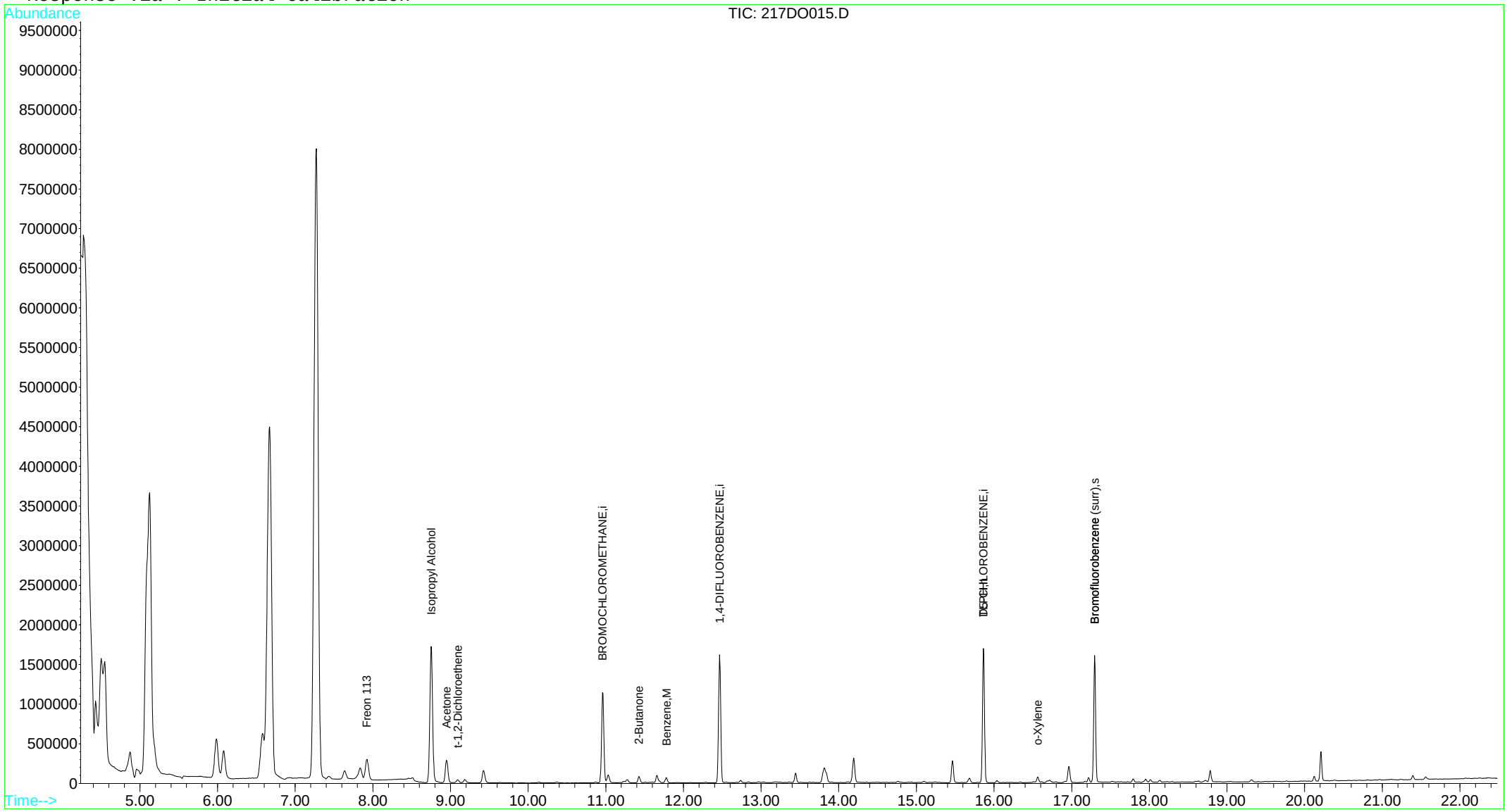
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.48	83	1031	N.D.		
59) Bromofluorobenzene	17.30	174	431042	28847.98	PPTV #	90
61) 4-ethyltoluene	17.52	105	7470	N.D.		
62) 1,3,5-Trimethylbenzene	17.64	105	2779	N.D.		
63) 1,2,4-Trimethylbenzene	18.13	105	6474	N.D.		
64) 1,3-Dichlorobenzene	18.60	146	517	N.D.		
65) 1,4-Dichlorobenzene	18.70	146	1736	N.D.		
66) Benzyl Chloride	18.99	91	994	N.D.		
67) 1,2-Dichlorobenzene	19.25	146	562	N.D.		
68) 1,2,4-Trichlorobenzene	21.16	180	802	N.D.		
69) Hexachlorobutadiene	21.10	225	556	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\042021\217DO015.D Vial: 15
Acq On : 21 Apr 2021 11:10 am Operator: rgg
Sample : ae02772-02 Inst : OVGCMS7
Misc : 1.30 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 11:41 2021 Quant Results File: 033121.RES

Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\042021\217DO015.D Vial: 15
Acq On : 21 Apr 2021 11:10 am Operator: rgg
Sample : ae02772-02 Inst : OVGCMS7
Misc : 1.30 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 11:41 2021 Quant Results File: 033121.RES

Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.96	130	389379	31000.00	PPTV	0.00
36) 1,4-DIFLUOROBENZENE	12.47	114	1266536	31000.00	PPTV	0.00
51) D5-CHLOROBENZENE	15.86	117	936361	31000.00	PPTV	0.00
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.29	174	433645	28985.77	PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 92.75%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D. d		
3) Propene	0.00	41	0	N.D. d		
4) Chloromethane	0.00	50	0	N.D. d		
5) Freon 114	4.95	135	95	N.D.		
6) Vinyl Chloride	5.32	62	650	N.D.		
7) 1,3-Butadiene	5.39	39	5916	N.D.		
8) Bromomethane	6.05	94	2453	N.D.		
9) Chloroethane	6.48	64	294	N.D.		
10) Trichlorofluoromethane	6.80	101	8531	N.D.		
11) Bromoethene	6.68	106	36	N.D.		
12) 1,1-Dichloroethene	7.92	61	300	N.D.		
13) Acetone	8.95	43	445339	8139.55	PPTV	95
14) Isopropyl Alcohol	8.75	45	2844976	59573.65	PPTV	97
15) Carbon Disulfide	0.00	76	0	N.D. d		
16) Methylene Chloride	8.83	84	2548	N.D.		
17) Freon 113	7.93	151	105198	2781.43	PPTV	89
18) 3-chloro-1-propene	0.00	41	0	N.D. d		
19) t-1,2-Dichloroethene	9.09	61	19894	528.63	PPTV	92
20) Methyl tert-butyl ether	9.30	73	1622	N.D.		
21) Hexane	9.22	57	2905	N.D.		
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	10.33	43	2182	N.D.		
24) c-1,2-Dichloroethene	10.71	96	202	N.D.		
25) Ethyl Acetate	0.00	43	0	N.D. d		
26) 2-Butanone	11.43	43	110092	1360.33	PPTV	100
27) Chloroform	0.00	83	0	N.D. d		
28) Tetrahydrofuran	0.00	42	0	N.D. d		
29) 2,2,4-Trimethylpentane	11.59	57	6539	N.D.		
30) 1,2-Dichloroethane	12.01	62	278	N.D.		
31) 1,1,1-Trichloroethane	11.43	97	37	N.D.		
32) Cyclohexane	10.99	56	515	N.D.		
33) Carbon Tetrachloride	11.25	117	1566	N.D.		
34) Benzene	11.78	78	51946	735.41	PPTV	100
35) Heptane	0.00	43	0	N.D. d		
37) TLPH	15.86	TIC	23869492m	114171.77	PPTV	
38) 1,2-Dichloropropane	13.07	63	85	N.D.		
39) Trichloroethene	0.00	130	0	N.D.		
40) 1,4-Dioxane	13.35	88	496	N.D.		
41) Bromodichloromethane	13.28	83	38	N.D.		
42) c-1,3-Dichloropropene	13.83	75	881	N.D.		
43) t-1,3-Dichloropropene	14.58	75	462	N.D.		
44) 1,1,2-Trichloroethane	14.77	97	420	N.D.		
45) Methyl Isobutyl Ketone	14.50	43	3598	N.D.		
46) Toluene	14.12	92	3688	N.D.		
47) 2-Hexanone	0.00	43	0	N.D. d		
48) 1,2-Dibromoethane	15.29	107	92	N.D.		
49) Tetrachloroethene	14.58	166	363	N.D.		
50) Dibromochloromethane	0.00	127	0	N.D.		
52) Chlorobenzene	15.89	112	906	N.D.		
53) Ethylbenzene	15.88	106	1662	N.D.		
54) m-Xylene & p-Xylene	16.04	106	6680	N.D.		
55) Styrene	16.61	104	3548	N.D.		
56) o-Xylene	16.56	106	19137	527.76	PPTV	89
57) Bromoform	16.69	173	180	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\042021\217DO015.D Vial: 15
Acq On : 21 Apr 2021 11:10 am Operator: rgg
Sample : ae02772-02 Inst : OVGCMS7
Misc : 1.30 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 11:41 2021 Quant Results File: 033121.RES

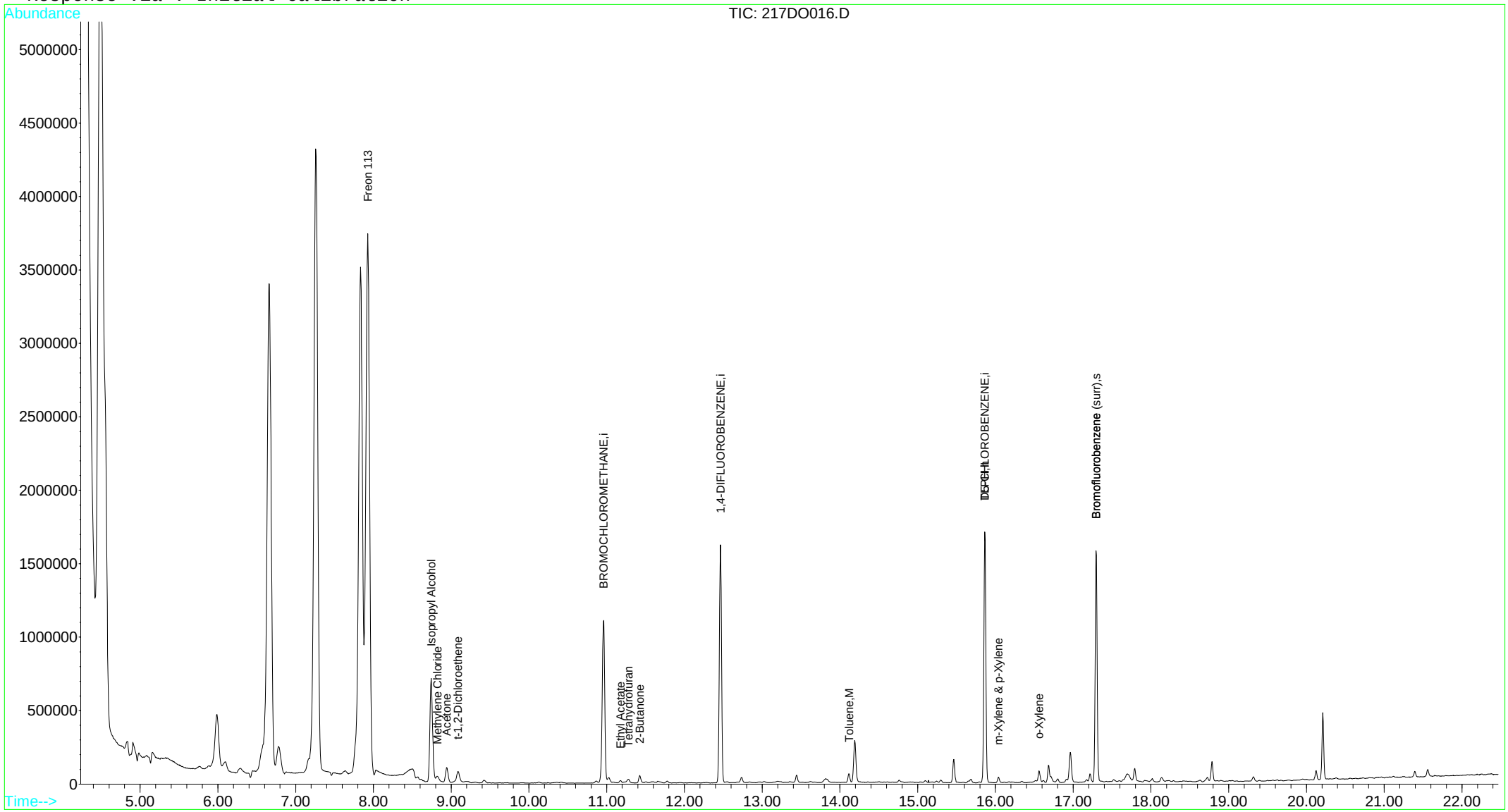
Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.48	83	1008	N.D.		
59) Bromofluorobenzene	17.29	174	433645	28985.77	PPTV #	90
61) 4-ethyltoluene	17.52	105	9630	N.D.		
62) 1,3,5-Trimethylbenzene	17.64	105	4254	N.D.		
63) 1,2,4-Trimethylbenzene	18.14	105	10456	N.D.		
64) 1,3-Dichlorobenzene	18.60	146	3778	N.D.		
65) 1,4-Dichlorobenzene	18.70	146	909	N.D.		
66) Benzyl Chloride	19.00	91	1152	N.D.		
67) 1,2-Dichlorobenzene	19.24	146	697	N.D.		
68) 1,2,4-Trichlorobenzene	21.17	180	942	N.D.		
69) Hexachlorobutadiene	21.09	225	846	N.D.		

Quantitation Report

Data File : C:\HPCHEM\1\DATA\042021\217DO016.D Vial: 16
Acq On : 21 Apr 2021 11:55 am Operator: rgg
Sample : ae02772-03 Inst : OVGCMS7
Misc : 1.35 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 13:09 2021 Quant Results File: 033121.RES

Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration



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Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\042021\217DO016.D Vial: 16
Acq On : 21 Apr 2021 11:55 am Operator: rgg
Sample : ae02772-03 Inst : OVGCMS7
Misc : 1.35 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 13:09 2021 Quant Results File: 033121.RES

Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.96	130	392415	31000.00	PPTV	0.00
36) 1,4-DIFLUOROBENZENE	12.47	114	1277948	31000.00	PPTV	0.00
51) D5-CHLOROBENZENE	15.86	117	945869	31000.00	PPTV	0.00
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.30	174	435080	28789.35	PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 92.13%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.55	85	11466	N.D.		
3) Propene	0.00	41	0	N.D. d		
4) Chloromethane	5.05	50	5112	N.D.		
5) Freon 114	4.96	135	392	N.D.		
6) Vinyl Chloride	5.32	62	55	N.D.		
7) 1,3-Butadiene	5.36	39	3040	N.D.		
8) Bromomethane	6.21	94	168	N.D.		
9) Chloroethane	6.46	64	47	N.D.		
10) Trichlorofluoromethane	6.80	101	4471	N.D.		
11) Bromoethene	0.00	106	0	N.D.		
12) 1,1-Dichloroethene	7.83	61	5722	N.D.		
13) Acetone	8.94	43	162861	2953.61	PPTV	96
14) Isopropyl Alcohol	8.74	45	1129134	23461.08	PPTV	98
15) Carbon Disulfide	7.84	76	7138	N.D.		
16) Methylene Chloride	8.83	84	12553	564.12	PPTV	94
17) Freon 113	7.93	151	1980699	51964.38	PPTV	88
18) 3-chloro-1-propene	0.00	41	0	N.D. d		
19) t-1,2-Dichloroethene	9.09	61	51195	1349.85	PPTV	91
20) Methyl tert-butyl ether	9.29	73	843	N.D.		
21) Hexane	9.22	57	2363	N.D.		
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	10.34	43	1906	N.D.		
24) c-1,2-Dichloroethene	10.70	96	85	N.D.		
25) Ethyl Acetate	11.18	43	18205	204.67	PPTV #	64
26) 2-Butanone	11.42	43	69669	854.19	PPTV	99
27) Chloroform	11.03	83	6507	N.D.		
28) Tetrahydrofuran	11.28	42	15558	420.26	PPTV	92
29) 2,2,4-Trimethylpentane	11.60	57	7010	N.D.		
30) 1,2-Dichloroethane	12.00	62	420	N.D.		
31) 1,1,1-Trichloroethane	11.34	97	39	N.D.		
32) Cyclohexane	10.99	56	4796	N.D.		
33) Carbon Tetrachloride	11.24	117	1169	N.D.		
34) Benzene	11.78	78	12066	N.D.		
35) Heptane	11.70	43	4185	N.D.		
37) TLPH	15.86	TIC	23390634m	110882.22	PPTV	
38) 1,2-Dichloropropane	13.07	63	327	N.D.		
39) Trichloroethene	12.45	130	164	N.D.		
40) 1,4-Dioxane	13.34	88	712	N.D.		
41) Bromodichloromethane	13.12	83	146	N.D.		
42) c-1,3-Dichloropropene	13.83	75	452	N.D.		
43) t-1,3-Dichloropropene	14.59	75	956	N.D.		
44) 1,1,2-Trichloroethane	14.76	97	359	N.D.		
45) Methyl Isobutyl Ketone	14.50	43	4275	N.D.		
46) Toluene	14.12	92	24009	477.72	PPTV	96
47) 2-Hexanone	0.00	43	0	N.D. d		
48) 1,2-Dibromoethane	15.28	107	39	N.D.		
49) Tetrachloroethene	14.58	166	605	N.D.		
50) Dibromochloromethane	0.00	127	0	N.D.		
52) Chlorobenzene	15.89	112	306	N.D.		
53) Ethylbenzene	15.88	106	2518	N.D.		
54) m-Xylene & p-Xylene	16.04	106	9861	269.46	PPTV	90
55) Styrene	16.61	104	5869	N.D.		
56) o-Xylene	16.56	106	20749	566.47	PPTV	92
57) Bromoform	16.69	173	38	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\042021\217DO016.D Vial: 16
Acq On : 21 Apr 2021 11:55 am Operator: rgg
Sample : ae02772-03 Inst : OVGCMS7
Misc : 1.35 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 13:09 2021 Quant Results File: 033121.RES

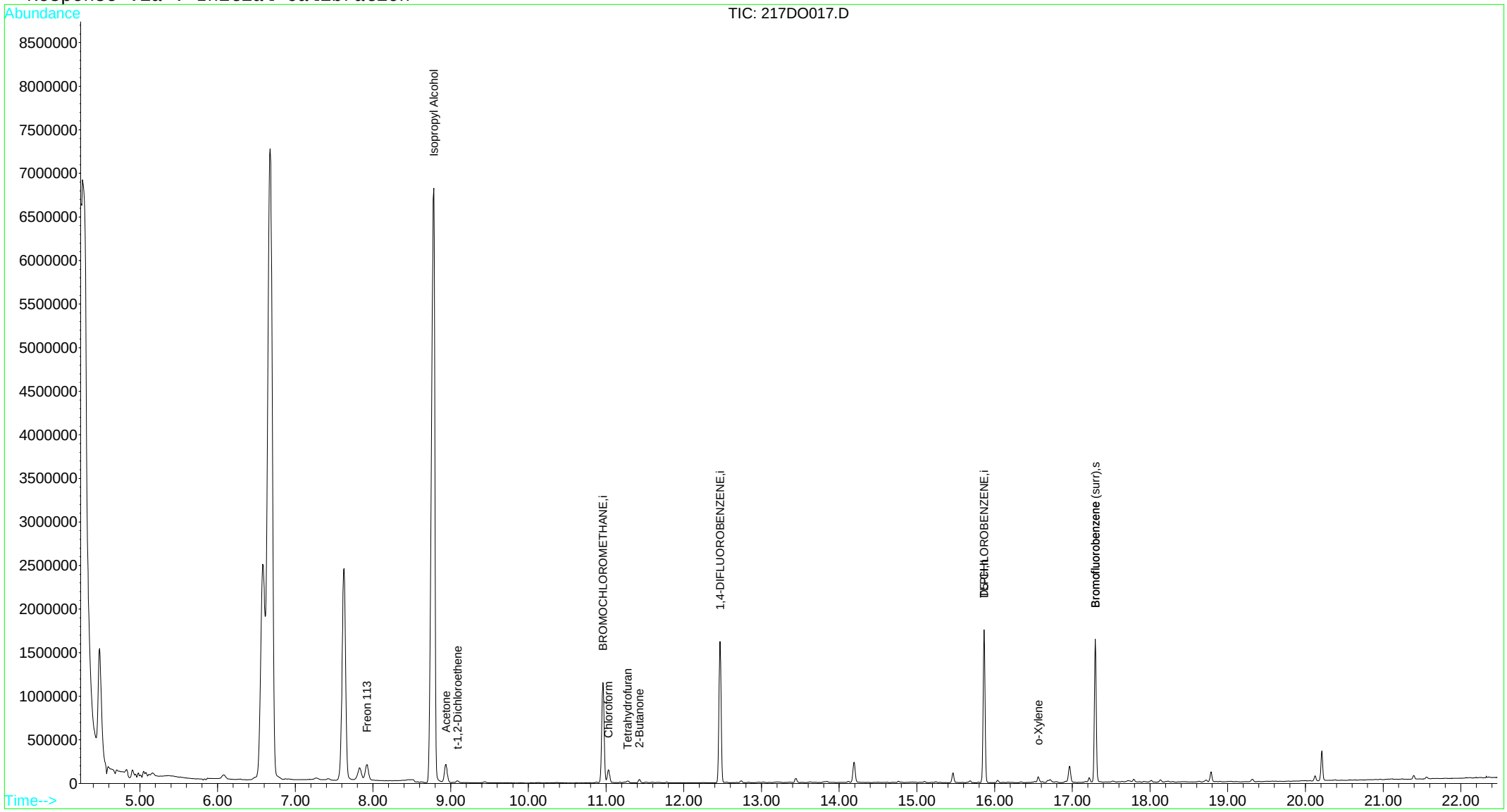
Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.48	83	1386	N.D.		
59) Bromofluorobenzene	17.30	174	435080	28789.35	PPTV #	90
61) 4-ethyltoluene	17.52	105	10481	N.D.		
62) 1,3,5-Trimethylbenzene	17.64	105	4637	N.D.		
63) 1,2,4-Trimethylbenzene	18.13	105	11777	N.D.		
64) 1,3-Dichlorobenzene	18.60	146	1051	N.D.		
65) 1,4-Dichlorobenzene	18.70	146	889	N.D.		
66) Benzyl Chloride	18.99	91	1077	N.D.		
67) 1,2-Dichlorobenzene	19.26	146	773	N.D.		
68) 1,2,4-Trichlorobenzene	21.17	180	751	N.D.		
69) Hexachlorobutadiene	21.11	225	911	N.D.		

Quantitation Report

Data File : C:\HPCHEM\1\DATA\042021\217DO017.D Vial: 17
Acq On : 21 Apr 2021 12:41 pm Operator: rgg
Sample : ae02772-04 Inst : OVGCMS7
Misc : 1.30 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 13:11 2021 Quant Results File: 033121.RES

Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\042021\217DO017.D Vial: 17
Acq On : 21 Apr 2021 12:41 pm Operator: rgg
Sample : ae02772-04 Inst : OVGCMS7
Misc : 1.30 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 13:11 2021 Quant Results File: 033121.RES

Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.96	130	392593	31000.00 PPTV	0.00
36) 1,4-DIFLUOROBENZENE	12.47	114	1280780	31000.00 PPTV	0.00
51) D5-CHLOROBENZENE	15.86	117	949894	31000.00 PPTV	0.00
System Monitoring Compounds					
60) Bromofluorobenzene (surr)	17.30	174	441074	29062.31 PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 93.00%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D. d	
3) Propene	0.00	41	0	N.D. d	
4) Chloromethane	0.00	50	0	N.D. d	
5) Freon 114	4.95	135	521	N.D.	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	5.35	39	1257	N.D.	
8) Bromomethane	6.14	94	307	N.D.	
9) Chloroethane	0.00	64	0	N.D. d	
10) Trichlorofluoromethane	6.77	101	6429	N.D.	
11) Bromoethene	6.60	106	38	N.D.	
12) 1,1-Dichloroethene	0.00	61	0	N.D.	
13) Acetone	8.94	43	353060	6400.12 PPTV	96
14) Isopropyl Alcohol	8.78	45	14121224	293276.95 PPTV	93
15) Carbon Disulfide	7.85	76	4105	N.D.	
16) Methylene Chloride	8.82	84	2327	N.D.	
17) Freon 113	7.92	151	79106	2074.43 PPTV	90
18) 3-chloro-1-propene	0.00	41	0	N.D. d	
19) t-1,2-Dichloroethene	9.09	61	15093	397.77 PPTV	90
20) Methyl tert-butyl ether	9.29	73	636	N.D.	
21) Hexane	9.23	57	1406	N.D.	
22) 1,1-Dichloroethane	10.01	63	38	N.D.	
23) Vinyl Acetate	10.32	43	2015	N.D.	
24) c-1,2-Dichloroethene	10.63	96	40	N.D.	
25) Ethyl Acetate	11.28	43	13139	N.D.	
26) 2-Butanone	11.43	43	55461	679.68 PPTV	99
27) Chloroform	11.03	83	91618	1839.77 PPTV	97
28) Tetrahydrofuran	11.28	42	12227	330.13 PPTV	91
29) 2,2,4-Trimethylpentane	11.60	57	6556	N.D.	
30) 1,2-Dichloroethane	11.99	62	295	N.D.	
31) 1,1,1-Trichloroethane	0.00	97	0	N.D.	
32) Cyclohexane	10.99	56	1170	N.D.	
33) Carbon Tetrachloride	11.24	117	1673	N.D.	
34) Benzene	11.78	78	6688	N.D.	
35) Heptane	11.69	43	2431	N.D.	
37) TLPH	15.86	TIC	22068793m	104384.77 PPTV	
38) 1,2-Dichloropropane	13.06	63	87	N.D.	
39) Trichloroethene	0.00	130	0	N.D.	
40) 1,4-Dioxane	13.35	88	504	N.D.	
41) Bromodichloromethane	13.10	83	2397	N.D.	
42) c-1,3-Dichloropropene	13.83	75	256	N.D.	
43) t-1,3-Dichloropropene	14.57	75	1018	N.D.	
44) 1,1,2-Trichloroethane	14.76	97	86	N.D.	
45) Methyl Isobutyl Ketone	14.50	43	3210	N.D.	
46) Toluene	14.12	92	5101	N.D.	
47) 2-Hexanone	0.00	43	0	N.D. d	
48) 1,2-Dibromoethane	15.30	107	56	N.D.	
49) Tetrachloroethene	14.58	166	338	N.D.	
50) Dibromochloromethane	14.98	127	1502	N.D.	
52) Chlorobenzene	15.89	112	441	N.D.	
53) Ethylbenzene	15.88	106	1881	N.D.	
54) m-Xylene & p-Xylene	16.04	106	6739	N.D.	
55) Styrene	16.62	104	4046	N.D.	
56) o-Xylene	16.56	106	17684	480.74 PPTV	86
57) Bromoform	16.69	173	502	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\042021\217DO017.D Vial: 17
Acq On : 21 Apr 2021 12:41 pm Operator: rgg
Sample : ae02772-04 Inst : OVGCMS7
Misc : 1.30 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 13:11 2021 Quant Results File: 033121.RES

Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.48	83	1177	N.D.		
59) Bromofluorobenzene	17.30	174	441074	29062.31	PPTV #	89
61) 4-ethyltoluene	17.52	105	9730	N.D.		
62) 1,3,5-Trimethylbenzene	17.64	105	4461	N.D.		
63) 1,2,4-Trimethylbenzene	18.13	105	11093	N.D.		
64) 1,3-Dichlorobenzene	18.60	146	717	N.D.		
65) 1,4-Dichlorobenzene	18.71	146	1108	N.D.		
66) Benzyl Chloride	19.00	91	1060	N.D.		
67) 1,2-Dichlorobenzene	19.25	146	706	N.D.		
68) 1,2,4-Trichlorobenzene	21.17	180	625	N.D.		
69) Hexachlorobutadiene	21.10	225	689	N.D.		

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\042021\217DO018.D Vial: 18
Acq On : 21 Apr 2021 1:26 pm Operator: rgg
Sample : ae02772-05 Inst : OVGCMS7
Misc : 1.29 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 21:37 2021 Quant Results File: 033121.RES

Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.97	130	398062	31000.00	PPTV	0.00
36) 1,4-DIFLUOROBENZENE	12.47	114	1289785	31000.00	PPTV	0.00
51) D5-CHLOROBENZENE	15.87	117	950817	31000.00	PPTV	0.00
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.30	174	444299	29246.39	PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 93.59%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D. d		
3) Propene	0.00	41	0	N.D. d		
4) Chloromethane	0.00	50	0	N.D. d		
5) Freon 114	4.99	135	473	N.D.		
6) Vinyl Chloride	5.33	62	39	N.D.		
7) 1,3-Butadiene	5.42	39	1111	N.D.		
8) Bromomethane	6.12	94	689	N.D.		
9) Chloroethane	0.00	64	0	N.D. d		
10) Trichlorofluoromethane	6.82	101	5934	N.D.		
11) Bromoethene	6.70	106	82	N.D.		
12) 1,1-Dichloroethene	7.84	61	574	N.D.		
13) Acetone	8.95	43	760492	13596.47	PPTV	96
14) Isopropyl Alcohol	8.82	45	28275431	579170.80	PPTV	94
15) Carbon Disulfide	7.87	76	6157	N.D.		
16) Methylene Chloride	8.84	84	2102	N.D.		
17) Freon 113	7.94	151	624225	16144.45	PPTV	88
18) 3-chloro-1-propene	0.00	41	0	N.D. d		
19) t-1,2-Dichloroethene	9.10	61	31173	810.27	PPTV	93
20) Methyl tert-butyl ether	9.30	73	440	N.D.		
21) Hexane	9.24	57	2869	N.D.		
22) 1,1-Dichloroethane	10.02	63	39	N.D.		
23) Vinyl Acetate	10.33	43	5081	N.D.		
24) c-1,2-Dichloroethene	10.71	96	40	N.D.		
25) Ethyl Acetate	11.18	43	108291	1200.21	PPTV #	84
26) 2-Butanone	11.43	43	63351	765.71	PPTV	98
27) Chloroform	11.04	83	52878	1047.25	PPTV	97
28) Tetrahydrofuran	11.29	42	12830	341.65	PPTV	91
29) 2,2,4-Trimethylpentane	11.61	57	7200	N.D.		
30) 1,2-Dichloroethane	12.01	62	444	N.D.		
31) 1,1,1-Trichloroethane	11.33	97	77	N.D.		
32) Cyclohexane	11.00	56	1341	N.D.		
33) Carbon Tetrachloride	11.25	117	2399	N.D.		
34) Benzene	11.78	78	7173	N.D.		
35) Heptane	11.69	43	9407	N.D.		
37) TLPH	15.87	TIC	23431866m	110058.26	PPTV	
38) 1,2-Dichloropropane	13.07	63	69	N.D.		
39) Trichloroethene	12.46	130	42	N.D.		
40) 1,4-Dioxane	13.34	88	580	N.D.		
41) Bromodichloromethane	13.11	83	1149	N.D.		
42) c-1,3-Dichloropropene	13.84	75	260	N.D.		
43) t-1,3-Dichloropropene	14.54	75	728	N.D.		
44) 1,1,2-Trichloroethane	14.77	97	443	N.D.		
45) Methyl Isobutyl Ketone	14.50	43	3013	N.D.		
46) Toluene	14.12	92	20543	405.01	PPTV	99
47) 2-Hexanone	0.00	43	0	N.D. d		
48) 1,2-Dibromoethane	15.31	107	37	N.D.		
49) Tetrachloroethene	14.57	166	236	N.D.		
50) Dibromochloromethane	14.98	127	491	N.D.		
52) Chlorobenzene	15.87	112	347	N.D.		
53) Ethylbenzene	15.88	106	1830	N.D.		
54) m-Xylene & p-Xylene	16.04	106	7137	N.D.		
55) Styrene	16.62	104	3605	N.D.		
56) o-Xylene	16.57	106	13121	356.35	PPTV	90
57) Bromoform	16.69	173	222	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\042021\217DO018.D Vial: 18
Acq On : 21 Apr 2021 1:26 pm Operator: rgg
Sample : ae02772-05 Inst : OVGCMS7
Misc : 1.29 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 21:37 2021 Quant Results File: 033121.RES

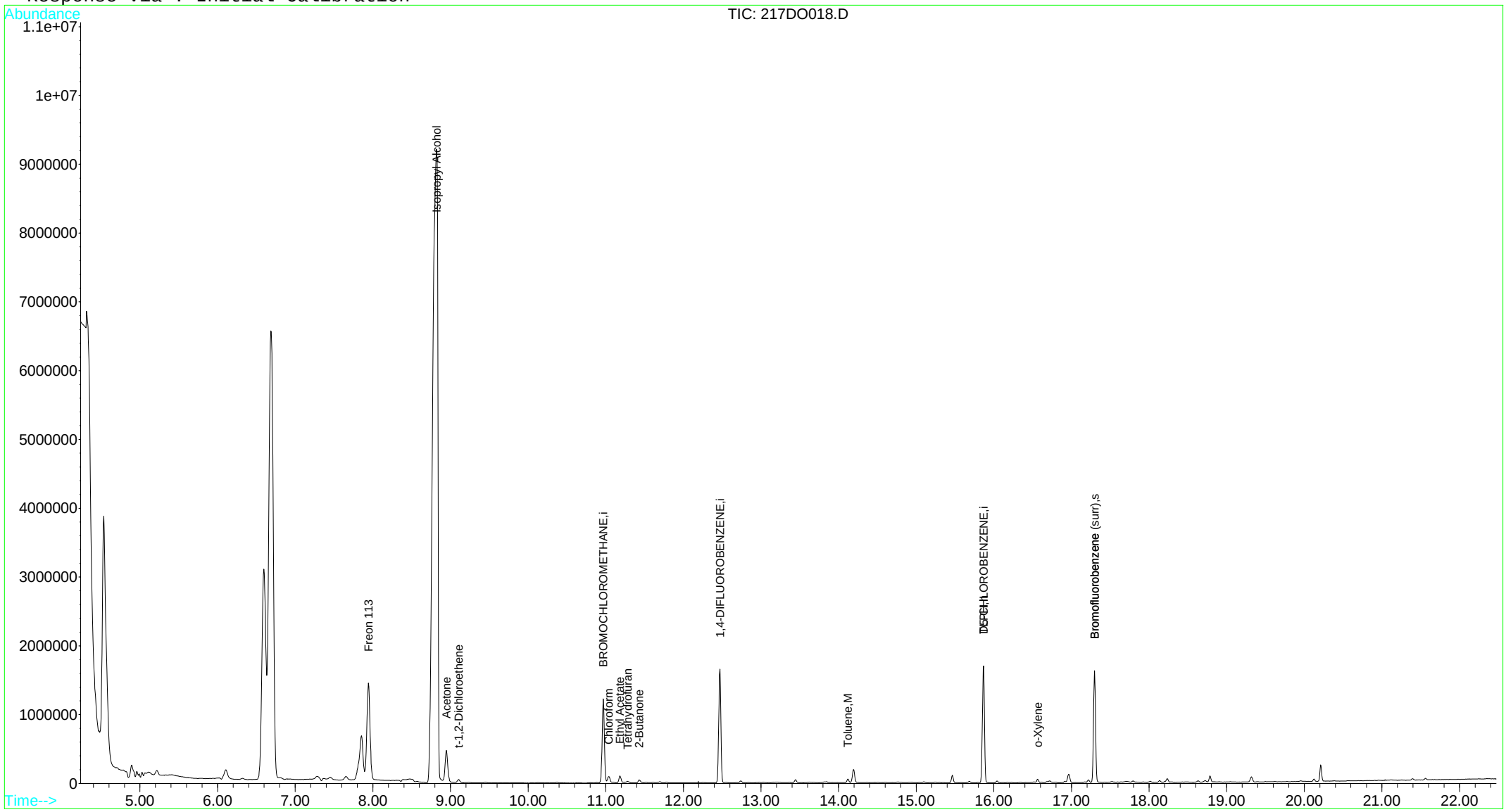
Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.48	83	1113	N.D.		
59) Bromofluorobenzene	17.30	174	444299	29246.39	PPTV #	90
61) 4-ethyltoluene	17.53	105	8890	N.D.		
62) 1,3,5-Trimethylbenzene	17.64	105	4017	N.D.		
63) 1,2,4-Trimethylbenzene	18.13	105	9167	N.D.		
64) 1,3-Dichlorobenzene	18.60	146	655	N.D.		
65) 1,4-Dichlorobenzene	18.70	146	787	N.D.		
66) Benzyl Chloride	18.99	91	999	N.D.		
67) 1,2-Dichlorobenzene	19.25	146	469	N.D.		
68) 1,2,4-Trichlorobenzene	21.17	180	695	N.D.		
69) Hexachlorobutadiene	21.10	225	810	N.D.		

Quantitation Report

Data File : C:\HPCHEM\1\DATA\042021\217DO018.D Vial: 18
Acq On : 21 Apr 2021 1:26 pm Operator: rgg
Sample : ae02772-05 Inst : OVGCMS7
Misc : 1.29 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 21:37 2021 Quant Results File: 033121.RES

Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\042021\217DO021.D Vial: 21
Acq On : 21 Apr 2021 3:31 pm Operator: rgg
Sample : ae02772-03re1 Inst : OVGCMS7
Misc : 1.35 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 21:34 2021 Quant Results File: 033121.RES

Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.96	130	417888	31000.00	PPTV	0.00
36) 1,4-DIFLUOROBENZENE	12.47	114	1394655	31000.00	PPTV	0.00
51) D5-CHLOROBENZENE	15.87	117	1012325	31000.00	PPTV	0.00
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.30	174	468358	28956.88	PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 92.66%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.55	85	7137	N.D.		
3) Propene	0.00	41	0	N.D. d		
4) Chloromethane	4.94	50	140	N.D.		
5) Freon 114	4.95	135	76	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	5.36	39	1215	N.D.		
8) Bromomethane	6.15	94	121	N.D.		
9) Chloroethane	6.57	64	57	N.D.		
10) Trichlorofluoromethane	6.77	101	2423	N.D.		
11) Bromoethene	0.00	106	0	N.D.		
12) 1,1-Dichloroethene	7.84	61	2658	N.D.		
13) Acetone	8.94	43	86966	1481.06	PPTV	91
14) Isopropyl Alcohol	8.75	45	608726	11877.09	PPTV	96
15) Carbon Disulfide	7.84	76	4894	N.D.		
16) Methylene Chloride	8.83	84	7254	306.12	PPTV	92
17) Freon 113	7.93	151	1084538	26718.85	PPTV	89
18) 3-chloro-1-propene	0.00	41	0	N.D. d		
19) t-1,2-Dichloroethene	9.09	61	27020	669.00	PPTV	87
20) Methyl tert-butyl ether	9.31	73	473	N.D.		
21) Hexane	9.22	57	2100	N.D.		
22) 1,1-Dichloroethane	10.08	63	38	N.D.		
23) Vinyl Acetate	10.30	43	295	N.D.		
24) c-1,2-Dichloroethene	10.75	96	41	N.D.		
25) Ethyl Acetate	11.09	43	1200	N.D.		
26) 2-Butanone	11.43	43	38969	448.66	PPTV	99
27) Chloroform	11.03	83	3192	N.D.		
28) Tetrahydrofuran	11.29	42	8389	212.79	PPTV	94
29) 2,2,4-Trimethylpentane	11.60	57	7403	N.D.		
30) 1,2-Dichloroethane	12.01	62	202	N.D.		
31) 1,1,1-Trichloroethane	11.35	97	36	N.D.		
32) Cyclohexane	11.00	56	3316	N.D.		
33) Carbon Tetrachloride	11.25	117	461	N.D.		
34) Benzene	11.78	78	6023	N.D.		
35) Heptane	11.70	43	3946	N.D.		
37) TLPH	15.87	TIC	23664229m	102791.85	PPTV	
38) 1,2-Dichloropropane	13.08	63	84	N.D.		
39) Trichloroethene	12.46	130	90	N.D.		
40) 1,4-Dioxane	13.36	88	502	N.D.		
41) Bromodichloromethane	0.00	83	0	N.D.		
42) c-1,3-Dichloropropene	13.84	75	296	N.D.		
43) t-1,3-Dichloropropene	14.56	75	230	N.D.		
44) 1,1,2-Trichloroethane	14.77	97	361	N.D.		
45) Methyl Isobutyl Ketone	14.51	43	2594	N.D.		
46) Toluene	14.12	92	15737	286.93	PPTV	93
47) 2-Hexanone	0.00	43	0	N.D. d		
48) 1,2-Dibromoethane	0.00	107	0	N.D.		
49) Tetrachloroethene	14.58	166	423	N.D.		
50) Dibromochloromethane	0.00	127	0	N.D.		
52) Chlorobenzene	15.89	112	395	N.D.		
53) Ethylbenzene	15.89	106	2236	N.D.		
54) m-Xylene & p-Xylene	16.04	106	8132	207.62	PPTV	90
55) Styrene	16.62	104	3732	N.D.		
56) o-Xylene	16.57	106	12580	320.90	PPTV	91
57) Bromoform	16.69	173	148	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\042021\217DO021.D Vial: 21
Acq On : 21 Apr 2021 3:31 pm Operator: rgg
Sample : ae02772-03re1 Inst : OVGCMS7
Misc : 1.35 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 21:34 2021 Quant Results File: 033121.RES

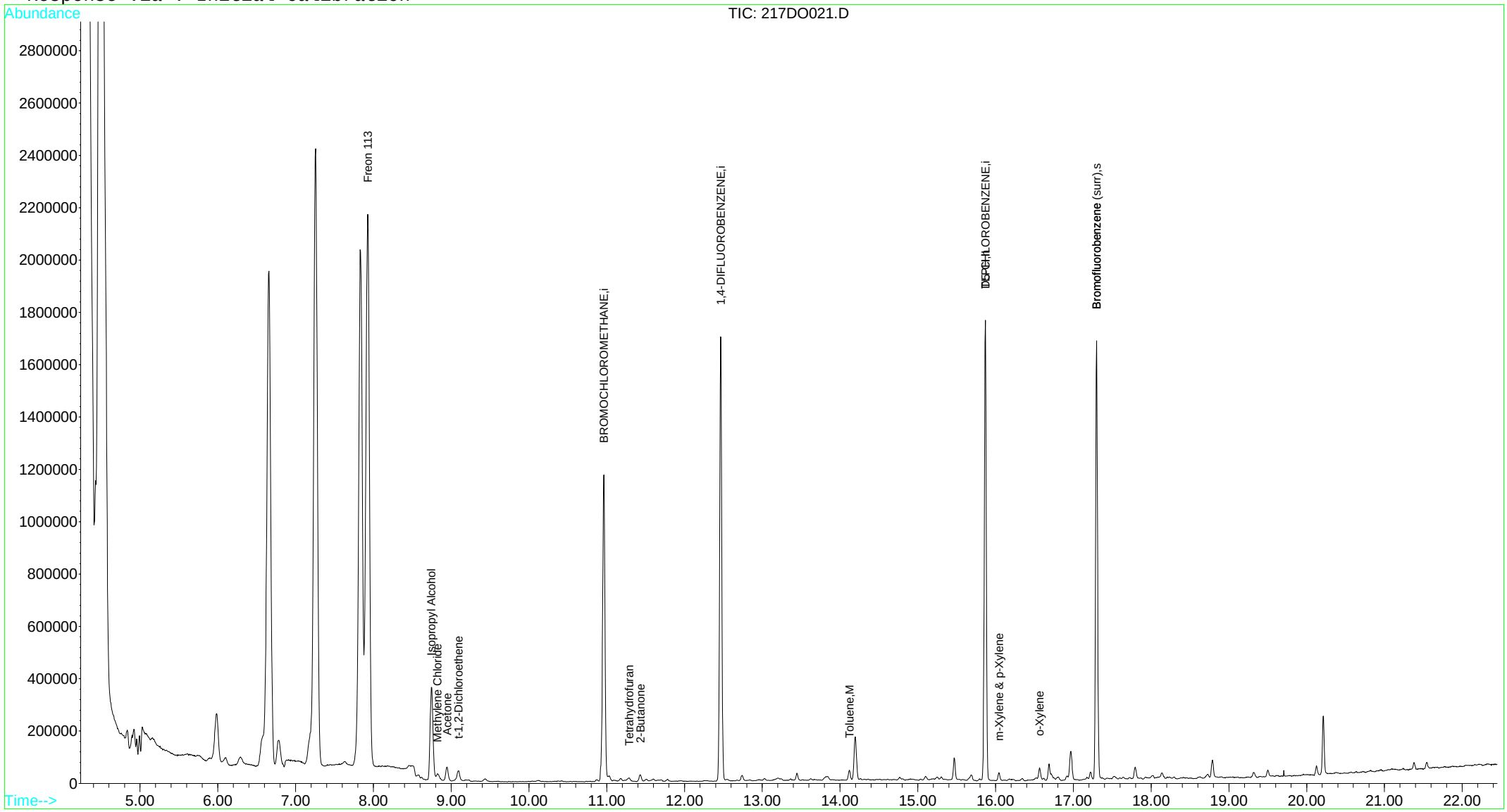
Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.48	83	1166	N.D.		
59) Bromofluorobenzene	17.30	174	468358	28956.88	PPTV #	88
61) 4-ethyltoluene	17.52	105	9326	N.D.		
62) 1,3,5-Trimethylbenzene	17.64	105	3776	N.D.		
63) 1,2,4-Trimethylbenzene	18.14	105	8640	N.D.		
64) 1,3-Dichlorobenzene	18.60	146	959	N.D.		
65) 1,4-Dichlorobenzene	18.71	146	792	N.D.		
66) Benzyl Chloride	18.99	91	1053	N.D.		
67) 1,2-Dichlorobenzene	19.26	146	743	N.D.		
68) 1,2,4-Trichlorobenzene	21.16	180	679	N.D.		
69) Hexachlorobutadiene	21.09	225	803	N.D.		

Quantitation Report

Data File : C:\HPCHEM\1\DATA\042021\217DO021.D Vial: 21
Acq On : 21 Apr 2021 3:31 pm Operator: rgg
Sample : ae02772-03re1 Inst : OVGCMS7
Misc : 1.35 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 21:34 2021 Quant Results File: 033121.RES

Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration



ANALYSIS SEQUENCE

AA65685

Instrument: OVGCMS7

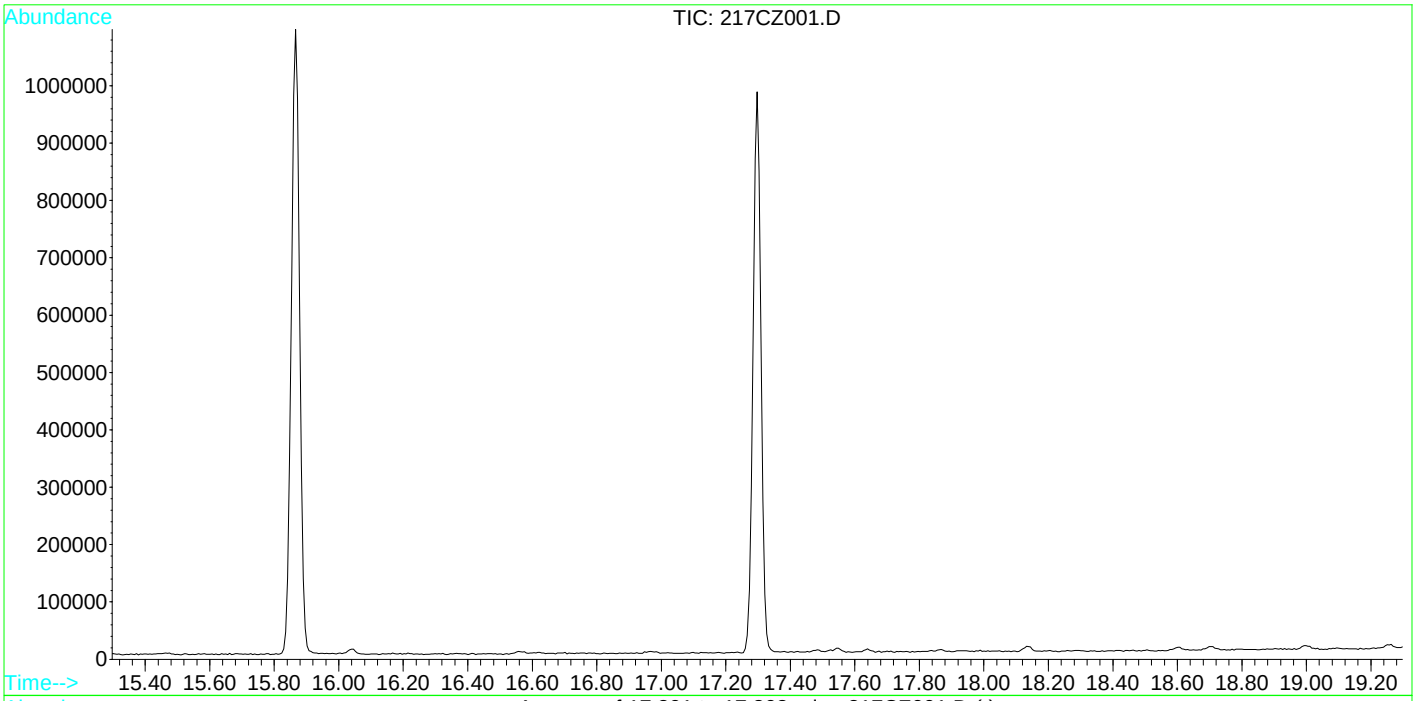
Calibration ID: 2103167 **Printed: 4/20/2021 11:54:15AM**

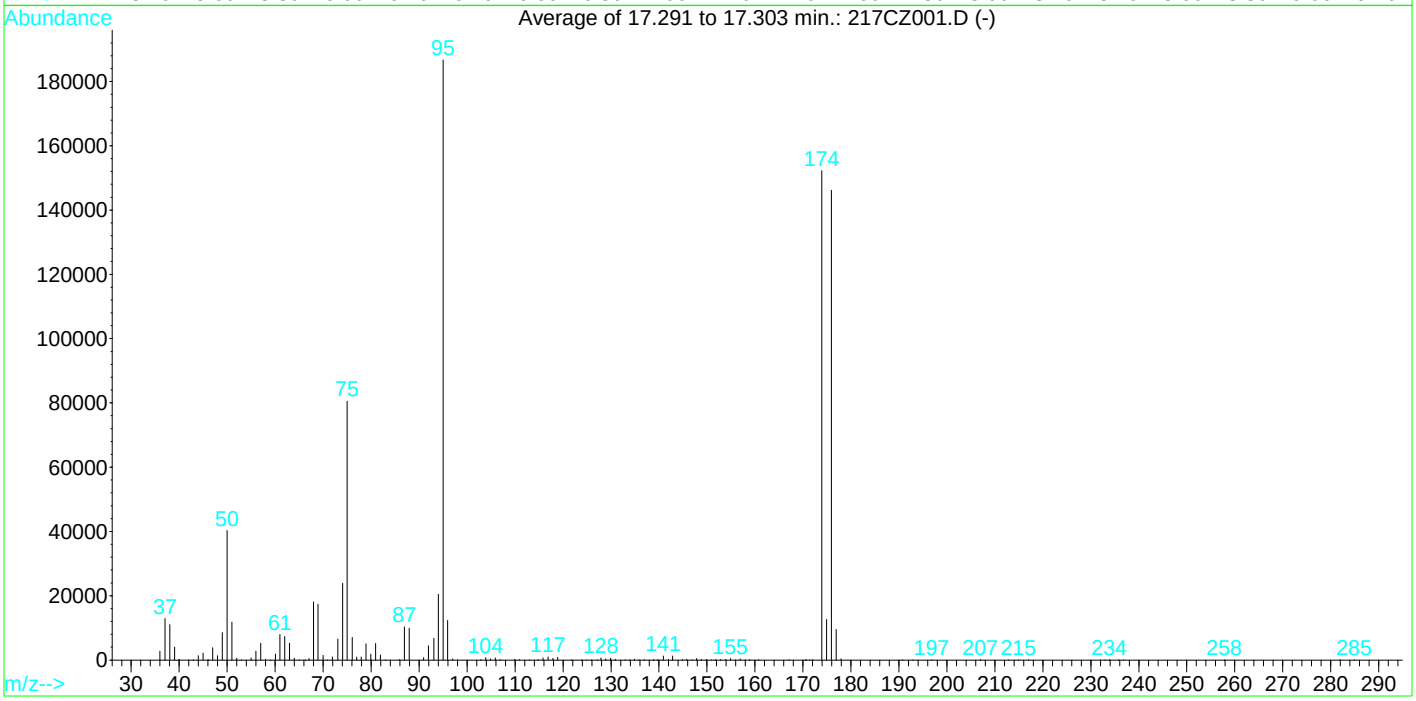
Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA65685-TUN1	QC		1		A1C1113			
AA65685-CAL1	QC		2		A1C0718	A1C1114		
AA65685-CAL2	QC		3		A1C0719	A1C1114		
AA65685-CAL3	QC		4		A1C0720	A1C1114		
AA65685-CAL4	QC		5		A1C0721	A1C1114		
AA65685-CAL5	QC		6		A1C0722	A1C1114		
AA65685-CAL6	QC		7		A1C0723	A1C1114		
AA65685-CAL7	QC		8		A1C0724	A1C1114		
AA65685-CAL8	QC		9		A1C0725	A1C1114		
AA65685-CAL9	QC		10		A1C0726	A1C1114		
AA65685-SCV1	QC		11		A1C0677	A1C1114		
1D01012-BS1	QC		12			A1C1114		
1D01012-BSD1	QC		13			A1C1114		
1D01012-BLK1	QC		14			A1C1114		
AE02612-01	Method 18 Modified	A	15			A1C1114		
AE02600-01	Method 18 Modified	A	16			A1C1114		
AE02600-02	Method 18 Modified	A	17			A1C1114		
AE02241-01	TO15 (SUMMA)	A	18			A1C1114		
AE02600-01RE1	Method 18 Modified	A	19			A1C1114		

Samples Loaded By Date

Data Processed By Date

Data File : C:\HPCHEM\1\DATA\033121\217CZ001.D Vial: 1
Acq On : 31 Mar 2021 2:43 pm Operator: rgg
Sample : aa65685-tun1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)





AutoFind: Scans 2172, 2173, 2174; Background Corrected with Scan 2163

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	21.6	40240	PASS
75	95	30	60	43.2	80552	PASS
95	95	100	100	100.0	186667	PASS
96	95	5	9	6.6	12354	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	81.6	152235	PASS
175	174	5	9	8.2	12558	PASS
176	174	95	101	96.0	146133	PASS
177	176	5	9	6.5	9530	PASS

Manual Integration Review Form

ENVIRONMENTAL CONSERVATION LABORATORIES, INC. ☐ Cary ☐ Jacksonville ☑ Orlando

I hereby attest that the manual integrations contained in this package have been thoroughly reviewed and are in agreement with the associated hardcopy data.

The electronic files listed below have been reviewed for accuracy, completeness and comply with ENCO labs QA-11 Manual Integration Policy including:

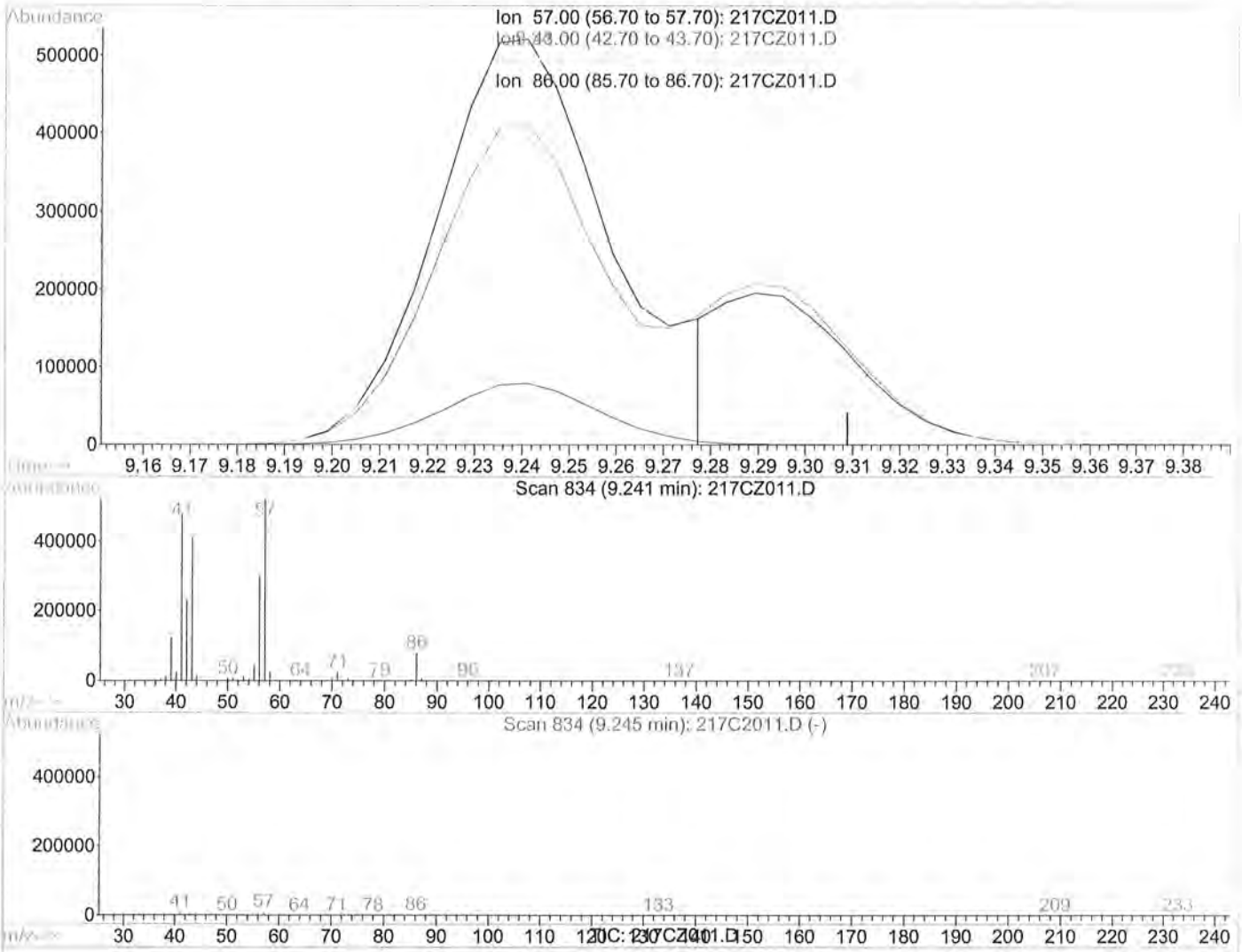
- "Before" and "After" chromatograms are provided
- Manual integrations are indicated on expanded scale "after" chromatograms at a scale large enough to see the manual integration performed.
- Reintegration technique marked if available on the data system
- Technical justification for manual integration
- Appropriate flags indicating which analytes were manually integrated are included in the raw data
- Analyst's initials and date.

Instrument ID:	OVGCMS7
Sequence/Batch ID:	AA65685 / 1001012
Data File Prefix:	217CZ ~~4/01/21~~ to 4/2/21
Date and Time Range of MIs:	4/01/21 08:22 — 15:58
Reviewer Print Name:	Neil Christians
Reviewer Signature:	
Date of Review:	4/2/21

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\033121\217CZ011.D Vial: 11
Acq On : 31 Mar 2021 10:06 pm Operator: rgg
Sample : aa65685-cal8 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 31 22:28 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Wed Mar 31 22:08:34 2021
Response via : Multiple Level Calibration



(21) Hexane

9.24min 23481.67PPTV

response 1343705

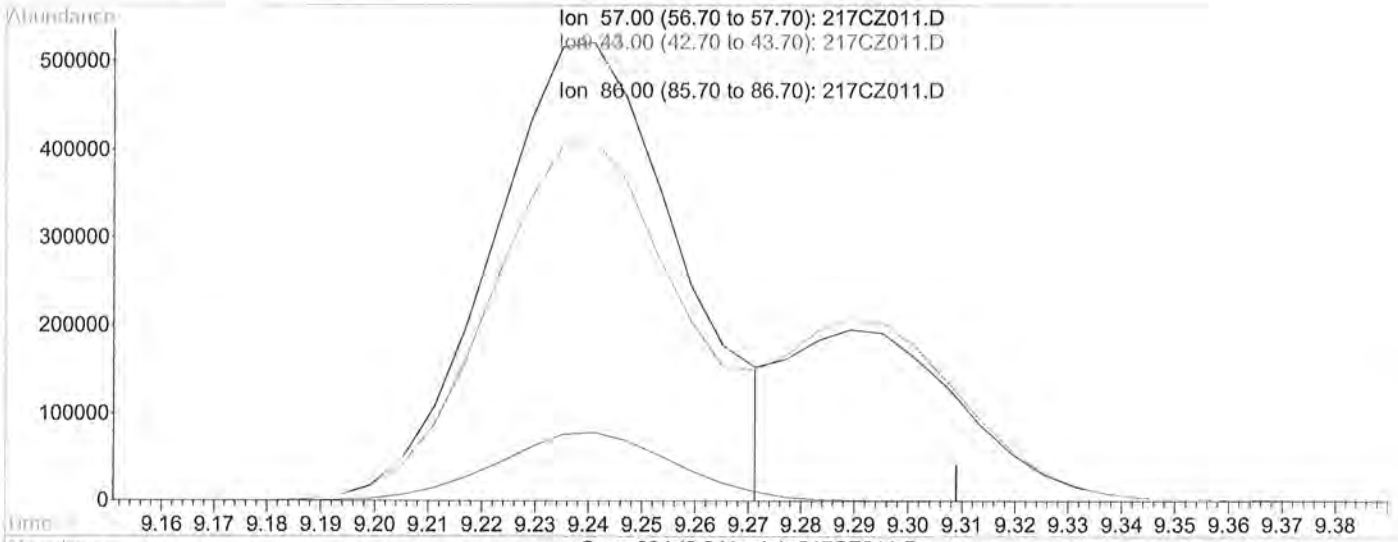
Ion	Exp%	Act%
57.00	100	100
43.00	84.50	81.70
41.00	104.40	95.17
86.00	14.10	13.60

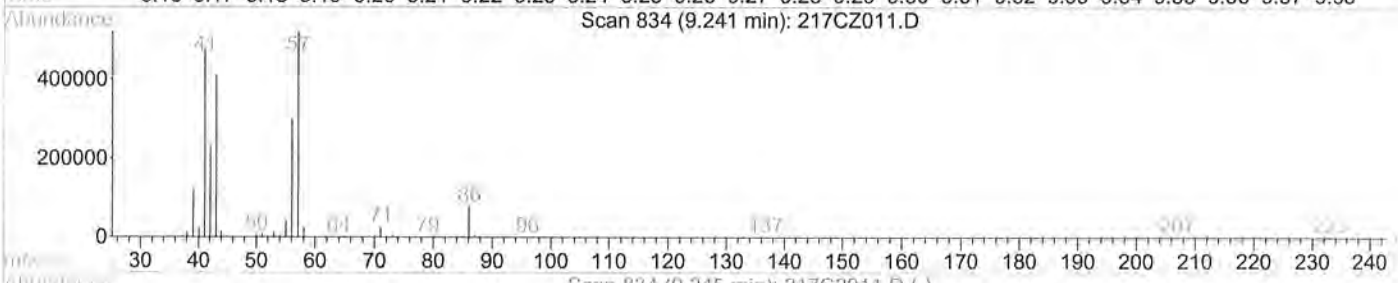
Select One:
[✓] Original Integration [ ] Manual Integration
Select reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date KS 4/2/21
Review by/Date:

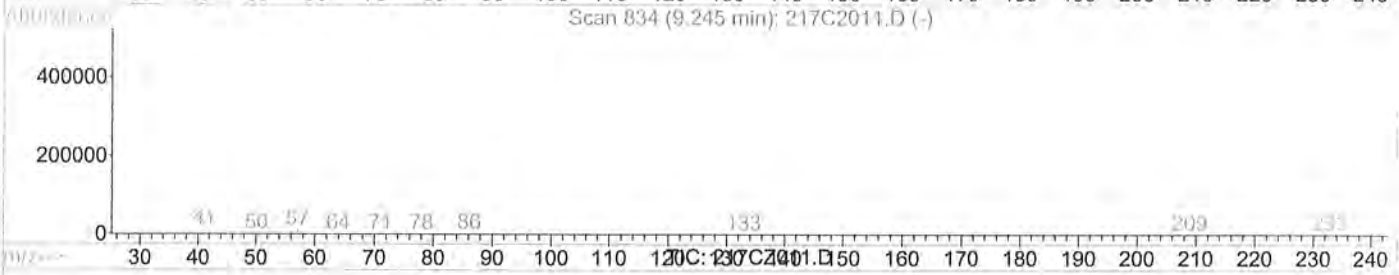
Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\033121\217CZ011.D Vial: 11
Acq On : 31 Mar 2021 10:06 pm Operator: rgg
Sample : aa65685-cal8 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 1 8:22 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Wed Mar 31 22:08:34 2021
Response via : Multiple Level Calibration







(21) Hexane

9.24min 22456.75PPTV m

response 1285055

Ion	Exp%	Act%
57.00	100	100
43.00	84.50	85.43
41.00	104.40	99.51
86.00	14.10	14.22

Select One:
[ ] Original Integration [✓] Manual Integration
Select reason for manual integration:
[✓] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date 4/2/21
Review by/Date:

Response Factor Report OVGCMS7

Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration

Calibration Files
1 =217CZ002.D 2 =217CZ003.D 3 =217CZ004.D
4 =217CZ005.D 5 =217CZ006.D 6 =217CZ007.D

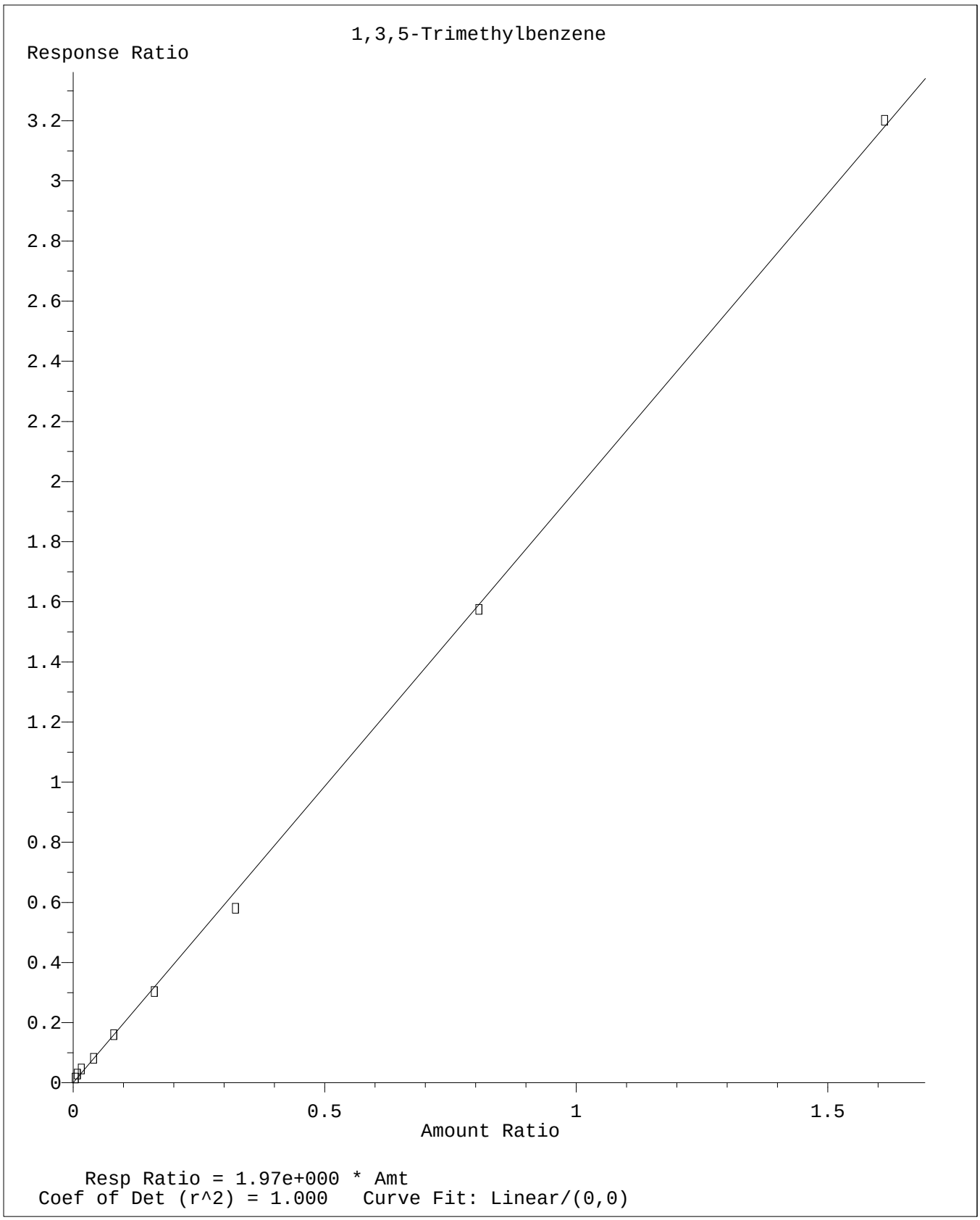
		Compound	1	2	3	4	5	6	Avg	%RSD
1)	i	BROMOCHLOROMETHANE	----------ISTD----------							
2)		Dichlorodifluoromet	5.338	5.205	7.137	5.085	4.983	4.464	5.004	19.58
3)		Propene	4.536	3.807	4.159	2.769	2.671	2.378	3.104	26.68
4)		Chloromethane	3.035	2.944	3.985	2.817	2.766	2.526	2.905	15.10
5)		Freon 114	3.471	3.538	5.045	3.633	3.628	3.248	3.625	15.60
6)		Vinyl Chloride	2.360	2.416	3.320	2.484	2.412	2.227	2.485	13.11
7)		1,3-Butadiene	2.356	2.578	3.587	2.436	2.472	2.240	2.544	16.01
8)		Bromomethane	1.736	1.786	2.396	1.662	1.629	1.462	1.693	16.87
9)		Chloroethane	0.873	0.884	1.158	0.827	0.827	0.767	0.852	14.52
10)		Trichlorofluorometh	3.817	3.887	5.567	3.988	3.839	3.486	3.921	16.59
11)		Bromoethene	1.428	1.570	1.961	1.460	1.400	1.322	1.480	13.50
12)	M	1,1-Dichloroethene	3.264	3.259	4.655	3.384	3.318	3.043	3.331	15.68
13)		Acetone				4.947	4.668	4.066	4.356	8.32
14)		Isopropyl Alcohol				4.072	4.043	3.580	3.802	5.53
15)		Carbon Disulfide	6.863	6.371	8.626	6.151	6.012	5.442	6.088	19.00
16)		Methylene Chloride				2.204	2.085	1.665	1.758	17.75
17)		Freon 113	3.138	3.065	4.343	3.063	3.062	2.793	3.011	18.75
18)		3-chloro-1-propene	3.638	3.860	5.369	3.755	3.766	3.482	3.884	14.76
19)		t-1,2-Dichloroethen	3.053	2.984	4.185	2.978	2.980	2.716	2.996	15.79
20)		Methyl tert-butyl e	5.661	5.413	7.700	5.262	5.168	4.792	5.386	17.12
21)		Hexane	3.803	3.511	4.752	3.322	3.384	3.105	3.494	15.10
22)		1,1-Dichloroethane	3.721	3.698	5.307	3.766	3.645	3.361	3.764	15.90
23)		Vinyl Acetate	7.190	6.702	9.760	6.882	6.933	6.512	7.341	13.35
24)		c-1,2-Dichloroethen	2.193	1.940	2.886	2.000	1.984	1.818	2.038	16.93
25)		Ethyl Acetate	6.712	6.597	9.644	6.897	6.780	6.334	7.027	14.20
26)		2-Butanone	7.220	6.653	8.653	6.128	5.924	5.576	6.443	15.00
27)		Chloroform	3.949	4.114	5.525	3.857	3.835	3.514	3.932	16.24
28)		Tetrahydrofuran	3.025	2.921	4.051	2.856	2.859	2.632	2.925	15.24
29)		2,2,4-Trimethylpent	1.105	1.066	1.500	1.072	1.059	0.993	1.085 E1	14.90
30)		1,2-Dichloroethane	2.408	2.363	3.390	2.456	2.374	2.201	2.458	14.94
31)		1,1,1-Trichloroetha	3.470	3.396	5.027	3.478	3.424	3.087	3.453	18.26
32)		Cyclohexane	3.513	3.468	4.919	3.473	3.469	3.241	3.539	15.04
33)		Carbon Tetrachlorid	3.593	3.560	3.568	2.672	2.538	3.110	3.124	13.58
34)	M	Benzene	5.732	5.932	7.696	5.566	5.419	5.023	5.624	15.08
35)		Heptane	4.980	4.821	6.635	4.779	4.641	4.406	4.829	14.81
36)	i	1,4-DIFLUOROBENZENE	----------ISTD----------							
37)	h	TLPH	6.675	5.861	6.703	4.807	4.723	4.251	5.117	20.09
38)		1,2-Dichloropropane	0.764	0.725	0.948	0.709	0.699	0.637	0.719	13.71
39)	M	Trichloroethene	0.866	0.823	1.100	0.798	0.782	0.724	0.810	14.94
40)		1,4-Dioxane	0.506	0.466	0.574	0.410	0.398	0.377	0.436	15.83
41)		Bromodichloromethan	1.139	1.130	1.638	1.159	1.179	1.122	1.197	14.09
42)		c-1,3-Dichloroprope	1.129	1.035	1.338	0.958	0.957	0.909	1.019	13.99
43)		t-1,3-Dichloroprope	0.599	0.674	0.862	0.548	0.568	0.536	0.600	18.09
44)		1,1,2-Trichloroetha	0.692	0.679	0.888	0.619	0.623	0.588	0.657	14.67
45)		Methyl Isobutyl Ket	2.099	2.007	2.744	1.991	2.021	1.874	2.082	13.06
46)	M	Toluene	1.482	1.341	1.615	1.143	1.144	1.034	1.219	17.50
47)		2-Hexanone	1.865	1.789	2.351	1.684	1.708	1.610	1.801	13.18
48)		1,2-Dibromoethane	1.150	1.069	1.377	1.007	1.011	0.979	1.071	12.27
49)		Tetrachloroethene	1.023	0.975	1.217	0.865	0.862	0.782	0.890	17.62
50)		Dibromochloromethan	0.975	0.929	1.217	0.902	0.898	0.949	0.966	10.28
51)	i	D5-CHLOROBENZENE	----------ISTD----------							
52)	M	Chlorobenzene	2.187	2.088	2.485	1.728	1.726	1.635	1.836	18.34
53)		Ethylbenzene	1.294	1.170	1.225	0.872	0.863	0.785	0.937	24.29
54)		m-Xylene & p-Xylene	1.752	1.597	1.429	1.119	1.094	1.001	1.199	26.12
55)		Styrene	1.874	1.827	1.943	1.420	1.461	1.393	1.602	14.16
56)		o-Xylene	1.729	1.579	1.485	1.060	1.040	0.953	1.200	25.63
57)		Bromoform	1.261	1.234	1.481	1.084	1.100	1.269	1.263	9.87
58)		1,1,2,2-Tetrachloro	2.017	1.823	1.681	1.165	1.177	1.307	1.480	20.44
59)		Bromofluorobenzene	0.465	0.476	0.471	0.474	0.479	0.486	0.495	7.66
60)	s	Bromofluorobenzene	0.465	0.476	0.471	0.474	0.479	0.486	0.495	7.66
61)		4-ethyltoluene	5.210	4.538	3.913	2.723	2.676	2.665	3.328	29.42
62)		1,3,5-Trimethylbenz	3.831	3.583	2.821	2.018	1.981	1.882	2.428	32.38

(#) = Out of Range ### Number of calibration levels exceeded format ###

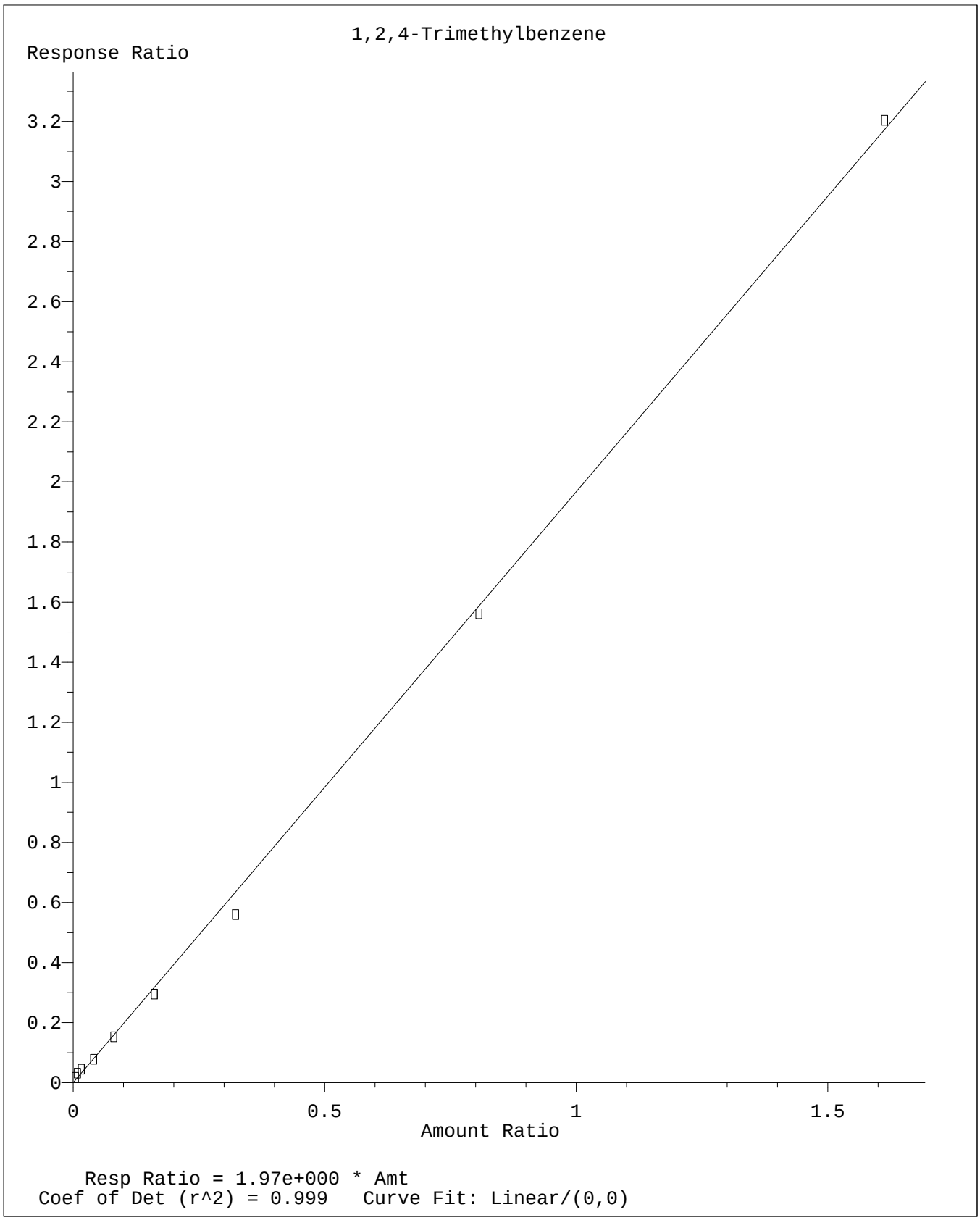
Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration

Calibration Files
1 =217CZ002.D 2 =217CZ003.D 3 =217CZ004.D
4 =217CZ005.D 5 =217CZ006.D 6 =217CZ007.D

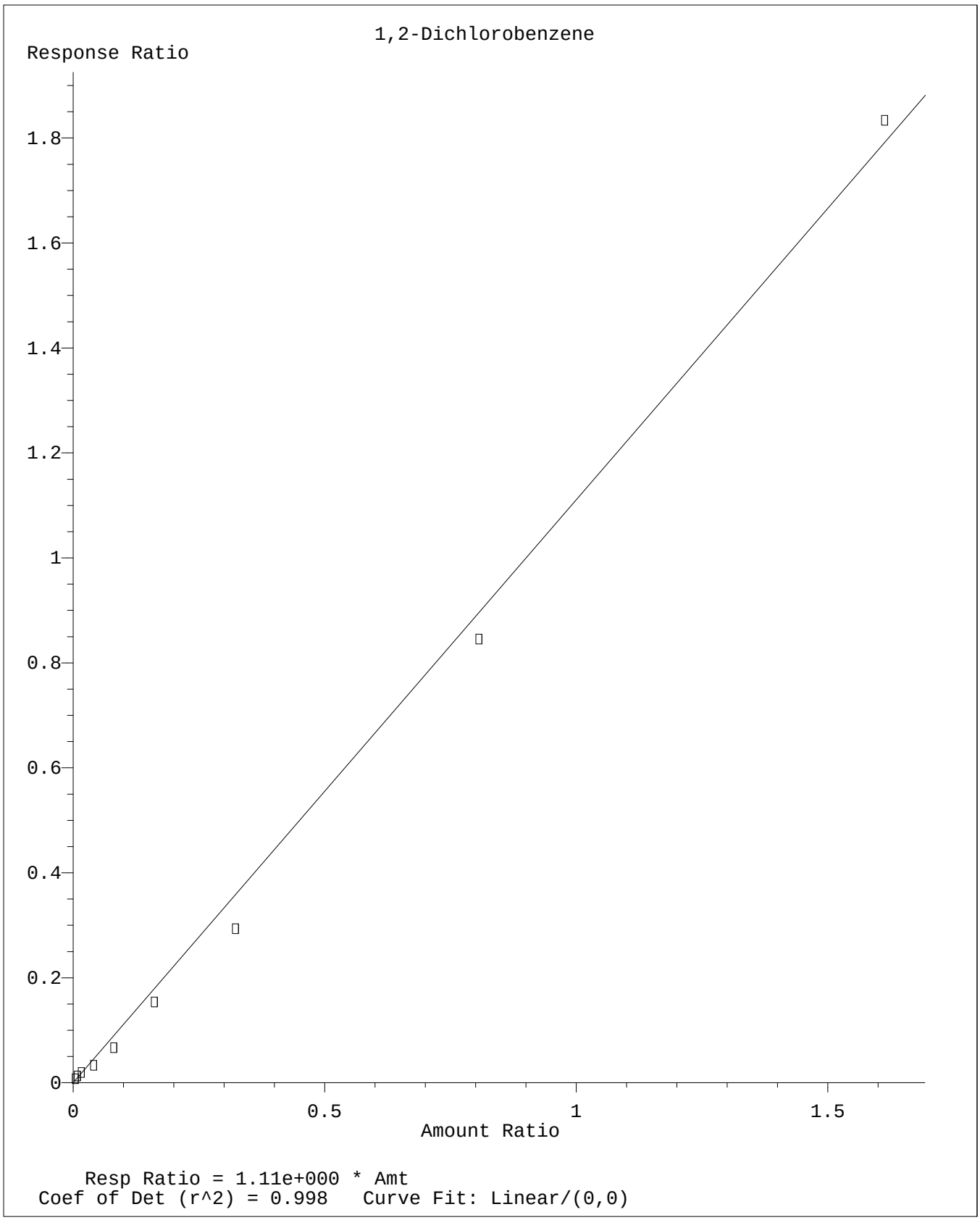
	Compound	1	2	3	4	5	6	Avg	%RSD
63)	1,2,4-Trimethylbenz	4.482	3.946	2.794	1.939	1.897	1.826	2.505	40.93
64)	1,3-Dichlorobenzene	1.842	1.640	1.335	0.941	0.972	1.057	1.250	25.10
65)	1,4-Dichlorobenzene	1.708	1.497	1.179	0.855	0.860	0.966	1.147	25.81
66)	Benzyl Chloride	1.633	1.338	1.144	0.841	0.823	1.169	1.241	24.21
67)	1,2-Dichlorobenzene	1.826	1.594	1.193	0.823	0.829	0.955	1.146	30.44
68)	1,2,4-Trichlorobenz			0.236	0.150	0.157	0.223	0.237	31.59
69)	Hexachlorobutadiene			0.396	0.282	0.281	0.371	0.348	13.93



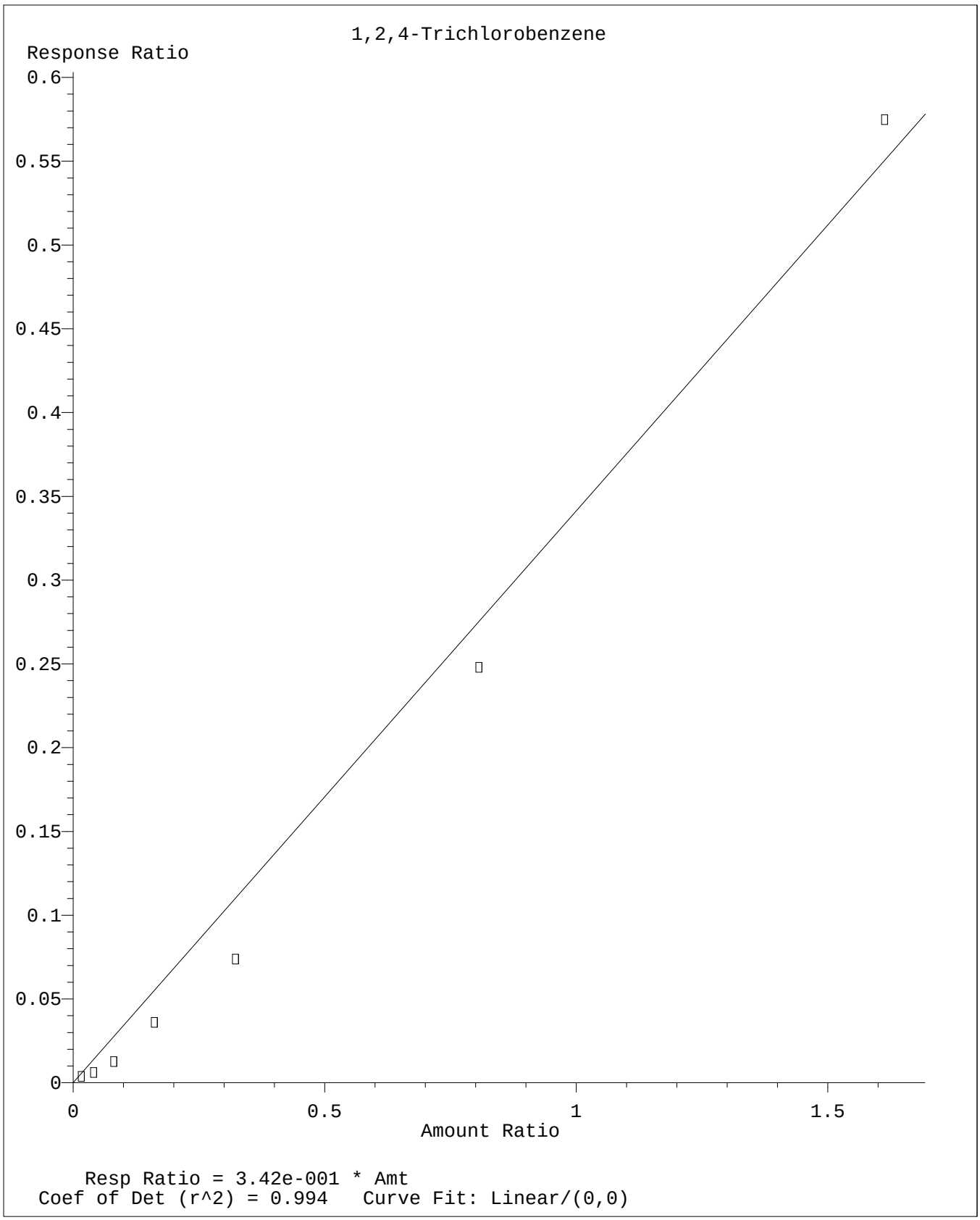
Method Name: C:\HPCHEM\1\METHODS\033121.M
Calibration Table Last Updated: Thu Apr 01 08:33:06 2021



Method Name: C:\HPCHEM\1\METHODS\033121.M
Calibration Table Last Updated: Thu Apr 01 08:33:06 2021



Method Name: C:\HPCHEM\1\METHODS\033121.M
Calibration Table Last Updated: Thu Apr 01 08:33:06 2021



Method Name: C:\HPCHEM\1\METHODS\033121.M
Calibration Table Last Updated: Thu Apr 01 08:33:06 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\033121\217CZ002.D Vial: 2
Acq On : 31 Mar 2021 3:32 pm Operator: rgg
Sample : aa65685-cal1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 31 17:21 2021 Quant Results File: 033121.RES

Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Fri Mar 26 09:06:45 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.97	130	483938	31000.00	PPTV	0.01
36) 1,4-DIFLUOROBENZENE	12.47	114	1569689	31000.00	PPTV	0.01
51) D5-CHLOROBENZENE	15.87	117	1167168	31000.00	PPTV	0.01
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.30	174	542565	29269.07	PPTV	0.01
Spiked Amount 31250.000	Range 50 - 150		Recovery = 93.66%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.60	85	10417	N.D.		
3) Propene	4.49	41	8852	206.79	PPTV	95
4) Chloromethane	5.10	50	5922	N.D.		
5) Freon 114	4.98	135	6774	N.D.		
6) Vinyl Chloride	5.35	62	4605	N.D.		
7) 1,3-Butadiene	5.42	39	4597	N.D.		
8) Bromomethane	6.16	94	3388	N.D.		
9) Chloroethane	6.48	64	1703	N.D.		
10) Trichlorofluoromethane	6.80	101	7449	N.D.		
11) Bromoethene	6.73	106	2786	N.D.		
12) 1,1-Dichloroethene	7.83	61	6370	N.D.		
13) Acetone	8.95	43	22282	316.59	PPTV	93
14) Isopropyl Alcohol	8.77	45	15056	245.48	PPTV #	86
15) Carbon Disulfide	7.86	76	13392	N.D.		
16) Methylene Chloride	8.83	84	15371	455.77	PPTV	89
17) Freon 113	7.92	151	6123	N.D.		
18) 3-chloro-1-propene	8.67	41	7099	N.D.		
19) t-1,2-Dichloroethene	9.09	61	5958	N.D.		
20) Methyl tert-butyl ether	9.32	73	11047	N.D.		
21) Hexane	9.23	57	7422	N.D.		
22) 1,1-Dichloroethane	9.99	63	7261	N.D.		
23) Vinyl Acetate	10.33	43	14031	N.D.		
24) c-1,2-Dichloroethene	10.71	96	4280	N.D.		
25) Ethyl Acetate	11.19	43	13098	N.D.		
26) 2-Butanone	11.44	43	14088	N.D.		
27) Chloroform	11.03	83	7705	N.D.		
28) Tetrahydrofuran	11.30	42	5903	N.D.		
29) 2,2,4-Trimethylpentane	11.60	57	21568	N.D.		
30) 1,2-Dichloroethane	12.01	62	4699	N.D.		
31) 1,1,1-Trichloroethane	11.33	97	6772	N.D.		
32) Cyclohexane	11.00	56	6855	N.D.		
33) Carbon Tetrachloride	11.24	117	7012	N.D.		
34) Benzene	11.78	78	11185	N.D.		
35) Heptane	11.69	43	9717	N.D.		
37) TLPH	14.12	TIC	42248	N.D.		
38) 1,2-Dichloropropane	13.07	63	4834	N.D.		
39) Trichloroethene	12.45	130	5481	N.D.		
40) 1,4-Dioxane	13.35	88	3204	N.D.		
41) Bromodichloromethane	13.11	83	7208	N.D.		
42) c-1,3-Dichloropropene	13.83	75	7145	N.D.		
43) t-1,3-Dichloropropene	14.56	75	3794	N.D.		
44) 1,1,2-Trichloroethane	14.75	97	4383	N.D.		
45) Methyl Isobutyl Ketone	14.51	43	13284	N.D.		
46) Toluene	14.12	92	9381	N.D.		
47) 2-Hexanone	15.46	43	11803	N.D.		
48) 1,2-Dibromoethane	15.30	107	7279	N.D.		
49) Tetrachloroethene	14.57	166	6474	N.D.		
50) Dibromochloromethane	14.98	127	6172	N.D.		
52) Chlorobenzene	15.89	112	10294	N.D.		
53) Ethylbenzene	15.89	106	6092	206.84	PPTV	99
54) m-Xylene & p-Xylene	16.04	106	16492	452.61	PPTV	87
55) Styrene	16.62	104	8822	N.D.		
56) o-Xylene	16.56	106	8138	203.96	PPTV	86
57) Bromoform	16.69	173	5933	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\033121\217CZ002.D Vial: 2
Acq On : 31 Mar 2021 3:32 pm Operator: rgg
Sample : aa65685-cal1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 31 17:21 2021 Quant Results File: 033121.RES

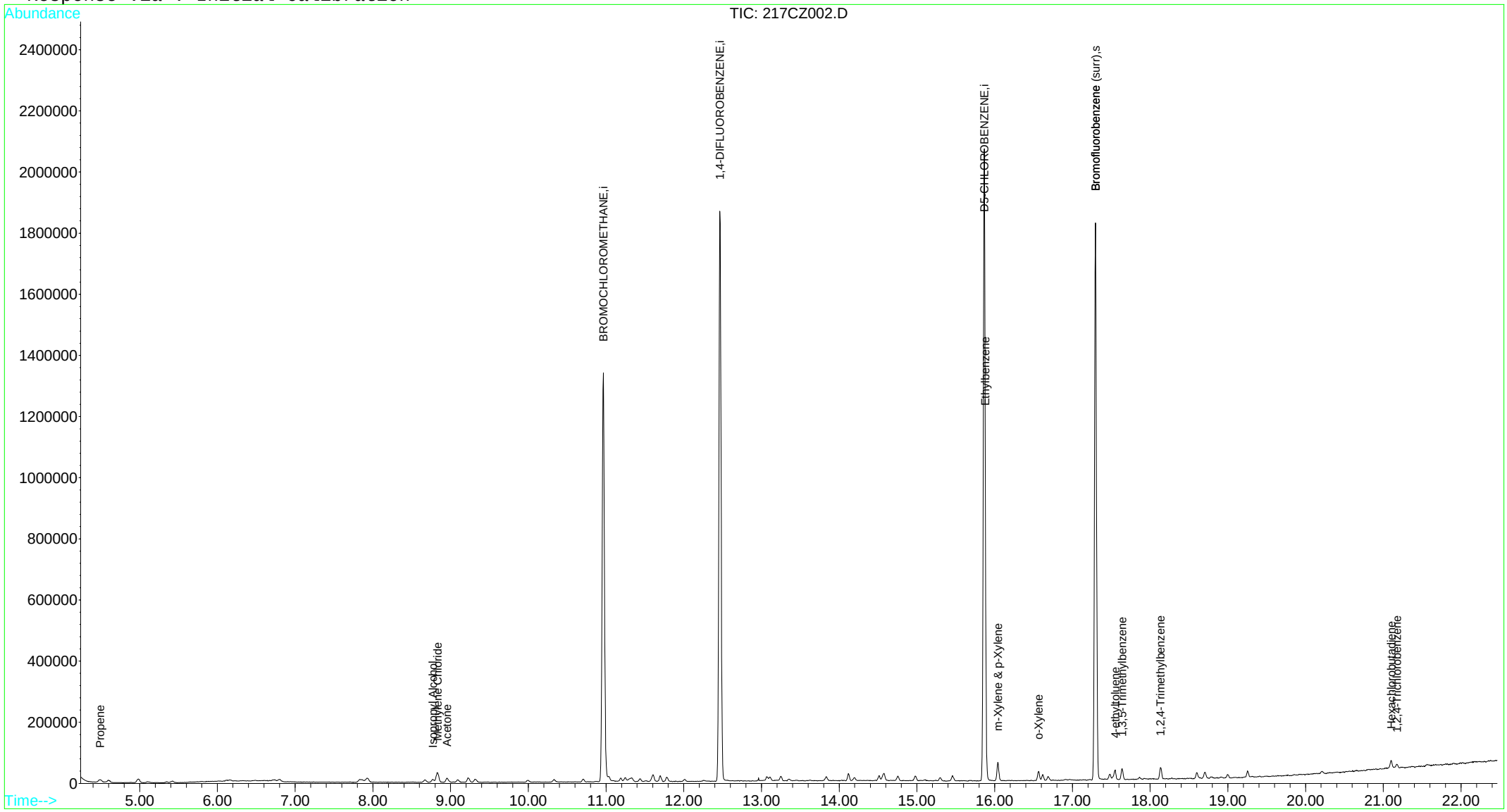
Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Fri Mar 26 09:06:45 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.48	83	9494	N.D.		
59) Bromofluorobenzene	17.30	174	542565	29269.07	PPTV #	86
61) 4-ethyltoluene	17.55	105	24522	221.64	PPTV	97
62) 1,3,5-Trimethylbenzene	17.64	105	18032	234.35	PPTV	89
63) 1,2,4-Trimethylbenzene	18.13	105	21094	274.33	PPTV	92
64) 1,3-Dichlorobenzene	18.60	146	8667	N.D.		
65) 1,4-Dichlorobenzene	18.71	146	8040	N.D.		
66) Benzyl Chloride	19.00	91	7687	N.D.		
67) 1,2-Dichlorobenzene	19.25	146	8595	N.D.		
68) 1,2,4-Trichlorobenzene	21.18	180	4482	299.92	PPTV	93
69) Hexachlorobutadiene	21.10	225	5257	318.08	PPTV	97

Quantitation Report

Data File : C:\HPCHEM\1\DATA\033121\217CZ002.D Vial: 2
Acq On : 31 Mar 2021 3:32 pm Operator: rgg
Sample : aa65685-cal1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 31 17:21 2021 Quant Results File: 033121.RES

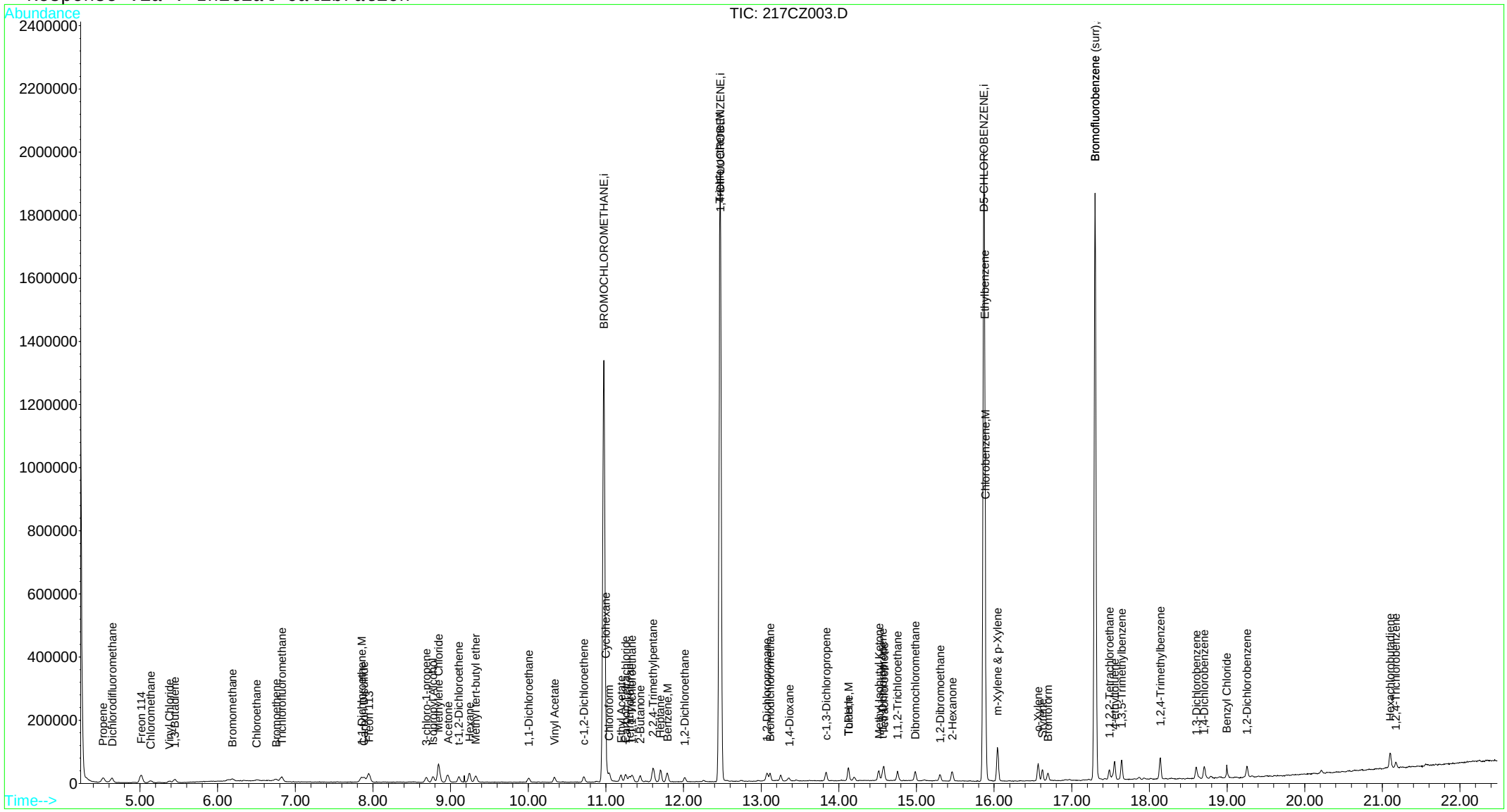
Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\033121\217CZ003.D Vial: 3
Acq On : 31 Mar 2021 4:14 pm Operator: rgg
Sample : aa65685-cal2 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 31 17:23 2021 Quant Results File: 033121.RES

Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration



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Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\033121\217CZ003.D Vial: 3
Acq On : 31 Mar 2021 4:14 pm Operator: rgg
Sample : aa65685-cal2 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 31 17:23 2021 Quant Results File: 033121.RES

Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Fri Mar 26 09:06:45 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) BROMOCHLOROMETHANE	10.97	130	484907	31000.00	PPTV		0.02
36) 1,4-DIFLUOROBENZENE	12.47	114	1577449	31000.00	PPTV		0.02
51) D5-CHLOROBENZENE	15.87	117	1154884	31000.00	PPTV		0.02
System Monitoring Compounds							
60) Bromofluorobenzene (surr)	17.30	174	549926	29981.71	PPTV		0.02
Spiked Amount 31250.000	Range 50 - 150		Recovery = 95.94%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.64	85	20354	275.36	PPTV		100
3) Propene	4.52	41	14889	347.12	PPTV		91
4) Chloromethane	5.14	50	11511	282.23	PPTV		100
5) Freon 114	5.02	135	13835	250.58	PPTV		81
6) Vinyl Chloride	5.38	62	9446	268.23	PPTV		99
7) 1,3-Butadiene	5.45	39	10083	272.86	PPTV		99
8) Bromomethane	6.19	94	6984	244.92	PPTV		98
9) Chloroethane	6.50	64	3457	247.20	PPTV	#	73
10) Trichlorofluoromethane	6.83	101	15199	246.96	PPTV		93
11) Bromoethene	6.76	106	6141	236.34	PPTV		92
12) 1,1-Dichloroethene	7.85	61	12744	255.83	PPTV	#	80
13) Acetone	8.96	43	37894	537.34	PPTV		93
14) Isopropyl Alcohol	8.77	45	28506	463.84	PPTV	#	98
15) Carbon Disulfide	7.89	76	24914	270.88	PPTV		100
16) Methylene Chloride	8.85	84	27654	818.34	PPTV		87
17) Freon 113	7.96	151	11984	258.38	PPTV		86
18) 3-chloro-1-propene	8.69	41	15095	262.19	PPTV		85
19) t-1,2-Dichloroethene	9.10	61	11668	265.57	PPTV		87
20) Methyl tert-butyl ether	9.32	73	21168	264.85	PPTV		96
21) Hexane	9.25	57	13730	277.32	PPTV		89
22) 1,1-Dichloroethane	10.01	63	14460	263.00	PPTV		97
23) Vinyl Acetate	10.34	43	26209	252.53	PPTV		100
24) c-1,2-Dichloroethene	10.72	96	7585	248.27	PPTV		93
25) Ethyl Acetate	11.19	43	25798	253.50	PPTV		95
26) 2-Butanone	11.44	43	26016	285.42	PPTV		97
27) Chloroform	11.05	83	16087	245.70	PPTV		96
28) Tetrahydrofuran	11.30	42	11422	269.56	PPTV		96
29) 2,2,4-Trimethylpentane	11.61	57	41694	264.37	PPTV		96
30) 1,2-Dichloroethane	12.01	62	9239	245.43	PPTV		98
31) 1,1,1-Trichloroethane	11.34	97	13279	249.99	PPTV		97
32) Cyclohexane	11.00	56	13562	266.98	PPTV		94
33) Carbon Tetrachloride	11.26	117	13920	272.38	PPTV		98
34) Benzene	11.79	78	23197	277.14	PPTV		100
35) Heptane	11.70	43	18852	271.29	PPTV		99
37) TLPH	14.12	TIC	74555m	281.72	PPTV		
38) 1,2-Dichloropropane	13.07	63	9219	270.02	PPTV		86
39) Trichloroethene	12.46	130	10468	256.41	PPTV		94
40) 1,4-Dioxane	13.36	88	5926	280.61	PPTV		88
41) Bromodichloromethane	13.11	83	14376	239.74	PPTV		98
42) c-1,3-Dichloropropene	13.84	75	13166	260.53	PPTV		97
43) t-1,3-Dichloropropene	14.56	75	8577	275.24	PPTV	#	88
44) 1,1,2-Trichloroethane	14.76	97	8644	267.64	PPTV		98
45) Methyl Isobutyl Ketone	14.52	43	25535	258.40	PPTV		97
46) Toluene	14.12	92	17055	270.05	PPTV		97
47) 2-Hexanone	15.46	43	22763	267.45	PPTV		97
48) 1,2-Dibromoethane	15.30	107	13597	257.03	PPTV		94
49) Tetrachloroethene	14.58	166	12404	280.33	PPTV		98
50) Dibromochloromethane	14.98	127	11814	245.01	PPTV	#	96
52) Chlorobenzene	15.89	112	19448	292.66	PPTV	#	57
53) Ethylbenzene	15.89	106	10900	374.03	PPTV		99
54) m-Xylene & p-Xylene	16.04	106	29753	825.23	PPTV		87
55) Styrene	16.63	104	17014	295.12	PPTV		83
56) o-Xylene	16.57	106	14708	372.55	PPTV		87
57) Bromoform	16.69	173	11493	253.80	PPTV		92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\033121\217CZ003.D Vial: 3
Acq On : 31 Mar 2021 4:14 pm Operator: rgg
Sample : aa65685-cal2 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 31 17:23 2021 Quant Results File: 033121.RES

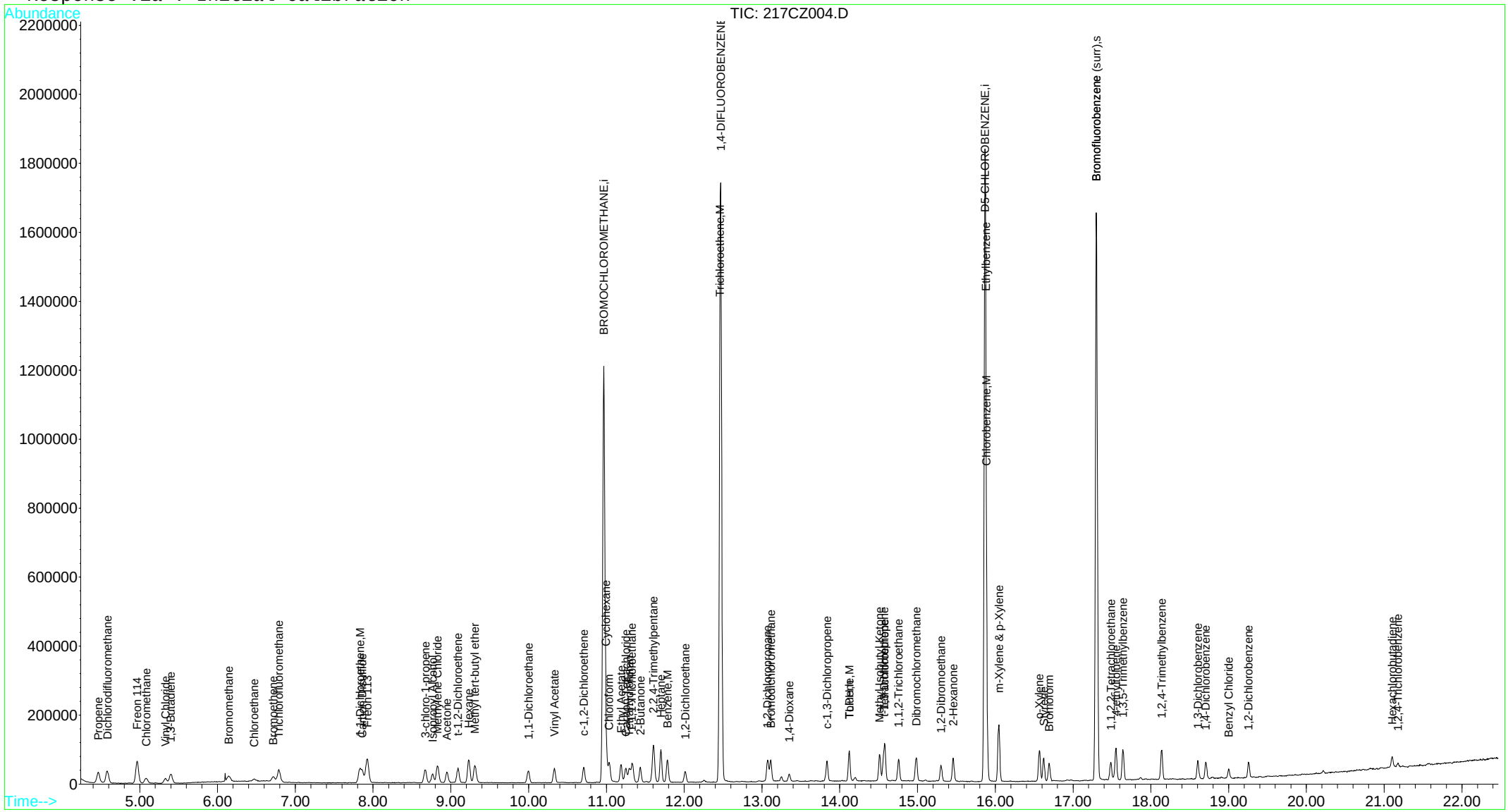
Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Fri Mar 26 09:06:45 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.49	83	16982	341.41	PPTV	96
59) Bromofluorobenzene	17.30	174	549926	29981.71	PPTV #	85
61) 4-ethyltoluene	17.55	105	42266	386.08	PPTV	95
62) 1,3,5-Trimethylbenzene	17.64	105	33366	438.25	PPTV	91
63) 1,2,4-Trimethylbenzene	18.14	105	36754	483.07	PPTV	91
64) 1,3-Dichlorobenzene	18.60	146	15278	311.65	PPTV	98
65) 1,4-Dichlorobenzene	18.71	146	13947	295.97	PPTV	97
66) Benzyl Chloride	18.99	91	12465	202.10	PPTV	94
67) 1,2-Dichlorobenzene	19.26	146	14849	340.63	PPTV	97
68) 1,2,4-Trichlorobenzene	21.18	180	6383	431.66	PPTV	94
69) Hexachlorobutadiene	21.10	225	9394	574.44	PPTV	95

Quantitation Report

Data File : C:\HPCHEM\1\DATA\033121\217CZ004.D Vial: 4
Acq On : 31 Mar 2021 4:56 pm Operator: rgg
Sample : aa65685-cal3 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 31 17:25 2021 Quant Results File: 033121.RES

Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\033121\217CZ004.D Vial: 4
Acq On : 31 Mar 2021 4:56 pm Operator: rgg
Sample : aa65685-cal3 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 31 17:25 2021 Quant Results File: 033121.RES

Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Fri Mar 26 09:06:45 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) BROMOCHLOROMETHANE	10.97	130	431227	31000.00	PPTV		0.01
36) 1,4-DIFLUOROBENZENE	12.47	114	1417918	31000.00	PPTV		0.01
51) D5-CHLOROBENZENE	15.87	117	1044354	31000.00	PPTV		0.01
System Monitoring Compounds							
60) Bromofluorobenzene (surr)	17.30	174	491706	29644.79	PPTV		0.02
Spiked Amount 31250.000	Range 50 - 150		Recovery = 94.86%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.58	85	49640	755.16	PPTV		98
3) Propene	4.47	41	28927	758.36	PPTV		95
4) Chloromethane	5.08	50	27720	764.24	PPTV		99
5) Freon 114	4.97	135	35086	714.57	PPTV		82
6) Vinyl Chloride	5.33	62	23089	737.26	PPTV		98
7) 1,3-Butadiene	5.40	39	24951	759.26	PPTV		98
8) Bromomethane	6.14	94	16665	657.18	PPTV		92
9) Chloroethane	6.47	64	8057	647.84	PPTV		84
10) Trichlorofluoromethane	6.79	101	38721	707.47	PPTV		97
11) Bromoethene	6.71	106	13642	590.38	PPTV		97
12) 1,1-Dichloroethene	7.83	61	32376	730.84	PPTV		82
13) Acetone	8.95	43	49475	788.88	PPTV		92
14) Isopropyl Alcohol	8.77	45	39670	725.85	PPTV	#	94
15) Carbon Disulfide	7.86	76	59999	733.55	PPTV		97
16) Methylene Chloride	8.83	84	23488	781.58	PPTV		89
17) Freon 113	7.92	151	30209	732.41	PPTV		86
18) 3-chloro-1-propene	8.68	41	37346	729.43	PPTV		86
19) t-1,2-Dichloroethene	9.09	61	29109	745.02	PPTV		87
20) Methyl tert-butyl ether	9.31	73	53557	753.50	PPTV		95
21) Hexane	9.24	57	33054	750.75	PPTV		94
22) 1,1-Dichloroethane	10.00	63	36910	754.90	PPTV		100
23) Vinyl Acetate	10.33	43	67882	735.47	PPTV		99
24) c-1,2-Dichloroethene	10.71	96	20074	738.84	PPTV		94
25) Ethyl Acetate	11.18	43	67078	741.19	PPTV		96
26) 2-Butanone	11.44	43	60183	742.46	PPTV		97
27) Chloroform	11.04	83	38429	660.00	PPTV		99
28) Tetrahydrofuran	11.29	42	28177	747.77	PPTV		98
29) 2,2,4-Trimethylpentane	11.60	57	104355	744.04	PPTV		95
30) 1,2-Dichloroethane	12.01	62	23578	704.31	PPTV		97
31) 1,1,1-Trichloroethane	11.33	97	34964	740.16	PPTV		98
32) Cyclohexane	11.00	56	34210	757.28	PPTV		96
33) Carbon Tetrachloride	11.25	117	24819	546.10	PPTV		97
34) Benzene	11.78	78	53530	719.13	PPTV		99
35) Heptane	11.70	43	46148	746.76	PPTV		96
37) TLPH	14.12	TIC	153300m	644.44	PPTV		
38) 1,2-Dichloropropane	13.07	63	21671	706.15	PPTV		87
39) Trichloroethene	12.45	130	25149	685.33	PPTV		94
40) 1,4-Dioxane	13.35	88	13123	691.32	PPTV		95
41) Bromodichloromethane	13.11	83	37466	695.08	PPTV		97
42) c-1,3-Dichloropropene	13.84	75	30604	673.74	PPTV		96
43) t-1,3-Dichloropropene	14.56	75	19704	703.46	PPTV		97
44) 1,1,2-Trichloroethane	14.76	97	20298	699.19	PPTV		97
45) Methyl Isobutyl Ketone	14.51	43	62753	706.46	PPTV		96
46) Toluene	14.12	92	36927	650.48	PPTV		96
47) 2-Hexanone	15.46	43	53777	702.94	PPTV		96
48) 1,2-Dibromoethane	15.30	107	31487	662.19	PPTV		95
49) Tetrachloroethene	14.58	166	27825	699.59	PPTV		98
50) Dibromochloromethane	14.98	127	27836	642.23	PPTV		97
52) Chlorobenzene	15.89	112	41853	696.48	PPTV		92
53) Ethylbenzene	15.89	106	20629	782.80	PPTV		92
54) m-Xylene & p-Xylene	16.05	106	48128	1476.17	PPTV		88
55) Styrene	16.63	104	32727	627.76	PPTV		89
56) o-Xylene	16.57	106	25016	700.70	PPTV		86
57) Bromoform	16.69	173	24944	609.12	PPTV	#	89

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\033121\217CZ004.D Vial: 4
Acq On : 31 Mar 2021 4:56 pm Operator: rgg
Sample : aa65685-cal3 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 31 17:25 2021 Quant Results File: 033121.RES

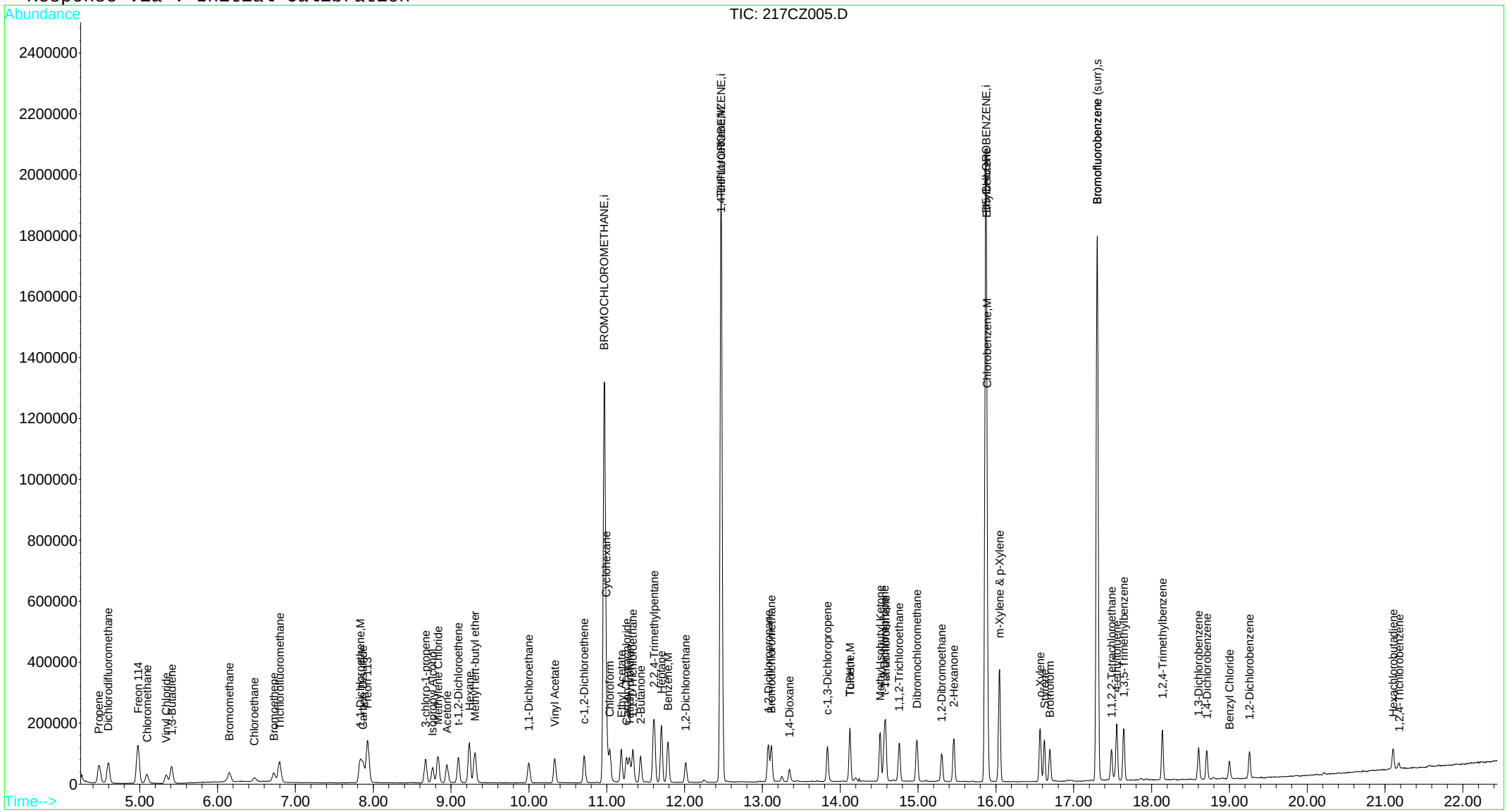
Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Fri Mar 26 09:06:45 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.48	83	28313	629.46	PPTV	96
59) Bromofluorobenzene	17.30	174	491706	29644.79	PPTV #	85
61) 4-ethyltoluene	17.55	105	65909	665.76	PPTV	95
62) 1,3,5-Trimethylbenzene	17.64	105	47512	690.10	PPTV	90
63) 1,2,4-Trimethylbenzene	18.14	105	47070	684.13	PPTV	91
64) 1,3-Dichlorobenzene	18.60	146	22493	507.39	PPTV	97
65) 1,4-Dichlorobenzene	18.71	146	19863	466.13	PPTV	98
66) Benzyl Chloride	19.00	91	19263	345.38	PPTV	92
67) 1,2-Dichlorobenzene	19.26	146	20094	509.74	PPTV	96
68) 1,2,4-Trichlorobenzene	21.18	180	3967	296.67	PPTV	93
69) Hexachlorobutadiene	21.10	225	6667	450.83	PPTV	95

Quantitation Report

Data File : C:\HPCHEM\1\DATA\033121\217CZ005.D Vial: 5
Acq On : 31 Mar 2021 5:36 pm Operator: rgg
Sample : aa65685-cal4 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 31 19:22 2021 Quant Results File: 033121.RES

Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\033121\217CZ005.D Vial: 5
Acq On : 31 Mar 2021 5:36 pm Operator: rgg
Sample : aa65685-cal4 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 31 19:22 2021 Quant Results File: 033121.RES

Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Fri Mar 26 09:06:45 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) BROMOCHLOROMETHANE	10.97	130	481792	31000.00	PPTV		0.02
36) 1,4-DIFLUOROBENZENE	12.47	114	1574428	31000.00	PPTV		0.01
51) D5-CHLOROBENZENE	15.87	117	1164958	31000.00	PPTV		0.02
System Monitoring Compounds							
60) Bromofluorobenzene (surr)	17.30	174	551851	29826.49	PPTV		0.02
Spiked Amount 31250.000	Range 50 - 150		Recovery = 95.44%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.59	85	98778	1344.97	PPTV		98
3) Propene	4.47	41	53797	1262.34	PPTV		95
4) Chloromethane	5.09	50	54728	1350.49	PPTV		99
5) Freon 114	4.98	135	70586	1286.70	PPTV		80
6) Vinyl Chloride	5.34	62	48250	1378.98	PPTV		98
7) 1,3-Butadiene	5.40	39	47327	1289.02	PPTV		91
8) Bromomethane	6.16	94	32294	1139.84	PPTV		97
9) Chloroethane	6.47	64	16073	1156.75	PPTV		94
10) Trichlorofluoromethane	6.80	101	77472	1266.94	PPTV		96
11) Bromoethene	6.72	106	28369	1098.86	PPTV		99
12) 1,1-Dichloroethene	7.83	61	65744	1328.32	PPTV		83
13) Acetone	8.95	43	96106	1371.59	PPTV		93
14) Isopropyl Alcohol	8.76	45	79106	1295.51	PPTV	#	98
15) Carbon Disulfide	7.87	76	119501	1307.68	PPTV		98
16) Methylene Chloride	8.83	84	42818	1275.27	PPTV		87
17) Freon 113	7.92	151	59502	1291.20	PPTV		87
18) 3-chloro-1-propene	8.67	41	72956	1275.40	PPTV		86
19) t-1,2-Dichloroethene	9.09	61	57852	1325.27	PPTV		86
20) Methyl tert-butyl ether	9.31	73	102221	1287.22	PPTV		96
21) Hexane	9.23	57	64543	1312.09	PPTV		93
22) 1,1-Dichloroethane	10.00	63	73172	1339.49	PPTV		99
23) Vinyl Acetate	10.33	43	133698	1296.52	PPTV		99
24) c-1,2-Dichloroethene	10.71	96	38859	1280.13	PPTV		92
25) Ethyl Acetate	11.19	43	133995	1325.22	PPTV		96
26) 2-Butanone	11.44	43	119056	1314.60	PPTV		97
27) Chloroform	11.04	83	74932	1151.86	PPTV		100
28) Tetrahydrofuran	11.29	42	55479	1317.80	PPTV		98
29) 2,2,4-Trimethylpentane	11.60	57	208173	1328.48	PPTV		95
30) 1,2-Dichloroethane	12.01	62	47715	1275.73	PPTV		98
31) 1,1,1-Trichloroethane	11.33	97	67574	1280.35	PPTV	#	98
32) Cyclohexane	11.00	56	67465	1336.68	PPTV		96
33) Carbon Tetrachloride	11.25	117	51918	1022.47	PPTV		97
34) Benzene	11.78	78	108128	1300.16	PPTV		100
35) Heptane	11.70	43	92833	1344.55	PPTV		98
37) TLPH	14.12	TIC	305200m	1155.45	PPTV		
38) 1,2-Dichloropropane	13.07	63	44993	1320.36	PPTV		83
39) Trichloroethene	12.46	130	50645	1242.93	PPTV		94
40) 1,4-Dioxane	13.35	88	26037	1235.28	PPTV		89
41) Bromodichloromethane	13.11	83	73559	1229.03	PPTV		97
42) c-1,3-Dichloropropene	13.83	75	60830	1206.04	PPTV		96
43) t-1,3-Dichloropropene	14.56	75	34773	1118.04	PPTV		93
44) 1,1,2-Trichloroethane	14.75	97	39294	1218.98	PPTV		99
45) Methyl Isobutyl Ketone	14.51	43	126401	1281.54	PPTV		96
46) Toluene	14.12	92	72556	1151.04	PPTV		97
47) 2-Hexanone	15.46	43	106935	1258.84	PPTV		95
48) 1,2-Dibromoethane	15.30	107	63909	1210.43	PPTV		100
49) Tetrachloroethene	14.58	166	54914	1243.42	PPTV		98
50) Dibromochloromethane	14.98	127	57265	1189.88	PPTV		97
52) Chlorobenzene	15.89	112	81188	1211.19	PPTV		98
53) Ethylbenzene	15.88	106	40946	1392.90	PPTV		90
54) m-Xylene & p-Xylene	16.05	106	105091	2889.62	PPTV		88
55) Styrene	16.62	104	66702	1146.99	PPTV		87
56) o-Xylene	16.57	106	49791	1250.27	PPTV		85
57) Bromoform	16.70	173	50922	1114.76	PPTV	#	87

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\033121\217CZ005.D Vial: 5
Acq On : 31 Mar 2021 5:36 pm Operator: rgg
Sample : aa65685-cal4 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 31 19:22 2021 Quant Results File: 033121.RES

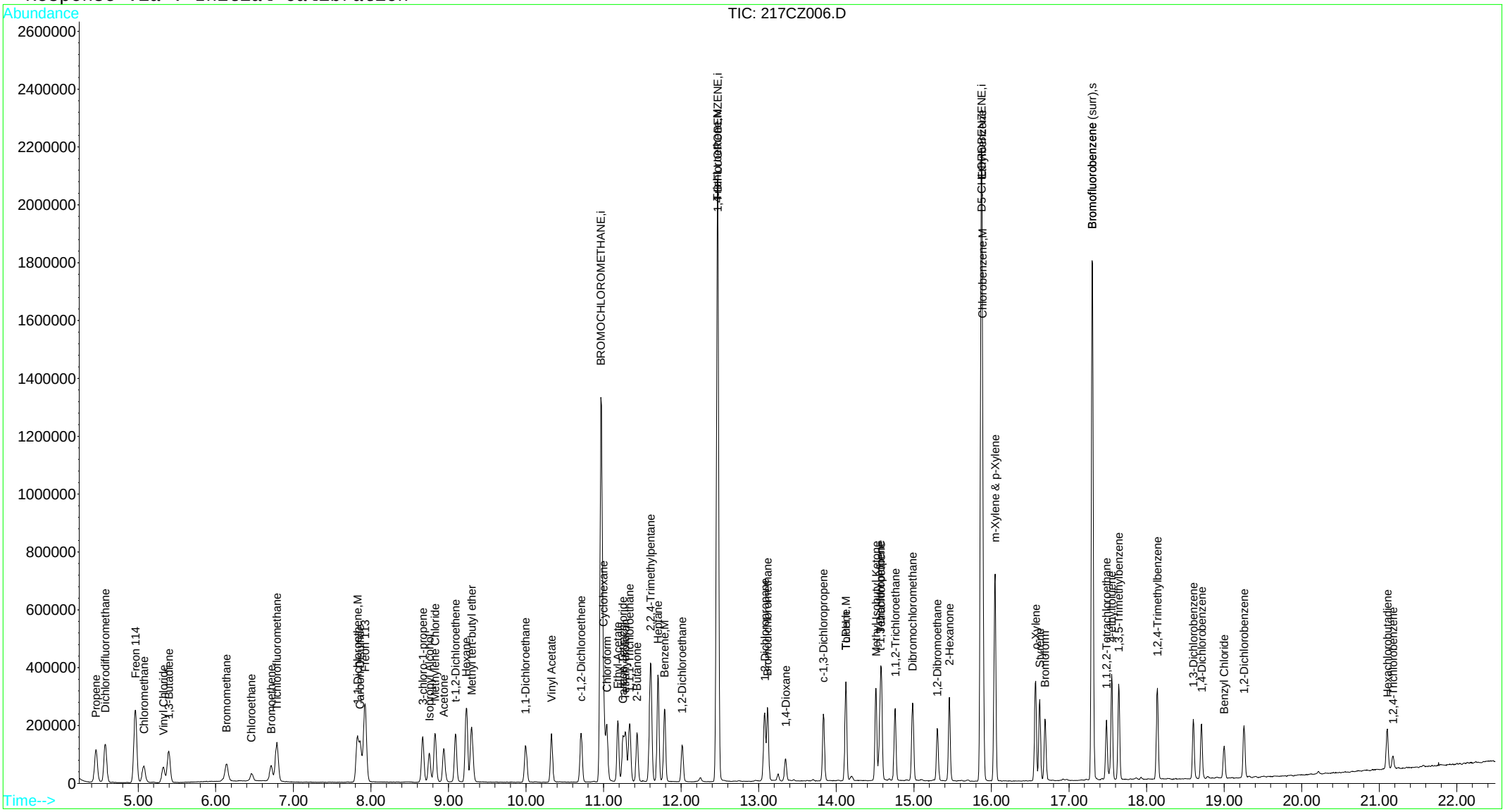
Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Fri Mar 26 09:06:45 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.48	83	54705	1090.30 PPTV	97
59) Bromofluorobenzene	17.30	174	551851	29826.49 PPTV #	85
61) 4-ethyltoluene	17.55	105	127905	1158.24 PPTV	96
62) 1,3,5-Trimethylbenzene	17.64	105	94798	1234.38 PPTV	92
63) 1,2,4-Trimethylbenzene	18.14	105	91078	1186.72 PPTV	90
64) 1,3-Dichlorobenzene	18.60	146	44222	894.27 PPTV	97
65) 1,4-Dichlorobenzene	18.71	146	40161	844.89 PPTV	96
66) Benzyl Chloride	19.00	91	39515	635.14 PPTV	91
67) 1,2-Dichlorobenzene	19.26	146	38652	879.00 PPTV	96
68) 1,2,4-Trichlorobenzene	21.18	180	7023	470.84 PPTV	97
69) Hexachlorobutadiene	21.10	225	13256	803.59 PPTV	97

Quantitation Report

Data File : C:\HPCHEM\1\DATA\033121\217CZ006.D Vial: 6
Acq On : 31 Mar 2021 6:19 pm Operator: rgg
Sample : aa65685-cal5 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 31 19:24 2021 Quant Results File: 033121.RES

Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\033121\217CZ006.D Vial: 6
Acq On : 31 Mar 2021 6:19 pm Operator: rgg
Sample : aa65685-cal5 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 31 19:24 2021 Quant Results File: 033121.RES

Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Fri Mar 26 09:06:45 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.97	130	484725	31000.00	PPTV	0.01
36) 1,4-DIFLUOROBENZENE	12.47	114	1565412	31000.00	PPTV	0.01
51) D5-CHLOROBENZENE	15.87	117	1166723	31000.00	PPTV	0.01
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.30	174	559283	30182.44	PPTV	0.02
Spiked Amount 31250.000	Range 50 - 150		Recovery = 96.58%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.57	85	194777	2636.05	PPTV	97
3) Propene	4.45	41	104402	2434.95	PPTV	95
4) Chloromethane	5.07	50	108136	2652.26	PPTV	99
5) Freon 114	4.97	135	141827	2569.69	PPTV	80
6) Vinyl Chloride	5.33	62	94288	2678.44	PPTV	99
7) 1,3-Butadiene	5.39	39	96613	2615.48	PPTV	93
8) Bromomethane	6.14	94	63680	2234.04	PPTV	98
9) Chloroethane	6.46	64	32329	2312.59	PPTV	97
10) Trichlorofluoromethane	6.79	101	150059	2439.14	PPTV	96
11) Bromoethene	6.72	106	54729	2107.07	PPTV	98
12) 1,1-Dichloroethene	7.82	61	129698	2604.62	PPTV	82
13) Acetone	8.94	43	182473	2588.43	PPTV	92
14) Isopropyl Alcohol	8.75	45	158043	2572.59	PPTV	96
15) Carbon Disulfide	7.86	76	235004	2556.05	PPTV	96
16) Methylene Chloride	8.83	84	81496	2412.54	PPTV	89
17) Freon 113	7.92	151	119686	2581.49	PPTV	88
18) 3-chloro-1-propene	8.67	41	147215	2558.01	PPTV	86
19) t-1,2-Dichloroethene	9.09	61	116496	2652.53	PPTV	87
20) Methyl tert-butyl ether	9.30	73	202029	2528.66	PPTV	96
21) Hexane	9.23	57	132286	2672.97	PPTV	90
22) 1,1-Dichloroethane	9.99	63	142487	2592.59	PPTV	99
23) Vinyl Acetate	10.33	43	271026	2612.34	PPTV	99
24) c-1,2-Dichloroethene	10.71	96	77572	2539.99	PPTV	93
25) Ethyl Acetate	11.18	43	265046	2605.46	PPTV	96
26) 2-Butanone	11.43	43	231561	2541.40	PPTV	96
27) Chloroform	11.04	83	149931	2290.81	PPTV	98
28) Tetrahydrofuran	11.28	42	111755	2638.46	PPTV	97
29) 2,2,4-Trimethylpentane	11.60	57	413915	2625.47	PPTV	94
30) 1,2-Dichloroethane	12.01	62	92814	2466.51	PPTV	99
31) 1,1,1-Trichloroethane	11.33	97	133859	2520.93	PPTV	97
32) Cyclohexane	11.00	56	135625	2670.86	PPTV	95
33) Carbon Tetrachloride	11.25	117	99193	1941.68	PPTV	99
34) Benzene	11.78	78	211817	2531.53	PPTV	100
35) Heptane	11.70	43	181413	2611.60	PPTV	97
37) TLPH	14.12	TIC	596251m	2270.34	PPTV	
38) 1,2-Dichloropropane	13.08	63	88224	2603.92	PPTV	84
39) Trichloroethene	12.46	130	98678	2435.70	PPTV	95
40) 1,4-Dioxane	13.35	88	50225	2396.55	PPTV	91
41) Bromodichloromethane	13.11	83	148882	2501.87	PPTV	96
42) c-1,3-Dichloropropene	13.83	75	120761	2408.05	PPTV	97
43) t-1,3-Dichloropropene	14.56	75	71710	2318.94	PPTV	96
44) 1,1,2-Trichloroethane	14.75	97	78681	2454.91	PPTV	97
45) Methyl Isobutyl Ketone	14.51	43	255183	2602.12	PPTV	96
46) Toluene	14.12	92	144458	2304.91	PPTV	97
47) 2-Hexanone	15.46	43	215674	2553.55	PPTV	95
48) 1,2-Dibromoethane	15.30	107	127597	2430.60	PPTV	99
49) Tetrachloroethene	14.58	166	108805	2477.87	PPTV	97
50) Dibromochloromethane	14.98	127	113353	2368.87	PPTV	97
52) Chlorobenzene	15.89	112	162393	2418.97	PPTV	90
53) Ethylbenzene	15.88	106	81205	2758.25	PPTV	89
54) m-Xylene & p-Xylene	16.05	106	205789	5649.88	PPTV	88
55) Styrene	16.62	104	137477	2360.45	PPTV	86
56) o-Xylene	16.57	106	97836	2452.98	PPTV	87
57) Bromoform	16.69	173	103476	2261.83	PPTV #	88

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\033121\217CZ006.D Vial: 6
Acq On : 31 Mar 2021 6:19 pm Operator: rgg
Sample : aa65685-cal5 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 31 19:24 2021 Quant Results File: 033121.RES

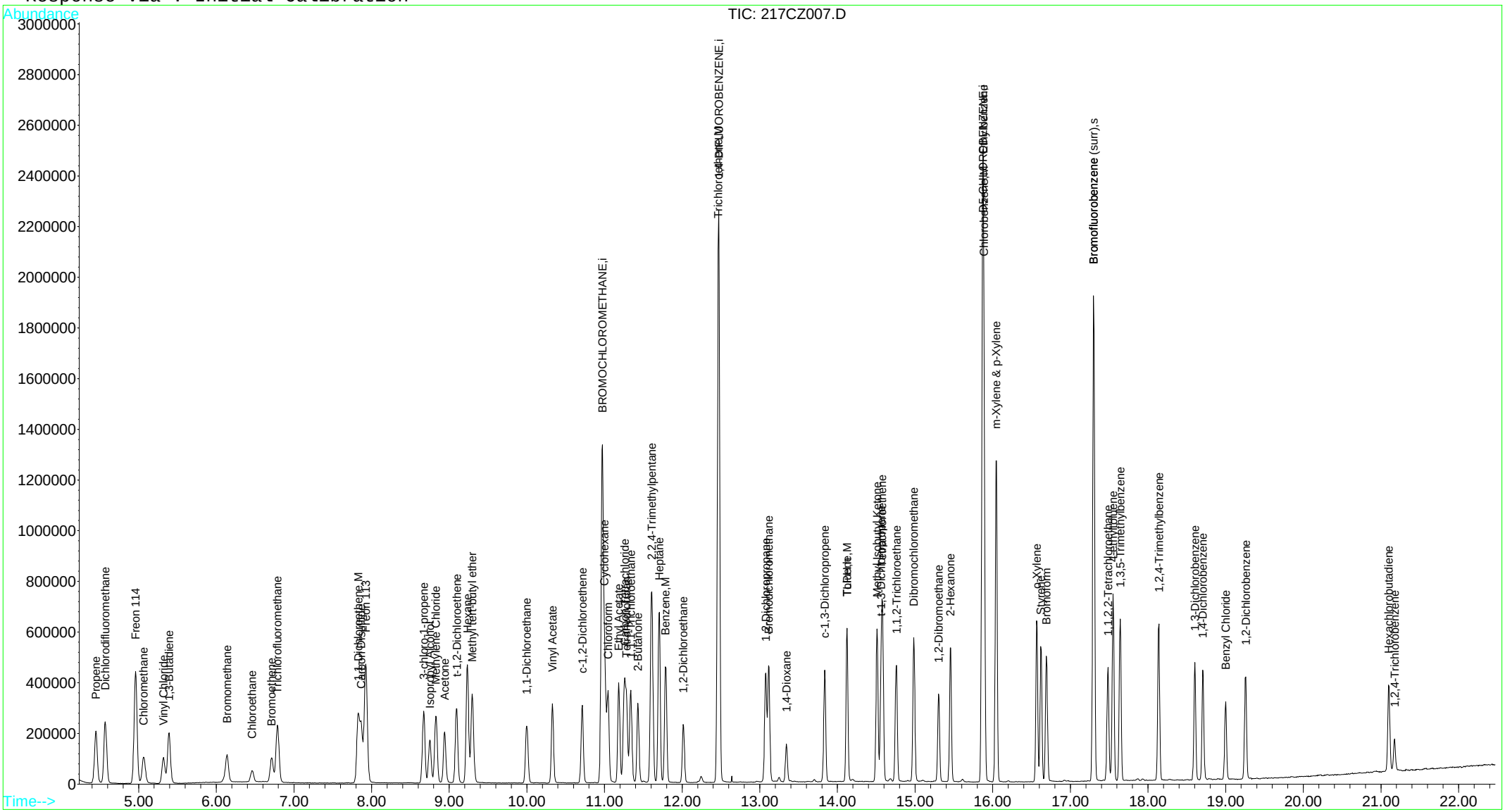
Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Fri Mar 26 09:06:45 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.48	83	110741	2203.79	PPTV	96
59) Bromofluorobenzene	17.30	174	559283	30182.44	PPTV #	85
61) 4-ethyltoluene	17.55	105	251754	2276.31	PPTV	94
62) 1,3,5-Trimethylbenzene	17.64	105	186362	2422.98	PPTV	91
63) 1,2,4-Trimethylbenzene	18.14	105	178508	2322.39	PPTV	92
64) 1,3-Dichlorobenzene	18.60	146	91428	1846.09	PPTV	95
65) 1,4-Dichlorobenzene	18.71	146	80948	1700.37	PPTV	97
66) Benzyl Chloride	19.00	91	77454	1243.07	PPTV #	91
67) 1,2-Dichlorobenzene	19.26	146	78021	1771.63	PPTV	97
68) 1,2,4-Trichlorobenzene	21.18	180	14746	987.11	PPTV	97
69) Hexachlorobutadiene	21.10	225	26432	1599.90	PPTV	97

Quantitation Report

Data File : C:\HPCHEM\1\DATA\033121\217CZ007.D Vial: 7
Acq On : 31 Mar 2021 6:58 pm Operator: rgg
Sample : aa65685-cal6 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 31 19:26 2021 Quant Results File: 033121.RES

Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\033121\217CZ007.D Vial: 7
Acq On : 31 Mar 2021 6:58 pm Operator: rgg
Sample : aa65685-cal6 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 31 19:26 2021 Quant Results File: 033121.RES

Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Fri Mar 26 09:06:45 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) BROMOCHLOROMETHANE	10.97	130	479989	31000.00	PPTV		0.02
36) 1,4-DIFLUOROBENZENE	12.47	114	1566277	31000.00	PPTV		0.01
51) D5-CHLOROBENZENE	15.87	117	1180699	31000.00	PPTV		0.01
System Monitoring Compounds							
60) Bromofluorobenzene (surr)	17.30	174	573449	30580.61	PPTV		0.01
Spiked Amount 31250.000	Range 50 - 150		Recovery = 97.86%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.57	85	345573	4723.02	PPTV		97
3) Propene	4.45	41	184065	4335.28	PPTV		94
4) Chloromethane	5.06	50	195535	4843.23	PPTV		99
5) Freon 114	4.96	135	251454	4600.92	PPTV		80
6) Vinyl Chloride	5.32	62	172378	4945.06	PPTV		98
7) 1,3-Butadiene	5.39	39	173435	4741.51	PPTV		92
8) Bromomethane	6.14	94	113218	4011.14	PPTV		98
9) Chloroethane	6.46	64	59359	4288.02	PPTV		100
10) Trichlorofluoromethane	6.79	101	269877	4430.01	PPTV		98
11) Bromoethene	6.72	106	102345	3979.17	PPTV		96
12) 1,1-Dichloroethene	7.83	61	235568	4777.40	PPTV	#	83
13) Acetone	8.94	43	314795	4509.52	PPTV		91
14) Isopropyl Alcohol	8.75	45	277121	4555.42	PPTV		97
15) Carbon Disulfide	7.86	76	421327	4627.83	PPTV		96
16) Methylene Chloride	8.83	84	128873	3852.70	PPTV		87
17) Freon 113	7.92	151	216200	4709.20	PPTV		86
18) 3-chloro-1-propene	8.67	41	269530	4729.57	PPTV		85
19) t-1,2-Dichloroethene	9.09	61	210293	4835.47	PPTV		87
20) Methyl tert-butyl ether	9.30	73	370999	4689.36	PPTV		96
21) Hexane	9.24	57	240395	4905.34	PPTV		92
22) 1,1-Dichloroethane	10.00	63	260201	4781.13	PPTV		100
23) Vinyl Acetate	10.33	43	504127	4907.07	PPTV		98
24) c-1,2-Dichloroethene	10.71	96	140748	4654.08	PPTV		92
25) Ethyl Acetate	11.18	43	490368	4867.98	PPTV		97
26) 2-Butanone	11.43	43	431684	4784.52	PPTV		97
27) Chloroform	11.05	83	272007	4197.03	PPTV		98
28) Tetrahydrofuran	11.29	42	203761	4858.13	PPTV		96
29) 2,2,4-Trimethylpentane	11.61	57	769116	4926.64	PPTV		94
30) 1,2-Dichloroethane	12.01	62	170413	4573.36	PPTV		99
31) 1,1,1-Trichloroethane	11.34	97	238952	4544.52	PPTV		98
32) Cyclohexane	11.00	56	250880	4989.33	PPTV		94
33) Carbon Tetrachloride	11.26	117	240804	4760.19	PPTV		99
34) Benzene	11.78	78	388843	4693.12	PPTV		100
35) Heptane	11.71	43	341132	4959.34	PPTV		96
37) TLPH	14.12	TIC	1073946m	4087.00	PPTV		
38) 1,2-Dichloropropane	13.08	63	160847	4744.75	PPTV		84
39) Trichloroethene	12.46	130	183014	4514.90	PPTV		95
40) 1,4-Dioxane	13.34	88	95144	4537.41	PPTV		86
41) Bromodichloromethane	13.11	83	283416	4759.99	PPTV		96
42) c-1,3-Dichloropropene	13.84	75	229579	4575.42	PPTV		97
43) t-1,3-Dichloropropene	14.56	75	135388	4375.73	PPTV		96
44) 1,1,2-Trichloroethane	14.76	97	148615	4634.34	PPTV		98
45) Methyl Isobutyl Ketone	14.51	43	473396	4824.58	PPTV		96
46) Toluene	14.12	92	261091	4163.56	PPTV		98
47) 2-Hexanone	15.45	43	406628	4811.76	PPTV		94
48) 1,2-Dibromoethane	15.30	107	247367	4709.50	PPTV		98
49) Tetrachloroethene	14.58	166	197585	4497.21	PPTV		98
50) Dibromochloromethane	14.98	127	239802	5008.66	PPTV		97
52) Chlorobenzene	15.89	112	311392	4583.53	PPTV		86
53) Ethylbenzene	15.89	106	149437	5015.76	PPTV		88
54) m-Xylene & p-Xylene	16.05	106	381346	10345.82	PPTV		86
55) Styrene	16.62	104	265295	4501.13	PPTV		84
56) o-Xylene	16.57	106	181515	4497.15	PPTV		86
57) Bromoform	16.69	173	241680	5220.23	PPTV	#	87

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\033121\217CZ007.D Vial: 7
Acq On : 31 Mar 2021 6:58 pm Operator: rgg
Sample : aa65685-cal6 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 31 19:26 2021 Quant Results File: 033121.RES

Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Fri Mar 26 09:06:45 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.48	83	248890	4894.39	PPTV	96
59) Bromofluorobenzene	17.30	174	573449	30580.61	PPTV #	85
61) 4-ethyltoluene	17.55	105	507573	4535.05	PPTV	95
62) 1,3,5-Trimethylbenzene	17.64	105	358318	4603.51	PPTV	91
63) 1,2,4-Trimethylbenzene	18.14	105	347742	4470.57	PPTV	91
64) 1,3-Dichlorobenzene	18.60	146	201328	4017.05	PPTV	97
65) 1,4-Dichlorobenzene	18.71	146	183942	3818.10	PPTV	97
66) Benzyl Chloride	19.00	91	222621	3530.58	PPTV	91
67) 1,2-Dichlorobenzene	19.26	146	181776	4078.74	PPTV	96
68) 1,2,4-Trichlorobenzene	21.18	180	42500	2811.32	PPTV	98
69) Hexachlorobutadiene	21.10	225	70652	4225.87	PPTV	97

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\033121\217CZ009.D Vial: 9
Acq On : 31 Mar 2021 8:36 pm Operator: rgg
Sample : aa65685-cal7 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 31 22:06 2021 Quant Results File: 033121.RES

Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Wed Mar 31 19:31:21 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.97	130	410314	31000.00	PPTV	0.00
36) 1,4-DIFLUOROBENZENE	12.47	114	1596494	31000.00	PPTV	0.00
51) D5-CHLOROBENZENE	15.87	117	1196660	31000.00	PPTV	0.00
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.30	174	592194	32290.02	PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 103.33%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.56	85	673673	9480.65	PPTV	98
3) Propene	4.44	41	352208	7857.19	PPTV	94
4) Chloromethane	5.05	50	376441	9442.01	PPTV	100
5) Freon 114	4.94	135	485356	9751.09	PPTV	80
6) Vinyl Chloride	5.30	62	332202	9896.02	PPTV	99
7) 1,3-Butadiene	5.37	39	338385	9789.35	PPTV	92
8) Bromomethane	6.13	94	205935	8747.46	PPTV	99
9) Chloroethane	6.45	64	106347	9034.10	PPTV	99
10) Trichlorofluoromethane	6.78	101	503878	9291.26	PPTV	98
11) Bromoethene	6.70	106	180736	8962.10	PPTV	96
12) 1,1-Dichloroethene	7.82	61	414879	8988.65	PPTV	93
13) Acetone	8.93	43	550835	5958.94	PPTV	97
14) Isopropyl Alcohol	8.74	45	490029	6855.36	PPTV	98
15) Carbon Disulfide	7.86	76	661200	7594.71	PPTV	97
16) Methylene Chloride	8.83	84	200198	3737.85	PPTV	98
17) Freon 113	7.92	151	336799	7844.40	PPTV	88
18) 3-chloro-1-propene	8.67	41	467832	8884.39	PPTV	93
19) t-1,2-Dichloroethene	9.09	61	361897	8681.59	PPTV	94
20) Methyl tert-butyl ether	9.29	73	630656	8409.18	PPTV	97
21) Hexane	9.23	57	396222	8209.54	PPTV	99
22) 1,1-Dichloroethane	10.00	63	444204	8569.36	PPTV	99
23) Vinyl Acetate	10.32	43	925348	9537.90	PPTV	100
24) c-1,2-Dichloroethene	10.71	96	225969	7989.06	PPTV	96
25) Ethyl Acetate	11.18	43	878229	9265.91	PPTV	99
26) 2-Butanone	11.42	43	768901	8680.52	PPTV	99
27) Chloroform	11.04	83	481649	8806.22	PPTV	97
28) Tetrahydrofuran	11.28	42	357402	8832.18	PPTV	100
29) 2,2,4-Trimethylpentane	11.60	57	1301025	8678.53	PPTV	97
30) 1,2-Dichloroethane	12.01	62	332354	9916.89	PPTV	99
31) 1,1,1-Trichloroethane	11.33	97	441229	9140.47	PPTV	97
32) Cyclohexane	11.00	56	416480	8549.58	PPTV	98
33) Carbon Tetrachloride	11.25	117	452854	10780.71	PPTV	99
34) Benzene	11.78	78	647452	8298.57	PPTV	99
35) Heptane	11.70	43	601882	9016.19	PPTV	100
37) TLPH	14.12	TIC	2066546m	7291.37	PPTV	
38) 1,2-Dichloropropane	13.07	63	308299	8017.02	PPTV	85
39) Trichloroethene	12.46	130	352772	8070.90	PPTV	94
40) 1,4-Dioxane	13.34	88	182399	7782.76	PPTV	87
41) Bromodichloromethane	13.11	83	552732	8741.15	PPTV	96
42) c-1,3-Dichloropropene	13.83	75	441065	8123.65	PPTV	97
43) t-1,3-Dichloropropene	14.56	75	262169	8065.69	PPTV	96
44) 1,1,2-Trichloroethane	14.75	97	285296	8126.76	PPTV	98
45) Methyl Isobutyl Ketone	14.51	43	923604	8448.68	PPTV	96
46) Toluene	14.12	92	506833	7611.19	PPTV	97
47) 2-Hexanone	15.45	43	786132	8320.16	PPTV	94
48) 1,2-Dibromoethane	15.30	107	476805	8426.60	PPTV	99
49) Tetrachloroethene	14.58	166	380157	7738.23	PPTV	99
50) Dibromochloromethane	14.98	127	460160	9132.87	PPTV	97
52) Chlorobenzene	15.89	112	582385	7639.26	PPTV	85
53) Ethylbenzene	15.88	106	281432	7045.35	PPTV	87
54) m-Xylene & p-Xylene	16.04	106	717912	13963.33	PPTV	86
55) Styrene	16.62	104	518565	8126.52	PPTV	83
56) o-Xylene	16.56	106	352431	6981.44	PPTV	84
57) Bromoform	16.69	173	474392	9926.25	PPTV #	87

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\033121\217CZ009.D Vial: 9
Acq On : 31 Mar 2021 8:36 pm Operator: rgg
Sample : aa65685-cal7 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 31 22:06 2021 Quant Results File: 033121.RES

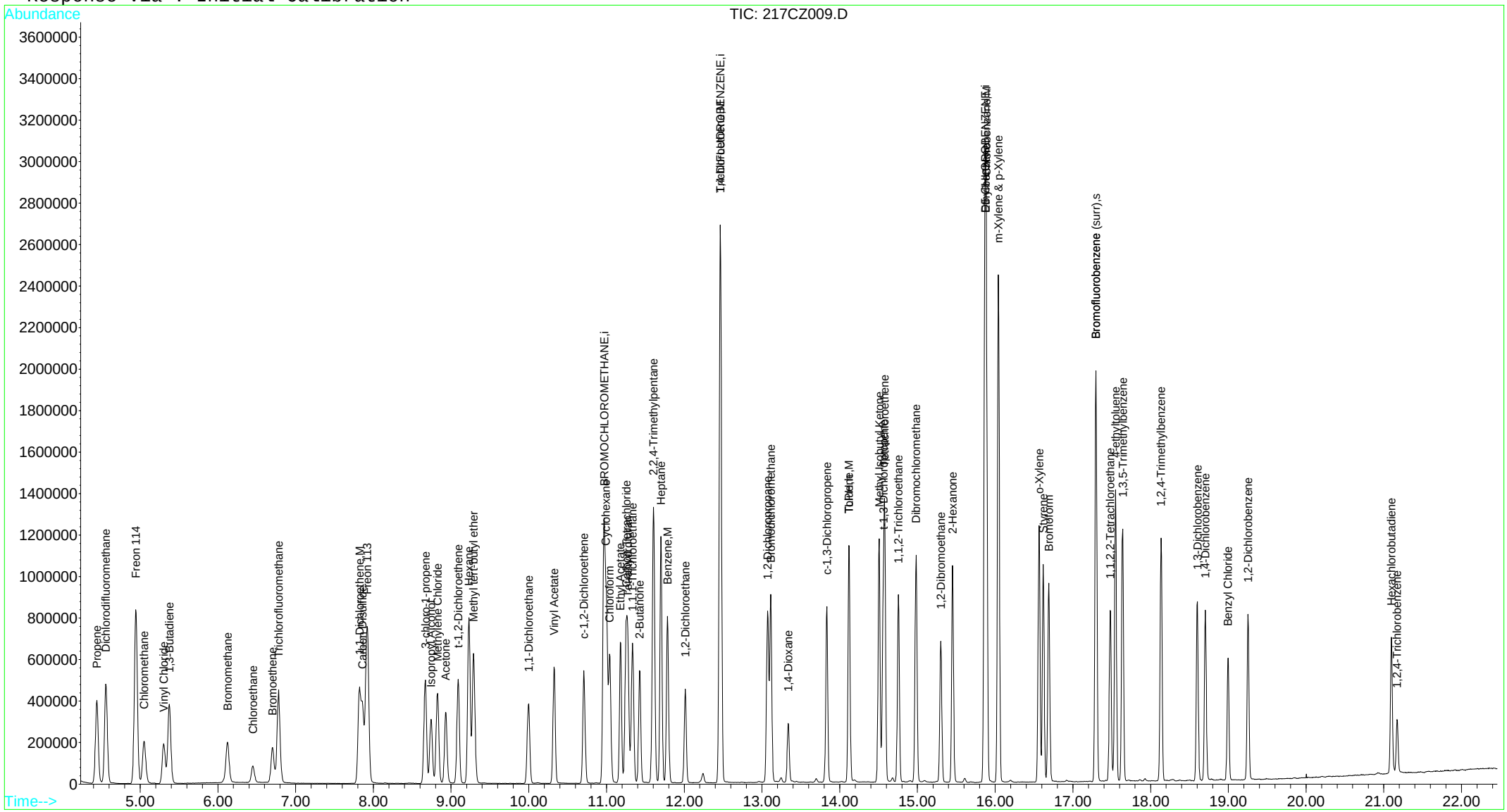
Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Wed Mar 31 19:31:21 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.48	83	479427	8126.35	PPTV	96
59) Bromofluorobenzene	17.30	174	592194	32290.02	PPTV #	85
61) 4-ethyltoluene	17.55	105	980546	7015.30	PPTV	95
62) 1,3,5-Trimethylbenzene	17.64	105	694132	6695.09	PPTV	91
63) 1,2,4-Trimethylbenzene	18.13	105	669525	6163.27	PPTV	91
64) 1,3-Dichlorobenzene	18.60	146	385994	7704.03	PPTV	96
65) 1,4-Dichlorobenzene	18.70	146	352858	7761.67	PPTV	97
66) Benzyl Chloride	19.00	91	445507	9965.38	PPTV	91
67) 1,2-Dichlorobenzene	19.25	146	350876	7553.58	PPTV	96
68) 1,2,4-Trichlorobenzene	21.17	180	88233	5708.13	PPTV	99
69) Hexachlorobutadiene	21.10	225	132019	5938.27	PPTV	98

Quantitation Report

Data File : C:\HPCHEM\1\DATA\033121\217CZ009.D Vial: 9
Acq On : 31 Mar 2021 8:36 pm Operator: rgg
Sample : aa65685-cal7 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 31 22:06 2021 Quant Results File: 033121.RES

Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\033121\217CZ011.D Vial: 11
Acq On : 31 Mar 2021 10:06 pm Operator: rgg
Sample : aa65685-cal8 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 1 8:23 2021 Quant Results File: 033121.RES

Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Wed Mar 31 22:08:34 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) BROMOCHLOROMETHANE	10.97	130	499257	31000.00	PPTV		0.00
36) 1,4-DIFLUOROBENZENE	12.47	114	1558506	31000.00	PPTV		0.00
51) D5-CHLOROBENZENE	15.87	117	1175355	31000.00	PPTV		0.00
System Monitoring Compounds							
60) Bromofluorobenzene (surr)	17.30	174	622234	34338.84	PPTV		0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 109.88%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.59	85	1639046	19098.82	PPTV		98
3) Propene	4.47	41	962573	18205.23	PPTV		94
4) Chloromethane	5.08	50	1023919	21276.55	PPTV		99
5) Freon 114	4.97	135	1291031	21392.85	PPTV		80
6) Vinyl Chloride	5.33	62	913593	22400.04	PPTV		99
7) 1,3-Butadiene	5.41	39	918488	21903.70	PPTV		93
8) Bromomethane	6.15	94	602158	21404.05	PPTV		99
9) Chloroethane	6.47	64	306400	21690.77	PPTV		100
10) Trichlorofluoromethane	6.80	101	1399732	21429.19	PPTV		97
11) Bromoethene	6.73	106	606384	25083.75	PPTV		96
12) 1,1-Dichloroethene	7.84	61	1231274	22245.40	PPTV	#	83
13) Acetone	8.93	43	1669598	15753.47	PPTV		92
14) Isopropyl Alcohol	8.74	45	1525336	18362.33	PPTV		95
15) Carbon Disulfide	7.88	76	2229260	21792.98	PPTV		95
16) Methylene Chloride	8.84	84	658150	11091.24	PPTV		89
17) Freon 113	7.94	151	1091665	21560.29	PPTV		86
18) 3-chloro-1-propene	8.68	41	1563618	24799.20	PPTV		87
19) t-1,2-Dichloroethene	9.10	61	1102259	22148.68	PPTV		86
20) Methyl tert-butyl ether	9.29	73	1947630	21839.54	PPTV	#	1
21) Hexane	9.24	57	1285055m	22456.75	PPTV		
22) 1,1-Dichloroethane	10.00	63	1390409	22504.46	PPTV		99
23) Vinyl Acetate	10.33	43	2936030	25036.68	PPTV		98
24) c-1,2-Dichloroethene	10.71	96	757658	22665.82	PPTV		93
25) Ethyl Acetate	11.18	43	2690467	23576.47	PPTV		98
26) 2-Butanone	11.43	43	2360110	22318.47	PPTV		97
27) Chloroform	11.04	83	1416289	21650.77	PPTV		97
28) Tetrahydrofuran	11.28	42	1071152	22123.85	PPTV		96
29) 2,2,4-Trimethylpentane	11.61	57	4010548	22409.57	PPTV		94
30) 1,2-Dichloroethane	12.02	62	889413	21836.66	PPTV		99
31) 1,1,1-Trichloroethane	11.34	97	1201517	20710.58	PPTV	#	97
32) Cyclohexane	11.00	56	1324539	22819.22	PPTV		94
33) Carbon Tetrachloride	11.26	117	1177392	22781.66	PPTV		99
34) Benzene	11.79	78	2061656	22258.22	PPTV		99
35) Heptane	11.71	43	1767236	22067.11	PPTV		97
37) TLPH	14.12	TIC	5597181m	21044.13	PPTV		
38) 1,2-Dichloropropane	13.08	63	850891	23326.74	PPTV		82
39) Trichloroethene	12.46	130	941733	22696.10	PPTV		94
40) 1,4-Dioxane	13.34	88	507588	22911.85	PPTV		86
41) Bromodichloromethane	13.11	83	1461282	24106.16	PPTV		96
42) c-1,3-Dichloropropene	13.83	75	1220945	23670.29	PPTV		97
43) t-1,3-Dichloropropene	14.56	75	704387	22829.68	PPTV		95
44) 1,1,2-Trichloroethane	14.75	97	779083	23358.48	PPTV		98
45) Methyl Isobutyl Ketone	14.51	43	2567275	24601.81	PPTV		96
46) Toluene	14.12	92	1377244	21934.96	PPTV		98
47) 2-Hexanone	15.45	43	2234833	24824.99	PPTV		94
48) 1,2-Dibromoethane	15.30	107	1308570	24234.85	PPTV		99
49) Tetrachloroethene	14.58	166	999066	21527.62	PPTV		99
50) Dibromochloromethane	14.98	127	1218181	25077.39	PPTV		97
52) Chlorobenzene	15.89	112	1533333	21192.33	PPTV		82
53) Ethylbenzene	15.89	106	725413	19303.92	PPTV		88
54) m-Xylene & p-Xylene	16.05	106	1824552	37758.77	PPTV		87
55) Styrene	16.62	104	1443812	23669.86	PPTV		82
56) o-Xylene	16.57	106	949210	20006.84	PPTV		85
57) Bromoform	16.69	173	1285135	27406.67	PPTV	#	86

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\033121\217CZ011.D Vial: 11
Acq On : 31 Mar 2021 10:06 pm Operator: rgg
Sample : aa65685-cal8 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 1 8:23 2021 Quant Results File: 033121.RES

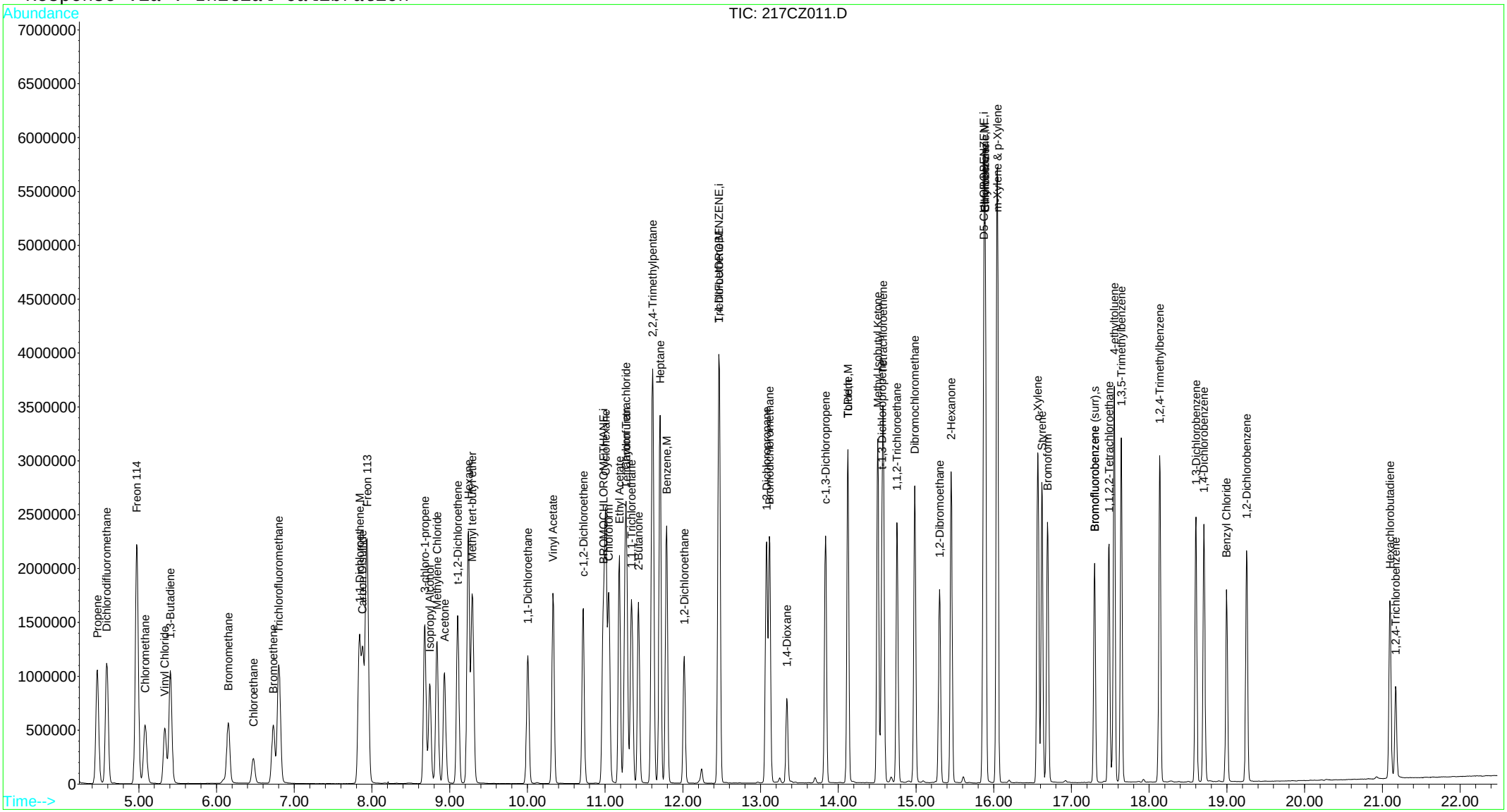
Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Wed Mar 31 22:08:34 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
58) 1,1,2,2-Tetrachloroethane	17.48	83	1328659	23559.79	PPTV		96
59) Bromofluorobenzene	17.30	174	622234	34338.84	PPTV	#	84
61) 4-ethyltoluene	17.55	105	2668688	20304.94	PPTV		95
62) 1,3,5-Trimethylbenzene	17.64	105	1850586	19073.45	PPTV		91
63) 1,2,4-Trimethylbenzene	18.13	105	1834619	18191.70	PPTV		91
64) 1,3-Dichlorobenzene	18.60	146	1121762	23568.04	PPTV		96
65) 1,4-Dichlorobenzene	18.71	146	1057077	24455.55	PPTV		95
66) Benzyl Chloride	18.99	91	1337355	30472.10	PPTV		90
67) 1,2-Dichlorobenzene	19.25	146	993266	22558.80	PPTV		96
68) 1,2,4-Trichlorobenzene	21.18	180	291352	20443.78	PPTV		98
69) Hexachlorobutadiene	21.10	225	350984	17063.69	PPTV		98

Quantitation Report

Data File : C:\HPCHEM\1\DATA\033121\217CZ011.D Vial: 11
Acq On : 31 Mar 2021 10:06 pm Operator: rgg
Sample : aa65685-cal8 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 1 8:23 2021 Quant Results File: 033121.RES

Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\033121\217CZ013.D Vial: 13
Acq On : 31 Mar 2021 11:42 pm Operator: rgg
Sample : aa65685-cal9 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 1 8:26 2021 Quant Results File: 033121.RES

Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Wed Mar 31 22:08:34 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) BROMOCHLOROMETHANE	10.98	130	487575	31000.00	PPTV		0.01
36) 1,4-DIFLUOROBENZENE	12.48	114	1463213	31000.00	PPTV		0.00
51) D5-CHLOROBENZENE	15.87	117	1096162	31000.00	PPTV		0.00
System Monitoring Compounds							
60) Bromofluorobenzene (surr)	17.30	174	638856	37803.25	PPTV		0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 120.97%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.56	85	2880815	34372.69	PPTV		98
3) Propene	4.44	41	2015299	39028.77	PPTV		93
4) Chloromethane	5.06	50	2111169	44920.16	PPTV		99
5) Freon 114	4.95	135	2505644	42514.21	PPTV		82
6) Vinyl Chloride	5.31	62	1865061	46824.36	PPTV		99
7) 1,3-Butadiene	5.39	39	1881064	45933.57	PPTV		92
8) Bromomethane	6.14	94	1190901	43345.49	PPTV		99
9) Chloroethane	6.47	64	600643	43539.70	PPTV		99
10) Trichlorofluoromethane	6.80	101	2689162	42156.12	PPTV		97
11) Bromoethene	6.72	106	1024891	43411.54	PPTV		96
12) 1,1-Dichloroethene	7.84	61	2249578	41616.86	PPTV		89
13) Acetone	8.93	43	3260402	31500.56	PPTV		96
14) Isopropyl Alcohol	8.75	45	2852210	35158.19	PPTV		96
15) Carbon Disulfide	7.88	76	3773576	37773.88	PPTV		95
16) Methylene Chloride	8.84	84	1137731	19632.58	PPTV		95
17) Freon 113	7.94	151	1872671	37871.24	PPTV		86
18) 3-chloro-1-propene	8.68	41	2882617	46814.09	PPTV		91
19) t-1,2-Dichloroethene	9.10	61	2042005	42014.93	PPTV		90
20) Methyl tert-butyl ether	9.29	73	3830941	43987.09	PPTV	#	1
21) Hexane	9.24	57	2660507	47607.16	PPTV		92
22) 1,1-Dichloroethane	10.00	63	2804209	46474.98	PPTV		99
23) Vinyl Acetate	10.33	43	6139592	53609.10	PPTV		99
24) c-1,2-Dichloroethene	10.72	96	1516552	46455.62	PPTV		93
25) Ethyl Acetate	11.18	43	5470895	49089.91	PPTV		98
26) 2-Butanone	11.43	43	4847842	46942.18	PPTV		98
27) Chloroform	11.05	83	2705111	42343.75	PPTV		97
28) Tetrahydrofuran	11.28	42	2057422	43512.67	PPTV		96
29) 2,2,4-Trimethylpentane	11.62	57	7809448	44682.03	PPTV		93
30) 1,2-Dichloroethane	12.02	62	1737962	43692.39	PPTV		100
31) 1,1,1-Trichloroethane	11.34	97	2263214	39945.77	PPTV	#	97
32) Cyclohexane	11.01	56	2618636	46194.88	PPTV		93
33) Carbon Tetrachloride	11.26	117	2146107	42520.50	PPTV		99
34) Benzene	11.79	78	4115046	45491.64	PPTV		99
35) Heptane	11.71	43	3354675	42892.77	PPTV		97
37) TLPH	14.12	TIC	10780643m	43172.50	PPTV		
38) 1,2-Dichloropropane	13.08	63	1695199	49499.60	PPTV		80
39) Trichloroethene	12.46	130	1798734	46173.33	PPTV		94
40) 1,4-Dioxane	13.34	88	1036398	49828.33	PPTV	#	84
41) Bromodichloromethane	13.12	83	2751917	48353.76	PPTV		95
42) c-1,3-Dichloropropene	13.84	75	2408655	49737.39	PPTV		96
43) t-1,3-Dichloropropene	14.56	75	1292667	44624.79	PPTV		94
44) 1,1,2-Trichloroethane	14.76	97	1528943	48826.22	PPTV		98
45) Methyl Isobutyl Ketone	14.51	43	5113211	52190.25	PPTV		96
46) Toluene	14.12	92	2676301	45400.63	PPTV		99
47) 2-Hexanone	15.45	43	4466816	52849.76	PPTV		94
48) 1,2-Dibromoethane	15.31	107	2540552	50115.54	PPTV		99
49) Tetrachloroethene	14.59	166	1767664	40569.77	PPTV		98
50) Dibromochloromethane	14.99	127	2270601	49786.57	PPTV		97
52) Chlorobenzene	15.90	112	2743626	40659.45	PPTV		82
53) Ethylbenzene	15.88	106	1287292	36730.90	PPTV		89
54) m-Xylene & p-Xylene	16.05	106	3220382	71460.05	PPTV		88
55) Styrene	16.62	104	2884323	50701.79	PPTV		80
56) o-Xylene	16.57	106	1844900	41694.94	PPTV		84
57) Bromoform	16.70	173	2386514	54571.49	PPTV	#	86

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\033121\217CZ013.D Vial: 13
Acq On : 31 Mar 2021 11:42 pm Operator: rgg
Sample : aa65685-cal9 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 1 8:26 2021 Quant Results File: 033121.RES

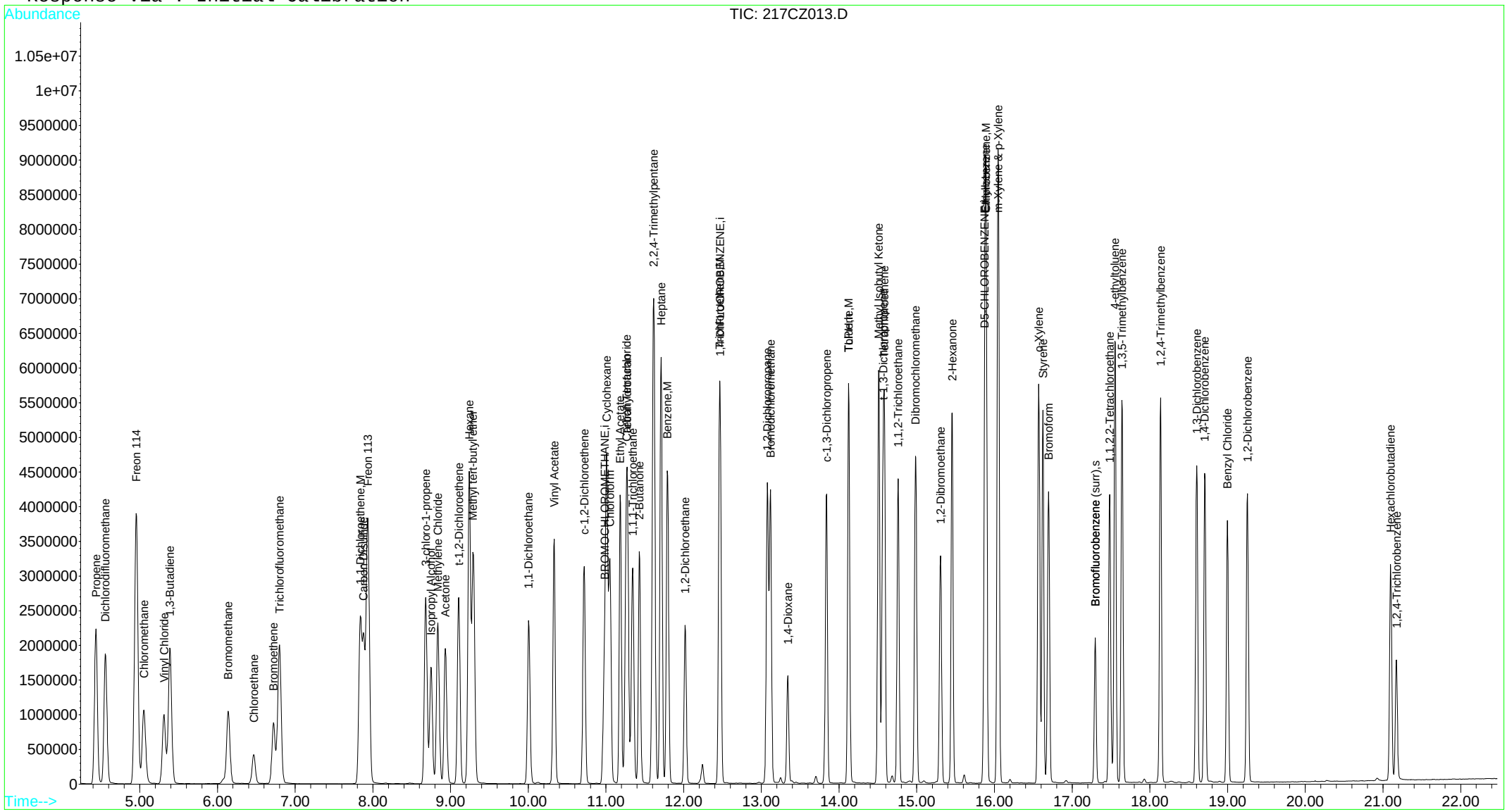
Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Wed Mar 31 22:08:34 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
58) 1,1,2,2-Tetrachloroethane	17.48	83	2658951	50554.81	PPTV		95
59) Bromofluorobenzene	17.30	174	638856	37803.25	PPTV	#	84
61) 4-ethyltoluene	17.56	105	5078682	41433.26	PPTV		96
62) 1,3,5-Trimethylbenzene	17.64	105	3509235	38781.69	PPTV		91
63) 1,2,4-Trimethylbenzene	18.14	105	3511376	37333.53	PPTV		91
64) 1,3-Dichlorobenzene	18.60	146	2263179	50984.25	PPTV		95
65) 1,4-Dichlorobenzene	18.70	146	2162824	53652.05	PPTV		95
66) Benzyl Chloride	19.00	91	2930369	71593.30	PPTV	#	89
67) 1,2-Dichlorobenzene	19.26	146	2009719	48941.81	PPTV		95
68) 1,2,4-Trichlorobenzene	21.18	180	630059	47404.41	PPTV		98
69) Hexachlorobutadiene	21.10	225	692365	36092.34	PPTV		96

Quantitation Report

Data File : C:\HPCHEM\1\DATA\033121\217CZ013.D Vial: 13
Acq On : 31 Mar 2021 11:42 pm Operator: rgg
Sample : aa65685-cal9 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 1 8:26 2021 Quant Results File: 033121.RES

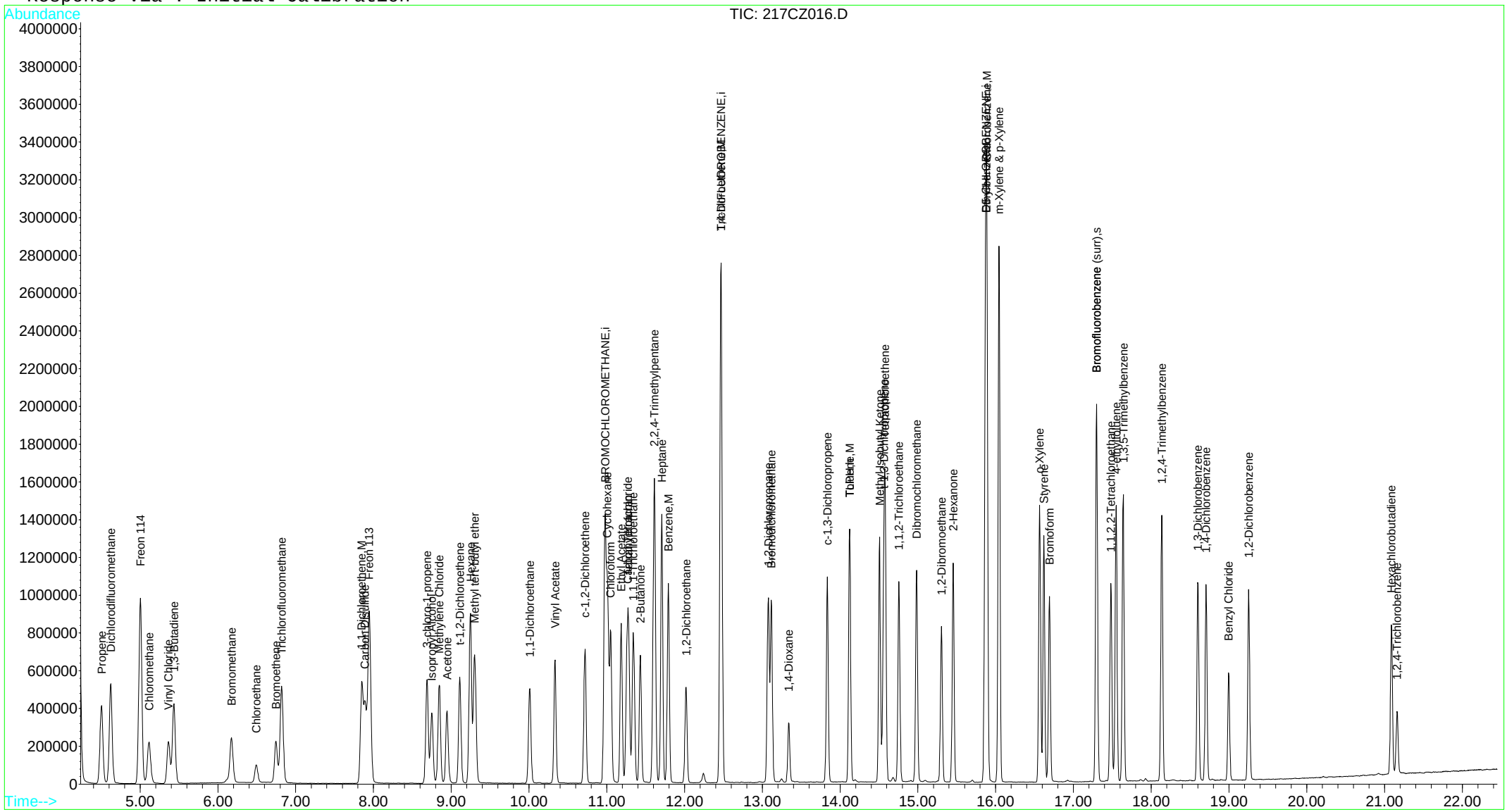
Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\033121\217CZ016.D Vial: 16
Acq On : 1 Apr 2021 1:45 am Operator: rgg
Sample : aa65685-scv1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 1 8:35 2021 Quant Results File: 033121.RES

Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\033121\217CZ016.D Vial: 16
Acq On : 1 Apr 2021 1:45 am Operator: rgg
Sample : aa65685-scv1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 1 8:35 2021 Quant Results File: 033121.RES

Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.97	130	486420	31000.00 PPTV	0.00
36) 1,4-DIFLUOROBENZENE	12.47	114	1568006	31000.00 PPTV	0.00
51) D5-CHLOROBENZENE	15.87	117	1182914	31000.00 PPTV	0.00
System Monitoring Compounds					
60) Bromofluorobenzene (surr)	17.30	174	600001	31746.26 PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 101.59%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	4.62	85	768194	9783.91 PPTV	98
3) Propene	4.50	41	378330	7768.21 PPTV	95
4) Chloromethane	5.11	50	410231	8999.90 PPTV	100
5) Freon 114	5.00	135	552299	9710.53 PPTV	81
6) Vinyl Chloride	5.36	62	381135	9773.43 PPTV	99
7) 1,3-Butadiene	5.44	39	361582	9056.89 PPTV	92
8) Bromomethane	6.18	94	251417	9463.81 PPTV	99
9) Chloroethane	6.49	64	123997	9279.39 PPTV	100
10) Trichlorofluoromethane	6.82	101	611029	9932.17 PPTV	97
11) Bromoethene	6.75	106	223988	9647.70 PPTV	95
12) 1,1-Dichloroethene	7.85	61	476437	9116.38 PPTV	91
13) Acetone	8.95	43	613470	8975.61 PPTV	96
14) Isopropyl Alcohol	8.75	45	586305	9827.89 PPTV	97
15) Carbon Disulfide	7.90	76	730118	7642.48 PPTV	97
16) Methylene Chloride	8.85	84	235655	8543.45 PPTV	97
17) Freon 113	7.94	151	395778	8376.70 PPTV	88
18) 3-chloro-1-propene	8.69	41	554869	9105.13 PPTV	92
19) t-1,2-Dichloroethene	9.11	61	395414	8410.93 PPTV	92
20) Methyl tert-butyl ether	9.30	73	705954	8354.02 PPTV	96
21) Hexane	9.25	57	449882	8205.70 PPTV	98
22) 1,1-Dichloroethane	10.01	63	587086	9941.19 PPTV	100
23) Vinyl Acetate	10.34	43	1073384	9318.47 PPTV	98
24) c-1,2-Dichloroethene	10.72	96	320435	10021.90 PPTV	93
25) Ethyl Acetate	11.18	43	1040447	9436.81 PPTV	97
26) 2-Butanone	11.43	43	917940	9079.52 PPTV	97
27) Chloroform	11.05	83	601379	9746.80 PPTV	98
28) Tetrahydrofuran	11.28	42	434763	9474.38 PPTV	97
29) 2,2,4-Trimethylpentane	11.61	57	1596961	9377.55 PPTV	94
30) 1,2-Dichloroethane	12.02	62	378497	9813.54 PPTV	98
31) 1,1,1-Trichloroethane	11.34	97	520588	9608.04 PPTV #	96
32) Cyclohexane	11.01	56	528277	9514.03 PPTV	94
33) Carbon Tetrachloride	11.26	117	406205	8286.62 PPTV	99
34) Benzene	11.79	78	869531	9854.26 PPTV	99
35) Heptane	11.71	43	715901	9447.59 PPTV	97
37) TLPH	14.12	TIC	2386471m	9220.23 PPTV	
38) 1,2-Dichloropropane	13.08	63	363999	10003.91 PPTV	83
39) Trichloroethene	12.46	130	406770	9930.03 PPTV	95
40) 1,4-Dioxane	13.34	88	203227	9206.78 PPTV	86
41) Bromodichloromethane	13.11	83	587946	9714.47 PPTV	96
42) c-1,3-Dichloropropene	13.84	75	554818	10760.88 PPTV	97
43) t-1,3-Dichloropropene	14.56	75	423732	13951.47 PPTV	95
44) 1,1,2-Trichloroethane	14.76	97	338311	10182.64 PPTV	99
45) Methyl Isobutyl Ketone	14.51	43	982486	9329.08 PPTV	96
46) Toluene	14.12	92	586309	9508.10 PPTV	97
47) 2-Hexanone	15.45	43	887212	9741.51 PPTV	94
48) 1,2-Dibromoethane	15.30	107	582513	10756.66 PPTV	99
49) Tetrachloroethene	14.58	166	437846	9731.55 PPTV	99
50) Dibromochloromethane	14.98	127	483451	9893.28 PPTV	98
52) Chlorobenzene	15.89	112	690056	9847.43 PPTV	84
53) Ethylbenzene	15.89	106	331082	9261.67 PPTV	87
54) m-Xylene & p-Xylene	16.04	106	847595	18519.81 PPTV	86
55) Styrene	16.62	104	647231	10588.99 PPTV	83
56) o-Xylene	16.57	106	416754	9097.74 PPTV	84
57) Bromoform	16.69	173	491503	10202.00 PPTV #	86

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\033121\217CZ016.D Vial: 16
Acq On : 1 Apr 2021 1:45 am Operator: rgg
Sample : aa65685-scv1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 1 8:35 2021 Quant Results File: 033121.RES

Quant Method : C:\HPCHEM\1\METHODS\033121.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2103167)
Last Update : Thu Apr 01 08:33:06 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
58) 1,1,2,2-Tetrachloroethane	17.48	83	601194	10647.28	PPTV		96
59) Bromofluorobenzene	17.30	174	600001	31746.26	PPTV	#	86
61) 4-ethyltoluene	17.55	105	1045484	8232.32	PPTV		95
62) 1,3,5-Trimethylbenzene	17.64	105	867067	11521.44	PPTV		92
63) 1,2,4-Trimethylbenzene	18.13	105	815324	10860.74	PPTV		91
64) 1,3-Dichlorobenzene	18.60	146	478979	10040.91	PPTV		96
65) 1,4-Dichlorobenzene	18.71	146	446412	10203.66	PPTV		97
66) Benzyl Chloride	18.99	91	421387	8896.81	PPTV		91
67) 1,2-Dichlorobenzene	19.25	146	440699	10399.35	PPTV		96
68) 1,2,4-Trichlorobenzene	21.16	180	110464	8476.10	PPTV		99
69) Hexachlorobutadiene	21.09	225	160976	12133.32	PPTV		97

TETRA TECH ISG
TtEGS, Information Systems Group

Completion Ticket

On 5/5/2021 at 5:21 PM the following files were submitted to Tetra Tech by kdylnicki@encolabs.com with ENCO:

TE016AE02772A1.txt, TE016AE02772A3.txt

If you need to identify this session at a later date refer to Ticket Key:

202155_2926207127_ledd_ENCO

You may print this page by clicking on the "Print This Page" button

Thank you for using the Data Checker, to upload more files click the "Upload/Check Files" link on navigation menu.

Print this Page Back To Upload

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I Lori S. Mangrum, as the designated Quality Assurance Officer, hereby attest that all electronic deliverables have been thoroughly reviewed and are in agreement with the associated hardcopy data. The enclosed electronic files have been reviewed for accuracy (including significant figures), completeness and format. The laboratory will be responsible for any labor time necessary to correct enclosed electronic deliverables that have been found to be in error. I can be reached at (407) 826-5314 if there are any questions or problems with the enclosed electronic deliverables.

Signature:_____ Title: Quality Assurance Manager Date: May 07, 2021

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Project Narrative	3
Flags/Notes and Definitions	14
Chain of Custody	16
TO-15 Package	17

ENCO Laboratories
Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Monday, April 26, 2021
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA Airs
ENCO Workorder(s): AE02772

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Friday, April 16, 2021.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

www.encolabs.com

Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA Airs
Client PM: Alex Murphy
Project Number: 112G08970
ENCO Project ID: AE02772
SDG: AE02772-TE016

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling and processing will be discussed in the Remarks section below.

Remarks

List of instruments used:

Analytical and Preparation Method	SOP Reference Instrument
TO-15	OVGCMS7

Analysis: TO-15

The calibration curve and the continuing calibration standards are in ppbv. Raw data is reported in pptv. Per request, results may be reported in a unit other than ppbv which is obtained through a conversion factor set up in the laboratories' database.

Manual integrations were performed on samples associated with TO-15. All data & explanations are included in the raw data section of the report.

Acetone is a common laboratory contaminant.

Affected Samples: 1D20052-BLK1, CRCA-AMB-20210414[AE02772-01], CRCA-VMP01-20210414[AE02772-02], CRCA-VMP03-20210414[AE02772-04], CRCA-VMP04-20210414[AE02772-05]
The method blank had a positive result for the acetone; however, the concentration in the method blank is less than 10% of the sample result.

Affected Samples: 1D20052-BLK1, CRCA-VMP02-20210414[AE02772-03]
Result for acetone may be biased high due to positive results in the associated method blank.

Affected Samples: AA65685-SCV1
Recovery for trans-1,3-dichloropropane was outside acceptance limits. Analyte was not detected in the samples.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Kaitlin Dylnicki
Project Manager

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-AMB-20210414 | **Lab ID: AE02772-01** | **Sampled: 04/14/21 08:17** | **Received: 04/16/21 14:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	05/14/21	04/21/21 08:00	04/21/21 10:25

Client ID: CRCA-VMP01-20210414 | **Lab ID: AE02772-02** | **Sampled: 04/14/21 14:15** | **Received: 04/16/21 14:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	05/14/21	04/21/21 08:00	04/21/21 11:10

Client ID: CRCA-VMP02-20210414 | **Lab ID: AE02772-03** | **Sampled: 04/14/21 14:16** | **Received: 04/16/21 14:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	05/14/21	04/21/21 08:00	04/21/21 11:55

Client ID: CRCA-VMP02-20210414 | **Lab ID: AE02772-03RE1** | **Sampled: 04/14/21 14:16** | **Received: 04/16/21 14:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	05/14/21	04/21/21 08:00	04/21/21 15:31

Client ID: CRCA-VMP03-20210414 | **Lab ID: AE02772-04** | **Sampled: 04/14/21 14:19** | **Received: 04/16/21 14:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	05/14/21	04/21/21 08:00	04/21/21 12:41

Client ID: CRCA-VMP04-20210414 | **Lab ID: AE02772-05** | **Sampled: 04/14/21 14:22** | **Received: 04/16/21 14:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	05/14/21	04/21/21 08:00	04/21/21 13:26

SAMPLE DETECTION SUMMARY

Client ID: CRCA-AMB-20210414 **Lab ID: AE02772-01**

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	5.3	V	0.47	3.4	ppbv	TO-15	QB-01
Chloromethane	0.66	I	0.65	3.4	ppbv	TO-15	
trans-1,2-Dichloroethene	7.2		0.43	3.4	ppbv	TO-15	

Client ID: CRCA-VMP01-20210414 **Lab ID: AE02772-02**

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	11	V	0.46	3.2	ppbv	TO-15	QB-01
Freon 113	3.6		0.42	3.2	ppbv	TO-15	
trans-1,2-Dichloroethene	0.69	I	0.42	3.2	ppbv	TO-15	

Client ID: CRCA-VMP02-20210414 **Lab ID: AE02772-03**

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	4.0	V	0.47	3.4	ppbv	TO-15	J-01, O-01
Methylene chloride	0.76	I	0.27	3.4	ppbv	TO-15	
trans-1,2-Dichloroethene	1.8	I	0.43	3.4	ppbv	TO-15	

Client ID: CRCA-VMP02-20210414 **Lab ID: AE02772-03RE1**

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Freon 113	72		0.86	6.8	ppbv	TO-15	

Client ID: CRCA-VMP03-20210414 **Lab ID: AE02772-04**

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	8.3	V	0.46	3.2	ppbv	TO-15	QB-01
Chloroform	2.4	I	0.49	3.2	ppbv	TO-15	
Freon 113	2.7	I	0.42	3.2	ppbv	TO-15	
trans-1,2-Dichloroethene	0.52	I	0.42	3.2	ppbv	TO-15	

Client ID: CRCA-VMP04-20210414 **Lab ID: AE02772-05**

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	18	V	0.45	3.2	ppbv	TO-15	QB-01
Chloroform	1.4	I	0.49	3.2	ppbv	TO-15	
Freon 113	21		0.41	3.2	ppbv	TO-15	
trans-1,2-Dichloroethene	1.0	I	0.41	3.2	ppbv	TO-15	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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ANALYTICAL RESULTS

Description: CRCA-AMB-20210414 | **Lab Sample ID:** AE02772-01 | **Received:** 04/16/21 14:16

Matrix: Air | **Sampled:** 04/14/21 08:17 | **Work Order:** AE02772

Project: NASA KSC CRCA Airs | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.46	U	ppbv	1.35	0.46	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.49	U	ppbv	1.35	0.49	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.47	U	ppbv	1.35	0.47	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
1,1-Dichloroethane [75-34-3]^	0.49	U	ppbv	1.35	0.49	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
1,1-Dichloroethene [75-35-4]^	0.51	U	ppbv	1.35	0.51	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
1,2-Dibromoethane [106-93-4]^	0.49	U	ppbv	1.35	0.49	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.36	U	ppbv	1.35	0.36	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
1,2-Dichloroethane [107-06-2]^	0.50	U	ppbv	1.35	0.50	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
1,2-Dichloropropane [78-87-5]^	0.54	U	ppbv	1.35	0.54	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.38	U	ppbv	1.35	0.38	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.42	U	ppbv	1.35	0.42	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
3-Chloropropene [107-05-1]^	0.53	U	ppbv	1.35	0.53	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Acetone [67-64-1]^	**5.3**	V	ppbv	1.35	0.47	3.4	1D20052	TO-15	04/21/21 10:25	rgg	QB-01
Bromodichloromethane [75-27-4]^	0.46	U	ppbv	1.35	0.46	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Bromoethene [593-60-2]^	0.45	U	ppbv	1.35	0.45	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Bromoform [75-25-2]^	0.51	U	ppbv	1.35	0.51	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Bromomethane [74-83-9]^	0.45	U	ppbv	1.35	0.45	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Carbon tetrachloride [56-23-5]^	0.36	U	ppbv	1.35	0.36	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Chlorobenzene [108-90-7]^	0.45	U	ppbv	1.35	0.45	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Chloroethane [75-00-3]^	0.43	U	ppbv	1.35	0.43	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Chloroform [67-66-3]^	0.51	U	ppbv	1.35	0.51	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Chloromethane [74-87-3]^	**0.66**	I	ppbv	1.35	0.65	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
cis-1,2-Dichloroethene [156-59-2]^	0.51	U	ppbv	1.35	0.51	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	0.51	U	ppbv	1.35	0.51	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Dibromochloromethane [124-48-1]^	0.45	U	ppbv	1.35	0.45	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ppbv	1.35	0.74	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Freon 113 [76-13-1]^	0.43	U	ppbv	1.35	0.43	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Freon 114 [76-14-2]^	0.70	U	ppbv	1.35	0.70	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Hexachlorobutadiene [87-68-3]^	0.50	U	ppbv	1.35	0.50	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Methylene chloride [75-09-2]^	0.27	U	ppbv	1.35	0.27	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Propene [115-07-1]^	0.74	U	ppbv	1.35	0.74	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Tetrachloroethene [127-18-4]^	0.42	U	ppbv	1.35	0.42	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
trans-1,2-Dichloroethene [156-60-5]^	**7.2**		ppbv	1.35	0.43	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.46	U	ppbv	1.35	0.46	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Trichloroethene [79-01-6]^	0.47	U	ppbv	1.35	0.47	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Trichlorofluoromethane [75-69-4]^	0.46	U	ppbv	1.35	0.46	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Vinyl chloride [75-01-4]^	0.76	U	ppbv	1.35	0.76	3.4	1D20052	TO-15	04/21/21 10:25	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*29*	*1*	*31.0*	*93 %*	*70-130*	*1D20052*	*TO-15*	*04/21/21 10:25*	*rgg*	

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ANALYTICAL RESULTS

Description: CRCA-VMP01-20210414 | **Lab Sample ID:** AE02772-02 | **Received:** 04/16/21 14:16

Matrix: Air | **Sampled:** 04/14/21 14:15 | **Work Order:** AE02772

Project: NASA KSC CRCA Airs | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.44	U	ppbv	1.3	0.44	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.47	U	ppbv	1.3	0.47	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.46	U	ppbv	1.3	0.46	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
1,1-Dichloroethane [75-34-3]^	0.47	U	ppbv	1.3	0.47	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
1,1-Dichloroethene [75-35-4]^	0.49	U	ppbv	1.3	0.49	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
1,2-Dibromoethane [106-93-4]^	0.47	U	ppbv	1.3	0.47	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.35	U	ppbv	1.3	0.35	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
1,2-Dichloroethane [107-06-2]^	0.48	U	ppbv	1.3	0.48	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
1,2-Dichloropropane [78-87-5]^	0.52	U	ppbv	1.3	0.52	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.36	U	ppbv	1.3	0.36	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.40	U	ppbv	1.3	0.40	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
3-Chloropropene [107-05-1]^	0.51	U	ppbv	1.3	0.51	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Acetone [67-64-1]^	**11**	V	ppbv	1.3	0.46	3.2	1D20052	TO-15	04/21/21 11:10	rgg	QB-01
Bromodichloromethane [75-27-4]^	0.44	U	ppbv	1.3	0.44	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Bromoethene [593-60-2]^	0.43	U	ppbv	1.3	0.43	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Bromoform [75-25-2]^	0.49	U	ppbv	1.3	0.49	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Bromomethane [74-83-9]^	0.43	U	ppbv	1.3	0.43	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Carbon tetrachloride [56-23-5]^	0.35	U	ppbv	1.3	0.35	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Chlorobenzene [108-90-7]^	0.43	U	ppbv	1.3	0.43	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Chloroethane [75-00-3]^	0.42	U	ppbv	1.3	0.42	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Chloroform [67-66-3]^	0.49	U	ppbv	1.3	0.49	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Chloromethane [74-87-3]^	0.62	U	ppbv	1.3	0.62	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
cis-1,2-Dichloroethene [156-59-2]^	0.49	U	ppbv	1.3	0.49	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	0.49	U	ppbv	1.3	0.49	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Dibromochloromethane [124-48-1]^	0.43	U	ppbv	1.3	0.43	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Dichlorodifluoromethane [75-71-8]^	0.72	U	ppbv	1.3	0.72	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Freon 113 [76-13-1]^	**3.6**		ppbv	1.3	0.42	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Freon 114 [76-14-2]^	0.68	U	ppbv	1.3	0.68	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Hexachlorobutadiene [87-68-3]^	0.48	U	ppbv	1.3	0.48	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Methylene chloride [75-09-2]^	0.26	U	ppbv	1.3	0.26	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Propene [115-07-1]^	0.72	U	ppbv	1.3	0.72	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Tetrachloroethene [127-18-4]^	0.40	U	ppbv	1.3	0.40	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
trans-1,2-Dichloroethene [156-60-5]^	**0.69**	I	ppbv	1.3	0.42	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.44	U	ppbv	1.3	0.44	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Trichloroethene [79-01-6]^	0.46	U	ppbv	1.3	0.46	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Trichlorofluoromethane [75-69-4]^	0.44	U	ppbv	1.3	0.44	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Vinyl chloride [75-01-4]^	0.73	U	ppbv	1.3	0.73	3.2	1D20052	TO-15	04/21/21 11:10	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*29*	*1*	*31.0*	*94 %*	*70-130*	*1D20052*	*TO-15*	*04/21/21 11:10*	*rgg*	

ANALYTICAL RESULTS

Description: CRCA-VMP02-20210414 | **Lab Sample ID:** AE02772-03 | **Received:** 04/16/21 14:16

Matrix: Air | **Sampled:** 04/14/21 14:16 | **Work Order:** AE02772

Project: NASA KSC CRCA Airs | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.46	U	ppbv	1.35	0.46	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.49	U	ppbv	1.35	0.49	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.47	U	ppbv	1.35	0.47	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
1,1-Dichloroethane [75-34-3]^	0.49	U	ppbv	1.35	0.49	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
1,1-Dichloroethene [75-35-4]^	0.51	U	ppbv	1.35	0.51	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
1,2-Dibromoethane [106-93-4]^	0.49	U	ppbv	1.35	0.49	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.36	U	ppbv	1.35	0.36	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
1,2-Dichloroethane [107-06-2]^	0.50	U	ppbv	1.35	0.50	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
1,2-Dichloropropane [78-87-5]^	0.54	U	ppbv	1.35	0.54	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.38	U	ppbv	1.35	0.38	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.42	U	ppbv	1.35	0.42	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
3-Chloropropene [107-05-1]^	0.53	U	ppbv	1.35	0.53	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Acetone [67-64-1]^	**4.0**	V	ppbv	1.35	0.47	3.4	1D20052	TO-15	04/21/21 11:55	rgg	J-01, O-01
Bromodichloromethane [75-27-4]^	0.46	U	ppbv	1.35	0.46	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Bromoethene [593-60-2]^	0.45	U	ppbv	1.35	0.45	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Bromoform [75-25-2]^	0.51	U	ppbv	1.35	0.51	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Bromomethane [74-83-9]^	0.45	U	ppbv	1.35	0.45	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Carbon tetrachloride [56-23-5]^	0.36	U	ppbv	1.35	0.36	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Chlorobenzene [108-90-7]^	0.45	U	ppbv	1.35	0.45	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Chloroethane [75-00-3]^	0.43	U	ppbv	1.35	0.43	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Chloroform [67-66-3]^	0.51	U	ppbv	1.35	0.51	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Chloromethane [74-87-3]^	0.65	U	ppbv	1.35	0.65	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
cis-1,2-Dichloroethene [156-59-2]^	0.51	U	ppbv	1.35	0.51	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	0.51	U	ppbv	1.35	0.51	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Dibromochloromethane [124-48-1]^	0.45	U	ppbv	1.35	0.45	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ppbv	1.35	0.74	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Freon 113 [76-13-1]^	**72**		ppbv	1.35	0.86	6.8	1D20052	TO-15	04/21/21 15:31	rgg	
Freon 114 [76-14-2]^	0.70	U	ppbv	1.35	0.70	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Hexachlorobutadiene [87-68-3]^	0.50	U	ppbv	1.35	0.50	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Methylene chloride [75-09-2]^	**0.76**	I	ppbv	1.35	0.27	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Propene [115-07-1]^	0.74	U	ppbv	1.35	0.74	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Tetrachloroethene [127-18-4]^	0.42	U	ppbv	1.35	0.42	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
trans-1,2-Dichloroethene [156-60-5]^	**1.8**	I	ppbv	1.35	0.43	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.46	U	ppbv	1.35	0.46	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Trichloroethene [79-01-6]^	0.47	U	ppbv	1.35	0.47	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Trichlorofluoromethane [75-69-4]^	0.46	U	ppbv	1.35	0.46	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Vinyl chloride [75-01-4]^	0.76	U	ppbv	1.35	0.76	3.4	1D20052	TO-15	04/21/21 11:55	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*29*	*1*	*31.0*	*93 %*	*70-130*	*1D20052*	*TO-15*	*04/21/21 11:55*	*rgg*	
4-Bromofluorobenzene	*29*	*1*	*31.0*	*93 %*	*70-130*	*1D20052*	*TO-15*	*04/21/21 15:31*	*rgg*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-VMP03-20210414 **Lab Sample ID:** AE02772-04 **Received:** 04/16/21 14:16

Matrix: Air **Sampled:** 04/14/21 14:19 **Work Order:** AE02772

Project: NASA KSC CRCA Airs **Sampled By:** Melissa Bennett **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.44	U	ppbv	1.3	0.44	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.47	U	ppbv	1.3	0.47	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.46	U	ppbv	1.3	0.46	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
1,1-Dichloroethane [75-34-3]^	0.47	U	ppbv	1.3	0.47	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
1,1-Dichloroethene [75-35-4]^	0.49	U	ppbv	1.3	0.49	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
1,2-Dibromoethane [106-93-4]^	0.47	U	ppbv	1.3	0.47	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.35	U	ppbv	1.3	0.35	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
1,2-Dichloroethane [107-06-2]^	0.48	U	ppbv	1.3	0.48	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
1,2-Dichloropropane [78-87-5]^	0.52	U	ppbv	1.3	0.52	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.36	U	ppbv	1.3	0.36	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.40	U	ppbv	1.3	0.40	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
3-Chloropropene [107-05-1]^	0.51	U	ppbv	1.3	0.51	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Acetone [67-64-1]^	**8.3**	V	ppbv	1.3	0.46	3.2	1D20052	TO-15	04/21/21 12:41	rgg	QB-01
Bromodichloromethane [75-27-4]^	0.44	U	ppbv	1.3	0.44	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Bromoethene [593-60-2]^	0.43	U	ppbv	1.3	0.43	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Bromoform [75-25-2]^	0.49	U	ppbv	1.3	0.49	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Bromomethane [74-83-9]^	0.43	U	ppbv	1.3	0.43	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Carbon tetrachloride [56-23-5]^	0.35	U	ppbv	1.3	0.35	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Chlorobenzene [108-90-7]^	0.43	U	ppbv	1.3	0.43	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Chloroethane [75-00-3]^	0.42	U	ppbv	1.3	0.42	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Chloroform [67-66-3]^	**2.4**	I	ppbv	1.3	0.49	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Chloromethane [74-87-3]^	0.62	U	ppbv	1.3	0.62	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
cis-1,2-Dichloroethene [156-59-2]^	0.49	U	ppbv	1.3	0.49	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	0.49	U	ppbv	1.3	0.49	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Dibromochloromethane [124-48-1]^	0.43	U	ppbv	1.3	0.43	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Dichlorodifluoromethane [75-71-8]^	0.72	U	ppbv	1.3	0.72	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Freon 113 [76-13-1]^	**2.7**	I	ppbv	1.3	0.42	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Freon 114 [76-14-2]^	0.68	U	ppbv	1.3	0.68	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Hexachlorobutadiene [87-68-3]^	0.48	U	ppbv	1.3	0.48	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Methylene chloride [75-09-2]^	0.26	U	ppbv	1.3	0.26	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Propene [115-07-1]^	0.72	U	ppbv	1.3	0.72	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Tetrachloroethene [127-18-4]^	0.40	U	ppbv	1.3	0.40	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
trans-1,2-Dichloroethene [156-60-5]^	**0.52**	I	ppbv	1.3	0.42	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.44	U	ppbv	1.3	0.44	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Trichloroethene [79-01-6]^	0.46	U	ppbv	1.3	0.46	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Trichlorofluoromethane [75-69-4]^	0.44	U	ppbv	1.3	0.44	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Vinyl chloride [75-01-4]^	0.73	U	ppbv	1.3	0.73	3.2	1D20052	TO-15	04/21/21 12:41	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*29*	*1*	*31.0*	*94 %*	*70-130*	*1D20052*	*TO-15*	*04/21/21 12:41*	*rgg*	

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ANALYTICAL RESULTS

Description: CRCA-VMP04-20210414 | **Lab Sample ID:** AE02772-05 | **Received:** 04/16/21 14:16

Matrix: Air | **Sampled:** 04/14/21 14:22 | **Work Order:** AE02772

Project: NASA KSC CRCA Airs | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.44	U	ppbv	1.29	0.44	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.46	U	ppbv	1.29	0.46	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.45	U	ppbv	1.29	0.45	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
1,1-Dichloroethane [75-34-3]^	0.46	U	ppbv	1.29	0.46	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
1,1-Dichloroethene [75-35-4]^	0.49	U	ppbv	1.29	0.49	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
1,2-Dibromoethane [106-93-4]^	0.46	U	ppbv	1.29	0.46	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.35	U	ppbv	1.29	0.35	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
1,2-Dichloroethane [107-06-2]^	0.48	U	ppbv	1.29	0.48	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
1,2-Dichloropropane [78-87-5]^	0.52	U	ppbv	1.29	0.52	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.36	U	ppbv	1.29	0.36	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.40	U	ppbv	1.29	0.40	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
3-Chloropropene [107-05-1]^	0.50	U	ppbv	1.29	0.50	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Acetone [67-64-1]^	**18**	V	ppbv	1.29	0.45	3.2	1D20052	TO-15	04/21/21 13:26	rgg	QB-01
Bromodichloromethane [75-27-4]^	0.44	U	ppbv	1.29	0.44	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Bromoethene [593-60-2]^	0.43	U	ppbv	1.29	0.43	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Bromoform [75-25-2]^	0.49	U	ppbv	1.29	0.49	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Bromomethane [74-83-9]^	0.43	U	ppbv	1.29	0.43	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Carbon tetrachloride [56-23-5]^	0.35	U	ppbv	1.29	0.35	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Chlorobenzene [108-90-7]^	0.43	U	ppbv	1.29	0.43	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Chloroethane [75-00-3]^	0.41	U	ppbv	1.29	0.41	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Chloroform [67-66-3]^	**1.4**	I	ppbv	1.29	0.49	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Chloromethane [74-87-3]^	0.62	U	ppbv	1.29	0.62	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
cis-1,2-Dichloroethene [156-59-2]^	0.49	U	ppbv	1.29	0.49	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	0.49	U	ppbv	1.29	0.49	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Dibromochloromethane [124-48-1]^	0.43	U	ppbv	1.29	0.43	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Dichlorodifluoromethane [75-71-8]^	0.71	U	ppbv	1.29	0.71	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Freon 113 [76-13-1]^	**21**		ppbv	1.29	0.41	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Freon 114 [76-14-2]^	0.67	U	ppbv	1.29	0.67	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Hexachlorobutadiene [87-68-3]^	0.48	U	ppbv	1.29	0.48	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Methylene chloride [75-09-2]^	0.26	U	ppbv	1.29	0.26	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Propene [115-07-1]^	0.71	U	ppbv	1.29	0.71	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Tetrachloroethene [127-18-4]^	0.40	U	ppbv	1.29	0.40	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
trans-1,2-Dichloroethene [156-60-5]^	**1.0**	I	ppbv	1.29	0.41	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.44	U	ppbv	1.29	0.44	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Trichloroethene [79-01-6]^	0.45	U	ppbv	1.29	0.45	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Trichlorofluoromethane [75-69-4]^	0.44	U	ppbv	1.29	0.44	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Vinyl chloride [75-01-4]^	0.72	U	ppbv	1.29	0.72	3.2	1D20052	TO-15	04/21/21 13:26	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*29*	*1*	*31.0*	*94 %*	*70-130*	*1D20052*	*TO-15*	*04/21/21 13:26*	*rgg*	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D20052 - NO PREP 2

Blank (1D20052-BLK1) Prepared: 04/20/2021 18:21 Analyzed: 04/21/2021 00:06

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.34	U	2.5	ppbv							
1,1,2,2-Tetrachloroethane	0.36	U	2.5	ppbv							
1,1,2-Trichloroethane	0.35	U	2.5	ppbv							
1,1-Dichloroethane	0.36	U	2.5	ppbv							
1,1-Dichloroethene	0.38	U	2.5	ppbv							
1,2-Dibromoethane	0.36	U	2.5	ppbv							
1,2-Dichlorobenzene	0.27	U	2.5	ppbv							
1,2-Dichloroethane	0.37	U	2.5	ppbv							
1,2-Dichloropropane	0.40	U	2.5	ppbv							
1,3-Dichlorobenzene	0.28	U	2.5	ppbv							
1,4-Dichlorobenzene	0.31	U	2.5	ppbv							
3-Chloropropene	0.39	U	2.5	ppbv							
Acetone	**0.39**	**I**	2.5	ppbv							J-01, O-01, QE
Bromodichloromethane	0.34	U	2.5	ppbv							
Bromoethene	0.33	U	2.5	ppbv							
Bromoform	0.38	U	2.5	ppbv							
Bromomethane	0.33	U	2.5	ppbv							
Carbon tetrachloride	0.27	U	2.5	ppbv							
Chlorobenzene	0.33	U	2.5	ppbv							
Chloroethane	0.32	U	2.5	ppbv							
Chloroform	0.38	U	2.5	ppbv							
Chloromethane	0.48	U	2.5	ppbv							
cis-1,2-Dichloroethene	0.38	U	2.5	ppbv							
cis-1,3-Dichloropropene	0.38	U	2.5	ppbv							
Dibromochloromethane	0.33	U	2.5	ppbv							
Dichlorodifluoromethane	0.55	U	2.5	ppbv							
Freon 113	0.32	U	2.5	ppbv							
Freon 114	0.52	U	2.5	ppbv							
Hexachlorobutadiene	0.37	U	2.5	ppbv							
Methylene chloride	0.20	U	2.5	ppbv							
Propene	0.55	U	2.5	ppbv							
Tetrachloroethene	0.31	U	2.5	ppbv							
trans-1,2-Dichloroethene	0.32	U	2.5	ppbv							
trans-1,3-Dichloropropene	0.34	U	2.5	ppbv							
Trichloroethene	0.35	U	2.5	ppbv							
Trichlorofluoromethane	0.34	U	2.5	ppbv							
Vinyl chloride	0.56	U	2.5	ppbv							
4-Bromofluorobenzene	*29*			*ppbv*	*31.0*		*93*	*70-130*			

LCS (1D20052-BS1) Prepared: 04/20/2021 18:21 Analyzed: 04/20/2021 21:59

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	12		2.5	ppbv	10.0		119	70-130			
1,1,2,2-Tetrachloroethane	12		2.5	ppbv	10.0		115	52-163			
1,1,2-Trichloroethane	11		2.5	ppbv	10.0		110	70-134			
1,1-Dichloroethane	11		2.5	ppbv	10.0		114	70-130			
1,1-Dichloroethene	12		2.5	ppbv	10.0		118	67-142			
1,2-Dibromoethane	12		2.5	ppbv	10.0		116	70-141			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D20052 - NO PREP 2 - Continued

LCS (1D20052-BS1) Continued Prepared: 04/20/2021 18:21 Analyzed: 04/20/2021 21:59

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,2-Dichlorobenzene	11		2.5	ppbv	10.0		112	37-180			
1,2-Dichloroethane	13		2.5	ppbv	10.0		127	70-130			
1,2-Dichloropropane	11		2.5	ppbv	10.0		110	70-130			
1,3-Dichlorobenzene	11		2.5	ppbv	10.0		108	47-178			
1,4-Dichlorobenzene	11		2.5	ppbv	10.0		109	45-180			
3-Chloropropene	11		2.5	ppbv	10.0		109	70-130			
Acetone	11		2.5	ppbv	10.0		113	65-130			
Bromodichloromethane	12		2.5	ppbv	10.0		116	70-130			
Bromoethene	11		2.5	ppbv	10.0		110	69-132			
Bromoform	11		2.5	ppbv	10.0		111	62-149			
Bromomethane	12		2.5	ppbv	10.0		117	69-130			
Carbon tetrachloride	11		2.5	ppbv	10.0		112	22-166			
Chlorobenzene	10		2.5	ppbv	10.0		105	70-134			
Chloroethane	12		2.5	ppbv	10.0		118	69-131			
Chloroform	12		2.5	ppbv	10.0		115	70-130			
Chloromethane	10		2.5	ppbv	10.0		104	55-142			
cis-1,2-Dichloroethene	11		2.5	ppbv	10.0		107	70-130			
cis-1,3-Dichloropropene	12		2.5	ppbv	10.0		120	70-137			
Dibromochloromethane	11		2.5	ppbv	10.0		112	70-130			
Dichlorodifluoromethane	12		2.5	ppbv	10.0		119	61-137			
Freon 113	11		2.5	ppbv	10.0		109	67-140			
Freon 114	11		2.5	ppbv	10.0		110	62-147			
Hexachlorobutadiene	13		2.5	ppbv	10.0		131	24-180			
Methylene chloride	11		2.5	ppbv	10.0		109	59-136			
Propene	9.1		2.5	ppbv	10.0		91	63-132			
Tetrachloroethene	10		2.5	ppbv	10.0		104	70-141			
trans-1,2-Dichloroethene	11		2.5	ppbv	10.0		109	70-130			
trans-1,3-Dichloropropene	16		2.5	ppbv	10.0		163	59-166			
Trichloroethene	11		2.5	ppbv	10.0		106	70-130			
Trichlorofluoromethane	8.5		2.5	ppbv	10.0		85	46-161			
Vinyl chloride	11		2.5	ppbv	10.0		111	53-148			
4-Bromofluorobenzene	*31*			*ppbv*	*31.0*		*99*	*70-130*			

LCS Dup (1D20052-BSD1) Prepared: 04/20/2021 18:21 Analyzed: 04/20/2021 22:39

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	12		2.5	ppbv	10.0		115	70-130	3	25	
1,1,2,2-Tetrachloroethane	11		2.5	ppbv	10.0		115	52-163	0.6	25	
1,1,2-Trichloroethane	11		2.5	ppbv	10.0		108	70-134	2	25	
1,1-Dichloroethane	11		2.5	ppbv	10.0		111	70-130	3	25	
1,1-Dichloroethene	12		2.5	ppbv	10.0		116	67-142	2	25	
1,2-Dibromoethane	12		2.5	ppbv	10.0		115	70-141	0.5	25	
1,2-Dichlorobenzene	11		2.5	ppbv	10.0		111	37-180	0.2	25	
1,2-Dichloroethane	12		2.5	ppbv	10.0		123	70-130	3	25	
1,2-Dichloropropane	11		2.5	ppbv	10.0		107	70-130	3	25	
1,3-Dichlorobenzene	11		2.5	ppbv	10.0		108	47-178	0.5	25	
1,4-Dichlorobenzene	11		2.5	ppbv	10.0		110	45-180	0.9	25	
3-Chloropropene	11		2.5	ppbv	10.0		106	70-130	2	25	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D20052 - NO PREP 2 - Continued

LCS Dup (1D20052-BSD1) Continued Prepared: 04/20/2021 18:21 Analyzed: 04/20/2021 22:39

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Acetone	11		2.5	ppbv	10.0		111	65-130	2	25	
Bromodichloromethane	11		2.5	ppbv	10.0		113	70-130	3	25	
Bromoethene	11		2.5	ppbv	10.0		109	69-132	1	25	
Bromoform	11		2.5	ppbv	10.0		110	62-149	0.8	25	
Bromomethane	12		2.5	ppbv	10.0		115	69-130	2	25	
Carbon tetrachloride	11		2.5	ppbv	10.0		109	22-166	3	25	
Chlorobenzene	10		2.5	ppbv	10.0		103	70-134	1	25	
Chloroethane	12		2.5	ppbv	10.0		117	69-131	1	25	
Chloroform	11		2.5	ppbv	10.0		113	70-130	3	25	
Chloromethane	10		2.5	ppbv	10.0		104	55-142	0.5	25	
cis-1,2-Dichloroethene	11		2.5	ppbv	10.0		106	70-130	0.7	25	
cis-1,3-Dichloropropene	12		2.5	ppbv	10.0		118	70-137	2	25	
Dibromochloromethane	11		2.5	ppbv	10.0		110	70-130	2	25	
Dichlorodifluoromethane	11		2.5	ppbv	10.0		115	61-137	3	25	
Freon 113	11		2.5	ppbv	10.0		107	67-140	2	25	
Freon 114	11		2.5	ppbv	10.0		109	62-147	0.7	25	
Hexachlorobutadiene	13		2.5	ppbv	10.0		131	24-180	0.06	25	
Methylene chloride	11		2.5	ppbv	10.0		107	59-136	2	25	
Propene	9.0		2.5	ppbv	10.0		90	63-132	0.7	25	
Tetrachloroethene	10		2.5	ppbv	10.0		102	70-141	2	25	
trans-1,2-Dichloroethene	11		2.5	ppbv	10.0		106	70-130	2	25	
trans-1,3-Dichloropropene	16		2.5	ppbv	10.0		161	59-166	1	25	
Trichloroethene	11		2.5	ppbv	10.0		105	70-130	0.3	25	
Trichlorofluoromethane	8.3		2.5	ppbv	10.0		83	46-161	3	25	
Vinyl chloride	11		2.5	ppbv	10.0		112	53-148	0.8	25	
4-Bromofluorobenzene	*31*			*ppbv*	*31.0*		*99*	*70-130*			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
J-01	Result may be biased high due to positive results in the associated method blank at a concentration above the MDL and/or greater than one-half the MRL.
O-01	This compound is a common laboratory contaminant.
QB-01	The method blank had a positive result for the analyte; however, the concentration in the method blank is less than 10% of the sample result. There is minimal impact to the data.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported result is an estimated value.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence (85% or greater confidence) to make a “tentative identification".
Q	One or more quality control criteria failed.

AE02772

SGS North America Inc - Orlando

Chain of Custody

4405 Vineland Road, Suite C-15 Orlando, Fl 32811
TEL. 407-425-6700 FAX: 407-425-0707
www.sgs.com

SGS - ORLANDO JOB # : PAGE 1 OF 1

SGS - ORLANDO Quote # | SKIFF #

Client / Reporting Information

Company Name: Tetra tech
Address: 11 Riverside Dr
City: Cocoa State: FL Zip:
Project Contact: Alex Murphy Email: Alex.murphy@tetratech.com
Phone #:
Sampler(s) Name(s) (Printed)
Sampler 1: Melissa Benn Sampler 2:

Project Information

Project Name: CRCA
Street
City NASA State FL
Project # 112G08970
Fax #
Client Purchase Order #

Analytical Information

TP-15

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid

SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION DATE	TIME	SAMPLED BY:	CONTAINER INFORMATION MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	HCl	NaOH	HNO3	H2SO4	NAOH+ZNAC	DI WATER	MEOH	TP-15	LAB USE ONLY
	CRCA-AMB-20210414	4-14-21	0817	MB	Air	1		X								X	
	CRCA-AirMB VMP01-20210414	4-14-21	1415	MB	Air	1		X								X	
	CRCA-VMP02-20210414	4-14-21	1416	MB	Air	1		X								X	
	CRCA-VMP03-20210414	4-14-21	1419	MB	Air	1		X								X	
	CRCA-VMP04-20210414	4-14-21	1422	MB	Air	1		X								X	

Turnaround Time (Business days)

10 Day (Business) Approved By: / Date:
7 Day
5 Day
3 Day *RUSH*
2 Day *RUSH*
1 Day *RUSH*
Other
Rush T/A Data Available VIA Email or Lablink

Data Deliverable Information

- [ ] COMMERCIAL "A" (RESULTS ONLY)
- [ ] COMMERCIAL "B" (RESULTS PLUS QC)
- [ ] REDT1 (EPA LEVEL 3)
- [ ] FULLT1 (EPA LEVEL 4)
- [ ] EDD'S

Comments / Remarks

See accompanying field sheets.

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler/Affiliation	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	Received By/Affiliation
1	MB	4-14-21 1200	2 Tetra Tech	3	4/14/21	4 James W. Knapp
5	Relinquished by/Affiliation	Date Time:	6 Received By/Affiliation	7 Relinquished By/Affiliation	Date Time:	8 Received By/Affiliation

Lab Use Only : Cooler Temperature (s) Celsius (corrected): Box 23.6°C

http://www.sgs.com/en/terms-and-conditions

ENCO Orlando

SDG: AE02772-TE016

CLASS: 06_VOA_AIR

METHOD: TO-15

ANALYSES DATA PACKAGE COVER PAGE

TO-15

Laboratory: ENCO Orlando

SDG: AE02772-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA Airs

Client Sample Id:	Lab Sample Id:
CRCA-AMB-20210414	AE02772-01
CRCA-VMP01-20210414	AE02772-02
CRCA-VMP02-20210414	AE02772-03
CRCA-VMP02-20210414	AE02772-03RE1
CRCA-VMP03-20210414	AE02772-04
CRCA-VMP04-20210414	AE02772-05

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-AMB-20210414

Laboratory: ENCO Orlando SDG: AE02772-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA Airs

Matrix: Air Laboratory ID: AE02772-01 File ID: 217DO014.D

Sampled: 04/14/21 08:17 Prepared: 04/21/21 08:00 Analyzed: 04/21/21 10:25

Solids: Preparation: NO PREP 2 Initial/Final: 400 mL / 400 mL

Batch: 1D20052 Sequence: AA66011 Calibration: 2103167 Instrument: OVGCMS7

CAS NO.	COMPOUND	DILUTION	CONC. (ppbv)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1.35	0.74	UD	0.74	3.4
115-07-1	Propene	1.35	0.74	UD	0.74	3.4
74-87-3	Chloromethane	1.35	0.66	JD	0.65	3.4
75-01-4	Vinyl chloride	1.35	0.76	UD	0.76	3.4
74-83-9	Bromomethane	1.35	0.45	UD	0.45	3.4
75-00-3	Chloroethane	1.35	0.43	UD	0.43	3.4
75-69-4	Trichlorofluoromethane	1.35	0.46	UD	0.46	3.4
593-60-2	Bromoethene	1.35	0.45	UD	0.45	3.4
75-34-3	1,1-Dichloroethane	1.35	0.49	UD	0.49	3.4
67-64-1	Acetone	1.35	5.3	BD	0.47	3.4
75-09-2	Methylene chloride	1.35	0.27	UD	0.27	3.4
76-13-1	Freon 113	1.35	0.43	UD	0.43	3.4
107-05-1	3-Chloropropene	1.35	0.53	UD	0.53	3.4
156-60-5	trans-1,2-Dichloroethene	1.35	7.2	D	0.43	3.4
75-35-4	1,1-Dichloroethene	1.35	0.51	UD	0.51	3.4
156-59-2	cis-1,2-Dichloroethene	1.35	0.51	UD	0.51	3.4
67-66-3	Chloroform	1.35	0.51	UD	0.51	3.4
107-06-2	1,2-Dichloroethane	1.35	0.50	UD	0.50	3.4
71-55-6	1,1,1-Trichloroethane	1.35	0.46	UD	0.46	3.4
56-23-5	Carbon tetrachloride	1.35	0.36	UD	0.36	3.4
78-87-5	1,2-Dichloropropane	1.35	0.54	UD	0.54	3.4
79-01-6	Trichloroethene	1.35	0.47	UD	0.47	3.4
75-27-4	Bromodichloromethane	1.35	0.46	UD	0.46	3.4
10061-01-5	cis-1,3-Dichloropropene	1.35	0.51	UD	0.51	3.4
10061-02-6	trans-1,3-Dichloropropene	1.35	0.46	UD	0.46	3.4
79-00-5	1,1,2-Trichloroethane	1.35	0.47	UD	0.47	3.4
106-93-4	1,2-Dibromoethane	1.35	0.49	UD	0.49	3.4
127-18-4	Tetrachloroethene	1.35	0.42	UD	0.42	3.4
124-48-1	Dibromochloromethane	1.35	0.45	UD	0.45	3.4
108-90-7	Chlorobenzene	1.35	0.45	UD	0.45	3.4
75-25-2	Bromoform	1.35	0.51	UD	0.51	3.4
79-34-5	1,1,2,2-Tetrachloroethane	1.35	0.49	UD	0.49	3.4
541-73-1	1,3-Dichlorobenzene	1.35	0.38	UD	0.38	3.4
106-46-7	1,4-Dichlorobenzene	1.35	0.42	UD	0.42	3.4
95-50-1	1,2-Dichlorobenzene	1.35	0.36	UD	0.36	3.4
87-68-3	Hexachlorobutadiene	1.35	0.50	UD	0.50	3.4
76-14-2	Freon 114	1.35	0.70	UD	0.70	3.4

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	29	93	70 - 130	

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-AMB-20210414

Laboratory: ENCO Orlando
SDG: AE02772-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA Airs

Matrix: Air
Laboratory ID: AE02772-01
File ID: 217DO014.D
Sampled: 04/14/21 08:17
Prepared: 04/21/21 08:00
Analyzed: 04/21/21 10:25
Solids:
Preparation: NO PREP 2
Initial/Final: 400 mL / 400 mL
Batch: 1D20052
Sequence: AA66011
Calibration: 2103167
Instrument: OVGCMS7

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	384346	10.96	410314	10.97	
1,4-Difluorobenzene	1253612	12.46	1596494	12.47	
Chlorobenzene-d5	935186	15.86	1196660	15.87	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP01-20210414

Laboratory: ENCO Orlando SDG: AE02772-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA Airs

Matrix: Air Laboratory ID: AE02772-02 File ID: 217DO015.D

Sampled: 04/14/21 14:15 Prepared: 04/21/21 08:00 Analyzed: 04/21/21 11:10

Solids: Preparation: NO PREP 2 Initial/Final: 400 mL / 400 mL

Batch: 1D20052 Sequence: AA66011 Calibration: 2103167 Instrument: OVGCMS7

CAS NO.	COMPOUND	DILUTION	CONC. (ppbv)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1.3	0.72	UD	0.72	3.2
115-07-1	Propene	1.3	0.72	UD	0.72	3.2
74-87-3	Chloromethane	1.3	0.62	UD	0.62	3.2
75-01-4	Vinyl chloride	1.3	0.73	UD	0.73	3.2
74-83-9	Bromomethane	1.3	0.43	UD	0.43	3.2
75-00-3	Chloroethane	1.3	0.42	UD	0.42	3.2
75-69-4	Trichlorofluoromethane	1.3	0.44	UD	0.44	3.2
593-60-2	Bromoethene	1.3	0.43	UD	0.43	3.2
75-34-3	1,1-Dichloroethane	1.3	0.47	UD	0.47	3.2
67-64-1	Acetone	1.3	11	BD	0.46	3.2
75-09-2	Methylene chloride	1.3	0.26	UD	0.26	3.2
76-13-1	Freon 113	1.3	3.6	D	0.42	3.2
107-05-1	3-Chloropropene	1.3	0.51	UD	0.51	3.2
156-60-5	trans-1,2-Dichloroethene	1.3	0.69	JD	0.42	3.2
75-35-4	1,1-Dichloroethene	1.3	0.49	UD	0.49	3.2
156-59-2	cis-1,2-Dichloroethene	1.3	0.49	UD	0.49	3.2
67-66-3	Chloroform	1.3	0.49	UD	0.49	3.2
107-06-2	1,2-Dichloroethane	1.3	0.48	UD	0.48	3.2
71-55-6	1,1,1-Trichloroethane	1.3	0.44	UD	0.44	3.2
56-23-5	Carbon tetrachloride	1.3	0.35	UD	0.35	3.2
78-87-5	1,2-Dichloropropane	1.3	0.52	UD	0.52	3.2
79-01-6	Trichloroethene	1.3	0.46	UD	0.46	3.2
75-27-4	Bromodichloromethane	1.3	0.44	UD	0.44	3.2
10061-01-5	cis-1,3-Dichloropropene	1.3	0.49	UD	0.49	3.2
10061-02-6	trans-1,3-Dichloropropene	1.3	0.44	UD	0.44	3.2
79-00-5	1,1,2-Trichloroethane	1.3	0.46	UD	0.46	3.2
106-93-4	1,2-Dibromoethane	1.3	0.47	UD	0.47	3.2
127-18-4	Tetrachloroethene	1.3	0.40	UD	0.40	3.2
124-48-1	Dibromochloromethane	1.3	0.43	UD	0.43	3.2
108-90-7	Chlorobenzene	1.3	0.43	UD	0.43	3.2
75-25-2	Bromoform	1.3	0.49	UD	0.49	3.2
79-34-5	1,1,2,2-Tetrachloroethane	1.3	0.47	UD	0.47	3.2
541-73-1	1,3-Dichlorobenzene	1.3	0.36	UD	0.36	3.2
106-46-7	1,4-Dichlorobenzene	1.3	0.40	UD	0.40	3.2
95-50-1	1,2-Dichlorobenzene	1.3	0.35	UD	0.35	3.2
87-68-3	Hexachlorobutadiene	1.3	0.48	UD	0.48	3.2
76-14-2	Freon 114	1.3	0.68	UD	0.68	3.2

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	29	94	70 - 130	

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP01-20210414

Laboratory: ENCO Orlando SDG: AE02772-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA Airs

Matrix: Air Laboratory ID: AE02772-02 File ID: 217DO015.D

Sampled: 04/14/21 14:15 Prepared: 04/21/21 08:00 Analyzed: 04/21/21 11:10

Solids: Preparation: NO PREP 2 Initial/Final: 400 mL / 400 mL

Batch: 1D20052 Sequence: AA66011 Calibration: 2103167 Instrument: OVGCMS7

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	389379	10.96	410314	10.97	
1,4-Difluorobenzene	1266536	12.47	1596494	12.47	
Chlorobenzene-d5	936361	15.86	1196660	15.87	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP02-20210414

Laboratory: ENCO Orlando SDG: AE02772-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA Airs

Matrix: Air Laboratory ID: AE02772-03 File ID: 217DO016.D

Sampled: 04/14/21 14:16 Prepared: 04/21/21 08:00 Analyzed: 04/21/21 11:55

Solids: Preparation: NO PREP 2 Initial/Final: 400 mL / 400 mL

Batch: 1D20052 Sequence: AA66011 Calibration: 2103167 Instrument: OVGCMS7

CAS NO.	COMPOUND	DILUTION	CONC. (ppbv)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1.35	0.74	UD	0.74	3.4
115-07-1	Propene	1.35	0.74	UD	0.74	3.4
74-87-3	Chloromethane	1.35	0.65	UD	0.65	3.4
75-01-4	Vinyl chloride	1.35	0.76	UD	0.76	3.4
74-83-9	Bromomethane	1.35	0.45	UD	0.45	3.4
75-00-3	Chloroethane	1.35	0.43	UD	0.43	3.4
75-69-4	Trichlorofluoromethane	1.35	0.46	UD	0.46	3.4
593-60-2	Bromoethene	1.35	0.45	UD	0.45	3.4
75-34-3	1,1-Dichloroethane	1.35	0.49	UD	0.49	3.4
67-64-1	Acetone	1.35	4.0	BD	0.47	3.4
75-09-2	Methylene chloride	1.35	0.76	JD	0.27	3.4
107-05-1	3-Chloropropene	1.35	0.53	UD	0.53	3.4
156-60-5	trans-1,2-Dichloroethene	1.35	1.8	JD	0.43	3.4
75-35-4	1,1-Dichloroethene	1.35	0.51	UD	0.51	3.4
156-59-2	cis-1,2-Dichloroethene	1.35	0.51	UD	0.51	3.4
67-66-3	Chloroform	1.35	0.51	UD	0.51	3.4
107-06-2	1,2-Dichloroethane	1.35	0.50	UD	0.50	3.4
71-55-6	1,1,1-Trichloroethane	1.35	0.46	UD	0.46	3.4
56-23-5	Carbon tetrachloride	1.35	0.36	UD	0.36	3.4
78-87-5	1,2-Dichloropropane	1.35	0.54	UD	0.54	3.4
79-01-6	Trichloroethene	1.35	0.47	UD	0.47	3.4
75-27-4	Bromodichloromethane	1.35	0.46	UD	0.46	3.4
10061-01-5	cis-1,3-Dichloropropene	1.35	0.51	UD	0.51	3.4
10061-02-6	trans-1,3-Dichloropropene	1.35	0.46	UD	0.46	3.4
79-00-5	1,1,2-Trichloroethane	1.35	0.47	UD	0.47	3.4
106-93-4	1,2-Dibromoethane	1.35	0.49	UD	0.49	3.4
127-18-4	Tetrachloroethene	1.35	0.42	UD	0.42	3.4
124-48-1	Dibromochloromethane	1.35	0.45	UD	0.45	3.4
108-90-7	Chlorobenzene	1.35	0.45	UD	0.45	3.4
75-25-2	Bromoform	1.35	0.51	UD	0.51	3.4
79-34-5	1,1,2,2-Tetrachloroethane	1.35	0.49	UD	0.49	3.4
541-73-1	1,3-Dichlorobenzene	1.35	0.38	UD	0.38	3.4
106-46-7	1,4-Dichlorobenzene	1.35	0.42	UD	0.42	3.4
95-50-1	1,2-Dichlorobenzene	1.35	0.36	UD	0.36	3.4
87-68-3	Hexachlorobutadiene	1.35	0.50	UD	0.50	3.4
76-14-2	Freon 114	1.35	0.70	UD	0.70	3.4

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	29	93	70 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP02-20210414

Laboratory: ENCO Orlando
SDG: AE02772-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA Airs

Matrix: Air
Laboratory ID: AE02772-03
File ID: 217DO016.D
Sampled: 04/14/21 14:16
Prepared: 04/21/21 08:00
Analyzed: 04/21/21 11:55
Solids:
Preparation: NO PREP 2
Initial/Final: 400 mL / 400 mL
Batch: 1D20052
Sequence: AA66011
Calibration: 2103167
Instrument: OVGCMS7

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	392415	10.96	410314	10.97	
1,4-Difluorobenzene	1277948	12.47	1596494	12.47	
Chlorobenzene-d5	945869	15.86	1196660	15.87	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP02-20210414

Laboratory: ENCO Orlando
SDG: AE02772-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA Airs

Matrix: Air
Laboratory ID: AE02772-03RE1
File ID: 217DO021.D
Sampled: 04/14/21 14:16
Prepared: 04/21/21 08:00
Analyzed: 04/21/21 15:31
Solids:
Preparation: NO PREP 2
Initial/Final: 200 mL / 400 mL
Batch: 1D20052
Sequence: AA66011
Calibration: 2103167
Instrument: OVGCMS7

CAS NO.	COMPOUND	DILUTION	CONC. (ppbv)	Q	MDL	MRL
76-13-1	Freon 113	1.35	72	DE	0.86	6.8

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	29	93	70 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	417888	10.96	410314	10.97	
1,4-Difluorobenzene	1394655	12.47	1596494	12.47	
Chlorobenzene-d5	1012325	15.87	1196660	15.87	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP03-20210414

Laboratory: ENCO Orlando SDG: AE02772-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA Airs

Matrix: Air Laboratory ID: AE02772-04 File ID: 217DO017.D

Sampled: 04/14/21 14:19 Prepared: 04/21/21 08:00 Analyzed: 04/21/21 12:41

Solids: Preparation: NO PREP 2 Initial/Final: 400 mL / 400 mL

Batch: 1D20052 Sequence: AA66011 Calibration: 2103167 Instrument: OVGCMS7

CAS NO.	COMPOUND	DILUTION	CONC. (ppbv)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1.3	0.72	UD	0.72	3.2
115-07-1	Propene	1.3	0.72	UD	0.72	3.2
74-87-3	Chloromethane	1.3	0.62	UD	0.62	3.2
75-01-4	Vinyl chloride	1.3	0.73	UD	0.73	3.2
74-83-9	Bromomethane	1.3	0.43	UD	0.43	3.2
75-00-3	Chloroethane	1.3	0.42	UD	0.42	3.2
75-69-4	Trichlorofluoromethane	1.3	0.44	UD	0.44	3.2
593-60-2	Bromoethene	1.3	0.43	UD	0.43	3.2
75-34-3	1,1-Dichloroethane	1.3	0.47	UD	0.47	3.2
67-64-1	Acetone	1.3	8.3	BD	0.46	3.2
75-09-2	Methylene chloride	1.3	0.26	UD	0.26	3.2
76-13-1	Freon 113	1.3	2.7	JD	0.42	3.2
107-05-1	3-Chloropropene	1.3	0.51	UD	0.51	3.2
156-60-5	trans-1,2-Dichloroethene	1.3	0.52	JD	0.42	3.2
75-35-4	1,1-Dichloroethene	1.3	0.49	UD	0.49	3.2
156-59-2	cis-1,2-Dichloroethene	1.3	0.49	UD	0.49	3.2
67-66-3	Chloroform	1.3	2.4	JD	0.49	3.2
107-06-2	1,2-Dichloroethane	1.3	0.48	UD	0.48	3.2
71-55-6	1,1,1-Trichloroethane	1.3	0.44	UD	0.44	3.2
56-23-5	Carbon tetrachloride	1.3	0.35	UD	0.35	3.2
78-87-5	1,2-Dichloropropane	1.3	0.52	UD	0.52	3.2
79-01-6	Trichloroethene	1.3	0.46	UD	0.46	3.2
75-27-4	Bromodichloromethane	1.3	0.44	UD	0.44	3.2
10061-01-5	cis-1,3-Dichloropropene	1.3	0.49	UD	0.49	3.2
10061-02-6	trans-1,3-Dichloropropene	1.3	0.44	UD	0.44	3.2
79-00-5	1,1,2-Trichloroethane	1.3	0.46	UD	0.46	3.2
106-93-4	1,2-Dibromoethane	1.3	0.47	UD	0.47	3.2
127-18-4	Tetrachloroethene	1.3	0.40	UD	0.40	3.2
124-48-1	Dibromochloromethane	1.3	0.43	UD	0.43	3.2
108-90-7	Chlorobenzene	1.3	0.43	UD	0.43	3.2
75-25-2	Bromoform	1.3	0.49	UD	0.49	3.2
79-34-5	1,1,2,2-Tetrachloroethane	1.3	0.47	UD	0.47	3.2
541-73-1	1,3-Dichlorobenzene	1.3	0.36	UD	0.36	3.2
106-46-7	1,4-Dichlorobenzene	1.3	0.40	UD	0.40	3.2
95-50-1	1,2-Dichlorobenzene	1.3	0.35	UD	0.35	3.2
87-68-3	Hexachlorobutadiene	1.3	0.48	UD	0.48	3.2
76-14-2	Freon 114	1.3	0.68	UD	0.68	3.2

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	29	94	70 - 130	

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP03-20210414

Laboratory: ENCO Orlando SDG: AE02772-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA Airs

Matrix: Air Laboratory ID: AE02772-04 File ID: 217DO017.D

Sampled: 04/14/21 14:19 Prepared: 04/21/21 08:00 Analyzed: 04/21/21 12:41

Solids: Preparation: NO PREP 2 Initial/Final: 400 mL / 400 mL

Batch: 1D20052 Sequence: AA66011 Calibration: 2103167 Instrument: OVGCMS7

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	392593	10.96	410314	10.97	
1,4-Difluorobenzene	1280780	12.47	1596494	12.47	
Chlorobenzene-d5	949894	15.86	1196660	15.87	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP04-20210414

Laboratory: ENCO Orlando SDG: AE02772-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA Airs

Matrix: Air Laboratory ID: AE02772-05 File ID: 217DO018.D

Sampled: 04/14/21 14:22 Prepared: 04/21/21 08:00 Analyzed: 04/21/21 13:26

Solids: Preparation: NO PREP 2 Initial/Final: 400 mL / 400 mL

Batch: 1D20052 Sequence: AA66011 Calibration: 2103167 Instrument: OVGCMS7

CAS NO.	COMPOUND	DILUTION	CONC. (ppbv)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1.29	0.71	UD	0.71	3.2
115-07-1	Propene	1.29	0.71	UD	0.71	3.2
74-87-3	Chloromethane	1.29	0.62	UD	0.62	3.2
75-01-4	Vinyl chloride	1.29	0.72	UD	0.72	3.2
74-83-9	Bromomethane	1.29	0.43	UD	0.43	3.2
75-00-3	Chloroethane	1.29	0.41	UD	0.41	3.2
75-69-4	Trichlorofluoromethane	1.29	0.44	UD	0.44	3.2
593-60-2	Bromoethene	1.29	0.43	UD	0.43	3.2
75-34-3	1,1-Dichloroethane	1.29	0.46	UD	0.46	3.2
67-64-1	Acetone	1.29	18	BD	0.45	3.2
75-09-2	Methylene chloride	1.29	0.26	UD	0.26	3.2
76-13-1	Freon 113	1.29	21	D	0.41	3.2
107-05-1	3-Chloropropene	1.29	0.50	UD	0.50	3.2
156-60-5	trans-1,2-Dichloroethene	1.29	1.0	JD	0.41	3.2
75-35-4	1,1-Dichloroethene	1.29	0.49	UD	0.49	3.2
156-59-2	cis-1,2-Dichloroethene	1.29	0.49	UD	0.49	3.2
67-66-3	Chloroform	1.29	1.4	JD	0.49	3.2
107-06-2	1,2-Dichloroethane	1.29	0.48	UD	0.48	3.2
71-55-6	1,1,1-Trichloroethane	1.29	0.44	UD	0.44	3.2
56-23-5	Carbon tetrachloride	1.29	0.35	UD	0.35	3.2
78-87-5	1,2-Dichloropropane	1.29	0.52	UD	0.52	3.2
79-01-6	Trichloroethene	1.29	0.45	UD	0.45	3.2
75-27-4	Bromodichloromethane	1.29	0.44	UD	0.44	3.2
10061-01-5	cis-1,3-Dichloropropene	1.29	0.49	UD	0.49	3.2
10061-02-6	trans-1,3-Dichloropropene	1.29	0.44	UD	0.44	3.2
79-00-5	1,1,2-Trichloroethane	1.29	0.45	UD	0.45	3.2
106-93-4	1,2-Dibromoethane	1.29	0.46	UD	0.46	3.2
127-18-4	Tetrachloroethene	1.29	0.40	UD	0.40	3.2
124-48-1	Dibromochloromethane	1.29	0.43	UD	0.43	3.2
108-90-7	Chlorobenzene	1.29	0.43	UD	0.43	3.2
75-25-2	Bromoform	1.29	0.49	UD	0.49	3.2
79-34-5	1,1,2,2-Tetrachloroethane	1.29	0.46	UD	0.46	3.2
541-73-1	1,3-Dichlorobenzene	1.29	0.36	UD	0.36	3.2
106-46-7	1,4-Dichlorobenzene	1.29	0.40	UD	0.40	3.2
95-50-1	1,2-Dichlorobenzene	1.29	0.35	UD	0.35	3.2
87-68-3	Hexachlorobutadiene	1.29	0.48	UD	0.48	3.2
76-14-2	Freon 114	1.29	0.67	UD	0.67	3.2

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	29	94	70 - 130	

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP04-20210414

Laboratory: ENCO Orlando
SDG: AE02772-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA Airs

Matrix: Air
Laboratory ID: AE02772-05
File ID: 217DO018.D
Sampled: 04/14/21 14:22
Prepared: 04/21/21 08:00
Analyzed: 04/21/21 13:26
Solids:
Preparation: NO PREP 2
Initial/Final: 400 mL / 400 mL
Batch: 1D20052
Sequence: AA66011
Calibration: 2103167
Instrument: OVGCMS7

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	398062	10.97	410314	10.97	
1,4-Difluorobenzene	1289785	12.47	1596494	12.47	
Chlorobenzene-d5	950817	15.87	1196660	15.87	

* Values outside of QC limits

HOLDING TIME SUMMARY

TO-15

Laboratory: ENCO Orlando

SDG: AE02772-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA Airs

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-AMB-20210414	04/14/21 08:17	04/16/21 14:16	04/21/21 08:00	6.99	NA	04/21/21 10:25	7.00	30.00	
CRCA-VMP01-20210414	04/14/21 14:15	04/16/21 14:16	04/21/21 08:00	6.74	NA	04/21/21 11:10	7.00	30.00	
CRCA-VMP02-20210414	04/14/21 14:16	04/16/21 14:16	04/21/21 08:00	6.74	NA	04/21/21 11:55	7.00	30.00	
CRCA-VMP02-20210414	04/14/21 14:16	04/16/21 14:16	04/21/21 08:00	6.74	NA	04/21/21 15:31	7.00	30.00	
CRCA-VMP03-20210414	04/14/21 14:19	04/16/21 14:16	04/21/21 08:00	6.74	NA	04/21/21 12:41	7.00	30.00	
CRCA-VMP04-20210414	04/14/21 14:22	04/16/21 14:16	04/21/21 08:00	6.73	NA	04/21/21 13:26	7.00	30.00	

PREPARATION BATCH SUMMARY

TO-15

Laboratory: ENCO Orlando SDG: AE02772-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA Airs

Batch: 1D20052 Batch Matrix: Air Preparation: NO PREP 2

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1D20052-BLK1	217DO008.D	04/20/21 18:21	
LCS	1D20052-BS1	217DO005.D	04/20/21 18:21	
LCS Dup	1D20052-BSD1	217DO006.D	04/20/21 18:21	
CRCA-AMB-20210414	AE02772-01	217DO014.D	04/21/21 08:00	
CRCA-VMP01-20210414	AE02772-02	217DO015.D	04/21/21 08:00	
CRCA-VMP02-20210414	AE02772-03	217DO016.D	04/21/21 08:00	
CRCA-VMP02-20210414	AE02772-03RE1	217DO021.D	04/21/21 08:00	
CRCA-VMP03-20210414	AE02772-04	217DO017.D	04/21/21 08:00	
CRCA-VMP04-20210414	AE02772-05	217DO018.D	04/21/21 08:00	

METHOD BLANK DATA SHEET
TO-15

Laboratory:	ENCO Orlando	SDG:	AE02772-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA Airs

Matrix:	Air	Laboratory ID:	1D20052-BLK1	File ID:	217DO008.D
Prepared:	04/20/21 18:21	Preparation:	NO PREP 2	Initial/Final:	400 mL / 400 mL
Analyzed:	04/21/21 00:06	Instrument:	OVGCMS7		
Batch:	1D20052	Sequence:	AA66011	Calibration:	2103167

CAS NO.	COMPOUND	CONC. (ppbv)	Q
75-71-8	Dichlorodifluoromethane	0.55	U
115-07-1	Propene	0.55	U
74-87-3	Chloromethane	0.48	U
75-01-4	Vinyl chloride	0.56	U
74-83-9	Bromomethane	0.33	U
75-00-3	Chloroethane	0.32	U
75-69-4	Trichlorofluoromethane	0.34	U
593-60-2	Bromoethene	0.33	U
75-34-3	1,1-Dichloroethane	0.36	U
67-64-1	Acetone	0.39	J
75-09-2	Methylene chloride	0.20	U
76-13-1	Freon 113	0.32	U
107-05-1	3-Chloropropene	0.39	U
156-60-5	trans-1,2-Dichloroethene	0.32	U
75-35-4	1,1-Dichloroethene	0.38	U
156-59-2	cis-1,2-Dichloroethene	0.38	U
67-66-3	Chloroform	0.38	U
107-06-2	1,2-Dichloroethane	0.37	U
71-55-6	1,1,1-Trichloroethane	0.34	U
56-23-5	Carbon tetrachloride	0.27	U
78-87-5	1,2-Dichloropropane	0.40	U
79-01-6	Trichloroethene	0.35	U
75-27-4	Bromodichloromethane	0.34	U
10061-01-5	cis-1,3-Dichloropropene	0.38	U
10061-02-6	trans-1,3-Dichloropropene	0.34	U
79-00-5	1,1,2-Trichloroethane	0.35	U
106-93-4	1,2-Dibromoethane	0.36	U
127-18-4	Tetrachloroethene	0.31	U
124-48-1	Dibromochloromethane	0.33	U
108-90-7	Chlorobenzene	0.33	U

METHOD BLANK DATA SHEET
TO-15

Laboratory:	ENCO Orlando	SDG:	AE02772-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA Airs

Matrix:	Air	Laboratory ID:	1D20052-BLK1	File ID:	217DO008.D
Prepared:	04/20/21 18:21	Preparation:	NO PREP 2	Initial/Final:	400 mL / 400 mL
Analyzed:	04/21/21 00:06	Instrument:	OVGCMS7		
Batch:	1D20052	Sequence:	AA66011	Calibration:	2103167

CAS NO.	COMPOUND	CONC. (ppbv)	Q
75-25-2	Bromoform	0.38	U
79-34-5	1,1,2,2-Tetrachloroethane	0.36	U
541-73-1	1,3-Dichlorobenzene	0.28	U
106-46-7	1,4-Dichlorobenzene	0.31	U
95-50-1	1,2-Dichlorobenzene	0.27	U
87-68-3	Hexachlorobutadiene	0.37	U
76-14-2	Freon 114	0.52	U

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	29	93	70 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	377546	10.96	410314	10.97	
1,4-Difluorobenzene	1245674	12.46	1596494	12.47	
Chlorobenzene-d5	909226	15.87	1196660	15.87	

LCS / LCS DUPLICATE RECOVERY

TO-15

Laboratory:	ENCO Orlando	SDG:	AE02772-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA Airs
Matrix:	Air		
Batch:	1D20052	Laboratory ID:	1D20052-BS1
Preparation:	NO PREP 2	Initial/Final:	400 mL / 400 mL

COMPOUND	SPIKE ADDED (ppbv)	LCS CONCENTRATION (ppbv)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	10.0	12	119	61 - 137
Propene	10.0	9.1	91	63 - 132
Chloromethane	10.0	10	104	55 - 142
Vinyl chloride	10.0	11	111	53 - 148
Bromomethane	10.0	12	117	69 - 130
Chloroethane	10.0	12	118	69 - 131
Trichlorofluoromethane	10.0	8.5	85	46 - 161
Bromoethene	10.0	11	110	69 - 132
1,1-Dichloroethane	10.0	11	114	70 - 130
Acetone	10.0	11	113	65 - 130
Methylene chloride	10.0	11	109	59 - 136
Freon 113	10.0	11	109	67 - 140
3-Chloropropene	10.0	11	109	70 - 130
trans-1,2-Dichloroethene	10.0	11	109	70 - 130
1,1-Dichloroethene	10.0	12	118	67 - 142
cis-1,2-Dichloroethene	10.0	11	107	70 - 130
Chloroform	10.0	12	115	70 - 130
1,2-Dichloroethane	10.0	13	127	70 - 130
1,1,1-Trichloroethane	10.0	12	119	70 - 130
Carbon tetrachloride	10.0	11	112	22 - 166
1,2-Dichloropropane	10.0	11	110	70 - 130
Trichloroethene	10.0	11	106	70 - 130
Bromodichloromethane	10.0	12	116	70 - 130
cis-1,3-Dichloropropene	10.0	12	120	70 - 137
trans-1,3-Dichloropropene	10.0	16	163	59 - 166
1,1,2-Trichloroethane	10.0	11	110	70 - 134
1,2-Dibromoethane	10.0	12	116	70 - 141
Tetrachloroethene	10.0	10	104	70 - 141
Dibromochloromethane	10.0	11	112	70 - 130
Chlorobenzene	10.0	10	105	70 - 134

LCS / LCS DUPLICATE RECOVERY

TO-15

Laboratory:	ENCO Orlando	SDG:	AE02772-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA Airs
Matrix:	Air		
Batch:	1D20052	Laboratory ID:	1D20052-BS1
Preparation:	NO PREP 2	Initial/Final:	400 mL / 400 mL

COMPOUND	SPIKE ADDED (ppbv)	LCS CONCENTRATION (ppbv)	LCS % REC. #	QC LIMITS REC.
Bromoform	10.0	11	111	62 - 149
1,1,2,2-Tetrachloroethane	10.0	12	115	52 - 163
1,3-Dichlorobenzene	10.0	11	108	47 - 178
1,4-Dichlorobenzene	10.0	11	109	45 - 180
1,2-Dichlorobenzene	10.0	11	112	37 - 180
Hexachlorobutadiene	10.0	13	131	24 - 180
Freon 114	10.0	11	110	62 - 147

COMPOUND	SPIKE ADDED (ppbv)	LCSD CONCENTRATION (ppbv)	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	10.0	11	115	3	25	61 - 137
Propene	10.0	9.0	90	0.7	25	63 - 132
Chloromethane	10.0	10	104	0.5	25	55 - 142
Vinyl chloride	10.0	11	112	0.8	25	53 - 148
Bromomethane	10.0	12	115	2	25	69 - 130
Chloroethane	10.0	12	117	1	25	69 - 131
Trichlorofluoromethane	10.0	8.3	83	3	25	46 - 161
Bromoethene	10.0	11	109	1	25	69 - 132
1,1-Dichloroethane	10.0	11	111	3	25	70 - 130
Acetone	10.0	11	111	2	25	65 - 130
Methylene chloride	10.0	11	107	2	25	59 - 136
Freon 113	10.0	11	107	2	25	67 - 140
3-Chloropropene	10.0	11	106	2	25	70 - 130
trans-1,2-Dichloroethene	10.0	11	106	2	25	70 - 130
1,1-Dichloroethene	10.0	12	116	2	25	67 - 142
cis-1,2-Dichloroethene	10.0	11	106	0.7	25	70 - 130
Chloroform	10.0	11	113	3	25	70 - 130
1,2-Dichloroethane	10.0	12	123	3	25	70 - 130
1,1,1-Trichloroethane	10.0	12	115	3	25	70 - 130
Carbon tetrachloride	10.0	11	109	3	25	22 - 166

LCS / LCS DUPLICATE RECOVERY

TO-15

Laboratory:	ENCO Orlando	SDG:	AE02772-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA Airs
Matrix:	Air		
Batch:	1D20052	Laboratory ID:	1D20052-BSD1
Preparation:	NO PREP 2	Initial/Final:	400 mL / 400 mL

COMPOUND	SPIKE ADDED (ppbv)	LCSD CONCENTRATION (ppbv)	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,2-Dichloropropane	10.0	11	107	3	25	70 - 130
Trichloroethene	10.0	11	105	0.3	25	70 - 130
Bromodichloromethane	10.0	11	113	3	25	70 - 130
cis-1,3-Dichloropropene	10.0	12	118	2	25	70 - 137
trans-1,3-Dichloropropene	10.0	16	161	1	25	59 - 166
1,1,2-Trichloroethane	10.0	11	108	2	25	70 - 134
1,2-Dibromoethane	10.0	12	115	0.5	25	70 - 141
Tetrachloroethene	10.0	10	102	2	25	70 - 141
Dibromochloromethane	10.0	11	110	2	25	70 - 130
Chlorobenzene	10.0	10	103	1	25	70 - 134
Bromoform	10.0	11	110	0.8	25	62 - 149
1,1,2,2-Tetrachloroethane	10.0	11	115	0.6	25	52 - 163
1,3-Dichlorobenzene	10.0	11	108	0.5	25	47 - 178
1,4-Dichlorobenzene	10.0	11	110	0.9	25	45 - 180
1,2-Dichlorobenzene	10.0	11	111	0.2	25	37 - 180
Hexachlorobutadiene	10.0	13	131	0.06	25	24 - 180
Freon 114	10.0	11	109	0.7	25	62 - 147

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

TO-15

Laboratory: ENCO Orlando
SDG: AE02772-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA Airs

Sequence: AA65685
Instrument: OVGCMS7
Matrix: Air
Calibration: 2103167

Surrogate Compound	Spike Level ppbv	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA65685-SCV1)			Lab File ID: 217CZ016.D		Analyzed: 04/01/21 01:45			
4-Bromofluorobenzene	31.0	102	0 - 200	17.3	17.3	0.0000	+/-1.0	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

TO-15

Laboratory: ENCO Orlando
SDG: AE02772-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA Airs

Sequence: AA66011
Instrument: OVGCMS7
Matrix: Air
Calibration: 2103167

Surrogate Compound	Spike Level ppbv	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA66011-CCV1)			Lab File ID: 217DO003.D		Analyzed: 04/20/21 20:40			
4-Bromofluorobenzene	31.0	99	0 - 200	17.3	17.3	0.0000	+/-1.0	
Instrument RL Check (AA66011-CRL1)			Lab File ID: 217DO004.D		Analyzed: 04/20/21 21:20			
4-Bromofluorobenzene	31.0	94	0 - 200	17.3	17.3	0.0000	+/-1.0	
LCS (1D20052-BS1)			Lab File ID: 217DO005.D		Analyzed: 04/20/21 21:59			
4-Bromofluorobenzene	31.0	99	70 - 130	17.3	17.3	0.0000	+/-1.0	
LCS Dup (1D20052-BSD1)			Lab File ID: 217DO006.D		Analyzed: 04/20/21 22:39			
4-Bromofluorobenzene	31.0	99	70 - 130	17.3	17.3	0.0000	+/-1.0	
Blank (1D20052-BLK1)			Lab File ID: 217DO008.D		Analyzed: 04/21/21 00:06			
4-Bromofluorobenzene	31.0	93	70 - 130	17.3	17.3	0.0000	+/-1.0	
CRCA-AMB-20210414 (AE02772-01)			Lab File ID: 217DO014.D		Analyzed: 04/21/21 10:25			
4-Bromofluorobenzene	31.0	93	70 - 130	17.3	17.3	0.0000	+/-1.0	
CRCA-VMP01-20210414 (AE02772-02)			Lab File ID: 217DO015.D		Analyzed: 04/21/21 11:10			
4-Bromofluorobenzene	31.0	94	70 - 130	17.29	17.3	-0.0100	+/-1.0	
CRCA-VMP02-20210414 (AE02772-03)			Lab File ID: 217DO016.D		Analyzed: 04/21/21 11:55			
4-Bromofluorobenzene	31.0	93	70 - 130	17.3	17.3	0.0000	+/-1.0	
CRCA-VMP03-20210414 (AE02772-04)			Lab File ID: 217DO017.D		Analyzed: 04/21/21 12:41			
4-Bromofluorobenzene	31.0	94	70 - 130	17.3	17.3	0.0000	+/-1.0	
CRCA-VMP04-20210414 (AE02772-05)			Lab File ID: 217DO018.D		Analyzed: 04/21/21 13:26			
4-Bromofluorobenzene	31.0	94	70 - 130	17.3	17.3	0.0000	+/-1.0	
CRCA-VMP02-20210414 (AE02772-03RE1)			Lab File ID: 217DO021.D		Analyzed: 04/21/21 15:31			
4-Bromofluorobenzene	31.0	93	70 - 130	17.3	17.3	0.0000	+/-1.0	

INTERNAL STANDARD AREA AND RT SUMMARY
TO-15

Laboratory: ENCO Orlando
SDG: AE02772-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA Airs
Sequence: AA65685
Instrument: OVGCMS7
Matrix: Air
Calibration: 2103167

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA65685-CAL1)			Lab File ID: 217CZ002.D			Analyzed: 03/31/21 15:32			
Bromochloromethane	483938	10.97	410314	10.97	118	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	1569689	12.47	1596494	12.47	98	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	1167168	15.87	1196660	15.87	98	60 - 140	0.0000	+/-0.50	
Cal Standard (AA65685-CAL2)			Lab File ID: 217CZ003.D			Analyzed: 03/31/21 16:14			
Bromochloromethane	484907	10.97	410314	10.97	118	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	1577449	12.47	1596494	12.47	99	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	1154884	15.87	1196660	15.87	97	60 - 140	0.0000	+/-0.50	
Cal Standard (AA65685-CAL3)			Lab File ID: 217CZ004.D			Analyzed: 03/31/21 16:56			
Bromochloromethane	431227	10.97	410314	10.97	105	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	1417918	12.47	1596494	12.47	89	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	1044354	15.87	1196660	15.87	87	60 - 140	0.0000	+/-0.50	
Cal Standard (AA65685-CAL4)			Lab File ID: 217CZ005.D			Analyzed: 03/31/21 17:36			
Bromochloromethane	481792	10.97	410314	10.97	117	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	1574428	12.47	1596494	12.47	99	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	1164958	15.87	1196660	15.87	97	60 - 140	0.0000	+/-0.50	
Cal Standard (AA65685-CAL5)			Lab File ID: 217CZ006.D			Analyzed: 03/31/21 18:19			
Bromochloromethane	484725	10.97	410314	10.97	118	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	1565412	12.47	1596494	12.47	98	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	1166723	15.87	1196660	15.87	97	60 - 140	0.0000	+/-0.50	
Cal Standard (AA65685-CAL6)			Lab File ID: 217CZ007.D			Analyzed: 03/31/21 18:58			
Bromochloromethane	479989	10.97	410314	10.97	117	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	1566277	12.47	1596494	12.47	98	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	1180699	15.87	1196660	15.87	99	60 - 140	0.0000	+/-0.50	
Cal Standard (AA65685-CAL7)			Lab File ID: 217CZ009.D			Analyzed: 03/31/21 20:36			
Bromochloromethane	410314	10.97	410314	10.97	100	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	1596494	12.47	1596494	12.47	100	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	1196660	15.87	1196660	15.87	100	60 - 140	0.0000	+/-0.50	
Cal Standard (AA65685-CAL8)			Lab File ID: 217CZ011.D			Analyzed: 03/31/21 22:06			
Bromochloromethane	499257	10.97	410314	10.97	122	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	1558506	12.47	1596494	12.47	98	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	1175355	15.87	1196660	15.87	98	60 - 140	0.0000	+/-0.50	
Cal Standard (AA65685-CAL9)			Lab File ID: 217CZ013.D			Analyzed: 03/31/21 23:42			
Bromochloromethane	487575	10.98	410314	10.97	119	60 - 140	0.0100	+/-0.50	
1,4-Difluorobenzene	1463213	12.48	1596494	12.47	92	60 - 140	0.0100	+/-0.50	
Chlorobenzene-d5	1096162	15.87	1196660	15.87	92	60 - 140	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
TO-15

Laboratory: ENCO Orlando
SDG: AE02772-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA Airs
Sequence: AA65685
Instrument: OVGCMS7
Matrix: Air
Calibration: 2103167

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA65685-SCV1)			Lab File ID: 217CZ016.D			Analyzed: 04/01/21 01:45			
Bromochloromethane	486420	10.97	410314	10.97	119	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	1568006	12.47	1596494	12.47	98	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	1182914	15.87	1196660	15.87	99	60 - 140	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
TO-15

Laboratory: ENCO Orlando
SDG: AE02772-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA Airs

Sequence: AA66011
Instrument: OVGCMS7
Matrix: Air
Calibration: 2103167

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA66011-CCV1)			Lab File ID: 217DO003.D			Analyzed: 04/20/21 20:40			
Bromochloromethane	370939	10.97	410314	10.97	90	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	1197864	12.47	1596494	12.47	75	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	916509	15.87	1196660	15.87	77	60 - 140	0.0000	+/-0.50	
Instrument RL Check (AA66011-CRL1)			Lab File ID: 217DO004.D			Analyzed: 04/20/21 21:20			
Bromochloromethane	378211	10.97	410314	10.97	92	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	1224357	12.47	1596494	12.47	77	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	910942	15.87	1196660	15.87	76	60 - 140	0.0000	+/-0.50	
LCS (1D20052-BS1)			Lab File ID: 217DO005.D			Analyzed: 04/20/21 21:59			
Bromochloromethane	371786	10.97	410314	10.97	91	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	1212226	12.47	1596494	12.47	76	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	928074	15.87	1196660	15.87	78	60 - 140	0.0000	+/-0.50	
LCS Dup (1D20052-BSD1)			Lab File ID: 217DO006.D			Analyzed: 04/20/21 22:39			
Bromochloromethane	381197	10.97	410314	10.97	93	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	1236152	12.47	1596494	12.47	77	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	942109	15.87	1196660	15.87	79	60 - 140	0.0000	+/-0.50	
Blank (1D20052-BLK1)			Lab File ID: 217DO008.D			Analyzed: 04/21/21 00:06			
Bromochloromethane	377546	10.96	410314	10.97	92	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1245674	12.46	1596494	12.47	78	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	909226	15.87	1196660	15.87	76	60 - 140	0.0000	+/-0.50	
CRCA-AMB-20210414 (AE02772-01)			Lab File ID: 217DO014.D			Analyzed: 04/21/21 10:25			
Bromochloromethane	384346	10.96	410314	10.97	94	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1253612	12.46	1596494	12.47	79	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	935186	15.86	1196660	15.87	78	60 - 140	-0.0100	+/-0.50	
CRCA-VMP01-20210414 (AE02772-02)			Lab File ID: 217DO015.D			Analyzed: 04/21/21 11:10			
Bromochloromethane	389379	10.96	410314	10.97	95	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1266536	12.47	1596494	12.47	79	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	936361	15.86	1196660	15.87	78	60 - 140	-0.0100	+/-0.50	
CRCA-VMP02-20210414 (AE02772-03)			Lab File ID: 217DO016.D			Analyzed: 04/21/21 11:55			
Bromochloromethane	392415	10.96	410314	10.97	96	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1277948	12.47	1596494	12.47	80	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	945869	15.86	1196660	15.87	79	60 - 140	-0.0100	+/-0.50	
CRCA-VMP03-20210414 (AE02772-04)			Lab File ID: 217DO017.D			Analyzed: 04/21/21 12:41			
Bromochloromethane	392593	10.96	410314	10.97	96	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1280780	12.47	1596494	12.47	80	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	949894	15.86	1196660	15.87	79	60 - 140	-0.0100	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
TO-15

Laboratory: ENCO Orlando
SDG: AE02772-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA Airs
Sequence: AA66011
Instrument: OVGCMS7
Matrix: Air
Calibration: 2103167

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
CRCA-VMP04-20210414 (AE02772-05)			Lab File ID: 217DO018.D			Analyzed: 04/21/21 13:26			
Bromochloromethane	398062	10.97	410314	10.97	97	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	1289785	12.47	1596494	12.47	81	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	950817	15.87	1196660	15.87	79	60 - 140	0.0000	+/-0.50	
CRCA-VMP02-20210414 (AE02772-03RE1)			Lab File ID: 217DO021.D			Analyzed: 04/21/21 15:31			
Bromochloromethane	417888	10.96	410314	10.97	102	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1394655	12.47	1596494	12.47	87	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	1012325	15.87	1196660	15.87	85	60 - 140	0.0000	+/-0.50	

ANALYSIS BATCH (SEQUENCE) SUMMARY

TO-15

Laboratory:	ENCO Orlando	SDG:	AE02772-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA Airs
Sequence:	AA65685		
Calibration:	2103167	Instrument:	OVGCMS7

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA65685-TUN1	217CZ001.D	03/31/21 14:43
Cal Standard	AA65685-CAL1	217CZ002.D	03/31/21 15:32
Cal Standard	AA65685-CAL2	217CZ003.D	03/31/21 16:14
Cal Standard	AA65685-CAL3	217CZ004.D	03/31/21 16:56
Cal Standard	AA65685-CAL4	217CZ005.D	03/31/21 17:36
Cal Standard	AA65685-CAL5	217CZ006.D	03/31/21 18:19
Cal Standard	AA65685-CAL6	217CZ007.D	03/31/21 18:58
Cal Standard	AA65685-CAL7	217CZ009.D	03/31/21 20:36
Cal Standard	AA65685-CAL8	217CZ011.D	03/31/21 22:06
Cal Standard	AA65685-CAL9	217CZ013.D	03/31/21 23:42
Secondary Cal Check	AA65685-SCV1	217CZ016.D	04/01/21 01:45

ANALYSIS BATCH (SEQUENCE) SUMMARY

TO-15

Laboratory:	ENCO Orlando	SDG:	AE02772-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA Airs
Sequence:	AA66011		
Calibration:	2103167	Instrument:	OVGCMS7

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA66011-TUN1	217DO002.D	04/20/21 19:59
Calibration Check	AA66011-CCV1	217DO003.D	04/20/21 20:40
Instrument RL Check	AA66011-CRL1	217DO004.D	04/20/21 21:20
LCS	1D20052-BS1	217DO005.D	04/20/21 21:59
LCS Dup	1D20052-BSD1	217DO006.D	04/20/21 22:39
Blank	1D20052-BLK1	217DO008.D	04/21/21 00:06
CRCA-AMB-20210414	AE02772-01	217DO014.D	04/21/21 10:25
CRCA-VMP01-20210414	AE02772-02	217DO015.D	04/21/21 11:10
CRCA-VMP02-20210414	AE02772-03	217DO016.D	04/21/21 11:55
CRCA-VMP03-20210414	AE02772-04	217DO017.D	04/21/21 12:41
CRCA-VMP04-20210414	AE02772-05	217DO018.D	04/21/21 13:26
CRCA-VMP02-20210414	AE02772-03RE1	217DO021.D	04/21/21 15:31

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

TO-15

Laboratory:	ENCO Orlando	SDG:	AE02772-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA Airs
Lab File ID:	217CZ001.D	Injection Date:	03/31/21
Instrument ID:	OVGCMS7	Injection Time:	14:43
Sequence:	AA65685	Lab Sample ID:	AA65685-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8 - 40% of 95	21.6	PASS
75	30 - 66% of 95	43.2	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.62	PASS
173	Less than 2% of 174	0	PASS
174	50 - 120% of 95	81.6	PASS
175	4 - 9% of 174	8.25	PASS
176	95 - 101% of 174	96	PASS
177	5 - 9% of 176	6.52	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

TO-15

Laboratory:	ENCO Orlando	SDG:	AE02772-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA Airs
Lab File ID:	217DO002.D	Injection Date:	04/20/21
Instrument ID:	OVGCMS7	Injection Time:	19:59
Sequence:	AA66011	Lab Sample ID:	AA66011-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8 - 40% of 95	25.1	PASS
75	30 - 66% of 95	47	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.77	PASS
173	Less than 2% of 174	0	PASS
174	50 - 120% of 95	73.3	PASS
175	4 - 9% of 174	8.49	PASS
176	95 - 101% of 174	95.5	PASS
177	5 - 9% of 176	6.8	PASS

CONTINUING CALIBRATION CHECK

TO-15

Laboratory:	ENCO Orlando	SDG:	AE02772-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA Airs
Instrument ID:	OVGCMS7	Calibration:	2103167
Lab File ID:	217DO003.D	Calibration Date:	03/31/21 00:00
Sequence:	AA66011	Injection Date:	04/20/21
Lab Sample ID:	AA66011-CCV1	Injection Time:	20:40

		CONC. (ppbv)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Dichlorodifluoromethane	A	10.0	11	5.0039	5.734907		15	30
Propene	A	10.0	8.8	3.103845	2.727772		-12	30
Chloromethane	A	10.0	10	2.904965	2.912064		0.20	30
Vinyl chloride	A	10.0	10	2.485318	2.520272		1.4	30
Bromomethane	A	10.0	10	1.693085	1.76989		4.5	30
Chloroethane	A	10.0	11	0.8516122	0.932869		9.5	30
Trichlorofluoromethane	A	10.0	8.1	3.920738	3.160121		-19	30
Bromoethene	A	10.0	11	1.479624	1.592776		7.6	30
1,1-Dichloroethane	A	10.0	11	3.763689	4.021721		6.9	30
Acetone	A	10.0	11	4.355915	4.999702		15	30
Methylene chloride	A	10.0	10	1.757898	1.839371		4.6	30
Freon 113	A	10.0	10	3.011125	3.085876		2.5	30
3-Chloropropene	A	10.0	11	3.883778	4.209673		8.4	30
trans-1,2-Dichloroethene	A	10.0	11	2.996114	3.263625		8.9	30
1,1-Dichloroethene	A	10.0	11	3.330683	3.744864		12	30
cis-1,2-Dichloroethene	A	10.0	10	2.037699	2.053707		0.80	30
Chloroform	A	10.0	11	3.932209	4.317339		9.8	30
1,2-Dichloroethane	A	10.0	12	2.458029	2.982373		21	30
1,1,1-Trichloroethane	A	10.0	11	3.453102	3.905004		13	30
Carbon tetrachloride	A	10.0	10	3.12405	3.225834		3.3	30
1,2-Dichloropropane	A	10.0	10	0.7193571	0.7430053		3.3	30
Trichloroethene	A	10.0	10	0.8098647	0.835933		3.2	30
Bromodichloromethane	A	10.0	12	1.196554	1.38829		16	30
cis-1,3-Dichloropropene	A	10.0	11	1.019334	1.077621		5.7	30
trans-1,3-Dichloropropene	A	10.0	11	0.6004615	0.647632		7.9	30
1,1,2-Trichloroethane	A	10.0	10	0.6568551	0.6753928		2.8	30
1,2-Dibromoethane	A	10.0	11	1.070637	1.126717		5.2	30
Tetrachloroethene	A	10.0	9.9	0.8895147	0.8828032		-0.8	30
Dibromochloromethane	A	10.0	11	0.966109	1.085152		12	30

CONTINUING CALIBRATION CHECK

TO-15

Laboratory:	ENCO Orlando	SDG:	AE02772-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA Airs
Instrument ID:	OVGCMS7	Calibration:	2103167
Lab File ID:	217DO003.D	Calibration Date:	03/31/21 00:00
Sequence:	AA66011	Injection Date:	04/20/21
Lab Sample ID:	AA66011-CCV1	Injection Time:	20:40

		CONC. (ppbv)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Chlorobenzene	A	10.0	9.8	1.836412	1.798368		-2.1	30
Bromoform	A	10.0	11	1.262552	1.396613		11	30
1,1,2,2-Tetrachloroethane	A	10.0	9.9	1.479737	1.47153		-0.6	30
1,3-Dichlorobenzene	A	10.0	9.7	1.250121	1.218019		-2.6	30
1,4-Dichlorobenzene	A	10.0	9.9	1.146538	1.131809		-1.3	30
1,2-Dichlorobenzene	A	10.0	9.9	1.145963	1.102859		-0.7	30
Hexachlorobutadiene	A	10.0	12	0.3476883	0.4327341		25	30
Freon 114	A	10.0	10	3.62478	3.677171		1.4	30

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

TO-15

Laboratory: ENCO Orlando
SDG: AE02772-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA Airs

Sequence: AA65685
Instrument: OVGCMS7

Calibration: 2103167

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A1C1113	Air- VIRTUAL TUN-032321	AA65685-TUN1	217CZ001.D	03/31/21 14:43
A1C0718	Air- Virtual CAL1 030821	AA65685-CAL1	217CZ002.D	03/31/21 15:32
A1C0719	Air- Virtual CAL2 030821	AA65685-CAL2	217CZ003.D	03/31/21 16:14
A1C0720	Air- Virtual CAL3 030821	AA65685-CAL3	217CZ004.D	03/31/21 16:56
A1C0721	Air- Virtual CAL4 030821	AA65685-CAL4	217CZ005.D	03/31/21 17:36
A1C0722	Air- Virtual CAL5 030821	AA65685-CAL5	217CZ006.D	03/31/21 18:19
A1C0723	Air- Virtual CAL6 030821	AA65685-CAL6	217CZ007.D	03/31/21 18:58
A1C0724	Air- Virtual CAL7 030821	AA65685-CAL7	217CZ009.D	03/31/21 20:36
A1C0725	Air- Virtual CAL8 030821	AA65685-CAL8	217CZ011.D	03/31/21 22:06
A1C0726	Air- Virtual CAL9 030821	AA65685-CAL9	217CZ013.D	03/31/21 23:42
A1C0677	Air- Virtual SCV 030521	AA65685-SCV1	217CZ016.D	04/01/21 01:45

INITIAL CALIBRATION DATA

TO-15

Laboratory: ENCO Orlando
SDG: AE02772-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA Airs
Calibration: 2103167
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 03/31/21 00:00

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF
Dichlorodifluoromethane	0.125	5.33832	0.25	5.204907	0.5	7.13703	1.25	5.084548	2.5	4.982691	5	4.463754
Propene	0.125	4.536317	0.25	3.807402	0.5	4.159002	1.25	2.769173	2.5	2.670761	5	2.377561
Chloromethane	0.125	3.034802	0.25	2.943583	0.5	3.985465	1.25	2.817096	2.5	2.766283	5	2.525718
Vinyl chloride	0.125	2.359889	0.25	2.415523	0.5	3.319639	1.25	2.483644	2.5	2.41203	5	2.2266
Bromomethane	0.125	1.736222	0.25	1.785942	0.5	2.396023	1.25	1.662317	2.5	1.629031	5	1.462433
Chloroethane	0.125	0.8727234	0.25	0.8840211	0.5	1.158401	1.25	0.8273496	2.5	0.8270248	5	0.766738
Trichlorofluoromethane	0.125	3.817332	0.25	3.886675	0.5	5.567142	1.25	3.987832	2.5	3.838737	5	3.485991
Bromoethene	0.125	1.42772	0.25	1.570371	0.5	1.961389	1.25	1.46028	2.5	1.400051	5	1.321987
1,1-Dichloroethane	0.125	3.720989	0.25	3.697699	0.5	5.306764	1.25	3.766492	2.5	3.645033	5	3.361007
Acetone	0.125	~~11.41869~~	0.25	~~9.690221~~	0.5	~~7.113307~~	1.25	4.947008	2.5	4.667936	5	4.066195
Methylene chloride	0.125	~~7.877059~~	0.25	~~7.071657~~	0.5	~~3.377006~~	1.25	2.204035	2.5	2.084791	5	1.664648
Freon 113	0.125	3.137807	0.25	3.064538	0.5	4.343323	1.25	3.062835	2.5	3.061749	5	2.792647
3-Chloropropene	0.125	3.63797	0.25	3.86008	0.5	5.36945	1.25	3.755373	2.5	3.765983	5	3.481509
trans-1,2-Dichloroethene	0.125	3.053251	0.25	2.983731	0.5	4.185169	1.25	2.977902	2.5	2.980144	5	2.716347
1,1-Dichloroethene	0.125	3.264385	0.25	3.258885	0.5	4.654885	1.25	3.384139	2.5	3.317871	5	3.042823
cis-1,2-Dichloroethene	0.125	2.193339	0.25	1.93963	0.5	2.886155	1.25	2.000247	2.5	1.984409	5	1.818037
Chloroform	0.125	3.948522	0.25	4.113754	0.5	5.52516	1.25	3.857087	2.5	3.835462	5	3.513504
1,2-Dichloroethane	0.125	2.408061	0.25	2.362589	0.5	3.389945	1.25	2.456106	2.5	2.374323	5	2.201218
1,1,1-Trichloroethane	0.125	3.470395	0.25	3.395694	0.5	5.026977	1.25	3.478338	2.5	3.424316	5	3.086534
Carbon tetrachloride	0.125	3.593386	0.25	3.55961	0.5	3.568371	1.25	2.672453	2.5	2.537507	5	3.110456
1,2-Dichloropropane	0.125	0.7637385	0.25	0.7246865	0.5	0.9475879	1.25	0.7087186	2.5	0.6988432	5	0.6367018
Trichloroethene	0.125	0.8659601	0.25	0.8228678	0.5	1.099667	1.25	0.7977475	2.5	0.7816519	5	0.7244484
Bromodichloromethane	0.125	1.138814	0.25	1.130068	0.5	1.638241	1.25	1.158683	2.5	1.17933	5	1.121883
cis-1,3-Dichloropropene	0.125	1.128861	0.25	1.034952	0.5	1.338193	1.25	0.9581791	2.5	0.9565765	5	0.9087727
trans-1,3-Dichloropropene	0.125	0.5994257	0.25	0.6742202	0.5	0.8615787	1.25	0.5477357	2.5	0.5680319	5	0.5359241
1,1,2-Trichloroethane	0.125	0.6924837	0.25	0.6794869	0.5	0.887552	1.25	0.6189494	2.5	0.6232509	5	0.5882823
1,2-Dibromoethane	0.125	1.150032	0.25	1.068832	0.5	1.376803	1.25	1.006679	2.5	1.010726	5	0.9791853
Tetrachloroethene	0.125	1.022847	0.25	0.9750528	0.5	1.216678	1.25	0.8649917	2.5	0.8618702	5	0.7821267
Dibromochloromethane	0.125	0.9751333	0.25	0.9286741	0.5	1.217159	1.25	0.9020241	2.5	0.897896	5	0.9492398
Chlorobenzene	0.125	2.18727	0.25	2.088134	0.5	2.48468	1.25	1.728356	2.5	1.725922	5	1.635159
Bromoform	0.125	1.260645	0.25	1.234004	0.5	1.480847	1.25	1.084044	2.5	1.099749	5	1.269092

INITIAL CALIBRATION DATA

TO-15

Laboratory: ENCO Orlando
SDG: AE02772-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA Airs
Calibration: 2103167
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 03/31/21 00:00

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF
1,1,2,2-Tetrachloroethane	0.125	2.017286	0.25	1.823359	0.5	1.680853	1.25	1.164578	2.5	1.176962	5	1.306953
1,3-Dichlorobenzene	0.125	1.841565	0.25	1.6404	0.5	1.335338	1.25	0.9414121	2.5	0.9717021	5	1.057199
1,4-Dichlorobenzene	0.125	1.70834	0.25	1.497491	0.5	1.179204	1.25	0.8549603	2.5	0.8603201	5	0.9659027
1,2-Dichlorobenzene	0.125	1.826267	0.25	1.594338	0.5	1.192917	1.25	0.8228362	2.5	0.8292117	5	0.9545288
Hexachlorobutadiene	0.125	~~1.117008~~	0.25	~~1.008635~~	0.5	0.3957987	1.25	0.282198	2.5	0.2809208	5	0.3710026
4-Bromofluorobenzene	31	0.464856	31	0.4761742	31	0.4708231	31	0.4737089	31	0.4793623	31	0.485686
Freon 114	0.125	3.47142	0.25	3.537874	0.5	5.044517	1.25	3.633379	2.5	3.62815	5	3.248022

INITIAL CALIBRATION DATA (Continued)

TO-15

Laboratory: ENCO Orlando
SDG: AE02772-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA Airs
Calibration: 2103167
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 03/31/21 00:00

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF
Dichlorodifluoromethane	10	5.089727	25	4.070883	50	3.663242						
Propene	10	2.660998	25	2.390734	50	2.562653						
Chloromethane	10	2.844083	25	2.543098	50	2.684561						
Vinyl chloride	10	2.509849	25	2.269082	50	2.37161						
Bromomethane	10	1.555878	25	1.495574	50	1.514349						
Chloroethane	10	0.8034717	25	0.7610029	50	0.7637772						
Trichlorofluoromethane	10	3.806894	25	3.476501	50	3.419536						
Bromoethene	10	1.365495	25	1.50607	50	1.303251						
1,1-Dichloroethane	10	3.356045	25	3.453346	50	3.56583						
Acetone	10	4.161663	25	4.146765	50	4.145925						
Methylene chloride	10	1.512534	25	1.634641	50	1.446738						
Freon 113	10	2.54458	25	2.711358	50	2.381287						
3-Chloropropene	10	3.534559	25	3.883544	50	3.665534						
trans-1,2-Dichloroethene	10	2.7342	25	2.73767	50	2.596612						
1,1-Dichloroethene	10	3.134489	25	3.058104	50	2.860562						
cis-1,2-Dichloroethene	10	1.707239	25	1.881788	50	1.928446						
Chloroform	10	3.638949	25	3.517624	50	3.439817						
1,2-Dichloroethane	10	2.510997	25	2.209027	50	2.209991						
1,1,1-Trichloroethane	10	3.333569	25	2.984197	50	2.877901						
Carbon tetrachloride	10	3.421398	25	2.924278	50	2.728988						
1,2-Dichloropropane	10	0.5986411	25	0.6769976	50	0.7182983						
Trichloroethene	10	0.6849967	25	0.7492746	50	0.7621687						
Bromodichloromethane	10	1.07327	25	1.162645	50	1.166056						
cis-1,3-Dichloropropene	10	0.8564401	25	0.9714251	50	1.020607						
trans-1,3-Dichloropropene	10	0.5090679	25	0.5604341	50	0.5477354						
1,1,2-Trichloroethane	10	0.5539749	25	0.6198647	50	0.6478514						
1,2-Dibromoethane	10	0.9258384	25	1.041142	50	1.076496						
Tetrachloroethene	10	0.7381717	25	0.7948906	50	0.7490035						
Dibromochloromethane	10	0.8935179	25	0.9692259	50	0.9621105						
Chlorobenzene	10	1.508694	25	1.617667	50	1.551822						
Bromoform	10	1.228933	25	1.355818	50	1.349836						

INITIAL CALIBRATION DATA (Continued)

TO-15

Laboratory: ENCO Orlando
SDG: AE02772-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA Airs
Calibration: 2103167
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 03/31/21 00:00

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF
1,1,2,2-Tetrachloroethane	10	1.241977	25	1.401736	50	1.503929						
1,3-Dichlorobenzene	10	0.9999343	25	1.183459	50	1.280076						
1,4-Dichlorobenzene	10	0.9140941	25	1.115217	50	1.223315						
1,2-Dichlorobenzene	10	0.9089596	25	1.047896	50	1.136717						
Hexachlorobutadiene	10	0.342001	25	0.3702883	50	0.3916084						
4-Bromofluorobenzene	31	0.4948724	31	0.5294009	31	0.5828117						
Freon 114	10	3.666957	25	3.206522	50	3.186175						

INITIAL CALIBRATION DATA (Continued)

TO-15

Laboratory: ENCO Orlando
SDG: AE02772-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA Airs
Calibration: 2103167
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 03/31/21 00:00

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	5.0039	19.57612	4.584444	0.5465588			30	
Propene	3.103845	26.67717	4.466667	0.5814456			30	
Chloromethane	2.904965	15.10262	5.081111	0.5339955			30	
Vinyl chloride	2.485318	13.10998	5.332222	0.4377134			30	
Bromomethane	1.693085	16.8699	6.15	0.2936307			30	
Chloroethane	0.8516122	14.51597	6.47	0.2185316			30	
Trichlorofluoromethane	3.920738	16.5889	6.797778	0.2048565			30	
Bromoethene	1.479624	13.50457	6.723333	0.2465812			30	
1,1-Dichloroethane	3.763689	15.9006	9.998889	5.984338E-02			30	
Acetone	4.355915	8.31711	8.936667	8.987979E-02			30	
Methylene chloride	1.757898	17.75009	8.833333	5.355514E-02			30	
Freon 113	3.011125	18.75288	7.928889	0.1836272			30	
3-Chloropropene	3.883778	14.76306	8.675556	8.319488E-02			30	
trans-1,2-Dichloroethene	2.996114	15.7928	9.093334	5.621992E-02			30	
1,1-Dichloroethene	3.330683	15.68281	7.832222	0.1238394			30	
cis-1,2-Dichloroethene	2.037699	16.92607	10.71222	4.129955E-02			30	
Chloroform	3.932209	16.23746	11.04222	5.983294E-02			30	
1,2-Dichloroethane	2.458029	14.9435	12.01222	4.127228E-02			30	
1,1,1-Trichloroethane	3.453102	18.26264	11.33444	4.239353E-02			30	
Carbon tetrachloride	3.12405	13.58041	11.25333	6.273842E-02			30	
1,2-Dichloropropane	0.7193571	13.71068	13.07444	3.841812E-02			30	
Trichloroethene	0.8098647	14.93758	12.45778	3.791692E-02			30	
Bromodichloromethane	1.196554	14.09107	13.11111	1.866223E-02			30	
cis-1,3-Dichloropropene	1.019334	13.98809	13.83444	3.631076E-02			30	
trans-1,3-Dichloropropene	0.6004615	18.08644	14.56	1.731851E-02			30	
1,1,2-Trichloroethane	0.6568551	14.67214	14.75444	3.514638E-02			30	
1,2-Dibromoethane	1.070637	12.26556	15.30111	2.736814E-02			30	
Tetrachloroethene	0.8895147	17.62489	14.58	3.638984E-02			30	
Dibromochloromethane	0.966109	10.27603	14.98111	2.574154E-02			30	
Chlorobenzene	1.836412	18.3388	15.89111	2.059262E-02			30	

INITIAL CALIBRATION DATA (Continued)

TO-15

Laboratory: ENCO Orlando
SDG: AE02772-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA Airs
Calibration: 2103167
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 03/31/21 00:00

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Bromoform	1.262552	9.874063	16.69222	2.694955E-02			30	
1,1,2,2-Tetrachloroethane	1.479737	20.43562	17.48111	1.881541E-02			30	
1,3-Dichlorobenzene	1.250121	25.0951	18.6	1.590774E-02			30	
1,4-Dichlorobenzene	1.146538	25.80583	18.70778	0.0187985			30	
1,2-Dichlorobenzene	1.145963	30.43774	19.25667	2.285956E-02	0.9967171		0.99	
Hexachlorobutadiene	0.3476883	13.93129	21.1	1.240742E-02			30	
4-Bromofluorobenzene	0.4952995	7.663395	17.3	1.289701E-02			30	
Freon 114	3.62478	15.59951	4.971111	0.4546491			30	

SECOND-SOURCE CALIBRATION VERIFICATION

TO-15

Laboratory: ENCO Orlando **SDG:** AE02772-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA Airs

Calibration: 2103167 **Laboratory ID:** AA65685-SCV1

Sequence: AA65685 **Standard ID:** A1C0677

ANALYTE	EXPECTED (ppbv)	FOUND (ppbv)	% DRIFT	QC LIMIT
Dibromochloromethane	10.0	9.9	-1.1	30.00
Chloroform	10.0	9.7	-2.5	30.00
Acetone	10.0	9.0	-10.2	30.00
Bromoethene	10.0	9.6	-3.5	30.00
Carbon tetrachloride	10.0	8.3	-17.1	30.00
1,3-Dichlorobenzene	10.0	10	0.4	30.00
trans-1,2-Dichloroethene	10.0	8.4	-15.9	30.00
cis-1,3-Dichloropropene	10.0	11	7.6	30.00
Tetrachloroethene	10.0	9.7	-2.7	30.00
Chloromethane	10.0	9.0	-10.0	30.00
Propene	10.0	7.8	-22.3	30.00
Chlorobenzene	10.0	9.8	-1.5	30.00
1,2-Dichloroethane	10.0	9.8	-1.9	30.00
3-Chloropropene	10.0	9.1	-8.9	30.00
1,2-Dibromoethane	10.0	11	7.6	30.00
1,4-Dichlorobenzene	10.0	10	2.0	30.00
trans-1,3-Dichloropropene	10.0	14	39.5 *	30.00
cis-1,2-Dichloroethene	10.0	10	0.2	30.00
1,1-Dichloroethene	10.0	9.1	-8.8	30.00
Hexachlorobutadiene	10.0	12	21.3	30.00
1,1,2,2-Tetrachloroethane	10.0	11	6.5	30.00
Trichloroethene	10.0	9.9	-0.7	30.00
1,1,2-Trichloroethane	10.0	10	1.8	30.00
1,2-Dichloropropane	10.0	10	0.04	30.00
Freon 114	10.0	9.7	-2.9	30.00
Freon 113	10.0	8.4	-16.2	30.00
1,1,1-Trichloroethane	10.0	9.6	-3.9	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

TO-15

Laboratory: ENCO Orlando **SDG:** AE02772-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA Airs

Calibration: 2103167 **Laboratory ID:** AA65685-SCV1

Sequence: AA65685 **Standard ID:** A1C0677

ANALYTE	EXPECTED (ppbv)	FOUND (ppbv)	% DRIFT	QC LIMIT
Trichlorofluoromethane	10.0	9.9	-0.7	30.00
Bromomethane	10.0	9.5	-5.4	30.00
1,1-Dichloroethane	10.0	9.9	-0.6	30.00
Bromodichloromethane	10.0	9.7	-2.9	30.00
Bromoform	10.0	10	2.0	30.00
Methylene chloride	10.0	8.5	-14.6	30.00
Vinyl chloride	10.0	9.8	-2.3	30.00
Chloroethane	10.0	9.3	-7.2	30.00
1,2-Dichlorobenzene	10.0	10	4.0	30.00
Dichlorodifluoromethane	10.0	9.8	-2.2	30.00

* Values outside of QC limits

TETRA TECH ISG
TtEGS, Information Systems Group

Completion Ticket

On 5/5/2021 at 5:21 PM the following files were submitted to Tetra Tech by kdylnicki@encolabs.com with ENCO:

TE016AE02772A1.txt, TE016AE02772A3.txt

If you need to identify this session at a later date refer to Ticket Key:

202155_2926207127_ledd_ENCO

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I Lori S. Mangrum, as the designated Quality Assurance Officer, hereby attest that all electronic deliverables have been thoroughly reviewed and are in agreement with the associated hardcopy data. The enclosed electronic files have been reviewed for accuracy (including significant figures), completeness and format. The laboratory will be responsible for any labor time necessary to correct enclosed electronic deliverables that have been found to be in error. I can be reached at (407) 826-5314 if there are any questions or problems with the enclosed electronic deliverables.

Signature:_____ Title: Quality Assurance Manager Date: May 07, 2021

ENCO Laboratories

Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Monday, April 26, 2021
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA Airs
ENCO Workorder(s): AE02772

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Friday, April 16, 2021.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-AMB-20210414 | **Lab ID: AE02772-01** | **Sampled: 04/14/21 08:17** | **Received: 04/16/21 14:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	05/14/21	04/21/21 08:00	04/21/21 10:25

Client ID: CRCA-VMP01-20210414 | **Lab ID: AE02772-02** | **Sampled: 04/14/21 14:15** | **Received: 04/16/21 14:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	05/14/21	04/21/21 08:00	04/21/21 11:10

Client ID: CRCA-VMP02-20210414 | **Lab ID: AE02772-03** | **Sampled: 04/14/21 14:16** | **Received: 04/16/21 14:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	05/14/21	04/21/21 08:00	04/21/21 11:55

Client ID: CRCA-VMP02-20210414 | **Lab ID: AE02772-03RE1** | **Sampled: 04/14/21 14:16** | **Received: 04/16/21 14:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	05/14/21	04/21/21 08:00	04/21/21 15:31

Client ID: CRCA-VMP03-20210414 | **Lab ID: AE02772-04** | **Sampled: 04/14/21 14:19** | **Received: 04/16/21 14:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	05/14/21	04/21/21 08:00	04/21/21 12:41

Client ID: CRCA-VMP04-20210414 | **Lab ID: AE02772-05** | **Sampled: 04/14/21 14:22** | **Received: 04/16/21 14:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	05/14/21	04/21/21 08:00	04/21/21 13:26

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-AMB-20210414 **Lab ID: AE02772-01**

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	5.3	V	0.47	3.4	ppbv	TO-15	QB-01
Chloromethane	0.66	I	0.65	3.4	ppbv	TO-15	
trans-1,2-Dichloroethene	7.2		0.43	3.4	ppbv	TO-15	

Client ID: CRCA-VMP01-20210414 **Lab ID: AE02772-02**

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	11	V	0.46	3.2	ppbv	TO-15	QB-01
Freon 113	3.6		0.42	3.2	ppbv	TO-15	
trans-1,2-Dichloroethene	0.69	I	0.42	3.2	ppbv	TO-15	

Client ID: CRCA-VMP02-20210414 **Lab ID: AE02772-03**

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	4.0	V	0.47	3.4	ppbv	TO-15	J-01, O-01
Methylene chloride	0.76	I	0.27	3.4	ppbv	TO-15	
trans-1,2-Dichloroethene	1.8	I	0.43	3.4	ppbv	TO-15	

Client ID: CRCA-VMP02-20210414 **Lab ID: AE02772-03RE1**

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Freon 113	72		0.86	6.8	ppbv	TO-15	

Client ID: CRCA-VMP03-20210414 **Lab ID: AE02772-04**

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	8.3	V	0.46	3.2	ppbv	TO-15	QB-01
Chloroform	2.4	I	0.49	3.2	ppbv	TO-15	
Freon 113	2.7	I	0.42	3.2	ppbv	TO-15	
trans-1,2-Dichloroethene	0.52	I	0.42	3.2	ppbv	TO-15	

Client ID: CRCA-VMP04-20210414 **Lab ID: AE02772-05**

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	18	V	0.45	3.2	ppbv	TO-15	QB-01
Chloroform	1.4	I	0.49	3.2	ppbv	TO-15	
Freon 113	21		0.41	3.2	ppbv	TO-15	
trans-1,2-Dichloroethene	1.0	I	0.41	3.2	ppbv	TO-15	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-AMB-20210414 | **Lab Sample ID:** AE02772-01 | **Received:** 04/16/21 14:16

Matrix: Air | **Sampled:** 04/14/21 08:17 | **Work Order:** AE02772

Project: NASA KSC CRCA Airs | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.46	U	ppbv	1.35	0.46	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.49	U	ppbv	1.35	0.49	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.47	U	ppbv	1.35	0.47	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
1,1-Dichloroethane [75-34-3]^	0.49	U	ppbv	1.35	0.49	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
1,1-Dichloroethene [75-35-4]^	0.51	U	ppbv	1.35	0.51	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
1,2-Dibromoethane [106-93-4]^	0.49	U	ppbv	1.35	0.49	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.36	U	ppbv	1.35	0.36	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
1,2-Dichloroethane [107-06-2]^	0.50	U	ppbv	1.35	0.50	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
1,2-Dichloropropane [78-87-5]^	0.54	U	ppbv	1.35	0.54	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.38	U	ppbv	1.35	0.38	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.42	U	ppbv	1.35	0.42	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
3-Chloropropene [107-05-1]^	0.53	U	ppbv	1.35	0.53	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Acetone [67-64-1]^	**5.3**	V	ppbv	1.35	0.47	3.4	1D20052	TO-15	04/21/21 10:25	rgg	QB-01
Bromodichloromethane [75-27-4]^	0.46	U	ppbv	1.35	0.46	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Bromoethene [593-60-2]^	0.45	U	ppbv	1.35	0.45	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Bromoform [75-25-2]^	0.51	U	ppbv	1.35	0.51	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Bromomethane [74-83-9]^	0.45	U	ppbv	1.35	0.45	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Carbon tetrachloride [56-23-5]^	0.36	U	ppbv	1.35	0.36	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Chlorobenzene [108-90-7]^	0.45	U	ppbv	1.35	0.45	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Chloroethane [75-00-3]^	0.43	U	ppbv	1.35	0.43	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Chloroform [67-66-3]^	0.51	U	ppbv	1.35	0.51	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Chloromethane [74-87-3]^	**0.66**	I	ppbv	1.35	0.65	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
cis-1,2-Dichloroethene [156-59-2]^	0.51	U	ppbv	1.35	0.51	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	0.51	U	ppbv	1.35	0.51	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Dibromochloromethane [124-48-1]^	0.45	U	ppbv	1.35	0.45	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ppbv	1.35	0.74	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Freon 113 [76-13-1]^	0.43	U	ppbv	1.35	0.43	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Freon 114 [76-14-2]^	0.70	U	ppbv	1.35	0.70	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Hexachlorobutadiene [87-68-3]^	0.50	U	ppbv	1.35	0.50	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Methylene chloride [75-09-2]^	0.27	U	ppbv	1.35	0.27	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Propene [115-07-1]^	0.74	U	ppbv	1.35	0.74	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Tetrachloroethene [127-18-4]^	0.42	U	ppbv	1.35	0.42	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
trans-1,2-Dichloroethene [156-60-5]^	**7.2**		ppbv	1.35	0.43	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.46	U	ppbv	1.35	0.46	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Trichloroethene [79-01-6]^	0.47	U	ppbv	1.35	0.47	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Trichlorofluoromethane [75-69-4]^	0.46	U	ppbv	1.35	0.46	3.4	1D20052	TO-15	04/21/21 10:25	rgg	
Vinyl chloride [75-01-4]^	0.76	U	ppbv	1.35	0.76	3.4	1D20052	TO-15	04/21/21 10:25	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*29*	*1*	*31.0*	*93 %*	*70-130*	*1D20052*	*TO-15*	*04/21/21 10:25*	*rgg*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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ANALYTICAL RESULTS

Description: CRCA-VMP01-20210414 | **Lab Sample ID:** AE02772-02 | **Received:** 04/16/21 14:16

Matrix: Air | **Sampled:** 04/14/21 14:15 | **Work Order:** AE02772

Project: NASA KSC CRCA Airs | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.44	U	ppbv	1.3	0.44	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.47	U	ppbv	1.3	0.47	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.46	U	ppbv	1.3	0.46	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
1,1-Dichloroethane [75-34-3]^	0.47	U	ppbv	1.3	0.47	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
1,1-Dichloroethene [75-35-4]^	0.49	U	ppbv	1.3	0.49	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
1,2-Dibromoethane [106-93-4]^	0.47	U	ppbv	1.3	0.47	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.35	U	ppbv	1.3	0.35	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
1,2-Dichloroethane [107-06-2]^	0.48	U	ppbv	1.3	0.48	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
1,2-Dichloropropane [78-87-5]^	0.52	U	ppbv	1.3	0.52	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.36	U	ppbv	1.3	0.36	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.40	U	ppbv	1.3	0.40	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
3-Chloropropene [107-05-1]^	0.51	U	ppbv	1.3	0.51	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Acetone [67-64-1]^	**11**	V	ppbv	1.3	0.46	3.2	1D20052	TO-15	04/21/21 11:10	rgg	QB-01
Bromodichloromethane [75-27-4]^	0.44	U	ppbv	1.3	0.44	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Bromoethene [593-60-2]^	0.43	U	ppbv	1.3	0.43	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Bromoform [75-25-2]^	0.49	U	ppbv	1.3	0.49	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Bromomethane [74-83-9]^	0.43	U	ppbv	1.3	0.43	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Carbon tetrachloride [56-23-5]^	0.35	U	ppbv	1.3	0.35	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Chlorobenzene [108-90-7]^	0.43	U	ppbv	1.3	0.43	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Chloroethane [75-00-3]^	0.42	U	ppbv	1.3	0.42	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Chloroform [67-66-3]^	0.49	U	ppbv	1.3	0.49	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Chloromethane [74-87-3]^	0.62	U	ppbv	1.3	0.62	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
cis-1,2-Dichloroethene [156-59-2]^	0.49	U	ppbv	1.3	0.49	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	0.49	U	ppbv	1.3	0.49	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Dibromochloromethane [124-48-1]^	0.43	U	ppbv	1.3	0.43	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Dichlorodifluoromethane [75-71-8]^	0.72	U	ppbv	1.3	0.72	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Freon 113 [76-13-1]^	**3.6**		ppbv	1.3	0.42	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Freon 114 [76-14-2]^	0.68	U	ppbv	1.3	0.68	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Hexachlorobutadiene [87-68-3]^	0.48	U	ppbv	1.3	0.48	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Methylene chloride [75-09-2]^	0.26	U	ppbv	1.3	0.26	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Propene [115-07-1]^	0.72	U	ppbv	1.3	0.72	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Tetrachloroethene [127-18-4]^	0.40	U	ppbv	1.3	0.40	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
trans-1,2-Dichloroethene [156-60-5]^	**0.69**	I	ppbv	1.3	0.42	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.44	U	ppbv	1.3	0.44	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Trichloroethene [79-01-6]^	0.46	U	ppbv	1.3	0.46	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Trichlorofluoromethane [75-69-4]^	0.44	U	ppbv	1.3	0.44	3.2	1D20052	TO-15	04/21/21 11:10	rgg	
Vinyl chloride [75-01-4]^	0.73	U	ppbv	1.3	0.73	3.2	1D20052	TO-15	04/21/21 11:10	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*29*	*1*	*31.0*	*94 %*	*70-130*	*1D20052*	*TO-15*	*04/21/21 11:10*	*rgg*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-VMP02-20210414 | **Lab Sample ID:** AE02772-03 | **Received:** 04/16/21 14:16

Matrix: Air | **Sampled:** 04/14/21 14:16 | **Work Order:** AE02772

Project: NASA KSC CRCA Airs | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.46	U	ppbv	1.35	0.46	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.49	U	ppbv	1.35	0.49	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.47	U	ppbv	1.35	0.47	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
1,1-Dichloroethane [75-34-3]^	0.49	U	ppbv	1.35	0.49	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
1,1-Dichloroethene [75-35-4]^	0.51	U	ppbv	1.35	0.51	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
1,2-Dibromoethane [106-93-4]^	0.49	U	ppbv	1.35	0.49	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.36	U	ppbv	1.35	0.36	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
1,2-Dichloroethane [107-06-2]^	0.50	U	ppbv	1.35	0.50	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
1,2-Dichloropropane [78-87-5]^	0.54	U	ppbv	1.35	0.54	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.38	U	ppbv	1.35	0.38	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.42	U	ppbv	1.35	0.42	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
3-Chloropropene [107-05-1]^	0.53	U	ppbv	1.35	0.53	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Acetone [67-64-1]^	**4.0**	V	ppbv	1.35	0.47	3.4	1D20052	TO-15	04/21/21 11:55	rgg	J-01, O-01
Bromodichloromethane [75-27-4]^	0.46	U	ppbv	1.35	0.46	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Bromoethene [593-60-2]^	0.45	U	ppbv	1.35	0.45	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Bromoform [75-25-2]^	0.51	U	ppbv	1.35	0.51	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Bromomethane [74-83-9]^	0.45	U	ppbv	1.35	0.45	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Carbon tetrachloride [56-23-5]^	0.36	U	ppbv	1.35	0.36	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Chlorobenzene [108-90-7]^	0.45	U	ppbv	1.35	0.45	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Chloroethane [75-00-3]^	0.43	U	ppbv	1.35	0.43	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Chloroform [67-66-3]^	0.51	U	ppbv	1.35	0.51	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Chloromethane [74-87-3]^	0.65	U	ppbv	1.35	0.65	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
cis-1,2-Dichloroethene [156-59-2]^	0.51	U	ppbv	1.35	0.51	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	0.51	U	ppbv	1.35	0.51	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Dibromochloromethane [124-48-1]^	0.45	U	ppbv	1.35	0.45	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ppbv	1.35	0.74	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Freon 113 [76-13-1]^	**72**		ppbv	1.35	0.86	6.8	1D20052	TO-15	04/21/21 15:31	rgg	
Freon 114 [76-14-2]^	0.70	U	ppbv	1.35	0.70	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Hexachlorobutadiene [87-68-3]^	0.50	U	ppbv	1.35	0.50	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Methylene chloride [75-09-2]^	**0.76**	I	ppbv	1.35	0.27	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Propene [115-07-1]^	0.74	U	ppbv	1.35	0.74	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Tetrachloroethene [127-18-4]^	0.42	U	ppbv	1.35	0.42	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
trans-1,2-Dichloroethene [156-60-5]^	**1.8**	I	ppbv	1.35	0.43	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.46	U	ppbv	1.35	0.46	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Trichloroethene [79-01-6]^	0.47	U	ppbv	1.35	0.47	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Trichlorofluoromethane [75-69-4]^	0.46	U	ppbv	1.35	0.46	3.4	1D20052	TO-15	04/21/21 11:55	rgg	
Vinyl chloride [75-01-4]^	0.76	U	ppbv	1.35	0.76	3.4	1D20052	TO-15	04/21/21 11:55	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*29*	*1*	*31.0*	*93 %*	*70-130*	*1D20052*	*TO-15*	*04/21/21 11:55*	*rgg*	
4-Bromofluorobenzene	*29*	*1*	*31.0*	*93 %*	*70-130*	*1D20052*	*TO-15*	*04/21/21 15:31*	*rgg*	

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ANALYTICAL RESULTS

Description: CRCA-VMP03-20210414 | **Lab Sample ID:** AE02772-04 | **Received:** 04/16/21 14:16

Matrix: Air | **Sampled:** 04/14/21 14:19 | **Work Order:** AE02772

Project: NASA KSC CRCA Airs | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.44	U	ppbv	1.3	0.44	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.47	U	ppbv	1.3	0.47	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.46	U	ppbv	1.3	0.46	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
1,1-Dichloroethane [75-34-3]^	0.47	U	ppbv	1.3	0.47	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
1,1-Dichloroethene [75-35-4]^	0.49	U	ppbv	1.3	0.49	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
1,2-Dibromoethane [106-93-4]^	0.47	U	ppbv	1.3	0.47	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.35	U	ppbv	1.3	0.35	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
1,2-Dichloroethane [107-06-2]^	0.48	U	ppbv	1.3	0.48	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
1,2-Dichloropropane [78-87-5]^	0.52	U	ppbv	1.3	0.52	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.36	U	ppbv	1.3	0.36	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.40	U	ppbv	1.3	0.40	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
3-Chloropropene [107-05-1]^	0.51	U	ppbv	1.3	0.51	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Acetone [67-64-1]^	**8.3**	V	ppbv	1.3	0.46	3.2	1D20052	TO-15	04/21/21 12:41	rgg	QB-01
Bromodichloromethane [75-27-4]^	0.44	U	ppbv	1.3	0.44	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Bromoethene [593-60-2]^	0.43	U	ppbv	1.3	0.43	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Bromoform [75-25-2]^	0.49	U	ppbv	1.3	0.49	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Bromomethane [74-83-9]^	0.43	U	ppbv	1.3	0.43	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Carbon tetrachloride [56-23-5]^	0.35	U	ppbv	1.3	0.35	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Chlorobenzene [108-90-7]^	0.43	U	ppbv	1.3	0.43	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Chloroethane [75-00-3]^	0.42	U	ppbv	1.3	0.42	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Chloroform [67-66-3]^	**2.4**	I	ppbv	1.3	0.49	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Chloromethane [74-87-3]^	0.62	U	ppbv	1.3	0.62	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
cis-1,2-Dichloroethene [156-59-2]^	0.49	U	ppbv	1.3	0.49	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	0.49	U	ppbv	1.3	0.49	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Dibromochloromethane [124-48-1]^	0.43	U	ppbv	1.3	0.43	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Dichlorodifluoromethane [75-71-8]^	0.72	U	ppbv	1.3	0.72	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Freon 113 [76-13-1]^	**2.7**	I	ppbv	1.3	0.42	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Freon 114 [76-14-2]^	0.68	U	ppbv	1.3	0.68	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Hexachlorobutadiene [87-68-3]^	0.48	U	ppbv	1.3	0.48	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Methylene chloride [75-09-2]^	0.26	U	ppbv	1.3	0.26	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Propene [115-07-1]^	0.72	U	ppbv	1.3	0.72	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Tetrachloroethene [127-18-4]^	0.40	U	ppbv	1.3	0.40	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
trans-1,2-Dichloroethene [156-60-5]^	**0.52**	I	ppbv	1.3	0.42	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.44	U	ppbv	1.3	0.44	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Trichloroethene [79-01-6]^	0.46	U	ppbv	1.3	0.46	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Trichlorofluoromethane [75-69-4]^	0.44	U	ppbv	1.3	0.44	3.2	1D20052	TO-15	04/21/21 12:41	rgg	
Vinyl chloride [75-01-4]^	0.73	U	ppbv	1.3	0.73	3.2	1D20052	TO-15	04/21/21 12:41	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*29*	*1*	*31.0*	*94 %*	*70-130*	*1D20052*	*TO-15*	*04/21/21 12:41*	*rgg*	

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ANALYTICAL RESULTS

Description: CRCA-VMP04-20210414 | **Lab Sample ID:** AE02772-05 | **Received:** 04/16/21 14:16

Matrix: Air | **Sampled:** 04/14/21 14:22 | **Work Order:** AE02772

Project: NASA KSC CRCA Airs | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.44	U	ppbv	1.29	0.44	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.46	U	ppbv	1.29	0.46	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.45	U	ppbv	1.29	0.45	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
1,1-Dichloroethane [75-34-3]^	0.46	U	ppbv	1.29	0.46	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
1,1-Dichloroethene [75-35-4]^	0.49	U	ppbv	1.29	0.49	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
1,2-Dibromoethane [106-93-4]^	0.46	U	ppbv	1.29	0.46	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.35	U	ppbv	1.29	0.35	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
1,2-Dichloroethane [107-06-2]^	0.48	U	ppbv	1.29	0.48	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
1,2-Dichloropropane [78-87-5]^	0.52	U	ppbv	1.29	0.52	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.36	U	ppbv	1.29	0.36	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.40	U	ppbv	1.29	0.40	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
3-Chloropropene [107-05-1]^	0.50	U	ppbv	1.29	0.50	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Acetone [67-64-1]^	**18**	V	ppbv	1.29	0.45	3.2	1D20052	TO-15	04/21/21 13:26	rgg	QB-01
Bromodichloromethane [75-27-4]^	0.44	U	ppbv	1.29	0.44	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Bromoethene [593-60-2]^	0.43	U	ppbv	1.29	0.43	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Bromoform [75-25-2]^	0.49	U	ppbv	1.29	0.49	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Bromomethane [74-83-9]^	0.43	U	ppbv	1.29	0.43	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Carbon tetrachloride [56-23-5]^	0.35	U	ppbv	1.29	0.35	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Chlorobenzene [108-90-7]^	0.43	U	ppbv	1.29	0.43	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Chloroethane [75-00-3]^	0.41	U	ppbv	1.29	0.41	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Chloroform [67-66-3]^	**1.4**	I	ppbv	1.29	0.49	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Chloromethane [74-87-3]^	0.62	U	ppbv	1.29	0.62	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
cis-1,2-Dichloroethene [156-59-2]^	0.49	U	ppbv	1.29	0.49	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	0.49	U	ppbv	1.29	0.49	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Dibromochloromethane [124-48-1]^	0.43	U	ppbv	1.29	0.43	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Dichlorodifluoromethane [75-71-8]^	0.71	U	ppbv	1.29	0.71	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Freon 113 [76-13-1]^	**21**		ppbv	1.29	0.41	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Freon 114 [76-14-2]^	0.67	U	ppbv	1.29	0.67	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Hexachlorobutadiene [87-68-3]^	0.48	U	ppbv	1.29	0.48	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Methylene chloride [75-09-2]^	0.26	U	ppbv	1.29	0.26	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Propene [115-07-1]^	0.71	U	ppbv	1.29	0.71	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Tetrachloroethene [127-18-4]^	0.40	U	ppbv	1.29	0.40	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
trans-1,2-Dichloroethene [156-60-5]^	**1.0**	I	ppbv	1.29	0.41	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.44	U	ppbv	1.29	0.44	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Trichloroethene [79-01-6]^	0.45	U	ppbv	1.29	0.45	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Trichlorofluoromethane [75-69-4]^	0.44	U	ppbv	1.29	0.44	3.2	1D20052	TO-15	04/21/21 13:26	rgg	
Vinyl chloride [75-01-4]^	0.72	U	ppbv	1.29	0.72	3.2	1D20052	TO-15	04/21/21 13:26	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*29*	*1*	*31.0*	*94 %*	*70-130*	*1D20052*	*TO-15*	*04/21/21 13:26*	*rgg*	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D20052 - NO PREP 2

Blank (1D20052-BLK1) Prepared: 04/20/2021 18:21 Analyzed: 04/21/2021 00:06

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.34	U	2.5	ppbv							
1,1,2,2-Tetrachloroethane	0.36	U	2.5	ppbv							
1,1,2-Trichloroethane	0.35	U	2.5	ppbv							
1,1-Dichloroethane	0.36	U	2.5	ppbv							
1,1-Dichloroethene	0.38	U	2.5	ppbv							
1,2-Dibromoethane	0.36	U	2.5	ppbv							
1,2-Dichlorobenzene	0.27	U	2.5	ppbv							
1,2-Dichloroethane	0.37	U	2.5	ppbv							
1,2-Dichloropropane	0.40	U	2.5	ppbv							
1,3-Dichlorobenzene	0.28	U	2.5	ppbv							
1,4-Dichlorobenzene	0.31	U	2.5	ppbv							
3-Chloropropene	0.39	U	2.5	ppbv							
Acetone	**0.39**	**I**	2.5	ppbv							J-01, O-01, QE
Bromodichloromethane	0.34	U	2.5	ppbv							
Bromoethene	0.33	U	2.5	ppbv							
Bromoform	0.38	U	2.5	ppbv							
Bromomethane	0.33	U	2.5	ppbv							
Carbon tetrachloride	0.27	U	2.5	ppbv							
Chlorobenzene	0.33	U	2.5	ppbv							
Chloroethane	0.32	U	2.5	ppbv							
Chloroform	0.38	U	2.5	ppbv							
Chloromethane	0.48	U	2.5	ppbv							
cis-1,2-Dichloroethene	0.38	U	2.5	ppbv							
cis-1,3-Dichloropropene	0.38	U	2.5	ppbv							
Dibromochloromethane	0.33	U	2.5	ppbv							
Dichlorodifluoromethane	0.55	U	2.5	ppbv							
Freon 113	0.32	U	2.5	ppbv							
Freon 114	0.52	U	2.5	ppbv							
Hexachlorobutadiene	0.37	U	2.5	ppbv							
Methylene chloride	0.20	U	2.5	ppbv							
Propene	0.55	U	2.5	ppbv							
Tetrachloroethene	0.31	U	2.5	ppbv							
trans-1,2-Dichloroethene	0.32	U	2.5	ppbv							
trans-1,3-Dichloropropene	0.34	U	2.5	ppbv							
Trichloroethene	0.35	U	2.5	ppbv							
Trichlorofluoromethane	0.34	U	2.5	ppbv							
Vinyl chloride	0.56	U	2.5	ppbv							
4-Bromofluorobenzene	*29*			*ppbv*	*31.0*		*93*	*70-130*			

LCS (1D20052-BS1) Prepared: 04/20/2021 18:21 Analyzed: 04/20/2021 21:59

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	12		2.5	ppbv	10.0		119	70-130			
1,1,2,2-Tetrachloroethane	12		2.5	ppbv	10.0		115	52-163			
1,1,2-Trichloroethane	11		2.5	ppbv	10.0		110	70-134			
1,1-Dichloroethane	11		2.5	ppbv	10.0		114	70-130			
1,1-Dichloroethene	12		2.5	ppbv	10.0		118	67-142			
1,2-Dibromoethane	12		2.5	ppbv	10.0		116	70-141			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D20052 - NO PREP 2 - Continued

LCS (1D20052-BS1) Continued Prepared: 04/20/2021 18:21 Analyzed: 04/20/2021 21:59

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,2-Dichlorobenzene	11		2.5	ppbv	10.0		112	37-180			
1,2-Dichloroethane	13		2.5	ppbv	10.0		127	70-130			
1,2-Dichloropropane	11		2.5	ppbv	10.0		110	70-130			
1,3-Dichlorobenzene	11		2.5	ppbv	10.0		108	47-178			
1,4-Dichlorobenzene	11		2.5	ppbv	10.0		109	45-180			
3-Chloropropene	11		2.5	ppbv	10.0		109	70-130			
Acetone	11		2.5	ppbv	10.0		113	65-130			
Bromodichloromethane	12		2.5	ppbv	10.0		116	70-130			
Bromoethene	11		2.5	ppbv	10.0		110	69-132			
Bromoform	11		2.5	ppbv	10.0		111	62-149			
Bromomethane	12		2.5	ppbv	10.0		117	69-130			
Carbon tetrachloride	11		2.5	ppbv	10.0		112	22-166			
Chlorobenzene	10		2.5	ppbv	10.0		105	70-134			
Chloroethane	12		2.5	ppbv	10.0		118	69-131			
Chloroform	12		2.5	ppbv	10.0		115	70-130			
Chloromethane	10		2.5	ppbv	10.0		104	55-142			
cis-1,2-Dichloroethene	11		2.5	ppbv	10.0		107	70-130			
cis-1,3-Dichloropropene	12		2.5	ppbv	10.0		120	70-137			
Dibromochloromethane	11		2.5	ppbv	10.0		112	70-130			
Dichlorodifluoromethane	12		2.5	ppbv	10.0		119	61-137			
Freon 113	11		2.5	ppbv	10.0		109	67-140			
Freon 114	11		2.5	ppbv	10.0		110	62-147			
Hexachlorobutadiene	13		2.5	ppbv	10.0		131	24-180			
Methylene chloride	11		2.5	ppbv	10.0		109	59-136			
Propene	9.1		2.5	ppbv	10.0		91	63-132			
Tetrachloroethene	10		2.5	ppbv	10.0		104	70-141			
trans-1,2-Dichloroethene	11		2.5	ppbv	10.0		109	70-130			
trans-1,3-Dichloropropene	16		2.5	ppbv	10.0		163	59-166			
Trichloroethene	11		2.5	ppbv	10.0		106	70-130			
Trichlorofluoromethane	8.5		2.5	ppbv	10.0		85	46-161			
Vinyl chloride	11		2.5	ppbv	10.0		111	53-148			
4-Bromofluorobenzene	*31*			*ppbv*	*31.0*		*99*	*70-130*			

LCS Dup (1D20052-BSD1) Prepared: 04/20/2021 18:21 Analyzed: 04/20/2021 22:39

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	12		2.5	ppbv	10.0		115	70-130	3	25	
1,1,2,2-Tetrachloroethane	11		2.5	ppbv	10.0		115	52-163	0.6	25	
1,1,2-Trichloroethane	11		2.5	ppbv	10.0		108	70-134	2	25	
1,1-Dichloroethane	11		2.5	ppbv	10.0		111	70-130	3	25	
1,1-Dichloroethene	12		2.5	ppbv	10.0		116	67-142	2	25	
1,2-Dibromoethane	12		2.5	ppbv	10.0		115	70-141	0.5	25	
1,2-Dichlorobenzene	11		2.5	ppbv	10.0		111	37-180	0.2	25	
1,2-Dichloroethane	12		2.5	ppbv	10.0		123	70-130	3	25	
1,2-Dichloropropane	11		2.5	ppbv	10.0		107	70-130	3	25	
1,3-Dichlorobenzene	11		2.5	ppbv	10.0		108	47-178	0.5	25	
1,4-Dichlorobenzene	11		2.5	ppbv	10.0		110	45-180	0.9	25	
3-Chloropropene	11		2.5	ppbv	10.0		106	70-130	2	25	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D20052 - NO PREP 2 - Continued

LCS Dup (1D20052-BSD1) Continued Prepared: 04/20/2021 18:21 Analyzed: 04/20/2021 22:39

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Acetone	11		2.5	ppbv	10.0		111	65-130	2	25	
Bromodichloromethane	11		2.5	ppbv	10.0		113	70-130	3	25	
Bromoethene	11		2.5	ppbv	10.0		109	69-132	1	25	
Bromoform	11		2.5	ppbv	10.0		110	62-149	0.8	25	
Bromomethane	12		2.5	ppbv	10.0		115	69-130	2	25	
Carbon tetrachloride	11		2.5	ppbv	10.0		109	22-166	3	25	
Chlorobenzene	10		2.5	ppbv	10.0		103	70-134	1	25	
Chloroethane	12		2.5	ppbv	10.0		117	69-131	1	25	
Chloroform	11		2.5	ppbv	10.0		113	70-130	3	25	
Chloromethane	10		2.5	ppbv	10.0		104	55-142	0.5	25	
cis-1,2-Dichloroethene	11		2.5	ppbv	10.0		106	70-130	0.7	25	
cis-1,3-Dichloropropene	12		2.5	ppbv	10.0		118	70-137	2	25	
Dibromochloromethane	11		2.5	ppbv	10.0		110	70-130	2	25	
Dichlorodifluoromethane	11		2.5	ppbv	10.0		115	61-137	3	25	
Freon 113	11		2.5	ppbv	10.0		107	67-140	2	25	
Freon 114	11		2.5	ppbv	10.0		109	62-147	0.7	25	
Hexachlorobutadiene	13		2.5	ppbv	10.0		131	24-180	0.06	25	
Methylene chloride	11		2.5	ppbv	10.0		107	59-136	2	25	
Propene	9.0		2.5	ppbv	10.0		90	63-132	0.7	25	
Tetrachloroethene	10		2.5	ppbv	10.0		102	70-141	2	25	
trans-1,2-Dichloroethene	11		2.5	ppbv	10.0		106	70-130	2	25	
trans-1,3-Dichloropropene	16		2.5	ppbv	10.0		161	59-166	1	25	
Trichloroethene	11		2.5	ppbv	10.0		105	70-130	0.3	25	
Trichlorofluoromethane	8.3		2.5	ppbv	10.0		83	46-161	3	25	
Vinyl chloride	11		2.5	ppbv	10.0		112	53-148	0.8	25	
4-Bromofluorobenzene	*31*			*ppbv*	*31.0*		*99*	*70-130*			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
J-01	Result may be biased high due to positive results in the associated method blank at a concentration above the MDL and/or greater than one-half the MRL.
O-01	This compound is a common laboratory contaminant.
QB-01	The method blank had a positive result for the analyte; however, the concentration in the method blank is less than 10% of the sample result. There is minimal impact to the data.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

AE02772

SGS North America Inc - Orlando

Chain of Custody

4405 Vineland Road, Suite C-15 Orlando, Fl 32811
TEL. 407-425-6700 FAX: 407-425-0707
www.sgs.com

SGS - ORLANDO JOB # : PAGE 1 OF 1

SGS - ORLANDO Quote # | SKIFF #

Client / Reporting Information

Company Name: Tetra tech
Address: 11 Riverside Dr
City: Cocoa State: FL Zip:
Project Contact: Alex Murphy Email: Alex.murphy@tetratech.com
Phone #:
Sampler(s) Name(s) (Printed)
Sampler 1: Melissa Benn Sampler 2:

Project Information

Project Name: CRCA
Street
City NASA State FL
Project # 112G08970
Fax #
Client Purchase Order #

Analytical Information

TP-15

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid

SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION DATE	TIME	SAMPLED BY:	MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	HCl	NaOH	HNO3	H2SO4	NAOH+ZNAC	DI WATER	MEOH	TP-15	LAB USE ONLY
	CRCA-AMB-20210414	4-14-21	0817	MB	Air	1		X								X	
	CRCA-~~AMB~~ VMP01-20210414	4-14-21	1415	MB	Air	1		X								X	
	CRCA-VMP02-20210414	4-14-21	1416	MB	Air	1		X								X	
	CRCA-VMP03-20210414	4-14-21	1419	MB	Air	1		X								X	
	CRCA-VMP04-20210414	4-14-21	1422	MB	Air	1		X								X	

Turnaround Time (Business days)

10 Day (Business) Approved By: / Date:
7 Day
5 Day
3 Day *RUSH*
2 Day *RUSH*
1 Day *RUSH*
Other
Rush T/A Data Available VIA Email or Lablink

Data Deliverable Information

- ☐ COMMERCIAL "A" (RESULTS ONLY)
- ☐ COMMERCIAL "B" (RESULTS PLUS QC)
- ☐ REDT1 (EPA LEVEL 3)
- ☐ FULLT1 (EPA LEVEL 4)
- ☐ EDD'S

Comments / Remarks

See accompanying field sheets.

Sample Custody must be documented below each time samples change possession, including courier delivery.

1 Relinquished by Sampler/Affiliation: MB	Date Time: 1200 4-14-21	2 Received By/Affiliation: Tetra Tech	3 Relinquished By/Affiliation:	Date Time: 4-16-21 4/16	4 Received By/Affiliation: James W Gregory
5 Relinquished by/Affiliation:	Date Time:	6 Received By/Affiliation:	7 Relinquished By/Affiliation:	Date Time:	8 Received By/Affiliation:

Lab Use Only : Cooler Temperature (s) Celsius (corrected): Box 23.6°C

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Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Wednesday, August 4, 2021
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA Airs
ENCO Workorder(s): AE05482

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Tuesday, July 27, 2021.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

www.encolabs.com

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-AMB01-20210726 **Lab ID: AE05482-01** **Sampled: 07/26/21 15:25** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	08/25/21	08/02/21 10:30	08/02/21 14:07

Client ID: CRCA-VMP01-20210726 **Lab ID: AE05482-02** **Sampled: 07/26/21 11:30** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	08/25/21	08/02/21 10:30	08/02/21 14:52

Client ID: CRCA-VMP03-20210726 **Lab ID: AE05482-03** **Sampled: 07/26/21 12:05** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	08/25/21	08/02/21 10:30	08/02/21 15:37

Client ID: CRCA-VMP02-20210726 **Lab ID: AE05482-04** **Sampled: 07/26/21 12:40** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	08/25/21	08/02/21 10:30	08/02/21 16:21

Client ID: CRCA-VMP04-20210726 **Lab ID: AE05482-05** **Sampled: 07/26/21 13:45** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	08/25/21	08/02/21 10:30	08/02/21 17:05

Client ID: CRCA-VMP04-20210726 **Lab ID: AE05482-05RE1** **Sampled: 07/26/21 13:45** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	08/25/21	08/02/21 10:30	08/02/21 19:48

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SAMPLE DETECTION SUMMARY

Client ID: CRCA-AMB01-20210726 **Lab ID: AE05482-01**

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
1,3-Dichlorobenzene	0.42	I	0.40	3.6	ppbv	TO-15	
Acetone	3.9		0.50	3.6	ppbv	TO-15	
Chloromethane	0.80	I	0.68	3.6	ppbv	TO-15	
Methylene chloride	0.68	I	0.28	3.6	ppbv	TO-15	
trans-1,2-Dichloroethene	3.6		0.45	3.6	ppbv	TO-15	

Client ID: CRCA-VMP01-20210726 **Lab ID: AE05482-02**

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	7.8		0.52	3.7	ppbv	TO-15	
Freon 113	4.7		0.47	3.7	ppbv	TO-15	

Client ID: CRCA-VMP03-20210726 **Lab ID: AE05482-03**

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	5.4		0.51	3.6	ppbv	TO-15	
Chloroform	2.5	I	0.55	3.6	ppbv	TO-15	
Freon 113	5.0		0.47	3.6	ppbv	TO-15	

Client ID: CRCA-VMP02-20210726 **Lab ID: AE05482-04**

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	4.3		0.50	3.6	ppbv	TO-15	
Freon 113	44		0.46	3.6	ppbv	TO-15	
trans-1,2-Dichloroethene	6.2		0.46	3.6	ppbv	TO-15	

Client ID: CRCA-VMP04-20210726 **Lab ID: AE05482-05**

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	42		0.51	3.7	ppbv	TO-15	
Methylene chloride	1.3	I	0.29	3.7	ppbv	TO-15	
trans-1,2-Dichloroethene	0.56	I	0.47	3.7	ppbv	TO-15	

Client ID: CRCA-VMP04-20210726 **Lab ID: AE05482-05RE1**

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Freon 113	350		2.4	18	ppbv	TO-15	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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ANALYTICAL RESULTS

Description: CRCA-AMB01-20210726 | **Lab Sample ID:** AE05482-01 | **Received:** 07/27/21 15:00

Matrix: Air | **Sampled:** 07/26/21 15:25 | **Work Order:** AE05482

Project: NASA KSC CRCA Airs | **Sampled By:** Chuck Sorden | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.48	U	ppbv	1.42	0.48	3.6	1H01002	TO-15	08/02/21 14:07	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.51	U	ppbv	1.42	0.51	3.6	1H01002	TO-15	08/02/21 14:07	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.50	U	ppbv	1.42	0.50	3.6	1H01002	TO-15	08/02/21 14:07	rgg	
1,1-Dichloroethane [75-34-3]^	0.51	U	ppbv	1.42	0.51	3.6	1H01002	TO-15	08/02/21 14:07	rgg	
1,1-Dichloroethene [75-35-4]^	0.54	U	ppbv	1.42	0.54	3.6	1H01002	TO-15	08/02/21 14:07	rgg	
1,2-Dibromoethane [106-93-4]^	0.51	U	ppbv	1.42	0.51	3.6	1H01002	TO-15	08/02/21 14:07	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.38	U	ppbv	1.42	0.38	3.6	1H01002	TO-15	08/02/21 14:07	rgg	
1,2-Dichloroethane [107-06-2]^	0.53	U	ppbv	1.42	0.53	3.6	1H01002	TO-15	08/02/21 14:07	rgg	
1,2-Dichloropropane [78-87-5]^	0.57	U	ppbv	1.42	0.57	3.6	1H01002	TO-15	08/02/21 14:07	rgg	
1,3-Dichlorobenzene [541-73-1]^	**0.42**	I	ppbv	1.42	0.40	3.6	1H01002	TO-15	08/02/21 14:07	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.44	U	ppbv	1.42	0.44	3.6	1H01002	TO-15	08/02/21 14:07	rgg	
3-Chloropropene [107-05-1]^	0.55	U	ppbv	1.42	0.55	3.6	1H01002	TO-15	08/02/21 14:07	rgg	
Acetone [67-64-1]^	**3.9**		ppbv	1.42	0.50	3.6	1H01002	TO-15	08/02/21 14:07	rgg	
Bromodichloromethane [75-27-4]^	0.48	U	ppbv	1.42	0.48	3.6	1H01002	TO-15	08/02/21 14:07	rgg	
Bromoethene [593-60-2]^	0.47	U	ppbv	1.42	0.47	3.6	1H01002	TO-15	08/02/21 14:07	rgg	
Bromoform [75-25-2]^	0.54	U	ppbv	1.42	0.54	3.6	1H01002	TO-15	08/02/21 14:07	rgg	
Bromomethane [74-83-9]^	0.47	U	ppbv	1.42	0.47	3.6	1H01002	TO-15	08/02/21 14:07	rgg	
Carbon tetrachloride [56-23-5]^	0.38	U	ppbv	1.42	0.38	3.6	1H01002	TO-15	08/02/21 14:07	rgg	
Chlorobenzene [108-90-7]^	0.47	U	ppbv	1.42	0.47	3.6	1H01002	TO-15	08/02/21 14:07	rgg	
Chloroethane [75-00-3]^	0.45	U	ppbv	1.42	0.45	3.6	1H01002	TO-15	08/02/21 14:07	rgg	
Chloroform [67-66-3]^	0.54	U	ppbv	1.42	0.54	3.6	1H01002	TO-15	08/02/21 14:07	rgg	
Chloromethane [74-87-3]^	**0.80**	I	ppbv	1.42	0.68	3.6	1H01002	TO-15	08/02/21 14:07	rgg	
cis-1,2-Dichloroethene [156-59-2]^	0.54	U	ppbv	1.42	0.54	3.6	1H01002	TO-15	08/02/21 14:07	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	0.54	U	ppbv	1.42	0.54	3.6	1H01002	TO-15	08/02/21 14:07	rgg	
Dibromochloromethane [124-48-1]^	0.47	U	ppbv	1.42	0.47	3.6	1H01002	TO-15	08/02/21 14:07	rgg	
Dichlorodifluoromethane [75-71-8]^	0.78	U	ppbv	1.42	0.78	3.6	1H01002	TO-15	08/02/21 14:07	rgg	
Freon 113 [76-13-1]^	0.45	U	ppbv	1.42	0.45	3.6	1H01002	TO-15	08/02/21 14:07	rgg	
Freon 114 [76-14-2]^	0.74	U	ppbv	1.42	0.74	3.6	1H01002	TO-15	08/02/21 14:07	rgg	
Hexachlorobutadiene [87-68-3]^	0.53	U	ppbv	1.42	0.53	3.6	1H01002	TO-15	08/02/21 14:07	rgg	
Methylene chloride [75-09-2]^	**0.68**	I	ppbv	1.42	0.28	3.6	1H01002	TO-15	08/02/21 14:07	rgg	
Propene [115-07-1]^	0.78	U	ppbv	1.42	0.78	3.6	1H01002	TO-15	08/02/21 14:07	rgg	
Tetrachloroethene [127-18-4]^	0.44	U	ppbv	1.42	0.44	3.6	1H01002	TO-15	08/02/21 14:07	rgg	
trans-1,2-Dichloroethene [156-60-5]^	**3.6**		ppbv	1.42	0.45	3.6	1H01002	TO-15	08/02/21 14:07	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.48	U	ppbv	1.42	0.48	3.6	1H01002	TO-15	08/02/21 14:07	rgg	
Trichloroethene [79-01-6]^	0.50	U	ppbv	1.42	0.50	3.6	1H01002	TO-15	08/02/21 14:07	rgg	
Trichlorofluoromethane [75-69-4]^	0.48	U	ppbv	1.42	0.48	3.6	1H01002	TO-15	08/02/21 14:07	rgg	
Vinyl chloride [75-01-4]^	0.80	U	ppbv	1.42	0.80	3.6	1H01002	TO-15	08/02/21 14:07	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*29*	*1*	*31.0*	*95 %*	*70-130*	*1H01002*	*TO-15*	*08/02/21 14:07*	*rgg*	

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ANALYTICAL RESULTS

Description: CRCA-VMP01-20210726 | **Lab Sample ID:** AE05482-02 | **Received:** 07/27/21 15:00

Matrix: Air | **Sampled:** 07/26/21 11:30 | **Work Order:** AE05482

Project: NASA KSC CRCA Airs | **Sampled By:** Chuck Sorden | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.50	U	ppbv	1.48	0.50	3.7	1H01002	TO-15	08/02/21 14:52	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.53	U	ppbv	1.48	0.53	3.7	1H01002	TO-15	08/02/21 14:52	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.52	U	ppbv	1.48	0.52	3.7	1H01002	TO-15	08/02/21 14:52	rgg	
1,1-Dichloroethane [75-34-3]^	0.53	U	ppbv	1.48	0.53	3.7	1H01002	TO-15	08/02/21 14:52	rgg	
1,1-Dichloroethene [75-35-4]^	0.56	U	ppbv	1.48	0.56	3.7	1H01002	TO-15	08/02/21 14:52	rgg	
1,2-Dibromoethane [106-93-4]^	0.53	U	ppbv	1.48	0.53	3.7	1H01002	TO-15	08/02/21 14:52	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.40	U	ppbv	1.48	0.40	3.7	1H01002	TO-15	08/02/21 14:52	rgg	
1,2-Dichloroethane [107-06-2]^	0.55	U	ppbv	1.48	0.55	3.7	1H01002	TO-15	08/02/21 14:52	rgg	
1,2-Dichloropropane [78-87-5]^	0.59	U	ppbv	1.48	0.59	3.7	1H01002	TO-15	08/02/21 14:52	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.41	U	ppbv	1.48	0.41	3.7	1H01002	TO-15	08/02/21 14:52	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.46	U	ppbv	1.48	0.46	3.7	1H01002	TO-15	08/02/21 14:52	rgg	
3-Chloropropene [107-05-1]^	0.58	U	ppbv	1.48	0.58	3.7	1H01002	TO-15	08/02/21 14:52	rgg	
Acetone [67-64-1]^	**7.8**		ppbv	1.48	0.52	3.7	1H01002	TO-15	08/02/21 14:52	rgg	
Bromodichloromethane [75-27-4]^	0.50	U	ppbv	1.48	0.50	3.7	1H01002	TO-15	08/02/21 14:52	rgg	
Bromoethene [593-60-2]^	0.49	U	ppbv	1.48	0.49	3.7	1H01002	TO-15	08/02/21 14:52	rgg	
Bromoform [75-25-2]^	0.56	U	ppbv	1.48	0.56	3.7	1H01002	TO-15	08/02/21 14:52	rgg	
Bromomethane [74-83-9]^	0.49	U	ppbv	1.48	0.49	3.7	1H01002	TO-15	08/02/21 14:52	rgg	
Carbon tetrachloride [56-23-5]^	0.40	U	ppbv	1.48	0.40	3.7	1H01002	TO-15	08/02/21 14:52	rgg	
Chlorobenzene [108-90-7]^	0.49	U	ppbv	1.48	0.49	3.7	1H01002	TO-15	08/02/21 14:52	rgg	
Chloroethane [75-00-3]^	0.47	U	ppbv	1.48	0.47	3.7	1H01002	TO-15	08/02/21 14:52	rgg	
Chloroform [67-66-3]^	0.56	U	ppbv	1.48	0.56	3.7	1H01002	TO-15	08/02/21 14:52	rgg	
Chloromethane [74-87-3]^	0.71	U	ppbv	1.48	0.71	3.7	1H01002	TO-15	08/02/21 14:52	rgg	
cis-1,2-Dichloroethene [156-59-2]^	0.56	U	ppbv	1.48	0.56	3.7	1H01002	TO-15	08/02/21 14:52	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	0.56	U	ppbv	1.48	0.56	3.7	1H01002	TO-15	08/02/21 14:52	rgg	
Dibromochloromethane [124-48-1]^	0.49	U	ppbv	1.48	0.49	3.7	1H01002	TO-15	08/02/21 14:52	rgg	
Dichlorodifluoromethane [75-71-8]^	0.81	U	ppbv	1.48	0.81	3.7	1H01002	TO-15	08/02/21 14:52	rgg	
Freon 113 [76-13-1]^	**4.7**		ppbv	1.48	0.47	3.7	1H01002	TO-15	08/02/21 14:52	rgg	
Freon 114 [76-14-2]^	0.77	U	ppbv	1.48	0.77	3.7	1H01002	TO-15	08/02/21 14:52	rgg	
Hexachlorobutadiene [87-68-3]^	0.55	U	ppbv	1.48	0.55	3.7	1H01002	TO-15	08/02/21 14:52	rgg	
Methylene chloride [75-09-2]^	0.30	U	ppbv	1.48	0.30	3.7	1H01002	TO-15	08/02/21 14:52	rgg	
Propene [115-07-1]^	0.81	U	ppbv	1.48	0.81	3.7	1H01002	TO-15	08/02/21 14:52	rgg	
Tetrachloroethene [127-18-4]^	0.46	U	ppbv	1.48	0.46	3.7	1H01002	TO-15	08/02/21 14:52	rgg	
trans-1,2-Dichloroethene [156-60-5]^	0.47	U	ppbv	1.48	0.47	3.7	1H01002	TO-15	08/02/21 14:52	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.50	U	ppbv	1.48	0.50	3.7	1H01002	TO-15	08/02/21 14:52	rgg	
Trichloroethene [79-01-6]^	0.52	U	ppbv	1.48	0.52	3.7	1H01002	TO-15	08/02/21 14:52	rgg	
Trichlorofluoromethane [75-69-4]^	0.50	U	ppbv	1.48	0.50	3.7	1H01002	TO-15	08/02/21 14:52	rgg	
Vinyl chloride [75-01-4]^	0.83	U	ppbv	1.48	0.83	3.7	1H01002	TO-15	08/02/21 14:52	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*30*	*1*	*31.0*	*96 %*	*70-130*	*1H01002*	*TO-15*	*08/02/21 14:52*	*rgg*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-VMP03-20210726 | **Lab Sample ID:** AE05482-03 | **Received:** 07/27/21 15:00

Matrix: Air | **Sampled:** 07/26/21 12:05 | **Work Order:** AE05482

Project: NASA KSC CRCA Airs | **Sampled By:** Chuck Sorden | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.50	U	ppbv	1.46	0.50	3.6	1H01002	TO-15	08/02/21 15:37	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.53	U	ppbv	1.46	0.53	3.6	1H01002	TO-15	08/02/21 15:37	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.51	U	ppbv	1.46	0.51	3.6	1H01002	TO-15	08/02/21 15:37	rgg	
1,1-Dichloroethane [75-34-3]^	0.53	U	ppbv	1.46	0.53	3.6	1H01002	TO-15	08/02/21 15:37	rgg	
1,1-Dichloroethene [75-35-4]^	0.55	U	ppbv	1.46	0.55	3.6	1H01002	TO-15	08/02/21 15:37	rgg	
1,2-Dibromoethane [106-93-4]^	0.53	U	ppbv	1.46	0.53	3.6	1H01002	TO-15	08/02/21 15:37	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.39	U	ppbv	1.46	0.39	3.6	1H01002	TO-15	08/02/21 15:37	rgg	
1,2-Dichloroethane [107-06-2]^	0.54	U	ppbv	1.46	0.54	3.6	1H01002	TO-15	08/02/21 15:37	rgg	
1,2-Dichloropropane [78-87-5]^	0.58	U	ppbv	1.46	0.58	3.6	1H01002	TO-15	08/02/21 15:37	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.41	U	ppbv	1.46	0.41	3.6	1H01002	TO-15	08/02/21 15:37	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.45	U	ppbv	1.46	0.45	3.6	1H01002	TO-15	08/02/21 15:37	rgg	
3-Chloropropene [107-05-1]^	0.57	U	ppbv	1.46	0.57	3.6	1H01002	TO-15	08/02/21 15:37	rgg	
Acetone [67-64-1]^	**5.4**		ppbv	1.46	0.51	3.6	1H01002	TO-15	08/02/21 15:37	rgg	
Bromodichloromethane [75-27-4]^	0.50	U	ppbv	1.46	0.50	3.6	1H01002	TO-15	08/02/21 15:37	rgg	
Bromoethene [593-60-2]^	0.48	U	ppbv	1.46	0.48	3.6	1H01002	TO-15	08/02/21 15:37	rgg	
Bromoform [75-25-2]^	0.55	U	ppbv	1.46	0.55	3.6	1H01002	TO-15	08/02/21 15:37	rgg	
Bromomethane [74-83-9]^	0.48	U	ppbv	1.46	0.48	3.6	1H01002	TO-15	08/02/21 15:37	rgg	
Carbon tetrachloride [56-23-5]^	0.39	U	ppbv	1.46	0.39	3.6	1H01002	TO-15	08/02/21 15:37	rgg	
Chlorobenzene [108-90-7]^	0.48	U	ppbv	1.46	0.48	3.6	1H01002	TO-15	08/02/21 15:37	rgg	
Chloroethane [75-00-3]^	0.47	U	ppbv	1.46	0.47	3.6	1H01002	TO-15	08/02/21 15:37	rgg	
Chloroform [67-66-3]^	**2.5**	I	ppbv	1.46	0.55	3.6	1H01002	TO-15	08/02/21 15:37	rgg	
Chloromethane [74-87-3]^	0.70	U	ppbv	1.46	0.70	3.6	1H01002	TO-15	08/02/21 15:37	rgg	
cis-1,2-Dichloroethene [156-59-2]^	0.55	U	ppbv	1.46	0.55	3.6	1H01002	TO-15	08/02/21 15:37	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	0.55	U	ppbv	1.46	0.55	3.6	1H01002	TO-15	08/02/21 15:37	rgg	
Dibromochloromethane [124-48-1]^	0.48	U	ppbv	1.46	0.48	3.6	1H01002	TO-15	08/02/21 15:37	rgg	
Dichlorodifluoromethane [75-71-8]^	0.80	U	ppbv	1.46	0.80	3.6	1H01002	TO-15	08/02/21 15:37	rgg	
Freon 113 [76-13-1]^	**5.0**		ppbv	1.46	0.47	3.6	1H01002	TO-15	08/02/21 15:37	rgg	
Freon 114 [76-14-2]^	0.76	U	ppbv	1.46	0.76	3.6	1H01002	TO-15	08/02/21 15:37	rgg	
Hexachlorobutadiene [87-68-3]^	0.54	U	ppbv	1.46	0.54	3.6	1H01002	TO-15	08/02/21 15:37	rgg	
Methylene chloride [75-09-2]^	0.29	U	ppbv	1.46	0.29	3.6	1H01002	TO-15	08/02/21 15:37	rgg	
Propene [115-07-1]^	0.80	U	ppbv	1.46	0.80	3.6	1H01002	TO-15	08/02/21 15:37	rgg	
Tetrachloroethene [127-18-4]^	0.45	U	ppbv	1.46	0.45	3.6	1H01002	TO-15	08/02/21 15:37	rgg	
trans-1,2-Dichloroethene [156-60-5]^	0.47	U	ppbv	1.46	0.47	3.6	1H01002	TO-15	08/02/21 15:37	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.50	U	ppbv	1.46	0.50	3.6	1H01002	TO-15	08/02/21 15:37	rgg	
Trichloroethene [79-01-6]^	0.51	U	ppbv	1.46	0.51	3.6	1H01002	TO-15	08/02/21 15:37	rgg	
Trichlorofluoromethane [75-69-4]^	0.50	U	ppbv	1.46	0.50	3.6	1H01002	TO-15	08/02/21 15:37	rgg	
Vinyl chloride [75-01-4]^	0.82	U	ppbv	1.46	0.82	3.6	1H01002	TO-15	08/02/21 15:37	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*29*	*1*	*31.0*	*95 %*	*70-130*	*1H01002*	*TO-15*	*08/02/21 15:37*	*rgg*	

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ANALYTICAL RESULTS

Description: CRCA-VMP02-20210726 | **Lab Sample ID:** AE05482-04 | **Received:** 07/27/21 15:00

Matrix: Air | **Sampled:** 07/26/21 12:40 | **Work Order:** AE05482

Project: NASA KSC CRCA Airs | **Sampled By:** Chuck Sorden | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.49	U	ppbv	1.44	0.49	3.6	1H01002	TO-15	08/02/21 16:21	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.52	U	ppbv	1.44	0.52	3.6	1H01002	TO-15	08/02/21 16:21	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.50	U	ppbv	1.44	0.50	3.6	1H01002	TO-15	08/02/21 16:21	rgg	
1,1-Dichloroethane [75-34-3]^	0.52	U	ppbv	1.44	0.52	3.6	1H01002	TO-15	08/02/21 16:21	rgg	
1,1-Dichloroethene [75-35-4]^	0.55	U	ppbv	1.44	0.55	3.6	1H01002	TO-15	08/02/21 16:21	rgg	
1,2-Dibromoethane [106-93-4]^	0.52	U	ppbv	1.44	0.52	3.6	1H01002	TO-15	08/02/21 16:21	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.39	U	ppbv	1.44	0.39	3.6	1H01002	TO-15	08/02/21 16:21	rgg	
1,2-Dichloroethane [107-06-2]^	0.53	U	ppbv	1.44	0.53	3.6	1H01002	TO-15	08/02/21 16:21	rgg	
1,2-Dichloropropane [78-87-5]^	0.58	U	ppbv	1.44	0.58	3.6	1H01002	TO-15	08/02/21 16:21	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.40	U	ppbv	1.44	0.40	3.6	1H01002	TO-15	08/02/21 16:21	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.45	U	ppbv	1.44	0.45	3.6	1H01002	TO-15	08/02/21 16:21	rgg	
3-Chloropropene [107-05-1]^	0.56	U	ppbv	1.44	0.56	3.6	1H01002	TO-15	08/02/21 16:21	rgg	
Acetone [67-64-1]^	**4.3**		ppbv	1.44	0.50	3.6	1H01002	TO-15	08/02/21 16:21	rgg	
Bromodichloromethane [75-27-4]^	0.49	U	ppbv	1.44	0.49	3.6	1H01002	TO-15	08/02/21 16:21	rgg	
Bromoethene [593-60-2]^	0.48	U	ppbv	1.44	0.48	3.6	1H01002	TO-15	08/02/21 16:21	rgg	
Bromoform [75-25-2]^	0.55	U	ppbv	1.44	0.55	3.6	1H01002	TO-15	08/02/21 16:21	rgg	
Bromomethane [74-83-9]^	0.48	U	ppbv	1.44	0.48	3.6	1H01002	TO-15	08/02/21 16:21	rgg	
Carbon tetrachloride [56-23-5]^	0.39	U	ppbv	1.44	0.39	3.6	1H01002	TO-15	08/02/21 16:21	rgg	
Chlorobenzene [108-90-7]^	0.48	U	ppbv	1.44	0.48	3.6	1H01002	TO-15	08/02/21 16:21	rgg	
Chloroethane [75-00-3]^	0.46	U	ppbv	1.44	0.46	3.6	1H01002	TO-15	08/02/21 16:21	rgg	
Chloroform [67-66-3]^	0.55	U	ppbv	1.44	0.55	3.6	1H01002	TO-15	08/02/21 16:21	rgg	
Chloromethane [74-87-3]^	0.69	U	ppbv	1.44	0.69	3.6	1H01002	TO-15	08/02/21 16:21	rgg	
cis-1,2-Dichloroethene [156-59-2]^	0.55	U	ppbv	1.44	0.55	3.6	1H01002	TO-15	08/02/21 16:21	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	0.55	U	ppbv	1.44	0.55	3.6	1H01002	TO-15	08/02/21 16:21	rgg	
Dibromochloromethane [124-48-1]^	0.48	U	ppbv	1.44	0.48	3.6	1H01002	TO-15	08/02/21 16:21	rgg	
Dichlorodifluoromethane [75-71-8]^	0.79	U	ppbv	1.44	0.79	3.6	1H01002	TO-15	08/02/21 16:21	rgg	
Freon 113 [76-13-1]^	**44**		ppbv	1.44	0.46	3.6	1H01002	TO-15	08/02/21 16:21	rgg	
Freon 114 [76-14-2]^	0.75	U	ppbv	1.44	0.75	3.6	1H01002	TO-15	08/02/21 16:21	rgg	
Hexachlorobutadiene [87-68-3]^	0.53	U	ppbv	1.44	0.53	3.6	1H01002	TO-15	08/02/21 16:21	rgg	
Methylene chloride [75-09-2]^	0.29	U	ppbv	1.44	0.29	3.6	1H01002	TO-15	08/02/21 16:21	rgg	
Propene [115-07-1]^	0.79	U	ppbv	1.44	0.79	3.6	1H01002	TO-15	08/02/21 16:21	rgg	
Tetrachloroethene [127-18-4]^	0.45	U	ppbv	1.44	0.45	3.6	1H01002	TO-15	08/02/21 16:21	rgg	
trans-1,2-Dichloroethene [156-60-5]^	**6.2**		ppbv	1.44	0.46	3.6	1H01002	TO-15	08/02/21 16:21	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.49	U	ppbv	1.44	0.49	3.6	1H01002	TO-15	08/02/21 16:21	rgg	
Trichloroethene [79-01-6]^	0.50	U	ppbv	1.44	0.50	3.6	1H01002	TO-15	08/02/21 16:21	rgg	
Trichlorofluoromethane [75-69-4]^	0.49	U	ppbv	1.44	0.49	3.6	1H01002	TO-15	08/02/21 16:21	rgg	
Vinyl chloride [75-01-4]^	0.81	U	ppbv	1.44	0.81	3.6	1H01002	TO-15	08/02/21 16:21	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*30*	*1*	*31.0*	*97 %*	*70-130*	*1H01002*	*TO-15*	*08/02/21 16:21*	*rgg*	

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ANALYTICAL RESULTS

Description: CRCA-VMP04-20210726 | **Lab Sample ID:** AE05482-05 | **Received:** 07/27/21 15:00

Matrix: Air | **Sampled:** 07/26/21 13:45 | **Work Order:** AE05482

Project: NASA KSC CRCA Airs | **Sampled By:** Chuck Sorden | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.50	U	ppbv	1.47	0.50	3.7	1H01002	TO-15	08/02/21 17:05	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.53	U	ppbv	1.47	0.53	3.7	1H01002	TO-15	08/02/21 17:05	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.51	U	ppbv	1.47	0.51	3.7	1H01002	TO-15	08/02/21 17:05	rgg	
1,1-Dichloroethane [75-34-3]^	0.53	U	ppbv	1.47	0.53	3.7	1H01002	TO-15	08/02/21 17:05	rgg	
1,1-Dichloroethene [75-35-4]^	0.56	U	ppbv	1.47	0.56	3.7	1H01002	TO-15	08/02/21 17:05	rgg	
1,2-Dibromoethane [106-93-4]^	0.53	U	ppbv	1.47	0.53	3.7	1H01002	TO-15	08/02/21 17:05	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.40	U	ppbv	1.47	0.40	3.7	1H01002	TO-15	08/02/21 17:05	rgg	
1,2-Dichloroethane [107-06-2]^	0.54	U	ppbv	1.47	0.54	3.7	1H01002	TO-15	08/02/21 17:05	rgg	
1,2-Dichloropropane [78-87-5]^	0.59	U	ppbv	1.47	0.59	3.7	1H01002	TO-15	08/02/21 17:05	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.41	U	ppbv	1.47	0.41	3.7	1H01002	TO-15	08/02/21 17:05	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.46	U	ppbv	1.47	0.46	3.7	1H01002	TO-15	08/02/21 17:05	rgg	
3-Chloropropene [107-05-1]^	0.57	U	ppbv	1.47	0.57	3.7	1H01002	TO-15	08/02/21 17:05	rgg	
Acetone [67-64-1]^	**42**		ppbv	1.47	0.51	3.7	1H01002	TO-15	08/02/21 17:05	rgg	
Bromodichloromethane [75-27-4]^	0.50	U	ppbv	1.47	0.50	3.7	1H01002	TO-15	08/02/21 17:05	rgg	
Bromoethene [593-60-2]^	0.49	U	ppbv	1.47	0.49	3.7	1H01002	TO-15	08/02/21 17:05	rgg	
Bromoform [75-25-2]^	0.56	U	ppbv	1.47	0.56	3.7	1H01002	TO-15	08/02/21 17:05	rgg	
Bromomethane [74-83-9]^	0.49	U	ppbv	1.47	0.49	3.7	1H01002	TO-15	08/02/21 17:05	rgg	
Carbon tetrachloride [56-23-5]^	0.40	U	ppbv	1.47	0.40	3.7	1H01002	TO-15	08/02/21 17:05	rgg	
Chlorobenzene [108-90-7]^	0.49	U	ppbv	1.47	0.49	3.7	1H01002	TO-15	08/02/21 17:05	rgg	
Chloroethane [75-00-3]^	0.47	U	ppbv	1.47	0.47	3.7	1H01002	TO-15	08/02/21 17:05	rgg	
Chloroform [67-66-3]^	0.56	U	ppbv	1.47	0.56	3.7	1H01002	TO-15	08/02/21 17:05	rgg	
Chloromethane [74-87-3]^	0.71	U	ppbv	1.47	0.71	3.7	1H01002	TO-15	08/02/21 17:05	rgg	
cis-1,2-Dichloroethene [156-59-2]^	0.56	U	ppbv	1.47	0.56	3.7	1H01002	TO-15	08/02/21 17:05	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	0.56	U	ppbv	1.47	0.56	3.7	1H01002	TO-15	08/02/21 17:05	rgg	
Dibromochloromethane [124-48-1]^	0.49	U	ppbv	1.47	0.49	3.7	1H01002	TO-15	08/02/21 17:05	rgg	
Dichlorodifluoromethane [75-71-8]^	0.81	U	ppbv	1.47	0.81	3.7	1H01002	TO-15	08/02/21 17:05	rgg	
Freon 113 [76-13-1]^	**350**		ppbv	1.47	2.4	18	1H01002	TO-15	08/02/21 19:48	rgg	
Freon 114 [76-14-2]^	0.76	U	ppbv	1.47	0.76	3.7	1H01002	TO-15	08/02/21 17:05	rgg	
Hexachlorobutadiene [87-68-3]^	0.54	U	ppbv	1.47	0.54	3.7	1H01002	TO-15	08/02/21 17:05	rgg	
Methylene chloride [75-09-2]^	**1.3**	I	ppbv	1.47	0.29	3.7	1H01002	TO-15	08/02/21 17:05	rgg	
Propene [115-07-1]^	0.81	U	ppbv	1.47	0.81	3.7	1H01002	TO-15	08/02/21 17:05	rgg	
Tetrachloroethene [127-18-4]^	0.46	U	ppbv	1.47	0.46	3.7	1H01002	TO-15	08/02/21 17:05	rgg	
trans-1,2-Dichloroethene [156-60-5]^	**0.56**	I	ppbv	1.47	0.47	3.7	1H01002	TO-15	08/02/21 17:05	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.50	U	ppbv	1.47	0.50	3.7	1H01002	TO-15	08/02/21 17:05	rgg	
Trichloroethene [79-01-6]^	0.51	U	ppbv	1.47	0.51	3.7	1H01002	TO-15	08/02/21 17:05	rgg	
Trichlorofluoromethane [75-69-4]^	0.50	U	ppbv	1.47	0.50	3.7	1H01002	TO-15	08/02/21 17:05	rgg	
Vinyl chloride [75-01-4]^	0.82	U	ppbv	1.47	0.82	3.7	1H01002	TO-15	08/02/21 17:05	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*29*	*1*	*31.0*	*95 %*	*70-130*	*1H01002*	*TO-15*	*08/02/21 17:05*	*rgg*	
4-Bromofluorobenzene	*29*	*1*	*31.0*	*95 %*	*70-130*	*1H01002*	*TO-15*	*08/02/21 19:48*	*rgg*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1H01002 - NO PREP 2

Blank (1H01002-BLK1) Prepared: 08/01/2021 19:01 Analyzed: 08/02/2021 00:32

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.34	U	2.5	ppbv							
1,1,2,2-Tetrachloroethane	0.36	U	2.5	ppbv							
1,1,2-Trichloroethane	0.35	U	2.5	ppbv							
1,1-Dichloroethane	0.36	U	2.5	ppbv							
1,1-Dichloroethene	0.38	U	2.5	ppbv							
1,2-Dibromoethane	0.36	U	2.5	ppbv							
1,2-Dichlorobenzene	0.27	U	2.5	ppbv							
1,2-Dichloroethane	0.37	U	2.5	ppbv							
1,2-Dichloropropane	0.40	U	2.5	ppbv							
1,3-Dichlorobenzene	0.28	U	2.5	ppbv							
1,4-Dichlorobenzene	0.31	U	2.5	ppbv							
3-Chloropropene	0.39	U	2.5	ppbv							
Acetone	0.35	U	2.5	ppbv							
Bromodichloromethane	0.34	U	2.5	ppbv							
Bromoethene	0.33	U	2.5	ppbv							
Bromoform	0.38	U	2.5	ppbv							
Bromomethane	0.33	U	2.5	ppbv							
Carbon tetrachloride	0.27	U	2.5	ppbv							
Chlorobenzene	0.33	U	2.5	ppbv							
Chloroethane	0.32	U	2.5	ppbv							
Chloroform	0.38	U	2.5	ppbv							
Chloromethane	0.48	U	2.5	ppbv							
cis-1,2-Dichloroethene	0.38	U	2.5	ppbv							
cis-1,3-Dichloropropene	0.38	U	2.5	ppbv							
Dibromochloromethane	0.33	U	2.5	ppbv							
Dichlorodifluoromethane	0.55	U	2.5	ppbv							
Freon 113	0.32	U	2.5	ppbv							
Freon 114	0.52	U	2.5	ppbv							
Hexachlorobutadiene	0.37	U	2.5	ppbv							
Methylene chloride	0.20	U	2.5	ppbv							
Propene	0.55	U	2.5	ppbv							
Tetrachloroethene	0.31	U	2.5	ppbv							
trans-1,2-Dichloroethene	0.32	U	2.5	ppbv							
trans-1,3-Dichloropropene	0.34	U	2.5	ppbv							
Trichloroethene	0.35	U	2.5	ppbv							
Trichlorofluoromethane	0.34	U	2.5	ppbv							
Vinyl chloride	0.56	U	2.5	ppbv							
4-Bromofluorobenzene	*29*			*ppbv*	*31.0*		*95*	*70-130*			

LCS (1H01002-BS1) Prepared: 08/01/2021 19:01 Analyzed: 08/01/2021 22:29

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	9.9		2.5	ppbv	10.0		99	70-130			
1,1,2,2-Tetrachloroethane	10		2.5	ppbv	10.0		103	52-163			
1,1,2-Trichloroethane	10		2.5	ppbv	10.0		101	70-134			
1,1-Dichloroethane	10		2.5	ppbv	10.0		101	70-130			
1,1-Dichloroethene	11		2.5	ppbv	10.0		105	67-142			
1,2-Dibromoethane	10		2.5	ppbv	10.0		102	70-141			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1H01002 - NO PREP 2 - Continued

LCS (1H01002-BS1) Continued Prepared: 08/01/2021 19:01 Analyzed: 08/01/2021 22:29

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,2-Dichlorobenzene	10		2.5	ppbv	10.0		105	37-180			
1,2-Dichloroethane	9.7		2.5	ppbv	10.0		97	70-130			
1,2-Dichloropropane	10		2.5	ppbv	10.0		101	70-130			
1,3-Dichlorobenzene	10		2.5	ppbv	10.0		105	47-178			
1,4-Dichlorobenzene	11		2.5	ppbv	10.0		107	45-180			
3-Chloropropene	10		2.5	ppbv	10.0		100	70-130			
Acetone	9.5		2.5	ppbv	10.0		95	65-130			
Bromodichloromethane	11		2.5	ppbv	10.0		107	70-130			
Bromoethene	8.7		2.5	ppbv	10.0		87	69-132			
Bromoform	13		2.5	ppbv	10.0		125	62-149			
Bromomethane	8.3		2.5	ppbv	10.0		83	69-130			
Carbon tetrachloride	13		2.5	ppbv	10.0		131	22-166			
Chlorobenzene	9.6		2.5	ppbv	10.0		96	70-134			
Chloroethane	8.3		2.5	ppbv	10.0		83	69-131			
Chloroform	10		2.5	ppbv	10.0		101	70-130			
Chloromethane	11		2.5	ppbv	10.0		105	55-142			
cis-1,2-Dichloroethene	10		2.5	ppbv	10.0		103	70-130			
cis-1,3-Dichloropropene	11		2.5	ppbv	10.0		105	70-137			
Dibromochloromethane	12		2.5	ppbv	10.0		117	70-130			
Dichlorodifluoromethane	11		2.5	ppbv	10.0		108	61-137			
Freon 113	11		2.5	ppbv	10.0		105	67-140			
Freon 114	11		2.5	ppbv	10.0		107	62-147			
Hexachlorobutadiene	9.0		2.5	ppbv	10.0		90	24-180			
Methylene chloride	9.5		2.5	ppbv	10.0		95	59-136			
Propene	10		2.5	ppbv	10.0		104	63-132			
Tetrachloroethene	9.6		2.5	ppbv	10.0		96	70-141			
trans-1,2-Dichloroethene	9.8		2.5	ppbv	10.0		98	70-130			
trans-1,3-Dichloropropene	9.5		2.5	ppbv	10.0		95	59-166			
Trichloroethene	10		2.5	ppbv	10.0		100	70-130			
Trichlorofluoromethane	8.6		2.5	ppbv	10.0		86	46-161			
Vinyl chloride	11		2.5	ppbv	10.0		109	53-148			
4-Bromofluorobenzene	*32*			*ppbv*	*31.0*		*102*	*70-130*			

LCS Dup (1H01002-BSD1) Prepared: 08/01/2021 19:01 Analyzed: 08/01/2021 23:08

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	9.8		2.5	ppbv	10.0		98	70-130	1	25	
1,1,2,2-Tetrachloroethane	10		2.5	ppbv	10.0		105	52-163	1	25	
1,1,2-Trichloroethane	10		2.5	ppbv	10.0		100	70-134	1	25	
1,1-Dichloroethane	10		2.5	ppbv	10.0		100	70-130	2	25	
1,1-Dichloroethene	10		2.5	ppbv	10.0		105	67-142	0.6	25	
1,2-Dibromoethane	10		2.5	ppbv	10.0		101	70-141	1	25	
1,2-Dichlorobenzene	11		2.5	ppbv	10.0		106	37-180	1	25	
1,2-Dichloroethane	9.7		2.5	ppbv	10.0		97	70-130	0.2	25	
1,2-Dichloropropane	9.9		2.5	ppbv	10.0		99	70-130	2	25	
1,3-Dichlorobenzene	11		2.5	ppbv	10.0		106	47-178	1	25	
1,4-Dichlorobenzene	11		2.5	ppbv	10.0		109	45-180	2	25	
3-Chloropropene	9.8		2.5	ppbv	10.0		98	70-130	1	25	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1H01002 - NO PREP 2 - Continued

LCS Dup (1H01002-BSD1) Continued Prepared: 08/01/2021 19:01 Analyzed: 08/01/2021 23:08

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Acetone	9.4		2.5	ppbv	10.0		94	65-130	1	25	
Bromodichloromethane	11		2.5	ppbv	10.0		106	70-130	1	25	
Bromoethene	8.8		2.5	ppbv	10.0		88	69-132	2	25	
Bromoform	13		2.5	ppbv	10.0		127	62-149	1	25	
Bromomethane	8.4		2.5	ppbv	10.0		84	69-130	2	25	
Carbon tetrachloride	13		2.5	ppbv	10.0		128	22-166	2	25	
Chlorobenzene	9.6		2.5	ppbv	10.0		96	70-134	0.2	25	
Chloroethane	8.5		2.5	ppbv	10.0		85	69-131	3	25	
Chloroform	9.9		2.5	ppbv	10.0		99	70-130	2	25	
Chloromethane	10		2.5	ppbv	10.0		102	55-142	3	25	
cis-1,2-Dichloroethene	10		2.5	ppbv	10.0		101	70-130	2	25	
cis-1,3-Dichloropropene	11		2.5	ppbv	10.0		105	70-137	0.3	25	
Dibromochloromethane	12		2.5	ppbv	10.0		116	70-130	0.5	25	
Dichlorodifluoromethane	11		2.5	ppbv	10.0		105	61-137	2	25	
Freon 113	10		2.5	ppbv	10.0		104	67-140	1	25	
Freon 114	10		2.5	ppbv	10.0		104	62-147	3	25	
Hexachlorobutadiene	9.2		2.5	ppbv	10.0		92	24-180	2	25	
Methylene chloride	9.4		2.5	ppbv	10.0		94	59-136	1	25	
Propene	10		2.5	ppbv	10.0		103	63-132	1	25	
Tetrachloroethene	9.5		2.5	ppbv	10.0		95	70-141	0.7	25	
trans-1,2-Dichloroethene	9.6		2.5	ppbv	10.0		96	70-130	3	25	
trans-1,3-Dichloropropene	9.4		2.5	ppbv	10.0		94	59-166	0.9	25	
Trichloroethene	10		2.5	ppbv	10.0		100	70-130	0.8	25	
Trichlorofluoromethane	8.7		2.5	ppbv	10.0		87	46-161	0.8	25	
Vinyl chloride	11		2.5	ppbv	10.0		106	53-148	3	25	
4-Bromofluorobenzene	*32*			*ppbv*	*31.0*		*105*	*70-130*			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

Tetra Tech, Inc.

CHAIN OF CUSTODY NUMBER ~~AC05482~~ No. 2500 PAGE 1 OF 1

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G08570	KSC-CRCA	Alex Murphy	(321) 292-0642	ENCO — Kaitlin Dolnicki
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER	PHONE NUMBER	ADDRESS
Chuck Sorden		Chuck Sorden	(321) 591-7580	10775 Central Port Dr.
		CARRIER/WAYBILL NUMBER		CITY, STATE
				Orlando, FL

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2021	TIME	SAMPLE ID	LOCATION ID	~~TOP DEPTH (FT)~~ Start	~~BOTTOM DEPTH (FT)~~ Stop	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TYPE OF ANALYSIS TO-15 VOCs	COMMENTS
									Metal	None		
07/26		CRCA-AMB01-20210726	AMB01	30" 0810	30" 1525	Air	C	1			X	Can - 35-068 Reg - 6449
		CRCA-VMP01-20210726	VMP01	1030 25"	1130 3"							Can - 35-070 Reg - JAX-R-10
		CRCA-VMP03-20210726	VMP03	1105 25"	1205 3.5"							Can - 35-062 Reg - JAX-R-62
		CRCA-~~VMP02~~ VMP02-20210726	VMP02	1140 230"	240 9"							Can — 35-072 Reg — JAX-R-51
07/26		CRCA-VMP04-20210726	VMP04	1245 245"	1345 5"	Air	C	1			X	Can — 35-017 Reg — JAX-R-057

1. RELINQUISHED BY	DATE	TIME	1. RECEIVED BY	DATE	TIME
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	7/27/21 DATE	1500 TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

AC05482-01

Environmental Conservation Laboratories, Inc.
10775 Central Port Drive, Orlando, FL 32824
4810 Executive Park Court, Suite 211,Jacksonville, FL 32216
102-A Woodwinds Industrial Ct, Cary, NC 27511

www.encolabs.com

COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

General Information

SITE LOCATION:	NASA - KSC - CRCA
SITE ADDRESS:	
SAMPLER ID:	CRCA- AMB01- 20210726
SAMPLING DATE:	07/26/2021
OPERATOR:	Chuck Sorden
SHIPPING DATE:	
CANISTER SERIAL NO.:	55-068
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	6449

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START 0810	79°F	30	0810	12.5 mL/min/8hrs
STOP	87°F	3	1525	12.5 mL/min/8hrs

Signature/Title: Geologist

AE05482-07

Environmental Conservation Laboratories, Inc.
10775 Central Port Drive, Orlando, FL 32824
4810 Executive Park Court, Suite 211,Jacksonville, FL 32216
102-A Woodwinds Industrial Ct, Cary, NC 27511

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COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

General Information

SITE LOCATION:	NASA - KSC - CRCA
SITE ADDRESS:	
SAMPLER ID:	CRCA - VMP01 - 20210726
SAMPLING DATE:	07/26/21
OPERATOR:	Chuck Scarbo
SHIPPING DATE:	
CANISTER SERIAL NO.:	JS-070
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	JAK-R-10

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	84°F	28	1030	1 hr - 100 mL/min
STOP	86°F	3	1130	1 hr - 100 mL/min

Signature/Title: Geologist

AE054820123

Environmental Conservation Laboratories, Inc.
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102-A Woodwinds Industrial Ct, Cary, NC 27511

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COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

General Information

SITE LOCATION:	NASA - KSC - CRCA
SITE ADDRESS:	
SAMPLER ID:	CRCA-VMP03-20210726
SAMPLING DATE:	07/26/21
OPERATOR:	Chuck Sorden
SHIPPING DATE:	
CANISTER SERIAL NO.:	JS-062
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	JAX-R-62

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	86°F	28"	1105	1hr - 100mL/min
STOP	88°F	3.5"	1205	1hr - 100mL/min

Signature/Title: _____ - Geologist

AG5318 2-034

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COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

General Information

SITE LOCATION:	NASA- KSC-CRCA
SITE ADDRESS:	
SAMPLER ID:	CRCA-UMP02-20210726
SAMPLING DATE:	07/26/2021
OPERATOR:	Chuck Scrudi
SHIPPING DATE:	
CANISTER SERIAL NO.:	JS-072
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	JAX-R-51

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	86°F	~~-30~~ >30	~~1135~~ 1140	1hr-/100mL-Min
STOP	88°F	9	1240	1hr-/100mL-Min

Signature/Title: Geologist

Notes: Regulator Registers 6" while disconnected

AE05482-05

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COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

General Information

SITE LOCATION:	NASA - KSC - CRCA
SITE ADDRESS:	
SAMPLER ID:	CRCA- VMP04-20210726
SAMPLING DATE:	07/26/2021
OPERATOR:	Chuck Sorden
SHIPPING DATE:	
CANISTER SERIAL NO.:	JS-017
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	JAX-R-057

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	86°F	29.5"	1245	1hr/ 100mL/min
STOP	88°F	5"	1345	1hr/ 100mL/min

Signature/Title: Geologist

ENCO Laboratories
Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Tuesday, August 3, 2021
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AE05483

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Tuesday, July 27, 2021.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-MW0002-032.5-20210726 **Lab ID: AE05483-01** **Sampled: 07/26/21 09:25** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	08/09/21	07/28/21 08:53	07/28/21 10:16

Client ID: CRCA-MW0018-058.0-20210726 **Lab ID: AE05483-02** **Sampled: 07/26/21 10:00** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	08/09/21	07/28/21 08:53	07/28/21 10:44
RSK 175	Same	08/09/21	07/28/21 00:00	07/28/21 11:22

Client ID: CRCA-MW0018-058.0-20210726 **Lab ID: AE05483-02RE1** **Sampled: 07/26/21 10:00** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	08/09/21	07/28/21 00:00	07/28/21 13:15

Client ID: CRCA-MW0013-027.5-20210726 **Lab ID: AE05483-03** **Sampled: 07/26/21 10:40** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	08/09/21	07/28/21 08:53	07/28/21 11:12

Client ID: CRCA-MW0012-027.5-20210726 **Lab ID: AE05483-04** **Sampled: 07/26/21 11:15** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	08/09/21	07/28/21 08:53	07/28/21 11:40

Client ID: CRCA-MW0015-027.5-20210726 **Lab ID: AE05483-05** **Sampled: 07/26/21 12:25** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	08/09/21	07/28/21 08:53	07/28/21 12:08

Client ID: CRCA-MW0031-058.0-20210726 **Lab ID: AE05483-06** **Sampled: 07/26/21 13:15** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	08/09/21	07/28/21 08:53	07/28/21 12:37
RSK 175	Same	08/09/21	07/28/21 00:00	07/28/21 11:38

Client ID: CRCA-MW0019-058.0-20210726 **Lab ID: AE05483-07** **Sampled: 07/26/21 14:00** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	08/09/21	07/28/21 08:53	07/28/21 13:05
RSK 175	Same	08/09/21	07/28/21 00:00	07/28/21 12:14

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-MW0002-032.5-20210726 **Lab ID:** AE05483-01

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
trans-1,2-Dichloroethene	0.73	I	0.73	2.5	ug/L	EPA 8260D	
Vinyl chloride	7.4		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0018-058.0-20210726 **Lab ID:** AE05483-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethene	0.00842		0.00510	0.00600	mg/L	RSK 175	
Vinyl chloride	55		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0018-058.0-20210726 **Lab ID:** AE05483-02RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	1.41		0.0600	0.0750	mg/L	RSK 175	

Client ID: CRCA-MW0013-027.5-20210726 **Lab ID:** AE05483-03

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	1.4	I	0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0031-058.0-20210726 **Lab ID:** AE05483-06

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	0.582		0.00400	0.00500	mg/L	RSK 175	
Vinyl chloride	18		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0019-058.0-20210726 **Lab ID:** AE05483-07

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	0.203		0.00400	0.00500	mg/L	RSK 175	QM-12
Vinyl chloride	1.4	I	0.71	2.5	ug/L	EPA 8260D	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0002-032.5-20210726 **Lab Sample ID:** AE05483-01 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 09:25 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1G28012	EPA 8260D	07/28/21 10:16	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 10:16	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
trans-1,2-Dichloroethene [156-60-5]^	**0.73**	I	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0002-032.5-20210726 **Lab Sample ID:** AE05483-01 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 09:25 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Vinyl chloride [75-01-4]^	**7.4**		ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 10:16	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*50*	*1*	*50.0*	*100 %*	*41-142*	*1G28012*	*EPA 8260D*	*07/28/21 10:16*	*kkw*	
Dibromofluoromethane	*51*	*1*	*50.0*	*102 %*	*53-146*	*1G28012*	*EPA 8260D*	*07/28/21 10:16*	*kkw*	
Toluene-d8	*52*	*1*	*50.0*	*104 %*	*41-146*	*1G28012*	*EPA 8260D*	*07/28/21 10:16*	*kkw*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0018-058.0-20210726 **Lab Sample ID:** AE05483-02 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 10:00 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1G28012	EPA 8260D	07/28/21 10:44	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 10:44	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0018-058.0-20210726 **Lab Sample ID:** AE05483-02 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 10:00 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Vinyl chloride [75-01-4]^	**55**		ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 10:44	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*51*	*1*	*50.0*	*102 %*	*41-142*	*1G28012*	*EPA 8260D*	*07/28/21 10:44*	*kkw*	
Dibromofluoromethane	*53*	*1*	*50.0*	*106 %*	*53-146*	*1G28012*	*EPA 8260D*	*07/28/21 10:44*	*kkw*	
Toluene-d8	*51*	*1*	*50.0*	*102 %*	*41-146*	*1G28012*	*EPA 8260D*	*07/28/21 10:44*	*kkw*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1G28011	RSK 175	07/28/21 11:22	jmw	
Ethene [74-85-1]^	**0.00842**		mg/L	1	0.00510	0.00600	1G28011	RSK 175	07/28/21 11:22	jmw	
Methane [74-82-8]^	**1.41**		mg/L	15	0.0600	0.0750	1G28011	RSK 175	07/28/21 13:15	jmw	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0013-027.5-20210726 **Lab Sample ID:** AE05483-03 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 10:40 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1G28012	EPA 8260D	07/28/21 11:12	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 11:12	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	

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ANALYTICAL RESULTS

Description: CRCA-MW0013-027.5-20210726 **Lab Sample ID:** AE05483-03 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 10:40 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Vinyl chloride [75-01-4]^	**1.4**	I	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 11:12	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*50*	*1*	*50.0*	*100 %*	*41-142*	*1G28012*	*EPA 8260D*	*07/28/21 11:12*	*kkw*	
Dibromofluoromethane	*51*	*1*	*50.0*	*102 %*	*53-146*	*1G28012*	*EPA 8260D*	*07/28/21 11:12*	*kkw*	
Toluene-d8	*51*	*1*	*50.0*	*102 %*	*41-146*	*1G28012*	*EPA 8260D*	*07/28/21 11:12*	*kkw*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0012-027.5-20210726 **Lab Sample ID:** AE05483-04 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 11:15 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1G28012	EPA 8260D	07/28/21 11:40	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 11:40	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0012-027.5-20210726 **Lab Sample ID:** AE05483-04 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 11:15 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 11:40	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*50*	*1*	*50.0*	*99 %*	*41-142*	*1G28012*	*EPA 8260D*	*07/28/21 11:40*	*kkw*	
Dibromofluoromethane	*51*	*1*	*50.0*	*102 %*	*53-146*	*1G28012*	*EPA 8260D*	*07/28/21 11:40*	*kkw*	
Toluene-d8	*52*	*1*	*50.0*	*103 %*	*41-146*	*1G28012*	*EPA 8260D*	*07/28/21 11:40*	*kkw*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0015-027.5-20210726 **Lab Sample ID:** AE05483-05 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 12:25 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1G28012	EPA 8260D	07/28/21 12:08	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 12:08	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0015-027.5-20210726 **Lab Sample ID:** AE05483-05 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 12:25 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 12:08	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*49*	*1*	*50.0*	*99 %*	*41-142*	*1G28012*	*EPA 8260D*	*07/28/21 12:08*	*kkw*	
Dibromofluoromethane	*51*	*1*	*50.0*	*101 %*	*53-146*	*1G28012*	*EPA 8260D*	*07/28/21 12:08*	*kkw*	
Toluene-d8	*51*	*1*	*50.0*	*102 %*	*41-146*	*1G28012*	*EPA 8260D*	*07/28/21 12:08*	*kkw*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0031-058.0-20210726 **Lab Sample ID:** AE05483-06 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 13:15 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1G28012	EPA 8260D	07/28/21 12:37	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 12:37	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0031-058.0-20210726 **Lab Sample ID:** AE05483-06 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 13:15 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Vinyl chloride [75-01-4]^	**18**		ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 12:37	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*51*	*1*	*50.0*	*102 %*	*41-142*	*1G28012*	*EPA 8260D*	*07/28/21 12:37*	*kkw*	
Dibromofluoromethane	*51*	*1*	*50.0*	*101 %*	*53-146*	*1G28012*	*EPA 8260D*	*07/28/21 12:37*	*kkw*	
Toluene-d8	*52*	*1*	*50.0*	*104 %*	*41-146*	*1G28012*	*EPA 8260D*	*07/28/21 12:37*	*kkw*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1G28011	RSK 175	07/28/21 11:38	jmw	
Ethene [74-85-1]^	0.00510	U	mg/L	1	0.00510	0.00600	1G28011	RSK 175	07/28/21 11:38	jmw	
Methane [74-82-8]^	**0.582**		mg/L	1	0.00400	0.00500	1G28011	RSK 175	07/28/21 11:38	jmw	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0019-058.0-20210726 **Lab Sample ID:** AE05483-07 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 14:00 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1G28012	EPA 8260D	07/28/21 13:05	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 13:05	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	

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ANALYTICAL RESULTS

Description: CRCA-MW0019-058.0-20210726 **Lab Sample ID:** AE05483-07 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 14:00 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Vinyl chloride [75-01-4]^	**1.4**	I	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 13:05	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*50*	*1*	*50.0*	*100 %*	*41-142*	*1G28012*	*EPA 8260D*	*07/28/21 13:05*	*kkw*	
Dibromofluoromethane	*51*	*1*	*50.0*	*102 %*	*53-146*	*1G28012*	*EPA 8260D*	*07/28/21 13:05*	*kkw*	
Toluene-d8	*52*	*1*	*50.0*	*104 %*	*41-146*	*1G28012*	*EPA 8260D*	*07/28/21 13:05*	*kkw*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1G28011	RSK 175	07/28/21 12:14	jmw	
Ethene [74-85-1]^	0.00510	U	mg/L	1	0.00510	0.00600	1G28011	RSK 175	07/28/21 12:14	jmw	
Methane [74-82-8]^	**0.203**		mg/L	1	0.00400	0.00500	1G28011	RSK 175	07/28/21 12:14	jmw	QM-12

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1G28012 - EPA 5030B_MS

Blank (1G28012-BLK1) Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 09:48

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1G28012 - EPA 5030B_MS - Continued

Blank (1G28012-BLK1) Continued Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 09:48

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*50*			*ug/L*	*50.0*		*99*	*41-142*			
Dibromofluoromethane	*49*	*I*		*ug/L*	*50.0*		*99*	*53-146*			
Toluene-d8	*51*			*ug/L*	*50.0*		*103*	*41-146*			

LCS (1G28012-BS1) Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 08:52

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	22		2.5	ug/L	20.0		110	57-148			
1,1,2,2-Tetrachloroethane	20		2.5	ug/L	20.0		102	60-139			
1,1,2-Trichloroethane	20		2.5	ug/L	20.0		101	57-141			
1,1-Dichloroethane	21		2.5	ug/L	20.0		107	57-142			
1,1-Dichloroethene	21		2.5	ug/L	20.0		105	47-139			
1,2,4-Trichlorobenzene	27		2.5	ug/L	20.0		133	52-159			
1,2-Dibromo-3-chloropropane	23		2.5	ug/L	20.0		114	48-150			
1,2-Dibromoethane	20		2.5	ug/L	20.0		98	57-140			
1,2-Dichlorobenzene	20		2.5	ug/L	20.0		100	63-131			
1,2-Dichloroethane	19		2.5	ug/L	20.0		93	50-156			
1,2-Dichloropropane	20		2.5	ug/L	20.0		98	61-133			
1,3-Dichlorobenzene	22		2.5	ug/L	20.0		108	66-129			
1,4-Dichlorobenzene	21		2.5	ug/L	20.0		105	65-133			
2-Butanone	60		12	ug/L	50.0		119	10-180			
2-Hexanone	52		12	ug/L	50.0		104	12-180			
4-Methyl-2-pentanone	52		12	ug/L	50.0		103	19-180			
Acetone	51		25	ug/L	50.0		102	10-180			
Benzene	20		2.5	ug/L	20.0		102	56-136			
Bromodichloromethane	21		2.5	ug/L	20.0		103	58-135			
Bromoform	18		2.5	ug/L	20.0		91	46-148			
Bromomethane	14		2.5	ug/L	20.0		68	10-173			
Carbon disulfide	23		12	ug/L	20.0		117	43-153			
Carbon Tetrachloride	18		2.5	ug/L	20.0		91	54-156			
Chlorobenzene	20		2.5	ug/L	20.0		102	51-139			
Chloroethane	18		2.5	ug/L	20.0		92	27-180			
Chloroform	21		2.5	ug/L	20.0		106	58-139			
Chloromethane	20		2.5	ug/L	20.0		98	33-154			
cis-1,2-Dichloroethene	22		2.5	ug/L	20.0		108	56-128			
cis-1,3-Dichloropropene	20		2.5	ug/L	20.0		98	64-128			
Cyclohexane	22		2.5	ug/L	20.0		109	70-130			
Dibromochloromethane	19		2.5	ug/L	20.0		93	50-140			
Dichlorodifluoromethane	18		2.5	ug/L	20.0		88	10-180			
Ethylbenzene	21		2.5	ug/L	20.0		103	63-133			
Freon 113	19		2.5	ug/L	20.0		97	47-173			
Isopropylbenzene	19		2.5	ug/L	20.0		96	60-132			
m,p-Xylenes	41		5.0	ug/L	40.0		101	64-133			
Methyl acetate	22		2.5	ug/L	20.0		108	70-130			
Methyl cyclohexane	20		2.5	ug/L	20.0		99	70-130			
Methylene Chloride	21		12	ug/L	20.0		105	43-142			
Methyl-tert-Butyl Ether	21		2.5	ug/L	20.0		106	51-145			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1G28012 - EPA 5030B_MS - Continued

LCS (1G28012-BS1) Continued Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 08:52

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
o-Xylene	20		2.5	ug/L	20.0		100	61-129			
Styrene	19		2.5	ug/L	20.0		97	59-136			
Tetrachloroethene	20		2.5	ug/L	20.0		101	60-147			
Toluene	20		2.5	ug/L	20.0		100	64-131			
trans-1,2-Dichloroethene	20		2.5	ug/L	20.0		102	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0		107	65-149			
Trichloroethene	20		2.5	ug/L	20.0		101	62-135			
Trichlorofluoromethane	20		2.5	ug/L	20.0		98	56-155			
Vinyl chloride	19		2.5	ug/L	20.0		94	20-167			
4-Bromofluorobenzene	*50*			*ug/L*	*50.0*		*100*	*41-142*			
Dibromofluoromethane	*52*			*ug/L*	*50.0*		*105*	*53-146*			
Toluene-d8	*51*			*ug/L*	*50.0*		*103*	*41-146*			

Matrix Spike (1G28012-MS1) Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 19:08

Source: AE05483-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	23		2.5	ug/L	20.0	0.80 U	113	57-148			
1,1,2,2-Tetrachloroethane	20		2.5	ug/L	20.0	0.54 U	101	60-139			
1,1,2-Trichloroethane	20		2.5	ug/L	20.0	0.76 U	102	57-141			
1,1-Dichloroethane	22		2.5	ug/L	20.0	0.62 U	112	57-142			
1,1-Dichloroethene	23		2.5	ug/L	20.0	0.94 U	113	47-139			
1,2,4-Trichlorobenzene	23		2.5	ug/L	20.0	0.70 U	116	52-159			
1,2-Dibromo-3-chloropropane	22		2.5	ug/L	20.0	0.96 U	110	48-150			
1,2-Dibromoethane	19		2.5	ug/L	20.0	0.78 U	97	57-140			
1,2-Dichlorobenzene	20		2.5	ug/L	20.0	0.73 U	99	63-131			
1,2-Dichloroethane	19		2.5	ug/L	20.0	0.63 U	93	50-156			
1,2-Dichloropropane	20		2.5	ug/L	20.0	0.80 U	101	61-133			
1,3-Dichlorobenzene	21		2.5	ug/L	20.0	0.77 U	104	66-129			
1,4-Dichlorobenzene	20		2.5	ug/L	20.0	0.76 U	102	65-133			
2-Butanone	56		12	ug/L	50.0	4.5 U	113	10-180			
2-Hexanone	47		12	ug/L	50.0	2.5 U	94	12-180			
4-Methyl-2-pentanone	54		12	ug/L	50.0	2.5 U	108	19-180			
Acetone	45		25	ug/L	50.0	10 U	90	10-180			
Benzene	22		2.5	ug/L	20.0	0.71 U	110	56-136			
Bromodichloromethane	21		2.5	ug/L	20.0	0.52 U	103	58-135			
Bromoform	15		2.5	ug/L	20.0	0.75 U	74	46-148			
Bromomethane	8.3		2.5	ug/L	20.0	0.95 U	42	10-173			
Carbon disulfide	25		12	ug/L	20.0	2.5 U	125	43-153			
Carbon Tetrachloride	21		2.5	ug/L	20.0	0.94 U	106	54-156			
Chlorobenzene	22		2.5	ug/L	20.0	0.72 U	108	51-139			
Chloroethane	18		2.5	ug/L	20.0	0.98 U	92	27-180			
Chloroform	21		2.5	ug/L	20.0	0.80 U	106	58-139			
Chloromethane	17		2.5	ug/L	20.0	0.82 U	85	33-154			
cis-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.53 U	110	56-128			
cis-1,3-Dichloropropene	18		2.5	ug/L	20.0	0.59 U	92	64-128			
Cyclohexane	22		2.5	ug/L	20.0	0.93 U	111	70-130			
Dibromochloromethane	18		2.5	ug/L	20.0	0.50 U	91	50-140			
Dichlorodifluoromethane	19		2.5	ug/L	20.0	0.74 U	93	10-180			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1G28012 - EPA 5030B_MS - Continued

Matrix Spike (1G28012-MS1) Continued Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 19:08

Source: AE05483-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	21		2.5	ug/L	20.0	0.69 U	105	63-133			
Freon 113	21		2.5	ug/L	20.0	0.73 U	107	47-173			
Isopropylbenzene	21		2.5	ug/L	20.0	0.67 U	104	60-132			
m,p-Xylenes	43		5.0	ug/L	40.0	1.3 U	107	64-133			
Methyl acetate	17		2.5	ug/L	20.0	0.95 U	87	70-130			
Methyl cyclohexane	21		2.5	ug/L	20.0	0.64 U	104	70-130			
Methylene Chloride	19		12	ug/L	20.0	2.5 U	97	43-142			
Methyl-tert-Butyl Ether	19		2.5	ug/L	20.0	0.60 U	97	51-145			
o-Xylene	22		2.5	ug/L	20.0	0.53 U	110	61-129			
Styrene	20		2.5	ug/L	20.0	0.61 U	98	59-136			
Tetrachloroethene	20		2.5	ug/L	20.0	0.76 U	102	60-147			
Toluene	22		2.5	ug/L	20.0	0.72 U	110	64-131			
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.73	107	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0	0.73 U	106	65-149			
Trichloroethene	22		2.5	ug/L	20.0	0.89 U	109	62-135			
Trichlorofluoromethane	22		2.5	ug/L	20.0	0.94 U	111	56-155			
Vinyl chloride	25		2.5	ug/L	20.0	7.4	87	20-167			
4-Bromofluorobenzene	*52*			*ug/L*	*50.0*		*104*	*41-142*			
Dibromofluoromethane	*53*			*ug/L*	*50.0*		*106*	*53-146*			
Toluene-d8	*52*			*ug/L*	*50.0*		*104*	*41-146*			

Dissolved Gases by GC - Quality Control

Batch 1G28011 - Same

Blank (1G28011-BLK1) Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 10:35

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.00510	U	0.00600	mg/L							
Ethene	0.00510	U	0.00600	mg/L							
Methane	0.00400	U	0.00500	mg/L							

LCS (1G28011-BS1) Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 10:03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.322		0.00600	mg/L	0.323		100	70-130			
Ethene	0.324		0.00600	mg/L	0.302		107	70-130			
Methane	0.179		0.00500	mg/L	0.172		104	70-130			

LCS Dup (1G28011-BSD1) Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 10:19

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.326		0.00600	mg/L	0.323		101	70-130	1	30	
Ethene	0.326		0.00600	mg/L	0.302		108	70-130	0.5	30	
Methane	0.181		0.00500	mg/L	0.172		105	70-130	1	30	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Dissolved Gases by GC - Quality Control

Batch 1G28011 - Same - Continued

Duplicate (1G28011-DUP1) Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 14:03

Source: AE05483-07

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.00510	U	0.00600	mg/L		0.00510 U				30	
Ethene	0.00510	U	0.00600	mg/L		0.00510 U				30	
Methane	0.120		0.00500	mg/L		0.203			51	30	QM-12

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-12	Precision between duplicate samples was outside acceptance limits.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.

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AE-05483

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 2499 | PAGE 1 OF 1

PROJECT NO: 112G08570	FACILITY: KSL-CRCA	PROJECT MANAGER Alex Murphy	PHONE NUMBER (321) 292-0842	LABORATORY NAME AND CONTACT: ENCO – Kaitlin Dykiewicz
SAMPLERS (SIGNATURE) Chuck Sorden		FIELD OPERATIONS LEADER Chuck Sorden	PHONE NUMBER (321) 591-7580	ADDRESS 10775 Central Port Dr.
		CARRIER/WAYBILL NUMBER		CITY, STATE Orlando, FL

STANDARD TAT ☒
RUSH TAT ☐ ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE (YEAR 2021)	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TYPE OF ANALYSIS: 8260DTCL SOM01	TYPE OF ANALYSIS: RSK175 MEE	COMMENTS
									G	HCl			
									G	4°C			
07/26	0925	CRCA-MW0002-032.5-20210726		30	35	GW	G	3			X		
	1000	CRCA-MW0018-058.0-20210726		53	63			6				X	
	1040	CRCA-MW0013-027.5-20210726		25	30			3					
	1115	CRCA-MW0012-027.5-20210726		25	30			3					
	1225	CRCA-MW0015-027.5-20210726		25	30			3					
	1315	CRCA-MW0031-058.0-20210726		53	63			6				X	
07/26	1400	CRCA-MW0019-058.0-20210726		53	63	GW	G	6			X	X	

1. RELINQUISHED BY		DATE	TIME	1. RECEIVED BY	DATE 7/27/21	TIME 1500
2. RELINQUISHED BY		DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY		DATE	TIME	3. RECEIVED BY	DATE	TIME
COMMENTS						

Mod-3331 0.3°C

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FORM NO. TtNUS-001

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ENCO Laboratories

Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Wednesday, October 28, 2020
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AD07081

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Wednesday, October 21, 2020.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Client PM: Alex Murphy
Project Number: 112G08970
ENCO Project ID: AD07081
SDG: AD07081-TE016

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling and processing will be discussed in the Remarks section below.

Remarks

List of instruments used:

Analytical and Preparation Method	SOP Reference Instrument
EPA 8260D / 5030B_MS	OVGCMS5
TO-15	OVGCMS7
RSK-175	OVGCFID2

Analysis: EPA 8260D

Manual integrations were performed on samples associated with EPA 8260D. All data & explanations are included in the raw data section of the report.

Affected Samples: AA63152-CCV1, CRCA-MW0019-058.0-20201020[AD07081-02],
The associated calibration verification standard for 1,2,4-trichlorobenzene, 1,2-dichloroethane, and dichlorodifluoromethane exhibited high bias. Analyte(s) not detected in the sample.

Affected Samples: 0J23034-MS1, 0J23034-MSD1
Precision between duplicate matrix spikes of the same sample was outside acceptance limits for 1,2-dibromo-3-chloropropane.

Affected Samples: 0J23034-MS1, 0J23034-MSD1
Matrix spike recovery was outside acceptance limits for methyl acetate.

Affected Samples: AA63152-CCV1
The continuing calibration verification standard exhibited low bias for multiple analytes; the associated sample had ND (non-detect) results, but sensitivity was verified by analyzing a standard with a concentration equivalent to the reporting limit.

Affected Samples: AA62152-SCV1
Recovery for bromomethane and dichlorodifluoromethane was outside acceptance limits. Analyte(s) was not detected in the samples.

Analysis: TO-15

The calibration curve and the continuing calibration standards are in ppbv. Raw data is reported in pptv. Per request, results may be reported in a unit other than ppbv which is obtained through a conversion factor set up in the laboratories' database.

Methylene chloride is a common laboratory contaminant.

Affected Samples: CRCA-VMP03-20201020[AD07081-01]
Sample analyzed at a dilution due to high non-target analytes.

Analysis: TO-15

Affected Samples: 0J22033-BS1, 0J22033-BSD1, CRCA-VMP03-20201020[AD07081-01], CRCA-AMB-20201015[AD07081-03]
The associated laboratory control sample exhibited high bias for multiple analytes. Analytes were not detected in the sample.

Affected Samples: 0J22033-BS1, 0J22033-BSD1, CRCA-VMP03-20201020[AD07081-01], CRCA-AMB-20201015[AD07081-03]
The laboratory control sample (LCS) exhibited low bias for carbon tetrachloride. Analyte(s) was not detected in the sample.

Affected Samples: 0J22033-BLK1, CRCA-VMP03-20201020[AD07081-01], CRCA-AMB-20201015[AD07081-03]
Result may be biased high for methylene chloride due to positive results in the method blank.

Affected Samples: AA63124-CCV1, CRCA-VMP03-20201020[AD07081-01], CRCA-AMB-20201015[AD07081-03]
The associated calibration verification standard exhibited high bias for hexachlorobutadiene. Analytes were not detected in the sample

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Analysis: RSK-175

Manual integrations were performed on samples associated with RSK-175. All data & explanations are included in the raw data section of the report.

Affected Samples: CRCA-MW0019-058.0-20201020[AD07081-02]
Initial result for methane was over the calibration range of the instrument. Sample was reanalyzed at a dilution.

Affected Samples: 0J22022-DUP1
Precision between duplicate samples was outside acceptance limits for methane.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Kaitlin Dylnicki
Project Manager

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-VMP03-20201020 **Lab ID: AD07081-01** **Sampled: 10/20/20 12:01** **Received: 10/21/20 14:30**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	11/19/20	10/22/20 08:15	10/22/20 10:50

Client ID: CRCA-MW0019-058.0-20201020 **Lab ID: AD07081-02** **Sampled: 10/20/20 12:40** **Received: 10/21/20 14:30**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	11/03/20	10/23/20 12:57	10/23/20 17:01
RSK 175	Same	11/03/20	10/22/20 07:52	10/22/20 13:58

Client ID: CRCA-MW0019-058.0-20201020 **Lab ID: AD07081-02RE1** **Sampled: 10/20/20 12:40** **Received: 10/21/20 14:30**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	11/03/20	10/22/20 07:52	10/22/20 15:17

Client ID: CRCA-AMB-20201015 **Lab ID: AD07081-03** **Sampled: 10/15/20 17:28** **Received: 10/21/20 14:30**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	11/14/20	10/22/20 08:15	10/22/20 08:49

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-VMP03-20201020 **Lab ID:** AD07081-01

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	12	I	4.8	34	ug/m³ Air	TO-15	R-05
Freon 113	270		14	110	ug/m³ Air	TO-15	
Methylene chloride	4.3	IV	4.0	50	ug/m³ Air	TO-15	J-01, O-01, R-05

Client ID: CRCA-MW0019-058.0-20201020 **Lab ID:** AD07081-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Carbon dioxide	82.8		2.07	2.50	mg/L	RSK 175	
Vinyl chloride	3.3		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0019-058.0-20201020 **Lab ID:** AD07081-02RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	0.829		0.0400	0.0500	mg/L	RSK 175	

Client ID: CRCA-AMB-20201015 **Lab ID:** AD07081-03

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	11		1.1	7.5	ug/m³ Air	TO-15	
Chloromethane	1.3	I	1.3	6.6	ug/m³ Air	TO-15	
Methylene chloride	2.1	IV	0.88	11	ug/m³ Air	TO-15	J-01, O-01
trans-1,2-Dichloroethene	210		1.6	13	ug/m³ Air	TO-15	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-VMP03-20201020 **Lab Sample ID:** AD07081-01 **Received:** 10/21/20 14:30

Matrix: Air **Sampled:** 10/20/20 12:01 **Work Order:** AD07081

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	11	U	ug/m³ Air	1.44	11	79	0J22033	TO-15	10/22/20 10:50	rgg	R-05
1,1,2,2-Tetrachloroethane [79-34-5]^	14	U	ug/m³ Air	1.44	14	99	0J22033	TO-15	10/22/20 10:50	rgg	QL-02, R-05
1,1,2-Trichloroethane [79-00-5]^	11	U	ug/m³ Air	1.44	11	79	0J22033	TO-15	10/22/20 10:50	rgg	R-05
1,1-Dichloroethane [75-34-3]^	8.4	U	ug/m³ Air	1.44	8.4	58	0J22033	TO-15	10/22/20 10:50	rgg	R-05
1,1-Dichloroethene [75-35-4]^	8.7	U	ug/m³ Air	1.44	8.7	57	0J22033	TO-15	10/22/20 10:50	rgg	R-05
1,2-Dibromoethane [106-93-4]^	16	U	ug/m³ Air	1.44	16	110	0J22033	TO-15	10/22/20 10:50	rgg	R-05
1,2-Dichlorobenzene [95-50-1]^	9.4	U	ug/m³ Air	1.44	9.4	87	0J22033	TO-15	10/22/20 10:50	rgg	QL-02, R-05
1,2-Dichloroethane [107-06-2]^	8.6	U	ug/m³ Air	1.44	8.6	58	0J22033	TO-15	10/22/20 10:50	rgg	R-05
1,2-Dichloropropane [78-87-5]^	11	U	ug/m³ Air	1.44	11	67	0J22033	TO-15	10/22/20 10:50	rgg	R-05
1,3-Dichlorobenzene [541-73-1]^	9.7	U	ug/m³ Air	1.44	9.7	87	0J22033	TO-15	10/22/20 10:50	rgg	QL-02, R-05
1,4-Dichlorobenzene [106-46-7]^	11	U	ug/m³ Air	1.44	11	87	0J22033	TO-15	10/22/20 10:50	rgg	QL-02, R-05
3-Chloropropene [107-05-1]^	7.0	U	ug/m³ Air	1.44	7.0	45	0J22033	TO-15	10/22/20 10:50	rgg	R-05
Acetone [67-64-1]^	**12**	I	ug/m³ Air	1.44	4.8	34	0J22033	TO-15	10/22/20 10:50	rgg	R-05
Bromodichloromethane [75-27-4]^	13	U	ug/m³ Air	1.44	13	96	0J22033	TO-15	10/22/20 10:50	rgg	R-05
Bromoethene [593-60-2]^	8.3	U	ug/m³ Air	1.44	8.3	63	0J22033	TO-15	10/22/20 10:50	rgg	R-05
Bromoform [75-25-2]^	23	U	ug/m³ Air	1.44	23	150	0J22033	TO-15	10/22/20 10:50	rgg	R-05
Bromomethane [74-83-9]^	7.4	U	ug/m³ Air	1.44	7.4	56	0J22033	TO-15	10/22/20 10:50	rgg	R-05
Carbon tetrachloride [56-23-5]^	9.8	U	ug/m³ Air	1.44	9.8	91	0J22033	TO-15	10/22/20 10:50	rgg	J-06, R-05
Chlorobenzene [108-90-7]^	8.8	U	ug/m³ Air	1.44	8.8	66	0J22033	TO-15	10/22/20 10:50	rgg	R-05
Chloroethane [75-00-3]^	4.9	U	ug/m³ Air	1.44	4.9	38	0J22033	TO-15	10/22/20 10:50	rgg	R-05
Chloroform [67-66-3]^	11	U	ug/m³ Air	1.44	11	70	0J22033	TO-15	10/22/20 10:50	rgg	R-05
Chloromethane [74-87-3]^	5.7	U	ug/m³ Air	1.44	5.7	30	0J22033	TO-15	10/22/20 10:50	rgg	R-05
cis-1,2-Dichloroethene [156-59-2]^	8.7	U	ug/m³ Air	1.44	8.7	57	0J22033	TO-15	10/22/20 10:50	rgg	R-05
cis-1,3-Dichloropropene [10061-01-5]^	9.9	U	ug/m³ Air	1.44	9.9	65	0J22033	TO-15	10/22/20 10:50	rgg	R-05
Dibromochloromethane [124-48-1]^	16	U	ug/m³ Air	1.44	16	120	0J22033	TO-15	10/22/20 10:50	rgg	R-05
Dichlorodifluoromethane [75-71-8]^	16	U	ug/m³ Air	1.44	16	71	0J22033	TO-15	10/22/20 10:50	rgg	R-05
Freon 113 [76-13-1]^	**270**		ug/m³ Air	1.44	14	110	0J22033	TO-15	10/22/20 10:50	rgg	
Freon 114 [76-14-2]^	21	U	ug/m³ Air	1.44	21	100	0J22033	TO-15	10/22/20 10:50	rgg	R-05
Hexachlorobutadiene [87-68-3]^	23	U	ug/m³ Air	1.44	23	150	0J22033	TO-15	10/22/20 10:50	rgg	QL-02, QV-01, R-05
Methylene chloride [75-09-2]^	**4.3**	IV	ug/m³ Air	1.44	4.0	50	0J22033	TO-15	10/22/20 10:50	rgg	J-01, O-01, R-05
Propene [115-07-1]^	5.5	U	ug/m³ Air	1.44	5.5	25	0J22033	TO-15	10/22/20 10:50	rgg	R-05
Tetrachloroethene [127-18-4]^	12	U	ug/m³ Air	1.44	12	98	0J22033	TO-15	10/22/20 10:50	rgg	R-05
trans-1,2-Dichloroethene [156-60-5]^	7.3	U	ug/m³ Air	1.44	7.3	57	0J22033	TO-15	10/22/20 10:50	rgg	R-05
trans-1,3-Dichloropropene [10061-02-6]^	8.9	U	ug/m³ Air	1.44	8.9	65	0J22033	TO-15	10/22/20 10:50	rgg	QL-02, R-05
Trichloroethene [79-01-6]^	11	U	ug/m³ Air	1.44	11	77	0J22033	TO-15	10/22/20 10:50	rgg	R-05
Trichlorofluoromethane [75-69-4]^	11	U	ug/m³ Air	1.44	11	81	0J22033	TO-15	10/22/20 10:50	rgg	R-05
Vinyl chloride [75-01-4]^	8.2	U	ug/m³ Air	1.44	8.2	37	0J22033	TO-15	10/22/20 10:50	rgg	R-05

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*30*	*1*	*31.0*	*97 %*	*70-130*	*0J22033*	*TO-15*	*10/22/20 10:50*	*rgg*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0019-058.0-20201020 **Lab Sample ID:** AD07081-02 **Received:** 10/21/20 14:30

Matrix: Ground Water **Sampled:** 10/20/20 12:40 **Work Order:** AD07081

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	0J23034	EPA 8260D	10/23/20 17:01	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	0J23034	EPA 8260D	10/23/20 17:01	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	0J23034	EPA 8260D	10/23/20 17:01	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	0J23034	EPA 8260D	10/23/20 17:01	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	0J23034	EPA 8260D	10/23/20 17:01	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	0J23034	EPA 8260D	10/23/20 17:01	KKW	QV-01
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	0J23034	EPA 8260D	10/23/20 17:01	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	0J23034	EPA 8260D	10/23/20 17:01	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	0J23034	EPA 8260D	10/23/20 17:01	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	0J23034	EPA 8260D	10/23/20 17:01	KKW	QV-01
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	0J23034	EPA 8260D	10/23/20 17:01	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	0J23034	EPA 8260D	10/23/20 17:01	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	0J23034	EPA 8260D	10/23/20 17:01	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	0J23034	EPA 8260D	10/23/20 17:01	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	0J23034	EPA 8260D	10/23/20 17:01	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	0J23034	EPA 8260D	10/23/20 17:01	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	0J23034	EPA 8260D	10/23/20 17:01	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	0J23034	EPA 8260D	10/23/20 17:01	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	0J23034	EPA 8260D	10/23/20 17:01	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	0J23034	EPA 8260D	10/23/20 17:01	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	0J23034	EPA 8260D	10/23/20 17:01	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	0J23034	EPA 8260D	10/23/20 17:01	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	0J23034	EPA 8260D	10/23/20 17:01	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	0J23034	EPA 8260D	10/23/20 17:01	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	0J23034	EPA 8260D	10/23/20 17:01	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	0J23034	EPA 8260D	10/23/20 17:01	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	0J23034	EPA 8260D	10/23/20 17:01	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	0J23034	EPA 8260D	10/23/20 17:01	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	0J23034	EPA 8260D	10/23/20 17:01	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	0J23034	EPA 8260D	10/23/20 17:01	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	0J23034	EPA 8260D	10/23/20 17:01	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	0J23034	EPA 8260D	10/23/20 17:01	KKW	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	0J23034	EPA 8260D	10/23/20 17:01	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	0J23034	EPA 8260D	10/23/20 17:01	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	0J23034	EPA 8260D	10/23/20 17:01	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	0J23034	EPA 8260D	10/23/20 17:01	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	0J23034	EPA 8260D	10/23/20 17:01	KKW	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	0J23034	EPA 8260D	10/23/20 17:01	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	0J23034	EPA 8260D	10/23/20 17:01	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	0J23034	EPA 8260D	10/23/20 17:01	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	0J23034	EPA 8260D	10/23/20 17:01	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	0J23034	EPA 8260D	10/23/20 17:01	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	0J23034	EPA 8260D	10/23/20 17:01	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	0J23034	EPA 8260D	10/23/20 17:01	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	0J23034	EPA 8260D	10/23/20 17:01	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	0J23034	EPA 8260D	10/23/20 17:01	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	0J23034	EPA 8260D	10/23/20 17:01	KKW	

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ANALYTICAL RESULTS

Description: CRCA-MW0019-058.0-20201020 **Lab Sample ID:** AD07081-02 **Received:** 10/21/20 14:30

Matrix: Ground Water **Sampled:** 10/20/20 12:40 **Work Order:** AD07081

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	0J23034	EPA 8260D	10/23/20 17:01	KKW	
Vinyl chloride [75-01-4]^	**3.3**		ug/L	1	0.71	2.5	0J23034	EPA 8260D	10/23/20 17:01	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	0J23034	EPA 8260D	10/23/20 17:01	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*107 %*	*41-142*	*0J23034*	*EPA 8260D*	*10/23/20 17:01*	*KKW*	
Dibromofluoromethane	*55*	*1*	*50.0*	*110 %*	*53-146*	*0J23034*	*EPA 8260D*	*10/23/20 17:01*	*KKW*	
Toluene-d8	*52*	*1*	*50.0*	*104 %*	*41-146*	*0J23034*	*EPA 8260D*	*10/23/20 17:01*	*KKW*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Carbon dioxide [124-38-9]^	**82.8**		mg/L	1	2.07	2.50	0J22022	RSK 175	10/22/20 13:58	KG	
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	0J22022	RSK 175	10/22/20 13:58	KG	
Ethene [74-85-1]^	0.00510	U	mg/L	1	0.00510	0.00600	0J22022	RSK 175	10/22/20 13:58	KG	
Methane [74-82-8]^	**0.829**		mg/L	10	0.0400	0.0500	0J22022	RSK 175	10/22/20 15:17	KG	

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ANALYTICAL RESULTS

Description: CRCA-AMB-20201015 | **Lab Sample ID:** AD07081-03 | **Received:** 10/21/20 14:30
Matrix: Air | **Sampled:** 10/15/20 17:28 | **Work Order:** AD07081
Project: NASA KSC CRCA | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	2.4	U	ug/m³ Air	1.27	2.4	17	0J22033	TO-15	10/22/20 08:49	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	3.1	U	ug/m³ Air	1.27	3.1	22	0J22033	TO-15	10/22/20 08:49	rgg	QL-02
1,1,2-Trichloroethane [79-00-5]^	2.4	U	ug/m³ Air	1.27	2.4	17	0J22033	TO-15	10/22/20 08:49	rgg	
1,1-Dichloroethane [75-34-3]^	1.9	U	ug/m³ Air	1.27	1.9	13	0J22033	TO-15	10/22/20 08:49	rgg	
1,1-Dichloroethene [75-35-4]^	1.9	U	ug/m³ Air	1.27	1.9	13	0J22033	TO-15	10/22/20 08:49	rgg	
1,2-Dibromoethane [106-93-4]^	3.5	U	ug/m³ Air	1.27	3.5	24	0J22033	TO-15	10/22/20 08:49	rgg	
1,2-Dichlorobenzene [95-50-1]^	2.1	U	ug/m³ Air	1.27	2.1	19	0J22033	TO-15	10/22/20 08:49	rgg	QL-02
1,2-Dichloroethane [107-06-2]^	1.9	U	ug/m³ Air	1.27	1.9	13	0J22033	TO-15	10/22/20 08:49	rgg	
1,2-Dichloropropane [78-87-5]^	2.3	U	ug/m³ Air	1.27	2.3	15	0J22033	TO-15	10/22/20 08:49	rgg	
1,3-Dichlorobenzene [541-73-1]^	2.1	U	ug/m³ Air	1.27	2.1	19	0J22033	TO-15	10/22/20 08:49	rgg	QL-02
1,4-Dichlorobenzene [106-46-7]^	2.4	U	ug/m³ Air	1.27	2.4	19	0J22033	TO-15	10/22/20 08:49	rgg	QL-02
3-Chloropropene [107-05-1]^	1.6	U	ug/m³ Air	1.27	1.6	9.9	0J22033	TO-15	10/22/20 08:49	rgg	
Acetone [67-64-1]^	**11**		ug/m³ Air	1.27	1.1	7.5	0J22033	TO-15	10/22/20 08:49	rgg	
Bromodichloromethane [75-27-4]^	2.9	U	ug/m³ Air	1.27	2.9	21	0J22033	TO-15	10/22/20 08:49	rgg	
Bromoethene [593-60-2]^	1.8	U	ug/m³ Air	1.27	1.8	14	0J22033	TO-15	10/22/20 08:49	rgg	
Bromoform [75-25-2]^	5.0	U	ug/m³ Air	1.27	5.0	33	0J22033	TO-15	10/22/20 08:49	rgg	
Bromomethane [74-83-9]^	1.6	U	ug/m³ Air	1.27	1.6	12	0J22033	TO-15	10/22/20 08:49	rgg	
Carbon tetrachloride [56-23-5]^	2.2	U	ug/m³ Air	1.27	2.2	20	0J22033	TO-15	10/22/20 08:49	rgg	J-06
Chlorobenzene [108-90-7]^	1.9	U	ug/m³ Air	1.27	1.9	15	0J22033	TO-15	10/22/20 08:49	rgg	
Chloroethane [75-00-3]^	1.1	U	ug/m³ Air	1.27	1.1	8.4	0J22033	TO-15	10/22/20 08:49	rgg	
Chloroform [67-66-3]^	2.4	U	ug/m³ Air	1.27	2.4	16	0J22033	TO-15	10/22/20 08:49	rgg	
Chloromethane [74-87-3]^	**1.3**	I	ug/m³ Air	1.27	1.3	6.6	0J22033	TO-15	10/22/20 08:49	rgg	
cis-1,2-Dichloroethene [156-59-2]^	1.9	U	ug/m³ Air	1.27	1.9	13	0J22033	TO-15	10/22/20 08:49	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	2.2	U	ug/m³ Air	1.27	2.2	14	0J22033	TO-15	10/22/20 08:49	rgg	
Dibromochloromethane [124-48-1]^	3.6	U	ug/m³ Air	1.27	3.6	27	0J22033	TO-15	10/22/20 08:49	rgg	
Dichlorodifluoromethane [75-71-8]^	3.5	U	ug/m³ Air	1.27	3.5	16	0J22033	TO-15	10/22/20 08:49	rgg	
Freon 113 [76-13-1]^	3.1	U	ug/m³ Air	1.27	3.1	24	0J22033	TO-15	10/22/20 08:49	rgg	
Freon 114 [76-14-2]^	4.6	U	ug/m³ Air	1.27	4.6	22	0J22033	TO-15	10/22/20 08:49	rgg	
Hexachlorobutadiene [87-68-3]^	5.0	U	ug/m³ Air	1.27	5.0	34	0J22033	TO-15	10/22/20 08:49	rgg	QL-02, QV-01
Methylene chloride [75-09-2]^	**2.1**	IV	ug/m³ Air	1.27	0.88	11	0J22033	TO-15	10/22/20 08:49	rgg	J-01, O-01
Propene [115-07-1]^	1.2	U	ug/m³ Air	1.27	1.2	5.5	0J22033	TO-15	10/22/20 08:49	rgg	
Tetrachloroethene [127-18-4]^	2.7	U	ug/m³ Air	1.27	2.7	22	0J22033	TO-15	10/22/20 08:49	rgg	
trans-1,2-Dichloroethene [156-60-5]^	**210**		ug/m³ Air	1.27	1.6	13	0J22033	TO-15	10/22/20 08:49	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	2.0	U	ug/m³ Air	1.27	2.0	14	0J22033	TO-15	10/22/20 08:49	rgg	QL-02
Trichloroethene [79-01-6]^	2.4	U	ug/m³ Air	1.27	2.4	17	0J22033	TO-15	10/22/20 08:49	rgg	
Trichlorofluoromethane [75-69-4]^	2.4	U	ug/m³ Air	1.27	2.4	18	0J22033	TO-15	10/22/20 08:49	rgg	
Vinyl chloride [75-01-4]^	1.8	U	ug/m³ Air	1.27	1.8	8.1	0J22033	TO-15	10/22/20 08:49	rgg	

Surrogates	Results	DF	Spike Lvl	% Rec	% Rec Limits	Batch	Method	Analyzed	By	Notes
4-Bromofluorobenzene	*30*	*1*	*31.0*	*97 %*	*70-130*	*0J22033*	*TO-15*	*10/22/20 08:49*	*rgg*	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0J22033 - NO PREP 2

Blank (0J22033-BLK1) Prepared: 10/21/2020 17:30 Analyzed: 10/21/2020 22:11

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	1.9	U	14	ug/m³ Air							
1,1,2,2-Tetrachloroethane	2.5	U	17	ug/m³ Air							
1,1,2-Trichloroethane	1.9	U	14	ug/m³ Air							
1,1-Dichloroethane	1.5	U	10	ug/m³ Air							
1,1-Dichloroethene	1.5	U	9.9	ug/m³ Air							
1,2-Dibromoethane	2.8	U	19	ug/m³ Air							
1,2-Dichlorobenzene	1.6	U	15	ug/m³ Air							
1,2-Dichloroethane	1.5	U	10	ug/m³ Air							
1,2-Dichloropropane	1.8	U	12	ug/m³ Air							
1,3-Dichlorobenzene	1.7	U	15	ug/m³ Air							
1,4-Dichlorobenzene	1.9	U	15	ug/m³ Air							
3-Chloropropene	1.2	U	7.8	ug/m³ Air							
Acetone	0.83	U	5.9	ug/m³ Air							
Bromodichloromethane	2.3	U	17	ug/m³ Air							
Bromoethene	1.4	U	11	ug/m³ Air							
Bromoform	3.9	U	26	ug/m³ Air							
Bromomethane	1.3	U	9.7	ug/m³ Air							
Carbon tetrachloride	1.7	U	16	ug/m³ Air							
Chlorobenzene	1.5	U	12	ug/m³ Air							
Chloroethane	0.84	U	6.6	ug/m³ Air							
Chloroform	1.9	U	12	ug/m³ Air							
Chloromethane	0.99	U	5.2	ug/m³ Air							
cis-1,2-Dichloroethene	1.5	U	9.9	ug/m³ Air							
cis-1,3-Dichloropropene	1.7	U	11	ug/m³ Air							
Dibromochloromethane	2.8	U	21	ug/m³ Air							
Dichlorodifluoromethane	2.7	U	12	ug/m³ Air							
Freon 113	2.5	U	19	ug/m³ Air							
Freon 114	3.6	U	17	ug/m³ Air							
Hexachlorobutadiene	3.9	U	27	ug/m³ Air							
Methylene chloride	**0.83**	**I**	8.7	ug/m³ Air							J-01, O-01
Propene	0.95	U	4.3	ug/m³ Air							
Tetrachloroethene	2.1	U	17	ug/m³ Air							
trans-1,2-Dichloroethene	1.3	U	9.9	ug/m³ Air							
trans-1,3-Dichloropropene	1.5	U	11	ug/m³ Air							
Trichloroethene	1.9	U	13	ug/m³ Air							
Trichlorofluoromethane	1.9	U	14	ug/m³ Air							
Vinyl chloride	1.4	U	6.4	ug/m³ Air							
4-Bromofluorobenzene	*30*			*ppbv*	*31.0*		*96*	*70-130*			

LCS (0J22033-BS1) Prepared: 10/21/2020 17:30 Analyzed: 10/21/2020 19:54

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	61		14	ug/m³ Air	54.6		113	70-130			
1,1,2,2-Tetrachloroethane	94		17	ug/m³ Air	68.7		137	70-130			QL-02
1,1,2-Trichloroethane	66		14	ug/m³ Air	54.6		120	70-130			
1,1-Dichloroethane	45		10	ug/m³ Air	40.5		112	70-130			
1,1-Dichloroethene	45		9.9	ug/m³ Air	39.7		113	70-130			
1,2-Dibromoethane	97		19	ug/m³ Air	76.8		126	70-130			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0J22033 - NO PREP 2 - Continued

LCS (0J22033-BS1) Continued Prepared: 10/21/2020 17:30 Analyzed: 10/21/2020 19:54

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,2-Dichlorobenzene	90		15	ug/m³ Air	60.1		149	70-130			QL-02
1,2-Dichloroethane	46		10	ug/m³ Air	40.5		113	70-130			
1,2-Dichloropropane	53		12	ug/m³ Air	46.2		114	70-130			
1,3-Dichlorobenzene	89		15	ug/m³ Air	60.1		148	70-130			QL-02
1,4-Dichlorobenzene	91		15	ug/m³ Air	60.1		151	70-130			QL-02
3-Chloropropene	33		7.8	ug/m³ Air	31.3		104	70-130			
Acetone	25		5.9	ug/m³ Air	23.8		104	70-130			
Bromodichloromethane	73		17	ug/m³ Air	67.0		110	70-130			
Bromoethene	49		11	ug/m³ Air	43.7		112	70-130			
Bromoform	120		26	ug/m³ Air	103		120	70-130			
Bromomethane	42		9.7	ug/m³ Air	38.8		108	70-130			
Carbon tetrachloride	43		16	ug/m³ Air	62.9		68	70-130			J-06
Chlorobenzene	56		12	ug/m³ Air	46.0		122	70-130			
Chloroethane	30		6.6	ug/m³ Air	26.4		114	70-130			
Chloroform	55		12	ug/m³ Air	48.8		113	70-130			
Chloromethane	22		5.2	ug/m³ Air	20.7		108	70-130			
cis-1,2-Dichloroethene	45		9.9	ug/m³ Air	39.6		114	70-130			
cis-1,3-Dichloropropene	55		11	ug/m³ Air	45.4		120	70-130			
Dibromochloromethane	96		21	ug/m³ Air	85.2		113	70-130			
Dichlorodifluoromethane	56		12	ug/m³ Air	49.5		113	70-130			
Freon 113	86		19	ug/m³ Air	76.6		113	70-130			
Freon 114	80		17	ug/m³ Air	69.9		115	70-130			
Hexachlorobutadiene	140		27	ug/m³ Air	107		135	70-130			QL-02
Methylene chloride	39		8.7	ug/m³ Air	34.7		113	70-130			
Propene	18		4.3	ug/m³ Air	17.2		102	70-130			
Tetrachloroethene	85		17	ug/m³ Air	67.8		125	70-130			
trans-1,2-Dichloroethene	43		9.9	ug/m³ Air	39.6		110	70-130			
trans-1,3-Dichloropropene	61		11	ug/m³ Air	45.4		135	70-130			QL-02
Trichloroethene	63		13	ug/m³ Air	53.7		116	70-130			
Trichlorofluoromethane	63		14	ug/m³ Air	56.2		112	70-130			
Vinyl chloride	29		6.4	ug/m³ Air	25.6		114	70-130			
4-Bromofluorobenzene	*32*			*ppbv*	*31.0*		*102*	*70-130*			

LCS Dup (0J22033-BSD1) Prepared: 10/21/2020 17:30 Analyzed: 10/21/2020 20:50

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	61		14	ug/m³ Air	54.6		112	70-130	0.5	25	
1,1,2,2-Tetrachloroethane	94		17	ug/m³ Air	68.7		136	70-130	0.2	25	QL-02
1,1,2-Trichloroethane	66		14	ug/m³ Air	54.6		121	70-130	0.6	25	
1,1-Dichloroethane	45		10	ug/m³ Air	40.5		112	70-130	0.2	25	
1,1-Dichloroethene	44		9.9	ug/m³ Air	39.7		112	70-130	1	25	
1,2-Dibromoethane	97		19	ug/m³ Air	76.8		126	70-130	0.1	25	
1,2-Dichlorobenzene	90		15	ug/m³ Air	60.1		150	70-130	0.3	25	QL-02
1,2-Dichloroethane	46		10	ug/m³ Air	40.5		114	70-130	0.4	25	
1,2-Dichloropropane	52		12	ug/m³ Air	46.2		114	70-130	0.2	25	
1,3-Dichlorobenzene	90		15	ug/m³ Air	60.1		150	70-130	1	25	QL-02
1,4-Dichlorobenzene	92		15	ug/m³ Air	60.1		153	70-130	0.8	25	QL-02
3-Chloropropene	32		7.8	ug/m³ Air	31.3		103	70-130	1	25	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0J22033 - NO PREP 2 - Continued

LCS Dup (0J22033-BSD1) Continued Prepared: 10/21/2020 17:30 Analyzed: 10/21/2020 20:50

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Acetone	25		5.9	ug/m³ Air	23.8		104	70-130	0.3	25	
Bromodichloromethane	73		17	ug/m³ Air	67.0		109	70-130	0.8	25	
Bromoethene	48		11	ug/m³ Air	43.7		110	70-130	2	25	
Bromoform	120		26	ug/m³ Air	103		120	70-130	0.2	25	
Bromomethane	41		9.7	ug/m³ Air	38.8		106	70-130	1	25	
Carbon tetrachloride	42		16	ug/m³ Air	62.9		67	70-130	0.6	25	J-06
Chlorobenzene	56		12	ug/m³ Air	46.0		122	70-130	0.07	25	
Chloroethane	30		6.6	ug/m³ Air	26.4		112	70-130	2	25	
Chloroform	55		12	ug/m³ Air	48.8		112	70-130	0.6	25	
Chloromethane	22		5.2	ug/m³ Air	20.7		107	70-130	1	25	
cis-1,2-Dichloroethene	45		9.9	ug/m³ Air	39.6		115	70-130	0.7	25	
cis-1,3-Dichloropropene	55		11	ug/m³ Air	45.4		121	70-130	1	25	
Dibromochloromethane	97		21	ug/m³ Air	85.2		114	70-130	1	25	
Dichlorodifluoromethane	56		12	ug/m³ Air	49.5		113	70-130	0.4	25	
Freon 113	86		19	ug/m³ Air	76.6		112	70-130	0.6	25	
Freon 114	80		17	ug/m³ Air	69.9		115	70-130	0.09	25	
Hexachlorobutadiene	140		27	ug/m³ Air	107		134	70-130	0.7	25	QL-02
Methylene chloride	39		8.7	ug/m³ Air	34.7		113	70-130	0.02	25	
Propene	18		4.3	ug/m³ Air	17.2		102	70-130	0.07	25	
Tetrachloroethene	86		17	ug/m³ Air	67.8		126	70-130	1	25	
trans-1,2-Dichloroethene	43		9.9	ug/m³ Air	39.6		110	70-130	0.02	25	
trans-1,3-Dichloropropene	61		11	ug/m³ Air	45.4		135	70-130	0.1	25	QL-02
Trichloroethene	63		13	ug/m³ Air	53.7		117	70-130	0.08	25	
Trichlorofluoromethane	62		14	ug/m³ Air	56.2		110	70-130	2	25	
Vinyl chloride	29		6.4	ug/m³ Air	25.6		114	70-130	0.4	25	
4-Bromofluorobenzene	*32*			*ppbv*	*31.0*		*102*	*70-130*			

Batch 0J23034 - EPA 5030B_MS

Blank (0J23034-BLK1) Prepared: 10/23/2020 00:00 Analyzed: 10/23/2020 14:26

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0J23034 - EPA 5030B_MS - Continued

Blank (0J23034-BLK1) Continued Prepared: 10/23/2020 00:00 Analyzed: 10/23/2020 14:26

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*55*			*ug/L*	*50.0*		*111*	*41-142*			
Dibromofluoromethane	*55*			*ug/L*	*50.0*		*111*	*53-146*			
Toluene-d8	*55*			*ug/L*	*50.0*		*111*	*41-146*			

LCS (0J23034-BS1) Prepared: 10/23/2020 00:00 Analyzed: 10/23/2020 13:04

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	24		2.5	ug/L	20.0		118	57-148			
1,1,2,2-Tetrachloroethane	19		2.5	ug/L	20.0		95	60-139			
1,1,2-Trichloroethane	17		2.5	ug/L	20.0		84	57-141			
1,1-Dichloroethane	20		2.5	ug/L	20.0		101	57-142			
1,1-Dichloroethene	21		2.5	ug/L	20.0		103	47-139			
1,2,4-Trichlorobenzene	27		2.5	ug/L	20.0		133	52-159			
1,2-Dibromo-3-chloropropane	26		2.5	ug/L	20.0		128	48-150			
1,2-Dibromoethane	19		2.5	ug/L	20.0		97	57-140			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0J23034 - EPA 5030B_MS - Continued

LCS (0J23034-BS1) Continued Prepared: 10/23/2020 00:00 Analyzed: 10/23/2020 13:04

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,2-Dichlorobenzene	22		2.5	ug/L	20.0		108	63-131			
1,2-Dichloroethane	23		2.5	ug/L	20.0		116	50-156			
1,2-Dichloropropane	16		2.5	ug/L	20.0		81	61-133			
1,3-Dichlorobenzene	20		2.5	ug/L	20.0		102	66-129			
1,4-Dichlorobenzene	20		2.5	ug/L	20.0		100	65-133			
2-Butanone	100		12	ug/L	100		100	10-180			
2-Hexanone	71		12	ug/L	100		71	12-180			
4-Methyl-2-pentanone	86		12	ug/L	100		86	19-180			
Acetone	89		25	ug/L	100		89	10-180			
Benzene	20		2.5	ug/L	20.0		98	56-136			
Bromodichloromethane	21		2.5	ug/L	20.0		106	58-135			
Bromoform	22		2.5	ug/L	20.0		108	46-148			
Bromomethane	22		2.5	ug/L	20.0		111	10-173			
Carbon disulfide	18		12	ug/L	20.0		91	43-153			
Carbon Tetrachloride	23		2.5	ug/L	20.0		115	54-156			
Chlorobenzene	20		2.5	ug/L	20.0		98	51-139			
Chloroethane	20		2.5	ug/L	20.0		98	27-180			
Chloroform	20		2.5	ug/L	20.0		101	58-139			
Chloromethane	15		2.5	ug/L	20.0		75	33-154			
cis-1,2-Dichloroethene	19		2.5	ug/L	20.0		95	56-128			
cis-1,3-Dichloropropene	19		2.5	ug/L	20.0		97	64-128			
Cyclohexane	19		2.5	ug/L	20.0		95	70-130			
Dibromochloromethane	18		2.5	ug/L	20.0		92	50-140			
Dichlorodifluoromethane	26		2.5	ug/L	20.0		129	10-180			
Ethylbenzene	19		2.5	ug/L	20.0		95	63-133			
Freon 113	20		2.5	ug/L	20.0		100	47-173			
Isopropylbenzene	20		2.5	ug/L	20.0		100	60-132			
m,p-Xylenes	37		5.0	ug/L	40.0		92	64-133			
Methyl acetate	16		2.5	ug/L	20.0		82	70-130			
Methyl cyclohexane	19		2.5	ug/L	20.0		94	70-130			
Methylene Chloride	20		12	ug/L	20.0		101	43-142			
Methyl-tert-Butyl Ether	19		2.5	ug/L	20.0		97	51-145			
o-Xylene	19		2.5	ug/L	20.0		94	61-129			
Styrene	18		2.5	ug/L	20.0		91	59-136			
Tetrachloroethene	16		2.5	ug/L	20.0		81	60-147			
Toluene	17		2.5	ug/L	20.0		84	64-131			
trans-1,2-Dichloroethene	19		2.5	ug/L	20.0		94	54-134			
trans-1,3-Dichloropropene	20		2.5	ug/L	20.0		98	65-149			
Trichloroethene	20		2.5	ug/L	20.0		101	62-135			
Trichlorofluoromethane	20		2.5	ug/L	20.0		98	56-155			
Vinyl chloride	18		2.5	ug/L	20.0		91	20-167			
4-Bromofluorobenzene	*56*			*ug/L*	*50.0*		*111*	*41-142*			
Dibromofluoromethane	*57*			*ug/L*	*50.0*		*113*	*53-146*			
Toluene-d8	*54*			*ug/L*	*50.0*		*108*	*41-146*			

Matrix Spike (0J23034-MS1) Prepared: 10/23/2020 00:00 Analyzed: 10/23/2020 23:11

Source: AD06767-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0J23034 - EPA 5030B_MS - Continued

Matrix Spike (0J23034-MS1) Continued Prepared: 10/23/2020 00:00 Analyzed: 10/23/2020 23:11

Source: AD06767-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	25		2.5	ug/L	20.0	0.80 U	125	57-148			
1,1,2,2-Tetrachloroethane	19		2.5	ug/L	20.0	0.54 U	94	60-139			
1,1,2-Trichloroethane	19		2.5	ug/L	20.0	0.76 U	96	57-141			
1,1-Dichloroethane	19		2.5	ug/L	20.0	0.62 U	93	57-142			
1,1-Dichloroethene	21		2.5	ug/L	20.0	0.94 U	103	47-139			
1,2,4-Trichlorobenzene	25		2.5	ug/L	20.0	0.70 U	127	52-159			
1,2-Dibromo-3-chloropropane	20		2.5	ug/L	20.0	0.96 U	98	48-150			QM-11
1,2-Dibromoethane	20		2.5	ug/L	20.0	0.78 U	98	57-140			
1,2-Dichlorobenzene	22		2.5	ug/L	20.0	0.73 U	108	63-131			
1,2-Dichloroethane	24		2.5	ug/L	20.0	0.63 U	121	50-156			
1,2-Dichloropropane	18		2.5	ug/L	20.0	0.80 U	89	61-133			
1,3-Dichlorobenzene	22		2.5	ug/L	20.0	0.77 U	109	66-129			
1,4-Dichlorobenzene	23		2.5	ug/L	20.0	0.76 U	115	65-133			
2-Butanone	93		12	ug/L	100	4.5 U	93	10-180			
2-Hexanone	70		12	ug/L	100	2.5 U	70	12-180			
4-Methyl-2-pentanone	89		12	ug/L	100	2.5 U	89	19-180			
Acetone	87		25	ug/L	100	10 U	87	10-180			
Benzene	21		2.5	ug/L	20.0	0.71 U	103	56-136			
Bromodichloromethane	24		2.5	ug/L	20.0	0.52 U	119	58-135			
Bromoform	22		2.5	ug/L	20.0	0.75 U	108	46-148			
Bromomethane	12		2.5	ug/L	20.0	0.95 U	60	10-173			
Carbon disulfide	20		12	ug/L	20.0	2.5 U	99	43-153			
Carbon Tetrachloride	27		2.5	ug/L	20.0	0.94 U	133	54-156			
Chlorobenzene	22		2.5	ug/L	20.0	0.72 U	108	51-139			
Chloroethane	21		2.5	ug/L	20.0	0.98 U	104	27-180			
Chloroform	23		2.5	ug/L	20.0	0.80 U	113	58-139			
Chloromethane	13		2.5	ug/L	20.0	0.82 U	63	33-154			
cis-1,2-Dichloroethene	19		2.5	ug/L	20.0	0.53 U	94	56-128			
cis-1,3-Dichloropropene	19		2.5	ug/L	20.0	0.59 U	94	64-128			
Cyclohexane	17		2.5	ug/L	20.0	0.93 U	86	70-130			
Dibromochloromethane	20		2.5	ug/L	20.0	0.50 U	99	50-140			
Dichlorodifluoromethane	29		2.5	ug/L	20.0	0.74 U	143	10-180			
Ethylbenzene	19		2.5	ug/L	20.0	0.69 U	97	63-133			
Freon 113	24		2.5	ug/L	20.0	0.73 U	122	47-173			
Isopropylbenzene	22		2.5	ug/L	20.0	0.67 U	110	60-132			
m,p-Xylenes	41		5.0	ug/L	40.0	1.3 U	102	64-133			
Methyl acetate	11		2.5	ug/L	20.0	0.95 U	57	70-130			QM-07
Methyl cyclohexane	21		2.5	ug/L	20.0	0.64 U	106	70-130			
Methylene Chloride	20		12	ug/L	20.0	2.5 U	100	43-142			
Methyl-tert-Butyl Ether	18		2.5	ug/L	20.0	0.60 U	92	51-145			
o-Xylene	20		2.5	ug/L	20.0	0.53 U	99	61-129			
Styrene	20		2.5	ug/L	20.0	0.61 U	98	59-136			
Tetrachloroethene	22		2.5	ug/L	20.0	0.76 U	108	60-147			
Toluene	19		2.5	ug/L	20.0	0.72 U	95	64-131			
trans-1,2-Dichloroethene	20		2.5	ug/L	20.0	0.73 U	99	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0	0.73 U	104	65-149			
Trichloroethene	23		2.5	ug/L	20.0	0.89 U	114	62-135			
Trichlorofluoromethane	23		2.5	ug/L	20.0	0.94 U	114	56-155			
Vinyl chloride	46		2.5	ug/L	20.0	28	88	20-167			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0J23034 - EPA 5030B_MS - Continued

Matrix Spike (0J23034-MS1) Continued Prepared: 10/23/2020 00:00 Analyzed: 10/23/2020 23:11

Source: AD06767-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
4-Bromofluorobenzene	*56*			*ug/L*	*50.0*		*112*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*111*	*53-146*			
Toluene-d8	*53*			*ug/L*	*50.0*		*106*	*41-146*			

Matrix Spike Dup (0J23034-MSD1) Prepared: 10/23/2020 00:00 Analyzed: 10/23/2020 23:42

Source: AD06767-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	26		2.5	ug/L	20.0	0.80 U	130	57-148	4	25	
1,1,2,2-Tetrachloroethane	20		2.5	ug/L	20.0	0.54 U	98	60-139	4	17	
1,1,2-Trichloroethane	19		2.5	ug/L	20.0	0.76 U	97	57-141	1	16	
1,1-Dichloroethane	19		2.5	ug/L	20.0	0.62 U	95	57-142	2	24	
1,1-Dichloroethene	20		2.5	ug/L	20.0	0.94 U	102	47-139	1	16	
1,2,4-Trichlorobenzene	29		2.5	ug/L	20.0	0.70 U	144	52-159	13	24	
1,2-Dibromo-3-chloropropane	25		2.5	ug/L	20.0	0.96 U	127	48-150	25	21	QM-11
1,2-Dibromoethane	20		2.5	ug/L	20.0	0.78 U	100	57-140	2	16	
1,2-Dichlorobenzene	22		2.5	ug/L	20.0	0.73 U	112	63-131	3	25	
1,2-Dichloroethane	27		2.5	ug/L	20.0	0.63 U	134	50-156	10	18	
1,2-Dichloropropane	16		2.5	ug/L	20.0	0.80 U	81	61-133	9	26	
1,3-Dichlorobenzene	21		2.5	ug/L	20.0	0.77 U	106	66-129	3	23	
1,4-Dichlorobenzene	22		2.5	ug/L	20.0	0.76 U	108	65-133	7	23	
2-Butanone	99		12	ug/L	100	4.5 U	99	10-180	7	29	
2-Hexanone	73		12	ug/L	100	2.5 U	73	12-180	4	28	
4-Methyl-2-pentanone	95		12	ug/L	100	2.5 U	95	19-180	7	24	
Acetone	96		25	ug/L	100	10 U	96	10-180	10	19	
Benzene	20		2.5	ug/L	20.0	0.71 U	101	56-136	2	14	
Bromodichloromethane	23		2.5	ug/L	20.0	0.52 U	116	58-135	2	19	
Bromoform	22		2.5	ug/L	20.0	0.75 U	109	46-148	1	18	
Bromomethane	16		2.5	ug/L	20.0	0.95 U	81	10-173	29	29	
Carbon disulfide	18		12	ug/L	20.0	2.5 U	92	43-153	7	26	
Carbon Tetrachloride	27		2.5	ug/L	20.0	0.94 U	134	54-156	0.9	27	
Chlorobenzene	21		2.5	ug/L	20.0	0.72 U	104	51-139	4	13	
Chloroethane	21		2.5	ug/L	20.0	0.98 U	103	27-180	2	22	
Chloroform	22		2.5	ug/L	20.0	0.80 U	109	58-139	4	17	
Chloromethane	13		2.5	ug/L	20.0	0.82 U	63	33-154	0.6	31	
cis-1,2-Dichloroethene	18		2.5	ug/L	20.0	0.53 U	92	56-128	2	17	
cis-1,3-Dichloropropene	19		2.5	ug/L	20.0	0.59 U	95	64-128	0.9	20	
Cyclohexane	18		2.5	ug/L	20.0	0.93 U	89	70-130	3	20	
Dibromochloromethane	20		2.5	ug/L	20.0	0.50 U	100	50-140	0.9	18	
Dichlorodifluoromethane	28		2.5	ug/L	20.0	0.74 U	138	10-180	4	26	
Ethylbenzene	19		2.5	ug/L	20.0	0.69 U	93	63-133	4	18	
Freon 113	22		2.5	ug/L	20.0	0.73 U	112	47-173	9	30	
Isopropylbenzene	22		2.5	ug/L	20.0	0.67 U	109	60-132	1	23	
m,p-Xylenes	40		5.0	ug/L	40.0	1.3 U	99	64-133	3	18	
Methyl acetate	12		2.5	ug/L	20.0	0.95 U	61	70-130	6	20	QM-07
Methyl cyclohexane	22		2.5	ug/L	20.0	0.64 U	112	70-130	6	20	
Methylene Chloride	19		12	ug/L	20.0	2.5 U	96	43-142	5	23	
Methyl-tert-Butyl Ether	20		2.5	ug/L	20.0	0.60 U	98	51-145	5	22	
o-Xylene	21		2.5	ug/L	20.0	0.53 U	103	61-129	4	16	
Styrene	20		2.5	ug/L	20.0	0.61 U	98	59-136	0.9	32	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0J23034 - EPA 5030B_MS - Continued

Matrix Spike Dup (0J23034-MSD1) Continued Prepared: 10/23/2020 00:00 Analyzed: 10/23/2020 23:42

Source: AD06767-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Tetrachloroethene	20		2.5	ug/L	20.0	0.76 U	100	60-147	8	21	
Toluene	19		2.5	ug/L	20.0	0.72 U	94	64-131	1	16	
trans-1,2-Dichloroethene	19		2.5	ug/L	20.0	0.73 U	97	54-134	3	20	
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0	0.73 U	106	65-149	2	17	
Trichloroethene	22		2.5	ug/L	20.0	0.89 U	111	62-135	2	20	
Trichlorofluoromethane	22		2.5	ug/L	20.0	0.94 U	112	56-155	2	22	
Vinyl chloride	46		2.5	ug/L	20.0	28	89	20-167	0.2	24	
4-Bromofluorobenzene	*55*			*ug/L*	*50.0*		*109*	*41-142*			
Dibromofluoromethane	*57*			*ug/L*	*50.0*		*115*	*53-146*			
Toluene-d8	*53*			*ug/L*	*50.0*		*106*	*41-146*			

Dissolved Gases by GC - Quality Control

Batch 0J22022 - Same

Blank (0J22022-BLK1) Prepared: 10/22/2020 07:52 Analyzed: 10/22/2020 09:39

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Carbon dioxide	2.07	U	2.50	mg/L							
Ethane	0.00510	U	0.00600	mg/L							
Ethene	0.00510	U	0.00600	mg/L							
Methane	0.00400	U	0.00500	mg/L							

LCS (0J22022-BS1) Prepared: 10/22/2020 07:52 Analyzed: 10/22/2020 09:00

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Carbon dioxide	49.8		2.50	mg/L	45.8		109	70-130			
Ethane	0.343		0.00600	mg/L	0.323		106	70-130			
Ethene	0.299		0.00600	mg/L	0.302		99	70-130			
Methane	0.162		0.00500	mg/L	0.172		94	70-130			

LCS Dup (0J22022-BSD1) Prepared: 10/22/2020 07:52 Analyzed: 10/22/2020 09:16

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Carbon dioxide	49.7		2.50	mg/L	45.8		109	70-130	0.3	30	
Ethane	0.339		0.00600	mg/L	0.323		105	70-130	1	30	
Ethene	0.297		0.00600	mg/L	0.302		98	70-130	0.7	30	
Methane	0.160		0.00500	mg/L	0.172		93	70-130	2	30	

Duplicate (0J22022-DUP1) Prepared: 10/22/2020 07:52 Analyzed: 10/22/2020 13:42

Source: AD06965-03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Carbon dioxide	168		2.50	mg/L		130			26	30	
Ethane	0.00510	U	0.00600	mg/L		0.00510 U				30	
Ethene	0.00510	U	0.00600	mg/L		0.00510 U				30	
Methane	0.0465		0.00500	mg/L		0.0172			92	30	QM-12

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
J-01	Result may be biased high due to positive results in the associated method blank at a concentration above the MDL and/or greater than one-half the MRL.
J-06	The associated laboratory control sample exhibited low bias; the reported result should be considered to be a minimum estimate.
O-01	This compound is a common laboratory contaminant.
QL-02	The associated laboratory control sample exhibited high bias; since the result is ND, there is no impact.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-11	Precision between duplicate matrix spikes of the same sample was outside acceptance limits.
QM-12	Precision between duplicate samples was outside acceptance limits.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.
R-05	The sample was diluted due to the presence of high levels of non-target analytes resulting in elevated reporting limits.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported result is an estimated value.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence (85% or greater confidence) to make a “tentative identification".
Q	One or more quality control criteria failed.

ATT07081

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 2165 | PAGE 1 OF 1

PROJECT NO: KSC-CRCA	FACILITY: 112608910	PROJECT MANAGER Chris Neumann	PHONE NUMBER 321-637-8447	LABORATORY NAME AND CONTACT: ENCO, Kaitlin
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER Melissa Bennett	PHONE NUMBER 321-914-9394	ADDRESS
		CARRIER/WAYBILL NUMBER		CITY, STATE Orlando, FL

STANDARD TAT ☑
RUSH TAT ☐ ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2020	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)								
									PRESERVATIVE USED			4°C	HCl	G Summa	G		
									TYPE OF ANALYSIS	MEE	VOC 8260	TO-15					COMMENTS
10/20	1201	CRCA-VMP03-20201020	VMP3	–	–	Air	C	1			X						
10/20	1240	CRCA-MW0019-058.0-20201020	MW19	53	63	GW	G	6	X	X							
10/15	1728	CRCA-AMB-20201015	AMB	–	–	Air	C	1			X						

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	10-21-20	1420	1. RECEIVED BY	10/21/20	1420
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS Lg Red 1.0°C

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

10/21/2020

Environmental Conservation Labs, Inc.

Alex Murphy
Tetra Tech, Inc. (TE016)
11 Riverside Drive, Suite 204
Cocoa, FL 32922
Phone: (321) 636-6470
Fax: (321) 636-6473

Reference : **Sample Receipt Confirmation - *Please Review***
Project Name / Number : NASA KSC CRCA / 112G08970
Purchase Order # : 1165883

Lab Reference # : AD07081 Lab Receipt Date: 21-Oct-20 14:30
Anticipated ***(Estimated)*** Completion Date: 28-Oct-20 19:00

This is an automated notification from our laboratory information management system (LIMS), indicating the samples we have recently received and their associated analyses. Should any of the following information be in error, please contact us immediately.

Thank you for choosing Environmental Conservation Laboratories. Should any events occur that delay the processing of your samples or inhibit our ability to complete the project within the projected time frame you will be contacted.

Sincerely,

Kaitlin Dylnicki

Client: Tetra Tech, Inc. (TE016) **Project Name:** NASA KSC CRCA
Requested TAT: 5 **Project Number:** 112G08970

Analysis	TAT	Expires	Status
Sample ID: CRCA-VMP03-20201020(Lab ID: AD07081-01), Matrix: Air, Sampled: 20-Oct-20 12:01 (GMT-05:00) Eastern Time (US &			
TO15 (SUMMA)	5	19-Nov-20 23:59	Received
Sample ID: crca-mw0019-058.0-20201020(Lab ID: AD07081-02), Matrix: Ground Water, Sampled: 20-Oct-20 12:40 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	03-Nov-20 23:59	Received
RSK 175 + CO2	5	03-Nov-20 23:59	Received
Sample ID: CRCA-AMB-20201015(Lab ID: AD07081-03), Matrix: Air, Sampled: 15-Oct-20 17:28 (GMT-05:00) Eastern Time (US &			
TO15 (SUMMA)	5	14-Nov-20 23:59	Received

Analysis Groups included in this work order

ENCO Orlando

SDG: AD07081-TE016

CLASS: 01_VOA_MS

METHOD: EPA 8260D

ANALYSES DATA PACKAGE COVER PAGE

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07081-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-MW0019-058.0-20201020	AD07081-02

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0019-058.0-20201020

Laboratory: ENCO Orlando SDG: AD07081-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AD07081-02 File ID: 205JR018.D

Sampled: 10/20/20 12:40 Prepared: 10/23/20 12:57 Analyzed: 10/23/20 17:01

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 0J23034 Sequence: AA63152 Calibration: 2008123 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	3.3		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0019-058.0-20201020

Laboratory: ENCO Orlando
SDG: AD07081-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AD07081-02
File ID: 205JR018.D
Sampled: 10/20/20 12:40
Prepared: 10/23/20 12:57
Analyzed: 10/23/20 17:01
Solids:
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Batch: 0J23034
Sequence: AA63152
Calibration: 2008123
Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	55	110	53 - 146	
Toluene-d8	50.0	52	104	41 - 146	
4-Bromofluorobenzene	50.0	53	107	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1237842	10.168	1477488	10.174	
1,4-Difluorobenzene	2227294	10.756	2663458	10.755	
Chlorobenzene-d5	1189040	13.476	1384666	13.476	
1,4-Dichlorobenzene-d4	1252150	15.744	1420785	15.744	

* Values outside of QC limits

HOLDING TIME SUMMARY

EPA 8260D

Laboratory: ENCO Orlando

SDG: AD07081-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-MW0019-058.0-20201020	10/20/20 12:40	10/21/20 14:30	10/23/20 12:57	3.01	NA	10/23/20 17:01	3.00	14.00	

PREPARATION BATCH SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AD07081-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 0J23034 Batch Matrix: Water Preparation: EPA 5030B_MS

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	0J23034-BLK1	205JR013.D	10/23/20 00:00	
LCS	0J23034-BS1	205JR011.D	10/23/20 00:00	
CRCA-MW0031-058.0-20201015	0J23034-MS1	205JR030.D	10/23/20 00:00	
CRCA-MW0031-058.0-20201015	0J23034-MSD1	205JR031.D	10/23/20 00:00	
CRCA-MW0019-058.0-20201020	AD07081-02	205JR018.D	10/23/20 12:57	

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07081-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	0J23034-BLK1	File ID:	205JR013.D
Prepared:	10/23/20 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	10/23/20 14:26	Instrument:	OVGCMS5		
Batch:	0J23034	Sequence:	AA63152	Calibration:	2008123

CAS NO.	COMPOUND	CONC. (ug/L)	Q
75-71-8	Dichlorodifluoromethane	0.74	U
74-87-3	Chloromethane	0.82	U
75-01-4	Vinyl chloride	0.71	U
74-83-9	Bromomethane	0.95	U
75-00-3	Chloroethane	0.98	U
75-69-4	Trichlorofluoromethane	0.94	U
76-13-1	Freon 113	0.73	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	0.94	U
75-15-0	Carbon disulfide	2.5	U
75-09-2	Methylene Chloride	2.5	U
1634-04-4	Methyl-tert-Butyl Ether	0.60	U
156-60-5	trans-1,2-Dichloroethene	0.73	U
156-59-2	cis-1,2-Dichloroethene	0.53	U
75-34-3	1,1-Dichloroethane	0.62	U
78-93-3	2-Butanone	4.5	U
67-66-3	Chloroform	0.80	U
71-55-6	1,1,1-Trichloroethane	0.80	U
79-20-9	Methyl acetate	0.95	U
110-82-7	Cyclohexane	0.93	U
108-87-2	Methyl cyclohexane	0.64	U
56-23-5	Carbon Tetrachloride	0.94	U
107-06-2	1,2-Dichloroethane	0.63	U
71-43-2	Benzene	0.71	U
79-01-6	Trichloroethene	0.89	U
78-87-5	1,2-Dichloropropane	0.80	U
75-27-4	Bromodichloromethane	0.52	U
108-10-1	4-Methyl-2-pentanone	2.5	U
591-78-6	2-Hexanone	2.5	U
10061-01-5	cis-1,3-Dichloropropene	0.59	U

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07081-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	0J23034-BLK1	File ID:	205JR013.D
Prepared:	10/23/20 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	10/23/20 14:26	Instrument:	OVGCMS5		
Batch:	0J23034	Sequence:	AA63152	Calibration:	2008123

CAS NO.	COMPOUND	CONC. (ug/L)	Q
108-88-3	Toluene	0.72	U
10061-02-6	trans-1,3-Dichloropropene	0.73	U
79-00-5	1,1,2-Trichloroethane	0.76	U
127-18-4	Tetrachloroethene	0.76	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.78	U
108-90-7	Chlorobenzene	0.72	U
100-41-4	Ethylbenzene	0.69	U
108-38-3/106-42-3	m,p-Xylenes	1.3	U
95-47-6	o-Xylene	0.53	U
75-25-2	Bromoform	0.75	U
100-42-5	Styrene	0.61	U
98-82-8	Isopropylbenzene	0.67	U
79-34-5	1,1,2,2-Tetrachloroethane	0.54	U
120-82-1	1,2,4-Trichlorobenzene	0.70	U
541-73-1	1,3-Dichlorobenzene	0.77	U
106-46-7	1,4-Dichlorobenzene	0.76	U
95-50-1	1,2-Dichlorobenzene	0.73	U
96-12-8	1,2-Dibromo-3-chloropropane	0.96	U
1330-20-7	Xylenes (Total)	1.3	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	55	111	53 - 146	
Toluene-d8	50.0	55	111	41 - 146	
4-Bromofluorobenzene	50.0	55	111	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1314964	10.174	1477488	10.174	
1,4-Difluorobenzene	2372308	10.756	2663458	10.755	
Chlorobenzene-d5	1300095	13.47	1384666	13.476	
1,4-Dichlorobenzene-d4	1348746	15.744	1420785	15.744	

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07081-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	0J23034	Laboratory ID:	0J23034-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	26	129	10 - 180
Chloromethane	20.0	15	75	33 - 154
Vinyl chloride	20.0	18	91	20 - 167
Bromomethane	20.0	22	111	10 - 173
Chloroethane	20.0	20	98	27 - 180
Trichlorofluoromethane	20.0	20	98	56 - 155
Freon 113	20.0	20	100	47 - 173
Acetone	100	89	89	10 - 180
1,1-Dichloroethene	20.0	21	103	47 - 139
Carbon disulfide	20.0	18	91	43 - 153
Methylene Chloride	20.0	20	101	43 - 142
Methyl-tert-Butyl Ether	20.0	19	97	51 - 145
trans-1,2-Dichloroethene	20.0	19	94	54 - 134
cis-1,2-Dichloroethene	20.0	19	95	56 - 128
1,1-Dichloroethane	20.0	20	101	57 - 142
2-Butanone	100	100	100	10 - 180
Chloroform	20.0	20	101	58 - 139
1,1,1-Trichloroethane	20.0	24	118	57 - 148
Methyl acetate	20.0	16	82	70 - 130
Cyclohexane	20.0	19	95	70 - 130
Methyl cyclohexane	20.0	19	94	70 - 130
Carbon Tetrachloride	20.0	23	115	54 - 156
1,2-Dichloroethane	20.0	23	116	50 - 156
Benzene	20.0	20	98	56 - 136
Trichloroethene	20.0	20	101	62 - 135
1,2-Dichloropropane	20.0	16	81	61 - 133
Bromodichloromethane	20.0	21	106	58 - 135
4-Methyl-2-pentanone	100	86	86	19 - 180
2-Hexanone	100	71	71	12 - 180
cis-1,3-Dichloropropene	20.0	19	97	64 - 128

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07081-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	0J23034	Laboratory ID:	0J23034-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Toluene	20.0	17	84	64 - 131
trans-1,3-Dichloropropene	20.0	20	98	65 - 149
1,1,2-Trichloroethane	20.0	17	84	57 - 141
Tetrachloroethene	20.0	16	81	60 - 147
Dibromochloromethane	20.0	18	92	50 - 140
1,2-Dibromoethane	20.0	19	97	57 - 140
Chlorobenzene	20.0	20	98	51 - 139
Ethylbenzene	20.0	19	95	63 - 133
m,p-Xylenes	40.0	37	92	64 - 133
o-Xylene	20.0	19	94	61 - 129
Bromoform	20.0	22	108	46 - 148
Styrene	20.0	18	91	59 - 136
Isopropylbenzene	20.0	20	100	60 - 132
1,1,2,2-Tetrachloroethane	20.0	19	95	60 - 139
1,2,4-Trichlorobenzene	20.0	27	133	52 - 159
1,3-Dichlorobenzene	20.0	20	102	66 - 129
1,4-Dichlorobenzene	20.0	20	100	65 - 133
1,2-Dichlorobenzene	20.0	22	108	63 - 131
1,2-Dibromo-3-chloropropane	20.0	26	128	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0031-058.0-20201015

Laboratory: ENCO Orlando
SDG: AD07081-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 0J23034
Laboratory ID: 0J23034-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0031-058.0-20201015

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	ND	29	143	10 - 180
Chloromethane	20.0	ND	13	63	33 - 154
Vinyl chloride	20.0	28	46	88	20 - 167
Bromomethane	20.0	ND	12	60	10 - 173
Chloroethane	20.0	ND	21	104	27 - 180
Trichlorofluoromethane	20.0	ND	23	114	56 - 155
Freon 113	20.0	ND	24	122	47 - 173
Acetone	100	ND	87	87	10 - 180
1,1-Dichloroethene	20.0	ND	21	103	47 - 139
Carbon disulfide	20.0	ND	20	99	43 - 153
Methylene Chloride	20.0	ND	20	100	43 - 142
Methyl-tert-Butyl Ether	20.0	ND	18	92	51 - 145
trans-1,2-Dichloroethene	20.0	ND	20	99	54 - 134
cis-1,2-Dichloroethene	20.0	ND	19	94	56 - 128
1,1-Dichloroethane	20.0	ND	19	93	57 - 142
2-Butanone	100	ND	93	93	10 - 180
Chloroform	20.0	ND	23	113	58 - 139
1,1,1-Trichloroethane	20.0	ND	25	125	57 - 148
Methyl acetate	20.0	ND	11	57 *	70 - 130
Cyclohexane	20.0	ND	17	86	70 - 130
Methyl cyclohexane	20.0	ND	21	106	70 - 130
Carbon Tetrachloride	20.0	ND	27	133	54 - 156
1,2-Dichloroethane	20.0	ND	24	121	50 - 156
Benzene	20.0	ND	21	103	56 - 136
Trichloroethene	20.0	ND	23	114	62 - 135
1,2-Dichloropropane	20.0	ND	18	89	61 - 133
Bromodichloromethane	20.0	ND	24	119	58 - 135
4-Methyl-2-pentanone	100	ND	89	89	19 - 180
2-Hexanone	100	ND	70	70	12 - 180
cis-1,3-Dichloropropene	20.0	ND	19	94	64 - 128
Toluene	20.0	ND	19	95	64 - 131

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0031-058.0-20201015

Laboratory: ENCO Orlando
SDG: AD07081-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 0J23034
Laboratory ID: 0J23034-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0031-058.0-20201015

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
trans-1,3-Dichloropropene	20.0	ND	21	104	65 - 149
1,1,2-Trichloroethane	20.0	ND	19	96	57 - 141
Tetrachloroethene	20.0	ND	22	108	60 - 147
Dibromochloromethane	20.0	ND	20	99	50 - 140
1,2-Dibromoethane	20.0	ND	20	98	57 - 140
Chlorobenzene	20.0	ND	22	108	51 - 139
Ethylbenzene	20.0	ND	19	97	63 - 133
m,p-Xylenes	40.0	ND	41	102	64 - 133
o-Xylene	20.0	ND	20	99	61 - 129
Bromoform	20.0	ND	22	108	46 - 148
Styrene	20.0	ND	20	98	59 - 136
Isopropylbenzene	20.0	ND	22	110	60 - 132
1,1,2,2-Tetrachloroethane	20.0	ND	19	94	60 - 139
1,2,4-Trichlorobenzene	20.0	ND	25	127	52 - 159
1,3-Dichlorobenzene	20.0	ND	22	109	66 - 129
1,4-Dichlorobenzene	20.0	ND	23	115	65 - 133
1,2-Dichlorobenzene	20.0	ND	22	108	63 - 131
1,2-Dibromo-3-chloropropane	20.0	ND	20	98	48 - 150

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0031-058.0-20201015

Laboratory: ENCO Orlando
SDG: AD07081-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 0J23034
Laboratory ID: 0J23034-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0031-058.0-20201015

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20.0	28	138	4	26	10 - 180
Chloromethane	20.0	13	63	0.6	31	33 - 154
Vinyl chloride	20.0	46	89	0.2	24	20 - 167
Bromomethane	20.0	16	81	29	29	10 - 173
Chloroethane	20.0	21	103	2	22	27 - 180
Trichlorofluoromethane	20.0	22	112	2	22	56 - 155
Freon 113	20.0	22	112	9	30	47 - 173
Acetone	100	96	96	10	19	10 - 180
1,1-Dichloroethene	20.0	20	102	1	16	47 - 139
Carbon disulfide	20.0	18	92	7	26	43 - 153
Methylene Chloride	20.0	19	96	5	23	43 - 142
Methyl-tert-Butyl Ether	20.0	20	98	5	22	51 - 145
trans-1,2-Dichloroethene	20.0	19	97	3	20	54 - 134
cis-1,2-Dichloroethene	20.0	18	92	2	17	56 - 128
1,1-Dichloroethane	20.0	19	95	2	24	57 - 142
2-Butanone	100	99	99	7	29	10 - 180
Chloroform	20.0	22	109	4	17	58 - 139
1,1,1-Trichloroethane	20.0	26	130	4	25	57 - 148
Methyl acetate	20.0	12	61 *	6	20	70 - 130
Cyclohexane	20.0	18	89	3	20	70 - 130
Methyl cyclohexane	20.0	22	112	6	20	70 - 130
Carbon Tetrachloride	20.0	27	134	0.9	27	54 - 156
1,2-Dichloroethane	20.0	27	134	10	18	50 - 156
Benzene	20.0	20	101	2	14	56 - 136
Trichloroethene	20.0	22	111	2	20	62 - 135
1,2-Dichloropropane	20.0	16	81	9	26	61 - 133
Bromodichloromethane	20.0	23	116	2	19	58 - 135
4-Methyl-2-pentanone	100	95	95	7	24	19 - 180
2-Hexanone	100	73	73	4	28	12 - 180
cis-1,3-Dichloropropene	20.0	19	95	0.9	20	64 - 128
Toluene	20.0	19	94	1	16	64 - 131
trans-1,3-Dichloropropene	20.0	21	106	2	17	65 - 149

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0031-058.0-20201015

Laboratory: ENCO Orlando
SDG: AD07081-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 0J23034
Laboratory ID: 0J23034-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0031-058.0-20201015

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,2-Trichloroethane	20.0	19	97	1	16	57 - 141
Tetrachloroethene	20.0	20	100	8	21	60 - 147
Dibromochloromethane	20.0	20	100	0.9	18	50 - 140
1,2-Dibromoethane	20.0	20	100	2	16	57 - 140
Chlorobenzene	20.0	21	104	4	13	51 - 139
Ethylbenzene	20.0	19	93	4	18	63 - 133
m,p-Xylenes	40.0	40	99	3	18	64 - 133
o-Xylene	20.0	21	103	4	16	61 - 129
Bromoform	20.0	22	109	1	18	46 - 148
Styrene	20.0	20	98	0.9	32	59 - 136
Isopropylbenzene	20.0	22	109	1	23	60 - 132
1,1,2,2-Tetrachloroethane	20.0	20	98	4	17	60 - 139
1,2,4-Trichlorobenzene	20.0	29	144	13	24	52 - 159
1,3-Dichlorobenzene	20.0	21	106	3	23	66 - 129
1,4-Dichlorobenzene	20.0	22	108	7	23	65 - 133
1,2-Dichlorobenzene	20.0	22	112	3	25	63 - 131
1,2-Dibromo-3-chloropropane	20.0	25	127	25 *	21	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07081-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA62152
Instrument: OVGCMS5
Matrix: Water
Calibration: 2008123

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA62152-SCV1)			Lab File ID: 205HU014.D		Analyzed: 08/26/20 15:55			
Dibromofluoromethane	50.0	109	70 - 130	9.768	9.764375	0.0036	+/-0.5	
Toluene-d8	50.0	108	70 - 130	12.054	12.0585	-0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	105	70 - 130	14.575	14.57575	-0.0008	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07081-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA63152
Instrument: OVGCMS5
Matrix: Water
Calibration: 2008123

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA63152-CCV1)				Lab File ID: 205JR010.D		Analyzed: 10/23/20 12:33		
Dibromofluoromethane	50.0	110	80 - 120	9.763	9.764375	-0.0014	+/-0.5	
Toluene-d8	50.0	109	80 - 120	12.054	12.0585	-0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	112	80 - 120	14.569	14.57575	-0.0067	+/-0.5	
LCS (0J23034-BS1)				Lab File ID: 205JR011.D		Analyzed: 10/23/20 13:04		
Dibromofluoromethane	50.0	113	53 - 146	9.763	9.764375	-0.0014	+/-0.5	
Toluene-d8	50.0	108	41 - 146	12.054	12.0585	-0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	111	41 - 142	14.575	14.57575	-0.0008	+/-0.5	
Blank (0J23034-BLK1)				Lab File ID: 205JR013.D		Analyzed: 10/23/20 14:26		
Dibromofluoromethane	50.0	111	53 - 146	9.763	9.764375	-0.0014	+/-0.5	
Toluene-d8	50.0	111	41 - 146	12.06	12.0585	0.0015	+/-0.5	
4-Bromofluorobenzene	50.0	111	41 - 142	14.575	14.57575	-0.0008	+/-0.5	
Instrument RL Check (AA63152-CRL1)				Lab File ID: 205JR014.D		Analyzed: 10/23/20 14:57		
Dibromofluoromethane	50.0	114	1 - 199	9.763	9.764375	-0.0014	+/-0.5	
Toluene-d8	50.0	106	1 - 199	12.054	12.0585	-0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	109	1 - 199	14.569	14.57575	-0.0067	+/-0.5	
CRCA-MW0019-058.0-20201020 (AD07081-02)				Lab File ID: 205JR018.D		Analyzed: 10/23/20 17:01		
Dibromofluoromethane	50.0	110	53 - 146	9.763	9.764375	-0.0014	+/-0.5	
Toluene-d8	50.0	104	41 - 146	12.06	12.0585	0.0015	+/-0.5	
4-Bromofluorobenzene	50.0	107	41 - 142	14.575	14.57575	-0.0008	+/-0.5	
Matrix Spike (0J23034-MS1)				Lab File ID: 205JR030.D		Analyzed: 10/23/20 23:11		
Dibromofluoromethane	50.0	111	53 - 146	9.769	9.764375	0.0046	+/-0.5	
Toluene-d8	50.0	106	41 - 146	12.054	12.0585	-0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	112	41 - 142	14.575	14.57575	-0.0008	+/-0.5	
Matrix Spike Dup (0J23034-MSD1)				Lab File ID: 205JR031.D		Analyzed: 10/23/20 23:42		
Dibromofluoromethane	50.0	115	53 - 146	9.769	9.764375	0.0046	+/-0.5	
Toluene-d8	50.0	106	41 - 146	12.054	12.0585	-0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	14.575	14.57575	-0.0008	+/-0.5	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07081-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA62152
Instrument: OVGCMS5
Matrix: Water
Calibration: 2008123

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA62152-CAL1)			Lab File ID: 205HU004.D			Analyzed: 08/26/20 10:39			
Pentafluorobenzene	1490798	10.174	1477488	10.174	101	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2779965	10.761	2663458	10.755	104	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1417535	13.476	1384666	13.476	102	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1545007	15.75	1420785	15.744	109	50 - 200	0.0060	+/-0.50	
Cal Standard (AA62152-CAL2)			Lab File ID: 205HU005.D			Analyzed: 08/26/20 11:10			
Pentafluorobenzene	1516643	10.174	1477488	10.174	103	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2805358	10.756	2663458	10.755	105	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	1372254	13.476	1384666	13.476	99	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1436786	15.75	1420785	15.744	101	50 - 200	0.0060	+/-0.50	
Cal Standard (AA62152-CAL3)			Lab File ID: 205HU006.D			Analyzed: 08/26/20 11:42			
Pentafluorobenzene	1522354	10.174	1477488	10.174	103	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2749356	10.756	2663458	10.755	103	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	1360962	13.476	1384666	13.476	98	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1433030	15.744	1420785	15.744	101	50 - 200	0.0000	+/-0.50	
Cal Standard (AA62152-CAL4)			Lab File ID: 205HU007.D			Analyzed: 08/26/20 12:13			
Pentafluorobenzene	1486293	10.174	1477488	10.174	101	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2720774	10.756	2663458	10.755	102	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	1378768	13.476	1384666	13.476	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1420641	15.744	1420785	15.744	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA62152-CAL5)			Lab File ID: 205HU008.D			Analyzed: 08/26/20 12:45			
Pentafluorobenzene	1475045	10.168	1477488	10.174	100	50 - 200	-0.0060	+/-0.50	
1,4-Difluorobenzene	2717768	10.756	2663458	10.755	102	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	1379230	13.476	1384666	13.476	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1408814	15.744	1420785	15.744	99	50 - 200	0.0000	+/-0.50	
Cal Standard (AA62152-CAL6)			Lab File ID: 205HU009.D			Analyzed: 08/26/20 13:16			
Pentafluorobenzene	1477488	10.174	1477488	10.174	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2663458	10.755	2663458	10.755	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1384666	13.476	1384666	13.476	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1420785	15.744	1420785	15.744	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA62152-CAL7)			Lab File ID: 205HU010.D			Analyzed: 08/26/20 13:48			
Pentafluorobenzene	1487235	10.174	1477488	10.174	101	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2600765	10.756	2663458	10.755	98	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	1385554	13.47	1384666	13.476	100	50 - 200	-0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1432538	15.744	1420785	15.744	101	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07081-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA62152
Instrument: OVGCMS5
Matrix: Water
Calibration: 2008123

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA62152-CAL8)			Lab File ID: 205HU011.D			Analyzed: 08/26/20 14:19			
Pentafluorobenzene	1447071	10.174	1477488	10.174	98	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2561611	10.756	2663458	10.755	96	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	1380360	13.476	1384666	13.476	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1403220	15.744	1420785	15.744	99	50 - 200	0.0000	+/-0.50	
Secondary Cal Check (AA62152-SCV1)			Lab File ID: 205HU014.D			Analyzed: 08/26/20 15:55			
Pentafluorobenzene	1479172	10.174	1477488	10.174	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2668771	10.756	2663458	10.755	100	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	1342071	13.476	1384666	13.476	97	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1359353	15.744	1420785	15.744	96	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07081-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA63152
Instrument: OVGCMS5
Matrix: Water
Calibration: 2008123

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA63152-CCV1)			Lab File ID: 205JR010.D			Analyzed: 10/23/20 12:33			
Pentafluorobenzene	1278791	10.168	1477488	10.174	87	50 - 200	-0.0060	+/-0.50	
1,4-Difluorobenzene	2240210	10.756	2663458	10.755	84	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	1232702	13.47	1384666	13.476	89	50 - 200	-0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1320826	15.744	1420785	15.744	93	50 - 200	0.0000	+/-0.50	
LCS (0J23034-BS1)			Lab File ID: 205JR011.D			Analyzed: 10/23/20 13:04			
Pentafluorobenzene	1256924	10.168	1477488	10.174	85	50 - 200	-0.0060	+/-0.50	
1,4-Difluorobenzene	2247493	10.756	2663458	10.755	84	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	1294612	13.47	1384666	13.476	93	50 - 200	-0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1364991	15.744	1420785	15.744	96	50 - 200	0.0000	+/-0.50	
Blank (0J23034-BLK1)			Lab File ID: 205JR013.D			Analyzed: 10/23/20 14:26			
Pentafluorobenzene	1314964	10.174	1477488	10.174	89	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2372308	10.756	2663458	10.755	89	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	1300095	13.47	1384666	13.476	94	50 - 200	-0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1348746	15.744	1420785	15.744	95	50 - 200	0.0000	+/-0.50	
Instrument RL Check (AA63152-CRL1)			Lab File ID: 205JR014.D			Analyzed: 10/23/20 14:57			
Pentafluorobenzene	1292256	10.174	1477488	10.174	87	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2287020	10.761	2663458	10.755	86	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1213249	13.47	1384666	13.476	88	50 - 200	-0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1312299	15.744	1420785	15.744	92	50 - 200	0.0000	+/-0.50	
CRCA-MW0019-058.0-20201020 (AD07081-02)			Lab File ID: 205JR018.D			Analyzed: 10/23/20 17:01			
Pentafluorobenzene	1237842	10.168	1477488	10.174	84	50 - 200	-0.0060	+/-0.50	
1,4-Difluorobenzene	2227294	10.756	2663458	10.755	84	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	1189040	13.476	1384666	13.476	86	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1252150	15.744	1420785	15.744	88	50 - 200	0.0000	+/-0.50	
Matrix Spike (0J23034-MS1)			Lab File ID: 205JR030.D			Analyzed: 10/23/20 23:11			
Pentafluorobenzene	1203976	10.168	1477488	10.174	81	50 - 200	-0.0060	+/-0.50	
1,4-Difluorobenzene	2080069	10.756	2663458	10.755	78	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	1119649	13.47	1384666	13.476	81	50 - 200	-0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1222967	15.744	1420785	15.744	86	50 - 200	0.0000	+/-0.50	
Matrix Spike Dup (0J23034-MSD1)			Lab File ID: 205JR031.D			Analyzed: 10/23/20 23:42			
Pentafluorobenzene	1233075	10.174	1477488	10.174	83	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2147314	10.756	2663458	10.755	81	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	1177271	13.47	1384666	13.476	85	50 - 200	-0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1278558	15.744	1420785	15.744	90	50 - 200	0.0000	+/-0.50	

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07081-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA62152		
Calibration:	2008123	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA62152-TUN1	205HU003.D	08/26/20 09:31
Cal Standard	AA62152-CAL1	205HU004.D	08/26/20 10:39
Cal Standard	AA62152-CAL2	205HU005.D	08/26/20 11:10
Cal Standard	AA62152-CAL3	205HU006.D	08/26/20 11:42
Cal Standard	AA62152-CAL4	205HU007.D	08/26/20 12:13
Cal Standard	AA62152-CAL5	205HU008.D	08/26/20 12:45
Cal Standard	AA62152-CAL6	205HU009.D	08/26/20 13:16
Cal Standard	AA62152-CAL7	205HU010.D	08/26/20 13:48
Cal Standard	AA62152-CAL8	205HU011.D	08/26/20 14:19
Secondary Cal Check	AA62152-SCV1	205HU014.D	08/26/20 15:55

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07081-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA63152		
Calibration:	2008123	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA63152-CCV1	205JR010.D	10/23/20 12:33
LCS	0J23034-BS1	205JR011.D	10/23/20 13:04
Blank	0J23034-BLK1	205JR013.D	10/23/20 14:26
Instrument RL Check	AA63152-CRL1	205JR014.D	10/23/20 14:57
CRCA-MW0019-058.0-20201020	AD07081-02	205JR018.D	10/23/20 17:01
CRCA-MW0031-058.0-20201015	0J23034-MS1	205JR030.D	10/23/20 23:11
CRCA-MW0031-058.0-20201015	0J23034-MSD1	205JR031.D	10/23/20 23:42

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07081-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	205HU003.D	Injection Date:	08/26/20
Instrument ID:	OVGCMS5	Injection Time:	09:31
Sequence:	AA62152	Lab Sample ID:	AA62152-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	140	PASS
96	5 - 9% of 95	6.76	PASS
173	Less than 2% of 174	0.1	PASS
174	50 - 200% of 95	71.4	PASS
175	5 - 9% of 174	5.15	PASS
176	95 - 105% of 174	95.3	PASS
177	5 - 10% of 176	6.08	PASS

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07081-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2008123
Lab File ID:	205JR010.D	Calibration Date:	08/26/20 09:31
Sequence:	AA63152	Injection Date:	10/23/20
Lab Sample ID:	AA63152-CCV1	Injection Time:	12:33

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Dichlorodifluoromethane	A	50.0	88	0.2948251	0.4949378		75	20	*
Chloromethane	A	50.0	39	0.4248736	0.3106919		-22	20	*
Vinyl chloride	A	50.0	48	0.4063041	0.3936273		-3.1	20	
Bromomethane	A	50.0	53	0.1995199	0.1142321		5.4	20	
Chloroethane	A	50.0	49	0.2481633	0.2163145		-2.4	20	
Trichlorofluoromethane	A	50.0	54	0.5543026	0.5999526		8.2	20	
Freon 113	A	50.0	53	0.2655609	0.2836546		6.8	20	
Acetone	A	250	220	7.815289E-02	6.768424E-02		-13	20	
1,1-Dichloroethene	A	50.0	46	0.3414668	0.3172301		-7.1	20	
Carbon disulfide	A	250	160	1.075519	0.6987178		-35	20	*
Methylene Chloride	A	50.0	46	0.4149098	0.3692605		-8.1	20	
Methyl-tert-Butyl Ether	A	50.0	47	0.9699538	0.9037012		-6.8	20	
trans-1,2-Dichloroethene	A	50.0	45	0.4122324	0.3790502		-9.1	20	
cis-1,2-Dichloroethene	A	50.0	48	0.4680455	0.4480466		-4.3	20	
1,1-Dichloroethane	A	50.0	45	0.7247925	0.6523904		-10	20	
2-Butanone	A	250	230	0.0487266	4.218391E-02		-7.6	20	
Chloroform	A	50.0	53	0.7237291	0.7671551		6.0	20	
1,1,1-Trichloroethane	A	50.0	59	0.579044	0.6834096		18	20	
Methyl acetate	A	50.0	35	0.2913378	0.176781		-30	20	*
Cyclohexane	A	50.0	45	0.7181999	0.6527392		-9.1	20	
Methyl cyclohexane	A	50.0	49	0.5587731	0.4502181		-2.3	20	
Carbon Tetrachloride	A	50.0	56	0.2548557	0.2922172		13	20	
1,2-Dichloroethane	A	50.0	63	0.2471022	0.3110579		26	20	*
Benzene	A	50.0	48	0.972288	0.9424076		-3.1	20	
Trichloroethene	A	50.0	52	0.2421904	0.2517849		4.0	20	
1,2-Dichloropropane	A	50.0	44	0.2554607	0.224108		-12	20	
Bromodichloromethane	A	50.0	58	0.2647395	0.3095259		17	20	
4-Methyl-2-pentanone	A	250	240	3.349708E-02	3.167792E-02		-5.4	20	
2-Hexanone	A	250	190	0.127459	0.1041819		-18	20	

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07081-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2008123
Lab File ID:	205JR010.D	Calibration Date:	08/26/20 09:31
Sequence:	AA63152	Injection Date:	10/23/20
Lab Sample ID:	AA63152-CCV1	Injection Time:	12:33

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
cis-1,3-Dichloropropene	A	50.0	54	0.3591361	0.3848416		7.2	20	
Toluene	A	50.0	47	1.290264	1.203073		-6.8	20	
trans-1,3-Dichloropropene	A	50.0	54	0.5558167	0.6005701		8.1	20	
1,1,2-Trichloroethane	A	50.0	47	0.4082639	0.3818774		-6.5	20	
Tetrachloroethene	A	50.0	45	0.3957423	0.3566564		-9.9	20	
Dibromochloromethane	A	50.0	49	0.3309995	0.3799564		15	20	
1,2-Dibromoethane	A	50.0	48	0.4031171	0.3901851		-3.2	20	
Chlorobenzene	A	50.0	50	1.274617	1.287149		1.0	20	
Ethylbenzene	A	50.0	48	0.7589337	0.72702		-4.2	20	
m,p-Xylenes	A	100	95	0.9422385	0.8966697		-4.8	20	
o-Xylene	A	50.0	50	0.9160319	0.9092376		-0.7	20	
Bromoform	A	50.0	53	0.1887345	0.2340906		6.3	20	
Styrene	A	50.0	49	1.605253	1.558302		-2.9	20	
Isopropylbenzene	A	50.0	52	2.345417	2.416946		3.0	20	
1,1,2,2-Tetrachloroethane	A	50.0	49	0.535388	0.5233382		-2.3	20	
1,2,4-Trichlorobenzene	A	50.0	70	0.3551958	0.4964197		40	20	*
1,3-Dichlorobenzene	A	50.0	53	1.079613	1.153505		6.8	20	
1,4-Dichlorobenzene	A	50.0	53	1.112835	1.179204		6.0	20	
1,2-Dichlorobenzene	A	50.0	55	0.984576	1.075413		9.2	20	
1,2-Dibromo-3-chloropropane	A	50.0	55	6.649624E-02	7.959338E-02		10	20	

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07081-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA62152	Instrument:	OVGCMS5
Calibration:	2008123		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A0F0994	MS Tune (lower conc.)	AA62152-TUN1	205HU003.D	08/26/20 09:31
A0H1211	8260 CAL 1 PPB	AA62152-CAL1	205HU004.D	08/26/20 10:39
A0H1214	8260 CAL 2 PPB	AA62152-CAL2	205HU005.D	08/26/20 11:10
A0H1216	8260 CAL 5 PPB	AA62152-CAL3	205HU006.D	08/26/20 11:42
A0H1217	8260 CAL 10 PPB	AA62152-CAL4	205HU007.D	08/26/20 12:13
A0H1218	8260 CAL 20 PPB	AA62152-CAL5	205HU008.D	08/26/20 12:45
A0H1219	8260 CAL 50 PPB	AA62152-CAL6	205HU009.D	08/26/20 13:16
A0H1220	8260 CAL 80 PPB	AA62152-CAL7	205HU010.D	08/26/20 13:48
A0H1221	8260 CAL 100 PPB	AA62152-CAL8	205HU011.D	08/26/20 14:19
A0H1165	8260 SCV 50 PPB/20 Gases (surr. lower conc.)	AA62152-SCV1	205HU014.D	08/26/20 15:55

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07081-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2008123
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 08/26/20 09:31

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	1	0.3750005	2	0.3713959	5	0.2572069	10	0.2445917	20	0.2782695	50	0.2593673
Chloromethane	1	0.6754436	2	0.4941506	5	0.3848908	10	0.3368616	20	0.3423251	50	0.3584029
Vinyl chloride	1	0.4614307	2	0.4407102	5	0.3569341	10	0.341541	20	0.3924372	50	0.3803219
Bromomethane	1	0.4779655	2	0.3136697	5	0.228035	10	0.1251537	20	0.1073713	50	0.1018804
Chloroethane	1	0.2758254	2	0.3377525	5	0.2207831	10	0.2044819	20	0.2293252	50	0.2208119
Trichlorofluoromethane	1	0.6707817	2	0.6422408	5	0.4891241	10	0.4775707	20	0.5238603	50	0.5175744
Freon 113	1	0.3377721	2	0.2510973	5	0.2496857	10	0.2086937	20	0.2600446	50	0.2543777
Acetone	5	8.952252E-02	10	8.657278E-02	25	7.375289E-02	50	0.070402	100	7.373368E-02	250	0.072566
1,1-Dichloroethene	1	0.3990145	2	0.333681	5	0.3180666	10	0.2894046	20	0.3432641	50	0.3306842
Carbon disulfide	5	1.253932	10	1.037835	25	1.112832	50	1.00433	100	1.06472	250	1.028287
Methylene Chloride	1	0.5847539	2	0.4185889	5	0.4008529	10	0.3256222	20	0.3964218	50	0.3776491
Methyl-tert-Butyl Ether	1	1.164242	2	0.9056515	5	0.9469808	10	0.7918829	20	0.9566979	50	0.9415806
trans-1,2-Dichloroethene	1	0.5455467	2	0.3701761	5	0.4034804	10	0.3352535	20	0.4121552	50	0.3860634
cis-1,2-Dichloroethene	1	0.5429307	2	0.4566005	5	0.436633	10	0.3952888	20	0.4590148	50	0.4640396
1,1-Dichloroethane	1	0.8640339	2	0.6953185	5	0.7383302	10	0.6029027	20	0.7110953	50	0.6892367
2-Butanone	5	7.135105E-02	10	4.298968E-02	25	3.967934E-02	50	4.310052E-02	100	4.563691E-02	250	4.513214E-02
Chloroform	1	0.8897248	2	0.6827249	5	0.7076278	10	0.6117401	20	0.7083581	50	0.6880936
1,1,1-Trichloroethane	1	0.7157911	2	0.5241675	5	0.5674107	10	0.4753269	20	0.5623947	50	0.5589413
Methyl acetate	1	0.4809505	2	0.3497362	5	0.2257951	10	0.1912443	20	0.2395791	50	0.2518971
Cyclohexane	1	0.7609683	2	0.787809	5	0.679277	10	0.6276656	20	0.7007074	50	0.6778329
Methyl cyclohexane	1	1.033376	2	0.6679896	5	0.5175285	10	0.4251621	20	0.4578233	50	0.4325505
Carbon Tetrachloride	1	0.332756	2	0.2272348	5	0.2307668	10	0.2048351	20	0.236089	50	0.2460996
1,2-Dichloroethane	1	0.2921979	2	0.249068	5	0.2535648	10	0.1975228	20	0.2271588	50	0.2345443
Benzene	1	1.146201	2	0.8705841	5	0.9947093	10	0.8462739	20	0.9745221	50	0.9359566
Trichloroethene	1	0.2813704	2	0.2252386	5	0.2332473	10	0.208358	20	0.2394318	50	0.2341205
1,2-Dichloropropane	1	0.3117845	2	0.2404862	5	0.2401144	10	0.2219699	20	0.2468147	50	0.2425035
Bromodichloromethane	1	0.290831	2	0.2360929	5	0.2587333	10	0.2142736	20	0.2566076	50	0.2604013
4-Methyl-2-pentanone	5	3.858322E-02	10	3.052195E-02	25	3.281132E-02	50	3.050125E-02	100	3.315772E-02	250	3.123631E-02
2-Hexanone	5	0.1509228	10	0.1138268	25	0.1167292	50	0.110821	100	0.1170194	250	0.1248635
cis-1,3-Dichloropropene	1	0.3700406	2	0.2917631	5	0.3596915	10	0.3061941	20	0.3496095	50	0.3700543
Toluene	1	1.577421	2	1.274363	5	1.288243	10	1.108533	20	1.247154	50	1.223067

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07081-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2008123
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 08/26/20 09:31

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	1	0.6242174	2	0.4638536	5	0.5202423	10	0.4823255	20	0.566267	50	0.5651334
1,1,2-Trichloroethane	1	0.5355071	2	0.3590808	5	0.4315403	10	0.3387481	20	0.3827607	50	0.3844219
Tetrachloroethene	1	0.4382608	2	0.4004179	5	0.4351407	10	0.3262587	20	0.3874028	50	0.3480103
Dibromochloromethane	1	0.2809807	2	0.3145919	5	0.3051518	10	0.2696175	20	0.3285783	50	0.354141
1,2-Dibromoethane	1	0.4584014	2	0.363107	5	0.4059481	10	0.345689	20	0.399607	50	0.3983762
Chlorobenzene	1	1.488217	2	1.18575	5	1.328391	10	1.080077	20	1.255496	50	1.239516
Ethylbenzene	1	0.8478098	2	0.6953159	5	0.782013	10	0.657471	20	0.7611675	50	0.7343107
m,p-Xylenes	2	1.101772	4	0.9646993	10	0.934611	20	0.8494576	40	0.9373763	100	0.9060167
o-Xylene	1	1.0271	2	0.8969185	5	0.9114656	10	0.8087691	20	0.9062103	50	0.8945385
Bromoform	1	0.1733996	2	0.1385312	5	0.1494752	10	0.1439546	20	0.1862017	50	0.2125588
Styrene	1	1.825352	2	1.537489	5	1.494017	10	1.426179	20	1.585908	50	1.60502
Isopropylbenzene	1	2.683073	2	2.4079	5	2.319484	10	2.007368	20	2.316657	50	2.272909
1,1,2,2-Tetrachloroethane	1	0.6579026	2	0.5233725	5	0.518207	10	0.462935	20	0.5039152	50	0.519934
1,2,4-Trichlorobenzene	1	0.3771504	2	0.2955033	5	0.3112775	10	0.3020397	20	0.3441778	50	0.369034
1,3-Dichlorobenzene	1	1.190512	2	1.061118	5	1.031088	10	0.9294607	20	1.057068	50	1.065797
1,4-Dichlorobenzene	1	1.327146	2	1.026927	5	1.113201	10	0.9314809	20	1.086394	50	1.092925
1,2-Dichlorobenzene	1	1.052875	2	0.9182474	5	0.9794701	10	0.8555927	20	0.9767826	50	0.9892623
1,2-Dibromo-3-chloropropane	1	0.1032681	2	4.838925E-02	5	4.688667E-02	10	5.516524E-02	20	6.176294E-02	50	7.163575E-02
Dibromofluoromethane	50	0.4489206	55	0.4306659	60	0.4358951	50	0.4430136	65	0.4246368	50	0.4571178
Toluene-d8	50	1.08395	55	1.046894	60	1.050571	50	1.113557	65	1.013304	50	1.135162
4-Bromofluorobenzene	50	0.9436762	55	0.8976863	60	0.8933558	50	0.9459815	65	0.8429001	50	0.9323548

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07081-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2008123
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 08/26/20 09:31

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	80	0.2859963	100	0.2867727								
Chloromethane	80	0.3958117	100	0.4111025								
Vinyl chloride	80	0.437193	100	0.4398651								
Bromomethane	80	0.1150264	100	0.127057								
Chloroethane	80	~~9.071784E-02~~	100	~~4.136079E-02~~								
Trichlorofluoromethane	80	0.5597001	100	0.5535686								
Freon 113	80	0.2828012	100	0.2800146								
Acetone	400	7.713299E-02	500	0.0815403								
1,1-Dichloroethene	80	0.3545539	100	0.3630651								
Carbon disulfide	400	1.05616	500	1.046055								
Methylene Chloride	80	0.4151954	100	0.4001943								
Methyl-tert-Butyl Ether	80	1.046728	100	1.005867								
trans-1,2-Dichloroethene	80	0.422627	100	0.422557								
cis-1,2-Dichloroethene	80	0.5021693	100	0.4876872								
1,1-Dichloroethane	80	0.758259	100	0.7391641								
2-Butanone	400	4.973432E-02	500	5.218887E-02								
Chloroform	80	0.7542789	100	0.7472843								
1,1,1-Trichloroethane	80	0.6221167	100	0.6062032								
Methyl acetate	80	0.2968936	100	0.2946065								
Cyclohexane	80	0.7634457	100	0.7478935								
Methyl cyclohexane	80	0.4790175	100	0.4567372								
Carbon Tetrachloride	80	0.2843548	100	0.2767095								
1,2-Dichloroethane	80	0.2679036	100	0.2548572								
Benzene	80	1.02478	100	0.9852768								
Trichloroethene	80	0.2628767	100	0.2528797								
1,2-Dichloropropane	80	0.2742472	100	0.2657654								
Bromodichloromethane	80	0.3042713	100	0.2967051								
4-Methyl-2-pentanone	400	3.476963E-02	500	3.639526E-02								
2-Hexanone	400	0.1397109	500	0.1457781								
cis-1,3-Dichloropropene	80	0.4216178	100	0.4041183								
Toluene	80	1.340678	100	1.262652								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07081-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2008123
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 08/26/20 09:31

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	80	0.6238615	100	0.6006332								
1,1,2-Trichloroethane	80	0.43017	100	0.403882								
Tetrachloroethene	80	0.4108681	100	0.4195793								
Dibromochloromethane	80	0.3970172	100	0.3979172								
1,2-Dibromoethane	80	0.4342559	100	0.4195521								
Chlorobenzene	80	1.341624	100	1.277863								
Ethylbenzene	80	0.8030547	100	0.7903268								
m,p-Xylenes	160	0.9428548	200	0.9011198								
o-Xylene	80	0.953209	100	0.930044								
Bromoform	80	0.2521207	100	0.2536338								
Styrene	80	1.709697	100	1.658363								
Isopropylbenzene	80	2.420246	100	2.335699								
1,1,2,2-Tetrachloroethane	80	0.5555936	100	0.5412443								
1,2,4-Trichlorobenzene	80	0.4145309	100	0.4278531								
1,3-Dichlorobenzene	80	1.151935	100	1.149928								
1,4-Dichlorobenzene	80	1.15919	100	1.165413								
1,2-Dichlorobenzene	80	1.05874	100	1.045638								
1,2-Dibromo-3-chloropropane	80	7.836572E-02	100	~~8.017809E-02~~								
Dibromofluoromethane	70	0.4120283	75	0.438788								
Toluene-d8	70	1.047682	75	1.071181								
4-Bromofluorobenzene	70	0.8207207	75	0.8639978								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07081-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2008123
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 08/26/20 09:31

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	0.2948251	17.15377	4.291875	4.988773E-02	0.9978792		0.99	
Chloromethane	0.4248736	26.56834	4.74275	6.731234E-02	0.9956816		0.99	
Vinyl chloride	0.4063041	10.92884	4.93075	9.075729E-02			20	
Bromomethane	0.1995199	67.59488	5.5925	4.751654E-02		0.9922792	0.99	
Chloroethane	0.2481633	20.19	5.810167	0.1181189	0.9986709		0.99	
Trichlorofluoromethane	0.5543026	12.52532	6.06475	0.2301703			20	
Freon 113	0.2655609	13.92419	6.92925	5.748041E-02			20	
Acetone	7.815289E-02	8.954934	7.77225	0.1297221			20	
1,1-Dichloroethene	0.3414668	9.513847	6.90925	6.415473E-02			20	
Carbon disulfide	1.075519	7.312832	7.004	0.0653526			20	
Methylene Chloride	0.4149098	17.98468	7.7135	6.962712E-02	0.9981009		0.99	
Methyl-tert-Butyl Ether	0.9699538	11.17787	7.99625	3.635616E-02			20	
trans-1,2-Dichloroethene	0.4122324	14.90961	7.916375	0.0748206	0.9980644		0.99	
cis-1,2-Dichloroethene	0.4680455	9.440563	9.301125	4.980304E-02			20	
1,1-Dichloroethane	0.7247925	10.17562	8.6885	3.160813E-02			20	
2-Butanone	0.0487266	20.43089	9.88375	7.866831E-02		0.9997206	0.99	
Chloroform	0.7237291	11.08232	9.56375	0.0268493			20	
1,1,1-Trichloroethane	0.579044	12.36384	9.8285	0.0541063			20	
Methyl acetate	0.2913378	31.23172	7.891125	0.1502229		0.9980747	0.99	
Cyclohexane	0.7181999	7.671657	9.539	0.0194309			20	
Methyl cyclohexane	0.5587731	37.02578	10.76638	1.143376E-02	0.9977425		0.99	
Carbon Tetrachloride	0.2548557	16.03506	9.756125	6.723115E-02		0.9979677	0.99	
1,2-Dichloroethane	0.2471022	11.43172	10.41275	5.238322E-02			20	
Benzene	0.972288	9.618456	10.20675	4.347433E-02			20	
Trichloroethene	0.2421904	9.443896	10.76513	5.612693E-02			20	
1,2-Dichloropropane	0.2554607	10.9281	11.28625	2.740175E-02			20	
Bromodichloromethane	0.2647395	11.73292	11.3155	0.0278931	0.9949301		0.99	
4-Methyl-2-pentanone	3.349708E-02	8.697115	12.3965	1.829166E-02			20	
2-Hexanone	0.127459	12.33313	13.12625	3.416798E-02			20	
cis-1,3-Dichloropropene	0.3591361	12.27263	11.8905	1.420593E-02			20	

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07081-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2008123
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 08/26/20 09:31

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Toluene	1.290264	10.37423	12.1085	1.171465E-02			20	
trans-1,3-Dichloropropene	0.5558167	11.09844	12.46312	3.596263E-02			20	
1,1,2-Trichloroethane	0.4082639	14.84203	12.6255	3.869146E-02			20	
Tetrachloroethene	0.3957423	10.17719	12.47925	2.824705E-02			20	
Dibromochloromethane	0.3309995	14.7054	12.812	2.874149E-02			20	
1,2-Dibromoethane	0.4031171	9.011604	13.07363	4.589575E-02			20	
Chlorobenzene	1.274617	9.393927	13.49238	1.800424E-02			20	
Ethylbenzene	0.7589337	8.079139	13.454	2.290466E-02			20	
m,p-Xylenes	0.9422385	7.783325	13.5715	3.594678E-02			20	
o-Xylene	0.9160319	6.699621	13.97725	1.003991E-02			20	
Bromoform	0.1887345	24.6134	14.125	3.266424E-02		0.998331	0.99	
Styrene	1.605253	7.865023	14.02513	3.574222E-02			20	
Isopropylbenzene	2.345417	7.970722	14.2415	6.300132E-03			20	
1,1,2,2-Tetrachloroethane	0.535388	10.55899	14.71375	1.070275E-02			20	
1,2,4-Trichlorobenzene	0.3551958	14.24157	18.479	5.537212E-02			20	
1,3-Dichlorobenzene	1.079613	7.703218	15.67475	2.080966E-02			20	
1,4-Dichlorobenzene	1.112835	10.31345	15.76612	1.235281E-02			20	
1,2-Dichlorobenzene	0.984576	7.185797	16.2975	3.539811E-02			20	
1,2-Dibromo-3-chloropropane	6.649624E-02	29.96806	17.37871	3.781393E-02		0.999655	0.99	
Dibromofluoromethane	0.4363833	3.241834	9.764375	3.074849E-02			20	
Toluene-d8	1.070288	3.697505	12.0585	1.613963E-02			20	
4-Bromofluorobenzene	0.8925841	5.275309	14.57575	1.382452E-02			20	

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AD07081-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2008123 **Laboratory ID:** AA62152-SCV1

Sequence: AA62152 **Standard ID:** A0H1165

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Cyclohexane	50.0	59	17.8	30.00
Ethylbenzene	50.0	50	0.2	30.00
Carbon Tetrachloride	50.0	50	-0.9	30.00
1,3-Dichlorobenzene	50.0	53	6.8	30.00
4-Bromofluorobenzene	50.0	52	4.7	30.00
Toluene-d8	50.0	54	7.7	30.00
Dibromofluoromethane	50.0	54	8.7	30.00
Methyl-tert-Butyl Ether	50.0	53	6.6	30.00
trans-1,2-Dichloroethene	50.0	51	1.7	30.00
cis-1,2-Dichloroethene	50.0	51	2.7	30.00
Tetrachloroethene	50.0	47	-6.3	30.00
Acetone	250	300	18.3	30.00
1,2,4-Trichlorobenzene	50.0	54	8.6	30.00
Chloroform	50.0	49	-1.1	30.00
Chlorobenzene	50.0	51	2.3	30.00
Toluene	50.0	50	0.3	30.00
Methyl cyclohexane	50.0	54	8.4	30.00
m,p-Xylenes	100	100	-0.02	30.00
4-Methyl-2-pentanone	250	260	4.7	30.00
1,2-Dichloroethane	50.0	49	-1.1	30.00
1,2-Dibromoethane	50.0	53	5.2	30.00
1,4-Dichlorobenzene	50.0	51	2.0	30.00
trans-1,3-Dichloropropene	50.0	56	13.0	30.00
cis-1,3-Dichloropropene	50.0	52	4.4	30.00
Styrene	50.0	52	3.1	30.00
Dibromochloromethane	50.0	52	3.9	30.00
1,1-Dichloroethene	50.0	54	8.4	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AD07081-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2008123 **Laboratory ID:** AA62152-SCV1

Sequence: AA62152 **Standard ID:** A0H1165

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
1,2-Dibromo-3-chloropropane	50.0	52	4.9	30.00
1,2-Dichlorobenzene	50.0	54	8.2	30.00
o-Xylene	50.0	52	3.3	30.00
1,1,2,2-Tetrachloroethane	50.0	51	2.7	30.00
Methyl acetate	50.0	49	-2.4	30.00
Trichloroethene	50.0	50	-0.2	30.00
1,1,2-Trichloroethane	50.0	51	2.8	30.00
2-Butanone	250	280	12.9	30.00
1,2-Dichloropropane	50.0	50	-0.9	30.00
Freon 113	50.0	51	3.0	30.00
2-Hexanone	250	270	7.6	30.00
Trichlorofluoromethane	20.0	20	2.3	30.00
Isopropylbenzene	50.0	52	3.3	30.00
1,1-Dichloroethane	50.0	50	0.8	30.00
Bromodichloromethane	50.0	52	4.1	30.00
Bromoform	50.0	52	4.0	30.00
Carbon disulfide	50.0	47	-6.7	30.00
Methylene Chloride	50.0	51	1.3	30.00
Vinyl chloride	20.0	22	11.6	30.00
Chloroethane	20.0	24	17.8	30.00
Chloromethane	20.0	24	20.4	30.00
Bromomethane	20.0	28	40.8 *	30.00
1,1,1-Trichloroethane	50.0	52	3.7	30.00
Benzene	50.0	51	2.8	30.00
Dichlorodifluoromethane	20.0	32	58.6 *	30.00

* Values outside of QC limits

ENCO Orlando

SDG: AD07081-TE016

CLASS: 06_VOA_AIR

METHOD: TO-15

ANALYSES DATA PACKAGE COVER PAGE

TO-15

Laboratory: ENCO Orlando

SDG: AD07081-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-VMP03-20201020	AD07081-01
CRCA-AMB-20201015	AD07081-03

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP03-20201020

Laboratory: ENCO Orlando | SDG: AD07081-TE016

Client: Tetra Tech, Inc. (TE016) | Project: NASA KSC CRCA

Matrix: Air | Laboratory ID: AD07081-01 | File ID: 207JP017.D

Sampled: 10/20/20 12:01 | Prepared: 10/22/20 08:15 | Analyzed: 10/22/20 10:50

Solids: | Preparation: NO PREP 2 | Initial/Final: 100 mL / 400 mL

Batch: 0J22033 | Sequence: AA63124 | Calibration: 2010038 | Instrument: OVGCMS7

CAS NO.	COMPOUND	DILUTION	CONC. (ug/m³ Air)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1.44	16	UD	16	71
115-07-1	Propene	1.44	5.5	UD	5.5	25
74-87-3	Chloromethane	1.44	5.7	UD	5.7	30
75-01-4	Vinyl chloride	1.44	8.2	UD	8.2	37
74-83-9	Bromomethane	1.44	7.4	UD	7.4	56
75-00-3	Chloroethane	1.44	4.9	UD	4.9	38
75-69-4	Trichlorofluoromethane	1.44	11	UD	11	81
593-60-2	Bromoethene	1.44	8.3	UD	8.3	63
75-34-3	1,1-Dichloroethane	1.44	8.4	UD	8.4	58
67-64-1	Acetone	1.44	12	JD	4.8	34
75-09-2	Methylene chloride	1.44	4.3	JBD	4.0	50
76-13-1	Freon 113	1.44	270	DE	14	110
107-05-1	3-Chloropropene	1.44	7.0	UD	7.0	45
156-60-5	trans-1,2-Dichloroethene	1.44	7.3	UD	7.3	57
75-35-4	1,1-Dichloroethene	1.44	8.7	UD	8.7	57
156-59-2	cis-1,2-Dichloroethene	1.44	8.7	UD	8.7	57
67-66-3	Chloroform	1.44	11	UD	11	70
107-06-2	1,2-Dichloroethane	1.44	8.6	UD	8.6	58
71-55-6	1,1,1-Trichloroethane	1.44	11	UD	11	79
56-23-5	Carbon tetrachloride	1.44	9.8	UD	9.8	91
78-87-5	1,2-Dichloropropane	1.44	11	UD	11	67
79-01-6	Trichloroethene	1.44	11	UD	11	77
75-27-4	Bromodichloromethane	1.44	13	UD	13	96
10061-01-5	cis-1,3-Dichloropropene	1.44	9.9	UD	9.9	65
10061-02-6	trans-1,3-Dichloropropene	1.44	8.9	UD	8.9	65
79-00-5	1,1,2-Trichloroethane	1.44	11	UD	11	79
106-93-4	1,2-Dibromoethane	1.44	16	UD	16	110
127-18-4	Tetrachloroethene	1.44	12	UD	12	98
124-48-1	Dibromochloromethane	1.44	16	UD	16	120
108-90-7	Chlorobenzene	1.44	8.8	UD	8.8	66
75-25-2	Bromoform	1.44	23	UD	23	150
79-34-5	1,1,2,2-Tetrachloroethane	1.44	14	UD	14	99
541-73-1	1,3-Dichlorobenzene	1.44	9.7	UD	9.7	87
106-46-7	1,4-Dichlorobenzene	1.44	11	UD	11	87
95-50-1	1,2-Dichlorobenzene	1.44	9.4	UD	9.4	87
87-68-3	Hexachlorobutadiene	1.44	23	UD	23	150
76-14-2	Freon 114	1.44	21	UD	21	100

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	30	97	70 - 130	

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP03-20201020

Laboratory: ENCO Orlando SDG: AD07081-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Air Laboratory ID: AD07081-01 File ID: 207JP017.D

Sampled: 10/20/20 12:01 Prepared: 10/22/20 08:15 Analyzed: 10/22/20 10:50

Solids: Preparation: NO PREP 2 Initial/Final: 100 mL / 400 mL

Batch: 0J22033 Sequence: AA63124 Calibration: 2010038 Instrument: OVGCMS7

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	285418	11.01	281927	11.02	
1,4-Difluorobenzene	957275	12.52	961739	12.52	
Chlorobenzene-d5	740693	15.91	772206	15.92	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-AMB-20201015

Laboratory: ENCO Orlando SDG: AD07081-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Air Laboratory ID: AD07081-03 File ID: 207JP014.D

Sampled: 10/15/20 17:28 Prepared: 10/22/20 08:15 Analyzed: 10/22/20 08:49

Solids: Preparation: NO PREP 2 Initial/Final: 400 mL / 400 mL

Batch: 0J22033 Sequence: AA63124 Calibration: 2010038 Instrument: OVGCMS7

CAS NO.	COMPOUND	DILUTION	CONC. (ug/m³ Air)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1.27	3.5	UD	3.5	16
115-07-1	Propene	1.27	1.2	UD	1.2	5.5
74-87-3	Chloromethane	1.27	1.3	JD	1.3	6.6
75-01-4	Vinyl chloride	1.27	1.8	UD	1.8	8.1
74-83-9	Bromomethane	1.27	1.6	UD	1.6	12
75-00-3	Chloroethane	1.27	1.1	UD	1.1	8.4
75-69-4	Trichlorofluoromethane	1.27	2.4	UD	2.4	18
593-60-2	Bromoethene	1.27	1.8	UD	1.8	14
75-34-3	1,1-Dichloroethane	1.27	1.9	UD	1.9	13
67-64-1	Acetone	1.27	11	D	1.1	7.5
75-09-2	Methylene chloride	1.27	2.1	JBD	0.88	11
76-13-1	Freon 113	1.27	3.1	UD	3.1	24
107-05-1	3-Chloropropene	1.27	1.6	UD	1.6	9.9
156-60-5	trans-1,2-Dichloroethene	1.27	210	DE	1.6	13
75-35-4	1,1-Dichloroethene	1.27	1.9	UD	1.9	13
156-59-2	cis-1,2-Dichloroethene	1.27	1.9	UD	1.9	13
67-66-3	Chloroform	1.27	2.4	UD	2.4	16
107-06-2	1,2-Dichloroethane	1.27	1.9	UD	1.9	13
71-55-6	1,1,1-Trichloroethane	1.27	2.4	UD	2.4	17
56-23-5	Carbon tetrachloride	1.27	2.2	UD	2.2	20
78-87-5	1,2-Dichloropropane	1.27	2.3	UD	2.3	15
79-01-6	Trichloroethene	1.27	2.4	UD	2.4	17
75-27-4	Bromodichloromethane	1.27	2.9	UD	2.9	21
10061-01-5	cis-1,3-Dichloropropene	1.27	2.2	UD	2.2	14
10061-02-6	trans-1,3-Dichloropropene	1.27	2.0	UD	2.0	14
79-00-5	1,1,2-Trichloroethane	1.27	2.4	UD	2.4	17
106-93-4	1,2-Dibromoethane	1.27	3.5	UD	3.5	24
127-18-4	Tetrachloroethene	1.27	2.7	UD	2.7	22
124-48-1	Dibromochloromethane	1.27	3.6	UD	3.6	27
108-90-7	Chlorobenzene	1.27	1.9	UD	1.9	15
75-25-2	Bromoform	1.27	5.0	UD	5.0	33
79-34-5	1,1,2,2-Tetrachloroethane	1.27	3.1	UD	3.1	22
541-73-1	1,3-Dichlorobenzene	1.27	2.1	UD	2.1	19
106-46-7	1,4-Dichlorobenzene	1.27	2.4	UD	2.4	19
95-50-1	1,2-Dichlorobenzene	1.27	2.1	UD	2.1	19
87-68-3	Hexachlorobutadiene	1.27	5.0	UD	5.0	34
76-14-2	Freon 114	1.27	4.6	UD	4.6	22

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	30	97	70 - 130	

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-AMB-20201015

Laboratory: ENCO Orlando
SDG: AD07081-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Air
Laboratory ID: AD07081-03
File ID: 207JP014.D
Sampled: 10/15/20 17:28
Prepared: 10/22/20 08:15
Analyzed: 10/22/20 08:49
Solids:
Preparation: NO PREP 2
Initial/Final: 400 mL / 400 mL
Batch: 0J22033
Sequence: AA63124
Calibration: 2010038
Instrument: OVGCMS7

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	287281	11.01	281927	11.02	
1,4-Difluorobenzene	971970	12.51	961739	12.52	
Chlorobenzene-d5	751485	15.91	772206	15.92	

* Values outside of QC limits

HOLDING TIME SUMMARY

TO-15

Laboratory: ENCO Orlando

SDG: AD07081-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-VMP03-20201020	10/20/20 12:01	10/21/20 14:30	10/22/20 08:15	1.84	NA	10/22/20 10:50	2.00	30.00	
CRCA-AMB-20201015	10/15/20 17:28	10/21/20 14:30	10/22/20 08:15	6.62	NA	10/22/20 08:49	7.00	30.00	

PREPARATION BATCH SUMMARY

TO-15

Laboratory: ENCO Orlando SDG: AD07081-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 0J22033 Batch Matrix: Air Preparation: NO PREP 2

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	0J22033-BLK1	207JP012.D	10/21/20 17:30	
LCS	0J22033-BS1	207JP009.D	10/21/20 17:30	
LCS Dup	0J22033-BSD1	207JP010.D	10/21/20 17:30	
CRCA-VMP03-20201020	AD07081-01	207JP017.D	10/22/20 08:15	
CRCA-AMB-20201015	AD07081-03	207JP014.D	10/22/20 08:15	

METHOD BLANK DATA SHEET
TO-15

Laboratory:	ENCO Orlando	SDG:	AD07081-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Air	Laboratory ID:	0J22033-BLK1	File ID:	207JP012.D
Prepared:	10/21/20 17:30	Preparation:	NO PREP 2	Initial/Final:	400 mL / 400 mL
Analyzed:	10/21/20 22:11	Instrument:	OVGCMS7		
Batch:	0J22033	Sequence:	AA63124	Calibration:	2010038

CAS NO.	COMPOUND	CONC. (ug/m³ Air)	Q
75-71-8	Dichlorodifluoromethane	2.7	U
115-07-1	Propene	0.95	U
74-87-3	Chloromethane	0.99	U
75-01-4	Vinyl chloride	1.4	U
74-83-9	Bromomethane	1.3	U
75-00-3	Chloroethane	0.84	U
75-69-4	Trichlorofluoromethane	1.9	U
593-60-2	Bromoethene	1.4	U
75-34-3	1,1-Dichloroethane	1.5	U
67-64-1	Acetone	0.83	U
75-09-2	Methylene chloride	0.83	J
76-13-1	Freon 113	2.5	U
107-05-1	3-Chloropropene	1.2	U
156-60-5	trans-1,2-Dichloroethene	1.3	U
75-35-4	1,1-Dichloroethene	1.5	U
156-59-2	cis-1,2-Dichloroethene	1.5	U
67-66-3	Chloroform	1.9	U
107-06-2	1,2-Dichloroethane	1.5	U
71-55-6	1,1,1-Trichloroethane	1.9	U
56-23-5	Carbon tetrachloride	1.7	U
78-87-5	1,2-Dichloropropane	1.8	U
79-01-6	Trichloroethene	1.9	U
75-27-4	Bromodichloromethane	2.3	U
10061-01-5	cis-1,3-Dichloropropene	1.7	U
10061-02-6	trans-1,3-Dichloropropene	1.5	U
79-00-5	1,1,2-Trichloroethane	1.9	U
106-93-4	1,2-Dibromoethane	2.8	U
127-18-4	Tetrachloroethene	2.1	U
124-48-1	Dibromochloromethane	2.8	U
108-90-7	Chlorobenzene	1.5	U

METHOD BLANK DATA SHEET
TO-15

Laboratory:	ENCO Orlando	SDG:	AD07081-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Air	Laboratory ID:	0J22033-BLK1	File ID:	207JP012.D
Prepared:	10/21/20 17:30	Preparation:	NO PREP 2	Initial/Final:	400 mL / 400 mL
Analyzed:	10/21/20 22:11	Instrument:	OVGCMS7		
Batch:	0J22033	Sequence:	AA63124	Calibration:	2010038

CAS NO.	COMPOUND	CONC. (ug/m³ Air)	Q
75-25-2	Bromoform	3.9	U
79-34-5	1,1,2,2-Tetrachloroethane	2.5	U
541-73-1	1,3-Dichlorobenzene	1.7	U
106-46-7	1,4-Dichlorobenzene	1.9	U
95-50-1	1,2-Dichlorobenzene	1.6	U
87-68-3	Hexachlorobutadiene	3.9	U
76-14-2	Freon 114	3.6	U

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	30	96	70 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	287633	11.01	281927	11.02	
1,4-Difluorobenzene	970928	12.51	961739	12.52	
Chlorobenzene-d5	744760	15.91	772206	15.92	

LCS / LCS DUPLICATE RECOVERY

TO-15

Laboratory:	ENCO Orlando	SDG:	AD07081-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Air		
Batch:	0J22033	Laboratory ID:	0J22033-BS1
Preparation:	NO PREP 2	Initial/Final:	400 mL / 400 mL

COMPOUND	SPIKE ADDED (ug/m³ Air)	LCS CONCENTRATION (ug/m³ Air)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	49.5	56	113	70 - 130
Propene	17.2	18	102	70 - 130
Chloromethane	20.7	22	108	70 - 130
Vinyl chloride	25.6	29	114	70 - 130
Bromomethane	38.8	42	108	70 - 130
Chloroethane	26.4	30	114	70 - 130
Trichlorofluoromethane	56.2	63	112	70 - 130
Bromoethene	43.7	49	112	70 - 130
1,1-Dichloroethane	40.5	45	112	70 - 130
Acetone	23.8	25	104	70 - 130
Methylene chloride	34.7	39	113	70 - 130
Freon 113	76.6	86	113	70 - 130
3-Chloropropene	31.3	33	104	70 - 130
trans-1,2-Dichloroethene	39.6	43	110	70 - 130
1,1-Dichloroethene	39.7	45	113	70 - 130
cis-1,2-Dichloroethene	39.6	45	114	70 - 130
Chloroform	48.8	55	113	70 - 130
1,2-Dichloroethane	40.5	46	113	70 - 130
1,1,1-Trichloroethane	54.6	61	113	70 - 130
Carbon tetrachloride	62.9	43	68 *	70 - 130
1,2-Dichloropropane	46.2	53	114	70 - 130
Trichloroethene	53.7	63	116	70 - 130
Bromodichloromethane	67.0	73	110	70 - 130
cis-1,3-Dichloropropene	45.4	55	120	70 - 130
trans-1,3-Dichloropropene	45.4	61	135 *	70 - 130
1,1,2-Trichloroethane	54.6	66	120	70 - 130
1,2-Dibromoethane	76.8	97	126	70 - 130
Tetrachloroethene	67.8	85	125	70 - 130
Dibromochloromethane	85.2	96	113	70 - 130
Chlorobenzene	46.0	56	122	70 - 130

LCS / LCS DUPLICATE RECOVERY

TO-15

Laboratory:	ENCO Orlando	SDG:	AD07081-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Air		
Batch:	0J22033	Laboratory ID:	0J22033-BS1
Preparation:	NO PREP 2	Initial/Final:	400 mL / 400 mL

COMPOUND	SPIKE ADDED (ug/m³ Air)	LCS CONCENTRATION (ug/m³ Air)	LCS % REC. #	QC LIMITS REC.
Bromoform	103	120	120	70 - 130
1,1,2,2-Tetrachloroethane	68.7	94	137 *	70 - 130
1,3-Dichlorobenzene	60.1	89	148 *	70 - 130
1,4-Dichlorobenzene	60.1	91	151 *	70 - 130
1,2-Dichlorobenzene	60.1	90	149 *	70 - 130
Hexachlorobutadiene	107	140	135 *	70 - 130
Freon 114	69.9	80	115	70 - 130

COMPOUND	SPIKE ADDED (ug/m³ Air)	LCSD CONCENTRATION (ug/m³ Air)	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	49.5	56	113	0.4	25	70 - 130
Propene	17.2	18	102	0.07	25	70 - 130
Chloromethane	20.7	22	107	1	25	70 - 130
Vinyl chloride	25.6	29	114	0.4	25	70 - 130
Bromomethane	38.8	41	106	1	25	70 - 130
Chloroethane	26.4	30	112	2	25	70 - 130
Trichlorofluoromethane	56.2	62	110	2	25	70 - 130
Bromoethene	43.7	48	110	2	25	70 - 130
1,1-Dichloroethane	40.5	45	112	0.2	25	70 - 130
Acetone	23.8	25	104	0.3	25	70 - 130
Methylene chloride	34.7	39	113	0.02	25	70 - 130
Freon 113	76.6	86	112	0.6	25	70 - 130
3-Chloropropene	31.3	32	103	1	25	70 - 130
trans-1,2-Dichloroethene	39.6	43	110	0.02	25	70 - 130
1,1-Dichloroethene	39.7	44	112	1	25	70 - 130
cis-1,2-Dichloroethene	39.6	45	115	0.7	25	70 - 130
Chloroform	48.8	55	112	0.6	25	70 - 130
1,2-Dichloroethane	40.5	46	114	0.4	25	70 - 130
1,1,1-Trichloroethane	54.6	61	112	0.5	25	70 - 130
Carbon tetrachloride	62.9	42	67 *	0.6	25	70 - 130

LCS / LCS DUPLICATE RECOVERY

TO-15

Laboratory:	ENCO Orlando	SDG:	AD07081-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Air		
Batch:	0J22033	Laboratory ID:	0J22033-BSD1
Preparation:	NO PREP 2	Initial/Final:	400 mL / 400 mL

COMPOUND	SPIKE ADDED (ug/m³ Air)	LCSD CONCENTRATION (ug/m³ Air)	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,2-Dichloropropane	46.2	52	114	0.2	25	70 - 130
Trichloroethene	53.7	63	117	0.08	25	70 - 130
Bromodichloromethane	67.0	73	109	0.8	25	70 - 130
cis-1,3-Dichloropropene	45.4	55	121	1	25	70 - 130
trans-1,3-Dichloropropene	45.4	61	135 *	0.1	25	70 - 130
1,1,2-Trichloroethane	54.6	66	121	0.6	25	70 - 130
1,2-Dibromoethane	76.8	97	126	0.1	25	70 - 130
Tetrachloroethene	67.8	86	126	1	25	70 - 130
Dibromochloromethane	85.2	97	114	1	25	70 - 130
Chlorobenzene	46.0	56	122	0.07	25	70 - 130
Bromoform	103	120	120	0.2	25	70 - 130
1,1,2,2-Tetrachloroethane	68.7	94	136 *	0.2	25	70 - 130
1,3-Dichlorobenzene	60.1	90	150 *	1	25	70 - 130
1,4-Dichlorobenzene	60.1	92	153 *	0.8	25	70 - 130
1,2-Dichlorobenzene	60.1	90	150 *	0.3	25	70 - 130
Hexachlorobutadiene	107	140	134 *	0.7	25	70 - 130
Freon 114	69.9	80	115	0.09	25	70 - 130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

TO-15

Laboratory: ENCO Orlando
SDG: AD07081-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA62886
Instrument: OVGCMS7
Matrix: Air
Calibration: 2010038

Surrogate Compound	Spike Level ppbv	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA62886-SCV1)			Lab File ID: 207JB015.D		Analyzed: 10/07/20 16:17			
4-Bromofluorobenzene	31.0	101	0 - 200	17.35	17.34667	0.0033	+/-1.0	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

TO-15

Laboratory: ENCO Orlando
SDG: AD07081-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA63124
Instrument: OVGCMS7
Matrix: Air
Calibration: 2010038

Surrogate Compound	Spike Level ppbv	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA63124-CCV1)			Lab File ID: 207JP008.D		Analyzed: 10/21/20 18:54			
4-Bromofluorobenzene	31.0	103	0 - 200	17.35	17.34667	0.0033	+/-1.0	
LCS (0J22033-BS1)			Lab File ID: 207JP009.D		Analyzed: 10/21/20 19:54			
4-Bromofluorobenzene	31.0	102	70 - 130	17.34	17.34667	-0.0067	+/-1.0	
LCS Dup (0J22033-BSD1)			Lab File ID: 207JP010.D		Analyzed: 10/21/20 20:50			
4-Bromofluorobenzene	31.0	102	70 - 130	17.35	17.34667	0.0033	+/-1.0	
Blank (0J22033-BLK1)			Lab File ID: 207JP012.D		Analyzed: 10/21/20 22:11			
4-Bromofluorobenzene	31.0	96	70 - 130	17.34	17.34667	-0.0067	+/-1.0	
CRCA-AMB-20201015 (AD07081-03)			Lab File ID: 207JP014.D		Analyzed: 10/22/20 08:49			
4-Bromofluorobenzene	31.0	97	70 - 130	17.34	17.34667	-0.0067	+/-1.0	
CRCA-VMP03-20201020 (AD07081-01)			Lab File ID: 207JP017.D		Analyzed: 10/22/20 10:50			
4-Bromofluorobenzene	31.0	97	70 - 130	17.34	17.34667	-0.0067	+/-1.0	

INTERNAL STANDARD AREA AND RT SUMMARY
TO-15

Laboratory: ENCO Orlando
SDG: AD07081-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA62886
Instrument: OVGCMS7
Matrix: Air
Calibration: 2010038

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA62886-CAL1)			Lab File ID: 207JB004.D			Analyzed: 10/07/20 08:55			
Bromochloromethane	283238	11.01	281927	11.02	100	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	968751	12.51	961739	12.52	101	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	747507	15.91	772206	15.92	97	50 - 200	-0.0100	+/-0.50	
Cal Standard (AA62886-CAL2)			Lab File ID: 207JB005.D			Analyzed: 10/07/20 09:34			
Bromochloromethane	286088	11	281927	11.02	101	60 - 140	-0.0200	+/-0.50	
1,4-Difluorobenzene	983731	12.51	961739	12.52	102	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	759093	15.91	772206	15.92	98	50 - 200	-0.0100	+/-0.50	
Cal Standard (AA62886-CAL3)			Lab File ID: 207JB006.D			Analyzed: 10/07/20 10:12			
Bromochloromethane	273653	11.01	281927	11.02	97	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	931295	12.51	961739	12.52	97	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	724979	15.91	772206	15.92	94	50 - 200	-0.0100	+/-0.50	
Cal Standard (AA62886-CAL4)			Lab File ID: 207JB007.D			Analyzed: 10/07/20 10:51			
Bromochloromethane	283802	11.01	281927	11.02	101	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	957350	12.51	961739	12.52	100	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	751340	15.92	772206	15.92	97	50 - 200	0.0000	+/-0.50	
Cal Standard (AA62886-CAL5)			Lab File ID: 207JB008.D			Analyzed: 10/07/20 11:30			
Bromochloromethane	274189	11.01	281927	11.02	97	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	932711	12.51	961739	12.52	97	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	736096	15.91	772206	15.92	95	50 - 200	-0.0100	+/-0.50	
Cal Standard (AA62886-CAL6)			Lab File ID: 207JB009.D			Analyzed: 10/07/20 12:08			
Bromochloromethane	279444	11.02	281927	11.02	99	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	953613	12.51	961739	12.52	99	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	756883	15.91	772206	15.92	98	50 - 200	-0.0100	+/-0.50	
Cal Standard (AA62886-CAL7)			Lab File ID: 207JB010.D			Analyzed: 10/07/20 12:47			
Bromochloromethane	281927	11.02	281927	11.02	100	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	961739	12.52	961739	12.52	100	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	772206	15.92	772206	15.92	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA62886-CAL8)			Lab File ID: 207JB011.D			Analyzed: 10/07/20 13:31			
Bromochloromethane	290711	11.03	281927	11.02	103	60 - 140	0.0100	+/-0.50	
1,4-Difluorobenzene	1002494	12.52	961739	12.52	104	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	823735	15.92	772206	15.92	107	50 - 200	0.0000	+/-0.50	
Cal Standard (AA62886-CAL9)			Lab File ID: 207JB012.D			Analyzed: 10/07/20 14:19			
Bromochloromethane	274055	11.03	281927	11.02	97	60 - 140	0.0100	+/-0.50	
1,4-Difluorobenzene	934441	12.53	961739	12.52	97	60 - 140	0.0100	+/-0.50	
Chlorobenzene-d5	773151	15.92	772206	15.92	100	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
TO-15

Laboratory: ENCO Orlando
SDG: AD07081-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA62886
Instrument: OVGCMS7
Matrix: Air
Calibration: 2010038

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA62886-SCV1)			Lab File ID: 207JB015.D			Analyzed: 10/07/20 16:17			
Bromochloromethane	283351	11.02	281927	11.02	101	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	971533	12.52	961739	12.52	101	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	784855	15.92	772206	15.92	102	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
TO-15

Laboratory: ENCO Orlando
SDG: AD07081-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA63124
Instrument: OVGCMS7
Matrix: Air
Calibration: 2010038

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA63124-CCV1)			Lab File ID: 207JP008.D			Analyzed: 10/21/20 18:54			
Bromochloromethane	292345	11.02	281927	11.02	104	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	984730	12.52	961739	12.52	102	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	793536	15.92	772206	15.92	103	50 - 200	0.0000	+/-0.50	
LCS (0J22033-BS1)			Lab File ID: 207JP009.D			Analyzed: 10/21/20 19:54			
Bromochloromethane	287376	11.02	281927	11.02	102	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	976362	12.52	961739	12.52	102	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	786327	15.92	772206	15.92	102	50 - 200	0.0000	+/-0.50	
LCS Dup (0J22033-BSD1)			Lab File ID: 207JP010.D			Analyzed: 10/21/20 20:50			
Bromochloromethane	289057	11.02	281927	11.02	103	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	979167	12.52	961739	12.52	102	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	788049	15.92	772206	15.92	102	50 - 200	0.0000	+/-0.50	
Blank (0J22033-BLK1)			Lab File ID: 207JP012.D			Analyzed: 10/21/20 22:11			
Bromochloromethane	287633	11.01	281927	11.02	102	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	970928	12.51	961739	12.52	101	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	744760	15.91	772206	15.92	96	50 - 200	-0.0100	+/-0.50	
CRCA-AMB-20201015 (AD07081-03)			Lab File ID: 207JP014.D			Analyzed: 10/22/20 08:49			
Bromochloromethane	287281	11.01	281927	11.02	102	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	971970	12.51	961739	12.52	101	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	751485	15.91	772206	15.92	97	50 - 200	-0.0100	+/-0.50	
CRCA-VMP03-20201020 (AD07081-01)			Lab File ID: 207JP017.D			Analyzed: 10/22/20 10:50			
Bromochloromethane	285418	11.01	281927	11.02	101	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	957275	12.52	961739	12.52	100	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	740693	15.91	772206	15.92	96	50 - 200	-0.0100	+/-0.50	

ANALYSIS BATCH (SEQUENCE) SUMMARY

TO-15

Laboratory:	ENCO Orlando	SDG:	AD07081-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA62886		
Calibration:	2010038	Instrument:	OVGCMS7

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA62886-TUN1	207JB003.D	10/07/20 08:17
Cal Standard	AA62886-CAL1	207JB004.D	10/07/20 08:55
Cal Standard	AA62886-CAL2	207JB005.D	10/07/20 09:34
Cal Standard	AA62886-CAL3	207JB006.D	10/07/20 10:12
Cal Standard	AA62886-CAL4	207JB007.D	10/07/20 10:51
Cal Standard	AA62886-CAL5	207JB008.D	10/07/20 11:30
Cal Standard	AA62886-CAL6	207JB009.D	10/07/20 12:08
Cal Standard	AA62886-CAL7	207JB010.D	10/07/20 12:47
Cal Standard	AA62886-CAL8	207JB011.D	10/07/20 13:31
Cal Standard	AA62886-CAL9	207JB012.D	10/07/20 14:19
Secondary Cal Check	AA62886-SCV1	207JB015.D	10/07/20 16:17

ANALYSIS BATCH (SEQUENCE) SUMMARY

TO-15

Laboratory:	ENCO Orlando	SDG:	AD07081-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA63124		
Calibration:	2010038	Instrument:	OVGCMS7

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA63124-TUN1	207JP007.D	10/21/20 17:51
Calibration Check	AA63124-CCV1	207JP008.D	10/21/20 18:54
LCS	0J22033-BS1	207JP009.D	10/21/20 19:54
LCS Dup	0J22033-BSD1	207JP010.D	10/21/20 20:50
Blank	0J22033-BLK1	207JP012.D	10/21/20 22:11
CRCA-AMB-20201015	AD07081-03	207JP014.D	10/22/20 08:49
CRCA-VMP03-20201020	AD07081-01	207JP017.D	10/22/20 10:50

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

TO-15

Laboratory:	ENCO Orlando	SDG:	AD07081-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	207JB003.D	Injection Date:	10/07/20
Instrument ID:	OVGCMS7	Injection Time:	08:17
Sequence:	AA62886	Lab Sample ID:	AA62886-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8 - 40% of 95	31	PASS
75	30 - 66% of 95	53.9	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.77	PASS
173	Less than 2% of 174	0	PASS
174	50 - 120% of 95	62.8	PASS
175	4 - 9% of 174	5.48	PASS
176	95 - 101% of 174	100	PASS
177	5 - 9% of 176	6.51	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

TO-15

Laboratory:	ENCO Orlando	SDG:	AD07081-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	207JP007.D	Injection Date:	10/21/20
Instrument ID:	OVGCMS7	Injection Time:	17:51
Sequence:	AA63124	Lab Sample ID:	AA63124-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8 - 40% of 95	29	PASS
75	30 - 66% of 95	53.6	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.85	PASS
173	Less than 2% of 174	0	PASS
174	50 - 120% of 95	68.2	PASS
175	4 - 9% of 174	5.69	PASS
176	95 - 101% of 174	99.7	PASS
177	5 - 9% of 176	6.91	PASS

CONTINUING CALIBRATION CHECK

TO-15

Laboratory:	ENCO Orlando	SDG:	AD07081-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS7	Calibration:	2010038
Lab File ID:	207JP008.D	Calibration Date:	10/07/20 08:17
Sequence:	AA63124	Injection Date:	10/21/20
Lab Sample ID:	AA63124-CCV1	Injection Time:	18:54

		CONC. (ppbv)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Dichlorodifluoromethane	A	10.0	10	7.352305	7.63191		3.8	30
Propene	A	10.0	9.8	3.003339	2.954366		-1.6	30
Chloromethane	A	10.0	9.8	2.997328	2.951736		-1.5	30
Vinyl chloride	A	10.0	10	2.659363	2.750654		3.4	30
Bromomethane	A	10.0	9.3	2.687537	2.507793		-6.7	30
Chloroethane	A	10.0	9.9	1.356926	1.347555		-0.7	30
Trichlorofluoromethane	A	10.0	10	6.333575	6.454091		1.9	30
Bromoethene	A	10.0	10	2.171728	2.259492		4.0	30
1,1-Dichloroethane	A	10.0	10	4.616272	4.745112		2.8	30
Acetone	A	10.0	10	6.245	6.369249		2.0	30
Methylene chloride	A	10.0	11	2.023695	2.132319		5.4	30
Freon 113	A	10.0	10	3.140323	3.274		4.3	30
3-Chloropropene	A	10.0	10	4.854252	4.890269		0.70	30
trans-1,2-Dichloroethene	A	10.0	10	3.907405	4.040662		3.4	30
1,1-Dichloroethene	A	10.0	10	4.645662	4.772512		2.7	30
cis-1,2-Dichloroethene	A	10.0	10	2.253923	2.346348		4.1	30
Chloroform	A	10.0	10	5.281326	5.421037		2.6	30
1,2-Dichloroethane	A	10.0	10	3.923259	4.048308		3.2	30
1,1,1-Trichloroethane	A	10.0	10	5.017004	5.111095		1.9	30
Carbon tetrachloride	A	10.0	10	4.563855	4.54473		-0.4	30
1,2-Dichloropropane	A	10.0	10	0.7684919	0.7967453		3.7	30
Trichloroethene	A	10.0	11	0.7776914	0.826079		6.2	30
Bromodichloromethane	A	10.0	11	1.606225	1.727315		7.5	30
cis-1,3-Dichloropropene	A	10.0	11	1.192194	1.262036		5.9	30
trans-1,3-Dichloropropene	A	10.0	11	0.8985188	0.9455483		5.2	30
1,1,2-Trichloroethane	A	10.0	11	0.6718274	0.7283062		8.4	30
1,2-Dibromoethane	A	10.0	11	1.08552	1.203092		11	30
Tetrachloroethene	A	10.0	11	0.8544463	0.9641818		13	30
Dibromochloromethane	A	10.0	11	1.076841	1.224389		14	30

CONTINUING CALIBRATION CHECK

TO-15

Laboratory:	ENCO Orlando	SDG:	AD07081-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS7	Calibration:	2010038
Lab File ID:	207JP008.D	Calibration Date:	10/07/20 08:17
Sequence:	AA63124	Injection Date:	10/21/20
Lab Sample ID:	AA63124-CCV1	Injection Time:	18:54

		CONC. (ppbv)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Chlorobenzene	A	10.0	11	1.66117	1.811732		9.1	30	
Bromoform	A	10.0	12	1.225117	1.48453		21	30	
1,1,2,2-Tetrachloroethane	A	10.0	11	1.345133	1.517947		13	30	
1,3-Dichlorobenzene	A	10.0	12	0.8917109	1.109086		24	30	
1,4-Dichlorobenzene	A	10.0	13	0.8068549	1.031169		28	30	
1,2-Dichlorobenzene	A	10.0	13	0.7957318	1.006933		27	30	
Hexachlorobutadiene	A	10.0	13	0.3744766	0.4985324		33	30	*
Freon 114	A	10.0	10	3.657762	3.815668		4.3	30	

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

TO-15

Laboratory: ENCO Orlando
SDG: AD07081-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA62886
Instrument: OVGCMS7

Calibration: 2010038

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A0I1168	Air- VIRTUAL TUN-092120	AA62886-TUN1	207JB003.D	10/07/20 08:17
A0I1209	Air- Virtual CAL1 092220	AA62886-CAL1	207JB004.D	10/07/20 08:55
A0I1210	Air- Virtual CAL2 092220	AA62886-CAL2	207JB005.D	10/07/20 09:34
A0I1211	Air- Virtual CAL3 092220	AA62886-CAL3	207JB006.D	10/07/20 10:12
A0I1212	Air- Virtual CAL4 092220	AA62886-CAL4	207JB007.D	10/07/20 10:51
A0I1213	Air- Virtual CAL5 092220	AA62886-CAL5	207JB008.D	10/07/20 11:30
A0I1214	Air- Virtual CAL6 092220	AA62886-CAL6	207JB009.D	10/07/20 12:08
A0I1215	Air- Virtual CAL7 092220	AA62886-CAL7	207JB010.D	10/07/20 12:47
A0I1216	Air- Virtual CAL8 092220	AA62886-CAL8	207JB011.D	10/07/20 13:31
A0I1217	Air- Virtual CAL9 092220	AA62886-CAL9	207JB012.D	10/07/20 14:19
A0I1218	Air- Virtual SCV 092220	AA62886-SCV1	207JB015.D	10/07/20 16:17

INITIAL CALIBRATION DATA

TO-15

Laboratory: ENCO Orlando
SDG: AD07081-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2010038
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 10/07/20 08:17

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF
Dichlorodifluoromethane	0.125	9.439722	0.25	7.789226	0.5	8.733601	1.25	8.142784	2.5	7.434464	5	6.052945
Propene	0.125	~~5.310446~~	0.25	3.809443	0.5	3.795405	1.25	3.210782	2.5	2.872782	5	2.323569
Chloromethane	0.125	3.758027	0.25	3.183566	0.5	3.527833	1.25	3.176964	2.5	2.914388	5	2.349594
Vinyl chloride	0.125	3.300094	0.25	2.647409	0.5	2.999485	1.25	2.856874	2.5	2.593115	5	2.121424
Bromomethane	0.125	3.461202	0.25	3.211739	0.5	3.238057	1.25	2.849883	2.5	2.454412	5	2.04255
Chloroethane	0.125	1.759058	0.25	1.448533	0.5	1.568278	1.25	1.394837	2.5	1.292781	5	1.055698
Trichlorofluoromethane	0.125	7.68942	0.25	6.54614	0.5	7.395285	1.25	6.867664	2.5	6.206354	5	5.073925
Bromoethene	0.125	2.55847	0.25	2.149828	0.5	2.427636	1.25	2.323476	2.5	2.1354	5	1.707838
1,1-Dichloroethane	0.125	5.459296	0.25	4.645535	0.5	5.209846	1.25	5.022532	2.5	4.503027	5	3.698204
Acetone	0.125	~~11.41067~~	0.25	~~8.614482~~	0.5	8.59517	1.25	6.723304	2.5	6.121694	5	4.979986
Methylene chloride	0.125	~~5.91898~~	0.25	~~3.85322~~	0.5	~~3.292659~~	1.25	2.483391	2.5	2.151907	5	1.709036
Freon 113	0.125	3.540881	0.25	3.123319	0.5	3.514465	1.25	3.348238	2.5	3.070774	5	2.510028
3-Chloropropene	0.125	5.781512	0.25	4.923366	0.5	5.439809	1.25	4.926846	2.5	4.608445	5	3.806409
trans-1,2-Dichloroethene	0.125	4.566195	0.25	4.0565	0.5	4.411207	1.25	4.158908	2.5	3.841034	5	3.155756
1,1-Dichloroethene	0.125	5.350723	0.25	4.760829	0.5	5.229104	1.25	5.029087	2.5	4.660362	5	3.789414
cis-1,2-Dichloroethene	0.125	2.543585	0.25	2.265988	0.5	2.524153	1.25	2.391986	2.5	2.202558	5	1.822411
Chloroform	0.125	6.177279	0.25	5.445653	0.5	5.922391	1.25	5.81791	2.5	5.257413	5	4.278857
1,2-Dichloroethane	0.125	4.865646	0.25	3.808576	0.5	4.431824	1.25	4.343028	2.5	3.893539	5	3.189946
1,1,1-Trichloroethane	0.125	5.969764	0.25	5.047761	0.5	5.803444	1.25	5.550512	2.5	5.046849	5	4.147489
Carbon tetrachloride	0.125	4.822743	0.25	4.353835	0.5	4.741538	1.25	5.26389	2.5	4.825295	5	3.977293
1,2-Dichloropropane	0.125	0.9057271	0.25	0.7511362	0.5	0.8477529	1.25	0.834913	2.5	0.7453606	5	0.6230018
Trichloroethene	0.125	0.8596471	0.25	0.7558001	0.5	0.8340386	1.25	0.8392391	2.5	0.7682405	5	0.6306801
Bromodichloromethane	0.125	1.731838	0.25	1.535298	0.5	1.787378	1.25	1.806759	2.5	1.669773	5	1.372199
cis-1,3-Dichloropropene	0.125	1.383679	0.25	1.166473	0.5	1.259513	1.25	1.298869	2.5	1.180439	5	0.9655055
trans-1,3-Dichloropropene	0.125	1.059071	0.25	0.9287417	0.5	0.9858938	1.25	1.00117	2.5	0.9052944	5	0.7579682
1,1,2-Trichloroethane	0.125	0.6817273	0.25	0.6303796	0.5	0.7347768	1.25	0.7529242	2.5	0.6736895	5	0.5654757
1,2-Dibromoethane	0.125	1.097471	0.25	1.000843	0.5	1.114315	1.25	1.188151	2.5	1.094503	5	0.9136943
Tetrachloroethene	0.125	0.8837111	0.25	0.7520186	0.5	0.8910259	1.25	0.9191297	2.5	0.8443387	5	0.709967
Dibromochloromethane	0.125	1.087487	0.25	0.9432375	0.5	1.092146	1.25	1.191985	2.5	1.110749	5	0.9355917
Chlorobenzene	0.125	1.835349	0.25	1.510197	0.5	1.745628	1.25	1.871272	2.5	1.681985	5	1.388851
Bromoform	0.125	1.028817	0.25	0.9320913	0.5	1.063181	1.25	1.365462	2.5	1.310758	5	1.124585

INITIAL CALIBRATION DATA

TO-15

Laboratory: ENCO Orlando
SDG: AD07081-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2010038
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 10/07/20 08:17

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF
1,1,2,2-Tetrachloroethane	0.125	1.334045	0.25	1.082703	0.5	1.217544	1.25	1.608696	2.5	1.440183	5	1.213012
1,3-Dichlorobenzene	0.125	0.6549129	0.25	0.6274382	0.5	0.7115241	1.25	0.9595997	2.5	0.9267454	5	0.8105398
1,4-Dichlorobenzene	0.125	0.5706435	0.25	0.5109677	0.5	0.6210442	1.25	0.8272058	2.5	0.8241555	5	0.7389544
1,2-Dichlorobenzene	0.125	0.5776107	0.25	0.5192987	0.5	0.6232677	1.25	0.9089988	2.5	0.8568024	5	0.7379468
Hexachlorobutadiene	0.125	~~0.2531401~~	0.25	0.2187295	0.5	0.2120034	1.25	0.4496968	2.5	0.4099384	5	0.3431825
4-Bromofluorobenzene	31	0.4157526	31	0.4167645	31	0.4280469	31	0.4233916	31	0.4277839	31	0.4348149
Freon 114	0.125	4.189692	0.25	3.678113	0.5	4.123244	1.25	3.939048	2.5	3.565663	5	2.959291

INITIAL CALIBRATION DATA (Continued)

TO-15

Laboratory: ENCO Orlando
SDG: AD07081-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2010038
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 10/07/20 08:17

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF
Dichlorodifluoromethane	10	6.637598	25	6.260778	50	5.679626						
Propene	10	2.541998	25	2.572351	50	2.90038						
Chloromethane	10	2.571093	25	2.598779	50	2.89571						
Vinyl chloride	10	2.368057	25	2.384792	50	2.663017						
Bromomethane	10	2.209619	25	2.234628	50	2.485739						
Chloroethane	10	1.168596	25	1.19146	50	1.333094						
Trichlorofluoromethane	10	5.704597	25	5.62766	50	5.89113						
Bromoethene	10	1.961851	25	2.030951	50	2.250101						
1,1-Dichloroethane	10	4.145311	25	4.190158	50	4.672538						
Acetone	10	5.528291	25	5.559136	50	6.207416						
Methylene chloride	10	1.865265	25	1.867957	50	2.064615						
Freon 113	10	2.86192	25	2.966525	50	3.326755						
3-Chloropropene	10	4.28554	25	4.706989	50	5.209351						
trans-1,2-Dichloroethene	10	3.52823	25	3.547917	50	3.900897						
1,1-Dichloroethene	10	4.221523	25	4.19947	50	4.570451						
cis-1,2-Dichloroethene	10	2.046024	25	2.108833	50	2.379768						
Chloroform	10	4.80609	25	4.742541	50	5.083803						
1,2-Dichloroethane	10	3.560227	25	3.496621	50	3.719928						
1,1,1-Trichloroethane	10	4.525688	25	4.485363	50	4.576168						
Carbon tetrachloride	10	4.403502	25	4.314414	50	4.372181						
1,2-Dichloropropane	10	0.6936666	25	0.7041906	50	0.8106782						
Trichloroethene	10	0.7183959	25	0.7420563	50	0.851125						
Bromodichloromethane	10	1.506451	25	1.481417	50	1.564908						
cis-1,3-Dichloropropene	10	1.102581	25	1.112195	50	1.260492						
trans-1,3-Dichloropropene	10	0.8287756	25	0.8016002	50	0.8181545						
1,1,2-Trichloroethane	10	0.631047	25	0.6421049	50	0.7343214						
1,2-Dibromoethane	10	1.044539	25	1.080323	50	1.235838						
Tetrachloroethene	10	0.8226545	25	0.8914744	50	0.9756962						
Dibromochloromethane	10	1.062377	25	1.095158	50	1.172838						
Chlorobenzene	10	1.556592	25	1.616524	50	1.744133						
Bromoform	10	1.291536	25	1.37228	50	1.537345						

INITIAL CALIBRATION DATA (Continued)

TO-15

Laboratory: ENCO Orlando
SDG: AD07081-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2010038
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 10/07/20 08:17

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF
1,1,2,2-Tetrachloroethane	10	1.330348	25	1.340639	50	1.539025						
1,3-Dichlorobenzene	10	0.9496717	25	1.066976	50	1.31799						
1,4-Dichlorobenzene	10	0.8820238	25	1.016364	50	1.270335						
1,2-Dichlorobenzene	10	0.8543761	25	0.9345156	50	1.148769						
Hexachlorobutadiene	10	0.396365	25	0.4319839	50	0.533913						
4-Bromofluorobenzene	31	0.4459134	31	0.4593225	31	0.4869295						
Freon 114	10	3.301464	25	3.361241	50	3.802104						

INITIAL CALIBRATION DATA (Continued)

TO-15

Laboratory: ENCO Orlando
SDG: AD07081-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2010038
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 10/07/20 08:17

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	7.352305	17.5214	4.568889	0.4298836			30	
Propene	3.003339	18.70242	4.44375	0.5091784			30	
Chloromethane	2.997328	15.3992	5.073333	0.4063303			30	
Vinyl chloride	2.659363	13.42301	5.327778	0.3846711			30	
Bromomethane	2.687537	19.2777	6.157778	0.3126208			30	
Chloroethane	1.356926	15.94452	6.484444	0.2324224			30	
Trichlorofluoromethane	6.333575	13.66054	6.81	0.2199482			30	
Bromoethene	2.171728	11.79683	6.736667	0.2676534			30	
1,1-Dichloroethane	4.616272	12.08823	10.04111	0.1252119			30	
Acetone	6.245	18.89356	8.982857	5.229409E-02			30	
Methylene chloride	2.023695	13.58312	8.868333	0.1108168			30	
Freon 113	3.140323	10.61246	7.954444	0.1895413			30	
3-Chloropropene	4.854252	12.27923	8.706666	0.1615376			30	
trans-1,2-Dichloroethene	3.907405	11.50142	9.127778	0.1437357			30	
1,1-Dichloroethene	4.645662	11.06995	7.855556	0.192026			30	
cis-1,2-Dichloroethene	2.253923	10.46497	10.75556	0.0822015			30	
Chloroform	5.281326	11.76634	11.08556	7.842653E-02			30	
1,2-Dichloroethane	3.923259	13.45701	12.06333	6.882156E-02			30	
1,1,1-Trichloroethane	5.017004	12.77672	11.37889	7.060942E-02			30	
Carbon tetrachloride	4.563855	8.378856	11.29333	0.0754181			30	
1,2-Dichloropropane	0.7684919	11.55152	13.12111	4.546442E-02			30	
Trichloroethene	0.7776914	9.754626	12.50333	5.666845E-02			30	
Bromodichloromethane	1.606225	9.335679	13.16111	4.305732E-02			30	
cis-1,3-Dichloropropene	1.192194	10.43696	13.88222	3.294648E-02			30	
trans-1,3-Dichloropropene	0.8985188	11.49744	14.60778	4.354126E-02			30	
1,1,2-Trichloroethane	0.6718274	9.133444	14.80556	0.0336372			30	
1,2-Dibromoethane	1.08552	8.774687	15.35222	3.057504E-02			30	
Tetrachloroethene	0.8544463	9.697807	14.62111	2.516008E-02			30	
Dibromochloromethane	1.076841	8.196079	15.03222	3.079584E-02			30	
Chlorobenzene	1.66117	9.489883	15.93556	3.289026E-02			30	

INITIAL CALIBRATION DATA (Continued)

TO-15

Laboratory: ENCO Orlando
SDG: AD07081-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2010038
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 10/07/20 08:17

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Bromoform	1.225117	16.10187	16.74111	3.860097E-02			30	
1,1,2,2-Tetrachloroethane	1.345133	12.30188	17.53	3.320042E-02			30	
1,3-Dichlorobenzene	0.8917109	24.65245	18.65	2.359515E-02			30	
1,4-Dichlorobenzene	0.8068549	29.31445	18.75778	2.979838E-02			30	
1,2-Dichlorobenzene	0.7957318	25.17215	19.30333	1.842781E-02			30	
Hexachlorobutadiene	0.3744766	29.89952	21.14625	2.128396E-02			30	
4-Bromofluorobenzene	0.4376355	5.287128	17.34667	3.097615E-02			30	
Freon 114	3.657762	11.06816	4.965555	0.3356675			30	

SECOND-SOURCE CALIBRATION VERIFICATION

TO-15

Laboratory: ENCO Orlando **SDG:** AD07081-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2010038 **Laboratory ID:** AA62886-SCV1

Sequence: AA62886 **Standard ID:** A0I1218

ANALYTE	EXPECTED (ppbv)	FOUND (ppbv)	% DRIFT	QC LIMIT
Dibromochloromethane	10.0	9.8	-2.5	30.00
Chloroform	10.0	9.5	-4.7	30.00
Acetone	10.0	8.9	-11.5	30.00
Bromoethene	10.0	9.0	-10.5	30.00
Carbon tetrachloride	10.0	7.2	-28.5	30.00
1,3-Dichlorobenzene	10.0	12	20.8	30.00
trans-1,2-Dichloroethene	10.0	9.1	-9.2	30.00
cis-1,3-Dichloropropene	10.0	10	1.1	30.00
Tetrachloroethene	10.0	10	3.1	30.00
Chloromethane	10.0	9.2	-7.6	30.00
Propene	10.0	8.7	-13.3	30.00
Chlorobenzene	10.0	10	0.7	30.00
1,2-Dichloroethane	10.0	9.6	-4.3	30.00
3-Chloropropene	10.0	8.8	-12.3	30.00
1,2-Dibromoethane	10.0	11	5.3	30.00
1,4-Dichlorobenzene	10.0	12	24.0	30.00
trans-1,3-Dichloropropene	10.0	11	13.6	30.00
cis-1,2-Dichloroethene	10.0	9.5	-4.8	30.00
1,1-Dichloroethene	10.0	9.5	-5.0	30.00
Hexachlorobutadiene	10.0	11	8.4	30.00
1,1,2,2-Tetrachloroethane	10.0	11	13.5	30.00
Trichloroethene	10.0	9.7	-3.4	30.00
1,1,2-Trichloroethane	10.0	10	1.8	30.00
1,2-Dichloropropane	10.0	9.6	-3.9	30.00
Freon 114	10.0	9.5	-5.0	30.00
Freon 113	10.0	9.5	-5.2	30.00
1,1,1-Trichloroethane	10.0	9.5	-4.6	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

TO-15

Laboratory: ENCO Orlando **SDG:** AD07081-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2010038 **Laboratory ID:** AA62886-SCV1

Sequence: AA62886 **Standard ID:** A0I1218

ANALYTE	EXPECTED (ppbv)	FOUND (ppbv)	% DRIFT	QC LIMIT
Trichlorofluoromethane	10.0	9.3	-7.0	30.00
Bromomethane	10.0	8.8	-11.5	30.00
1,1-Dichloroethane	10.0	9.5	-5.0	30.00
Bromodichloromethane	10.0	9.4	-6.2	30.00
Bromoform	10.0	10	2.3	30.00
Methylene chloride	10.0	9.5	-5.0	30.00
Vinyl chloride	10.0	9.6	-4.1	30.00
Chloroethane	10.0	9.3	-6.6	30.00
1,2-Dichlorobenzene	10.0	12	22.8	30.00
Dichlorodifluoromethane	10.0	9.6	-3.7	30.00

* Values outside of QC limits

ENCO Orlando

SDG: AD07081-TE016

CLASS: 06_VOA_AIR_RSK

METHOD: RSK 175

ANALYSES DATA PACKAGE COVER PAGE

RSK 175

Laboratory: ENCO Orlando

SDG: AD07081-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-MW0019-058.0-20201020	AD07081-02
CRCA-MW0019-058.0-20201020	AD07081-02RE1

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0019-058.0-20201020

Laboratory: ENCO Orlando
SDG: AD07081-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AD07081-02
File ID: 20JQ021.D
Sampled: 10/20/20 12:40
Prepared: 10/22/20 07:52
Analyzed: 10/22/20 13:58
Solids:
Preparation: Same
Initial/Final: 1 mL / 1 mL
Batch: 0J22022
Sequence: AA63120
Calibration: 2006012
Instrument: OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-85-1	Ethene	1	0.00510	U	0.00510	0.00600
74-84-0	Ethane	1	0.00510	U	0.00510	0.00600
124-38-9	Carbon dioxide	1	82.8		2.07	2.50

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0019-058.0-20201020

Laboratory: ENCO Orlando
SDG: AD07081-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AD07081-02RE1
File ID: 20JQ026.D
Sampled: 10/20/20 12:40
Prepared: 10/22/20 07:52
Analyzed: 10/22/20 15:17
Solids:
Preparation: Same
Initial/Final: 1 mL / 1 mL
Batch: 0J22022
Sequence: AA63120
Calibration: 2006012
Instrument: OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-82-8	Methane	10	0.829	D	0.0400	0.0500

* Values outside of QC limits

HOLDING TIME SUMMARY

RSK 175

Laboratory: ENCO Orlando

SDG: AD07081-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-MW0019-058.0-20201020	10/20/20 12:40	10/21/20 14:30	10/22/20 07:52	1.80	NA	10/22/20 13:58	2.00	14.00	
CRCA-MW0019-058.0-20201020	10/20/20 12:40	10/21/20 14:30	10/22/20 07:52	1.80	NA	10/22/20 15:17	2.00	14.00	

PREPARATION BATCH SUMMARY

RSK 175

Laboratory: ENCO Orlando SDG: AD07081-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 0J22022 Batch Matrix: Water Preparation: Same

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	0J22022-BLK1	20JQ005.D	10/22/20 07:52	
LCS	0J22022-BS1	20JQ003.D	10/22/20 07:52	
LCS Dup	0J22022-BSD1	20JQ004.D	10/22/20 07:52	
CD16979-03 (NES-8S)	0J22022-DUP1	20JQ020.D	10/22/20 07:52	
CRCA-MW0019-058.0-20201020	AD07081-02	20JQ021.D	10/22/20 07:52	
CRCA-MW0019-058.0-20201020	AD07081-02RE1	20JQ026.D	10/22/20 07:52	

METHOD BLANK DATA SHEET
RSK 175

Laboratory:	ENCO Orlando	SDG:	AD07081-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	0J22022-BLK1	File ID:	20JQ005.D
Prepared:	10/22/20 07:52	Preparation:	Same	Initial/Final:	1 mL / 1 mL
Analyzed:	10/22/20 09:39	Instrument:	OVGCFID2		
Batch:	0J22022	Sequence:	AA63120	Calibration:	2006012

CAS NO.	COMPOUND	CONC. (mg/L)	Q
74-82-8	Methane	0.00400	U
74-85-1	Ethene	0.00510	U
74-84-0	Ethane	0.00510	U
124-38-9	Carbon dioxide	2.07	U

LCS / LCS DUPLICATE RECOVERY

RSK 175

Laboratory:	ENCO Orlando	SDG:	AD07081-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	0J22022	Laboratory ID:	0J22022-BS1
Preparation:	Same	Initial/Final:	1 mL / 1 mL

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC. #	QC LIMITS REC.
Methane	0.172	0.162	94	70 - 130
Ethene	0.302	0.299	99	70 - 130
Ethane	0.323	0.343	106	70 - 130
Carbon dioxide	45.8	49.8	109	70 - 130

COMPOUND	SPIKE ADDED (mg/L)	LCSD CONCENTRATION (mg/L)	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Methane	0.172	0.160	93	2	30	70 - 130
Ethene	0.302	0.297	98	0.7	30	70 - 130
Ethane	0.323	0.339	105	1	30	70 - 130
Carbon dioxide	45.8	49.7	109	0.3	30	70 - 130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

DUPLICATES

RSK 175

CD16979-03 (NES-8S)

Laboratory: ENCO Orlando
SDG: AD07081-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Water
Laboratory ID: 0J22022-DUP1
Batch: 0J22022
Lab Source ID: AD06965-03
Preparation: Same
Initial/Final: 1 mL / 1 mL
Source Sample Name: CD16979-03 (NES-8S)
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/L)	C	DUPLICATE CONCENTRATION (mg/L)	C	RPD %	Q	METHOD
Methane	30	0.0172		0.0465		92	*	RSK 175
Ethene	30	0.000145		ND				RSK 175
Ethane	30	0.000048		ND				RSK 175
Carbon dioxide	30	130		168		26		RSK 175

* Values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY

RSK 175

Laboratory:	ENCO Orlando	SDG:	AD07081-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA60736		
Calibration:	2006012	Instrument:	OVGCFID2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	AA60736-CAL1	20F1002.D	06/01/20 10:14
Cal Standard	AA60736-CAL2	20F1003.D	06/01/20 10:30
Cal Standard	AA60736-CAL3	20F1004.D	06/01/20 10:46
Cal Standard	AA60736-CAL4	20F1005.D	06/01/20 11:02
Cal Standard	AA60736-CAL5	20F1006.D	06/01/20 11:18
Cal Standard	AA60736-CAL8	20F1009.D	06/01/20 12:05
Cal Standard	AA60736-CAL9	20F1010.D	06/01/20 12:21
Cal Standard	AA60736-CALA	20F1011.D	06/01/20 12:37
Cal Standard	AA60736-CALB	20F1012.D	06/01/20 12:53
Cal Standard	AA60736-CALC	20F1013.D	06/01/20 13:09
Cal Standard	AA60736-CALD	20F1014.D	06/01/20 13:25
Cal Standard	AA60736-CALE	20F1015.D	06/01/20 13:40
Cal Standard	AA60736-CAL6	20F1016.D	06/01/20 13:56
Cal Standard	AA60736-CAL7	20F1018.D	06/01/20 14:46
Secondary Cal Check	AA60736-SCV1	20F1019.D	06/01/20 15:20

ANALYSIS BATCH (SEQUENCE) SUMMARY

RSK 175

Laboratory:	ENCO Orlando	SDG:	AD07081-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA63120		
Calibration:	2006012	Instrument:	OVGCFID2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA63120-CCV1	20JQ001.D	10/22/20 08:24
Calibration Check	AA63120-CCV2	20JQ002.D	10/22/20 08:39
LCS	0J22022-BS1	20JQ003.D	10/22/20 09:00
LCS Dup	0J22022-BSD1	20JQ004.D	10/22/20 09:16
Blank	0J22022-BLK1	20JQ005.D	10/22/20 09:39
CD16979-03 (NES-8S)	0J22022-DUP1	20JQ020.D	10/22/20 13:42
CRCA-MW0019-058.0-20201020	AD07081-02	20JQ021.D	10/22/20 13:58
CRCA-MW0019-058.0-20201020	AD07081-02RE1	20JQ026.D	10/22/20 15:17
Calibration Check	AA63120-CCV3	20JQ027.D	10/22/20 15:33
Calibration Check	AA63120-CCV5	20JQ029.D	10/22/20 16:15

CONTINUING CALIBRATION CHECK

RSK 175

Laboratory:	ENCO Orlando	SDG:	AD07081-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCFID2	Calibration:	2006012
Lab File ID:	20JQ001.D	Calibration Date:	06/01/20 15:24
Sequence:	AA63120	Injection Date:	10/22/20
Lab Sample ID:	AA63120-CCV1	Injection Time:	08:24

		CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Carbon dioxide	A	47.1	51.6	490741.8	537429.5		9.5	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

CONTINUING CALIBRATION CHECK

RSK 175

Laboratory:	ENCO Orlando	SDG:	AD07081-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCFID2	Calibration:	2006012
Lab File ID:	20JQ002.D	Calibration Date:	06/01/20 15:24
Sequence:	AA63120	Injection Date:	10/22/20
Lab Sample ID:	AA63120-CCV2	Injection Time:	08:39

		CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Methane	A	0.174	0.168	1.126908E+08	1.086476E+08		-3.6	20
Ethene	A	0.302	0.306	7.423174E+07	7.529348E+07		1.4	20
Ethane	A	0.323	0.343	9.625369E+07	1.022254E+08		6.2	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

CONTINUING CALIBRATION CHECK

RSK 175

Laboratory:	ENCO Orlando	SDG:	AD07081-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCFID2	Calibration:	2006012
Lab File ID:	20JQ027.D	Calibration Date:	06/01/20 15:24
Sequence:	AA63120	Injection Date:	10/22/20
Lab Sample ID:	AA63120-CCV3	Injection Time:	15:33

		CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Carbon dioxide	A	47.1	48.7	490741.8	507928.2		3.5	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

CONTINUING CALIBRATION CHECK

RSK 175

Laboratory:	ENCO Orlando	SDG:	AD07081-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCFID2	Calibration:	2006012
Lab File ID:	20JQ029.D	Calibration Date:	06/01/20 15:24
Sequence:	AA63120	Injection Date:	10/22/20
Lab Sample ID:	AA63120-CCV5	Injection Time:	16:15

		CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Methane	A	0.174	0.179	1.126908E+08	1.159572E+08		2.9	20
Ethene	A	0.302	0.322	7.423174E+07	7.923603E+07		6.7	20
Ethane	A	0.323	0.368	9.625369E+07	1.097247E+08		14	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

RSK 175

Laboratory:	ENCO Orlando	SDG:	AD07081-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA60736	Instrument:	OVGCFID2
Calibration:	2006012		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A0F0609	RSK175-Cal 1 06/1/2020	AA60736-CAL1	20F1002.D	06/01/20 10:14
A0F0610	RSK175-Cal 2 06/1/2020	AA60736-CAL2	20F1003.D	06/01/20 10:30
A0F0611	RSK175-Cal 3 06/01/2020	AA60736-CAL3	20F1004.D	06/01/20 10:46
A0F0612	RSK175-Cal 4 06/01/2020	AA60736-CAL4	20F1005.D	06/01/20 11:02
A0F0613	RSK175-Cal 5 06/01/2020	AA60736-CAL5	20F1006.D	06/01/20 11:18
A0F0616	RSK175-Cal 1 06/01/2020	AA60736-CAL8	20F1009.D	06/01/20 12:05
A0F0617	RSK175-Cal 2 06/01/2020	AA60736-CAL9	20F1010.D	06/01/20 12:21
A0F0618	RSK175-Cal 3 06/01/2020	AA60736-CALA	20F1011.D	06/01/20 12:37
A0F0619	RSK175-Cal 4 06/01/2020	AA60736-CALB	20F1012.D	06/01/20 12:53
A0F0620	RSK175-Cal 5 06/01/2020	AA60736-CALC	20F1013.D	06/01/20 13:09
A0F0621	RSK175-Cal 6 06/01/2020	AA60736-CALD	20F1014.D	06/01/20 13:25
A0F0622	RSK175-Cal 7 06/01/2020	AA60736-CALE	20F1015.D	06/01/20 13:40
A0F0614	RSK175-Cal 6 06/01/2020	AA60736-CAL6	20F1016.D	06/01/20 13:56
A0F0615	RSK175-Cal 7 06/01/2020	AA60736-CAL7	20F1018.D	06/01/20 14:46
A0E1329	RSK175- SCV/BS water CO2 and MEE	AA60736-SCV1	20F1019.D	06/01/20 15:20

INITIAL CALIBRATION DATA

RSK 175

Laboratory: ENCO Orlando

SDG: AD07081-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Calibration: 2006012

Instrument: OVGCFID2

Matrix: Water

Calibration Date: 06/01/20 15:24

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Methane												
Ethene												
Ethane												
Carbon dioxide	2.35	307090.6	4.71	509643.3	9.42	464255.5	23.5	522637.4	47.1	565086.8	94.2	559758.8

INITIAL CALIBRATION DATA (Continued)

RSK 175

Laboratory: ENCO Orlando
SDG: AD07081-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2006012
Instrument: OVGCFID2
Matrix: Water
Calibration Date: 06/01/20 15:24

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Methane			0.000869	1.542071E+08	0.00869	1.148276E+08	0.0348	1.096007E+08	0.0869	1.14924E+08	0.174	1.027563E+08
Ethene			0.00151	8.601126E+07	0.0151	7.321662E+07	0.0603	7.770179E+07	0.151	7.66896E+07	0.302	7.178556E+07
Ethane			0.00161	8.453354E+07	0.0161	1.035332E+08	0.0646	1.030982E+08	0.161	1.064607E+08	0.323	9.54717E+07
Carbon dioxide	188	506720.1										

INITIAL CALIBRATION DATA

RSK 175

Laboratory: ENCO Orlando
SDG: AD07081-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2006012
Instrument: OVGCFID2
Matrix: Water
Calibration Date: 06/01/20 15:24

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Methane	0.348	1.073666E+08	0.695	8.515321E+07								
Ethene	0.603	7.388967E+07	1.21	6.03277E+07								
Ethane	0.646	1.002134E+08	1.29	8.046512E+07								
Carbon dioxide												

INITIAL CALIBRATION DATA (Continued)

RSK 175

Laboratory: ENCO Orlando
SDG: AD07081-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2006012
Instrument: OVGCFID2
Matrix: Water
Calibration Date: 06/01/20 15:24

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Methane	1.126908E+08	18.57182	1.965857	4.844227E-02			20	
Ethene	7.423174E+07	10.39554	3.747571	9.783909E-02			20	
Ethane	9.625369E+07	10.44924	4.679286	0.1221713			20	
Carbon dioxide	490741.8	17.90997	2.672286	0.4737105			20	

SECOND-SOURCE CALIBRATION VERIFICATION

RSK 175

Laboratory: ENCO Orlando
SDG: AD07081-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2006012
Laboratory ID: AA60736-SCV1
Sequence: AA60736
Standard ID: A0E1329

ANALYTE	EXPECTED (mg/L)	FOUND (mg/L)	% DRIFT	QC LIMIT
Ethene	0.302	0.300	-0.6	25.00
Ethane	0.323	0.333	3.0	25.00
Methane	0.172	0.167	-2.7	25.00
Carbon dioxide	45.8	49.2	7.4	25.00

* Values outside of QC limits

TETRA TECH ISG
TtNUS, Information Systems Group

Completion Ticket

On 11/4/2020 at 12:03 PM the following files were submitted to Tetra Tech by kdylnicki@encolabs.com with ENCO:

TE016AD07081A1.txt, TE016AD07081A3.txt

If you need to identify this session at a later date refer to Ticket Key:

2020114_4000299943_ledd_ENCO

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I Lori S. Mangrum, as the designated Quality Assurance Officer, hereby attest that all electronic deliverables have been thoroughly reviewed and are in agreement with the associated hardcopy data. The enclosed electronic files have been reviewed for accuracy (including significant figures), completeness and format. The laboratory will be responsible for any labor time necessary to correct enclosed electronic deliverables that have been found to be in error. I can be reached at (407) 826-5314 if there are any questions or problems with the enclosed electronic deliverables.

Signature:_____ Title: Quality Assurance Manager Date: November 9, 2020

Bennett, Melissa

From: Casey Brown <CBrown@microbe.com>
Sent: Wednesday, November 25, 2020 12:15 PM
To: Murphy, Alex; Rogers, Sue
Cc: Bennett, Melissa
Subject: RE: Microbial Insights permission to publish

Hi Alex,

Thank you for confirming. Please accept this email as permission from Microbial Insights to publish the lab data provided by Microbial Insights.

Happy Thanksgiving!

Kind Regards,
Casey

Casey Brown
DNA Lab Director
Microbial Insights, Inc.
10515 Research Drive
Knoxville, TN 37932
phone: 865.573.8188 ext. 103
cbrown@microbe.com
www.microbe.com

Microbial Insights is a certified Woman Owned Small Business (WOSB).

Please remember to plan your sampling events around our holiday schedule:
Thanksgiving: Closed Thursday, November 26th thru Sunday, November 29th.
Christmas: Closed Friday, December 25th thru Sunday, December 27th.
New Year's: Closed Friday, January 1st thru Sunday, January 3rd.

Please note we will not have arrangements for Saturday pickups during these holidays. In order to maintain sample integrity and holding times please avoid shipment of samples to our location on these holidays. If you have any questions or concerns, please feel free to contact us.

10515 Research Drive
Knoxville, TN 37932
Phone: (865) 573-8188
Fax: (865) 573-8133

ANSI National Accreditation Board ACCREDITED ISO/IEC 17025 TESTING LABORATORY

Client: Alex Murphy
Tetra Tech, Inc.
11 Riverside Dr.
Suite 204
Cocoa, FL 32922

Phone: 321-637-8530

Fax:

Identifier: 078RJ **Date Rec:** 10/21/2020 **Report Date:** 10/26/2020

Client Project #: 112G08970 **Client Project Name:** KSC-CRCA

Purchase Order #:

Test results provided for: CENSUS

Reviewed By:

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MICROBIAL INSIGHTS, INC.

10515 Research Dr., Knoxville, TN 37932
Tel. (865) 573-8188 Fax. (865) 573-8133

CENSUS

Client: **Tetra Tech, Inc.**
Project: KSC-CRCA

MI Project Number: **078RJ**
Date Received: 10/21/2020

Sample Information

Client Sample ID:		**CRCA-MW0018-058.0-20201015**	**CRCA-MW0031-058.0-20201015**	**CRCA-MW0019-058.0-20201020**
Sample Date:		10/15/2020	10/15/2020	10/20/2020
Units:		cells/mL	cells/mL	cells/mL
Analyst/Reviewer:		HT/HT	HT/HT	HT/HT
Dechlorinating Bacteria				
Dehalococcoides	*DHC*	**7.96E+01**	**1.14E+02**	**9.74E+01**
tceA Reductase	TCE	<5.00E-01	<5.00E-01	<5.00E-01
BAV1 Vinyl Chloride Reductase	BVC	<5.00E-01	<5.00E-01	<5.00E-01
Vinyl Chloride Reductase	VCR	<5.00E-01	<5.00E-01	<5.00E-01

Legend:
NA = Not Analyzed NS = Not Sampled J = Estimated gene copies below PQL but above LQL I = Inhibited
< = Result not detected

Quality Assurance/Quality Control Data

Samples Received **10/21/2020**

Component	Date Prepared	Date Analyzed	Arrival Temperature	Positive Control	Extraction Blank	Negative Control
BVC	10/21/2020	10/26/2020	0 °C	102%	non-detect	non-detect
TCE	10/21/2020	10/26/2020	0 °C	97%	non-detect	non-detect
VCR	10/21/2020	10/26/2020	0 °C	102%	non-detect	non-detect
DHC	10/21/2020	10/26/2020	0 °C	104%	non-detect	non-detect

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Client: Alex Murphy
Tetra Tech, Inc.
11 Riverside Dr.
Suite 204
Cocoa, FL 32922

Phone: 321-637-8530

Fax:

Identifier: 052SA **Date Rec:** 01/22/2021 **Report Date:** 01/27/2021

Client Project #: 112G08970 **Client Project Name:** KSC-CRCA

Purchase Order #:

Test results provided for: CENSUS

Reviewed By:

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Tel. (865) 573-8188 Fax. (865) 573-8133

CENSUS

Client: **Tetra Tech, Inc.**
Project: KSC-CRCA

MI Project Number: **052SA**
Date Received: 01/22/2021

Sample Information

Client Sample ID:		**CRCA-MW0031-058.0-20210120**	**CRCA-MW0018-058.0-20210120**	**CRCA-MW0019-058.0-20210120**
Sample Date:		01/20/2021	01/20/2021	01/20/2021
Units:		cells/mL	cells/mL	cells/mL
Analyst/Reviewer:		HT/CB	HT/CB	HT/CB
Dechlorinating Bacteria				
Dehalococcoides	*DHC*	**1.92E+02**	**1.19E+02**	**2.33E+02**
tceA Reductase	TCE	<5.00E-01	<5.00E-01	<5.00E-01
BAV1 Vinyl Chloride Reductase	BVC	<5.00E-01	<5.00E-01	<5.00E-01
Vinyl Chloride Reductase	VCR	<5.00E-01	<5.00E-01	<5.00E-01

Legend:
NA = Not Analyzed NS = Not Sampled J = Estimated gene copies below PQL but above LQL I = Inhibited
< = Result not detected

Quality Assurance/Quality Control Data

Samples Received **1/22/2021**

Component	Date Prepared	Date Analyzed	Arrival Temperature	Positive Control	Extraction Blank	Negative Control
DHC	01/22/2021	01/27/2021	0 °C	107%	non-detect	non-detect
BVC	01/22/2021	01/27/2021	0 °C	101%	non-detect	non-detect
TCE	01/22/2021	01/27/2021	0 °C	101%	non-detect	non-detect
VCR	01/22/2021	01/27/2021	0 °C	101%	non-detect	non-detect

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Phone: (865) 573-8188
Fax: (865) 573-8133

Client: Alex Murphy
Tetra Tech, Inc.
11 Riverside Dr.
Suite 204
Cocoa, FL 32922

Phone: 321-637-8530

Fax:

Identifier: 066SD **Date Rec:** 04/16/2021 **Report Date:** 04/22/2021

Client Project #: 112G08970 **Client Project Name:** KSC-CRCA

Purchase Order #:

Test results provided for: CENSUS

Reviewed By:

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Tel. (865) 573-8188 Fax. (865) 573-8133

CENSUS

Client: **Tetra Tech, Inc.**
Project: KSC-CRCA

MI Project Number: **066SD**
Date Received: 04/16/2021

Sample Information

Client Sample ID:		**CRCA-MW0031-058.0-20210414**	**CRCA-MW0018-058.0-20210414**	**CRCA-MW0019-058.0-20210414**
Sample Date:		04/14/2021	04/14/2021	04/14/2021
Units:		cells/mL	cells/mL	cells/mL
Analyst/Reviewer:		HT/CB	HT/CB	HT/CB
Dechlorinating Bacteria				
Dehalococcoides	*DHC*	**1.48E+02**	**7.40E+01**	**1.34E+02**
tceA Reductase	TCE	<5.00E-01	<5.00E-01	<5.00E-01
BAV1 Vinyl Chloride Reductase	BVC	<5.00E-01	<5.00E-01	<5.00E-01
Vinyl Chloride Reductase	VCR	<5.00E-01	<5.00E-01	<5.00E-01

Legend:
NA = Not Analyzed NS = Not Sampled J = Estimated gene copies below PQL but above LQL I = Inhibited
< = Result not detected

Quality Assurance/Quality Control Data

Samples Received **4/16/2021**

Component	Date Prepared	Date Analyzed	Arrival Temperature	Positive Control	Extraction Blank	Negative Control
DHC	04/16/2021	04/22/2021	0 °C	103%	non-detect	non-detect
BVC	04/16/2021	04/22/2021	0 °C	104%	non-detect	non-detect
TCE	04/16/2021	04/22/2021	0 °C	102%	non-detect	non-detect
VCR	04/16/2021	04/22/2021	0 °C	106%	non-detect	non-detect

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Client: Alex Murphy
Tetra Tech, Inc.
11 Riverside Dr.
Suite 204
Cocoa, FL 32922

Phone: 321-637-8530

Fax:

Identifier: 102SG **Date Rec:** 07/27/2021 **Report Date:** 08/02/2021

Client Project #: 112G08970 **Client Project Name:** KSC-CRCA

Purchase Order #: 1165880

Test results provided for: CENSUS

Reviewed By:

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Results relate only to the items tested and the sample(s) as received by the laboratory.

MICROBIAL INSIGHTS, INC.

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CENSUS

Client: **Tetra Tech, Inc.**
Project: KSC-CRCA

MI Project Number: **102SG**
Date Received: 07/27/2021

Sample Information

Client Sample ID:		**CRCA-MW0018-058.0-20210726**	**CRCA-MW0031-058.0-20210726**	**CRCA-MW0019-058.0-20210726**
Sample Date:		07/26/2021	07/26/2021	07/26/2021
Units:		cells/mL	cells/mL	cells/mL
Analyst/Reviewer:		HT/CB	HT/CB	HT/CB
Dechlorinating Bacteria				
Dehalococcoides	*DHC*	**5.78E+01**	**1.00E+00**	**5.01E+01**
tceA Reductase	TCE	<5.00E-01	<5.00E-01	<5.00E-01
BAV1 Vinyl Chloride Reductase	BVC	<5.00E-01	<5.00E-01	<5.00E-01
Vinyl Chloride Reductase	VCR	<5.00E-01	<5.00E-01	<5.00E-01

Legend:
NA = Not Analyzed NS = Not Sampled J = Estimated gene copies below PQL but above LQL I = Inhibited
< = Result not detected

Quality Assurance/Quality Control Data

Samples Received **7/27/2021**

Component	Date Prepared	Date Analyzed	Arrival Temperature	Positive Control	Extraction Blank	Negative Control
DHC	07/27/2021	08/02/2021	0 °C	90%	non-detect	non-detect
BVC	07/27/2021	08/02/2021	0 °C	103%	non-detect	non-detect
TCE	07/27/2021	08/02/2021	0 °C	103%	non-detect	non-detect
VCR	07/27/2021	08/02/2021	0 °C	98%	non-detect	non-detect

ENCO Laboratories

Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Monday, October 26, 2020
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AD06767

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Friday, October 16, 2020.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

www.encolabs.com

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-MW0018-058.0-20201015 **Lab ID: AD06767-01** **Sampled: 10/15/20 11:00** **Received: 10/16/20 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	10/29/20	10/23/20 12:57	10/23/20 15:59
RSK 175	Same	10/29/20	10/21/20 08:38	10/21/20 10:38

Client ID: CRCA-MW0018-058.0-20201015 **Lab ID: AD06767-01RE1** **Sampled: 10/15/20 11:00** **Received: 10/16/20 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	10/29/20	10/21/20 08:38	10/21/20 12:29

Client ID: CRCA-MW0031-058.0-20201015 **Lab ID: AD06767-02** **Sampled: 10/15/20 12:00** **Received: 10/16/20 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	10/29/20	10/23/20 12:57	10/23/20 15:28
RSK 175	Same	10/29/20	10/21/20 08:38	10/21/20 10:54

Client ID: CRCA-MW0032-058.0-20201015 **Lab ID: AD06767-03** **Sampled: 10/15/20 13:40** **Received: 10/16/20 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	10/29/20	10/23/20 12:57	10/23/20 16:30

Client ID: CRCA-VMP01-20201015 **Lab ID: AD06767-04RE1** **Sampled: 10/15/20 17:03** **Received: 10/16/20 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	11/14/20	10/22/20 08:15	10/22/20 13:55

Client ID: CRCA-VMP02-20201015 **Lab ID: AD06767-05** **Sampled: 10/15/20 17:08** **Received: 10/16/20 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	11/14/20	10/22/20 08:15	10/22/20 10:10

Client ID: CRCA-VMP04-20201015 **Lab ID: AD06767-06RE1** **Sampled: 10/15/20 17:23** **Received: 10/16/20 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	11/14/20	10/22/20 08:15	10/22/20 14:35

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-MW0018-058.0-20201015 **Lab ID:** AD06767-01

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Carbon dioxide	65.1		2.07	2.50	mg/L	RSK 175	
Ethene	0.0175		0.00510	0.00600	mg/L	RSK 175	
Vinyl chloride	81		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0018-058.0-20201015 **Lab ID:** AD06767-01RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	1.96		0.0840	0.105	mg/L	RSK 175	

Client ID: CRCA-MW0031-058.0-20201015 **Lab ID:** AD06767-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	28		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0032-058.0-20201015 **Lab ID:** AD06767-03

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	17		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-VMP01-20201015 **Lab ID:** AD06767-04RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	8.4		0.47	3.4	ppbv	TO-15	
Freon 113	6.7		0.43	3.4	ppbv	TO-15	
Methylene chloride	1.2	IV	0.27	3.4	ppbv	TO-15	J-01, O-01
trans-1,2-Dichloroethene	4.2		0.43	3.4	ppbv	TO-15	

Client ID: CRCA-VMP02-20201015 **Lab ID:** AD06767-05

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	7.0	I	4.0	29	ppbv	TO-15	
Freon 113	440		3.7	29	ppbv	TO-15	
Methylene chloride	2.7	IV	2.3	29	ppbv	TO-15	J-01, O-01
trans-1,2-Dichloroethene	8.8	I	3.7	29	ppbv	TO-15	

Client ID: CRCA-VMP04-20201015 **Lab ID:** AD06767-06RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	15		2.1	15	ppbv	TO-15	
Freon 113	130		1.9	15	ppbv	TO-15	
Methylene chloride	1.8	IV	1.2	15	ppbv	TO-15	J-01, O-01
trans-1,2-Dichloroethene	4.5	I	1.9	15	ppbv	TO-15	

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ANALYTICAL RESULTS

Description: CRCA-MW0018-058.0-20201015 **Lab Sample ID:** AD06767-01 **Received:** 10/16/20 16:00

Matrix: Ground Water **Sampled:** 10/15/20 11:00 **Work Order:** AD06767

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	QV-01
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	0J23034	EPA 8260D	10/23/20 15:59	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	0J23034	EPA 8260D	10/23/20 15:59	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	

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ANALYTICAL RESULTS

Description: CRCA-MW0018-058.0-20201015 **Lab Sample ID:** AD06767-01 **Received:** 10/16/20 16:00

Matrix: Ground Water **Sampled:** 10/15/20 11:00 **Work Order:** AD06767

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Vinyl chloride [75-01-4]^	**81**		ug/L	1	0.71	2.5	0J23034	EPA 8260D	10/23/20 15:59	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	0J23034	EPA 8260D	10/23/20 15:59	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*56*	*1*	*50.0*	*112 %*	*41-142*	*0J23034*	*EPA 8260D*	*10/23/20 15:59*	*KKW*	
Dibromofluoromethane	*56*	*1*	*50.0*	*111 %*	*53-146*	*0J23034*	*EPA 8260D*	*10/23/20 15:59*	*KKW*	
Toluene-d8	*54*	*1*	*50.0*	*108 %*	*41-146*	*0J23034*	*EPA 8260D*	*10/23/20 15:59*	*KKW*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Carbon dioxide [124-38-9]^	**65.1**		mg/L	1	2.07	2.50	0J21005	RSK 175	10/21/20 10:38	KG	
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	0J21005	RSK 175	10/21/20 10:38	KG	
Ethene [74-85-1]^	**0.0175**		mg/L	1	0.00510	0.00600	0J21005	RSK 175	10/21/20 10:38	KG	
Methane [74-82-8]^	**1.96**		mg/L	21	0.0840	0.105	0J21005	RSK 175	10/21/20 12:29	KG	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0031-058.0-20201015 **Lab Sample ID:** AD06767-02 **Received:** 10/16/20 16:00

Matrix: Ground Water **Sampled:** 10/15/20 12:00 **Work Order:** AD06767

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	QM-11
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	QV-01
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	0J23034	EPA 8260D	10/23/20 15:28	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	0J23034	EPA 8260D	10/23/20 15:28	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	QM-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	

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ANALYTICAL RESULTS

Description: CRCA-MW0031-058.0-20201015 **Lab Sample ID:** AD06767-02 **Received:** 10/16/20 16:00

Matrix: Ground Water **Sampled:** 10/15/20 12:00 **Work Order:** AD06767

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Vinyl chloride [75-01-4]^	**28**		ug/L	1	0.71	2.5	0J23034	EPA 8260D	10/23/20 15:28	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	0J23034	EPA 8260D	10/23/20 15:28	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*55*	*1*	*50.0*	*111 %*	*41-142*	*0J23034*	*EPA 8260D*	*10/23/20 15:28*	*KKW*	
Dibromofluoromethane	*56*	*1*	*50.0*	*113 %*	*53-146*	*0J23034*	*EPA 8260D*	*10/23/20 15:28*	*KKW*	
Toluene-d8	*54*	*1*	*50.0*	*108 %*	*41-146*	*0J23034*	*EPA 8260D*	*10/23/20 15:28*	*KKW*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Carbon dioxide [124-38-9]^	2.07	U	mg/L	1	2.07	2.50	0J21005	RSK 175	10/21/20 10:54	KG	
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	0J21005	RSK 175	10/21/20 10:54	KG	
Ethene [74-85-1]^	0.00510	U	mg/L	1	0.00510	0.00600	0J21005	RSK 175	10/21/20 10:54	KG	
Methane [74-82-8]^	0.00400	U	mg/L	1	0.00400	0.00500	0J21005	RSK 175	10/21/20 10:54	KG	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0032-058.0-20201015 **Lab Sample ID:** AD06767-03 **Received:** 10/16/20 16:00

Matrix: Ground Water **Sampled:** 10/15/20 13:40 **Work Order:** AD06767

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	QV-01
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	0J23034	EPA 8260D	10/23/20 16:30	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	0J23034	EPA 8260D	10/23/20 16:30	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	

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ANALYTICAL RESULTS

Description: CRCA-MW0032-058.0-20201015 **Lab Sample ID:** AD06767-03 **Received:** 10/16/20 16:00

Matrix: Ground Water **Sampled:** 10/15/20 13:40 **Work Order:** AD06767

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Vinyl chloride [75-01-4]^	**17**		ug/L	1	0.71	2.5	0J23034	EPA 8260D	10/23/20 16:30	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	0J23034	EPA 8260D	10/23/20 16:30	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*106 %*	*41-142*	*0J23034*	*EPA 8260D*	*10/23/20 16:30*	*KKW*	
Dibromofluoromethane	*54*	*1*	*50.0*	*109 %*	*53-146*	*0J23034*	*EPA 8260D*	*10/23/20 16:30*	*KKW*	
Toluene-d8	*53*	*1*	*50.0*	*106 %*	*41-146*	*0J23034*	*EPA 8260D*	*10/23/20 16:30*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-VMP01-20201015 | **Lab Sample ID:** AD06767-04 | **Received:** 10/16/20 16:00

Matrix: Air | **Sampled:** 10/15/20 17:03 | **Work Order:** AD06767

Project: NASA KSC CRCA | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.46	U	ppbv	1.34	0.46	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.48	U	ppbv	1.34	0.48	3.4	0J22033	TO-15	10/22/20 13:55	rgg	QL-02
1,1,2-Trichloroethane [79-00-5]^	0.47	U	ppbv	1.34	0.47	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
1,1-Dichloroethane [75-34-3]^	0.48	U	ppbv	1.34	0.48	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
1,1-Dichloroethene [75-35-4]^	0.51	U	ppbv	1.34	0.51	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
1,2-Dibromoethane [106-93-4]^	0.48	U	ppbv	1.34	0.48	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.36	U	ppbv	1.34	0.36	3.4	0J22033	TO-15	10/22/20 13:55	rgg	QL-02
1,2-Dichloroethane [107-06-2]^	0.50	U	ppbv	1.34	0.50	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
1,2-Dichloropropane [78-87-5]^	0.54	U	ppbv	1.34	0.54	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.38	U	ppbv	1.34	0.38	3.4	0J22033	TO-15	10/22/20 13:55	rgg	QL-02
1,4-Dichlorobenzene [106-46-7]^	0.42	U	ppbv	1.34	0.42	3.4	0J22033	TO-15	10/22/20 13:55	rgg	QL-02
3-Chloropropene [107-05-1]^	0.52	U	ppbv	1.34	0.52	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
Acetone [67-64-1]^	**8.4**		ppbv	1.34	0.47	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
Bromodichloromethane [75-27-4]^	0.46	U	ppbv	1.34	0.46	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
Bromoethene [593-60-2]^	0.44	U	ppbv	1.34	0.44	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
Bromoform [75-25-2]^	0.51	U	ppbv	1.34	0.51	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
Bromomethane [74-83-9]^	0.44	U	ppbv	1.34	0.44	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
Carbon tetrachloride [56-23-5]^	0.36	U	ppbv	1.34	0.36	3.4	0J22033	TO-15	10/22/20 13:55	rgg	J-06
Chlorobenzene [108-90-7]^	0.44	U	ppbv	1.34	0.44	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
Chloroethane [75-00-3]^	0.43	U	ppbv	1.34	0.43	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
Chloroform [67-66-3]^	0.51	U	ppbv	1.34	0.51	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
Chloromethane [74-87-3]^	0.64	U	ppbv	1.34	0.64	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
cis-1,2-Dichloroethene [156-59-2]^	0.51	U	ppbv	1.34	0.51	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	0.51	U	ppbv	1.34	0.51	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
Dibromochloromethane [124-48-1]^	0.44	U	ppbv	1.34	0.44	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ppbv	1.34	0.74	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
Freon 113 [76-13-1]^	**6.7**		ppbv	1.34	0.43	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
Freon 114 [76-14-2]^	0.70	U	ppbv	1.34	0.70	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
Hexachlorobutadiene [87-68-3]^	0.50	U	ppbv	1.34	0.50	3.4	0J22033	TO-15	10/22/20 13:55	rgg	QL-02, QV-01
Methylene chloride [75-09-2]^	**1.2**	IV	ppbv	1.34	0.27	3.4	0J22033	TO-15	10/22/20 13:55	rgg	J-01, O-01
Propene [115-07-1]^	0.74	U	ppbv	1.34	0.74	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
Tetrachloroethene [127-18-4]^	0.42	U	ppbv	1.34	0.42	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
trans-1,2-Dichloroethene [156-60-5]^	**4.2**		ppbv	1.34	0.43	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.46	U	ppbv	1.34	0.46	3.4	0J22033	TO-15	10/22/20 13:55	rgg	QL-02
Trichloroethene [79-01-6]^	0.47	U	ppbv	1.34	0.47	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
Trichlorofluoromethane [75-69-4]^	0.46	U	ppbv	1.34	0.46	3.4	0J22033	TO-15	10/22/20 13:55	rgg	
Vinyl chloride [75-01-4]^	0.75	U	ppbv	1.34	0.75	3.4	0J22033	TO-15	10/22/20 13:55	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*31*	*1*	*31.0*	*98 %*	*70-130*	*0J22033*	*TO-15*	*10/22/20 13:55*	*rgg*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-VMP02-20201015 | **Lab Sample ID:** AD06767-05 | **Received:** 10/16/20 16:00

Matrix: Air | **Sampled:** 10/15/20 17:08 | **Work Order:** AD06767

Project: NASA KSC CRCA | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	3.9	U	ppbv	1.43	3.9	29	0J22033	TO-15	10/22/20 10:10	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	4.1	U	ppbv	1.43	4.1	29	0J22033	TO-15	10/22/20 10:10	rgg	QL-02
1,1,2-Trichloroethane [79-00-5]^	4.0	U	ppbv	1.43	4.0	29	0J22033	TO-15	10/22/20 10:10	rgg	
1,1-Dichloroethane [75-34-3]^	4.1	U	ppbv	1.43	4.1	29	0J22033	TO-15	10/22/20 10:10	rgg	
1,1-Dichloroethene [75-35-4]^	4.3	U	ppbv	1.43	4.3	29	0J22033	TO-15	10/22/20 10:10	rgg	
1,2-Dibromoethane [106-93-4]^	4.1	U	ppbv	1.43	4.1	29	0J22033	TO-15	10/22/20 10:10	rgg	
1,2-Dichlorobenzene [95-50-1]^	3.1	U	ppbv	1.43	3.1	29	0J22033	TO-15	10/22/20 10:10	rgg	QL-02
1,2-Dichloroethane [107-06-2]^	4.2	U	ppbv	1.43	4.2	29	0J22033	TO-15	10/22/20 10:10	rgg	
1,2-Dichloropropane [78-87-5]^	4.6	U	ppbv	1.43	4.6	29	0J22033	TO-15	10/22/20 10:10	rgg	
1,3-Dichlorobenzene [541-73-1]^	3.2	U	ppbv	1.43	3.2	29	0J22033	TO-15	10/22/20 10:10	rgg	QL-02
1,4-Dichlorobenzene [106-46-7]^	3.5	U	ppbv	1.43	3.5	29	0J22033	TO-15	10/22/20 10:10	rgg	QL-02
3-Chloropropene [107-05-1]^	4.5	U	ppbv	1.43	4.5	29	0J22033	TO-15	10/22/20 10:10	rgg	
Acetone [67-64-1]^	**7.0**	I	ppbv	1.43	4.0	29	0J22033	TO-15	10/22/20 10:10	rgg	
Bromodichloromethane [75-27-4]^	3.9	U	ppbv	1.43	3.9	29	0J22033	TO-15	10/22/20 10:10	rgg	
Bromoethene [593-60-2]^	3.8	U	ppbv	1.43	3.8	29	0J22033	TO-15	10/22/20 10:10	rgg	
Bromoform [75-25-2]^	4.3	U	ppbv	1.43	4.3	29	0J22033	TO-15	10/22/20 10:10	rgg	
Bromomethane [74-83-9]^	3.8	U	ppbv	1.43	3.8	29	0J22033	TO-15	10/22/20 10:10	rgg	
Carbon tetrachloride [56-23-5]^	3.1	U	ppbv	1.43	3.1	29	0J22033	TO-15	10/22/20 10:10	rgg	J-06
Chlorobenzene [108-90-7]^	3.8	U	ppbv	1.43	3.8	29	0J22033	TO-15	10/22/20 10:10	rgg	
Chloroethane [75-00-3]^	3.7	U	ppbv	1.43	3.7	29	0J22033	TO-15	10/22/20 10:10	rgg	
Chloroform [67-66-3]^	4.3	U	ppbv	1.43	4.3	29	0J22033	TO-15	10/22/20 10:10	rgg	
Chloromethane [74-87-3]^	5.5	U	ppbv	1.43	5.5	29	0J22033	TO-15	10/22/20 10:10	rgg	
cis-1,2-Dichloroethene [156-59-2]^	4.3	U	ppbv	1.43	4.3	29	0J22033	TO-15	10/22/20 10:10	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	4.3	U	ppbv	1.43	4.3	29	0J22033	TO-15	10/22/20 10:10	rgg	
Dibromochloromethane [124-48-1]^	3.8	U	ppbv	1.43	3.8	29	0J22033	TO-15	10/22/20 10:10	rgg	
Dichlorodifluoromethane [75-71-8]^	6.3	U	ppbv	1.43	6.3	29	0J22033	TO-15	10/22/20 10:10	rgg	
Freon 113 [76-13-1]^	**440**		ppbv	1.43	3.7	29	0J22033	TO-15	10/22/20 10:10	rgg	
Freon 114 [76-14-2]^	5.9	U	ppbv	1.43	5.9	29	0J22033	TO-15	10/22/20 10:10	rgg	
Hexachlorobutadiene [87-68-3]^	4.2	U	ppbv	1.43	4.2	29	0J22033	TO-15	10/22/20 10:10	rgg	QL-02, QV-01
Methylene chloride [75-09-2]^	**2.7**	IV	ppbv	1.43	2.3	29	0J22033	TO-15	10/22/20 10:10	rgg	J-01, O-01
Propene [115-07-1]^	6.3	U	ppbv	1.43	6.3	29	0J22033	TO-15	10/22/20 10:10	rgg	
Tetrachloroethene [127-18-4]^	3.5	U	ppbv	1.43	3.5	29	0J22033	TO-15	10/22/20 10:10	rgg	
trans-1,2-Dichloroethene [156-60-5]^	**8.8**	I	ppbv	1.43	3.7	29	0J22033	TO-15	10/22/20 10:10	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	3.9	U	ppbv	1.43	3.9	29	0J22033	TO-15	10/22/20 10:10	rgg	QL-02
Trichloroethene [79-01-6]^	4.0	U	ppbv	1.43	4.0	29	0J22033	TO-15	10/22/20 10:10	rgg	
Trichlorofluoromethane [75-69-4]^	3.9	U	ppbv	1.43	3.9	29	0J22033	TO-15	10/22/20 10:10	rgg	
Vinyl chloride [75-01-4]^	6.4	U	ppbv	1.43	6.4	29	0J22033	TO-15	10/22/20 10:10	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*30*	*1*	*31.0*	*97 %*	*70-130*	*0J22033*	*TO-15*	*10/22/20 10:10*	*rgg*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-VMP04-20201015 | **Lab Sample ID:** AD06767-06 | **Received:** 10/16/20 16:00

Matrix: Air | **Sampled:** 10/15/20 17:23 | **Work Order:** AD06767

Project: NASA KSC CRCA | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	2.0	U	ppbv	1.47	2.0	15	0J22033	TO-15	10/22/20 14:35	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	2.1	U	ppbv	1.47	2.1	15	0J22033	TO-15	10/22/20 14:35	rgg	QL-02
1,1,2-Trichloroethane [79-00-5]^	2.1	U	ppbv	1.47	2.1	15	0J22033	TO-15	10/22/20 14:35	rgg	
1,1-Dichloroethane [75-34-3]^	2.1	U	ppbv	1.47	2.1	15	0J22033	TO-15	10/22/20 14:35	rgg	
1,1-Dichloroethene [75-35-4]^	2.2	U	ppbv	1.47	2.2	15	0J22033	TO-15	10/22/20 14:35	rgg	
1,2-Dibromoethane [106-93-4]^	2.1	U	ppbv	1.47	2.1	15	0J22033	TO-15	10/22/20 14:35	rgg	
1,2-Dichlorobenzene [95-50-1]^	1.6	U	ppbv	1.47	1.6	15	0J22033	TO-15	10/22/20 14:35	rgg	QL-02
1,2-Dichloroethane [107-06-2]^	2.2	U	ppbv	1.47	2.2	15	0J22033	TO-15	10/22/20 14:35	rgg	
1,2-Dichloropropane [78-87-5]^	2.4	U	ppbv	1.47	2.4	15	0J22033	TO-15	10/22/20 14:35	rgg	
1,3-Dichlorobenzene [541-73-1]^	1.6	U	ppbv	1.47	1.6	15	0J22033	TO-15	10/22/20 14:35	rgg	QL-02
1,4-Dichlorobenzene [106-46-7]^	1.8	U	ppbv	1.47	1.8	15	0J22033	TO-15	10/22/20 14:35	rgg	QL-02
3-Chloropropene [107-05-1]^	2.3	U	ppbv	1.47	2.3	15	0J22033	TO-15	10/22/20 14:35	rgg	
Acetone [67-64-1]^	**15**		ppbv	1.47	2.1	15	0J22033	TO-15	10/22/20 14:35	rgg	
Bromodichloromethane [75-27-4]^	2.0	U	ppbv	1.47	2.0	15	0J22033	TO-15	10/22/20 14:35	rgg	
Bromoethene [593-60-2]^	1.9	U	ppbv	1.47	1.9	15	0J22033	TO-15	10/22/20 14:35	rgg	
Bromoform [75-25-2]^	2.2	U	ppbv	1.47	2.2	15	0J22033	TO-15	10/22/20 14:35	rgg	
Bromomethane [74-83-9]^	1.9	U	ppbv	1.47	1.9	15	0J22033	TO-15	10/22/20 14:35	rgg	
Carbon tetrachloride [56-23-5]^	1.6	U	ppbv	1.47	1.6	15	0J22033	TO-15	10/22/20 14:35	rgg	J-06
Chlorobenzene [108-90-7]^	1.9	U	ppbv	1.47	1.9	15	0J22033	TO-15	10/22/20 14:35	rgg	
Chloroethane [75-00-3]^	1.9	U	ppbv	1.47	1.9	15	0J22033	TO-15	10/22/20 14:35	rgg	
Chloroform [67-66-3]^	2.2	U	ppbv	1.47	2.2	15	0J22033	TO-15	10/22/20 14:35	rgg	
Chloromethane [74-87-3]^	2.8	U	ppbv	1.47	2.8	15	0J22033	TO-15	10/22/20 14:35	rgg	
cis-1,2-Dichloroethene [156-59-2]^	2.2	U	ppbv	1.47	2.2	15	0J22033	TO-15	10/22/20 14:35	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	2.2	U	ppbv	1.47	2.2	15	0J22033	TO-15	10/22/20 14:35	rgg	
Dibromochloromethane [124-48-1]^	1.9	U	ppbv	1.47	1.9	15	0J22033	TO-15	10/22/20 14:35	rgg	
Dichlorodifluoromethane [75-71-8]^	3.2	U	ppbv	1.47	3.2	15	0J22033	TO-15	10/22/20 14:35	rgg	
Freon 113 [76-13-1]^	**130**		ppbv	1.47	1.9	15	0J22033	TO-15	10/22/20 14:35	rgg	
Freon 114 [76-14-2]^	3.1	U	ppbv	1.47	3.1	15	0J22033	TO-15	10/22/20 14:35	rgg	
Hexachlorobutadiene [87-68-3]^	2.2	U	ppbv	1.47	2.2	15	0J22033	TO-15	10/22/20 14:35	rgg	QL-02, QV-01
Methylene chloride [75-09-2]^	**1.8**	IV	ppbv	1.47	1.2	15	0J22033	TO-15	10/22/20 14:35	rgg	J-01, O-01
Propene [115-07-1]^	3.2	U	ppbv	1.47	3.2	15	0J22033	TO-15	10/22/20 14:35	rgg	
Tetrachloroethene [127-18-4]^	1.8	U	ppbv	1.47	1.8	15	0J22033	TO-15	10/22/20 14:35	rgg	
trans-1,2-Dichloroethene [156-60-5]^	**4.5**	I	ppbv	1.47	1.9	15	0J22033	TO-15	10/22/20 14:35	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	2.0	U	ppbv	1.47	2.0	15	0J22033	TO-15	10/22/20 14:35	rgg	QL-02
Trichloroethene [79-01-6]^	2.1	U	ppbv	1.47	2.1	15	0J22033	TO-15	10/22/20 14:35	rgg	
Trichlorofluoromethane [75-69-4]^	2.0	U	ppbv	1.47	2.0	15	0J22033	TO-15	10/22/20 14:35	rgg	
Vinyl chloride [75-01-4]^	3.3	U	ppbv	1.47	3.3	15	0J22033	TO-15	10/22/20 14:35	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*30*	*1*	*31.0*	*97 %*	*70-130*	*0J22033*	*TO-15*	*10/22/20 14:35*	*rgg*	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0J22033 - NO PREP 2

Blank (0J22033-BLK1) Prepared: 10/21/2020 17:30 Analyzed: 10/21/2020 22:11

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.34	U	2.5	ppbv							
1,1,2,2-Tetrachloroethane	0.36	U	2.5	ppbv							
1,1,2-Trichloroethane	0.35	U	2.5	ppbv							
1,1-Dichloroethane	0.36	U	2.5	ppbv							
1,1-Dichloroethene	0.38	U	2.5	ppbv							
1,2-Dibromoethane	0.36	U	2.5	ppbv							
1,2-Dichlorobenzene	0.27	U	2.5	ppbv							
1,2-Dichloroethane	0.37	U	2.5	ppbv							
1,2-Dichloropropane	0.40	U	2.5	ppbv							
1,3-Dichlorobenzene	0.28	U	2.5	ppbv							
1,4-Dichlorobenzene	0.31	U	2.5	ppbv							
3-Chloropropene	0.39	U	2.5	ppbv							
Acetone	0.35	U	2.5	ppbv							
Bromodichloromethane	0.34	U	2.5	ppbv							
Bromoethene	0.33	U	2.5	ppbv							
Bromoform	0.38	U	2.5	ppbv							
Bromomethane	0.33	U	2.5	ppbv							
Carbon tetrachloride	0.27	U	2.5	ppbv							
Chlorobenzene	0.33	U	2.5	ppbv							
Chloroethane	0.32	U	2.5	ppbv							
Chloroform	0.38	U	2.5	ppbv							
Chloromethane	0.48	U	2.5	ppbv							
cis-1,2-Dichloroethene	0.38	U	2.5	ppbv							
cis-1,3-Dichloropropene	0.38	U	2.5	ppbv							
Dibromochloromethane	0.33	U	2.5	ppbv							
Dichlorodifluoromethane	0.55	U	2.5	ppbv							
Freon 113	0.32	U	2.5	ppbv							
Freon 114	0.52	U	2.5	ppbv							
Hexachlorobutadiene	0.37	U	2.5	ppbv							
Methylene chloride	**0.24**	**I**	2.5	ppbv							J-01, O-01
Propene	0.55	U	2.5	ppbv							
Tetrachloroethene	0.31	U	2.5	ppbv							
trans-1,2-Dichloroethene	0.32	U	2.5	ppbv							
trans-1,3-Dichloropropene	0.34	U	2.5	ppbv							
Trichloroethene	0.35	U	2.5	ppbv							
Trichlorofluoromethane	0.34	U	2.5	ppbv							
Vinyl chloride	0.56	U	2.5	ppbv							
4-Bromofluorobenzene	*30*			*ppbv*	*31.0*		*96*	*70-130*			

LCS (0J22033-BS1) Prepared: 10/21/2020 17:30 Analyzed: 10/21/2020 19:54

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	11		2.5	ppbv	10.0		113	70-130			
1,1,2,2-Tetrachloroethane	14		2.5	ppbv	10.0		137	70-130			QL-02
1,1,2-Trichloroethane	12		2.5	ppbv	10.0		120	70-130			
1,1-Dichloroethane	11		2.5	ppbv	10.0		112	70-130			
1,1-Dichloroethene	11		2.5	ppbv	10.0		113	70-130			
1,2-Dibromoethane	13		2.5	ppbv	10.0		126	70-130			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0J22033 - NO PREP 2 - Continued

LCS (0J22033-BS1) Continued Prepared: 10/21/2020 17:30 Analyzed: 10/21/2020 19:54

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,2-Dichlorobenzene	15		2.5	ppbv	10.0		149	70-130			QL-02
1,2-Dichloroethane	11		2.5	ppbv	10.0		113	70-130			
1,2-Dichloropropane	11		2.5	ppbv	10.0		114	70-130			
1,3-Dichlorobenzene	15		2.5	ppbv	10.0		148	70-130			QL-02
1,4-Dichlorobenzene	15		2.5	ppbv	10.0		151	70-130			QL-02
3-Chloropropene	10		2.5	ppbv	10.0		104	70-130			
Acetone	10		2.5	ppbv	10.0		104	70-130			
Bromodichloromethane	11		2.5	ppbv	10.0		110	70-130			
Bromoethene	11		2.5	ppbv	10.0		112	70-130			
Bromoform	12		2.5	ppbv	10.0		120	70-130			
Bromomethane	11		2.5	ppbv	10.0		108	70-130			
Carbon tetrachloride	6.8		2.5	ppbv	10.0		68	70-130			J-06
Chlorobenzene	12		2.5	ppbv	10.0		122	70-130			
Chloroethane	11		2.5	ppbv	10.0		114	70-130			
Chloroform	11		2.5	ppbv	10.0		113	70-130			
Chloromethane	11		2.5	ppbv	10.0		108	70-130			
cis-1,2-Dichloroethene	11		2.5	ppbv	10.0		114	70-130			
cis-1,3-Dichloropropene	12		2.5	ppbv	10.0		120	70-130			
Dibromochloromethane	11		2.5	ppbv	10.0		113	70-130			
Dichlorodifluoromethane	11		2.5	ppbv	10.0		113	70-130			
Freon 113	11		2.5	ppbv	10.0		113	70-130			
Freon 114	11		2.5	ppbv	10.0		115	70-130			
Hexachlorobutadiene	14		2.5	ppbv	10.0		135	70-130			QL-02
Methylene chloride	11		2.5	ppbv	10.0		113	70-130			
Propene	10		2.5	ppbv	10.0		102	70-130			
Tetrachloroethene	13		2.5	ppbv	10.0		125	70-130			
trans-1,2-Dichloroethene	11		2.5	ppbv	10.0		110	70-130			
trans-1,3-Dichloropropene	14		2.5	ppbv	10.0		135	70-130			QL-02
Trichloroethene	12		2.5	ppbv	10.0		116	70-130			
Trichlorofluoromethane	11		2.5	ppbv	10.0		112	70-130			
Vinyl chloride	11		2.5	ppbv	10.0		114	70-130			
4-Bromofluorobenzene	*32*			*ppbv*	*31.0*		*102*	*70-130*			

LCS Dup (0J22033-BSD1) Prepared: 10/21/2020 17:30 Analyzed: 10/21/2020 20:50

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	11		2.5	ppbv	10.0		112	70-130	0.5	25	
1,1,2,2-Tetrachloroethane	14		2.5	ppbv	10.0		136	70-130	0.2	25	QL-02
1,1,2-Trichloroethane	12		2.5	ppbv	10.0		121	70-130	0.6	25	
1,1-Dichloroethane	11		2.5	ppbv	10.0		112	70-130	0.2	25	
1,1-Dichloroethene	11		2.5	ppbv	10.0		112	70-130	1	25	
1,2-Dibromoethane	13		2.5	ppbv	10.0		126	70-130	0.1	25	
1,2-Dichlorobenzene	15		2.5	ppbv	10.0		150	70-130	0.3	25	QL-02
1,2-Dichloroethane	11		2.5	ppbv	10.0		114	70-130	0.4	25	
1,2-Dichloropropane	11		2.5	ppbv	10.0		114	70-130	0.2	25	
1,3-Dichlorobenzene	15		2.5	ppbv	10.0		150	70-130	1	25	QL-02
1,4-Dichlorobenzene	15		2.5	ppbv	10.0		153	70-130	0.8	25	QL-02
3-Chloropropene	10		2.5	ppbv	10.0		103	70-130	1	25	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0J22033 - NO PREP 2 - Continued

LCS Dup (0J22033-BSD1) Continued Prepared: 10/21/2020 17:30 Analyzed: 10/21/2020 20:50

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Acetone	10		2.5	ppbv	10.0		104	70-130	0.3	25	
Bromodichloromethane	11		2.5	ppbv	10.0		109	70-130	0.8	25	
Bromoethene	11		2.5	ppbv	10.0		110	70-130	2	25	
Bromoform	12		2.5	ppbv	10.0		120	70-130	0.2	25	
Bromomethane	11		2.5	ppbv	10.0		106	70-130	1	25	
Carbon tetrachloride	6.7		2.5	ppbv	10.0		67	70-130	0.6	25	J-06
Chlorobenzene	12		2.5	ppbv	10.0		122	70-130	0.07	25	
Chloroethane	11		2.5	ppbv	10.0		112	70-130	2	25	
Chloroform	11		2.5	ppbv	10.0		112	70-130	0.6	25	
Chloromethane	11		2.5	ppbv	10.0		107	70-130	1	25	
cis-1,2-Dichloroethene	11		2.5	ppbv	10.0		115	70-130	0.7	25	
cis-1,3-Dichloropropene	12		2.5	ppbv	10.0		121	70-130	1	25	
Dibromochloromethane	11		2.5	ppbv	10.0		114	70-130	1	25	
Dichlorodifluoromethane	11		2.5	ppbv	10.0		113	70-130	0.4	25	
Freon 113	11		2.5	ppbv	10.0		112	70-130	0.6	25	
Freon 114	11		2.5	ppbv	10.0		115	70-130	0.09	25	
Hexachlorobutadiene	13		2.5	ppbv	10.0		134	70-130	0.7	25	QL-02
Methylene chloride	11		2.5	ppbv	10.0		113	70-130	0.02	25	
Propene	10		2.5	ppbv	10.0		102	70-130	0.07	25	
Tetrachloroethene	13		2.5	ppbv	10.0		126	70-130	1	25	
trans-1,2-Dichloroethene	11		2.5	ppbv	10.0		110	70-130	0.02	25	
trans-1,3-Dichloropropene	14		2.5	ppbv	10.0		135	70-130	0.1	25	QL-02
Trichloroethene	12		2.5	ppbv	10.0		117	70-130	0.08	25	
Trichlorofluoromethane	11		2.5	ppbv	10.0		110	70-130	2	25	
Vinyl chloride	11		2.5	ppbv	10.0		114	70-130	0.4	25	
4-Bromofluorobenzene	*32*			*ppbv*	*31.0*		*102*	*70-130*			

Batch 0J23034 - EPA 5030B_MS

Blank (0J23034-BLK1) Prepared: 10/23/2020 00:00 Analyzed: 10/23/2020 14:26

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0J23034 - EPA 5030B_MS - Continued

Blank (0J23034-BLK1) Continued Prepared: 10/23/2020 00:00 Analyzed: 10/23/2020 14:26

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*55*			*ug/L*	*50.0*		*111*	*41-142*			
Dibromofluoromethane	*55*			*ug/L*	*50.0*		*111*	*53-146*			
Toluene-d8	*55*			*ug/L*	*50.0*		*111*	*41-146*			

LCS (0J23034-BS1) Prepared: 10/23/2020 00:00 Analyzed: 10/23/2020 13:04

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	24		2.5	ug/L	20.0		118	57-148			
1,1,2,2-Tetrachloroethane	19		2.5	ug/L	20.0		95	60-139			
1,1,2-Trichloroethane	17		2.5	ug/L	20.0		84	57-141			
1,1-Dichloroethane	20		2.5	ug/L	20.0		101	57-142			
1,1-Dichloroethene	21		2.5	ug/L	20.0		103	47-139			
1,2,4-Trichlorobenzene	27		2.5	ug/L	20.0		133	52-159			
1,2-Dibromo-3-chloropropane	26		2.5	ug/L	20.0		128	48-150			
1,2-Dibromoethane	19		2.5	ug/L	20.0		97	57-140			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0J23034 - EPA 5030B_MS - Continued

LCS (0J23034-BS1) Continued Prepared: 10/23/2020 00:00 Analyzed: 10/23/2020 13:04

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,2-Dichlorobenzene	22		2.5	ug/L	20.0		108	63-131			
1,2-Dichloroethane	23		2.5	ug/L	20.0		116	50-156			
1,2-Dichloropropane	16		2.5	ug/L	20.0		81	61-133			
1,3-Dichlorobenzene	20		2.5	ug/L	20.0		102	66-129			
1,4-Dichlorobenzene	20		2.5	ug/L	20.0		100	65-133			
2-Butanone	100		12	ug/L	100		100	10-180			
2-Hexanone	71		12	ug/L	100		71	12-180			
4-Methyl-2-pentanone	86		12	ug/L	100		86	19-180			
Acetone	89		25	ug/L	100		89	10-180			
Benzene	20		2.5	ug/L	20.0		98	56-136			
Bromodichloromethane	21		2.5	ug/L	20.0		106	58-135			
Bromoform	22		2.5	ug/L	20.0		108	46-148			
Bromomethane	22		2.5	ug/L	20.0		111	10-173			
Carbon disulfide	18		12	ug/L	20.0		91	43-153			
Carbon Tetrachloride	23		2.5	ug/L	20.0		115	54-156			
Chlorobenzene	20		2.5	ug/L	20.0		98	51-139			
Chloroethane	20		2.5	ug/L	20.0		98	27-180			
Chloroform	20		2.5	ug/L	20.0		101	58-139			
Chloromethane	15		2.5	ug/L	20.0		75	33-154			
cis-1,2-Dichloroethene	19		2.5	ug/L	20.0		95	56-128			
cis-1,3-Dichloropropene	19		2.5	ug/L	20.0		97	64-128			
Cyclohexane	19		2.5	ug/L	20.0		95	70-130			
Dibromochloromethane	18		2.5	ug/L	20.0		92	50-140			
Dichlorodifluoromethane	26		2.5	ug/L	20.0		129	10-180			
Ethylbenzene	19		2.5	ug/L	20.0		95	63-133			
Freon 113	20		2.5	ug/L	20.0		100	47-173			
Isopropylbenzene	20		2.5	ug/L	20.0		100	60-132			
m,p-Xylenes	37		5.0	ug/L	40.0		92	64-133			
Methyl acetate	16		2.5	ug/L	20.0		82	70-130			
Methyl cyclohexane	19		2.5	ug/L	20.0		94	70-130			
Methylene Chloride	20		12	ug/L	20.0		101	43-142			
Methyl-tert-Butyl Ether	19		2.5	ug/L	20.0		97	51-145			
o-Xylene	19		2.5	ug/L	20.0		94	61-129			
Styrene	18		2.5	ug/L	20.0		91	59-136			
Tetrachloroethene	16		2.5	ug/L	20.0		81	60-147			
Toluene	17		2.5	ug/L	20.0		84	64-131			
trans-1,2-Dichloroethene	19		2.5	ug/L	20.0		94	54-134			
trans-1,3-Dichloropropene	20		2.5	ug/L	20.0		98	65-149			
Trichloroethene	20		2.5	ug/L	20.0		101	62-135			
Trichlorofluoromethane	20		2.5	ug/L	20.0		98	56-155			
Vinyl chloride	18		2.5	ug/L	20.0		91	20-167			
4-Bromofluorobenzene	*56*			*ug/L*	*50.0*		*111*	*41-142*			
Dibromofluoromethane	*57*			*ug/L*	*50.0*		*113*	*53-146*			
Toluene-d8	*54*			*ug/L*	*50.0*		*108*	*41-146*			

Matrix Spike (0J23034-MS1) Prepared: 10/23/2020 00:00 Analyzed: 10/23/2020 23:11

Source: AD06767-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0J23034 - EPA 5030B_MS - Continued

Matrix Spike (0J23034-MS1) Continued Prepared: 10/23/2020 00:00 Analyzed: 10/23/2020 23:11

Source: AD06767-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	25		2.5	ug/L	20.0	0.80 U	125	57-148			
1,1,2,2-Tetrachloroethane	19		2.5	ug/L	20.0	0.54 U	94	60-139			
1,1,2-Trichloroethane	19		2.5	ug/L	20.0	0.76 U	96	57-141			
1,1-Dichloroethane	19		2.5	ug/L	20.0	0.62 U	93	57-142			
1,1-Dichloroethene	21		2.5	ug/L	20.0	0.94 U	103	47-139			
1,2,4-Trichlorobenzene	25		2.5	ug/L	20.0	0.70 U	127	52-159			
1,2-Dibromo-3-chloropropane	20		2.5	ug/L	20.0	0.96 U	98	48-150			QM-11
1,2-Dibromoethane	20		2.5	ug/L	20.0	0.78 U	98	57-140			
1,2-Dichlorobenzene	22		2.5	ug/L	20.0	0.73 U	108	63-131			
1,2-Dichloroethane	24		2.5	ug/L	20.0	0.63 U	121	50-156			
1,2-Dichloropropane	18		2.5	ug/L	20.0	0.80 U	89	61-133			
1,3-Dichlorobenzene	22		2.5	ug/L	20.0	0.77 U	109	66-129			
1,4-Dichlorobenzene	23		2.5	ug/L	20.0	0.76 U	115	65-133			
2-Butanone	93		12	ug/L	100	4.5 U	93	10-180			
2-Hexanone	70		12	ug/L	100	2.5 U	70	12-180			
4-Methyl-2-pentanone	89		12	ug/L	100	2.5 U	89	19-180			
Acetone	87		25	ug/L	100	10 U	87	10-180			
Benzene	21		2.5	ug/L	20.0	0.71 U	103	56-136			
Bromodichloromethane	24		2.5	ug/L	20.0	0.52 U	119	58-135			
Bromoform	22		2.5	ug/L	20.0	0.75 U	108	46-148			
Bromomethane	12		2.5	ug/L	20.0	0.95 U	60	10-173			
Carbon disulfide	20		12	ug/L	20.0	2.5 U	99	43-153			
Carbon Tetrachloride	27		2.5	ug/L	20.0	0.94 U	133	54-156			
Chlorobenzene	22		2.5	ug/L	20.0	0.72 U	108	51-139			
Chloroethane	21		2.5	ug/L	20.0	0.98 U	104	27-180			
Chloroform	23		2.5	ug/L	20.0	0.80 U	113	58-139			
Chloromethane	13		2.5	ug/L	20.0	0.82 U	63	33-154			
cis-1,2-Dichloroethene	19		2.5	ug/L	20.0	0.53 U	94	56-128			
cis-1,3-Dichloropropene	19		2.5	ug/L	20.0	0.59 U	94	64-128			
Cyclohexane	17		2.5	ug/L	20.0	0.93 U	86	70-130			
Dibromochloromethane	20		2.5	ug/L	20.0	0.50 U	99	50-140			
Dichlorodifluoromethane	29		2.5	ug/L	20.0	0.74 U	143	10-180			
Ethylbenzene	19		2.5	ug/L	20.0	0.69 U	97	63-133			
Freon 113	24		2.5	ug/L	20.0	0.73 U	122	47-173			
Isopropylbenzene	22		2.5	ug/L	20.0	0.67 U	110	60-132			
m,p-Xylenes	41		5.0	ug/L	40.0	1.3 U	102	64-133			
Methyl acetate	11		2.5	ug/L	20.0	0.95 U	57	70-130			QM-07
Methyl cyclohexane	21		2.5	ug/L	20.0	0.64 U	106	70-130			
Methylene Chloride	20		12	ug/L	20.0	2.5 U	100	43-142			
Methyl-tert-Butyl Ether	18		2.5	ug/L	20.0	0.60 U	92	51-145			
o-Xylene	20		2.5	ug/L	20.0	0.53 U	99	61-129			
Styrene	20		2.5	ug/L	20.0	0.61 U	98	59-136			
Tetrachloroethene	22		2.5	ug/L	20.0	0.76 U	108	60-147			
Toluene	19		2.5	ug/L	20.0	0.72 U	95	64-131			
trans-1,2-Dichloroethene	20		2.5	ug/L	20.0	0.73 U	99	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0	0.73 U	104	65-149			
Trichloroethene	23		2.5	ug/L	20.0	0.89 U	114	62-135			
Trichlorofluoromethane	23		2.5	ug/L	20.0	0.94 U	114	56-155			
Vinyl chloride	46		2.5	ug/L	20.0	28	88	20-167			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0J23034 - EPA 5030B_MS - Continued

Matrix Spike (0J23034-MS1) Continued Prepared: 10/23/2020 00:00 Analyzed: 10/23/2020 23:11

Source: AD06767-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
4-Bromofluorobenzene	*56*			*ug/L*	*50.0*		*112*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*111*	*53-146*			
Toluene-d8	*53*			*ug/L*	*50.0*		*106*	*41-146*			

Matrix Spike Dup (0J23034-MSD1) Prepared: 10/23/2020 00:00 Analyzed: 10/23/2020 23:42

Source: AD06767-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	26		2.5	ug/L	20.0	0.80 U	130	57-148	4	25	
1,1,2,2-Tetrachloroethane	20		2.5	ug/L	20.0	0.54 U	98	60-139	4	17	
1,1,2-Trichloroethane	19		2.5	ug/L	20.0	0.76 U	97	57-141	1	16	
1,1-Dichloroethane	19		2.5	ug/L	20.0	0.62 U	95	57-142	2	24	
1,1-Dichloroethene	20		2.5	ug/L	20.0	0.94 U	102	47-139	1	16	
1,2,4-Trichlorobenzene	29		2.5	ug/L	20.0	0.70 U	144	52-159	13	24	
1,2-Dibromo-3-chloropropane	25		2.5	ug/L	20.0	0.96 U	127	48-150	25	21	QM-11
1,2-Dibromoethane	20		2.5	ug/L	20.0	0.78 U	100	57-140	2	16	
1,2-Dichlorobenzene	22		2.5	ug/L	20.0	0.73 U	112	63-131	3	25	
1,2-Dichloroethane	27		2.5	ug/L	20.0	0.63 U	134	50-156	10	18	
1,2-Dichloropropane	16		2.5	ug/L	20.0	0.80 U	81	61-133	9	26	
1,3-Dichlorobenzene	21		2.5	ug/L	20.0	0.77 U	106	66-129	3	23	
1,4-Dichlorobenzene	22		2.5	ug/L	20.0	0.76 U	108	65-133	7	23	
2-Butanone	99		12	ug/L	100	4.5 U	99	10-180	7	29	
2-Hexanone	73		12	ug/L	100	2.5 U	73	12-180	4	28	
4-Methyl-2-pentanone	95		12	ug/L	100	2.5 U	95	19-180	7	24	
Acetone	96		25	ug/L	100	10 U	96	10-180	10	19	
Benzene	20		2.5	ug/L	20.0	0.71 U	101	56-136	2	14	
Bromodichloromethane	23		2.5	ug/L	20.0	0.52 U	116	58-135	2	19	
Bromoform	22		2.5	ug/L	20.0	0.75 U	109	46-148	1	18	
Bromomethane	16		2.5	ug/L	20.0	0.95 U	81	10-173	29	29	
Carbon disulfide	18		12	ug/L	20.0	2.5 U	92	43-153	7	26	
Carbon Tetrachloride	27		2.5	ug/L	20.0	0.94 U	134	54-156	0.9	27	
Chlorobenzene	21		2.5	ug/L	20.0	0.72 U	104	51-139	4	13	
Chloroethane	21		2.5	ug/L	20.0	0.98 U	103	27-180	2	22	
Chloroform	22		2.5	ug/L	20.0	0.80 U	109	58-139	4	17	
Chloromethane	13		2.5	ug/L	20.0	0.82 U	63	33-154	0.6	31	
cis-1,2-Dichloroethene	18		2.5	ug/L	20.0	0.53 U	92	56-128	2	17	
cis-1,3-Dichloropropene	19		2.5	ug/L	20.0	0.59 U	95	64-128	0.9	20	
Cyclohexane	18		2.5	ug/L	20.0	0.93 U	89	70-130	3	20	
Dibromochloromethane	20		2.5	ug/L	20.0	0.50 U	100	50-140	0.9	18	
Dichlorodifluoromethane	28		2.5	ug/L	20.0	0.74 U	138	10-180	4	26	
Ethylbenzene	19		2.5	ug/L	20.0	0.69 U	93	63-133	4	18	
Freon 113	22		2.5	ug/L	20.0	0.73 U	112	47-173	9	30	
Isopropylbenzene	22		2.5	ug/L	20.0	0.67 U	109	60-132	1	23	
m,p-Xylenes	40		5.0	ug/L	40.0	1.3 U	99	64-133	3	18	
Methyl acetate	12		2.5	ug/L	20.0	0.95 U	61	70-130	6	20	QM-07
Methyl cyclohexane	22		2.5	ug/L	20.0	0.64 U	112	70-130	6	20	
Methylene Chloride	19		12	ug/L	20.0	2.5 U	96	43-142	5	23	
Methyl-tert-Butyl Ether	20		2.5	ug/L	20.0	0.60 U	98	51-145	5	22	
o-Xylene	21		2.5	ug/L	20.0	0.53 U	103	61-129	4	16	
Styrene	20		2.5	ug/L	20.0	0.61 U	98	59-136	0.9	32	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0J23034 - EPA 5030B_MS - Continued

Matrix Spike Dup (0J23034-MSD1) Continued Prepared: 10/23/2020 00:00 Analyzed: 10/23/2020 23:42

Source: AD06767-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Tetrachloroethene	20		2.5	ug/L	20.0	0.76 U	100	60-147	8	21	
Toluene	19		2.5	ug/L	20.0	0.72 U	94	64-131	1	16	
trans-1,2-Dichloroethene	19		2.5	ug/L	20.0	0.73 U	97	54-134	3	20	
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0	0.73 U	106	65-149	2	17	
Trichloroethene	22		2.5	ug/L	20.0	0.89 U	111	62-135	2	20	
Trichlorofluoromethane	22		2.5	ug/L	20.0	0.94 U	112	56-155	2	22	
Vinyl chloride	46		2.5	ug/L	20.0	28	89	20-167	0.2	24	
4-Bromofluorobenzene	*55*			*ug/L*	*50.0*		*109*	*41-142*			
Dibromofluoromethane	*57*			*ug/L*	*50.0*		*115*	*53-146*			
Toluene-d8	*53*			*ug/L*	*50.0*		*106*	*41-146*			

Dissolved Gases by GC - Quality Control

Batch 0J21005 - Same

Blank (0J21005-BLK1) Prepared: 10/21/2020 08:20 Analyzed: 10/21/2020 10:00

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Carbon dioxide	2.07	U	2.50	mg/L							
Ethane	0.00510	U	0.00600	mg/L							
Ethene	0.00510	U	0.00600	mg/L							
Methane	0.00400	U	0.00500	mg/L							

LCS (0J21005-BS1) Prepared: 10/21/2020 08:20 Analyzed: 10/21/2020 09:22

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Carbon dioxide	51.4		2.50	mg/L	45.8		112	70-130			
Ethane	0.333		0.00600	mg/L	0.323		103	70-130			
Ethene	0.300		0.00600	mg/L	0.302		99	70-130			
Methane	0.158		0.00500	mg/L	0.172		92	70-130			

LCS Dup (0J21005-BSD1) Prepared: 10/21/2020 08:20 Analyzed: 10/21/2020 09:38

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Carbon dioxide	51.0		2.50	mg/L	45.8		111	70-130	0.6	30	
Ethane	0.349		0.00600	mg/L	0.323		108	70-130	5	30	
Ethene	0.307		0.00600	mg/L	0.302		102	70-130	2	30	
Methane	0.168		0.00500	mg/L	0.172		98	70-130	6	30	

Duplicate (0J21005-DUP1) Prepared: 10/21/2020 08:20 Analyzed: 10/21/2020 13:17

Source: AD06910-04

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Carbon dioxide	24.7		2.50	mg/L		28.7			15	30	
Ethane	0.00510	U	0.00600	mg/L		0.00510 U				30	
Ethene	0.00510	U	0.00600	mg/L		0.00510 U				30	
Methane	0.00588		0.00500	mg/L		0.00809			32	30	QM-12

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
J-01	Result may be biased high due to positive results in the associated method blank at a concentration above the MDL and/or greater than one-half the MRL.
J-06	The associated laboratory control sample exhibited low bias; the reported result should be considered to be a minimum estimate.
O-01	This compound is a common laboratory contaminant.
QL-02	The associated laboratory control sample exhibited high bias; since the result is ND, there is no impact.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-11	Precision between duplicate matrix spikes of the same sample was outside acceptance limits.
QM-12	Precision between duplicate samples was outside acceptance limits.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.

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AD06767

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 2164 | PAGE 1 OF 1

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112GD	KSC - CRCA	Neumann, Chris	412-862-7756	EnCO
SAMPLERS (SIGNATURE)		**FIELD OPERATIONS LEADER**	**PHONE NUMBER**	**ADDRESS**
Melissa Bennett		Melissa Bennett	321-914-9394	
		CARRIER/WAYBILL NUMBER		**CITY, STATE**
				Orlando, FL

STANDARD TAT ☑
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2020	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)								COMMENTS
									G	G	G						
									PRESERVATIVE USED			HCl	4°C	–			
									TYPE OF ANALYSIS								
									8260 VOC								
									MEE								
									TO-15								
10/15	1100	CRCA-MW0018-058.0-20201015	18	53	63	GW	G	6	X	X							
10/15	1200	CRCA-MW0031-058.0-20201015	31	53	63	GW	G	6	X	X							
10/15	1340	CRCA-MW0032-058.0-20201015	32	53	63	GW	G	3	X								
10/15	1703	CRCA-VMP01-20201015	VMP1	–	–	Air	C	1			X						1 HR
10/15	1708	CRCA-VMP02-20201015	VMP2	–	–	Air	C	1			X						1 HR
10/15	1723	CRCA-VMP04-20201015	VMP4	–	–	Air	C	1			X						1 HR
10/15	1728	CRCA-AMB-20201015	AMB	–	–	Air	C	1			X						8 HR

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	10-15-20	1600	1. RECEIVED BY	10/16/20	1608
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS Med-323 5.8°C

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

ENCO Laboratories

Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Thursday, January 28, 2021
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AE00066

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Thursday, January 21, 2021.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-MW0030-058.0-20210119 **Lab ID: AE00066-01** **Sampled: 01/19/21 11:05** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 12:17

Client ID: CRCA-MW0029-035.0-20210119 **Lab ID: AE00066-02** **Sampled: 01/19/21 11:40** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 12:46

Client ID: CRCA-MW0028-058.0-20210119 **Lab ID: AE00066-03** **Sampled: 01/19/21 12:20** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 13:15

Client ID: CRCA-MW0027-035.0-20210119 **Lab ID: AE00066-04** **Sampled: 01/19/21 13:00** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 13:45

Client ID: CRCA-MW0015-027.5-20210119 **Lab ID: AE00066-05** **Sampled: 01/19/21 13:35** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 14:14

Client ID: CRCA-MW0013-027.5-20210119 **Lab ID: AE00066-06** **Sampled: 01/19/21 14:30** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 14:44

Client ID: CRCA-MW0012-027.5-20210119 **Lab ID: AE00066-07** **Sampled: 01/19/21 15:10** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 15:13

Client ID: CRCA-MW0002-032.5-20210119 **Lab ID: AE00066-08** **Sampled: 01/19/21 15:45** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 15:43

Client ID: CRCA-MW0031-058.0-20210120 **Lab ID: AE00066-09** **Sampled: 01/20/21 12:15** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/03/21	01/25/21 00:00	01/25/21 16:12
RSK 175	Same	02/03/21	01/26/21 00:00	01/26/21 11:20

Client ID: CRCA-MW0032-058.0-20210120 **Lab ID: AE00066-10** **Sampled: 01/20/21 13:00** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/03/21	01/25/21 00:00	01/25/21 11:47

Client ID: CRCA-MW0018-058.0-20210120 **Lab ID: AE00066-11** **Sampled: 01/20/21 14:00** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	02/03/21	01/26/21 00:00	01/26/21 11:36

Client ID: CRCA-MW0018-058.0-20210120 **Lab ID: AE00066-11RE1** **Sampled: 01/20/21 14:00** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/03/21	01/26/21 00:00	01/26/21 15:52
RSK 175	Same	02/03/21	01/26/21 00:00	01/26/21 12:16

Client ID: CRCA-MW0019-058.0-20210120 **Lab ID: AE00066-12** **Sampled: 01/20/21 16:00** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/03/21	01/25/21 00:00	01/25/21 17:11
RSK 175	Same	02/03/21	01/26/21 00:00	01/26/21 11:52

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SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-VMP01-20210120 **Lab ID: AE00066-13RE1** **Sampled: 01/20/21 11:03** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	02/19/21	01/25/21 09:00	01/25/21 10:36

Client ID: CRCA-VMP02-20210120 **Lab ID: AE00066-14** **Sampled: 01/20/21 11:06** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	02/19/21	01/25/21 09:00	01/25/21 11:18

Client ID: CRCA-VMP03-20210120 **Lab ID: AE00066-15RE1** **Sampled: 01/20/21 11:15** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	02/19/21	01/25/21 09:00	01/25/21 14:06

Client ID: CRCA-VMP04-20210120 **Lab ID: AE00066-16RE1** **Sampled: 01/20/21 11:22** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	02/19/21	01/25/21 09:00	01/25/21 14:47

Client ID: CRCA-SYSAIR-20210120 **Lab ID: AE00066-17** **Sampled: 01/20/21 17:03** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	02/19/21	01/25/21 09:00	01/25/21 13:21

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SAMPLE DETECTION SUMMARY

Client ID: CRCA-MW0027-035.0-20210119 **Lab ID:** AE00066-04

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	7.0		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0013-027.5-20210119 **Lab ID:** AE00066-06

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	2.1	I	0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0002-032.5-20210119 **Lab ID:** AE00066-08

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	3.1		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0031-058.0-20210120 **Lab ID:** AE00066-09

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	0.152		0.00400	0.00500	mg/L	RSK 175	QM-12
Vinyl chloride	29		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0018-058.0-20210120 **Lab ID:** AE00066-11

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethene	0.0216		0.00510	0.00600	mg/L	RSK 175	

Client ID: CRCA-MW0018-058.0-20210120 **Lab ID:** AE00066-11RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	2.09		0.0400	0.0500	mg/L	RSK 175	
Vinyl chloride	97		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0019-058.0-20210120 **Lab ID:** AE00066-12

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	0.510		0.00400	0.00500	mg/L	RSK 175	
Vinyl chloride	2.8		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-VMP01-20210120 **Lab ID:** AE00066-13RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	5.9		0.47	3.4	ppbv	TO-15	
Freon 113	3.9		0.43	3.4	ppbv	TO-15	
Methylene chloride	0.75	IV	0.27	3.4	ppbv	TO-15	J-01, O-01

Client ID: CRCA-VMP02-20210120 **Lab ID:** AE00066-14

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	3.5	I	0.94	6.8	ppbv	TO-15	
Freon 113	120		0.86	6.8	ppbv	TO-15	
Methylene chloride	0.97	IV	0.54	6.8	ppbv	TO-15	J-01, O-01
trans-1,2-Dichloroethene	5.5	I	0.86	6.8	ppbv	TO-15	

Client ID: CRCA-VMP03-20210120 **Lab ID:** AE00066-15RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	4.1		0.56	4.0	ppbv	TO-15	
Chloroform	1.9	I	0.60	4.0	ppbv	TO-15	
Freon 113	8.1		0.51	4.0	ppbv	TO-15	
Methylene chloride	1.1	IV	0.32	4.0	ppbv	TO-15	J-01, O-01

Client ID: CRCA-VMP04-20210120 **Lab ID:** AE00066-16RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	31		0.98	7.0	ppbv	TO-15	
Freon 113	34		0.90	7.0	ppbv	TO-15	
Methylene chloride	1.1	IV	0.56	7.0	ppbv	TO-15	J-01, O-01, R-05

Client ID: CRCA-SYSAIR-20210120 **Lab ID:** AE00066-17

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	2.6	I	0.46	3.3	ppbv	TO-15	
Methylene chloride	0.99	IV	0.26	3.3	ppbv	TO-15	J-01, O-01
trans-1,2-Dichloroethene	0.96	I	0.42	3.3	ppbv	TO-15	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0030-058.0-20210119 **Lab Sample ID:** AE00066-01 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 11:05 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 12:17	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:17	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0030-058.0-20210119 **Lab Sample ID:** AE00066-01 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 11:05 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 12:17	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*106 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 12:17*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*115 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 12:17*	*KKW*	
Toluene-d8	*48*	*1*	*50.0*	*97 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 12:17*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0029-035.0-20210119 **Lab Sample ID:** AE00066-02 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 11:40 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 12:46	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:46	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0029-035.0-20210119 **Lab Sample ID:** AE00066-02 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 11:40 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 12:46	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*107 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 12:46*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*114 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 12:46*	*KKW*	
Toluene-d8	*48*	*1*	*50.0*	*96 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 12:46*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0028-058.0-20210119 **Lab Sample ID:** AE00066-03 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 12:20 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 13:15	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:15	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0028-058.0-20210119 **Lab Sample ID:** AE00066-03 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 12:20 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 13:15	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*105 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 13:15*	*KKW*	
Dibromofluoromethane	*56*	*1*	*50.0*	*111 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 13:15*	*KKW*	
Toluene-d8	*48*	*1*	*50.0*	*95 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 13:15*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0027-035.0-20210119 **Lab Sample ID:** AE00066-04 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 13:45	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:45	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0027-035.0-20210119 **Lab Sample ID:** AE00066-04 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Vinyl chloride [75-01-4]^	**7.0**		ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 13:45	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*52*	*1*	*50.0*	*104 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 13:45*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*115 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 13:45*	*KKW*	
Toluene-d8	*46*	*1*	*50.0*	*93 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 13:45*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0015-027.5-20210119 **Lab Sample ID:** AE00066-05 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:35 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 14:14	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:14	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0015-027.5-20210119 **Lab Sample ID:** AE00066-05 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:35 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 14:14	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*54*	*1*	*50.0*	*108 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 14:14*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*114 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 14:14*	*KKW*	
Toluene-d8	*47*	*1*	*50.0*	*94 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 14:14*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0013-027.5-20210119 **Lab Sample ID:** AE00066-06 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 14:30 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 14:44	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:44	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0013-027.5-20210119 **Lab Sample ID:** AE00066-06 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 14:30 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Vinyl chloride [75-01-4]^	**2.1**	I	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 14:44	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*55*	*1*	*50.0*	*109 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 14:44*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*114 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 14:44*	*KKW*	
Toluene-d8	*48*	*1*	*50.0*	*96 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 14:44*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0012-027.5-20210119 **Lab Sample ID:** AE00066-07 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 15:10 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 15:13	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:13	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0012-027.5-20210119 **Lab Sample ID:** AE00066-07 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 15:10 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 15:13	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*54*	*1*	*50.0*	*109 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 15:13*	*KKW*	
Dibromofluoromethane	*59*	*1*	*50.0*	*118 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 15:13*	*KKW*	
Toluene-d8	*48*	*1*	*50.0*	*96 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 15:13*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0002-032.5-20210119 **Lab Sample ID:** AE00066-08 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 15:45 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 15:43	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:43	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0002-032.5-20210119 **Lab Sample ID:** AE00066-08 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 15:45 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Vinyl chloride [75-01-4]^	**3.1**		ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 15:43	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*55*	*1*	*50.0*	*109 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 15:43*	*KKW*	
Dibromofluoromethane	*56*	*1*	*50.0*	*113 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 15:43*	*KKW*	
Toluene-d8	*49*	*1*	*50.0*	*97 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 15:43*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0031-058.0-20210120 **Lab Sample ID:** AE00066-09 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 12:15 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 16:12	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 16:12	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0031-058.0-20210120 **Lab Sample ID:** AE00066-09 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 12:15 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Vinyl chloride [75-01-4]^	**29**		ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 16:12	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*52*	*1*	*50.0*	*105 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 16:12*	*KKW*	
Dibromofluoromethane	*59*	*1*	*50.0*	*118 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 16:12*	*KKW*	
Toluene-d8	*47*	*1*	*50.0*	*93 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 16:12*	*KKW*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1A26006	RSK 175	01/26/21 11:20	JMW	QV-01
Ethene [74-85-1]^	0.00510	U	mg/L	1	0.00510	0.00600	1A26006	RSK 175	01/26/21 11:20	JMW	
Methane [74-82-8]^	**0.152**		mg/L	1	0.00400	0.00500	1A26006	RSK 175	01/26/21 11:20	JMW	QM-12

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0032-058.0-20210120 **Lab Sample ID:** AE00066-10 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 13:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 11:47	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 11:47	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 11:47	KKW	QM-07
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	A-07, QM-19
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	QM-07
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0032-058.0-20210120 **Lab Sample ID:** AE00066-10 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 13:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 11:47	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*106 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 11:47*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*114 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 11:47*	*KKW*	
Toluene-d8	*47*	*1*	*50.0*	*94 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 11:47*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0018-058.0-20210120 **Lab Sample ID:** AE00066-11 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 14:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A26010	EPA 8260D	01/26/21 15:52	KG	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A26010	EPA 8260D	01/26/21 15:52	KG	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A26010	EPA 8260D	01/26/21 15:52	KG	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A26010	EPA 8260D	01/26/21 15:52	KG	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A26010	EPA 8260D	01/26/21 15:52	KG	QL-02
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	QL-02
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	QL-02
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A26010	EPA 8260D	01/26/21 15:52	KG	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	QL-02, QV-01
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A26010	EPA 8260D	01/26/21 15:52	KG	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	QL-02
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0018-058.0-20210120 **Lab Sample ID:** AE00066-11 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 14:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Vinyl chloride [75-01-4]^	**97**		ug/L	1	0.71	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A26010	EPA 8260D	01/26/21 15:52	KG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*54*	*1*	*50.0*	*108 %*	*41-142*	*1A26010*	*EPA 8260D*	*01/26/21 15:52*	*KG*	
Dibromofluoromethane	*55*	*1*	*50.0*	*110 %*	*53-146*	*1A26010*	*EPA 8260D*	*01/26/21 15:52*	*KG*	
Toluene-d8	*55*	*1*	*50.0*	*109 %*	*41-146*	*1A26010*	*EPA 8260D*	*01/26/21 15:52*	*KG*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1A26006	RSK 175	01/26/21 11:36	JMW	QV-01
Ethene [74-85-1]^	**0.0216**		mg/L	1	0.00510	0.00600	1A26006	RSK 175	01/26/21 11:36	JMW	
Methane [74-82-8]^	**2.09**		mg/L	10	0.0400	0.0500	1A26006	RSK 175	01/26/21 12:16	JMW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0019-058.0-20210120 **Lab Sample ID:** AE00066-12 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 16:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 17:11	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:11	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0019-058.0-20210120 **Lab Sample ID:** AE00066-12 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 16:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Vinyl chloride [75-01-4]^	**2.8**		ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 17:11	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*55*	*1*	*50.0*	*110 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 17:11*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*113 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 17:11*	*KKW*	
Toluene-d8	*47*	*1*	*50.0*	*95 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 17:11*	*KKW*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1A26006	RSK 175	01/26/21 11:52	JMW	QV-01
Ethene [74-85-1]^	0.00510	U	mg/L	1	0.00510	0.00600	1A26006	RSK 175	01/26/21 11:52	JMW	
Methane [74-82-8]^	**0.510**		mg/L	1	0.00400	0.00500	1A26006	RSK 175	01/26/21 11:52	JMW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-VMP01-20210120 | **Lab Sample ID:** AE00066-13 | **Received:** 01/21/21 15:10

Matrix: Air | **Sampled:** 01/20/21 11:03 | **Work Order:** AE00066

Project: NASA KSC CRCA | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.46	U	ppbv	1.34	0.46	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.48	U	ppbv	1.34	0.48	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.47	U	ppbv	1.34	0.47	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,1-Dichloroethane [75-34-3]^	0.48	U	ppbv	1.34	0.48	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,1-Dichloroethene [75-35-4]^	0.51	U	ppbv	1.34	0.51	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,2-Dibromoethane [106-93-4]^	0.48	U	ppbv	1.34	0.48	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.36	U	ppbv	1.34	0.36	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,2-Dichloroethane [107-06-2]^	0.50	U	ppbv	1.34	0.50	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,2-Dichloropropane [78-87-5]^	0.54	U	ppbv	1.34	0.54	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.38	U	ppbv	1.34	0.38	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.42	U	ppbv	1.34	0.42	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
3-Chloropropene [107-05-1]^	0.52	U	ppbv	1.34	0.52	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Acetone [67-64-1]^	**5.9**		ppbv	1.34	0.47	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Bromodichloromethane [75-27-4]^	0.46	U	ppbv	1.34	0.46	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Bromoethene [593-60-2]^	0.44	U	ppbv	1.34	0.44	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Bromoform [75-25-2]^	0.51	U	ppbv	1.34	0.51	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Bromomethane [74-83-9]^	0.44	U	ppbv	1.34	0.44	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Carbon tetrachloride [56-23-5]^	0.36	U	ppbv	1.34	0.36	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Chlorobenzene [108-90-7]^	0.44	U	ppbv	1.34	0.44	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Chloroethane [75-00-3]^	0.43	U	ppbv	1.34	0.43	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Chloroform [67-66-3]^	0.51	U	ppbv	1.34	0.51	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Chloromethane [74-87-3]^	0.64	U	ppbv	1.34	0.64	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
cis-1,2-Dichloroethene [156-59-2]^	0.51	U	ppbv	1.34	0.51	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	0.51	U	ppbv	1.34	0.51	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Dibromochloromethane [124-48-1]^	0.44	U	ppbv	1.34	0.44	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ppbv	1.34	0.74	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Freon 113 [76-13-1]^	**3.9**		ppbv	1.34	0.43	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Freon 114 [76-14-2]^	0.70	U	ppbv	1.34	0.70	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Hexachlorobutadiene [87-68-3]^	0.50	U	ppbv	1.34	0.50	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Methylene chloride [75-09-2]^	**0.75**	IV	ppbv	1.34	0.27	3.4	1A25023	TO-15	01/25/21 10:36	rgg	J-01, O-01
Propene [115-07-1]^	0.74	U	ppbv	1.34	0.74	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Tetrachloroethene [127-18-4]^	0.42	U	ppbv	1.34	0.42	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
trans-1,2-Dichloroethene [156-60-5]^	0.43	U	ppbv	1.34	0.43	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.46	U	ppbv	1.34	0.46	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Trichloroethene [79-01-6]^	0.47	U	ppbv	1.34	0.47	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Trichlorofluoromethane [75-69-4]^	0.46	U	ppbv	1.34	0.46	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Vinyl chloride [75-01-4]^	0.75	U	ppbv	1.34	0.75	3.4	1A25023	TO-15	01/25/21 10:36	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*28*	*1*	*31.0*	*90 %*	*70-130*	*1A25023*	*TO-15*	*01/25/21 10:36*	*rgg*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-VMP02-20210120 **Lab Sample ID:** AE00066-14 **Received:** 01/21/21 15:10

Matrix: Air **Sampled:** 01/20/21 11:06 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.92	U	ppbv	1.35	0.92	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.97	U	ppbv	1.35	0.97	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.94	U	ppbv	1.35	0.94	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,1-Dichloroethane [75-34-3]^	0.97	U	ppbv	1.35	0.97	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,1-Dichloroethene [75-35-4]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,2-Dibromoethane [106-93-4]^	0.97	U	ppbv	1.35	0.97	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ppbv	1.35	0.73	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,2-Dichloroethane [107-06-2]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,2-Dichloropropane [78-87-5]^	1.1	U	ppbv	1.35	1.1	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.76	U	ppbv	1.35	0.76	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.84	U	ppbv	1.35	0.84	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
3-Chloropropene [107-05-1]^	1.1	U	ppbv	1.35	1.1	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Acetone [67-64-1]^	**3.5**	I	ppbv	1.35	0.94	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Bromodichloromethane [75-27-4]^	0.92	U	ppbv	1.35	0.92	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Bromoethene [593-60-2]^	0.89	U	ppbv	1.35	0.89	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Bromoform [75-25-2]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Bromomethane [74-83-9]^	0.89	U	ppbv	1.35	0.89	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Carbon tetrachloride [56-23-5]^	0.73	U	ppbv	1.35	0.73	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Chlorobenzene [108-90-7]^	0.89	U	ppbv	1.35	0.89	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Chloroethane [75-00-3]^	0.86	U	ppbv	1.35	0.86	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Chloroform [67-66-3]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Chloromethane [74-87-3]^	1.3	U	ppbv	1.35	1.3	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
cis-1,2-Dichloroethene [156-59-2]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Dibromochloromethane [124-48-1]^	0.89	U	ppbv	1.35	0.89	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Dichlorodifluoromethane [75-71-8]^	1.5	U	ppbv	1.35	1.5	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Freon 113 [76-13-1]^	**120**		ppbv	1.35	0.86	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Freon 114 [76-14-2]^	1.4	U	ppbv	1.35	1.4	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Hexachlorobutadiene [87-68-3]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Methylene chloride [75-09-2]^	**0.97**	IV	ppbv	1.35	0.54	6.8	1A25023	TO-15	01/25/21 11:18	rgg	J-01, O-01
Propene [115-07-1]^	1.5	U	ppbv	1.35	1.5	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Tetrachloroethene [127-18-4]^	0.84	U	ppbv	1.35	0.84	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
trans-1,2-Dichloroethene [156-60-5]^	**5.5**	I	ppbv	1.35	0.86	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.92	U	ppbv	1.35	0.92	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Trichloroethene [79-01-6]^	0.94	U	ppbv	1.35	0.94	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Trichlorofluoromethane [75-69-4]^	0.92	U	ppbv	1.35	0.92	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Vinyl chloride [75-01-4]^	1.5	U	ppbv	1.35	1.5	6.8	1A25023	TO-15	01/25/21 11:18	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*27*	*1*	*31.0*	*87 %*	*70-130*	*1A25023*	*TO-15*	*01/25/21 11:18*	*rgg*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-VMP03-20210120 | **Lab Sample ID:** AE00066-15 | **Received:** 01/21/21 15:10

Matrix: Air | **Sampled:** 01/20/21 11:15 | **Work Order:** AE00066

Project: NASA KSC CRCA | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.54	U	ppbv	1.59	0.54	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.57	U	ppbv	1.59	0.57	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.56	U	ppbv	1.59	0.56	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,1-Dichloroethane [75-34-3]^	0.57	U	ppbv	1.59	0.57	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,1-Dichloroethene [75-35-4]^	0.60	U	ppbv	1.59	0.60	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,2-Dibromoethane [106-93-4]^	0.57	U	ppbv	1.59	0.57	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.43	U	ppbv	1.59	0.43	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,2-Dichloroethane [107-06-2]^	0.59	U	ppbv	1.59	0.59	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,2-Dichloropropane [78-87-5]^	0.64	U	ppbv	1.59	0.64	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.45	U	ppbv	1.59	0.45	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.49	U	ppbv	1.59	0.49	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
3-Chloropropene [107-05-1]^	0.62	U	ppbv	1.59	0.62	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Acetone [67-64-1]^	**4.1**		ppbv	1.59	0.56	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Bromodichloromethane [75-27-4]^	0.54	U	ppbv	1.59	0.54	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Bromoethene [593-60-2]^	0.52	U	ppbv	1.59	0.52	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Bromoform [75-25-2]^	0.60	U	ppbv	1.59	0.60	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Bromomethane [74-83-9]^	0.52	U	ppbv	1.59	0.52	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Carbon tetrachloride [56-23-5]^	0.43	U	ppbv	1.59	0.43	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Chlorobenzene [108-90-7]^	0.52	U	ppbv	1.59	0.52	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Chloroethane [75-00-3]^	0.51	U	ppbv	1.59	0.51	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Chloroform [67-66-3]^	**1.9**	I	ppbv	1.59	0.60	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Chloromethane [74-87-3]^	0.76	U	ppbv	1.59	0.76	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
cis-1,2-Dichloroethene [156-59-2]^	0.60	U	ppbv	1.59	0.60	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	0.60	U	ppbv	1.59	0.60	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Dibromochloromethane [124-48-1]^	0.52	U	ppbv	1.59	0.52	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Dichlorodifluoromethane [75-71-8]^	0.87	U	ppbv	1.59	0.87	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Freon 113 [76-13-1]^	**8.1**		ppbv	1.59	0.51	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Freon 114 [76-14-2]^	0.83	U	ppbv	1.59	0.83	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Hexachlorobutadiene [87-68-3]^	0.59	U	ppbv	1.59	0.59	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Methylene chloride [75-09-2]^	**1.1**	IV	ppbv	1.59	0.32	4.0	1A25023	TO-15	01/25/21 14:06	rgg	J-01, O-01
Propene [115-07-1]^	0.87	U	ppbv	1.59	0.87	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Tetrachloroethene [127-18-4]^	0.49	U	ppbv	1.59	0.49	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
trans-1,2-Dichloroethene [156-60-5]^	0.51	U	ppbv	1.59	0.51	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.54	U	ppbv	1.59	0.54	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Trichloroethene [79-01-6]^	0.56	U	ppbv	1.59	0.56	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Trichlorofluoromethane [75-69-4]^	0.54	U	ppbv	1.59	0.54	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Vinyl chloride [75-01-4]^	0.89	U	ppbv	1.59	0.89	4.0	1A25023	TO-15	01/25/21 14:06	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*27*	*1*	*31.0*	*88 %*	*70-130*	*1A25023*	*TO-15*	*01/25/21 14:06*	*rgg*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-VMP04-20210120 **Lab Sample ID:** AE00066-16 **Received:** 01/21/21 15:10

Matrix: Air **Sampled:** 01/20/21 11:22 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.95	U	ppbv	1.4	0.95	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,1,2,2-Tetrachloroethane [79-34-5]^	1.0	U	ppbv	1.4	1.0	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,1,2-Trichloroethane [79-00-5]^	0.98	U	ppbv	1.4	0.98	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,1-Dichloroethane [75-34-3]^	1.0	U	ppbv	1.4	1.0	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,1-Dichloroethene [75-35-4]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,2-Dibromoethane [106-93-4]^	1.0	U	ppbv	1.4	1.0	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,2-Dichlorobenzene [95-50-1]^	0.76	U	ppbv	1.4	0.76	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,2-Dichloroethane [107-06-2]^	1.0	U	ppbv	1.4	1.0	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,2-Dichloropropane [78-87-5]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,3-Dichlorobenzene [541-73-1]^	0.78	U	ppbv	1.4	0.78	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,4-Dichlorobenzene [106-46-7]^	0.87	U	ppbv	1.4	0.87	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
3-Chloropropene [107-05-1]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Acetone [67-64-1]^	**31**		ppbv	1.4	0.98	7.0	1A25023	TO-15	01/25/21 14:47	rgg	
Bromodichloromethane [75-27-4]^	0.95	U	ppbv	1.4	0.95	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Bromoethene [593-60-2]^	0.92	U	ppbv	1.4	0.92	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Bromoform [75-25-2]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Bromomethane [74-83-9]^	0.92	U	ppbv	1.4	0.92	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Carbon tetrachloride [56-23-5]^	0.76	U	ppbv	1.4	0.76	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Chlorobenzene [108-90-7]^	0.92	U	ppbv	1.4	0.92	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Chloroethane [75-00-3]^	0.90	U	ppbv	1.4	0.90	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Chloroform [67-66-3]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Chloromethane [74-87-3]^	1.3	U	ppbv	1.4	1.3	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
cis-1,2-Dichloroethene [156-59-2]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
cis-1,3-Dichloropropene [10061-01-5]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Dibromochloromethane [124-48-1]^	0.92	U	ppbv	1.4	0.92	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Dichlorodifluoromethane [75-71-8]^	1.5	U	ppbv	1.4	1.5	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Freon 113 [76-13-1]^	**34**		ppbv	1.4	0.90	7.0	1A25023	TO-15	01/25/21 14:47	rgg	
Freon 114 [76-14-2]^	1.5	U	ppbv	1.4	1.5	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Hexachlorobutadiene [87-68-3]^	1.0	U	ppbv	1.4	1.0	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Methylene chloride [75-09-2]^	**1.1**	IV	ppbv	1.4	0.56	7.0	1A25023	TO-15	01/25/21 14:47	rgg	J-01, O-01, R-05
Propene [115-07-1]^	1.5	U	ppbv	1.4	1.5	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Tetrachloroethene [127-18-4]^	0.87	U	ppbv	1.4	0.87	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
trans-1,2-Dichloroethene [156-60-5]^	0.90	U	ppbv	1.4	0.90	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
trans-1,3-Dichloropropene [10061-02-6]^	0.95	U	ppbv	1.4	0.95	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Trichloroethene [79-01-6]^	0.98	U	ppbv	1.4	0.98	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Trichlorofluoromethane [75-69-4]^	0.95	U	ppbv	1.4	0.95	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Vinyl chloride [75-01-4]^	1.6	U	ppbv	1.4	1.6	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*28*	*1*	*31.0*	*89 %*	*70-130*	*1A25023*	*TO-15*	*01/25/21 14:47*	*rgg*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-SYSAIR-20210120 | **Lab Sample ID:** AE00066-17 | **Received:** 01/21/21 15:10

Matrix: Air | **Sampled:** 01/20/21 17:03 | **Work Order:** AE00066

Project: NASA KSC CRCA | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.45	U	ppbv	1.32	0.45	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.48	U	ppbv	1.32	0.48	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.46	U	ppbv	1.32	0.46	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,1-Dichloroethane [75-34-3]^	0.48	U	ppbv	1.32	0.48	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,1-Dichloroethene [75-35-4]^	0.50	U	ppbv	1.32	0.50	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,2-Dibromoethane [106-93-4]^	0.48	U	ppbv	1.32	0.48	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.36	U	ppbv	1.32	0.36	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,2-Dichloroethane [107-06-2]^	0.49	U	ppbv	1.32	0.49	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,2-Dichloropropane [78-87-5]^	0.53	U	ppbv	1.32	0.53	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.37	U	ppbv	1.32	0.37	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.41	U	ppbv	1.32	0.41	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
3-Chloropropene [107-05-1]^	0.51	U	ppbv	1.32	0.51	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Acetone [67-64-1]^	**2.6**	I	ppbv	1.32	0.46	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Bromodichloromethane [75-27-4]^	0.45	U	ppbv	1.32	0.45	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Bromoethene [593-60-2]^	0.44	U	ppbv	1.32	0.44	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Bromoform [75-25-2]^	0.50	U	ppbv	1.32	0.50	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Bromomethane [74-83-9]^	0.44	U	ppbv	1.32	0.44	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Carbon tetrachloride [56-23-5]^	0.36	U	ppbv	1.32	0.36	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Chlorobenzene [108-90-7]^	0.44	U	ppbv	1.32	0.44	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Chloroethane [75-00-3]^	0.42	U	ppbv	1.32	0.42	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Chloroform [67-66-3]^	0.50	U	ppbv	1.32	0.50	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Chloromethane [74-87-3]^	0.63	U	ppbv	1.32	0.63	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
cis-1,2-Dichloroethene [156-59-2]^	0.50	U	ppbv	1.32	0.50	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	0.50	U	ppbv	1.32	0.50	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Dibromochloromethane [124-48-1]^	0.44	U	ppbv	1.32	0.44	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Dichlorodifluoromethane [75-71-8]^	0.73	U	ppbv	1.32	0.73	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Freon 113 [76-13-1]^	0.42	U	ppbv	1.32	0.42	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Freon 114 [76-14-2]^	0.69	U	ppbv	1.32	0.69	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Hexachlorobutadiene [87-68-3]^	0.49	U	ppbv	1.32	0.49	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Methylene chloride [75-09-2]^	**0.99**	IV	ppbv	1.32	0.26	3.3	1A25023	TO-15	01/25/21 13:21	rgg	J-01, O-01
Propene [115-07-1]^	0.73	U	ppbv	1.32	0.73	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Tetrachloroethene [127-18-4]^	0.41	U	ppbv	1.32	0.41	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
trans-1,2-Dichloroethene [156-60-5]^	**0.96**	I	ppbv	1.32	0.42	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.45	U	ppbv	1.32	0.45	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Trichloroethene [79-01-6]^	0.46	U	ppbv	1.32	0.46	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Trichlorofluoromethane [75-69-4]^	0.45	U	ppbv	1.32	0.45	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Vinyl chloride [75-01-4]^	0.74	U	ppbv	1.32	0.74	3.3	1A25023	TO-15	01/25/21 13:21	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*28*	*1*	*31.0*	*89 %*	*70-130*	*1A25023*	*TO-15*	*01/25/21 13:21*	*rgg*	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS

Blank (1A25020-BLK1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 10:19

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

Blank (1A25020-BLK1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 10:19

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*54*			*ug/L*	*50.0*		*109*	*41-142*			
Dibromofluoromethane	*55*			*ug/L*	*50.0*		*111*	*53-146*			
Toluene-d8	*48*	*I*		*ug/L*	*50.0*		*96*	*41-146*			

LCS (1A25020-BS1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 09:20

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	19		2.5	ug/L	20.0		97	57-148			
1,1,2,2-Tetrachloroethane	21		2.5	ug/L	20.0		105	60-139			
1,1,2-Trichloroethane	21		2.5	ug/L	20.0		107	57-141			
1,1-Dichloroethane	19		2.5	ug/L	20.0		93	57-142			
1,1-Dichloroethene	20		2.5	ug/L	20.0		102	47-139			
1,2,4-Trichlorobenzene	17		2.5	ug/L	20.0		87	52-159			
1,2-Dibromo-3-chloropropane	20		2.5	ug/L	20.0		102	48-150			
1,2-Dibromoethane	22		2.5	ug/L	20.0		110	57-140			
1,2-Dichlorobenzene	23		2.5	ug/L	20.0		113	63-131			
1,2-Dichloroethane	15		2.5	ug/L	20.0		75	50-156			
1,2-Dichloropropane	16		2.5	ug/L	20.0		80	61-133			
1,3-Dichlorobenzene	24		2.5	ug/L	20.0		118	66-129			
1,4-Dichlorobenzene	21		2.5	ug/L	20.0		106	65-133			
2-Butanone	90		12	ug/L	100		90	10-180			
2-Hexanone	68		12	ug/L	100		68	12-180			
4-Methyl-2-pentanone	90		12	ug/L	100		90	19-180			
Acetone	71		25	ug/L	100		71	10-180			
Benzene	19		2.5	ug/L	20.0		94	56-136			
Bromodichloromethane	18		2.5	ug/L	20.0		89	58-135			
Bromoform	21		2.5	ug/L	20.0		107	46-148			
Bromomethane	8.7		2.5	ug/L	20.0		44	10-173			
Carbon disulfide	20		12	ug/L	20.0		102	43-153			
Carbon Tetrachloride	16		2.5	ug/L	20.0		80	54-156			
Chlorobenzene	24		2.5	ug/L	20.0		120	51-139			
Chloroethane	22		2.5	ug/L	20.0		109	27-180			
Chloroform	20		2.5	ug/L	20.0		99	58-139			
Chloromethane	9.3		2.5	ug/L	20.0		46	33-154			
cis-1,2-Dichloroethene	22		2.5	ug/L	20.0		109	56-128			
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0		87	64-128			
Cyclohexane	16		2.5	ug/L	20.0		82	70-130			
Dibromochloromethane	24		2.5	ug/L	20.0		118	50-140			
Dichlorodifluoromethane	12		2.5	ug/L	20.0		61	10-180			
Ethylbenzene	22		2.5	ug/L	20.0		108	63-133			
Freon 113	21		2.5	ug/L	20.0		104	47-173			
Isopropylbenzene	24		2.5	ug/L	20.0		118	60-132			
m,p-Xylenes	50		5.0	ug/L	40.0		125	64-133			
Methyl acetate	13		2.5	ug/L	20.0		65	70-130			A-07
Methyl cyclohexane	18		2.5	ug/L	20.0		89	70-130			
Methylene Chloride	20		12	ug/L	20.0		100	43-142			
Methyl-tert-Butyl Ether	20		2.5	ug/L	20.0		99	51-145			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

LCS (1A25020-BS1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 09:20

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
o-Xylene	23		2.5	ug/L	20.0		117	61-129			
Styrene	25		2.5	ug/L	20.0		126	59-136			
Tetrachloroethene	21		2.5	ug/L	20.0		104	60-147			
Toluene	23		2.5	ug/L	20.0		114	64-131			
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0		108	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0		103	65-149			
Trichloroethene	21		2.5	ug/L	20.0		103	62-135			
Trichlorofluoromethane	20		2.5	ug/L	20.0		100	56-155			
Vinyl chloride	17		2.5	ug/L	20.0		85	20-167			
4-Bromofluorobenzene	*52*			*ug/L*	*50.0*		*105*	*41-142*			
Dibromofluoromethane	*55*			*ug/L*	*50.0*		*111*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*98*	*41-146*			

Matrix Spike (1A25020-MS1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 18:39

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	22		2.5	ug/L	20.0	0.80 U	110	57-148			
1,1,2,2-Tetrachloroethane	23		2.5	ug/L	20.0	0.54 U	114	60-139			
1,1,2-Trichloroethane	22		2.5	ug/L	20.0	0.76 U	110	57-141			
1,1-Dichloroethane	19		2.5	ug/L	20.0	0.62 U	96	57-142			
1,1-Dichloroethene	23		2.5	ug/L	20.0	0.94 U	114	47-139			
1,2,4-Trichlorobenzene	15		2.5	ug/L	20.0	0.70 U	74	52-159			
1,2-Dibromo-3-chloropropane	14		2.5	ug/L	20.0	0.96 U	72	48-150			
1,2-Dibromoethane	23		2.5	ug/L	20.0	0.78 U	115	57-140			
1,2-Dichlorobenzene	23		2.5	ug/L	20.0	0.73 U	114	63-131			
1,2-Dichloroethane	16		2.5	ug/L	20.0	0.63 U	79	50-156			
1,2-Dichloropropane	16		2.5	ug/L	20.0	0.80 U	79	61-133			
1,3-Dichlorobenzene	25		2.5	ug/L	20.0	0.77 U	125	66-129			
1,4-Dichlorobenzene	23		2.5	ug/L	20.0	0.76 U	114	65-133			
2-Butanone	88		12	ug/L	100	4.5 U	88	10-180			
2-Hexanone	62		12	ug/L	100	2.5 U	62	12-180			
4-Methyl-2-pentanone	87		12	ug/L	100	2.5 U	87	19-180			
Acetone	65		25	ug/L	100	10 U	65	10-180			
Benzene	20		2.5	ug/L	20.0	0.71 U	100	56-136			
Bromodichloromethane	19		2.5	ug/L	20.0	0.52 U	95	58-135			
Bromoform	22		2.5	ug/L	20.0	0.75 U	109	46-148			
Bromomethane	10		2.5	ug/L	20.0	0.95 U	50	10-173			
Carbon disulfide	21		12	ug/L	20.0	2.5 U	106	43-153			
Carbon Tetrachloride	18		2.5	ug/L	20.0	0.94 U	89	54-156			
Chlorobenzene	27		2.5	ug/L	20.0	0.72 U	135	51-139			
Chloroethane	23		2.5	ug/L	20.0	0.98 U	113	27-180			
Chloroform	21		2.5	ug/L	20.0	0.80 U	104	58-139			
Chloromethane	9.6		2.5	ug/L	20.0	0.82 U	48	33-154			
cis-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.53 U	110	56-128			
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0	0.59 U	85	64-128			
Cyclohexane	16		2.5	ug/L	20.0	0.93 U	82	70-130			
Dibromochloromethane	25		2.5	ug/L	20.0	0.50 U	127	50-140			
Dichlorodifluoromethane	13		2.5	ug/L	20.0	0.74 U	66	10-180			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

Matrix Spike (1A25020-MS1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 18:39

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	24		2.5	ug/L	20.0	0.69 U	119	63-133			
Freon 113	23		2.5	ug/L	20.0	0.73 U	115	47-173			
Isopropylbenzene	26		2.5	ug/L	20.0	0.67 U	131	60-132			
m,p-Xylenes	55		5.0	ug/L	40.0	1.3 U	137	64-133			QM-07
Methyl acetate	10		2.5	ug/L	20.0	0.95 U	51	70-130			QM-19
Methyl cyclohexane	19		2.5	ug/L	20.0	0.64 U	95	70-130			
Methylene Chloride	21		12	ug/L	20.0	2.5 U	105	43-142			
Methyl-tert-Butyl Ether	20		2.5	ug/L	20.0	0.60 U	100	51-145			
o-Xylene	25		2.5	ug/L	20.0	0.53 U	127	61-129			
Styrene	28		2.5	ug/L	20.0	0.61 U	140	59-136			QM-07
Tetrachloroethene	24		2.5	ug/L	20.0	0.76 U	122	60-147			
Toluene	24		2.5	ug/L	20.0	0.72 U	122	64-131			
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.73 U	111	54-134			
trans-1,3-Dichloropropene	20		2.5	ug/L	20.0	0.73 U	102	65-149			
Trichloroethene	24		2.5	ug/L	20.0	0.89 U	122	62-135			
Trichlorofluoromethane	23		2.5	ug/L	20.0	0.94 U	113	56-155			
Vinyl chloride	17		2.5	ug/L	20.0	0.71 U	84	20-167			
4-Bromofluorobenzene	*54*			*ug/L*	*50.0*		*109*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*112*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*97*	*41-146*			

Matrix Spike Dup (1A25020-MSD1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 19:09

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	20		2.5	ug/L	20.0	0.80 U	102	57-148	8	25	
1,1,2,2-Tetrachloroethane	22		2.5	ug/L	20.0	0.54 U	110	60-139	4	17	
1,1,2-Trichloroethane	21		2.5	ug/L	20.0	0.76 U	106	57-141	3	16	
1,1-Dichloroethane	18		2.5	ug/L	20.0	0.62 U	90	57-142	6	24	
1,1-Dichloroethene	21		2.5	ug/L	20.0	0.94 U	103	47-139	10	16	
1,2,4-Trichlorobenzene	16		2.5	ug/L	20.0	0.70 U	81	52-159	9	24	
1,2-Dibromo-3-chloropropane	18		2.5	ug/L	20.0	0.96 U	88	48-150	21	21	
1,2-Dibromoethane	22		2.5	ug/L	20.0	0.78 U	110	57-140	4	16	
1,2-Dichlorobenzene	23		2.5	ug/L	20.0	0.73 U	113	63-131	1	25	
1,2-Dichloroethane	15		2.5	ug/L	20.0	0.63 U	77	50-156	1	18	
1,2-Dichloropropane	15		2.5	ug/L	20.0	0.80 U	76	61-133	4	26	
1,3-Dichlorobenzene	24		2.5	ug/L	20.0	0.77 U	120	66-129	4	23	
1,4-Dichlorobenzene	22		2.5	ug/L	20.0	0.76 U	110	65-133	4	23	
2-Butanone	83		12	ug/L	100	4.5 U	83	10-180	5	29	
2-Hexanone	66		12	ug/L	100	2.5 U	66	12-180	5	28	
4-Methyl-2-pentanone	87		12	ug/L	100	2.5 U	87	19-180	0.5	24	
Acetone	70		25	ug/L	100	10 U	70	10-180	7	19	
Benzene	19		2.5	ug/L	20.0	0.71 U	96	56-136	5	14	
Bromodichloromethane	18		2.5	ug/L	20.0	0.52 U	89	58-135	7	19	
Bromoform	21		2.5	ug/L	20.0	0.75 U	106	46-148	2	18	
Bromomethane	11		2.5	ug/L	20.0	0.95 U	55	10-173	10	29	
Carbon disulfide	19		12	ug/L	20.0	2.5 U	94	43-153	12	26	
Carbon Tetrachloride	16		2.5	ug/L	20.0	0.94 U	79	54-156	12	27	
Chlorobenzene	26		2.5	ug/L	20.0	0.72 U	129	51-139	5	13	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

Matrix Spike Dup (1A25020-MSD1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 19:09

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloroethane	21		2.5	ug/L	20.0	0.98 U	105	27-180	7	22	
Chloroform	20		2.5	ug/L	20.0	0.80 U	102	58-139	2	17	
Chloromethane	9.0		2.5	ug/L	20.0	0.82 U	45	33-154	7	31	
cis-1,2-Dichloroethene	21		2.5	ug/L	20.0	0.53 U	104	56-128	5	17	
cis-1,3-Dichloropropene	16		2.5	ug/L	20.0	0.59 U	78	64-128	9	20	
Cyclohexane	15		2.5	ug/L	20.0	0.93 U	75	70-130	8	20	
Dibromochloromethane	23		2.5	ug/L	20.0	0.50 U	117	50-140	8	18	
Dichlorodifluoromethane	13		2.5	ug/L	20.0	0.74 U	63	10-180	4	26	
Ethylbenzene	22		2.5	ug/L	20.0	0.69 U	112	63-133	6	18	
Freon 113	21		2.5	ug/L	20.0	0.73 U	105	47-173	9	30	
Isopropylbenzene	24		2.5	ug/L	20.0	0.67 U	122	60-132	7	23	
m,p-Xylenes	51		5.0	ug/L	40.0	1.3 U	129	64-133	6	18	
Methyl acetate	9.5		2.5	ug/L	20.0	0.95 U	48	70-130	6	20	QM-19
Methyl cyclohexane	18		2.5	ug/L	20.0	0.64 U	91	70-130	4	20	
Methylene Chloride	19		12	ug/L	20.0	2.5 U	95	43-142	9	23	
Methyl-tert-Butyl Ether	19		2.5	ug/L	20.0	0.60 U	95	51-145	5	22	
o-Xylene	25		2.5	ug/L	20.0	0.53 U	123	61-129	4	16	
Styrene	26		2.5	ug/L	20.0	0.61 U	130	59-136	7	32	
Tetrachloroethene	23		2.5	ug/L	20.0	0.76 U	113	60-147	8	21	
Toluene	23		2.5	ug/L	20.0	0.72 U	117	64-131	4	16	
trans-1,2-Dichloroethene	21		2.5	ug/L	20.0	0.73 U	103	54-134	8	20	
trans-1,3-Dichloropropene	19		2.5	ug/L	20.0	0.73 U	97	65-149	5	17	
Trichloroethene	21		2.5	ug/L	20.0	0.89 U	107	62-135	12	20	
Trichlorofluoromethane	20		2.5	ug/L	20.0	0.94 U	102	56-155	10	22	
Vinyl chloride	15		2.5	ug/L	20.0	0.71 U	77	20-167	8	24	
4-Bromofluorobenzene	*55*			*ug/L*	*50.0*		*110*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*111*	*53-146*			
Toluene-d8	*48*	*I*		*ug/L*	*50.0*		*96*	*41-146*			

Batch 1A25023 - NO PREP 2

Blank (1A25023-BLK1) Prepared: 01/24/2021 17:30 Analyzed: 01/25/2021 00:37

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.34	U	2.5	ppbv							
1,1,2,2-Tetrachloroethane	0.36	U	2.5	ppbv							
1,1,2-Trichloroethane	0.35	U	2.5	ppbv							
1,1-Dichloroethane	0.36	U	2.5	ppbv							
1,1-Dichloroethene	0.38	U	2.5	ppbv							
1,2-Dibromoethane	0.36	U	2.5	ppbv							
1,2-Dichlorobenzene	0.27	U	2.5	ppbv							
1,2-Dichloroethane	0.37	U	2.5	ppbv							
1,2-Dichloropropane	0.40	U	2.5	ppbv							
1,3-Dichlorobenzene	0.28	U	2.5	ppbv							
1,4-Dichlorobenzene	0.31	U	2.5	ppbv							
3-Chloropropene	0.39	U	2.5	ppbv							
Acetone	0.35	U	2.5	ppbv							
Bromodichloromethane	0.34	U	2.5	ppbv							
Bromoethene	0.33	U	2.5	ppbv							

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25023 - NO PREP 2 - Continued

Blank (1A25023-BLK1) Continued Prepared: 01/24/2021 17:30 Analyzed: 01/25/2021 00:37

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Bromoform	0.38	U	2.5	ppbv							
Bromomethane	0.33	U	2.5	ppbv							
Carbon tetrachloride	0.27	U	2.5	ppbv							
Chlorobenzene	0.33	U	2.5	ppbv							
Chloroethane	0.32	U	2.5	ppbv							
Chloroform	0.38	U	2.5	ppbv							
Chloromethane	0.48	U	2.5	ppbv							
cis-1,2-Dichloroethene	0.38	U	2.5	ppbv							
cis-1,3-Dichloropropene	0.38	U	2.5	ppbv							
Dibromochloromethane	0.33	U	2.5	ppbv							
Dichlorodifluoromethane	0.55	U	2.5	ppbv							
Freon 113	0.32	U	2.5	ppbv							
Freon 114	0.52	U	2.5	ppbv							
Hexachlorobutadiene	0.37	U	2.5	ppbv							
Methylene chloride	**0.29**	**I**	2.5	ppbv							J-01, O-01
Propene	0.55	U	2.5	ppbv							
Tetrachloroethene	0.31	U	2.5	ppbv							
trans-1,2-Dichloroethene	0.32	U	2.5	ppbv							
trans-1,3-Dichloropropene	0.34	U	2.5	ppbv							
Trichloroethene	0.35	U	2.5	ppbv							
Trichlorofluoromethane	0.34	U	2.5	ppbv							
Vinyl chloride	0.56	U	2.5	ppbv							
4-Bromofluorobenzene	*27*			*ppbv*	*31.0*		*87*	*70-130*			

LCS (1A25023-BS1) Prepared: 01/24/2021 17:30 Analyzed: 01/24/2021 22:34

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	10		2.5	ppbv	10.0		100	70-130			
1,1,2,2-Tetrachloroethane	12		2.5	ppbv	10.0		119	52-163			
1,1,2-Trichloroethane	12		2.5	ppbv	10.0		117	70-134			
1,1-Dichloroethane	12		2.5	ppbv	10.0		119	70-130			
1,1-Dichloroethene	11		2.5	ppbv	10.0		113	67-142			
1,2-Dibromoethane	12		2.5	ppbv	10.0		118	70-141			
1,2-Dichlorobenzene	10		2.5	ppbv	10.0		102	37-180			
1,2-Dichloroethane	10		2.5	ppbv	10.0		102	70-130			
1,2-Dichloropropane	12		2.5	ppbv	10.0		121	70-130			
1,3-Dichlorobenzene	9.8		2.5	ppbv	10.0		98	47-178			
1,4-Dichlorobenzene	9.2		2.5	ppbv	10.0		92	45-180			
3-Chloropropene	11		2.5	ppbv	10.0		113	70-130			
Acetone	10		2.5	ppbv	10.0		104	65-130			
Bromodichloromethane	11		2.5	ppbv	10.0		109	70-130			
Bromoethene	9.5		2.5	ppbv	10.0		95	69-132			
Bromoform	11		2.5	ppbv	10.0		110	62-149			
Bromomethane	9.9		2.5	ppbv	10.0		99	69-130			
Carbon tetrachloride	8.3		2.5	ppbv	10.0		83	22-166			
Chlorobenzene	11		2.5	ppbv	10.0		107	70-134			
Chloroethane	10		2.5	ppbv	10.0		101	69-131			
Chloroform	11		2.5	ppbv	10.0		111	70-130			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25023 - NO PREP 2 - Continued

LCS (1A25023-BS1) Continued Prepared: 01/24/2021 17:30 Analyzed: 01/24/2021 22:34

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloromethane	10		2.5	ppbv	10.0		100	55-142			
cis-1,2-Dichloroethene	12		2.5	ppbv	10.0		122	70-130			
cis-1,3-Dichloropropene	12		2.5	ppbv	10.0		122	70-137			
Dibromochloromethane	11		2.5	ppbv	10.0		110	70-130			
Dichlorodifluoromethane	9.3		2.5	ppbv	10.0		93	61-137			
Freon 113	11		2.5	ppbv	10.0		111	67-140			
Freon 114	9.8		2.5	ppbv	10.0		98	62-147			
Hexachlorobutadiene	9.1		2.5	ppbv	10.0		91	24-180			
Methylene chloride	13		2.5	ppbv	10.0		128	59-136			
Propene	8.9		2.5	ppbv	10.0		89	63-132			
Tetrachloroethene	10		2.5	ppbv	10.0		104	70-141			
trans-1,2-Dichloroethene	11		2.5	ppbv	10.0		113	70-130			
trans-1,3-Dichloropropene	16		2.5	ppbv	10.0		156	59-166			
Trichloroethene	11		2.5	ppbv	10.0		114	70-130			
Trichlorofluoromethane	9.7		2.5	ppbv	10.0		97	46-161			
Vinyl chloride	11		2.5	ppbv	10.0		106	53-148			
4-Bromofluorobenzene	*32*			*ppbv*	*31.0*		*102*	*70-130*			

LCS Dup (1A25023-BSD1) Prepared: 01/24/2021 17:30 Analyzed: 01/24/2021 23:13

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	9.1		2.5	ppbv	10.0		91	70-130	9	25	
1,1,2,2-Tetrachloroethane	11		2.5	ppbv	10.0		111	52-163	7	25	
1,1,2-Trichloroethane	11		2.5	ppbv	10.0		110	70-134	6	25	
1,1-Dichloroethane	11		2.5	ppbv	10.0		110	70-130	8	25	
1,1-Dichloroethene	10		2.5	ppbv	10.0		103	67-142	9	25	
1,2-Dibromoethane	11		2.5	ppbv	10.0		110	70-141	7	25	
1,2-Dichlorobenzene	9.5		2.5	ppbv	10.0		95	37-180	7	25	
1,2-Dichloroethane	8.8		2.5	ppbv	10.0		88	70-130	15	25	
1,2-Dichloropropane	11		2.5	ppbv	10.0		113	70-130	7	25	
1,3-Dichlorobenzene	9.1		2.5	ppbv	10.0		91	47-178	7	25	
1,4-Dichlorobenzene	8.5		2.5	ppbv	10.0		85	45-180	8	25	
3-Chloropropene	10		2.5	ppbv	10.0		105	70-130	7	25	
Acetone	9.5		2.5	ppbv	10.0		95	65-130	10	25	
Bromodichloromethane	10		2.5	ppbv	10.0		100	70-130	8	25	
Bromoethene	8.6		2.5	ppbv	10.0		86	69-132	10	25	
Bromoform	10		2.5	ppbv	10.0		103	62-149	7	25	
Bromomethane	8.6		2.5	ppbv	10.0		86	69-130	14	25	
Carbon tetrachloride	7.5		2.5	ppbv	10.0		75	22-166	10	25	
Chlorobenzene	10		2.5	ppbv	10.0		100	70-134	6	25	
Chloroethane	8.7		2.5	ppbv	10.0		87	69-131	14	25	
Chloroform	10		2.5	ppbv	10.0		101	70-130	9	25	
Chloromethane	8.8		2.5	ppbv	10.0		88	55-142	12	25	
cis-1,2-Dichloroethene	11		2.5	ppbv	10.0		114	70-130	6	25	
cis-1,3-Dichloropropene	11		2.5	ppbv	10.0		113	70-137	7	25	
Dibromochloromethane	10		2.5	ppbv	10.0		103	70-130	7	25	
Dichlorodifluoromethane	8.1		2.5	ppbv	10.0		81	61-137	13	25	
Freon 113	10		2.5	ppbv	10.0		103	67-140	8	25	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25023 - NO PREP 2 - Continued

LCS Dup (1A25023-BSD1) Continued Prepared: 01/24/2021 17:30 Analyzed: 01/24/2021 23:13

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Freon 114	8.8		2.5	ppbv	10.0		88	62-147	11	25	
Hexachlorobutadiene	8.5		2.5	ppbv	10.0		85	24-180	7	25	
Methylene chloride	12		2.5	ppbv	10.0		123	59-136	5	25	
Propene	7.8		2.5	ppbv	10.0		78	63-132	13	25	
Tetrachloroethene	9.8		2.5	ppbv	10.0		98	70-141	6	25	
trans-1,2-Dichloroethene	10		2.5	ppbv	10.0		105	70-130	7	25	
trans-1,3-Dichloropropene	15		2.5	ppbv	10.0		146	59-166	7	25	
Trichloroethene	11		2.5	ppbv	10.0		108	70-130	5	25	
Trichlorofluoromethane	8.7		2.5	ppbv	10.0		87	46-161	11	25	
Vinyl chloride	9.2		2.5	ppbv	10.0		92	53-148	14	25	
4-Bromofluorobenzene	*31*			*ppbv*	*31.0*		*100*	*70-130*			

Batch 1A26010 - EPA 5030B_MS

Blank (1A26010-BLK1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 11:19

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A26010 - EPA 5030B_MS - Continued

Blank (1A26010-BLK1) Continued Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 11:19

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*51*			*ug/L*	*50.0*		*103*	*41-142*			
Dibromofluoromethane	*58*			*ug/L*	*50.0*		*116*	*53-146*			
Toluene-d8	*51*			*ug/L*	*50.0*		*102*	*41-146*			

LCS (1A26010-BS1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 08:43

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	25		2.5	ug/L	20.0		127	57-148			
1,1,2,2-Tetrachloroethane	23		2.5	ug/L	20.0		115	60-139			
1,1,2-Trichloroethane	23		2.5	ug/L	20.0		114	57-141			
1,1-Dichloroethane	24		2.5	ug/L	20.0		119	57-142			
1,1-Dichloroethene	25		2.5	ug/L	20.0		125	47-139			
1,2,4-Trichlorobenzene	25		2.5	ug/L	20.0		127	52-159			
1,2-Dibromo-3-chloropropane	27		2.5	ug/L	20.0		137	48-150			
1,2-Dibromoethane	23		2.5	ug/L	20.0		116	57-140			
1,2-Dichlorobenzene	22		2.5	ug/L	20.0		109	63-131			
1,2-Dichloroethane	24		2.5	ug/L	20.0		119	50-156			
1,2-Dichloropropane	24		2.5	ug/L	20.0		118	61-133			
1,3-Dichlorobenzene	21		2.5	ug/L	20.0		105	66-129			
1,4-Dichlorobenzene	20		2.5	ug/L	20.0		101	65-133			
2-Butanone	130		12	ug/L	100		126	10-180			
2-Hexanone	110		12	ug/L	100		114	12-180			
4-Methyl-2-pentanone	110		12	ug/L	100		114	19-180			
Acetone	160		25	ug/L	100		156	10-180			
Benzene	21		2.5	ug/L	20.0		106	56-136			
Bromodichloromethane	23		2.5	ug/L	20.0		117	58-135			
Bromoform	23		2.5	ug/L	20.0		113	46-148			
Bromomethane	20		2.5	ug/L	20.0		101	10-173			
Carbon disulfide	36		12	ug/L	20.0		178	43-153			QL-02
Carbon Tetrachloride	23		2.5	ug/L	20.0		115	54-156			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A26010 - EPA 5030B_MS - Continued

LCS (1A26010-BS1) Continued Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 08:43

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chlorobenzene	20		2.5	ug/L	20.0		101	51-139			
Chloroethane	25		2.5	ug/L	20.0		124	27-180			
Chloroform	28		2.5	ug/L	20.0		140	58-139			QL-02
Chloromethane	19		2.5	ug/L	20.0		97	33-154			
cis-1,2-Dichloroethene	25		2.5	ug/L	20.0		124	56-128			
cis-1,3-Dichloropropene	23		2.5	ug/L	20.0		116	64-128			
Cyclohexane	26		2.5	ug/L	20.0		132	70-130			QL-02
Dibromochloromethane	22		2.5	ug/L	20.0		112	50-140			
Dichlorodifluoromethane	14		2.5	ug/L	20.0		69	10-180			
Ethylbenzene	20		2.5	ug/L	20.0		100	63-133			
Freon 113	28		2.5	ug/L	20.0		142	47-173			
Isopropylbenzene	21		2.5	ug/L	20.0		104	60-132			
m,p-Xylenes	40		5.0	ug/L	40.0		99	64-133			
Methyl acetate	30		2.5	ug/L	20.0		148	70-130			QL-02
Methyl cyclohexane	23		2.5	ug/L	20.0		116	70-130			
Methylene Chloride	27		12	ug/L	20.0		136	43-142			
Methyl-tert-Butyl Ether	28		2.5	ug/L	20.0		141	51-145			
o-Xylene	20		2.5	ug/L	20.0		102	61-129			
Styrene	21		2.5	ug/L	20.0		103	59-136			
Tetrachloroethene	19		2.5	ug/L	20.0		97	60-147			
Toluene	20		2.5	ug/L	20.0		101	64-131			
trans-1,2-Dichloroethene	27		2.5	ug/L	20.0		135	54-134			QL-02
trans-1,3-Dichloropropene	23		2.5	ug/L	20.0		116	65-149			
Trichloroethene	22		2.5	ug/L	20.0		112	62-135			
Trichlorofluoromethane	25		2.5	ug/L	20.0		123	56-155			
Vinyl chloride	24		2.5	ug/L	20.0		118	20-167			
4-Bromofluorobenzene	*51*			*ug/L*	*50.0*		*103*	*41-142*			
Dibromofluoromethane	*57*			*ug/L*	*50.0*		*114*	*53-146*			
Toluene-d8	*51*			*ug/L*	*50.0*		*103*	*41-146*			

Matrix Spike (1A26010-MS1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 09:24

Source: AD08635-03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	25		2.5	ug/L	20.0	0.80 U	125	57-148			
1,1,2,2-Tetrachloroethane	22		2.5	ug/L	20.0	0.54 U	112	60-139			
1,1,2-Trichloroethane	22		2.5	ug/L	20.0	0.76 U	109	57-141			
1,1-Dichloroethane	23		2.5	ug/L	20.0	0.62 U	115	57-142			
1,1-Dichloroethene	25		2.5	ug/L	20.0	0.94 U	126	47-139			
1,2,4-Trichlorobenzene	24		2.5	ug/L	20.0	0.70 U	122	52-159			
1,2-Dibromo-3-chloropropane	27		2.5	ug/L	20.0	0.96 U	136	48-150			
1,2-Dibromoethane	22		2.5	ug/L	20.0	0.78 U	110	57-140			
1,2-Dichlorobenzene	20		2.5	ug/L	20.0	0.73 U	102	63-131			
1,2-Dichloroethane	22		2.5	ug/L	20.0	0.63 U	112	50-156			
1,2-Dichloropropane	23		2.5	ug/L	20.0	0.80 U	115	61-133			
1,3-Dichlorobenzene	20		2.5	ug/L	20.0	0.77 U	99	66-129			
1,4-Dichlorobenzene	19		2.5	ug/L	20.0	0.76 U	97	65-133			
2-Butanone	140		12	ug/L	100	4.5 U	137	10-180			
2-Hexanone	120		12	ug/L	100	2.5 U	123	12-180			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A26010 - EPA 5030B_MS - Continued

Matrix Spike (1A26010-MS1) Continued Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 09:24

Source: AD08635-03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
4-Methyl-2-pentanone	120		12	ug/L	100	2.5 U	119	19-180			
Acetone	150		25	ug/L	100	10 U	152	10-180			
Benzene	20		2.5	ug/L	20.0	0.71 U	102	56-136			
Bromodichloromethane	22		2.5	ug/L	20.0	0.52 U	110	58-135			
Bromoform	22		2.5	ug/L	20.0	0.75 U	108	46-148			
Bromomethane	22		2.5	ug/L	20.0	0.95 U	108	10-173			
Carbon disulfide	35		12	ug/L	20.0	2.5 U	173	43-153			QM-19
Carbon Tetrachloride	23		2.5	ug/L	20.0	0.94 U	114	54-156			
Chlorobenzene	20		2.5	ug/L	20.0	0.72 U	98	51-139			
Chloroethane	25		2.5	ug/L	20.0	0.98 U	125	27-180			
Chloroform	27		2.5	ug/L	20.0	0.80 U	134	58-139			
Chloromethane	20		2.5	ug/L	20.0	0.82 U	98	33-154			
cis-1,2-Dichloroethene	24		2.5	ug/L	20.0	0.53 U	118	56-128			
cis-1,3-Dichloropropene	22		2.5	ug/L	20.0	0.59 U	111	64-128			
Cyclohexane	27		2.5	ug/L	20.0	0.93 U	134	70-130			QM-19
Dibromochloromethane	21		2.5	ug/L	20.0	0.50 U	107	50-140			
Dichlorodifluoromethane	15		2.5	ug/L	20.0	0.74 U	75	10-180			
Ethylbenzene	20		2.5	ug/L	20.0	0.69 U	98	63-133			
Freon 113	29		2.5	ug/L	20.0	0.73 U	146	47-173			
Isopropylbenzene	20		2.5	ug/L	20.0	0.67 U	100	60-132			
m,p-Xylenes	39		5.0	ug/L	40.0	1.3 U	97	64-133			
Methyl acetate	29		2.5	ug/L	20.0	0.95 U	144	70-130			QM-19
Methyl cyclohexane	23		2.5	ug/L	20.0	0.64 U	114	70-130			
Methylene Chloride	26		12	ug/L	20.0	2.5 U	129	43-142			
Methyl-tert-Butyl Ether	28		2.5	ug/L	20.0	0.60 U	139	51-145			
o-Xylene	19		2.5	ug/L	20.0	0.53 U	97	61-129			
Styrene	20		2.5	ug/L	20.0	0.61 U	98	59-136			
Tetrachloroethene	19		2.5	ug/L	20.0	0.76 U	96	60-147			
Toluene	20		2.5	ug/L	20.0	0.72 U	98	64-131			
trans-1,2-Dichloroethene	26		2.5	ug/L	20.0	0.73 U	130	54-134			
trans-1,3-Dichloropropene	22		2.5	ug/L	20.0	0.73 U	110	65-149			
Trichloroethene	21		2.5	ug/L	20.0	0.89 U	106	62-135			
Trichlorofluoromethane	26		2.5	ug/L	20.0	0.94 U	128	56-155			
Vinyl chloride	25		2.5	ug/L	20.0	0.71 U	125	20-167			
4-Bromofluorobenzene	*50*			*ug/L*	*50.0*		*101*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*112*	*53-146*			
Toluene-d8	*50*			*ug/L*	*50.0*		*101*	*41-146*			

Matrix Spike Dup (1A26010-MSD1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 09:53

Source: AD08635-03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	25		2.5	ug/L	20.0	0.80 U	124	57-148	1	25	
1,1,2,2-Tetrachloroethane	23		2.5	ug/L	20.0	0.54 U	114	60-139	3	17	
1,1,2-Trichloroethane	21		2.5	ug/L	20.0	0.76 U	106	57-141	3	16	
1,1-Dichloroethane	23		2.5	ug/L	20.0	0.62 U	115	57-142	0.2	24	
1,1-Dichloroethene	24		2.5	ug/L	20.0	0.94 U	120	47-139	5	16	
1,2,4-Trichlorobenzene	24		2.5	ug/L	20.0	0.70 U	119	52-159	2	24	
1,2-Dibromo-3-chloropropane	28		2.5	ug/L	20.0	0.96 U	141	48-150	4	21	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A26010 - EPA 5030B_MS - Continued

Matrix Spike Dup (1A26010-MSD1) Continued Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 09:53

Source: AD08635-03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,2-Dibromoethane	22		2.5	ug/L	20.0	0.78 U	110	57-140	0.09	16	
1,2-Dichlorobenzene	20		2.5	ug/L	20.0	0.73 U	100	63-131	2	25	
1,2-Dichloroethane	22		2.5	ug/L	20.0	0.63 U	112	50-156	0.6	18	
1,2-Dichloropropane	23		2.5	ug/L	20.0	0.80 U	113	61-133	2	26	
1,3-Dichlorobenzene	19		2.5	ug/L	20.0	0.77 U	94	66-129	5	23	
1,4-Dichlorobenzene	19		2.5	ug/L	20.0	0.76 U	94	65-133	4	23	
2-Butanone	130		12	ug/L	100	4.5 U	129	10-180	6	29	
2-Hexanone	130		12	ug/L	100	2.5 U	133	12-180	8	28	
4-Methyl-2-pentanone	130		12	ug/L	100	2.5 U	125	19-180	5	24	
Acetone	160		25	ug/L	100	10 U	157	10-180	3	19	
Benzene	20		2.5	ug/L	20.0	0.71 U	101	56-136	0.5	14	
Bromodichloromethane	22		2.5	ug/L	20.0	0.52 U	110	58-135	0.1	19	
Bromoform	21		2.5	ug/L	20.0	0.75 U	107	46-148	0.9	18	
Bromomethane	23		2.5	ug/L	20.0	0.95 U	114	10-173	5	29	
Carbon disulfide	33		12	ug/L	20.0	2.5 U	163	43-153	6	26	QM-19
Carbon Tetrachloride	23		2.5	ug/L	20.0	0.94 U	113	54-156	0.4	27	
Chlorobenzene	19		2.5	ug/L	20.0	0.72 U	95	51-139	3	13	
Chloroethane	25		2.5	ug/L	20.0	0.98 U	125	27-180	0.2	22	
Chloroform	27		2.5	ug/L	20.0	0.80 U	133	58-139	1	17	
Chloromethane	19		2.5	ug/L	20.0	0.82 U	96	33-154	3	31	
cis-1,2-Dichloroethene	23		2.5	ug/L	20.0	0.53 U	115	56-128	2	17	
cis-1,3-Dichloropropene	22		2.5	ug/L	20.0	0.59 U	111	64-128	0.2	20	
Cyclohexane	26		2.5	ug/L	20.0	0.93 U	128	70-130	5	20	
Dibromochloromethane	21		2.5	ug/L	20.0	0.50 U	107	50-140	0.3	18	
Dichlorodifluoromethane	14		2.5	ug/L	20.0	0.74 U	70	10-180	6	26	
Ethylbenzene	19		2.5	ug/L	20.0	0.69 U	95	63-133	3	18	
Freon 113	29		2.5	ug/L	20.0	0.73 U	144	47-173	2	30	
Isopropylbenzene	19		2.5	ug/L	20.0	0.67 U	97	60-132	3	23	
m,p-Xylenes	38		5.0	ug/L	40.0	1.3 U	94	64-133	3	18	
Methyl acetate	31		2.5	ug/L	20.0	0.95 U	155	70-130	7	20	QM-19
Methyl cyclohexane	22		2.5	ug/L	20.0	0.64 U	112	70-130	2	20	
Methylene Chloride	26		12	ug/L	20.0	2.5 U	128	43-142	1	23	
Methyl-tert-Butyl Ether	28		2.5	ug/L	20.0	0.60 U	141	51-145	1	22	
o-Xylene	19		2.5	ug/L	20.0	0.53 U	96	61-129	1	16	
Styrene	19		2.5	ug/L	20.0	0.61 U	97	59-136	2	32	
Tetrachloroethene	18		2.5	ug/L	20.0	0.76 U	92	60-147	4	21	
Toluene	19		2.5	ug/L	20.0	0.72 U	95	64-131	3	16	
trans-1,2-Dichloroethene	26		2.5	ug/L	20.0	0.73 U	128	54-134	2	20	
trans-1,3-Dichloropropene	22		2.5	ug/L	20.0	0.73 U	108	65-149	2	17	
Trichloroethene	21		2.5	ug/L	20.0	0.89 U	106	62-135	0.4	20	
Trichlorofluoromethane	26		2.5	ug/L	20.0	0.94 U	131	56-155	3	22	
Vinyl chloride	24		2.5	ug/L	20.0	0.71 U	120	20-167	4	24	
4-Bromofluorobenzene	*55*			*ug/L*	*50.0*		*109*	*41-142*			
Dibromofluoromethane	*60*			*ug/L*	*50.0*		*121*	*53-146*			
Toluene-d8	*55*			*ug/L*	*50.0*		*109*	*41-146*			

Dissolved Gases by GC - Quality Control

Batch 1A26006 - Same

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Dissolved Gases by GC - Quality Control

Batch 1A26006 - Same - Continued

Blank (1A26006-BLK1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 10:17

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.00510	U	0.00600	mg/L							
Ethene	0.00510	U	0.00600	mg/L							
Methane	0.00400	U	0.00500	mg/L							

LCS (1A26006-BS1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 09:33

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.395		0.00600	mg/L	0.323		122	70-130			
Ethene	0.348		0.00600	mg/L	0.302		115	70-130			
Methane	0.187		0.00500	mg/L	0.172		109	70-130			

LCS Dup (1A26006-BSD1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 09:54

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.401		0.00600	mg/L	0.323		124	70-130	1	30	
Ethene	0.354		0.00600	mg/L	0.302		117	70-130	2	30	
Methane	0.192		0.00500	mg/L	0.172		112	70-130	3	30	

Duplicate (1A26006-DUP1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 12:39

Source: AE00066-09

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.00510	U	0.00600	mg/L		0.00510 U				30	QV-01
Ethene	0.00510	U	0.00600	mg/L		0.00510 U				30	
Methane	0.442		0.00500	mg/L		0.152			98	30	QM-12

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
A-07	Analyte biased low in LCS but detected in the reporting limit standard. Since the analyte in the associated sample was not detected, there is no impact on data quality.
J-01	Result may be biased high due to positive results in the associated method blank at a concentration above the MDL and/or greater than one-half the MRL.
O-01	This compound is a common laboratory contaminant.
QL-02	The associated laboratory control sample exhibited high bias; since the result is ND, there is no impact.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-12	Precision between duplicate samples was outside acceptance limits.
QM-19	The spike recovery was outside acceptance limits for the MS and/or MSD.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.
R-05	The sample was diluted due to the presence of high levels of non-target analytes resulting in elevated reporting limits.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

AE000606

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 2220 | PAGE 1 OF 2

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G08970	KSC- CRCA	Alex Murphy	321-292-0842	ENCO, Kaitlin Dylnicki
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER: Melissa Bennett	PHONE NUMBER: 321-914-9394	ADDRESS
		CARRIER/WAYBILL NUMBER		CITY, STATE: Orlando, FL

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE (YEAR 2021)	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	TYPE OF ANALYSIS: VOC (CONTAINER TYPE: G; PRESERVATIVE USED: HCl)	MEE (CONTAINER TYPE: G; PRESERVATIVE USED: ice)	COMMENTS
1/19	1105	CRCA-MW0030-058.0-20210119	30	53	63	GW	G	3	X		
1/19	1140	CRCA-MW0029-035.0-20210119	29	30	40	GW	G	3	X		
1/19	1220	CRCA-MW0028-058.0-20210119	28	53	63	GW	G	3	X		
1/19	1300	CRCA-MW0027-035.0-20210119	27	30	40	GW	G	3	X		
1/19	1335	CRCA-MW0015-027.5-20210119	15	25	30	GW	G	3	X		
1/19	1430	CRCA-MW0013-027.5-20210119	13	25	30	GW	G	3	X		
1/19	1510	CRCA-MW0012-027.5-20210119	12	25	30	GW	G	3	X		
1/19	1545	CRCA-MW0002-032.5-20210119	2	30	35	GW	G	3	X		
1/20	1215	CRCA-MW0031-058.0-20210120	31	53	63	GW	G	6	X	X	
1/20	1300	CRCA-MW0032-058.0-20210120	32	53	63	GW	G	6	X	X MB	VOC analysis only
1/20	1400	CRCA-MW0018-058.0-20210120	18	53	63	GW	G	6	X	X	
1/20	1600	CRCA-MW0019-058.0-20210120	19	53	63	GW	G	6	X	X	

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	1-21-21	1500	1. RECEIVED BY	1/21/21	1500
2. RELINQUISHED BY	1/21/21	1500	2. RECEIVED BY	1/21/21	1500
3. RELINQUISHED BY	1/21/21		3. RECEIVED BY	1/22/21	1510

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

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FORM NO. TtNUS-001

AE000166

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 2222 | PAGE 2 OF 2

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G08970	CRCA	Alex Murphy	321-292-0842	ENCO
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER: Melissa Bennett	PHONE NUMBER: 321-914-9394	ADDRESS
		CARRIER/WAYBILL NUMBER		CITY, STATE: Orlando, FL

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2021	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TYPE OF ANALYSIS: VOC TO-15	COMMENTS
											Summa /	
1/20	1103	CRCA-VMP01-20210120	VMP1	—	—	air	G	1			X	1001-1103
1/20	1106	CRCA-VMP02-20210120	VMP2	—	—	air	G	1			X	1008-1106
1/20	1115	CRCA-VMP03-20210120	VMP3	—	—	air	G	1			X	1014-1115
1/20	1122	CRCA-VMP04-20210120	VMP4	—	—	air	G	1			X	1022-1122
1/20	1703	CRCA-SYSAIR-20210120	SYS	—	-	air	G	1			X	1900-1703

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	1-21-21	1500	1. RECEIVED BY KE	1/21/21	15:10
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY KE	1/21/21	15:10	3. RECEIVED BY	1-21-21	1500
COMMENTS	1-21-21	15 10	James W Gregory	1/21/21	1510

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY) 4/02R FORM NO. TtNUS-001

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102-A Woodwinds Industrial Ct, Cary, NC 27511

www.enco labs.com

COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

General Information

SITE LOCATION:	KSC- CRCA .
SITE ADDRESS:	Contractor Road
SAMPLER ID:	CRCA- VMPol- 20210120
SAMPLING DATE:	1-20-21
OPERATOR:	Tetra tech / Melissa Bennett
SHIPPING DATE:	1/13/21
CANISTER SERIAL NO.:	1158
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	1A-R-P-14

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	60°F	-14 mmHg	1001	1HR
STOP		-14mmHg	1103	

Signature/Title: [signature] / Env. Engineer

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COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15
CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

2

General Information

SITE LOCATION:	KSC- CBCA
SITE ADDRESS:	Contractor Road
SAMPLER ID:	CBCA – VM002-20210120
SAMPLING DATE:	1-2021
OPERATOR:	Tetra tech / melissa Bennett
SHIPPING DATE:	113121
CANISTER SERIAL NO.:	15863
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	JAY-R-056

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	60°F	-30mmHg	1008	1HR
STOP		-13mmHg	1106	1HR

Signature/Title: [signature] / Env. Engineer

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COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

3

General Information

SITE LOCATION:	KSC- CRCA
SITE ADDRESS:	Contractor Road
SAMPLER ID:	CRCA- VMP03-20210120
SAMPLING DATE:	1-20-21
OPERATOR:	Tetra tech / Melissa Bennett
SHIPPING DATE:	1/13/21
CANISTER SERIAL NO.:	1S-069
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	1A0-1H-059

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	60°F	-30mmHg	1014	1HR
STOP	60°F	-13 mmHg	1115	1HR

Signature/Title: [signature] / Env. Engineer

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COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

4

General Information

SITE LOCATION:	KSC- CRCA
SITE ADDRESS:	Contractor Road
SAMPLER ID:	CRCA-UMP04-20210120
SAMPLING DATE:	1-20-21
OPERATOR:	Tetra tech / Melissa Bennett
SHIPPING DATE:	1/13/21
CANISTER SERIAL NO.:	05-070
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	JAV-R-04

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	60°F	-30 mm Hg	1022	1 HR
STOP	60°F	-9 mm Hg	1122	1 HR

Signature/Title: [signature] / Env. Engineer

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COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

SYSAIR

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

General Information

SITE LOCATION:	KSC- CRCA ,
SITE ADDRESS:	Contractor Road
SAMPLER ID:	CRCA- SYSAIR-20210120
SAMPLING DATE:	1-20-21
OPERATOR:	Tetra tech / Melissa Bennett
SHIPPING DATE:	1/20/21
CANISTER SERIAL NO.:	18-016
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	10685

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	55°F	-30mm Hg	0900	8 HR
STOP	72°F	0mmHg	1703	8 HR

Signature/Title: [signature] / Env. Engineer

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Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Thursday, January 28, 2021
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AE00066

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Thursday, January 21, 2021.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

www.encolabs.com

Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Client PM: Alex Murphy
Project Number: 112G08970
ENCO Project ID: AE00066
SDG: AE00066-TE016

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling and processing will be discussed in the Remarks section below.

Remarks

List of instruments used:

Analytical and Preparation Method	SOP Reference Instrument
EPA 8260D / 5030B_MS	OVGCMS2, OVGCMS5
TO-15	OVGCMS7
RSK-175	OVGCFID2

Analysis: EPA 8260D

Manual integrations were performed on samples associated with EPA 8260D. All data & explanations are included in the raw data section of the report.

Affected Samples: 1A25020-BS1, CRCA-MW0030-058.0-20210119[AE00066-01], CRCA-MW0029-035.0-20210119[AE00066-02], CRCA-MW0028-058.0-20210119[AE00066-03], CRCA-MW0027-035.0-20210119[AE00066-04], CRCA-MW0015-027.5-20210119[AE00066-05], CRCA-MW0013-027.5-20210119[AE00066-06], CRCA-MW0012-027.5-20210119[AE00066-07], CRCA-MW0002-032.5-20210119[AE00066-08], CRCA-MW0031-058.0-20210120[AE00066-09], CRCA-MW0032-058.0-20210120[AE00066-10], CRCA-MW0019-058.0-20210120[AE00066-12]
The associated laboratory control sample exhibited low bias for methyl acetate; the associated sample had ND (non-detect) results, but sensitivity was verified by analyzing a standard with a concentration equivalent to the reporting limit.

Affected Samples: CRCA-MW0032-058.0-20210120[AE00066-10], 1A25020-MS1, 1A25020-MSD1
Matrix spike recovery was outside acceptance limits for m,p-xylenes, methyl acetate, and/or styrene.

Affected Samples: 1A26010-BS1, CRCA-MW0018-058.0-20210120[AE00066-11RE1]
The associated laboratory control sample for multiple analytes exhibited high bias. Analyte(s) not detected in the sample.

Affected Samples: AA64658-CCV1, CRCA-MW0018-058.0-20210120[AE00066-11RE1]
The associated calibration verification standard for methyl acetate exhibited high bias. Analyte(s) not detected in the sample

Affected Samples: CRCA-MW0018-058.0-20210120[AE00066-11]
Sample was analyzed at a dilution due to suspected matrix interference.

Affected Samples: CRCA-MW0018-058.0-20210120[AE00066-11]
Initial analysis was over diluted. Sample was reanalyzed at a lower dilution.

Affected Samples: 1A26010-MS1, 1A26010-MSD1
Matrix spike recovery was outside acceptance limits for carbon disulfide, cyclohexane, and/or methyl acetate.

Analysis: EPA 8260D

Affected Samples: AA64632-CCV1, AA64658-CCV1
The continuing calibration verification standard exhibited low bias for multiple analytes; the associated sample had ND (non-detect) results, but sensitivity was verified by analyzing a standard with a concentration equivalent to the reporting limit.

Analysis: TO-15

The calibration curve and the continuing calibration standards are in ppbv. Raw data is reported in pptv. Per request, results may be reported in a unit other than ppbv which is obtained through a conversion factor set up in the laboratories' database.

Methylene chloride is a common laboratory contaminant.

Affected Samples: 1A25023-BLK1, CRCA-VMP01-20210120[AE00066-13RE1], CRCA-VMP02-20210120[AE00066-14], CRCA-VMP03-20210120[AE00066-15RE1], CRCA-SYSAIR-20210120[AE00066-17]
Result for methylene chloride may be biased high due to positive results in the associated method blank.

Affected Samples: CRCA-VMP01-20210120[AE00066-13], CRCA-VMP03-20210120[AE00066-15], CRCA-VMP04-20210120[AE00066-16]
Sample was analyzed at a dilution due to suspected matrix interference.

Affected Samples: CRCA-VMP01-20210120[AE00066-13], CRCA-VMP03-20210120[AE00066-15], CRCA-VMP04-20210120[AE00066-16],
Initial analysis was over diluted. Sample was reanalyzed at a lower dilution.

Affected Samples: CRCA-VMP04-20210120[AE00066-16RE1]
Sample was analyzed at a dilution due to the presence of high non-target analytes.

Affected Samples: AA64317-SCV1
SCV recovery for trans-1,3-dichloropropene was outside acceptance limits. Analyte was not detected in the samples.

Analysis: RSK-175

Manual integrations were performed on samples associated with RSK-175. All data & explanations are included in the raw data section of the report.

Affected Samples: CRCA-MW0031-058.0-20210120[AE00066-09],
CRCA-MW0018-058.0-20210120[AE00066-11], CRCA-MW0019-058.0-20210120[AE00066-12]
The associated calibration verification standard for ethane exhibited high bias. Analyte(s) not detected in the sample.

Affected Samples: CRCA-MW0031-058.0-20210120[AE00066-09], 1A26006-DUP1
Precision between duplicate samples was outside acceptance limits for methane.

Affected Samples: AA64653-CCV2, CRCA-MW0018-058.0-20210120[AE00066-11]
Initial result for methane was above the calibration range of the instrument. Sample was reanalyzed at a dilution.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Kaitlin Dylnicki
Project Manager

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-MW0030-058.0-20210119 **Lab ID: AE00066-01** **Sampled: 01/19/21 11:05** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 12:17

Client ID: CRCA-MW0029-035.0-20210119 **Lab ID: AE00066-02** **Sampled: 01/19/21 11:40** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 12:46

Client ID: CRCA-MW0028-058.0-20210119 **Lab ID: AE00066-03** **Sampled: 01/19/21 12:20** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 13:15

Client ID: CRCA-MW0027-035.0-20210119 **Lab ID: AE00066-04** **Sampled: 01/19/21 13:00** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 13:45

Client ID: CRCA-MW0015-027.5-20210119 **Lab ID: AE00066-05** **Sampled: 01/19/21 13:35** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 14:14

Client ID: CRCA-MW0013-027.5-20210119 **Lab ID: AE00066-06** **Sampled: 01/19/21 14:30** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 14:44

Client ID: CRCA-MW0012-027.5-20210119 **Lab ID: AE00066-07** **Sampled: 01/19/21 15:10** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 15:13

Client ID: CRCA-MW0002-032.5-20210119 **Lab ID: AE00066-08** **Sampled: 01/19/21 15:45** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 15:43

Client ID: CRCA-MW0031-058.0-20210120 **Lab ID: AE00066-09** **Sampled: 01/20/21 12:15** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/03/21	01/25/21 00:00	01/25/21 16:12
RSK 175	Same	02/03/21	01/26/21 00:00	01/26/21 11:20

Client ID: CRCA-MW0032-058.0-20210120 **Lab ID: AE00066-10** **Sampled: 01/20/21 13:00** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/03/21	01/25/21 00:00	01/25/21 11:47

Client ID: CRCA-MW0018-058.0-20210120 **Lab ID: AE00066-11** **Sampled: 01/20/21 14:00** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	02/03/21	01/26/21 00:00	01/26/21 11:36

Client ID: CRCA-MW0018-058.0-20210120 **Lab ID: AE00066-11RE1** **Sampled: 01/20/21 14:00** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/03/21	01/26/21 00:00	01/26/21 15:52
RSK 175	Same	02/03/21	01/26/21 00:00	01/26/21 12:16

Client ID: CRCA-MW0019-058.0-20210120 **Lab ID: AE00066-12** **Sampled: 01/20/21 16:00** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/03/21	01/25/21 00:00	01/25/21 17:11
RSK 175	Same	02/03/21	01/26/21 00:00	01/26/21 11:52

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-VMP01-20210120 **Lab ID: AE00066-13RE1** **Sampled: 01/20/21 11:03** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	02/19/21	01/25/21 09:00	01/25/21 10:36

Client ID: CRCA-VMP02-20210120 **Lab ID: AE00066-14** **Sampled: 01/20/21 11:06** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	02/19/21	01/25/21 09:00	01/25/21 11:18

Client ID: CRCA-VMP03-20210120 **Lab ID: AE00066-15RE1** **Sampled: 01/20/21 11:15** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	02/19/21	01/25/21 09:00	01/25/21 14:06

Client ID: CRCA-VMP04-20210120 **Lab ID: AE00066-16RE1** **Sampled: 01/20/21 11:22** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	02/19/21	01/25/21 09:00	01/25/21 14:47

Client ID: CRCA-SYSAIR-20210120 **Lab ID: AE00066-17** **Sampled: 01/20/21 17:03** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	02/19/21	01/25/21 09:00	01/25/21 13:21

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SAMPLE DETECTION SUMMARY

Client ID: CRCA-MW0027-035.0-20210119 **Lab ID:** AE00066-04

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	7.0		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0013-027.5-20210119 **Lab ID:** AE00066-06

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	2.1	I	0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0002-032.5-20210119 **Lab ID:** AE00066-08

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	3.1		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0031-058.0-20210120 **Lab ID:** AE00066-09

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	0.152		0.00400	0.00500	mg/L	RSK 175	QM-12
Vinyl chloride	29		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0018-058.0-20210120 **Lab ID:** AE00066-11

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethene	0.0216		0.00510	0.00600	mg/L	RSK 175	

Client ID: CRCA-MW0018-058.0-20210120 **Lab ID:** AE00066-11RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	2.09		0.0400	0.0500	mg/L	RSK 175	
Vinyl chloride	97		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0019-058.0-20210120 **Lab ID:** AE00066-12

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	0.510		0.00400	0.00500	mg/L	RSK 175	
Vinyl chloride	2.8		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-VMP01-20210120 **Lab ID:** AE00066-13RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	5.9		0.47	3.4	ppbv	TO-15	
Freon 113	3.9		0.43	3.4	ppbv	TO-15	
Methylene chloride	0.75	IV	0.27	3.4	ppbv	TO-15	J-01, O-01

Client ID: CRCA-VMP02-20210120 **Lab ID:** AE00066-14

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	3.5	I	0.94	6.8	ppbv	TO-15	
Freon 113	120		0.86	6.8	ppbv	TO-15	
Methylene chloride	0.97	IV	0.54	6.8	ppbv	TO-15	J-01, O-01
trans-1,2-Dichloroethene	5.5	I	0.86	6.8	ppbv	TO-15	

Client ID: CRCA-VMP03-20210120 **Lab ID:** AE00066-15RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	4.1		0.56	4.0	ppbv	TO-15	
Chloroform	1.9	I	0.60	4.0	ppbv	TO-15	
Freon 113	8.1		0.51	4.0	ppbv	TO-15	
Methylene chloride	1.1	IV	0.32	4.0	ppbv	TO-15	J-01, O-01

Client ID: CRCA-VMP04-20210120 **Lab ID:** AE00066-16RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	31		0.98	7.0	ppbv	TO-15	
Freon 113	34		0.90	7.0	ppbv	TO-15	
Methylene chloride	1.1	IV	0.56	7.0	ppbv	TO-15	J-01, O-01, R-05

Client ID: CRCA-SYSAIR-20210120 **Lab ID:** AE00066-17

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	2.6	I	0.46	3.3	ppbv	TO-15	
Methylene chloride	0.99	IV	0.26	3.3	ppbv	TO-15	J-01, O-01
trans-1,2-Dichloroethene	0.96	I	0.42	3.3	ppbv	TO-15	

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ANALYTICAL RESULTS

Description: CRCA-MW0030-058.0-20210119 **Lab Sample ID:** AE00066-01 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 11:05 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 12:17	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:17	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	

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ANALYTICAL RESULTS

Description: CRCA-MW0030-058.0-20210119 **Lab Sample ID:** AE00066-01 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 11:05 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 12:17	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*106 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 12:17*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*115 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 12:17*	*KKW*	
Toluene-d8	*48*	*1*	*50.0*	*97 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 12:17*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0029-035.0-20210119 **Lab Sample ID:** AE00066-02 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 11:40 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 12:46	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:46	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0029-035.0-20210119 **Lab Sample ID:** AE00066-02 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 11:40 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 12:46	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*107 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 12:46*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*114 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 12:46*	*KKW*	
Toluene-d8	*48*	*1*	*50.0*	*96 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 12:46*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0028-058.0-20210119 **Lab Sample ID:** AE00066-03 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 12:20 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 13:15	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:15	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0028-058.0-20210119 **Lab Sample ID:** AE00066-03 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 12:20 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 13:15	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*105 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 13:15*	*KKW*	
Dibromofluoromethane	*56*	*1*	*50.0*	*111 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 13:15*	*KKW*	
Toluene-d8	*48*	*1*	*50.0*	*95 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 13:15*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0027-035.0-20210119 **Lab Sample ID:** AE00066-04 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 13:45	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:45	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0027-035.0-20210119 **Lab Sample ID:** AE00066-04 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Vinyl chloride [75-01-4]^	**7.0**		ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 13:45	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*52*	*1*	*50.0*	*104 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 13:45*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*115 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 13:45*	*KKW*	
Toluene-d8	*46*	*1*	*50.0*	*93 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 13:45*	*KKW*	

ANALYTICAL RESULTS

Description: CRCA-MW0015-027.5-20210119 **Lab Sample ID:** AE00066-05 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:35 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 14:14	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:14	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0015-027.5-20210119 **Lab Sample ID:** AE00066-05 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:35 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 14:14	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*54*	*1*	*50.0*	*108 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 14:14*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*114 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 14:14*	*KKW*	
Toluene-d8	*47*	*1*	*50.0*	*94 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 14:14*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0013-027.5-20210119 **Lab Sample ID:** AE00066-06 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 14:30 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 14:44	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:44	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0013-027.5-20210119 **Lab Sample ID:** AE00066-06 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 14:30 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Vinyl chloride [75-01-4]^	**2.1**	I	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 14:44	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*55*	*1*	*50.0*	*109 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 14:44*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*114 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 14:44*	*KKW*	
Toluene-d8	*48*	*1*	*50.0*	*96 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 14:44*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0012-027.5-20210119 **Lab Sample ID:** AE00066-07 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 15:10 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 15:13	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:13	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	

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ANALYTICAL RESULTS

Description: CRCA-MW0012-027.5-20210119 **Lab Sample ID:** AE00066-07 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 15:10 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 15:13	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*54*	*1*	*50.0*	*109 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 15:13*	*KKW*	
Dibromofluoromethane	*59*	*1*	*50.0*	*118 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 15:13*	*KKW*	
Toluene-d8	*48*	*1*	*50.0*	*96 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 15:13*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0002-032.5-20210119 **Lab Sample ID:** AE00066-08 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 15:45 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 15:43	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:43	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0002-032.5-20210119 **Lab Sample ID:** AE00066-08 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 15:45 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Vinyl chloride [75-01-4]^	**3.1**		ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 15:43	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*55*	*1*	*50.0*	*109 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 15:43*	*KKW*	
Dibromofluoromethane	*56*	*1*	*50.0*	*113 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 15:43*	*KKW*	
Toluene-d8	*49*	*1*	*50.0*	*97 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 15:43*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0031-058.0-20210120 **Lab Sample ID:** AE00066-09 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 12:15 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 16:12	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 16:12	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	

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ANALYTICAL RESULTS

Description: CRCA-MW0031-058.0-20210120 **Lab Sample ID:** AE00066-09 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 12:15 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Vinyl chloride [75-01-4]^	**29**		ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 16:12	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*52*	*1*	*50.0*	*105 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 16:12*	*KKW*	
Dibromofluoromethane	*59*	*1*	*50.0*	*118 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 16:12*	*KKW*	
Toluene-d8	*47*	*1*	*50.0*	*93 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 16:12*	*KKW*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1A26006	RSK 175	01/26/21 11:20	JMW	QV-01
Ethene [74-85-1]^	0.00510	U	mg/L	1	0.00510	0.00600	1A26006	RSK 175	01/26/21 11:20	JMW	
Methane [74-82-8]^	**0.152**		mg/L	1	0.00400	0.00500	1A26006	RSK 175	01/26/21 11:20	JMW	QM-12

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0032-058.0-20210120 **Lab Sample ID:** AE00066-10 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 13:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 11:47	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 11:47	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 11:47	KKW	QM-07
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	A-07, QM-19
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	QM-07
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0032-058.0-20210120 **Lab Sample ID:** AE00066-10 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 13:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 11:47	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*106 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 11:47*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*114 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 11:47*	*KKW*	
Toluene-d8	*47*	*1*	*50.0*	*94 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 11:47*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0018-058.0-20210120 **Lab Sample ID:** AE00066-11 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 14:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A26010	EPA 8260D	01/26/21 15:52	KG	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A26010	EPA 8260D	01/26/21 15:52	KG	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A26010	EPA 8260D	01/26/21 15:52	KG	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A26010	EPA 8260D	01/26/21 15:52	KG	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A26010	EPA 8260D	01/26/21 15:52	KG	QL-02
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	QL-02
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	QL-02
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A26010	EPA 8260D	01/26/21 15:52	KG	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	QL-02, QV-01
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A26010	EPA 8260D	01/26/21 15:52	KG	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	QL-02
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0018-058.0-20210120 **Lab Sample ID:** AE00066-11 **Received:** 01/21/21 15:10
Matrix: Ground Water **Sampled:** 01/20/21 14:00 **Work Order:** AE00066
Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Vinyl chloride [75-01-4]^	**97**		ug/L	1	0.71	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A26010	EPA 8260D	01/26/21 15:52	KG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*54*	*1*	*50.0*	*108 %*	*41-142*	*1A26010*	*EPA 8260D*	*01/26/21 15:52*	*KG*	
Dibromofluoromethane	*55*	*1*	*50.0*	*110 %*	*53-146*	*1A26010*	*EPA 8260D*	*01/26/21 15:52*	*KG*	
Toluene-d8	*55*	*1*	*50.0*	*109 %*	*41-146*	*1A26010*	*EPA 8260D*	*01/26/21 15:52*	*KG*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1A26006	RSK 175	01/26/21 11:36	JMW	QV-01
Ethene [74-85-1]^	**0.0216**		mg/L	1	0.00510	0.00600	1A26006	RSK 175	01/26/21 11:36	JMW	
Methane [74-82-8]^	**2.09**		mg/L	10	0.0400	0.0500	1A26006	RSK 175	01/26/21 12:16	JMW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0019-058.0-20210120 **Lab Sample ID:** AE00066-12 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 16:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 17:11	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:11	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0019-058.0-20210120 **Lab Sample ID:** AE00066-12 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 16:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Vinyl chloride [75-01-4]^	**2.8**		ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 17:11	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*55*	*1*	*50.0*	*110 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 17:11*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*113 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 17:11*	*KKW*	
Toluene-d8	*47*	*1*	*50.0*	*95 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 17:11*	*KKW*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1A26006	RSK 175	01/26/21 11:52	JMW	QV-01
Ethene [74-85-1]^	0.00510	U	mg/L	1	0.00510	0.00600	1A26006	RSK 175	01/26/21 11:52	JMW	
Methane [74-82-8]^	**0.510**		mg/L	1	0.00400	0.00500	1A26006	RSK 175	01/26/21 11:52	JMW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-VMP01-20210120 | **Lab Sample ID:** AE00066-13 | **Received:** 01/21/21 15:10

Matrix: Air | **Sampled:** 01/20/21 11:03 | **Work Order:** AE00066

Project: NASA KSC CRCA | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.46	U	ppbv	1.34	0.46	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.48	U	ppbv	1.34	0.48	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.47	U	ppbv	1.34	0.47	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,1-Dichloroethane [75-34-3]^	0.48	U	ppbv	1.34	0.48	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,1-Dichloroethene [75-35-4]^	0.51	U	ppbv	1.34	0.51	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,2-Dibromoethane [106-93-4]^	0.48	U	ppbv	1.34	0.48	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.36	U	ppbv	1.34	0.36	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,2-Dichloroethane [107-06-2]^	0.50	U	ppbv	1.34	0.50	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,2-Dichloropropane [78-87-5]^	0.54	U	ppbv	1.34	0.54	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.38	U	ppbv	1.34	0.38	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.42	U	ppbv	1.34	0.42	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
3-Chloropropene [107-05-1]^	0.52	U	ppbv	1.34	0.52	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Acetone [67-64-1]^	**5.9**		ppbv	1.34	0.47	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Bromodichloromethane [75-27-4]^	0.46	U	ppbv	1.34	0.46	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Bromoethene [593-60-2]^	0.44	U	ppbv	1.34	0.44	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Bromoform [75-25-2]^	0.51	U	ppbv	1.34	0.51	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Bromomethane [74-83-9]^	0.44	U	ppbv	1.34	0.44	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Carbon tetrachloride [56-23-5]^	0.36	U	ppbv	1.34	0.36	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Chlorobenzene [108-90-7]^	0.44	U	ppbv	1.34	0.44	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Chloroethane [75-00-3]^	0.43	U	ppbv	1.34	0.43	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Chloroform [67-66-3]^	0.51	U	ppbv	1.34	0.51	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Chloromethane [74-87-3]^	0.64	U	ppbv	1.34	0.64	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
cis-1,2-Dichloroethene [156-59-2]^	0.51	U	ppbv	1.34	0.51	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	0.51	U	ppbv	1.34	0.51	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Dibromochloromethane [124-48-1]^	0.44	U	ppbv	1.34	0.44	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ppbv	1.34	0.74	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Freon 113 [76-13-1]^	**3.9**		ppbv	1.34	0.43	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Freon 114 [76-14-2]^	0.70	U	ppbv	1.34	0.70	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Hexachlorobutadiene [87-68-3]^	0.50	U	ppbv	1.34	0.50	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Methylene chloride [75-09-2]^	**0.75**	IV	ppbv	1.34	0.27	3.4	1A25023	TO-15	01/25/21 10:36	rgg	J-01, O-01
Propene [115-07-1]^	0.74	U	ppbv	1.34	0.74	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Tetrachloroethene [127-18-4]^	0.42	U	ppbv	1.34	0.42	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
trans-1,2-Dichloroethene [156-60-5]^	0.43	U	ppbv	1.34	0.43	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.46	U	ppbv	1.34	0.46	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Trichloroethene [79-01-6]^	0.47	U	ppbv	1.34	0.47	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Trichlorofluoromethane [75-69-4]^	0.46	U	ppbv	1.34	0.46	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Vinyl chloride [75-01-4]^	0.75	U	ppbv	1.34	0.75	3.4	1A25023	TO-15	01/25/21 10:36	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*28*	*1*	*31.0*	*90 %*	*70-130*	*1A25023*	*TO-15*	*01/25/21 10:36*	*rgg*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-VMP02-20210120 | **Lab Sample ID:** AE00066-14 | **Received:** 01/21/21 15:10

Matrix: Air | **Sampled:** 01/20/21 11:06 | **Work Order:** AE00066

Project: NASA KSC CRCA | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.92	U	ppbv	1.35	0.92	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.97	U	ppbv	1.35	0.97	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.94	U	ppbv	1.35	0.94	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,1-Dichloroethane [75-34-3]^	0.97	U	ppbv	1.35	0.97	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,1-Dichloroethene [75-35-4]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,2-Dibromoethane [106-93-4]^	0.97	U	ppbv	1.35	0.97	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ppbv	1.35	0.73	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,2-Dichloroethane [107-06-2]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,2-Dichloropropane [78-87-5]^	1.1	U	ppbv	1.35	1.1	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.76	U	ppbv	1.35	0.76	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.84	U	ppbv	1.35	0.84	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
3-Chloropropene [107-05-1]^	1.1	U	ppbv	1.35	1.1	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Acetone [67-64-1]^	**3.5**	I	ppbv	1.35	0.94	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Bromodichloromethane [75-27-4]^	0.92	U	ppbv	1.35	0.92	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Bromoethene [593-60-2]^	0.89	U	ppbv	1.35	0.89	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Bromoform [75-25-2]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Bromomethane [74-83-9]^	0.89	U	ppbv	1.35	0.89	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Carbon tetrachloride [56-23-5]^	0.73	U	ppbv	1.35	0.73	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Chlorobenzene [108-90-7]^	0.89	U	ppbv	1.35	0.89	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Chloroethane [75-00-3]^	0.86	U	ppbv	1.35	0.86	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Chloroform [67-66-3]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Chloromethane [74-87-3]^	1.3	U	ppbv	1.35	1.3	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
cis-1,2-Dichloroethene [156-59-2]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Dibromochloromethane [124-48-1]^	0.89	U	ppbv	1.35	0.89	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Dichlorodifluoromethane [75-71-8]^	1.5	U	ppbv	1.35	1.5	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Freon 113 [76-13-1]^	**120**		ppbv	1.35	0.86	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Freon 114 [76-14-2]^	1.4	U	ppbv	1.35	1.4	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Hexachlorobutadiene [87-68-3]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Methylene chloride [75-09-2]^	**0.97**	IV	ppbv	1.35	0.54	6.8	1A25023	TO-15	01/25/21 11:18	rgg	J-01, O-01
Propene [115-07-1]^	1.5	U	ppbv	1.35	1.5	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Tetrachloroethene [127-18-4]^	0.84	U	ppbv	1.35	0.84	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
trans-1,2-Dichloroethene [156-60-5]^	**5.5**	I	ppbv	1.35	0.86	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.92	U	ppbv	1.35	0.92	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Trichloroethene [79-01-6]^	0.94	U	ppbv	1.35	0.94	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Trichlorofluoromethane [75-69-4]^	0.92	U	ppbv	1.35	0.92	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Vinyl chloride [75-01-4]^	1.5	U	ppbv	1.35	1.5	6.8	1A25023	TO-15	01/25/21 11:18	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*27*	*1*	*31.0*	*87 %*	*70-130*	*1A25023*	*TO-15*	*01/25/21 11:18*	*rgg*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-VMP03-20210120 | **Lab Sample ID:** AE00066-15 | **Received:** 01/21/21 15:10

Matrix: Air | **Sampled:** 01/20/21 11:15 | **Work Order:** AE00066

Project: NASA KSC CRCA | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.54	U	ppbv	1.59	0.54	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.57	U	ppbv	1.59	0.57	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.56	U	ppbv	1.59	0.56	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,1-Dichloroethane [75-34-3]^	0.57	U	ppbv	1.59	0.57	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,1-Dichloroethene [75-35-4]^	0.60	U	ppbv	1.59	0.60	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,2-Dibromoethane [106-93-4]^	0.57	U	ppbv	1.59	0.57	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.43	U	ppbv	1.59	0.43	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,2-Dichloroethane [107-06-2]^	0.59	U	ppbv	1.59	0.59	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,2-Dichloropropane [78-87-5]^	0.64	U	ppbv	1.59	0.64	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.45	U	ppbv	1.59	0.45	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.49	U	ppbv	1.59	0.49	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
3-Chloropropene [107-05-1]^	0.62	U	ppbv	1.59	0.62	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Acetone [67-64-1]^	**4.1**		ppbv	1.59	0.56	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Bromodichloromethane [75-27-4]^	0.54	U	ppbv	1.59	0.54	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Bromoethene [593-60-2]^	0.52	U	ppbv	1.59	0.52	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Bromoform [75-25-2]^	0.60	U	ppbv	1.59	0.60	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Bromomethane [74-83-9]^	0.52	U	ppbv	1.59	0.52	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Carbon tetrachloride [56-23-5]^	0.43	U	ppbv	1.59	0.43	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Chlorobenzene [108-90-7]^	0.52	U	ppbv	1.59	0.52	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Chloroethane [75-00-3]^	0.51	U	ppbv	1.59	0.51	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Chloroform [67-66-3]^	**1.9**	I	ppbv	1.59	0.60	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Chloromethane [74-87-3]^	0.76	U	ppbv	1.59	0.76	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
cis-1,2-Dichloroethene [156-59-2]^	0.60	U	ppbv	1.59	0.60	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	0.60	U	ppbv	1.59	0.60	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Dibromochloromethane [124-48-1]^	0.52	U	ppbv	1.59	0.52	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Dichlorodifluoromethane [75-71-8]^	0.87	U	ppbv	1.59	0.87	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Freon 113 [76-13-1]^	**8.1**		ppbv	1.59	0.51	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Freon 114 [76-14-2]^	0.83	U	ppbv	1.59	0.83	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Hexachlorobutadiene [87-68-3]^	0.59	U	ppbv	1.59	0.59	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Methylene chloride [75-09-2]^	**1.1**	IV	ppbv	1.59	0.32	4.0	1A25023	TO-15	01/25/21 14:06	rgg	J-01, O-01
Propene [115-07-1]^	0.87	U	ppbv	1.59	0.87	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Tetrachloroethene [127-18-4]^	0.49	U	ppbv	1.59	0.49	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
trans-1,2-Dichloroethene [156-60-5]^	0.51	U	ppbv	1.59	0.51	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.54	U	ppbv	1.59	0.54	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Trichloroethene [79-01-6]^	0.56	U	ppbv	1.59	0.56	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Trichlorofluoromethane [75-69-4]^	0.54	U	ppbv	1.59	0.54	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Vinyl chloride [75-01-4]^	0.89	U	ppbv	1.59	0.89	4.0	1A25023	TO-15	01/25/21 14:06	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*27*	*1*	*31.0*	*88 %*	*70-130*	*1A25023*	*TO-15*	*01/25/21 14:06*	*rgg*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-VMP04-20210120 | **Lab Sample ID:** AE00066-16 | **Received:** 01/21/21 15:10

Matrix: Air | **Sampled:** 01/20/21 11:22 | **Work Order:** AE00066

Project: NASA KSC CRCA | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.95	U	ppbv	1.4	0.95	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,1,2,2-Tetrachloroethane [79-34-5]^	1.0	U	ppbv	1.4	1.0	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,1,2-Trichloroethane [79-00-5]^	0.98	U	ppbv	1.4	0.98	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,1-Dichloroethane [75-34-3]^	1.0	U	ppbv	1.4	1.0	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,1-Dichloroethene [75-35-4]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,2-Dibromoethane [106-93-4]^	1.0	U	ppbv	1.4	1.0	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,2-Dichlorobenzene [95-50-1]^	0.76	U	ppbv	1.4	0.76	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,2-Dichloroethane [107-06-2]^	1.0	U	ppbv	1.4	1.0	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,2-Dichloropropane [78-87-5]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,3-Dichlorobenzene [541-73-1]^	0.78	U	ppbv	1.4	0.78	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,4-Dichlorobenzene [106-46-7]^	0.87	U	ppbv	1.4	0.87	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
3-Chloropropene [107-05-1]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Acetone [67-64-1]^	**31**		ppbv	1.4	0.98	7.0	1A25023	TO-15	01/25/21 14:47	rgg	
Bromodichloromethane [75-27-4]^	0.95	U	ppbv	1.4	0.95	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Bromoethene [593-60-2]^	0.92	U	ppbv	1.4	0.92	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Bromoform [75-25-2]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Bromomethane [74-83-9]^	0.92	U	ppbv	1.4	0.92	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Carbon tetrachloride [56-23-5]^	0.76	U	ppbv	1.4	0.76	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Chlorobenzene [108-90-7]^	0.92	U	ppbv	1.4	0.92	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Chloroethane [75-00-3]^	0.90	U	ppbv	1.4	0.90	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Chloroform [67-66-3]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Chloromethane [74-87-3]^	1.3	U	ppbv	1.4	1.3	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
cis-1,2-Dichloroethene [156-59-2]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
cis-1,3-Dichloropropene [10061-01-5]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Dibromochloromethane [124-48-1]^	0.92	U	ppbv	1.4	0.92	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Dichlorodifluoromethane [75-71-8]^	1.5	U	ppbv	1.4	1.5	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Freon 113 [76-13-1]^	**34**		ppbv	1.4	0.90	7.0	1A25023	TO-15	01/25/21 14:47	rgg	
Freon 114 [76-14-2]^	1.5	U	ppbv	1.4	1.5	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Hexachlorobutadiene [87-68-3]^	1.0	U	ppbv	1.4	1.0	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Methylene chloride [75-09-2]^	**1.1**	IV	ppbv	1.4	0.56	7.0	1A25023	TO-15	01/25/21 14:47	rgg	J-01, O-01, R-05
Propene [115-07-1]^	1.5	U	ppbv	1.4	1.5	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Tetrachloroethene [127-18-4]^	0.87	U	ppbv	1.4	0.87	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
trans-1,2-Dichloroethene [156-60-5]^	0.90	U	ppbv	1.4	0.90	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
trans-1,3-Dichloropropene [10061-02-6]^	0.95	U	ppbv	1.4	0.95	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Trichloroethene [79-01-6]^	0.98	U	ppbv	1.4	0.98	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Trichlorofluoromethane [75-69-4]^	0.95	U	ppbv	1.4	0.95	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Vinyl chloride [75-01-4]^	1.6	U	ppbv	1.4	1.6	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*28*	*1*	*31.0*	*89 %*	*70-130*	*1A25023*	*TO-15*	*01/25/21 14:47*	*rgg*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-SYSAIR-20210120 | **Lab Sample ID:** AE00066-17 | **Received:** 01/21/21 15:10

Matrix: Air | **Sampled:** 01/20/21 17:03 | **Work Order:** AE00066

Project: NASA KSC CRCA | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.45	U	ppbv	1.32	0.45	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.48	U	ppbv	1.32	0.48	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.46	U	ppbv	1.32	0.46	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,1-Dichloroethane [75-34-3]^	0.48	U	ppbv	1.32	0.48	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,1-Dichloroethene [75-35-4]^	0.50	U	ppbv	1.32	0.50	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,2-Dibromoethane [106-93-4]^	0.48	U	ppbv	1.32	0.48	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.36	U	ppbv	1.32	0.36	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,2-Dichloroethane [107-06-2]^	0.49	U	ppbv	1.32	0.49	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,2-Dichloropropane [78-87-5]^	0.53	U	ppbv	1.32	0.53	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.37	U	ppbv	1.32	0.37	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.41	U	ppbv	1.32	0.41	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
3-Chloropropene [107-05-1]^	0.51	U	ppbv	1.32	0.51	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Acetone [67-64-1]^	**2.6**	I	ppbv	1.32	0.46	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Bromodichloromethane [75-27-4]^	0.45	U	ppbv	1.32	0.45	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Bromoethene [593-60-2]^	0.44	U	ppbv	1.32	0.44	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Bromoform [75-25-2]^	0.50	U	ppbv	1.32	0.50	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Bromomethane [74-83-9]^	0.44	U	ppbv	1.32	0.44	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Carbon tetrachloride [56-23-5]^	0.36	U	ppbv	1.32	0.36	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Chlorobenzene [108-90-7]^	0.44	U	ppbv	1.32	0.44	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Chloroethane [75-00-3]^	0.42	U	ppbv	1.32	0.42	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Chloroform [67-66-3]^	0.50	U	ppbv	1.32	0.50	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Chloromethane [74-87-3]^	0.63	U	ppbv	1.32	0.63	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
cis-1,2-Dichloroethene [156-59-2]^	0.50	U	ppbv	1.32	0.50	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	0.50	U	ppbv	1.32	0.50	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Dibromochloromethane [124-48-1]^	0.44	U	ppbv	1.32	0.44	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Dichlorodifluoromethane [75-71-8]^	0.73	U	ppbv	1.32	0.73	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Freon 113 [76-13-1]^	0.42	U	ppbv	1.32	0.42	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Freon 114 [76-14-2]^	0.69	U	ppbv	1.32	0.69	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Hexachlorobutadiene [87-68-3]^	0.49	U	ppbv	1.32	0.49	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Methylene chloride [75-09-2]^	**0.99**	IV	ppbv	1.32	0.26	3.3	1A25023	TO-15	01/25/21 13:21	rgg	J-01, O-01
Propene [115-07-1]^	0.73	U	ppbv	1.32	0.73	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Tetrachloroethene [127-18-4]^	0.41	U	ppbv	1.32	0.41	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
trans-1,2-Dichloroethene [156-60-5]^	**0.96**	I	ppbv	1.32	0.42	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.45	U	ppbv	1.32	0.45	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Trichloroethene [79-01-6]^	0.46	U	ppbv	1.32	0.46	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Trichlorofluoromethane [75-69-4]^	0.45	U	ppbv	1.32	0.45	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Vinyl chloride [75-01-4]^	0.74	U	ppbv	1.32	0.74	3.3	1A25023	TO-15	01/25/21 13:21	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*28*	*1*	*31.0*	*89 %*	*70-130*	*1A25023*	*TO-15*	*01/25/21 13:21*	*rgg*	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS

Blank (1A25020-BLK1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 10:19

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

Blank (1A25020-BLK1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 10:19

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*54*			*ug/L*	*50.0*		*109*	*41-142*			
Dibromofluoromethane	*55*			*ug/L*	*50.0*		*111*	*53-146*			
Toluene-d8	*48*	*I*		*ug/L*	*50.0*		*96*	*41-146*			

LCS (1A25020-BS1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 09:20

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	19		2.5	ug/L	20.0		97	57-148			
1,1,2,2-Tetrachloroethane	21		2.5	ug/L	20.0		105	60-139			
1,1,2-Trichloroethane	21		2.5	ug/L	20.0		107	57-141			
1,1-Dichloroethane	19		2.5	ug/L	20.0		93	57-142			
1,1-Dichloroethene	20		2.5	ug/L	20.0		102	47-139			
1,2,4-Trichlorobenzene	17		2.5	ug/L	20.0		87	52-159			
1,2-Dibromo-3-chloropropane	20		2.5	ug/L	20.0		102	48-150			
1,2-Dibromoethane	22		2.5	ug/L	20.0		110	57-140			
1,2-Dichlorobenzene	23		2.5	ug/L	20.0		113	63-131			
1,2-Dichloroethane	15		2.5	ug/L	20.0		75	50-156			
1,2-Dichloropropane	16		2.5	ug/L	20.0		80	61-133			
1,3-Dichlorobenzene	24		2.5	ug/L	20.0		118	66-129			
1,4-Dichlorobenzene	21		2.5	ug/L	20.0		106	65-133			
2-Butanone	90		12	ug/L	100		90	10-180			
2-Hexanone	68		12	ug/L	100		68	12-180			
4-Methyl-2-pentanone	90		12	ug/L	100		90	19-180			
Acetone	71		25	ug/L	100		71	10-180			
Benzene	19		2.5	ug/L	20.0		94	56-136			
Bromodichloromethane	18		2.5	ug/L	20.0		89	58-135			
Bromoform	21		2.5	ug/L	20.0		107	46-148			
Bromomethane	8.7		2.5	ug/L	20.0		44	10-173			
Carbon disulfide	20		12	ug/L	20.0		102	43-153			
Carbon Tetrachloride	16		2.5	ug/L	20.0		80	54-156			
Chlorobenzene	24		2.5	ug/L	20.0		120	51-139			
Chloroethane	22		2.5	ug/L	20.0		109	27-180			
Chloroform	20		2.5	ug/L	20.0		99	58-139			
Chloromethane	9.3		2.5	ug/L	20.0		46	33-154			
cis-1,2-Dichloroethene	22		2.5	ug/L	20.0		109	56-128			
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0		87	64-128			
Cyclohexane	16		2.5	ug/L	20.0		82	70-130			
Dibromochloromethane	24		2.5	ug/L	20.0		118	50-140			
Dichlorodifluoromethane	12		2.5	ug/L	20.0		61	10-180			
Ethylbenzene	22		2.5	ug/L	20.0		108	63-133			
Freon 113	21		2.5	ug/L	20.0		104	47-173			
Isopropylbenzene	24		2.5	ug/L	20.0		118	60-132			
m,p-Xylenes	50		5.0	ug/L	40.0		125	64-133			
Methyl acetate	13		2.5	ug/L	20.0		65	70-130			A-07
Methyl cyclohexane	18		2.5	ug/L	20.0		89	70-130			
Methylene Chloride	20		12	ug/L	20.0		100	43-142			
Methyl-tert-Butyl Ether	20		2.5	ug/L	20.0		99	51-145			

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

LCS (1A25020-BS1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 09:20

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
o-Xylene	23		2.5	ug/L	20.0		117	61-129			
Styrene	25		2.5	ug/L	20.0		126	59-136			
Tetrachloroethene	21		2.5	ug/L	20.0		104	60-147			
Toluene	23		2.5	ug/L	20.0		114	64-131			
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0		108	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0		103	65-149			
Trichloroethene	21		2.5	ug/L	20.0		103	62-135			
Trichlorofluoromethane	20		2.5	ug/L	20.0		100	56-155			
Vinyl chloride	17		2.5	ug/L	20.0		85	20-167			
4-Bromofluorobenzene	*52*			*ug/L*	*50.0*		*105*	*41-142*			
Dibromofluoromethane	*55*			*ug/L*	*50.0*		*111*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*98*	*41-146*			

Matrix Spike (1A25020-MS1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 18:39

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	22		2.5	ug/L	20.0	0.80 U	110	57-148			
1,1,2,2-Tetrachloroethane	23		2.5	ug/L	20.0	0.54 U	114	60-139			
1,1,2-Trichloroethane	22		2.5	ug/L	20.0	0.76 U	110	57-141			
1,1-Dichloroethane	19		2.5	ug/L	20.0	0.62 U	96	57-142			
1,1-Dichloroethene	23		2.5	ug/L	20.0	0.94 U	114	47-139			
1,2,4-Trichlorobenzene	15		2.5	ug/L	20.0	0.70 U	74	52-159			
1,2-Dibromo-3-chloropropane	14		2.5	ug/L	20.0	0.96 U	72	48-150			
1,2-Dibromoethane	23		2.5	ug/L	20.0	0.78 U	115	57-140			
1,2-Dichlorobenzene	23		2.5	ug/L	20.0	0.73 U	114	63-131			
1,2-Dichloroethane	16		2.5	ug/L	20.0	0.63 U	79	50-156			
1,2-Dichloropropane	16		2.5	ug/L	20.0	0.80 U	79	61-133			
1,3-Dichlorobenzene	25		2.5	ug/L	20.0	0.77 U	125	66-129			
1,4-Dichlorobenzene	23		2.5	ug/L	20.0	0.76 U	114	65-133			
2-Butanone	88		12	ug/L	100	4.5 U	88	10-180			
2-Hexanone	62		12	ug/L	100	2.5 U	62	12-180			
4-Methyl-2-pentanone	87		12	ug/L	100	2.5 U	87	19-180			
Acetone	65		25	ug/L	100	10 U	65	10-180			
Benzene	20		2.5	ug/L	20.0	0.71 U	100	56-136			
Bromodichloromethane	19		2.5	ug/L	20.0	0.52 U	95	58-135			
Bromoform	22		2.5	ug/L	20.0	0.75 U	109	46-148			
Bromomethane	10		2.5	ug/L	20.0	0.95 U	50	10-173			
Carbon disulfide	21		12	ug/L	20.0	2.5 U	106	43-153			
Carbon Tetrachloride	18		2.5	ug/L	20.0	0.94 U	89	54-156			
Chlorobenzene	27		2.5	ug/L	20.0	0.72 U	135	51-139			
Chloroethane	23		2.5	ug/L	20.0	0.98 U	113	27-180			
Chloroform	21		2.5	ug/L	20.0	0.80 U	104	58-139			
Chloromethane	9.6		2.5	ug/L	20.0	0.82 U	48	33-154			
cis-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.53 U	110	56-128			
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0	0.59 U	85	64-128			
Cyclohexane	16		2.5	ug/L	20.0	0.93 U	82	70-130			
Dibromochloromethane	25		2.5	ug/L	20.0	0.50 U	127	50-140			
Dichlorodifluoromethane	13		2.5	ug/L	20.0	0.74 U	66	10-180			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

Matrix Spike (1A25020-MS1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 18:39

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	24		2.5	ug/L	20.0	0.69 U	119	63-133			
Freon 113	23		2.5	ug/L	20.0	0.73 U	115	47-173			
Isopropylbenzene	26		2.5	ug/L	20.0	0.67 U	131	60-132			
m,p-Xylenes	55		5.0	ug/L	40.0	1.3 U	137	64-133			QM-07
Methyl acetate	10		2.5	ug/L	20.0	0.95 U	51	70-130			QM-19
Methyl cyclohexane	19		2.5	ug/L	20.0	0.64 U	95	70-130			
Methylene Chloride	21		12	ug/L	20.0	2.5 U	105	43-142			
Methyl-tert-Butyl Ether	20		2.5	ug/L	20.0	0.60 U	100	51-145			
o-Xylene	25		2.5	ug/L	20.0	0.53 U	127	61-129			
Styrene	28		2.5	ug/L	20.0	0.61 U	140	59-136			QM-07
Tetrachloroethene	24		2.5	ug/L	20.0	0.76 U	122	60-147			
Toluene	24		2.5	ug/L	20.0	0.72 U	122	64-131			
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.73 U	111	54-134			
trans-1,3-Dichloropropene	20		2.5	ug/L	20.0	0.73 U	102	65-149			
Trichloroethene	24		2.5	ug/L	20.0	0.89 U	122	62-135			
Trichlorofluoromethane	23		2.5	ug/L	20.0	0.94 U	113	56-155			
Vinyl chloride	17		2.5	ug/L	20.0	0.71 U	84	20-167			
4-Bromofluorobenzene	*54*			*ug/L*	*50.0*		*109*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*112*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*97*	*41-146*			

Matrix Spike Dup (1A25020-MSD1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 19:09

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	20		2.5	ug/L	20.0	0.80 U	102	57-148	8	25	
1,1,2,2-Tetrachloroethane	22		2.5	ug/L	20.0	0.54 U	110	60-139	4	17	
1,1,2-Trichloroethane	21		2.5	ug/L	20.0	0.76 U	106	57-141	3	16	
1,1-Dichloroethane	18		2.5	ug/L	20.0	0.62 U	90	57-142	6	24	
1,1-Dichloroethene	21		2.5	ug/L	20.0	0.94 U	103	47-139	10	16	
1,2,4-Trichlorobenzene	16		2.5	ug/L	20.0	0.70 U	81	52-159	9	24	
1,2-Dibromo-3-chloropropane	18		2.5	ug/L	20.0	0.96 U	88	48-150	21	21	
1,2-Dibromoethane	22		2.5	ug/L	20.0	0.78 U	110	57-140	4	16	
1,2-Dichlorobenzene	23		2.5	ug/L	20.0	0.73 U	113	63-131	1	25	
1,2-Dichloroethane	15		2.5	ug/L	20.0	0.63 U	77	50-156	1	18	
1,2-Dichloropropane	15		2.5	ug/L	20.0	0.80 U	76	61-133	4	26	
1,3-Dichlorobenzene	24		2.5	ug/L	20.0	0.77 U	120	66-129	4	23	
1,4-Dichlorobenzene	22		2.5	ug/L	20.0	0.76 U	110	65-133	4	23	
2-Butanone	83		12	ug/L	100	4.5 U	83	10-180	5	29	
2-Hexanone	66		12	ug/L	100	2.5 U	66	12-180	5	28	
4-Methyl-2-pentanone	87		12	ug/L	100	2.5 U	87	19-180	0.5	24	
Acetone	70		25	ug/L	100	10 U	70	10-180	7	19	
Benzene	19		2.5	ug/L	20.0	0.71 U	96	56-136	5	14	
Bromodichloromethane	18		2.5	ug/L	20.0	0.52 U	89	58-135	7	19	
Bromoform	21		2.5	ug/L	20.0	0.75 U	106	46-148	2	18	
Bromomethane	11		2.5	ug/L	20.0	0.95 U	55	10-173	10	29	
Carbon disulfide	19		12	ug/L	20.0	2.5 U	94	43-153	12	26	
Carbon Tetrachloride	16		2.5	ug/L	20.0	0.94 U	79	54-156	12	27	
Chlorobenzene	26		2.5	ug/L	20.0	0.72 U	129	51-139	5	13	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

Matrix Spike Dup (1A25020-MSD1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 19:09

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloroethane	21		2.5	ug/L	20.0	0.98 U	105	27-180	7	22	
Chloroform	20		2.5	ug/L	20.0	0.80 U	102	58-139	2	17	
Chloromethane	9.0		2.5	ug/L	20.0	0.82 U	45	33-154	7	31	
cis-1,2-Dichloroethene	21		2.5	ug/L	20.0	0.53 U	104	56-128	5	17	
cis-1,3-Dichloropropene	16		2.5	ug/L	20.0	0.59 U	78	64-128	9	20	
Cyclohexane	15		2.5	ug/L	20.0	0.93 U	75	70-130	8	20	
Dibromochloromethane	23		2.5	ug/L	20.0	0.50 U	117	50-140	8	18	
Dichlorodifluoromethane	13		2.5	ug/L	20.0	0.74 U	63	10-180	4	26	
Ethylbenzene	22		2.5	ug/L	20.0	0.69 U	112	63-133	6	18	
Freon 113	21		2.5	ug/L	20.0	0.73 U	105	47-173	9	30	
Isopropylbenzene	24		2.5	ug/L	20.0	0.67 U	122	60-132	7	23	
m,p-Xylenes	51		5.0	ug/L	40.0	1.3 U	129	64-133	6	18	
Methyl acetate	9.5		2.5	ug/L	20.0	0.95 U	48	70-130	6	20	QM-19
Methyl cyclohexane	18		2.5	ug/L	20.0	0.64 U	91	70-130	4	20	
Methylene Chloride	19		12	ug/L	20.0	2.5 U	95	43-142	9	23	
Methyl-tert-Butyl Ether	19		2.5	ug/L	20.0	0.60 U	95	51-145	5	22	
o-Xylene	25		2.5	ug/L	20.0	0.53 U	123	61-129	4	16	
Styrene	26		2.5	ug/L	20.0	0.61 U	130	59-136	7	32	
Tetrachloroethene	23		2.5	ug/L	20.0	0.76 U	113	60-147	8	21	
Toluene	23		2.5	ug/L	20.0	0.72 U	117	64-131	4	16	
trans-1,2-Dichloroethene	21		2.5	ug/L	20.0	0.73 U	103	54-134	8	20	
trans-1,3-Dichloropropene	19		2.5	ug/L	20.0	0.73 U	97	65-149	5	17	
Trichloroethene	21		2.5	ug/L	20.0	0.89 U	107	62-135	12	20	
Trichlorofluoromethane	20		2.5	ug/L	20.0	0.94 U	102	56-155	10	22	
Vinyl chloride	15		2.5	ug/L	20.0	0.71 U	77	20-167	8	24	
4-Bromofluorobenzene	*55*			*ug/L*	*50.0*		*110*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*111*	*53-146*			
Toluene-d8	*48*	*I*		*ug/L*	*50.0*		*96*	*41-146*			

Batch 1A25023 - NO PREP 2

Blank (1A25023-BLK1) Prepared: 01/24/2021 17:30 Analyzed: 01/25/2021 00:37

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.34	U	2.5	ppbv							
1,1,2,2-Tetrachloroethane	0.36	U	2.5	ppbv							
1,1,2-Trichloroethane	0.35	U	2.5	ppbv							
1,1-Dichloroethane	0.36	U	2.5	ppbv							
1,1-Dichloroethene	0.38	U	2.5	ppbv							
1,2-Dibromoethane	0.36	U	2.5	ppbv							
1,2-Dichlorobenzene	0.27	U	2.5	ppbv							
1,2-Dichloroethane	0.37	U	2.5	ppbv							
1,2-Dichloropropane	0.40	U	2.5	ppbv							
1,3-Dichlorobenzene	0.28	U	2.5	ppbv							
1,4-Dichlorobenzene	0.31	U	2.5	ppbv							
3-Chloropropene	0.39	U	2.5	ppbv							
Acetone	0.35	U	2.5	ppbv							
Bromodichloromethane	0.34	U	2.5	ppbv							
Bromoethene	0.33	U	2.5	ppbv							

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25023 - NO PREP 2 - Continued

Blank (1A25023-BLK1) Continued Prepared: 01/24/2021 17:30 Analyzed: 01/25/2021 00:37

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Bromoform	0.38	U	2.5	ppbv							
Bromomethane	0.33	U	2.5	ppbv							
Carbon tetrachloride	0.27	U	2.5	ppbv							
Chlorobenzene	0.33	U	2.5	ppbv							
Chloroethane	0.32	U	2.5	ppbv							
Chloroform	0.38	U	2.5	ppbv							
Chloromethane	0.48	U	2.5	ppbv							
cis-1,2-Dichloroethene	0.38	U	2.5	ppbv							
cis-1,3-Dichloropropene	0.38	U	2.5	ppbv							
Dibromochloromethane	0.33	U	2.5	ppbv							
Dichlorodifluoromethane	0.55	U	2.5	ppbv							
Freon 113	0.32	U	2.5	ppbv							
Freon 114	0.52	U	2.5	ppbv							
Hexachlorobutadiene	0.37	U	2.5	ppbv							
Methylene chloride	**0.29**	**I**	2.5	ppbv							J-01, O-01
Propene	0.55	U	2.5	ppbv							
Tetrachloroethene	0.31	U	2.5	ppbv							
trans-1,2-Dichloroethene	0.32	U	2.5	ppbv							
trans-1,3-Dichloropropene	0.34	U	2.5	ppbv							
Trichloroethene	0.35	U	2.5	ppbv							
Trichlorofluoromethane	0.34	U	2.5	ppbv							
Vinyl chloride	0.56	U	2.5	ppbv							
4-Bromofluorobenzene	*27*			*ppbv*	*31.0*		*87*	*70-130*			

LCS (1A25023-BS1) Prepared: 01/24/2021 17:30 Analyzed: 01/24/2021 22:34

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	10		2.5	ppbv	10.0		100	70-130			
1,1,2,2-Tetrachloroethane	12		2.5	ppbv	10.0		119	52-163			
1,1,2-Trichloroethane	12		2.5	ppbv	10.0		117	70-134			
1,1-Dichloroethane	12		2.5	ppbv	10.0		119	70-130			
1,1-Dichloroethene	11		2.5	ppbv	10.0		113	67-142			
1,2-Dibromoethane	12		2.5	ppbv	10.0		118	70-141			
1,2-Dichlorobenzene	10		2.5	ppbv	10.0		102	37-180			
1,2-Dichloroethane	10		2.5	ppbv	10.0		102	70-130			
1,2-Dichloropropane	12		2.5	ppbv	10.0		121	70-130			
1,3-Dichlorobenzene	9.8		2.5	ppbv	10.0		98	47-178			
1,4-Dichlorobenzene	9.2		2.5	ppbv	10.0		92	45-180			
3-Chloropropene	11		2.5	ppbv	10.0		113	70-130			
Acetone	10		2.5	ppbv	10.0		104	65-130			
Bromodichloromethane	11		2.5	ppbv	10.0		109	70-130			
Bromoethene	9.5		2.5	ppbv	10.0		95	69-132			
Bromoform	11		2.5	ppbv	10.0		110	62-149			
Bromomethane	9.9		2.5	ppbv	10.0		99	69-130			
Carbon tetrachloride	8.3		2.5	ppbv	10.0		83	22-166			
Chlorobenzene	11		2.5	ppbv	10.0		107	70-134			
Chloroethane	10		2.5	ppbv	10.0		101	69-131			
Chloroform	11		2.5	ppbv	10.0		111	70-130			

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Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25023 - NO PREP 2 - Continued

LCS (1A25023-BS1) Continued Prepared: 01/24/2021 17:30 Analyzed: 01/24/2021 22:34

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloromethane	10		2.5	ppbv	10.0		100	55-142			
cis-1,2-Dichloroethene	12		2.5	ppbv	10.0		122	70-130			
cis-1,3-Dichloropropene	12		2.5	ppbv	10.0		122	70-137			
Dibromochloromethane	11		2.5	ppbv	10.0		110	70-130			
Dichlorodifluoromethane	9.3		2.5	ppbv	10.0		93	61-137			
Freon 113	11		2.5	ppbv	10.0		111	67-140			
Freon 114	9.8		2.5	ppbv	10.0		98	62-147			
Hexachlorobutadiene	9.1		2.5	ppbv	10.0		91	24-180			
Methylene chloride	13		2.5	ppbv	10.0		128	59-136			
Propene	8.9		2.5	ppbv	10.0		89	63-132			
Tetrachloroethene	10		2.5	ppbv	10.0		104	70-141			
trans-1,2-Dichloroethene	11		2.5	ppbv	10.0		113	70-130			
trans-1,3-Dichloropropene	16		2.5	ppbv	10.0		156	59-166			
Trichloroethene	11		2.5	ppbv	10.0		114	70-130			
Trichlorofluoromethane	9.7		2.5	ppbv	10.0		97	46-161			
Vinyl chloride	11		2.5	ppbv	10.0		106	53-148			
4-Bromofluorobenzene	*32*			*ppbv*	*31.0*		*102*	*70-130*			

LCS Dup (1A25023-BSD1) Prepared: 01/24/2021 17:30 Analyzed: 01/24/2021 23:13

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	9.1		2.5	ppbv	10.0		91	70-130	9	25	
1,1,2,2-Tetrachloroethane	11		2.5	ppbv	10.0		111	52-163	7	25	
1,1,2-Trichloroethane	11		2.5	ppbv	10.0		110	70-134	6	25	
1,1-Dichloroethane	11		2.5	ppbv	10.0		110	70-130	8	25	
1,1-Dichloroethene	10		2.5	ppbv	10.0		103	67-142	9	25	
1,2-Dibromoethane	11		2.5	ppbv	10.0		110	70-141	7	25	
1,2-Dichlorobenzene	9.5		2.5	ppbv	10.0		95	37-180	7	25	
1,2-Dichloroethane	8.8		2.5	ppbv	10.0		88	70-130	15	25	
1,2-Dichloropropane	11		2.5	ppbv	10.0		113	70-130	7	25	
1,3-Dichlorobenzene	9.1		2.5	ppbv	10.0		91	47-178	7	25	
1,4-Dichlorobenzene	8.5		2.5	ppbv	10.0		85	45-180	8	25	
3-Chloropropene	10		2.5	ppbv	10.0		105	70-130	7	25	
Acetone	9.5		2.5	ppbv	10.0		95	65-130	10	25	
Bromodichloromethane	10		2.5	ppbv	10.0		100	70-130	8	25	
Bromoethene	8.6		2.5	ppbv	10.0		86	69-132	10	25	
Bromoform	10		2.5	ppbv	10.0		103	62-149	7	25	
Bromomethane	8.6		2.5	ppbv	10.0		86	69-130	14	25	
Carbon tetrachloride	7.5		2.5	ppbv	10.0		75	22-166	10	25	
Chlorobenzene	10		2.5	ppbv	10.0		100	70-134	6	25	
Chloroethane	8.7		2.5	ppbv	10.0		87	69-131	14	25	
Chloroform	10		2.5	ppbv	10.0		101	70-130	9	25	
Chloromethane	8.8		2.5	ppbv	10.0		88	55-142	12	25	
cis-1,2-Dichloroethene	11		2.5	ppbv	10.0		114	70-130	6	25	
cis-1,3-Dichloropropene	11		2.5	ppbv	10.0		113	70-137	7	25	
Dibromochloromethane	10		2.5	ppbv	10.0		103	70-130	7	25	
Dichlorodifluoromethane	8.1		2.5	ppbv	10.0		81	61-137	13	25	
Freon 113	10		2.5	ppbv	10.0		103	67-140	8	25	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25023 - NO PREP 2 - Continued

LCS Dup (1A25023-BSD1) Continued Prepared: 01/24/2021 17:30 Analyzed: 01/24/2021 23:13

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Freon 114	8.8		2.5	ppbv	10.0		88	62-147	11	25	
Hexachlorobutadiene	8.5		2.5	ppbv	10.0		85	24-180	7	25	
Methylene chloride	12		2.5	ppbv	10.0		123	59-136	5	25	
Propene	7.8		2.5	ppbv	10.0		78	63-132	13	25	
Tetrachloroethene	9.8		2.5	ppbv	10.0		98	70-141	6	25	
trans-1,2-Dichloroethene	10		2.5	ppbv	10.0		105	70-130	7	25	
trans-1,3-Dichloropropene	15		2.5	ppbv	10.0		146	59-166	7	25	
Trichloroethene	11		2.5	ppbv	10.0		108	70-130	5	25	
Trichlorofluoromethane	8.7		2.5	ppbv	10.0		87	46-161	11	25	
Vinyl chloride	9.2		2.5	ppbv	10.0		92	53-148	14	25	
4-Bromofluorobenzene	*31*			*ppbv*	*31.0*		*100*	*70-130*			

Batch 1A26010 - EPA 5030B_MS

Blank (1A26010-BLK1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 11:19

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A26010 - EPA 5030B_MS - Continued

Blank (1A26010-BLK1) Continued Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 11:19

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*51*			*ug/L*	*50.0*		*103*	*41-142*			
Dibromofluoromethane	*58*			*ug/L*	*50.0*		*116*	*53-146*			
Toluene-d8	*51*			*ug/L*	*50.0*		*102*	*41-146*			

LCS (1A26010-BS1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 08:43

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	25		2.5	ug/L	20.0		127	57-148			
1,1,2,2-Tetrachloroethane	23		2.5	ug/L	20.0		115	60-139			
1,1,2-Trichloroethane	23		2.5	ug/L	20.0		114	57-141			
1,1-Dichloroethane	24		2.5	ug/L	20.0		119	57-142			
1,1-Dichloroethene	25		2.5	ug/L	20.0		125	47-139			
1,2,4-Trichlorobenzene	25		2.5	ug/L	20.0		127	52-159			
1,2-Dibromo-3-chloropropane	27		2.5	ug/L	20.0		137	48-150			
1,2-Dibromoethane	23		2.5	ug/L	20.0		116	57-140			
1,2-Dichlorobenzene	22		2.5	ug/L	20.0		109	63-131			
1,2-Dichloroethane	24		2.5	ug/L	20.0		119	50-156			
1,2-Dichloropropane	24		2.5	ug/L	20.0		118	61-133			
1,3-Dichlorobenzene	21		2.5	ug/L	20.0		105	66-129			
1,4-Dichlorobenzene	20		2.5	ug/L	20.0		101	65-133			
2-Butanone	130		12	ug/L	100		126	10-180			
2-Hexanone	110		12	ug/L	100		114	12-180			
4-Methyl-2-pentanone	110		12	ug/L	100		114	19-180			
Acetone	160		25	ug/L	100		156	10-180			
Benzene	21		2.5	ug/L	20.0		106	56-136			
Bromodichloromethane	23		2.5	ug/L	20.0		117	58-135			
Bromoform	23		2.5	ug/L	20.0		113	46-148			
Bromomethane	20		2.5	ug/L	20.0		101	10-173			
Carbon disulfide	36		12	ug/L	20.0		178	43-153			QL-02
Carbon Tetrachloride	23		2.5	ug/L	20.0		115	54-156			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A26010 - EPA 5030B_MS - Continued

LCS (1A26010-BS1) Continued Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 08:43

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chlorobenzene	20		2.5	ug/L	20.0		101	51-139			
Chloroethane	25		2.5	ug/L	20.0		124	27-180			
Chloroform	28		2.5	ug/L	20.0		140	58-139			QL-02
Chloromethane	19		2.5	ug/L	20.0		97	33-154			
cis-1,2-Dichloroethene	25		2.5	ug/L	20.0		124	56-128			
cis-1,3-Dichloropropene	23		2.5	ug/L	20.0		116	64-128			
Cyclohexane	26		2.5	ug/L	20.0		132	70-130			QL-02
Dibromochloromethane	22		2.5	ug/L	20.0		112	50-140			
Dichlorodifluoromethane	14		2.5	ug/L	20.0		69	10-180			
Ethylbenzene	20		2.5	ug/L	20.0		100	63-133			
Freon 113	28		2.5	ug/L	20.0		142	47-173			
Isopropylbenzene	21		2.5	ug/L	20.0		104	60-132			
m,p-Xylenes	40		5.0	ug/L	40.0		99	64-133			
Methyl acetate	30		2.5	ug/L	20.0		148	70-130			QL-02
Methyl cyclohexane	23		2.5	ug/L	20.0		116	70-130			
Methylene Chloride	27		12	ug/L	20.0		136	43-142			
Methyl-tert-Butyl Ether	28		2.5	ug/L	20.0		141	51-145			
o-Xylene	20		2.5	ug/L	20.0		102	61-129			
Styrene	21		2.5	ug/L	20.0		103	59-136			
Tetrachloroethene	19		2.5	ug/L	20.0		97	60-147			
Toluene	20		2.5	ug/L	20.0		101	64-131			
trans-1,2-Dichloroethene	27		2.5	ug/L	20.0		135	54-134			QL-02
trans-1,3-Dichloropropene	23		2.5	ug/L	20.0		116	65-149			
Trichloroethene	22		2.5	ug/L	20.0		112	62-135			
Trichlorofluoromethane	25		2.5	ug/L	20.0		123	56-155			
Vinyl chloride	24		2.5	ug/L	20.0		118	20-167			
4-Bromofluorobenzene	*51*			*ug/L*	*50.0*		*103*	*41-142*			
Dibromofluoromethane	*57*			*ug/L*	*50.0*		*114*	*53-146*			
Toluene-d8	*51*			*ug/L*	*50.0*		*103*	*41-146*			

Matrix Spike (1A26010-MS1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 09:24

Source: AD08635-03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	25		2.5	ug/L	20.0	0.80 U	125	57-148			
1,1,2,2-Tetrachloroethane	22		2.5	ug/L	20.0	0.54 U	112	60-139			
1,1,2-Trichloroethane	22		2.5	ug/L	20.0	0.76 U	109	57-141			
1,1-Dichloroethane	23		2.5	ug/L	20.0	0.62 U	115	57-142			
1,1-Dichloroethene	25		2.5	ug/L	20.0	0.94 U	126	47-139			
1,2,4-Trichlorobenzene	24		2.5	ug/L	20.0	0.70 U	122	52-159			
1,2-Dibromo-3-chloropropane	27		2.5	ug/L	20.0	0.96 U	136	48-150			
1,2-Dibromoethane	22		2.5	ug/L	20.0	0.78 U	110	57-140			
1,2-Dichlorobenzene	20		2.5	ug/L	20.0	0.73 U	102	63-131			
1,2-Dichloroethane	22		2.5	ug/L	20.0	0.63 U	112	50-156			
1,2-Dichloropropane	23		2.5	ug/L	20.0	0.80 U	115	61-133			
1,3-Dichlorobenzene	20		2.5	ug/L	20.0	0.77 U	99	66-129			
1,4-Dichlorobenzene	19		2.5	ug/L	20.0	0.76 U	97	65-133			
2-Butanone	140		12	ug/L	100	4.5 U	137	10-180			
2-Hexanone	120		12	ug/L	100	2.5 U	123	12-180			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A26010 - EPA 5030B_MS - Continued

Matrix Spike (1A26010-MS1) Continued Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 09:24

Source: AD08635-03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
4-Methyl-2-pentanone	120		12	ug/L	100	2.5 U	119	19-180			
Acetone	150		25	ug/L	100	10 U	152	10-180			
Benzene	20		2.5	ug/L	20.0	0.71 U	102	56-136			
Bromodichloromethane	22		2.5	ug/L	20.0	0.52 U	110	58-135			
Bromoform	22		2.5	ug/L	20.0	0.75 U	108	46-148			
Bromomethane	22		2.5	ug/L	20.0	0.95 U	108	10-173			
Carbon disulfide	35		12	ug/L	20.0	2.5 U	173	43-153			QM-19
Carbon Tetrachloride	23		2.5	ug/L	20.0	0.94 U	114	54-156			
Chlorobenzene	20		2.5	ug/L	20.0	0.72 U	98	51-139			
Chloroethane	25		2.5	ug/L	20.0	0.98 U	125	27-180			
Chloroform	27		2.5	ug/L	20.0	0.80 U	134	58-139			
Chloromethane	20		2.5	ug/L	20.0	0.82 U	98	33-154			
cis-1,2-Dichloroethene	24		2.5	ug/L	20.0	0.53 U	118	56-128			
cis-1,3-Dichloropropene	22		2.5	ug/L	20.0	0.59 U	111	64-128			
Cyclohexane	27		2.5	ug/L	20.0	0.93 U	134	70-130			QM-19
Dibromochloromethane	21		2.5	ug/L	20.0	0.50 U	107	50-140			
Dichlorodifluoromethane	15		2.5	ug/L	20.0	0.74 U	75	10-180			
Ethylbenzene	20		2.5	ug/L	20.0	0.69 U	98	63-133			
Freon 113	29		2.5	ug/L	20.0	0.73 U	146	47-173			
Isopropylbenzene	20		2.5	ug/L	20.0	0.67 U	100	60-132			
m,p-Xylenes	39		5.0	ug/L	40.0	1.3 U	97	64-133			
Methyl acetate	29		2.5	ug/L	20.0	0.95 U	144	70-130			QM-19
Methyl cyclohexane	23		2.5	ug/L	20.0	0.64 U	114	70-130			
Methylene Chloride	26		12	ug/L	20.0	2.5 U	129	43-142			
Methyl-tert-Butyl Ether	28		2.5	ug/L	20.0	0.60 U	139	51-145			
o-Xylene	19		2.5	ug/L	20.0	0.53 U	97	61-129			
Styrene	20		2.5	ug/L	20.0	0.61 U	98	59-136			
Tetrachloroethene	19		2.5	ug/L	20.0	0.76 U	96	60-147			
Toluene	20		2.5	ug/L	20.0	0.72 U	98	64-131			
trans-1,2-Dichloroethene	26		2.5	ug/L	20.0	0.73 U	130	54-134			
trans-1,3-Dichloropropene	22		2.5	ug/L	20.0	0.73 U	110	65-149			
Trichloroethene	21		2.5	ug/L	20.0	0.89 U	106	62-135			
Trichlorofluoromethane	26		2.5	ug/L	20.0	0.94 U	128	56-155			
Vinyl chloride	25		2.5	ug/L	20.0	0.71 U	125	20-167			
4-Bromofluorobenzene	*50*			*ug/L*	*50.0*		*101*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*112*	*53-146*			
Toluene-d8	*50*			*ug/L*	*50.0*		*101*	*41-146*			

Matrix Spike Dup (1A26010-MSD1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 09:53

Source: AD08635-03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	25		2.5	ug/L	20.0	0.80 U	124	57-148	1	25	
1,1,2,2-Tetrachloroethane	23		2.5	ug/L	20.0	0.54 U	114	60-139	3	17	
1,1,2-Trichloroethane	21		2.5	ug/L	20.0	0.76 U	106	57-141	3	16	
1,1-Dichloroethane	23		2.5	ug/L	20.0	0.62 U	115	57-142	0.2	24	
1,1-Dichloroethene	24		2.5	ug/L	20.0	0.94 U	120	47-139	5	16	
1,2,4-Trichlorobenzene	24		2.5	ug/L	20.0	0.70 U	119	52-159	2	24	
1,2-Dibromo-3-chloropropane	28		2.5	ug/L	20.0	0.96 U	141	48-150	4	21	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A26010 - EPA 5030B_MS - Continued

Matrix Spike Dup (1A26010-MSD1) Continued Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 09:53

Source: AD08635-03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,2-Dibromoethane	22		2.5	ug/L	20.0	0.78 U	110	57-140	0.09	16	
1,2-Dichlorobenzene	20		2.5	ug/L	20.0	0.73 U	100	63-131	2	25	
1,2-Dichloroethane	22		2.5	ug/L	20.0	0.63 U	112	50-156	0.6	18	
1,2-Dichloropropane	23		2.5	ug/L	20.0	0.80 U	113	61-133	2	26	
1,3-Dichlorobenzene	19		2.5	ug/L	20.0	0.77 U	94	66-129	5	23	
1,4-Dichlorobenzene	19		2.5	ug/L	20.0	0.76 U	94	65-133	4	23	
2-Butanone	130		12	ug/L	100	4.5 U	129	10-180	6	29	
2-Hexanone	130		12	ug/L	100	2.5 U	133	12-180	8	28	
4-Methyl-2-pentanone	130		12	ug/L	100	2.5 U	125	19-180	5	24	
Acetone	160		25	ug/L	100	10 U	157	10-180	3	19	
Benzene	20		2.5	ug/L	20.0	0.71 U	101	56-136	0.5	14	
Bromodichloromethane	22		2.5	ug/L	20.0	0.52 U	110	58-135	0.1	19	
Bromoform	21		2.5	ug/L	20.0	0.75 U	107	46-148	0.9	18	
Bromomethane	23		2.5	ug/L	20.0	0.95 U	114	10-173	5	29	
Carbon disulfide	33		12	ug/L	20.0	2.5 U	163	43-153	6	26	QM-19
Carbon Tetrachloride	23		2.5	ug/L	20.0	0.94 U	113	54-156	0.4	27	
Chlorobenzene	19		2.5	ug/L	20.0	0.72 U	95	51-139	3	13	
Chloroethane	25		2.5	ug/L	20.0	0.98 U	125	27-180	0.2	22	
Chloroform	27		2.5	ug/L	20.0	0.80 U	133	58-139	1	17	
Chloromethane	19		2.5	ug/L	20.0	0.82 U	96	33-154	3	31	
cis-1,2-Dichloroethene	23		2.5	ug/L	20.0	0.53 U	115	56-128	2	17	
cis-1,3-Dichloropropene	22		2.5	ug/L	20.0	0.59 U	111	64-128	0.2	20	
Cyclohexane	26		2.5	ug/L	20.0	0.93 U	128	70-130	5	20	
Dibromochloromethane	21		2.5	ug/L	20.0	0.50 U	107	50-140	0.3	18	
Dichlorodifluoromethane	14		2.5	ug/L	20.0	0.74 U	70	10-180	6	26	
Ethylbenzene	19		2.5	ug/L	20.0	0.69 U	95	63-133	3	18	
Freon 113	29		2.5	ug/L	20.0	0.73 U	144	47-173	2	30	
Isopropylbenzene	19		2.5	ug/L	20.0	0.67 U	97	60-132	3	23	
m,p-Xylenes	38		5.0	ug/L	40.0	1.3 U	94	64-133	3	18	
Methyl acetate	31		2.5	ug/L	20.0	0.95 U	155	70-130	7	20	QM-19
Methyl cyclohexane	22		2.5	ug/L	20.0	0.64 U	112	70-130	2	20	
Methylene Chloride	26		12	ug/L	20.0	2.5 U	128	43-142	1	23	
Methyl-tert-Butyl Ether	28		2.5	ug/L	20.0	0.60 U	141	51-145	1	22	
o-Xylene	19		2.5	ug/L	20.0	0.53 U	96	61-129	1	16	
Styrene	19		2.5	ug/L	20.0	0.61 U	97	59-136	2	32	
Tetrachloroethene	18		2.5	ug/L	20.0	0.76 U	92	60-147	4	21	
Toluene	19		2.5	ug/L	20.0	0.72 U	95	64-131	3	16	
trans-1,2-Dichloroethene	26		2.5	ug/L	20.0	0.73 U	128	54-134	2	20	
trans-1,3-Dichloropropene	22		2.5	ug/L	20.0	0.73 U	108	65-149	2	17	
Trichloroethene	21		2.5	ug/L	20.0	0.89 U	106	62-135	0.4	20	
Trichlorofluoromethane	26		2.5	ug/L	20.0	0.94 U	131	56-155	3	22	
Vinyl chloride	24		2.5	ug/L	20.0	0.71 U	120	20-167	4	24	
4-Bromofluorobenzene	*55*			*ug/L*	*50.0*		*109*	*41-142*			
Dibromofluoromethane	*60*			*ug/L*	*50.0*		*121*	*53-146*			
Toluene-d8	*55*			*ug/L*	*50.0*		*109*	*41-146*			

Dissolved Gases by GC - Quality Control

Batch 1A26006 - Same

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Dissolved Gases by GC - Quality Control

Batch 1A26006 - Same - Continued

Blank (1A26006-BLK1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 10:17

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.00510	U	0.00600	mg/L							
Ethene	0.00510	U	0.00600	mg/L							
Methane	0.00400	U	0.00500	mg/L							

LCS (1A26006-BS1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 09:33

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.395		0.00600	mg/L	0.323		122	70-130			
Ethene	0.348		0.00600	mg/L	0.302		115	70-130			
Methane	0.187		0.00500	mg/L	0.172		109	70-130			

LCS Dup (1A26006-BSD1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 09:54

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.401		0.00600	mg/L	0.323		124	70-130	1	30	
Ethene	0.354		0.00600	mg/L	0.302		117	70-130	2	30	
Methane	0.192		0.00500	mg/L	0.172		112	70-130	3	30	

Duplicate (1A26006-DUP1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 12:39

Source: AE00066-09

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.00510	U	0.00600	mg/L		0.00510 U				30	QV-01
Ethene	0.00510	U	0.00600	mg/L		0.00510 U				30	
Methane	0.442		0.00500	mg/L		0.152			98	30	QM-12

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
A-07	Analyte biased low in LCS but detected in the reporting limit standard. Since the analyte in the associated sample was not detected, there is no impact on data quality.
J-01	Result may be biased high due to positive results in the associated method blank at a concentration above the MDL and/or greater than one-half the MRL.
O-01	This compound is a common laboratory contaminant.
QL-02	The associated laboratory control sample exhibited high bias; since the result is ND, there is no impact.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-12	Precision between duplicate samples was outside acceptance limits.
QM-19	The spike recovery was outside acceptance limits for the MS and/or MSD.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.
R-05	The sample was diluted due to the presence of high levels of non-target analytes resulting in elevated reporting limits.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported result is an estimated value.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence (85% or greater confidence) to make a “tentative identification".
Q	One or more quality control criteria failed.

AE000606

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 2220 | PAGE 1 OF 2

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G08970	KSC- CRCA	Alex Murphy	321-292-0842	ENCO, Kaitlin Dylnicki
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER: Melissa Bennett	PHONE NUMBER: 321-914-9394	ADDRESS
		CARRIER/WAYBILL NUMBER		CITY, STATE: Orlando, FL

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE (YEAR 2021)	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	TYPE OF ANALYSIS: VOC	MEE	CONTAINER TYPE PLASTIC (P) or GLASS (G): G	G	PRESERVATIVE USED: HCl	ice	COMMENTS
1/19	1105	CRCA-MW0030-058.0-20210119	30	53	63	GW	G	3	X						
1/19	1140	CRCA-MW0029-035.0-20210119	29	30	40	GW	G	3	X						
1/19	1220	CRCA-MW0028-058.0-20210119	28	53	63	GW	G	3	X						
1/19	1300	CRCA-MW0027-035.0-20210119	27	30	40	GW	G	3	X						
1/19	1335	CRCA-MW0015-027.5-20210119	15	25	30	GW	G	3	X						
1/19	1430	CRCA-MW0013-027.5-20210119	13	25	30	GW	G	3	X						
1/19	1510	CRCA-MW0012-027.5-20210119	12	25	30	GW	G	3	X						
1/19	1545	CRCA-MW0002-032.5-20210119	2	30	35	GW	G	3	X						
1/20	1215	CRCA-MW0031-058.0-20210120	31	53	63	GW	G	6	X	X					
1/20	1300	CRCA-MW0032-058.0-20210120	32	53	63	GW	G	6	X	X MB					VOC analysis only
1/20	1400	CRCA-MW0018-058.0-20210120	18	53	63	GW	G	6	X	X					
1/20	1600	CRCA-MW0019-058.0-20210120	19	53	63	GW	G	6	X	X					

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	1-21-21	1500	1. RECEIVED BY	1/21/21	1500
2. RELINQUISHED BY	1/21/21	1500	2. RECEIVED BY	1/21/21	1500
3. RELINQUISHED BY	1/21/21		3. RECEIVED BY	1/22/21	1510

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

(-025 4.29, 6001 24.19C, 1002 23.9

4/02R FORM NO. TtNUS-001

AE000166

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 2222 | PAGE 2 OF 2

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G08970	CRCA	Alex Murphy	321-292-0842	ENCO
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER: Melissa Bennett	PHONE NUMBER: 321-914-9394	ADDRESS
		CARRIER/WAYBILL NUMBER		CITY, STATE: Orlando, FL

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE / YEAR 2021	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G): Summa	PRESERVATIVE USED: 1	TYPE OF ANALYSIS: VOC TO-15	COMMENTS
1/20	1103	CRCA-VMP01-20210120	VMP1	—	—	air	G	1			X	1001-1103
1/20	1106	CRCA-VMP02-20210120	VMP2	—	—	air	G	1			X	1008-1106
1/20	1115	CRCA-VMP03-20210120	VMP3	—	—	air	G	1			X	1014-1115
1/20	1122	CRCA-VMP04-20210120	VMP4	—	—	air	G	1			X	1022-1122
1/20	1703	CRCA-SYSAIR-20210120	SYS	—	-	air	G	1			X	1900-1703

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	1-21-21	1500	1. RECEIVED BY KE	1/21/21	15:10
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY KE	1/21/21	15:10	3. RECEIVED BY	1-21-21	1500
COMMENTS	1-21-21	15 10	James W Gregory	1/21/21	1510

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

C-025 4.2°C

Box 1 24.1 °C, Box 2 23.1°C

4/02R FORM NO. TINUS-001

Environmental Conservation Laboratories, Inc.
10775 Central Port Drive, Orlando, FL 32824
4810 Executive Park Court, Suite 211,Jacksonville, FL 32216
102-A Woodwinds Industrial Ct, Cary, NC 27511

www.encolabs.com

COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

General Information

SITE LOCATION:	KSC- CRCA .
SITE ADDRESS:	Contractor Road
SAMPLER ID:	CRCA- VMP01- 20210120
SAMPLING DATE:	1-20-21
OPERATOR:	Tetra tech / melisse Bennett
SHIPPING DATE:	1/13/21
CANISTER SERIAL NO.:	1158
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	JAK-P-114

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	60°F	-14 mmHg	1001	1HR
STOP		-14mmHg	1103	

Signature/Title: [signature] / Env. Engineer

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4810 Executive Park Court, Suite 211,Jacksonville, FL 32216
102-A Woodwinds Industrial Ct, Cary, NC 27511

COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15
CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

2

General Information

SITE LOCATION:	KSC- CBCA
SITE ADDRESS:	Contractor Road
SAMPLER ID:	CBCA – VM002-20210120
SAMPLING DATE:	1-2021
OPERATOR:	Tetra tech / melissa Bennett
SHIPPING DATE:	113121
CANISTER SERIAL NO.:	15863
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	JAX-R-056

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	60°F	-30mmHg	1008	1HR
STOP		-13mmHg	1100	1HR

Signature/Title: [signature] / Env. Engineer

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COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

3

General Information

SITE LOCATION:	KSC- CRCA
SITE ADDRESS:	Contractor Road
SAMPLER ID:	CRCA- VMP03-20210120
SAMPLING DATE:	1-20-21
OPERATOR:	Tetra tech / Melissa Bennett
SHIPPING DATE:	1/13/21
CANISTER SERIAL NO.:	1S-069
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	1A10-14-059

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	60°F	-30mmHg	1014	1HR
STOP	60°F	-13 mmHg	1115	1HR

Signature/Title: [signature] / Env. Engineer

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COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

4

General Information

SITE LOCATION:	KSC- CRCA
SITE ADDRESS:	Contractor Road
SAMPLER ID:	CRCA-UMP04-20210120
SAMPLING DATE:	1-20-21
OPERATOR:	Tetra tech / Melissa Bennett
SHIPPING DATE:	1/15/21
CANISTER SERIAL NO.:	05-070
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	JAV-R-04

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	60°F	-30 mm Hg	1022	1 HR
STOP	60°F	-9 mm Hg	1122	1 HR

Signature/Title: [signature] / Env. Engineer

Environmental Conservation Laboratories, Inc.
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COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

SYSAIR

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

General Information

SITE LOCATION:	KSC- CRCA ,
SITE ADDRESS:	Contractor Road
SAMPLER ID:	CRCA- SYSAIR-20210120
SAMPLING DATE:	1-20-21
OPERATOR:	Tetra tech / Melissa Bennett
SHIPPING DATE:	1/30/21
CANISTER SERIAL NO.:	18-016
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	10685

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	55°F	-30mm Hg	0900	8 HR
STOP	72°F	0mmHg	1703	8 HR

Signature/Title: [signature] / Env. Engineer

1/22/2021

Environmental Conservation Labs, Inc.

Alex Murphy
Tetra Tech, Inc. (TE016)
11 Riverside Drive, Suite 204
Cocoa, FL 32922
Phone: (321) 636-6470
Fax: (321) 636-6473

Reference : **Sample Receipt Confirmation - *Please Review***
Project Name / Number : NASA KSC CRCA / 112G08970
Purchase Order # : 1165883

Lab Reference # : AE00066 Lab Receipt Date: 21-Jan-21 15:10
Anticipated ***(Estimated)*** Completion Date: 28-Jan-21 19:00

This is an automated notification from our laboratory information management system (LIMS), indicating the samples we have recently received and their associated analyses. Should any of the following information be in error, please contact us immediately.

Thank you for choosing Environmental Conservation Laboratories. Should any events occur that delay the processing of your samples or inhibit our ability to complete the project within the projected time frame you will be contacted.

Sincerely,

Kaitlin Dylnicki

Client: Tetra Tech, Inc. (TE016) **Project Name:** NASA KSC CRCA
Requested TAT: 5 **Project Number:** 112G08970

Analysis	TAT	Expires	Status
Sample ID: CRCA-MW0030-058.0-20210119(Lab ID: AE00066-01), Matrix: Ground Water, Sampled: 19-Jan-21 11:05 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received
Sample ID: CRCA-MW0029-035.0-20210119(Lab ID: AE00066-02), Matrix: Ground Water, Sampled: 19-Jan-21 11:40 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received
Sample ID: CRCA-MW0028-058.0-20210119(Lab ID: AE00066-03), Matrix: Ground Water, Sampled: 19-Jan-21 12:20 (GMT-05:00) Eastern Time (US & Canada)			
Sample Comments: Time on Vials is 1215			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received
Sample ID: CRCA-MW0027-035.0-20210119(Lab ID: AE00066-04), Matrix: Ground Water, Sampled: 19-Jan-21 13:00 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received
Sample ID: CRCA-MW0015-027.5-20210119(Lab ID: AE00066-05), Matrix: Ground Water, Sampled: 19-Jan-21 13:35 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received
Sample ID: CRCA-MW0013-027.5-20210119(Lab ID: AE00066-06), Matrix: Ground Water, Sampled: 19-Jan-21 14:30 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received
Sample ID: CRCA-MW0012-0.275-20210119(Lab ID: AE00066-07), Matrix: Ground Water, Sampled: 19-Jan-21 15:10 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received
Sample ID: CRCA-MW0002-032.5-20210119(Lab ID: AE00066-08), Matrix: Ground Water, Sampled: 19-Jan-21 15:45 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received

Client: Tetra Tech, Inc. (TE016)
Requested TAT: 5

Project Name: NASA KSC CRCA
Project Number: 112G08970

Analysis	TAT	Expires	Status
Sample ID: CRCA-MW0031-058.0-20210120(Lab ID: AE00066-09), Matrix: Ground Water, Sampled: 20-Jan-21 12:15 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	03-Feb-21 23:59	Received
RSK175	5	03-Feb-21 23:59	Received
Sample ID: CRCA-MW0032-058.0-20210120(Lab ID: AE00066-10), Matrix: Ground Water, Sampled: 20-Jan-21 13:00 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	03-Feb-21 23:59	Received
Sample ID: CRCA-MW0018-058.0-20210120(Lab ID: AE00066-11), Matrix: Ground Water, Sampled: 20-Jan-21 14:00 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	03-Feb-21 23:59	Received
RSK175	5	03-Feb-21 23:59	Received
Sample ID: CRCA-MW0019-058.0-20210120(Lab ID: AE00066-12), Matrix: Ground Water, Sampled: 20-Jan-21 16:00 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	03-Feb-21 23:59	Received
RSK175	5	03-Feb-21 23:59	Received
Sample ID: CRCA-VMP01-20210120(Lab ID: AE00066-13), Matrix: Air, Sampled: 20-Jan-21 11:03 (GMT-05:00) Eastern Time (US & Canada)			
Sample Comments: 1001-1103			
TO15 (SUMMA)	5	19-Feb-21 23:59	Received
Sample ID: CRCA-VMP02-20210120(Lab ID: AE00066-14), Matrix: Air, Sampled: 20-Jan-21 11:06 (GMT-05:00) Eastern Time (US & Canada)			
Sample Comments: 1008-1106			
TO15 (SUMMA)	5	19-Feb-21 23:59	Received
Sample ID: CRCA-VMP03-20210120(Lab ID: AE00066-15), Matrix: Air, Sampled: 20-Jan-21 11:15 (GMT-05:00) Eastern Time (US & Canada)			
Sample Comments: 1014-1115			
TO15 (SUMMA)	5	19-Feb-21 23:59	Received
Sample ID: CRCA-VMP04-20210120(Lab ID: AE00066-16), Matrix: Air, Sampled: 20-Jan-21 11:22 (GMT-05:00) Eastern Time (US & Canada)			
Sample Comments: 1022-1122			
TO15 (SUMMA)	5	19-Feb-21 23:59	Received
Sample ID: CRCA-SYSAIR-20210120(Lab ID: AE00066-17), Matrix: Air, Sampled: 20-Jan-21 17:03 (GMT-05:00) Eastern Time (US & Canada)			
Sample Comments: 1900-1703			
TO15 (SUMMA)	5	19-Feb-21 23:59	Received

Analysis Groups included in this work order

ENCO Orlando

SDG: AE00066-TE016

CLASS: 01_VOA_MS

METHOD: EPA 8260D

ANALYSES DATA PACKAGE COVER PAGE

EPA 8260D

Laboratory: ENCO Orlando

SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-MW0030-058.0-20210119	AE00066-01
CRCA-MW0029-035.0-20210119	AE00066-02
CRCA-MW0028-058.0-20210119	AE00066-03
CRCA-MW0027-035.0-20210119	AE00066-04
CRCA-MW0015-027.5-20210119	AE00066-05
CRCA-MW0013-027.5-20210119	AE00066-06
CRCA-MW0012-027.5-20210119	AE00066-07
CRCA-MW0002-032.5-20210119	AE00066-08
CRCA-MW0031-058.0-20210120	AE00066-09
CRCA-MW0032-058.0-20210120	AE00066-10
CRCA-MW0018-058.0-20210120	AE00066-11
CRCA-MW0018-058.0-20210120	AE00066-11RE1
CRCA-MW0019-058.0-20210120	AE00066-12

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0030-058.0-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-01 File ID: 215AT010.D

Sampled: 01/19/21 11:05 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 12:17

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0030-058.0-20210119

Laboratory: ENCO Orlando | SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) | Project: NASA KSC CRCA

Matrix: Ground Water | Laboratory ID: AE00066-01 | File ID: 215AT010.D

Sampled: 01/19/21 11:05 | Prepared: 01/25/21 00:00 | Analyzed: 01/25/21 12:17

Solids: | Preparation: EPA 5030B_MS | Initial/Final: 5 mL / 5 mL

Batch: 1A25020 | Sequence: AA64632 | Calibration: 2011113 | Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	57	115	53 - 146	
Toluene-d8	50.0	48	97	41 - 146	
4-Bromofluorobenzene	50.0	53	106	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1351808	9.863	1217120	9.845	
1,4-Difluorobenzene	2866333	10.456	2353990	10.438	
Chlorobenzene-d5	1635734	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1522320	15.491	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0029-035.0-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-02 File ID: 215AT011.D

Sampled: 01/19/21 11:40 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 12:46

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0029-035.0-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-02 File ID: 215AT011.D

Sampled: 01/19/21 11:40 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 12:46

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	57	114	53 - 146	
Toluene-d8	50.0	48	96	41 - 146	
4-Bromofluorobenzene	50.0	53	107	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1334319	9.863	1217120	9.845	
1,4-Difluorobenzene	2846320	10.456	2353990	10.438	
Chlorobenzene-d5	1622830	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1514443	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0028-058.0-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-03 File ID: 215AT012.D

Sampled: 01/19/21 12:20 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 13:15

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0028-058.0-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-03 File ID: 215AT012.D

Sampled: 01/19/21 12:20 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 13:15

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	56	111	53 - 146	
Toluene-d8	50.0	48	95	41 - 146	
4-Bromofluorobenzene	50.0	53	105	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1325539	9.862	1217120	9.845	
1,4-Difluorobenzene	2841226	10.456	2353990	10.438	
Chlorobenzene-d5	1602227	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1534202	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0027-035.0-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-04 File ID: 215AT013.D

Sampled: 01/19/21 13:00 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 13:45

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	7.0		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0027-035.0-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-04 File ID: 215AT013.D

Sampled: 01/19/21 13:00 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 13:45

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	57	115	53 - 146	
Toluene-d8	50.0	46	93	41 - 146	
4-Bromofluorobenzene	50.0	52	104	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1342454	9.863	1217120	9.845	
1,4-Difluorobenzene	2980618	10.462	2353990	10.438	
Chlorobenzene-d5	1652145	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1560174	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0015-027.5-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-05 File ID: 215AT014.D

Sampled: 01/19/21 13:35 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 14:14

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0015-027.5-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-05 File ID: 215AT014.D

Sampled: 01/19/21 13:35 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 14:14

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	57	114	53 - 146	
Toluene-d8	50.0	47	94	41 - 146	
4-Bromofluorobenzene	50.0	54	108	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1353784	9.868	1217120	9.845	
1,4-Difluorobenzene	2923690	10.462	2353990	10.438	
Chlorobenzene-d5	1584476	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1534322	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0013-027.5-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-06 File ID: 215AT015.D

Sampled: 01/19/21 14:30 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 14:44

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	2.1	J	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0013-027.5-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-06 File ID: 215AT015.D

Sampled: 01/19/21 14:30 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 14:44

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	57	114	53 - 146	
Toluene-d8	50.0	48	96	41 - 146	
4-Bromofluorobenzene	50.0	55	109	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1323227	9.868	1217120	9.845	
1,4-Difluorobenzene	2812403	10.462	2353990	10.438	
Chlorobenzene-d5	1560555	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1499588	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0012-027.5-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-07 File ID: 215AT016.D

Sampled: 01/19/21 15:10 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 15:13

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0012-027.5-20210119

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE00066-07
File ID: 215AT016.D
Sampled: 01/19/21 15:10
Prepared: 01/25/21 00:00
Analyzed: 01/25/21 15:13
Solids:
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Batch: 1A25020
Sequence: AA64632
Calibration: 2011113
Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	59	118	53 - 146	
Toluene-d8	50.0	48	96	41 - 146	
4-Bromofluorobenzene	50.0	54	109	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1311393	9.868	1217120	9.845	
1,4-Difluorobenzene	2857206	10.462	2353990	10.438	
Chlorobenzene-d5	1588971	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1519324	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0002-032.5-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-08 File ID: 215AT017.D

Sampled: 01/19/21 15:45 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 15:43

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	3.1		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0002-032.5-20210119

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE00066-08
File ID: 215AT017.D
Sampled: 01/19/21 15:45
Prepared: 01/25/21 00:00
Analyzed: 01/25/21 15:43
Solids:
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Batch: 1A25020
Sequence: AA64632
Calibration: 2011113
Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	56	113	53 - 146	
Toluene-d8	50.0	49	97	41 - 146	
4-Bromofluorobenzene	50.0	55	109	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1324243	9.863	1217120	9.845	
1,4-Difluorobenzene	2844356	10.456	2353990	10.438	
Chlorobenzene-d5	1569592	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1496442	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0031-058.0-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-09 File ID: 215AT018.D

Sampled: 01/20/21 12:15 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 16:12

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	29		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0031-058.0-20210120

Laboratory: ENCO Orlando | SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) | Project: NASA KSC CRCA

Matrix: Ground Water | Laboratory ID: AE00066-09 | File ID: 215AT018.D

Sampled: 01/20/21 12:15 | Prepared: 01/25/21 00:00 | Analyzed: 01/25/21 16:12

Solids: | Preparation: EPA 5030B_MS | Initial/Final: 5 mL / 5 mL

Batch: 1A25020 | Sequence: AA64632 | Calibration: 2011113 | Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	59	118	53 - 146	
Toluene-d8	50.0	47	93	41 - 146	
4-Bromofluorobenzene	50.0	52	105	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1346166	9.863	1217120	9.845	
1,4-Difluorobenzene	3057273	10.462	2353990	10.438	
Chlorobenzene-d5	1666053	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1548120	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0032-058.0-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-10 File ID: 215AT009.D

Sampled: 01/20/21 13:00 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 11:47

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0032-058.0-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-10 File ID: 215AT009.D

Sampled: 01/20/21 13:00 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 11:47

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	57	114	53 - 146	
Toluene-d8	50.0	47	94	41 - 146	
4-Bromofluorobenzene	50.0	53	106	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1353992	9.863	1217120	9.845	
1,4-Difluorobenzene	2910142	10.456	2353990	10.438	
Chlorobenzene-d5	1676020	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1554117	15.491	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0018-058.0-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-11RE1 File ID: 212AU017.D

Sampled: 01/20/21 14:00 Prepared: 01/26/21 00:00 Analyzed: 01/26/21 15:52

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A26010 Sequence: AA64658 Calibration: 2101077 Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	97		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0018-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE00066-11RE1
File ID: 212AU017.D
Sampled: 01/20/21 14:00
Prepared: 01/26/21 00:00
Analyzed: 01/26/21 15:52
Solids:
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Batch: 1A26010
Sequence: AA64658
Calibration: 2101077
Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	55	110	53 - 146	
Toluene-d8	50.0	55	109	41 - 146	
4-Bromofluorobenzene	50.0	54	108	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	193931	11.47	253281	11.45	
1,4-Difluorobenzene	383784	12.02	506895	11.99	
Chlorobenzene-d5	191378	14.62	216205	14.59	
1,4-Dichlorobenzene-d4	134955	16.99	135032	16.96	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0019-058.0-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-12 File ID: 215AT020.D

Sampled: 01/20/21 16:00 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 17:11

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	2.8		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0019-058.0-20210120

Laboratory: ENCO Orlando | SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) | Project: NASA KSC CRCA

Matrix: Ground Water | Laboratory ID: AE00066-12 | File ID: 215AT020.D

Sampled: 01/20/21 16:00 | Prepared: 01/25/21 00:00 | Analyzed: 01/25/21 17:11

Solids: | Preparation: EPA 5030B_MS | Initial/Final: 5 mL / 5 mL

Batch: 1A25020 | Sequence: AA64632 | Calibration: 2011113 | Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	57	113	53 - 146	
Toluene-d8	50.0	47	95	41 - 146	
4-Bromofluorobenzene	50.0	55	110	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1326429	9.868	1217120	9.845	
1,4-Difluorobenzene	2844280	10.462	2353990	10.438	
Chlorobenzene-d5	1585901	13.241	1612072	13.217	
1,4-Dichlorobenzene-d4	1547465	15.497	1366836	15.474	

* Values outside of QC limits

HOLDING TIME SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-MW0030-058.0-20210119	01/19/21 11:05	01/21/21 15:10	01/25/21 00:00	5.54	NA	01/25/21 12:17	6.00	14.00	
CRCA-MW0029-035.0-20210119	01/19/21 11:40	01/21/21 15:10	01/25/21 00:00	5.51	NA	01/25/21 12:46	6.00	14.00	
CRCA-MW0028-058.0-20210119	01/19/21 12:20	01/21/21 15:10	01/25/21 00:00	5.49	NA	01/25/21 13:15	6.00	14.00	
CRCA-MW0027-035.0-20210119	01/19/21 13:00	01/21/21 15:10	01/25/21 00:00	5.46	NA	01/25/21 13:45	6.00	14.00	
CRCA-MW0015-027.5-20210119	01/19/21 13:35	01/21/21 15:10	01/25/21 00:00	5.43	NA	01/25/21 14:14	6.00	14.00	
CRCA-MW0013-027.5-20210119	01/19/21 14:30	01/21/21 15:10	01/25/21 00:00	5.40	NA	01/25/21 14:44	6.00	14.00	
CRCA-MW0012-027.5-20210119	01/19/21 15:10	01/21/21 15:10	01/25/21 00:00	5.37	NA	01/25/21 15:13	6.00	14.00	
CRCA-MW0002-032.5-20210119	01/19/21 15:45	01/21/21 15:10	01/25/21 00:00	5.34	NA	01/25/21 15:43	6.00	14.00	
CRCA-MW0031-058.0-20210120	01/20/21 12:15	01/21/21 15:10	01/25/21 00:00	4.49	NA	01/25/21 16:12	5.00	14.00	
CRCA-MW0032-058.0-20210120	01/20/21 13:00	01/21/21 15:10	01/25/21 00:00	4.46	NA	01/25/21 11:47	5.00	14.00	
CRCA-MW0018-058.0-20210120	01/20/21 14:00	01/21/21 15:10	01/26/21 00:00	5.42	NA	01/26/21 15:52	6.00	14.00	
CRCA-MW0019-058.0-20210120	01/20/21 16:00	01/21/21 15:10	01/25/21 00:00	4.33	NA	01/25/21 17:11	5.00	14.00	

PREPARATION BATCH SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1A25020 Batch Matrix: Water Preparation: EPA 5030B_MS

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1A25020-BLK1	215AT006.D	01/25/21 00:00	
LCS	1A25020-BS1	215AT004.D	01/25/21 00:00	
CRCA-MW0032-058.0-20210120	1A25020-MS1	215AT023.D	01/25/21 00:00	
CRCA-MW0032-058.0-20210120	1A25020-MSD1	215AT024.D	01/25/21 00:00	
CRCA-MW0030-058.0-20210119	AE00066-01	215AT010.D	01/25/21 00:00	
CRCA-MW0029-035.0-20210119	AE00066-02	215AT011.D	01/25/21 00:00	
CRCA-MW0028-058.0-20210119	AE00066-03	215AT012.D	01/25/21 00:00	
CRCA-MW0027-035.0-20210119	AE00066-04	215AT013.D	01/25/21 00:00	
CRCA-MW0015-027.5-20210119	AE00066-05	215AT014.D	01/25/21 00:00	
CRCA-MW0013-027.5-20210119	AE00066-06	215AT015.D	01/25/21 00:00	
CRCA-MW0012-027.5-20210119	AE00066-07	215AT016.D	01/25/21 00:00	
CRCA-MW0002-032.5-20210119	AE00066-08	215AT017.D	01/25/21 00:00	
CRCA-MW0031-058.0-20210120	AE00066-09	215AT018.D	01/25/21 00:00	
CRCA-MW0032-058.0-20210120	AE00066-10	215AT009.D	01/25/21 00:00	
CRCA-MW0019-058.0-20210120	AE00066-12	215AT020.D	01/25/21 00:00	

PREPARATION BATCH SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1A26010 Batch Matrix: Water Preparation: EPA 5030B_MS

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1A26010-BLK1	212AU008.D	01/26/21 00:00	
LCS	1A26010-BS1	212AU003.D	01/26/21 00:00	
MW-3R	1A26010-MS1	212AU004.D	01/26/21 00:00	
MW-3R	1A26010-MSD1	212AU005.D	01/26/21 00:00	
CRCA-MW0018-058.0-20210120	AE00066-11RE1	212AU017.D	01/26/21 00:00	

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1A25020-BLK1	File ID:	215AT006.D
Prepared:	01/25/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	01/25/21 10:19	Instrument:	OVGCMS5		
Batch:	1A25020	Sequence:	AA64632	Calibration:	2011113

CAS NO.	COMPOUND	CONC. (ug/L)	Q
75-71-8	Dichlorodifluoromethane	0.74	U
74-87-3	Chloromethane	0.82	U
75-01-4	Vinyl chloride	0.71	U
74-83-9	Bromomethane	0.95	U
75-00-3	Chloroethane	0.98	U
75-69-4	Trichlorofluoromethane	0.94	U
76-13-1	Freon 113	0.73	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	0.94	U
75-15-0	Carbon disulfide	2.5	U
75-09-2	Methylene Chloride	2.5	U
1634-04-4	Methyl-tert-Butyl Ether	0.60	U
156-60-5	trans-1,2-Dichloroethene	0.73	U
156-59-2	cis-1,2-Dichloroethene	0.53	U
75-34-3	1,1-Dichloroethane	0.62	U
78-93-3	2-Butanone	4.5	U
67-66-3	Chloroform	0.80	U
71-55-6	1,1,1-Trichloroethane	0.80	U
79-20-9	Methyl acetate	0.95	U
110-82-7	Cyclohexane	0.93	U
108-87-2	Methyl cyclohexane	0.64	U
56-23-5	Carbon Tetrachloride	0.94	U
107-06-2	1,2-Dichloroethane	0.63	U
71-43-2	Benzene	0.71	U
79-01-6	Trichloroethene	0.89	U
78-87-5	1,2-Dichloropropane	0.80	U
75-27-4	Bromodichloromethane	0.52	U
108-10-1	4-Methyl-2-pentanone	2.5	U
591-78-6	2-Hexanone	2.5	U
10061-01-5	cis-1,3-Dichloropropene	0.59	U

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1A25020-BLK1	File ID:	215AT006.D
Prepared:	01/25/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	01/25/21 10:19	Instrument:	OVGCMS5		
Batch:	1A25020	Sequence:	AA64632	Calibration:	2011113

CAS NO.	COMPOUND	CONC. (ug/L)	Q
108-88-3	Toluene	0.72	U
10061-02-6	trans-1,3-Dichloropropene	0.73	U
79-00-5	1,1,2-Trichloroethane	0.76	U
127-18-4	Tetrachloroethene	0.76	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.78	U
108-90-7	Chlorobenzene	0.72	U
100-41-4	Ethylbenzene	0.69	U
108-38-3/106-42-3	m,p-Xylenes	1.3	U
95-47-6	o-Xylene	0.53	U
75-25-2	Bromoform	0.75	U
100-42-5	Styrene	0.61	U
98-82-8	Isopropylbenzene	0.67	U
79-34-5	1,1,2,2-Tetrachloroethane	0.54	U
120-82-1	1,2,4-Trichlorobenzene	0.70	U
541-73-1	1,3-Dichlorobenzene	0.77	U
106-46-7	1,4-Dichlorobenzene	0.76	U
95-50-1	1,2-Dichlorobenzene	0.73	U
96-12-8	1,2-Dibromo-3-chloropropane	0.96	U
1330-20-7	Xylenes (Total)	1.3	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	55	111	53 - 146	
Toluene-d8	50.0	48	96	41 - 146	
4-Bromofluorobenzene	50.0	54	109	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1492905	9.857	1217120	9.845	
1,4-Difluorobenzene	3146822	10.456	2353990	10.438	
Chlorobenzene-d5	1772986	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1644956	15.491	1366836	15.474	

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1A26010-BLK1	File ID:	212AU008.D
Prepared:	01/26/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	01/26/21 11:19	Instrument:	OVGCMS2		
Batch:	1A26010	Sequence:	AA64658	Calibration:	2101077

CAS NO.	COMPOUND	CONC. (ug/L)	Q
75-71-8	Dichlorodifluoromethane	0.74	U
74-87-3	Chloromethane	0.82	U
75-01-4	Vinyl chloride	0.71	U
74-83-9	Bromomethane	0.95	U
75-00-3	Chloroethane	0.98	U
75-69-4	Trichlorofluoromethane	0.94	U
76-13-1	Freon 113	0.73	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	0.94	U
75-15-0	Carbon disulfide	2.5	U
75-09-2	Methylene Chloride	2.5	U
1634-04-4	Methyl-tert-Butyl Ether	0.60	U
156-60-5	trans-1,2-Dichloroethene	0.73	U
156-59-2	cis-1,2-Dichloroethene	0.53	U
75-34-3	1,1-Dichloroethane	0.62	U
78-93-3	2-Butanone	4.5	U
67-66-3	Chloroform	0.80	U
71-55-6	1,1,1-Trichloroethane	0.80	U
79-20-9	Methyl acetate	0.95	U
110-82-7	Cyclohexane	0.93	U
108-87-2	Methyl cyclohexane	0.64	U
56-23-5	Carbon Tetrachloride	0.94	U
107-06-2	1,2-Dichloroethane	0.63	U
71-43-2	Benzene	0.71	U
79-01-6	Trichloroethene	0.89	U
78-87-5	1,2-Dichloropropane	0.80	U
75-27-4	Bromodichloromethane	0.52	U
108-10-1	4-Methyl-2-pentanone	2.5	U
591-78-6	2-Hexanone	2.5	U
10061-01-5	cis-1,3-Dichloropropene	0.59	U

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1A26010-BLK1	File ID:	212AU008.D
Prepared:	01/26/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	01/26/21 11:19	Instrument:	OVGCMS2		
Batch:	1A26010	Sequence:	AA64658	Calibration:	2101077

CAS NO.	COMPOUND	CONC. (ug/L)	Q
108-88-3	Toluene	0.72	U
10061-02-6	trans-1,3-Dichloropropene	0.73	U
79-00-5	1,1,2-Trichloroethane	0.76	U
127-18-4	Tetrachloroethene	0.76	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.78	U
108-90-7	Chlorobenzene	0.72	U
100-41-4	Ethylbenzene	0.69	U
108-38-3/106-42-3	m,p-Xylenes	1.3	U
95-47-6	o-Xylene	0.53	U
75-25-2	Bromoform	0.75	U
100-42-5	Styrene	0.61	U
98-82-8	Isopropylbenzene	0.67	U
79-34-5	1,1,2,2-Tetrachloroethane	0.54	U
120-82-1	1,2,4-Trichlorobenzene	0.70	U
541-73-1	1,3-Dichlorobenzene	0.77	U
106-46-7	1,4-Dichlorobenzene	0.76	U
95-50-1	1,2-Dichlorobenzene	0.73	U
96-12-8	1,2-Dibromo-3-chloropropane	0.96	U
1330-20-7	Xylenes (Total)	1.3	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	58	116	53 - 146	
Toluene-d8	50.0	51	102	41 - 146	
4-Bromofluorobenzene	50.0	51	103	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	294699	11.47	253281	11.45	
1,4-Difluorobenzene	604071	12.02	506895	11.99	
Chlorobenzene-d5	274826	14.62	216205	14.59	
1,4-Dichlorobenzene-d4	171064	16.98	135032	16.96	

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1A25020	Laboratory ID:	1A25020-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	12	61	10 - 180
Chloromethane	20.0	9.3	46	33 - 154
Vinyl chloride	20.0	17	85	20 - 167
Bromomethane	20.0	8.7	44	10 - 173
Chloroethane	20.0	22	109	27 - 180
Trichlorofluoromethane	20.0	20	100	56 - 155
Freon 113	20.0	21	104	47 - 173
Acetone	100	71	71	10 - 180
1,1-Dichloroethene	20.0	20	102	47 - 139
Carbon disulfide	20.0	20	102	43 - 153
Methylene Chloride	20.0	20	100	43 - 142
Methyl-tert-Butyl Ether	20.0	20	99	51 - 145
trans-1,2-Dichloroethene	20.0	22	108	54 - 134
cis-1,2-Dichloroethene	20.0	22	109	56 - 128
1,1-Dichloroethane	20.0	19	93	57 - 142
2-Butanone	100	90	90	10 - 180
Chloroform	20.0	20	99	58 - 139
1,1,1-Trichloroethane	20.0	19	97	57 - 148
Methyl acetate	20.0	13	65 *	70 - 130
Cyclohexane	20.0	16	82	70 - 130
Methyl cyclohexane	20.0	18	89	70 - 130
Carbon Tetrachloride	20.0	16	80	54 - 156
1,2-Dichloroethane	20.0	15	75	50 - 156
Benzene	20.0	19	94	56 - 136
Trichloroethene	20.0	21	103	62 - 135
1,2-Dichloropropane	20.0	16	80	61 - 133
Bromodichloromethane	20.0	18	89	58 - 135
4-Methyl-2-pentanone	100	90	90	19 - 180
2-Hexanone	100	68	68	12 - 180
cis-1,3-Dichloropropene	20.0	17	87	64 - 128

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1A25020	Laboratory ID:	1A25020-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Toluene	20.0	23	114	64 - 131
trans-1,3-Dichloropropene	20.0	21	103	65 - 149
1,1,2-Trichloroethane	20.0	21	107	57 - 141
Tetrachloroethene	20.0	21	104	60 - 147
Dibromochloromethane	20.0	24	118	50 - 140
1,2-Dibromoethane	20.0	22	110	57 - 140
Chlorobenzene	20.0	24	120	51 - 139
Ethylbenzene	20.0	22	108	63 - 133
m,p-Xylenes	40.0	50	125	64 - 133
o-Xylene	20.0	23	117	61 - 129
Bromoform	20.0	21	107	46 - 148
Styrene	20.0	25	126	59 - 136
Isopropylbenzene	20.0	24	118	60 - 132
1,1,2,2-Tetrachloroethane	20.0	21	105	60 - 139
1,2,4-Trichlorobenzene	20.0	17	87	52 - 159
1,3-Dichlorobenzene	20.0	24	118	66 - 129
1,4-Dichlorobenzene	20.0	21	106	65 - 133
1,2-Dichlorobenzene	20.0	23	113	63 - 131
1,2-Dibromo-3-chloropropane	20.0	20	102	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1A26010	Laboratory ID:	1A26010-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	14	69	10 - 180
Chloromethane	20.0	19	97	33 - 154
Vinyl chloride	20.0	24	118	20 - 167
Bromomethane	20.0	20	101	10 - 173
Chloroethane	20.0	25	124	27 - 180
Trichlorofluoromethane	20.0	25	123	56 - 155
Freon 113	20.0	28	142	47 - 173
Acetone	100	160	156	10 - 180
1,1-Dichloroethene	20.0	25	125	47 - 139
Carbon disulfide	20.0	36	178 *	43 - 153
Methylene Chloride	20.0	27	136	43 - 142
Methyl-tert-Butyl Ether	20.0	28	141	51 - 145
trans-1,2-Dichloroethene	20.0	27	135 *	54 - 134
cis-1,2-Dichloroethene	20.0	25	124	56 - 128
1,1-Dichloroethane	20.0	24	119	57 - 142
2-Butanone	100	130	126	10 - 180
Chloroform	20.0	28	140 *	58 - 139
1,1,1-Trichloroethane	20.0	25	127	57 - 148
Methyl acetate	20.0	30	148 *	70 - 130
Cyclohexane	20.0	26	132 *	70 - 130
Methyl cyclohexane	20.0	23	116	70 - 130
Carbon Tetrachloride	20.0	23	115	54 - 156
1,2-Dichloroethane	20.0	24	119	50 - 156
Benzene	20.0	21	106	56 - 136
Trichloroethene	20.0	22	112	62 - 135
1,2-Dichloropropane	20.0	24	118	61 - 133
Bromodichloromethane	20.0	23	117	58 - 135
4-Methyl-2-pentanone	100	110	114	19 - 180
2-Hexanone	100	110	114	12 - 180
cis-1,3-Dichloropropene	20.0	23	116	64 - 128

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1A26010	Laboratory ID:	1A26010-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Toluene	20.0	20	101	64 - 131
trans-1,3-Dichloropropene	20.0	23	116	65 - 149
1,1,2-Trichloroethane	20.0	23	114	57 - 141
Tetrachloroethene	20.0	19	97	60 - 147
Dibromochloromethane	20.0	22	112	50 - 140
1,2-Dibromoethane	20.0	23	116	57 - 140
Chlorobenzene	20.0	20	101	51 - 139
Ethylbenzene	20.0	20	100	63 - 133
m,p-Xylenes	40.0	40	99	64 - 133
o-Xylene	20.0	20	102	61 - 129
Bromoform	20.0	23	113	46 - 148
Styrene	20.0	21	103	59 - 136
Isopropylbenzene	20.0	21	104	60 - 132
1,1,2,2-Tetrachloroethane	20.0	23	115	60 - 139
1,2,4-Trichlorobenzene	20.0	25	127	52 - 159
1,3-Dichlorobenzene	20.0	21	105	66 - 129
1,4-Dichlorobenzene	20.0	20	101	65 - 133
1,2-Dichlorobenzene	20.0	22	109	63 - 131
1,2-Dibromo-3-chloropropane	20.0	27	137	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0032-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A25020
Laboratory ID: 1A25020-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0032-058.0-20210120

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	ND	13	66	10 - 180
Chloromethane	20.0	ND	9.6	48	33 - 154
Vinyl chloride	20.0	ND	17	84	20 - 167
Bromomethane	20.0	ND	10	50	10 - 173
Chloroethane	20.0	ND	23	113	27 - 180
Trichlorofluoromethane	20.0	ND	23	113	56 - 155
Freon 113	20.0	ND	23	115	47 - 173
Acetone	100	ND	65	65	10 - 180
1,1-Dichloroethene	20.0	ND	23	114	47 - 139
Carbon disulfide	20.0	ND	21	106	43 - 153
Methylene Chloride	20.0	ND	21	105	43 - 142
Methyl-tert-Butyl Ether	20.0	ND	20	100	51 - 145
trans-1,2-Dichloroethene	20.0	ND	22	111	54 - 134
cis-1,2-Dichloroethene	20.0	ND	22	110	56 - 128
1,1-Dichloroethane	20.0	ND	19	96	57 - 142
2-Butanone	100	ND	88	88	10 - 180
Chloroform	20.0	ND	21	104	58 - 139
1,1,1-Trichloroethane	20.0	ND	22	110	57 - 148
Methyl acetate	20.0	ND	10	51 *	70 - 130
Cyclohexane	20.0	ND	16	82	70 - 130
Methyl cyclohexane	20.0	ND	19	95	70 - 130
Carbon Tetrachloride	20.0	ND	18	89	54 - 156
1,2-Dichloroethane	20.0	ND	16	79	50 - 156
Benzene	20.0	ND	20	100	56 - 136
Trichloroethene	20.0	ND	24	122	62 - 135
1,2-Dichloropropane	20.0	ND	16	79	61 - 133
Bromodichloromethane	20.0	ND	19	95	58 - 135
4-Methyl-2-pentanone	100	ND	87	87	19 - 180
2-Hexanone	100	ND	62	62	12 - 180
cis-1,3-Dichloropropene	20.0	ND	17	85	64 - 128
Toluene	20.0	ND	24	122	64 - 131

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0032-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A25020
Laboratory ID: 1A25020-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0032-058.0-20210120

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
trans-1,3-Dichloropropene	20.0	ND	20	102	65 - 149
1,1,2-Trichloroethane	20.0	ND	22	110	57 - 141
Tetrachloroethene	20.0	ND	24	122	60 - 147
Dibromochloromethane	20.0	ND	25	127	50 - 140
1,2-Dibromoethane	20.0	ND	23	115	57 - 140
Chlorobenzene	20.0	ND	27	135	51 - 139
Ethylbenzene	20.0	ND	24	119	63 - 133
m,p-Xylenes	40.0	ND	55	137 *	64 - 133
o-Xylene	20.0	ND	25	127	61 - 129
Bromoform	20.0	ND	22	109	46 - 148
Styrene	20.0	ND	28	140 *	59 - 136
Isopropylbenzene	20.0	ND	26	131	60 - 132
1,1,2,2-Tetrachloroethane	20.0	ND	23	114	60 - 139
1,2,4-Trichlorobenzene	20.0	ND	15	74	52 - 159
1,3-Dichlorobenzene	20.0	ND	25	125	66 - 129
1,4-Dichlorobenzene	20.0	ND	23	114	65 - 133
1,2-Dichlorobenzene	20.0	ND	23	114	63 - 131
1,2-Dibromo-3-chloropropane	20.0	ND	14	72	48 - 150

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0032-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A25020
Laboratory ID: 1A25020-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0032-058.0-20210120

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20.0	13	63	4	26	10 - 180
Chloromethane	20.0	9.0	45	7	31	33 - 154
Vinyl chloride	20.0	15	77	8	24	20 - 167
Bromomethane	20.0	11	55	10	29	10 - 173
Chloroethane	20.0	21	105	7	22	27 - 180
Trichlorofluoromethane	20.0	20	102	10	22	56 - 155
Freon 113	20.0	21	105	9	30	47 - 173
Acetone	100	70	70	7	19	10 - 180
1,1-Dichloroethene	20.0	21	103	10	16	47 - 139
Carbon disulfide	20.0	19	94	12	26	43 - 153
Methylene Chloride	20.0	19	95	9	23	43 - 142
Methyl-tert-Butyl Ether	20.0	19	95	5	22	51 - 145
trans-1,2-Dichloroethene	20.0	21	103	8	20	54 - 134
cis-1,2-Dichloroethene	20.0	21	104	5	17	56 - 128
1,1-Dichloroethane	20.0	18	90	6	24	57 - 142
2-Butanone	100	83	83	5	29	10 - 180
Chloroform	20.0	20	102	2	17	58 - 139
1,1,1-Trichloroethane	20.0	20	102	8	25	57 - 148
Methyl acetate	20.0	9.5	48 *	6	20	70 - 130
Cyclohexane	20.0	15	75	8	20	70 - 130
Methyl cyclohexane	20.0	18	91	4	20	70 - 130
Carbon Tetrachloride	20.0	16	79	12	27	54 - 156
1,2-Dichloroethane	20.0	15	77	1	18	50 - 156
Benzene	20.0	19	96	5	14	56 - 136
Trichloroethene	20.0	21	107	12	20	62 - 135
1,2-Dichloropropane	20.0	15	76	4	26	61 - 133
Bromodichloromethane	20.0	18	89	7	19	58 - 135
4-Methyl-2-pentanone	100	87	87	0.5	24	19 - 180
2-Hexanone	100	66	66	5	28	12 - 180
cis-1,3-Dichloropropene	20.0	16	78	9	20	64 - 128
Toluene	20.0	23	117	4	16	64 - 131
trans-1,3-Dichloropropene	20.0	19	97	5	17	65 - 149

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0032-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A25020
Laboratory ID: 1A25020-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0032-058.0-20210120

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,2-Trichloroethane	20.0	21	106	3	16	57 - 141
Tetrachloroethene	20.0	23	113	8	21	60 - 147
Dibromochloromethane	20.0	23	117	8	18	50 - 140
1,2-Dibromoethane	20.0	22	110	4	16	57 - 140
Chlorobenzene	20.0	26	129	5	13	51 - 139
Ethylbenzene	20.0	22	112	6	18	63 - 133
m,p-Xylenes	40.0	51	129	6	18	64 - 133
o-Xylene	20.0	25	123	4	16	61 - 129
Bromoform	20.0	21	106	2	18	46 - 148
Styrene	20.0	26	130	7	32	59 - 136
Isopropylbenzene	20.0	24	122	7	23	60 - 132
1,1,2,2-Tetrachloroethane	20.0	22	110	4	17	60 - 139
1,2,4-Trichlorobenzene	20.0	16	81	9	24	52 - 159
1,3-Dichlorobenzene	20.0	24	120	4	23	66 - 129
1,4-Dichlorobenzene	20.0	22	110	4	23	65 - 133
1,2-Dichlorobenzene	20.0	23	113	1	25	63 - 131
1,2-Dibromo-3-chloropropane	20.0	18	88	21	21	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-3R

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A26010
Laboratory ID: 1A26010-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-3R

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	ND	15	75	10 - 180
Chloromethane	20.0	ND	20	98	33 - 154
Vinyl chloride	20.0	ND	25	125	20 - 167
Bromomethane	20.0	ND	22	108	10 - 173
Chloroethane	20.0	ND	25	125	27 - 180
Trichlorofluoromethane	20.0	ND	26	128	56 - 155
Freon 113	20.0	ND	29	146	47 - 173
Acetone	100	ND	150	152	10 - 180
1,1-Dichloroethene	20.0	ND	25	126	47 - 139
Carbon disulfide	20.0	ND	35	173 *	43 - 153
Methylene Chloride	20.0	ND	26	129	43 - 142
Methyl-tert-Butyl Ether	20.0	ND	28	139	51 - 145
trans-1,2-Dichloroethene	20.0	ND	26	130	54 - 134
cis-1,2-Dichloroethene	20.0	ND	24	118	56 - 128
1,1-Dichloroethane	20.0	ND	23	115	57 - 142
2-Butanone	100	ND	140	137	10 - 180
Chloroform	20.0	ND	27	134	58 - 139
1,1,1-Trichloroethane	20.0	ND	25	125	57 - 148
Methyl acetate	20.0	ND	29	144 *	70 - 130
Cyclohexane	20.0	ND	27	134 *	70 - 130
Methyl cyclohexane	20.0	ND	23	114	70 - 130
Carbon Tetrachloride	20.0	ND	23	114	54 - 156
1,2-Dichloroethane	20.0	ND	22	112	50 - 156
Benzene	20.0	ND	20	102	56 - 136
Trichloroethene	20.0	ND	21	106	62 - 135
1,2-Dichloropropane	20.0	ND	23	115	61 - 133
Bromodichloromethane	20.0	ND	22	110	58 - 135
4-Methyl-2-pentanone	100	ND	120	119	19 - 180
2-Hexanone	100	ND	120	123	12 - 180
cis-1,3-Dichloropropene	20.0	ND	22	111	64 - 128
Toluene	20.0	ND	20	98	64 - 131

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-3R

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A26010
Laboratory ID: 1A26010-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-3R

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
trans-1,3-Dichloropropene	20.0	ND	22	110	65 - 149
1,1,2-Trichloroethane	20.0	ND	22	109	57 - 141
Tetrachloroethene	20.0	ND	19	96	60 - 147
Dibromochloromethane	20.0	ND	21	107	50 - 140
1,2-Dibromoethane	20.0	ND	22	110	57 - 140
Chlorobenzene	20.0	ND	20	98	51 - 139
Ethylbenzene	20.0	ND	20	98	63 - 133
m,p-Xylenes	40.0	ND	39	97	64 - 133
o-Xylene	20.0	ND	19	97	61 - 129
Bromoform	20.0	ND	22	108	46 - 148
Styrene	20.0	ND	20	98	59 - 136
Isopropylbenzene	20.0	ND	20	100	60 - 132
1,1,2,2-Tetrachloroethane	20.0	ND	22	112	60 - 139
1,2,4-Trichlorobenzene	20.0	ND	24	122	52 - 159
1,3-Dichlorobenzene	20.0	ND	20	99	66 - 129
1,4-Dichlorobenzene	20.0	ND	19	97	65 - 133
1,2-Dichlorobenzene	20.0	ND	20	102	63 - 131
1,2-Dibromo-3-chloropropane	20.0	ND	27	136	48 - 150

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-3R

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A26010
Laboratory ID: 1A26010-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-3R

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20.0	14	70	6	26	10 - 180
Chloromethane	20.0	19	96	3	31	33 - 154
Vinyl chloride	20.0	24	120	4	24	20 - 167
Bromomethane	20.0	23	114	5	29	10 - 173
Chloroethane	20.0	25	125	0.2	22	27 - 180
Trichlorofluoromethane	20.0	26	131	3	22	56 - 155
Freon 113	20.0	29	144	2	30	47 - 173
Acetone	100	160	157	3	19	10 - 180
1,1-Dichloroethene	20.0	24	120	5	16	47 - 139
Carbon disulfide	20.0	33	163 *	6	26	43 - 153
Methylene Chloride	20.0	26	128	1	23	43 - 142
Methyl-tert-Butyl Ether	20.0	28	141	1	22	51 - 145
trans-1,2-Dichloroethene	20.0	26	128	2	20	54 - 134
cis-1,2-Dichloroethene	20.0	23	115	2	17	56 - 128
1,1-Dichloroethane	20.0	23	115	0.2	24	57 - 142
2-Butanone	100	130	129	6	29	10 - 180
Chloroform	20.0	27	133	1	17	58 - 139
1,1,1-Trichloroethane	20.0	25	124	1	25	57 - 148
Methyl acetate	20.0	31	155 *	7	20	70 - 130
Cyclohexane	20.0	26	128	5	20	70 - 130
Methyl cyclohexane	20.0	22	112	2	20	70 - 130
Carbon Tetrachloride	20.0	23	113	0.4	27	54 - 156
1,2-Dichloroethane	20.0	22	112	0.6	18	50 - 156
Benzene	20.0	20	101	0.5	14	56 - 136
Trichloroethene	20.0	21	106	0.4	20	62 - 135
1,2-Dichloropropane	20.0	23	113	2	26	61 - 133
Bromodichloromethane	20.0	22	110	0.1	19	58 - 135
4-Methyl-2-pentanone	100	130	125	5	24	19 - 180
2-Hexanone	100	130	133	8	28	12 - 180
cis-1,3-Dichloropropene	20.0	22	111	0.2	20	64 - 128
Toluene	20.0	19	95	3	16	64 - 131
trans-1,3-Dichloropropene	20.0	22	108	2	17	65 - 149

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-3R

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A26010
Laboratory ID: 1A26010-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-3R

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,2-Trichloroethane	20.0	21	106	3	16	57 - 141
Tetrachloroethene	20.0	18	92	4	21	60 - 147
Dibromochloromethane	20.0	21	107	0.3	18	50 - 140
1,2-Dibromoethane	20.0	22	110	0.09	16	57 - 140
Chlorobenzene	20.0	19	95	3	13	51 - 139
Ethylbenzene	20.0	19	95	3	18	63 - 133
m,p-Xylenes	40.0	38	94	3	18	64 - 133
o-Xylene	20.0	19	96	1	16	61 - 129
Bromoform	20.0	21	107	0.9	18	46 - 148
Styrene	20.0	19	97	2	32	59 - 136
Isopropylbenzene	20.0	19	97	3	23	60 - 132
1,1,2,2-Tetrachloroethane	20.0	23	114	3	17	60 - 139
1,2,4-Trichlorobenzene	20.0	24	119	2	24	52 - 159
1,3-Dichlorobenzene	20.0	19	94	5	23	66 - 129
1,4-Dichlorobenzene	20.0	19	94	4	23	65 - 133
1,2-Dichlorobenzene	20.0	20	100	2	25	63 - 131
1,2-Dibromo-3-chloropropane	20.0	28	141	4	21	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA63653
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA63653-SCV1)			Lab File ID: 205KN012.D		Analyzed: 11/19/20 13:24			
Dibromofluoromethane	50.0	100	70 - 130	9.422	9.4205	0.0015	+/-0.5	
Toluene-d8	50.0	104	70 - 130	11.772	11.77275	-0.0008	+/-0.5	
4-Bromofluorobenzene	50.0	105	70 - 130	14.322	14.322	0.0000	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64539
Instrument: OVGCMS2
Matrix: Water
Calibration: 2101077

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA64539-SCV1)			Lab File ID: 212AN013.D		Analyzed: 01/19/21 13:38			
Dibromofluoromethane	50.0	99	70 - 130	11.04	11.05125	-0.0113	+/-0.5	
Toluene-d8	50.0	105	70 - 130	13.22	13.21875	0.0013	+/-0.5	
4-Bromofluorobenzene	50.0	105	70 - 130	15.71	15.71125	-0.0012	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64632
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA64632-CCV1)			Lab File ID: 215AT003.D		Analyzed: 01/25/21 08:47			
Dibromofluoromethane	50.0	107	80 - 120	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	99	80 - 120	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	103	80 - 120	14.334	14.322	0.0120	+/-0.5	
LCS (1A25020-BS1)			Lab File ID: 215AT004.D		Analyzed: 01/25/21 09:20			
Dibromofluoromethane	50.0	111	53 - 146	9.434	9.4205	0.0135	+/-0.5	
Toluene-d8	50.0	98	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	105	41 - 142	14.334	14.322	0.0120	+/-0.5	
Blank (1A25020-BLK1)			Lab File ID: 215AT006.D		Analyzed: 01/25/21 10:19			
Dibromofluoromethane	50.0	111	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	96	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	14.34	14.322	0.0180	+/-0.5	
Instrument RL Check (AA64632-CRL1)			Lab File ID: 215AT007.D		Analyzed: 01/25/21 10:48			
Dibromofluoromethane	50.0	108	1 - 199	9.434	9.4205	0.0135	+/-0.5	
Toluene-d8	50.0	95	1 - 199	11.784	11.77275	0.0113	+/-0.5	
4-Bromofluorobenzene	50.0	106	1 - 199	14.334	14.322	0.0120	+/-0.5	
CRCA-MW0032-058.0-20210120 (AE00066-10)			Lab File ID: 215AT009.D		Analyzed: 01/25/21 11:47			
Dibromofluoromethane	50.0	114	53 - 146	9.434	9.4205	0.0135	+/-0.5	
Toluene-d8	50.0	94	41 - 146	11.784	11.77275	0.0113	+/-0.5	
4-Bromofluorobenzene	50.0	106	41 - 142	14.334	14.322	0.0120	+/-0.5	
CRCA-MW0030-058.0-20210119 (AE00066-01)			Lab File ID: 215AT010.D		Analyzed: 01/25/21 12:17			
Dibromofluoromethane	50.0	115	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	97	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	106	41 - 142	14.334	14.322	0.0120	+/-0.5	
CRCA-MW0029-035.0-20210119 (AE00066-02)			Lab File ID: 215AT011.D		Analyzed: 01/25/21 12:46			
Dibromofluoromethane	50.0	114	53 - 146	9.44	9.4205	0.0195	+/-0.5	
Toluene-d8	50.0	96	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	107	41 - 142	14.34	14.322	0.0180	+/-0.5	
CRCA-MW0028-058.0-20210119 (AE00066-03)			Lab File ID: 215AT012.D		Analyzed: 01/25/21 13:15			
Dibromofluoromethane	50.0	111	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	95	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	105	41 - 142	14.34	14.322	0.0180	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64632
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
CRCA-MW0027-035.0-20210119 (AE00066-04)			Lab File ID: 215AT013.D		Analyzed: 01/25/21 13:45			
Dibromofluoromethane	50.0	115	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	93	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	104	41 - 142	14.34	14.322	0.0180	+/-0.5	
CRCA-MW0015-027.5-20210119 (AE00066-05)			Lab File ID: 215AT014.D		Analyzed: 01/25/21 14:14			
Dibromofluoromethane	50.0	114	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	94	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	108	41 - 142	14.34	14.322	0.0180	+/-0.5	
CRCA-MW0013-027.5-20210119 (AE00066-06)			Lab File ID: 215AT015.D		Analyzed: 01/25/21 14:44			
Dibromofluoromethane	50.0	114	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	96	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	14.34	14.322	0.0180	+/-0.5	
CRCA-MW0012-027.5-20210119 (AE00066-07)			Lab File ID: 215AT016.D		Analyzed: 01/25/21 15:13			
Dibromofluoromethane	50.0	118	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	96	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	14.34	14.322	0.0180	+/-0.5	
CRCA-MW0002-032.5-20210119 (AE00066-08)			Lab File ID: 215AT017.D		Analyzed: 01/25/21 15:43			
Dibromofluoromethane	50.0	113	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	97	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	14.34	14.322	0.0180	+/-0.5	
CRCA-MW0031-058.0-20210120 (AE00066-09)			Lab File ID: 215AT018.D		Analyzed: 01/25/21 16:12			
Dibromofluoromethane	50.0	118	53 - 146	9.44	9.4205	0.0195	+/-0.5	
Toluene-d8	50.0	93	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	105	41 - 142	14.34	14.322	0.0180	+/-0.5	
CRCA-MW0019-058.0-20210120 (AE00066-12)			Lab File ID: 215AT020.D		Analyzed: 01/25/21 17:11			
Dibromofluoromethane	50.0	113	53 - 146	9.445	9.4205	0.0245	+/-0.5	
Toluene-d8	50.0	95	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	110	41 - 142	14.34	14.322	0.0180	+/-0.5	
Matrix Spike (1A25020-MS1)			Lab File ID: 215AT023.D		Analyzed: 01/25/21 18:39			
Dibromofluoromethane	50.0	112	53 - 146	9.44	9.4205	0.0195	+/-0.5	
Toluene-d8	50.0	97	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	14.34	14.322	0.0180	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64632
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Matrix Spike Dup (1A25020-MSD1)			Lab File ID: 215AT024.D		Analyzed: 01/25/21 19:09			
Dibromofluoromethane	50.0	111	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	96	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	110	41 - 142	14.34	14.322	0.0180	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64658
Instrument: OVGCMS2
Matrix: Water
Calibration: 2101077

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA64658-CCV1)				Lab File ID: 212AU002.D		Analyzed: 01/26/21 08:06		
Dibromofluoromethane	50.0	100	80 - 120	11.08	11.05125	0.0288	+/-0.5	
Toluene-d8	50.0	99	80 - 120	13.24	13.21875	0.0213	+/-0.5	
4-Bromofluorobenzene	50.0	100	80 - 120	15.74	15.71125	0.0288	+/-0.5	
LCS (1A26010-BS1)				Lab File ID: 212AU003.D		Analyzed: 01/26/21 08:43		
Dibromofluoromethane	50.0	114	53 - 146	11.08	11.05125	0.0288	+/-0.5	
Toluene-d8	50.0	103	41 - 146	13.24	13.21875	0.0213	+/-0.5	
4-Bromofluorobenzene	50.0	103	41 - 142	15.74	15.71125	0.0288	+/-0.5	
Matrix Spike (1A26010-MS1)				Lab File ID: 212AU004.D		Analyzed: 01/26/21 09:24		
Dibromofluoromethane	50.0	112	53 - 146	11.09	11.05125	0.0388	+/-0.5	
Toluene-d8	50.0	101	41 - 146	13.25	13.21875	0.0313	+/-0.5	
4-Bromofluorobenzene	50.0	101	41 - 142	15.74	15.71125	0.0288	+/-0.5	
Matrix Spike Dup (1A26010-MSD1)				Lab File ID: 212AU005.D		Analyzed: 01/26/21 09:53		
Dibromofluoromethane	50.0	121	53 - 146	11.08	11.05125	0.0288	+/-0.5	
Toluene-d8	50.0	109	41 - 146	13.24	13.21875	0.0213	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	15.73	15.71125	0.0188	+/-0.5	
Blank (1A26010-BLK1)				Lab File ID: 212AU008.D		Analyzed: 01/26/21 11:19		
Dibromofluoromethane	50.0	116	53 - 146	11.09	11.05125	0.0388	+/-0.5	
Toluene-d8	50.0	102	41 - 146	13.24	13.21875	0.0213	+/-0.5	
4-Bromofluorobenzene	50.0	103	41 - 142	15.74	15.71125	0.0288	+/-0.5	
Instrument RL Check (AA64658-CRL1)				Lab File ID: 212AU009.D		Analyzed: 01/26/21 12:02		
Dibromofluoromethane	50.0	116	1 - 199	11.08	11.05125	0.0288	+/-0.5	
Toluene-d8	50.0	102	1 - 199	13.24	13.21875	0.0213	+/-0.5	
4-Bromofluorobenzene	50.0	101	1 - 199	15.74	15.71125	0.0288	+/-0.5	
CRCA-MW0018-058.0-20210120 (AE00066-11RE1)				Lab File ID: 212AU017.D		Analyzed: 01/26/21 15:52		
Dibromofluoromethane	50.0	110	53 - 146	11.07	11.05125	0.0188	+/-0.5	
Toluene-d8	50.0	109	41 - 146	13.24	13.21875	0.0213	+/-0.5	
4-Bromofluorobenzene	50.0	108	41 - 142	15.74	15.71125	0.0288	+/-0.5	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA63653
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA63653-CAL1)			Lab File ID: 205KN003.D			Analyzed: 11/19/20 08:46			
Pentafluorobenzene	1250058	9.851	1217120	9.845	103	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2384669	10.444	2353990	10.438	101	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1608704	13.223	1612072	13.217	100	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1323293	15.48	1366836	15.474	97	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL2)			Lab File ID: 205KN004.D			Analyzed: 11/19/20 09:16			
Pentafluorobenzene	1204238	9.845	1217120	9.845	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2405138	10.438	2353990	10.438	102	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1568806	13.217	1612072	13.217	97	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1312583	15.48	1366836	15.474	96	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL3)			Lab File ID: 205KN005.D			Analyzed: 11/19/20 09:47			
Pentafluorobenzene	1203996	9.845	1217120	9.845	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2450219	10.438	2353990	10.438	104	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1607155	13.217	1612072	13.217	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1325758	15.48	1366836	15.474	97	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL4)			Lab File ID: 205KN006.D			Analyzed: 11/19/20 10:18			
Pentafluorobenzene	1172592	9.845	1217120	9.845	96	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2346408	10.438	2353990	10.438	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1580434	13.223	1612072	13.217	98	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1299188	15.48	1366836	15.474	95	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL5)			Lab File ID: 205KN007.D			Analyzed: 11/19/20 10:49			
Pentafluorobenzene	1203065	9.845	1217120	9.845	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2330356	10.438	2353990	10.438	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1579586	13.217	1612072	13.217	98	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1295652	15.48	1366836	15.474	95	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL6)			Lab File ID: 205KN008.D			Analyzed: 11/19/20 11:20			
Pentafluorobenzene	1217120	9.845	1217120	9.845	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2353990	10.438	2353990	10.438	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1612072	13.217	1612072	13.217	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1366836	15.474	1366836	15.474	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA63653-CAL7)			Lab File ID: 205KN009.D			Analyzed: 11/19/20 11:51			
Pentafluorobenzene	1208553	9.845	1217120	9.845	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2324329	10.438	2353990	10.438	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1614423	13.217	1612072	13.217	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1389872	15.48	1366836	15.474	102	50 - 200	0.0060	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA63653
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA63653-CAL8)			Lab File ID: 205KN010.D			Analyzed: 11/19/20 12:22			
Pentafluorobenzene	1285587	9.845	1217120	9.845	106	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2302813	10.438	2353990	10.438	98	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1664856	13.218	1612072	13.217	103	50 - 200	0.0010	+/-0.50	
1,4-Dichlorobenzene-d4	1435917	15.48	1366836	15.474	105	50 - 200	0.0060	+/-0.50	
Secondary Cal Check (AA63653-SCV1)			Lab File ID: 205KN012.D			Analyzed: 11/19/20 13:24			
Pentafluorobenzene	1335071	9.851	1217120	9.845	110	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2438645	10.444	2353990	10.438	104	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1652574	13.223	1612072	13.217	103	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1403353	15.48	1366836	15.474	103	50 - 200	0.0060	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64539
Instrument: OVGCMS2
Matrix: Water
Calibration: 2101077

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA64539-CAL1)			Lab File ID: 212AN002.D			Analyzed: 01/19/21 08:23			
Pentafluorobenzene	274242	11.44	253281	11.45	108	50 - 200	-0.0100	+/-0.50	
1,4-Difluorobenzene	530522	12	506895	11.99	105	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	220188	14.59	216205	14.59	102	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	135369	16.96	135032	16.96	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64539-CAL2)			Lab File ID: 212AN003.D			Analyzed: 01/19/21 08:52			
Pentafluorobenzene	267255	11.44	253281	11.45	106	50 - 200	-0.0100	+/-0.50	
1,4-Difluorobenzene	516243	12	506895	11.99	102	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	215044	14.59	216205	14.59	99	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	132912	16.96	135032	16.96	98	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64539-CAL3)			Lab File ID: 212AN004.D			Analyzed: 01/19/21 09:20			
Pentafluorobenzene	259637	11.45	253281	11.45	103	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	509917	12	506895	11.99	101	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	220093	14.6	216205	14.59	102	50 - 200	0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	135848	16.95	135032	16.96	101	50 - 200	-0.0100	+/-0.50	
Cal Standard (AA64539-CAL4)			Lab File ID: 212AN006.D			Analyzed: 01/19/21 10:17			
Pentafluorobenzene	253281	11.45	253281	11.45	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	506895	11.99	506895	11.99	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	216205	14.59	216205	14.59	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	135032	16.96	135032	16.96	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64539-CAL5)			Lab File ID: 212AN007.D			Analyzed: 01/19/21 10:46			
Pentafluorobenzene	285339	11.45	253281	11.45	113	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	550117	12	506895	11.99	109	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	239824	14.59	216205	14.59	111	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	149699	16.95	135032	16.96	111	50 - 200	-0.0100	+/-0.50	
Cal Standard (AA64539-CAL6)			Lab File ID: 212AN008.D			Analyzed: 01/19/21 11:15			
Pentafluorobenzene	320158	11.45	253281	11.45	126	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	592335	12	506895	11.99	117	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	268151	14.59	216205	14.59	124	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	170474	16.95	135032	16.96	126	50 - 200	-0.0100	+/-0.50	
Cal Standard (AA64539-CAL7)			Lab File ID: 212AN009.D			Analyzed: 01/19/21 11:43			
Pentafluorobenzene	331924	11.45	253281	11.45	131	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	589225	12	506895	11.99	116	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	284238	14.59	216205	14.59	131	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	179167	16.96	135032	16.96	133	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64539
Instrument: OVGCMS2
Matrix: Water
Calibration: 2101077

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA64539-CAL8)			Lab File ID: 212AN010.D			Analyzed: 01/19/21 12:12			
Pentafluorobenzene	335499	11.45	253281	11.45	132	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	624473	12	506895	11.99	123	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	294938	14.6	216205	14.59	136	50 - 200	0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	191016	16.95	135032	16.96	141	50 - 200	-0.0100	+/-0.50	
Secondary Cal Check (AA64539-SCV1)			Lab File ID: 212AN013.D			Analyzed: 01/19/21 13:38			
Pentafluorobenzene	232904	11.44	253281	11.45	92	50 - 200	-0.0100	+/-0.50	
1,4-Difluorobenzene	448821	12	506895	11.99	89	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	230350	14.59	216205	14.59	107	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	165080	16.95	135032	16.96	122	50 - 200	-0.0100	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64632
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA64632-CCV1)			Lab File ID: 215AT003.D			Analyzed: 01/25/21 08:47			
Pentafluorobenzene	1707380	9.862	1217120	9.845	140	50 - 200	0.0170	+/-0.50	
1,4-Difluorobenzene	3441893	10.456	2353990	10.438	146	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	2103106	13.235	1612072	13.217	130	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1782629	15.497	1366836	15.474	130	50 - 200	0.0230	+/-0.50	
LCS (1A25020-BS1)			Lab File ID: 215AT004.D			Analyzed: 01/25/21 09:20			
Pentafluorobenzene	1599715	9.862	1217120	9.845	131	50 - 200	0.0170	+/-0.50	
1,4-Difluorobenzene	3376621	10.456	2353990	10.438	143	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1975824	13.235	1612072	13.217	123	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1733612	15.497	1366836	15.474	127	50 - 200	0.0230	+/-0.50	
Blank (1A25020-BLK1)			Lab File ID: 215AT006.D			Analyzed: 01/25/21 10:19			
Pentafluorobenzene	1492905	9.857	1217120	9.845	123	50 - 200	0.0120	+/-0.50	
1,4-Difluorobenzene	3146822	10.456	2353990	10.438	134	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1772986	13.235	1612072	13.217	110	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1644956	15.491	1366836	15.474	120	50 - 200	0.0170	+/-0.50	
Instrument RL Check (AA64632-CRL1)			Lab File ID: 215AT007.D			Analyzed: 01/25/21 10:48			
Pentafluorobenzene	1450199	9.863	1217120	9.845	119	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	3054870	10.456	2353990	10.438	130	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1722975	13.235	1612072	13.217	107	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1562753	15.491	1366836	15.474	114	50 - 200	0.0170	+/-0.50	
CRCA-MW0032-058.0-20210120 (AE00066-10)			Lab File ID: 215AT009.D			Analyzed: 01/25/21 11:47			
Pentafluorobenzene	1353992	9.863	1217120	9.845	111	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	2910142	10.456	2353990	10.438	124	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1676020	13.235	1612072	13.217	104	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1554117	15.491	1366836	15.474	114	50 - 200	0.0170	+/-0.50	
CRCA-MW0030-058.0-20210119 (AE00066-01)			Lab File ID: 215AT010.D			Analyzed: 01/25/21 12:17			
Pentafluorobenzene	1351808	9.863	1217120	9.845	111	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	2866333	10.456	2353990	10.438	122	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1635734	13.235	1612072	13.217	101	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1522320	15.491	1366836	15.474	111	50 - 200	0.0170	+/-0.50	
CRCA-MW0029-035.0-20210119 (AE00066-02)			Lab File ID: 215AT011.D			Analyzed: 01/25/21 12:46			
Pentafluorobenzene	1334319	9.863	1217120	9.845	110	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	2846320	10.456	2353990	10.438	121	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1622830	13.235	1612072	13.217	101	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1514443	15.497	1366836	15.474	111	50 - 200	0.0230	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA64632
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
CRCA-MW0028-058.0-20210119 (AE00066-03)			Lab File ID: 215AT012.D			Analyzed: 01/25/21 13:15			
Pentafluorobenzene	1325539	9.862	1217120	9.845	109	50 - 200	0.0170	+/-0.50	
1,4-Difluorobenzene	2841226	10.456	2353990	10.438	121	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1602227	13.235	1612072	13.217	99	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1534202	15.497	1366836	15.474	112	50 - 200	0.0230	+/-0.50	
CRCA-MW0027-035.0-20210119 (AE00066-04)			Lab File ID: 215AT013.D			Analyzed: 01/25/21 13:45			
Pentafluorobenzene	1342454	9.863	1217120	9.845	110	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	2980618	10.462	2353990	10.438	127	50 - 200	0.0240	+/-0.50	
Chlorobenzene-d5	1652145	13.235	1612072	13.217	102	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1560174	15.497	1366836	15.474	114	50 - 200	0.0230	+/-0.50	
CRCA-MW0015-027.5-20210119 (AE00066-05)			Lab File ID: 215AT014.D			Analyzed: 01/25/21 14:14			
Pentafluorobenzene	1353784	9.868	1217120	9.845	111	50 - 200	0.0230	+/-0.50	
1,4-Difluorobenzene	2923690	10.462	2353990	10.438	124	50 - 200	0.0240	+/-0.50	
Chlorobenzene-d5	1584476	13.235	1612072	13.217	98	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1534322	15.497	1366836	15.474	112	50 - 200	0.0230	+/-0.50	
CRCA-MW0013-027.5-20210119 (AE00066-06)			Lab File ID: 215AT015.D			Analyzed: 01/25/21 14:44			
Pentafluorobenzene	1323227	9.868	1217120	9.845	109	50 - 200	0.0230	+/-0.50	
1,4-Difluorobenzene	2812403	10.462	2353990	10.438	119	50 - 200	0.0240	+/-0.50	
Chlorobenzene-d5	1560555	13.235	1612072	13.217	97	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1499588	15.497	1366836	15.474	110	50 - 200	0.0230	+/-0.50	
CRCA-MW0012-027.5-20210119 (AE00066-07)			Lab File ID: 215AT016.D			Analyzed: 01/25/21 15:13			
Pentafluorobenzene	1311393	9.868	1217120	9.845	108	50 - 200	0.0230	+/-0.50	
1,4-Difluorobenzene	2857206	10.462	2353990	10.438	121	50 - 200	0.0240	+/-0.50	
Chlorobenzene-d5	1588971	13.235	1612072	13.217	99	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1519324	15.497	1366836	15.474	111	50 - 200	0.0230	+/-0.50	
CRCA-MW0002-032.5-20210119 (AE00066-08)			Lab File ID: 215AT017.D			Analyzed: 01/25/21 15:43			
Pentafluorobenzene	1324243	9.863	1217120	9.845	109	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	2844356	10.456	2353990	10.438	121	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1569592	13.235	1612072	13.217	97	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1496442	15.497	1366836	15.474	109	50 - 200	0.0230	+/-0.50	
CRCA-MW0031-058.0-20210120 (AE00066-09)			Lab File ID: 215AT018.D			Analyzed: 01/25/21 16:12			
Pentafluorobenzene	1346166	9.863	1217120	9.845	111	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	3057273	10.462	2353990	10.438	130	50 - 200	0.0240	+/-0.50	
Chlorobenzene-d5	1666053	13.235	1612072	13.217	103	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1548120	15.497	1366836	15.474	113	50 - 200	0.0230	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA64632
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
CRCA-MW0019-058.0-20210120 (AE00066-12)			Lab File ID: 215AT020.D			Analyzed: 01/25/21 17:11			
Pentafluorobenzene	1326429	9.868	1217120	9.845	109	50 - 200	0.0230	+/-0.50	
1,4-Difluorobenzene	2844280	10.462	2353990	10.438	121	50 - 200	0.0240	+/-0.50	
Chlorobenzene-d5	1585901	13.241	1612072	13.217	98	50 - 200	0.0240	+/-0.50	
1,4-Dichlorobenzene-d4	1547465	15.497	1366836	15.474	113	50 - 200	0.0230	+/-0.50	
Matrix Spike (1A25020-MS1)			Lab File ID: 215AT023.D			Analyzed: 01/25/21 18:39			
Pentafluorobenzene	1347954	9.863	1217120	9.845	111	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	2823243	10.456	2353990	10.438	120	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1642590	13.235	1612072	13.217	102	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1598011	15.497	1366836	15.474	117	50 - 200	0.0230	+/-0.50	
Matrix Spike Dup (1A25020-MSD1)			Lab File ID: 215AT024.D			Analyzed: 01/25/21 19:09			
Pentafluorobenzene	1455730	9.862	1217120	9.845	120	50 - 200	0.0170	+/-0.50	
1,4-Difluorobenzene	3018464	10.456	2353990	10.438	128	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1707516	13.235	1612072	13.217	106	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1611682	15.497	1366836	15.474	118	50 - 200	0.0230	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64658
Instrument: OVGCMS2
Matrix: Water
Calibration: 2101077

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA64658-CCV1)			Lab File ID: 212AU002.D			Analyzed: 01/26/21 08:06			
Pentafluorobenzene	380115	11.47	253281	11.45	150	50 - 200	0.0200	+/-0.50	
1,4-Difluorobenzene	741405	12.03	506895	11.99	146	50 - 200	0.0400	+/-0.50	
Chlorobenzene-d5	366094	14.62	216205	14.59	169	50 - 200	0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	237068	16.98	135032	16.96	176	50 - 200	0.0200	+/-0.50	
LCS (1A26010-BS1)			Lab File ID: 212AU003.D			Analyzed: 01/26/21 08:43			
Pentafluorobenzene	324503	11.48	253281	11.45	128	50 - 200	0.0300	+/-0.50	
1,4-Difluorobenzene	677646	12.02	506895	11.99	134	50 - 200	0.0300	+/-0.50	
Chlorobenzene-d5	321367	14.62	216205	14.59	149	50 - 200	0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	201276	16.99	135032	16.96	149	50 - 200	0.0300	+/-0.50	
Matrix Spike (1A26010-MS1)			Lab File ID: 212AU004.D			Analyzed: 01/26/21 09:24			
Pentafluorobenzene	331145	11.47	253281	11.45	131	50 - 200	0.0200	+/-0.50	
1,4-Difluorobenzene	698701	12.02	506895	11.99	138	50 - 200	0.0300	+/-0.50	
Chlorobenzene-d5	329572	14.62	216205	14.59	152	50 - 200	0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	204382	16.99	135032	16.96	151	50 - 200	0.0300	+/-0.50	
Matrix Spike Dup (1A26010-MSD1)			Lab File ID: 212AU005.D			Analyzed: 01/26/21 09:53			
Pentafluorobenzene	305426	11.47	253281	11.45	121	50 - 200	0.0200	+/-0.50	
1,4-Difluorobenzene	636767	12.02	506895	11.99	126	50 - 200	0.0300	+/-0.50	
Chlorobenzene-d5	309741	14.61	216205	14.59	143	50 - 200	0.0200	+/-0.50	
1,4-Dichlorobenzene-d4	201759	16.98	135032	16.96	149	50 - 200	0.0200	+/-0.50	
Blank (1A26010-BLK1)			Lab File ID: 212AU008.D			Analyzed: 01/26/21 11:19			
Pentafluorobenzene	294699	11.47	253281	11.45	116	50 - 200	0.0200	+/-0.50	
1,4-Difluorobenzene	604071	12.02	506895	11.99	119	50 - 200	0.0300	+/-0.50	
Chlorobenzene-d5	274826	14.62	216205	14.59	127	50 - 200	0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	171064	16.98	135032	16.96	127	50 - 200	0.0200	+/-0.50	
Instrument RL Check (AA64658-CRL1)			Lab File ID: 212AU009.D			Analyzed: 01/26/21 12:02			
Pentafluorobenzene	287383	11.48	253281	11.45	113	50 - 200	0.0300	+/-0.50	
1,4-Difluorobenzene	593855	12.03	506895	11.99	117	50 - 200	0.0400	+/-0.50	
Chlorobenzene-d5	273190	14.62	216205	14.59	126	50 - 200	0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	169027	16.98	135032	16.96	125	50 - 200	0.0200	+/-0.50	
CRCA-MW0018-058.0-20210120 (AE00066-11RE1)			Lab File ID: 212AU017.D			Analyzed: 01/26/21 15:52			
Pentafluorobenzene	193931	11.47	253281	11.45	77	50 - 200	0.0200	+/-0.50	
1,4-Difluorobenzene	383784	12.02	506895	11.99	76	50 - 200	0.0300	+/-0.50	
Chlorobenzene-d5	191378	14.62	216205	14.59	89	50 - 200	0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	134955	16.99	135032	16.96	100	50 - 200	0.0300	+/-0.50	

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA63653		
Calibration:	2011113	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA63653-TUN1	205KN002.D	11/19/20 08:07
Cal Standard	AA63653-CAL1	205KN003.D	11/19/20 08:46
Cal Standard	AA63653-CAL2	205KN004.D	11/19/20 09:16
Cal Standard	AA63653-CAL3	205KN005.D	11/19/20 09:47
Cal Standard	AA63653-CAL4	205KN006.D	11/19/20 10:18
Cal Standard	AA63653-CAL5	205KN007.D	11/19/20 10:49
Cal Standard	AA63653-CAL6	205KN008.D	11/19/20 11:20
Cal Standard	AA63653-CAL7	205KN009.D	11/19/20 11:51
Cal Standard	AA63653-CAL8	205KN010.D	11/19/20 12:22
Secondary Cal Check	AA63653-SCV1	205KN012.D	11/19/20 13:24

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64539		
Calibration:	2101077	Instrument:	OVGCMS2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA64539-TUN1	212AN001.D	01/19/21 07:42
Cal Standard	AA64539-CAL1	212AN002.D	01/19/21 08:23
Cal Standard	AA64539-CAL2	212AN003.D	01/19/21 08:52
Cal Standard	AA64539-CAL3	212AN004.D	01/19/21 09:20
Cal Standard	AA64539-CAL4	212AN006.D	01/19/21 10:17
Cal Standard	AA64539-CAL5	212AN007.D	01/19/21 10:46
Cal Standard	AA64539-CAL6	212AN008.D	01/19/21 11:15
Cal Standard	AA64539-CAL7	212AN009.D	01/19/21 11:43
Cal Standard	AA64539-CAL8	212AN010.D	01/19/21 12:12
Secondary Cal Check	AA64539-SCV1	212AN013.D	01/19/21 13:38

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA64632
Calibration: 2011113
Instrument: OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA64632-CCV1	215AT003.D	01/25/21 08:47
LCS	1A25020-BS1	215AT004.D	01/25/21 09:20
Blank	1A25020-BLK1	215AT006.D	01/25/21 10:19
Instrument RL Check	AA64632-CRL1	215AT007.D	01/25/21 10:48
CRCA-MW0032-058.0-20210120	AE00066-10	215AT009.D	01/25/21 11:47
CRCA-MW0030-058.0-20210119	AE00066-01	215AT010.D	01/25/21 12:17
CRCA-MW0029-035.0-20210119	AE00066-02	215AT011.D	01/25/21 12:46
CRCA-MW0028-058.0-20210119	AE00066-03	215AT012.D	01/25/21 13:15
CRCA-MW0027-035.0-20210119	AE00066-04	215AT013.D	01/25/21 13:45
CRCA-MW0015-027.5-20210119	AE00066-05	215AT014.D	01/25/21 14:14
CRCA-MW0013-027.5-20210119	AE00066-06	215AT015.D	01/25/21 14:44
CRCA-MW0012-027.5-20210119	AE00066-07	215AT016.D	01/25/21 15:13
CRCA-MW0002-032.5-20210119	AE00066-08	215AT017.D	01/25/21 15:43
CRCA-MW0031-058.0-20210120	AE00066-09	215AT018.D	01/25/21 16:12
CRCA-MW0019-058.0-20210120	AE00066-12	215AT020.D	01/25/21 17:11
CRCA-MW0032-058.0-20210120	1A25020-MS1	215AT023.D	01/25/21 18:39
CRCA-MW0032-058.0-20210120	1A25020-MSD1	215AT024.D	01/25/21 19:09

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64658		
Calibration:	2101077	Instrument:	OVGCMS2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA64658-TUN1	212AU001.D	01/26/21 07:32
Calibration Check	AA64658-CCV1	212AU002.D	01/26/21 08:06
LCS	1A26010-BS1	212AU003.D	01/26/21 08:43
MW-3R	1A26010-MS1	212AU004.D	01/26/21 09:24
MW-3R	1A26010-MSD1	212AU005.D	01/26/21 09:53
Blank	1A26010-BLK1	212AU008.D	01/26/21 11:19
Instrument RL Check	AA64658-CRL1	212AU009.D	01/26/21 12:02
CRCA-MW0018-058.0-20210120	AE00066-11RE1	212AU017.D	01/26/21 15:52

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	205KN002.D	Injection Date:	11/19/20
Instrument ID:	OVGCMS5	Injection Time:	08:07
Sequence:	AA63653	Lab Sample ID:	AA63653-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	155	PASS
96	5 - 9% of 95	7.22	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	64.6	PASS
175	5 - 9% of 174	5.13	PASS
176	95 - 105% of 174	97.9	PASS
177	5 - 10% of 176	5.82	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	212AN001.D	Injection Date:	01/19/21
Instrument ID:	OVGCMS2	Injection Time:	07:42
Sequence:	AA64539	Lab Sample ID:	AA64539-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	147	PASS
96	5 - 9% of 95	6.93	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	68	PASS
175	5 - 9% of 174	8.03	PASS
176	95 - 105% of 174	95.5	PASS
177	5 - 10% of 176	6.96	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	212AU001.D	Injection Date:	01/26/21
Instrument ID:	OVGCMS2	Injection Time:	07:32
Sequence:	AA64658	Lab Sample ID:	AA64658-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	157	PASS
96	5 - 9% of 95	6.64	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	63.7	PASS
175	5 - 9% of 174	7.39	PASS
176	95 - 105% of 174	97.2	PASS
177	5 - 10% of 176	6.78	PASS

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2011113
Lab File ID:	215AT003.D	Calibration Date:	11/19/20 00:00
Sequence:	AA64632	Injection Date:	01/25/21
Lab Sample ID:	AA64632-CCV1	Injection Time:	08:47

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Dichlorodifluoromethane	A	20.0	19	0.6454795	0.6065492		-6	20	
Chloromethane	A	20.0	12	0.7429916	0.4439653		-40	20	*
Vinyl chloride	A	20.0	19	0.6032767	0.5739686		-4.9	20	
Bromomethane	A	20.0	19	0.2658711	0.149807		-7.2	20	
Chloroethane	A	20.0	20	0.3233106	0.2720557		2.5	20	
Trichlorofluoromethane	A	20.0	20	0.739293	0.7547265		2.1	20	
Freon 113	A	50.0	50	0.2891047	0.2868658		-0.8	20	
Acetone	A	250	180	0.1178043	8.350467E-02		-29	20	*
1,1-Dichloroethene	A	50.0	49	0.4316853	0.4258747		-1.3	20	
Carbon disulfide	A	250	150	1.413985	0.8728756		-38	20	*
Methylene Chloride	A	50.0	45	0.5959536	0.4701877		-10	20	
Methyl-tert-Butyl Ether	A	50.0	45	1.264184	1.149021		-9.1	20	
trans-1,2-Dichloroethene	A	50.0	49	0.4994822	0.489495		-2	20	
cis-1,2-Dichloroethene	A	50.0	50	0.5290745	0.5271984		-0.4	20	
1,1-Dichloroethane	A	50.0	41	1.027426	0.8473456		-18	20	
2-Butanone	A	250	220	5.654494E-02	5.142944E-02		-10	20	
Chloroform	A	50.0	45	0.9811366	0.8818576		-10	20	
1,1,1-Trichloroethane	A	50.0	46	0.8099887	0.7425781		-8.3	20	
Methyl acetate	A	50.0	31	0.4097982	0.2287546		-38	20	*
Cyclohexane	A	50.0	36	1.084118	0.8065902		-28	20	*
Methyl cyclohexane	A	50.0	41	0.6851364	0.4685979		-18	20	
Carbon Tetrachloride	A	50.0	39	0.3247415	0.2907839		-22	20	*
1,2-Dichloroethane	A	50.0	36	0.3947961	0.2986964		-28	20	*
Benzene	A	50.0	44	1.143102	1.009598		-12	20	
Trichloroethene	A	50.0	50	0.2308676	0.2294848		-0.6	20	
1,2-Dichloropropane	A	50.0	35	0.3327441	0.2311986		-30	20	*
Bromodichloromethane	A	50.0	41	0.3384447	0.3043776		-17	20	
4-Methyl-2-pentanone	A	250	260	3.573082E-02	3.583226E-02		5.6	20	
2-Hexanone	A	250	190	0.1672315	0.116342		-30	20	*

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2011113
Lab File ID:	215AT003.D	Calibration Date:	11/19/20 00:00
Sequence:	AA64632	Injection Date:	01/25/21
Lab Sample ID:	AA64632-CCV1	Injection Time:	08:47

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
cis-1,3-Dichloropropene	A	50.0	41	0.4465376	0.410246		-18	20	
Toluene	A	50.0	51	1.066872	1.094805		2.6	20	
trans-1,3-Dichloropropene	A	50.0	46	0.5606682	0.5777288		-9	20	
1,1,2-Trichloroethane	A	50.0	48	0.3401845	0.3445765		-4.4	20	
Tetrachloroethene	A	50.0	47	0.2798513	0.273757		-6.7	20	
Dibromochloromethane	A	50.0	52	0.2803526	0.3436893		3.5	20	
1,2-Dibromoethane	A	50.0	52	0.3355065	0.3483481		3.8	20	
Chlorobenzene	A	50.0	54	1.074819	1.151012		7.1	20	
Ethylbenzene	A	50.0	52	0.6263821	0.6735562		3.9	20	
m,p-Xylenes	A	100	110	0.7525839	0.8321309		11	20	
o-Xylene	A	50.0	54	0.7718014	0.8358423		8.3	20	
Bromoform	A	50.0	47	0.1740972	0.178584		-6.2	20	
Styrene	A	50.0	57	1.260238	1.447695		15	20	
Isopropylbenzene	A	50.0	54	2.031474	2.17933		7.3	20	
1,1,2,2-Tetrachloroethane	A	50.0	49	0.5037271	0.4924835		-2.2	20	
1,2,4-Trichlorobenzene	A	50.0	38	0.4097947	0.3618818		-24	20	*
1,3-Dichlorobenzene	A	50.0	53	1.008577	1.072036		6.3	20	
1,4-Dichlorobenzene	A	50.0	51	1.081206	1.09674		1.4	20	
1,2-Dichlorobenzene	A	50.0	51	0.9520015	0.9653383		1.4	20	
1,2-Dibromo-3-chloropropane	A	50.0	45	7.396002E-02	6.969369E-02		-11	20	

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS2	Calibration:	2101077
Lab File ID:	212AU002.D	Calibration Date:	01/20/21 08:19
Sequence:	AA64658	Injection Date:	01/26/21
Lab Sample ID:	AA64658-CCV1	Injection Time:	08:06

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Dichlorodifluoromethane	A	50.0	46	1.033247	0.9560186		-7.5	20	
Chloromethane	A	50.0	43	1.11095	0.8811912		-14	20	
Vinyl chloride	A	50.0	51	1.029662	0.8920274		2.4	20	
Bromomethane	A	50.0	50	1.131179	0.5546506		0.90	20	
Chloroethane	A	50.0	52	0.7149129	0.6073004		3.8	20	
Trichlorofluoromethane	A	50.0	49	1.442281	1.409345		-2.3	20	
Freon 113	A	50.0	58	0.5578733	0.5662076		17	20	
Acetone	A	250	300	0.1225261	0.127594		19	20	
1,1-Dichloroethene	A	50.0	52	0.4841962	0.5072833		4.8	20	
Carbon disulfide	A	250	200	1.377947	0.9361635		-22	20	*
Methylene Chloride	A	50.0	57	0.6110932	0.5700038		13	20	
Methyl-tert-Butyl Ether	A	50.0	60	1.081225	1.292033		20	20	
trans-1,2-Dichloroethene	A	50.0	56	0.5698231	0.5869434		13	20	
cis-1,2-Dichloroethene	A	50.0	53	0.6149954	0.6469963		5.2	20	
1,1-Dichloroethane	A	50.0	53	1.143718	1.202412		5.1	20	
2-Butanone	A	250	280	3.064923E-02	3.390974E-02		11	20	
Chloroform	A	50.0	59	1.095255	1.119782		18	20	
1,1,1-Trichloroethane	A	50.0	53	0.9125193	0.975831		6.9	20	
Methyl acetate	A	50.0	65	5.586777E-02	6.273628E-02		31	20	*
Cyclohexane	A	50.0	54	0.9488744	1.019076		7.4	20	
Methyl cyclohexane	A	50.0	52	0.3837839	0.3984705		3.8	20	
Carbon Tetrachloride	A	50.0	53	0.4901592	0.5204079		6.2	20	
1,2-Dichloroethane	A	50.0	57	0.3853295	0.4362879		13	20	
Benzene	A	50.0	53	1.144684	1.216519		6.3	20	
Trichloroethene	A	50.0	53	0.3210324	0.3386934		5.5	20	
1,2-Dichloropropane	A	50.0	55	0.3172264	0.3218915		11	20	
Bromodichloromethane	A	50.0	53	0.3964913	0.4239289		6.9	20	
4-Methyl-2-pentanone	A	250	280	2.733494E-02	2.885494E-02		12	20	
2-Hexanone	A	250	280	0.1612112	0.1821674		14	20	

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS2	Calibration:	2101077
Lab File ID:	212AU002.D	Calibration Date:	01/20/21 08:19
Sequence:	AA64658	Injection Date:	01/26/21
Lab Sample ID:	AA64658-CCV1	Injection Time:	08:06

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
cis-1,3-Dichloropropene	A	50.0	56	0.4505496	0.5022612		12	20
Toluene	A	50.0	48	1.520353	1.445754		-4.9	20
trans-1,3-Dichloropropene	A	50.0	51	0.8113847	0.8306173		2.4	20
1,1,2-Trichloroethane	A	50.0	51	0.4232997	0.432348		2.1	20
Tetrachloroethene	A	50.0	46	0.4265574	0.394609		-7.5	20
Dibromochloromethane	A	50.0	51	0.6218249	0.6359487		2.3	20
1,2-Dibromoethane	A	50.0	53	0.4673533	0.4960038		6.1	20
Chlorobenzene	A	50.0	48	1.702551	1.642045		-3.6	20
Ethylbenzene	A	50.0	49	0.8469553	0.821748		-3	20
m,p-Xylenes	A	100	99	1.006971	0.9926877		-1.4	20
o-Xylene	A	50.0	51	0.9666193	0.9816441		1.6	20
Bromoform	A	50.0	54	0.2646587	0.2849459		7.7	20
Styrene	A	50.0	52	1.697042	1.768628		4.2	20
Isopropylbenzene	A	50.0	51	2.452443	2.500123		1.9	20
1,1,2,2-Tetrachloroethane	A	50.0	53	0.4182472	0.4432086		6.0	20
1,2,4-Trichlorobenzene	A	50.0	48	0.4155094	0.3997039		-3.8	20
1,3-Dichlorobenzene	A	50.0	48	1.471736	1.401083		-4.8	20
1,4-Dichlorobenzene	A	50.0	48	1.525519	1.450398		-4.9	20
1,2-Dichlorobenzene	A	50.0	47	1.232439	1.169221		-5.1	20
1,2-Dibromo-3-chloropropane	A	50.0	54	6.383229E-02	7.325324E-02		7.5	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA63653	Instrument:	OVGCMS5
Calibration:	2011113		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A0F0994	MS Tune (lower conc.)	AA63653-TUN1	205KN002.D	11/19/20 08:07
A0K1094	8260 CAL 1 PPB	AA63653-CAL1	205KN003.D	11/19/20 08:46
A0K1095	8260 CAL 2 PPB	AA63653-CAL2	205KN004.D	11/19/20 09:16
A0K1096	8260 CAL 5 PPB	AA63653-CAL3	205KN005.D	11/19/20 09:47
A0K1097	8260 CAL 10 PPB	AA63653-CAL4	205KN006.D	11/19/20 10:18
A0K1098	8260 CAL 20 PPB	AA63653-CAL5	205KN007.D	11/19/20 10:49
A0K1099	8260 CAL 50 PPB	AA63653-CAL6	205KN008.D	11/19/20 11:20
A0K1100	8260 CAL 80 PPB	AA63653-CAL7	205KN009.D	11/19/20 11:51
A0K1101	8260 CAL 100 PPB	AA63653-CAL8	205KN010.D	11/19/20 12:22
A0K1038	8260 SCV 50 PPB/20 Gases (Surr. Lower Conc.)	AA63653-SCV1	205KN012.D	11/19/20 13:24

INITIAL CALIBRATION STANDARDS

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64539	Instrument:	OVGCMS2
Calibration:	2101077		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A0I0903	MS Tune	AA64539-TUN1	212AN001.D	01/19/21 07:42
A1A0926	8260 Cal 1PPB	AA64539-CAL1	212AN002.D	01/19/21 08:23
A1A0927	8260 Cal 2 PPB	AA64539-CAL2	212AN003.D	01/19/21 08:52
A1A0928	8260 Cal 5 PPB	AA64539-CAL3	212AN004.D	01/19/21 09:20
A1A0929	8260 Cal 10 PPB	AA64539-CAL4	212AN006.D	01/19/21 10:17
A1A0930	8260 Cal 20 PPB	AA64539-CAL5	212AN007.D	01/19/21 10:46
A1A0932	8260 Cal 50 PPB	AA64539-CAL6	212AN008.D	01/19/21 11:15
A1A0934	8260 Cal 80PPB	AA64539-CAL7	212AN009.D	01/19/21 11:43
A1A0935	8260 Cal 100 PPB	AA64539-CAL8	212AN010.D	01/19/21 12:12
A1A0936	8260 SCV 50 PPB	AA64539-SCV1	212AN013.D	01/19/21 13:38

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	1	0.731806	2	0.5311658	5	0.6196449	10	0.5826494	20	0.6291202	50	0.6876832
Chloromethane	1	0.9635553	2	0.7678092	5	0.7533414	10	0.6436211	20	0.6665122	50	0.6618772
Vinyl chloride	1	0.6389704	2	0.4961021	5	0.5937063	10	0.518373	20	0.6097052	50	0.6178544
Bromomethane	1	0.5487745	2	0.3936929	5	0.2468862	10	0.1795339	20	0.1536388	50	0.1805656
Chloroethane	1	0.5095364	2	0.3356687	5	0.2733979	10	0.2639921	20	0.2971223	50	0.2601461
Trichlorofluoromethane	1	0.796403	2	0.6188353	5	0.6866136	10	0.7074541	20	0.7578705	50	0.7930894
Freon 113	1	0.2609479	2	0.2643996	5	0.2925508	10	0.3082914	20	0.2611185	50	0.3063124
Acetone	5	0.1640884	10	7.640101E-02	25	0.1132944	50	0.1270502	100	0.1080203	250	0.1165466
1,1-Dichloroethene	1	0.5304954	2	0.3722686	5	0.3921026	10	0.3748874	20	0.4134066	50	0.4489426
Carbon disulfide	5	1.625549	10	1.279116	25	1.418201	50	1.427008	100	1.452276	250	1.421308
Methylene Chloride	1	0.949196	2	0.6799528	5	0.584977	10	0.4949633	20	0.4791616	50	0.5261996
Methyl-tert-Butyl Ether	1	1.207824	2	1.067003	5	1.181117	10	1.225797	20	1.218685	50	1.417615
trans-1,2-Dichloroethene	1	0.6322907	2	0.4293379	5	0.4477091	10	0.4308276	20	0.4738958	50	0.5202946
cis-1,2-Dichloroethene	1	0.5540143	2	0.424397	5	0.5243456	10	0.4742059	20	0.5250755	50	0.5758438
1,1-Dichloroethane	1	1.150187	2	0.7455129	5	1.073417	10	0.9430262	20	0.9854351	50	1.108909
2-Butanone	5	0.0948676	10	2.903081E-02	25	6.102678E-02	50	0.0450745	100	4.561931E-02	250	5.804341E-02
Chloroform	1	1.008433	2	0.8175709	5	1.016573	10	0.9572895	20	0.9442549	50	1.031745
1,1,1-Trichloroethane	1	0.8856789	2	0.6484806	5	0.7444128	10	0.6971223	20	0.8036702	50	0.8940367
Methyl acetate	1	0.7524051	2	0.3734104	5	0.3421025	10	0.3735826	20	0.3312477	50	0.3623833
Cyclohexane	1	1.445653	2	0.8159309	5	1.111773	10	0.900795	20	1.011174	50	1.139422
Methyl cyclohexane	1	1.296553	2	0.7643948	5	0.6505051	10	0.4980933	20	0.5493699	50	0.5706184
Carbon Tetrachloride	1	0.3562759	2	0.265754	5	0.2802362	10	0.2692435	20	0.3099687	50	0.358654
1,2-Dichloroethane	1	0.52978	2	0.3246383	5	0.3561682	10	0.3270765	20	0.3804547	50	0.3951041
Benzene	1	1.368953	2	0.8953644	5	1.012387	10	1.019627	20	1.160622	50	1.20187
Trichloroethene	1	0.2433461	2	0.2067345	5	0.2092384	10	0.2186576	20	0.2226559	50	0.2443388
1,2-Dichloropropane	1	0.4168922	2	0.2741735	5	0.2789057	10	0.3037835	20	0.3161759	50	0.336891
Bromodichloromethane	1	0.3390617	2	0.2184906	5	0.3136005	10	0.3123434	20	0.3305471	50	0.3770309
4-Methyl-2-pentanone	5	5.360492E-02	10	3.485663E-02	25	3.163227E-02	50	3.145233E-02	100	3.245856E-02	250	3.359233E-02
2-Hexanone	5	0.1888606	10	0.1362687	25	0.1491622	50	0.1581622	100	0.1619347	250	0.1747743
cis-1,3-Dichloropropene	1	0.38758	2	0.337174	5	0.3962381	10	0.3859495	20	0.4436114	50	0.5153998
Toluene	1	1.301234	2	0.8125606	5	1.029104	10	0.9467653	20	1.065835	50	1.125779

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	1	0.5782294	2	0.3963364	5	0.5391328	10	0.5150579	20	0.5581557	50	0.6082166
1,1,2-Trichloroethane	1	0.4258708	2	0.2571382	5	0.3085141	10	0.3163403	20	0.3319446	50	0.354357
Tetrachloroethene	1	0.3547887	2	0.216805	5	0.2447617	10	0.2609188	20	0.2888004	50	0.2808423
Dibromochloromethane	1	0.261577	2	0.1928537	5	0.2186472	10	0.2340749	20	0.271185	50	0.3243124
1,2-Dibromoethane	1	0.3776332	2	0.275273	5	0.3089372	10	0.289778	20	0.3254935	50	0.3684265
Chlorobenzene	1	1.227137	2	0.9187082	5	1.088831	10	1.029964	20	1.028877	50	1.084228
Ethylbenzene	1	0.8370092	2	0.5046991	5	0.5351257	10	0.5817041	20	0.6079204	50	0.6386446
m,p-Xylenes	2	0.7709622	4	0.6304954	10	0.7519001	20	0.7265378	40	0.7815244	100	0.7925899
o-Xylene	1	0.827343	2	0.5495581	5	0.7980935	10	0.715101	20	0.7577872	50	0.8412149
Bromoform	1	0.2244042	2	0.1325052	5	0.1113209	10	0.1336911	20	0.151421	50	0.198042
Styrene	1	1.184587	2	0.9487151	5	1.197756	10	1.179467	20	1.329056	50	1.37226
Isopropylbenzene	1	2.11919	2	1.612596	5	1.9581	10	1.86924	20	2.054396	50	2.203894
1,1,2,2-Tetrachloroethane	1	0.5748727	2	0.4241761	5	0.4667316	10	0.4666946	20	0.48922	50	0.5296984
1,2,4-Trichlorobenzene	1	0.444006	2	0.2155102	5	0.3665073	10	0.3682377	20	0.3931939	50	0.481305
1,3-Dichlorobenzene	1	1.059554	2	0.8308046	5	0.914986	10	0.9259784	20	1.006449	50	1.075948
1,4-Dichlorobenzene	1	1.342371	2	0.9420738	5	0.9853156	10	0.9772104	20	1.047961	50	1.090424
1,2-Dichlorobenzene	1	1.133196	2	0.6932895	5	0.9302226	10	0.8814044	20	0.8963441	50	1.002858
1,2-Dibromo-3-chloropropane	1	0.1462261	2	0.0374643	5	3.684685E-02	10	6.679172E-02	20	6.657845E-02	50	7.807374E-02
Dibromofluoromethane	50	0.4987681	55	0.5168814	57.5	0.5405413	50	0.5403508	65	0.5020478	50	0.5574545
Toluene-d8	50	1.241808	55	1.219018	57.5	1.232296	50	1.264503	65	1.198608	50	1.317554
4-Bromofluorobenzene	50	0.9421565	55	0.8971015	57.5	0.892347	50	0.9405353	65	0.8691396	50	0.9269369

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	80	0.70919	100	0.6725768								
Chloromethane	80	0.754096	100	0.7331207								
Vinyl chloride	80	0.6865886	100	0.6649138								
Bromomethane	80	0.2051834	100	0.2186939								
Chloroethane	80	~~0.1749365~~	100	~~0.1284219~~								
Trichlorofluoromethane	80	~~0.8301317~~	100	0.814785								
Freon 113	80	0.3132915	100	0.3059256								
Acetone	400	0.1217886	500	0.1152447								
1,1-Dichloroethene	80	0.4650106	100	0.4563686								
Carbon disulfide	400	1.39256	500	1.295861								
Methylene Chloride	80	0.5379475	100	0.5152308								
Methyl-tert-Butyl Ether	80	1.459444	100	1.335989								
trans-1,2-Dichloroethene	80	0.5437929	100	0.517709								
cis-1,2-Dichloroethene	80	0.6019223	100	0.5527918								
1,1-Dichloroethane	80	1.134374	100	1.078543								
2-Butanone	400	6.102308E-02	500	5.767404E-02								
Chloroform	80	1.078098	100	0.9951283								
1,1,1-Trichloroethane	80	0.9329545	100	0.8735539								
Methyl acetate	80	0.3852903	100	0.3579641								
Cyclohexane	80	1.150511	100	1.097683								
Methyl cyclohexane	80	0.580204	100	0.5713529								
Carbon Tetrachloride	80	0.3766286	100	0.3811714								
1,2-Dichloroethane	80	0.4259138	100	0.4192331								
Benzene	80	1.233887	100	1.252102								
Trichloroethene	80	0.2480525	100	0.2539173								
1,2-Dichloropropane	80	0.3671019	100	0.3680292								
Bromodichloromethane	80	0.405243	100	0.4112405								
4-Methyl-2-pentanone	400	3.457471E-02	500	3.367481E-02								
2-Hexanone	400	0.1842147	500	0.1844748								
cis-1,3-Dichloropropene	80	0.5492152	100	0.5571325								
Toluene	80	1.145043	100	1.108659								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	80	0.6603691	100	0.6298476								
1,1,2-Trichloroethane	80	0.3689886	100	0.3583223								
Tetrachloroethene	80	0.2965475	100	0.2953463								
Dibromochloromethane	80	0.3768537	100	0.3633167								
1,2-Dibromoethane	80	0.3782567	100	0.360254								
Chlorobenzene	80	1.134842	100	1.085963								
Ethylbenzene	80	0.6600876	100	0.6458658								
m,p-Xylenes	160	0.7997641	200	0.7668973								
o-Xylene	80	0.8625415	100	0.8227721								
Bromoform	80	0.2162944	100	0.2250987								
Styrene	80	1.466473	100	1.403591								
Isopropylbenzene	80	2.273953	100	2.16042								
1,1,2,2-Tetrachloroethane	80	0.5602106	100	0.5182127								
1,2,4-Trichlorobenzene	80	0.5236953	100	0.485902								
1,3-Dichlorobenzene	80	1.133433	100	1.121463								
1,4-Dichlorobenzene	80	1.14285	100	1.121445								
1,2-Dichlorobenzene	80	1.071346	100	1.007351								
1,2-Dibromo-3-chloropropane	80	8.573901E-02	100	~~8.239508E-02~~								
Dibromofluoromethane	70	0.5077306	75	0.4842722								
Toluene-d8	70	1.203106	75	1.255696								
4-Bromofluorobenzene	70	0.8681085	75	0.8442992								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	0.6454795	10.47099	3.97125	7.848416E-02			20	
Chloromethane	0.7429916	13.64009	4.39275	4.507071E-02			20	
Vinyl chloride	0.6032767	11.0407	4.575	4.400144E-02			20	
Bromomethane	0.2658711	51.25071	5.221	5.968524E-02		0.9984319	0.99	
Chloroethane	0.3233106	29.51129	5.432333	0.1760207	0.9952741		0.99	
Trichlorofluoromethane	0.739293	9.643804	5.680714	0.1191043			20	
Freon 113	0.2891047	7.985007	6.54225	5.909168E-02			20	
Acetone	0.1178043	20.49874	7.39275	7.521591E-02	0.9984468		0.99	
1,1-Dichloroethene	0.4316853	12.51718	6.52275	4.626374E-02			20	
Carbon disulfide	1.413985	7.516358	6.611625	4.231748E-02			20	
Methylene Chloride	0.5959536	26.19116	7.33075	6.734604E-02	0.9988511		0.99	
Methyl-tert-Butyl Ether	1.264184	10.32773	7.62475	5.009821E-02			20	
trans-1,2-Dichloroethene	0.4994822	13.81611	7.540375	0.0786285			20	
cis-1,2-Dichloroethene	0.5290745	10.75978	8.94375	6.951434E-02			20	
1,1-Dichloroethane	1.027426	13.07056	8.305375	3.359958E-02			20	
2-Butanone	5.654494E-02	33.55672	9.542875	0.1054762		0.9965506	0.99	
Chloroform	0.9811366	7.973652	9.21525	9.664849E-02			20	
1,1,1-Trichloroethane	0.8099887	12.78922	9.4765	4.549804E-02			20	
Methyl acetate	0.4097982	34.05137	7.5195	0.1021645	0.9973892		0.99	
Cyclohexane	1.084118	17.43103	9.1825	2.763801E-02	0.9983605		0.99	
Methyl cyclohexane	0.6851364	37.89251	10.4425	2.481194E-02	0.9994238		0.99	
Carbon Tetrachloride	0.3247415	15.07661	9.40325	3.946246E-02	0.997318		0.99	
1,2-Dichloroethane	0.3947961	16.85402	10.083	6.413568E-02	0.998277		0.99	
Benzene	1.143102	13.57666	9.871	4.625673E-02			20	
Trichloroethene	0.2308676	8.071231	10.4425	2.481194E-02			20	
1,2-Dichloropropane	0.3327441	14.79548	10.97825	3.768472E-02		0.9995583	0.99	
Bromodichloromethane	0.3384447	18.35051	11.0095	2.483783E-02		0.9995909	0.99	
4-Methyl-2-pentanone	3.573082E-02	20.51705	12.12775	4.882009E-02	0.9995377		0.99	
2-Hexanone	0.1672315	11.31414	12.874	0.0309941			20	
cis-1,3-Dichloropropene	0.4465376	18.76753	11.60275	0.0283524		0.999376	0.99	

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Toluene	1.066872	13.57287	11.82575	3.641946E-02			20	
trans-1,3-Dichloropropene	0.5606682	14.59159	12.1935	6.110681E-02	0.9976126		0.99	
1,1,2-Trichloroethane	0.3401845	14.58738	12.35775	3.776279E-02	0.9991086		0.99	
Tetrachloroethene	0.2798513	14.65878	12.20475	6.050502E-02	0.9992435		0.99	
Dibromochloromethane	0.2803526	24.18079	12.54425	2.540952E-02		0.9966995	0.99	
1,2-Dibromoethane	0.3355065	12.24976	12.80675	5.029451E-02			20	
Chlorobenzene	1.074819	8.299772	13.238	2.555814E-02			20	
Ethylbenzene	0.6263821	16.13499	13.20525	2.269002E-02	0.9993938		0.99	
m,p-Xylenes	0.7525839	7.241605	13.32075	3.483174E-02			20	
o-Xylene	0.7718014	13.16143	13.726	2.743597E-02			20	
Bromoform	0.1740972	26.85684	13.86988	2.962488E-02		0.9990525	0.99	
Styrene	1.260238	13.19508	13.77575	6.052145E-02			20	
Isopropylbenzene	2.031474	10.53359	13.99225	2.532555E-02			20	
1,1,2,2-Tetrachloroethane	0.5037271	10.18228	14.463	1.928567E-02			20	
1,2,4-Trichlorobenzene	0.4097947	23.81543	18.13363	0.0263798		0.9955535	0.99	
1,3-Dichlorobenzene	1.008577	10.77426	15.4075	2.626486E-02			20	
1,4-Dichlorobenzene	1.081206	11.81261	15.49775	7.350592E-03			20	
1,2-Dichlorobenzene	0.9520015	14.21603	16.01475	1.858857E-02			20	
1,2-Dibromo-3-chloropropane	7.396002E-02	49.9638	17.07629	4.554431E-02		0.9992021	0.99	
Dibromofluoromethane	0.5185058	4.852246	9.4205	3.503454E-02			20	
Toluene-d8	1.241574	3.107317	11.77275	1.495661E-03			20	
4-Bromofluorobenzene	0.8975781	4.047299	14.322	1.411585E-02			20	

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101077
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 01/20/21 08:19

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	1	1.132212	2	1.081738	5	1.099689	10	0.9908757	20	1.094479	50	0.9374184
Chloromethane	1	1.280621	2	1.261155	5	1.178299	10	1.149889	20	1.044477	50	0.9030385
Vinyl chloride	1	1.381626	2	1.187443	5	1.103079	10	0.9382662	20	1.028873	50	0.8768452
Bromomethane	1	2.625054	2	1.906138	5	1.381352	10	0.7525831	20	0.6973898	50	0.6149682
Chloroethane	1	0.9797916	2	0.9941816	5	0.7439232	10	0.6397637	20	0.6898111	50	0.5744008
Trichlorofluoromethane	1	1.534411	2	1.54824	5	1.602083	10	1.423735	20	1.54284	50	1.316135
Freon 113	1	0.7066751	2	0.6330097	5	0.6307267	10	0.5083287	20	0.5216339	50	0.4952992
Acetone	5	0.1833417	10	0.1265084	25	0.1302819	50	0.1118284	100	0.1097414	250	0.1026437
1,1-Dichloroethene	1	0.5963711	2	0.5344147	5	0.5371345	10	0.4420584	20	0.4535395	50	0.4376901
Carbon disulfide	5	2.042393	10	1.374044	25	1.478171	50	1.292343	100	1.260119	250	1.179003
Methylene Chloride	1	0.8707638	2	0.7437653	5	0.6598828	10	0.5665447	20	0.5367037	50	0.5029548
Methyl-tert-Butyl Ether	1	1.329483	2	1.195768	5	1.202217	10	0.9708387	20	0.9983125	50	0.9777235
trans-1,2-Dichloroethene	1	0.7695758	2	0.5947503	5	0.6165531	10	0.498399	20	0.5198553	50	0.5187938
cis-1,2-Dichloroethene	1	0.7542608	2	0.637032	5	0.6603835	10	0.5646693	20	0.5735283	50	0.5714241
1,1-Dichloroethane	1	1.446533	2	1.270509	5	1.239846	10	1.012512	20	1.033911	50	1.032356
2-Butanone	5	3.868846E-02	10	2.780116E-02	25	3.598871E-02	50	2.905469E-02	100	2.924066E-02	250	2.735337E-02
Chloroform	1	1.505422	2	1.211577	5	1.217508	10	0.9774717	20	0.9999071	50	0.9604477
1,1,1-Trichloroethane	1	1.138593	2	0.9810855	5	1.012876	10	0.8336985	20	0.8699214	50	0.8261889
Methyl acetate	1	7.438686E-02	2	5.743578E-02	5	7.036747E-02	10	4.986556E-02	20	5.030858E-02	50	4.855103E-02
Cyclohexane	1	1.164665	2	0.9651831	5	1.022081	10	0.8718577	20	0.9151921	50	0.8862811
Methyl cyclohexane	1	0.4343835	2	0.4173906	5	0.4051248	10	0.3600154	20	0.3617094	50	0.3636473
Carbon Tetrachloride	1	0.573209	2	0.4979244	5	0.5309295	10	0.4268537	20	0.4694365	50	0.4673335
1,2-Dichloroethane	1	0.4762291	2	0.4163737	5	0.4099687	10	0.3343197	20	0.3517888	50	0.34586
Benzene	1	1.322	2	1.197789	5	1.187095	10	0.9822448	20	1.07658	50	1.131535
Trichloroethene	1	0.4028108	2	0.3090115	5	0.3382511	10	0.2795944	20	0.3059167	50	0.31468
1,2-Dichloropropane	1	0.4320273	2	0.3405857	5	0.3344858	10	0.269395	20	0.2858346	50	0.2901264
Bromodichloromethane	1	0.4902718	2	0.4275119	5	0.4138517	10	0.3445289	20	0.3659631	50	0.3728853
4-Methyl-2-pentanone	5	4.227911E-02	10	2.894955E-02	25	2.651804E-02	50	0.0209787	100	2.290058E-02	250	0.0246077
2-Hexanone	5	0.2244205	10	0.1524863	25	0.1620852	50	0.1333905	100	0.1424361	250	0.1490342
cis-1,3-Dichloropropene	1	0.5277821	2	0.4596672	5	0.4604475	10	0.397173	20	0.4169022	50	0.435696
Toluene	1	1.93085	2	1.604323	5	1.626449	10	1.315349	20	1.44065	50	1.43267

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101077
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 01/20/21 08:19

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	1	1.007775	2	0.8574989	5	0.8440523	10	0.7149002	20	0.7694288	50	0.7675824
1,1,2-Trichloroethane	1	0.4870838	2	0.4590921	5	0.463077	10	0.3893758	20	0.386325	50	0.4071512
Tetrachloroethene	1	0.4802714	2	0.456302	5	0.4521271	10	0.3714068	20	0.4173894	50	0.4104367
Dibromochloromethane	1	0.7584428	2	0.6812559	5	0.631324	10	0.5430032	20	0.5818434	50	0.5952504
1,2-Dibromoethane	1	0.5243247	2	0.4953637	5	0.4966083	10	0.417636	20	0.4381025	50	0.4559483
Chlorobenzene	1	2.11819	2	1.802189	5	1.775022	10	1.468861	20	1.606084	50	1.631965
Ethylbenzene	1	1.041156	2	0.8874928	5	0.8746757	10	0.7065054	20	0.7892454	50	0.8139481
m,p-Xylenes	2	1.165708	4	1.02944	10	1.041991	20	0.8726556	40	0.9424046	100	1.002018
o-Xylene	1	1.029121	2	1.050715	5	0.9833116	10	0.8158229	20	0.8958653	50	0.9672722
Bromoform	1	0.3240413	2	0.270061	5	0.2604354	10	0.2252492	20	0.2460033	50	0.2572319
Styrene	1	1.928806	2	1.678842	5	1.731177	10	1.390463	20	1.595608	50	1.737077
Isopropylbenzene	1	2.877768	2	2.424969	5	2.457643	10	2.07294	20	2.279474	50	2.440278
1,1,2,2-Tetrachloroethane	1	0.502298	2	0.4332834	5	0.439496	10	0.3753151	20	0.3956026	50	0.3977983
1,2,4-Trichlorobenzene	1	0.4554218	2	0.4435265	5	0.4487368	10	0.339364	20	0.3842878	50	0.3834837
1,3-Dichlorobenzene	1	1.879308	2	1.490272	5	1.513677	10	1.212824	20	1.364455	50	1.390077
1,4-Dichlorobenzene	1	1.879308	2	1.644885	5	1.594724	10	1.283585	20	1.405738	50	1.420117
1,2-Dichlorobenzene	1	1.465254	2	1.267192	5	1.292768	10	1.043234	20	1.155936	50	1.174126
1,2-Dibromo-3-chloropropane	1	2.290037E-02	2	0.0500331	5	0.1032036	10	6.861337E-02	20	6.164036E-02	50	6.539414E-02
Dibromofluoromethane	50	0.5849469	55	0.5870287	60	0.6232323	50	0.6010518	65	0.5550645	50	0.5308566
Toluene-d8	50	0.8400387	55	0.8475554	60	0.9054921	50	0.8401661	65	0.8216728	50	0.820902
4-Bromofluorobenzene	50	0.6795148	55	0.6811249	60	0.7212633	50	0.6607664	65	0.6658056	50	0.6643235

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101077
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 01/20/21 08:19

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	80	0.9487262	100	0.9808405								
Chloromethane	80	0.9876056	100	1.082517								
Vinyl chloride	80	0.8397385	100	0.8814244								
Bromomethane	80	0.5499226	100	0.5220224								
Chloroethane	80	0.5479944	100	0.5494368								
Trichlorofluoromethane	80	1.264915	100	1.305889								
Freon 113	80	0.4862521	100	0.481061								
Acetone	400	0.1077735	500	0.1080897								
1,1-Dichloroethene	80	0.4385567	100	0.4338046								
Carbon disulfide	400	1.191802	500	1.205703								
Methylene Chloride	80	0.5100339	100	0.4980969								
Methyl-tert-Butyl Ether	80	0.9954462	100	0.9800074								
trans-1,2-Dichloroethene	80	0.5195184	100	0.5211387								
cis-1,2-Dichloroethene	80	0.5806544	100	0.5780107								
1,1-Dichloroethane	80	1.059753	100	1.054324								
2-Butanone	400	2.858297E-02	500	2.848384E-02								
Chloroform	80	0.9604834	100	0.9292233								
1,1,1-Trichloroethane	80	0.8182671	100	0.8195241								
Methyl acetate	80	4.854086E-02	100	4.748598E-02								
Cyclohexane	80	0.8841406	100	0.8815943								
Methyl cyclohexane	80	0.3607928	100	0.3672072								
Carbon Tetrachloride	80	0.4885612	100	0.4670258								
1,2-Dichloroethane	80	0.381621	100	0.3664746								
Benzene	80	1.178177	100	1.082052								
Trichloroethene	80	0.3011965	100	0.3167983								
1,2-Dichloropropane	80	0.2986052	100	0.2867514								
Bromodichloromethane	80	0.3869447	100	0.3699728								
4-Methyl-2-pentanone	400	2.679176E-02	500	2.565411E-02								
2-Hexanone	400	0.1650352	500	0.1608018								
cis-1,3-Dichloropropene	80	0.4601054	100	0.4466238								
Toluene	80	1.425498	100	1.387039								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101077
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 01/20/21 08:19

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	80	0.7689001	100	0.7609396								
1,1,2-Trichloroethane	80	0.4049094	100	0.3893835								
Tetrachloroethene	80	0.4147976	100	0.4097285								
Dibromochloromethane	80	0.5953088	100	0.5881711								
1,2-Dibromoethane	80	0.4608022	100	0.4500403								
Chlorobenzene	80	1.621379	100	1.596715								
Ethylbenzene	80	0.833241	100	0.8293777								
m,p-Xylenes	160	1.009728	200	0.9918246								
o-Xylene	80	0.9935402	100	0.9973062								
Bromoform	80	0.2686547	100	0.2655931								
Styrene	80	1.775666	100	1.738694								
Isopropylbenzene	80	2.541679	100	2.524793								
1,1,2,2-Tetrachloroethane	80	0.4070247	100	0.3951593								
1,2,4-Trichlorobenzene	80	0.443591	100	0.4256633								
1,3-Dichlorobenzene	80	1.473057	100	1.450216								
1,4-Dichlorobenzene	80	1.497691	100	1.478101								
1,2-Dichlorobenzene	80	1.254849	100	1.206153								
1,2-Dibromo-3-chloropropane	80	7.296265E-02	100	6.591071E-02								
Dibromofluoromethane	70	0.5194197	75	0.5456668								
Toluene-d8	70	0.8430687	75	0.8532165								
4-Bromofluorobenzene	70	0.6624278	75	0.7001856								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2101077
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 01/20/21 08:19

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	1.033247	7.422996	5.8775	0.1198878			20	
Chloromethane	1.11095	11.8379	6.345	8.425355E-02	0.9927055		0.99	
Vinyl chloride	1.029662	18.1291	6.54	1.353011E-02	0.9974044		0.99	
Bromomethane	1.131179	68.49097	7.18875	0.1738033	0.996		0.99	
Chloroethane	0.7149129	25.36914	7.4225	6.189921E-02		0.9982915	0.99	
Trichlorofluoromethane	1.442281	9.141456	7.68625	6.810643E-02			20	
Freon 113	0.5578733	15.42109	8.51125	4.342495E-02	0.9993003		0.99	
Acetone	0.1225261	21.53556	9.225	0.1017803	0.9992732		0.99	
1,1-Dichloroethene	0.4841962	12.92318	8.47	1.404484E-02			20	
Carbon disulfide	1.377947	20.82942	8.58875	0.0394861	0.999531		0.99	
Methylene Chloride	0.6110932	22.26659	9.18375	5.802199E-02	0.9990741		0.99	
Methyl-tert-Butyl Ether	1.081225	12.9278	9.5025	4.782094E-02			20	
trans-1,2-Dichloroethene	0.5698231	15.94811	9.41375	5.524527E-02	0.9998645		0.99	
cis-1,2-Dichloroethene	0.6149954	10.75752	10.65125	3.471958E-02			20	
1,1-Dichloroethane	1.143718	13.77425	10.08875	3.844483E-02			20	
2-Butanone	3.064923E-02	13.82049	11.15625	9.569697E-02			20	
Chloroform	1.095255	18.37698	10.87	9.768114E-03	0.9990787		0.99	
1,1,1-Trichloroethane	0.9125193	13.02548	11.1675	3.725675E-02			20	
Methyl acetate	5.586777E-02	19.136	9.36625	0.0994785	0.9990959		0.99	
Cyclohexane	0.9488744	10.68026	10.935	4.938657E-02			20	
Methyl cyclohexane	0.3837839	7.882556	12.05625	3.694256E-02			20	
Carbon Tetrachloride	0.4901592	9.161404	11.13	1.615315E-02			20	
1,2-Dichloroethane	0.3853295	12.20707	11.64875	7.128164E-02			20	
Benzene	1.144684	8.878515	11.5075	0.0379681			20	
Trichloroethene	0.3210324	11.491	12.02	1.613154E-02			20	
1,2-Dichloropropane	0.3172264	16.55493	12.47125	4.719873E-02	0.9992204		0.99	
Bromodichloromethane	0.3964913	11.69154	12.48625	3.738691E-02			20	
4-Methyl-2-pentanone	2.733494E-02	23.83835	13.49125	1.808956E-02	0.9977426		0.99	
2-Hexanone	0.1612112	17.16777	14.1925	5.296872E-02	0.9975808		0.99	
cis-1,3-Dichloropropene	0.4505496	8.577485	13.0325	3.879666E-02			20	

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101077
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 01/20/21 08:19

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Toluene	1.520353	12.90949	13.2625	3.467364E-02			20	
trans-1,3-Dichloropropene	0.8113847	11.32455	13.55375	3.988811E-02			20	
1,1,2-Trichloroethane	0.4232997	9.449146	13.70875	1.851086E-02			20	
Tetrachloroethene	0.4265574	8.038834	13.6375	3.135631E-02			20	
Dibromochloromethane	0.6218249	10.9814	13.90625	0.0389754			20	
1,2-Dibromoethane	0.4673533	7.537445	14.16125	2.800208E-02			20	
Chlorobenzene	1.702551	11.63378	14.61	1.172072E-02			20	
Ethylbenzene	0.8469553	11.35726	14.57	1.758415E-02			20	
m,p-Xylenes	1.006971	8.342498	14.685	3.483417E-02			20	
o-Xylene	0.9666193	7.885543	15.10375	3.299662E-02			20	
Bromoform	0.2646587	10.63585	15.2325	4.612938E-02			20	
Styrene	1.697042	9.156187	15.14375	3.225299E-02			20	
Isopropylbenzene	2.452443	9.361543	15.37125	0.0191395			20	
1,1,2,2-Tetrachloroethane	0.4182472	9.553144	15.80625	3.206999E-02			20	
1,2,4-Trichlorobenzene	0.4155094	10.03589	19.93875	5.693414E-02			20	
1,3-Dichlorobenzene	1.471736	12.94042	16.8825	0.0122198			20	
1,4-Dichlorobenzene	1.525519	11.91359	16.9675	0.1844742			20	
1,2-Dichlorobenzene	1.232439	9.951522	17.54375	3.282852E-02			20	
1,2-Dibromo-3-chloropropane	6.383229E-02	35.19873	18.65875	5.922873E-02	0.9945011		0.99	
Dibromofluoromethane	0.5684084	6.37686	11.05125	2.725859E-02			20	
Toluene-d8	0.846514	3.122799	13.21875	0.0214707			20	
4-Bromofluorobenzene	0.6794265	3.164043	15.71125	2.770036E-02			20	

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE00066-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2011113 **Laboratory ID:** AA63653-SCV1

Sequence: AA63653 **Standard ID:** A0K1038

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Cyclohexane	50.0	46	-8.0	30.00
Ethylbenzene	50.0	49	-2.4	30.00
Carbon Tetrachloride	50.0	55	10.9	30.00
1,3-Dichlorobenzene	50.0	55	9.4	30.00
4-Bromofluorobenzene	50.0	52	4.6	30.00
Toluene-d8	50.0	52	4.4	30.00
Dibromofluoromethane	50.0	50	-0.5	30.00
Methyl-tert-Butyl Ether	50.0	49	-1.8	30.00
trans-1,2-Dichloroethene	50.0	48	-4.3	30.00
cis-1,2-Dichloroethene	50.0	50	-0.1	30.00
Tetrachloroethene	50.0	48	-3.1	30.00
Acetone	250	240	-4.3	30.00
1,2,4-Trichlorobenzene	50.0	49	-2.0	30.00
Chloroform	50.0	49	-2.2	30.00
Chlorobenzene	50.0	52	3.4	30.00
Toluene	50.0	53	5.9	30.00
Methyl cyclohexane	50.0	47	-5.0	30.00
m,p-Xylenes	100	110	5.6	30.00
4-Methyl-2-pentanone	250	230	-7.3	30.00
1,2-Dichloroethane	50.0	46	-8.3	30.00
1,2-Dibromoethane	50.0	52	3.4	30.00
1,4-Dichlorobenzene	50.0	51	1.3	30.00
trans-1,3-Dichloropropene	50.0	49	-1.5	30.00
cis-1,3-Dichloropropene	50.0	49	-2.4	30.00
Styrene	50.0	55	10.3	30.00
Dibromochloromethane	50.0	52	3.8	30.00
1,1-Dichloroethene	50.0	49	-2.0	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE00066-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2011113 **Laboratory ID:** AA63653-SCV1

Sequence: AA63653 **Standard ID:** A0K1038

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
1,2-Dibromo-3-chloropropane	50.0	55	9.4	30.00
1,2-Dichlorobenzene	50.0	52	3.8	30.00
o-Xylene	50.0	53	5.4	30.00
1,1,2,2-Tetrachloroethane	50.0	52	3.2	30.00
Methyl acetate	50.0	38	-23.9	30.00
Trichloroethene	50.0	54	7.6	30.00
1,1,2-Trichloroethane	50.0	50	-0.4	30.00
2-Butanone	250	250	-1.7	30.00
1,2-Dichloropropane	50.0	50	-0.4	30.00
Freon 113	50.0	51	2.3	30.00
2-Hexanone	250	250	0.6	30.00
Trichlorofluoromethane	20.0	21	2.9	30.00
Isopropylbenzene	50.0	54	8.8	30.00
1,1-Dichloroethane	50.0	48	-4.6	30.00
Bromodichloromethane	50.0	50	-0.1	30.00
Bromoform	50.0	52	3.8	30.00
Carbon disulfide	50.0	52	4.0	30.00
Methylene Chloride	50.0	47	-5.6	30.00
Vinyl chloride	20.0	21	3.6	30.00
Chloroethane	20.0	22	8.4	30.00
Chloromethane	20.0	20	-0.1	30.00
Bromomethane	20.0	25	24.8	30.00
1,1,1-Trichloroethane	50.0	51	1.2	30.00
Benzene	50.0	54	7.1	30.00
Dichlorodifluoromethane	20.0	21	3.0	30.00

* Values outside of QC limits

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2101077
Laboratory ID: AA64539-SCV1
Sequence: AA64539
Standard ID: A1A0936

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Cyclohexane	50.0	52	3.4	30.00
Ethylbenzene	50.0	49	-2.1	30.00
Carbon Tetrachloride	50.0	50	-0.2	30.00
1,3-Dichlorobenzene	50.0	50	-0.3	30.00
4-Bromofluorobenzene	50.0	53	5.0	30.00
Toluene-d8	50.0	52	4.5	30.00
Dibromofluoromethane	50.0	49	-1.1	30.00
Methyl-tert-Butyl Ether	50.0	50	0.7	30.00
trans-1,2-Dichloroethene	50.0	51	1.3	30.00
cis-1,2-Dichloroethene	50.0	48	-4.8	30.00
Tetrachloroethene	50.0	46	-7.5	30.00
Acetone	250	310	24.9	30.00
1,2,4-Trichlorobenzene	50.0	59	17.8	30.00
Chloroform	50.0	55	9.8	30.00
Chlorobenzene	50.0	49	-2.0	30.00
Toluene	50.0	46	-7.4	30.00
Methyl cyclohexane	50.0	50	0.5	30.00
m,p-Xylenes	100	110	5.5	30.00
4-Methyl-2-pentanone	250	250	0.1	30.00
1,2-Dichloroethane	50.0	49	-1.8	30.00
1,2-Dibromoethane	50.0	47	-5.7	30.00
1,4-Dichlorobenzene	50.0	48	-4.2	30.00
trans-1,3-Dichloropropene	50.0	48	-3.7	30.00
cis-1,3-Dichloropropene	50.0	51	1.7	30.00
Styrene	50.0	54	8.8	30.00
Dibromochloromethane	50.0	46	-7.3	30.00
1,1-Dichloroethene	50.0	46	-7.4	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE00066-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2101077 **Laboratory ID:** AA64539-SCV1

Sequence: AA64539 **Standard ID:** A1A0936

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
1,2-Dibromo-3-chloropropane	50.0	55	10.8	30.00
1,2-Dichlorobenzene	50.0	52	3.6	30.00
o-Xylene	50.0	53	5.1	30.00
1,1,2,2-Tetrachloroethane	50.0	53	5.6	30.00
Methyl acetate	50.0	55	9.1	30.00
Trichloroethene	50.0	49	-1.5	30.00
1,1,2-Trichloroethane	50.0	47	-6.2	30.00
2-Butanone	250	250	1.9	30.00
1,2-Dichloropropane	50.0	51	2.2	30.00
Freon 113	50.0	55	9.7	30.00
2-Hexanone	250	260	3.5	30.00
Trichlorofluoromethane	50.0	51	2.5	30.00
Isopropylbenzene	50.0	53	6.2	30.00
1,1-Dichloroethane	50.0	47	-5.6	30.00
Bromodichloromethane	50.0	49	-1.8	30.00
Bromoform	50.0	52	3.5	30.00
Carbon disulfide	50.0	64	28.6	30.00
Methylene Chloride	50.0	53	5.9	30.00
Vinyl chloride	50.0	56	12.6	30.00
Chloroethane	50.0	56	11.9	30.00
Chloromethane	50.0	55	10.5	30.00
Bromomethane	50.0	47	-5.9	30.00
1,1,1-Trichloroethane	50.0	51	1.2	30.00
Benzene	50.0	49	-1.6	30.00
Dichlorodifluoromethane	50.0	50	0.1	30.00

* Values outside of QC limits

ANALYSIS SEQUENCE

AA64632

Instrument: OVGCMS5

Calibration ID: 2011113

Printed: 1/25/2021 12:56:05PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA64632-CCV1	QC		1		A1A0911	A0H0536		
1A25020-BS1	QC		2			A0H0536		
1A25020-BLK1	QC		3			A0H0536		
AA64632-CRL1	QC		4		A1A0912	A0H0536		
AE00295-03	8260D Halo	B	5			A0H0536		Run 1x FOAM jmw 1/22/21 Tetrachlor
AE00066-10	8260D Halo	A	6			A0H0536	Tetra Tech, Inc. (TE016)	BatchQC
AE00066-01	60D TCL SOM01.2 CLP-LIK	B	7			A0H0536	Tetra Tech, Inc. (TE016)	History 1x ND jmw 1/22/21 custom
AE00066-02	60D TCL SOM01.2 CLP-LIK	B	8			A0H0536	Tetra Tech, Inc. (TE016)	History 1x ND jmw 1/22/21 custom
AE00066-03	60D TCL SOM01.2 CLP-LIK	A	9			A0H0536	Tetra Tech, Inc. (TE016)	History 1x V.C. jmw 1/22/21 custom
AE00066-04	60D TCL SOM01.2 CLP-LIK	A	10			A0H0536	Tetra Tech, Inc. (TE016)	History 1x ND jmw 1/22/21 custom
AE00066-05	60D TCL SOM01.2 CLP-LIK	A	11			A0H0536	Tetra Tech, Inc. (TE016)	History 1x V.C. jmw 1/22/21 custom
AE00066-06	60D TCL SOM01.2 CLP-LIK	A	12			A0H0536	Tetra Tech, Inc. (TE016)	History 1x V.C. jmw 1/22/21 custom
AE00066-07	60D TCL SOM01.2 CLP-LIK	A	13			A0H0536	Tetra Tech, Inc. (TE016)	History 1x V.C. jmw 1/22/21 custom
AE00066-08	60D TCL SOM01.2 CLP-LIK	A	14			A0H0536	Tetra Tech, Inc. (TE016)	History 1x V.C. jmw 1/22/21 custom
AE00066-09	60D TCL SOM01.2 CLP-LIK	A	15			A0H0536	Tetra Tech, Inc. (TE016)	History 1x V.C. jmw 1/22/21 custom
AE00066-10	60D TCL SOM01.2 CLP-LIK	A	16			A0H0536	Tetra Tech, Inc. (TE016)	History 1x V.C. jmw 1/22/21 custom
AE00066-11	60D TCL SOM01.2 CLP-LIK	A	17			A0H0536	Tetra Tech, Inc. (TE016)	History 2x VC jmw 1/22/21 custom
AE00066-12	60D TCL SOM01.2 CLP-LIK	A	18			A0H0536	Tetra Tech, Inc. (TE016)	History 1x V.C. jmw 1/22/21 custom
AE00488-01	60D TCL SOM01.2 CLP-LIK	B	19			A0H0536	Tetra Tech, Inc. (TE016)	History 1x ND jmw 1/22/21 custom
AE00488-02	60D TCL SOM01.2 CLP-LIK	A	20			A0H0536	Tetra Tech, Inc. (TE016)	History 1x V.C. T12DCE jmw 1/22/21
1A25020-MS1	QC		21			A0H0536		
1A25020-MSD1	QC		22			A0H0536		

Samples Loaded By Date

Data Processed By Date

ANALYSIS SEQUENCE

AA64632

Instrument: OVGCMS5

Calibration ID: 2011113

Printed: 1/25/2021 12:56:05PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments

Samples Loaded By Date

Data Processed By Date

VOLATILES GC/MS LOGBOOK (EPA Method 624.1 / SW-846 Method 8260D)

Tune Start Date: 01/25/21	Surrogate: A0f0982	8260 Mix: A1A0764
Sequence: AA64632	Internal: A0H0535	8260 Add: A1A0635
Batch: 1A25022	LCS Mix 2⁰: A1A0898	8260 Ac/Ac: A1A0593
Method: ~~8260~~	LCS Acrolein 2⁰: A1A0830	8260 Gases: A1A0899
Analyst: KD	LCS Gas 2⁰: A1A0920	Instrument #: MS-5
Instrument EM Voltage: 1694		

215AT

Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)	Comments	LIMS
001	mbe			1				
002	CCV			2				
003	CCV			2			✓	
004	BS			3			✓	
005	mbk		N	4		N		
006	BLK		01/26/21	5		01/26/21	✓ APA	
007	CRL			6			✓	
008	AE000295-03	B	1	7	✓	N	✓ APA	
009	AE000066-10	A	1	8	✓	N	✓ MS/MSD	
010	AE000066-01	B	1	9	✓	N	✓	
011	AE000066-02	B	1	10	✓	N	✓	
012	AE000066-03	A	1	11	✓	N	✓	
013	AE000066-04	A	1	12	✓	N	✓	
014	AE000066-05	A	1	13	✓	N	✓	
015	AE000066-06	A	1	14	✓	N	✓ APA	
016	AE000066-07	A	1	15	✓	N	✓ APA	
017	AE000066-08	A	1	16	✓	N	✓	
018	AE000066-09	A	1	17	✓	N	✓	
019	AE000066-11	A	2	18	✓	N	✓ RR 1x overdilute	
020	AE000066-12	A	1	19	✓	N	✓	
021	~~AE000~~ AE000488-01	B	1	20	✓	N	✓	

VOLATILES GC/MS LOGBOOK (EPA Method 624.1 / SW-846 Method 8260D)

Tune Start Date:	Surrogate:	8260 Mix:
Sequence:	Internal:	8260 Add:
Batch:	LCS Mix 2⁰: 220 pg 158 NC 1/26/21	8260 Ac/Ac:
Method:	LCS Acrolein 2⁰:	8260 Gases:
Analyst:	LCS Gas 2⁰:	Instrument #:
Instrument EM Voltage:		

Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)	Comments	LIMS
022	AR00488-02	A	1	21	✓	N	✓	
023	MS	B	1	22	✓	N	✓	
024	MSD	B	1	22	✓	N	✓	

NC 1/26/21

PREPARATION BENCH SHEET

Printed: 1/25/2021 12:55:21PM

1A25020

ENCO Orlando

Analysis
8260D Halo [EPA 8260D]
8260D TCL SOM01.2 CLP-LIKE [EPA 8260D]

Surrogate Solution
___ A0F0992 8260 surr working (lower conc.)

Prepared using: EPA 5030B_MS

Spiking Solution
A1A0898 8260 2nd source Mega Mix
A1A0922 8260 2nd source Gases/Acrolein virtual

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
1A25020-BLK1		Blank		QC			5	5			5	
1A25020-BS1		LCS		QC			5	5	A1A0922 A1A0898	2 2	5	
1A25020-MS1		Matrix Spike [AE00066-10]		QC			5	5	A1A0922 A1A0898	2 2	5	
1A25020-MSD1		Matrix Spike Dup [AE00066-10]		QC			5	5	A1A0922 A1A0898	2 2	5	
AE00066-01	C	CRCA-MW0030-058.0-202101[illegible]MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x ND jmw 1/22/21 custom
AE00066-02	C	CRCA-MW0029-035.0-202101[illegible]MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x ND jmw 1/22/21 custom
AE00066-03	C	CRCA-MW0028-058.0-202101[illegible]MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x V.C. jmw 1/22/21 custom
AE00066-04	C	CRCA-MW0027-035.0-202101[illegible]MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x ND jmw 1/22/21 custom
AE00066-05	C	CRCA-MW0015-027.5-202101[illegible]MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x V.C. jmw 1/22/21 custom
AE00066-06	C	CRCA-MW0013-027.5-202101[illegible]MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x V.C. jmw 1/22/21 custom
AE00066-07	C	CRCA-MW0012-027.5-202101[illegible]MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x V.C. jmw 1/22/21 custom
AE00066-08	C	CRCA-MW0002-032.5-202101[illegible]MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x V.C. jmw 1/22/21 custom
AE00066-09	C	CRCA-MW0031-058.0-202101[illegible]MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x V.C. jmw 1/22/21 custom
AE00066-10	C	CRCA-MW0032-058.0-202101[illegible]MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x V.C. jmw 1/22/21 custom
AE00066-10	C	CRCA-MW0032-058.0-202101[illegible]MS43		8260D Halo			5	5			5	Added for BatchQC in: 1A25020
AE00066-11	C	CRCA-MW0018-058.0-202101[illegible]MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 2x VC jmw 1/22/21 custom
AE00066-12	C	CRCA-MW0019-058.0-202101[illegible]MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x V.C. jmw 1/22/21 custom

PREPARATION BENCH SHEET

Printed: 1/25/2021 12:55:21PM

1A25020

ENCO Orlando

Prepared using: EPA 5030B_MS

Surrogate Solution
___ A0F0992 8260 surr working (lower conc.)

Spiking Solution
A1A0898 8260 2nd source Mega Mix
A1A0922 8260 2nd source Gases/Acrolein virtual

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
AE00295-03		S Parking lot B[MS30	27-Jan-21	8260D Halo			5	5			5	Run 1x FOAM jmw 1/22/21 Tetrachloroethene Only. Heavy Sediment in vilas, NB 1/21/21.
AE00488-01	C	CRCA-ASEFFLUENT-2021011B[MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x ND jmw 1/22/21 custom
AE00488-02	C	CRCA-ASINFLUENT-20210119A[MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x V.C. T12DCE jmw 1/22/21 custom

(1) Before solvent extraction proceeds, verify that there is no residual chlorine above 0.5 mg/L. Any sample above this must be treated to remove excess chlorine before extraction, and this documented as a comment.

Instrument 5
EST Centurian autosampler manufacturer reccommends adding 5 uL of IS/SS.

Start Date _____

StopDate _____

Instrument ID _____

Standard ID#	Description	Manufacture Lot#
A0A1401	pH Test Papers (1.0 to 12.0)	231018
A0B1371	Residual Chlorine Strips (Potassium Iodide S	102916
A0L0697	P&T Anti-Foam working solution	N/A

_____ _____
Samples Prepared By Date

_____ _____
Samples Prepared By Date

Manual Integration Review Form

ENVIRONMENTAL CONSERVATION LABORATORIES, INC. ☐ Cary ☐ Jacksonville ☒ Orlando

I hereby attest that the manual integrations contained in this package have been thoroughly reviewed and are in agreement with the associated hardcopy data.

The electronic files listed below have been reviewed for accuracy, completeness and comply with ENCO labs QA-11 Manual Integration Policy including:

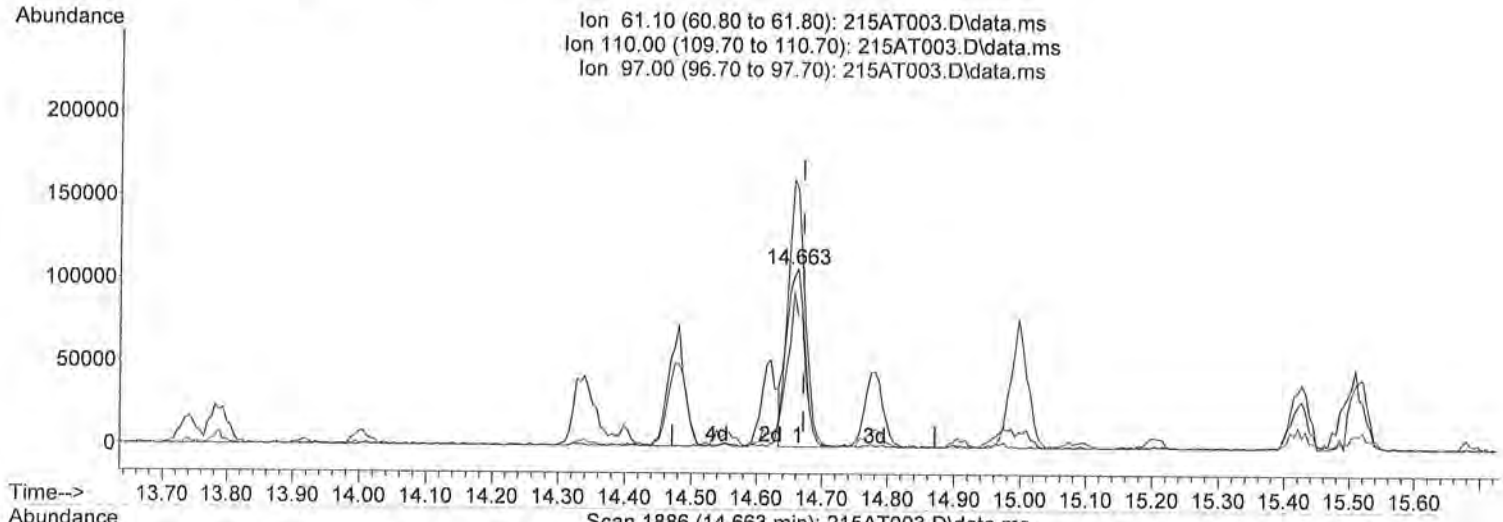
- "Before" and "After" chromatograms are provided
- Manual integrations are indicated on expanded scale "after" chromatograms at a scale large enough to see the manual integration performed.
- Reintegration technique marked if available on the data system
- Technical justification for manual integration
- Appropriate flags indicating which analytes were manually integrated are included in the raw data
- Analyst's initials and date.

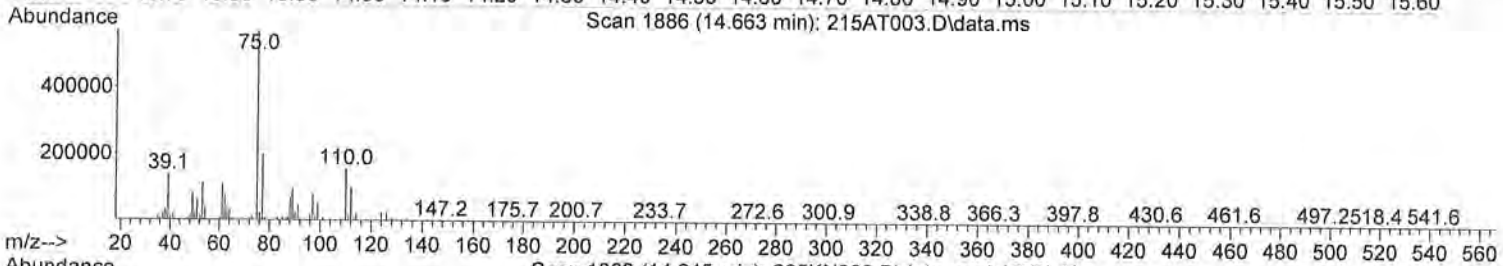
Instrument ID:	OVGcms-5
Sequence/Batch ID:	AA64632 / IA25020
Data File Prefix:	215AT
Date and Time Range of MIs:	01/25/21 1439-1442
Reviewer Print Name:	Neil Christiana
Reviewer Signature:	
Date of Review:	1/26/21

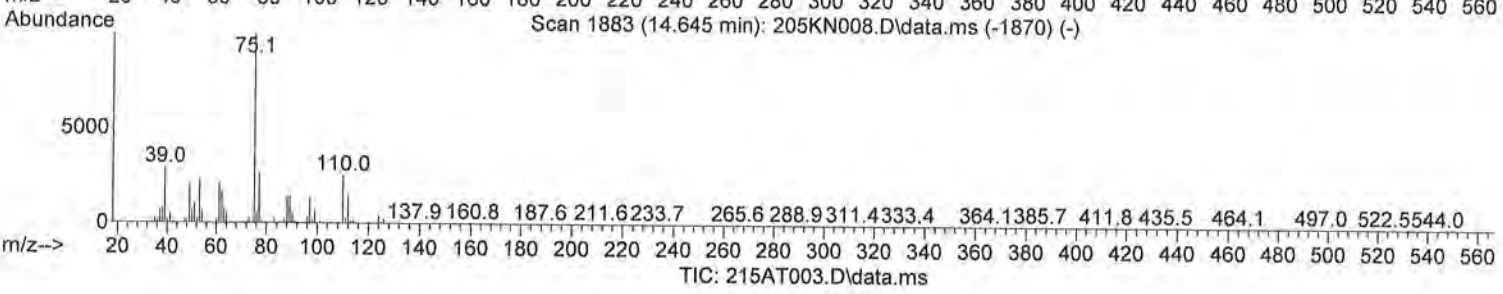
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT003.D
Acq On : 25 Jan 2021 8:47 am
Operator : KKW
Sample : CCV1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jan 25 14:39:42 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration







TIC: 215AT003.D\data.ms

(77) 1,2,3-Trichloropropane

14.663min (-0.008) 27.23 ug/L

response 210998

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.60	140.41#
97.00	49.10	87.71#
0.00	0.00	0.00

Select One:

~~N~~ Original Integration [ ] Manual Integration

Select reason for manual integration:

~~N~~ Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

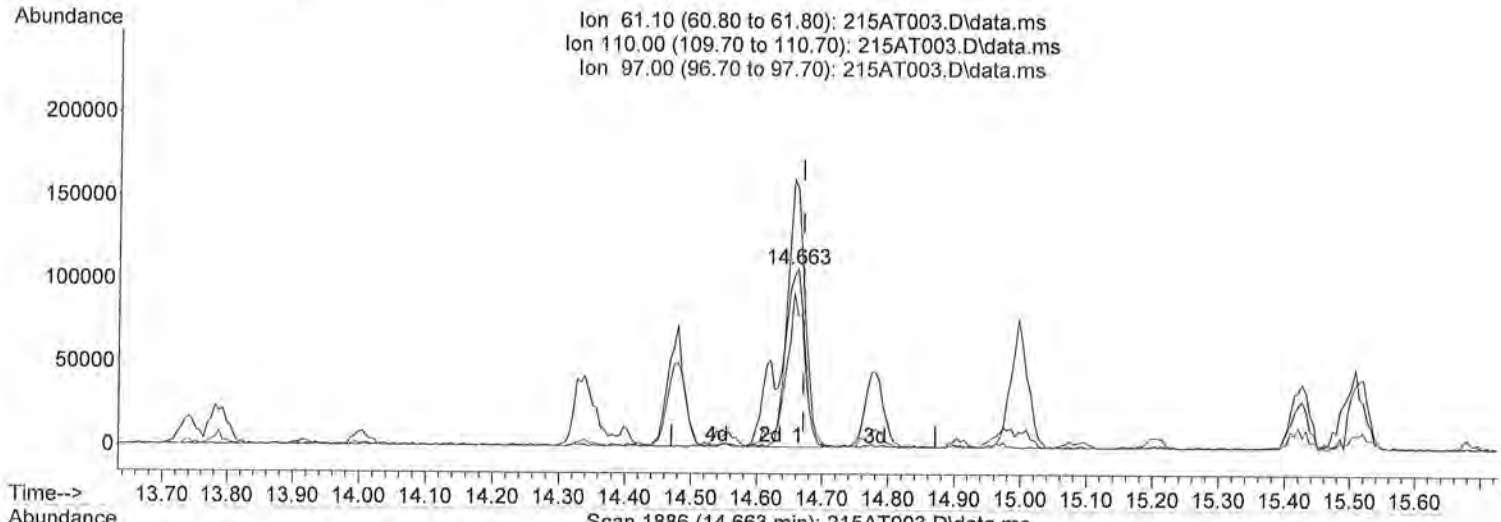
Review by/Date W 01/26/21

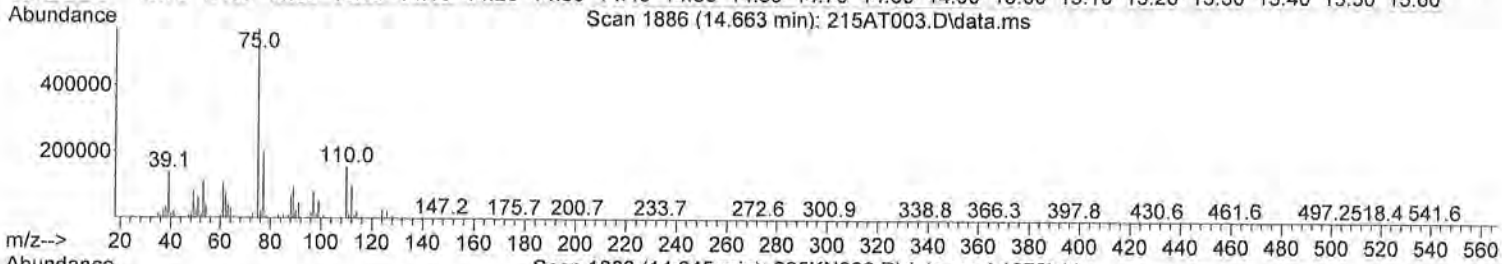
Review by/Date:

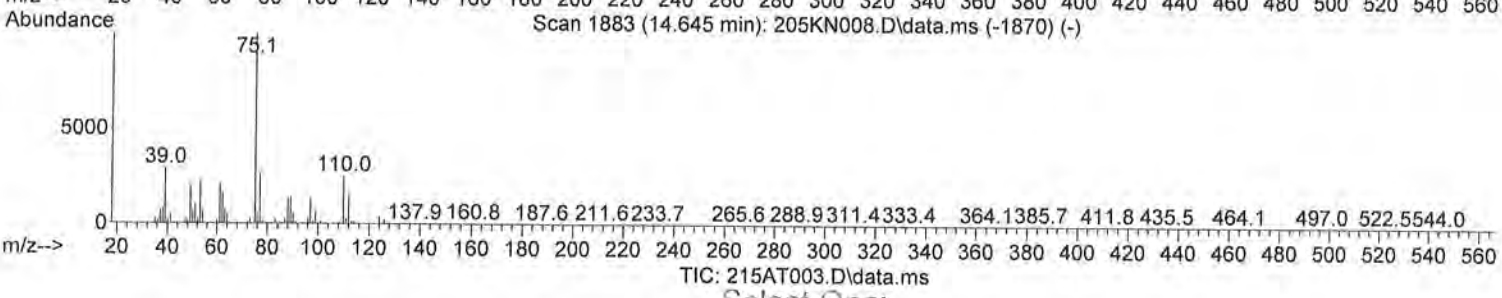
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT003.D
Acq On : 25 Jan 2021 8:47 am
Operator : KKW
Sample : CCV1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jan 25 14:39:42 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration







TIC: 215AT003.D\data.ms

(77) 1,2,3-Trichloropropane

14.663min (-0.008) 38.14 ug/L m

response 295490

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.60	100.26#
97.00	49.10	62.63#
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

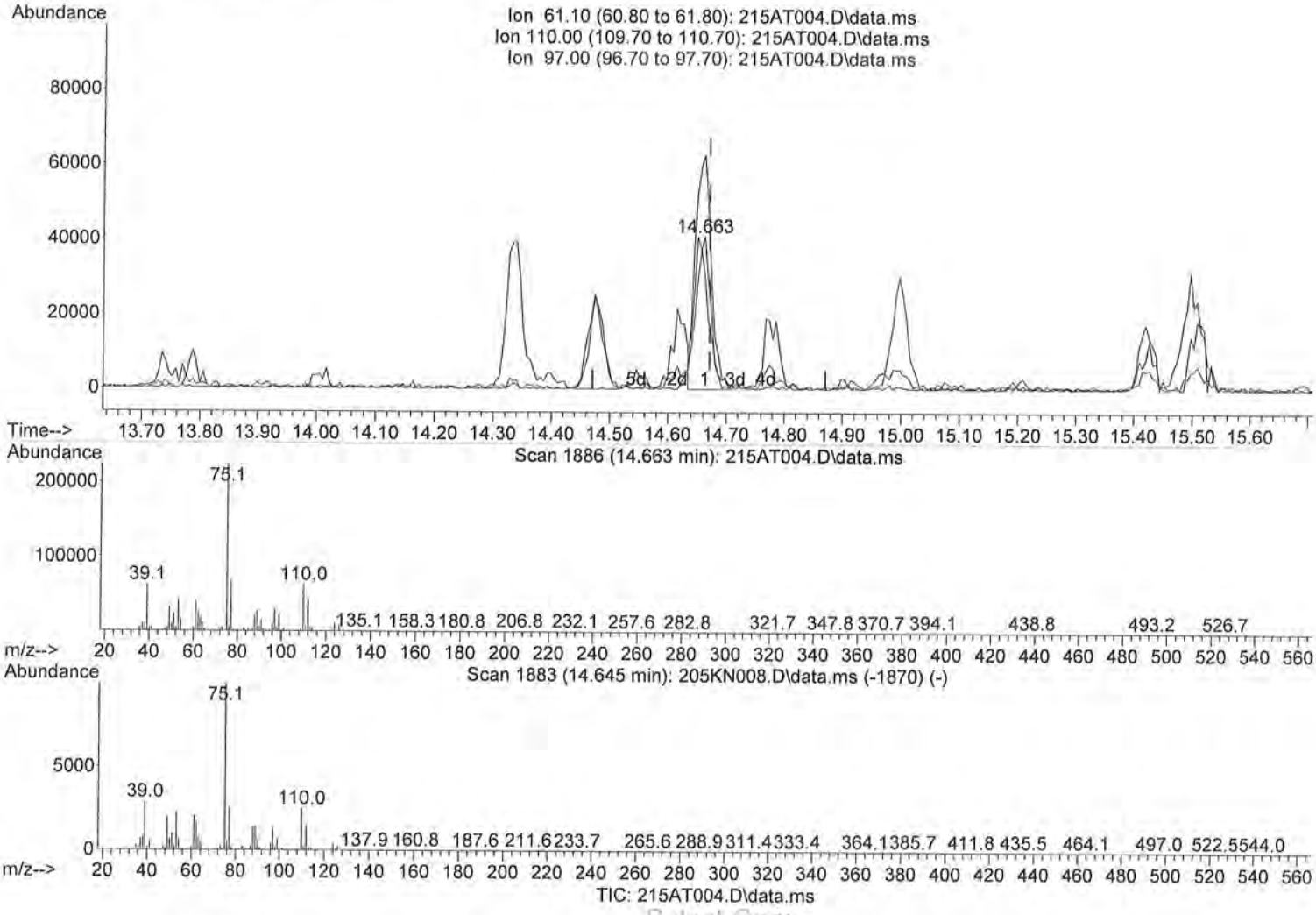
Review by/Date W 01/26/21

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT004.D
Acq On : 25 Jan 2021 9:20 am
Operator : KKW
Sample : BS1
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 25 09:49:13 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



(77) 1,2,3-Trichloropropane

14.663min (-0.008) 10.91 ug/L

response 79411

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.60	155.57#
97.00	49.10	79.99#
0.00	0.00	0.00

Select One:

~~X~~ Original Integration [ ] Manual Integration

Select reason for manual integration:

~~X~~ Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

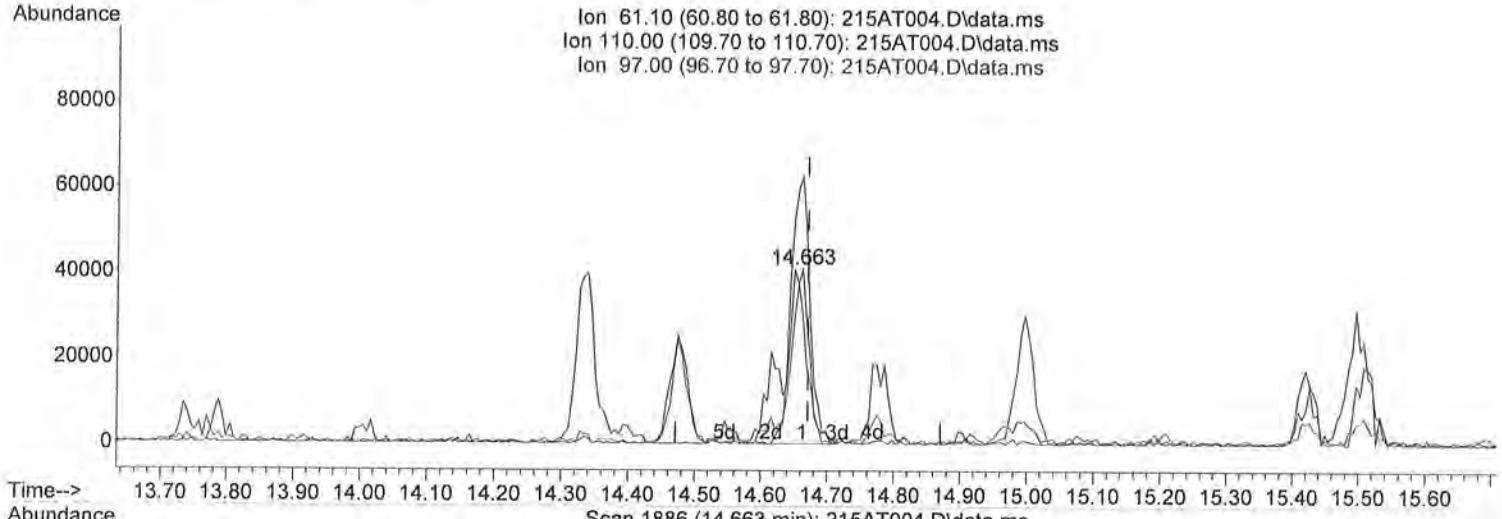
Review by/Date W 1/26/21

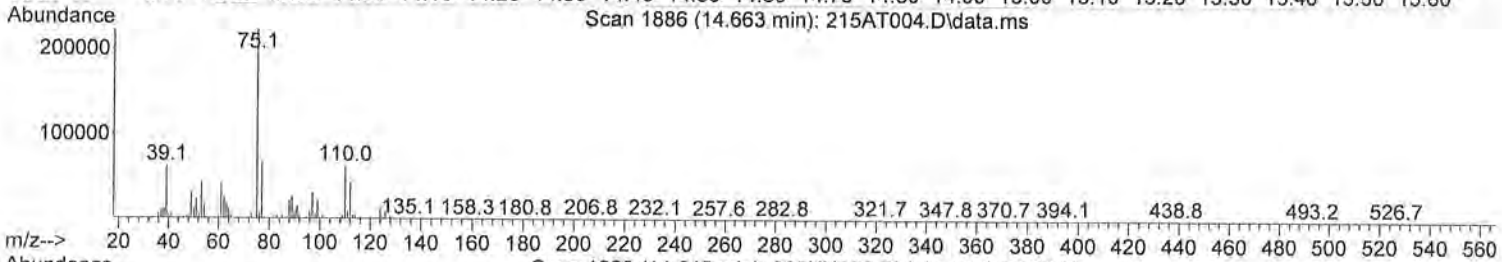
Review by/Date:

Quantitation Report (Qedit)

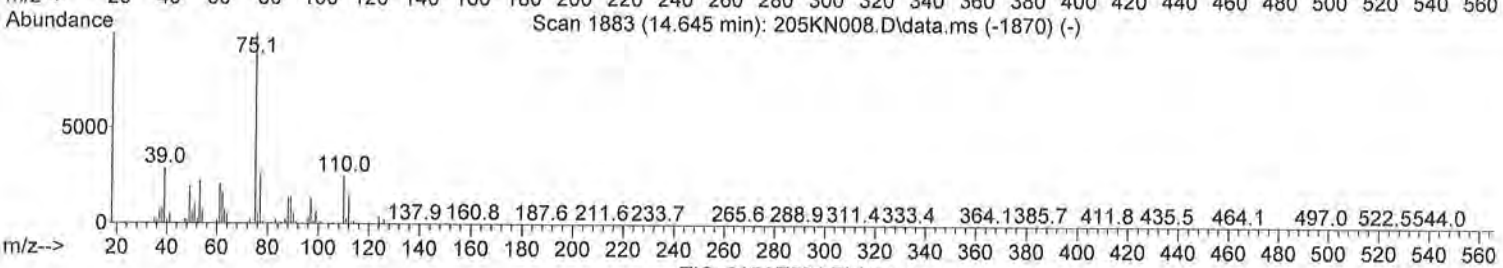
Data Path : C:\msdchem\1\data\012521\
Data File : 215AT004.D
Acq On : 25 Jan 2021 9:20 am
Operator : KKW
Sample : BS1
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 25 09:49:13 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration





Scan 1886 (14.663 min): 215AT004.D\data.ms



Scan 1883 (14.645 min): 205KN008.D\data.ms (-1870) (-)

TIC: 215AT004.D\data.ms

(77) 1,2,3-Trichloropropane

14.663min (-0.008) 15.67 ug/L m

response 114066

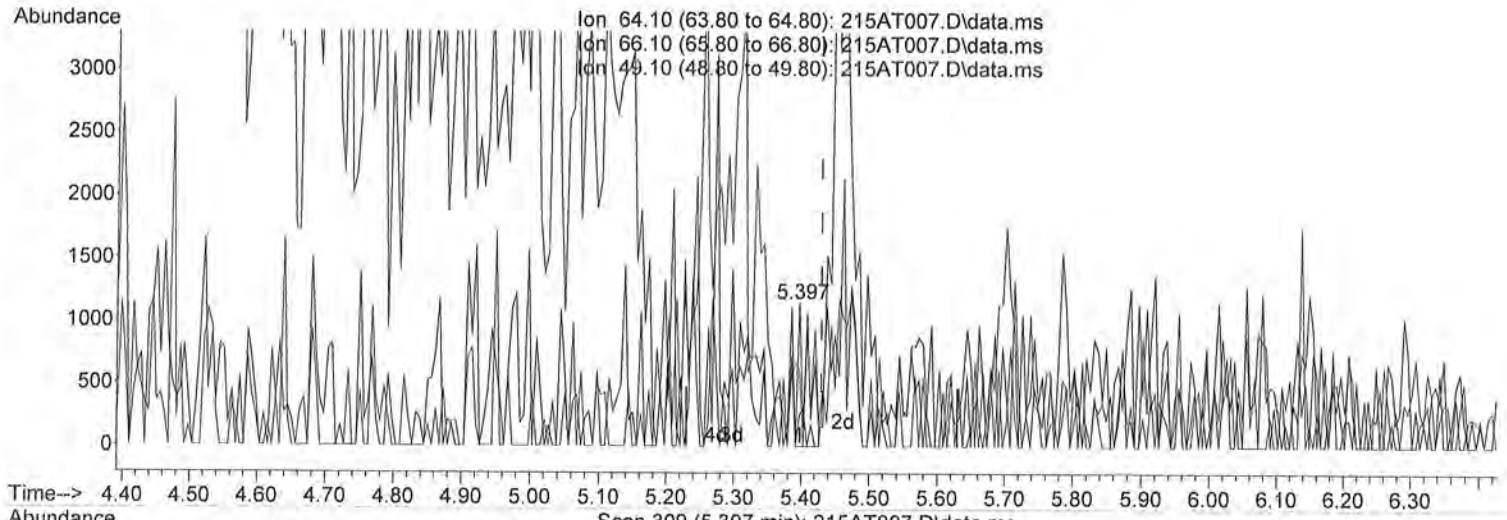
Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.60	108.31#
97.00	49.10	55.68
0.00	0.00	0.00

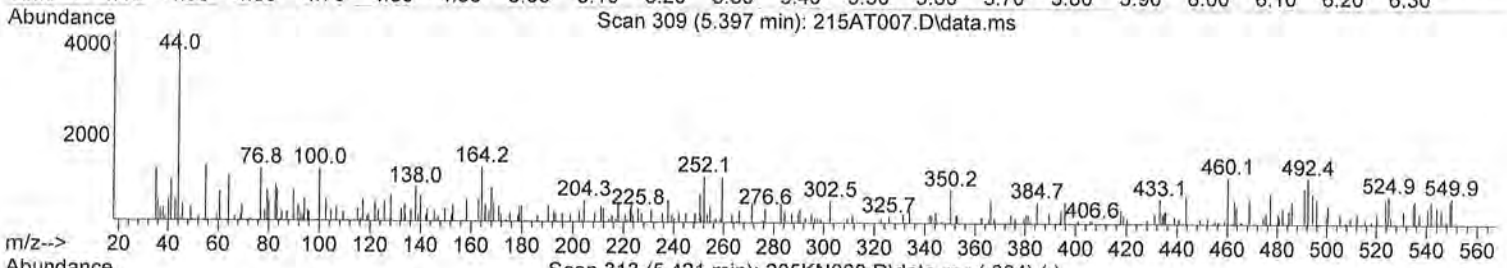
Select one:
[ ] Original Integration [X] Manual Integration
Select reason for manual integration:
[X] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date W 01/26/21
Review by/Date:

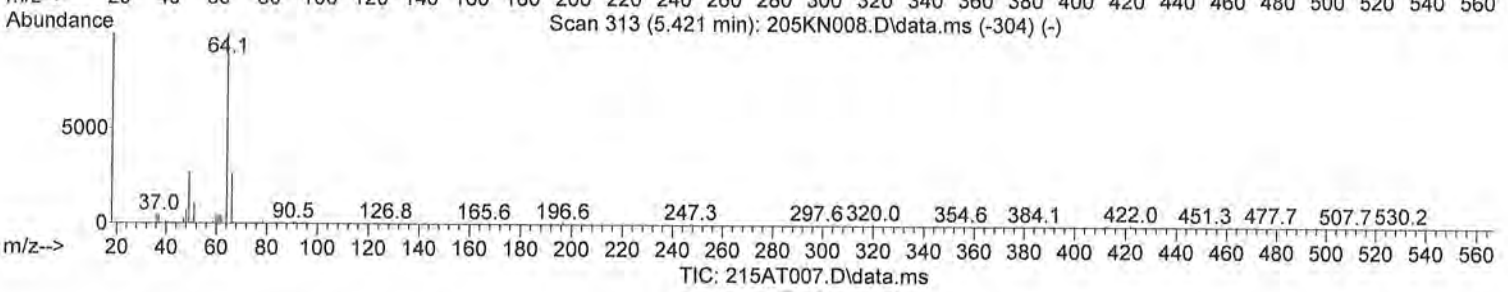
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT007.D
Acq On : 25 Jan 2021 10:48 am
Operator : KKW
Sample : AA64632-CRL1
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 25 11:18:42 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration







TIC: 215AT007.D\data.ms

(6) Chloroethane

5.397min (-0.033) 0.16 ug/L

response 1195

Ion	Exp%	Act%
64.10	100.00	100.00
66.10	32.30	106.03#
49.10	27.50	88.37#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

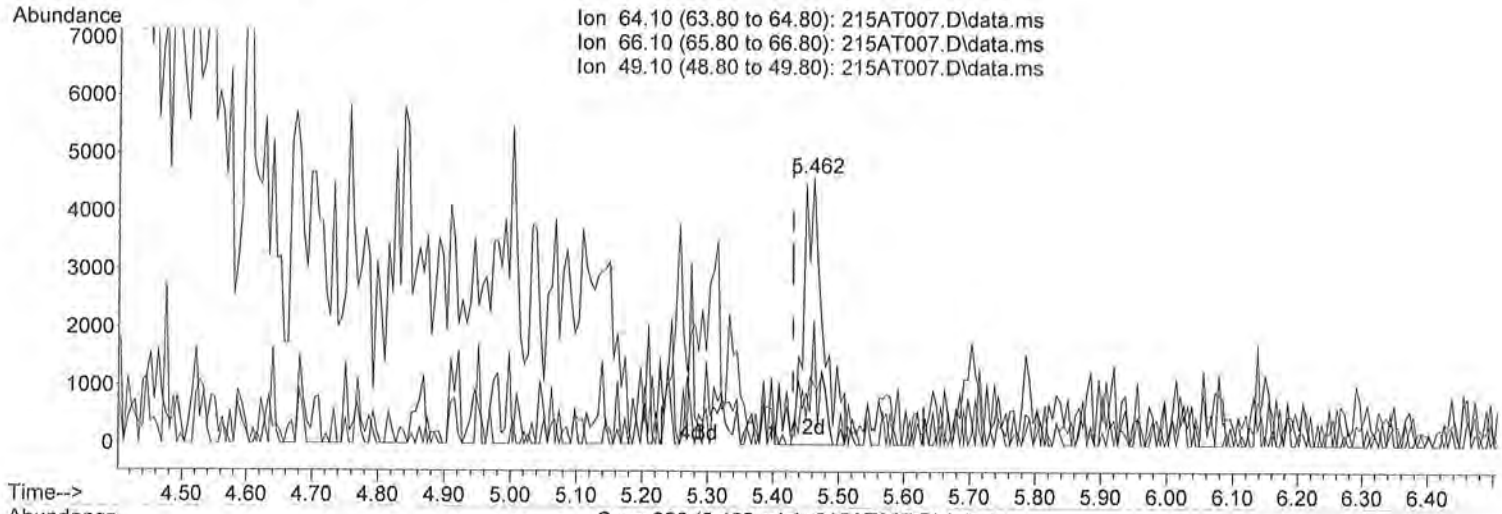
Review by/Date W 01/26/21

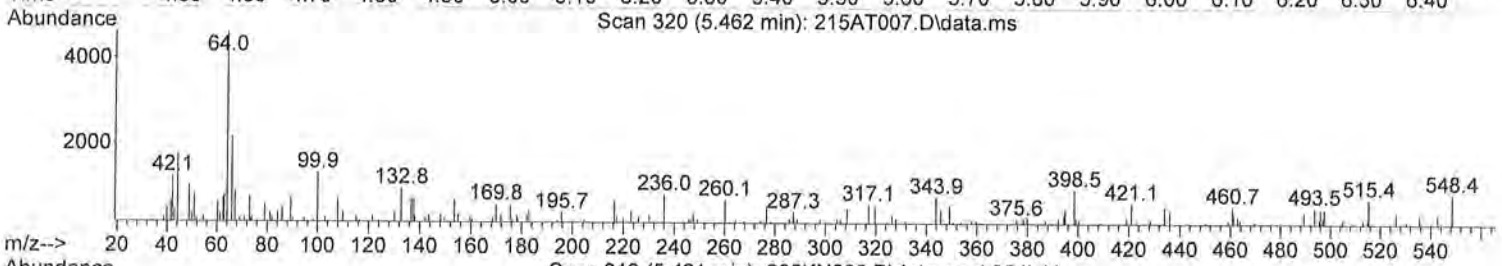
Review by/Date:

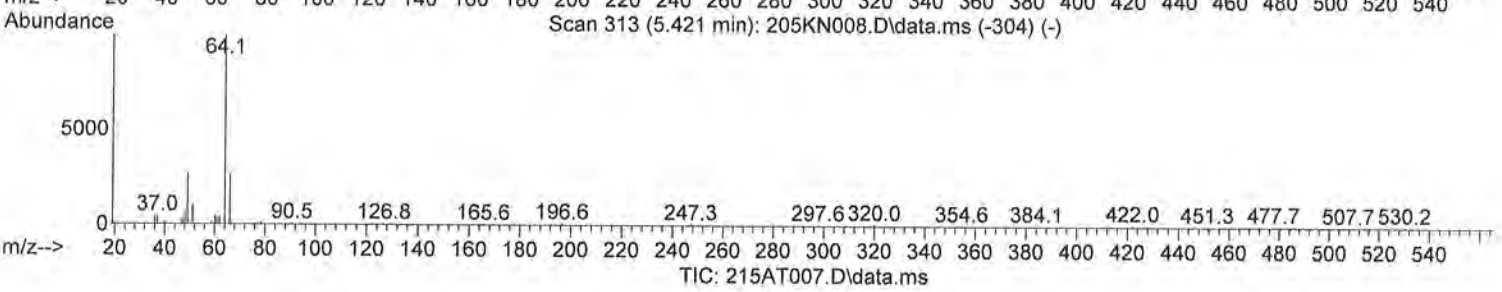
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT007.D
Acq On : 25 Jan 2021 10:48 am
Operator : KKW
Sample : AA64632-CRL1
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 25 11:18:42 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration







TIC: 215AT007.D\data.ms

(6) Chloroethane

5.462min (+ 0.032) 1.32 ug/L m

response 10161

Ion	Exp%	Act%
64.10	100.00	100.00
66.10	32.30	12.47#
49.10	27.50	10.39#
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

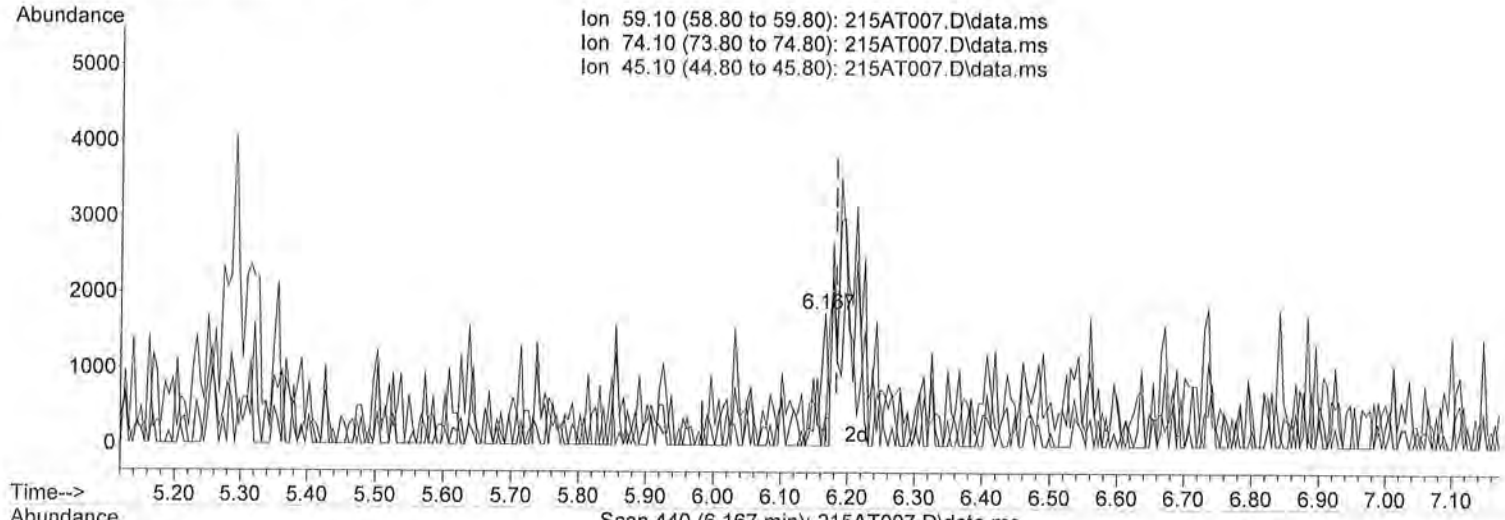
Review by/Date KJ 01/26/21

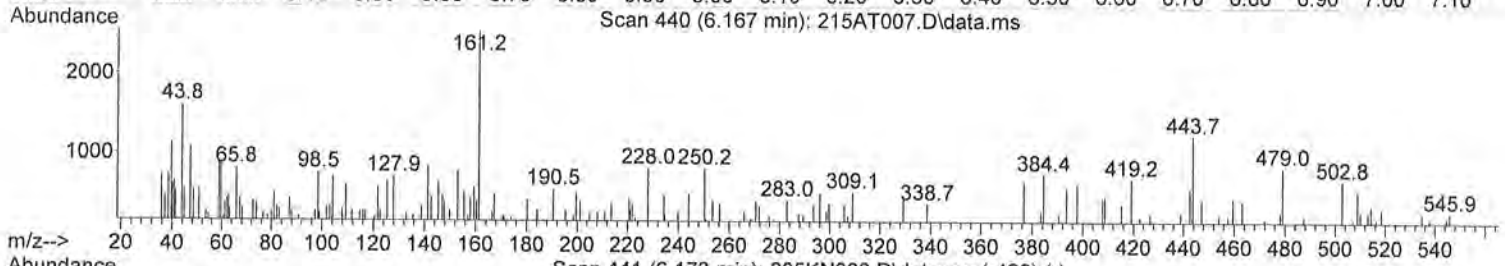
Review by/Date:

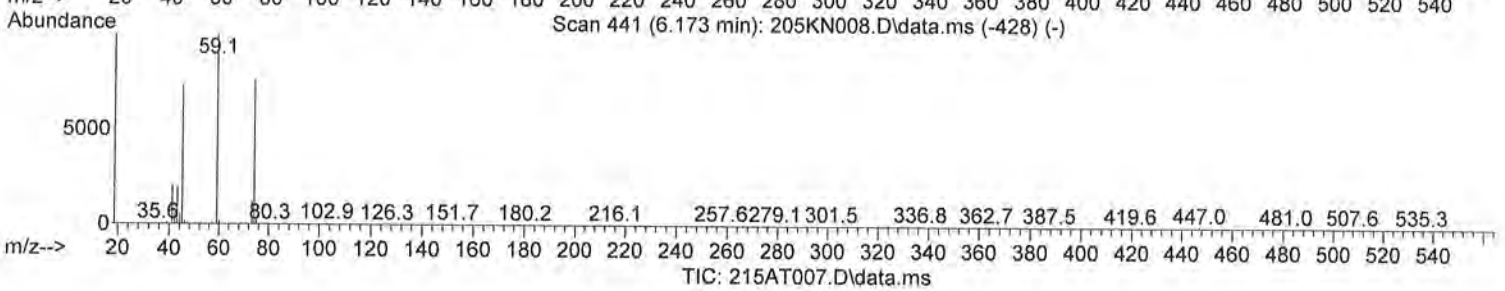
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT007.D
Acq On : 25 Jan 2021 10:48 am
Operator : KKW
Sample : AA64632-CRL1
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 25 11:18:42 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration







TIC: 215AT007.D\data.ms

(8) Diethyl ether

6.167min (-0.017) 0.14 ug/L

response 1684

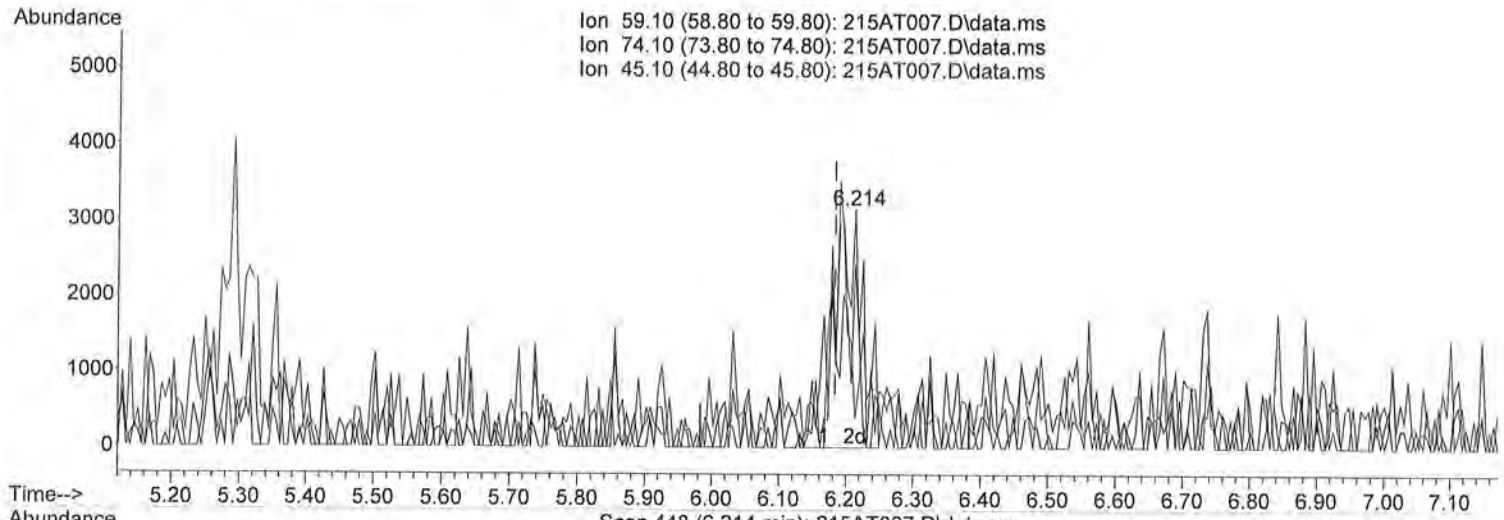
Ion	Exp%	Act%
59.10	100.00	100.00
74.10	72.50	213.06#
45.10	72.00	506.89#
0.00	0.00	0.00

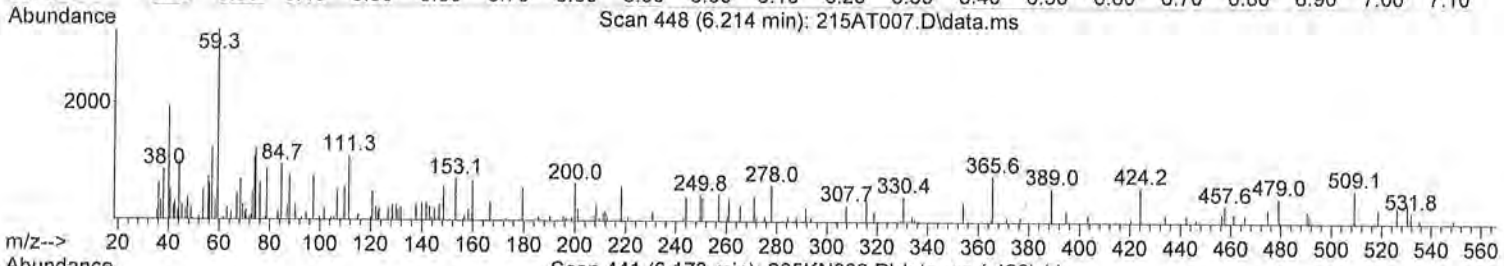
Select Type:
[x] Initial Integration [ ] Manual Integration
Select reason for manual integration:
[ ] Poor Integration (peak tailing, baseline selection)
[x] Incorrect peak selection/Peak not found
[ ] Ramp integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date: W 01/28/21
Review by/Date:

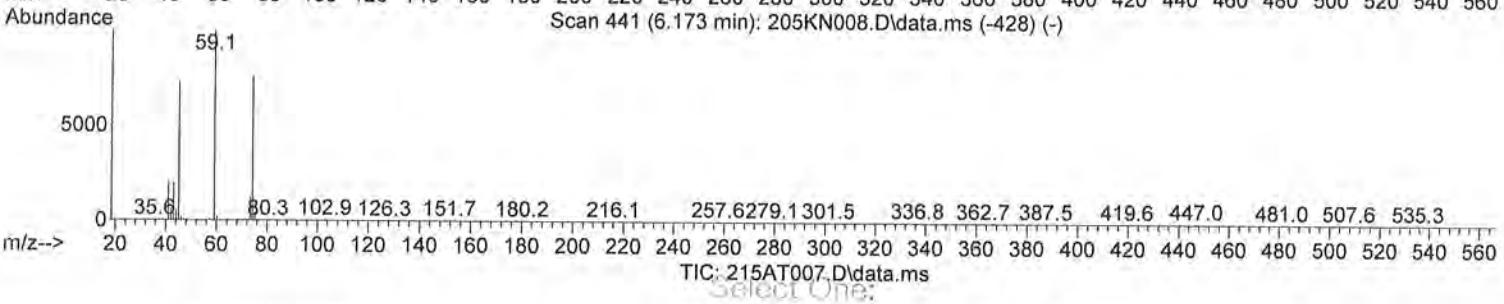
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT007.D
Acq On : 25 Jan 2021 10:48 am
Operator : KKW
Sample : AA64632-CRL1
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 25 11:18:42 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration







TIC: 215AT007.D\data.ms

(8) Diethyl ether

6.214min (+ 0.030) 0.69 ug/L m

response 8400

Ion	Exp%	Act%
59.10	100.00	100.00
74.10	72.50	42.71#
45.10	72.00	101.62#
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] RTD reintegration

[ ] Other:

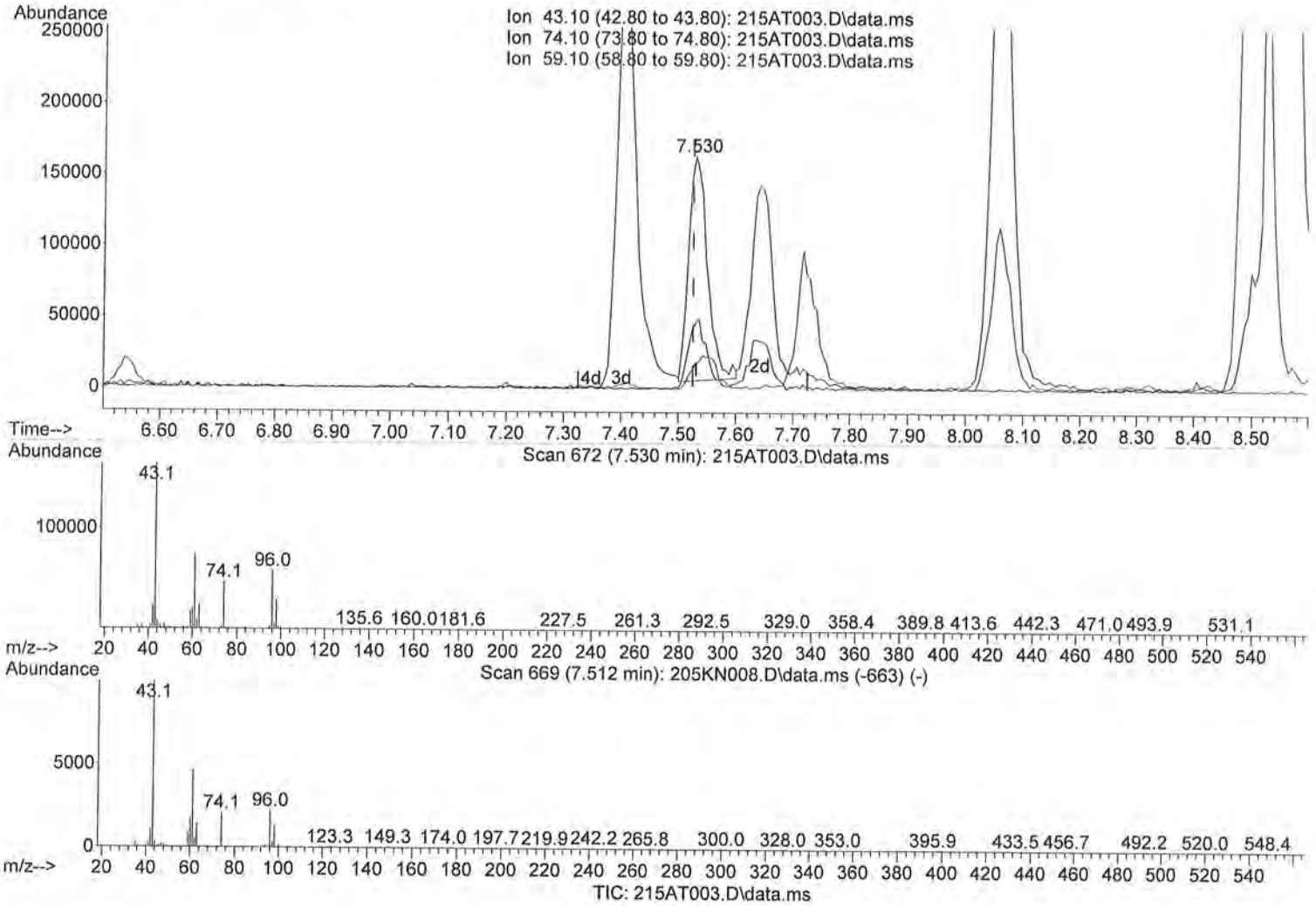
Review by/Date: W 1/26/21

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT003.D
Acq On : 25 Jan 2021 8:47 am
Operator : KKW
Sample : CCV1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jan 25 14:39:42 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



(17) Methyl Acetate

7.530min (+ 0.004) 28.65 ug/L

response 359128

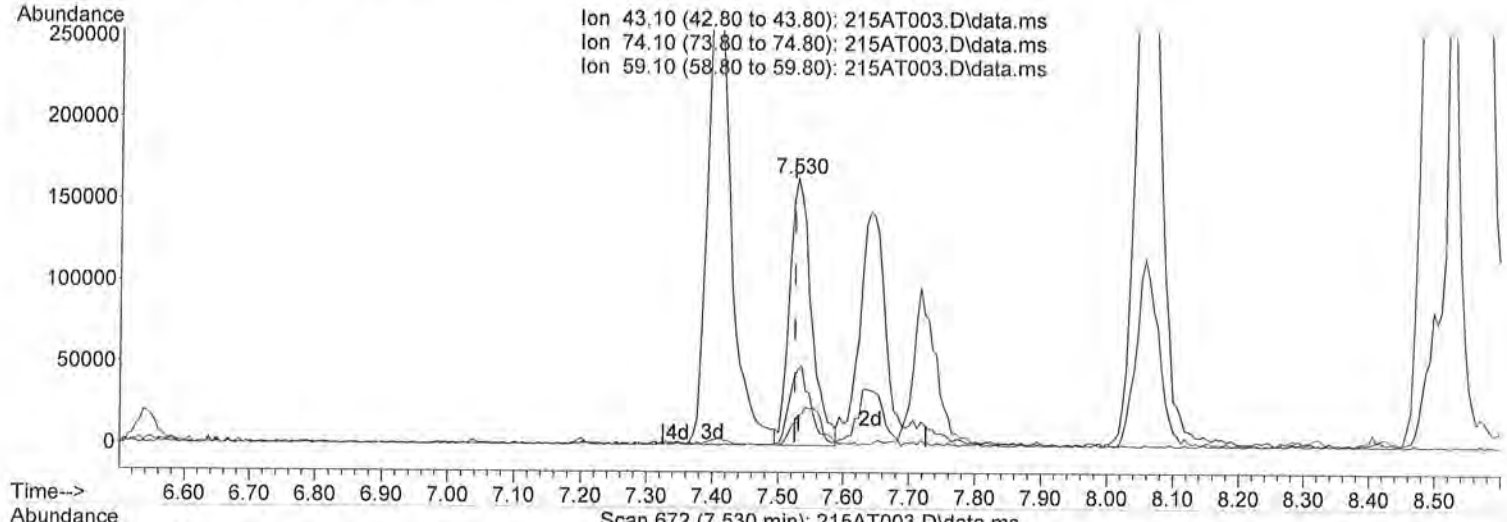
Ion	Exp%	Act%
43.10	100.00	100.00
74.10	22.30	30.95#
59.10	18.50	20.24
0.00	0.00	0.00

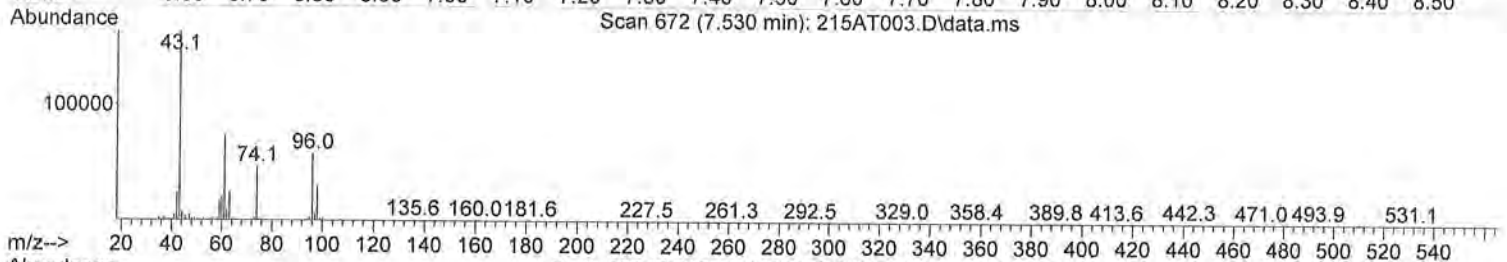
Select One:
[X] Original Integration [ ] Manual Integration
Select reason for manual integration:
[X] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date W 01/26/21
Review by/Date:

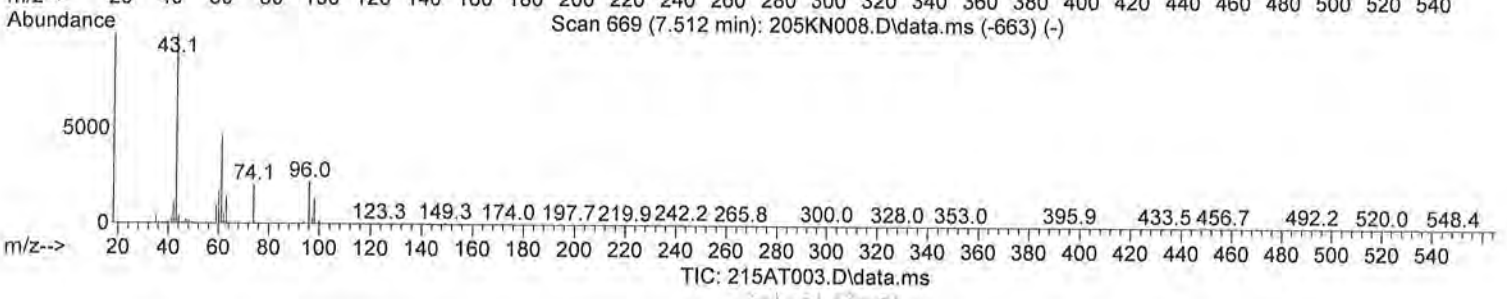
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT003.D
Acq On : 25 Jan 2021 8:47 am
Operator : KKW
Sample : CCV1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jan 25 14:39:42 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration







TIC: 215AT003.D\data.ms

(17) Methyl Acetate

7.530min (+ 0.004) 31.16 ug/L m

response 390571

Ion	Exp%	Act%
43.10	100.00	100.00
74.10	22.30	28.46#
59.10	18.50	18.61
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

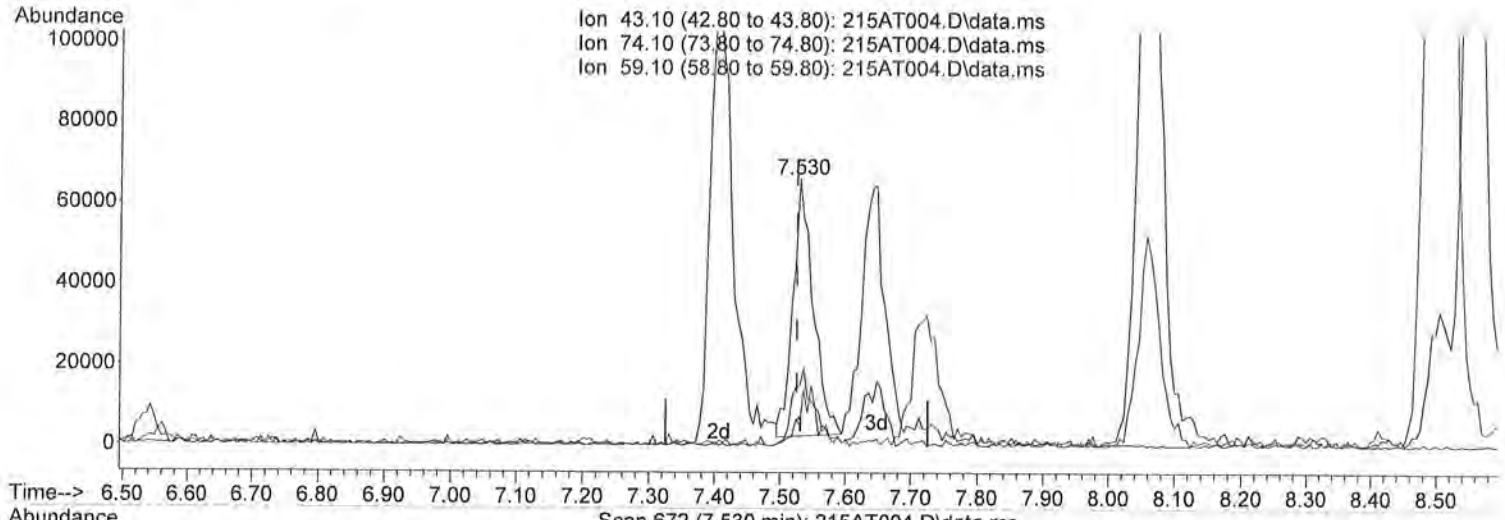
Review by/Date W 01/26/21

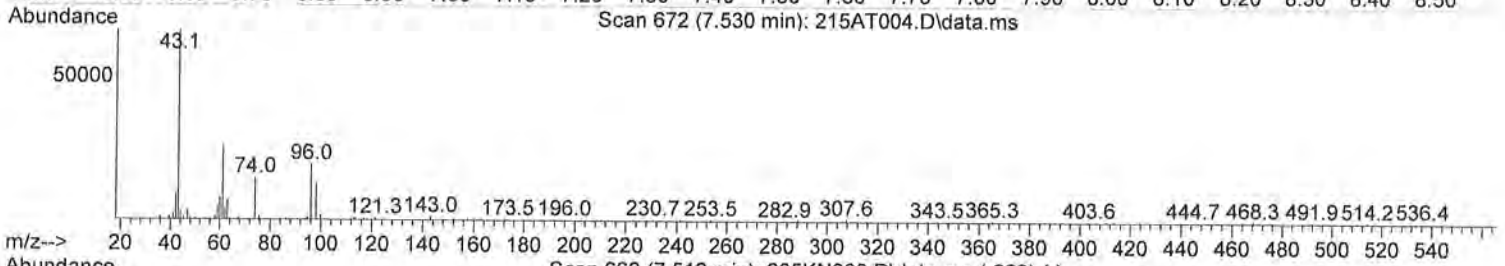
Review by/Date:

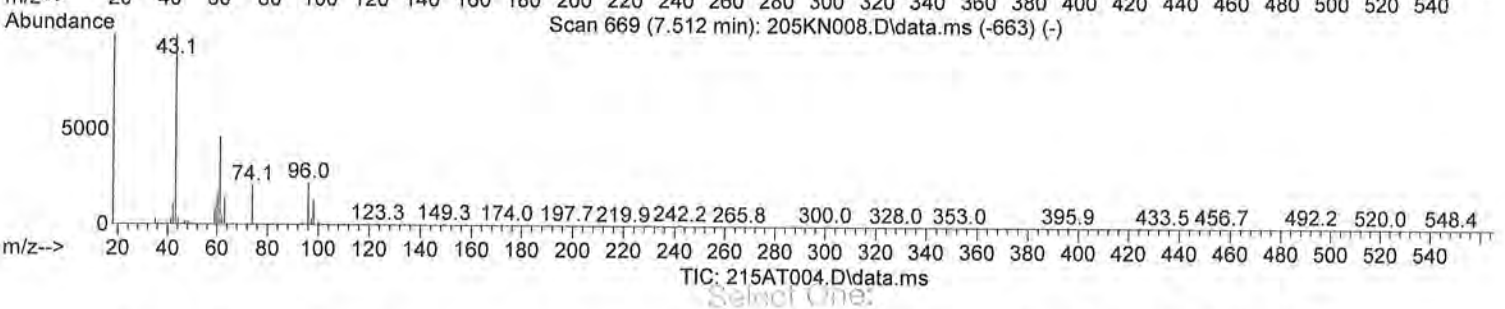
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT004.D
Acq On : 25 Jan 2021 9:20 am
Operator : KKW
Sample : BS1
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 25 09:49:13 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration







TIC: 215AT004.D\data.ms

(17) Methyl Acetate

7.530min (+ 0.004) 11.75 ug/L

response 137995

Ion	Exp%	Act%
43.10	100.00	100.00
74.10	22.30	31.15#
59.10	18.50	22.60#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Valley integration

[ ] Baseline drop for split peaks

[ ] RT reintegration

[ ] Other:

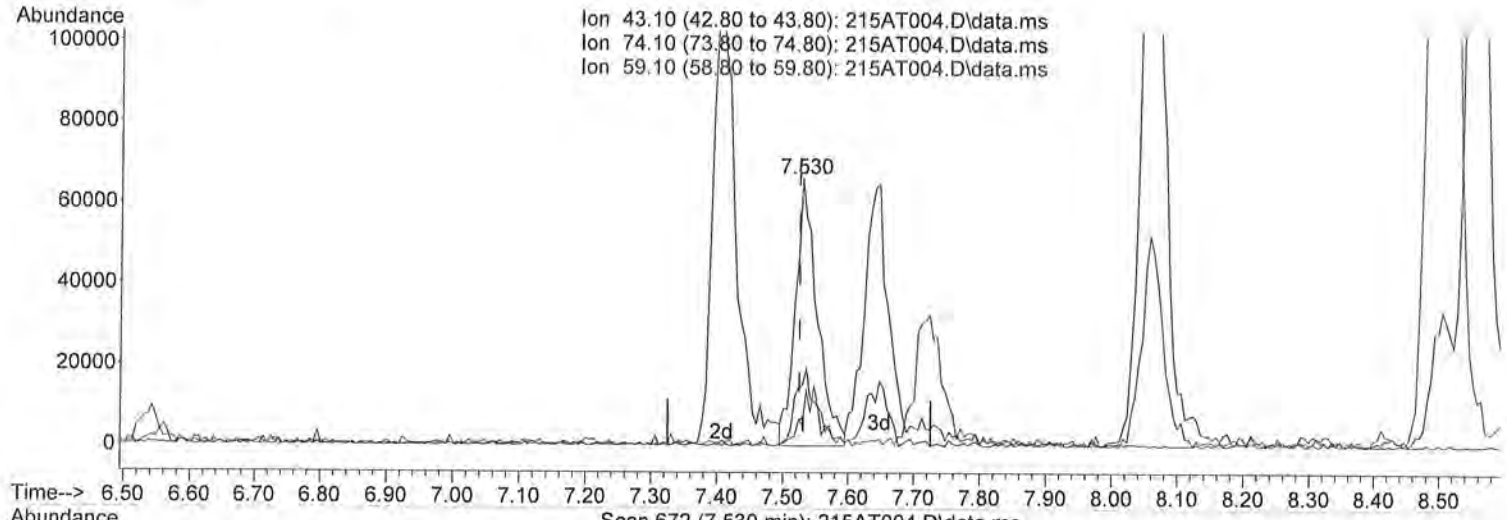
Review by/Date: Wojcicki

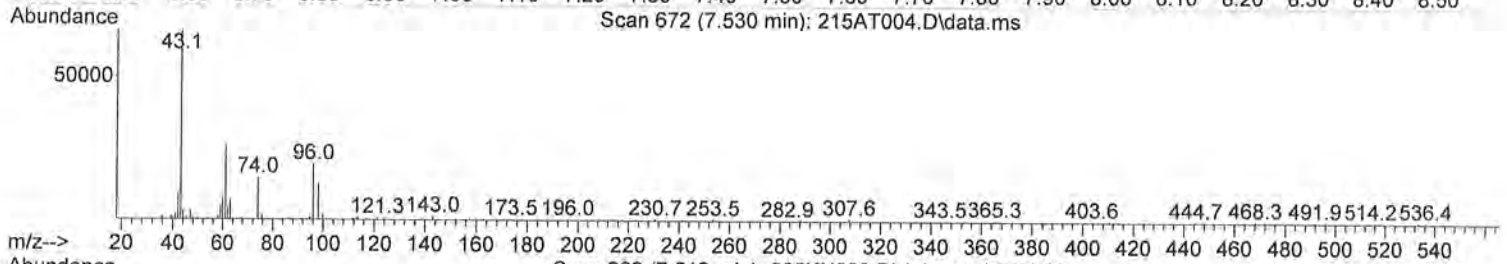
Reviewed by/Date:

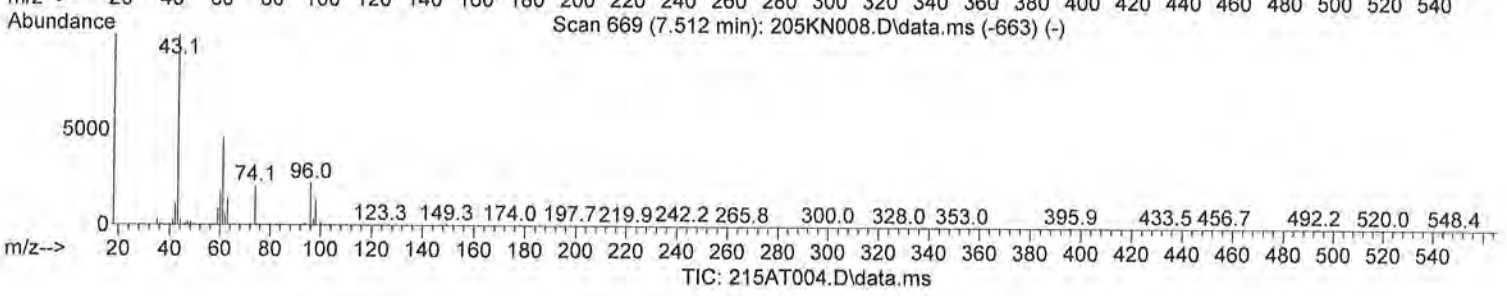
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT004.D
Acq On : 25 Jan 2021 9:20 am
Operator : KKW
Sample : BS1
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 25 09:49:13 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration







TIC: 215AT004.D\data.ms

(17) Methyl Acetate

7.530min (+ 0.004) 13.05 ug/L m

response 153220

Ion	Exp%	Act%
43.10	100.00	100.00
74.10	22.30	28.05#
59.10	18.50	20.35
0.00	0.00	0.00

Select One:
[ ] Original Integration [X] Manual Integration
Select reason for manual integration:
[X] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date KW 01/26/21
Review by/Date:

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT003.D
Acq On : 25 Jan 2021 8:47 am
Operator : KKW
Sample : CCV1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jan 25 14:39:42 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.862	168	1707380	50.00	ug/L	#	0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.456	114	3441893	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	2103106	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.497	152	1782629	50.00	ug/L	#	0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.439	113	946313	53.74	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 107.48%				
52) D8-Toluene	11.790	98	4192403	49.31	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 98.62%				
73) Bromofluorobenzene	14.334	95	1925711	51.27	ug/L		-0.01
Spiked Amount 50.000	Range 75 - 120		Recovery = 102.54%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.987	85	414244	18.79	ug/L		99
3) Chloromethane	4.410	50	303207	11.95	ug/L		96
4) Vinyl Chloride	4.592	62	391993	19.03	ug/L		90
5) Bromomethane	5.238	94	102311	18.55	ug/L		98
6) Chloroethane	5.438	64	185801	20.50	ug/L		98
7) Trichlorofluoromethane	5.697	101	515442	20.11	ug/L		98
8) Diethyl ether	6.190	59	550823	38.65	ug/L		90
9) 1,1-Dichloroethene	6.543	96	727130	49.33	ug/L	#	80
10) Trichlorotrifluoroethane	6.560	151	489789	49.61	ug/L		96
11) Acrolein	7.024	56	1190747	401.65	ug/L		95
12) Iodomethane	6.784	142	2858639	180.82	ug/L	#	87
13) Carbon Disulfide	6.631	76	7451652	154.33	ug/L	#	96
14) 3-chloropropene	7.207	41	882707	30.30	ug/L	#	84
15) Acetone	7.401	43	712871	177.71	ug/L		97
16) Methylene Chloride	7.348	84	802789	44.91	ug/L	#	76
17) Methyl Acetate	7.530	43	390571m	31.16	ug/L		
18) t-1,2-Dichloroethene	7.553	96	835754	49.00	ug/L		83
19) Methyl tert-butyl ether	7.641	73	1961816	45.45	ug/L	#	87
20) Acetonitrile	8.029	41	1007800	309.91	ug/L		98
21) Isopropyl ether	8.059	45	2050058	35.78	ug/L	#	87
22) Chloroprene	8.288	88	744216	45.56	ug/L		83
23) 1,1-Dichloroethane	8.323	63	1446741	41.24	ug/L	#	99
24) Acrylonitrile	8.393	53	2074669	391.60	ug/L		98
25) Vinyl Acetate	8.546	43	6984281	194.30	ug/L	#	92
26) c-1,2-Dichloroethene	8.958	96	900128	49.82	ug/L		84
27) 2,2-Dichloropropane	9.081	77	1268733	42.43	ug/L		96
28) Bromochloromethane	9.193	128	363164	56.91	ug/L		94
29) Cyclohexane	9.198	56	1377156	36.08	ug/L	#	84
30) Chloroform	9.228	83	1505666	44.94	ug/L		98
32) Dibromofluoromethane	9.439	113	946313	53.74	ug/L	#	91
33) 2-Butanone	9.551	72	439048	225.00	ug/L	#	60
34) 1,1,1-Trichloroethane	9.498	97	1267863	45.84	ug/L		96
35) 1,1-Dichloropropene	9.616	75	1184356	42.09	ug/L		91
36) Propionitrile	9.904	54	905284	376.94	ug/L		93
37) Methacrylonitrile	9.921	41	4280105	360.96	ug/L		85
38) Isobutyl Alcohol	9.909	43	1031378	719.18	ug/L	#	91
40) Carbon Tetrachloride	9.422	117	1000847	38.81	ug/L		99
41) Benzene	9.886	78	3474927	44.16	ug/L		94
42) 1,2-Dichloroethane	10.097	62	1028081	35.82	ug/L	#	95
43) Trichloroethene	10.462	130	789862	49.70	ug/L	#	86
44) Methyl cyclohexane	10.462	83	1612864	40.85	ug/L		88
45) Dibromomethane	10.914	93	473684	42.37	ug/L		98
46) 1,2-Dichloropropane	10.996	63	795761	34.80	ug/L		92
47) Bromodichloromethane	11.026	83	1047635	41.32	ug/L		93
48) Methyl Methacrylate	11.085	69	502239	34.37	ug/L	#	89
49) 1,4-Dioxane	11.202	88	164569	824.79	ug/L		86
50) 2-Chloroethyl vinyl ether	11.496	63	2531834	228.33	ug/L	#	86
51) C-1,3-Dichloropropene	11.613	75	1412023	41.11	ug/L		89

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT003.D
Acq On : 25 Jan 2021 8:47 am
Operator : KKW
Sample : CCV1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jan 25 14:39:42 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

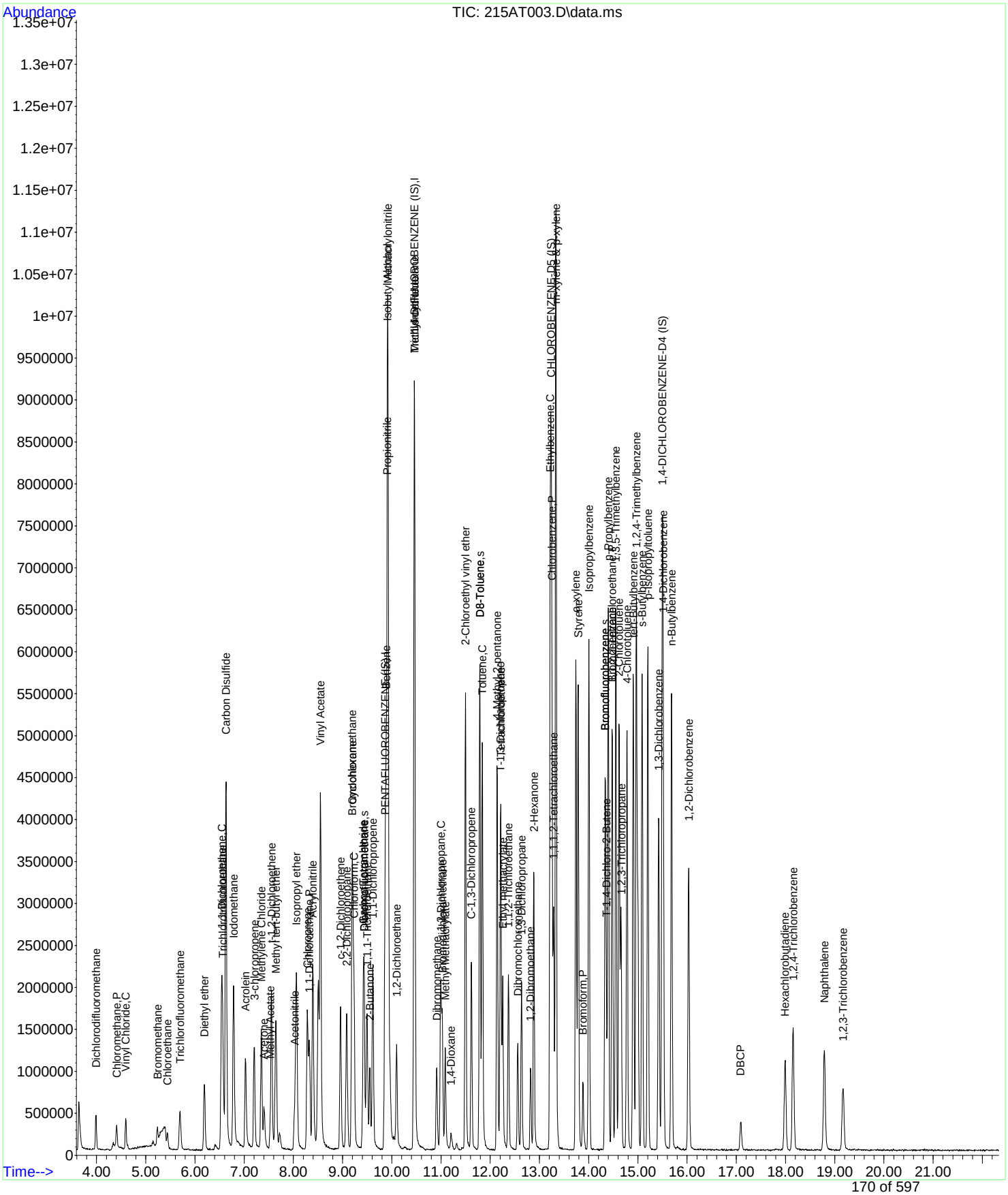
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.790	98	4192403	49.31	ug/L		95
54) 4-Methyl-2-pentanone	12.136	100	616654	264.07	ug/L	#	67
56) Toluene	11.837	92	2302492	51.31	ug/L		95
57) T-1,3-Dichloropropene	12.207	75	1215025	45.50	ug/L		92
58) Tetrachloroethene	12.213	164	575740	46.64	ug/L		97
59) Ethyl methacrylate	12.254	69	1061974	44.46	ug/L		94
60) 1,1,2-Trichloroethane	12.371	97	724681	47.79	ug/L		94
61) Dibromochloromethane	12.559	129	722815	51.74	ug/L		96
62) 1,3-Dichloropropane	12.636	76	1300515	46.33	ug/L	#	83
63) 1,2-Dibromoethane	12.818	107	732613	51.91	ug/L		96
64) 2-Hexanone	12.888	43	2002184	193.74	ug/L	#	91
65) Ethylbenzene	13.217	106	1416560	51.94	ug/L	#	86
66) Chlorobenzene	13.253	112	2420701	53.54	ug/L		99
67) 1,1,1,2-Tetrachloroethane	13.288	131	750349	55.47	ug/L		98
68) m-xylene & p-xylene	13.335	106	3500119	110.57	ug/L		86
69) o-xylene	13.740	106	1757865	54.15	ug/L		91
70) Styrene	13.787	104	3044656	57.44	ug/L	#	86
71) Bromoform	13.881	173	375581	46.88	ug/L		100
72) Isopropylbenzene	14.005	105	4583362	53.64	ug/L		95
74) Bromofluorobenzene	14.334	95	1925711	51.27	ug/L	#	81
75) n-Propylbenzene	14.398	91	5764799	50.47	ug/L		95
76) 1,1,2,2-Tetrachloroethane	14.475	83	1035745	48.88	ug/L		99
77) 1,2,3-Trichloropropane	14.663	61	295490m	38.14	ug/L		
78) T-1,4-Dichloro-2-Butene	14.357	53	334878	40.04	ug/L		96
80) Bromobenzene	14.475	156	955643	53.24	ug/L		84
81) 1,2,4-Trimethylbenzene	14.968	105	4228436	50.67	ug/L		96
82) 2-Chlorotoluene	14.616	91	3467016	49.42	ug/L		93
83) 4-Chlorotoluene	14.780	91	3606274	49.23	ug/L		93
84) tert-Butylbenzene	14.910	119	3296690	52.00	ug/L		92
85) 1,3,5-Trimethylbenzene	14.551	105	4116826	50.92	ug/L		94
86) p-Isopropyltoluene	15.203	119	4138457	52.55	ug/L		94
87) s-Butylbenzene	15.086	105	4923355	51.90	ug/L		98
88) 1,3-Dichlorobenzene	15.421	146	1911043	53.15	ug/L		94
89) 1,4-Dichlorobenzene	15.515	146	1955081	50.72	ug/L	#	90
90) n-Butylbenzene	15.685	91	3893923	47.55	ug/L		96
91) 1,2-Dichlorobenzene	16.032	146	1720840	50.70	ug/L		95
92) DBCP	17.083	157	124238	44.72	ug/L		98
93) Hexachlorobutadiene	17.988	225	245398	30.88	ug/L	#	86
94) 1,2,4-Trichlorobenzene	18.153	180	645101	37.85	ug/L		96
95) Naphthalene	18.787	128	1664097	46.02	ug/L	#	91
96) 1,2,3-Trichlorobenzene	19.169	180	368024	36.69	ug/L		93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT003.D
Acq On : 25 Jan 2021 8:47 am
Operator : KKW
Sample : CCV1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jan 25 14:39:42 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT004.D
Acq On : 25 Jan 2021 9:20 am
Operator : KKW
Sample : BS1
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 25 09:49:13 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.862	168	1599715	50.00	ug/L	#	0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.456	114	3376621	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	1975824	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.497	152	1733612	50.00	ug/L	#	0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.434	113	913225	55.35	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 110.70%				
52) D8-Toluene	11.790	98	4070469	48.80	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 97.60%				
73) Bromofluorobenzene	14.334	95	1849539	52.42	ug/L		-0.01
Spiked Amount 50.000	Range 75 - 120		Recovery = 104.84%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.987	85	250008	12.11	ug/L		97
3) Chloromethane	4.410	50	220160	9.26	ug/L		97
4) Vinyl Chloride	4.592	62	326668	16.92	ug/L		92
5) Bromomethane	5.238	94	43051	8.70	ug/L	#	93
6) Chloroethane	5.444	64	185537	21.85	ug/L		97
7) Trichlorofluoromethane	5.703	101	478942	19.94	ug/L		97
8) Diethyl ether	6.190	59	225527	16.89	ug/L		93
9) 1,1-Dichloroethene	6.537	96	282163	20.43	ug/L		81
10) Trichlorotrifluoroethane	6.560	151	193160	20.88	ug/L		99
11) Acrolein	7.030	56	221325	79.68	ug/L		92
12) Iodomethane	6.790	142	276449	18.66	ug/L	#	85
13) Carbon Disulfide	6.631	76	919349	20.32	ug/L		96
14) 3-chloropropene	7.201	41	408624	14.97	ug/L	#	85
15) Acetone	7.406	43	268584	71.46	ug/L		96
16) Methylene Chloride	7.348	84	333504	19.91	ug/L		78
17) Methyl Acetate	7.530	43	153220m	13.05	ug/L		
18) t-1,2-Dichloroethene	7.559	96	344456	21.55	ug/L	#	81
19) Methyl tert-butyl ether	7.641	73	800570	19.79	ug/L	#	89
20) Acetonitrile	8.053	41	277610	91.11	ug/L	#	89
21) Isopropyl ether	8.059	45	859556	16.01	ug/L	#	88
22) Chloroprene	8.276	88	316685	20.69	ug/L		84
23) 1,1-Dichloroethane	8.323	63	610601	18.58	ug/L		99
24) Acrylonitrile	8.399	53	107069	21.57	ug/L		93
25) Vinyl Acetate	8.552	43	475146	14.11	ug/L		96
26) c-1,2-Dichloroethene	8.958	96	369345	21.82	ug/L		86
27) 2,2-Dichloropropane	9.075	77	487162	17.55	ug/L		96
28) Bromochloromethane	9.193	128	149116	24.94	ug/L		95
29) Cyclohexane	9.199	56	583308	16.31	ug/L		87
30) Chloroform	9.228	83	618576	19.71	ug/L		97
32) Dibromofluoromethane	9.434	113	913225	55.35	ug/L	#	89
33) 2-Butanone	9.557	72	161180	89.62	ug/L	#	60
34) 1,1,1-Trichloroethane	9.492	97	504957	19.49	ug/L		98
35) 1,1-Dichloropropene	9.616	75	483559	18.34	ug/L		90
36) Propionitrile	9.909	54	40427	17.97	ug/L	#	1
37) Methacrylonitrile	9.915	41	259036	23.32	ug/L		86
38) Isobutyl Alcohol	9.915	43	242905	180.78	ug/L	#	39
40) Carbon Tetrachloride	9.416	117	404074	15.97	ug/L		87
41) Benzene	9.886	78	1458868	18.90	ug/L		94
42) 1,2-Dichloroethane	10.097	62	424178	15.06	ug/L	#	98
43) Trichloroethene	10.462	130	322095	20.66	ug/L		89
44) Methyl cyclohexane	10.462	83	686250	17.72	ug/L		89
45) Dibromomethane	10.914	93	198074	18.06	ug/L		97
46) 1,2-Dichloropropane	10.996	63	346732	16.00	ug/L	#	96
47) Bromodichloromethane	11.026	83	418243	17.71	ug/L		94
48) Methyl Methacrylate	11.085	69	194107	13.54	ug/L	#	81
49) 1,4-Dioxane	11.208	88	70343	359.36	ug/L	#	76
50) 2-Chloroethyl vinyl ether	11.496	63	885646	81.41	ug/L	#	85
51) C-1,3-Dichloropropene	11.619	75	553642	17.32	ug/L		89

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT004.D
Acq On : 25 Jan 2021 9:20 am
Operator : KKW
Sample : BS1
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 25 09:49:13 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

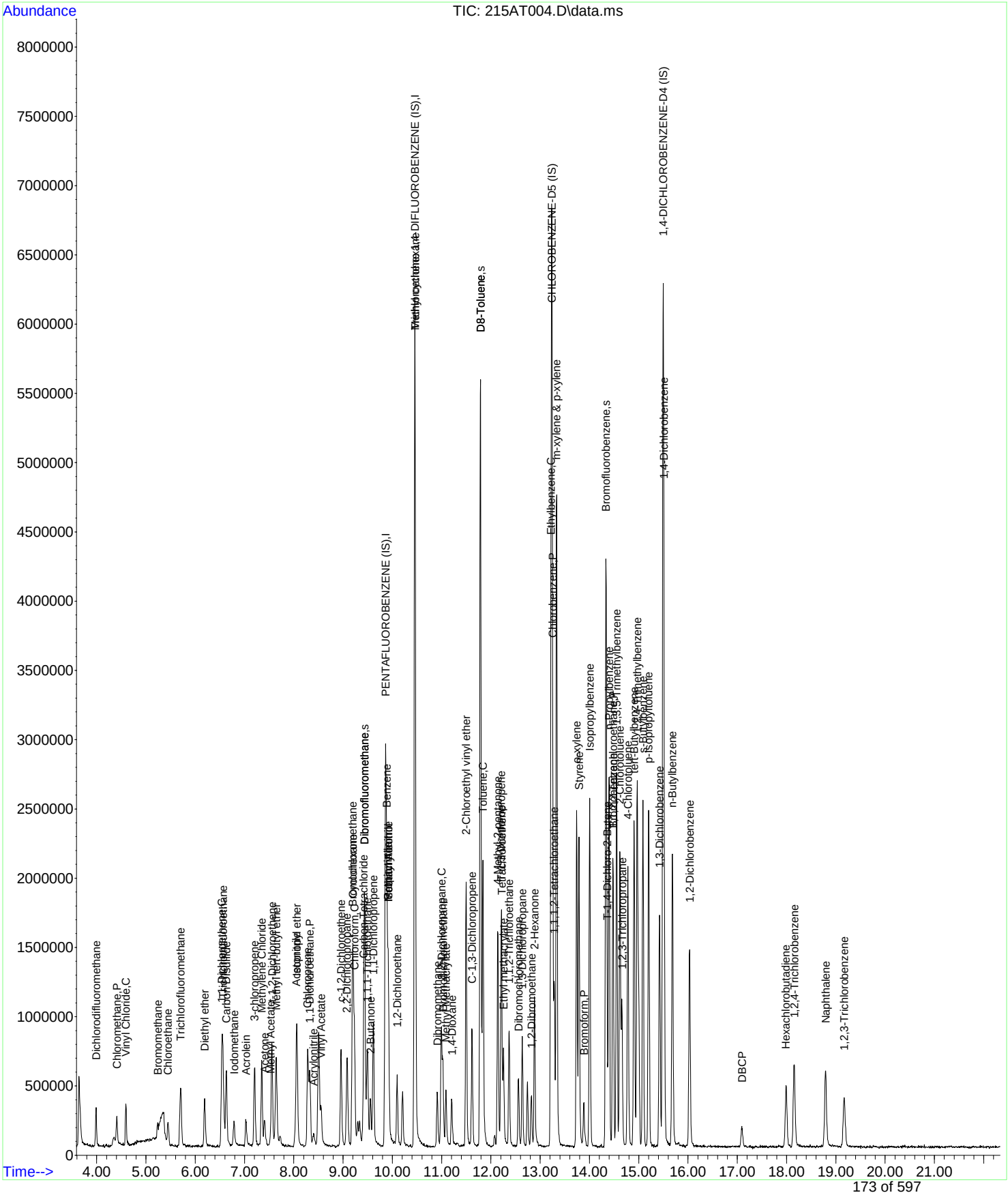
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.790	98	4070469	48.80	ug/L		96
54) 4-Methyl-2-pentanone	12.136	100	207312	90.49	ug/L	#	68
56) Toluene	11.837	92	957739	22.72	ug/L		96
57) T-1,3-Dichloropropene	12.207	75	515288	20.54	ug/L	#	92
58) Tetrachloroethene	12.219	164	241822	20.85	ug/L		97
59) Ethyl methacrylate	12.260	69	388869	17.33	ug/L		97
60) 1,1,2-Trichloroethane	12.371	97	304984	21.41	ug/L	#	91
61) Dibromochloromethane	12.559	129	288792	23.69	ug/L	#	97
62) 1,3-Dichloropropane	12.636	76	522310	19.80	ug/L	#	83
63) 1,2-Dibromoethane	12.824	107	291727	22.00	ug/L		91
64) 2-Hexanone	12.883	43	660038	67.98	ug/L	#	90
65) Ethylbenzene	13.217	106	554484	21.64	ug/L		94
66) Chlorobenzene	13.253	112	1023082	24.09	ug/L		100
67) 1,1,1,2-Tetrachloroethane	13.282	131	298525	23.49	ug/L		93
68) m-xylene & p-xylene	13.329	106	1483783	49.89	ug/L		86
69) o-xylene	13.740	106	715610	23.46	ug/L		92
70) Styrene	13.787	104	1250837	25.12	ug/L	#	84
71) Bromoform	13.887	173	146327	21.42	ug/L		96
72) Isopropylbenzene	14.005	105	1893484	23.59	ug/L		95
74) Bromofluorobenzene	14.440	95	3161	N.D.			
75) n-Propylbenzene	14.398	91	2354245	21.94	ug/L		94
76) 1,1,2,2-Tetrachloroethane	14.481	83	418500	21.02	ug/L		93
77) 1,2,3-Trichloropropane	14.663	61	114066m	15.67	ug/L		
78) T-1,4-Dichloro-2-Butene	14.357	53	116087	14.77	ug/L	#	62
80) Bromobenzene	14.481	156	396580	22.72	ug/L	#	81
81) 1,2,4-Trimethylbenzene	14.968	105	1738445	21.42	ug/L		95
82) 2-Chlorotoluene	14.616	91	1433409	21.01	ug/L		94
83) 4-Chlorotoluene	14.780	91	1495047	20.99	ug/L		96
84) tert-Butylbenzene	14.904	119	1364202	22.13	ug/L		91
85) 1,3,5-Trimethylbenzene	14.551	105	1702022	21.65	ug/L		95
86) p-Isopropyltoluene	15.197	119	1742068	22.75	ug/L		94
87) s-Butylbenzene	15.086	105	2060254	22.33	ug/L		97
88) 1,3-Dichlorobenzene	15.421	146	824531	23.58	ug/L		93
89) 1,4-Dichlorobenzene	15.509	146	796267	21.24	ug/L		96
90) n-Butylbenzene	15.679	91	1589616	19.96	ug/L		96
91) 1,2-Dichlorobenzene	16.032	146	744442	22.55	ug/L		93
92) DBCP	17.095	157	52997	20.34	ug/L		95
93) Hexachlorobutadiene	17.983	225	89905	12.12	ug/L	#	85
94) 1,2,4-Trichlorobenzene	18.159	180	283146	17.35	ug/L		98
95) Naphthalene	18.793	128	766547	22.30	ug/L	#	91
96) 1,2,3-Trichlorobenzene	19.169	180	169302	17.97	ug/L		93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT004.D
Acq On : 25 Jan 2021 9:20 am
Operator : KKW
Sample : BS1
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 25 09:49:13 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT006.D
Acq On : 25 Jan 2021 10:19 am
Operator : KKW
Sample : BLK1
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jan 25 14:40:31 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) PENTAFLUOROBENZENE (IS)	9.857	168	1492905	50.00 ug/L	# 0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.456	114	3146822	50.00 ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	1772986	50.00 ug/L	# 0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1644956	50.00 ug/L	# 0.00
System Monitoring Compounds					
31) Dibromofluoromethane	9.439	113	853751	55.45 ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 110.90%		
52) D8-Toluene	11.790	98	3741534	48.14 ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 96.28%		
73) Bromofluorobenzene	14.340	95	1723396	54.43 ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 108.86%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.	
3) Chloromethane	4.398	50	3161	N.D.	
4) Vinyl Chloride	4.404	62	1200	N.D.	
5) Bromomethane	5.256	94	3501	0.79 ug/L #	45
6) Chloroethane	0.000		0	N.D. d	
7) Trichlorofluoromethane	0.000		0	N.D.	
8) Diethyl ether	0.000		0	N.D. d	
9) 1,1-Dichloroethene	0.000		0	N.D. d	
10) Trichlorotrifluoroethane	0.000		0	N.D.	
11) Acrolein	0.000		0	N.D. d	
12) Iodomethane	0.000		0	N.D. d	
13) Carbon Disulfide	0.000		0	N.D. d	
14) 3-chloropropene	0.000		0	N.D. d	
15) Acetone	0.000		0	N.D. d	
16) Methylene Chloride	0.000		0	N.D. d	
17) Methyl Acetate	0.000		0	N.D. d	
18) t-1,2-Dichloroethene	0.000		0	N.D.	
19) Methyl tert-butyl ether	0.000		0	N.D. d	
20) Acetonitrile	0.000		0	N.D. d	
21) Isopropyl ether	0.000		0	N.D. d	
22) Chloroprene	0.000		0	N.D. d	
23) 1,1-Dichloroethane	0.000		0	N.D.	
24) Acrylonitrile	0.000		0	N.D. d	
25) Vinyl Acetate	0.000		0	N.D. d	
26) c-1,2-Dichloroethene	0.000		0	N.D. d	
27) 2,2-Dichloropropane	0.000		0	N.D. d	
28) Bromochloromethane	0.000		0	N.D. d	
29) Cyclohexane	0.000		0	N.D.	
30) Chloroform	9.240	83	1706	N.D.	
32) Dibromofluoromethane	9.439	113	853751	55.45 ug/L #	87
33) 2-Butanone	0.000		0	N.D. d	
34) 1,1,1-Trichloroethane	0.000		0	N.D. d	
35) 1,1-Dichloropropene	0.000		0	N.D. d	
36) Propionitrile	0.000		0	N.D.	
37) Methacrylonitrile	0.000		0	N.D. d	
38) Isobutyl Alcohol	0.000		0	N.D. d	
40) Carbon Tetrachloride	0.000		0	N.D. d	
41) Benzene	0.000		0	N.D. d	
42) 1,2-Dichloroethane	0.000		0	N.D. d	
43) Trichloroethene	0.000		0	N.D.	
44) Methyl cyclohexane	0.000		0	N.D. d	
45) Dibromomethane	0.000		0	N.D. d	
46) 1,2-Dichloropropane	0.000		0	N.D. d	
47) Bromodichloromethane	0.000		0	N.D. d	
48) Methyl Methacrylate	0.000		0	N.D. d	
49) 1,4-Dioxane	0.000		0	N.D. d	
50) 2-Chloroethyl vinyl ether	11.531	63	1103	N.D.	
51) C-1,3-Dichloropropene	11.772	75	1945	N.D.	

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT006.D
Acq On : 25 Jan 2021 10:19 am
Operator : KKW
Sample : BLK1
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jan 25 14:40:31 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

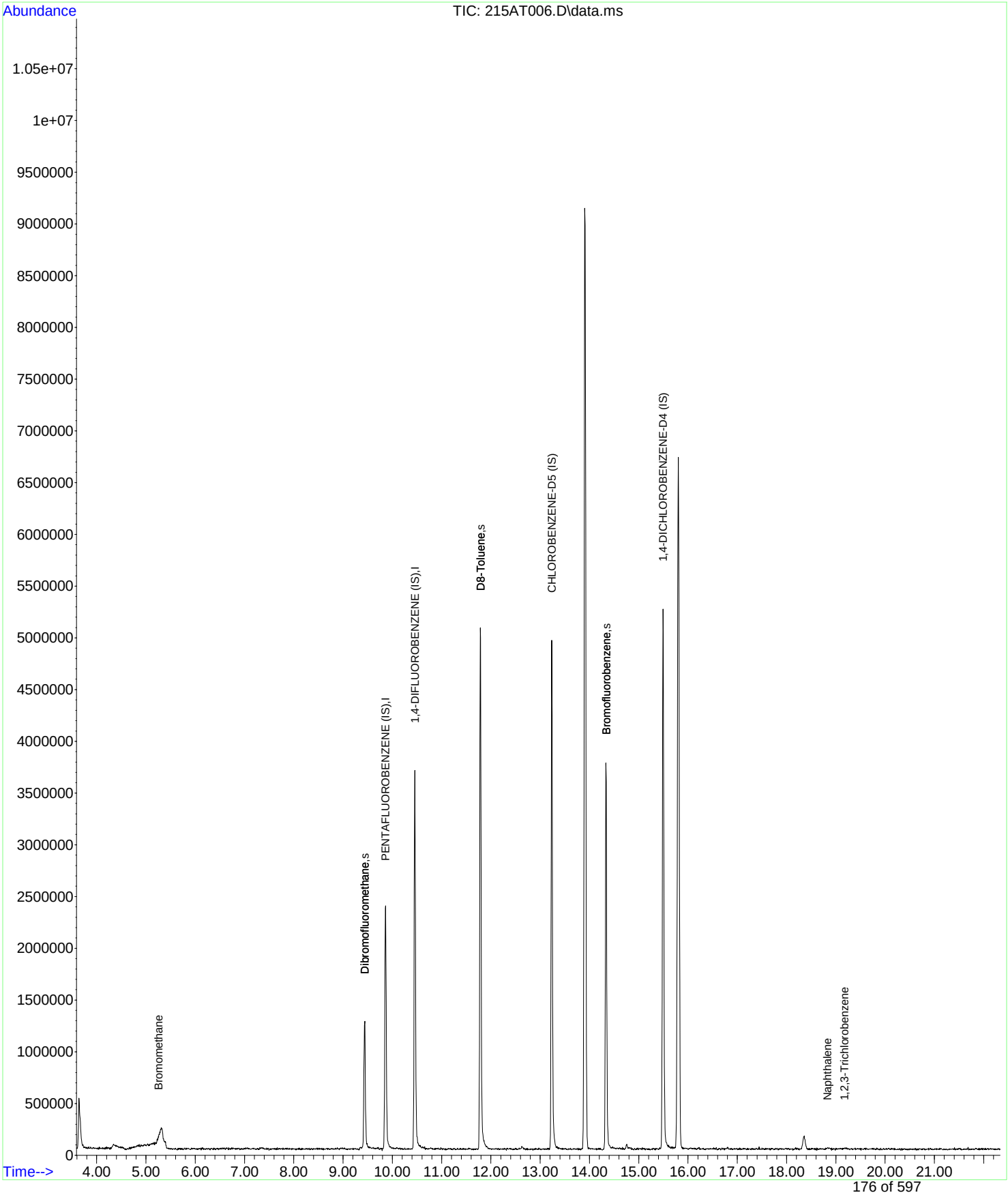
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.790	98	3741534	48.14 ug/L	95
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	11.843	92	1134	N.D.	
57) T-1,3-Dichloropropene	12.219	75	1015	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	0.000		0	N.D.	
60) 1,1,2-Trichloroethane	12.336	97	1829	N.D.	
61) Dibromochloromethane	12.606	129	1551	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	12.853	107	1145	N.D.	
64) 2-Hexanone	12.918	43	1623	N.D.	
65) Ethylbenzene	13.341	106	1141	N.D.	
66) Chlorobenzene	13.241	112	1398	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	13.341	106	1141	N.D.	
69) o-xylene	13.905	106	3943	N.D.	
70) Styrene	13.840	104	2013	N.D.	
71) Bromoform	0.000		0	N.D. d	
72) Isopropylbenzene	13.999	105	1144	N.D.	
74) Bromofluorobenzene	14.340	95	1723396	54.43 ug/L #	81
75) n-Propylbenzene	14.398	91	3621	N.D.	
76) 1,1,2,2-Tetrachloroethane	14.492	83	1031	N.D.	
77) 1,2,3-Trichloropropane	14.616	61	1292	N.D.	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D. d	
80) Bromobenzene	14.475	156	1124	N.D.	
81) 1,2,4-Trimethylbenzene	14.980	105	2934	N.D.	
82) 2-Chlorotoluene	14.628	91	1366	N.D.	
83) 4-Chlorotoluene	14.798	91	2334	N.D.	
84) tert-Butylbenzene	14.892	119	1726	N.D.	
85) 1,3,5-Trimethylbenzene	14.557	105	2326	N.D.	
86) p-Isopropyltoluene	15.198	119	5045	N.D.	
87) s-Butylbenzene	15.109	105	2907	N.D.	
88) 1,3-Dichlorobenzene	15.438	146	2920	N.D.	
89) 1,4-Dichlorobenzene	15.521	146	6621	N.D.	
90) n-Butylbenzene	15.726	91	3779	N.D.	
91) 1,2-Dichlorobenzene	16.049	146	2426	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	18.182	180	1816	N.D.	
95) Naphthalene	18.829	128	21738	0.68 ug/L #	80
96) 1,2,3-Trichlorobenzene	19.175	180	2376	0.28 ug/L #	59

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT006.D
Acq On : 25 Jan 2021 10:19 am
Operator : KKW
Sample : BLK1
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jan 25 14:40:31 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT007.D
Acq On : 25 Jan 2021 10:48 am
Operator : KKW
Sample : AA64632-CRL1
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 25 11:18:42 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) PENTAFLUOROBENZENE (IS)	9.863	168	1450199	50.00	ug/L	# 0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.456	114	3054870	50.00	ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	1722975	50.00	ug/L	# 0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1562753	50.00	ug/L	# 0.00
System Monitoring Compounds						
31) Dibromofluoromethane	9.434	113	811223	54.24	ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 108.48%			
52) D8-Toluene	11.784	98	3584887	47.51	ug/L	-0.01
Spiked Amount 50.000	Range 85 - 120		Recovery = 95.02%			
73) Bromofluorobenzene	14.334	95	1623753	52.77	ug/L	-0.01
Spiked Amount 50.000	Range 75 - 120		Recovery = 105.54%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.987	85	11751	0.63	ug/L	# 90
3) Chloromethane	4.410	50	14843	0.69	ug/L	# 56
4) Vinyl Chloride	4.592	62	12380	0.71	ug/L	# 1
5) Bromomethane	5.239	94	9731	2.24	ug/L	# 90
6) Chloroethane	5.462	64	10161m	1.32	ug/L	
7) Trichlorofluoromethane	5.720	101	15552	0.71	ug/L	# 93
8) Diethyl ether	6.214	59	8400m	0.69	ug/L	
9) 1,1-Dichloroethene	6.531	96	8104	0.65	ug/L	# 88
10) Trichlorotrifluoroethane	6.566	151	6423	0.77	ug/L	85
11) Acrolein	7.042	56	20426	8.11	ug/L	90
12) Iodomethane	6.796	142	13928	1.04	ug/L	# 90
13) Carbon Disulfide	6.631	76	102163	2.49	ug/L	# 94
14) 3-chloropropene	7.201	41	11729	0.47	ug/L	# 84
15) Acetone	7.407	43	10078	2.96	ug/L	# 74
16) Methylene Chloride	7.348	84	11780	0.78	ug/L	# 72
17) Methyl Acetate	7.653	43	5180	0.49	ug/L	92
18) t-1,2-Dichloroethene	7.554	96	10376	0.72	ug/L	83
19) Methyl tert-butyl ether	7.630	73	24665	0.67	ug/L	# 91
20) Acetonitrile	8.041	41	12425	4.50	ug/L	# 56
21) Isopropyl ether	8.065	45	29763	0.61	ug/L	# 89
22) Chloroprene	8.294	88	8625	0.62	ug/L	97
23) 1,1-Dichloroethane	8.323	63	19059	0.64	ug/L	# 87
24) Acrylonitrile	8.405	53	20945	4.65	ug/L	93
25) Vinyl Acetate	8.564	43	79627	2.61	ug/L	97
26) c-1,2-Dichloroethene	8.964	96	13688	0.89	ug/L	# 71
27) 2,2-Dichloropropane	9.093	77	15069	0.60	ug/L	# 82
28) Bromochloromethane	9.193	128	4949	0.91	ug/L	# 66
29) Cyclohexane	9.205	56	15602	0.48	ug/L	# 73
30) Chloroform	9.234	83	20547	0.72	ug/L	97
32) Dibromofluoromethane	9.434	113	811223	54.24	ug/L	# 89
33) 2-Butanone	9.563	72	4178	2.59	ug/L	86
34) 1,1,1-Trichloroethane	9.492	97	17804	0.76	ug/L	# 92
35) 1,1-Dichloropropene	9.610	75	14484	0.61	ug/L	# 70
36) Propionitrile	9.927	54	8687	4.26	ug/L	# 30
37) Methacrylonitrile	9.927	41	49064	4.87	ug/L	# 79
38) Isobutyl Alcohol	9.904	43	10979	9.01	ug/L	# 50
40) Carbon Tetrachloride	9.422	117	14143	0.62	ug/L	# 57
41) Benzene	9.892	78	52557	0.75	ug/L	99
42) 1,2-Dichloroethane	10.092	62	16539	0.65	ug/L	# 90
43) Trichloroethene	10.468	130	10641	0.75	ug/L	# 1
44) Methyl cyclohexane	10.450	83	55677	1.59	ug/L	# 54
45) Dibromomethane	10.920	93	7514	0.76	ug/L	# 85
46) 1,2-Dichloropropane	11.002	63	11723	0.62	ug/L	# 78
47) Bromodichloromethane	11.032	83	11433	0.56	ug/L	# 92
48) Methyl Methacrylate	11.114	69	5717	0.44	ug/L	# 49
49) 1,4-Dioxane	11.208	88	1025	5.79	ug/L	# 67
50) 2-Chloroethyl vinyl ether	11.508	63	27779	2.82	ug/L	# 97
51) C-1,3-Dichloropropene	11.619	75	19507	0.70	ug/L	90

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT007.D
Acq On : 25 Jan 2021 10:48 am
Operator : KKW
Sample : AA64632-CRL1
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 25 11:18:42 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

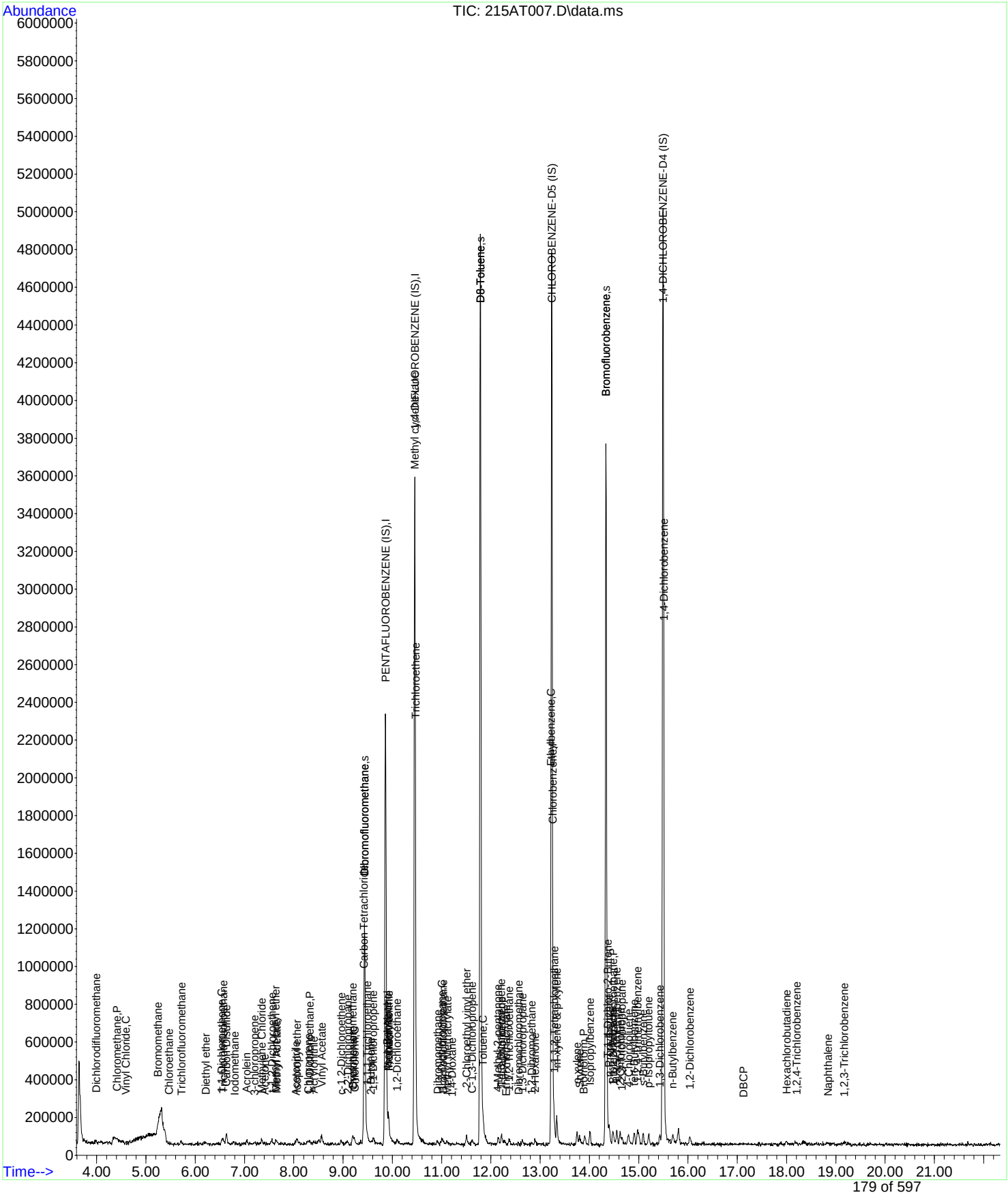
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.784	98	3584887	47.51	ug/L	#	95
54) 4-Methyl-2-pentanone	12.136	100	6032	2.91	ug/L	#	78
56) Toluene	11.837	92	33757	0.92	ug/L		80
57) T-1,3-Dichloropropene	12.207	75	15608	0.71	ug/L		98
58) Tetrachloroethene	12.219	164	8021	0.79	ug/L	#	73
59) Ethyl methacrylate	12.307	69	8824	0.45	ug/L	#	10
60) 1,1,2-Trichloroethane	12.366	97	10430	0.84	ug/L		92
61) Dibromochloromethane	12.560	129	6116	0.61	ug/L	#	74
62) 1,3-Dichloropropane	12.642	76	16977	0.74	ug/L	#	82
63) 1,2-Dibromoethane	12.824	107	9717	0.84	ug/L	#	78
64) 2-Hexanone	12.894	43	18526	2.19	ug/L	#	87
65) Ethylbenzene	13.218	106	16741	0.75	ug/L	#	87
66) Chlorobenzene	13.253	112	38842	1.05	ug/L	#	85
67) 1,1,1,2-Tetrachloroethane	13.288	131	10005	0.90	ug/L		88
68) m-xylene & p-xylene	13.335	106	41123	1.59	ug/L		91
69) o-xylene	13.746	106	21293	0.80	ug/L		99
70) Styrene	13.799	104	33034	0.76	ug/L	#	85
71) Bromoform	13.882	173	1706	0.31	ug/L	#	45
72) Isopropylbenzene	14.011	105	50893	0.73	ug/L		95
74) Bromofluorobenzene	14.334	95	1623753	52.77	ug/L		85
75) n-Propylbenzene	14.399	91	71766	0.77	ug/L		98
76) 1,1,2,2-Tetrachloroethane	14.481	83	15463	0.89	ug/L	#	92
77) 1,2,3-Trichloropropane	14.657	61	3957	0.62	ug/L	#	58
78) T-1,4-Dichloro-2-Butene	14.369	53	5802	0.85	ug/L	#	1
80) Bromobenzene	14.475	156	14060	0.89	ug/L	#	72
81) 1,2,4-Trimethylbenzene	14.974	105	46360	0.63	ug/L	#	89
82) 2-Chlorotoluene	14.628	91	44453	0.72	ug/L		98
83) 4-Chlorotoluene	14.792	91	46151	0.72	ug/L		94
84) tert-Butylbenzene	14.904	119	31834	0.57	ug/L	#	89
85) 1,3,5-Trimethylbenzene	14.551	105	50076	0.71	ug/L		97
86) p-Isopropyltoluene	15.198	119	42222	0.61	ug/L	#	89
87) s-Butylbenzene	15.092	105	52804	0.63	ug/L	#	92
88) 1,3-Dichlorobenzene	15.427	146	25599	0.81	ug/L	#	87
89) 1,4-Dichlorobenzene	15.509	146	33578	0.99	ug/L	#	1
90) n-Butylbenzene	15.685	91	43256	0.60	ug/L	#	95
91) 1,2-Dichlorobenzene	16.032	146	23741	0.80	ug/L		97
92) DBCP	17.125	157	1612	0.71	ug/L		100
93) Hexachlorobutadiene	18.000	225	3143	0.48	ug/L	#	77
94) 1,2,4-Trichlorobenzene	18.206	180	9004	0.62	ug/L	#	66
95) Naphthalene	18.840	128	12224	0.40	ug/L	#	76
96) 1,2,3-Trichlorobenzene	19.170	180	3417	0.42	ug/L	#	39

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT007.D
Acq On : 25 Jan 2021 10:48 am
Operator : KKW
Sample : AA64632-CRL1
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 25 11:18:42 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT009.D
Acq On : 25 Jan 2021 11:47 am
Operator : KKW
Sample : AE00066-10
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jan 25 14:43:39 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) PENTAFLUOROBENZENE (IS)	9.863	168	1353992	50.00	ug/L	# 0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.456	114	2910142	50.00	ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	1676020	50.00	ug/L	# 0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1554117	50.00	ug/L	# 0.00
System Monitoring Compounds						
31) Dibromofluoromethane	9.434	113	795997	57.00	ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 114.00%			
52) D8-Toluene	11.784	98	3394727	47.23	ug/L	-0.01
Spiked Amount 50.000	Range 85 - 120		Recovery = 94.46%			
73) Bromofluorobenzene	14.334	95	1586337	53.00	ug/L	-0.01
Spiked Amount 50.000	Range 75 - 120		Recovery = 106.00%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.		
3) Chloromethane	0.000		0	N.D.	d	
4) Vinyl Chloride	4.428	62	1884	N.D.		
5) Bromomethane	0.000		0	N.D.	d	
6) Chloroethane	0.000		0	N.D.	d	
7) Trichlorofluoromethane	0.000		0	N.D.		
8) Diethyl ether	0.000		0	N.D.		
9) 1,1-Dichloroethene	0.000		0	N.D.		
10) Trichlorotrifluoroethane	0.000		0	N.D.		
11) Acrolein	0.000		0	N.D.	d	
12) Iodomethane	0.000		0	N.D.	d	
13) Carbon Disulfide	0.000		0	N.D.	d	
14) 3-chloropropene	0.000		0	N.D.	d	
15) Acetone	0.000		0	N.D.	d	
16) Methylene Chloride	0.000		0	N.D.	d	
17) Methyl Acetate	0.000		0	N.D.	d	
18) t-1,2-Dichloroethene	0.000		0	N.D.		
19) Methyl tert-butyl ether	0.000		0	N.D.		
20) Acetonitrile	0.000		0	N.D.	d	
21) Isopropyl ether	0.000		0	N.D.		
22) Chloroprene	0.000		0	N.D.		
23) 1,1-Dichloroethane	0.000		0	N.D.	d	
24) Acrylonitrile	0.000		0	N.D.	d	
25) Vinyl Acetate	8.541	43	1376	N.D.		
26) c-1,2-Dichloroethene	9.058	96	1574	N.D.		
27) 2,2-Dichloropropane	9.063	77	1229	N.D.		
28) Bromochloromethane	0.000		0	N.D.		
29) Cyclohexane	9.199	56	1194	N.D.		
30) Chloroform	0.000		0	N.D.		
32) Dibromofluoromethane	9.434	113	795997	57.00	ug/L #	91
33) 2-Butanone	0.000		0	N.D.	d	
34) 1,1,1-Trichloroethane	0.000		0	N.D.		
35) 1,1-Dichloropropene	0.000		0	N.D.	d	
36) Propionitrile	0.000		0	N.D.	d	
37) Methacrylonitrile	0.000		0	N.D.	d	
38) Isobutyl Alcohol	0.000		0	N.D.	d	
40) Carbon Tetrachloride	9.428	117	1731	N.D.		
41) Benzene	9.892	78	2666	N.D.		
42) 1,2-Dichloroethane	0.000		0	N.D.		
43) Trichloroethene	0.000		0	N.D.		
44) Methyl cyclohexane	0.000		0	N.D.	d	
45) Dibromomethane	0.000		0	N.D.		
46) 1,2-Dichloropropane	0.000		0	N.D.	d	
47) Bromodichloromethane	0.000		0	N.D.		
48) Methyl Methacrylate	0.000		0	N.D.		
49) 1,4-Dioxane	0.000		0	N.D.	d	
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.	d	
51) C-1,3-Dichloropropene	11.649	75	1313	N.D.		

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT009.D
Acq On : 25 Jan 2021 11:47 am
Operator : KKW
Sample : AE00066-10
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jan 25 14:43:39 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

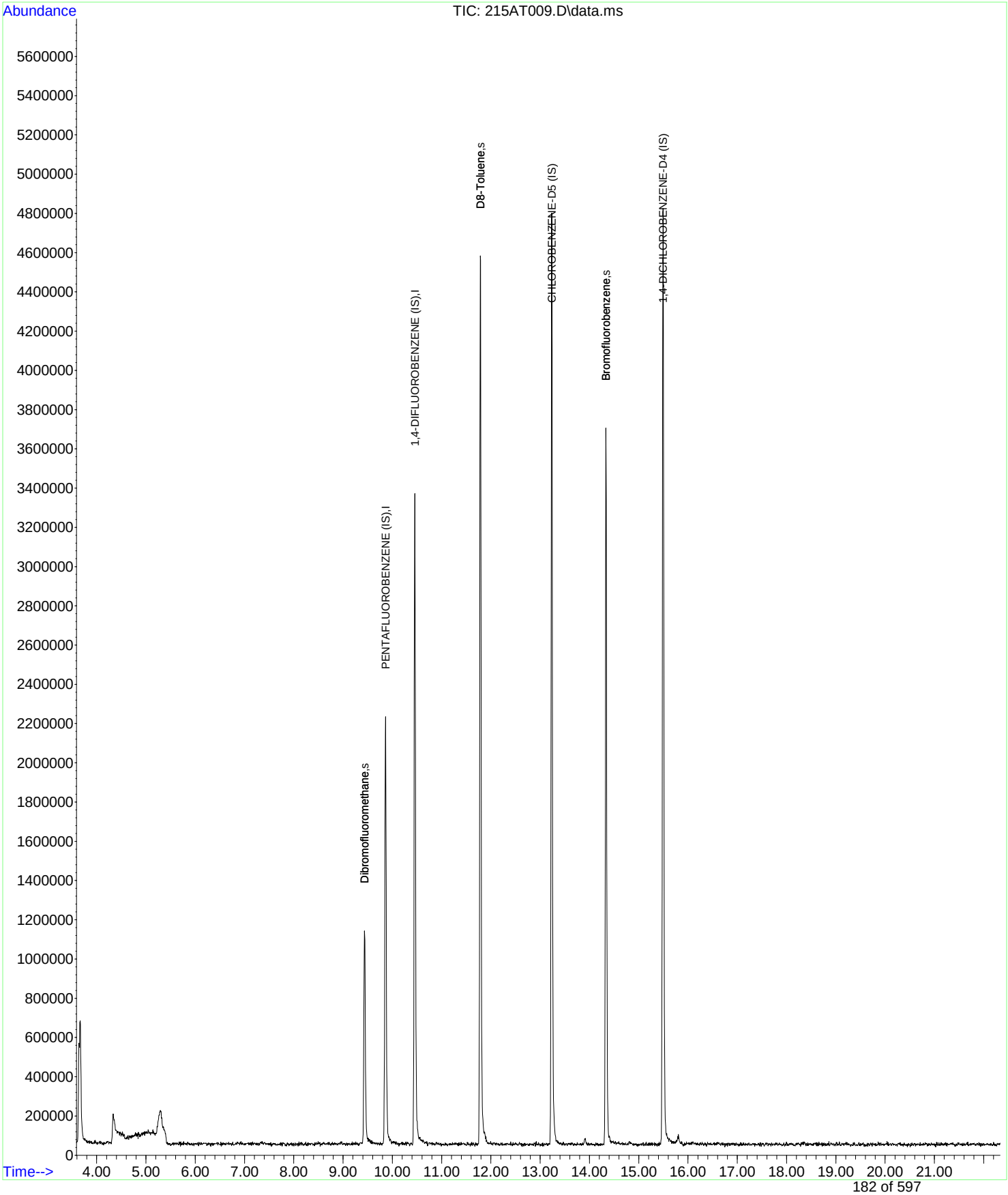
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.784	98	3394727	47.23 ug/L	95
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	11.848	92	1413	N.D.	
57) T-1,3-Dichloropropene	12.207	75	1813	N.D.	
58) Tetrachloroethene	12.324	164	1057	N.D.	
59) Ethyl methacrylate	12.248	69	2450	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	12.736	76	1085	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	0.000		0	N.D. d	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	13.212	112	1135	N.D.	
67) 1,1,1,2-Tetrachloroethane	13.229	131	1023	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	13.752	106	1563	N.D.	
70) Styrene	13.899	104	1278	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	14.128	105	1072	N.D.	
74) Bromofluorobenzene	14.334	95	1586337	53.00 ug/L	85
75) n-Propylbenzene	14.334	91	5137	N.D.	
76) 1,1,2,2-Tetrachloroethane	14.387	83	1542	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D. d	
78) T-1,4-Dichloro-2-Butene	14.334	53	1316	N.D.	
80) Bromobenzene	14.504	156	1082	N.D.	
81) 1,2,4-Trimethylbenzene	14.986	105	1204	N.D.	
82) 2-Chlorotoluene	0.000		0	N.D.	
83) 4-Chlorotoluene	14.927	91	1001	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	14.557	105	2338	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	14.986	105	1204	N.D.	
88) 1,3-Dichlorobenzene	15.503	146	4443	N.D.	
89) 1,4-Dichlorobenzene	15.503	146	4443	N.D.	
90) n-Butylbenzene	15.738	91	1391	N.D.	
91) 1,2-Dichlorobenzene	16.055	146	1006	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	18.858	128	1200	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT009.D
Acq On : 25 Jan 2021 11:47 am
Operator : KKW
Sample : AE00066-10
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jan 25 14:43:39 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT010.D
Acq On : 25 Jan 2021 12:17 pm
Operator : KKW
Sample : AE00066-01
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jan 25 14:44:27 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) PENTAFLUOROBENZENE (IS)	9.863	168	1351808	50.00 ug/L	# 0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.456	114	2866333	50.00 ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	1635734	50.00 ug/L	# 0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1522320	50.00 ug/L	# 0.00
System Monitoring Compounds					
31) Dibromofluoromethane	9.439	113	800073	57.38 ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 114.76%		
52) D8-Toluene	11.790	98	3428132	48.42 ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 96.84%		
73) Bromofluorobenzene	14.334	95	1553289	53.17 ug/L	-0.01
Spiked Amount 50.000	Range 75 - 120		Recovery = 106.34%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.852	85	1001	N.D.	
3) Chloromethane	0.000		0	N.D. d	
4) Vinyl Chloride	0.000		0	N.D. d	
5) Bromomethane	0.000		0	N.D. d	
6) Chloroethane	0.000		0	N.D. d	
7) Trichlorofluoromethane	0.000		0	N.D.	
8) Diethyl ether	0.000		0	N.D.	
9) 1,1-Dichloroethene	0.000		0	N.D.	
10) Trichlorotrifluoroethane	0.000		0	N.D.	
11) Acrolein	0.000		0	N.D. d	
12) Iodomethane	0.000		0	N.D. d	
13) Carbon Disulfide	0.000		0	N.D. d	
14) 3-chloropropene	0.000		0	N.D. d	
15) Acetone	0.000		0	N.D. d	
16) Methylene Chloride	0.000		0	N.D. d	
17) Methyl Acetate	0.000		0	N.D. d	
18) t-1,2-Dichloroethene	0.000		0	N.D. d	
19) Methyl tert-butyl ether	0.000		0	N.D.	
20) Acetonitrile	0.000		0	N.D. d	
21) Isopropyl ether	0.000		0	N.D.	
22) Chloroprene	0.000		0	N.D. d	
23) 1,1-Dichloroethane	0.000		0	N.D.	
24) Acrylonitrile	0.000		0	N.D. d	
25) Vinyl Acetate	0.000		0	N.D.	
26) c-1,2-Dichloroethene	0.000		0	N.D.	
27) 2,2-Dichloropropane	0.000		0	N.D. d	
28) Bromochloromethane	0.000		0	N.D. d	
29) Cyclohexane	9.269	56	1353	N.D.	
30) Chloroform	9.281	83	1738	N.D.	
32) Dibromofluoromethane	9.439	113	801004	57.45 ug/L #	89
33) 2-Butanone	0.000		0	N.D. d	
34) 1,1,1-Trichloroethane	0.000		0	N.D. d	
35) 1,1-Dichloropropene	0.000		0	N.D. d	
36) Propionitrile	0.000		0	N.D. d	
37) Methacrylonitrile	0.000		0	N.D. d	
38) Isobutyl Alcohol	0.000		0	N.D. d	
40) Carbon Tetrachloride	9.375	117	3731	N.D.	
41) Benzene	9.886	78	4645	N.D.	
42) 1,2-Dichloroethane	10.121	62	1969	N.D.	
43) Trichloroethene	0.000		0	N.D.	
44) Methyl cyclohexane	0.000		0	N.D. d	
45) Dibromomethane	10.914	93	1055	N.D.	
46) 1,2-Dichloropropane	10.967	63	1191	N.D.	
47) Bromodichloromethane	11.096	83	2004	N.D.	
48) Methyl Methacrylate	0.000		0	N.D.	
49) 1,4-Dioxane	0.000		0	N.D.	
50) 2-Chloroethyl vinyl ether	11.461	63	1135	N.D.	
51) C-1,3-Dichloropropene	11.637	75	1636	N.D.	

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT010.D
Acq On : 25 Jan 2021 12:17 pm
Operator : KKW
Sample : AE00066-01
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jan 25 14:44:27 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

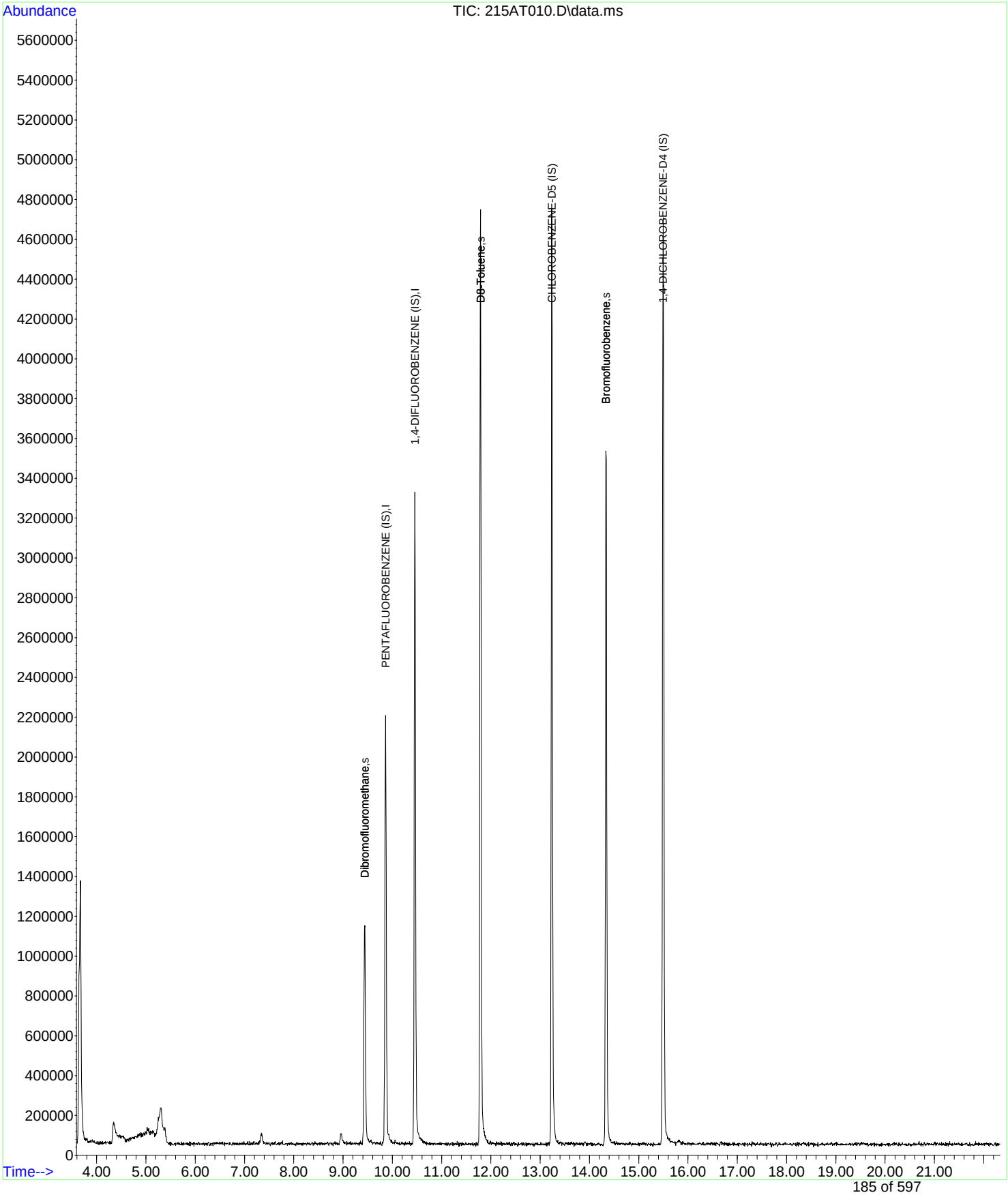
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.790	98	3428132	48.42 ug/L #	94
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	11.819	92	1572	N.D.	
57) T-1,3-Dichloropropene	12.289	75	1379	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	12.154	69	1391	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	12.624	76	1232	N.D.	
63) 1,2-Dibromoethane	12.918	107	1065	N.D.	
64) 2-Hexanone	12.947	43	1335	N.D.	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	13.229	112	1381	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	13.758	106	3631	N.D.	
70) Styrene	13.840	104	1014	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	0.000		0	N.D.	
74) Bromofluorobenzene	14.334	95	1553289	53.17 ug/L	86
75) n-Propylbenzene	14.422	91	1528	N.D.	
76) 1,1,2,2-Tetrachloroethane	14.340	83	1453	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D. d	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D.	
80) Bromobenzene	14.340	156	1964	N.D.	
81) 1,2,4-Trimethylbenzene	0.000		0	N.D.	
82) 2-Chlorotoluene	0.000		0	N.D.	
83) 4-Chlorotoluene	14.810	91	1154	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	0.000		0	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	0.000		0	N.D.	
88) 1,3-Dichlorobenzene	15.497	146	3996	N.D.	
89) 1,4-Dichlorobenzene	15.497	146	3996	N.D.	
90) n-Butylbenzene	15.832	91	1212	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	18.229	180	1052	N.D.	
95) Naphthalene	18.911	128	1280	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT010.D
Acq On : 25 Jan 2021 12:17 pm
Operator : KKW
Sample : AE00066-01
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jan 25 14:44:27 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT011.D
Acq On : 25 Jan 2021 12:46 pm
Operator : KKW
Sample : AE00066-02
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jan 25 14:45:08 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) PENTAFLUOROBENZENE (IS)	9.863	168	1334319	50.00 ug/L	# 0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.456	114	2846320	50.00 ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	1622830	50.00 ug/L	# 0.00
79) 1,4-DICHLOROBENZENE-D4...	15.497	152	1514443	50.00 ug/L	# 0.00
System Monitoring Compounds					
31) Dibromofluoromethane	9.440	113	783167	56.91 ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 113.82%		
52) D8-Toluene	11.790	98	3391008	48.23 ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 96.46%		
73) Bromofluorobenzene	14.340	95	1549791	53.48 ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 106.96%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.975	85	1064	N.D.	
3) Chloromethane	4.416	50	3667	N.D.	
4) Vinyl Chloride	4.533	62	1556	N.D.	
5) Bromomethane	0.000		0	N.D. d	
6) Chloroethane	5.403	64	1247	N.D.	
7) Trichlorofluoromethane	0.000		0	N.D.	
8) Diethyl ether	6.167	59	1093	N.D.	
9) 1,1-Dichloroethene	6.543	96	1712	N.D.	
10) Trichlorotrifluoroethane	6.613	151	1084	N.D.	
11) Acrolein	0.000		0	N.D. d	
12) Iodomethane	6.784	142	1653	N.D.	
13) Carbon Disulfide	6.631	76	4237	N.D.	
14) 3-chloropropene	7.078	41	1863	N.D.	
15) Acetone	0.000		0	N.D. d	
16) Methylene Chloride	7.354	84	1092	N.D.	
17) Methyl Acetate	7.536	43	1614	N.D.	
18) t-1,2-Dichloroethene	0.000		0	N.D.	
19) Methyl tert-butyl ether	0.000		0	N.D.	
20) Acetonitrile	0.000		0	N.D. d	
21) Isopropyl ether	8.076	45	1590	N.D.	
22) Chloroprene	8.364	88	1112	N.D.	
23) 1,1-Dichloroethane	8.405	63	1661	N.D.	
24) Acrylonitrile	0.000		0	N.D. d	
25) Vinyl Acetate	8.405	43	1206	N.D.	
26) c-1,2-Dichloroethene	8.999	96	1043	N.D.	
27) 2,2-Dichloropropane	8.946	77	1246	N.D.	
28) Bromochloromethane	0.000		0	N.D.	
29) Cyclohexane	9.146	56	1031	N.D.	
30) Chloroform	0.000		0	N.D.	
32) Dibromofluoromethane	9.440	113	783167	56.91 ug/L #	89
33) 2-Butanone	0.000		0	N.D. d	
34) 1,1,1-Trichloroethane	0.000		0	N.D. d	
35) 1,1-Dichloropropene	0.000		0	N.D. d	
36) Propionitrile	0.000		0	N.D. d	
37) Methacrylonitrile	0.000		0	N.D. d	
38) Isobutyl Alcohol	0.000		0	N.D. d	
40) Carbon Tetrachloride	9.357	117	2517	N.D.	
41) Benzene	9.886	78	7025	N.D.	
42) 1,2-Dichloroethane	10.150	62	1367	N.D.	
43) Trichloroethene	0.000		0	N.D.	
44) Methyl cyclohexane	0.000		0	N.D. d	
45) Dibromomethane	0.000		0	N.D.	
46) 1,2-Dichloropropane	0.000		0	N.D. d	
47) Bromodichloromethane	0.000		0	N.D.	
48) Methyl Methacrylate	0.000		0	N.D.	
49) 1,4-Dioxane	0.000		0	N.D. d	
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.	
51) C-1,3-Dichloropropene	11.619	75	1045	N.D.	

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT011.D
Acq On : 25 Jan 2021 12:46 pm
Operator : KKW
Sample : AE00066-02
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jan 25 14:45:08 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

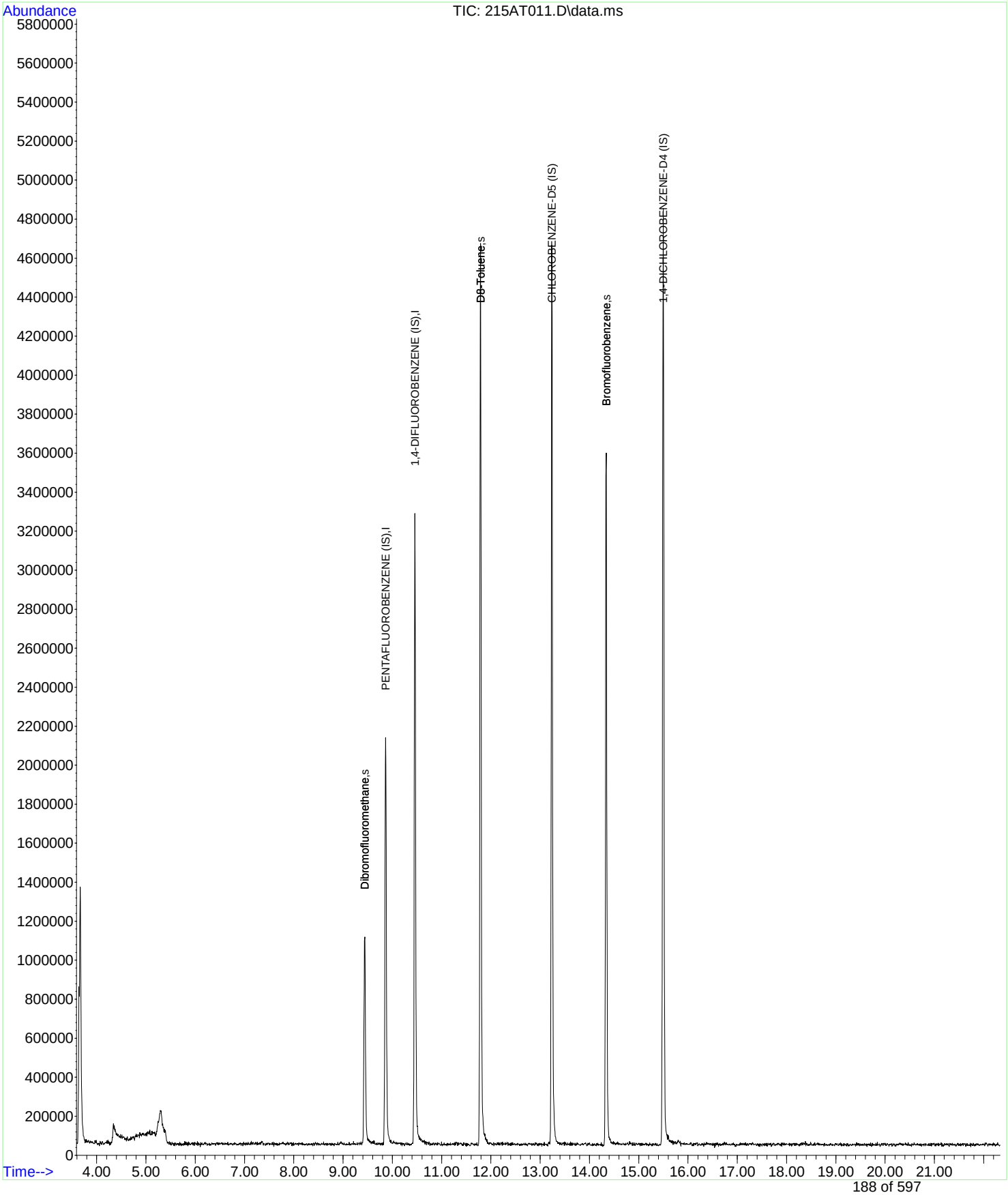
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.790	98	3386990	48.18 ug/L #	95
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	11.854	92	3809	N.D.	
57) T-1,3-Dichloropropene	12.225	75	2059	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	12.254	69	1020	N.D.	
60) 1,1,2-Trichloroethane	12.442	97	1406	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	12.753	43	1064	N.D.	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	0.000		0	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	0.000		0	N.D.	
70) Styrene	0.000		0	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	13.852	105	1499	N.D.	
74) Bromofluorobenzene	14.340	95	1549791	53.48 ug/L	85
75) n-Propylbenzene	14.375	91	1024	N.D.	
76) 1,1,2,2-Tetrachloroethane	14.481	83	1260	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D.	
78) T-1,4-Dichloro-2-Butene	14.210	53	1225	N.D.	
80) Bromobenzene	0.000		0	N.D.	
81) 1,2,4-Trimethylbenzene	15.086	105	1600	N.D.	
82) 2-Chlorotoluene	0.000		0	N.D.	
83) 4-Chlorotoluene	14.810	91	1435	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	14.457	105	1061	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	15.086	105	1600	N.D.	
88) 1,3-Dichlorobenzene	15.497	146	4938	N.D.	
89) 1,4-Dichlorobenzene	15.497	146	4938	N.D.	
90) n-Butylbenzene	15.691	91	1163	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	18.882	128	1337	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT011.D
Acq On : 25 Jan 2021 12:46 pm
Operator : KKW
Sample : AE00066-02
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jan 25 14:45:08 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT012.D
Acq On : 25 Jan 2021 1:15 pm
Operator : KKW
Sample : AE00066-03
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jan 25 14:45:54 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) PENTAFLUOROBENZENE (IS)	9.862	168	1325539	50.00 ug/L	# 0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.456	114	2841226	50.00 ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	1602227	50.00 ug/L	# 0.00
79) 1,4-DICHLOROBENZENE-D4...	15.497	152	1534202	50.00 ug/L	# 0.00
System Monitoring Compounds					
31) Dibromofluoromethane	9.439	113	758865	55.51 ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 111.02%		
52) D8-Toluene	11.790	98	3344152	47.65 ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 95.30%		
73) Bromofluorobenzene	14.340	95	1508545	52.72 ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 105.44%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	4.034	85	1213	N.D.	
3) Chloromethane	0.000		0	N.D. d	
4) Vinyl Chloride	0.000		0	N.D. d	
5) Bromomethane	0.000		0	N.D. d	
6) Chloroethane	0.000		0	N.D. d	
7) Trichlorofluoromethane	0.000		0	N.D.	
8) Diethyl ether	6.214	59	1183	N.D.	
9) 1,1-Dichloroethene	6.525	96	1017	N.D.	
10) Trichlorotrifluoroethane	6.502	151	1111	N.D.	
11) Acrolein	0.000		0	N.D. d	
12) Iodomethane	0.000		0	N.D. d	
13) Carbon Disulfide	6.631	76	6581	N.D.	
14) 3-chloropropene	7.213	41	1698	N.D.	
15) Acetone	0.000		0	N.D. d	
16) Methylene Chloride	7.377	84	2297	N.D.	
17) Methyl Acetate	7.465	43	1932	N.D.	
18) t-1,2-Dichloroethene	7.424	96	1120	N.D.	
19) Methyl tert-butyl ether	7.518	73	1238	N.D.	
20) Acetonitrile	0.000		0	N.D. d	
21) Isopropyl ether	7.959	45	1216	N.D.	
22) Chloroprene	8.376	88	1012	N.D.	
23) 1,1-Dichloroethane	0.000		0	N.D.	
24) Acrylonitrile	0.000		0	N.D. d	
25) Vinyl Acetate	8.611	43	1076	N.D.	
26) c-1,2-Dichloroethene	8.905	96	1012	N.D.	
27) 2,2-Dichloropropane	8.952	77	2065	N.D.	
28) Bromochloromethane	0.000		0	N.D.	
29) Cyclohexane	9.104	56	1016	N.D.	
30) Chloroform	0.000		0	N.D.	
32) Dibromofluoromethane	9.439	113	761247	55.68 ug/L #	89
33) 2-Butanone	0.000		0	N.D.	
34) 1,1,1-Trichloroethane	9.416	97	1246	N.D.	
35) 1,1-Dichloropropene	9.680	75	1202	N.D.	
36) Propionitrile	0.000		0	N.D. d	
37) Methacrylonitrile	9.904	41	1243	N.D.	
38) Isobutyl Alcohol	0.000		0	N.D. d	
40) Carbon Tetrachloride	9.345	117	2874	N.D.	
41) Benzene	9.892	78	6839	N.D.	
42) 1,2-Dichloroethane	9.974	62	1204	N.D.	
43) Trichloroethene	0.000		0	N.D.	
44) Methyl cyclohexane	0.000		0	N.D. d	
45) Dibromomethane	10.991	93	1303	N.D.	
46) 1,2-Dichloropropane	0.000		0	N.D.	
47) Bromodichloromethane	10.996	83	1212	N.D.	
48) Methyl Methacrylate	11.043	69	1044	N.D.	
49) 1,4-Dioxane	0.000		0	N.D.	
50) 2-Chloroethyl vinyl ether	11.466	63	1046	N.D.	
51) C-1,3-Dichloropropene	11.513	75	1243	N.D.	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT012.D
Acq On : 25 Jan 2021 1:15 pm
Operator : KKW
Sample : AE00066-03
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jan 25 14:45:54 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

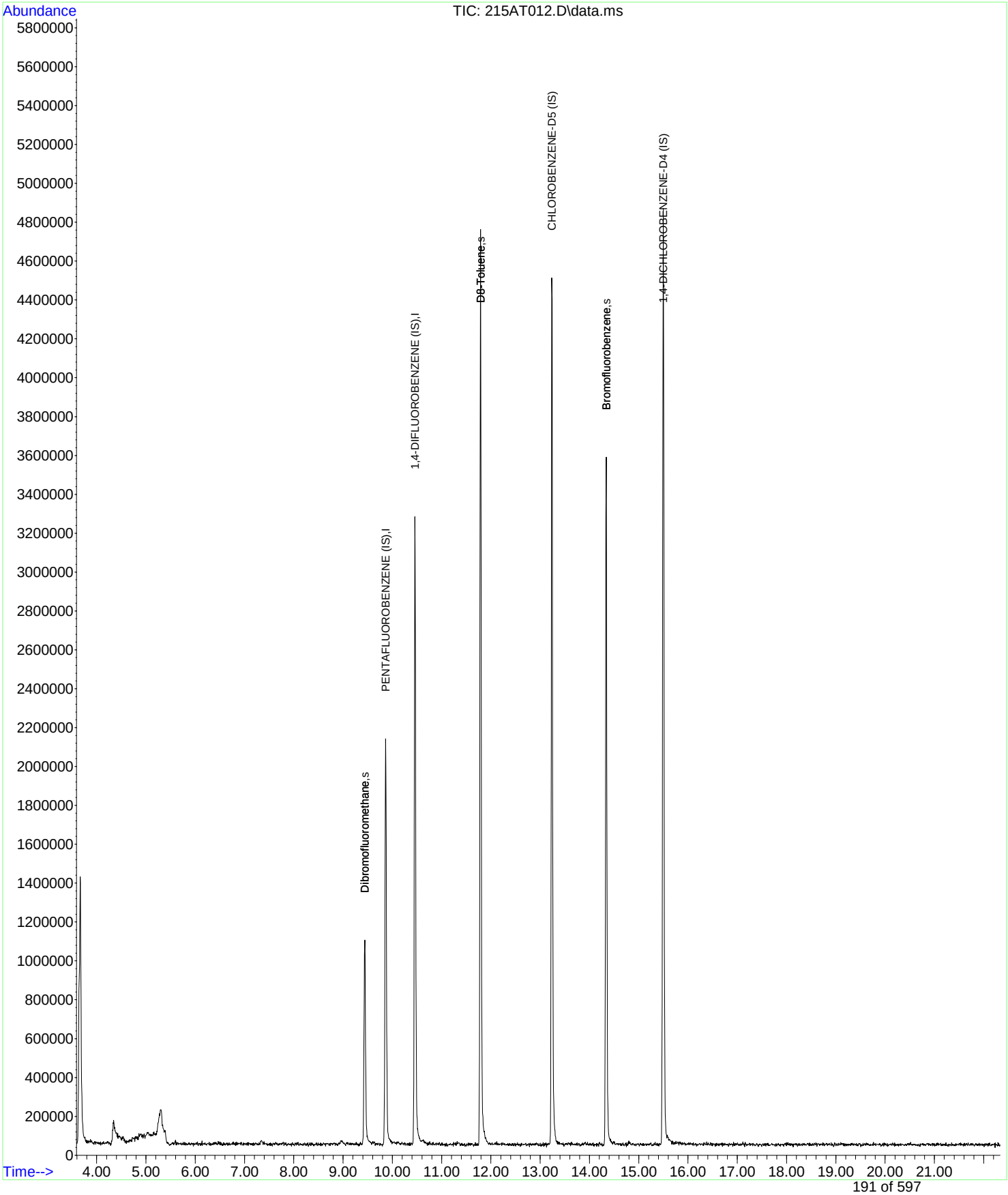
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.790	98	3339313	47.58 ug/L	95
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	11.831	92	1680	N.D.	
57) T-1,3-Dichloropropene	12.271	75	1310	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	0.000		0	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	0.000		0	N.D. d	
65) Ethylbenzene	13.147	106	1266	N.D.	
66) Chlorobenzene	13.241	112	2215	N.D.	
67) 1,1,1,2-Tetrachloroethane	13.182	131	1327	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	13.758	106	1469	N.D.	
70) Styrene	13.887	104	1200	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	0.000		0	N.D.	
74) Bromofluorobenzene	14.340	95	1508545	52.72 ug/L	87
75) n-Propylbenzene	14.334	91	6139	N.D.	
76) 1,1,2,2-Tetrachloroethane	14.334	83	2078	N.D.	
77) 1,2,3-Trichloropropane	14.551	61	1055	N.D.	
78) T-1,4-Dichloro-2-Butene	14.363	53	1172	N.D.	
80) Bromobenzene	0.000		0	N.D.	
81) 1,2,4-Trimethylbenzene	14.839	105	1456	N.D.	
82) 2-Chlorotoluene	14.716	91	1268	N.D.	
83) 4-Chlorotoluene	14.798	91	1212	N.D.	
84) tert-Butylbenzene	14.904	119	1014	N.D.	
85) 1,3,5-Trimethylbenzene	14.610	105	1269	N.D.	
86) p-Isopropyltoluene	15.209	119	1143	N.D.	
87) s-Butylbenzene	0.000		0	N.D.	
88) 1,3-Dichlorobenzene	15.432	146	1191	N.D.	
89) 1,4-Dichlorobenzene	15.497	146	3920	N.D.	
90) n-Butylbenzene	0.000		0	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	18.688	128	1020	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT012.D
Acq On : 25 Jan 2021 1:15 pm
Operator : KKW
Sample : AE00066-03
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jan 25 14:45:54 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT013.D
Acq On : 25 Jan 2021 1:45 pm
Operator : KKW
Sample : AE00066-04
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jan 25 14:46:50 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) PENTAFLUOROBENZENE (IS)	9.863	168	1342454	50.00	ug/L	# 0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.462	114	2980618	50.00	ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	1652145	50.00	ug/L	# 0.00
79) 1,4-DICHLOROBENZENE-D4...	15.497	152	1560174	50.00	ug/L	# 0.00
System Monitoring Compounds						
31) Dibromofluoromethane	9.439	113	793811	57.33	ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 114.66%			
52) D8-Toluene	11.790	98	3408559	46.30	ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 92.60%			
73) Bromofluorobenzene	14.340	95	1537936	52.12	ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 104.24%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.034	85	1473	N.D.		
3) Chloromethane	4.404	50	3345	N.D.		
4) Vinyl Chloride	4.598	62	114047	7.04	ug/L #	1
5) Bromomethane	0.000		0	N.D. d		
6) Chloroethane	0.000		0	N.D. d		
7) Trichlorofluoromethane	5.609	101	1265	N.D.		
8) Diethyl ether	6.208	59	1314	N.D.		
9) 1,1-Dichloroethene	6.590	96	1010	N.D.		
10) Trichlorotrifluoroethane	0.000		0	N.D.		
11) Acrolein	0.000		0	N.D. d		
12) Iodomethane	6.778	142	1226	N.D.		
13) Carbon Disulfide	0.000		0	N.D. d		
14) 3-chloropropene	7.213	41	1034	N.D.		
15) Acetone	0.000		0	N.D. d		
16) Methylene Chloride	7.342	84	1626	N.D.		
17) Methyl Acetate	7.530	43	1533	N.D.		
18) t-1,2-Dichloroethene	7.718	96	1241	N.D.		
19) Methyl tert-butyl ether	7.659	73	1401	N.D.		
20) Acetonitrile	0.000		0	N.D. d		
21) Isopropyl ether	8.117	45	2012	N.D.		
22) Chloroprene	0.000		0	N.D.		
23) 1,1-Dichloroethane	0.000		0	N.D.		
24) Acrylonitrile	0.000		0	N.D. d		
25) Vinyl Acetate	8.476	43	1519	N.D.		
26) c-1,2-Dichloroethene	8.870	96	1064	N.D.		
27) 2,2-Dichloropropane	8.981	77	2282	N.D.		
28) Bromochloromethane	0.000		0	N.D.		
29) Cyclohexane	9.216	56	1002	N.D.		
30) Chloroform	0.000		0	N.D.		
32) Dibromofluoromethane	9.439	113	795306	57.44	ug/L #	88
33) 2-Butanone	0.000		0	N.D. d		
34) 1,1,1-Trichloroethane	0.000		0	N.D.		
35) 1,1-Dichloropropene	9.657	75	1423	N.D.		
36) Propionitrile	0.000		0	N.D. d		
37) Methacrylonitrile	9.951	41	1792	N.D.		
38) Isobutyl Alcohol	0.000		0	N.D. d		
40) Carbon Tetrachloride	9.457	117	1172	N.D.		
41) Benzene	9.898	78	10857	N.D.		
42) 1,2-Dichloroethane	10.039	62	1271	N.D.		
43) Trichloroethene	10.597	130	1062	N.D.		
44) Methyl cyclohexane	0.000		0	N.D. d		
45) Dibromomethane	0.000		0	N.D.		
46) 1,2-Dichloropropane	10.914	63	1330	N.D.		
47) Bromodichloromethane	0.000		0	N.D.		
48) Methyl Methacrylate	0.000		0	N.D.		
49) 1,4-Dioxane	0.000		0	N.D.		
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.		
51) C-1,3-Dichloropropene	0.000		0	N.D.		

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT013.D
Acq On : 25 Jan 2021 1:45 pm
Operator : KKW
Sample : AE00066-04
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jan 25 14:46:50 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

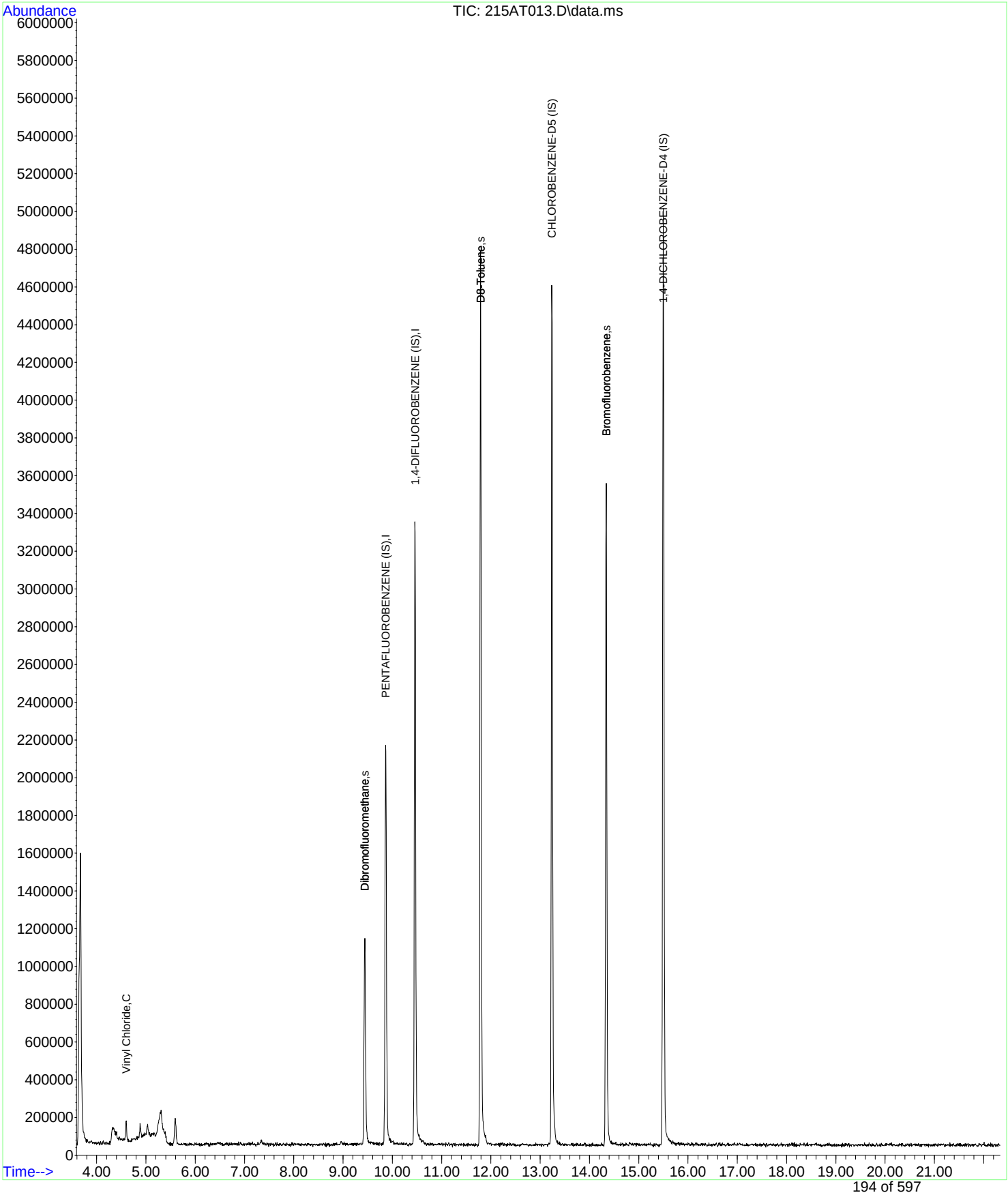
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.790	98	3404233	46.24 ug/L #	95
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	11.848	92	1729	N.D.	
57) T-1,3-Dichloropropene	12.289	75	1288	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	12.301	69	1201	N.D.	
60) 1,1,2-Trichloroethane	12.436	97	1095	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	12.759	76	1008	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	0.000		0	N.D. d	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	0.000		0	N.D.	
67) 1,1,1,2-Tetrachloroethane	13.159	131	1486	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	0.000		0	N.D.	
70) Styrene	0.000		0	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	0.000		0	N.D.	
74) Bromofluorobenzene	14.340	95	1537936	52.12 ug/L	86
75) n-Propylbenzene	14.440	91	1212	N.D.	
76) 1,1,2,2-Tetrachloroethane	14.351	83	1123	N.D.	
77) 1,2,3-Trichloropropane	14.539	61	1007	N.D.	
78) T-1,4-Dichloro-2-Butene	14.304	53	1051	N.D.	
80) Bromobenzene	0.000		0	N.D.	
81) 1,2,4-Trimethylbenzene	15.004	105	1096	N.D.	
82) 2-Chlorotoluene	0.000		0	N.D.	
83) 4-Chlorotoluene	0.000		0	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	0.000		0	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	15.004	105	1096	N.D.	
88) 1,3-Dichlorobenzene	15.503	146	3411	N.D.	
89) 1,4-Dichlorobenzene	15.503	146	3411	N.D.	
90) n-Butylbenzene	15.709	91	1221	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	18.770	128	1045	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT013.D
Acq On : 25 Jan 2021 1:45 pm
Operator : KKW
Sample : AE00066-04
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jan 25 14:46:50 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT014.D
Acq On : 25 Jan 2021 2:14 pm
Operator : KKW
Sample : AE00066-05
Misc :
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jan 25 14:47:43 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) PENTAFLUOROBENZENE (IS)	9.868	168	1353784	50.00 ug/L	# 0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.462	114	2923690	50.00 ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	1584476	50.00 ug/L	# 0.00
79) 1,4-DICHLOROBENZENE-D4...	15.497	152	1534322	50.00 ug/L	# 0.00
System Monitoring Compounds					
31) Dibromofluoromethane	9.439	113	794923	56.93 ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 113.86%		
52) D8-Toluene	11.790	98	3412173	47.25 ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 94.50%		
73) Bromofluorobenzene	14.340	95	1531771	54.13 ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 108.26%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.916	85	1420	N.D.	
3) Chloromethane	0.000		0	N.D. d	
4) Vinyl Chloride	4.616	62	1437	N.D.	
5) Bromomethane	0.000		0	N.D. d	
6) Chloroethane	0.000		0	N.D. d	
7) Trichlorofluoromethane	0.000		0	N.D.	
8) Diethyl ether	6.067	59	1923	N.D.	
9) 1,1-Dichloroethene	0.000		0	N.D.	
10) Trichlorotrifluoroethane	0.000		0	N.D.	
11) Acrolein	0.000		0	N.D. d	
12) Iodomethane	0.000		0	N.D. d	
13) Carbon Disulfide	6.631	76	4616	N.D.	
14) 3-chloropropene	7.166	41	1129	N.D.	
15) Acetone	0.000		0	N.D. d	
16) Methylene Chloride	7.342	84	2511	N.D.	
17) Methyl Acetate	7.542	43	1026	N.D.	
18) t-1,2-Dichloroethene	0.000		0	N.D.	
19) Methyl tert-butyl ether	0.000		0	N.D.	
20) Acetonitrile	0.000		0	N.D. d	
21) Isopropyl ether	8.035	45	1020	N.D.	
22) Chloroprene	8.376	88	1065	N.D.	
23) 1,1-Dichloroethane	8.294	63	1408	N.D.	
24) Acrylonitrile	0.000		0	N.D. d	
25) Vinyl Acetate	8.540	43	1953	N.D.	
26) c-1,2-Dichloroethene	8.946	96	1041	N.D.	
27) 2,2-Dichloropropane	9.140	77	1218	N.D.	
28) Bromochloromethane	0.000		0	N.D.	
29) Cyclohexane	9.328	56	1316	N.D.	
30) Chloroform	9.228	83	1220	N.D.	
32) Dibromofluoromethane	9.439	113	794923	56.93 ug/L #	91
33) 2-Butanone	0.000		0	N.D. d	
34) 1,1,1-Trichloroethane	0.000		0	N.D.	
35) 1,1-Dichloropropene	9.721	75	1551	N.D.	
36) Propionitrile	0.000		0	N.D. d	
37) Methacrylonitrile	0.000		0	N.D. d	
38) Isobutyl Alcohol	0.000		0	N.D. d	
40) Carbon Tetrachloride	9.387	117	1700	N.D.	
41) Benzene	9.892	78	6578	N.D.	
42) 1,2-Dichloroethane	10.121	62	1057	N.D.	
43) Trichloroethene	0.000		0	N.D.	
44) Methyl cyclohexane	0.000		0	N.D. d	
45) Dibromomethane	0.000		0	N.D.	
46) 1,2-Dichloropropane	11.120	63	1552	N.D.	
47) Bromodichloromethane	11.038	83	1568	N.D.	
48) Methyl Methacrylate	10.938	69	1305	N.D.	
49) 1,4-Dioxane	0.000		0	N.D. d	
50) 2-Chloroethyl vinyl ether	11.655	63	1044	N.D.	
51) C-1,3-Dichloropropene	11.537	75	1376	N.D.	

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT014.D
Acq On : 25 Jan 2021 2:14 pm
Operator : KKW
Sample : AE00066-05
Misc :
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jan 25 14:47:43 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

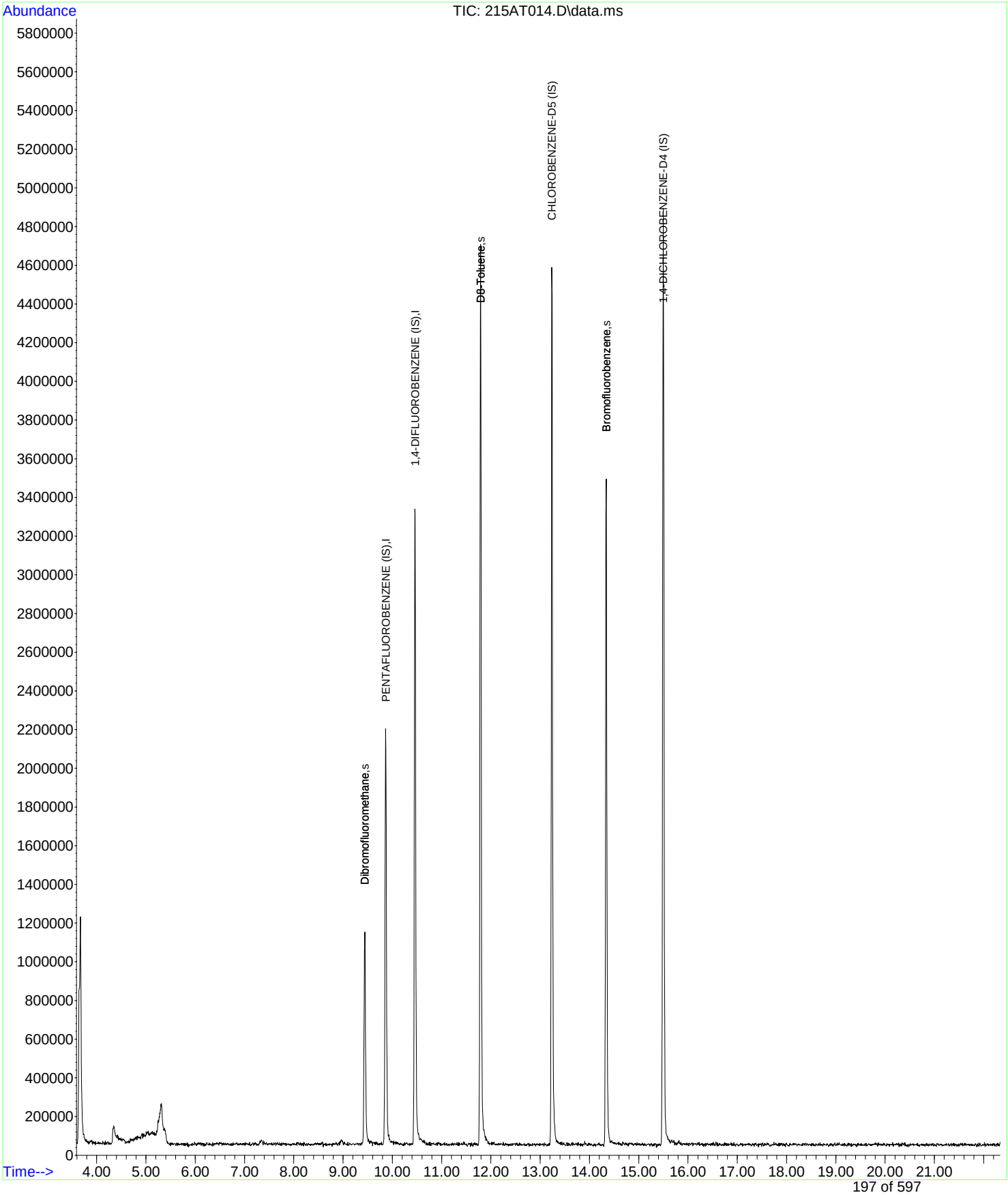
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.790	98	3412173	47.25 ug/L #	95
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	11.813	92	2840	N.D.	
57) T-1,3-Dichloropropene	12.236	75	1288	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	0.000		0	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	0.000		0	N.D.	
65) Ethylbenzene	13.347	106	1240	N.D.	
66) Chlorobenzene	13.241	112	2505	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	13.347	106	1240	N.D.	
69) o-xylene	13.781	106	1635	N.D.	
70) Styrene	0.000		0	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	13.993	105	1432	N.D.	
74) Bromofluorobenzene	14.340	95	1531771	54.13 ug/L	86
75) n-Propylbenzene	14.440	91	1579	N.D.	
76) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D. d	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D. d	
80) Bromobenzene	14.498	156	1277	N.D.	
81) 1,2,4-Trimethylbenzene	15.115	105	1077	N.D.	
82) 2-Chlorotoluene	14.504	91	1257	N.D.	
83) 4-Chlorotoluene	14.851	91	1388	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	0.000		0	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	15.115	105	1077	N.D.	
88) 1,3-Dichlorobenzene	15.485	146	1513	N.D.	
89) 1,4-Dichlorobenzene	15.485	146	1513	N.D.	
90) n-Butylbenzene	0.000		0	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	0.000		0	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT014.D
Acq On : 25 Jan 2021 2:14 pm
Operator : KKW
Sample : AE00066-05
Misc :
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jan 25 14:47:43 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT015.D
Acq On : 25 Jan 2021 2:44 pm
Operator : KKW
Sample : AE00066-06
Misc :
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jan 26 07:00:38 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) PENTAFLUOROBENZENE (IS)	9.868	168	1323227	50.00	ug/L	# 0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.462	114	2812403	50.00	ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	1560555	50.00	ug/L	# 0.00
79) 1,4-DICHLOROBENZENE-D4...	15.497	152	1499588	50.00	ug/L	# 0.00
System Monitoring Compounds						
31) Dibromofluoromethane	9.439	113	778278	57.03	ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 114.06%			
52) D8-Toluene	11.790	98	3351129	48.24	ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 96.48%			
73) Bromofluorobenzene	14.340	95	1523101	54.65	ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 109.30%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.993	85	1612	N.D.		
3) Chloromethane	0.000		0	N.D.	d	
4) Vinyl Chloride	4.598	62	33465	2.10	ug/L #	1
5) Bromomethane	0.000		0	N.D.	d	
6) Chloroethane	5.456	64	1167	N.D.		
7) Trichlorofluoromethane	5.609	101	1649	N.D.		
8) Diethyl ether	0.000		0	N.D.		
9) 1,1-Dichloroethene	0.000		0	N.D.		
10) Trichlorotrifluoroethane	0.000		0	N.D.		
11) Acrolein	0.000		0	N.D.	d	
12) Iodomethane	0.000		0	N.D.	d	
13) Carbon Disulfide	6.649	76	4986	N.D.		
14) 3-chloropropene	7.048	41	1049	N.D.		
15) Acetone	0.000		0	N.D.	d	
16) Methylene Chloride	7.342	84	2632	N.D.		
17) Methyl Acetate	7.542	43	1421	N.D.		
18) t-1,2-Dichloroethene	7.548	96	1604	N.D.		
19) Methyl tert-butyl ether	7.630	73	1349	N.D.		
20) Acetonitrile	0.000		0	N.D.	d	
21) Isopropyl ether	8.094	45	1305	N.D.		
22) Chloroprene	8.211	88	1298	N.D.		
23) 1,1-Dichloroethane	8.211	63	1288	N.D.		
24) Acrylonitrile	0.000		0	N.D.	d	
25) Vinyl Acetate	8.582	43	1113	N.D.		
26) c-1,2-Dichloroethene	8.969	96	4960	0.35	ug/L #	90
27) 2,2-Dichloropropane	8.975	77	1508	N.D.		
28) Bromochloromethane	0.000		0	N.D.		
29) Cyclohexane	9.193	56	1171	N.D.		
30) Chloroform	9.304	83	1356	N.D.		
32) Dibromofluoromethane	9.439	113	778278	57.03	ug/L #	89
33) 2-Butanone	0.000		0	N.D.	d	
34) 1,1,1-Trichloroethane	9.481	97	1299	N.D.		
35) 1,1-Dichloropropene	9.492	75	2034	N.D.		
36) Propionitrile	0.000		0	N.D.		
37) Methacrylonitrile	9.904	41	1355	N.D.		
38) Isobutyl Alcohol	0.000		0	N.D.	d	
40) Carbon Tetrachloride	9.345	117	1118	N.D.		
41) Benzene	9.892	78	13736	0.21	ug/L #	78
42) 1,2-Dichloroethane	10.056	62	1688	N.D.		
43) Trichloroethene	0.000		0	N.D.		
44) Methyl cyclohexane	0.000		0	N.D.	d	
45) Dibromomethane	10.897	93	1574	N.D.		
46) 1,2-Dichloropropane	10.908	63	1198	N.D.		
47) Bromodichloromethane	0.000		0	N.D.		
48) Methyl Methacrylate	0.000		0	N.D.		
49) 1,4-Dioxane	0.000		0	N.D.		
50) 2-Chloroethyl vinyl ether	11.531	63	1503	N.D.		
51) C-1,3-Dichloropropene	11.796	75	2420	N.D.		

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT015.D
Acq On : 25 Jan 2021 2:44 pm
Operator : KKW
Sample : AE00066-06
Misc :
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jan 26 07:00:38 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

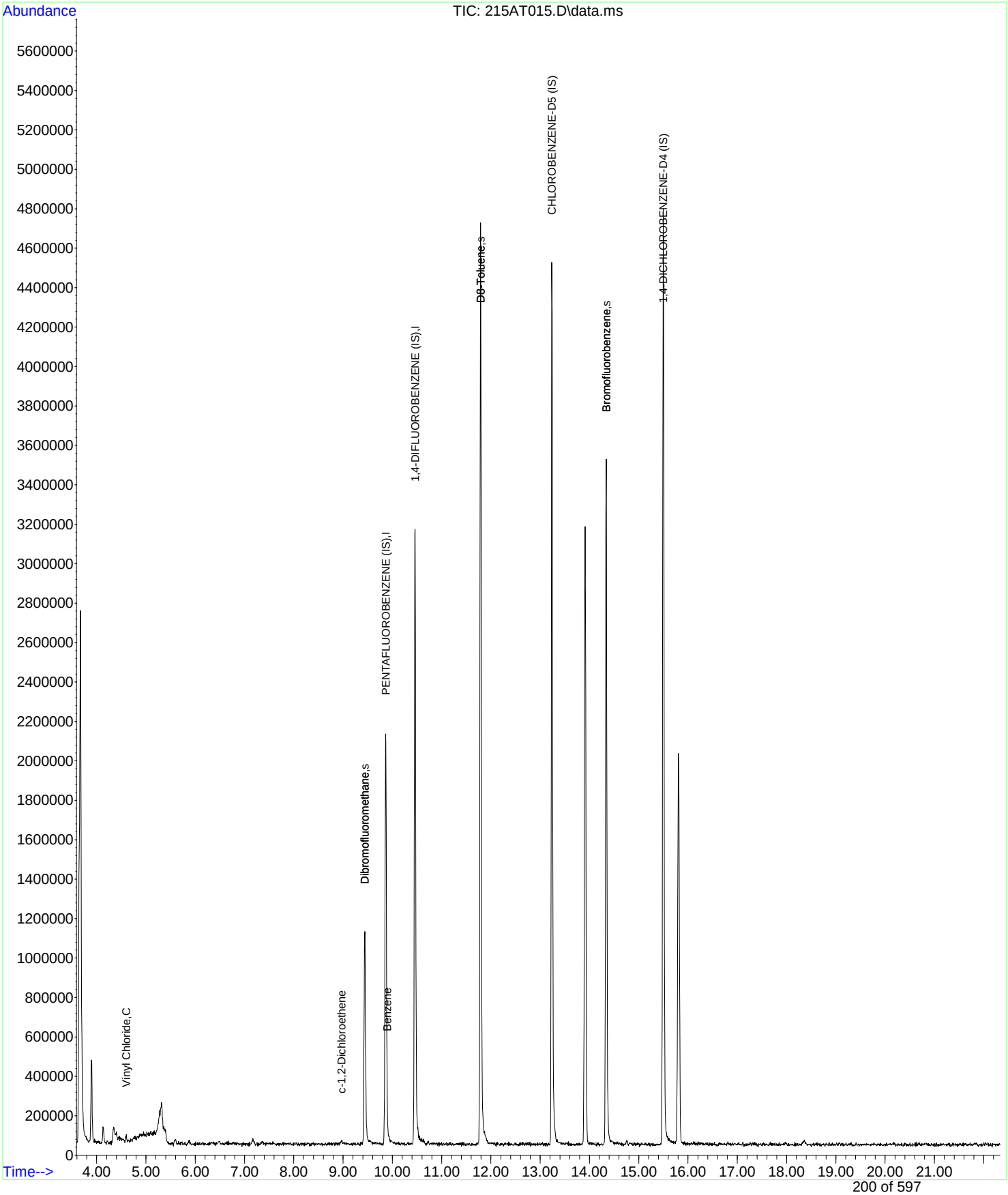
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.790	98	3349999	48.22 ug/L	93
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	11.854	92	4474	N.D.	
57) T-1,3-Dichloropropene	12.042	75	1093	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	12.330	69	1355	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	12.583	76	1242	N.D.	
63) 1,2-Dibromoethane	12.783	107	1002	N.D.	
64) 2-Hexanone	13.012	43	1126	N.D.	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	13.235	112	1220	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	13.770	106	1097	N.D.	
70) Styrene	0.000		0	N.D. d	
71) Bromoform	0.000		0	N.D. d	
72) Isopropylbenzene	0.000		0	N.D. d	
74) Bromofluorobenzene	14.340	95	1523101	54.65 ug/L	87
75) n-Propylbenzene	14.340	91	7107	N.D.	
76) 1,1,2,2-Tetrachloroethane	14.334	83	1328	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D.	
78) T-1,4-Dichloro-2-Butene	14.375	53	1173	N.D.	
80) Bromobenzene	14.334	156	1890	N.D.	
81) 1,2,4-Trimethylbenzene	15.021	105	1085	N.D.	
82) 2-Chlorotoluene	14.651	91	1086	N.D.	
83) 4-Chlorotoluene	14.786	91	1670	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	14.616	105	1183	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	15.021	105	1085	N.D.	
88) 1,3-Dichlorobenzene	15.427	146	1390	N.D.	
89) 1,4-Dichlorobenzene	15.491	146	1418	N.D.	
90) n-Butylbenzene	15.632	91	1086	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	0.000		0	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT015.D
Acq On : 25 Jan 2021 2:44 pm
Operator : KKW
Sample : AE00066-06
Misc :
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jan 26 07:00:38 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT016.D
Acq On : 25 Jan 2021 3:13 pm
Operator : KKW
Sample : AE00066-07
Misc :
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jan 26 07:00:43 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) PENTAFLUOROBENZENE (IS)	9.868	168	1311393	50.00	ug/L	# 0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.462	114	2857206	50.00	ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	1588971	50.00	ug/L	# 0.00
79) 1,4-DICHLOROBENZENE-D4...	15.497	152	1519324	50.00	ug/L	# 0.00
System Monitoring Compounds						
31) Dibromofluoromethane	9.439	113	795009	58.78	ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 117.56%			
52) D8-Toluene	11.790	98	3381431	47.91	ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 95.82%			
73) Bromofluorobenzene	14.340	95	1541734	54.33	ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 108.66%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.004	85	1164	N.D.		
3) Chloromethane	0.000		0	N.D.	d	
4) Vinyl Chloride	4.598	62	10739	0.68	ug/L #	41
5) Bromomethane	0.000		0	N.D.	d	
6) Chloroethane	5.420	64	1266	N.D.		
7) Trichlorofluoromethane	5.661	101	1548	N.D.		
8) Diethyl ether	0.000		0	N.D.		
9) 1,1-Dichloroethene	6.525	96	1073	N.D.		
10) Trichlorotrifluoroethane	0.000		0	N.D.		
11) Acrolein	0.000		0	N.D.	d	
12) Iodomethane	0.000		0	N.D.	d	
13) Carbon Disulfide	6.637	76	5659	N.D.		
14) 3-chloropropene	7.236	41	1095	N.D.		
15) Acetone	0.000		0	N.D.	d	
16) Methylene Chloride	7.236	84	1032	N.D.		
17) Methyl Acetate	0.000		0	N.D.	d	
18) t-1,2-Dichloroethene	7.612	96	1038	N.D.		
19) Methyl tert-butyl ether	7.483	73	1082	N.D.		
20) Acetonitrile	0.000		0	N.D.	d	
21) Isopropyl ether	8.088	45	1089	N.D.		
22) Chloroprene	8.188	88	1095	N.D.		
23) 1,1-Dichloroethane	8.405	63	1124	N.D.		
24) Acrylonitrile	0.000		0	N.D.		
25) Vinyl Acetate	8.393	43	2100	N.D.		
26) c-1,2-Dichloroethene	0.000		0	N.D.		
27) 2,2-Dichloropropane	0.000		0	N.D.		
28) Bromochloromethane	0.000		0	N.D.		
29) Cyclohexane	0.000		0	N.D.		
30) Chloroform	9.146	83	1370	N.D.		
32) Dibromofluoromethane	9.439	113	795009	58.78	ug/L #	88
33) 2-Butanone	0.000		0	N.D.		
34) 1,1,1-Trichloroethane	0.000		0	N.D.		
35) 1,1-Dichloropropene	0.000		0	N.D.		
36) Propionitrile	0.000		0	N.D.		
37) Methacrylonitrile	9.962	41	1073	N.D.		
38) Isobutyl Alcohol	0.000		0	N.D.	d	
40) Carbon Tetrachloride	9.375	117	1164	N.D.		
41) Benzene	9.886	78	5344	N.D.		
42) 1,2-Dichloroethane	10.062	62	1578	N.D.		
43) Trichloroethene	0.000		0	N.D.		
44) Methyl cyclohexane	0.000		0	N.D.	d	
45) Dibromomethane	0.000		0	N.D.		
46) 1,2-Dichloropropane	11.014	63	1647	N.D.		
47) Bromodichloromethane	0.000		0	N.D.		
48) Methyl Methacrylate	0.000		0	N.D.	d	
49) 1,4-Dioxane	0.000		0	N.D.	d	
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.	d	
51) C-1,3-Dichloropropene	0.000		0	N.D.		

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT016.D
Acq On : 25 Jan 2021 3:13 pm
Operator : KKW
Sample : AE00066-07
Misc :
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jan 26 07:00:43 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

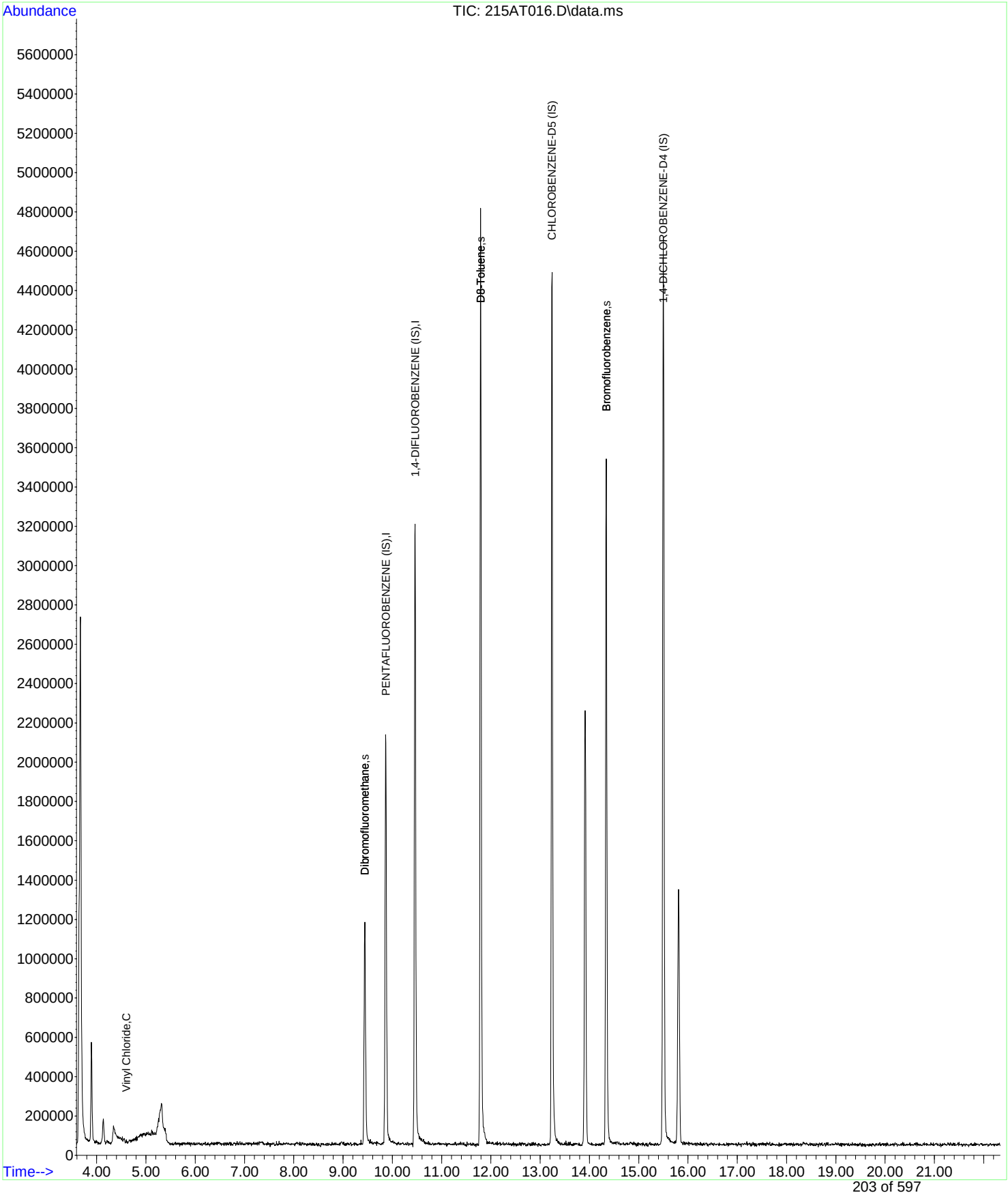
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.790	98	3381431	47.91 ug/L	95
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	11.842	92	2099	N.D.	
57) T-1,3-Dichloropropene	12.195	75	1120	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	12.148	69	2308	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	12.859	43	1191	N.D.	
65) Ethylbenzene	13.211	106	1274	N.D.	
66) Chlorobenzene	13.241	112	1446	N.D.	
67) 1,1,1,2-Tetrachloroethane	13.305	131	1084	N.D.	
68) m-xylene & p-xylene	13.341	106	1856	N.D.	
69) o-xylene	13.899	106	1470	N.D.	
70) Styrene	13.752	104	1110	N.D.	
71) Bromoform	0.000		0	N.D. d	
72) Isopropylbenzene	14.040	105	1199	N.D.	
74) Bromofluorobenzene	14.340	95	1541734	54.33 ug/L	85
75) n-Propylbenzene	14.328	91	5538	N.D.	
76) 1,1,2,2-Tetrachloroethane	14.580	83	1240	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D. d	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D. d	
80) Bromobenzene	0.000		0	N.D.	
81) 1,2,4-Trimethylbenzene	0.000		0	N.D.	
82) 2-Chlorotoluene	14.481	91	1079	N.D.	
83) 4-Chlorotoluene	0.000		0	N.D.	
84) tert-Butylbenzene	15.080	119	1094	N.D.	
85) 1,3,5-Trimethylbenzene	14.492	105	1516	N.D.	
86) p-Isopropyltoluene	15.080	119	1461	N.D.	
87) s-Butylbenzene	0.000		0	N.D.	
88) 1,3-Dichlorobenzene	15.491	146	2547	N.D.	
89) 1,4-Dichlorobenzene	15.491	146	2547	N.D.	
90) n-Butylbenzene	15.556	91	1192	N.D.	
91) 1,2-Dichlorobenzene	16.179	146	1015	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	18.928	128	1228	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT016.D
Acq On : 25 Jan 2021 3:13 pm
Operator : KKW
Sample : AE00066-07
Misc :
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jan 26 07:00:43 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT017.D
Acq On : 25 Jan 2021 3:43 pm
Operator : KKW
Sample : AE00066-08
Misc :
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jan 26 07:00:48 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) PENTAFLUOROBENZENE (IS)	9.863	168	1324243	50.00	ug/L	# 0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.456	114	2844356	50.00	ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	1569592	50.00	ug/L	# 0.00
79) 1,4-DICHLOROBENZENE-D4...	15.497	152	1496442	50.00	ug/L	# 0.00
System Monitoring Compounds						
31) Dibromofluoromethane	9.439	113	768386	56.26	ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 112.52%			
52) D8-Toluene	11.790	98	3416298	48.63	ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 97.26%			
73) Bromofluorobenzene	14.340	95	1529314	54.56	ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 109.12%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.093	85	2336	N.D.		
3) Chloromethane	0.000		0	N.D.	d	
4) Vinyl Chloride	4.598	62	49504	3.10	ug/L #	16
5) Bromomethane	0.000		0	N.D.	d	
6) Chloroethane	5.421	64	1129	N.D.		
7) Trichlorofluoromethane	5.838	101	3083	N.D.		
8) Diethyl ether	0.000		0	N.D.		
9) 1,1-Dichloroethene	0.000		0	N.D.		
10) Trichlorotrifluoroethane	0.000		0	N.D.		
11) Acrolein	0.000		0	N.D.	d	
12) Iodomethane	0.000		0	N.D.	d	
13) Carbon Disulfide	6.649	76	4171	N.D.		
14) 3-chloropropene	7.289	41	1215	N.D.		
15) Acetone	0.000		0	N.D.	d	
16) Methylene Chloride	7.371	84	1116	N.D.		
17) Methyl Acetate	7.577	43	1581	N.D.		
18) t-1,2-Dichloroethene	7.577	96	4885	0.37	ug/L	87
19) Methyl tert-butyl ether	7.630	73	1056	N.D.		
20) Acetonitrile	0.000		0	N.D.	d	
21) Isopropyl ether	8.018	45	1412	N.D.		
22) Chloroprene	8.352	88	1062	N.D.		
23) 1,1-Dichloroethane	0.000		0	N.D.		
24) Acrylonitrile	0.000		0	N.D.	d	
25) Vinyl Acetate	0.000		0	N.D.		
26) c-1,2-Dichloroethene	0.000		0	N.D.		
27) 2,2-Dichloropropane	9.063	77	1296	N.D.		
28) Bromochloromethane	0.000		0	N.D.		
29) Cyclohexane	0.000		0	N.D.		
30) Chloroform	9.357	83	1159	N.D.		
32) Dibromofluoromethane	9.439	113	768386	56.26	ug/L #	88
33) 2-Butanone	0.000		0	N.D.	d	
34) 1,1,1-Trichloroethane	0.000		0	N.D.		
35) 1,1-Dichloropropene	9.616	75	1204	N.D.		
36) Propionitrile	0.000		0	N.D.	d	
37) Methacrylonitrile	10.033	41	1834	N.D.		
38) Isobutyl Alcohol	0.000		0	N.D.	d	
40) Carbon Tetrachloride	9.392	117	1209	N.D.		
41) Benzene	9.892	78	7266	N.D.		
42) 1,2-Dichloroethane	0.000		0	N.D.		
43) Trichloroethene	0.000		0	N.D.		
44) Methyl cyclohexane	0.000		0	N.D.	d	
45) Dibromomethane	0.000		0	N.D.		
46) 1,2-Dichloropropane	0.000		0	N.D.		
47) Bromodichloromethane	10.932	83	1312	N.D.		
48) Methyl Methacrylate	11.202	69	1471	N.D.		
49) 1,4-Dioxane	0.000		0	N.D.	d	
50) 2-Chloroethyl vinyl ether	11.467	63	1057	N.D.		
51) C-1,3-Dichloropropene	0.000		0	N.D.		

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT017.D
Acq On : 25 Jan 2021 3:43 pm
Operator : KKW
Sample : AE00066-08
Misc :
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jan 26 07:00:48 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

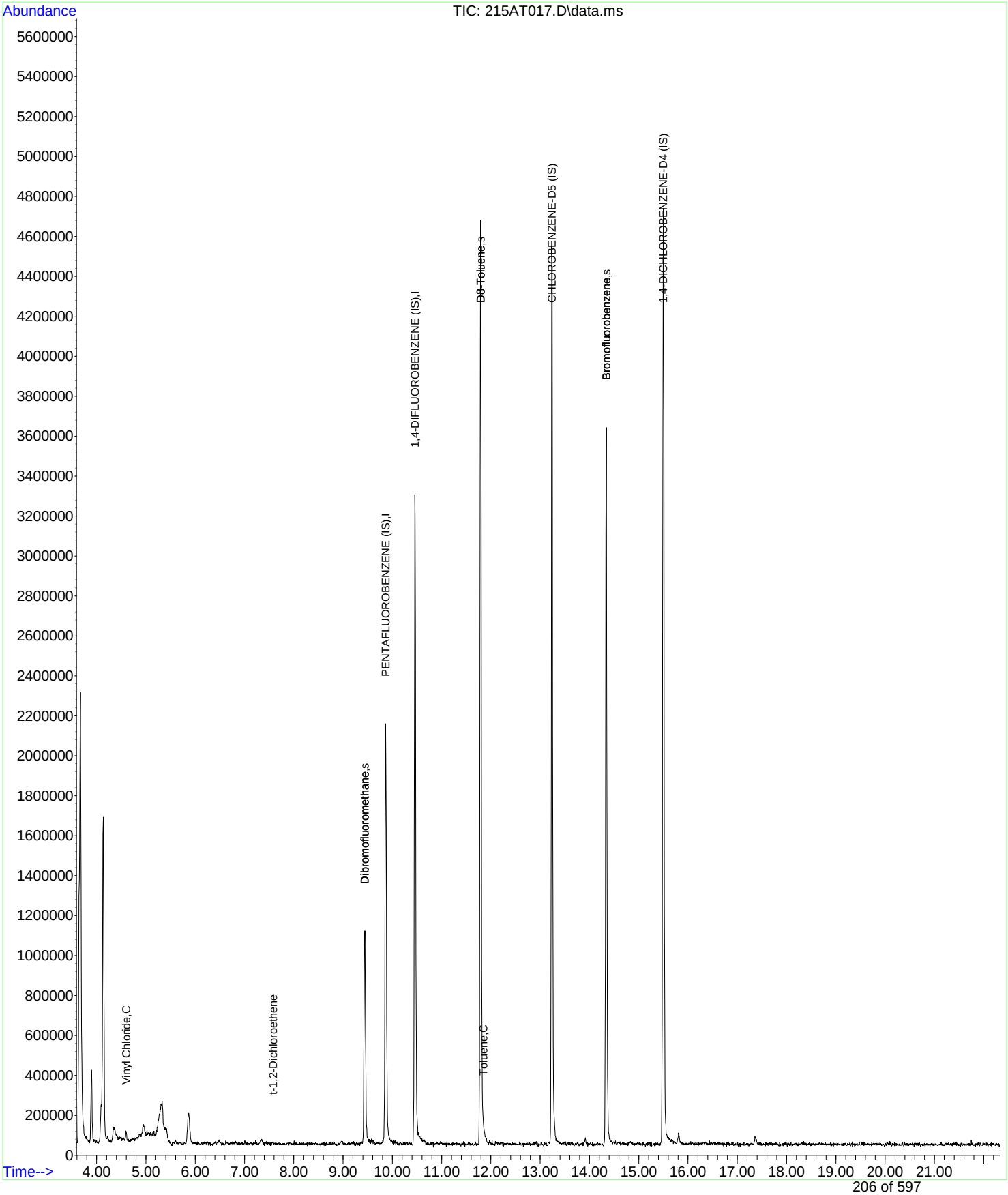
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.790	98	3411980	48.56 ug/L	96
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	11.848	92	7070	0.21 ug/L #	57
57) T-1,3-Dichloropropene	12.177	75	1128	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	12.313	69	1139	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	12.912	107	1329	N.D.	
64) 2-Hexanone	12.871	43	1485	N.D.	
65) Ethylbenzene	13.217	106	1206	N.D.	
66) Chlorobenzene	13.264	112	2105	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	13.341	106	1797	N.D.	
69) o-xylene	0.000		0	N.D.	
70) Styrene	0.000		0	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	14.011	105	5797	N.D.	
74) Bromofluorobenzene	14.340	95	1529314	54.56 ug/L	86
75) n-Propylbenzene	14.416	91	3687	N.D.	
76) 1,1,2,2-Tetrachloroethane	14.463	83	1632	N.D.	
77) 1,2,3-Trichloropropane	14.675	61	1124	N.D.	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D. d	
80) Bromobenzene	14.346	156	1888	N.D.	
81) 1,2,4-Trimethylbenzene	14.992	105	3380	N.D.	
82) 2-Chlorotoluene	0.000		0	N.D.	
83) 4-Chlorotoluene	14.816	91	1898	N.D.	
84) tert-Butylbenzene	14.992	119	1234	N.D.	
85) 1,3,5-Trimethylbenzene	14.492	105	1015	N.D.	
86) p-Isopropyltoluene	15.198	119	1053	N.D.	
87) s-Butylbenzene	15.104	105	4321	N.D.	
88) 1,3-Dichlorobenzene	15.427	146	1036	N.D.	
89) 1,4-Dichlorobenzene	15.515	146	1327	N.D.	
90) n-Butylbenzene	15.638	91	1020	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	18.876	128	1166	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT017.D
Acq On : 25 Jan 2021 3:43 pm
Operator : KKW
Sample : AE00066-08
Misc :
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jan 26 07:00:48 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT018.D
Acq On : 25 Jan 2021 4:12 pm
Operator : KKW
Sample : AE00066-09
Misc :
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Jan 26 07:00:52 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) PENTAFLUOROBENZENE (IS)	9.863	168	1346166	50.00	ug/L	# 0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.462	114	3057273	50.00	ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	1666053	50.00	ug/L	# 0.00
79) 1,4-DICHLOROBENZENE-D4...	15.497	152	1548120	50.00	ug/L	# 0.00
System Monitoring Compounds						
31) Dibromofluoromethane	9.440	113	817029	58.85	ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 117.70%			
52) D8-Toluene	11.790	98	3524331	46.67	ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 93.34%			
73) Bromofluorobenzene	14.340	95	1558837	52.39	ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 104.78%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.		
3) Chloromethane	0.000		0	N.D.	d	
4) Vinyl Chloride	4.598	62	474513	29.21	ug/L	96
5) Bromomethane	0.000		0	N.D.	d	
6) Chloroethane	0.000		0	N.D.	d	
7) Trichlorofluoromethane	0.000		0	N.D.		
8) Diethyl ether	6.302	59	1324	N.D.		
9) 1,1-Dichloroethene	0.000		0	N.D.		
10) Trichlorotrifluoroethane	0.000		0	N.D.		
11) Acrolein	0.000		0	N.D.	d	
12) Iodomethane	0.000		0	N.D.	d	
13) Carbon Disulfide	6.643	76	5247	N.D.		
14) 3-chloropropene	7.307	41	1019	N.D.		
15) Acetone	0.000		0	N.D.	d	
16) Methylene Chloride	7.383	84	2214	N.D.		
17) Methyl Acetate	7.583	43	1949	N.D.		
18) t-1,2-Dichloroethene	7.571	96	4830	0.36	ug/L #	73
19) Methyl tert-butyl ether	0.000		0	N.D.		
20) Acetonitrile	0.000		0	N.D.		
21) Isopropyl ether	8.165	45	1108	N.D.		
22) Chloroprene	0.000		0	N.D.		
23) 1,1-Dichloroethane	8.341	63	1111	N.D.		
24) Acrylonitrile	0.000		0	N.D.	d	
25) Vinyl Acetate	8.623	43	1676	N.D.		
26) c-1,2-Dichloroethene	8.964	96	2661	N.D.		
27) 2,2-Dichloropropane	9.099	77	1143	N.D.		
28) Bromochloromethane	0.000		0	N.D.		
29) Cyclohexane	0.000		0	N.D.		
30) Chloroform	0.000		0	N.D.		
32) Dibromofluoromethane	9.440	113	818248	58.93	ug/L #	90
33) 2-Butanone	0.000		0	N.D.	d	
34) 1,1,1-Trichloroethane	0.000		0	N.D.		
35) 1,1-Dichloropropene	9.663	75	1007	N.D.		
36) Propionitrile	0.000		0	N.D.	d	
37) Methacrylonitrile	9.904	41	1196	N.D.		
38) Isobutyl Alcohol	0.000		0	N.D.	d	
40) Carbon Tetrachloride	9.369	117	3033	N.D.		
41) Benzene	9.892	78	1676	N.D.		
42) 1,2-Dichloroethane	0.000		0	N.D.		
43) Trichloroethene	0.000		0	N.D.		
44) Methyl cyclohexane	0.000		0	N.D.	d	
45) Dibromomethane	0.000		0	N.D.		
46) 1,2-Dichloropropane	10.932	63	1030	N.D.		
47) Bromodichloromethane	11.038	83	1056	N.D.		
48) Methyl Methacrylate	11.144	69	1259	N.D.		
49) 1,4-Dioxane	0.000		0	N.D.	d	
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.		
51) C-1,3-Dichloropropene	11.567	75	1213	N.D.		

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT018.D
Acq On : 25 Jan 2021 4:12 pm
Operator : KKW
Sample : AE00066-09
Misc :
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Jan 26 07:00:52 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

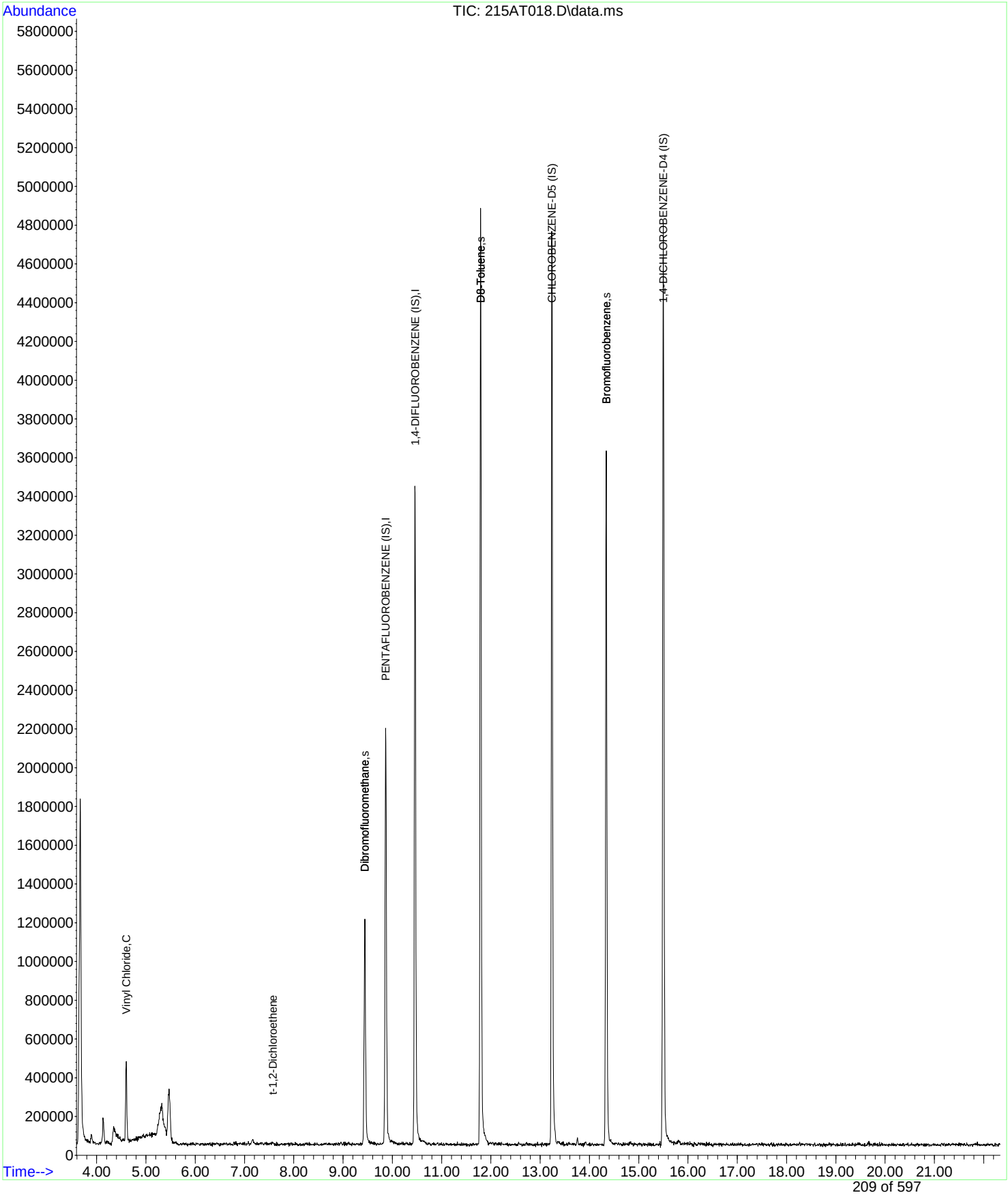
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.790	98	3521206	46.63 ug/L #	94
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	11.854	92	2783	N.D.	
57) T-1,3-Dichloropropene	12.242	75	1084	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	12.272	69	1248	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	12.454	76	1062	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	13.000	43	1485	N.D.	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	13.335	112	1026	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	0.000		0	N.D. d	
70) Styrene	13.770	104	1170	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	14.023	105	1067	N.D.	
74) Bromofluorobenzene	14.340	95	1558837	52.39 ug/L	86
75) n-Propylbenzene	14.446	91	1007	N.D.	
76) 1,1,2,2-Tetrachloroethane	14.340	83	1607	N.D.	
77) 1,2,3-Trichloropropane	14.692	61	1065	N.D.	
78) T-1,4-Dichloro-2-Butene	14.387	53	1166	N.D.	
80) Bromobenzene	14.416	156	1240	N.D.	
81) 1,2,4-Trimethylbenzene	15.004	105	1736	N.D.	
82) 2-Chlorotoluene	0.000		0	N.D.	
83) 4-Chlorotoluene	0.000		0	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	14.551	105	1399	N.D.	
86) p-Isopropyltoluene	15.221	119	1243	N.D.	
87) s-Butylbenzene	15.004	105	1736	N.D.	
88) 1,3-Dichlorobenzene	15.503	146	1714	N.D.	
89) 1,4-Dichlorobenzene	15.503	146	1714	N.D.	
90) n-Butylbenzene	0.000		0	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	0.000		0	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT018.D
Acq On : 25 Jan 2021 4:12 pm
Operator : KKW
Sample : AE00066-09
Misc :
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Jan 26 07:00:52 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT019.D
Acq On : 25 Jan 2021 4:42 pm
Operator : KKW
Sample : AE00066-11
Misc : 2
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Jan 26 07:00:56 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) PENTAFLUOROBENZENE (IS)	9.862	168	1333599	50.00	ug/L	# 0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.462	114	2794452	50.00	ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	1588157	50.00	ug/L	# 0.00
79) 1,4-DICHLOROBENZENE-D4...	15.497	152	1493564	50.00	ug/L	# 0.00
System Monitoring Compounds						
31) Dibromofluoromethane	9.439	113	745603	54.21	ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 108.42%			
52) D8-Toluene	11.790	98	3278513	47.50	ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 95.00%			
73) Bromofluorobenzene	14.340	95	1497234	52.79	ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 105.58%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.		
3) Chloromethane	0.000		0	N.D.	d	
4) Vinyl Chloride	4.598	62	431385	26.81	ug/L	98
5) Bromomethane	0.000		0	N.D.	d	
6) Chloroethane	5.479	64	1189	N.D.		
7) Trichlorofluoromethane	0.000		0	N.D.		
8) Diethyl ether	0.000		0	N.D.	d	
9) 1,1-Dichloroethene	0.000		0	N.D.		
10) Trichlorotrifluoroethane	0.000		0	N.D.		
11) Acrolein	0.000		0	N.D.	d	
12) Iodomethane	6.789	142	1773	N.D.		
13) Carbon Disulfide	6.637	76	4849	N.D.		
14) 3-chloropropene	0.000		0	N.D.		
15) Acetone	0.000		0	N.D.	d	
16) Methylene Chloride	0.000		0	N.D.		
17) Methyl Acetate	7.453	43	1608	N.D.		
18) t-1,2-Dichloroethene	0.000		0	N.D.		
19) Methyl tert-butyl ether	7.618	73	1011	N.D.		
20) Acetonitrile	0.000		0	N.D.	d	
21) Isopropyl ether	7.970	45	1081	N.D.		
22) Chloroprene	8.417	88	1508	N.D.		
23) 1,1-Dichloroethane	0.000		0	N.D.		
24) Acrylonitrile	0.000		0	N.D.		
25) Vinyl Acetate	8.623	43	1515	N.D.		
26) c-1,2-Dichloroethene	9.046	96	1245	N.D.		
27) 2,2-Dichloropropane	8.993	77	2665	N.D.		
28) Bromochloromethane	0.000		0	N.D.	d	
29) Cyclohexane	0.000		0	N.D.		
30) Chloroform	9.245	83	1543	N.D.		
32) Dibromofluoromethane	9.439	113	745603	54.21	ug/L #	90
33) 2-Butanone	0.000		0	N.D.	d	
34) 1,1,1-Trichloroethane	0.000		0	N.D.		
35) 1,1-Dichloropropene	9.686	75	1107	N.D.		
36) Propionitrile	0.000		0	N.D.	d	
37) Methacrylonitrile	9.903	41	1024	N.D.		
38) Isobutyl Alcohol	0.000		0	N.D.	d	
40) Carbon Tetrachloride	9.375	117	2990	N.D.		
41) Benzene	9.892	78	8414	N.D.		
42) 1,2-Dichloroethane	10.092	62	1304	N.D.		
43) Trichloroethene	0.000		0	N.D.		
44) Methyl cyclohexane	0.000		0	N.D.	d	
45) Dibromomethane	10.932	93	1182	N.D.		
46) 1,2-Dichloropropane	11.055	63	1339	N.D.		
47) Bromodichloromethane	11.026	83	1233	N.D.		
48) Methyl Methacrylate	10.949	69	1007	N.D.		
49) 1,4-Dioxane	0.000		0	N.D.		
50) 2-Chloroethyl vinyl ether	11.531	63	1080	N.D.		
51) C-1,3-Dichloropropene	0.000		0	N.D.		

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT019.D
Acq On : 25 Jan 2021 4:42 pm
Operator : KKW
Sample : AE00066-11
Misc : 2
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Jan 26 07:00:56 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

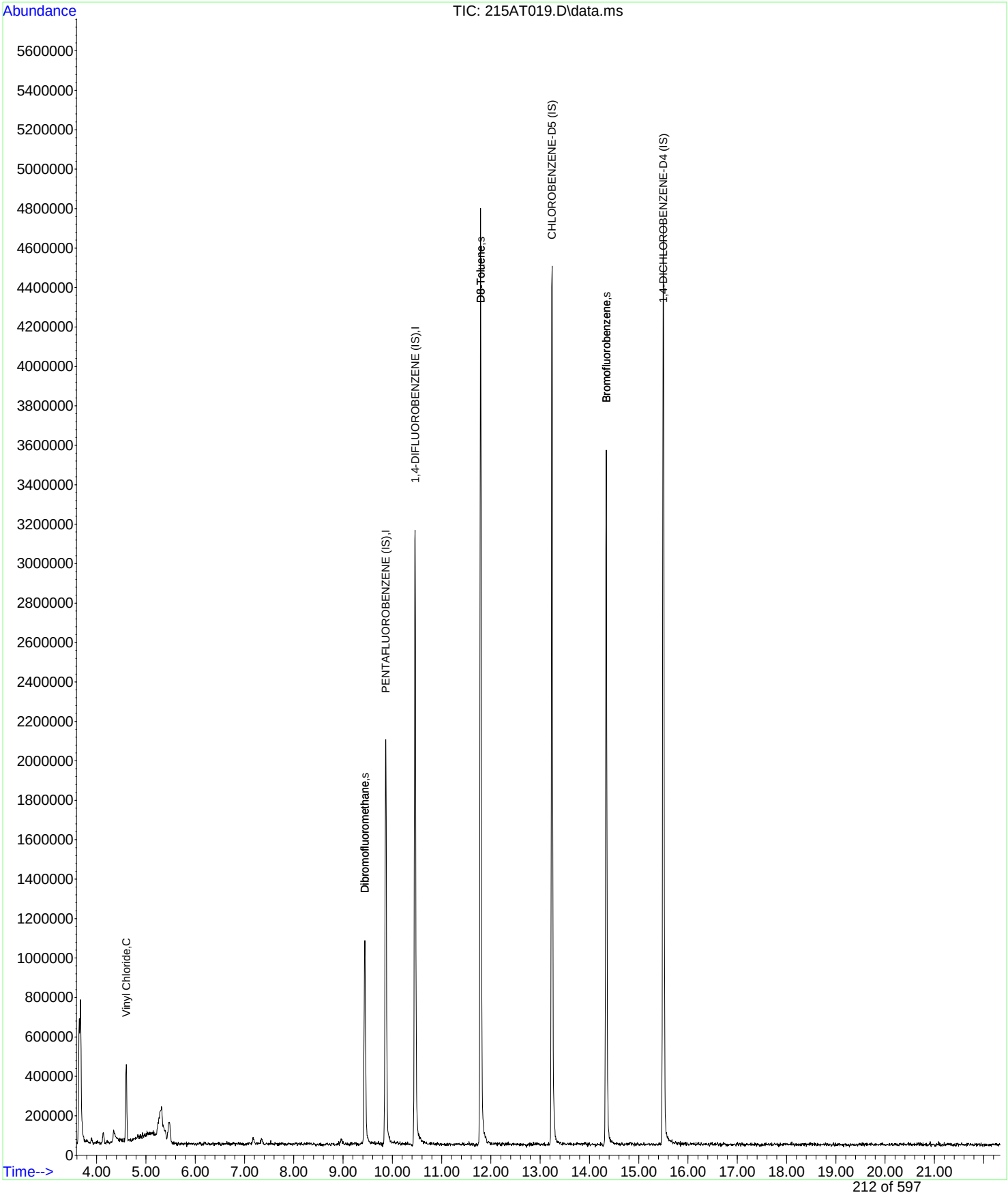
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.790	98	3276828	47.47 ug/L	94
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	11.790	92	2476	N.D.	
57) T-1,3-Dichloropropene	12.242	75	1561	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	12.195	69	1072	N.D.	
60) 1,1,2-Trichloroethane	12.207	97	1415	N.D.	
61) Dibromochloromethane	12.642	129	1199	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	12.882	107	1715	N.D.	
64) 2-Hexanone	0.000		0	N.D.	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	13.282	112	2331	N.D.	
67) 1,1,1,2-Tetrachloroethane	13.182	131	1003	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	13.746	106	1716	N.D.	
70) Styrene	0.000		0	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	0.000		0	N.D.	
74) Bromofluorobenzene	14.340	95	1497234	52.79 ug/L	85
75) n-Propylbenzene	14.387	91	1049	N.D.	
76) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
77) 1,2,3-Trichloropropane	14.528	61	1163	N.D.	
78) T-1,4-Dichloro-2-Butene	14.275	53	1072	N.D.	
80) Bromobenzene	14.351	156	1713	N.D.	
81) 1,2,4-Trimethylbenzene	14.886	105	1160	N.D.	
82) 2-Chlorotoluene	14.463	91	1195	N.D.	
83) 4-Chlorotoluene	14.827	91	1021	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	0.000		0	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	0.000		0	N.D.	
88) 1,3-Dichlorobenzene	15.438	146	1008	N.D.	
89) 1,4-Dichlorobenzene	15.438	146	1008	N.D.	
90) n-Butylbenzene	0.000		0	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	0.000		0	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT019.D
Acq On : 25 Jan 2021 4:42 pm
Operator : KKW
Sample : AE00066-11
Misc : 2
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Jan 26 07:00:56 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT020.D
Acq On : 25 Jan 2021 5:11 pm
Operator : KKW
Sample : AE00066-12
Misc :
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Jan 26 07:01:00 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) PENTAFLUOROBENZENE (IS)	9.868	168	1326429	50.00	ug/L	# 0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.462	114	2844280	50.00	ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.241	82	1585901	50.00	ug/L	# 0.00
79) 1,4-DICHLOROBENZENE-D4...	15.497	152	1547465	50.00	ug/L	# 0.00
System Monitoring Compounds						
31) Dibromofluoromethane	9.445	113	774337	56.60	ug/L	0.01
Spiked Amount 50.000	Range 72 - 133		Recovery = 113.20%			
52) D8-Toluene	11.790	98	3330078	47.40	ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 94.80%			
73) Bromofluorobenzene	14.340	95	1552558	54.82	ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 109.64%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.		
3) Chloromethane	4.463	50	3652	N.D.		
4) Vinyl Chloride	4.592	62	45088	2.82	ug/L #	1
5) Bromomethane	0.000		0	N.D.	d	
6) Chloroethane	5.467	64	1021	N.D.		
7) Trichlorofluoromethane	0.000		0	N.D.		
8) Diethyl ether	6.296	59	1077	N.D.		
9) 1,1-Dichloroethene	6.460	96	1105	N.D.		
10) Trichlorotrifluoroethane	0.000		0	N.D.		
11) Acrolein	0.000		0	N.D.	d	
12) Iodomethane	0.000		0	N.D.	d	
13) Carbon Disulfide	0.000		0	N.D.	d	
14) 3-chloropropene	7.207	41	1735	N.D.		
15) Acetone	0.000		0	N.D.	d	
16) Methylene Chloride	7.377	84	1208	N.D.		
17) Methyl Acetate	7.506	43	1296	N.D.		
18) t-1,2-Dichloroethene	7.565	96	3222	0.24	ug/L #	73
19) Methyl tert-butyl ether	7.683	73	1407	N.D.		
20) Acetonitrile	0.000		0	N.D.	d	
21) Isopropyl ether	8.047	45	1088	N.D.		
22) Chloroprene	0.000		0	N.D.		
23) 1,1-Dichloroethane	8.370	63	1332	N.D.		
24) Acrylonitrile	0.000		0	N.D.	d	
25) Vinyl Acetate	0.000		0	N.D.		
26) c-1,2-Dichloroethene	9.005	96	1028	N.D.		
27) 2,2-Dichloropropane	8.975	77	1118	N.D.		
28) Bromochloromethane	0.000		0	N.D.	d	
29) Cyclohexane	9.334	56	1224	N.D.		
30) Chloroform	9.245	83	1269	N.D.		
32) Dibromofluoromethane	9.445	113	774800	56.63	ug/L #	92
33) 2-Butanone	0.000		0	N.D.	d	
34) 1,1,1-Trichloroethane	0.000		0	N.D.		
35) 1,1-Dichloropropene	9.604	75	1652	N.D.		
36) Propionitrile	0.000		0	N.D.	d	
37) Methacrylonitrile	10.003	41	1104	N.D.		
38) Isobutyl Alcohol	0.000		0	N.D.	d	
40) Carbon Tetrachloride	9.363	117	2605	N.D.		
41) Benzene	9.909	78	8332	N.D.		
42) 1,2-Dichloroethane	10.133	62	1147	N.D.		
43) Trichloroethene	0.000		0	N.D.		
44) Methyl cyclohexane	0.000		0	N.D.	d	
45) Dibromomethane	10.949	93	1009	N.D.		
46) 1,2-Dichloropropane	11.108	63	1006	N.D.		
47) Bromodichloromethane	11.061	83	1047	N.D.		
48) Methyl Methacrylate	11.255	69	1176	N.D.		
49) 1,4-Dioxane	0.000		0	N.D.		
50) 2-Chloroethyl vinyl ether	11.490	63	1451	N.D.		
51) C-1,3-Dichloropropene	11.790	75	1176	N.D.		

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT020.D
Acq On : 25 Jan 2021 5:11 pm
Operator : KKW
Sample : AE00066-12
Misc :
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Jan 26 07:01:00 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

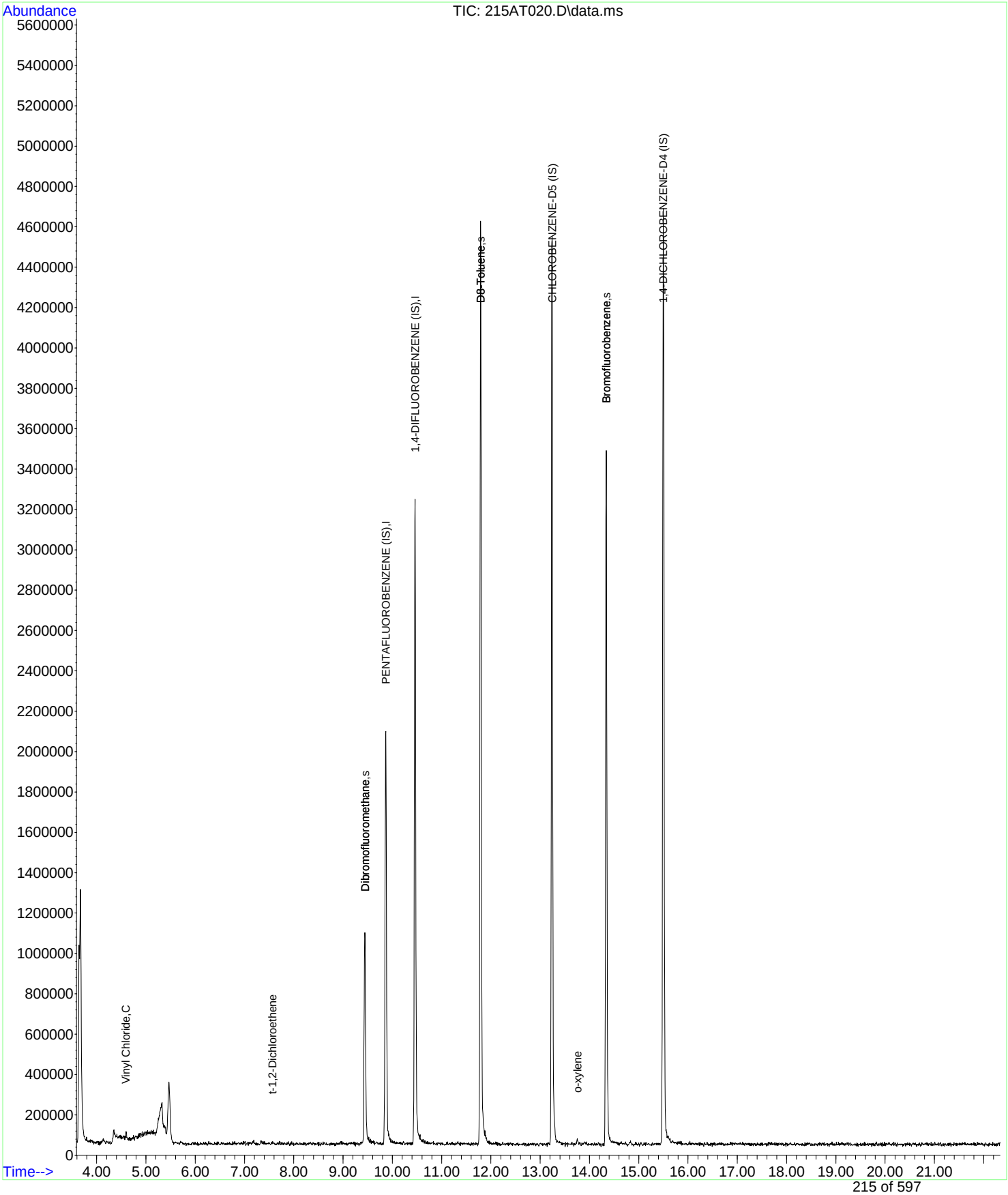
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.790	98	3329537	47.39 ug/L	94
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	11.842	92	2605	N.D.	
57) T-1,3-Dichloropropene	0.000		0	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	0.000		0	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	12.700	76	1014	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	0.000		0	N.D. d	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	13.247	112	1296	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	13.758	106	7767	0.32 ug/L	98
70) Styrene	13.799	104	1846	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	0.000		0	N.D.	
74) Bromofluorobenzene	14.340	95	1552558	54.82 ug/L	85
75) n-Propylbenzene	14.398	91	1413	N.D.	
76) 1,1,2,2-Tetrachloroethane	14.563	83	1565	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D. d	
78) T-1,4-Dichloro-2-Butene	14.434	53	1092	N.D.	
80) Bromobenzene	14.351	156	1519	N.D.	
81) 1,2,4-Trimethylbenzene	0.000		0	N.D.	
82) 2-Chlorotoluene	14.504	91	1098	N.D.	
83) 4-Chlorotoluene	14.786	91	1011	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	0.000		0	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	0.000		0	N.D.	
88) 1,3-Dichlorobenzene	15.491	146	1622	N.D.	
89) 1,4-Dichlorobenzene	15.491	146	1622	N.D.	
90) n-Butylbenzene	0.000		0	N.D.	
91) 1,2-Dichlorobenzene	16.096	146	1125	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	18.881	128	1156	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT020.D
Acq On : 25 Jan 2021 5:11 pm
Operator : KKW
Sample : AE00066-12
Misc :
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Jan 26 07:01:00 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT023.D
Acq On : 25 Jan 2021 6:39 pm
Operator : KKW
Sample : MS1
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Jan 26 07:01:12 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.863	168	1347954	50.00	ug/L	#	0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.456	114	2823243	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	1642590	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.497	152	1598011	50.00	ug/L	#	0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.440	113	780379	56.13	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 112.26%				
52) D8-Toluene	11.790	98	3398323	48.73	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 97.46%				
73) Bromofluorobenzene	14.340	95	1592165	54.28	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 108.56%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.987	85	229617	13.20	ug/L		99
3) Chloromethane	4.410	50	193354	9.65	ug/L		91
4) Vinyl Chloride	4.592	62	271709	16.71	ug/L	#	85
5) Bromomethane	5.239	94	41937	10.00	ug/L	#	94
6) Chloroethane	5.456	64	161715	22.60	ug/L		96
7) Trichlorofluoromethane	5.709	101	457475	22.61	ug/L		95
8) Diethyl ether	6.190	59	179409	15.94	ug/L		87
9) 1,1-Dichloroethene	6.543	96	264312	22.71	ug/L	#	75
10) Trichlorotrifluoroethane	6.566	151	179429	23.02	ug/L		97
11) Acrolein	7.031	56	136758	58.43	ug/L		98
12) Iodomethane	6.790	142	125818	10.08	ug/L	#	88
13) Carbon Disulfide	6.631	76	811034	21.28	ug/L		97
14) 3-chloropropene	7.207	41	314536	13.68	ug/L	#	74
15) Acetone	7.407	43	206264	65.13	ug/L		94
16) Methylene Chloride	7.354	84	295553	20.94	ug/L	#	69
17) Methyl Acetate	7.536	43	100027	10.11	ug/L	#	85
18) t-1,2-Dichloroethene	7.554	96	297918	22.12	ug/L	#	81
19) Methyl tert-butyl ether	7.648	73	684222	20.08	ug/L		91
20) Acetonitrile	8.071	41	219981	85.68	ug/L	#	89
21) Isopropyl ether	8.059	45	681310	15.06	ug/L	#	85
22) Chloroprene	8.288	88	269069	20.86	ug/L		87
23) 1,1-Dichloroethane	8.323	63	531536	19.19	ug/L		99
24) Acrylonitrile	8.405	53	79166	18.93	ug/L	#	80
25) Vinyl Acetate	8.558	43	285974	10.08	ug/L	#	88
26) c-1,2-Dichloroethene	8.964	96	313797	22.00	ug/L		83
27) 2,2-Dichloropropane	9.087	77	438665	18.75	ug/L		95
28) Bromochloromethane	9.193	128	145331	28.85	ug/L		99
29) Cyclohexane	9.199	56	491909	16.33	ug/L	#	82
30) Chloroform	9.234	83	551805	20.86	ug/L		98
32) Dibromofluoromethane	9.440	113	780379	56.13	ug/L	#	89
33) 2-Butanone	9.551	72	132730	87.61	ug/L	#	46
34) 1,1,1-Trichloroethane	9.492	97	478387	21.91	ug/L		98
35) 1,1-Dichloropropene	9.622	75	432665	19.47	ug/L		91
36) Propionitrile	9.915	54	29792	15.71	ug/L	#	1
37) Methacrylonitrile	9.921	41	194280	20.75	ug/L		87
38) Isobutyl Alcohol	9.910	43	204798	180.88	ug/L	#	51
40) Carbon Tetrachloride	9.428	117	378465	17.89	ug/L		89
41) Benzene	9.886	78	1294453	20.06	ug/L		94
42) 1,2-Dichloroethane	10.098	62	369867	15.71	ug/L	#	94
43) Trichloroethene	10.462	130	316790	24.30	ug/L	#	87
44) Methyl cyclohexane	10.462	83	613828	18.95	ug/L		86
45) Dibromomethane	10.908	93	171489	18.70	ug/L		91
46) 1,2-Dichloropropane	10.997	63	286445	15.81	ug/L		92
47) Bromodichloromethane	11.026	83	375658	18.97	ug/L		95
48) Methyl Methacrylate	11.091	69	150717	12.57	ug/L		84
49) 1,4-Dioxane	11.208	88	44329	270.85	ug/L		88
50) 2-Chloroethyl vinyl ether	11.484	63	1413	N.D.			
51) C-1,3-Dichloropropene	11.619	75	454993	17.03	ug/L	#	88

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT023.D
Acq On : 25 Jan 2021 6:39 pm
Operator : KKW
Sample : MS1
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Jan 26 07:01:12 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

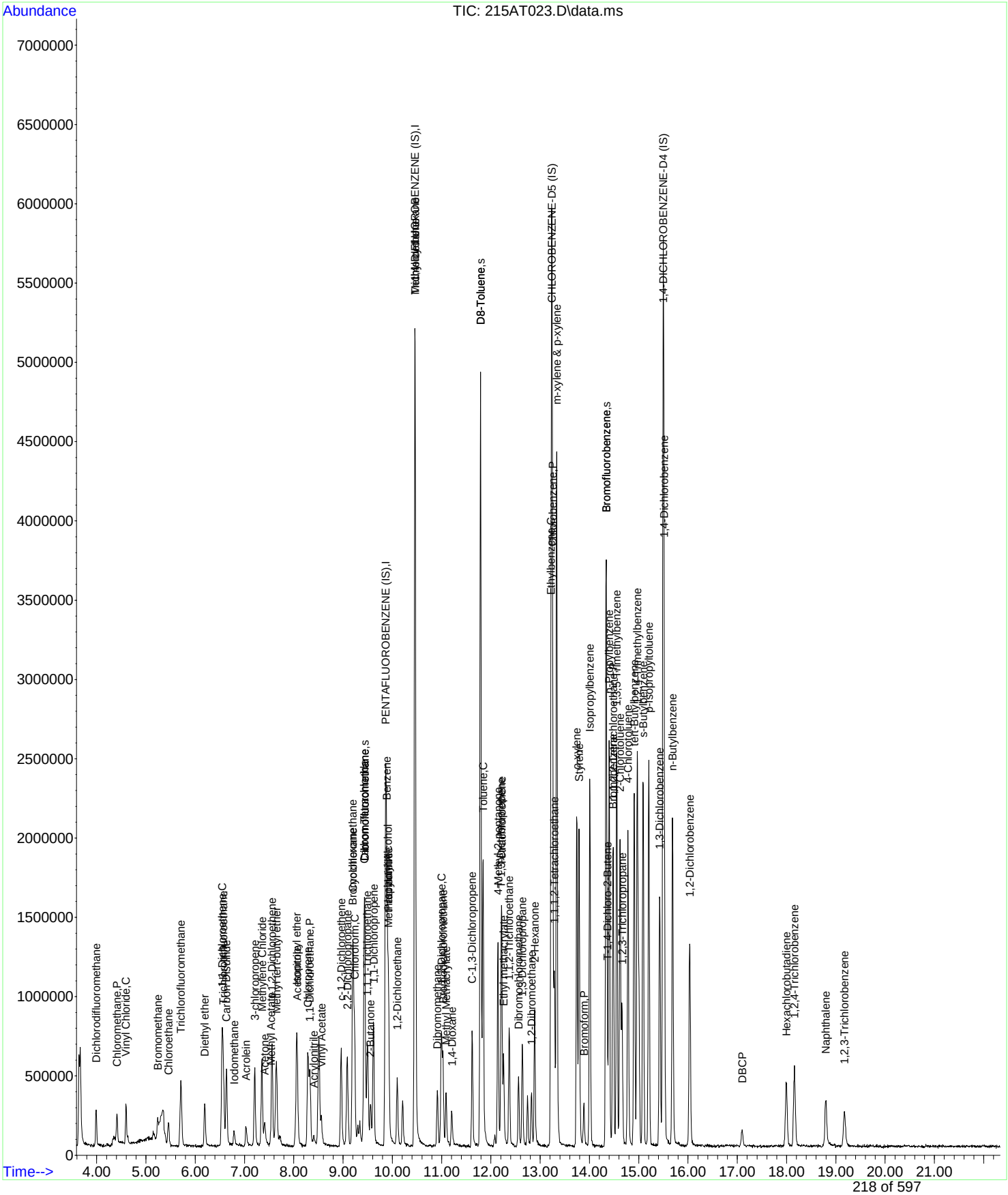
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.790	98	3398323	48.73	ug/L		94
54) 4-Methyl-2-pentanone	12.142	100	167072	87.22	ug/L	#	67
56) Toluene	11.843	92	853548	24.35	ug/L		95
57) T-1,3-Dichloropropene	12.207	75	424897	20.37	ug/L	#	89
58) Tetrachloroethene	12.219	164	235915	24.47	ug/L		98
59) Ethyl methacrylate	12.254	69	306207	16.41	ug/L	#	92
60) 1,1,2-Trichloroethane	12.371	97	260372	21.99	ug/L		93
61) Dibromochloromethane	12.560	129	257809	25.33	ug/L	#	94
62) 1,3-Dichloropropane	12.636	76	437733	19.96	ug/L	#	83
63) 1,2-Dibromoethane	12.824	107	252864	22.94	ug/L		91
64) 2-Hexanone	12.889	43	504186	62.46	ug/L	#	91
65) Ethylbenzene	13.218	106	507998	23.85	ug/L		90
66) Chlorobenzene	13.253	112	951973	26.96	ug/L		98
67) 1,1,1,2-Tetrachloroethane	13.288	131	291445	27.58	ug/L		98
68) m-xylene & p-xylene	13.335	106	1355962	54.84	ug/L		85
69) o-xylene	13.741	106	646162	25.48	ug/L		90
70) Styrene	13.788	104	1155091	27.90	ug/L	#	81
71) Bromoform	13.887	173	123615	21.74	ug/L		100
72) Isopropylbenzene	14.005	105	1742837	26.11	ug/L		95
74) Bromofluorobenzene	14.340	95	1592165	54.28	ug/L		85
75) n-Propylbenzene	14.399	91	2255066	25.28	ug/L	#	95
76) 1,1,2,2-Tetrachloroethane	14.481	83	378225	22.86	ug/L		99
77) 1,2,3-Trichloropropane	14.663	61	73412	12.13	ug/L	#	36
78) T-1,4-Dichloro-2-Butene	14.363	53	97520	14.93	ug/L	#	40
80) Bromobenzene	14.475	156	368941	22.93	ug/L		82
81) 1,2,4-Trimethylbenzene	14.968	105	1629477	21.78	ug/L		95
82) 2-Chlorotoluene	14.622	91	1341922	21.34	ug/L	#	91
83) 4-Chlorotoluene	14.780	91	1384353	21.08	ug/L		93
84) tert-Butylbenzene	14.910	119	1308173	23.02	ug/L		88
85) 1,3,5-Trimethylbenzene	14.551	105	1577193	21.76	ug/L		93
86) p-Isopropyltoluene	15.204	119	1692540	23.98	ug/L		94
87) s-Butylbenzene	15.092	105	2015095	23.70	ug/L		96
88) 1,3-Dichlorobenzene	15.421	146	803544	24.93	ug/L	#	90
89) 1,4-Dichlorobenzene	15.515	146	790858	22.89	ug/L		98
90) n-Butylbenzene	15.685	91	1498231	20.41	ug/L		94
91) 1,2-Dichlorobenzene	16.032	146	694804	22.84	ug/L		92
92) DBCP	17.101	157	34083	14.32	ug/L		94
93) Hexachlorobutadiene	17.994	225	86853	12.68	ug/L		88
94) 1,2,4-Trichlorobenzene	18.159	180	220878	14.71	ug/L		99
95) Naphthalene	18.793	128	445261	14.16	ug/L	#	90
96) 1,2,3-Trichlorobenzene	19.175	180	113669	13.21	ug/L		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT023.D
Acq On : 25 Jan 2021 6:39 pm
Operator : KKW
Sample : MS1
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Jan 26 07:01:12 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT024.D
Acq On : 25 Jan 2021 7:09 pm
Operator : KKW
Sample : MSD1
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Jan 26 07:01:17 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.862	168	1455730	50.00	ug/L	#	0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.456	114	3018464	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	1707516	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.497	152	1611682	50.00	ug/L	#	0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.439	113	833708	55.53	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 111.06%				
52) D8-Toluene	11.790	98	3585542	48.09	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 96.18%				
73) Bromofluorobenzene	14.340	95	1669530	54.75	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 109.50%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.993	85	238069	12.67	ug/L		97
3) Chloromethane	4.410	50	194433	8.99	ug/L		98
4) Vinyl Chloride	4.598	62	271314	15.45	ug/L	#	81
5) Bromomethane	5.238	94	50149	11.03	ug/L	#	93
6) Chloroethane	5.450	64	162062	20.97	ug/L		96
7) Trichlorofluoromethane	5.703	101	447574	20.48	ug/L		95
8) Diethyl ether	6.196	59	208032	17.12	ug/L		92
9) 1,1-Dichloroethene	6.537	96	258607	20.58	ug/L	#	80
10) Trichlorotrifluoroethane	6.572	151	176639	20.99	ug/L		97
11) Acrolein	7.030	56	142593	56.41	ug/L		98
12) Iodomethane	6.790	142	174239	12.93	ug/L	#	85
13) Carbon Disulfide	6.631	76	776090	18.85	ug/L	#	95
14) 3-chloropropene	7.207	41	337174	13.57	ug/L	#	82
15) Acetone	7.406	43	238213	69.65	ug/L		99
16) Methylene Chloride	7.348	84	290424	19.06	ug/L	#	74
17) Methyl Acetate	7.536	43	101977	9.54	ug/L	#	87
18) t-1,2-Dichloroethene	7.553	96	298360	20.52	ug/L		83
19) Methyl tert-butyl ether	7.641	73	700243	19.03	ug/L	#	87
20) Acetonitrile	8.065	41	239324	86.32	ug/L	#	86
21) Isopropyl ether	8.065	45	733180	15.01	ug/L	#	88
22) Chloroprene	8.288	88	283585	20.36	ug/L		82
23) 1,1-Dichloroethane	8.329	63	539460	18.03	ug/L		99
24) Acrylonitrile	8.411	53	84355	18.67	ug/L	#	81
25) Vinyl Acetate	8.558	43	301441	9.84	ug/L	#	94
26) c-1,2-Dichloroethene	8.958	96	321758	20.89	ug/L		83
27) 2,2-Dichloropropane	9.081	77	434850	17.22	ug/L	#	94
28) Bromochloromethane	9.193	128	144687	26.59	ug/L		96
29) Cyclohexane	9.204	56	488822	15.02	ug/L	#	80
30) Chloroform	9.228	83	582764	20.40	ug/L		96
32) Dibromofluoromethane	9.439	113	833708	55.53	ug/L	#	89
33) 2-Butanone	9.557	72	136387	83.40	ug/L	#	54
34) 1,1,1-Trichloroethane	9.498	97	478608	20.30	ug/L		99
35) 1,1-Dichloropropene	9.616	75	432595	18.03	ug/L		92
36) Propionitrile	9.915	54	34382	16.79	ug/L	#	1
37) Methacrylonitrile	9.921	41	198144	19.60	ug/L		89
38) Isobutyl Alcohol	9.915	43	218824	178.96	ug/L	#	34
40) Carbon Tetrachloride	9.422	117	358876	15.87	ug/L		91
41) Benzene	9.886	78	1320601	19.14	ug/L		92
42) 1,2-Dichloroethane	10.097	62	389899	15.49	ug/L	#	94
43) Trichloroethene	10.462	130	299476	21.49	ug/L	#	91
44) Methyl cyclohexane	10.456	83	628695	18.16	ug/L	#	87
45) Dibromomethane	10.914	93	171627	17.51	ug/L		92
46) 1,2-Dichloropropane	10.996	63	294861	15.24	ug/L		91
47) Bromodichloromethane	11.026	83	374244	17.73	ug/L		97
48) Methyl Methacrylate	11.085	69	151152	11.79	ug/L	#	85
49) 1,4-Dioxane	11.214	88	56023	320.16	ug/L	#	82
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.	d		
51) C-1,3-Dichloropropene	11.619	75	442910	15.56	ug/L	#	89

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT024.D
Acq On : 25 Jan 2021 7:09 pm
Operator : KKW
Sample : MSD1
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Jan 26 07:01:17 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

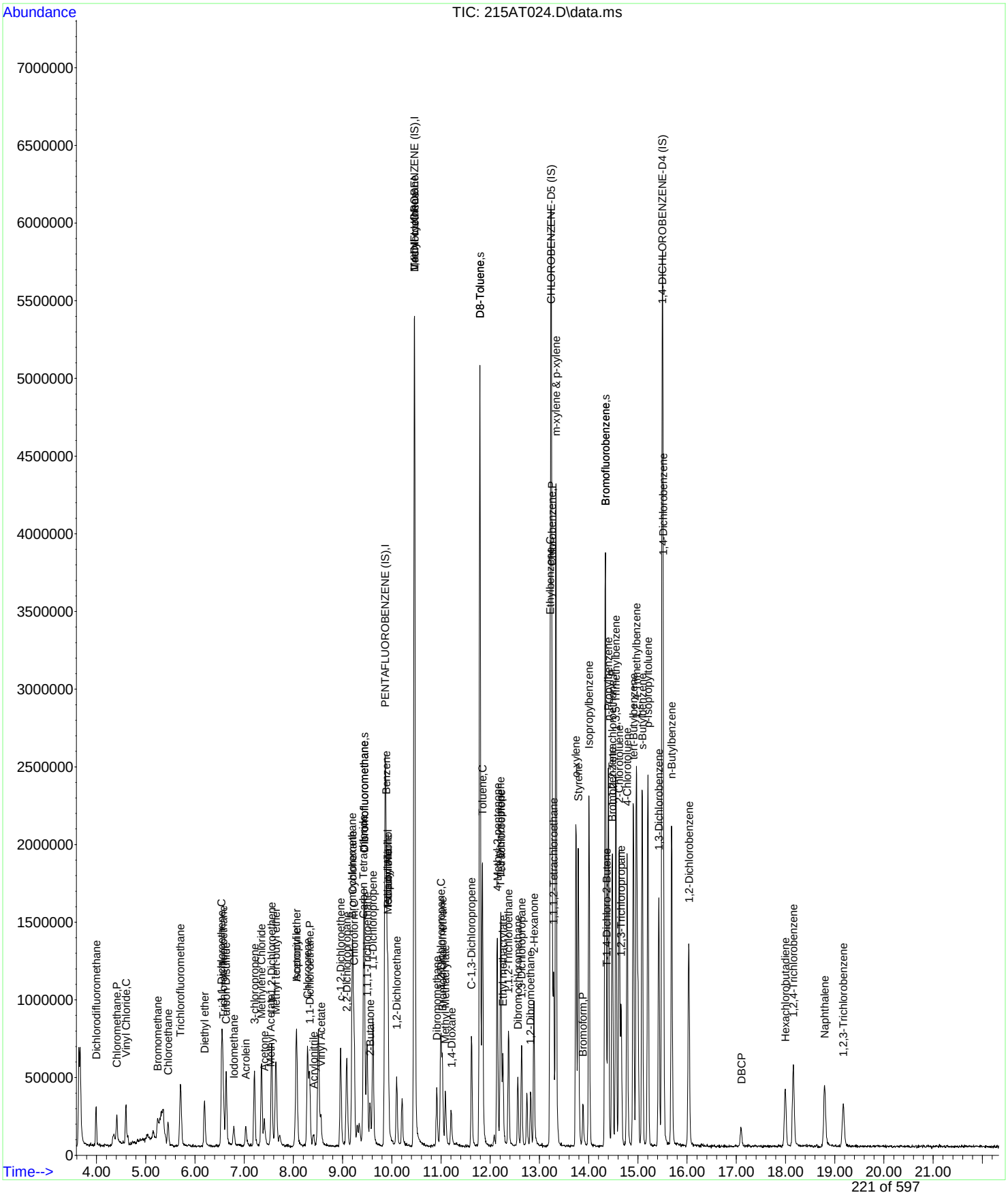
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.790	98	3585542	48.09	ug/L		96
54) 4-Methyl-2-pentanone	12.142	100	177683	86.76	ug/L	#	67
56) Toluene	11.843	92	852360	23.39	ug/L		95
57) T-1,3-Dichloropropene	12.207	75	421185	19.43	ug/L		91
58) Tetrachloroethene	12.219	164	227306	22.68	ug/L		94
59) Ethyl methacrylate	12.254	69	318812	16.44	ug/L	#	93
60) 1,1,2-Trichloroethane	12.365	97	262135	21.29	ug/L		92
61) Dibromochloromethane	12.559	129	247371	23.49	ug/L		98
62) 1,3-Dichloropropane	12.636	76	437204	19.18	ug/L		86
63) 1,2-Dibromoethane	12.818	107	251969	21.99	ug/L		86
64) 2-Hexanone	12.888	43	553615	65.98	ug/L	#	89
65) Ethylbenzene	13.217	106	495675	22.39	ug/L		89
66) Chlorobenzene	13.253	112	945720	25.77	ug/L		97
67) 1,1,1,2-Tetrachloroethane	13.288	131	282943	25.76	ug/L		98
68) m-xylene & p-xylene	13.335	106	1322370	51.45	ug/L		86
69) o-xylene	13.740	106	648069	24.59	ug/L		87
70) Styrene	13.787	104	1120338	26.03	ug/L	#	84
71) Bromoform	13.881	173	125542	21.27	ug/L		100
72) Isopropylbenzene	14.005	105	1695433	24.44	ug/L		96
74) Bromofluorobenzene	14.340	95	1669530	54.75	ug/L	#	83
75) n-Propylbenzene	14.398	91	2185415	23.57	ug/L		94
76) 1,1,2,2-Tetrachloroethane	14.481	83	378369	22.00	ug/L		99
77) 1,2,3-Trichloropropane	14.657	61	65040	10.34	ug/L	#	18
78) T-1,4-Dichloro-2-Butene	14.363	53	98606	14.52	ug/L	#	58
80) Bromobenzene	14.475	156	371836	22.91	ug/L	#	75
81) 1,2,4-Trimethylbenzene	14.968	105	1604735	21.27	ug/L		93
82) 2-Chlorotoluene	14.622	91	1307531	20.61	ug/L		91
83) 4-Chlorotoluene	14.780	91	1346168	20.33	ug/L		91
84) tert-Butylbenzene	14.910	119	1297666	22.64	ug/L		90
85) 1,3,5-Trimethylbenzene	14.551	105	1520245	20.80	ug/L		92
86) p-Isopropyltoluene	15.203	119	1675163	23.53	ug/L		92
87) s-Butylbenzene	15.092	105	1996638	23.28	ug/L		98
88) 1,3-Dichlorobenzene	15.427	146	779530	23.98	ug/L	#	91
89) 1,4-Dichlorobenzene	15.515	146	766399	21.99	ug/L		98
90) n-Butylbenzene	15.685	91	1471863	19.88	ug/L	#	92
91) 1,2-Dichlorobenzene	16.038	146	693012	22.58	ug/L	#	92
92) DBCP	17.107	157	42506	17.62	ug/L		94
93) Hexachlorobutadiene	17.994	225	92932	13.43	ug/L	#	93
94) 1,2,4-Trichlorobenzene	18.159	180	244401	16.13	ug/L		98
95) Naphthalene	18.793	128	595598	18.70	ug/L	#	90
96) 1,2,3-Trichlorobenzene	19.175	180	132691	15.23	ug/L		91

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT024.D
Acq On : 25 Jan 2021 7:09 pm
Operator : KKW
Sample : MSD1
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Jan 26 07:01:17 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



ANALYSIS SEQUENCE

AA64658

Instrument: OVGCMS2

Calibration ID: 2101077

Printed: 1/26/2021 1:33:44PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA64658-TUN1	QC		1		A0I0903			
AA64658-CCV1	QC		2		A1A0990	A0K0862		
1A26010-BS1	QC		3			A0K0862		
1A26010-MS1	QC		4			A0K0862		
1A26010-MSD1	QC		5			A0K0862		
1A26010-BLK1	QC		6			A0K0862		
AA64658-CRL1	QC		7		A1A0968	A0K0862		
AD08635-03	624.1 Halo	C	8			A0K0862		History 1x ND jmw 1/21/21 THMs, JA
AD08635-03	624.1 TTO	C	9			A0K0862		BatchQC
AD08635-03	8260D	C	10			A0K0862		BatchQC
AD08635-03	8260D Appendix 2 FL	C	11			A0K0862		BatchQC
AD08635-03	60D TCL SOM01.2 CLP-LIK	C	12			A0K0862		BatchQC
AD08635-03	8260D Arom	C	13			A0K0862		BatchQC
AD08269-41RE1	8260D	C	14			A0K0862		rr1x nap c/o Re-extract added 1/26/202
AD08269-43RE1	8260D	C	15			A0K0862		rr1x nap (2) high ccv Re-extract added
AD08269-40RE1	8260D	D	16			A0K0862		rr1x nap (14) high ccv Re-extract adde
AD08629-02	624.1 TTO	E	17			A0K0862		FOAM run 1x 1/21/21
AE00093-03	8260D Appendix 2 FL	A	18			A0K0862		TB
AD08269-34RE1	8260D	D	19			A0K0862		rr2x overdilute Re-extract added 1/26/2
AE00066-11RE1	60D TCL SOM01.2 CLP-LIK	B	20			A0K0862	Tetra Tech, Inc. (TE016)	rr1x overdilute Re-extract added 1/26/2
AE00093-01	8260D Appendix 2 FL	N	21			A0K0862		
AE00093-02	8260D Appendix 2 FL	N	22			A0K0862		
AE00520-01	8260D Arom	F	23			A0K0862		hist 1x nc 1/26/21 Only two vials, NB

Samples Loaded By Date

Data Processed By Date

ANALYSIS SEQUENCE

AA64658

Instrument: OVGCMS2

Calibration ID: 2101077

Printed: 1/26/2021 1:33:44PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AD08145-02RE1	624.1 TTO	C	24			A0K0862	ENCO Jacksonville	rr lower dilution Re-extract added 1/26

Samples Loaded By Date

Data Processed By Date

VOLATILES GC/MS LOGBOOK (EPA Method 624.1 / SW-846 Method 8260D)

Tune Start Date: 01/26/21	Surrogate: AOI0902	8260 Mix: A1A0764
Sequence: AA64658	Internal: AOK0861	8260 Add: A1A0635
Batch: 1A24010	LCS Mix 2^0: A1A0898	8260 Ac/Ac: A1A0543
Method: 8260	LCS Acrolein 2^0: A1A0830	8260 Gases: A1A0899
Analyst: KO	LCS Gas 2^0: A1A0920	Instrument #: MS.2
Instrument EM Voltage: 1788		

212AU

Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)	Comments	LIMS
001	Tun			1				
002	CCV	MC 1/27/21		2	MC 1/27/21			
003	BS			3				
004	MS	D	1	4		N		
005	MSD	D	1	4		N		
006	mbl			5				
007	mbl			6	MC 1/27/21			
008	BLK	MS 1/27/21		7				
009	CCL			8				
010	AD08635-03	C	1	9		N	ms/msd	
011	AD08269-41re1	A	1	10		N		
012	AD08269-43re1	C	1	11		N		
013	AD08269-40re1	D	1	12		N		
014	AD08629-02	E	1	13		N	APA	
015	AE00083-03	A	1	14		N		
016	AD08269-34re1	D	2	15		N		
017	AE00066-11re1	B	1	16		N		
018	AE00093-01	N	1	17		N		
019	~~AD~~AE00093-02	M	1	18		N		
020	AE00520-01	F	1	19	5	N		
021	AD08145-02re1	C	10	20		N	TOB - ND; Out of hold 21-kd matrix	

PREPARATION BENCH SHEET

Printed: 1/26/2021 1:34:00PM

1A26010

ENCO Orlando

Analysis
624.1 Halo [EPA 624.1]
624.1 TTO [EPA 624.1]
8260D [EPA 8260D]
8260D Appendix 2 FL [EPA 8260D]
8260D Arom [EPA 8260D]
8260D TCL SOM01.2 CLP-LIKE [EPA 8260D]

Surrogate Solution
___ A0I0902 8260 surr working

Prepared using: EPA 5030B_MS

Spiking Solution
A1A0898 8260 2nd source Mega Mix
A1A0922 8260 2nd source Gases/Acrolein virtual

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
1A26010-BLK1		Blank		QC			5	5			1	
1A26010-BS1		LCS		QC			5	5	A1A0922 A1A0898	2 2	1	
1A26010-MS1		Matrix Spike [AD08635-03]		QC			5	5	A1A0922 A1A0898	2 2	1	
1A26010-MSD1		Matrix Spike Dup [AD08635-03]		QC			5	5	A1A0922 A1A0898	2 2	1	
AD08145-02RE1		BD03778-02 (Waste Water (Grab)) D[MS31	09-Dec-20	624.1 TTO			5	5			1	rr lower dilution Re-extract added 1/26/2021 by NMC
AD08269-34RE1	C	MW-6DR D[MS27	27-Jan-21	8260D			5	5			1	rr2x overdilute Re-extract added 1/26/2021 by NMC
AD08269-40RE1	C	RW-1 D[MS28	27-Jan-21	8260D			5	5			1	rr1x nap (14) high ccv Re-extract added 1/26/2021 by NMC
AD08269-41RE1	C	RW-12 C[MS28	27-Jan-21	8260D			5	5			1	rr1x nap c/o Re-extract added 1/26/2021 by NMC
AD08269-43RE1	C	RW-9 C[MS28	27-Jan-21	8260D			5	5			1	rr1x nap (2) high ccv Re-extract added 1/26/2021 by NMC
AD08629-02		GRAB CM-02 E[MS28	01-Feb-21	624.1 TTO			5	5			1	FOAM run 1x 1/21/21
AD08635-03		MW-3R C[MS29		8260D			5	5			1	Added for BatchQC in: 1A26010
AD08635-03		MW-3R C[MS29		624.1 TTO			5	5			1	Added for BatchQC in: 1A26010
AD08635-03		MW-3R C[MS29		8260D TCL SOM01.2 CLP-LIKE			5	5			1	Added for BatchQC in: 1A26010
AD08635-03		MW-3R C[MS29		8260D Appendix 2 FL			5	5			1	Added for BatchQC in: 1A26010

PREPARATION BENCH SHEET

Printed: 1/26/2021 1:34:00PM

1A26010

ENCO Orlando

Prepared using: EPA 5030B_MS

Surrogate Solution

___ A0I0902 8260 surr working

Spiking Solution

A1A0898 8260 2nd source Mega Mix
A1A0922 8260 2nd source Gases/Acrolein virtual

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
AD08635-03		MW-3R C[MS29	28-Jan-21	624.1 Halo			5	5			1	History 1x ND jmw 1/21/21 THMs, JAJ 1/17/19
AD08635-03		MW-3R C[MS29		8260D Arom			5	5			1	Added for BatchQC in: 1A26010
AE00066-11RE1	C	CRCA-MW0018-058.0-20210120 [MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			1	rr1x overdilute Re-extract added 1/26/2021 by NMC
AE00093-01		MW-3SR N[MS30	01-Feb-21	8260D Appendix 2 FL			5	5			1	
AE00093-02		MW-3DR N[MS30	01-Feb-21	8260D Appendix 2 FL			5	5			1	
AE00093-03		TRIP BLANK A[MS30	01-Feb-21	8260D Appendix 2 FL			5	5			1	TB
AE00520-01		TMW-1 F[MS30	01-Feb-21	8260D Arom			5	5			1	hist 1x nc 1/26/21 Only two vials, NB 1/25/21

(1) Before solvent extraction proceeds, verify that there is no residual chlorine above 0.5 mg/L. Any sample above this must be treated to remove excess chlorine before extraction, and this documented as a comment.

Instrument 2

Start Date _____

StopDate _____

Instrument ID _____

Standard ID#	Description	Manufacture Lot#
A0A1401	pH Test Papers (1.0 to 12.0)	231018
A0B1371	Residual Chlorine Strips (Potassium Iodide S	102916
A0L0697	P&T Anti-Foam working solution	N/A

_____ _____
Samples Prepared By Date

_____ _____
Samples Prepared By Date

Manual Integration Review Form

ENVIRONMENTAL CONSERVATION LABORATORIES, INC. ☐ Cary ☐ Jacksonville ☒ Orlando

I hereby attest that the manual integrations contained in this package have been thoroughly reviewed and are in agreement with the associated hardcopy data.

The electronic files listed below have been reviewed for accuracy, completeness and comply with ENCO labs QA-11 Manual Integration Policy including:

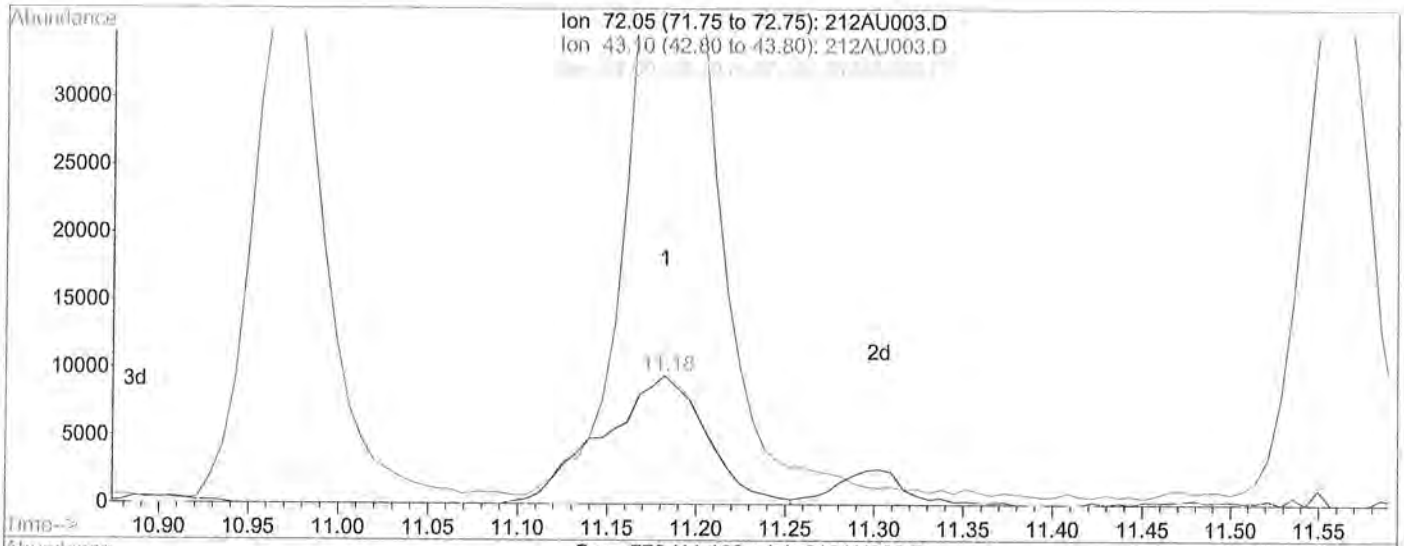
- "Before" and "After" chromatograms are provided
- Manual integrations are indicated on expanded scale "after" chromatograms at a scale large enough to see the manual integration performed.
- Reintegration technique marked if available on the data system
- Technical justification for manual integration
- Appropriate flags indicating which analytes were manually integrated are included in the raw data
- Analyst's initials and date.

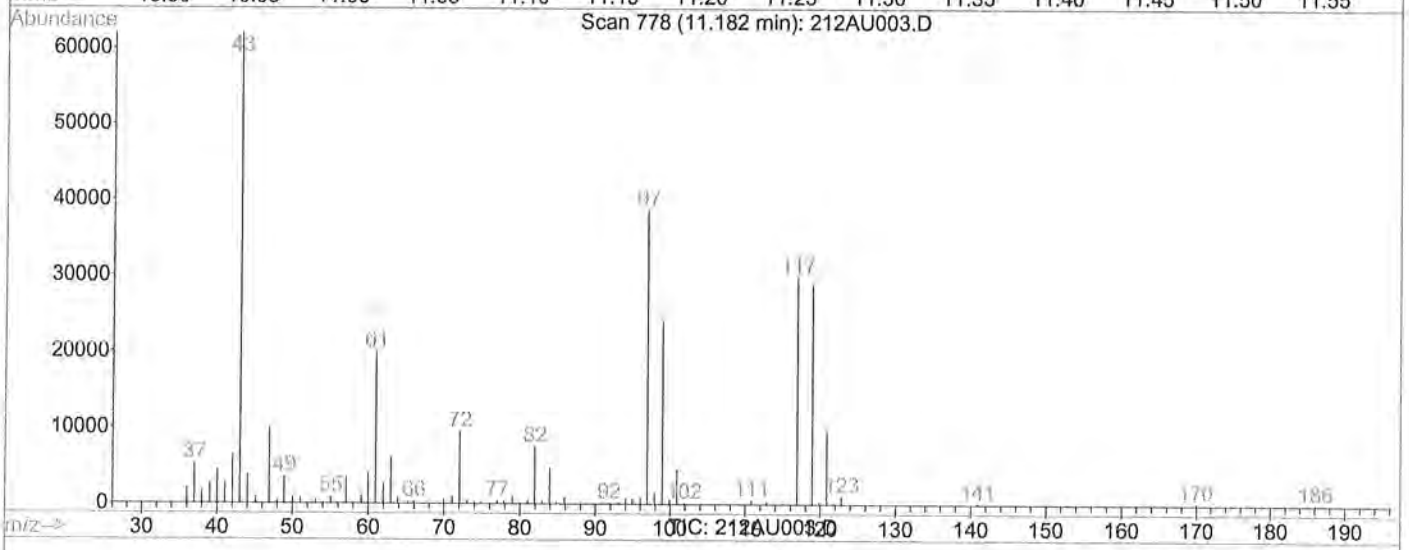
Instrument ID:	JV6CMS-2
Sequence/Batch ID:	RA64658 / 1A2601O
Data File Prefix:	8260
Date and Time Range of MIs:	01/26/21 1307-1311
Reviewer Print Name:	Kerry Watson
Reviewer Signature:	
Date of Review:	01/27/21

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\012621\212AU003.D Vial: 3
Acq On : 26 Jan 2021 8:43 am Operator: KG
Sample : bs1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 9:05 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Multiple Level Calibration





(25) 2-Butanone

11.18min 192.23ug/kg

response 38238

Ion	Exp%	Act%
72.05	100	100
43.10	656.50	476.32
57.00	39.40	25.62#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

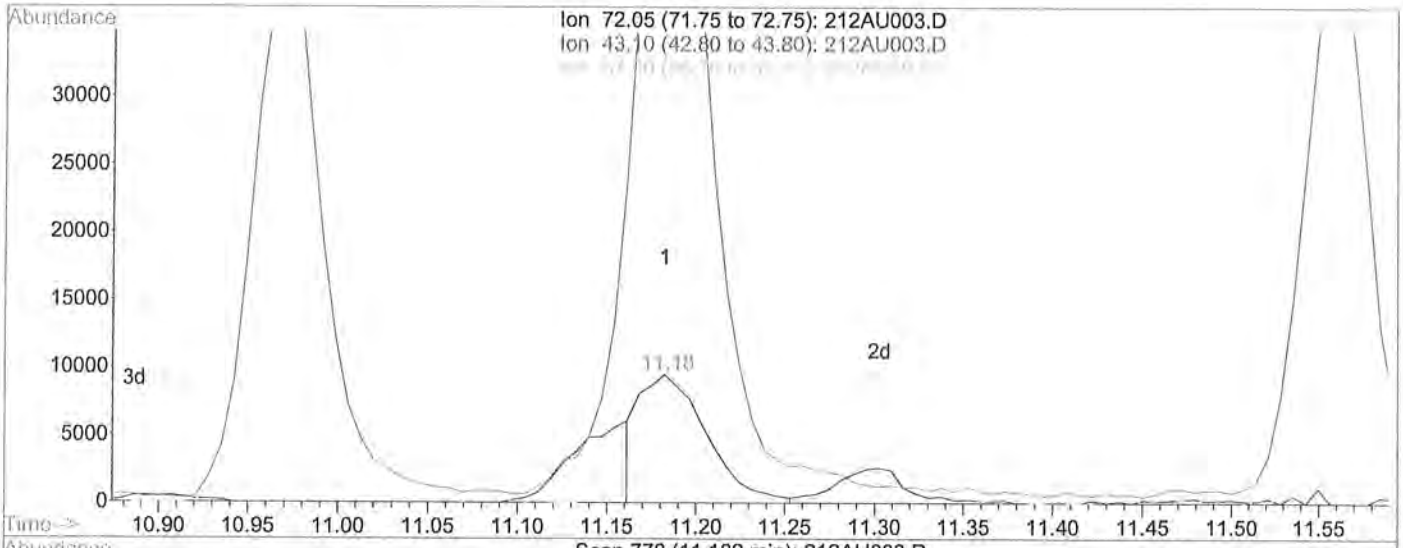
[ ] Other:

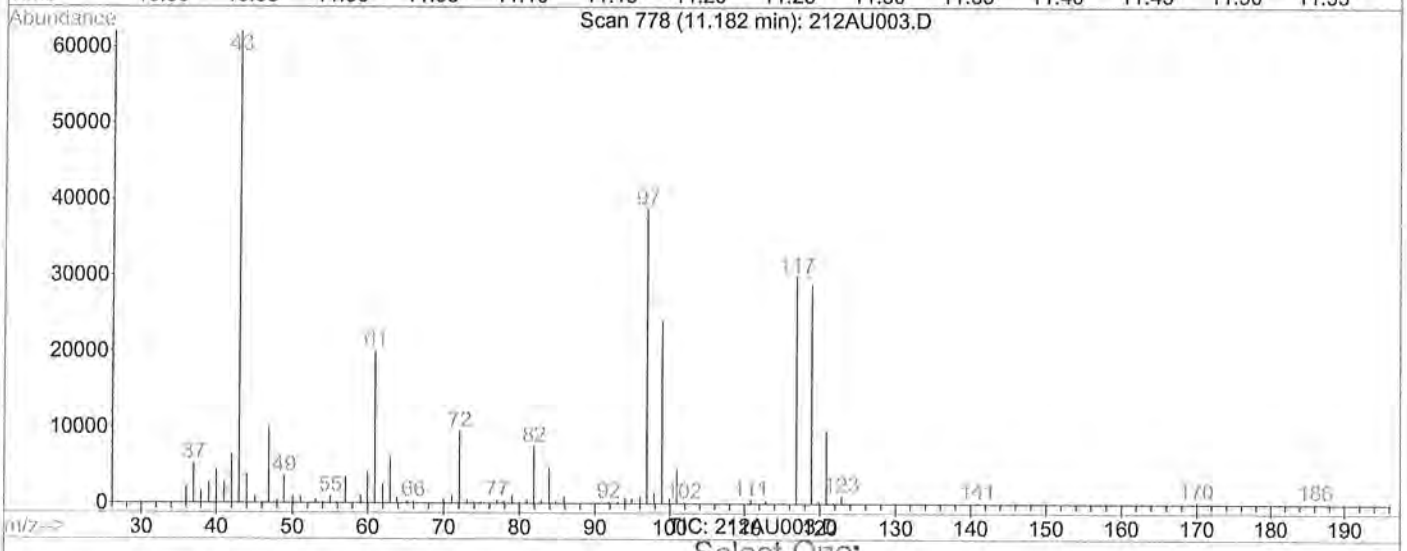
Reviewed by: PC 1/26/21

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\012621\212AU003.D Vial: 3
Acq On : 26 Jan 2021 8:43 am Operator: KG
Sample : bs1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 13:07 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Multiple Level Calibration





(25) 2-Butanone

11.18min 125.94ug/kg m

response 25051

Ion	Exp%	Act%
72.05	100	100
43.10	656.50	727.06
57.00	39.40	39.11
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

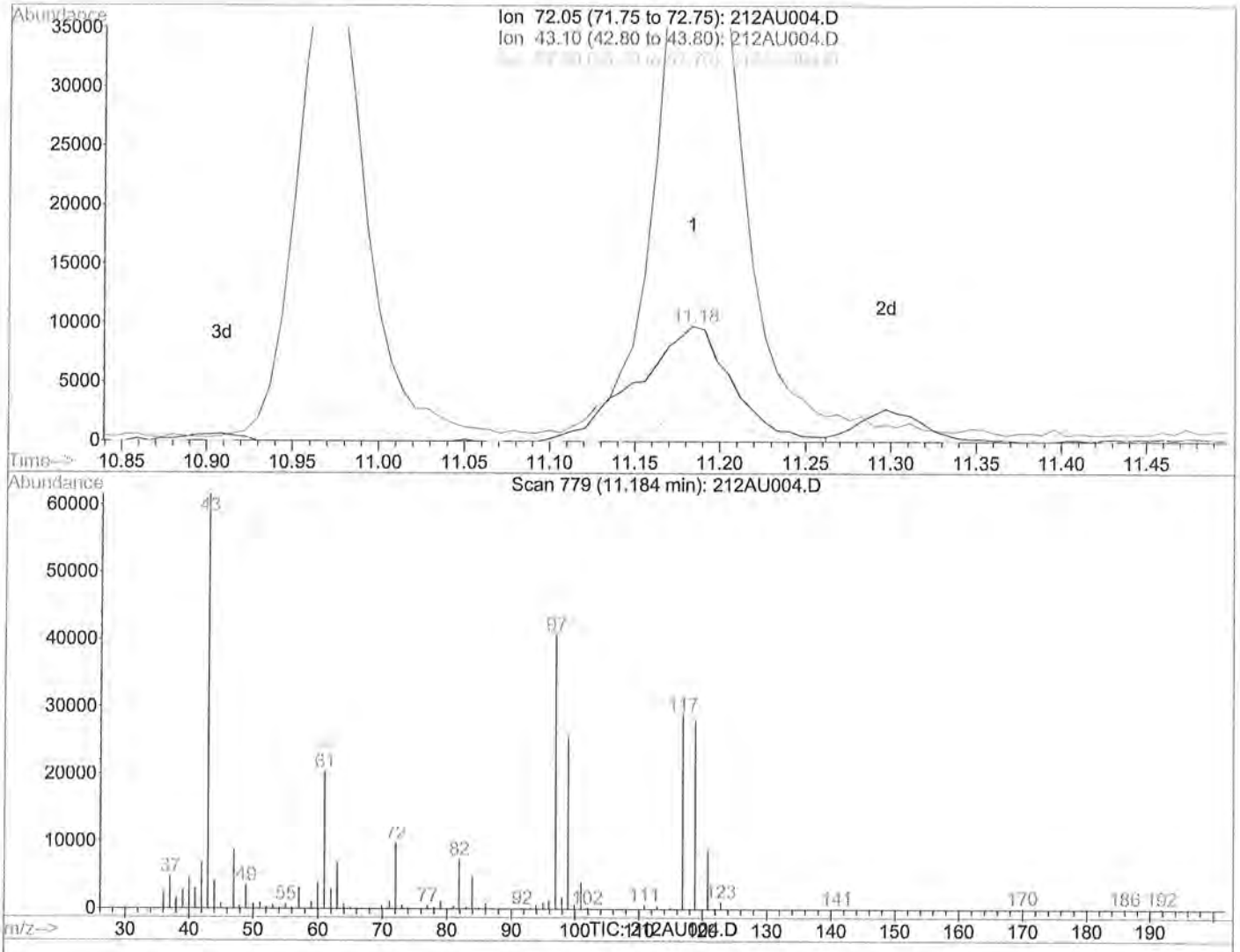
Review by/Date MC 1/26/21

Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\012621\212AU004.D Vial: 4
Acq On : 26 Jan 2021 9:24 am Operator: KG
Sample : 1a26010-ms1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 9:46 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Multiple Level Calibration



(25) 2-Butanone

11.18min 185.98ug/kg

response 37752

Ion	Exp%	Act%
72.05	100	100
43.10	656.50	477.50
57.00	39.40	26.06#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

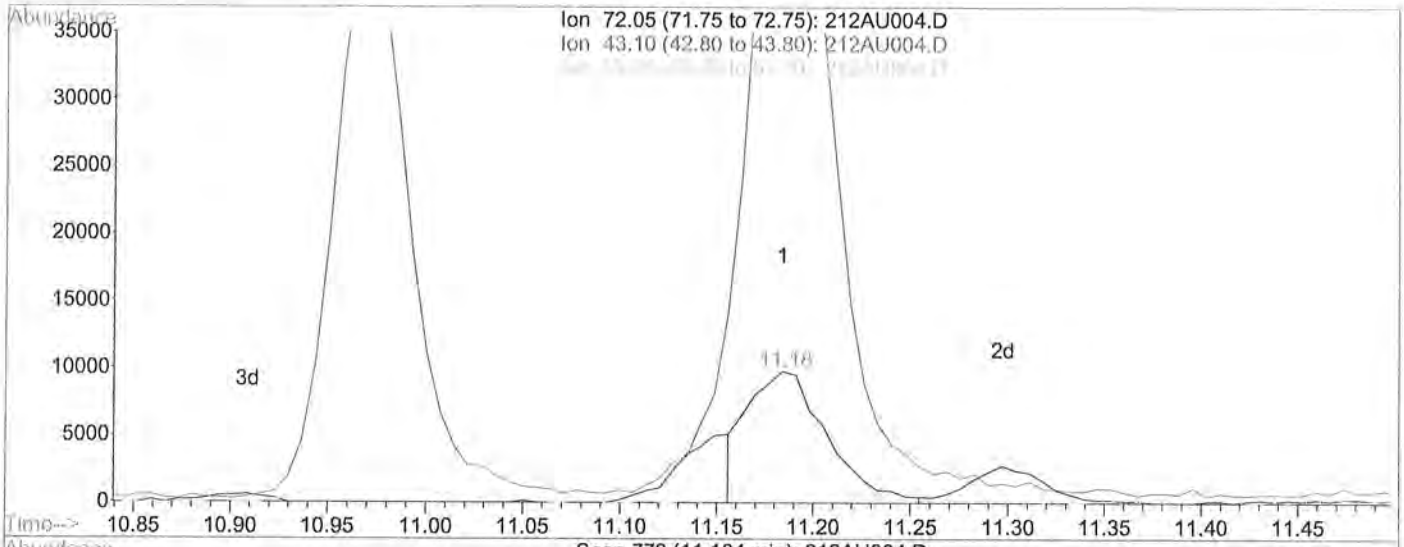
Review by/Date MC 1/26/21

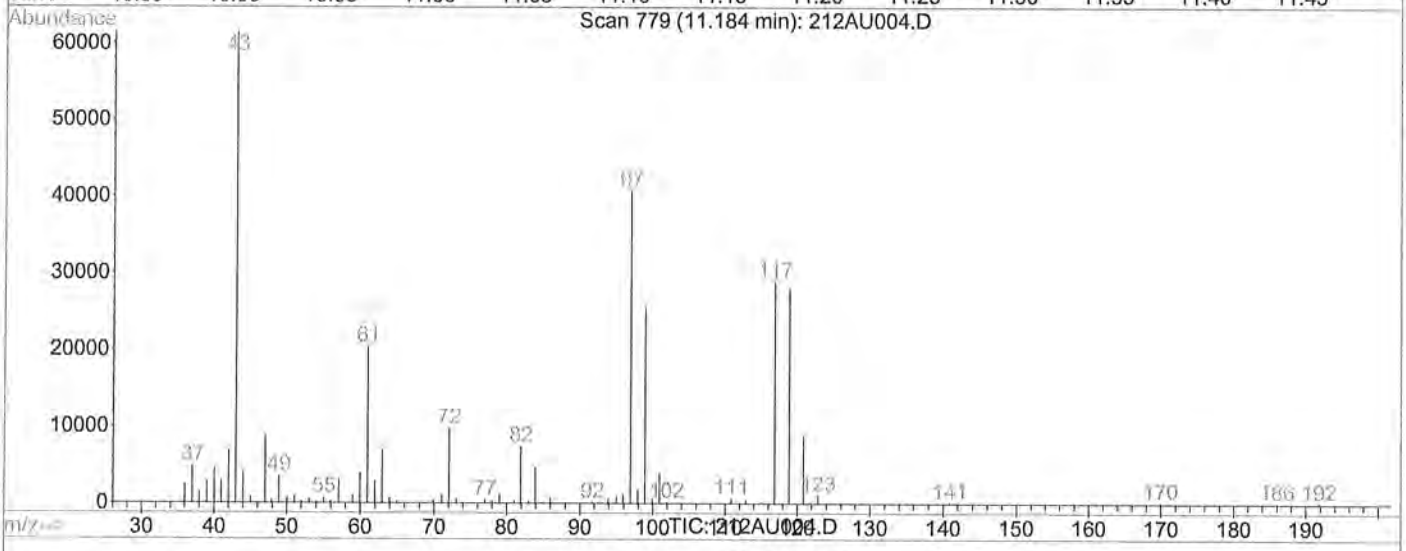
212AU004.D 011921.M Tue Jan 26 13:07:44 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\012621\212AU004.D Vial: 4
Acq On : 26 Jan 2021 9:24 am Operator: KG
Sample : 1a26010-ms1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 13:07 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Multiple Level Calibration





TIC: 212AU004.D

(25) 2-Butanone

11.18min 137.40ug/kg m

response 27891

Ion	Exp%	Act%
72.05	100	100
43.10	656.50	646.32
57.00	39.40	35.28
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

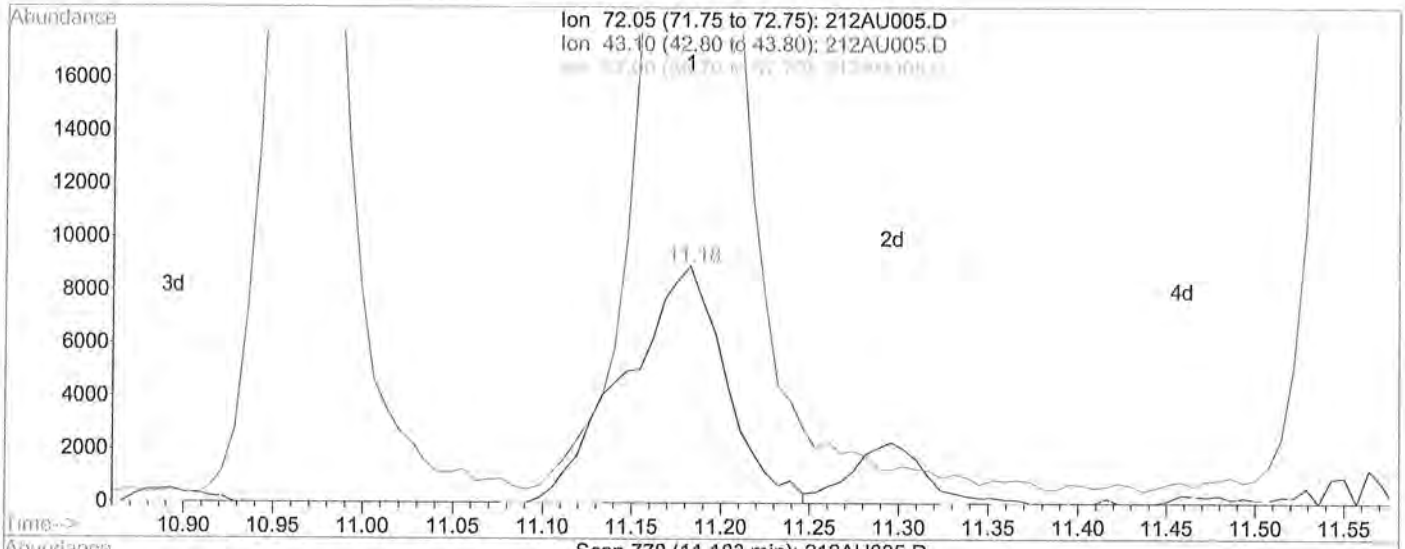
Review by/Date MC 1/26/21

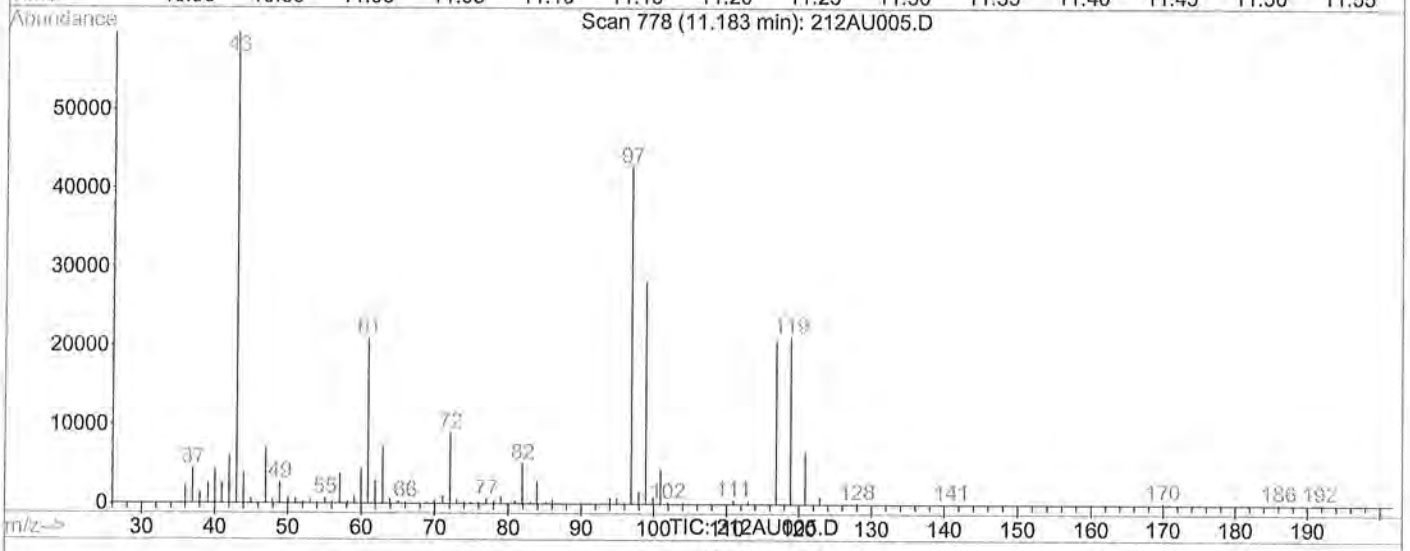
Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\012621\212AU005.D Vial: 5
Acq On : 26 Jan 2021 9:53 am Operator: KG
Sample : 1a26010-msd1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 10:15 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Multiple Level Calibration





(25) 2-Butanone

11.18min 186.24ug/kg

response 34869

Ion	Exp%	Act%
72.05	100	100
43.10	656.50	493.42
57.00	39.40	28.35
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

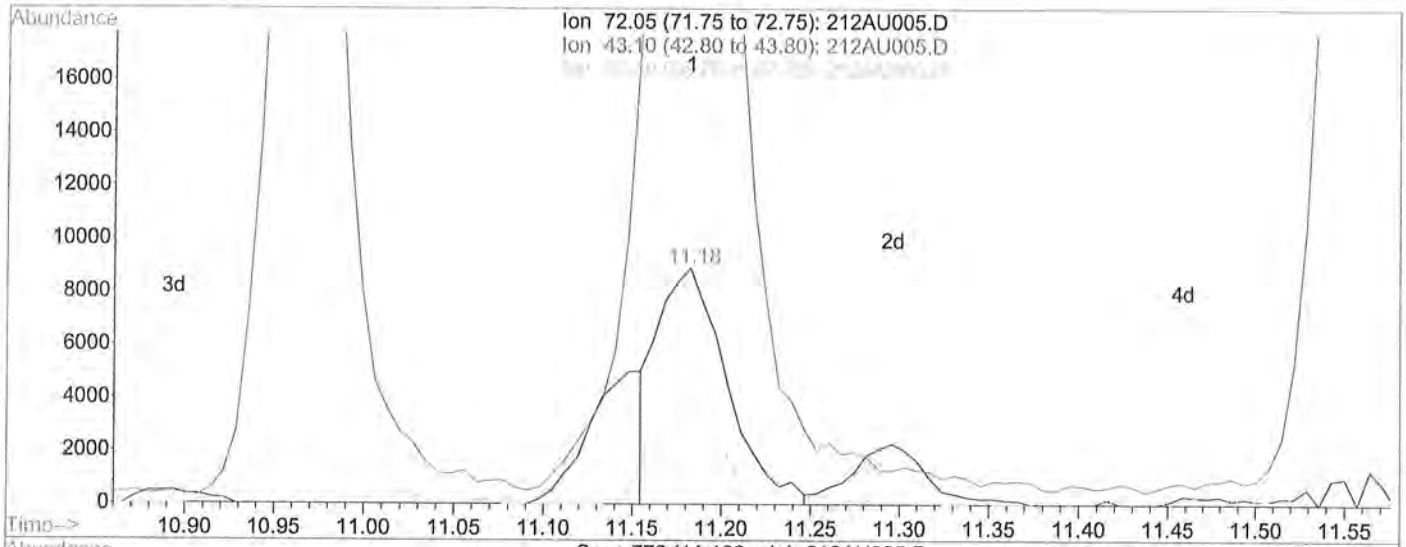
Review by/Date MC 1/26/21

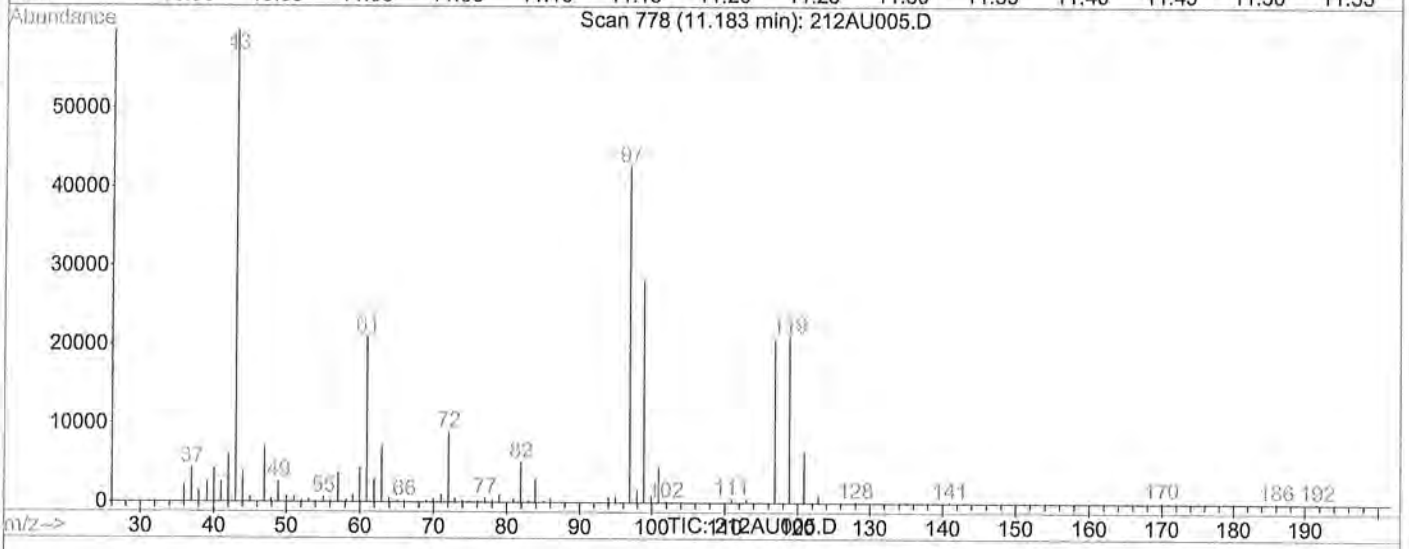
Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\012621\212AU005.D Vial: 5
Acq On : 26 Jan 2021 9:53 am Operator: KG
Sample : 1a26010-msd1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 13:07 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Multiple Level Calibration





(25) 2-Butanone

11.18min 129.07ug/kg m

response 24165

Ion	Exp%	Act%
72.05	100	100
43.10	656.50	711.99
57.00	39.40	40.91
0.00	0.00	0.00

Select One:

[] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, [illegible])

[] Incorrect peak selection/[illegible]

[] Hump integration

[] Baseline drop for split peaks

[] ISTD reintegration

[] Other:

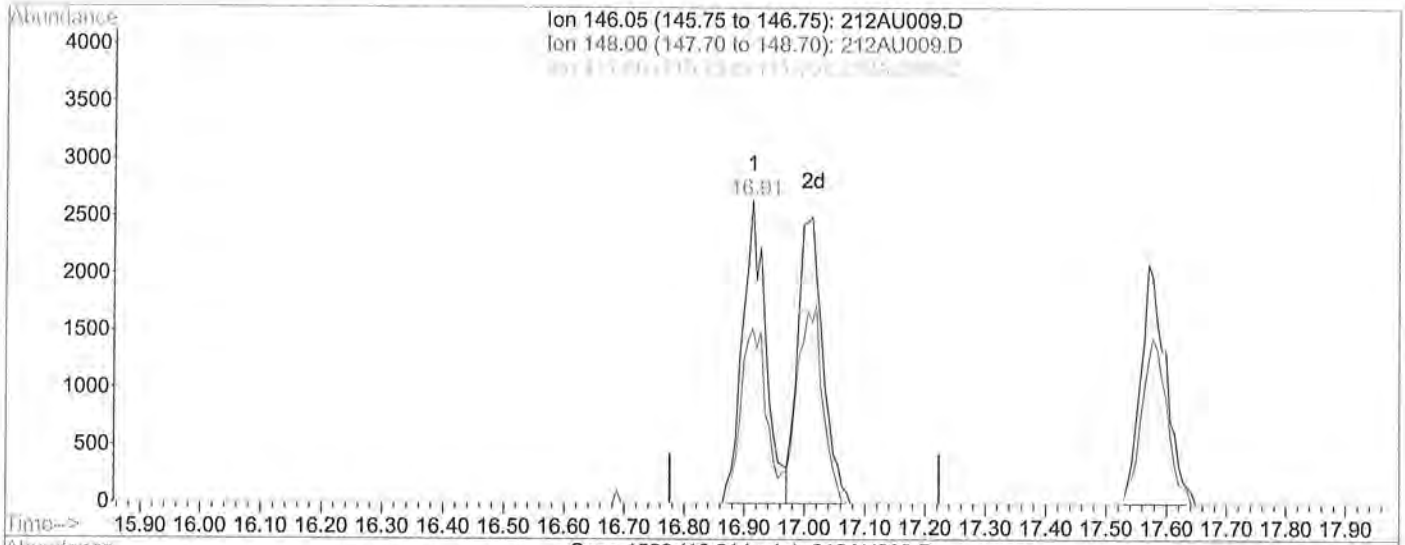
Review by/Date NC 1/26/21

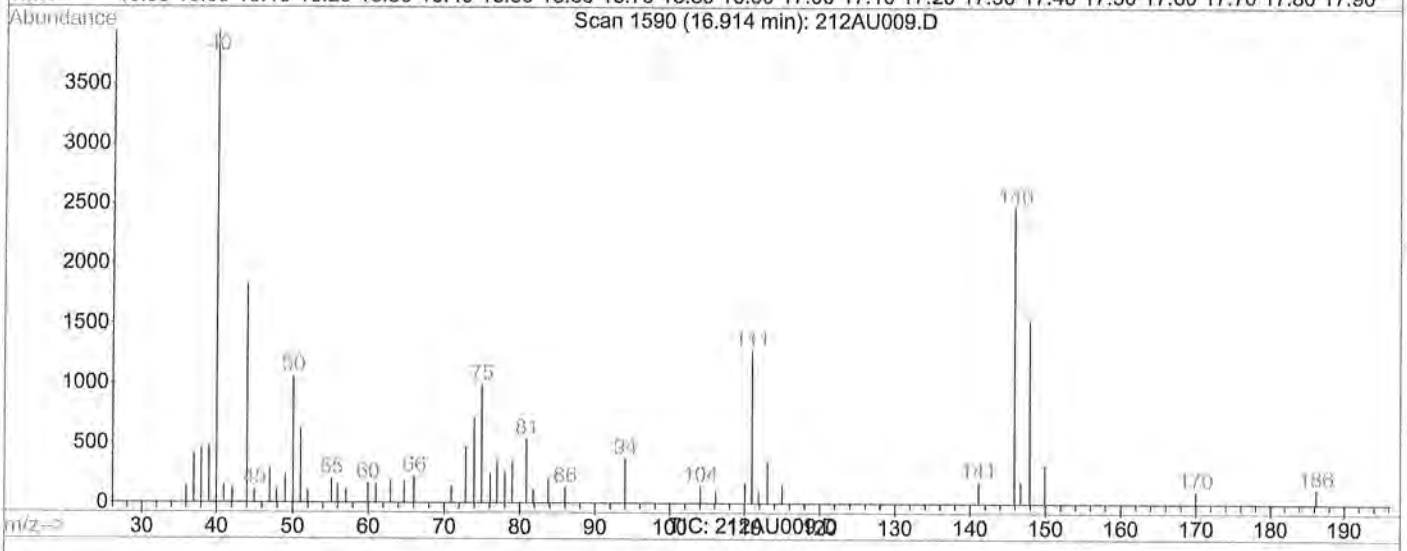
Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\012621\212AU009.D Vial: 8
Acq On : 26 Jan 2021 12:02 pm Operator: KG
Sample : CRL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 13:11 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Multiple Level Calibration





(89) 1,4-Dichlorobenzene

16.91min 1.38ug/kg

response 7135

Ion	Exp%	Act%
146.05	100	100
148.00	64.60	62.10
111.00	43.70	45.19
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

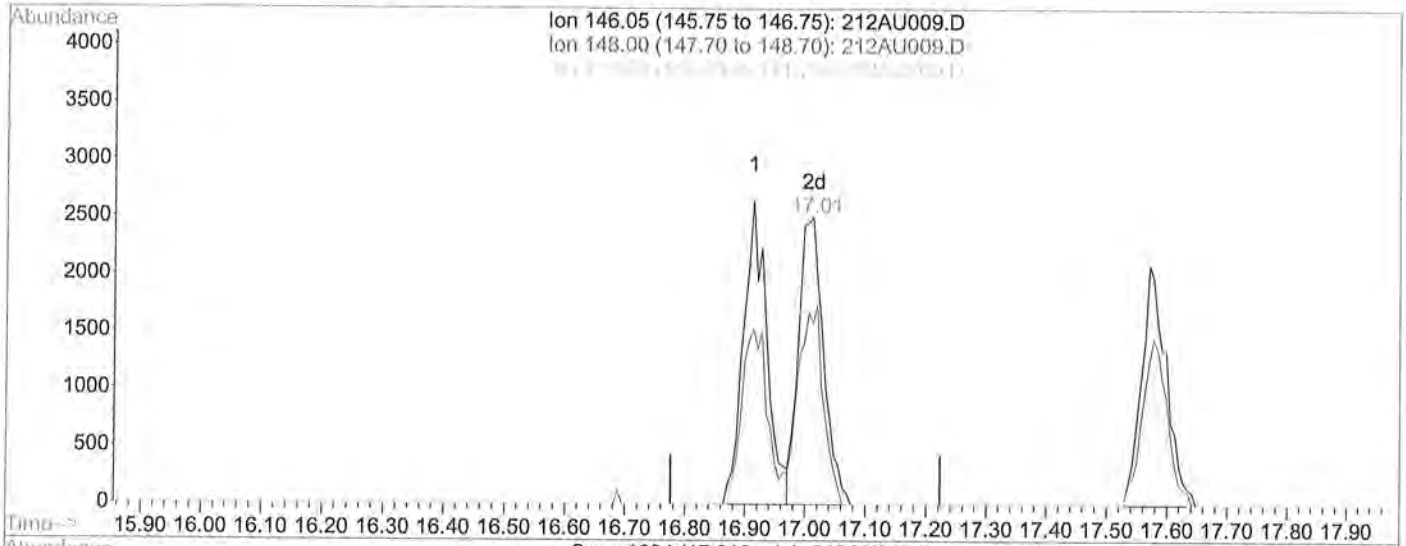
Review by/Date NC 1/26/21

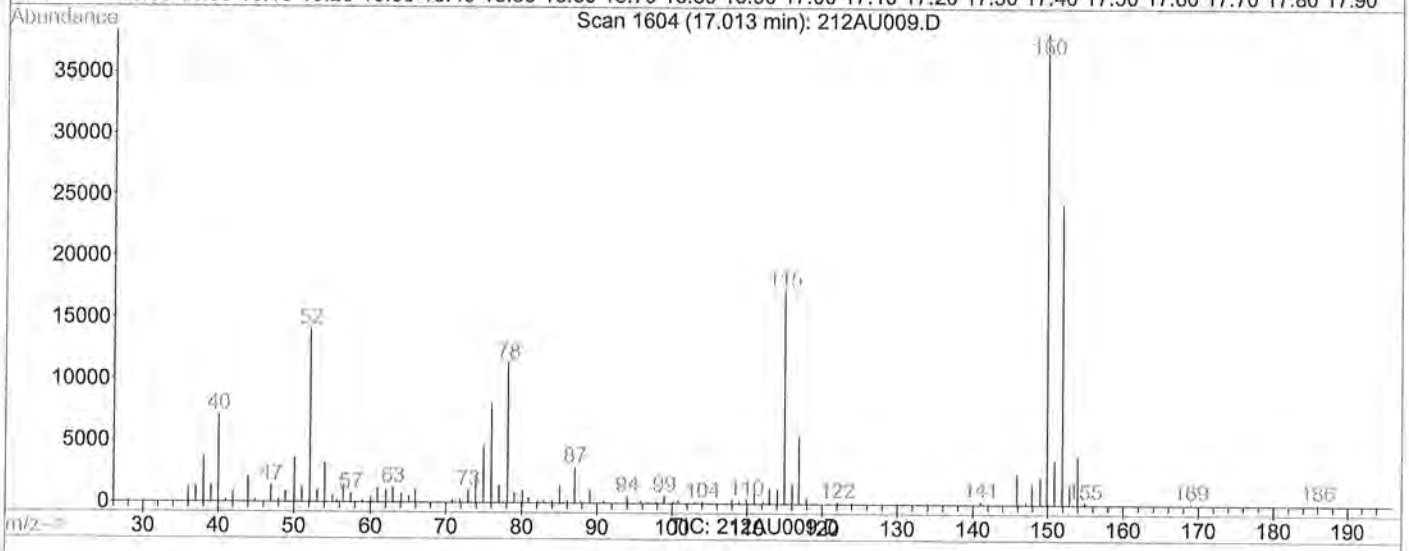
Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\012621\212AU009.D Vial: 8
Acq On : 26 Jan 2021 12:02 pm Operator: KG
Sample : CRL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 13:11 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Multiple Level Calibration





(89) 1,4-Dichlorobenzene

17.01min 1.40ug/kg m

response 7210

Ion	Exp%	Act%
146.05	100	100
148.00	64.60	61.46
111.00	43.70	44.72
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date NC 5/26/21

Review by/Date:

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012621\212AU002.D Vial: 2
Acq On : 26 Jan 2021 8:06 am Operator: KG
Sample : ccv1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 8:29 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.47	168	380115	50.00	ug/kg	0.03
38) 1,4-Difluorobenzene(IS)	12.03	114	741405	50.00	ug/kg	0.03
56) Chlorobenzene-d5(IS)	14.62	82	366094	50.00	ug/kg	0.03
79) 1,4-Dichlorobenzene-d4(IS)	16.98	152	237068	50.00	ug/kg	0.03
System Monitoring Compounds						
30) Dibromofluoromethane	11.08	113	215801	49.94	ug/kg	0.03
Spiked Amount 50.000	Range 53 - 146		Recovery = 99.88%			
54) D8-Toluene	13.24	98	620655	49.45	ug/kg	0.03
Spiked Amount 50.000	Range 41 - 146		Recovery = 98.90%			
75) Bromofluorobenzene	15.74	95	247825	49.82	ug/kg	0.03
Spiked Amount 50.000	Range 41 - 142		Recovery = 99.64%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.92	85	363397	46.26	ug/kg	100
3) Chloromethane	6.39	50	334954	42.86	ug/kg	99
4) Vinyl Chloride	6.59	62	339073	51.22	ug/kg	95
5) Bromomethane	7.23	96	210831	50.47	ug/kg	96
6) Chloroethane	7.47	64	230844	51.91	ug/kg	98
7) Trichlorofluoromethane	7.73	101	535713	48.86	ug/kg	100
8) Trichlorotrifluoroethane	8.55	101	215224	58.27	ug/kg	97
9) acrolein	8.91	56	310189	911.28	ug/kg	99
10) Acetone	9.26	43	242502	297.08	ug/kg	97
11) 1,1-Dichloroethene	8.51	96	192826	52.38	ug/kg	97
12) 3-Chloropropene	9.10	76	96390	48.86	ug/kg	97
13) Acetonitrile	9.80	41	196574	582.79	ug/kg	98
14) Iodomethane	8.74	142	690573	171.98	ug/kg	97
15) Carbon disulfide	8.63	76	1779249	195.09	ug/kg	100
16) Methylene Chloride	9.23	84	216667	56.54	ug/kg	98
17) Methyl tert-butyl ether	9.54	73	491121	59.75	ug/kg	98
18) Acrylonitrile	10.13	53	1021206	574.57	ug/kg	98
19) T-1,2-Dichloroethene	9.45	96	223106	56.40	ug/kg	98
20) Isopropyl Ether	9.91	45	1196014	54.26	ug/kg	99
21) C-1,2-Dichloroethene	10.68	96	245933	52.60	ug/kg	98
22) 1,1-Dichloroethane	10.13	63	457055	52.57	ug/kg	100
23) Vinyl Acetate	10.31	43	3511689	290.24	ug/kg	100
24) Chloroprene	10.12	88	171384	49.78	ug/kg	72
25) 2-Butanone	11.18	72	64448	276.60	ug/kg	97
26) Propionitrile	11.46	54	206980	619.18	ug/kg	100
27) 2,2-Dichloropropane	10.81	77	354970	59.84	ug/kg	97
28) Methacrylonitrile	11.50	67	644586	579.07	ug/kg	94
29) Chloroform	10.90	83	425646	59.20	ug/kg	95
31) Dibromofluoromethane	11.08	113	215801	49.94	ug/kg	100
32) Bromochloromethane	10.88	128	123832	53.81	ug/kg	95
33) 1,1,1-Trichloroethane	11.20	97	370928	53.47	ug/kg	100
34) 1,1-Dichloropropene	11.30	75	310129	53.00	ug/kg	98
35) Diethyl Ether	8.15	59	181481	61.03	ug/kg	99
36) Methyl Acetate	9.40	74	23847	65.25	ug/kg#	88
37) Cyclohexane	10.97	56	387366	53.70	ug/kg	99
39) Methyl Cyclohexane	12.09	55	295428	51.91	ug/kg	99
40) Carbon Tetrachloride	11.16	117	385833	53.09	ug/kg	100
41) 1,2-Dichloroethane	11.68	62	323466	56.61	ug/kg	98
42) Benzene	11.54	78	901933	53.14	ug/kg	96
43) Isobutyl Alcohol	11.56	43	361336	1278.59	ug/kg#	82
44) Trichloroethene	12.05	130	251109	52.75	ug/kg	99
45) 1,2-Dichloropropane	12.50	63	238652	55.30	ug/kg	96
46) Methyl Methacrylate	12.58	100	43773	55.36	ug/kg	98
47) 1,4-Dioxane	12.70	88	11496	997.55	ug/kg	100
48) Bromodichloromethane	12.51	83	314303	53.46	ug/kg	99
49) Dibromomethane	12.43	93	139473	55.93	ug/kg	97
50) 4-Methyl-2-Pentanone	13.52	100	106966	279.43	ug/kg	92
51) 2-Chloroethyl vinyl ether	12.82	63	1328	95.86	ug/kg#	100
52) 2-Hexanone	14.21	43	675299	284.34	ug/kg	99

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\012621\212AU002.D Vial: 2
Acq On : 26 Jan 2021 8:06 am Operator: KG
Sample : ccv1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 8:29 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

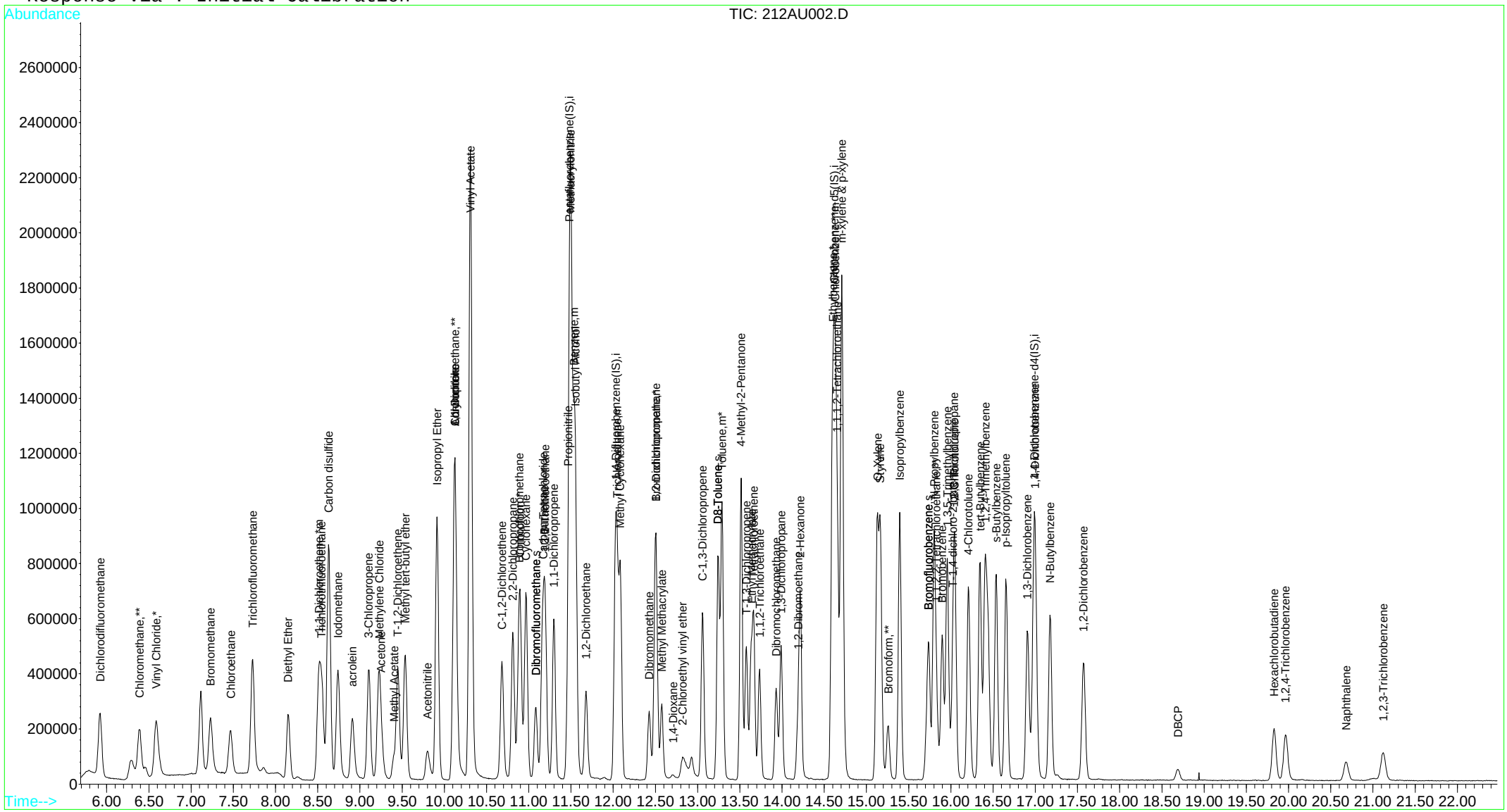
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.06	75	372379	55.74	ug/kg	96
55) D8-Toluene	13.24	98	620655	49.45	ug/kg	92
57) Toluene	13.29	92	529282	47.55	ug/kg	99
58) Ethyl Methacrylate	13.64	69	211811	50.22	ug/kg	94
59) T-1,3-Dichloropropene	13.58	75	304084	51.19	ug/kg	96
60) 1,1,2-Trichloroethane	13.73	97	158280	51.07	ug/kg	99
61) 1,3-Dichloropropane	13.99	76	302348	55.14	ug/kg	99
62) Tetrachloroethene	13.66	164	144464	46.26	ug/kg	98
63) Dibromochloromethane	13.93	129	232817	51.14	ug/kg	100
64) 1,2-Dibromoethane	14.19	107	181584	53.07	ug/kg	99
65) Chlorobenzene	14.64	112	601143	48.22	ug/kg	99
66) 1,1,1,2-Tetrachloroethane	14.66	131	238028	49.71	ug/kg	97
67) Ethylbenzene	14.60	106	300837	48.51	ug/kg	98
68) m-xylene & p-xylene	14.71	106	726834	98.58	ug/kg	98
69) O-Xylene	15.13	106	359374	50.78	ug/kg	100
70) Bromoform	15.26	173	104317	53.83	ug/kg	99
71) Styrene	15.17	104	647484	52.11	ug/kg	100
72) Isopropylbenzene	15.39	105	915280	50.97	ug/kg	100
73) 1,2,3-Trichloropropane	16.03	75	187058	50.07	ug/kg	99
74) 1,1,2,2-Tetrachloroethane	15.83	83	162256	52.98	ug/kg	100
76) Bromofluorobenzene	15.74	95	247825	49.82	ug/kg#	66
77) T-1,4-dichloro-2-butene	16.02	53	43042	45.68	ug/kg#	86
78) N-Propylbenzene	15.80	91	988859	49.50	ug/kg	99
80) Bromobenzene	15.90	156	189573	48.91	ug/kg	98
81) 1,3,5-Trimethylbenzene	15.96	105	670647	48.70	ug/kg	99
82) 2-Chlorotoluene	16.04	91	598897	47.47	ug/kg	99
83) 4-Chlorotoluene	16.21	91	613723	48.08	ug/kg	100
84) 1,2,4-Trimethylbenzene	16.40	105	677912	49.80	ug/kg	100
85) s-Butylbenzene	16.54	105	815117	48.60	ug/kg	99
86) tert-Butylbenzene	16.35	119	609442	48.83	ug/kg	100
87) p-Isopropyltoluene	16.65	119	702795	49.64	ug/kg	99
88) 1,3-Dichlorobenzene	16.91	146	332152	47.60	ug/kg	99
89) 1,4-Dichlorobenzene	17.00	146	343843	47.54	ug/kg	99
90) 1,2-Dichlorobenzene	17.57	146	277185	47.44	ug/kg	99
91) N-Butylbenzene	17.17	91	546073	50.51	ug/kg	99
92) DBCP	18.69	75	17366	53.76	ug/kg	97
93) Naphthalene	20.68	128	125269	52.22	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.96	180	94757	48.10	ug/kg	97
95) Hexachlorobutadiene	19.83	225	52846	42.91	ug/kg	99
96) 1,2,3-Trichlorobenzene	21.12	180	63247	49.47	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\012621\212AU002.D Vial: 2
Acq On : 26 Jan 2021 8:06 am Operator: KG
Sample : ccv1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 8:29 2021 Quant Results File: 011921.RES

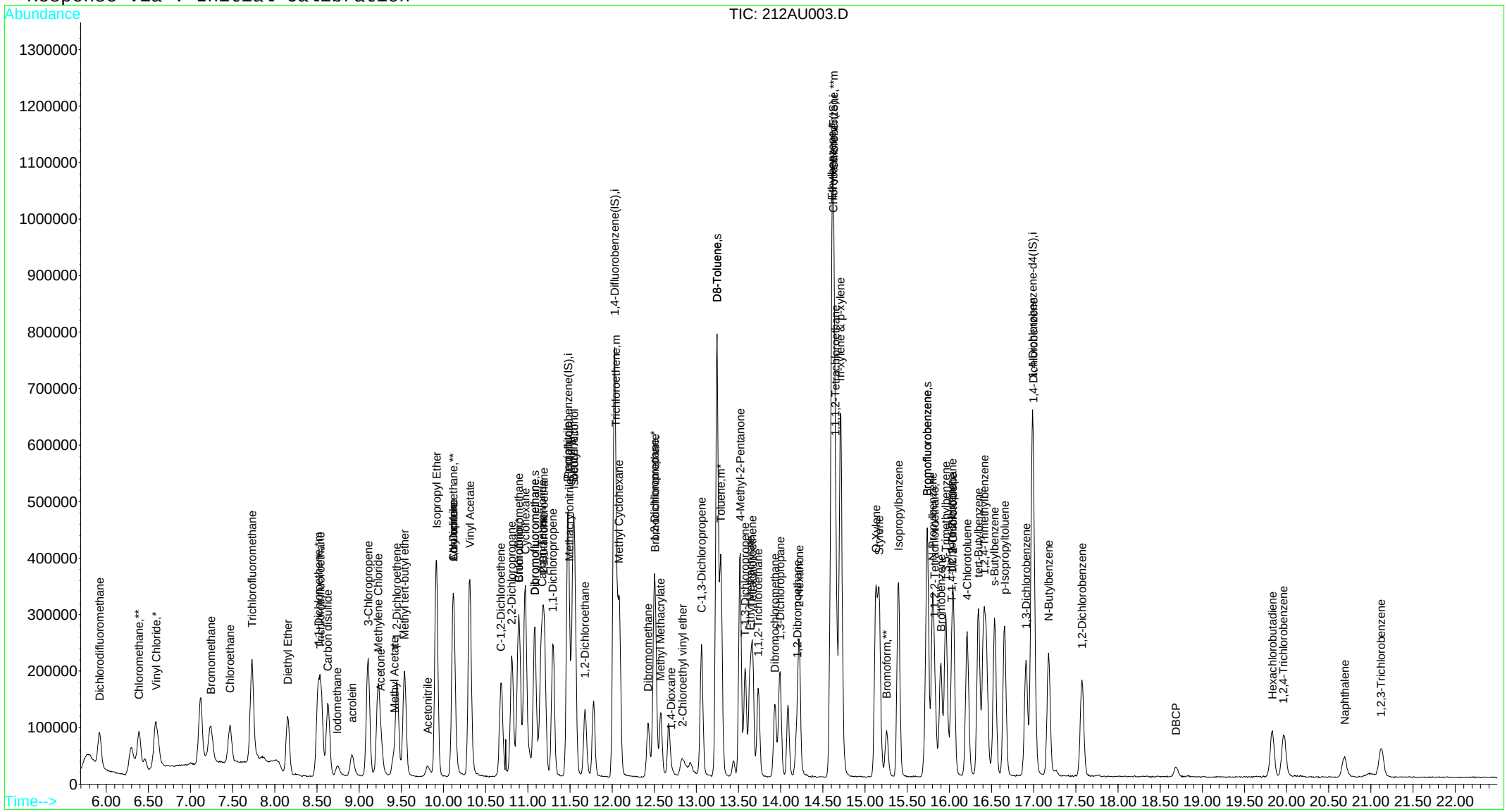
Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\012621\212AU003.D Vial: 3
Acq On : 26 Jan 2021 8:43 am Operator: KG
Sample : bs1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 13:07 2021 Quant Results File: 011921.RES

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012621\212AU003.D Vial: 3
Acq On : 26 Jan 2021 8:43 am Operator: KG
Sample : bs1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 13:07 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.48	168	324503	50.00	ug/kg	0.03
38) 1,4-Difluorobenzene(IS)	12.02	114	677646	50.00	ug/kg	0.03
56) Chlorobenzene-d5(IS)	14.62	82	321367	50.00	ug/kg	0.03
79) 1,4-Dichlorobenzene-d4(IS)	16.99	152	201276	50.00	ug/kg	0.03
System Monitoring Compounds						
30) Dibromofluoromethane	11.08	113	210566	57.08	ug/kg	0.03
Spiked Amount 50.000	Range 53 - 146		Recovery = 114.16%			
54) D8-Toluene	13.24	98	588775	51.32	ug/kg	0.03
Spiked Amount 50.000	Range 41 - 146		Recovery = 102.64%			
75) Bromofluorobenzene	15.74	95	224775	51.47	ug/kg	0.03
Spiked Amount 50.000	Range 41 - 142		Recovery = 102.94%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.92	85	93126	13.89	ug/kg	97
3) Chloromethane	6.39	50	128900	19.32	ug/kg	97
4) Vinyl Chloride	6.58	62	133587	23.64	ug/kg	92
5) Bromomethane	7.24	96	71990	20.19	ug/kg	99
6) Chloroethane	7.47	64	98134	24.83	ug/kg	99
7) Trichlorofluoromethane	7.73	101	229821	24.55	ug/kg	99
8) Trichlorotrifluoroethane	8.55	101	89602	28.42	ug/kg	97
9) acrolein	8.92	56	57132	414.86	ug/kg	98
10) Acetone	9.26	43	108711	156.00	ug/kg	95
11) 1,1-Dichloroethene	8.51	96	78575	25.00	ug/kg	99
12) 3-Chloropropene	9.11	76	50382	29.92	ug/kg	98
13) Acetonitrile	9.81	41	36217	125.78	ug/kg	95
14) Iodomethane	8.74	142	42402	12.92	ug/kg	98
15) Carbon disulfide	8.63	76	277692	35.67	ug/kg	99
16) Methylene Chloride	9.23	84	88708	27.12	ug/kg	98
17) Methyl tert-butyl ether	9.54	73	197496	28.14	ug/kg	98
18) Acrylonitrile	10.11	53	209511	138.08	ug/kg#	75
19) T-1,2-Dichloroethene	9.45	96	90969	26.94	ug/kg	96
20) Isopropyl Ether	9.92	45	489626	26.02	ug/kg	99
21) C-1,2-Dichloroethene	10.68	96	99109	24.83	ug/kg	98
22) 1,1-Dichloroethane	10.12	63	176711	23.81	ug/kg	100
23) Vinyl Acetate	10.31	43	289600	28.04	ug/kg	96
24) Chloroprene	10.12	88	78197	26.60	ug/kg	18
25) 2-Butanone	11.18	72	25051m	125.94	ug/kg	
26) Propionitrile	11.46	54	7933	27.80	ug/kg	100
27) 2,2-Dichloropropane	10.82	77	142833	28.20	ug/kg	92
28) Methacrylonitrile	11.50	67	26464	27.85	ug/kg	85
29) Chloroform	10.90	83	171552	27.95	ug/kg	94
31) Dibromofluoromethane	11.08	113	210566	57.08	ug/kg	100
32) Bromochloromethane	10.89	128	49897	25.40	ug/kg	93
33) 1,1,1-Trichloroethane	11.20	97	149890	25.31	ug/kg	98
34) 1,1-Dichloropropene	11.30	75	125124	25.05	ug/kg	98
35) Diethyl Ether	8.15	59	77368	30.48	ug/kg	99
36) Methyl Acetate	9.41	74	9243	29.62	ug/kg	92
37) Cyclohexane	10.97	56	163203	26.50	ug/kg	98
39) Methyl Cyclohexane	12.09	55	120502	23.17	ug/kg	98
40) Carbon Tetrachloride	11.16	117	153162	23.06	ug/kg	100
41) 1,2-Dichloroethane	11.68	62	124053	23.75	ug/kg	99
42) Benzene	11.54	78	329564	21.24	ug/kg#	69
43) Isobutyl Alcohol	11.56	43	106201	411.15	ug/kg#	1
44) Trichloroethene	12.05	130	97799	22.48	ug/kg	94
45) 1,2-Dichloropropane	12.50	63	93456	23.69	ug/kg	94
46) Methyl Methacrylate	12.58	100	17752	24.56	ug/kg	92
47) 1,4-Dioxane	12.71	88	6107	579.79	ug/kg	86
48) Bromodichloromethane	12.52	83	125798	23.41	ug/kg	99
49) Dibromomethane	12.43	93	55977	24.56	ug/kg	93
50) 4-Methyl-2-Pentanone	13.51	100	39900	114.04	ug/kg	95
51) 2-Chloroethyl vinyl ether	12.83	63	947	74.79	ug/kg#	100
52) 2-Hexanone	14.22	43	248319	114.39	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012621\212AU003.D Vial: 3
Acq On : 26 Jan 2021 8:43 am Operator: KG
Sample : bs1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 13:07 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

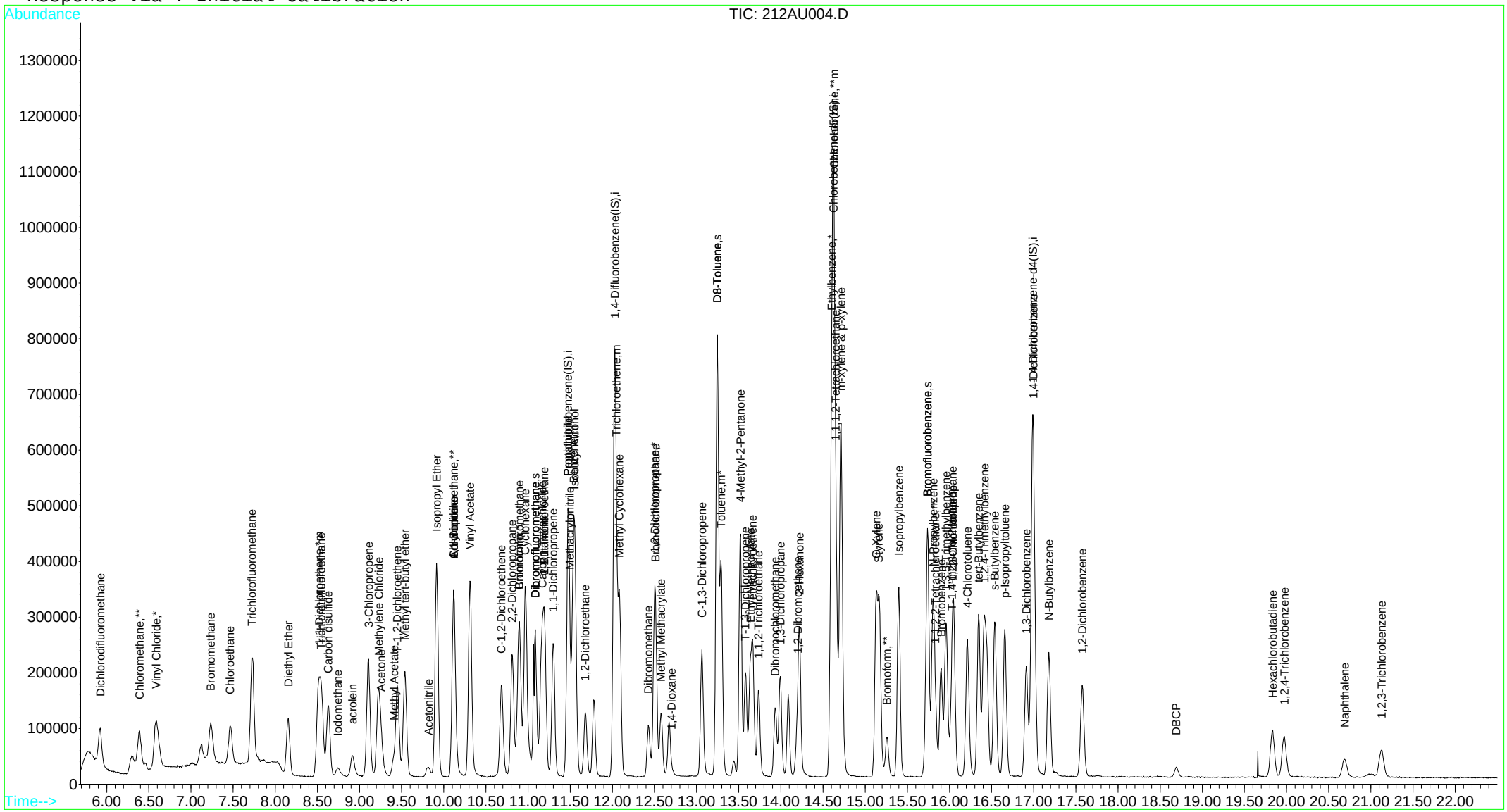
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.06	75	141204	23.12	ug/kg	93
55) D8-Toluene	13.24	98	588775	51.32	ug/kg	92
57) Toluene	13.29	92	198074	20.27	ug/kg	99
58) Ethyl Methacrylate	13.63	69	82687	22.33	ug/kg	91
59) T-1,3-Dichloropropene	13.58	75	120633	23.13	ug/kg	91
60) 1,1,2-Trichloroethane	13.73	97	62153	22.84	ug/kg	98
61) 1,3-Dichloropropane	13.99	76	116334	24.17	ug/kg	99
62) Tetrachloroethene	13.67	164	53365	19.46	ug/kg	97
63) Dibromochloromethane	13.93	129	89443	22.38	ug/kg	100
64) 1,2-Dibromoethane	14.19	107	69836	23.25	ug/kg	100
65) Chlorobenzene	14.64	112	220521	20.15	ug/kg	94
66) 1,1,1,2-Tetrachloroethane	14.66	131	88542	21.06	ug/kg#	44
67) Ethylbenzene	14.60	106	109345	20.09	ug/kg	97
68) m-xylene & p-xylene	14.71	106	257003	39.71	ug/kg	95
69) O-Xylene	15.13	106	126776	20.41	ug/kg	95
70) Bromoform	15.26	173	38321	22.53	ug/kg	100
71) Styrene	15.17	104	225673	20.69	ug/kg	98
72) Isopropylbenzene	15.40	105	328403	20.83	ug/kg	98
73) 1,2,3-Trichloropropane	16.03	75	66775	20.36	ug/kg	100
74) 1,1,2,2-Tetrachloroethane	15.83	83	61696	22.95	ug/kg	98
76) Bromofluorobenzene	15.74	95	224775	51.47	ug/kg#	71
77) T-1,4-dichloro-2-butene	16.02	53	13513	16.34	ug/kg#	64
78) N-Propylbenzene	15.80	91	359009	20.47	ug/kg	98
80) Bromobenzene	15.90	156	69640	21.16	ug/kg	97
81) 1,3,5-Trimethylbenzene	15.96	105	242105	20.71	ug/kg	99
82) 2-Chlorotoluene	16.05	91	218664	20.42	ug/kg	98
83) 4-Chlorotoluene	16.21	91	225570	20.81	ug/kg	99
84) 1,2,4-Trimethylbenzene	16.41	105	242598	20.99	ug/kg	98
85) s-Butylbenzene	16.54	105	304238	21.36	ug/kg	98
86) tert-Butylbenzene	16.34	119	220135	20.78	ug/kg	99
87) p-Isopropyltoluene	16.66	119	253259	21.07	ug/kg	98
88) 1,3-Dichlorobenzene	16.91	146	123915	20.92	ug/kg	99
89) 1,4-Dichlorobenzene	17.00	146	123797	20.16	ug/kg	96
90) 1,2-Dichlorobenzene	17.57	146	107763	21.72	ug/kg	99
91) N-Butylbenzene	17.18	91	201936	22.00	ug/kg	99
92) DBCP	18.68	75	7539	27.49	ug/kg	96
93) Naphthalene	20.69	128	67153	32.97	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.97	180	42509	25.41	ug/kg	99
95) Hexachlorobutadiene	19.83	225	23015	22.01	ug/kg	99
96) 1,2,3-Trichlorobenzene	21.12	180	31768	29.27	ug/kg	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\012621\212AU004.D Vial: 4
Acq On : 26 Jan 2021 9:24 am Operator: KG
Sample : 1a26010-ms1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 13:07 2021 Quant Results File: 011921.RES

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012621\212AU004.D Vial: 4
Acq On : 26 Jan 2021 9:24 am Operator: KG
Sample : 1a26010-ms1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 13:07 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.47	168	331145	50.00	ug/kg	0.03
38) 1,4-Difluorobenzene(IS)	12.02	114	698701	50.00	ug/kg	0.03
56) Chlorobenzene-d5(IS)	14.62	82	329572	50.00	ug/kg	0.03
79) 1,4-Dichlorobenzene-d4(IS)	16.99	152	204382	50.00	ug/kg	0.03
System Monitoring Compounds						
30) Dibromofluoromethane	11.09	113	211045	56.06	ug/kg	0.03
Spiked Amount 50.000	Range 53 - 146		Recovery = 112.12%			
54) D8-Toluene	13.25	98	595620	50.35	ug/kg	0.03
Spiked Amount 50.000	Range 41 - 146		Recovery = 100.70%			
75) Bromofluorobenzene	15.74	95	226094	50.49	ug/kg	0.03
Spiked Amount 50.000	Range 41 - 142		Recovery = 100.98%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.92	85	102480	14.98	ug/kg	98
3) Chloromethane	6.39	50	134144	19.70	ug/kg	100
4) Vinyl Chloride	6.58	62	144705	25.09	ug/kg	83
5) Bromomethane	7.24	96	78584	21.59	ug/kg	98
6) Chloroethane	7.47	64	100843	25.01	ug/kg	99
7) Trichlorofluoromethane	7.73	101	243608	25.50	ug/kg	99
8) Trichlorotrifluoroethane	8.55	101	94104	29.25	ug/kg	94
9) acrolein	8.92	56	56155	406.86	ug/kg	94
10) Acetone	9.26	43	108245	152.22	ug/kg	96
11) 1,1-Dichloroethene	8.51	96	80820	25.20	ug/kg	99
12) 3-Chloropropene	9.11	76	51651	30.05	ug/kg	98
13) Acetonitrile	9.81	41	35685	121.44	ug/kg	84
14) Iodomethane	8.74	142	37976	11.34	ug/kg	98
15) Carbon disulfide	8.63	76	274978	34.61	ug/kg	100
16) Methylene Chloride	9.22	84	86039	25.77	ug/kg	96
17) Methyl tert-butyl ether	9.54	73	198984	27.79	ug/kg	96
18) Acrylonitrile	10.12	53	210755	136.11	ug/kg#	77
19) T-1,2-Dichloroethene	9.45	96	89375	25.94	ug/kg	97
20) Isopropyl Ether	9.91	45	483238	25.17	ug/kg	98
21) C-1,2-Dichloroethene	10.69	96	95707	23.50	ug/kg	97
22) 1,1-Dichloroethane	10.12	63	174682	23.06	ug/kg	100
23) Vinyl Acetate	10.32	43	286255	27.16	ug/kg	97
24) Chloroprene	10.11	88	79725	26.58	ug/kg	16
25) 2-Butanone	11.18	72	27891m	137.40	ug/kg	
26) Propionitrile	11.48	54	7206	24.74	ug/kg	100
27) 2,2-Dichloropropane	10.82	77	148940	28.82	ug/kg	94
28) Methacrylonitrile	11.50	67	25788	26.59	ug/kg	77
29) Chloroform	10.90	83	167987	26.82	ug/kg	98
31) Dibromofluoromethane	11.09	113	211045	56.06	ug/kg	100
32) Bromochloromethane	10.89	128	49196	24.54	ug/kg	93
33) 1,1,1-Trichloroethane	11.20	97	151208	25.02	ug/kg	99
34) 1,1-Dichloropropene	11.30	75	126968	24.91	ug/kg	98
35) Diethyl Ether	8.15	59	76618	29.58	ug/kg	100
36) Methyl Acetate	9.40	74	9140	28.71	ug/kg	85
37) Cyclohexane	10.97	56	168238	26.77	ug/kg	98
39) Methyl Cyclohexane	12.09	55	122439	22.83	ug/kg	98
40) Carbon Tetrachloride	11.16	117	156045	22.78	ug/kg	98
41) 1,2-Dichloroethane	11.68	62	120250	22.33	ug/kg	99
42) Benzene	11.54	78	325115	20.32	ug/kg#	69
43) Isobutyl Alcohol	11.56	43	109436	410.91	ug/kg#	1
44) Trichloroethene	12.05	130	95481	21.28	ug/kg	93
45) 1,2-Dichloropropane	12.50	63	93332	22.95	ug/kg	96
46) Methyl Methacrylate	12.58	100	18699	25.09	ug/kg	97
47) 1,4-Dioxane	12.71	88	6053	557.34	ug/kg#	78
48) Bromodichloromethane	12.52	83	121896	22.00	ug/kg	98
49) Dibromomethane	12.43	93	52019	22.13	ug/kg	97
50) 4-Methyl-2-Pentanone	13.52	100	42923	118.98	ug/kg	90
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	14.22	43	274526	122.66	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\012621\212AU004.D Vial: 4
Acq On : 26 Jan 2021 9:24 am Operator: KG
Sample : 1a26010-ms1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 13:07 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	13.06	75	139808	22.21 ug/kg	94
55) D8-Toluene	13.25	98	595620	50.35 ug/kg	92
57) Toluene	13.29	92	195586	19.52 ug/kg	100
58) Ethyl Methacrylate	13.63	69	87967	23.17 ug/kg	88
59) T-1,3-Dichloropropene	13.58	75	117274	21.93 ug/kg	97
60) 1,1,2-Trichloroethane	13.73	97	60829	21.80 ug/kg	97
61) 1,3-Dichloropropane	13.99	76	111617	22.61 ug/kg	97
62) Tetrachloroethene	13.66	164	53934	19.18 ug/kg	97
63) Dibromochloromethane	13.93	129	87608	21.37 ug/kg	100
64) 1,2-Dibromoethane	14.19	107	67502	21.91 ug/kg	100
65) Chlorobenzene	14.64	112	219242	19.54 ug/kg	96
66) 1,1,1,2-Tetrachloroethane	14.66	131	85582	19.85 ug/kg#	39
67) Ethylbenzene	14.59	106	109194	19.56 ug/kg	99
68) m-xylene & p-xylene	14.72	106	257490	38.79 ug/kg	97
69) O-Xylene	15.13	106	124035	19.47 ug/kg	96
70) Bromoform	15.25	173	37662	21.59 ug/kg	98
71) Styrene	15.17	104	219722	19.64 ug/kg	98
72) Isopropylbenzene	15.40	105	321915	19.91 ug/kg	98
73) 1,2,3-Trichloropropane	16.03	75	67799	20.16 ug/kg	99
74) 1,1,2,2-Tetrachloroethane	15.84	83	61471	22.30 ug/kg	99
76) Bromofluorobenzene	15.74	95	226094	50.49 ug/kg#	71
77) T-1,4-dichloro-2-butene	16.02	53	14314	16.87 ug/kg#	72
78) N-Propylbenzene	15.80	91	356815	19.84 ug/kg	98
80) Bromobenzene	15.90	156	67094	20.08 ug/kg	92
81) 1,3,5-Trimethylbenzene	15.97	105	233836	19.70 ug/kg	100
82) 2-Chlorotoluene	16.05	91	213904	19.67 ug/kg	98
83) 4-Chlorotoluene	16.21	91	220951	20.08 ug/kg	98
84) 1,2,4-Trimethylbenzene	16.41	105	235391	20.06 ug/kg	97
85) s-Butylbenzene	16.54	105	307674	21.28 ug/kg	98
86) tert-Butylbenzene	16.35	119	217053	20.17 ug/kg	96
87) p-Isopropyltoluene	16.66	119	251868	20.64 ug/kg	98
88) 1,3-Dichlorobenzene	16.91	146	119395	19.85 ug/kg	98
89) 1,4-Dichlorobenzene	17.00	146	121415	19.47 ug/kg	98
90) 1,2-Dichlorobenzene	17.58	146	102626	20.37 ug/kg	99
91) N-Butylbenzene	17.18	91	205729	22.07 ug/kg	99
92) DBCP	18.69	75	7558	27.14 ug/kg	98
93) Naphthalene	20.70	128	61548	29.76 ug/kg	100
94) 1,2,4-Trichlorobenzene	19.98	180	41595	24.49 ug/kg	99
95) Hexachlorobutadiene	19.84	225	23479	22.11 ug/kg	99
96) 1,2,3-Trichlorobenzene	21.12	180	29489	26.75 ug/kg	94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012621\212AU005.D Vial: 5
Acq On : 26 Jan 2021 9:53 am Operator: KG
Sample : 1a26010-msd1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 13:07 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.47	168	305426	50.00	ug/kg	0.03
38) 1,4-Difluorobenzene(IS)	12.02	114	636767	50.00	ug/kg	0.03
56) Chlorobenzene-d5(IS)	14.61	82	309741	50.00	ug/kg	0.03
79) 1,4-Dichlorobenzene-d4(IS)	16.98	152	201759	50.00	ug/kg	0.03
System Monitoring Compounds						
30) Dibromofluoromethane	11.08	113	209370	60.30	ug/kg	0.03
Spiked Amount 50.000	Range 53 - 146		Recovery = 120.60%			
54) D8-Toluene	13.24	98	589051	54.64	ug/kg	0.03
Spiked Amount 50.000	Range 41 - 146		Recovery = 109.28%			
75) Bromofluorobenzene	15.73	95	229495	54.53	ug/kg	0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 109.06%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.91	85	88629	14.04	ug/kg	98
3) Chloromethane	6.38	50	120405	19.18	ug/kg	98
4) Vinyl Chloride	6.58	62	128101	24.08	ug/kg	97
5) Bromomethane	7.23	96	76255	22.72	ug/kg	96
6) Chloroethane	7.45	64	92856	24.97	ug/kg	97
7) Trichlorofluoromethane	7.72	101	230532	26.17	ug/kg	99
8) Trichlorotrifluoroethane	8.54	101	85365	28.77	ug/kg	94
9) acrolein	8.91	56	51972	407.59	ug/kg	100
10) Acetone	9.25	43	102851	156.81	ug/kg	94
11) 1,1-Dichloroethene	8.51	96	71088	24.03	ug/kg	99
12) 3-Chloropropene	9.10	76	45971	29.00	ug/kg	99
13) Acetonitrile	9.81	41	34028	125.55	ug/kg	92
14) Iodomethane	8.74	142	28915	9.37	ug/kg#	33
15) Carbon disulfide	8.63	76	238514	32.55	ug/kg	99
16) Methylene Chloride	9.22	84	78542	25.51	ug/kg	98
17) Methyl tert-butyl ether	9.54	73	185898	28.15	ug/kg	96
18) Acrylonitrile	10.11	53	187391	131.22	ug/kg#	77
19) T-1,2-Dichloroethene	9.45	96	81161	25.54	ug/kg	98
20) Isopropyl Ether	9.91	45	442315	24.97	ug/kg	98
21) C-1,2-Dichloroethene	10.68	96	86455	23.01	ug/kg	98
22) 1,1-Dichloroethane	10.12	63	160822	23.02	ug/kg	99
23) Vinyl Acetate	10.31	43	262210	26.97	ug/kg	96
24) Chloroprene	10.11	88	72410	26.17	ug/kg	15
25) 2-Butanone	11.18	72	24165m	129.07	ug/kg	
26) Propionitrile	11.46	54	7320	27.25	ug/kg	100
27) 2,2-Dichloropropane	10.81	77	133919	28.10	ug/kg	96
28) Methacrylonitrile	11.50	67	23901	26.72	ug/kg	85
29) Chloroform	10.89	83	153408	26.56	ug/kg	97
31) Dibromofluoromethane	11.08	113	209370	60.30	ug/kg	100
32) Bromochloromethane	10.89	128	45407	24.56	ug/kg	97
33) 1,1,1-Trichloroethane	11.19	97	137749	24.71	ug/kg	99
34) 1,1-Dichloropropene	11.30	75	114362	24.32	ug/kg	98
35) Diethyl Ether	8.14	59	69726	29.18	ug/kg	97
36) Methyl Acetate	9.40	74	9083	30.93	ug/kg	99
37) Cyclohexane	10.96	56	148284	25.58	ug/kg	99
39) Methyl Cyclohexane	12.09	55	109367	22.38	ug/kg	96
40) Carbon Tetrachloride	11.15	117	141643	22.69	ug/kg	99
41) 1,2-Dichloroethane	11.68	62	110287	22.47	ug/kg	98
42) Benzene	11.54	78	294599	20.21	ug/kg#	70
43) Isobutyl Alcohol	11.56	43	102762	423.38	ug/kg#	1
44) Trichloroethene	12.04	130	86678	21.20	ug/kg	93
45) 1,2-Dichloropropane	12.50	63	83710	22.58	ug/kg	96
46) Methyl Methacrylate	12.57	100	17414	25.64	ug/kg	95
47) 1,4-Dioxane	12.71	88	6132	619.53	ug/kg	100
48) Bromodichloromethane	12.51	83	110951	21.97	ug/kg	98
49) Dibromomethane	12.43	93	49270	23.00	ug/kg	97
50) 4-Methyl-2-Pentanone	13.51	100	41209	125.34	ug/kg	88
51) 2-Chloroethyl vinyl ether	12.67	63	619	52.02	ug/kg#	100
52) 2-Hexanone	14.21	43	271709	133.21	ug/kg	97

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\012621\212AU005.D Vial: 5
Acq On : 26 Jan 2021 9:53 am Operator: KG
Sample : 1a26010-msd1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 13:07 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

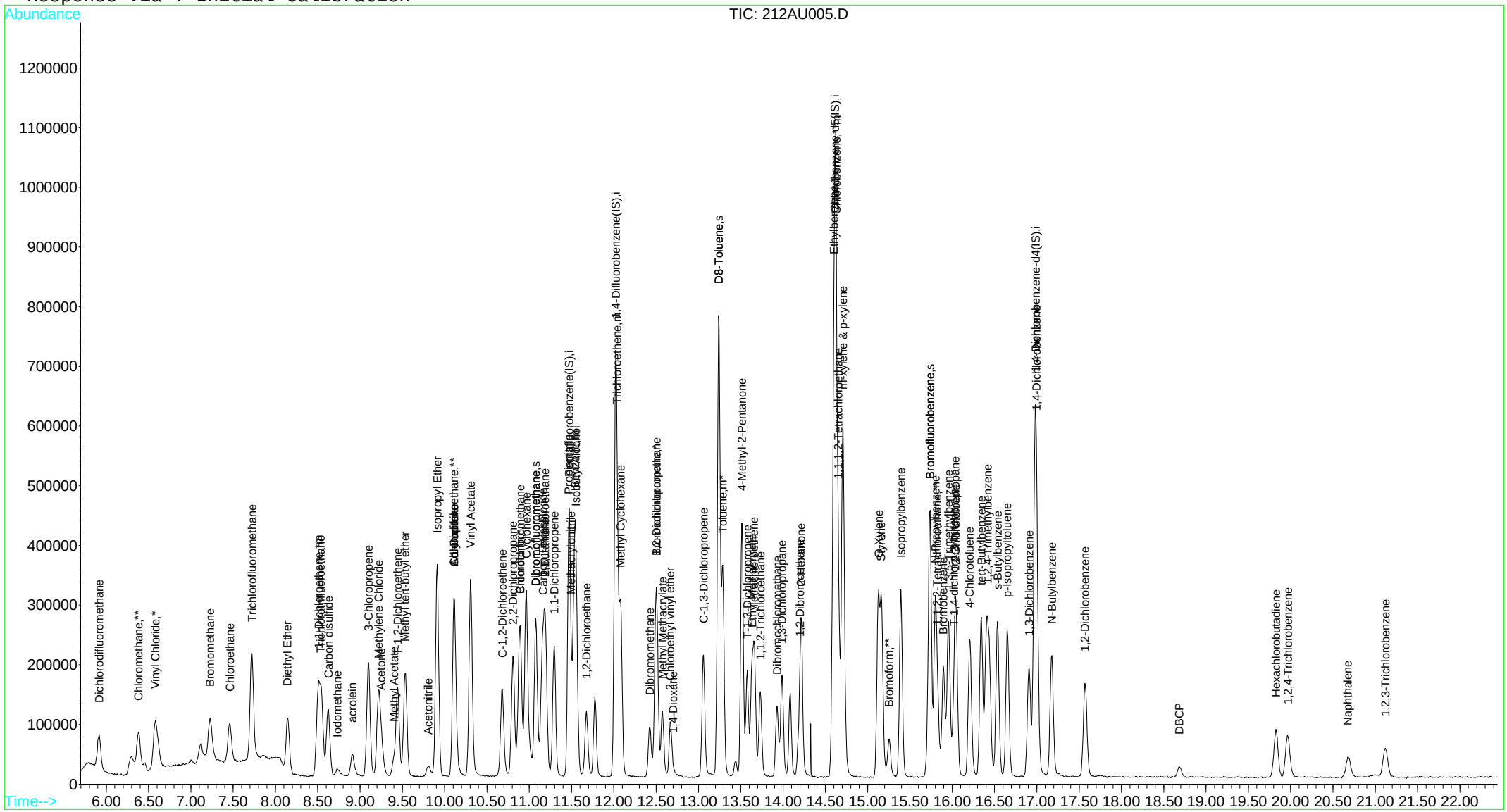
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	13.06	75	127201	22.17 ug/kg	94
55) D8-Toluene	13.24	98	589051	54.64 ug/kg	92
57) Toluene	13.29	92	178851	18.99 ug/kg	98
58) Ethyl Methacrylate	13.63	69	84878	23.78 ug/kg	96
59) T-1,3-Dichloropropene	13.58	75	108248	21.54 ug/kg	92
60) 1,1,2-Trichloroethane	13.73	97	55723	21.25 ug/kg	98
61) 1,3-Dichloropropane	13.99	76	105484	22.74 ug/kg	98
62) Tetrachloroethene	13.66	164	48652	18.41 ug/kg	97
63) Dibromochloromethane	13.93	129	82076	21.31 ug/kg	99
64) 1,2-Dibromoethane	14.19	107	63481	21.93 ug/kg	98
65) Chlorobenzene	14.64	112	199968	18.96 ug/kg	97
66) 1,1,1,2-Tetrachloroethane	14.66	131	78037	19.26 ug/kg#	36
67) Ethylbenzene	14.59	106	99993	19.06 ug/kg	98
68) m-xylene & p-xylene	14.71	106	234491	37.59 ug/kg	96
69) O-Xylene	15.12	106	115275	19.25 ug/kg	98
70) Bromoform	15.26	173	35078	21.40 ug/kg	99
71) Styrene	15.17	104	203041	19.31 ug/kg	97
72) Isopropylbenzene	15.39	105	294329	19.37 ug/kg	99
73) 1,2,3-Trichloropropane	16.03	75	63081	19.96 ug/kg	95
74) 1,1,2,2-Tetrachloroethane	15.83	83	59345	22.90 ug/kg	99
76) Bromofluorobenzene	15.73	95	229495	54.53 ug/kg#	71
77) T-1,4-dichloro-2-butene	16.01	53	13942	17.49 ug/kg#	76
78) N-Propylbenzene	15.80	91	336817	19.93 ug/kg	97
80) Bromobenzene	15.90	156	64271	19.48 ug/kg	98
81) 1,3,5-Trimethylbenzene	15.96	105	217388	18.55 ug/kg	100
82) 2-Chlorotoluene	16.04	91	197621	18.41 ug/kg	99
83) 4-Chlorotoluene	16.21	91	206683	19.02 ug/kg	98
84) 1,2,4-Trimethylbenzene	16.41	105	220037	18.99 ug/kg	97
85) s-Butylbenzene	16.54	105	278458	19.51 ug/kg	99
86) tert-Butylbenzene	16.35	119	199123	18.75 ug/kg	96
87) p-Isopropyltoluene	16.65	119	233721	19.40 ug/kg	98
88) 1,3-Dichlorobenzene	16.91	146	111900	18.84 ug/kg	97
89) 1,4-Dichlorobenzene	17.00	146	115216	18.72 ug/kg	97
90) 1,2-Dichlorobenzene	17.57	146	99696	20.05 ug/kg	99
91) N-Butylbenzene	17.18	91	189920	20.64 ug/kg	99
92) DBCP	18.69	75	7779	28.29 ug/kg	96
93) Naphthalene	20.68	128	64621	31.65 ug/kg	100
94) 1,2,4-Trichlorobenzene	19.98	180	40050	23.89 ug/kg	99
95) Hexachlorobutadiene	19.83	225	22755	21.71 ug/kg	97
96) 1,2,3-Trichlorobenzene	21.13	180	30674	28.19 ug/kg	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\012621\212AU005.D Vial: 5
Acq On : 26 Jan 2021 9:53 am Operator: KG
Sample : 1a26010-msd1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 13:07 2021 Quant Results File: 011921.RES

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012621\212AU008.D Vial: 7
Acq On : 26 Jan 2021 11:19 am Operator: KG
Sample : 1a26010-blk1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 13:08 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.47	168	294699	50.00	ug/kg	0.03
38) 1,4-Difluorobenzene(IS)	12.02	114	604071	50.00	ug/kg	0.03
56) Chlorobenzene-d5(IS)	14.62	82	274826	50.00	ug/kg	0.03
79) 1,4-Dichlorobenzene-d4(IS)	16.98	152	171064	50.00	ug/kg	0.03
System Monitoring Compounds						
30) Dibromofluoromethane	11.09	113	193819	57.85	ug/kg	0.03
Spiked Amount 50.000	Range 53 - 146		Recovery = 115.70%			
54) D8-Toluene	13.24	98	523287	51.17	ug/kg	0.03
Spiked Amount 50.000	Range 41 - 146		Recovery = 102.34%			
75) Bromofluorobenzene	15.74	95	192307	51.49	ug/kg	0.03
Spiked Amount 50.000	Range 41 - 142		Recovery = 102.98%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.		
3) Chloromethane	0.00	50	0	N.D. d		
4) Vinyl Chloride	0.00	62	0	N.D.		
5) Bromomethane	0.00	96	0	N.D. d		
6) Chloroethane	0.00	64	0	N.D. d		
7) Trichlorofluoromethane	0.00	101	0	N.D.		
8) Trichlorotrifluoroethane	0.00	101	0	N.D.		
9) acrolein	0.00	56	0	N.D.		
10) Acetone	0.00	43	0	N.D. d		
11) 1,1-Dichloroethene	0.00	96	0	N.D.		
12) 3-Chloropropene	0.00	76	0	N.D.		
13) Acetonitrile	0.00	41	0	N.D. d		
14) Iodomethane	0.00	142	0	N.D.		
15) Carbon disulfide	0.00	76	0	N.D. d		
16) Methylene Chloride	0.00	84	0	N.D.		
17) Methyl tert-butyl ether	0.00	73	0	N.D.		
18) Acrylonitrile	0.00	53	0	N.D.		
19) T-1,2-Dichloroethene	0.00	96	0	N.D.		
20) Isopropyl Ether	0.00	45	0	N.D.		
21) C-1,2-Dichloroethene	0.00	96	0	N.D.		
22) 1,1-Dichloroethane	0.00	63	0	N.D. d		
23) Vinyl Acetate	0.00	43	0	N.D. d		
24) Chloroprene	0.00	88	0	N.D.		
25) 2-Butanone	0.00	72	0	N.D. d		
26) Propionitrile	0.00	54	0	N.D.		
27) 2,2-Dichloropropane	0.00	77	0	N.D.		
28) Methacrylonitrile	0.00	67	0	N.D. d		
29) Chloroform	0.00	83	0	N.D.		
31) Dibromofluoromethane	11.09	113	193819	57.85	ug/kg	100
32) Bromochloromethane	0.00	128	0	N.D.		
33) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
34) 1,1-Dichloropropene	0.00	75	0	N.D.		
35) Diethyl Ether	0.00	59	0	N.D.		
36) Methyl Acetate	0.00	74	0	N.D.		
37) Cyclohexane	0.00	56	0	N.D.		
39) Methyl Cyclohexane	0.00	55	0	N.D. d		
40) Carbon Tetrachloride	0.00	117	0	N.D. d		
41) 1,2-Dichloroethane	0.00	62	0	N.D.		
42) Benzene	0.00	78	0	N.D. d		
43) Isobutyl Alcohol	0.00	43	0	N.D. d		
44) Trichloroethene	0.00	130	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Methyl Methacrylate	0.00	100	0	N.D.		
47) 1,4-Dioxane	0.00	88	0	N.D.		
48) Bromodichloromethane	0.00	83	0	N.D.		
49) Dibromomethane	0.00	93	0	N.D.		
50) 4-Methyl-2-Pentanone	0.00	100	0	N.D.		
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	0.00	43	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\012621\212AU008.D Vial: 7
Acq On : 26 Jan 2021 11:19 am Operator: KG
Sample : 1a26010-blk1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 13:08 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

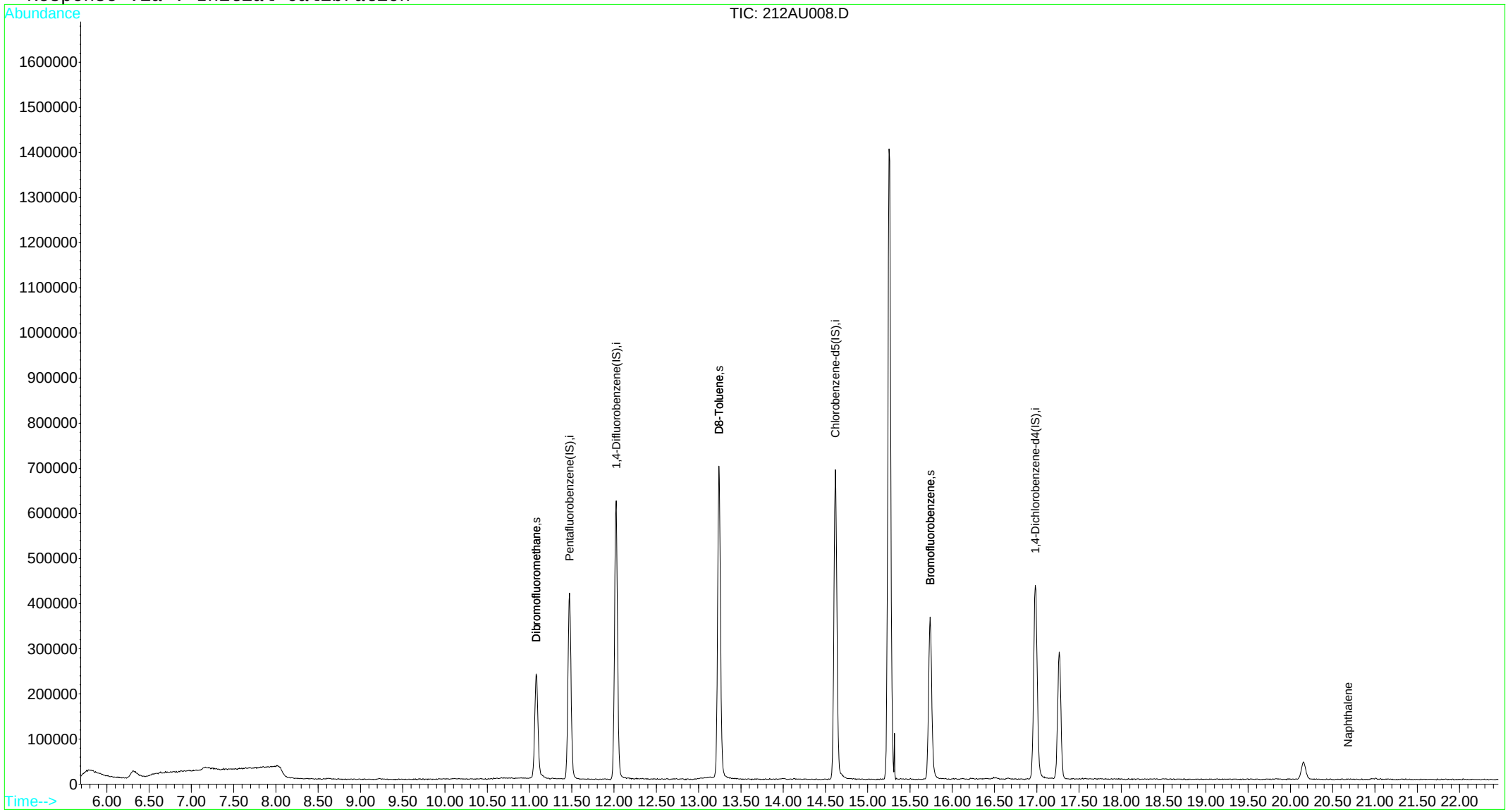
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	0.00	75	0	N.D.	
55) D8-Toluene	13.24	98	523287	51.17 ug/kg	92
57) Toluene	0.00	92	0	N.D.	
58) Ethyl Methacrylate	0.00	69	0	N.D.	
59) T-1,3-Dichloropropene	0.00	75	0	N.D.	
60) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
61) 1,3-Dichloropropane	0.00	76	0	N.D.	
62) Tetrachloroethene	0.00	164	0	N.D.	
63) Dibromochloromethane	0.00	129	0	N.D.	
64) 1,2-Dibromoethane	0.00	107	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
67) Ethylbenzene	0.00	106	0	N.D.	
68) m-xylene & p-xylene	0.00	106	0	N.D.	
69) O-Xylene	0.00	106	0	N.D. d	
70) Bromoform	0.00	173	0	N.D.	
71) Styrene	0.00	104	0	N.D. d	
72) Isopropylbenzene	0.00	105	0	N.D. d	
73) 1,2,3-Trichloropropane	0.00	75	0	N.D.	
74) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
76) Bromofluorobenzene	15.74	95	192307	51.49 ug/kg#	74
77) T-1,4-dichloro-2-butene	0.00	53	0	N.D.	
78) N-Propylbenzene	0.00	91	0	N.D. d	
80) Bromobenzene	0.00	156	0	N.D.	
81) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
82) 2-Chlorotoluene	0.00	91	0	N.D.	
83) 4-Chlorotoluene	0.00	91	0	N.D. d	
84) 1,2,4-Trimethylbenzene	0.00	105	0	N.D. d	
85) s-Butylbenzene	0.00	105	0	N.D. d	
86) tert-Butylbenzene	0.00	119	0	N.D.	
87) p-Isopropyltoluene	0.00	119	0	N.D. d	
88) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
89) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) N-Butylbenzene	0.00	91	0	N.D. d	
92) DBCP	0.00	75	0	N.D.	
93) Naphthalene	20.69	128	1245	0.72 ug/kg	100
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Hexachlorobutadiene	0.00	225	0	N.D.	
96) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\012621\212AU008.D Vial: 7
Acq On : 26 Jan 2021 11:19 am Operator: KG
Sample : 1a26010-blk1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 13:08 2021 Quant Results File: 011921.RES

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012621\212AU009.D Vial: 8
Acq On : 26 Jan 2021 12:02 pm Operator: KG
Sample : CRL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 13:11 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.48	168	287383	50.00	ug/kg	0.03
38) 1,4-Difluorobenzene(IS)	12.03	114	593855	50.00	ug/kg	0.03
56) Chlorobenzene-d5(IS)	14.62	82	273190	50.00	ug/kg	0.03
79) 1,4-Dichlorobenzene-d4(IS)	16.98	152	169027	50.00	ug/kg	0.03
System Monitoring Compounds						
30) Dibromofluoromethane	11.08	113	188711	57.76	ug/kg	0.03
Spiked Amount 50.000	Range 53 - 146		Recovery = 115.52%			
54) D8-Toluene	13.24	98	514730	51.20	ug/kg	0.03
Spiked Amount 50.000	Range 41 - 146		Recovery = 102.40%			
75) Bromofluorobenzene	15.74	95	188073	50.66	ug/kg	0.03
Spiked Amount 50.000	Range 41 - 142		Recovery = 101.32%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.91	85	8087	1.36	ug/kg	95
3) Chloromethane	6.38	50	8735	1.48	ug/kg	84
4) Vinyl Chloride	6.58	62	9196	1.84	ug/kg#	20
5) Bromomethane	7.24	96	9300	2.94	ug/kg	95
6) Chloroethane	7.46	64	6451	1.78	ug/kg	90
7) Trichlorofluoromethane	7.73	101	12590	1.52	ug/kg	95
8) Trichlorotrifluoroethane	8.55	101	5222	1.87	ug/kg	96
9) acrolein	8.91	56	5688	129.15	ug/kg	74
10) Acetone	9.26	43	7607	12.33	ug/kg	71
11) 1,1-Dichloroethene	8.52	96	5131	1.84	ug/kg	98
12) 3-Chloropropene	9.09	76	1777	1.19	ug/kg	61
13) Acetonitrile	9.76	41	226	0.89	ug/kg#	1
14) Iodomethane	8.74	142	1602	0.55	ug/kg	90
15) Carbon disulfide	8.63	76	44417	6.44	ug/kg	93
16) Methylene Chloride	9.22	84	5917	2.04	ug/kg	97
17) Methyl tert-butyl ether	9.55	73	12784	2.06	ug/kg	90
18) Acrylonitrile	10.11	53	9473	7.05	ug/kg#	35
19) T-1,2-Dichloroethene	9.45	96	5614	1.88	ug/kg	88
20) Isopropyl Ether	9.92	45	30197	1.81	ug/kg	97
21) C-1,2-Dichloroethene	10.69	96	6159	1.74	ug/kg	96
22) 1,1-Dichloroethane	10.13	63	11588	1.76	ug/kg	96
23) Vinyl Acetate	10.32	43	69356	7.58	ug/kg	96
24) Chloroprene	10.11	88	3575	1.37	ug/kg	16
25) 2-Butanone	11.18	72	1542	8.75	ug/kg#	78
26) Propionitrile	11.49	54	3567	14.11	ug/kg	100
27) 2,2-Dichloropropane	10.81	77	9740	2.17	ug/kg	50
28) Methacrylonitrile	11.50	67	12944	15.38	ug/kg	89
29) Chloroform	10.90	83	11291	2.08	ug/kg	91
31) Dibromofluoromethane	11.08	113	188711	57.76	ug/kg	100
32) Bromochloromethane	10.89	128	2811	1.62	ug/kg	80
33) 1,1,1-Trichloroethane	11.19	97	8728	1.66	ug/kg	97
34) 1,1-Dichloropropene	11.30	75	8403	1.90	ug/kg	95
35) Diethyl Ether	8.16	59	4697	2.09	ug/kg	87
36) Methyl Acetate	9.39	74	635	2.30	ug/kg#	1
37) Cyclohexane	10.97	56	8904	1.63	ug/kg	93
39) Methyl Cyclohexane	12.09	55	6441	1.41	ug/kg	91
40) Carbon Tetrachloride	11.16	117	8744	1.50	ug/kg	96
41) 1,2-Dichloroethane	11.67	62	7910	1.73	ug/kg	94
42) Benzene	11.54	78	19771	1.45	ug/kg	95
43) Isobutyl Alcohol	11.57	43	7360	32.51	ug/kg#	1
44) Trichloroethene	12.05	130	6004	1.57	ug/kg#	1
45) 1,2-Dichloropropane	12.50	63	6581	1.90	ug/kg	92
46) Methyl Methacrylate	12.58	100	929	1.47	ug/kg	65
47) 1,4-Dioxane	0.00	88	0	N.D.		
48) Bromodichloromethane	12.52	83	7879	1.67	ug/kg	99
49) Dibromomethane	12.43	93	3230	1.62	ug/kg	88
50) 4-Methyl-2-Pentanone	13.53	100	2474	8.07	ug/kg	92
51) 2-Chloroethyl vinyl ether	12.85	63	260	23.43	ug/kg#	100
52) 2-Hexanone	14.22	43	14240	7.49	ug/kg	93

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\012621\212AU009.D Vial: 8
Acq On : 26 Jan 2021 12:02 pm Operator: KG
Sample : CRL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 13:11 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

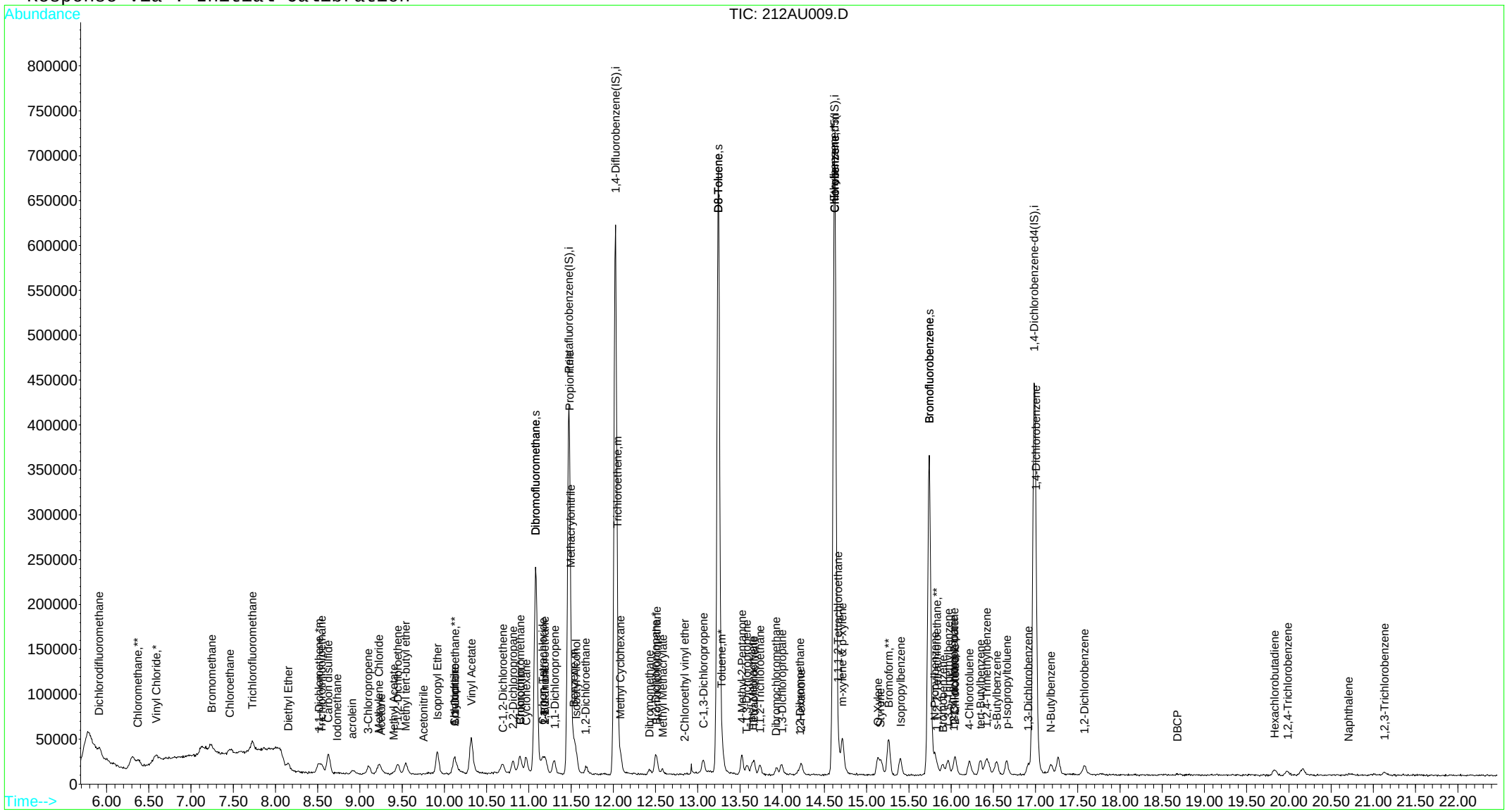
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.06	75	8521	1.59	ug/kg	84
55) D8-Toluene	13.24	98	514730	51.20	ug/kg	92
57) Toluene	13.29	92	11861	1.43	ug/kg	96
58) Ethyl Methacrylate	13.64	69	4121	1.31	ug/kg#	87
59) T-1,3-Dichloropropene	13.59	75	7175	1.62	ug/kg	86
60) 1,1,2-Trichloroethane	13.74	97	3967	1.72	ug/kg	97
61) 1,3-Dichloropropane	13.99	76	7629	1.86	ug/kg	89
62) Tetrachloroethene	13.67	164	2866	1.23	ug/kg	87
63) Dibromochloromethane	13.93	129	5552	1.63	ug/kg#	89
64) 1,2-Dibromoethane	14.20	107	4137	1.62	ug/kg#	94
65) Chlorobenzene	14.63	112	13217	1.42	ug/kg#	62
66) 1,1,1,2-Tetrachloroethane	14.67	131	5073	1.42	ug/kg#	1
67) Ethylbenzene	14.60	106	5862	1.27	ug/kg	74
68) m-xylene & p-xylene	14.71	106	14611	2.66	ug/kg	92
69) O-Xylene	15.13	106	7326	1.39	ug/kg	96
70) Bromoform	15.26	173	2150	1.49	ug/kg#	88
71) Styrene	15.17	104	12440	1.34	ug/kg	94
72) Isopropylbenzene	15.40	105	17243	1.29	ug/kg	96
73) 1,2,3-Trichloropropane	16.02	75	4457	1.60	ug/kg	63
74) 1,1,2,2-Tetrachloroethane	15.84	83	3628	1.59	ug/kg#	86
76) Bromofluorobenzene	15.74	95	188073	50.66	ug/kg#	73
77) T-1,4-dichloro-2-butene	16.03	53	798	1.13	ug/kg#	39
78) N-Propylbenzene	15.80	91	20098	1.35	ug/kg	96
80) Bromobenzene	15.90	156	4094	1.48	ug/kg	97
81) 1,3,5-Trimethylbenzene	15.96	105	13047	1.33	ug/kg	100
82) 2-Chlorotoluene	16.05	91	12911	1.44	ug/kg	91
83) 4-Chlorotoluene	16.21	91	13133	1.44	ug/kg	95
84) 1,2,4-Trimethylbenzene	16.41	105	12820	1.32	ug/kg	98
85) s-Butylbenzene	16.53	105	15451	1.29	ug/kg	100
86) tert-Butylbenzene	16.35	119	12080	1.36	ug/kg	92
87) p-Isopropyltoluene	16.65	119	13731	1.36	ug/kg	97
88) 1,3-Dichlorobenzene	16.91	146	7135	1.43	ug/kg	99
89) 1,4-Dichlorobenzene	17.01	146	7210m	1.40	ug/kg	
90) 1,2-Dichlorobenzene	17.57	146	5998	1.44	ug/kg	94
91) N-Butylbenzene	17.19	91	10315	1.34	ug/kg	97
92) DBCP	18.68	75	269	1.17	ug/kg#	6
93) Naphthalene	20.71	128	3461	2.02	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.99	180	2542	1.81	ug/kg	87
95) Hexachlorobutadiene	19.84	225	1548	1.76	ug/kg	81
96) 1,2,3-Trichlorobenzene	21.14	180	1859	2.04	ug/kg#	63

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\012621\212AU009.D Vial: 8
Acq On : 26 Jan 2021 12:02 pm Operator: KG
Sample : CRL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 26 13:11 2021 Quant Results File: 011921.RES

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012621\212AU017.D Vial: 16
Acq On : 26 Jan 2021 3:52 pm Operator: KG
Sample : AE00066-11RE1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 27 6:55 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.47	168	193931	50.00	ug/kg	0.02
38) 1,4-Difluorobenzene(IS)	12.02	114	383784	50.00	ug/kg	0.02
56) Chlorobenzene-d5(IS)	14.62	82	191378	50.00	ug/kg	0.03
79) 1,4-Dichlorobenzene-d4(IS)	16.99	152	134955	50.00	ug/kg	0.03
System Monitoring Compounds						
30) Dibromofluoromethane	11.07	113	121564	55.14	ug/kg	0.02
Spiked Amount 50.000	Range 53 - 146		Recovery = 110.28%			
54) D8-Toluene	13.24	98	355666	54.74	ug/kg	0.03
Spiked Amount 50.000	Range 41 - 146		Recovery = 109.48%			
75) Bromofluorobenzene	15.74	95	139788	53.75	ug/kg	0.03
Spiked Amount 50.000	Range 41 - 142		Recovery = 107.50%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.		
3) Chloromethane	0.00	50	0	N.D. d		
4) Vinyl Chloride	6.54	62	327792	97.05	ug/kg	97
5) Bromomethane	0.00	96	0	N.D.		
6) Chloroethane	0.00	64	0	N.D. d		
7) Trichlorofluoromethane	0.00	101	0	N.D.		
8) Trichlorotrifluoroethane	0.00	101	0	N.D.		
9) acrolein	0.00	56	0	N.D.		
10) Acetone	0.00	43	0	N.D. d		
11) 1,1-Dichloroethene	0.00	96	0	N.D.		
12) 3-Chloropropene	0.00	76	0	N.D.		
13) Acetonitrile	0.00	41	0	N.D. d		
14) Iodomethane	0.00	142	0	N.D.		
15) Carbon disulfide	0.00	76	0	N.D. d		
16) Methylene Chloride	0.00	84	0	N.D.		
17) Methyl tert-butyl ether	0.00	73	0	N.D.		
18) Acrylonitrile	0.00	53	0	N.D.		
19) T-1,2-Dichloroethene	0.00	96	0	N.D.		
20) Isopropyl Ether	0.00	45	0	N.D. d		
21) C-1,2-Dichloroethene	0.00	96	0	N.D.		
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	0.00	43	0	N.D. d		
24) Chloroprene	0.00	88	0	N.D.		
25) 2-Butanone	0.00	72	0	N.D.		
26) Propionitrile	0.00	54	0	N.D.		
27) 2,2-Dichloropropane	0.00	77	0	N.D.		
28) Methacrylonitrile	0.00	67	0	N.D. d		
29) Chloroform	0.00	83	0	N.D.		
31) Dibromofluoromethane	11.07	113	121564	55.14	ug/kg	100
32) Bromochloromethane	0.00	128	0	N.D.		
33) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
34) 1,1-Dichloropropene	0.00	75	0	N.D.		
35) Diethyl Ether	0.00	59	0	N.D.		
36) Methyl Acetate	0.00	74	0	N.D.		
37) Cyclohexane	0.00	56	0	N.D.		
39) Methyl Cyclohexane	0.00	55	0	N.D. d		
40) Carbon Tetrachloride	0.00	117	0	N.D.		
41) 1,2-Dichloroethane	0.00	62	0	N.D.		
42) Benzene	0.00	78	0	N.D. d		
43) Isobutyl Alcohol	0.00	43	0	N.D. d		
44) Trichloroethene	0.00	130	0	N.D. d		
45) 1,2-Dichloropropane	0.00	63	0	N.D. d		
46) Methyl Methacrylate	0.00	100	0	N.D.		
47) 1,4-Dioxane	0.00	88	0	N.D.		
48) Bromodichloromethane	0.00	83	0	N.D.		
49) Dibromomethane	0.00	93	0	N.D.		
50) 4-Methyl-2-Pentanone	0.00	100	0	N.D. d		
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	0.00	43	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012621\212AU017.D Vial: 16
Acq On : 26 Jan 2021 3:52 pm Operator: KG
Sample : AE00066-11RE1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 27 6:55 2021 Quant Results File: 011921.RES

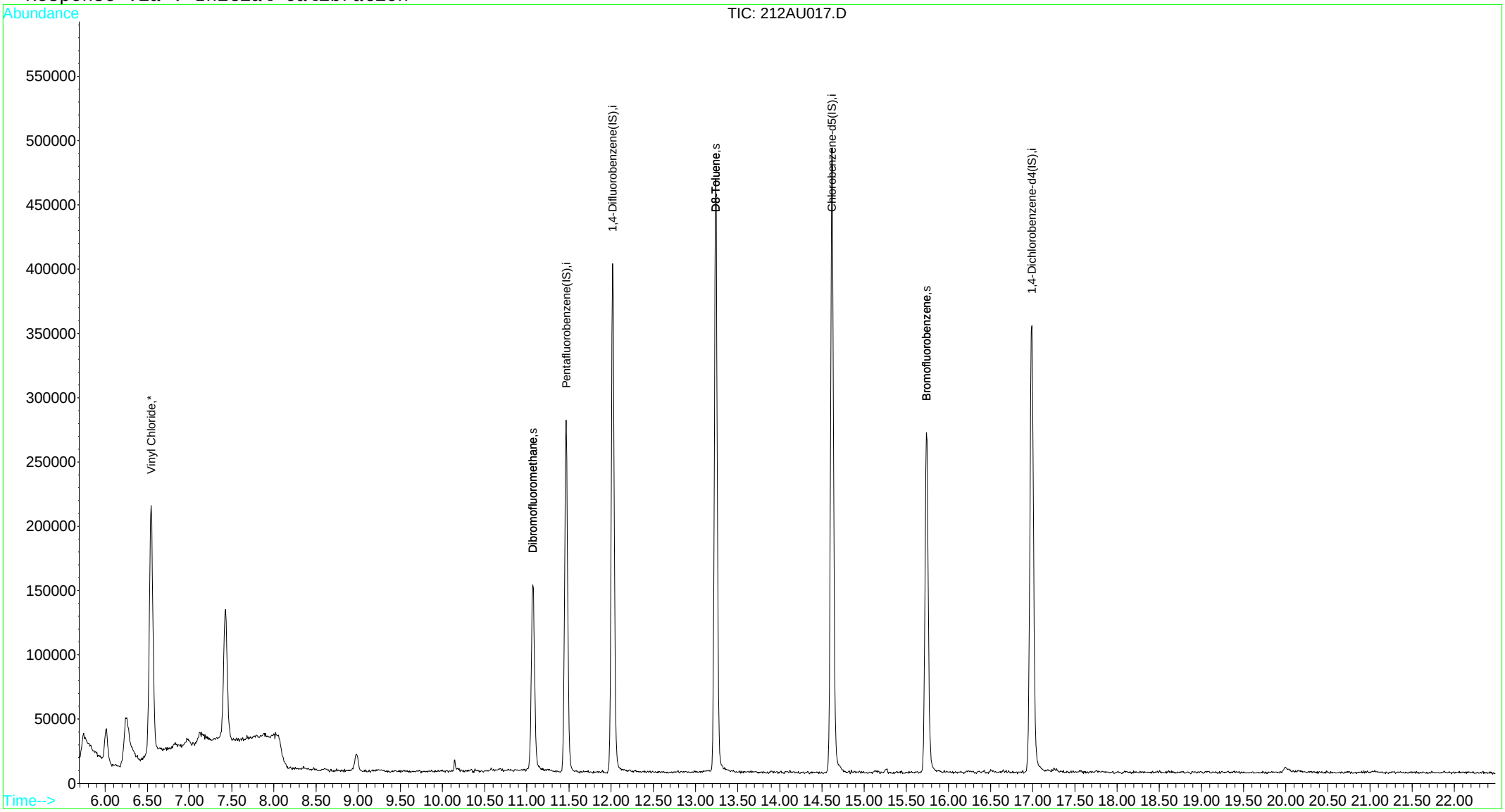
Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	0.00	75	0	N.D.	
55) D8-Toluene	13.24	98	355666	54.74 ug/kg	93
57) Toluene	0.00	92	0	N.D.	
58) Ethyl Methacrylate	0.00	69	0	N.D.	
59) T-1,3-Dichloropropene	0.00	75	0	N.D.	
60) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
61) 1,3-Dichloropropane	0.00	76	0	N.D.	
62) Tetrachloroethene	0.00	164	0	N.D.	
63) Dibromochloromethane	0.00	129	0	N.D.	
64) 1,2-Dibromoethane	0.00	107	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
67) Ethylbenzene	0.00	106	0	N.D.	
68) m-xylene & p-xylene	0.00	106	0	N.D.	
69) O-Xylene	0.00	106	0	N.D.	
70) Bromoform	0.00	173	0	N.D.	
71) Styrene	0.00	104	0	N.D.	
72) Isopropylbenzene	0.00	105	0	N.D.	
73) 1,2,3-Trichloropropane	0.00	75	0	N.D.	
74) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
76) Bromofluorobenzene	15.74	95	139788	53.75 ug/kg#	74
77) T-1,4-dichloro-2-butene	0.00	53	0	N.D.	
78) N-Propylbenzene	0.00	91	0	N.D. d	
80) Bromobenzene	0.00	156	0	N.D.	
81) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
82) 2-Chlorotoluene	0.00	91	0	N.D.	
83) 4-Chlorotoluene	0.00	91	0	N.D.	
84) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.	
85) s-Butylbenzene	0.00	105	0	N.D.	
86) tert-Butylbenzene	0.00	119	0	N.D.	
87) p-Isopropyltoluene	0.00	119	0	N.D. d	
88) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
89) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) N-Butylbenzene	0.00	91	0	N.D.	
92) DBCP	0.00	75	0	N.D.	
93) Naphthalene	0.00	128	0	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Hexachlorobutadiene	0.00	225	0	N.D.	
96) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.	

Quantitation Report

Data File : C:\HPCHEM\1\DATA\012621\212AU017.D Vial: 16
Acq On : 26 Jan 2021 3:52 pm Operator: KG
Sample : AE00066-11RE1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 27 6:55 2021 Quant Results File: 011921.RES

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 22 07:28:59 2021
Response via : Initial Calibration



ANALYSIS SEQUENCE

AA63653

Instrument: OVGCMS5

Calibration ID: 2011113

Printed: 11/20/2020 10:14:21AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA63653-TUN1	QC		1		A0F0994			
AA63653-CAL1	QC		2		A0K1094	A0H0536		
AA63653-CAL2	QC		3		A0K1095	A0H0536		
AA63653-CAL3	QC		4		A0K1096	A0H0536		
AA63653-CAL4	QC		5		A0K1097	A0H0536		
AA63653-CAL5	QC		6		A0K1098	A0H0536		
AA63653-CAL6	QC		7		A0K1099	A0H0536		
AA63653-CAL7	QC		8		A0K1100	A0H0536		
AA63653-CAL8	QC		9		A0K1101	A0H0536		
AA63653-SCV1	QC		10		A0K1038	A0H0536		

Samples Loaded By Date

Data Processed By Date

VOLATILES GC/MS LOGBOOK (EPA Method 624.1 / SW-846 Method 8260D)

Tune Start Date: 11/12/20	Surrogate: AOF0892	8260 Mix: AOK0852
Sequence: AA63653 / AA63657	Internal: AOH0535	8260 Add: AOK0725
Batch: OK19040	LCS Mix 2⁰: AOK0835	8260 Ac/Ac: AOK1075
Method: 8260	LCS Acrolein 2⁰: AOK0868	8260 Gases: AOE1012
Analyst: JCN	LCS Gas 2⁰: AOK1023	Instrument #: MS-5
Instrument EM Voltage: 1706		

205KN

Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)	Comments	LIMS
001	Tun			1				
002	Tun			1			Pass	
003	CAL1 1ppb			2			✓	
004	CAL2 2ppb			3			✓	
005	CAL3 5ppb			4			✓	
006	CAL4 10ppb			5			✓	
007	CAL5 20ppb			6			✓ Undersp.ked Acrolein / Acrylonitrile	
008	CAL6 50ppb			7			✓	
009	CAL7 80ppb			8			✓	
010	CAL8 100ppb			9			✓	
011	Rnse			10				
012	SCV		1/20	11		N	✓	
013	BS		1/20	12		1/20	✓	
014	BLK			13			✓	
015	AD06553-03	H	1	14	✓	N	✓ MS/MSD	
016	AD06553-13	E	1	15	✓	N	✓	
017	AD06553-14	D	1	16	✓	N	✓	
018	AD06553-15	D	1	17	✓	N	✓	
019	AD06553-16	D	1	18	✓	N	✓	
020	AD06553-17	E	1	19	✓	N	✓	
021	AD06553-18	D	1	20	✓	N	✓	

Response Factor Report OVGCMS5

Method Path : C:\msdchem\1\methods\
Method File : 111920W.M
Title : ENCO SOP VGCMS05; Element Cal
Last Update : Thu Nov 19 13:02:55 2020
Response Via : Initial Calibration

Calibration Files
1 =205KN003.D 2 =205KN004.D 5 =205KN005.D 20 =205KN007.D 100 =205KN010.D 50 =205KN008.D 80 =205KN009.D 10 =205KN(

	Compound	1	2	5	20	100	50	80	10	Avg	%RSD
1) I	PENTAFLUOROBENZENE...	----------	ISTD	----------							
2)	Dichlorodifluo...	0.732	0.531	0.620	0.629	0.673	0.688	0.709	0.583	0.645	10.47
3) P	Chloromethane	0.964	0.768	0.753	0.667	0.733	0.662	0.754	0.644	0.743	13.64
4) C	Vinyl Chloride	0.639	0.496	0.594	0.610	0.665	0.618	0.687	0.518	0.603	11.04
5)	Bromomethane	0.549	0.394	0.247	0.154	0.219	0.181	0.205	0.180	0.266	51.25
6)	Chloroethane	0.510	0.336	0.273	0.297	0.260	0.264	0.323			29.51
7)	Trichlorofluor...	0.796	0.619	0.687	0.758	0.815	0.793	0.830	0.707	0.751	9.78
8)	Diethyl ether	0.518	0.368	0.387	0.388	0.432	0.430	0.456	0.360	0.417	12.66
9) C	1,1-Dichloroet...	0.530	0.372	0.392	0.413	0.456	0.449	0.465	0.375	0.432	12.52
10)	Trichlorotrifl...	0.261	0.264	0.293	0.261	0.306	0.306	0.313	0.308	0.289	7.99
11)	Acrolein	0.103	0.071	0.088	0.042	0.093	0.099	0.101	0.098	0.087#	24.14
12)	Iodomethane	0.324	0.307	0.371	0.456	0.460	0.473	0.466	0.432	0.411	16.35
13)	Carbon Disulfide	1.626	1.279	1.418	1.452	1.296	1.421	1.393	1.427	1.414	7.52
14)	3-chloropropene	1.169	0.669	0.682	0.774	0.864	0.852	0.844	0.712	0.821	19.61
15)	Acetone	0.164	0.076	0.113	0.108	0.115	0.117	0.122	0.127	0.118	20.50
16)	Methylene Chlo...	0.949	0.680	0.585	0.479	0.515	0.526	0.538	0.495	0.596	26.19
17)	Methyl Acetate	0.752	0.373	0.342	0.331	0.358	0.362	0.385	0.374	0.410	34.05
18)	t-1,2-Dichloro...	0.632	0.429	0.448	0.474	0.518	0.520	0.544	0.431	0.499	13.82
19)	Methyl tert-bu...	1.208	1.067	1.181	1.219	1.336	1.418	1.459	1.226	1.264	10.33
20)	Acetonitrile	0.133	0.087	0.083	0.083	0.092	0.096	0.101	0.093	0.096#	16.96
21)	Isopropyl ether	1.694	1.497	1.582	1.599	1.799	1.820	1.914	1.521	1.678	9.10
22)	Chloroprene	0.511	0.397	0.476	0.495	0.500	0.505	0.508	0.435	0.478	8.66
23) P	1,1-Dichloroet...	1.150	0.746	1.073	0.985	1.079	1.109	1.134	0.943	1.027	13.07
24)	Acrylonitrile	0.171	0.135	0.157	0.083	0.167	0.177	0.183	0.168	0.155	21.11
25)	Vinyl Acetate	1.109	0.868	1.055	1.064	1.035	1.119	1.124	1.046	1.053	7.80
26)	c-1,2-Dichloro...	0.554	0.424	0.524	0.525	0.553	0.576	0.602	0.474	0.529	10.76
27)	2,2-Dichloropr...	0.987	0.574	0.726	0.745	0.872	0.884	0.932	0.636	0.795	18.48
28)	Bromochloromet...	0.174	0.176	0.238	0.191	0.160	0.194	0.174	0.188	0.187	12.53
29)	Cyclohexane	1.446	0.816	1.112	1.011	1.098	1.139	1.151	0.901	1.084	17.43
30) C	Chloroform	1.008	0.818	1.017	0.944	0.995	1.032	1.078	0.957	0.981	7.97
31) s	Dibromofluorom...	0.499	0.517	0.518	0.502	0.484	0.557	0.508	0.540	0.516	4.57
32)	Dibromofluorom...	0.499	0.517	0.518	0.502	0.484	0.557	0.508	0.540	0.516	4.57
33)	2-Butanone	0.095	0.029	0.061	0.046	0.058	0.058	0.061	0.045	0.057#	33.56
34)	1,1,1-Trichlor...	0.886	0.648	0.744	0.804	0.874	0.894	0.933	0.697	0.810	12.79
35)	1,1-Dichloropr...	0.995	0.693	0.799	0.777	0.841	0.869	0.895	0.723	0.824	11.87
36)	Propionitrile	0.073	0.071	0.073	0.070	0.065	0.070	0.072	0.069	0.070#	3.49
37)	Methacrylonitrile	0.399	0.336	0.360	0.337	0.311	0.348	0.341	0.345	0.347	7.26
38)	Isobutyl Alcohol	0.039	0.041	0.042	0.039	0.041	0.045	0.045	0.043	0.042#	5.18

Method Path : C:\msdchem\1\methods\
Method File : 111920W.M

39)	I	1,4-DIFLUOROBENZEN...	----------ISTD----------									
40)		Carbon Tetrach...	0.356	0.266	0.280	0.310	0.381	0.359	0.377	0.269	0.325	15.08
41)		Benzene	1.369	0.895	1.012	1.161	1.252	1.202	1.234	1.020	1.143	13.58
42)		1,2-Dichloroet...	0.530	0.325	0.356	0.380	0.419	0.395	0.426	0.327	0.395	16.85
43)		Trichloroethene	0.243	0.207	0.209	0.223	0.254	0.244	0.248	0.219	0.231	8.07
44)		Methyl cyclohe...	1.297	0.764	0.651	0.549	0.571	0.571	0.580	0.498	0.685	37.89
45)		Dibromomethane	0.175	0.131	0.166	0.162	0.171	0.170	0.178	0.145	0.162	9.97
46)	C	1,2-Dichloropr...	0.417	0.274	0.279	0.316	0.368	0.337	0.367	0.304	0.333	14.80
47)		Bromodichlorom...	0.339	0.218	0.314	0.331	0.411	0.377	0.405	0.312	0.338	18.35
48)		Methyl Methacr...	0.209	0.116	0.173	0.191	0.216	0.207	0.211	0.180	0.188	17.59
49)		1,4-Dioxane	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.003#	15.13
50)		2-Chloroethyl ...	0.164	0.132	0.148	0.164	0.174	0.176	0.176	0.155	0.161	9.70
51)		C-1,3-Dichloro...	0.388	0.337	0.396	0.444	0.557	0.515	0.549	0.386	0.447	18.77
52)	s	D8-Toluene	1.242	1.219	1.181	1.198	1.256	1.317	1.203	1.265	1.235	3.56
53)		D8-Toluene	1.242	1.219	1.181	1.198	1.256	1.317	1.203	1.265	1.235	3.56
54)		4-Methyl-2-pen...	0.054	0.035	0.032	0.032	0.034	0.034	0.035	0.031	0.036#	20.52
55)		CHLOROBENZENE-D5 (IS)	----------ISTD----------									
56)	C	Toluene	1.301	0.813	1.029	1.066	1.109	1.126	1.145	0.947	1.067	13.57
57)		T-1,3-Dichloro...	0.578	0.396	0.539	0.558	0.630	0.608	0.660	0.515	0.561	14.59
58)		Tetrachloroethene	0.355	0.217	0.245	0.289	0.295	0.281	0.297	0.261	0.280	14.66
59)		Ethyl methacry...	0.788	0.476	0.467	0.517	0.560	0.573	0.583	0.495	0.557	18.49
60)		1,1,2-Trichlor...	0.426	0.257	0.309	0.332	0.358	0.354	0.369	0.316	0.340	14.59
61)		Dibromochlorom...	0.262	0.193	0.219	0.271	0.363	0.324	0.377	0.234	0.280	24.18
62)		1,3-Dichloropr...	0.786	0.497	0.586	0.666	0.713	0.696	0.746	0.649	0.667	13.77
63)		1,2-Dibromoethane	0.378	0.275	0.309	0.325	0.360	0.368	0.378	0.290	0.336	12.25
64)		2-Hexanone	0.280	0.209	0.227	0.239	0.255	0.255	0.265	0.235	0.246	9.21
65)	C	Ethylbenzene	0.837	0.505	0.535	0.608	0.646	0.639	0.660	0.582	0.626	16.13
66)	P	Chlorobenzene	1.227	0.919	1.089	1.029	1.086	1.084	1.135	1.030	1.075	8.30
67)		1,1,1,2-Tetrac...	0.325	0.266	0.294	0.319	0.372	0.355	0.375	0.267	0.322	13.59
68)		m-xylene & p-x...	0.771	0.630	0.752	0.782	0.767	0.793	0.800	0.727	0.753	7.24
69)		o-xylene	0.827	0.550	0.798	0.758	0.823	0.841	0.863	0.715	0.772	13.16
70)		Styrene	1.185	0.949	1.198	1.329	1.404	1.372	1.466	1.179	1.260	13.20
71)	P	Bromoform	0.224	0.133	0.111	0.151	0.225	0.198	0.216	0.134	0.174	26.86
72)		Isopropylbenzene	2.119	1.613	1.958	2.054	2.160	2.204	2.274	1.869	2.031	10.53
73)	s	Bromofluoroben...	0.942	0.897	0.855	0.869	0.844	0.927	0.868	0.941	0.893	4.41
74)		Bromofluoroben...	0.942	0.897	0.855	0.869	0.844	0.927	0.868	0.941	0.893	4.41
75)		n-Propylbenzene	2.779	2.232	2.681	2.705	2.871	2.885	3.015	2.557	2.716	8.87
76)	P	1,1,2,2-Tetrac...	0.575	0.424	0.467	0.489	0.518	0.530	0.560	0.467	0.504	10.18
77)		1,2,3-Trichlor...	0.235	0.146	0.161	0.180	0.187	0.187	0.189	0.188	0.184	13.95
78)		T-1,4-Dichloro...	0.121	0.127	0.190	0.191	0.198	0.188	0.206	0.188	0.176	18.47
79)		1,4-DICHLOROBENZEN...	----------ISTD----------									
80)		Bromobenzene	0.491	0.463	0.517	0.513	0.522	0.515	0.541	0.466	0.503	5.46
81)		1,2,4-Trimethy...	2.482	1.775	2.358	2.398	2.416	2.462	2.548	2.288	2.341	10.33
82)		2-Chlorotoluene	2.119	1.605	1.920	2.021	2.048	2.052	2.168	1.808	1.968	9.39
83)		4-Chlorotoluene	2.103	1.725	2.035	2.091	2.145	2.166	2.252	1.920	2.055	8.04

Method Path : C:\msdchem\1\methods\
Method File : 111920W.M

84)	tert-Butylbenzene	1.917	1.425	1.700	1.829	1.869	1.859	1.971	1.656	1.778	9.97
85)	1,3,5-Trimethy...	2.490	1.694	2.251	2.291	2.388	2.406	2.450	2.172	2.268	11.25
86)	p-Isopropyltol...	2.229	1.689	2.180	2.250	2.350	2.377	2.484	2.112	2.209	10.91
87)	s-Butylbenzene	2.516	2.130	2.702	2.757	2.812	2.890	2.983	2.495	2.661	10.24
88)	1,3-Dichlorobe...	1.060	0.831	0.915	1.006	1.121	1.076	1.133	0.926	1.009	10.77
89)	1,4-Dichlorobe...	1.342	0.942	0.985	1.048	1.121	1.090	1.143	0.977	1.081	11.81
90)	n-Butylbenzene	2.456	1.647	2.037	2.410	2.489	2.528	2.635	2.174	2.297	14.24
91)	1,2-Dichlorobe...	1.133	0.693	0.930	0.896	1.007	1.003	1.071	0.881	0.952	14.22
92)	DBCP	0.146	0.037	0.037	0.067	0.082	0.078	0.086	0.067	0.075#	45.78
93)	Hexachlorobuta...	0.179	0.172	0.213	0.199	0.252	0.230	0.254	0.186	0.211	15.26
94)	1,2,4-Trichlor...	0.444	0.216	0.367	0.393	0.486	0.481	0.524	0.368	0.410	23.82
95)	Naphthalene	0.860	0.626	0.684	0.841	1.037	1.012	1.109	0.795	0.870	19.70
96)	1,2,3-Trichlor...	0.242	0.250	0.204	0.239	0.307	0.284	0.319	0.234	0.260	15.18

(#) = Out of Range

Manual Integration Review Form

ENVIRONMENTAL CONSERVATION LABORATORIES, INC. ☐ Cary ☐ Jacksonville ☒ Orlando

I hereby attest that the manual integrations contained in this package have been thoroughly reviewed and are in agreement with the associated hardcopy data.

The electronic files listed below have been reviewed for accuracy, completeness and comply with ENCO labs QA-11 Manual Integration Policy including:

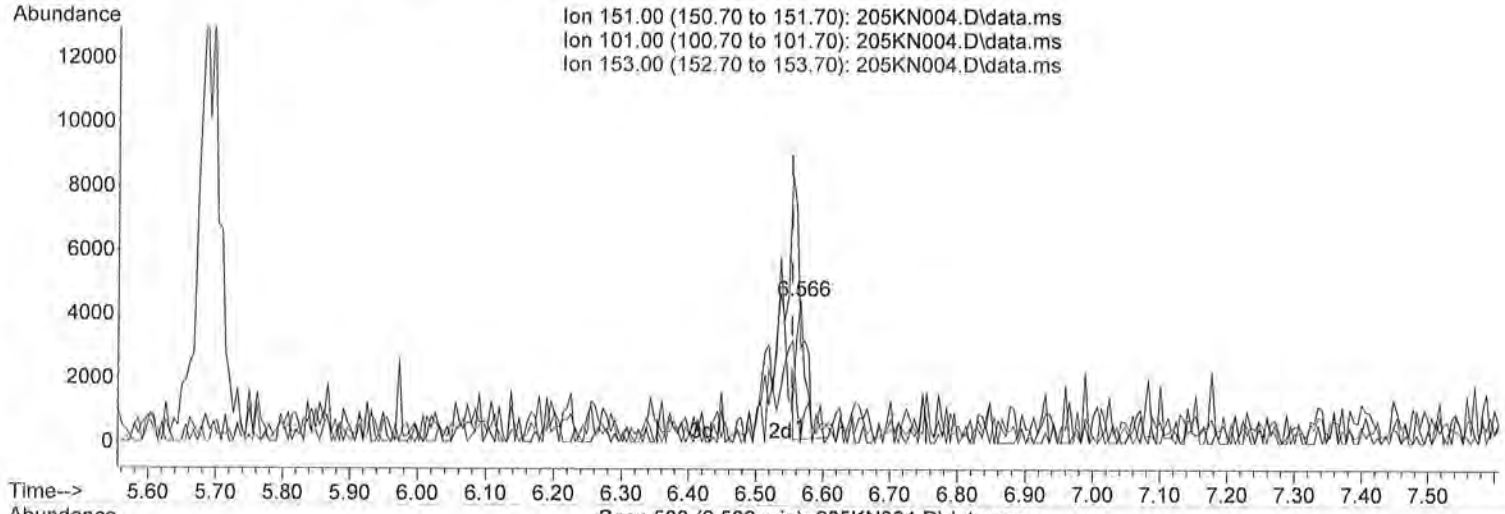
- "Before" and "After" chromatograms are provided
- Manual integrations are indicated on expanded scale "after" chromatograms at a scale large enough to see the manual integration performed.
- Reintegration technique marked if available on the data system
- Technical justification for manual integration
- Appropriate flags indicating which analytes were manually integrated are included in the raw data
- Analyst's initials and date.

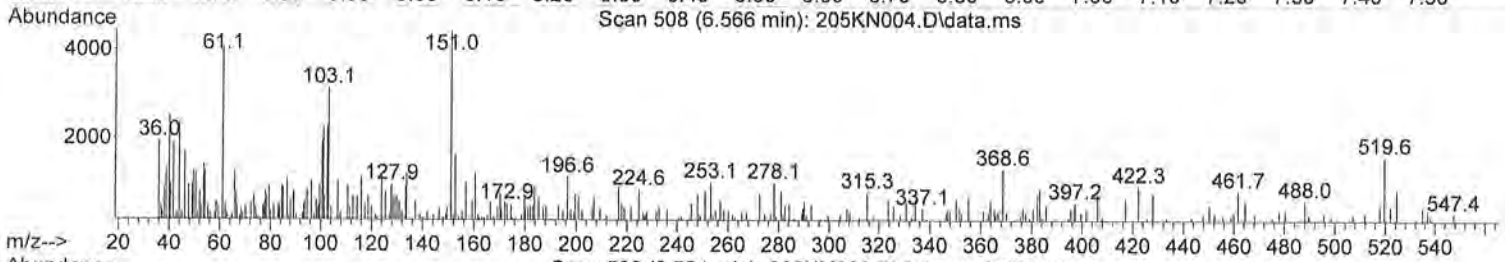
Instrument ID:	OVGCMS-5
Sequence/Batch ID:	AA63053
Data File Prefix:	205KN
Date and Time Range of MIs:	11/19/20 12:16 - 11/20/20 0737
Reviewer Print Name:	Karie Gonzalez
Reviewer Signature:	Karie Gonzalez
Date of Review:	11/20/2020

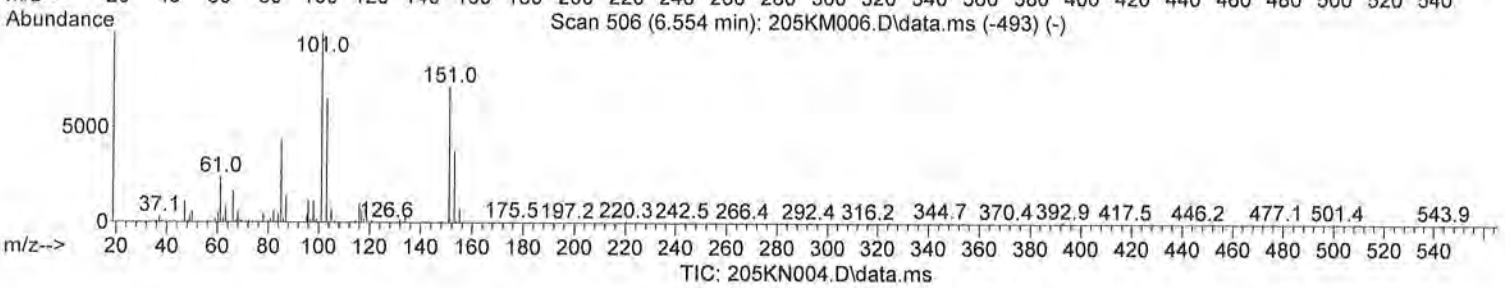
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN004.D\data.ms

(10) Trichlorotrifluoroethane

6.566min (+ 0.012) 0.52 ug/L

response 4301

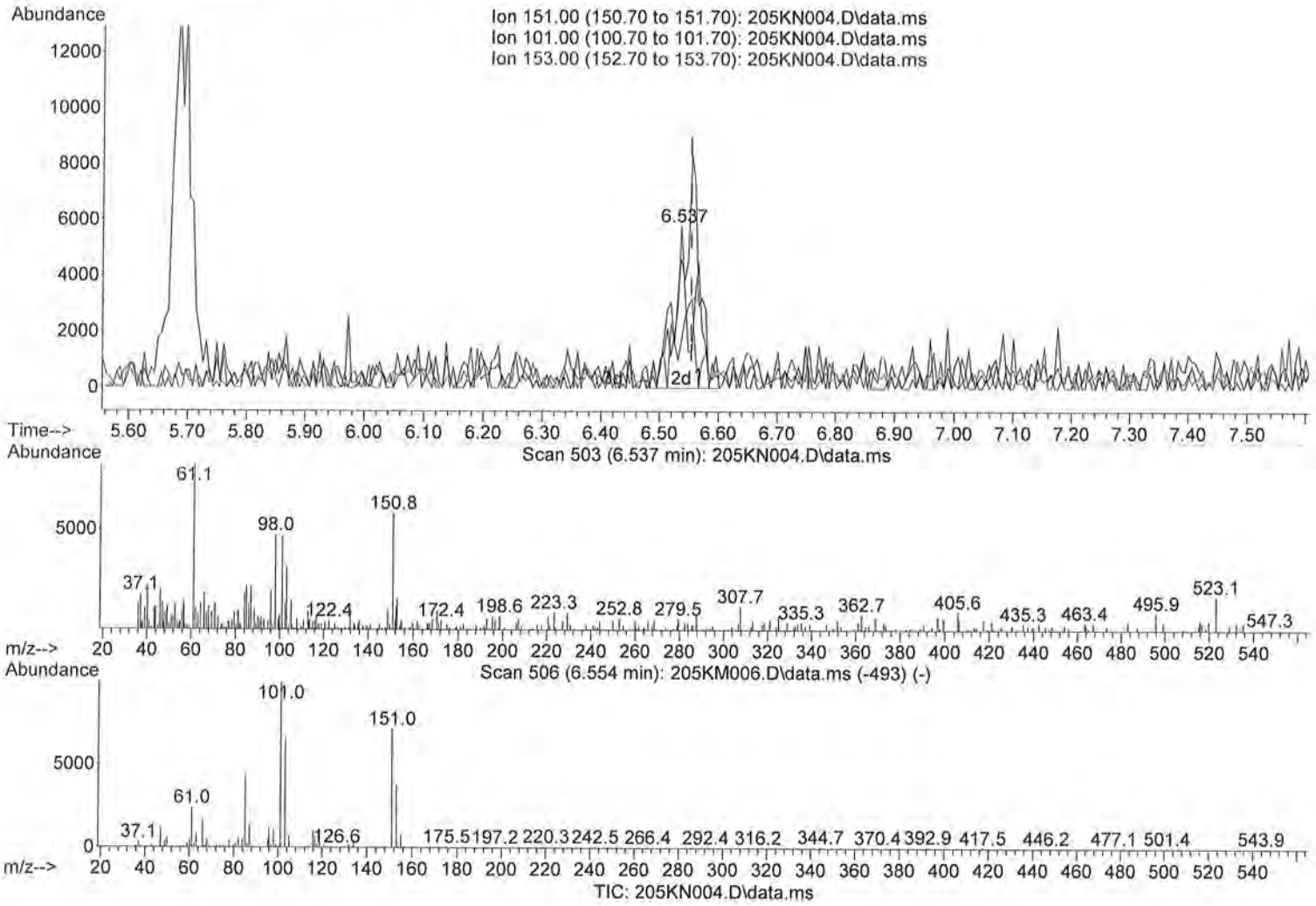
Ion	Exp%	Act%
151.00	100.00	100.00
101.00	154.20	0.00#
153.00	62.50	40.66#
0.00	0.00	0.00

Review:
[X] Manual Integration [ ] Manual Integration
Reason for manual integration:
[X] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Reviewed by/Date: KW 11/23/20
Reviewed by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



(10) Trichlorotrifluoroethane

6.537min (-0.017) 1.54 ug/L m

response 12736

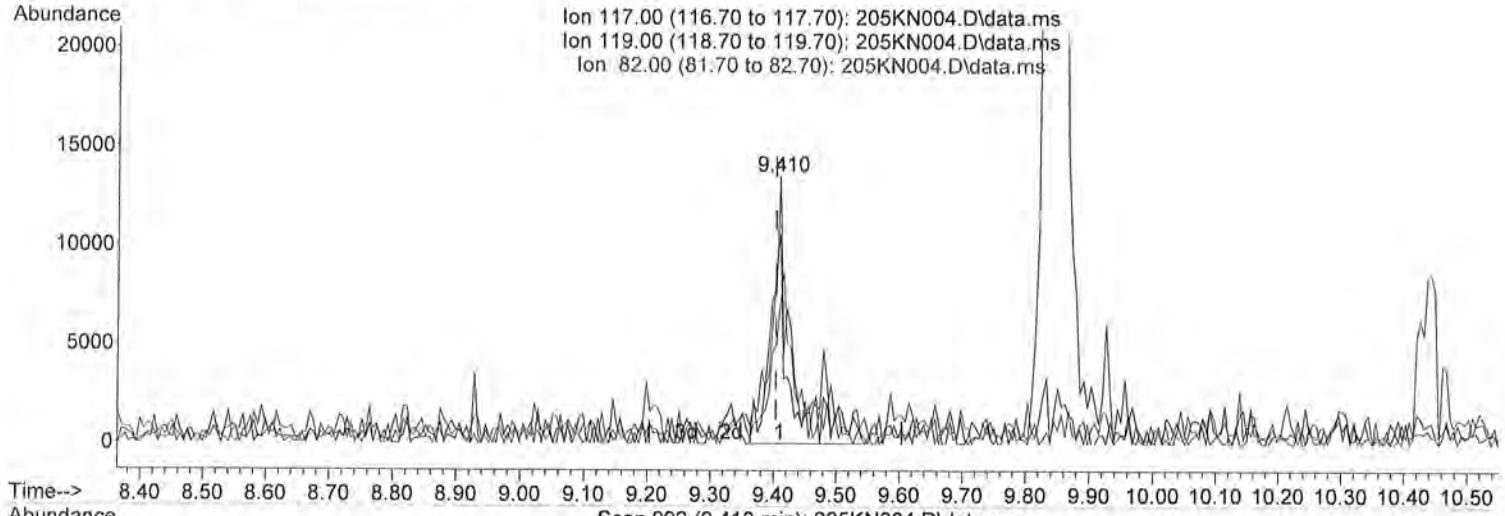
Ion	Exp%	Act%
151.00	100.00	100.00
101.00	154.20	0.00#
153.00	62.50	13.73#
0.00	0.00	0.00

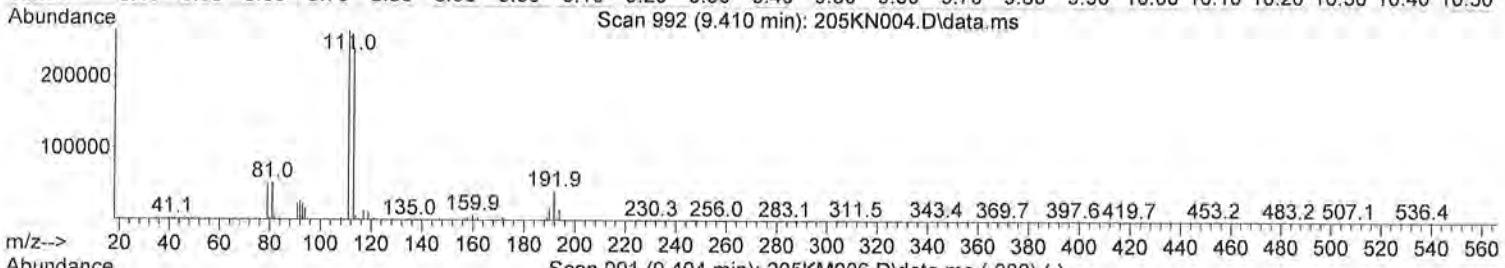
Reason for manual integration:
[X] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date: 11/20/20
Review by/Date:

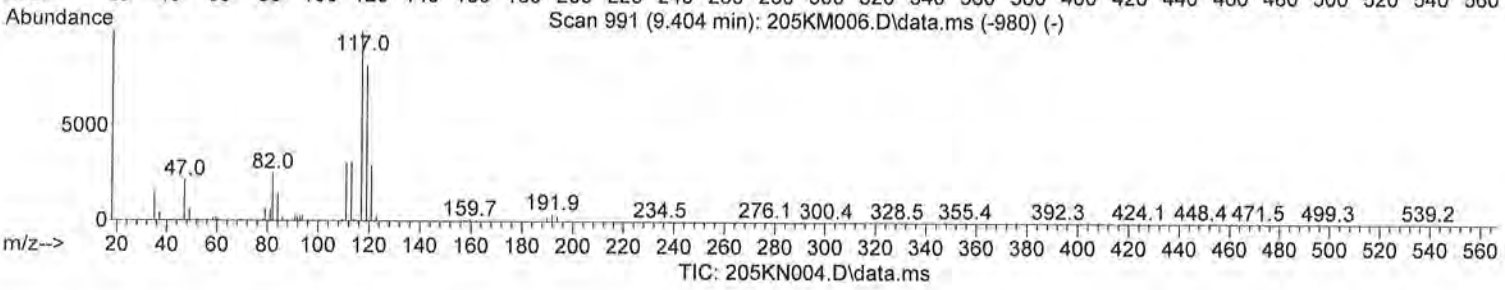
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN004.D\data.ms

(40) Carbon Tetrachloride

9.410min (+ 0.006) 2.08 ug/L

response 32862

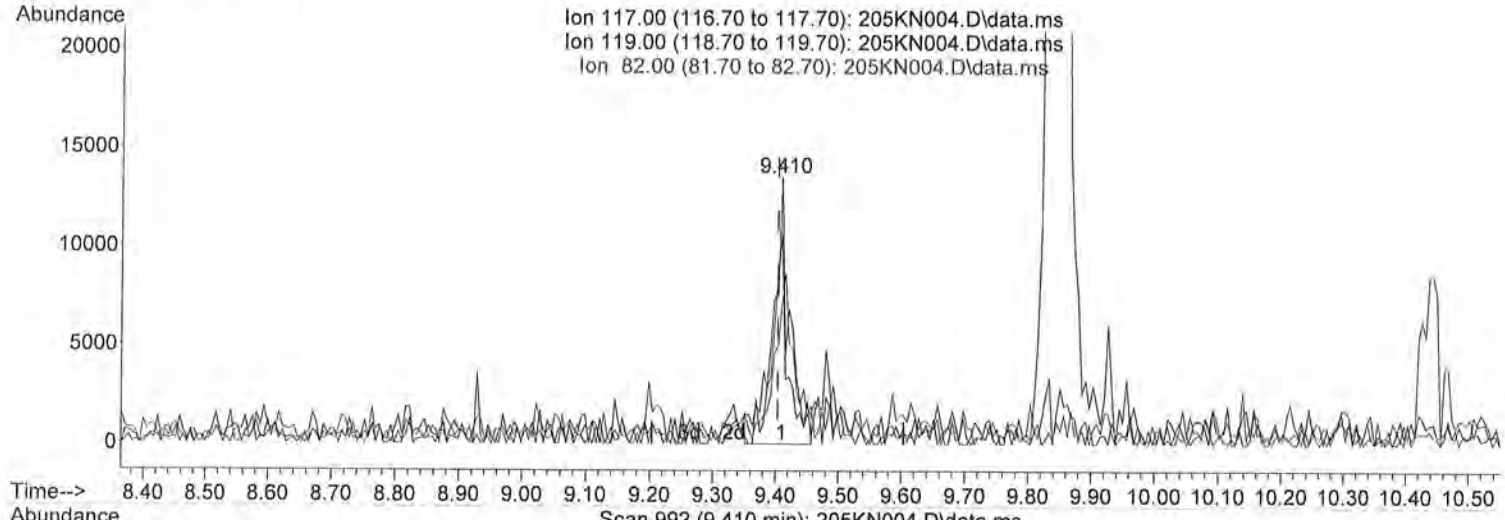
Ion	Exp%	Act%
117.00	100.00	100.00
119.00	93.20	54.94#
82.00	27.60	58.67#
0.00	0.00	0.00

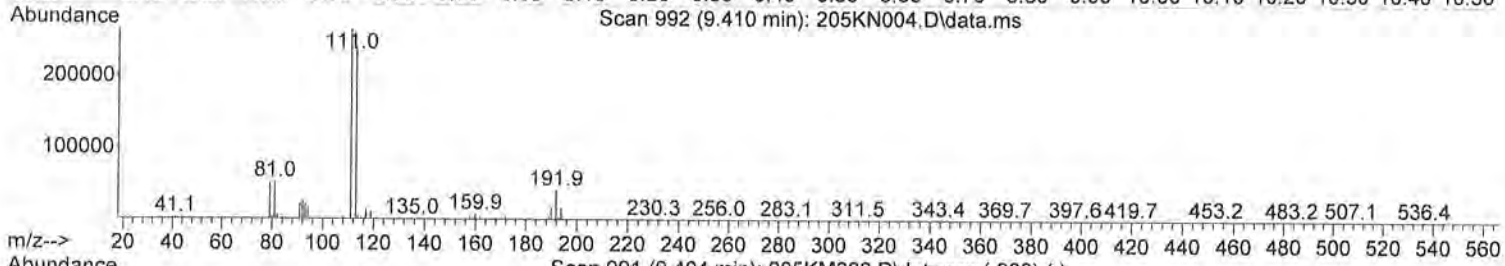
[X] Manual Integration [ ] Manual Integration
Select reason for manual integration:
[X] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date: W 11/23/20
Review by/Date:

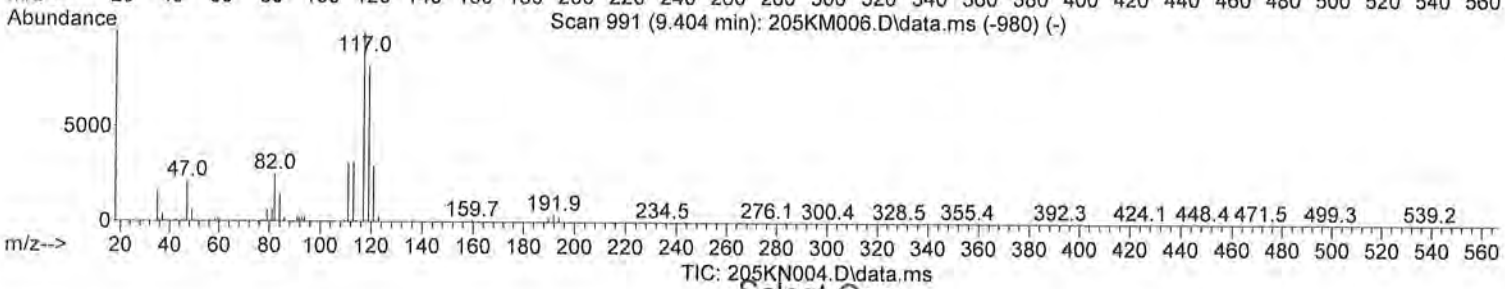
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN004.D\data.ms

(40) Carbon Tetrachloride

9.410min (+ 0.006) 1.62 ug/L m

response 25567

Ion	Exp%	Act%
117.00	100.00	100.00
119.00	93.20	70.61#
82.00	27.60	75.41#
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

[ ] Other:

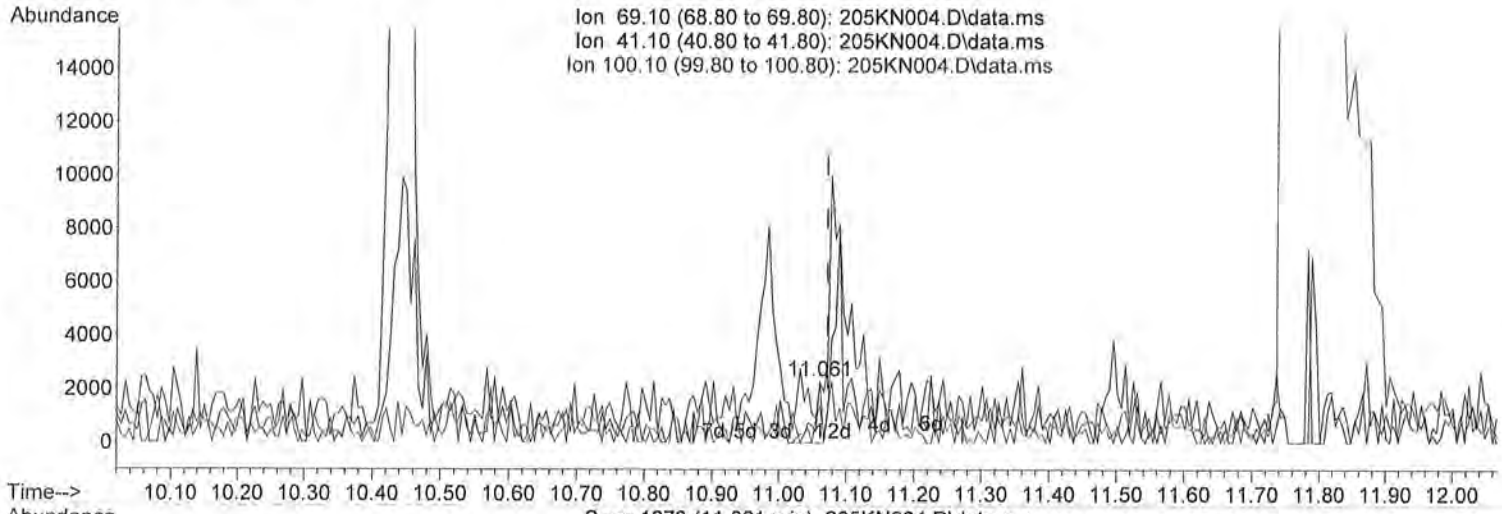
Review by/Date 11/20/20

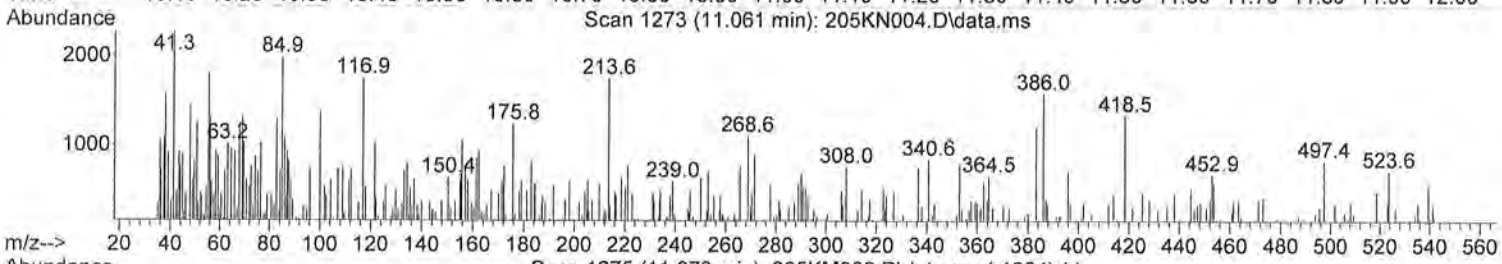
Review by/Date:

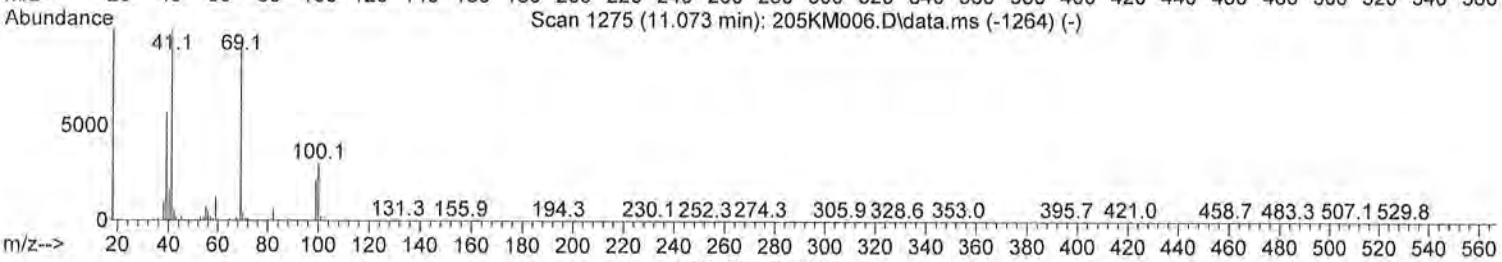
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN004.D\data.ms

(48) Methyl Methacrylate

11.061min (-0.012) 0.14 ug/L

response 1750

Ion	Exp%	Act%
69.10	100.00	100.00
41.10	124.40	141.03
100.10	35.70	69.43#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (baseline selection)

[ ] Missed peak(s) found

[ ] Overlapping peaks

[ ] Co-elution

[ ] Other:

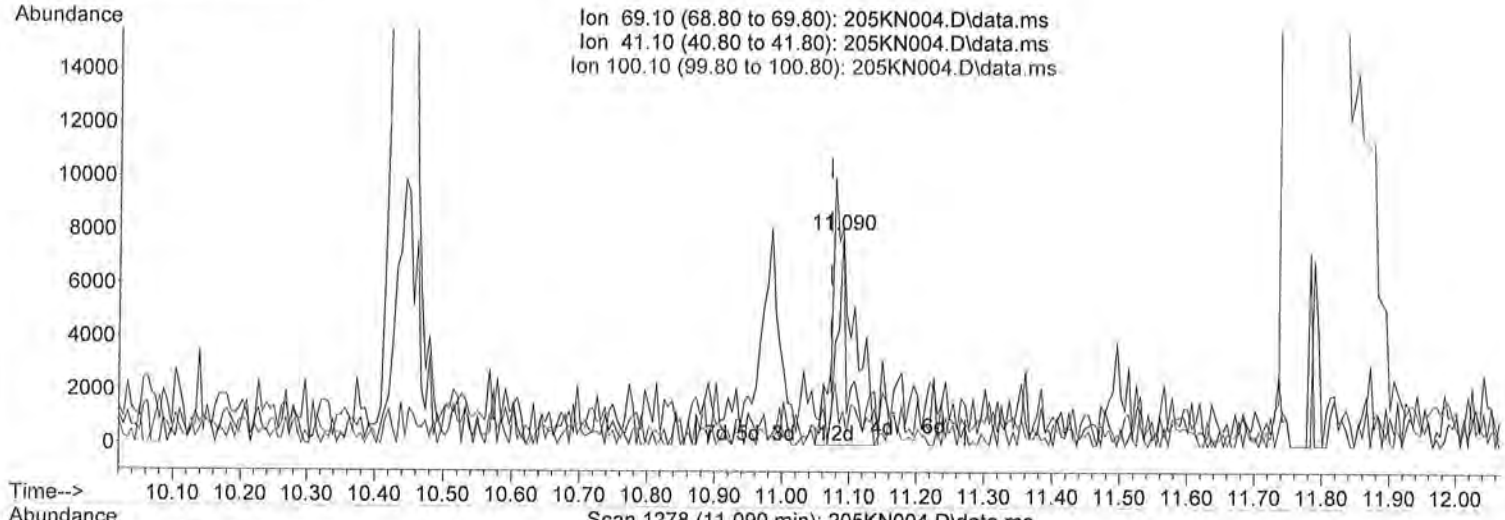
Review by/Date KKW 11/19/20

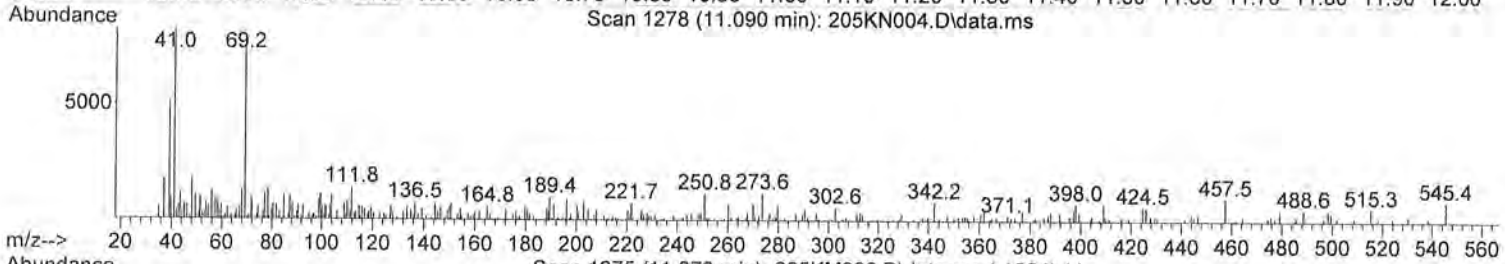
Review by/Date:

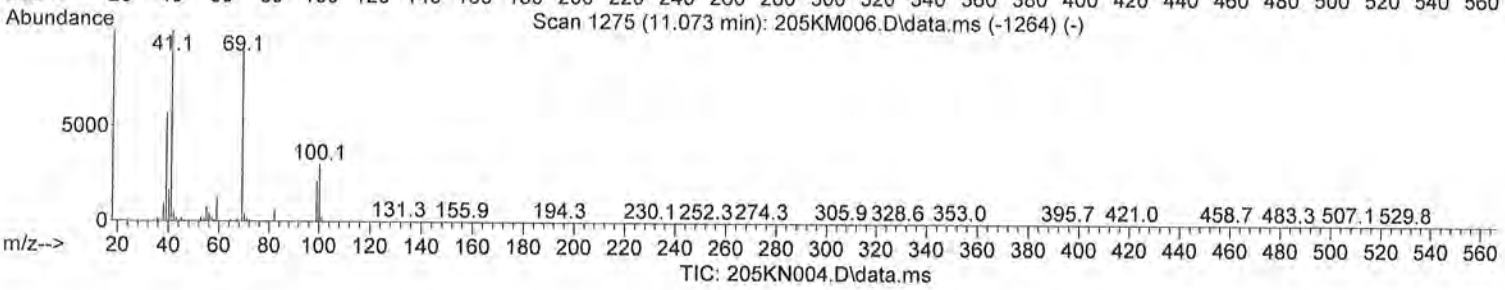
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN004.D\data.ms

(48) Methyl Methacrylate

11.090min (+ 0.017) 0.86 ug/L m

response 11122

Ion	Exp%	Act%
69.10	100.00	100.00
41.10	124.40	22.19#
100.10	35.70	10.92#
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

[ ] ISTD reintegration

[ ] Other:

Review by/Date 11/20/20

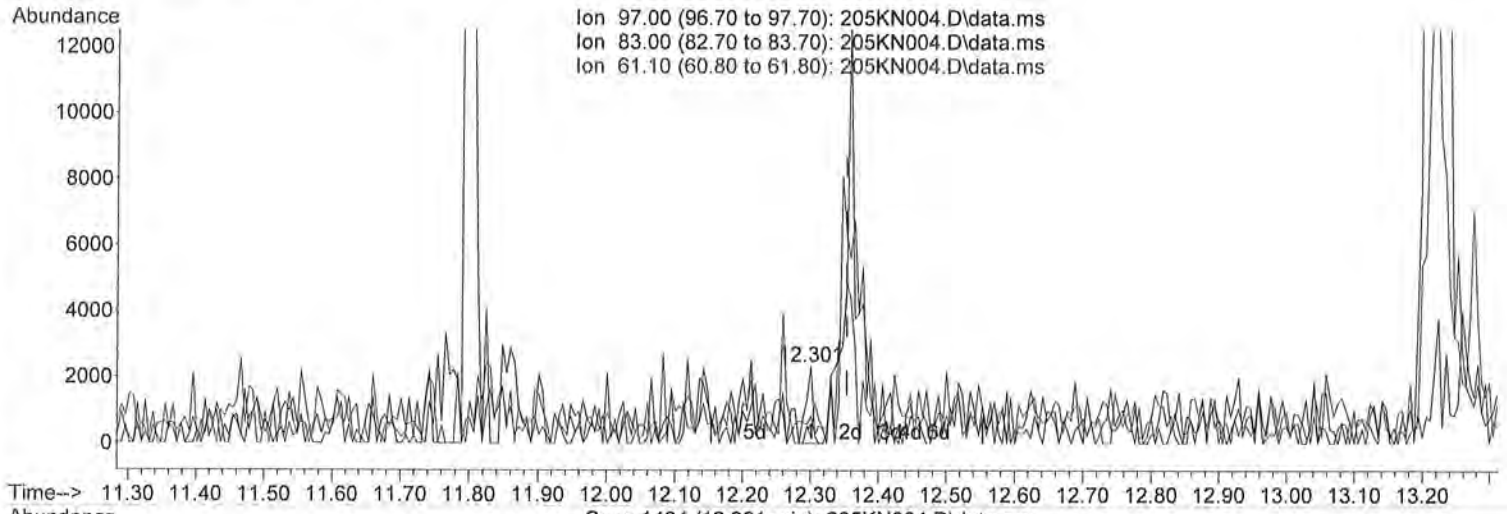
111920W.M Thu Nov 19 12:17:22 2020

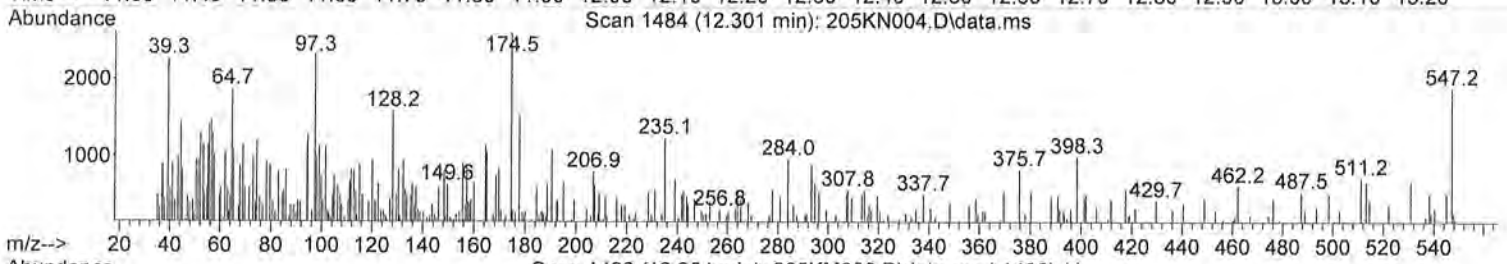
Review by/Date: Page: 1

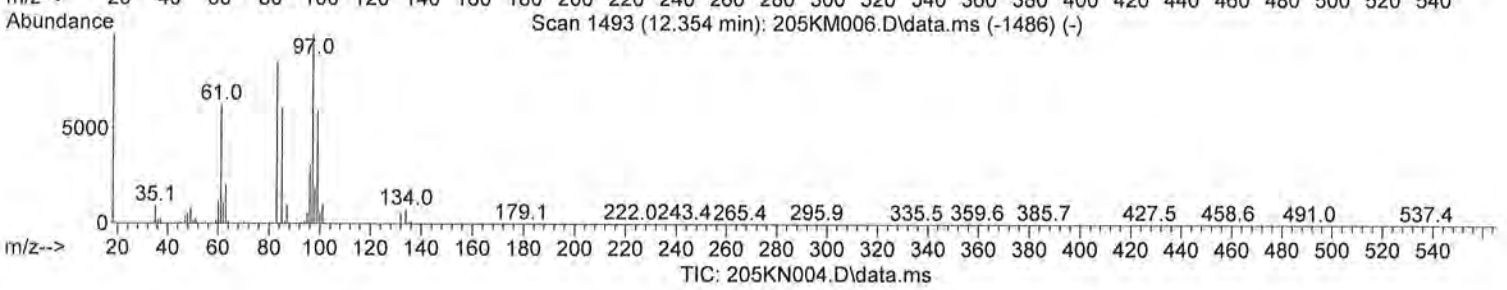
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN004.D\data.ms

(60) 1,1,2-Trichloroethane

12.301min (-0.053) 0.12 ug/L

response 1625

Ion	Exp%	Act%
97.00	100.00	100.00
83.00	90.90	103.69
61.10	65.40	78.09
0.00	0.00	0.00

Select One:

[ ] Manual Integration

[ ] Unassigned peak selection/Peak not found

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

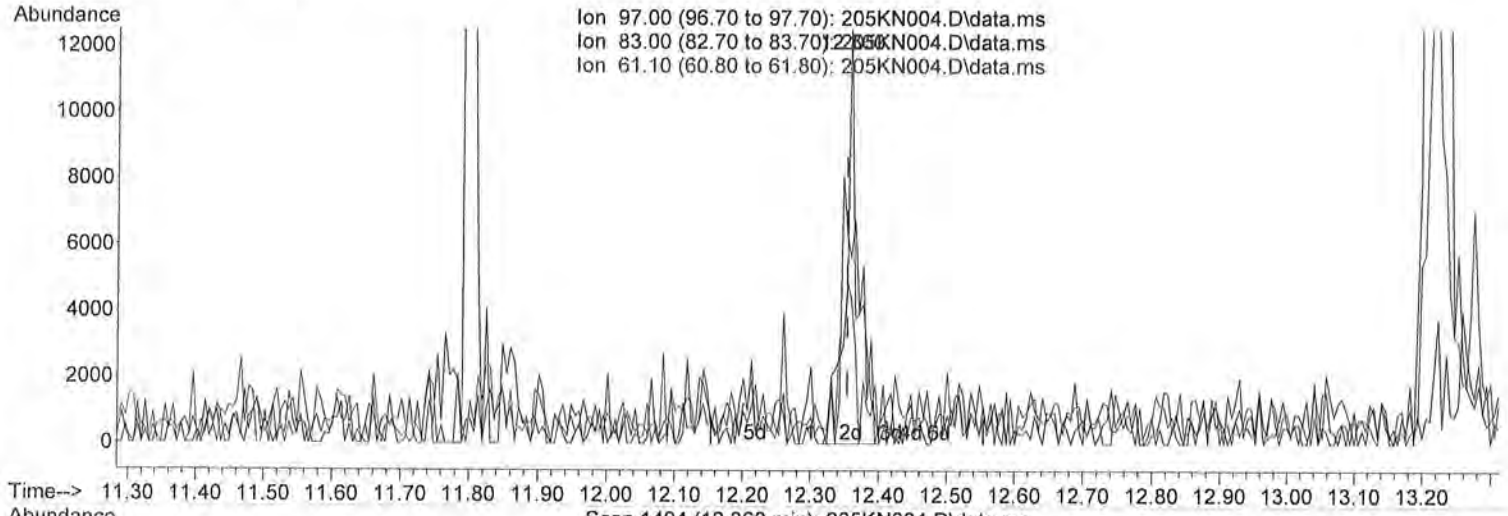
Review by/Date

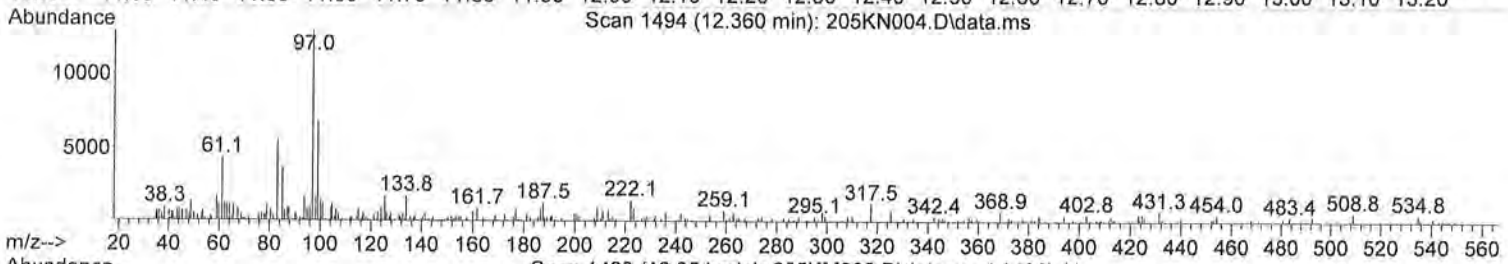
Review by/Date:

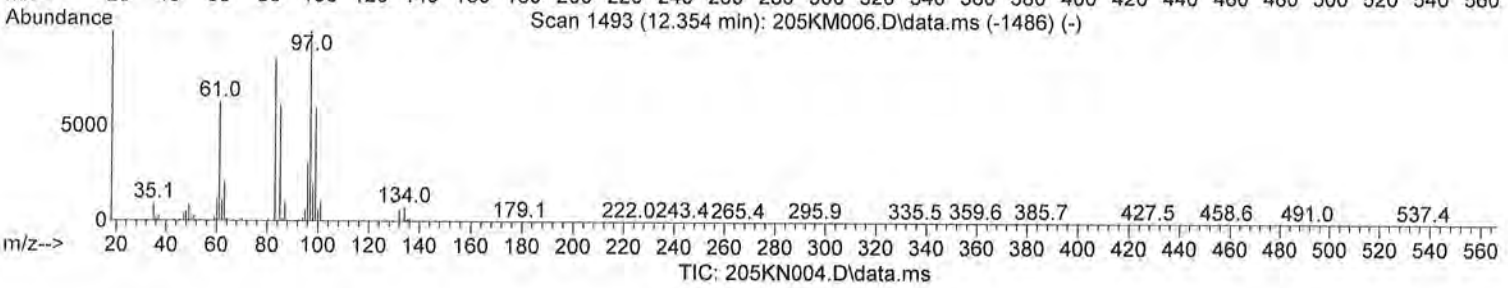
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN004.D\data.ms

(60) 1,1,2-Trichloroethane

12.360min (+ 0.006) 1.20 ug/L m

response 16136

Ion	Exp%	Act%
97.00	100.00	100.00
83.00	90.90	10.44#
61.10	65.40	7.86#
0.00	0.00	0.00

Select One:

[ ] Original Integration

[ ] Reintegration

[ ] Reintegration (baseline selection)

[ ] Compound not found

[ ] Reintegration

[ ] Reintegration (to spot peaks

[ ] ISTD reintegration

[ ] Other:

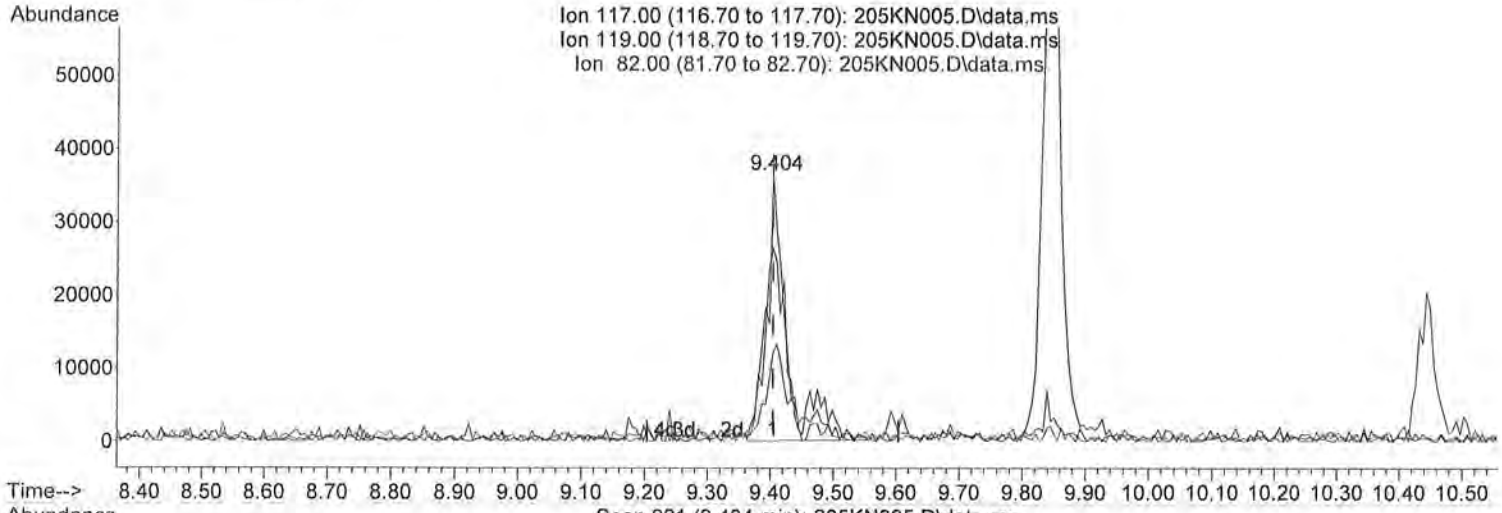
Review by/Date: 11/20/20

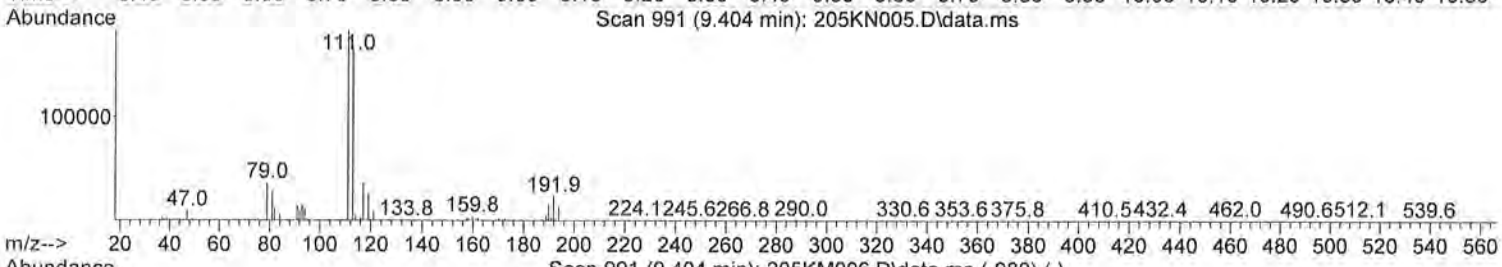
Review by/Date:

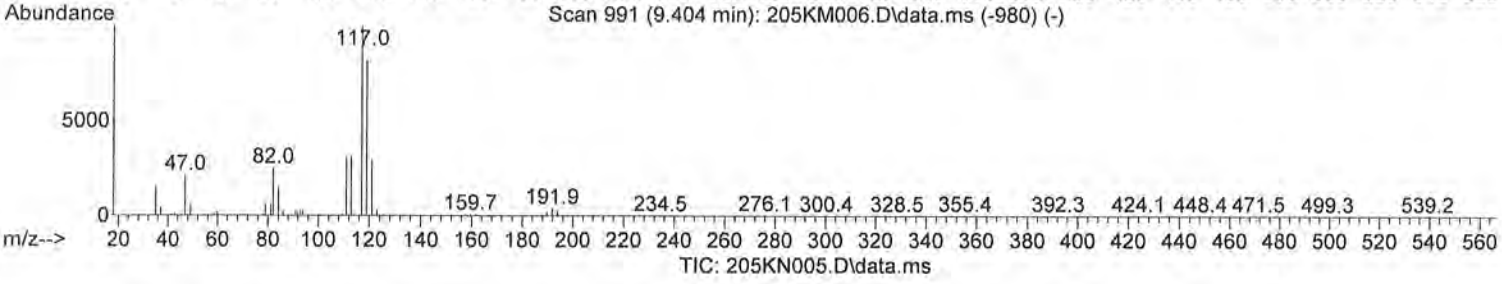
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN005.D
Acq On : 19 Nov 2020 9:47 am
Operator : KKW
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 19 12:13:14 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN005.D\data.ms

(40) Carbon Tetrachloride

9.404min (+ 0.000) 4.90 ug/L

response 78732

Ion	Exp%	Act%
117.00	100.00	100.00
119.00	93.20	79.64
82.00	27.60	40.68#
0.00	0.00	0.00

Select One:

[ ] Other:

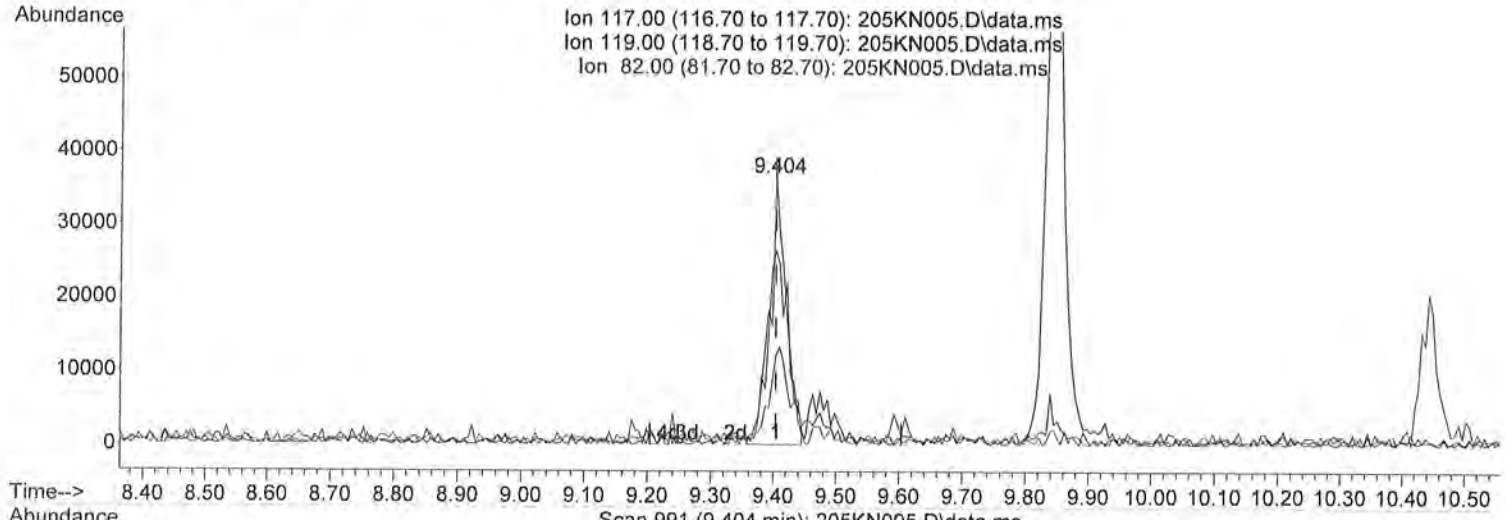
Review by/Date Wlukasik

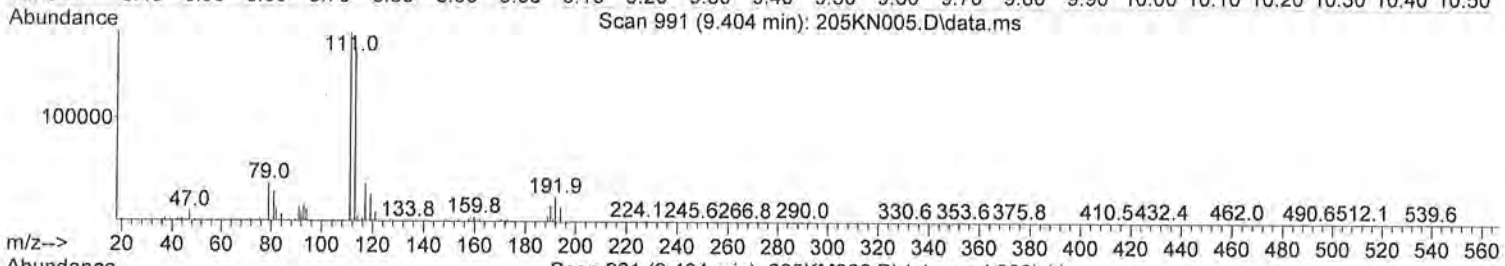
Review by/Date:

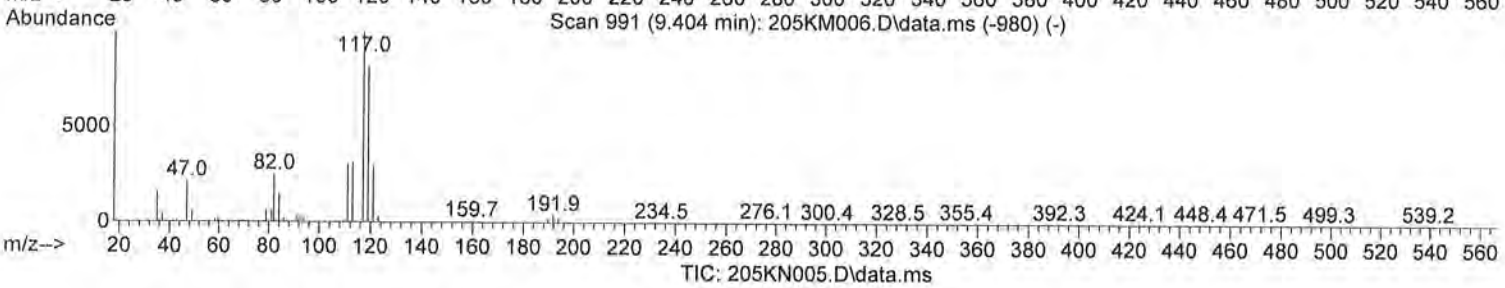
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN005.D
Acq On : 19 Nov 2020 9:47 am
Operator : KKW
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 19 12:13:14 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN005.D\data.ms

(40) Carbon Tetrachloride

9.404min (+ 0.000) 4.27 ug/L m

response 68664

Ion	Exp%	Act%
117.00	100.00	100.00
119.00	93.20	91.32
82.00	27.60	46.64#
0.00	0.00	0.00

Select One:

[ ] Other:

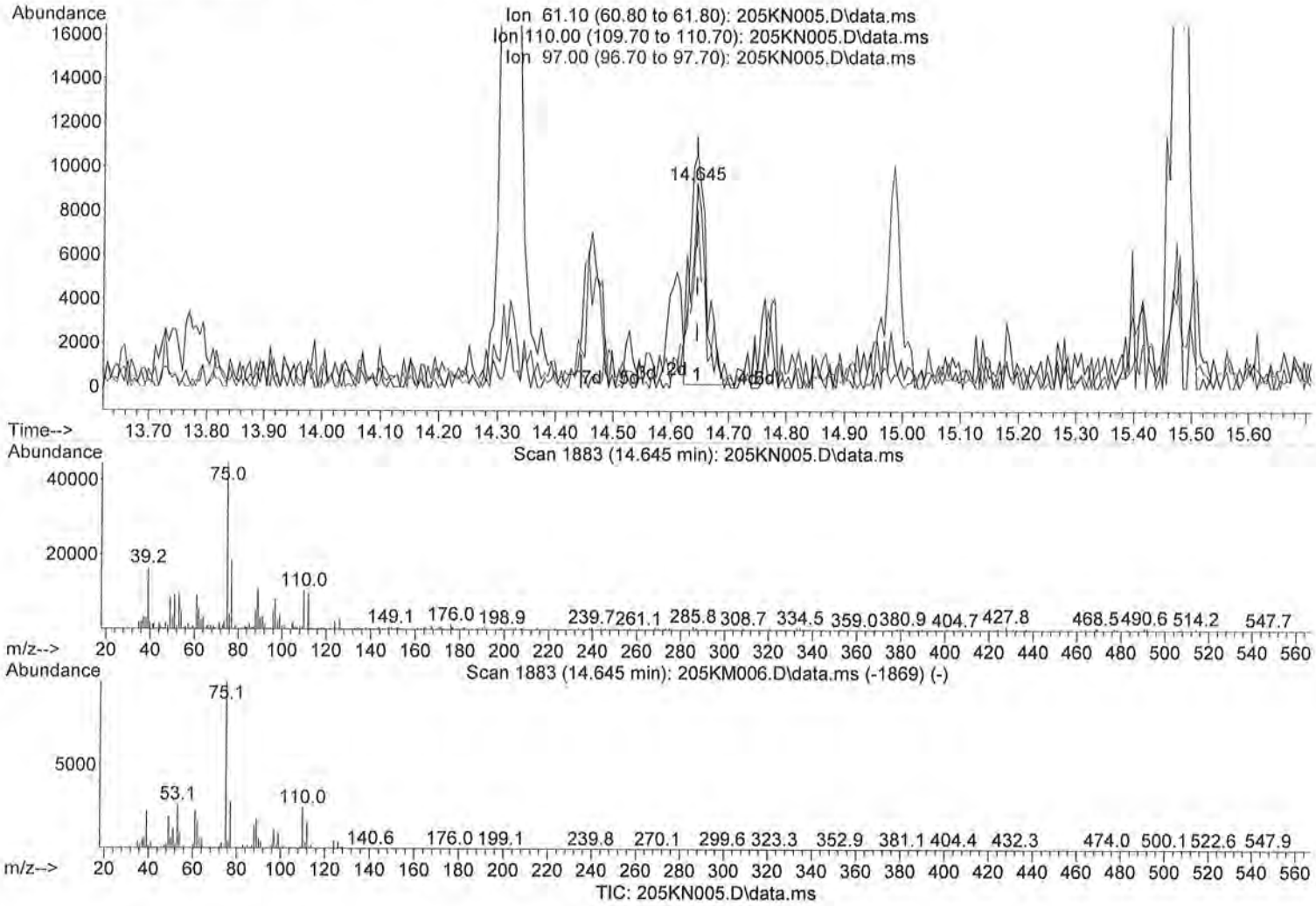
Review by/Date KW 11/20/20

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN005.D
Acq On : 19 Nov 2020 9:47 am
Operator : KKW
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 19 12:13:14 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 2.18 ug/L

response 16030

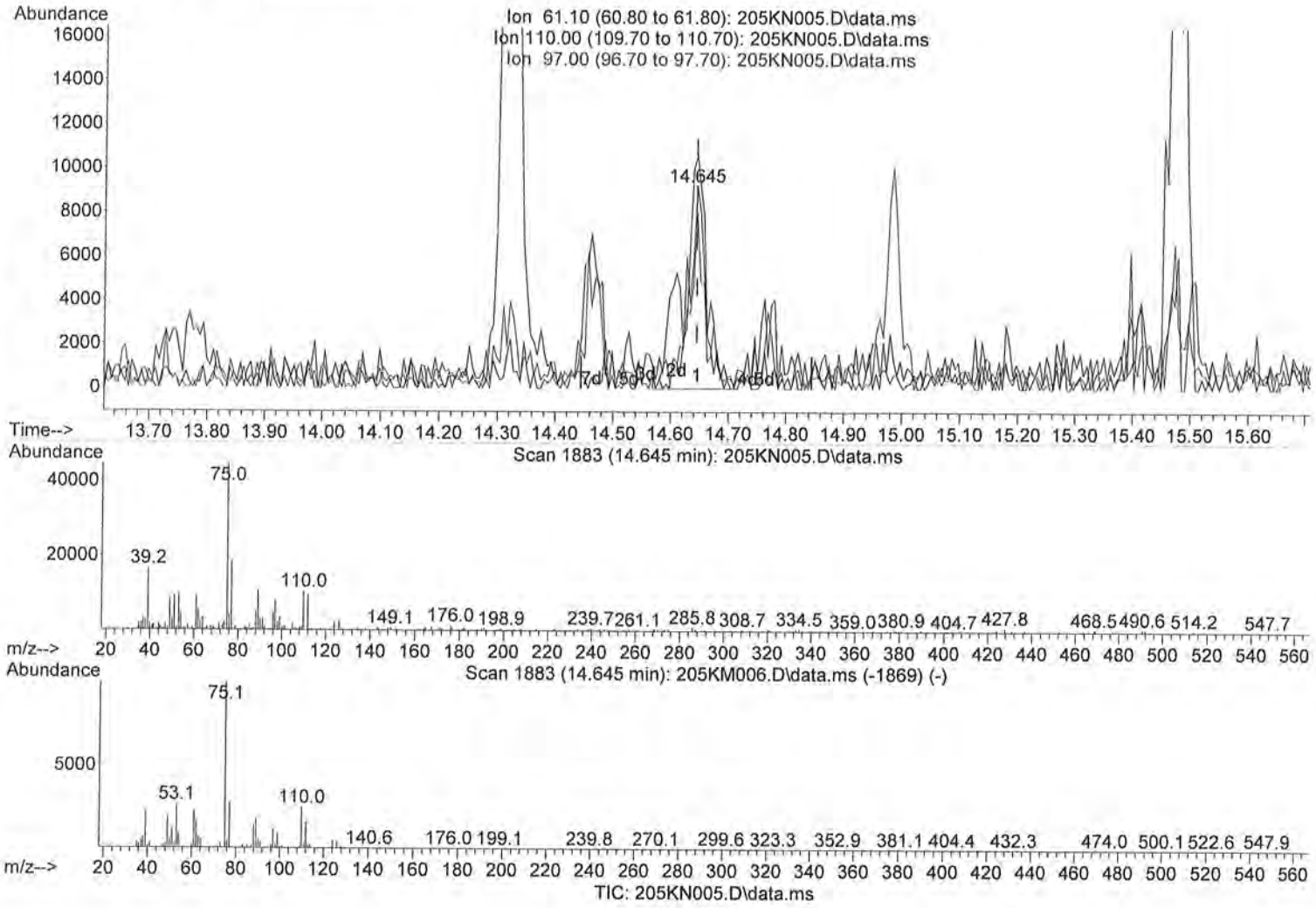
Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	142.51#
97.00	45.60	94.38#
0.00	0.00	0.00

Select One:
[ ] Original integration [ ] Manual Integration
Select reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date 11/20/20
Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN005.D
Acq On : 19 Nov 2020 9:47 am
Operator : KKW
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 19 12:13:14 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 3.52 ug/L m

response 25913

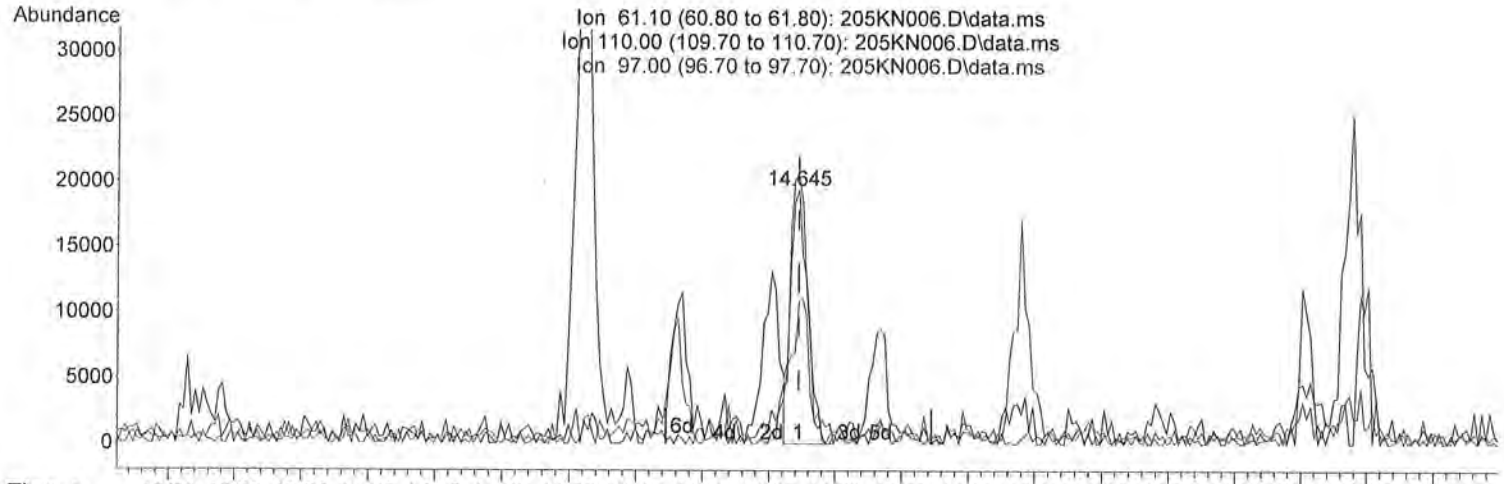
Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	88.16
97.00	45.60	58.38#
0.00	0.00	0.00

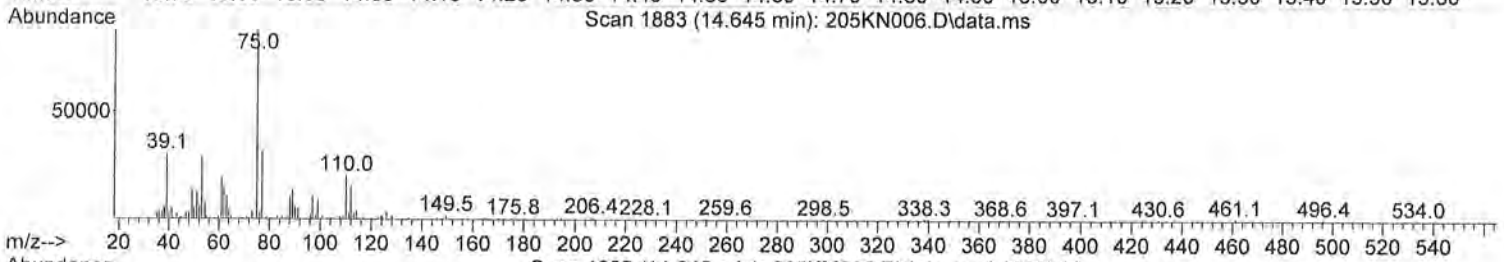
Select One:
[ ] Original Integration [ ] Manual Integration
Select reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date 11/19/20
Review by/Date:

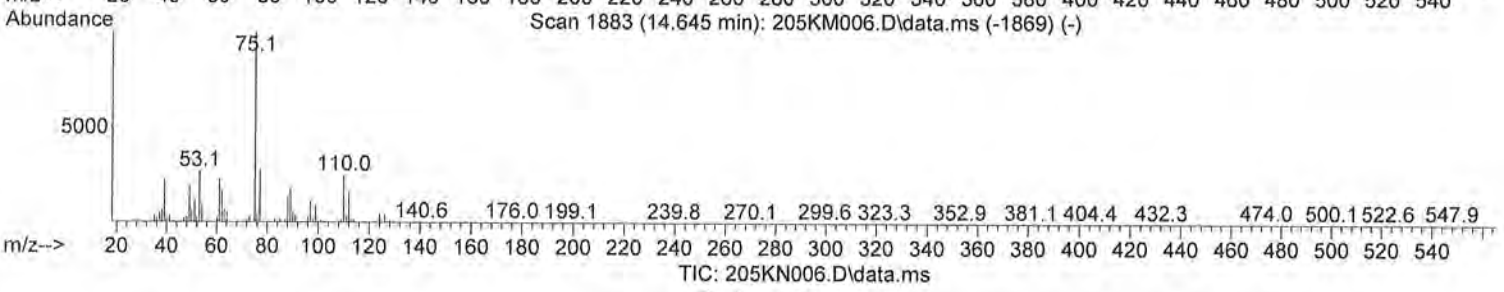
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN006.D
Acq On : 19 Nov 2020 10:18 am
Operator : KKW
Sample : CAL4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 19 12:13:19 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN006.D\data.ms

(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 4.92 ug/L

response 35588

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	115.40#
97.00	45.60	74.17#
0.00	0.00	0.00

Select One:

[ ] Manual Integration

[ ] Manual integration: (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Manual integration

[ ] Baseline drop for split peaks

[ ] IS/TD reintegration

[ ] Other:

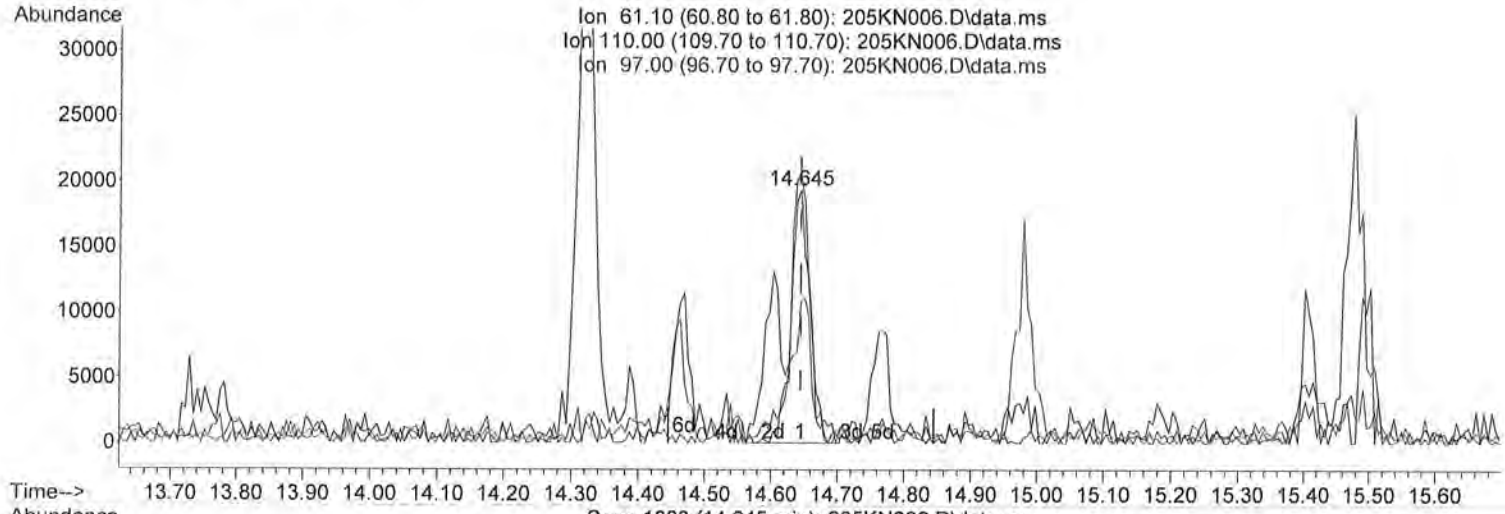
Review by/Date 11/23/20

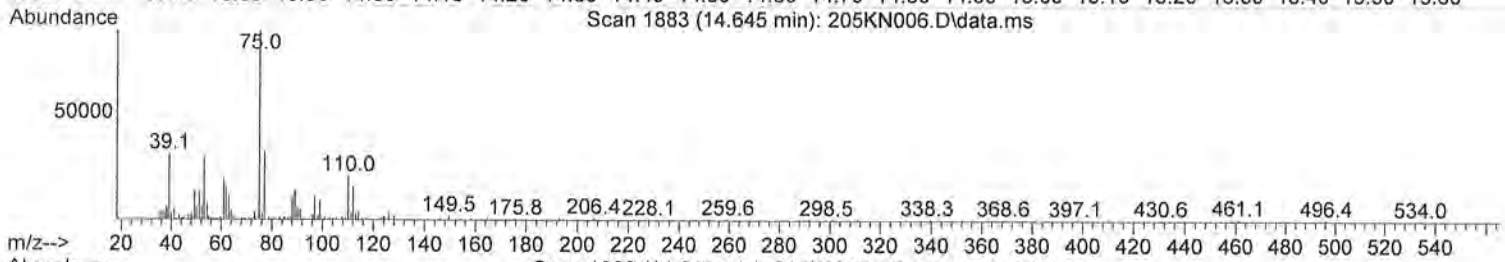
Review by/Date:

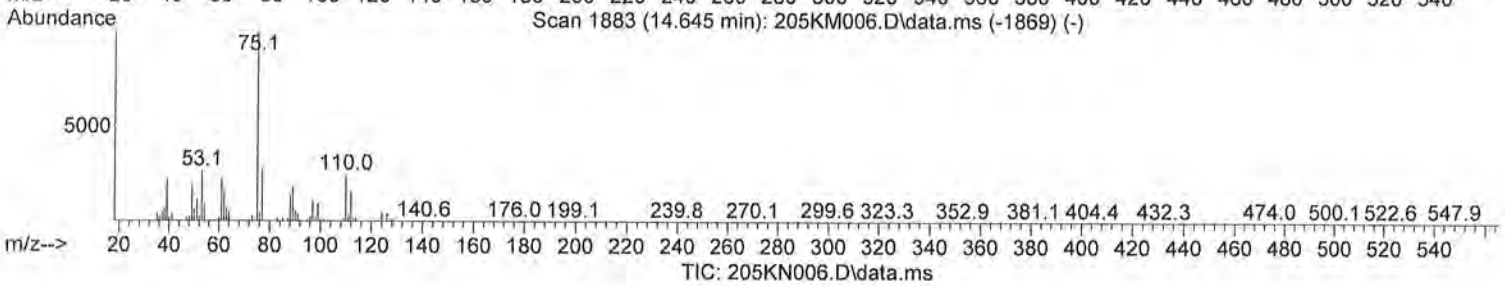
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN006.D
Acq On : 19 Nov 2020 10:18 am
Operator : KKW
Sample : CAL4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 19 12:13:19 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN006.D\data.ms

(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 8.20 ug/L m

response 59327

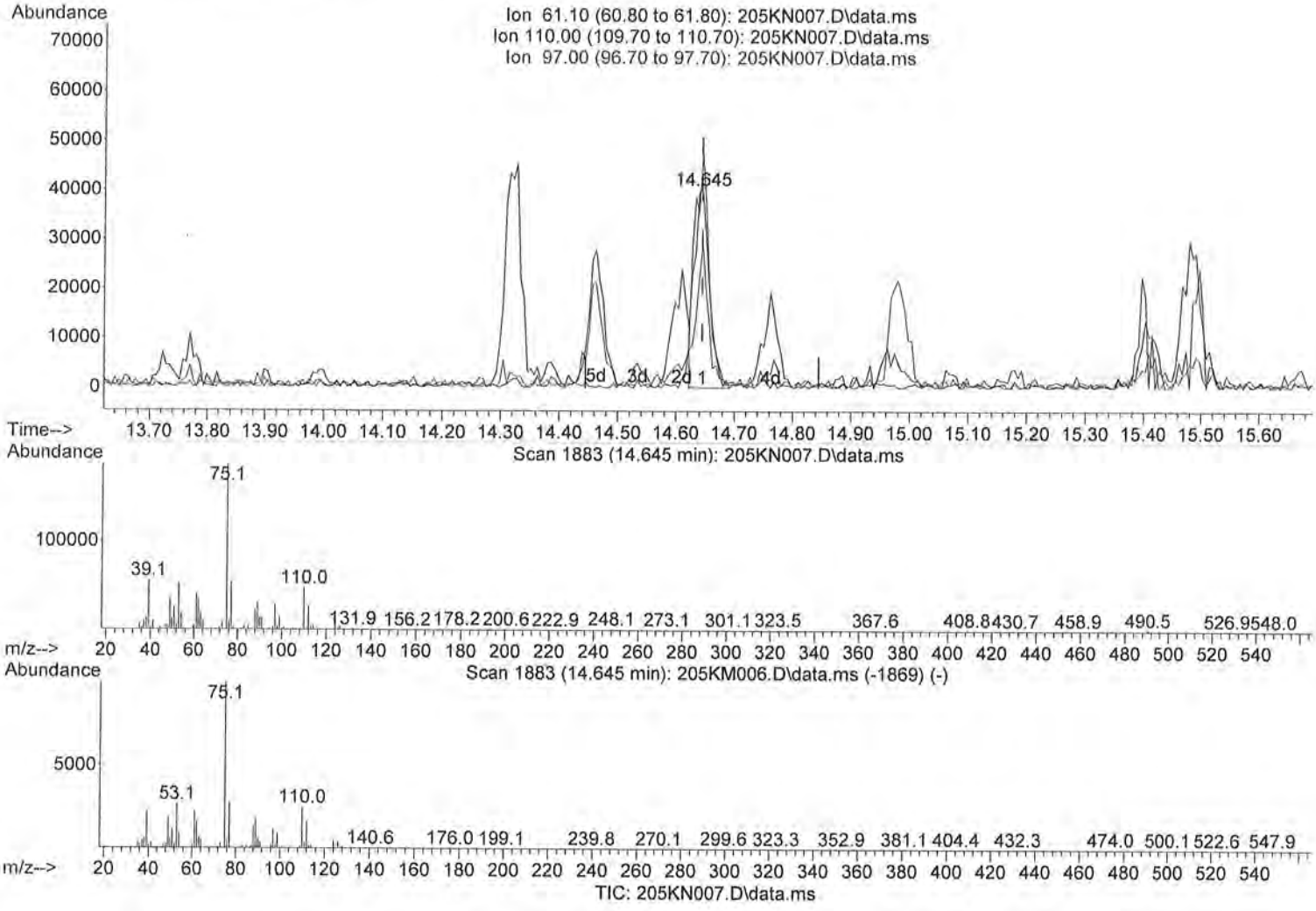
Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	69.22
97.00	45.60	44.49
0.00	0.00	0.00

Select One:
[ ] Manual Integration
[ ] Integration:
[ ] Peak selection (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump Integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date 11/23/20
Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN007.D
Acq On : 19 Nov 2020 10:49 am
Operator : KKW
Sample : CAL5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 19 12:13:23 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 9.98 ug/L

response 72138

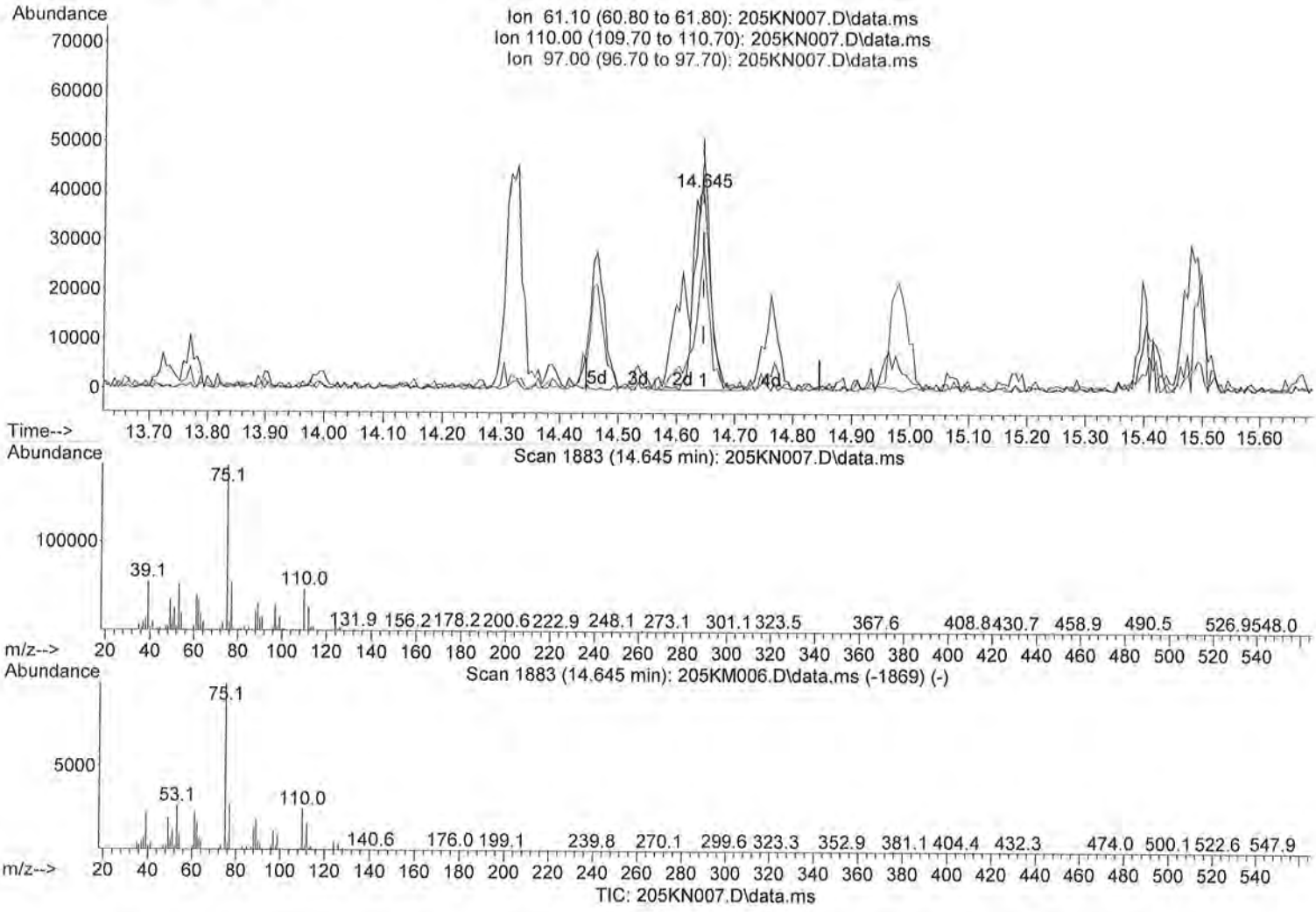
Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	122.36#
97.00	45.60	76.42#
0.00	0.00	0.00

Select One:
[X] Manual Integration [ ] Manual Integration
[ ] Reason for manual integration:
[ ] Poor peak definition (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Co-elution
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date W 11/20/20
Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN007.D
Acq On : 19 Nov 2020 10:49 am
Operator : KKW
Sample : CAL5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 19 12:13:23 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 15.74 ug/L m

response 113773

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	77.58
97.00	45.60	48.45
0.00	0.00	0.00

Select One:

[ ] Manual Integration

[ ] Integration:

[ ] (peak tailing, baseline selection)

[ ] Peak not found

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

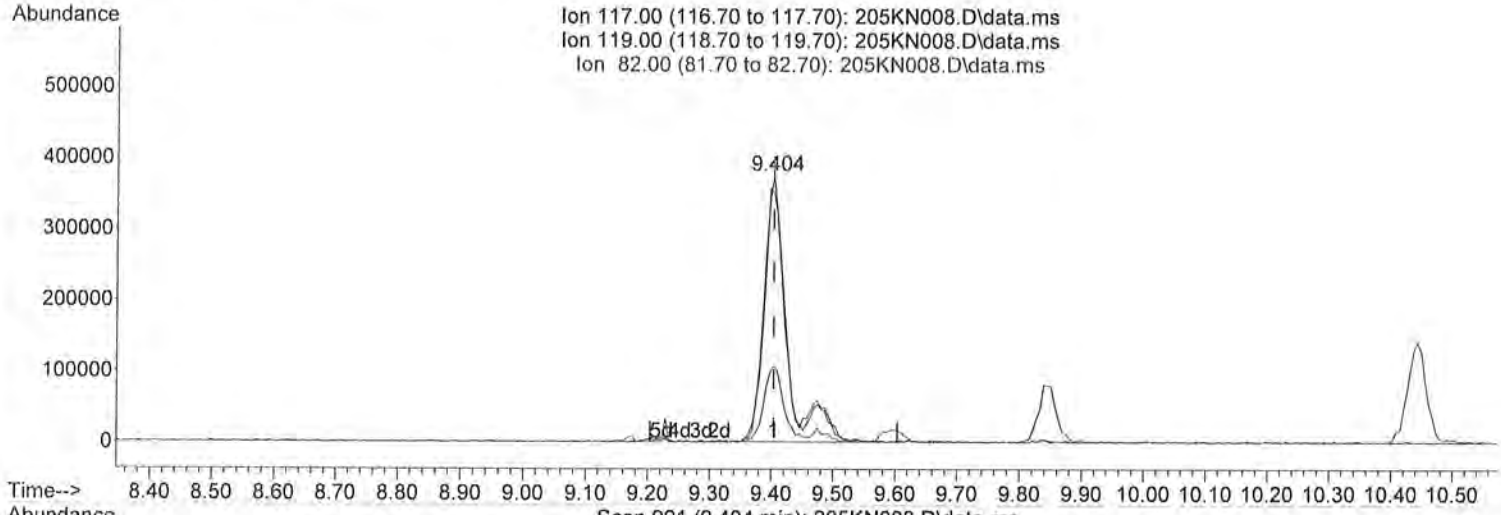
Review by/Date

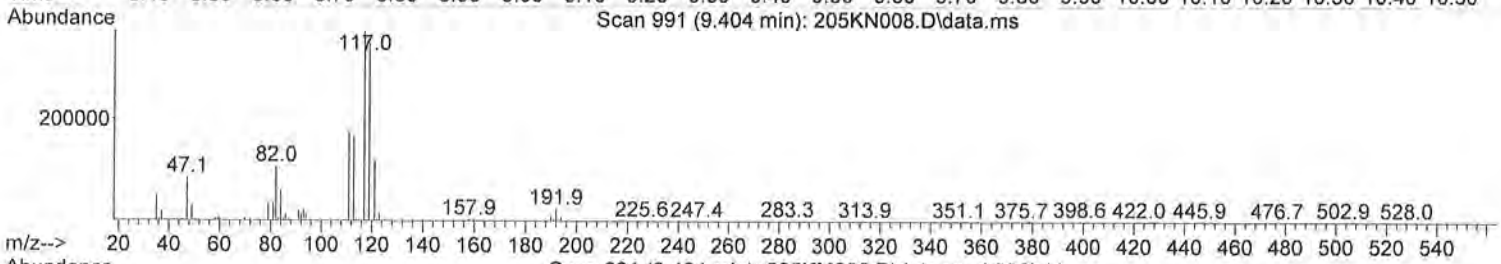
Review by/Date:

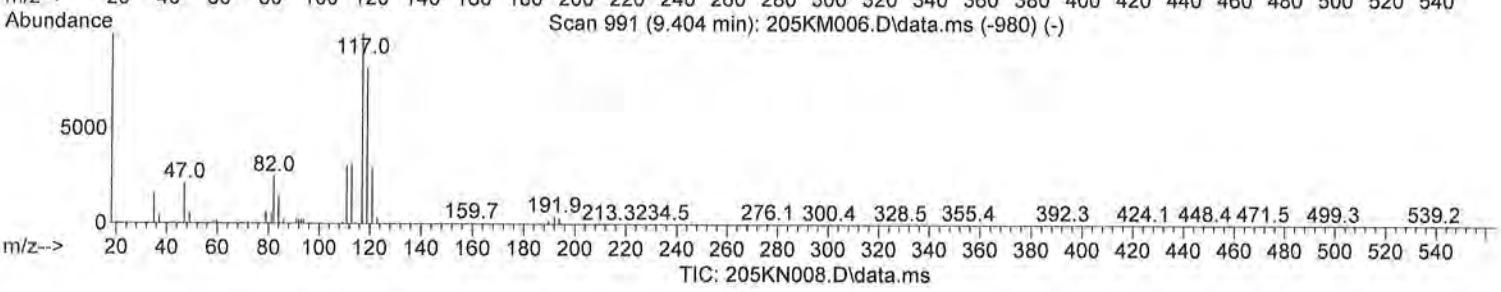
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN008.D
Acq On : 19 Nov 2020 11:20 am
Operator : KKW
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 19 12:13:26 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN008.D\data.ms

(40) Carbon Tetrachloride

9.404min (+ 0.000) 63.70 ug/L

response 983486

Ion	Exp%	Act%
117.00	100.00	100.00
119.00	93.20	93.44
82.00	27.60	24.71
0.00	0.00	0.00

Select One:

[ ] Manual integration

[ ] Other:

[ ] Peak not found (baseline selection)

[ ] Peak not found

[ ] Peak not found

[ ] Baseline drop for split peaks

[ ] IS ID reintegration

[ ] Other:

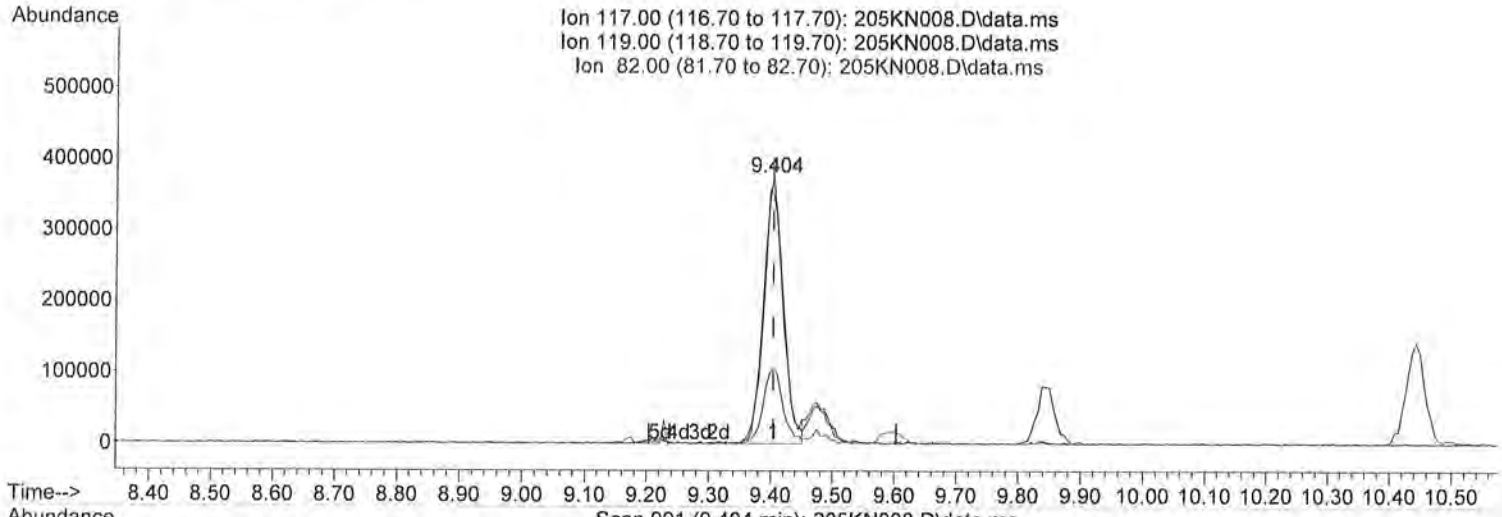
Review by/Date: KJ 11/19/20

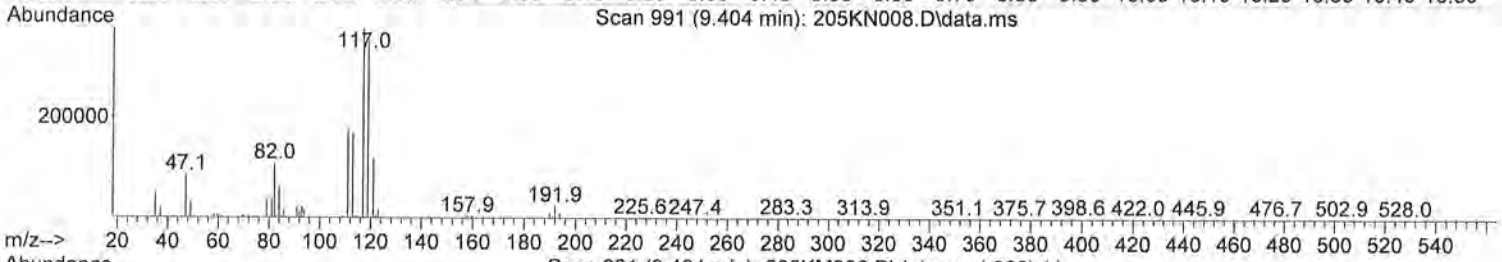
Review by/Date:

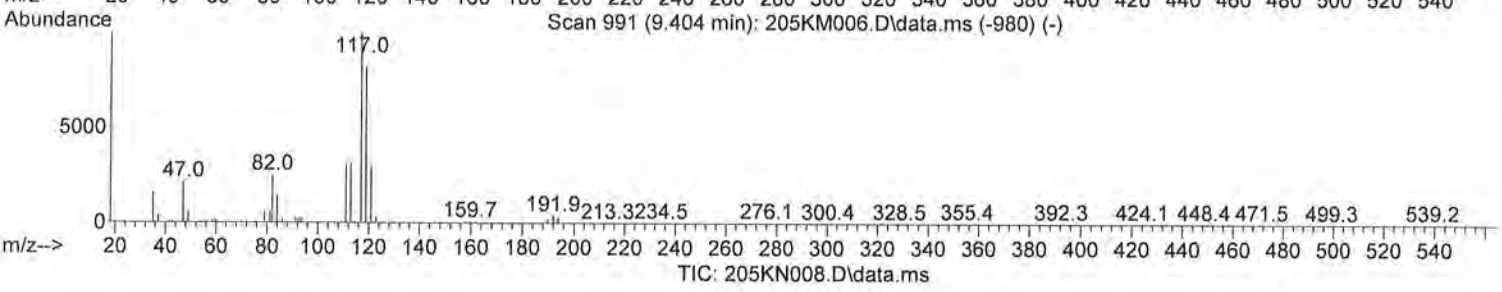
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN008.D
Acq On : 19 Nov 2020 11:20 am
Operator : KKW
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 19 12:13:26 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN008.D\data.ms

(40) Carbon Tetrachloride

9.404min (+ 0.000) 54.69 ug/L m

response 844268

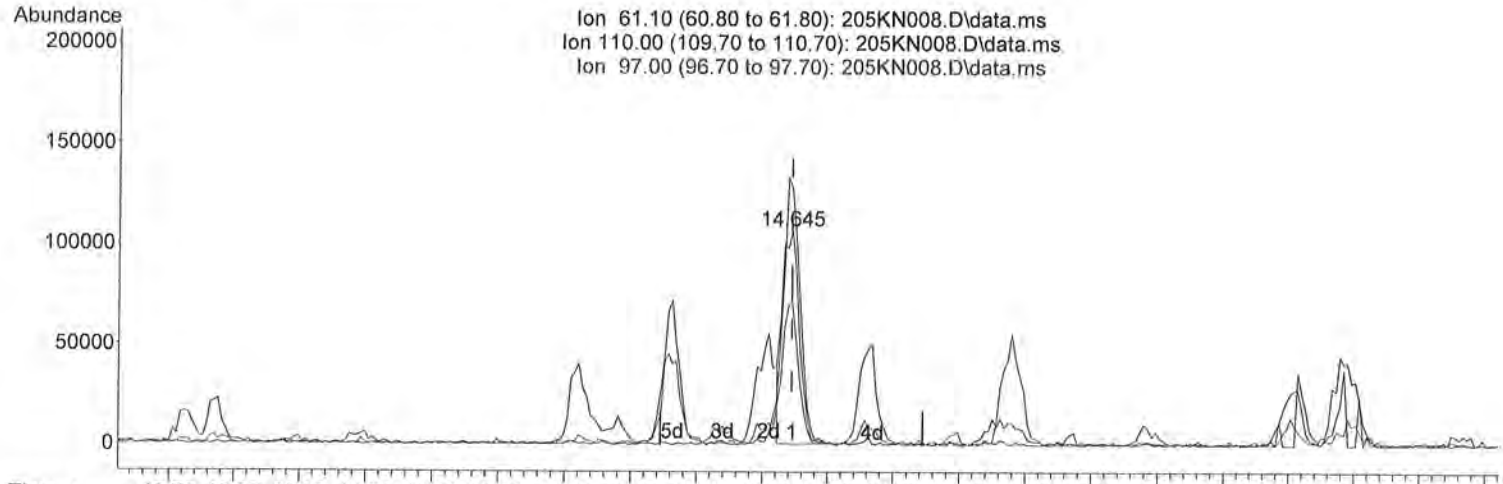
Ion	Exp%	Act%
117.00	100.00	100.00
119.00	93.20	108.85
82.00	27.60	28.79
0.00	0.00	0.00

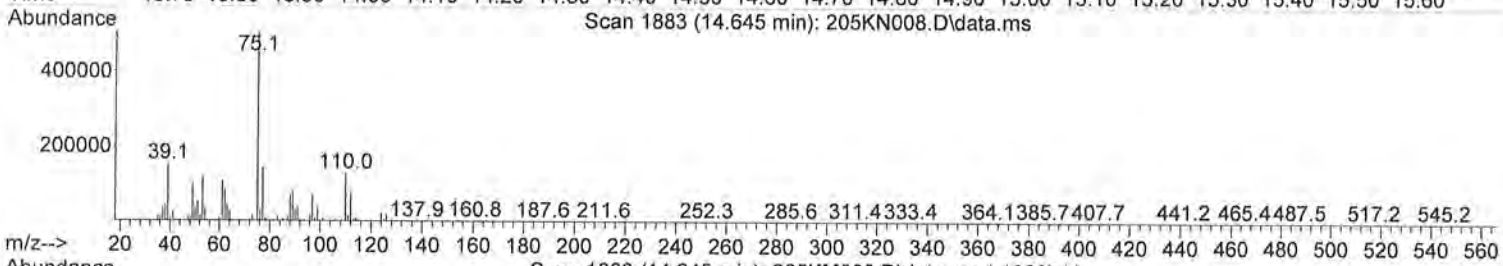
Select Item:
[ ] Other integration (not manual integration
Select reason for manual integration:
[X] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date W 11/20/20
Review by/Data:

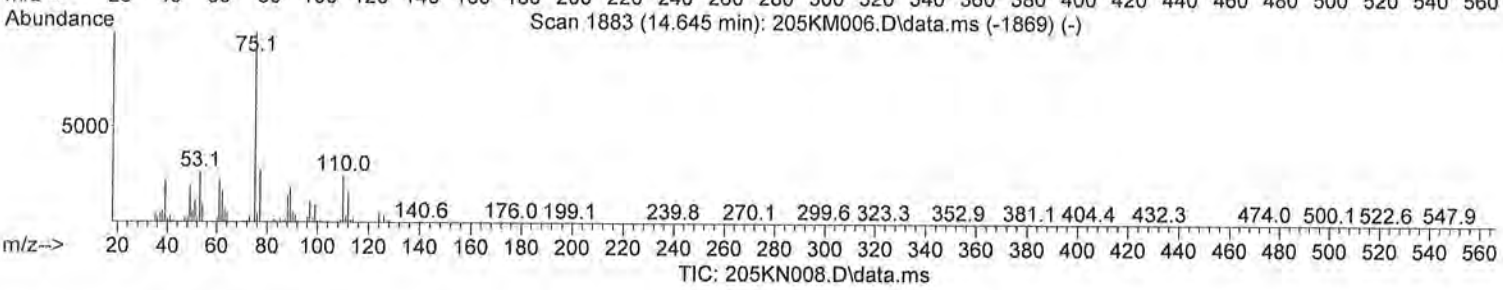
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN008.D
Acq On : 19 Nov 2020 11:20 am
Operator : KKW
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 19 12:13:26 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN008.D\data.ms

(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 26.33 ug/L

response 194191

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	128.20#
97.00	45.60	76.22#
0.00	0.00	0.00

Select One:

[ ] Manual Integration

[ ] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Valley integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

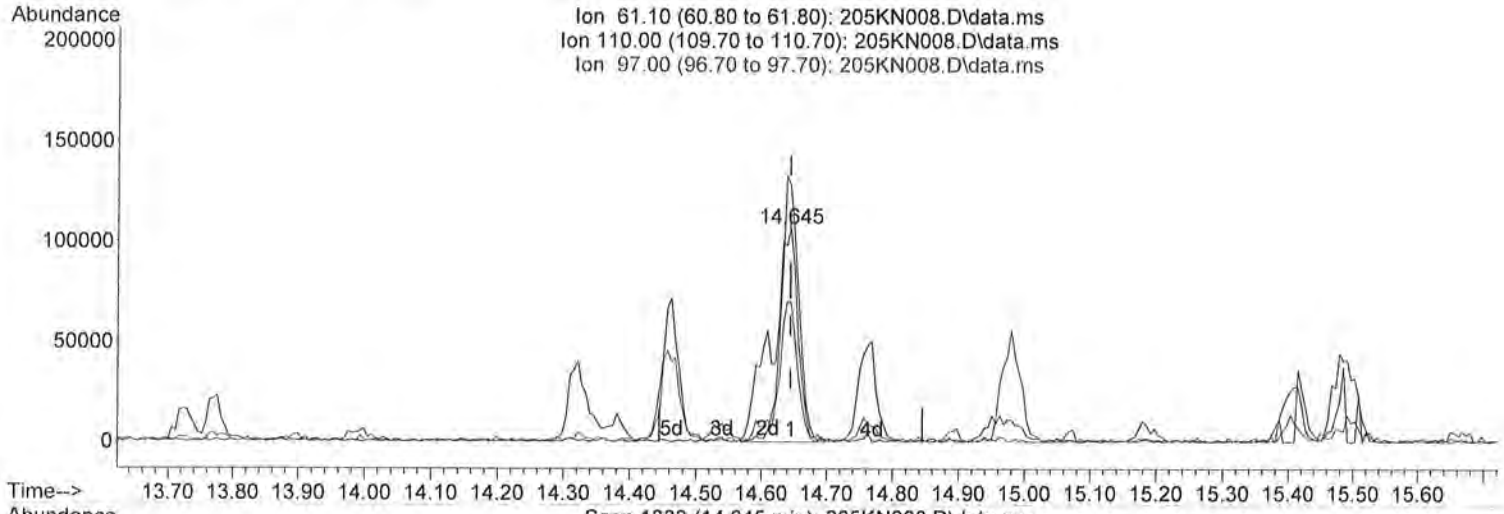
Review by/Date W 11/24/21

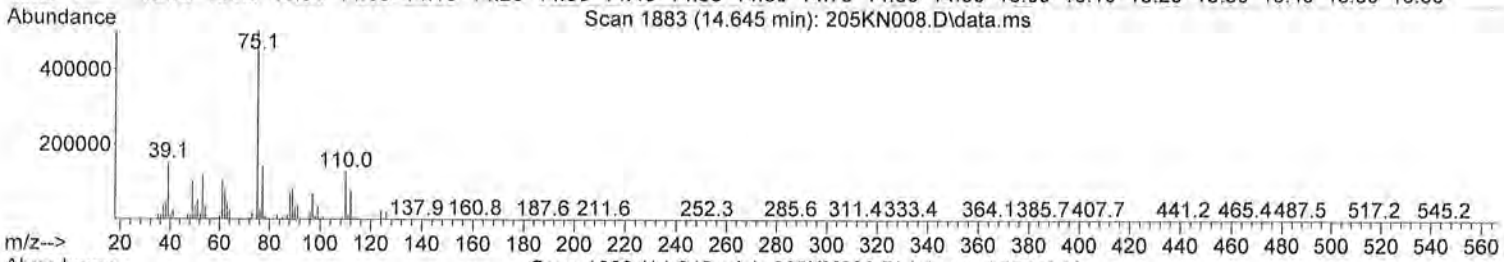
Review by/Date:

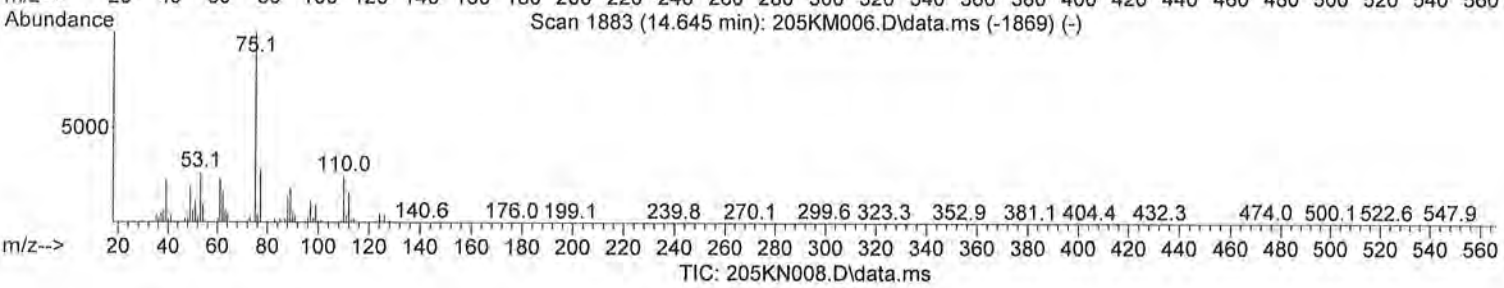
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN008.D
Acq On : 19 Nov 2020 11:20 am
Operator : KKW
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 19 12:13:26 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN008.D\data.ms

(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 40.84 ug/L m

response 301262

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	82.64
97.00	45.60	49.13
0.00	0.00	0.00

Select Case:

[ ] Correct as is / Manual Integration

[ ] Reintegrate (peak finding, baseline selection)

[ ] Incorrect Peak Selection/Peak not found

[ ] Change Integration

[ ] Baseline drop (or split peaks

[ ] ISTD reintegration

[ ] Other:

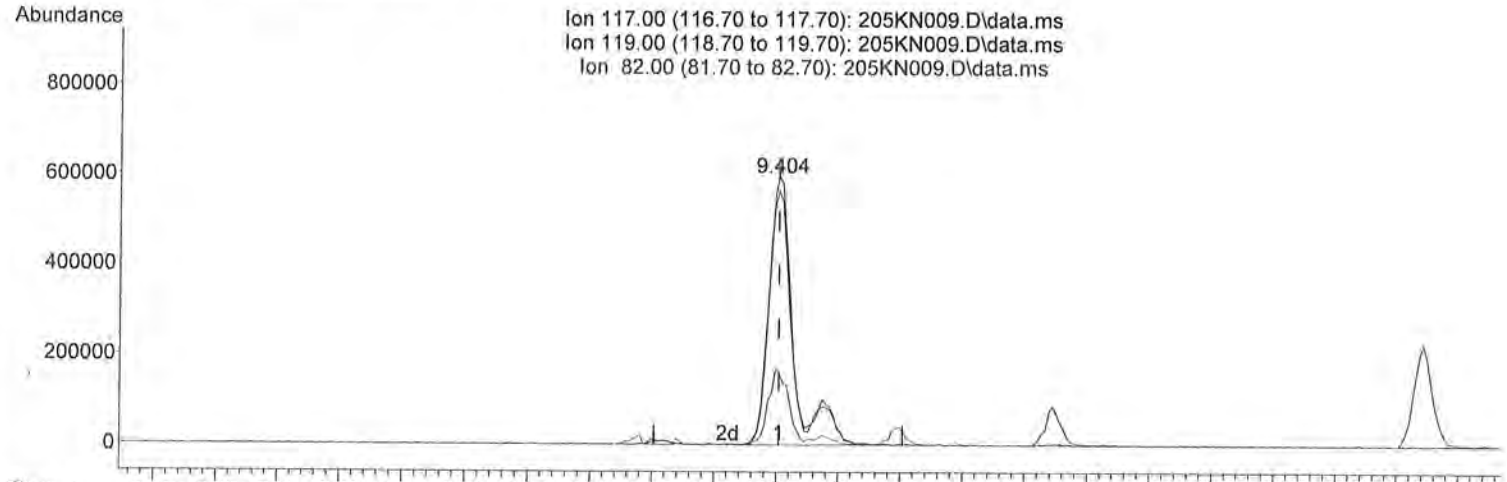
Review by/Date W 11/20/20

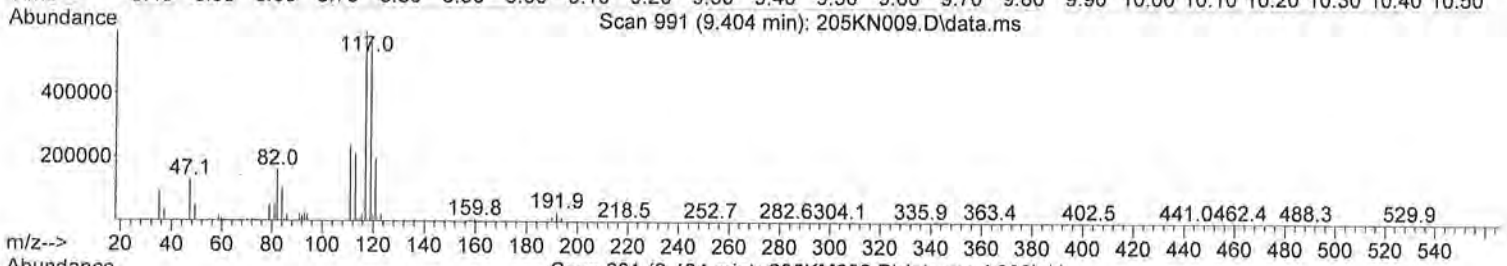
Review by/Date:

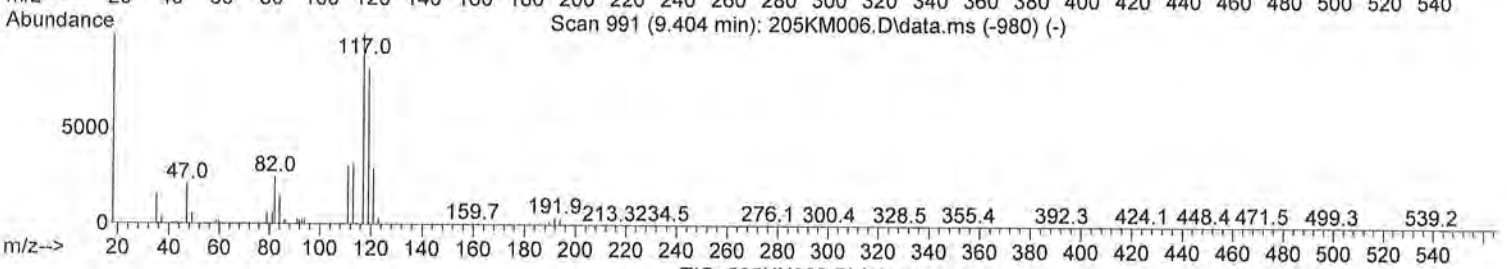
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN009.D
Acq On : 19 Nov 2020 11:51 am
Operator : KKW
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 19 12:26:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN009.D\data.ms

(40) Carbon Tetrachloride

9.404min (+ 0.000) 107.51 ug/L

response 1638930

Ion	Exp%	Act%
117.00	100.00	100.00
119.00	93.20	81.21
82.00	27.60	26.61
0.00	0.00	0.00

Select One:

[ ] Other:

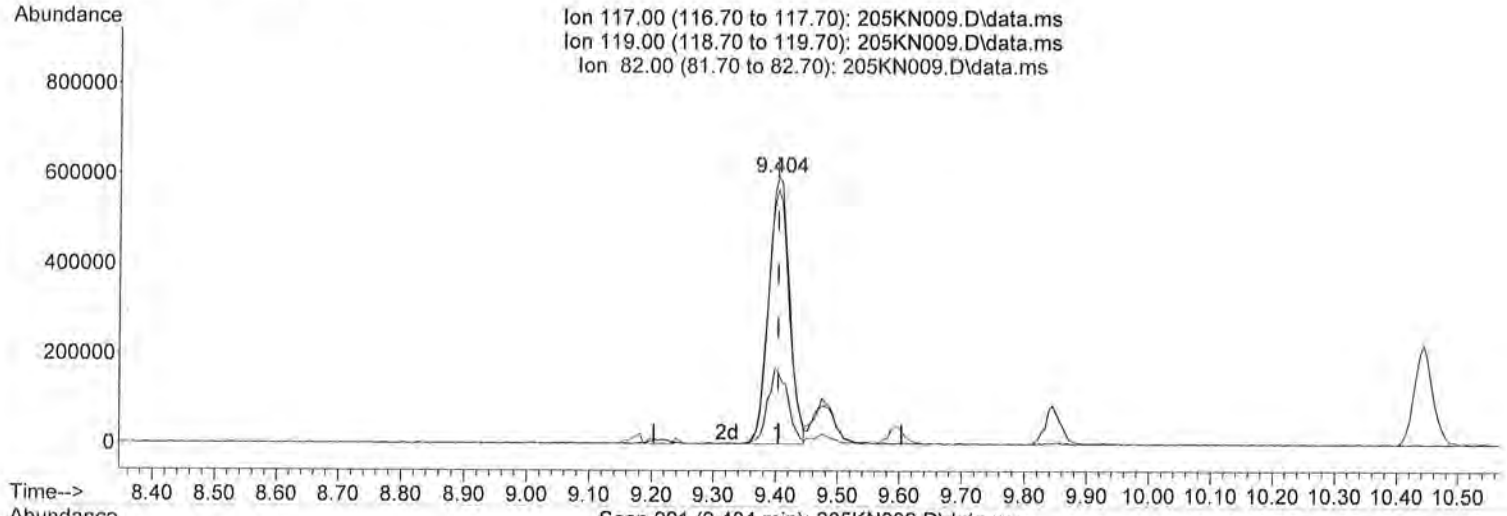
Review by/Date W 11/20/20

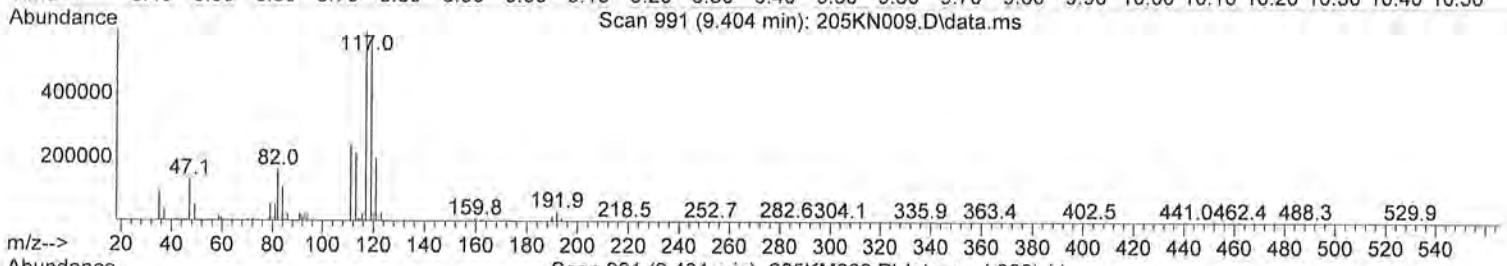
Review by/Date:

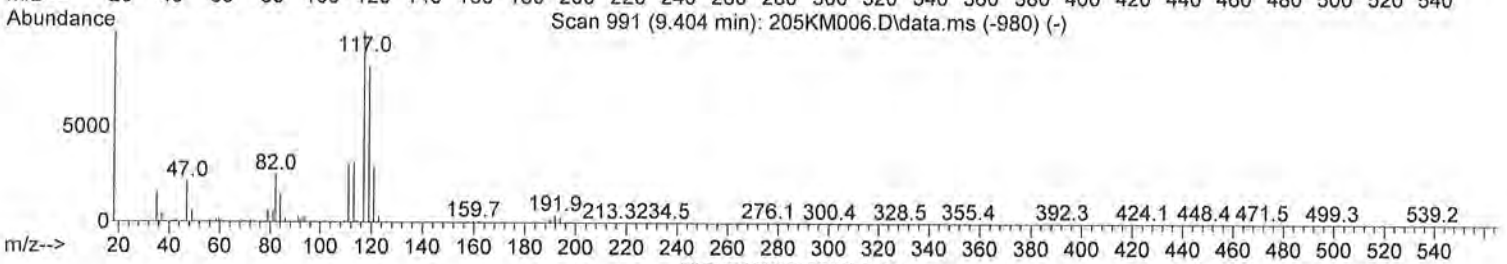
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN009.D
Acq On : 19 Nov 2020 11:51 am
Operator : KKW
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 19 12:26:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN009.D\data.ms

(40) Carbon Tetrachloride

9.404min (+ 0.000) 91.88 ug/L m

response 1400654

Ion	Exp%	Act%
117.00	100.00	100.00
119.00	93.20	95.03
82.00	27.60	31.13
0.00	0.00	0.00

11/23/20

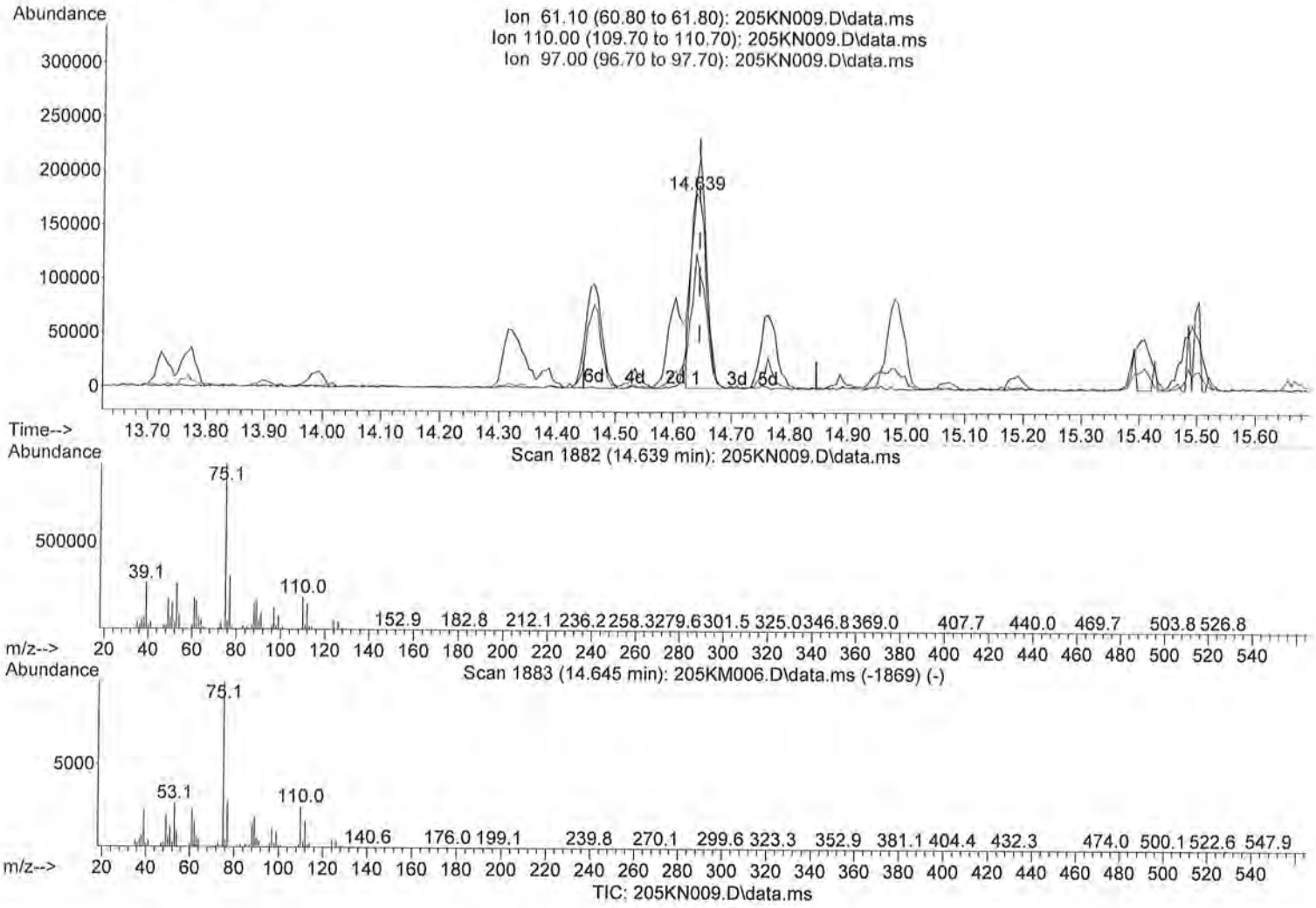
Select One:

[ ] Manual Integration
[ ] Other:
[ ] Incorrect baseline selection)
[ ] Peak(s) not found
[ ] Other:
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date: 11/23/20
Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN009.D
Acq On : 19 Nov 2020 11:51 am
Operator : KKW
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 19 12:26:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



TIC: 205KN009.D\data.ms

(77) 1,2,3-Trichloropropane

14.639min (-0.006) 43.53 ug/L

response 321564

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	120.75#
97.00	45.60	76.71#
0.00	0.00	0.00

Select One:

[X] [illegible] integration

[X] [illegible] baseline selection)

[illegible] peak not found

[illegible] for split peaks

[ ] Manual integration

[ ] Other:

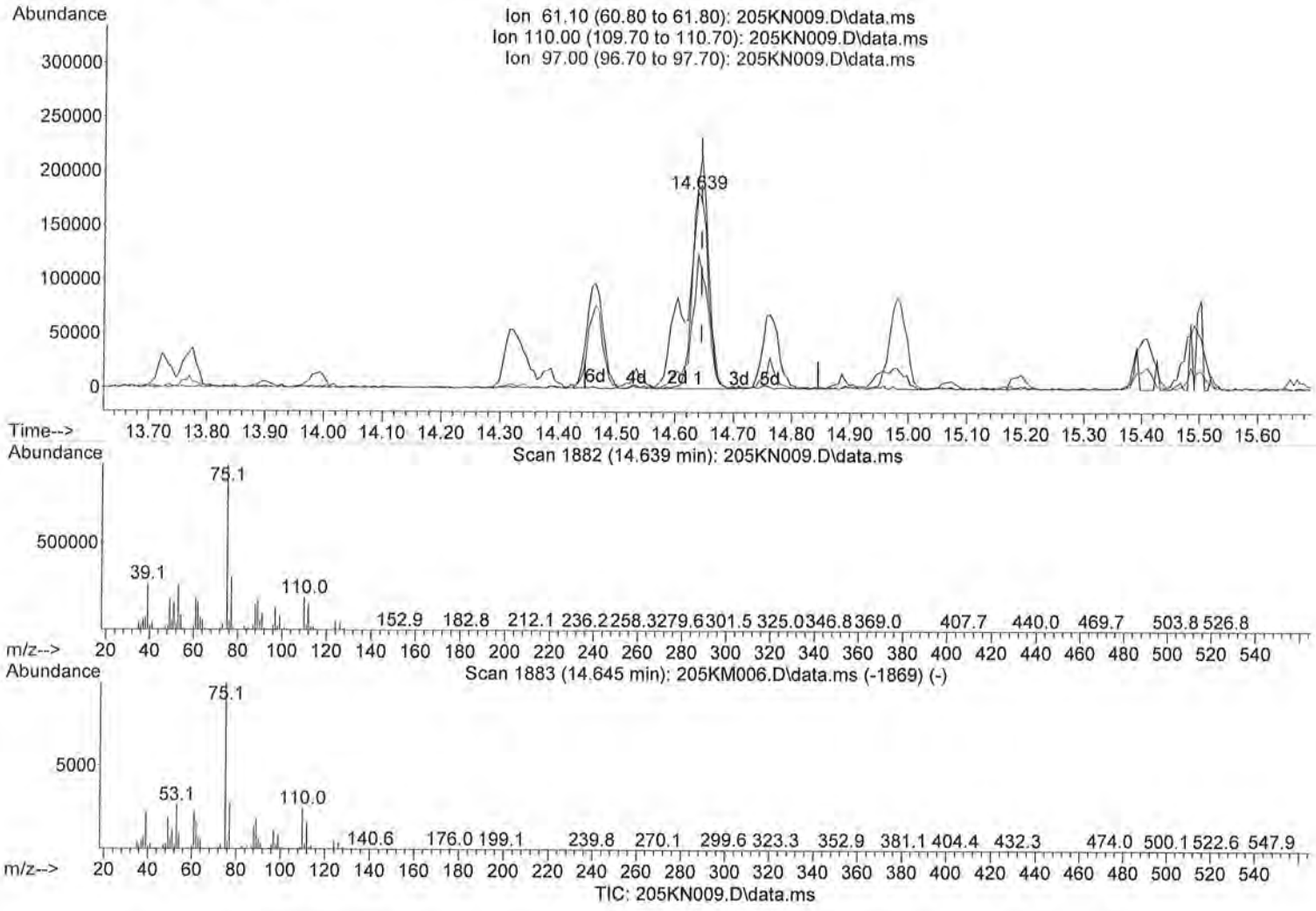
Review by/Date: [illegible] 11/20/20

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN009.D
Acq On : 19 Nov 2020 11:51 am
Operator : KKW
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 19 12:26:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



(77) 1,2,3-Trichloropropane

14.639min (-0.006) 66.05 ug/L m

response 487875

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	79.59
97.00	45.60	50.56
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Sat

[ ] Unreviewed

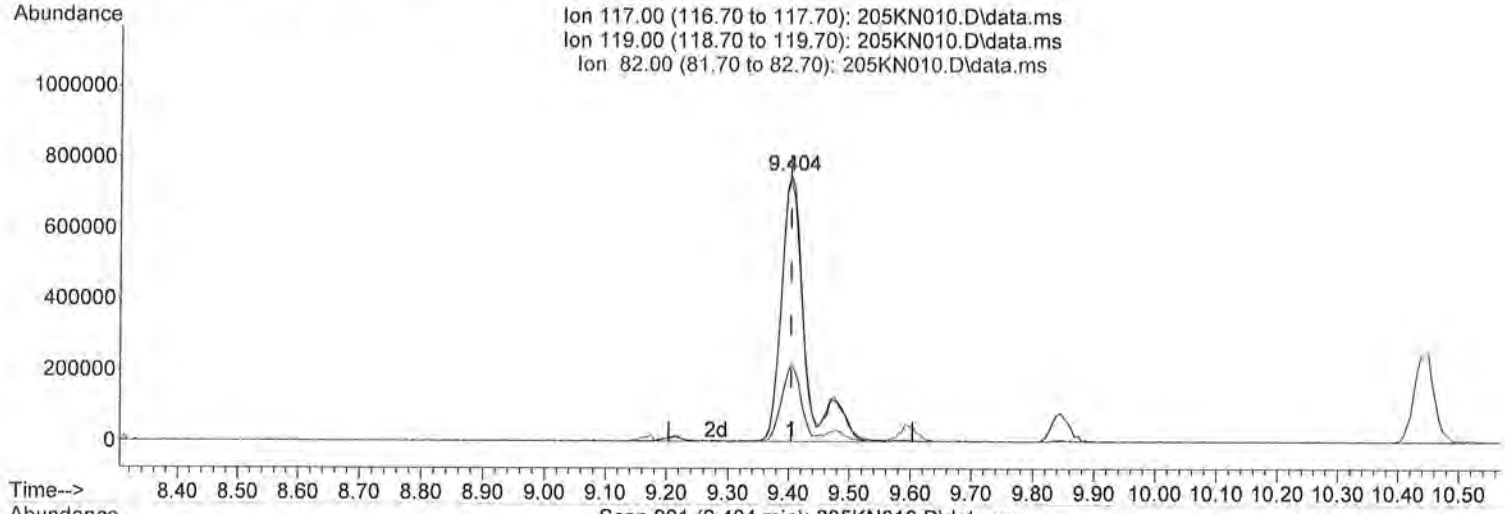
Review by/Date W 11/20/20

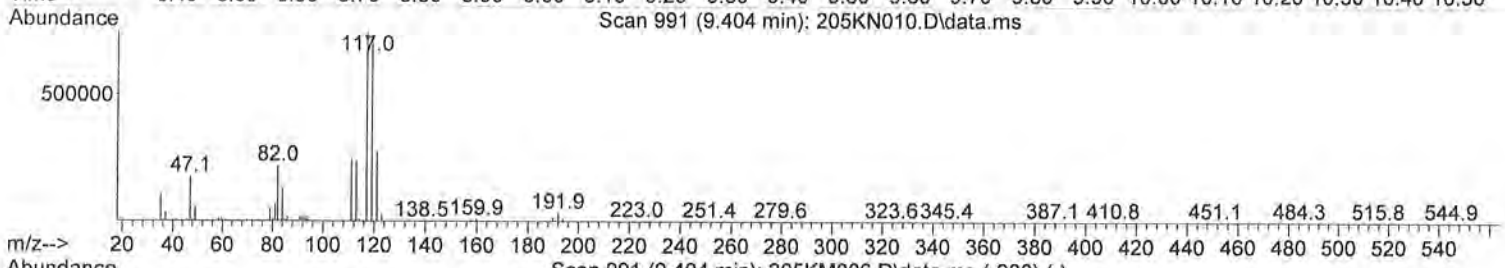
Review by/Date:

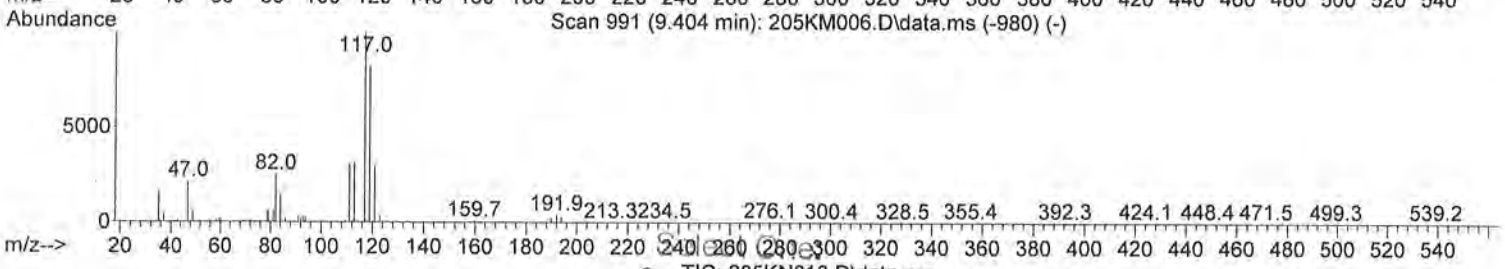
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN010.D
Acq On : 19 Nov 2020 12:22 pm
Operator : KKW
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 19 12:45:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN010.D\data.ms

(40) Carbon Tetrachloride

9.404min (+ 0.000) 137.08 ug/L

response 2070325

Ion	Exp%	Act%
117.00	100.00	100.00
119.00	93.20	95.53
82.00	27.60	26.74
0.00	0.00	0.00

[X] Original Integration [ ] Manual Integration

Select reason for manual integration

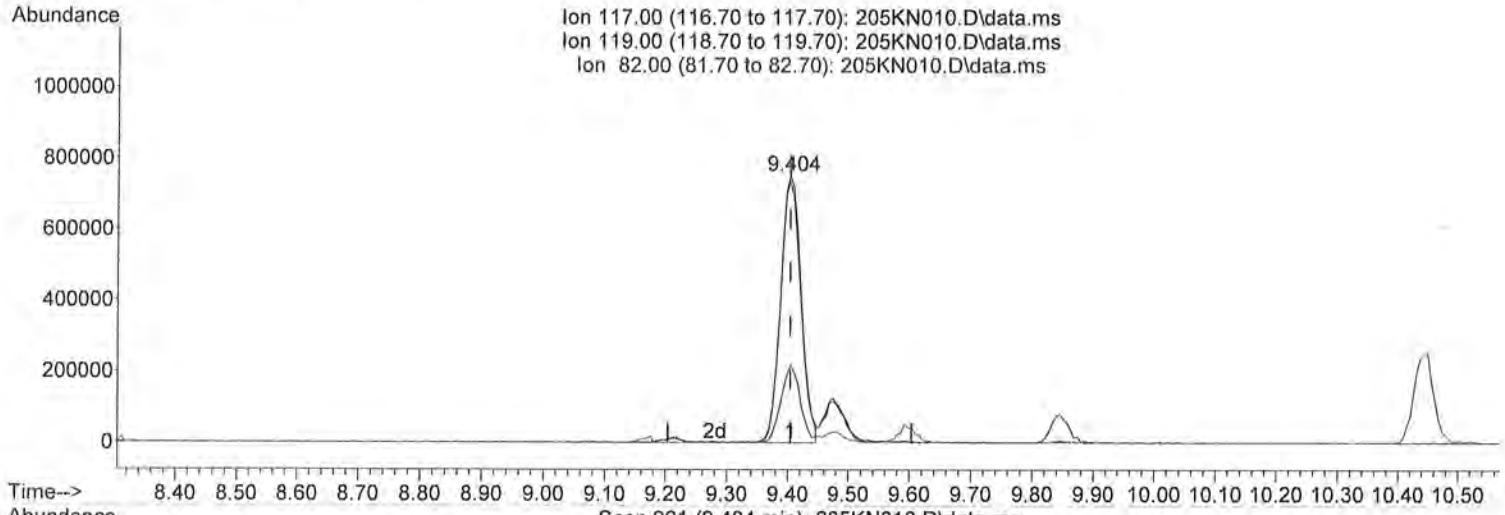
Review by/Date: 11/19/20

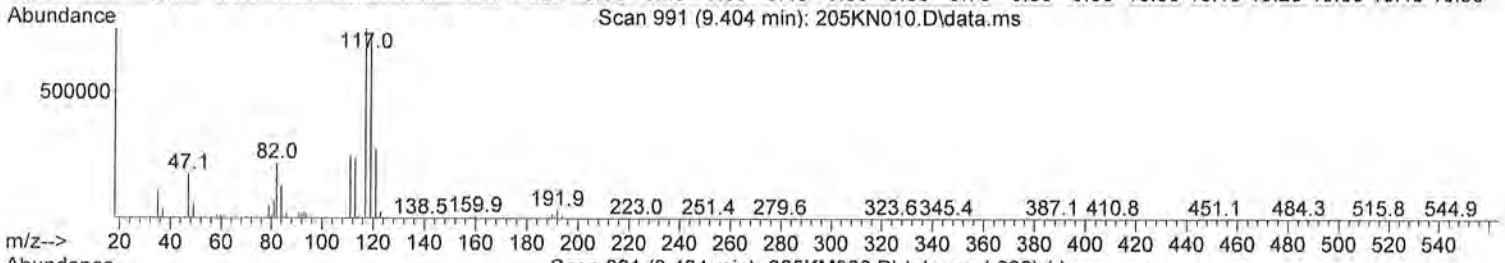
Review by/Date:

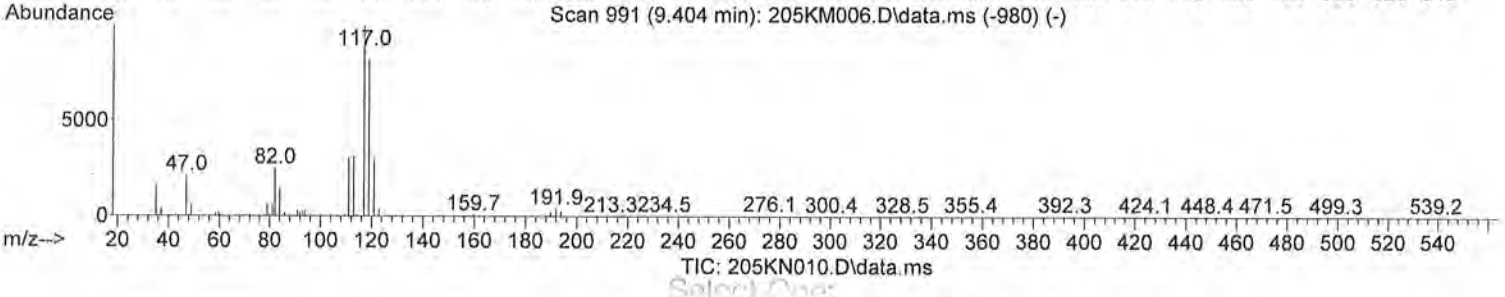
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN010.D
Acq On : 19 Nov 2020 12:22 pm
Operator : KKW
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 19 12:45:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN010.D\data.ms

(40) Carbon Tetrachloride

9.404min (+ 0.000) 116.24 ug/L m

response 1755533

Ion	Exp%	Act%
117.00	100.00	100.00
119.00	93.20	112.66#
82.00	27.60	31.54
0.00	0.00	0.00

Select One:

[ ] Manual Integration

[ ] Manual integration:

[ ] Incorrect (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Reintegration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

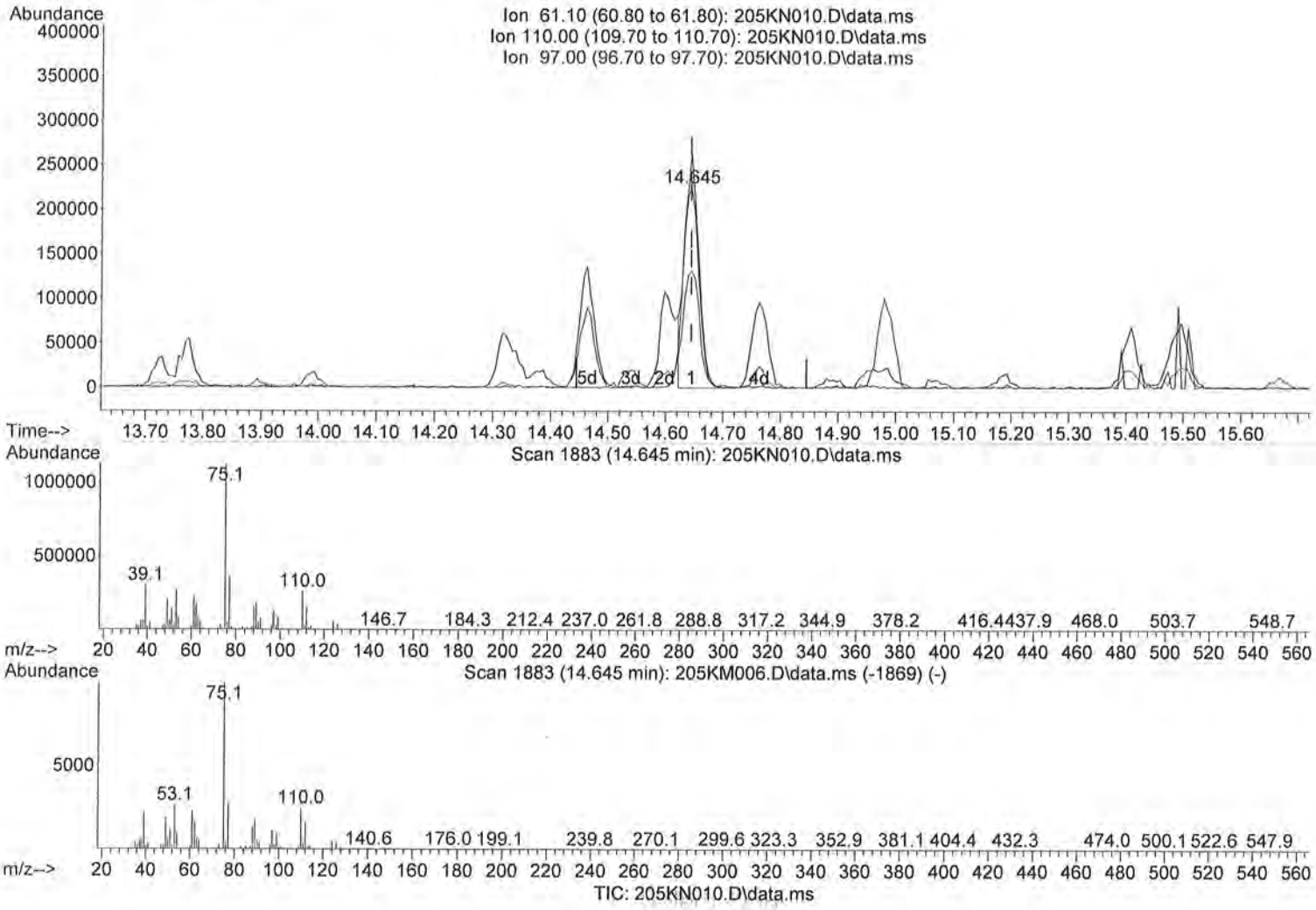
Review by/Date: W 11/20/20

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN010.D
Acq On : 19 Nov 2020 12:22 pm
Operator : KKW
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 19 12:45:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 54.53 ug/L

response 415382

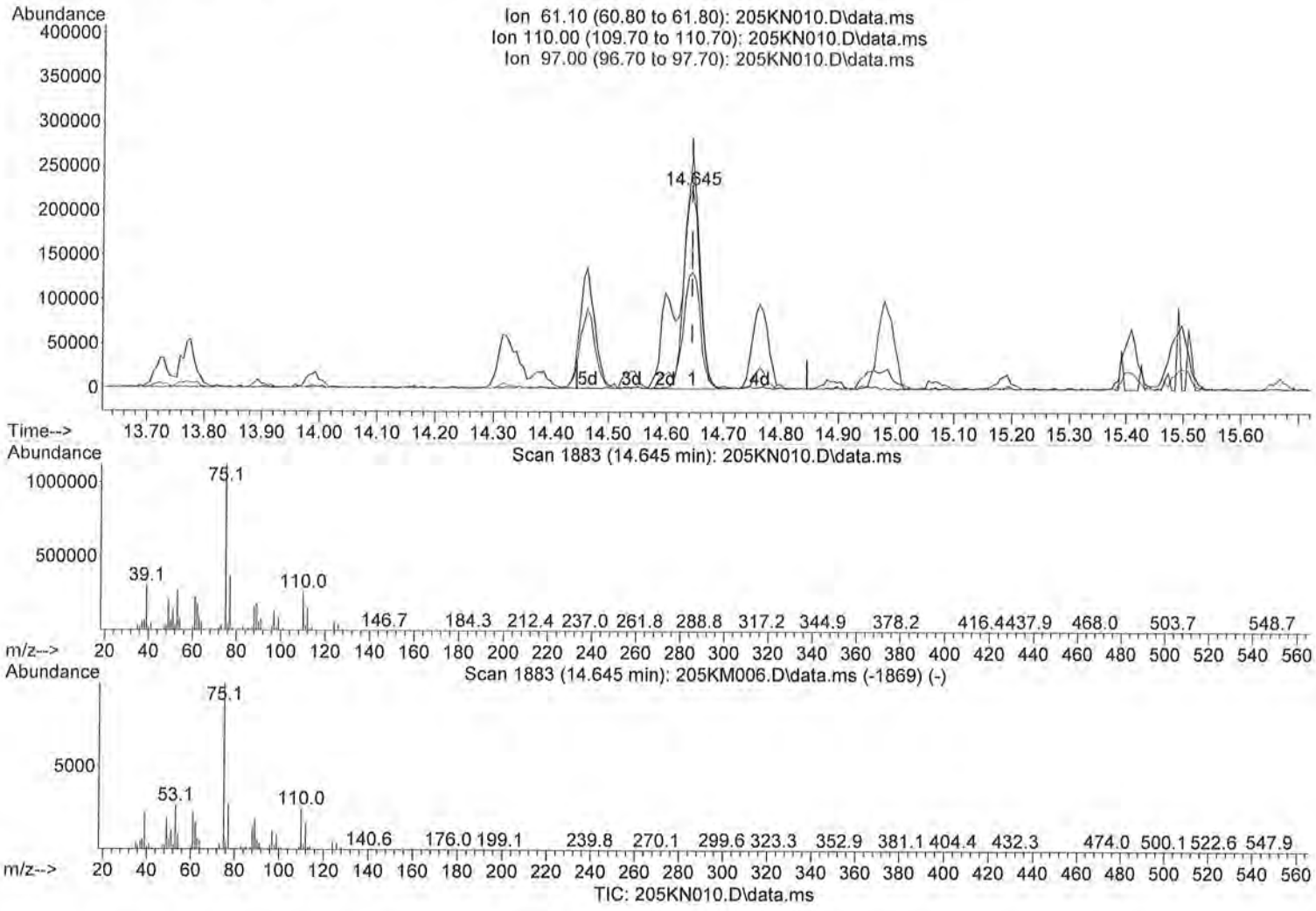
Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	115.68#
97.00	45.60	72.11#
0.00	0.00	0.00

[ ] Manual Integration
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date W 11/20/20
Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN010.D
Acq On : 19 Nov 2020 12:22 pm
Operator : KKW
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 19 12:45:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 81.80 ug/L m

response 623122

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	77.12
97.00	45.60	48.07
0.00	0.00	0.00

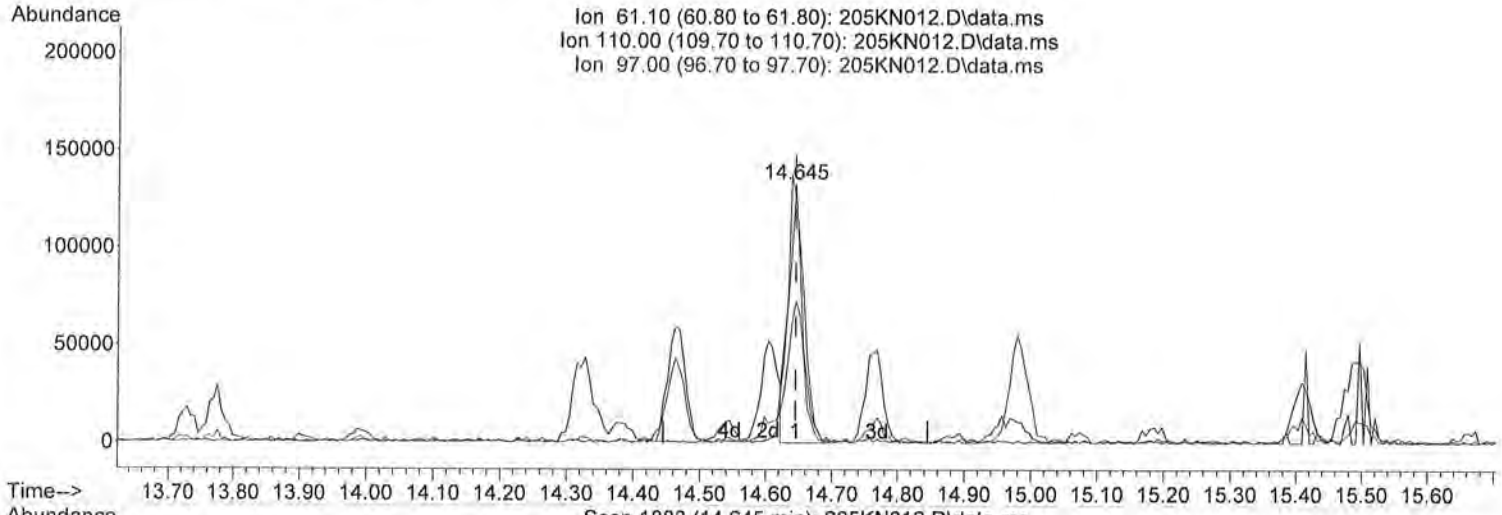
Manual Integration

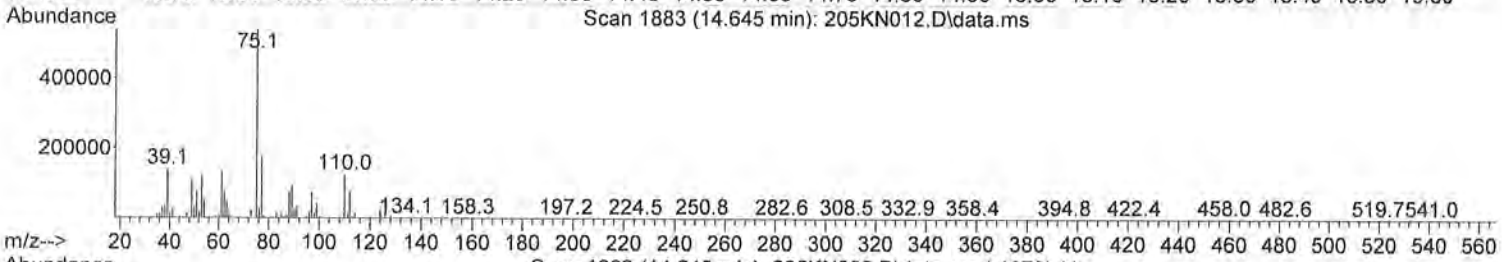
111920W.M Thu Nov 19 12:46:41 2020 Page: 1

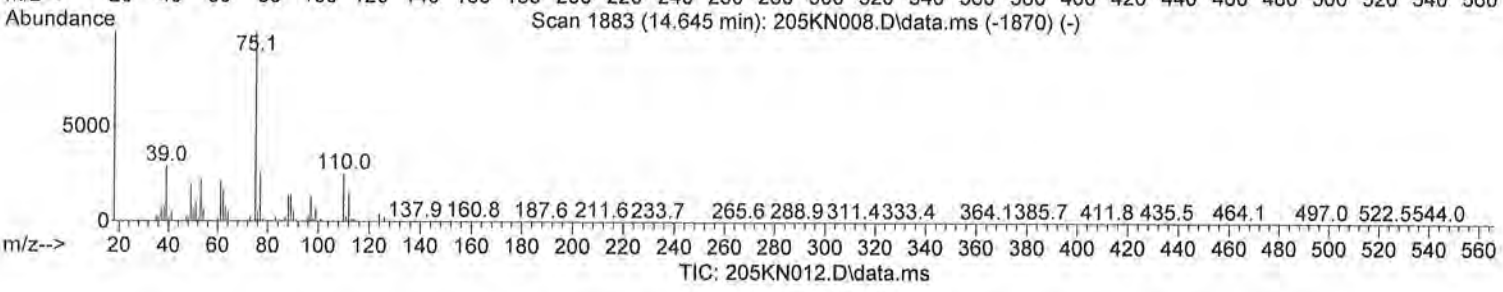
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN012.D
Acq On : 19 Nov 2020 1:24 pm
Operator : KKW
Sample : SCV
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Nov 20 07:34:48 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 13:02:55 2020
Response via : Initial Calibration







TIC: 205KN012.D\data.ms

(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 31.90 ug/L

response 194193

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.60	122.25#
97.00	49.10	75.45#
0.00	0.00	0.00

Select One:

[ ] Integration

[ ] Other:

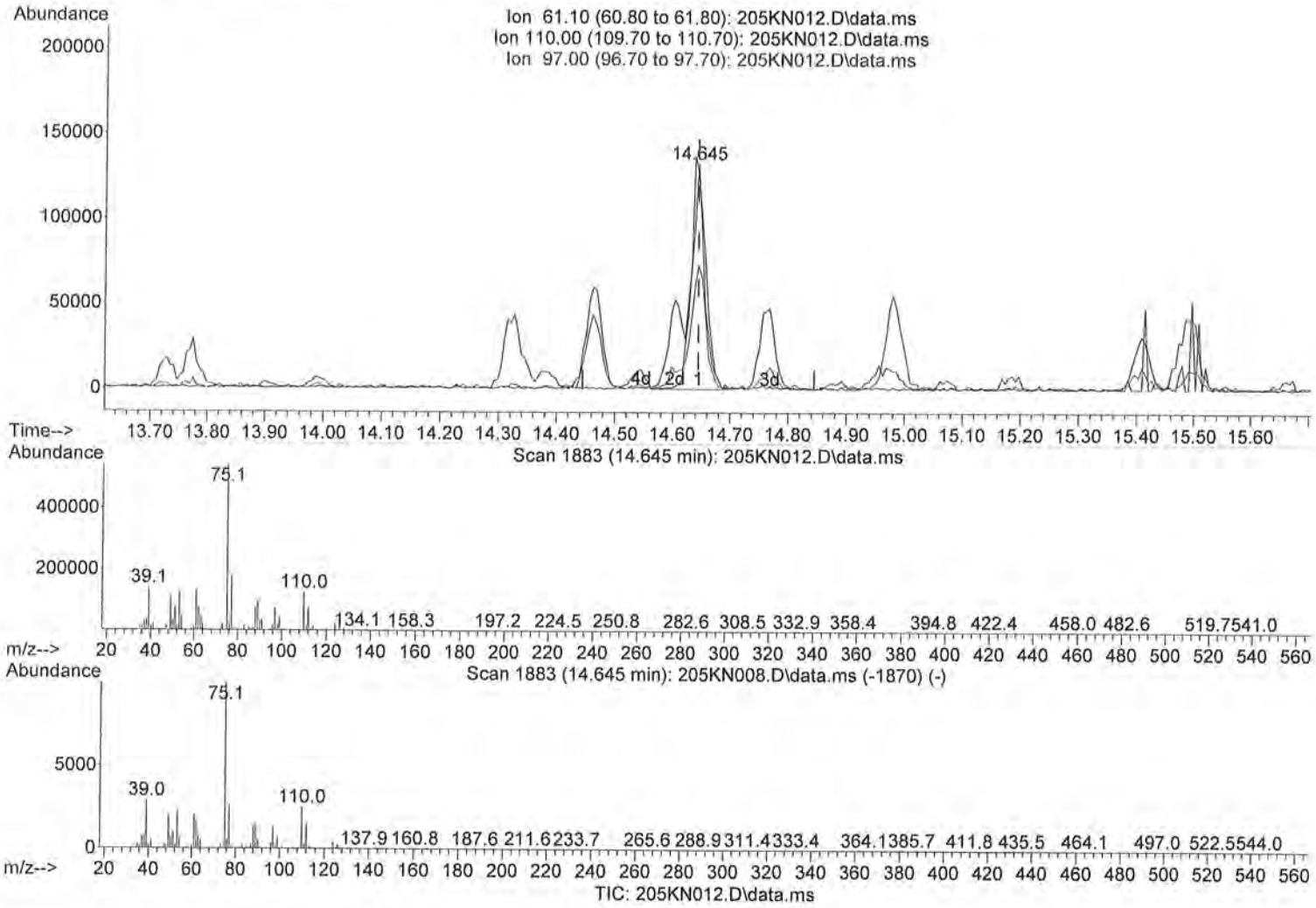
Review by/Date

Review by/Date

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN012.D
Acq On : 19 Nov 2020 1:24 pm
Operator : KKW
Sample : SCV
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Nov 20 07:34:48 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 13:02:55 2020
Response via : Initial Calibration



(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 47.38 ug/L m

response 288427

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.60	82.31
97.00	49.10	50.80
0.00	0.00	0.00

Select One:

[] Original Integration [X] Manual Integration

Select reason for manual integration

[X]

[] Other:

Review by/Date

Review by/Date:

Compound List Report OVGCMS5

Method Path : C:\msdchem\1\methods\
Method File : 111920W.M
Title : ENCO SOP VGCMS05; Element Cal
Last Update : Thu Nov 19 13:02:55 2020
Response Via : Initial Calibration

Total Cpnds : 96

PK#	Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1 I	PENTAFLUOROBENZENE (IS)	168	9.845	1.000	A	3	A	B
2	Dichlorodifluoromethane	85	3.969	0.403	A	2	A	B
3 P	Chloromethane	50	4.392	0.446	A	1	A	B
4 C	Vinyl Chloride	62	4.574	0.465	A	1	A	B
5	Bromomethane	94	5.221	0.530	QO	2	A	B
6	Chloroethane	64	5.421	0.551	LO	2	A	B
7	Trichlorofluoromethane	101	5.679	0.577	A	2	A	B
8	Diethyl ether	59	6.173	0.627	A	2	A	B
9 C	1,1-Dichloroethene	96	6.519	0.662	A	2	A	B
10	Trichlorotrifluoroethane	151	6.543	0.665	A	2	A	B
11	Acrolein	56	7.007	0.712	A	1	A	B
12	Iodomethane	142	6.766	0.687	LO	2	A	B
13	Carbon Disulfide	76	6.613	0.672	A	2	A	B
14	3-chloropropene	41	7.183	0.730	LO	2	A	B
15	Acetone	43	7.389	0.751	LO	1	A	R
16	Methylene Chloride	84	7.330	0.745	LO	1	A	R
17	Methyl Acetate	43	7.512	0.763	LO	2	A	B
18	t-1,2-Dichloroethene	96	7.542	0.766	A	2	A	B
19	Methyl tert-butyl ether	73	7.624	0.774	A	2	A	B
20	Acetonitrile	41	8.006	0.813	LO	2	A	B
21	Isopropyl ether	45	8.047	0.817	A	2	A	B
22	Chloroprene	88	8.264	0.839	A	2	A	B
23 P	1,1-Dichloroethane	63	8.305	0.844	A	3	A	B
24	Acrylonitrile	53	8.376	0.851	A	2	A	B
25	Vinyl Acetate	43	8.529	0.866	A	1	A	B
26	c-1,2-Dichloroethene	96	8.940	0.908	A	2	A	B
27	2,2-Dichloropropane	77	9.063	0.921	QO	2	A	B
28	Bromochloromethane	128	9.175	0.932	A	1	A	B
29	Cyclohexane	56	9.181	0.933	LO	2	A	B
30 C	Chloroform	83	9.210	0.936	A	2	A	B
31 S	Dibromofluoromethane	113	9.416	0.956	A	2	A	B
32	Dibromofluoromethane	113	9.428	0.958	A	2	A	B
33	2-Butanone	72	9.539	0.969	QO	1	A	R
34	1,1,1-Trichloroethane	97	9.481	0.963	A	2	A	B
35	1,1-Dichloropropene	75	9.592	0.974	A	2	A	B
36	Propionitrile	54	9.892	1.005	A	2	A	B
37	Methacrylonitrile	41	9.904	1.006	A	1	A	R
38	Isobutyl Alcohol	43	9.898	1.005	A	2	A	B
39 I	1,4-DIFLUOROBENZENE (IS)	114	10.438	1.000	A	2	A	B
40	Carbon Tetrachloride	117	9.404	0.901	LO	2	A	B
41	Benzene	78	9.868	0.945	A	1	A	B
42	1,2-Dichloroethane	62	10.080	0.966	LO	2	A	B
43	Trichloroethene	130	10.444	1.001	A	2	A	B
44	Methyl cyclohexane	83	10.438	1.000	LO	2	A	B
45	Dibromomethane	93	10.891	1.043	A	2	A	B
46 C	1,2-Dichloropropane	63	10.973	1.051	QO	2	A	B
47	Bromodichloromethane	83	11.008	1.055	QO	2	A	B
48	Methyl Methacrylate	69	11.073	1.061	LO	2	A	B
49	1,4-Dioxane	88	11.190	1.072	LO	1	A	R
50	2-Chloroethyl vinyl ether	63	11.478	1.100	A	2	A	B
51	C-1,3-Dichloropropene	75	11.602	1.111	QO	2	A	B
52 S	D8-Toluene	98	11.772	1.128	A	2	A	B
53	D8-Toluene	98	11.778	1.128	A	2	A	B
54	4-Methyl-2-pentanone	100	12.125	1.162	LO	2	A	B

55	I	CHLOROBENZENE-D5 (IS)	82	13.217	1.000	A	2	A	B
56	C	Toluene	92	11.819	0.894	A	2	A	B
57		T-1,3-Dichloropropene	75	12.189	0.922	LO	2	A	B
58		Tetrachloroethene	164	12.201	0.923	LO	2	A	B
59		Ethyl methacrylate	69	12.236	0.926	LO	2	A	B
60		1,1,2-Trichloroethane	97	12.354	0.935	LO	2	A	B
61		Dibromochloromethane	129	12.542	0.949	QO	2	A	B
62		1,3-Dichloropropane	76	12.618	0.955	A	2	A	B
63		1,2-Dibromoethane	107	12.806	0.969	A	2	A	B
64		2-Hexanone	43	12.871	0.974	A	2	A	B
65	C	Ethylbenzene	106	13.200	0.999	LO	2	A	B
66	P	Chlorobenzene	112	13.235	1.001	A	1	A	B
67		1,1,1,2-Tetrachloroethane	131	13.270	1.004	A	2	A	B
68		m-xylene & p-xylene	106	13.317	1.008	A	1	A	B
69		o-xylene	106	13.729	1.039	A	1	A	B
70		Styrene	104	13.770	1.042	A	2	A	B
71	P	Bromoform	173	13.870	1.049	QO	1	A	B
72		Isopropylbenzene	105	13.987	1.058	A	2	A	B
73	S	Bromofluorobenzene	95	14.322	1.084	A	2	A	B
74		Bromofluorobenzene	95	14.322	1.084	A	2	A	B
75		n-Propylbenzene	91	14.381	1.088	A	2	A	B
76	P	1,1,2,2-Tetrachloroethane	83	14.463	1.094	A	3	A	B
77		1,2,3-Trichloropropane	61	14.645	1.108	A	2	A	B
78		T-1,4-Dichloro-2-Butene	53	14.346	1.085	LO	2	A	B
79	I	1,4-DICHLOROBENZENE-D4 (IS)	152	15.474	1.000	A	3	A	B
80		Bromobenzene	156	14.457	0.934	A	2	A	B
81		1,2,4-Trimethylbenzene	105	14.951	0.966	A	2	A	B
82		2-Chlorotoluene	91	14.604	0.944	A	2	A	R
83		4-Chlorotoluene	91	14.763	0.954	A	2	A	R
84		tert-Butylbenzene	119	14.892	0.962	A	2	A	B
85		1,3,5-Trimethylbenzene	105	14.539	0.940	A	2	A	B
86		p-Isopropyltoluene	119	15.186	0.981	A	2	A	B
87		s-Butylbenzene	105	15.068	0.974	A	2	A	B
88		1,3-Dichlorobenzene	146	15.409	0.996	A	2	A	R
89		1,4-Dichlorobenzene	146	15.497	1.002	A	2	A	R
90		n-Butylbenzene	91	15.668	1.013	A	2	A	B
91		1,2-Dichlorobenzene	146	16.014	1.035	A	2	A	B
92		DBCP	157	17.078	1.104	QO	1	A	B
93		Hexachlorobutadiene	225	17.965	1.161	QO	2	A	B
94		1,2,4-Trichlorobenzene	180	18.129	1.172	QO	2	A	B
95		Naphthalene	128	18.758	1.212	QO	2	A	B
96		1,2,3-Trichlorobenzene	180	19.146	1.237	QO	2	A	B

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

Compound Name Duplication Report

Quant Method: C:\msdchem\1\methods\111920W.M
Number of Compounds: 96

31 Dibromofluoromethane = 32 Dibromofluoromethane
52 D8-Toluene = 53 D8-Toluene
73 Bromofluorobenzene = 74 Bromofluorobenzene

3 Duplicate Names Detected!!!

111920W.M Fri Nov 20 09:31:15 2020

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN003.D
Acq On : 19 Nov 2020 8:46 am
Operator : KKW
Sample : CAL1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 19 12:13:03 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.851	168	1250058	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2384669	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.223	82	1608704	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.480	152	1323293	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.422	113	623489	70.75	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 141.50%#				
52) D8-Toluene	11.778	98	2961300	71.07	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 142.14%#				
73) Bromofluorobenzene	14.322	95	1515651	80.75	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 161.50%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.975	85	18296	1.05	ug/L		92
3) Chloromethane	4.398	50	24090	1.04	ug/L	#	64
4) Vinyl Chloride	4.575	62	15975	0.86	ug/L	#	40
5) Bromomethane	5.227	94	13720	3.79	ug/L	#	85
6) Chloroethane	5.444	64	12739	1.59	ug/L	#	87
7) Trichlorofluoromethane	5.679	101	19911	1.01	ug/L	#	38
8) Diethyl ether	6.184	59	12948	0.98	ug/L	#	54
9) 1,1-Dichloroethene	6.525	96	13263	1.04	ug/L	#	87
10) Trichlorotrifluoroethane	6.543	151	6524	0.76	ug/L	#	61
11) Acrolein	7.025	56	25649	6.51	ug/L		99
12) Iodomethane	6.778	142	40512	4.66	ug/L	#	89
13) Carbon Disulfide	6.613	76	203203	8.96	ug/L		95
14) 3-chloropropene	7.189	41	29238	1.45	ug/L	#	78
15) Acetone	7.401	43	20512	4.24	ug/L	#	82
16) Methylene Chloride	7.336	84	23731	0.91	ug/L	#	70
17) Methyl Acetate	7.530	43	18811	1.38	ug/L	#	94
18) t-1,2-Dichloroethene	7.536	96	15808	1.14	ug/L	#	1
19) Methyl tert-butyl ether	7.618	73	30197	0.83	ug/L	#	76
20) Acetonitrile	8.047	41	33337	11.03	ug/L	#	68
21) Isopropyl ether	8.053	45	42345	0.90	ug/L	#	90
22) Chloroprene	8.276	88	12782	1.01	ug/L	#	75
23) 1,1-Dichloroethane	8.311	63	28756	1.00	ug/L	#	95
24) Acrylonitrile	8.388	53	42630	5.96	ug/L		91
25) Vinyl Acetate	8.546	43	138673	4.83	ug/L	#	100
26) c-1,2-Dichloroethene	8.946	96	13851	0.87	ug/L	#	82
27) 2,2-Dichloropropane	9.069	77	24680	1.13	ug/L	#	71
28) Bromochloromethane	9.193	128	4358	0.77	ug/L	#	5
29) Cyclohexane	9.181	56	36143	1.30	ug/L		91
30) Chloroform	9.234	83	25212	0.94	ug/L	#	77
32) Dibromofluoromethane	9.422	113	623489	70.75	ug/L	#	84
33) 2-Butanone	9.563	72	11859	5.48	ug/L	#	52
34) 1,1,1-Trichloroethane	9.481	97	22143	1.02	ug/L	#	85
35) 1,1-Dichloropropene	9.604	75	24888	1.18	ug/L	#	94
36) Propionitrile	9.898	54	18232	7.06	ug/L	#	47
37) Methacrylonitrile	9.904	41	99844	8.86	ug/L		98
38) Isobutyl Alcohol	9.898	43	19639	12.58	ug/L	#	67
40) Carbon Tetrachloride	9.398	117	16992	1.09	ug/L	#	63
41) Benzene	9.880	78	65290	1.05	ug/L	#	80
42) 1,2-Dichloroethane	10.098	62	25267	1.28	ug/L		93
43) Trichloroethene	10.444	130	11606	0.88	ug/L	#	1
44) Methyl cyclohexane	10.438	83	61837	1.83	ug/L	#	78
45) Dibromomethane	10.897	93	8357	0.94	ug/L		90
46) 1,2-Dichloropropane	10.979	63	19883	1.09	ug/L	#	86
47) Bromodichloromethane	11.014	83	16171	0.95	ug/L	#	84
48) Methyl Methacrylate	11.096	69	9981	0.78	ug/L	#	86
49) 1,4-Dioxane	11.191	88	2274	7.99	ug/L	#	1
50) 2-Chloroethyl vinyl ether	11.484	63	38992	4.48	ug/L	#	91
51) C-1,3-Dichloropropene	11.602	75	18485	0.77	ug/L	#	74

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN003.D
Acq On : 19 Nov 2020 8:46 am
Operator : KKW
Sample : CAL1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 19 12:13:03 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

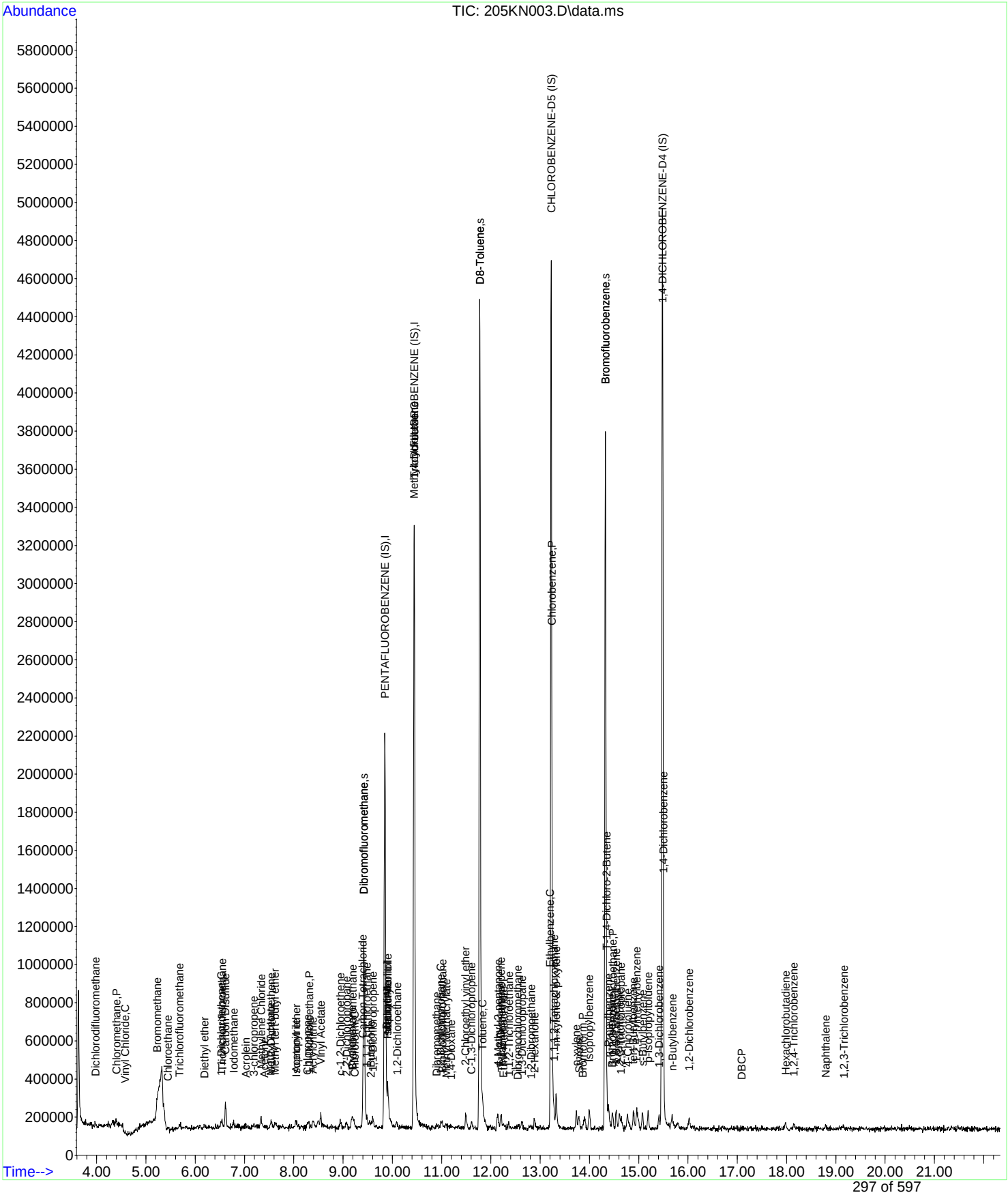
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	2961300	71.07	ug/L		97
54) 4-Methyl-2-pentanone	12.142	100	12783	5.15	ug/L	#	58
56) Toluene	11.831	92	41866	0.91	ug/L	#	79
57) T-1,3-Dichloropropene	12.201	75	18604	0.81	ug/L	#	81
58) Tetrachloroethene	12.219	164	11415	1.09	ug/L		89
59) Ethyl methacrylate	12.248	69	25350	1.17	ug/L	#	83
60) 1,1,2-Trichloroethane	12.366	97	13702	0.99	ug/L	#	72
61) Dibromochloromethane	12.542	129	8416	0.76	ug/L	#	87
62) 1,3-Dichloropropane	12.630	76	25304	0.97	ug/L	#	82
63) 1,2-Dibromoethane	12.818	107	12150	0.91	ug/L	#	81
64) 2-Hexanone	12.883	43	45037	3.33	ug/L	#	97
65) Ethylbenzene	13.200	106	26930	1.14	ug/L	#	79
66) Chlorobenzene	13.235	112	39482	0.98	ug/L	#	42
67) 1,1,1,2-Tetrachloroethane	13.282	131	10455	0.84	ug/L	#	85
68) m-xylene & p-xylene	13.323	106	49610	1.75	ug/L		95
69) o-xylene	13.729	106	26619	0.91	ug/L		95
70) Styrene	13.793	104	38113	0.74	ug/L	#	77
71) Bromoform	13.864	173	7220	1.08	ug/L		96
72) Isopropylbenzene	13.993	105	68183	0.90	ug/L	#	96
74) Bromofluorobenzene	14.322	95	1515651	80.75	ug/L	#	82
75) n-Propylbenzene	14.387	91	89415	0.94	ug/L		97
76) 1,1,2,2-Tetrachloroethane	14.469	83	18496	0.88	ug/L	#	97
77) 1,2,3-Trichloropropane	14.639	61	7568	1.03	ug/L	#	59
78) T-1,4-Dichloro-2-Butene	14.346	53	3904	0.50	ug/L	#	25
80) Bromobenzene	14.457	156	12991	0.77	ug/L	#	62
81) 1,2,4-Trimethylbenzene	14.957	105	65688	1.02	ug/L		88
82) 2-Chlorotoluene	14.610	91	56094	1.00	ug/L		99
83) 4-Chlorotoluene	14.775	91	55670	0.96	ug/L	#	89
84) tert-Butylbenzene	14.886	119	50745	0.92	ug/L		95
85) 1,3,5-Trimethylbenzene	14.540	105	65899	1.02	ug/L	#	91
86) p-Isopropyltoluene	15.192	119	58999	0.89	ug/L	#	91
87) s-Butylbenzene	15.080	105	66592	0.81	ug/L	#	90
88) 1,3-Dichlorobenzene	15.415	146	28042	0.90	ug/L		91
89) 1,4-Dichlorobenzene	15.503	146	35527	1.06	ug/L	#	1
90) n-Butylbenzene	15.685	91	64987	0.95	ug/L		99
91) 1,2-Dichlorobenzene	16.020	146	29991	1.01	ug/L		95
92) DBCP	17.090	157	3870	1.12	ug/L	#	38
93) Hexachlorobutadiene	17.983	225	4733	0.53	ug/L	#	14
94) 1,2,4-Trichlorobenzene	18.141	180	11751	0.74	ug/L	#	59
95) Naphthalene	18.794	128	22751	0.55	ug/L	#	79
96) 1,2,3-Trichlorobenzene	19.164	180	6414	0.50	ug/L	#	71

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN003.D
Acq On : 19 Nov 2020 8:46 am
Operator : KKW
Sample : CAL1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 19 12:13:03 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.845	168	1204238	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.438	114	2405138	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.217	82	1568806	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.480	152	1312583	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.422	113	684693	80.65	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 161.30%#				
52) D8-Toluene	11.772	98	3225098	76.74	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 153.48%#				
73) Bromofluorobenzene	14.322	95	1548116	84.58	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 169.16%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.969	85	25586	1.52	ug/L	#	95
3) Chloromethane	4.392	50	36985	1.66	ug/L		96
4) Vinyl Chloride	4.574	62	23897	1.33	ug/L	#	72
5) Bromomethane	5.221	94	18964	5.44	ug/L	#	71
6) Chloroethane	5.432	64	16169	2.09	ug/L		91
7) Trichlorofluoromethane	5.685	101	29809	1.57	ug/L	#	77
8) Diethyl ether	6.173	59	17712	1.39	ug/L		89
9) 1,1-Dichloroethene	6.525	96	17932	1.46	ug/L		89
10) Trichlorotrifluoroethane	6.537	151	12736m	1.54	ug/L		
11) Acrolein	7.019	56	34067	8.97	ug/L		93
12) Iodomethane	6.772	142	74024	8.84	ug/L	#	86
13) Carbon Disulfide	6.613	76	308072	14.10	ug/L		96
14) 3-chloropropene	7.183	41	32217	1.66	ug/L	#	76
15) Acetone	7.401	43	18401	3.95	ug/L		92
16) Methylene Chloride	7.336	84	32753	1.31	ug/L	#	75
17) Methyl Acetate	7.530	43	17987	1.37	ug/L	#	63
18) t-1,2-Dichloroethene	7.553	96	20681	1.55	ug/L	#	1
19) Methyl tert-butyl ether	7.624	73	51397	1.46	ug/L	#	89
20) Acetonitrile	8.053	41	41973	14.42	ug/L	#	73
21) Isopropyl ether	8.047	45	72128	1.58	ug/L		98
22) Chloroprene	8.276	88	19106	1.56	ug/L	#	94
23) 1,1-Dichloroethane	8.305	63	35911	1.30	ug/L	#	93
24) Acrylonitrile	8.388	53	64927	9.43	ug/L	#	89
25) Vinyl Acetate	8.546	43	209163	7.56	ug/L	#	100
26) c-1,2-Dichloroethene	8.958	96	20443	1.33	ug/L		89
27) 2,2-Dichloropropane	9.069	77	27636	1.31	ug/L	#	82
28) Bromochloromethane	9.181	128	8462	1.55	ug/L	#	77
29) Cyclohexane	9.181	56	39303	1.47	ug/L		89
30) Chloroform	9.222	83	39382	1.52	ug/L	#	85
32) Dibromofluoromethane	9.422	113	684725	80.65	ug/L	#	87
33) 2-Butanone	9.545	72	6992	3.35	ug/L	#	1
34) 1,1,1-Trichloroethane	9.475	97	31237	1.49	ug/L		96
35) 1,1-Dichloropropene	9.598	75	33405	1.64	ug/L	#	83
36) Propionitrile	9.898	54	34088	13.71	ug/L	#	62
37) Methacrylonitrile	9.904	41	161695	14.89	ug/L		99
38) Isobutyl Alcohol	9.904	43	39900	26.53	ug/L	#	100
40) Carbon Tetrachloride	9.410	117	25567m	1.62	ug/L		
41) Benzene	9.874	78	86139	1.38	ug/L		94
42) 1,2-Dichloroethane	10.080	62	31232	1.56	ug/L	#	78
43) Trichloroethene	10.444	130	19889	1.49	ug/L	#	1
44) Methyl cyclohexane	10.444	83	73539	2.16	ug/L	#	76
45) Dibromomethane	10.897	93	12606	1.40	ug/L	#	86
46) 1,2-Dichloropropane	10.979	63	26377	1.43	ug/L	#	92
47) Bromodichloromethane	11.008	83	21020	1.23	ug/L	#	69
48) Methyl Methacrylate	11.090	69	11122m	0.86	ug/L		
49) 1,4-Dioxane	11.184	88	3651	12.73	ug/L	#	57
50) 2-Chloroethyl vinyl ether	11.490	63	63403	7.23	ug/L	#	90
51) C-1,3-Dichloropropene	11.602	75	32438	1.34	ug/L	#	82

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

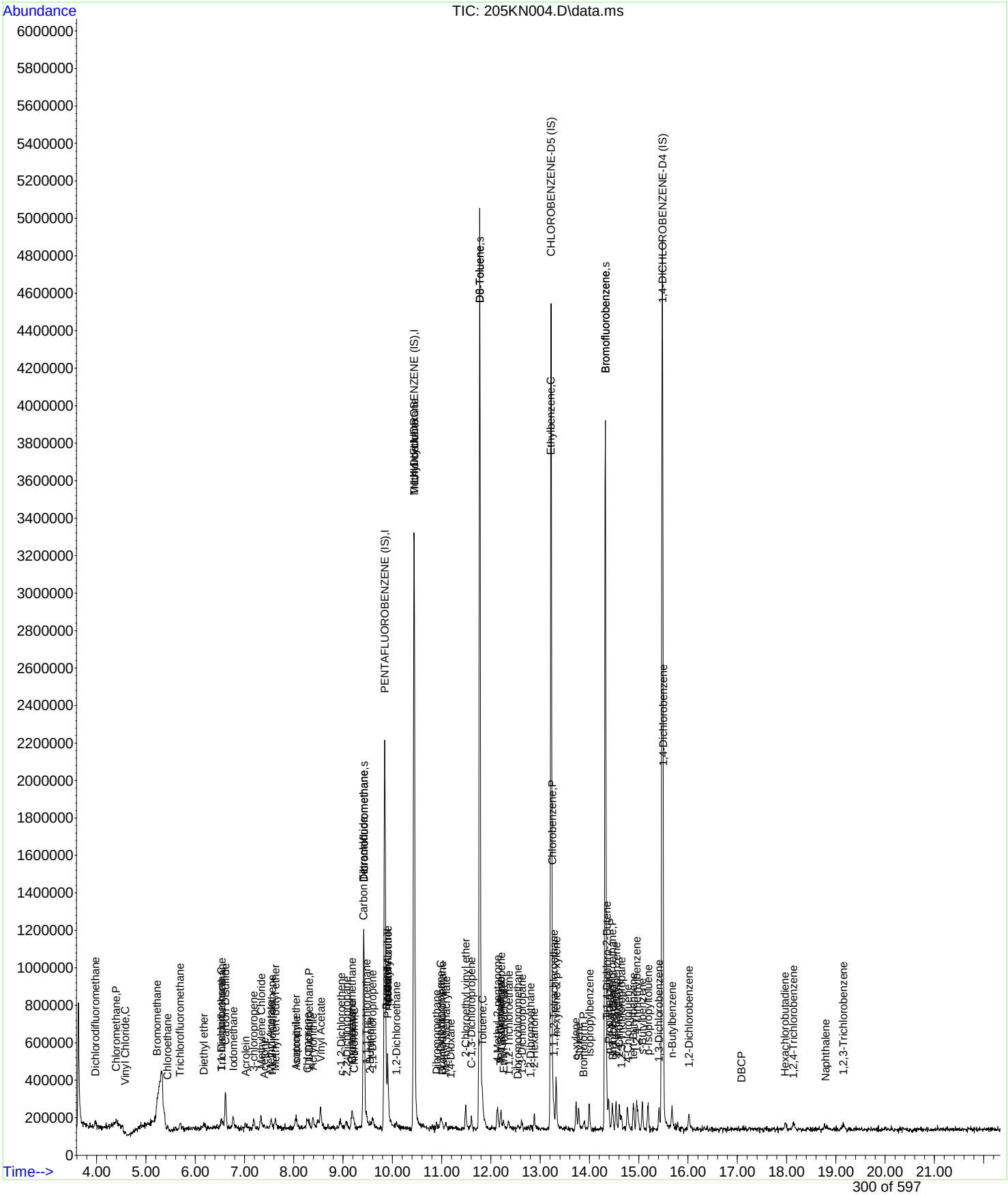
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.772	98	3225098	76.74	ug/L		98
54) 4-Methyl-2-pentanone	12.130	100	16767	6.70	ug/L		87
56) Toluene	11.831	92	50990	1.14	ug/L	#	83
57) T-1,3-Dichloropropene	12.207	75	24871	1.11	ug/L	#	82
58) Tetrachloroethene	12.195	164	13605	1.33	ug/L		97
59) Ethyl methacrylate	12.254	69	29880	1.41	ug/L		95
60) 1,1,2-Trichloroethane	12.360	97	16136m	1.20	ug/L		
61) Dibromochloromethane	12.542	129	12102	1.12	ug/L	#	88
62) 1,3-Dichloropropane	12.630	76	31210	1.23	ug/L	#	69
63) 1,2-Dibromoethane	12.800	107	17274	1.32	ug/L	#	85
64) 2-Hexanone	12.877	43	65549	4.97	ug/L	#	95
65) Ethylbenzene	13.212	106	31671	1.37	ug/L	#	83
66) Chlorobenzene	13.241	112	57651	1.47	ug/L	#	68
67) 1,1,1,2-Tetrachloroethane	13.276	131	16700	1.37	ug/L	#	82
68) m-xylene & p-xylene	13.329	106	79130	2.86	ug/L		91
69) o-xylene	13.723	106	34486	1.21	ug/L		73
70) Styrene	13.781	104	59534	1.18	ug/L	#	81
71) Bromoform	13.876	173	8315	1.27	ug/L	#	40
72) Isopropylbenzene	13.999	105	101194	1.37	ug/L		95
74) Bromofluorobenzene	14.322	95	1548116	84.58	ug/L		84
75) n-Propylbenzene	14.393	91	140081	1.51	ug/L	#	92
76) 1,1,2,2-Tetrachloroethane	14.463	83	26618	1.30	ug/L	#	88
77) 1,2,3-Trichloropropane	14.645	61	9189	1.28	ug/L		95
78) T-1,4-Dichloro-2-Butene	14.351	53	7999	1.05	ug/L	#	1
80) Bromobenzene	14.469	156	24323	1.46	ug/L		98
81) 1,2,4-Trimethylbenzene	14.957	105	93218	1.45	ug/L		98
82) 2-Chlorotoluene	14.604	91	84274	1.51	ug/L		92
83) 4-Chlorotoluene	14.774	91	90552	1.57	ug/L	#	94
84) tert-Butylbenzene	14.886	119	74805	1.37	ug/L		94
85) 1,3,5-Trimethylbenzene	14.545	105	88928	1.38	ug/L		92
86) p-Isopropyltoluene	15.192	119	88659	1.35	ug/L		94
87) s-Butylbenzene	15.074	105	111856	1.37	ug/L	#	92
88) 1,3-Dichlorobenzene	15.409	146	43620	1.41	ug/L	#	93
89) 1,4-Dichlorobenzene	15.497	146	49462	1.48	ug/L	#	1
90) n-Butylbenzene	15.673	91	86450	1.28	ug/L		93
91) 1,2-Dichlorobenzene	16.014	146	36400	1.23	ug/L	#	84
92) DBCP	17.084	157	1967	0.58	ug/L		97
93) Hexachlorobutadiene	17.965	225	9033	1.02	ug/L	#	80
94) 1,2,4-Trichlorobenzene	18.135	180	11315	0.72	ug/L	#	35
95) Naphthalene	18.787	128	32865	0.80	ug/L	#	83
96) 1,2,3-Trichlorobenzene	19.146	180	13123	1.04	ug/L	#	80

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN005.D
Acq On : 19 Nov 2020 9:47 am
Operator : KKW
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 19 12:13:14 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.845	168	1203996	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.438	114	2450219	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.217	82	1607155	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.480	152	1325758	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.422	113	748431	88.17	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 176.34%#				
52) D8-Toluene	11.772	98	3472304	81.11	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 162.22%#				
73) Bromofluorobenzene	14.322	95	1649261	87.95	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 175.90%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.975	85	74605	4.45	ug/L	#	84
3) Chloromethane	4.392	50	90702	4.06	ug/L		95
4) Vinyl Chloride	4.580	62	71482	3.99	ug/L		96
5) Bromomethane	5.221	94	29725	8.53	ug/L	#	76
6) Chloroethane	5.421	64	32917	4.25	ug/L		99
7) Trichlorofluoromethane	5.685	101	82668	4.36	ug/L	#	96
8) Diethyl ether	6.173	59	46647	3.66	ug/L		94
9) 1,1-Dichloroethene	6.525	96	47209	3.83	ug/L		88
10) Trichlorotrifluoroethane	6.543	151	35223	4.26	ug/L		98
11) Acrolein	7.013	56	106122	27.96	ug/L		88
12) Iodomethane	6.772	142	223049	26.65	ug/L	#	86
13) Carbon Disulfide	6.613	76	853754	39.09	ug/L		98
14) 3-chloropropene	7.189	41	82112	4.23	ug/L	#	84
15) Acetone	7.395	43	68203	14.65	ug/L		93
16) Methylene Chloride	7.324	84	70431	2.81	ug/L		96
17) Methyl Acetate	7.524	43	41189	3.14	ug/L	#	75
18) t-1,2-Dichloroethene	7.542	96	53904	4.03	ug/L	#	1
19) Methyl tert-butyl ether	7.630	73	142206	4.05	ug/L		98
20) Acetonitrile	8.023	41	100254	34.44	ug/L		94
21) Isopropyl ether	8.053	45	190415	4.18	ug/L		97
22) Chloroprene	8.264	88	57323	4.68	ug/L		99
23) 1,1-Dichloroethane	8.300	63	129239	4.67	ug/L	#	91
24) Acrylonitrile	8.382	53	189148	27.46	ug/L		89
25) Vinyl Acetate	8.535	43	635408	22.98	ug/L	#	100
26) c-1,2-Dichloroethene	8.946	96	63131	4.10	ug/L		88
27) 2,2-Dichloropropane	9.069	77	87442	4.14	ug/L	#	95
28) Bromochloromethane	9.187	128	28669	5.26	ug/L		99
29) Cyclohexane	9.181	56	133857	5.00	ug/L		89
30) Chloroform	9.216	83	122395	4.72	ug/L		92
32) Dibromofluoromethane	9.422	113	748431	88.17	ug/L	#	89
33) 2-Butanone	9.539	72	36738	17.61	ug/L		70
34) 1,1,1-Trichloroethane	9.475	97	89627	4.28	ug/L		95
35) 1,1-Dichloropropene	9.592	75	96148	4.73	ug/L		93
36) Propionitrile	9.898	54	87631	35.25	ug/L	#	73
37) Methacrylonitrile	9.904	41	433810	39.95	ug/L		98
38) Isobutyl Alcohol	9.904	43	101382	67.43	ug/L	#	98
40) Carbon Tetrachloride	9.404	117	68664m	4.27	ug/L		
41) Benzene	9.874	78	248057	3.89	ug/L		97
42) 1,2-Dichloroethane	10.080	62	87269	4.29	ug/L	#	95
43) Trichloroethene	10.438	130	51268	3.78	ug/L	#	1
44) Methyl cyclohexane	10.444	83	159388	4.59	ug/L	#	83
45) Dibromomethane	10.897	93	40717	4.45	ug/L	#	84
46) 1,2-Dichloropropane	10.985	63	68338	3.64	ug/L		99
47) Bromodichloromethane	11.014	83	76839	4.42	ug/L		95
48) Methyl Methacrylate	11.079	69	42500	3.24	ug/L		96
49) 1,4-Dioxane	11.202	88	15649	53.54	ug/L		92
50) 2-Chloroethyl vinyl ether	11.484	63	180854	20.24	ug/L	#	97
51) C-1,3-Dichloropropene	11.608	75	97087	3.92	ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN005.D
Acq On : 19 Nov 2020 9:47 am
Operator : KKW
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 19 12:13:14 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

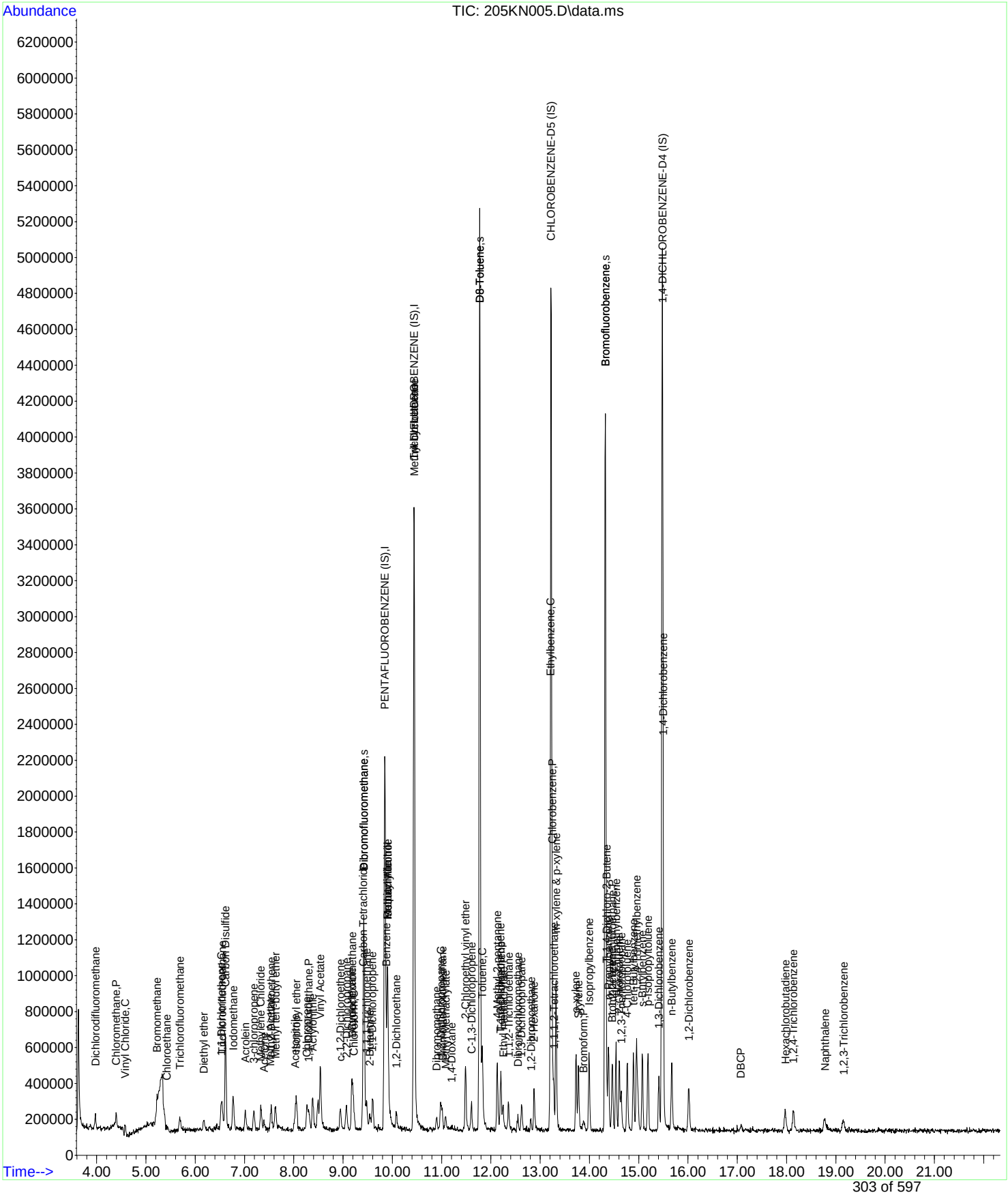
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.772	98	3472304	81.11	ug/L		98
54) 4-Methyl-2-pentanone	12.125	100	38753	15.19	ug/L		86
56) Toluene	11.825	92	165393	3.60	ug/L		98
57) T-1,3-Dichloropropene	12.195	75	86647	3.76	ug/L		92
58) Tetrachloroethene	12.207	164	39337	3.74	ug/L	#	86
59) Ethyl methacrylate	12.248	69	74987	3.46	ug/L	#	89
60) 1,1,2-Trichloroethane	12.360	97	49583	3.58	ug/L		91
61) Dibromochloromethane	12.548	129	35140	3.19	ug/L	#	91
62) 1,3-Dichloropropane	12.618	76	94212	3.62	ug/L	#	84
63) 1,2-Dibromoethane	12.812	107	49651	3.71	ug/L		94
64) 2-Hexanone	12.871	43	182740	13.52	ug/L	#	93
65) Ethylbenzene	13.206	106	86003	3.64	ug/L	#	80
66) Chlorobenzene	13.241	112	174992	4.36	ug/L		99
67) 1,1,1,2-Tetrachloroethane	13.282	131	47239	3.79	ug/L		98
68) m-xylene & p-xylene	13.323	106	241684	8.52	ug/L		97
69) o-xylene	13.723	106	128266	4.39	ug/L		94
70) Styrene	13.776	104	192498	3.74	ug/L		96
71) Bromoform	13.875	173	17891	2.67	ug/L	#	58
72) Isopropylbenzene	13.993	105	314697	4.15	ug/L		97
74) Bromofluorobenzene	14.322	95	1649261	87.95	ug/L	#	83
75) n-Propylbenzene	14.387	91	430878	4.54	ug/L		98
76) 1,1,2,2-Tetrachloroethane	14.463	83	75011	3.57	ug/L	#	97
77) 1,2,3-Trichloropropane	14.645	61	25913m	3.52	ug/L		
78) T-1,4-Dichloro-2-Butene	14.346	53	30582	3.90	ug/L	#	25
80) Bromobenzene	14.457	156	68481	4.07	ug/L		95
81) 1,2,4-Trimethylbenzene	14.957	105	312679	4.83	ug/L		96
82) 2-Chlorotoluene	14.604	91	254584	4.52	ug/L		98
83) 4-Chlorotoluene	14.763	91	269745	4.64	ug/L		96
84) tert-Butylbenzene	14.892	119	225427	4.10	ug/L		95
85) 1,3,5-Trimethylbenzene	14.539	105	298492	4.59	ug/L		97
86) p-Isopropyltoluene	15.186	119	288991	4.35	ug/L		97
87) s-Butylbenzene	15.074	105	358245	4.33	ug/L		99
88) 1,3-Dichlorobenzene	15.409	146	121305	3.89	ug/L	#	88
89) 1,4-Dichlorobenzene	15.497	146	130629	3.88	ug/L	#	1
90) n-Butylbenzene	15.668	91	270003	3.95	ug/L		94
91) 1,2-Dichlorobenzene	16.014	146	123325	4.13	ug/L		98
92) DBCP	17.072	157	4885	1.42	ug/L		94
93) Hexachlorobutadiene	17.977	225	28258	3.17	ug/L	#	73
94) 1,2,4-Trichlorobenzene	18.135	180	48590	3.06	ug/L	#	88
95) Naphthalene	18.782	128	90648	2.20	ug/L	#	76
96) 1,2,3-Trichlorobenzene	19.158	180	27107	2.12	ug/L	#	63

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN005.D
Acq On : 19 Nov 2020 9:47 am
Operator : KKW
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 19 12:13:14 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN006.D
Acq On : 19 Nov 2020 10:18 am
Operator : KKW
Sample : CAL4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 19 12:13:19 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.845	168	1172592	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.438	114	2346408	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.223	82	1580434	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.480	152	1299188	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.422	113	633611	76.64	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 153.28%#				
52) D8-Toluene	11.772	98	2967040	72.37	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 144.74%#				
73) Bromofluorobenzene	14.322	95	1486454	80.61	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 161.22%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.969	85	136642	8.36	ug/L	#	98
3) Chloromethane	4.392	50	150941	6.94	ug/L		98
4) Vinyl Chloride	4.574	62	121568	6.97	ug/L		97
5) Bromomethane	5.221	94	42104	12.41	ug/L	#	85
6) Chloroethane	5.438	64	61911	8.21	ug/L	#	92
7) Trichlorofluoromethane	5.685	101	165911	8.98	ug/L		92
8) Diethyl ether	6.173	59	84419	6.81	ug/L		94
9) 1,1-Dichloroethene	6.525	96	87918	7.33	ug/L		97
10) Trichlorotrifluoroethane	6.537	151	72300	8.97	ug/L		92
11) Acrolein	7.019	56	230022	62.23	ug/L		98
12) Iodomethane	6.766	142	506927	62.20	ug/L	#	91
13) Carbon Disulfide	6.613	76	1673298	78.66	ug/L		99
14) 3-chloropropene	7.183	41	167038	8.84	ug/L		98
15) Acetone	7.389	43	148978	32.85	ug/L		90
16) Methylene Chloride	7.324	84	116078	4.75	ug/L		95
17) Methyl Acetate	7.518	43	87612	6.86	ug/L	#	91
18) t-1,2-Dichloroethene	7.536	96	101037	7.76	ug/L	#	1
19) Methyl tert-butyl ether	7.630	73	287472	8.40	ug/L		95
20) Acetonitrile	8.012	41	217380	76.68	ug/L		97
21) Isopropyl ether	8.041	45	356646	8.05	ug/L		96
22) Chloroprene	8.270	88	101968	8.55	ug/L		94
23) 1,1-Dichloroethane	8.305	63	221157	8.21	ug/L		96
24) Acrylonitrile	8.382	53	395143	58.91	ug/L		97
25) Vinyl Acetate	8.535	43	1226867	45.56	ug/L	#	100
26) c-1,2-Dichloroethene	8.940	96	111210	7.41	ug/L		89
27) 2,2-Dichloropropane	9.058	77	149262	7.26	ug/L	#	92
28) Bromochloromethane	9.169	128	44116	8.31	ug/L		92
29) Cyclohexane	9.187	56	211253	8.10	ug/L		93
30) Chloroform	9.210	83	224502	8.89	ug/L		96
32) Dibromofluoromethane	9.422	113	633611	76.64	ug/L	#	91
33) 2-Butanone	9.551	72	52854	26.02	ug/L	#	56
34) 1,1,1-Trichloroethane	9.469	97	163488	8.02	ug/L		95
35) 1,1-Dichloropropene	9.592	75	169450	8.57	ug/L		95
36) Propionitrile	9.892	54	162895	67.28	ug/L	#	73
37) Methacrylonitrile	9.898	41	807949	76.39	ug/L		93
38) Isobutyl Alcohol	9.892	43	201685	137.74	ug/L	#	97
40) Carbon Tetrachloride	9.398	117	126351	8.21	ug/L	#	93
41) Benzene	9.868	78	478492	7.84	ug/L		98
42) 1,2-Dichloroethane	10.086	62	153491	7.87	ug/L		96
43) Trichloroethene	10.438	130	102612	7.91	ug/L	#	58
44) Methyl cyclohexane	10.444	83	233746	7.02	ug/L		94
45) Dibromomethane	10.897	93	68274	7.78	ug/L	#	90
46) 1,2-Dichloropropane	10.973	63	142560	7.94	ug/L		99
47) Bromodichloromethane	11.008	83	146577	8.80	ug/L		96
48) Methyl Methacrylate	11.073	69	84258	6.70	ug/L		99
49) 1,4-Dioxane	11.196	88	27005	96.48	ug/L		98
50) 2-Chloroethyl vinyl ether	11.484	63	363921	42.52	ug/L	#	99
51) C-1,3-Dichloropropene	11.602	75	181119	7.64	ug/L		91

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN006.D
Acq On : 19 Nov 2020 10:18 am
Operator : KKW
Sample : CAL4
Misc :
ALS Vial : 5 Sample Multiplier: 1

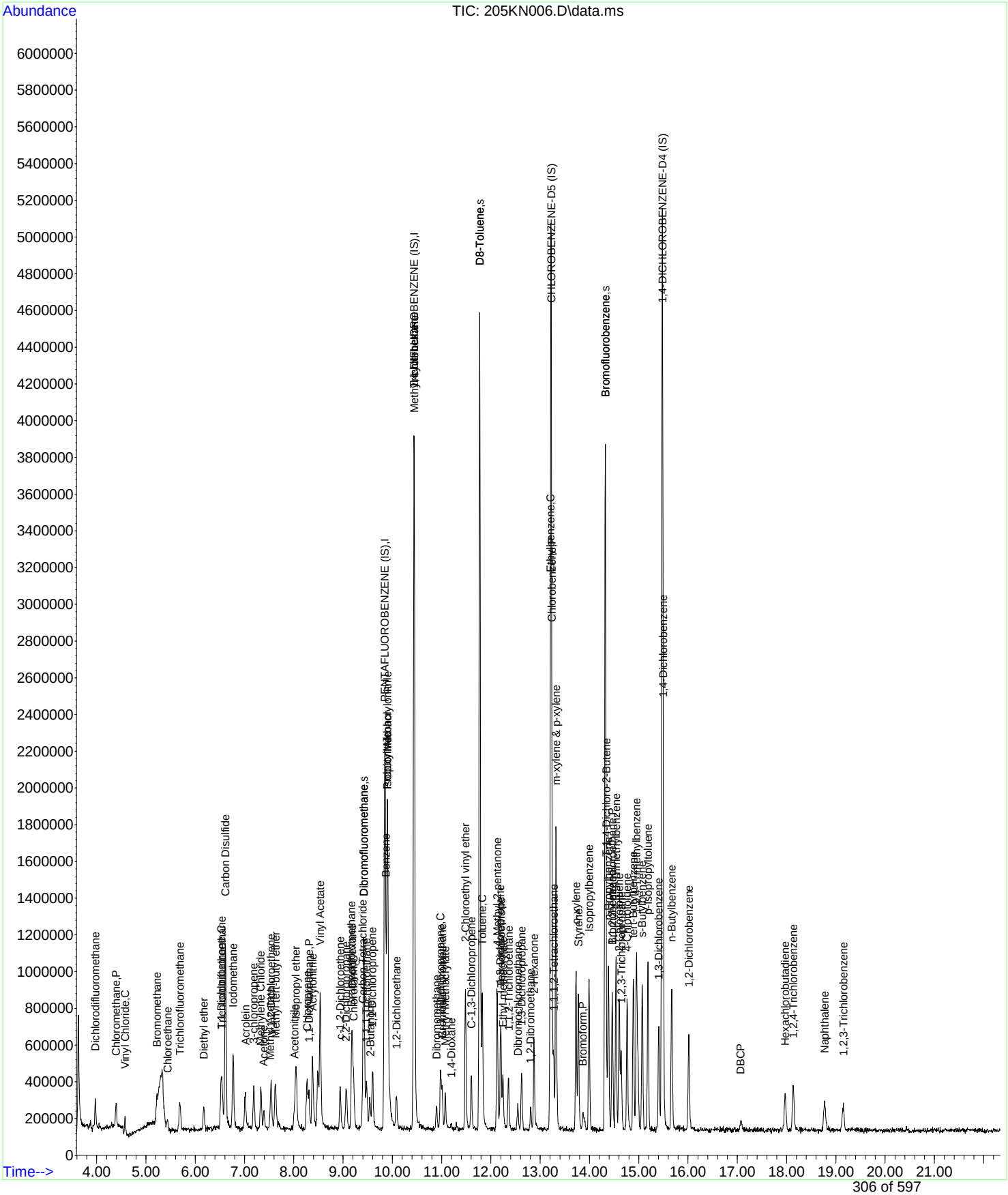
Quant Time: Nov 19 12:13:19 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.772	98	2967040	72.37	ug/L		98
54) 4-Methyl-2-pentanone	12.125	100	73800	30.21	ug/L		96
56) Toluene	11.825	92	299260	6.63	ug/L		94
57) T-1,3-Dichloropropene	12.189	75	162803	7.18	ug/L		97
58) Tetrachloroethene	12.207	164	82473	7.98	ug/L		91
59) Ethyl methacrylate	12.242	69	156564	7.34	ug/L		97
60) 1,1,2-Trichloroethane	12.360	97	99991	7.35	ug/L		95
61) Dibromochloromethane	12.548	129	73988	6.82	ug/L		96
62) 1,3-Dichloropropane	12.624	76	205100	8.00	ug/L		99
63) 1,2-Dibromoethane	12.800	107	91595	6.95	ug/L	#	97
64) 2-Hexanone	12.877	43	371113	27.92	ug/L		99
65) Ethylbenzene	13.206	106	183869	7.91	ug/L		93
66) Chlorobenzene	13.235	112	325558	8.26	ug/L		98
67) 1,1,1,2-Tetrachloroethane	13.276	131	84396	6.89	ug/L	#	91
68) m-xylene & p-xylene	13.323	106	459298	16.47	ug/L		100
69) o-xylene	13.729	106	226034	7.87	ug/L		98
70) Styrene	13.776	104	372814	7.36	ug/L		97
71) Bromoform	13.864	173	42258	6.41	ug/L		95
72) Isopropylbenzene	13.993	105	590842	7.93	ug/L		97
74) Bromofluorobenzene	14.322	95	1486454	80.61	ug/L	#	83
75) n-Propylbenzene	14.381	91	808182	8.66	ug/L		98
76) 1,1,2,2-Tetrachloroethane	14.463	83	147516	7.14	ug/L	#	98
77) 1,2,3-Trichloropropane	14.645	61	59327m	8.20	ug/L		
78) T-1,4-Dichloro-2-Butene	14.340	53	59486	7.72	ug/L	#	1
80) Bromobenzene	14.463	156	121209	7.35	ug/L		91
81) 1,2,4-Trimethylbenzene	14.951	105	594469	9.37	ug/L		98
82) 2-Chlorotoluene	14.604	91	469789	8.52	ug/L		97
83) 4-Chlorotoluene	14.763	91	498816	8.75	ug/L		98
84) tert-Butylbenzene	14.886	119	430271	7.98	ug/L		93
85) 1,3,5-Trimethylbenzene	14.539	105	564368	8.87	ug/L		98
86) p-Isopropyltoluene	15.186	119	548845	8.44	ug/L		99
87) s-Butylbenzene	15.068	105	648219	7.99	ug/L		99
88) 1,3-Dichlorobenzene	15.403	146	240604	7.88	ug/L	#	89
89) 1,4-Dichlorobenzene	15.497	146	253916	7.69	ug/L	#	36
90) n-Butylbenzene	15.668	91	564995	8.44	ug/L		99
91) 1,2-Dichlorobenzene	16.014	146	229022	7.83	ug/L		99
92) DBCP	17.066	157	17355	5.14	ug/L		92
93) Hexachlorobutadiene	17.971	225	48211	5.52	ug/L	#	93
94) 1,2,4-Trichlorobenzene	18.135	180	95682	6.14	ug/L		98
95) Naphthalene	18.770	128	206620	5.11	ug/L	#	91
96) 1,2,3-Trichlorobenzene	19.152	180	60810	4.85	ug/L	#	87

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN006.D
Acq On : 19 Nov 2020 10:18 am
Operator : KKW
Sample : CAL4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 19 12:13:19 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN007.D
Acq On : 19 Nov 2020 10:49 am
Operator : KKW
Sample : CAL5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 19 12:13:23 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.845	168	1203065	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.438	114	2330356	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.217	82	1579586	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.480	152	1295652	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.422	113	785195	92.57	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 185.14%#				
52) D8-Toluene	11.772	98	3631138	89.18	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 178.36%#				
73) Bromofluorobenzene	14.322	95	1784745	96.84	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 193.68%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.975	85	302749	18.06	ug/L	#	96
3) Chloromethane	4.392	50	320743	14.37	ug/L		100
4) Vinyl Chloride	4.574	62	293406	16.39	ug/L		96
5) Bromomethane	5.221	94	73935	21.23	ug/L	#	91
6) Chloroethane	5.438	64	142983	18.49	ug/L	#	91
7) Trichlorofluoromethane	5.685	101	364707	19.24	ug/L		95
8) Diethyl ether	6.179	59	186506	14.66	ug/L		96
9) 1,1-Dichloroethene	6.525	96	198942	16.17	ug/L		97
10) Trichlorotrifluoroethane	6.549	151	125657	15.20	ug/L		88
11) Acrolein	7.007	56	200300	52.81	ug/L		96
12) Iodomethane	6.766	142	1096522	131.13	ug/L	#	92
13) Carbon Disulfide	6.613	76	3494366	160.10	ug/L		99
14) 3-chloropropene	7.183	41	372388	19.21	ug/L		94
15) Acetone	7.389	43	259911	55.85	ug/L		99
16) Methylene Chloride	7.336	84	230585	9.20	ug/L		94
17) Methyl Acetate	7.518	43	159405	12.17	ug/L	#	93
18) t-1,2-Dichloroethene	7.542	96	228051	17.07	ug/L	#	1
19) Methyl tert-butyl ether	7.624	73	586463	16.71	ug/L		96
20) Acetonitrile	8.006	41	398425	136.97	ug/L	#	60
21) Isopropyl ether	8.047	45	769298	16.92	ug/L		98
22) Chloroprene	8.270	88	238292	19.47	ug/L		93
23) 1,1-Dichloroethane	8.306	63	474217	17.17	ug/L		98
24) Acrylonitrile	8.376	53	397768	57.80	ug/L		94
25) Vinyl Acetate	8.535	43	2559621	92.65	ug/L	#	100
26) c-1,2-Dichloroethene	8.940	96	252680	16.41	ug/L		97
27) 2,2-Dichloropropane	9.069	77	358578	17.00	ug/L		99
28) Bromochloromethane	9.169	128	91814	16.86	ug/L		100
29) Cyclohexane	9.187	56	486603	18.19	ug/L		97
30) Chloroform	9.210	83	454400	17.54	ug/L		99
32) Dibromofluoromethane	9.422	113	785195	92.57	ug/L	#	89
33) 2-Butanone	9.539	72	109766	52.66	ug/L		72
34) 1,1,1-Trichloroethane	9.481	97	386747	18.48	ug/L		99
35) 1,1-Dichloropropene	9.598	75	374086	18.43	ug/L		100
36) Propionitrile	9.886	54	337913	136.04	ug/L	#	79
37) Methacrylonitrile	9.898	41	1621006	149.38	ug/L		94
38) Isobutyl Alcohol	9.898	43	378850	252.19	ug/L	#	97
40) Carbon Tetrachloride	9.404	117	288935	18.91	ug/L	#	94
41) Benzene	9.868	78	1081865	17.84	ug/L		100
42) 1,2-Dichloroethane	10.080	62	354638	18.31	ug/L		95
43) Trichloroethene	10.444	130	207547	16.10	ug/L	#	78
44) Methyl cyclohexane	10.444	83	512091	15.49	ug/L		96
45) Dibromomethane	10.903	93	150740	17.31	ug/L		88
46) 1,2-Dichloropropane	10.979	63	294721	16.53	ug/L		98
47) Bromodichloromethane	11.008	83	308117	18.62	ug/L		98
48) Methyl Methacrylate	11.067	69	177753	14.23	ug/L		98
49) 1,4-Dioxane	11.190	88	54003	194.27	ug/L		93
50) 2-Chloroethyl vinyl ether	11.484	63	766428	90.17	ug/L		99
51) C-1,3-Dichloropropene	11.602	75	413509	17.57	ug/L		98

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN007.D
Acq On : 19 Nov 2020 10:49 am
Operator : KKW
Sample : CAL5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 19 12:13:23 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

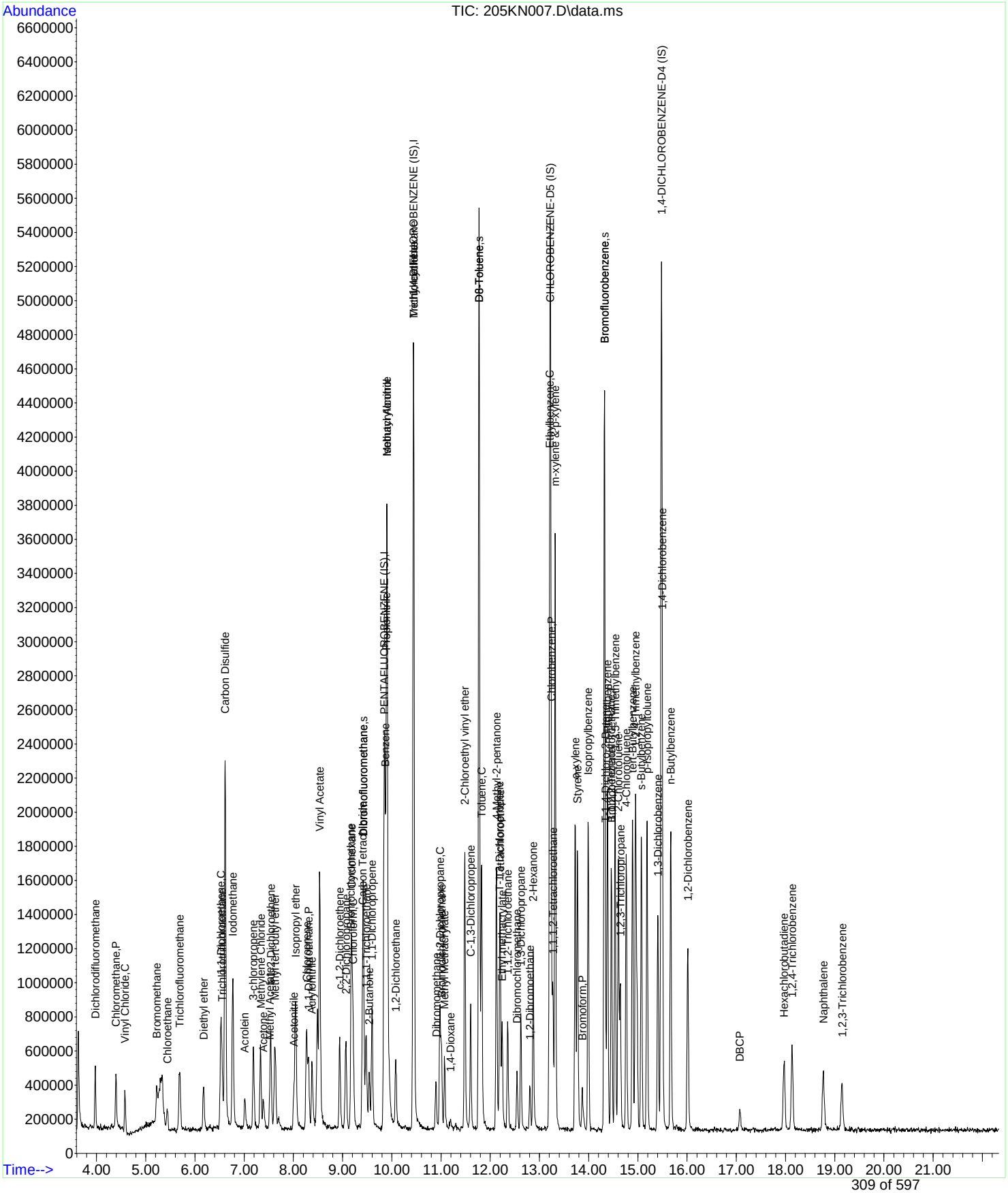
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.772	98	3630051	89.15 ug/L	97
54) 4-Methyl-2-pentanone	12.125	100	151280	62.35 ug/L	93
56) Toluene	11.825	92	673431	14.93 ug/L	98
57) T-1,3-Dichloropropene	12.189	75	352662	15.56 ug/L	98
58) Tetrachloroethene	12.201	164	182474	17.67 ug/L	95
59) Ethyl methacrylate	12.236	69	326927	15.34 ug/L	99
60) 1,1,2-Trichloroethane	12.354	97	209734	15.43 ug/L	98
61) Dibromochloromethane	12.542	129	171344	15.80 ug/L	95
62) 1,3-Dichloropropane	12.624	76	420496	16.42 ug/L	94
63) 1,2-Dibromoethane	12.806	107	205658	15.62 ug/L #	97
64) 2-Hexanone	12.871	43	754731	56.82 ug/L	96
65) Ethylbenzene	13.206	106	384105	16.52 ug/L	95
66) Chlorobenzene	13.241	112	650080	16.50 ug/L	96
67) 1,1,1,2-Tetrachloroethane	13.276	131	201298	16.44 ug/L	98
68) m-xylene & p-xylene	13.317	106	987588	35.44 ug/L	99
69) o-xylene	13.729	106	478796	16.67 ug/L	93
70) Styrene	13.770	104	839743	16.59 ug/L	99
71) Bromoform	13.870	173	95673	14.53 ug/L	99
72) Isopropylbenzene	13.987	105	1298038	17.44 ug/L	97
74) Bromofluorobenzene	14.322	95	1784745	96.84 ug/L #	80
75) n-Propylbenzene	14.381	91	1709278	18.32 ug/L	98
76) 1,1,2,2-Tetrachloroethane	14.457	83	309106	14.97 ug/L	98
77) 1,2,3-Trichloropropane	14.645	61	113773m	15.74 ug/L	
78) T-1,4-Dichloro-2-Butene	14.340	53	120576	15.65 ug/L #	52
80) Bromobenzene	14.463	156	265636	16.16 ug/L	94
81) 1,2,4-Trimethylbenzene	14.951	105	1242925	19.64 ug/L	97
82) 2-Chlorotoluene	14.604	91	1047191	19.04 ug/L	98
83) 4-Chlorotoluene	14.763	91	1083494	19.06 ug/L	99
84) tert-Butylbenzene	14.892	119	947987	17.64 ug/L	97
85) 1,3,5-Trimethylbenzene	14.539	105	1187445	18.70 ug/L	99
86) p-Isopropyltoluene	15.186	119	1166109	17.97 ug/L	100
87) s-Butylbenzene	15.068	105	1428842	17.67 ug/L	98
88) 1,3-Dichlorobenzene	15.409	146	521603	17.12 ug/L	90
89) 1,4-Dichlorobenzene	15.497	146	543117	16.49 ug/L #	70
90) n-Butylbenzene	15.668	91	1248886	18.71 ug/L	97
91) 1,2-Dichlorobenzene	16.014	146	464540	15.93 ug/L	89
92) DBCP	17.072	157	34505	10.24 ug/L	98
93) Hexachlorobutadiene	17.971	225	103201	11.85 ug/L	95
94) 1,2,4-Trichlorobenzene	18.135	180	203777	13.12 ug/L #	94
95) Naphthalene	18.770	128	436068	10.81 ug/L	100
96) 1,2,3-Trichlorobenzene	19.152	180	123784	9.90 ug/L #	87

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN007.D
Acq On : 19 Nov 2020 10:49 am
Operator : KKW
Sample : CAL5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 19 12:13:23 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN008.D
Acq On : 19 Nov 2020 11:20 am
Operator : KKW
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 19 12:13:26 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.845	168	1217120	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.438	114	2353990	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.217	82	1612072	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.474	152	1366836	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.416	113	678489	79.07	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 158.14%#				
52) D8-Toluene	11.772	98	3101508	75.41	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 150.82%#				
73) Bromofluorobenzene	14.322	95	1494289	79.44	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 158.88%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.969	85	836993	49.35	ug/L		99
3) Chloromethane	4.392	50	805584	35.67	ug/L		97
4) Vinyl Chloride	4.574	62	752003	41.53	ug/L		98
5) Bromomethane	5.221	94	219770	62.38	ug/L		90
6) Chloroethane	5.421	64	316629	40.47	ug/L		96
7) Trichlorofluoromethane	5.679	101	965285	50.35	ug/L		99
8) Diethyl ether	6.173	59	522992	40.63	ug/L		98
9) 1,1-Dichloroethene	6.519	96	546417	43.90	ug/L		95
10) Trichlorotrifluoroethane	6.543	151	372819	44.57	ug/L		94
11) Acrolein	7.007	56	1204139	313.84	ug/L		99
12) Iodomethane	6.766	142	2879969	340.42	ug/L	#	90
13) Carbon Disulfide	6.613	76	8649511	391.72	ug/L		99
14) 3-chloropropene	7.183	41	1037538	52.90	ug/L		97
15) Acetone	7.389	43	709256	150.65	ug/L		98
16) Methylene Chloride	7.330	84	640448	25.25	ug/L		100
17) Methyl Acetate	7.512	43	441064	33.30	ug/L	#	96
18) t-1,2-Dichloroethene	7.542	96	633261	46.87	ug/L	#	1
19) Methyl tert-butyl ether	7.624	73	1725407	48.58	ug/L		96
20) Acetonitrile	8.006	41	1168765	397.17	ug/L		98
21) Isopropyl ether	8.047	45	2215010	48.14	ug/L		99
22) Chloroprene	8.264	88	614319	49.62	ug/L		97
23) 1,1-Dichloroethane	8.305	63	1349675	48.29	ug/L		100
24) Acrylonitrile	8.376	53	2151787	309.07	ug/L		99
25) Vinyl Acetate	8.529	43	6808531	243.61	ug/L	#	100
26) c-1,2-Dichloroethene	8.940	96	700871	44.98	ug/L		95
27) 2,2-Dichloropropane	9.063	77	1076528	50.46	ug/L		98
28) Bromochloromethane	9.175	128	235594	42.76	ug/L		95
29) Cyclohexane	9.181	56	1386813	51.24	ug/L		96
30) Chloroform	9.210	83	1255758	47.91	ug/L		99
32) Dibromofluoromethane	9.416	113	678489	79.07	ug/L	#	89
33) 2-Butanone	9.539	72	353229	167.51	ug/L		95
34) 1,1,1-Trichloroethane	9.481	97	1088150	51.41	ug/L		99
35) 1,1-Dichloropropene	9.592	75	1057919	51.52	ug/L		98
36) Propionitrile	9.892	54	847412	337.21	ug/L	#	73
37) Methacrylonitrile	9.904	41	4240505	386.26	ug/L		95
38) Isobutyl Alcohol	9.898	43	1088288	716.08	ug/L	#	89
40) Carbon Tetrachloride	9.404	117	844268m	54.69	ug/L		
41) Benzene	9.868	78	2829189	46.19	ug/L		99
42) 1,2-Dichloroethane	10.080	62	930071	47.54	ug/L		96
43) Trichloroethene	10.444	130	575171	44.17	ug/L		95
44) Methyl cyclohexane	10.438	83	1343230	40.23	ug/L		98
45) Dibromomethane	10.891	93	399997	45.46	ug/L		91
46) 1,2-Dichloropropane	10.973	63	793038	44.02	ug/L		97
47) Bromodichloromethane	11.008	83	887527	53.08	ug/L		99
48) Methyl Methacrylate	11.073	69	486732	38.58	ug/L		99
49) 1,4-Dioxane	11.190	88	137914	491.15	ug/L		95
50) 2-Chloroethyl vinyl ether	11.478	63	2074511	241.63	ug/L		99
51) C-1,3-Dichloropropene	11.602	75	1213246	51.02	ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN008.D
Acq On : 19 Nov 2020 11:20 am
Operator : KKW
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 19 12:13:26 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

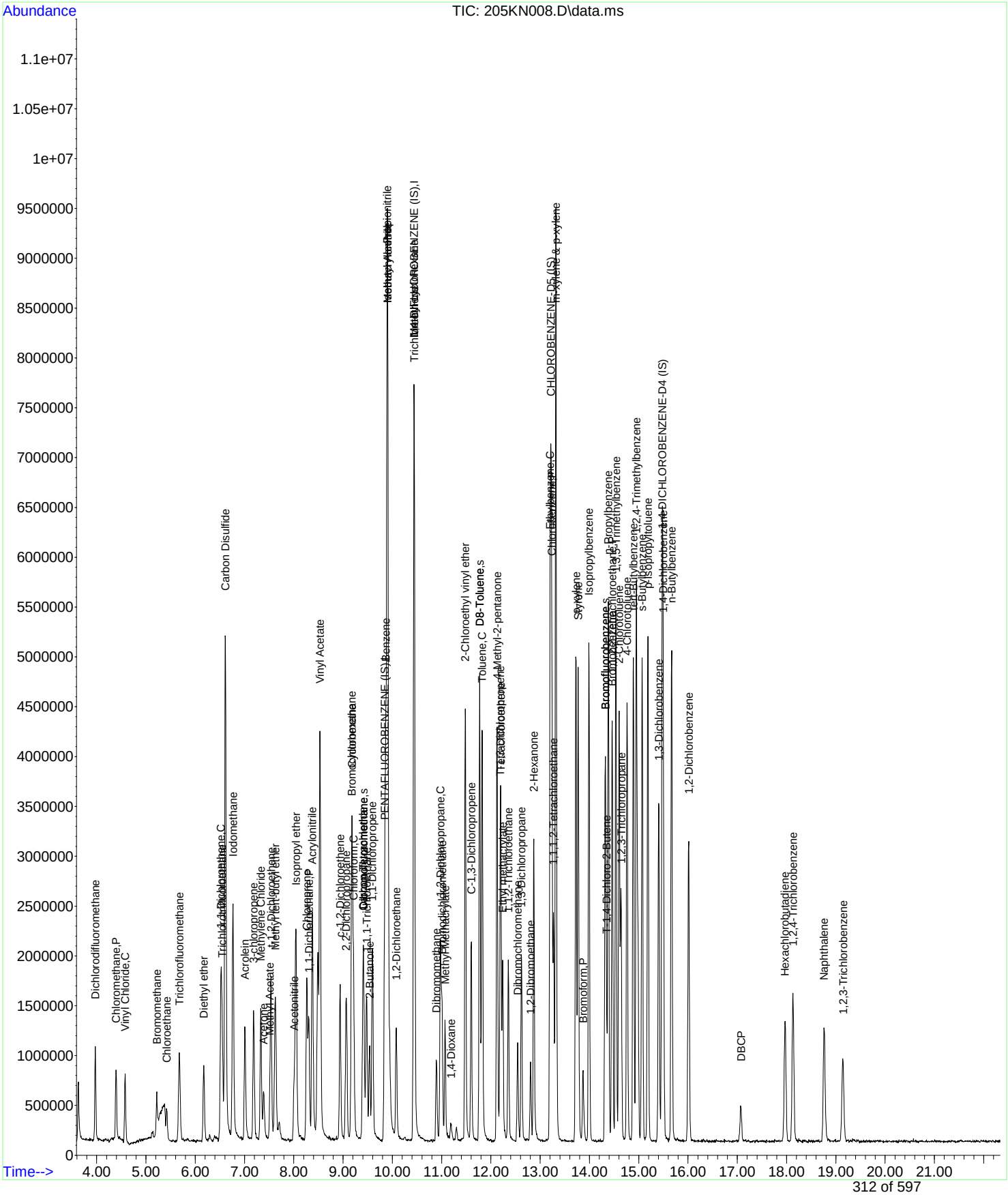
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.772	98	3099476	75.36	ug/L		99
54) 4-Methyl-2-pentanone	12.125	100	395380	161.32	ug/L		95
56) Toluene	11.819	92	1814837	39.43	ug/L		99
57) T-1,3-Dichloropropene	12.189	75	980489	42.40	ug/L		96
58) Tetrachloroethene	12.201	164	452738	42.95	ug/L		97
59) Ethyl methacrylate	12.236	69	923118	42.43	ug/L		99
60) 1,1,2-Trichloroethane	12.354	97	571249	41.17	ug/L		98
61) Dibromochloromethane	12.542	129	522815	47.25	ug/L		99
62) 1,3-Dichloropropane	12.618	76	1122001	42.93	ug/L		95
63) 1,2-Dibromoethane	12.806	107	593930	44.20	ug/L		96
64) 2-Hexanone	12.871	43	2057085	151.75	ug/L		96
65) Ethylbenzene	13.200	106	1029541	43.40	ug/L		98
66) Chlorobenzene	13.235	112	1747854	43.46	ug/L		98
67) 1,1,1,2-Tetrachloroethane	13.270	131	572785	45.85	ug/L		99
68) m-xylene & p-xylene	13.317	106	2555424	89.85	ug/L		99
69) o-xylene	13.729	106	1356099	46.27	ug/L		98
70) Styrene	13.770	104	2212182	42.81	ug/L		98
71) Bromoform	13.870	173	319258	47.50	ug/L		100
72) Isopropylbenzene	13.987	105	3552836	46.76	ug/L		97
74) Bromofluorobenzene	14.322	95	1494289	79.44	ug/L	#	83
75) n-Propylbenzene	14.381	91	4650659	48.83	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.463	83	853912	40.52	ug/L		98
77) 1,2,3-Trichloropropane	14.645	61	301262m	40.84	ug/L		
78) T-1,4-Dichloro-2-Butene	14.346	53	303268	38.58	ug/L	#	82
80) Bromobenzene	14.457	156	703749	40.57	ug/L		93
81) 1,2,4-Trimethylbenzene	14.951	105	3364816	50.40	ug/L		99
82) 2-Chlorotoluene	14.604	91	2804184	48.32	ug/L		98
83) 4-Chlorotoluene	14.763	91	2961213	49.37	ug/L		99
84) tert-Butylbenzene	14.892	119	2540489	44.80	ug/L		94
85) 1,3,5-Trimethylbenzene	14.539	105	3288125	49.10	ug/L		99
86) p-Isopropyltoluene	15.186	119	3248592	47.46	ug/L		97
87) s-Butylbenzene	15.068	105	3950643	46.31	ug/L		99
88) 1,3-Dichlorobenzene	15.409	146	1470644	45.76	ug/L		94
89) 1,4-Dichlorobenzene	15.497	146	1490431	42.91	ug/L		92
90) n-Butylbenzene	15.668	91	3454884	49.07	ug/L		100
91) 1,2-Dichlorobenzene	16.014	146	1370743	44.57	ug/L		97
92) DBCP	17.078	157	106714	30.01	ug/L		97
93) Hexachlorobutadiene	17.965	225	314949	34.28	ug/L		97
94) 1,2,4-Trichlorobenzene	18.129	180	657865	40.15	ug/L		97
95) Naphthalene	18.758	128	1383722	32.51	ug/L		99
96) 1,2,3-Trichlorobenzene	19.146	180	388718	29.46	ug/L		93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN008.D
Acq On : 19 Nov 2020 11:20 am
Operator : KKW
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 19 12:13:26 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN009.D
Acq On : 19 Nov 2020 11:51 am
Operator : KKW
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 19 12:26:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.845	168	1208553	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.438	114	2324329	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.217	82	1614423	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.480	152	1389872	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.416	113	859067	100.82	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 201.64%#				
52) D8-Toluene	11.772	98	3914979	96.40	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 192.80%#				
73) Bromofluorobenzene	14.322	95	1962092	104.16	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 208.32%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.969	85	1371350	81.43	ug/L		100
3) Chloromethane	4.392	50	1458184	65.02	ug/L		98
4) Vinyl Chloride	4.574	62	1327646	73.85	ug/L		97
5) Bromomethane	5.215	94	396760	113.42	ug/L		97
6) Chloroethane	5.421	64	338272	43.55	ug/L		97
7) Trichlorofluoromethane	5.667	101	1605213	84.32	ug/L		99
8) Diethyl ether	6.173	59	882717	69.07	ug/L		99
9) 1,1-Dichloroethene	6.519	96	899184	72.75	ug/L		96
10) Trichlorotrifluoroethane	6.543	151	605807	72.94	ug/L		94
11) Acrolein	7.007	56	1957408	513.78	ug/L		98
12) Iodomethane	6.766	142	4503159	536.06	ug/L	#	90
13) Carbon Disulfide	6.607	76	13463864	614.08	ug/L		99
14) 3-chloropropene	7.183	41	1631725	83.79	ug/L		98
15) Acetone	7.389	43	1177504	251.89	ug/L		97
16) Methylene Chloride	7.330	84	1040221	41.30	ug/L		99
17) Methyl Acetate	7.512	43	745030	56.64	ug/L		98
18) t-1,2-Dichloroethene	7.536	96	1051524	78.37	ug/L	#	1
19) Methyl tert-butyl ether	7.624	73	2822105	80.03	ug/L		95
20) Acetonitrile	8.006	41	1944065	665.32	ug/L		98
21) Isopropyl ether	8.047	45	3700268	81.00	ug/L		99
22) Chloroprene	8.258	88	983163	79.98	ug/L		98
23) 1,1-Dichloroethane	8.305	63	2193522	79.05	ug/L		99
24) Acrylonitrile	8.376	53	3548204	513.26	ug/L		99
25) Vinyl Acetate	8.529	43	10869613	391.68	ug/L	#	100
26) c-1,2-Dichloroethene	8.940	96	1163928	75.23	ug/L		96
27) 2,2-Dichloropropane	9.063	77	1802386	85.09	ug/L		98
28) Bromochloromethane	9.175	128	336411	61.49	ug/L		86
29) Cyclohexane	9.181	56	2224726	82.79	ug/L		96
30) Chloroform	9.210	83	2084702	80.10	ug/L		99
32) Dibromofluoromethane	9.416	113	859067	100.82	ug/L	#	89
33) 2-Butanone	9.533	72	589997	281.78	ug/L		98
34) 1,1,1-Trichloroethane	9.475	97	1804040	85.83	ug/L		98
35) 1,1-Dichloropropene	9.592	75	1731510	84.93	ug/L		98
36) Propionitrile	9.886	54	1385608	555.28	ug/L	#	78
37) Methacrylonitrile	9.904	41	6602548	605.68	ug/L		98
38) Isobutyl Alcohol	9.898	43	1741977	1154.32	ug/L	#	92
40) Carbon Tetrachloride	9.404	117	1400654m	91.88	ug/L		
41) Benzene	9.868	78	4588735	75.86	ug/L		100
42) 1,2-Dichloroethane	10.080	62	1583942	82.00	ug/L		96
43) Trichloroethene	10.444	130	922489	71.75	ug/L		98
44) Methyl cyclohexane	10.444	83	2157736	65.44	ug/L		97
45) Dibromomethane	10.897	93	662363	76.24	ug/L		94
46) 1,2-Dichloropropane	10.979	63	1365225	76.75	ug/L		98
47) Bromodichloromethane	11.008	83	1507069	91.29	ug/L		98
48) Methyl Methacrylate	11.073	69	784575	62.98	ug/L		97
49) 1,4-Dioxane	11.196	88	226181	815.78	ug/L		90
50) 2-Chloroethyl vinyl ether	11.484	63	3267574	385.45	ug/L		98
51) C-1,3-Dichloropropene	11.602	75	2042491	87.00	ug/L		97

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN009.D
Acq On : 19 Nov 2020 11:51 am
Operator : KKW
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 19 12:26:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

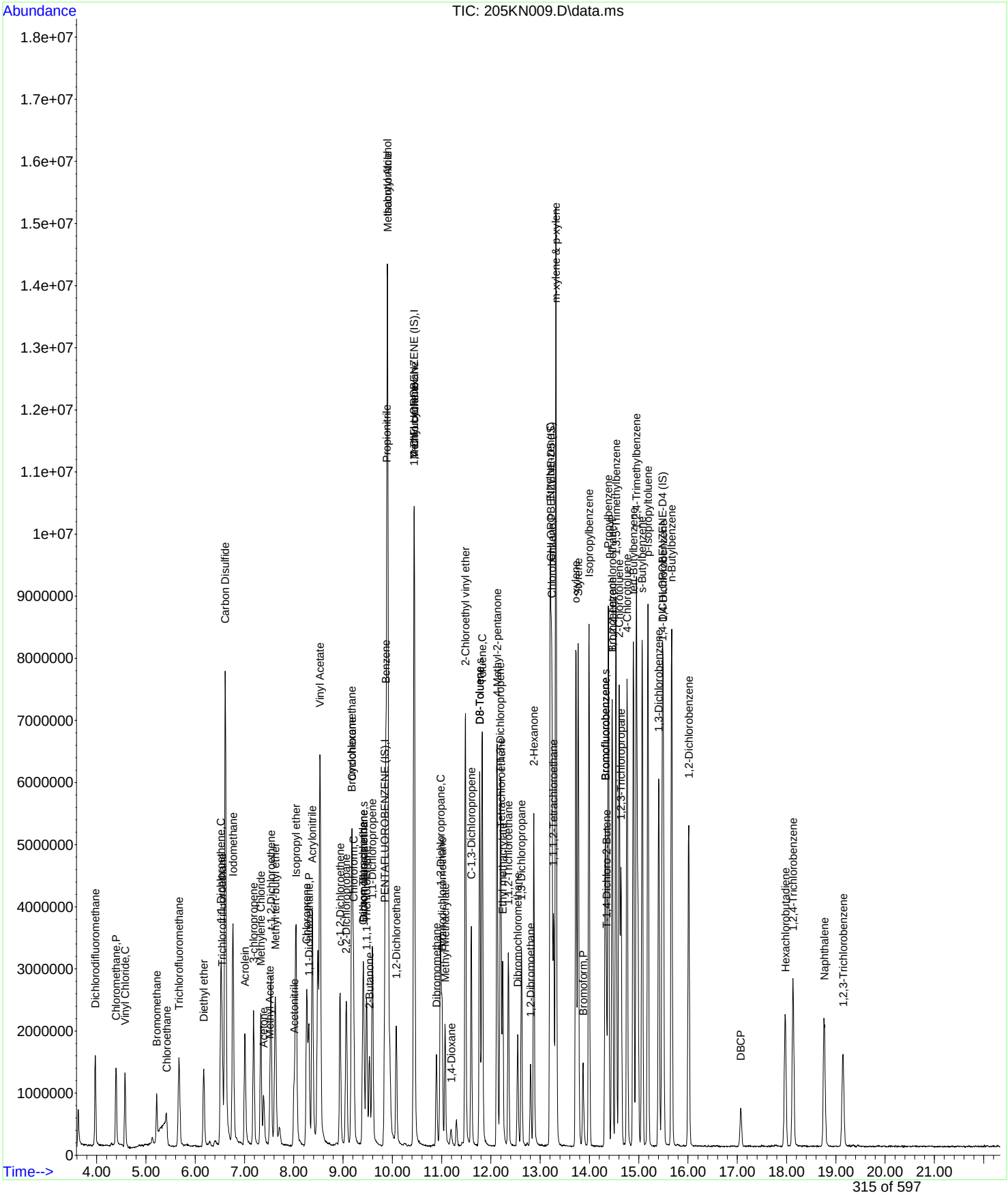
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.772	98	3914979	96.40	ug/L		98
54) 4-Methyl-2-pentanone	12.125	100	642904	265.66	ug/L		98
56) Toluene	11.825	92	2957735	64.17	ug/L		99
57) T-1,3-Dichloropropene	12.189	75	1705784	73.65	ug/L		99
58) Tetrachloroethene	12.207	164	766005	72.57	ug/L		98
59) Ethyl methacrylate	12.236	69	1505263	69.09	ug/L		99
60) 1,1,2-Trichloroethane	12.354	97	953126	68.60	ug/L		99
61) Dibromochloromethane	12.542	129	973442	87.85	ug/L		98
62) 1,3-Dichloropropane	12.618	76	1926010	73.59	ug/L		96
63) 1,2-Dibromoethane	12.806	107	977066	72.60	ug/L		100
64) 2-Hexanone	12.871	43	3425404	252.32	ug/L		98
65) Ethylbenzene	13.206	106	1705057	71.77	ug/L		99
66) Chlorobenzene	13.235	112	2931384	72.78	ug/L		100
67) 1,1,1,2-Tetrachloroethane	13.270	131	967791	77.35	ug/L		98
68) m-xylene & p-xylene	13.317	106	4131704	145.06	ug/L		98
69) o-xylene	13.723	106	2228011	75.92	ug/L		96
70) Styrene	13.770	104	3788012	73.20	ug/L		98
71) Bromoform	13.870	173	558705	83.00	ug/L		95
72) Isopropylbenzene	13.993	105	5873794	77.19	ug/L		97
74) Bromofluorobenzene	14.322	95	1962092	104.16	ug/L	#	83
75) n-Propylbenzene	14.381	91	7786988	81.65	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.463	83	1447067	68.57	ug/L		96
77) 1,2,3-Trichloropropane	14.639	61	487875m	66.05	ug/L		
78) T-1,4-Dichloro-2-Butene	14.346	53	531782	67.54	ug/L		93
80) Bromobenzene	14.463	156	1203554	68.24	ug/L		93
81) 1,2,4-Trimethylbenzene	14.951	105	5665226	83.44	ug/L		99
82) 2-Chlorotoluene	14.604	91	4821335	81.71	ug/L		98
83) 4-Chlorotoluene	14.763	91	5008377	82.12	ug/L		98
84) tert-Butylbenzene	14.892	119	4383506	76.02	ug/L		97
85) 1,3,5-Trimethylbenzene	14.539	105	5448477	80.00	ug/L		99
86) p-Isopropyltoluene	15.186	119	5524575	79.38	ug/L		98
87) s-Butylbenzene	15.068	105	6633423	76.47	ug/L		99
88) 1,3-Dichlorobenzene	15.403	146	2520522	77.12	ug/L		92
89) 1,4-Dichlorobenzene	15.497	146	2541465	71.95	ug/L		97
90) n-Butylbenzene	15.668	91	5860785	81.86	ug/L		99
91) 1,2-Dichlorobenzene	16.014	146	2382455	76.18	ug/L		97
92) DBCP	17.072	157	190666	52.73	ug/L		100
93) Hexachlorobutadiene	17.977	225	565022	60.48	ug/L		98
94) 1,2,4-Trichlorobenzene	18.129	180	1164591	69.90	ug/L		97
95) Naphthalene	18.764	128	2466369	56.99	ug/L	#	85
96) 1,2,3-Trichlorobenzene	19.146	180	710050	52.92	ug/L		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN009.D
Acq On : 19 Nov 2020 11:51 am
Operator : KKW
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 19 12:26:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN010.D
Acq On : 19 Nov 2020 12:22 pm
Operator : KKW
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 19 12:45:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.845	168	1285587	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.438	114	2302813	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.218	82	1664856	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.480	152	1435917	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.422	113	933861	103.03	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 206.06%#				
52) D8-Toluene	11.772	98	4337450	107.80	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 215.60%#				
73) Bromofluorobenzene	14.322	95	2108455	108.54	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 217.08%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.969	85	1729312	96.53	ug/L		99
3) Chloromethane	4.392	50	1884981	79.02	ug/L		99
4) Vinyl Chloride	4.575	62	1709609	89.39	ug/L		97
5) Bromomethane	5.221	94	562300	151.12	ug/L		92
6) Chloroethane	5.427	64	330195	39.96	ug/L		93
7) Trichlorofluoromethane	5.667	101	2094954	103.45	ug/L		99
8) Diethyl ether	6.173	59	1111643	81.77	ug/L		100
9) 1,1-Dichloroethene	6.519	96	1173403	89.25	ug/L		99
10) Trichlorotrifluoroethane	6.543	151	786588	89.03	ug/L		98
11) Acrolein	7.007	56	2396965	591.46	ug/L		98
12) Iodomethane	6.766	142	5907666	661.12	ug/L	#	93
13) Carbon Disulfide	6.608	76	16659424	714.30	ug/L		99
14) 3-chloropropene	7.183	41	2222281	107.28	ug/L		97
15) Acetone	7.389	43	1481571	297.94	ug/L		96
16) Methylene Chloride	7.330	84	1324748	49.44	ug/L		99
17) Methyl Acetate	7.512	43	920388	65.78	ug/L	#	94
18) t-1,2-Dichloroethene	7.536	96	1331120	93.26	ug/L	#	1
19) Methyl tert-butyl ether	7.624	73	3435059	91.57	ug/L		95
20) Acetonitrile	8.012	41	2370312	762.58	ug/L		99
21) Isopropyl ether	8.041	45	4624660	95.17	ug/L		99
22) Chloroprene	8.259	88	1285297	98.29	ug/L		99
23) 1,1-Dichloroethane	8.306	63	2773122	93.94	ug/L		99
24) Acrylonitrile	8.376	53	4303032	585.15	ug/L		98
25) Vinyl Acetate	8.529	43	13302716	450.63	ug/L	#	100
26) c-1,2-Dichloroethene	8.940	96	1421324	86.36	ug/L		92
27) 2,2-Dichloropropane	9.064	77	2243269	99.55	ug/L		98
28) Bromochloromethane	9.175	128	412367	70.85	ug/L		94
29) Cyclohexane	9.181	56	2822334	98.73	ug/L		96
30) Chloroform	9.210	83	2558648	92.42	ug/L		100
32) Dibromofluoromethane	9.422	113	933861	103.03	ug/L	#	90
33) 2-Butanone	9.534	72	741450	332.90	ug/L		97
34) 1,1,1-Trichloroethane	9.475	97	2246059	100.46	ug/L		98
35) 1,1-Dichloropropene	9.598	75	2161746	99.68	ug/L		97
36) Propionitrile	9.892	54	1676766	631.70	ug/L	#	75
37) Methacrylonitrile	9.904	41	8006829	690.49	ug/L		97
38) Isobutyl Alcohol	9.898	43	2112005	1315.66	ug/L	#	92
40) Carbon Tetrachloride	9.404	117	1755533m	116.24	ug/L		
41) Benzene	9.868	78	5766714	96.23	ug/L		99
42) 1,2-Dichloroethane	10.080	62	1930831	100.90	ug/L		98
43) Trichloroethene	10.444	130	1169448	91.81	ug/L		97
44) Methyl cyclohexane	10.444	83	2631438	80.56	ug/L		97
45) Dibromomethane	10.891	93	789742	91.75	ug/L		93
46) 1,2-Dichloropropane	10.979	63	1695005	96.18	ug/L		99
47) Bromodichloromethane	11.008	83	1894020	115.80	ug/L		99
48) Methyl Methacrylate	11.067	69	994020	80.53	ug/L		98
49) 1,4-Dioxane	11.191	88	257887	938.82	ug/L		96
50) 2-Chloroethyl vinyl ether	11.484	63	4011514	477.62	ug/L		100
51) C-1,3-Dichloropropene	11.602	75	2565944	110.31	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN010.D
Acq On : 19 Nov 2020 12:22 pm
Operator : KKW
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 19 12:45:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

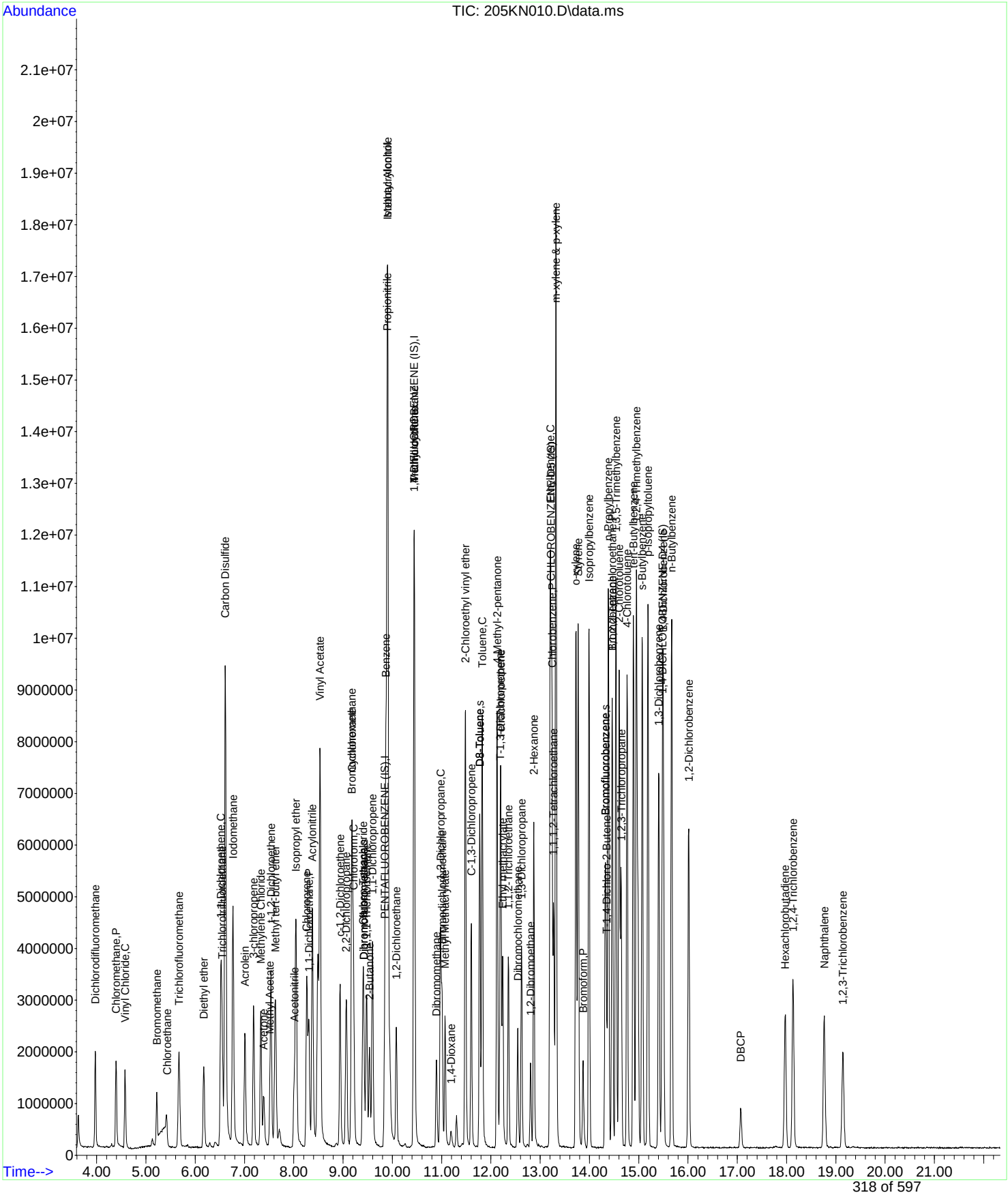
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.772	98	4337573	107.80 ug/L	98
54) 4-Methyl-2-pentanone	12.125	100	775468	323.43 ug/L	93
56) Toluene	11.825	92	3691514	77.66 ug/L	99
57) T-1,3-Dichloropropene	12.189	75	2097211	87.81 ug/L	98
58) Tetrachloroethene	12.201	164	983418	90.35 ug/L	97
59) Ethyl methacrylate	12.236	69	1865494	83.03 ug/L	98
60) 1,1,2-Trichloroethane	12.354	97	1193110	83.27 ug/L	98
61) Dibromochloromethane	12.548	129	1209740	105.87 ug/L	99
62) 1,3-Dichloropropane	12.624	76	2375424	88.01 ug/L	98
63) 1,2-Dibromoethane	12.806	107	1199542	86.44 ug/L	99
64) 2-Hexanone	12.871	43	4248110	303.44 ug/L	98
65) Ethylbenzene	13.206	106	2150547	87.78 ug/L	100
66) Chlorobenzene	13.241	112	3615945	87.06 ug/L	100
67) 1,1,1,2-Tetrachloroethane	13.270	131	1239896	96.10 ug/L	99
68) m-xylene & p-xylene	13.317	106	5107094	173.87 ug/L	95
69) o-xylene	13.723	106	2739594	90.52 ug/L	96
70) Styrene	13.770	104	4673554	87.58 ug/L	98
71) Bromoform	13.870	173	749514	107.97 ug/L	99
72) Isopropylbenzene	13.993	105	7193576	91.67 ug/L	98
74) Bromofluorobenzene	14.322	95	2108455	108.54 ug/L	84
75) n-Propylbenzene	14.381	91	9558022	97.18 ug/L	99
76) 1,1,2,2-Tetrachloroethane	14.463	83	1725499	79.29 ug/L	97
77) 1,2,3-Trichloropropane	14.645	61	623122m	81.80 ug/L	
78) T-1,4-Dichloro-2-Butene	14.346	53	657623	81.00 ug/L #	91
80) Bromobenzene	14.463	156	1499222	82.28 ug/L	95
81) 1,2,4-Trimethylbenzene	14.951	105	6937425	98.90 ug/L	99
82) 2-Chlorotoluene	14.604	91	5882946	96.50 ug/L	99
83) 4-Chlorotoluene	14.763	91	6159101	97.75 ug/L	99
84) tert-Butylbenzene	14.892	119	5367420	90.10 ug/L	96
85) 1,3,5-Trimethylbenzene	14.540	105	6856962	97.46 ug/L	99
86) p-Isopropyltoluene	15.186	119	6748507	93.85 ug/L	98
87) s-Butylbenzene	15.068	105	8074381	90.10 ug/L	99
88) 1,3-Dichlorobenzene	15.403	146	3220656	95.38 ug/L	96
89) 1,4-Dichlorobenzene	15.497	146	3220603	88.26 ug/L	97
90) n-Butylbenzene	15.668	91	7147393	96.63 ug/L	100
91) 1,2-Dichlorobenzene	16.014	146	2892946	89.54 ug/L	97
92) DBCP	17.072	157	236625	63.35 ug/L	99
93) Hexachlorobutadiene	17.971	225	722622	74.88 ug/L	98
94) 1,2,4-Trichlorobenzene	18.130	180	1395430	81.07 ug/L	96
95) Naphthalene	18.764	128	2976771	66.58 ug/L #	89
96) 1,2,3-Trichlorobenzene	19.140	180	880580	63.53 ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN010.D
Acq On : 19 Nov 2020 12:22 pm
Operator : KKW
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 19 12:45:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN012.D
Acq On : 19 Nov 2020 1:24 pm
Operator : KKW
Sample : SCV
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Nov 20 07:34:48 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 13:02:55 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.851	168	1335071	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2438645	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.223	82	1652574	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.480	152	1403353	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.422	113	685210	49.76	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 99.52%				
52) D8-Toluene	11.772	98	3142816	52.18	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 104.36%				
73) Bromofluorobenzene	14.322	95	1543298	52.29	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 104.58%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.975	85	354802	20.59	ug/L		99
3) Chloromethane	4.392	50	396453	19.98	ug/L		99
4) Vinyl Chloride	4.574	62	333797	20.72	ug/L		99
5) Bromomethane	5.221	94	110552	24.95	ug/L	#	94
6) Chloroethane	5.432	64	153751	21.69	ug/L		99
7) Trichlorofluoromethane	5.685	101	412512	20.58	ug/L		98
8) Diethyl ether	6.173	59	554603	49.76	ug/L		97
9) 1,1-Dichloroethene	6.525	96	564914	49.01	ug/L		93
10) Trichlorotrifluoroethane	6.549	151	394789	51.14	ug/L		94
11) Acrolein	7.007	56	547444	236.15	ug/L		99
12) Iodomethane	6.772	142	594142	48.06	ug/L		94
13) Carbon Disulfide	6.613	76	1963334	52.00	ug/L		98
14) 3-chloropropene	7.189	41	1102445	48.40	ug/L		95
15) Acetone	7.389	43	750521	239.27	ug/L		97
16) Methylene Chloride	7.336	84	659865	47.21	ug/L		98
17) Methyl Acetate	7.518	43	372876	38.04	ug/L		94
18) t-1,2-Dichloroethene	7.542	96	638351	47.86	ug/L		99
19) Methyl tert-butyl ether	7.630	73	1657107	49.09	ug/L		99
20) Acetonitrile	8.041	41	785041	308.73	ug/L	#	90
21) Isopropyl ether	8.047	45	2283591	50.97	ug/L		98
22) Chloroprene	8.264	88	634995	49.71	ug/L		93
23) 1,1-Dichloroethane	8.311	63	1308548	47.70	ug/L		99
24) Acrylonitrile	8.376	53	249323	60.18	ug/L	#	99
25) Vinyl Acetate	8.535	43	1300608	46.27	ug/L		100
26) c-1,2-Dichloroethene	8.940	96	705586	49.95	ug/L		96
27) 2,2-Dichloropropane	9.063	77	1095632	46.78	ug/L		99
28) Bromochloromethane	9.175	128	266834	53.48	ug/L		96
29) Cyclohexane	9.181	56	1373332	46.02	ug/L		96
30) Chloroform	9.216	83	1281179	48.90	ug/L		100
32) Dibromofluoromethane	9.422	113	685210	49.76	ug/L	#	91
33) 2-Butanone	9.533	72	375785	245.67	ug/L		89
34) 1,1,1-Trichloroethane	9.481	97	1094873	50.62	ug/L		99
35) 1,1-Dichloropropene	9.598	75	1049130	47.68	ug/L		99
36) Propionitrile	9.898	54	103230	54.97	ug/L	#	1
37) Methacrylonitrile	9.904	41	623847	67.28	ug/L	#	82
38) Isobutyl Alcohol	9.898	43	631905	563.50	ug/L	#	72
40) Carbon Tetrachloride	9.410	117	1013178	55.46	ug/L		87
41) Benzene	9.868	78	2985915	53.56	ug/L		99
42) 1,2-Dichloroethane	10.080	62	932453	45.85	ug/L		96
43) Trichloroethene	10.444	130	605829	53.80	ug/L		95
44) Methyl cyclohexane	10.444	83	1328496	47.49	ug/L		98
45) Dibromomethane	10.897	93	387497	48.92	ug/L		94
46) 1,2-Dichloropropane	10.979	63	828991	49.81	ug/L		96
47) Bromodichloromethane	11.008	83	913394	49.93	ug/L		99
48) Methyl Methacrylate	11.073	69	508778	49.14	ug/L		96
49) 1,4-Dioxane	11.190	88	124499	880.66	ug/L		100
50) 2-Chloroethyl vinyl ether	11.484	63	2098051	267.05	ug/L		99
51) C-1,3-Dichloropropene	11.602	75	1207357	48.81	ug/L		100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN012.D
Acq On : 19 Nov 2020 1:24 pm
Operator : KKW
Sample : SCV
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Nov 20 07:34:48 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 13:02:55 2020
Response via : Initial Calibration

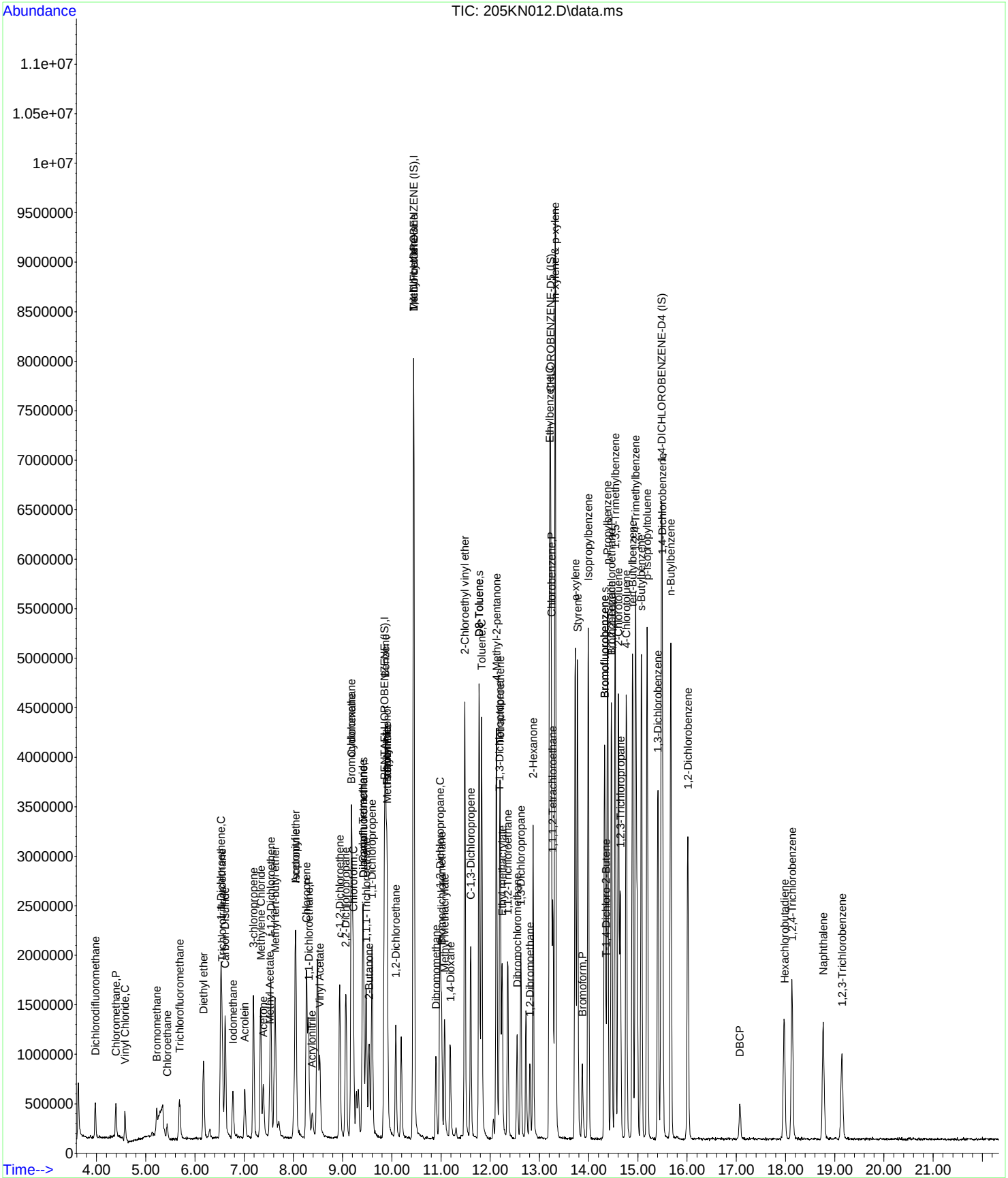
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.772	98	3142816	52.18	ug/L		97
54) 4-Methyl-2-pentanone	12.125	100	383259	231.64	ug/L		95
56) Toluene	11.825	92	1866440	52.93	ug/L		98
57) T-1,3-Dichloropropene	12.189	75	1033154	49.24	ug/L		99
58) Tetrachloroethene	12.201	164	470073	48.46	ug/L		97
59) Ethyl methacrylate	12.242	69	931908	49.65	ug/L		99
60) 1,1,2-Trichloroethane	12.354	97	593568	49.82	ug/L		99
61) Dibromochloromethane	12.548	129	570220	51.92	ug/L		99
62) 1,3-Dichloropropane	12.624	76	1136370	51.51	ug/L		97
63) 1,2-Dibromoethane	12.806	107	573185	51.69	ug/L		93
64) 2-Hexanone	12.871	43	2041750	251.42	ug/L		100
65) Ethylbenzene	13.206	106	1045939	48.81	ug/L		98
66) Chlorobenzene	13.241	112	1837265	51.72	ug/L		99
67) 1,1,1,2-Tetrachloroethane	13.270	131	607147	57.12	ug/L		98
68) m-xylene & p-xylene	13.317	106	2627132	105.62	ug/L		99
69) o-xylene	13.729	106	1344899	52.72	ug/L		99
70) Styrene	13.776	104	2296941	55.15	ug/L		99
71) Bromoform	13.870	173	332797	51.92	ug/L		100
72) Isopropylbenzene	13.993	105	3652042	54.39	ug/L		99
74) Bromofluorobenzene	14.322	95	1543298	52.29	ug/L		85
75) n-Propylbenzene	14.381	91	4786801	53.33	ug/L		100
76) 1,1,2,2-Tetrachloroethane	14.463	83	859359	51.62	ug/L		98
77) 1,2,3-Trichloropropane	14.645	61	288427m	47.38	ug/L		
78) T-1,4-Dichloro-2-Butene	14.351	53	318781	48.51	ug/L		95
80) Bromobenzene	14.463	156	749613	53.05	ug/L		96
81) 1,2,4-Trimethylbenzene	14.951	105	3477379	52.93	ug/L		99
82) 2-Chlorotoluene	14.604	91	2933062	53.11	ug/L		99
83) 4-Chlorotoluene	14.763	91	3049254	52.88	ug/L		99
84) tert-Butylbenzene	14.892	119	2595739	52.01	ug/L		96
85) 1,3,5-Trimethylbenzene	14.539	105	3405478	53.50	ug/L		100
86) p-Isopropyltoluene	15.186	119	3361992	54.23	ug/L		98
87) s-Butylbenzene	15.068	105	4051789	54.26	ug/L		99
88) 1,3-Dichlorobenzene	15.403	146	1547832	54.68	ug/L		99
89) 1,4-Dichlorobenzene	15.497	146	1537044	50.65	ug/L		98
90) n-Butylbenzene	15.668	91	3443258	53.41	ug/L		99
91) 1,2-Dichlorobenzene	16.014	146	1386436	51.89	ug/L		98
92) DBCP	17.072	157	121400	54.71	ug/L		84
93) Hexachlorobutadiene	17.983	225	335097	51.35	ug/L		98
94) 1,2,4-Trichlorobenzene	18.135	180	663064	49.00	ug/L		98
95) Naphthalene	18.764	128	1360689	47.72	ug/L	#	88
96) 1,2,3-Trichlorobenzene	19.146	180	408536	50.47	ug/L		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN012.D
Acq On : 19 Nov 2020 1:24 pm
Operator : KKW
Sample : SCV
Misc :
ALS Vial : 11 Sample Multiplier: 1

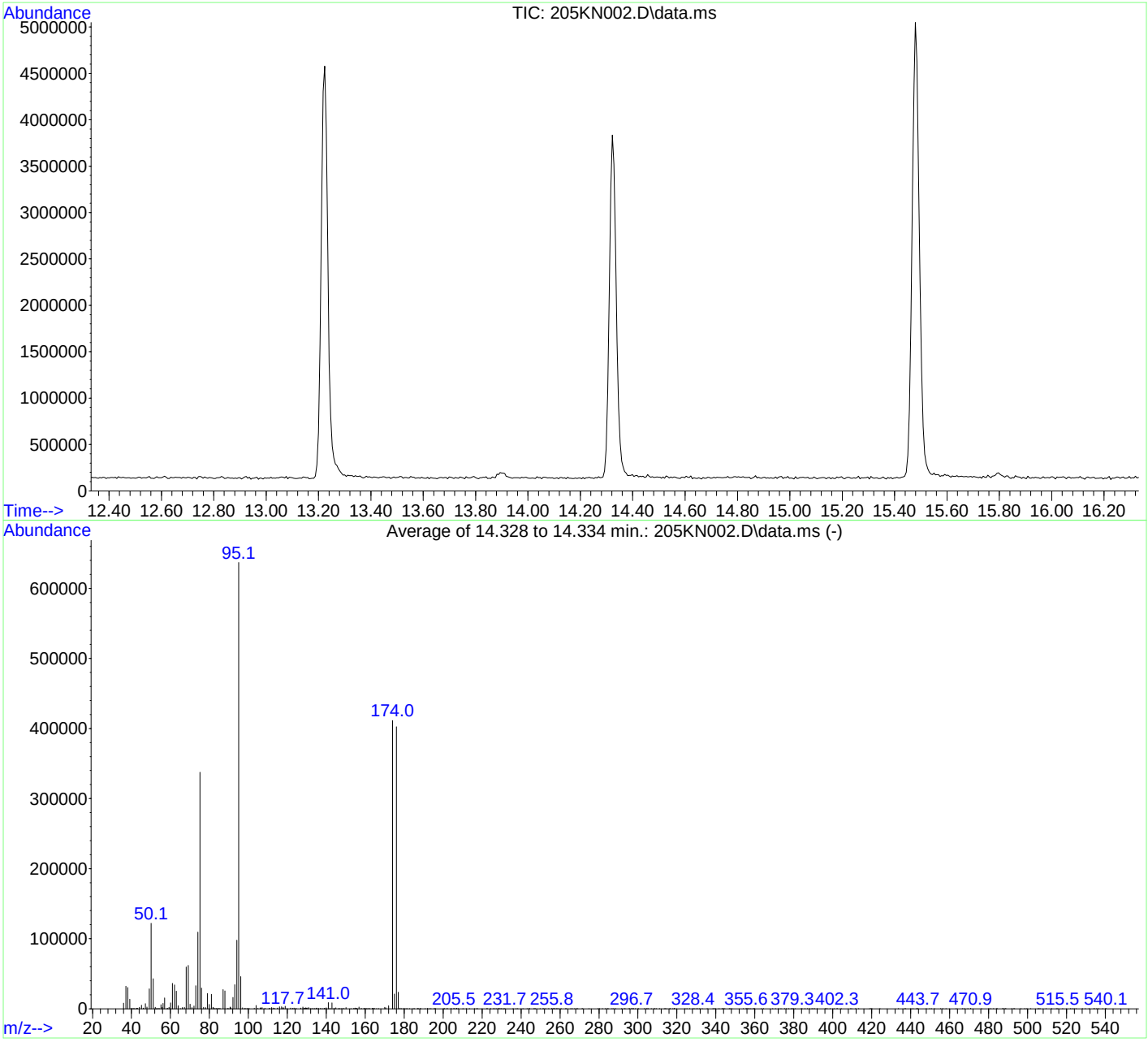
Quant Time: Nov 20 07:34:48 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 13:02:55 2020
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\111920\
Data File : 205KN002.D
Acq On : 19 Nov 2020 8:07 am
Operator : KKW
Sample : TUN1
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\methods\111920W.M
Title : ENCO SOP VGCMS05; Element Cal 2011113
Last Update : Fri Nov 20 09:50:30 2020



Spectrum Information: Average of 14.328 to 14.334 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
95	174	50	200	154.9	636951	PASS
96	95	5	9	7.2	46014	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	200	64.6	411328	PASS
175	174	5	9	5.1	21111	PASS
176	174	95	105	97.9	402612	PASS
177	176	5	10	5.8	23424	PASS

ANALYSIS SEQUENCE

AA64539

Instrument: OVGCMS2

Calibration ID: UNASSIGNED

Printed: 1/19/2021 1:05:52PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA64539-TUN1	QC		1		A0I0903			
AA64539-CAL1	QC		2		A1A0926	A0K0862		
AA64539-CAL2	QC		3		A1A0927	A0K0862		
AA64539-CAL3	QC		4		A1A0928	A0K0862		
AA64539-CAL4	QC		5		A1A0929	A0K0862		
AA64539-CAL5	QC		6		A1A0930	A0K0862		
AA64539-CAL6	QC		7		A1A0932	A0K0862		
AA64539-CAL7	QC		8		A1A0934	A0K0862		
AA64539-CAL8	QC		9		A1A0935	A0K0862		
AA64539-SCV1	QC		10		A1A0936	A0K0862		

Samples Loaded By Date

Data Processed By Date

VOLATILES GC/MS LOGBOOK (EPA Method 624.1 / SW-846 Method 8260D)

Tune Start Date: 01/19/21
Sequence: AA64539 / AA64557
Batch: IA19035
Method: 5260
Analyst: KJ
Instrument EM Voltage: 1741

Surrogate: A0I0902
Internal: A0K0801
LCS Mix 2°: A1A0898
LCS Acrolein 2°: A1A0830
LCS Gas 2°: A1A0920

8260 Mix: A1A0764
8260 Add: A1A0635
8260 Ac/Ac: A1A0543
8260 Gases: A1A0899
Instrument #: MS-2

212AN

Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)	Comments	LIMS
001	TUN			1				
002	CAL1			2			✓	
003	CAL2			3			✓	
004	CAL3			4			✓	
005	CAL4			5			Incorrect Vial Purged	
006	CAL4			6			✓	
007	CAL5			7			✓	
008	CAL6			8			✓	
009	CAL7			9			✓	
010	CAL8			10			✓	
011	Rinse			11				
012	Rinse			12				
013	AA64539-SCV1			13				
014	IA19035-BS1		1/19/21	14		1/19/21		
015	IA19035-MS1	E	1	15				
016	IA19035-MSD1	E	1	15				
017	IA19035-BLK			16		1/19/21		
018	AD08736-01 RE1	C	1	17				
019	AE00311-02	G	1	18			✓	
020	AE00311-03	F	1	19			✓	
021	AE00311-04	F	1	20			✓	

Manual Integration Review Form

ENVIRONMENTAL CONSERVATION LABORATORIES, INC. ☐ Cary ☐ Jacksonville ☑ Orlando

I hereby attest that the manual integrations contained in this package have been thoroughly reviewed and are in agreement with the associated hardcopy data.

The electronic files listed below have been reviewed for accuracy, completeness and comply with ENCO labs QA-11 Manual Integration Policy including:

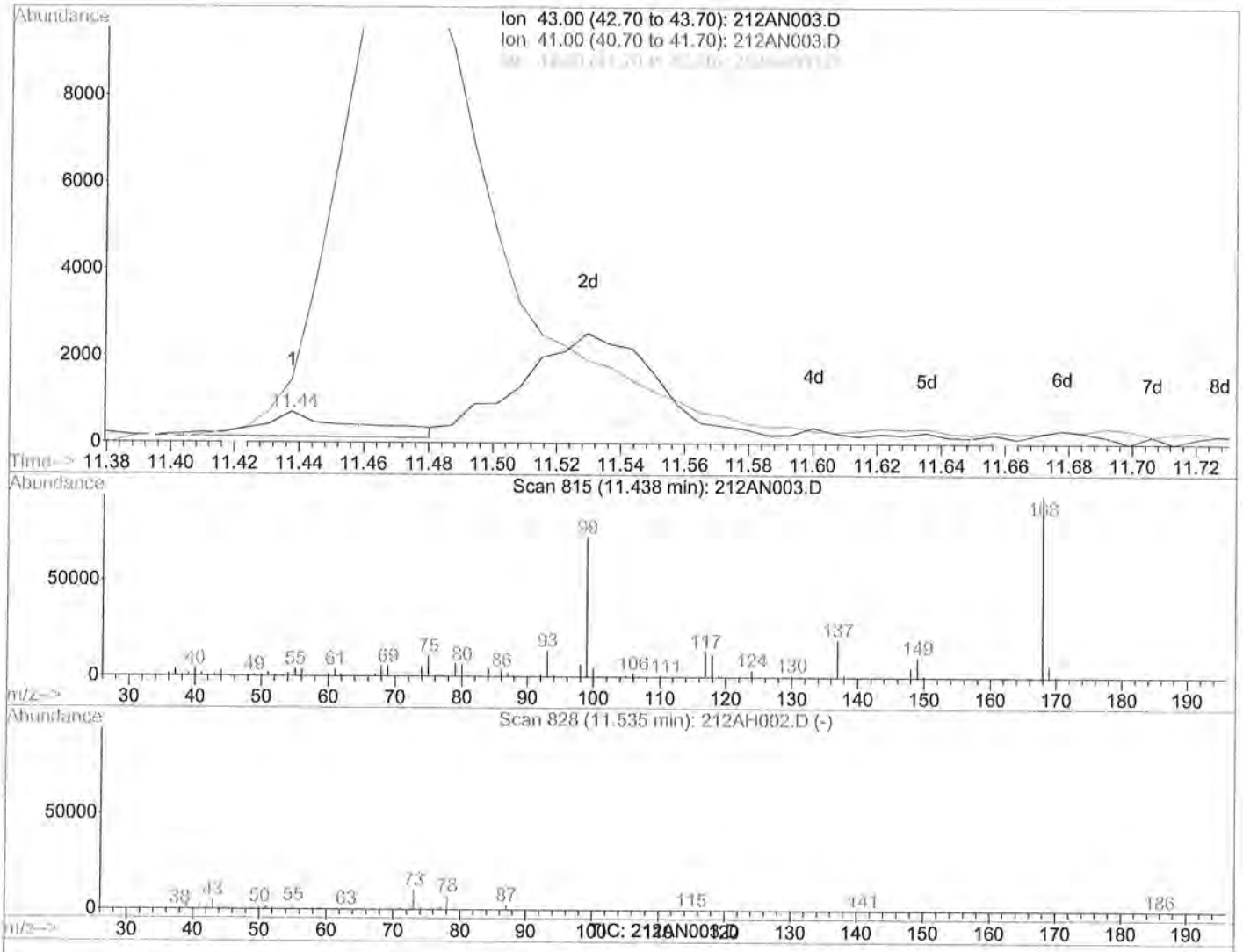
- "Before" and "After" chromatograms are provided
- Manual integrations are indicated on expanded scale "after" chromatograms at a scale large enough to see the manual integration performed.
- Reintegration technique marked if available on the data system
- Technical justification for manual integration
- Appropriate flags indicating which analytes were manually integrated are included in the raw data
- Analyst's initials and date.

Instrument ID:	OVGCMS2
Sequence/Batch ID:	AA64539 |
Data File Prefix:	212AN
Date and Time Range of MIs:	1/19/21 12:38 - 12:51 1/20/21 10:28
Reviewer Print Name:	Karen Watson
Reviewer Signature:	
Date of Review:	01/20/21

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\011921\212AN003.D Vial: 3
Acq On : 19 Jan 2021 8:52 am Operator: KKW
Sample : AA64539-CAL2 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 10:49 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 09:09:11 2021
Response via : Multiple Level Calibration



(43) Isobutyl Alcohol

11.44min 15.31ug/kg

response 1258

Ion	Exp%	Act%
43.00	100	100
41.00	1850.50	3242.93#
42.00	140.90	200.56#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

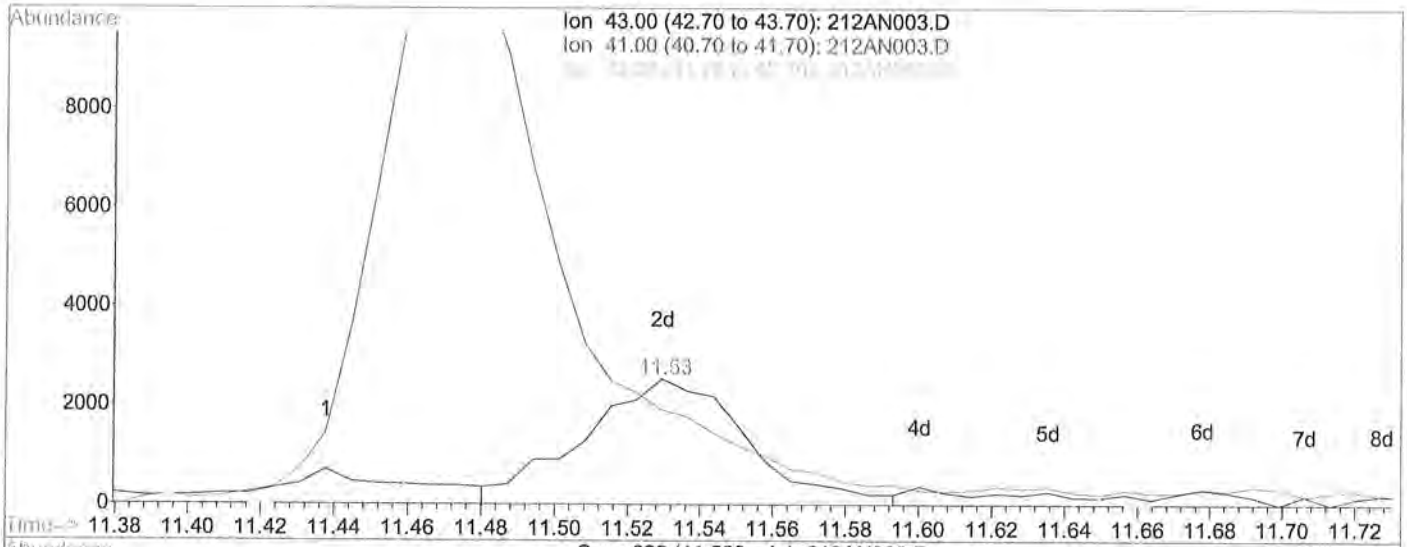
Review by/Date KW 1/20/21

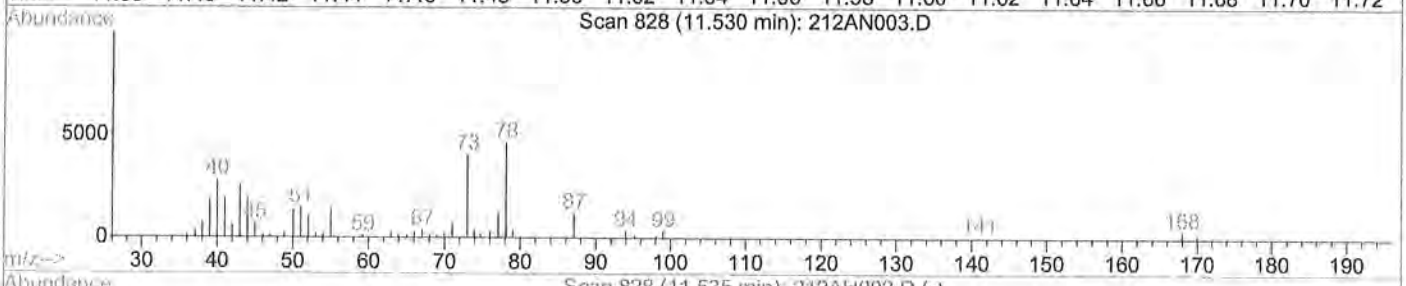
Review by/Date:

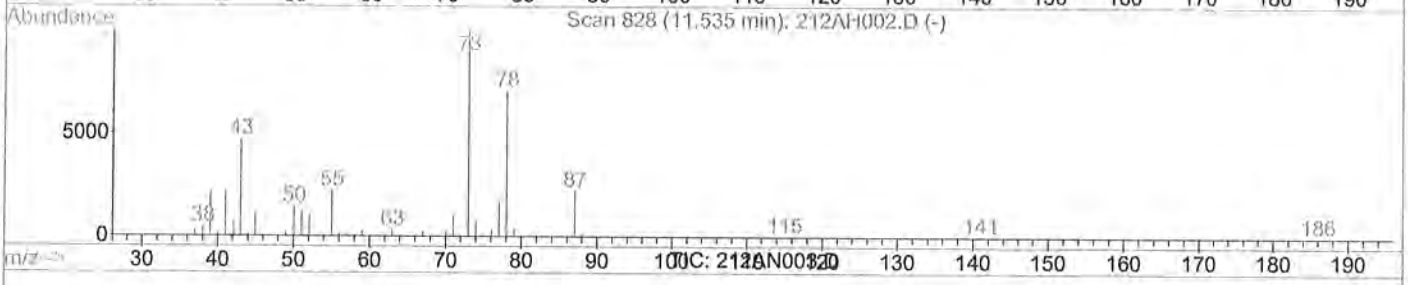
Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\011921\212AN003.D Vial: 3
Acq On : 19 Jan 2021 8:52 am Operator: KKW
Sample : AA64539-CAL2 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 12:38 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 09:09:11 2021
Response via : Multiple Level Calibration







(43) Isobutyl Alcohol

11.53min 96.12ug/kg m

response 7896

Ion	Exp%	Act%
43.00	100	100
41.00	1850.50	516.67#
42.00	140.90	31.95#
0.00	0.00	0.00

Select One:

[ ] Original Integration [x] Manual Integration

Select reason for manual integration:

[x] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date KK 1/20/21

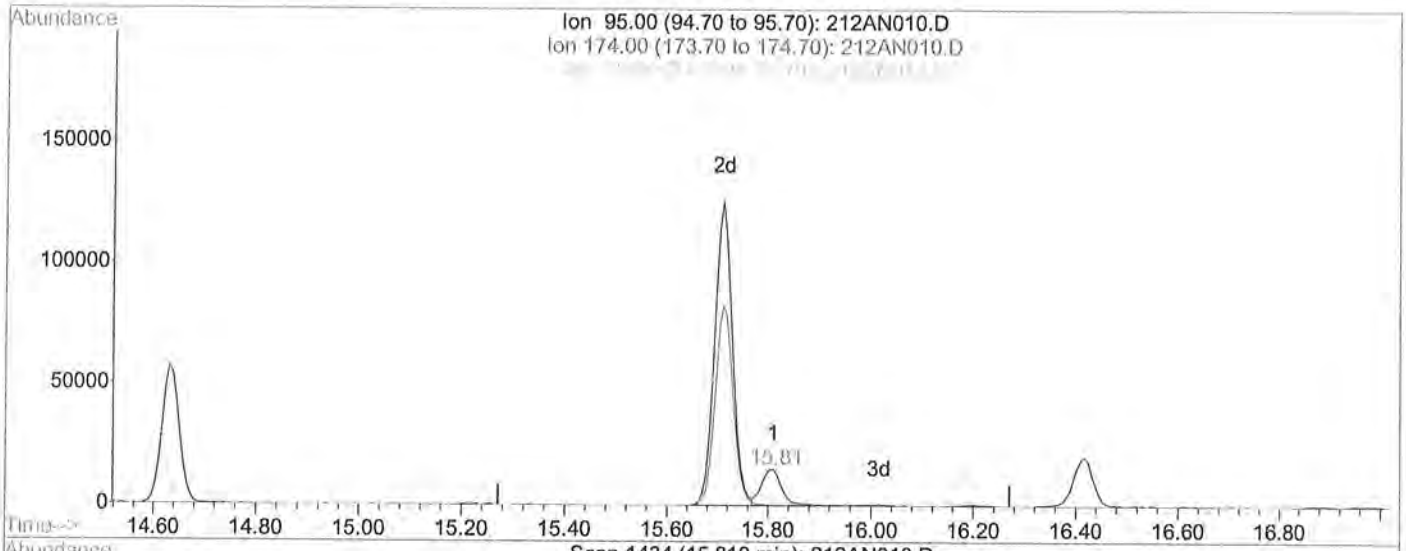
Review by/Date:

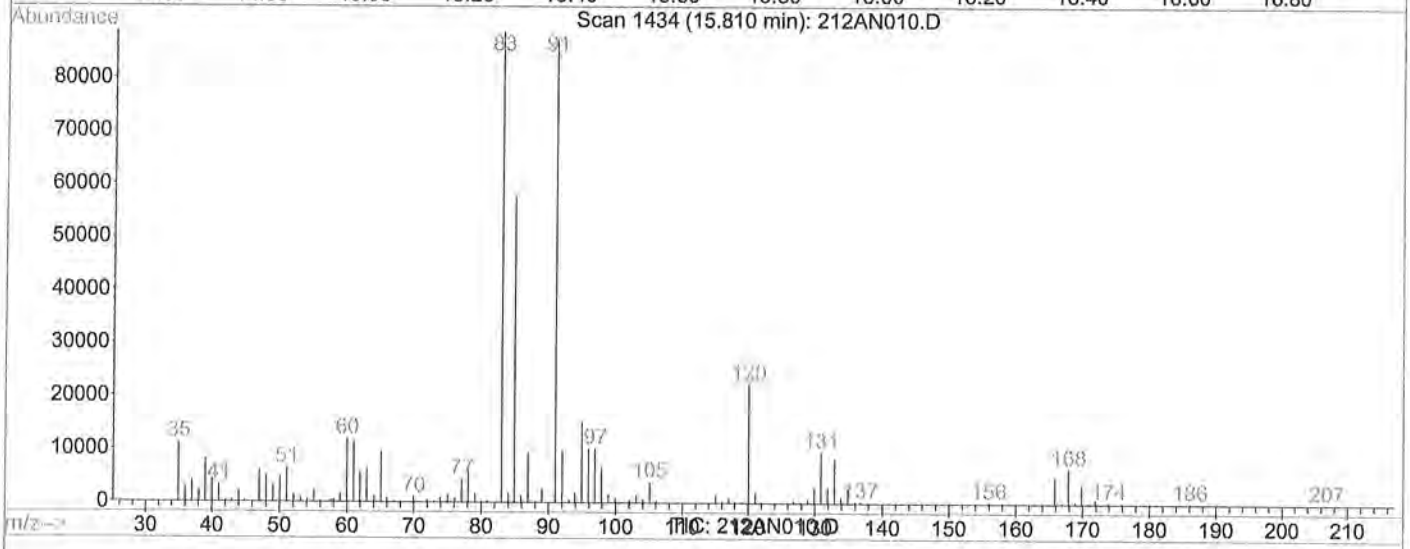
212AN003.D 011921.M Tue Jan 19 12:38:55 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\011921\212AN010.D Vial: 10
Acq On : 19 Jan 2021 12:12 pm Operator: KKW
Sample : AA64539-CAL8 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 12:35 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 12:41:36 2021
Response via : Multiple Level Calibration





(76) Bromofluorobenzene

15.81min 9.14ug/kg

response 40818

Ion	Exp%	Act%
95.00	100	100
174.00	102.10	0.00#
75.00	48.20	25.77#
0.00	0.00	0.00

Select One:

[x] Original Integration [ ] Manual Integration

Select reason for manual integration:

[x] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date KH 1/20/21

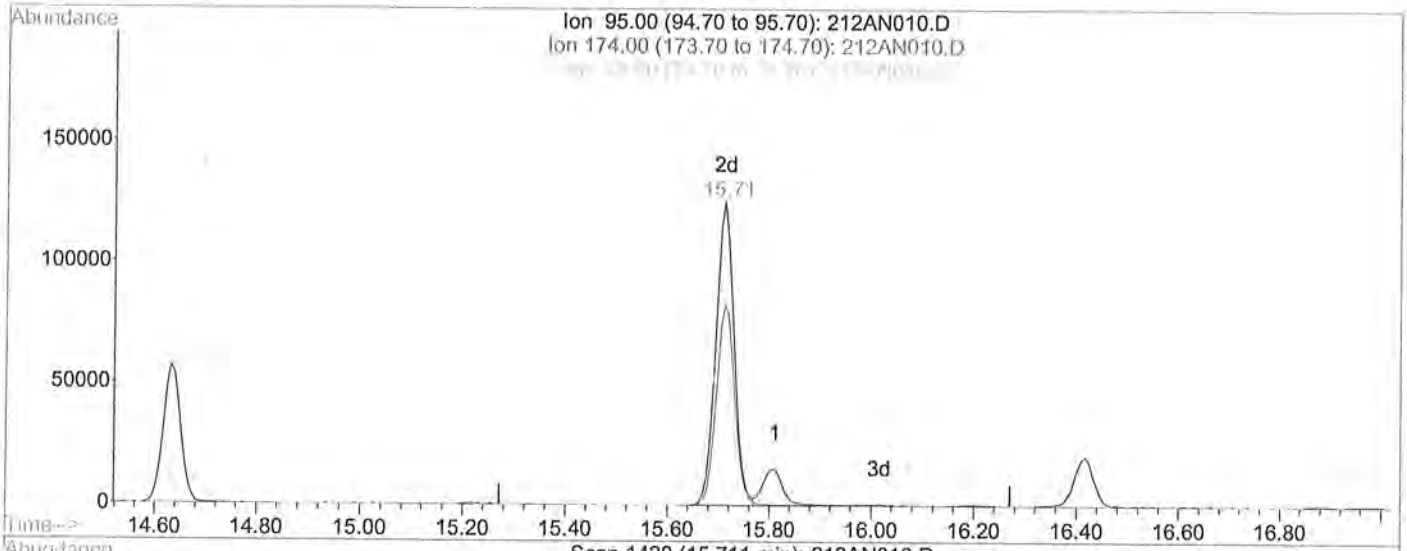
Review by/Date:

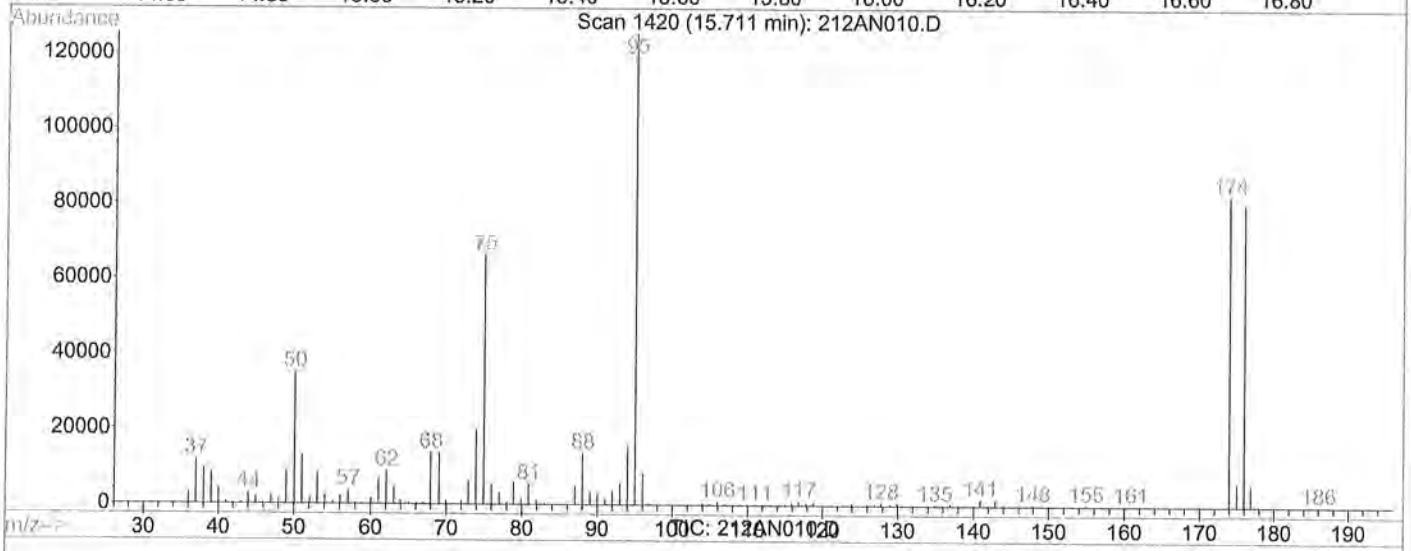
212AN010.D 011921.M Tue Jan 19 12:51:13 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\011921\212AN010.D Vial: 10
Acq On : 19 Jan 2021 12:12 pm Operator: KKW
Sample : AA64539-CAL8 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 12:51 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 12:41:36 2021
Response via : Multiple Level Calibration





(76) Bromofluorobenzene

15.71min 69.34ug/kg m

response 309769

Ion	Exp%	Act%
95.00	100	100
174.00	102.10	0.00#
75.00	48.20	3.40#
0.00	0.00	0.00

Select One:

[X] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date KKW 1/20/21

Review by/Date:

Compound List Report OVGCMS2

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Wed Jan 20 07:36:38 2021
Response via : Initial Calibration
Total Cpnds : 96

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	Pentafluorobenzene(IS)	168	11.45	1.000	A	2	A	B
2		Dichlorodifluoromethane	85	5.87	0.513	A	3	A	B
3	**	Chloromethane	50	6.34	0.554	LO	2	A	B
4	*	Vinyl Chloride	62	6.54	0.571	LO	2	A	B
5		Bromomethane	96	7.18	0.627	LO	2	A	B
6		Chloroethane	64	7.42	0.648	QO	2	A	B
7		Trichlorofluoromethane	101	7.68	0.671	A	2	A	B
8		Trichlorotrifluoroethane	101	8.51	0.743	LO	1	A	B
9		acrolein	56	8.87	0.775	QO	1	A	B
10		Acetone	43	9.21	0.805	LO	1	A	B
11	*m	1,1-Dichloroethene	96	8.47	0.740	A	2	A	B
12		3-Chloropropene	76	9.06	0.791	LO	1	A	B
13		Acetonitrile	41	9.77	0.853	LO	2	A	B
14		Iodomethane	142	8.70	0.760	QO	2	A	B
15		Carbon disulfide	76	8.59	0.750	LO	1	A	B
16		Methylene Chloride	84	9.18	0.802	LO	3	A	B
17		Methyl tert-butyl ether	73	9.50	0.830	A	2	A	B
18		Acrylonitrile	53	10.08	0.881	A	2	A	B
19		T-1,2-Dichloroethene	96	9.41	0.822	LO	2	A	B
20		Isopropyl Ether	45	9.88	0.863	A	1	A	B
21		C-1,2-Dichloroethene	96	10.65	0.930	A	2	A	B
22	**	1,1-Dichloroethane	63	10.08	0.881	A	3	A	B
23		Vinyl Acetate	43	10.27	0.898	A	1	A	B
24		Chloroprene	88	10.08	0.880	A	2	A	B
25		2-Butanone	72	11.15	0.974	A	2	A	B
26		Propionitrile	54	11.43	0.999	LO	0	A	B
27		2,2-Dichloropropane	77	10.78	0.941	LO	1	A	B
28		Methacrylonitrile	67	11.46	1.001	A	1	A	B
29	*	Chloroform	83	10.87	0.949	LO	2	A	B
30	S	Dibromofluoromethane	113	11.05	0.965	A	0	A	B
31		Dibromofluoromethane	113	11.10	0.970	A	0	A	B
32		Bromochloromethane	128	10.85	0.948	A	2	A	B
33		1,1,1-Trichloroethane	97	11.16	0.975	A	2	A	B
34		1,1-Dichloropropene	75	11.26	0.984	A	2	A	B
35		Diethyl Ether	59	8.11	0.708	LO	2	A	B
36		Methyl Acetate	74	9.36	0.818	LO	2	A	B
37		Cyclohexane	56	10.93	0.955	A	2	A	B
38	I	1,4-Difluorobenzene(IS)	114	12.00	1.000	A	2	A	B
39		Methyl Cyclohexane	55	12.05	1.005	A	2	A	B
40		Carbon Tetrachloride	117	11.13	0.928	A	2	A	B
41		1,2-Dichloroethane	62	11.64	0.971	A	2	A	B
42	m	Benzene	78	11.50	0.959	A	2	A	B
43		Isobutyl Alcohol	43	11.52	0.961	LO	2	A	B
44	m	Trichloroethene	130	12.02	1.002	A	3	A	B
45	*	1,2-Dichloropropane	63	12.46	1.039	LO	2	A	B
46		Methyl Methacrylate	100	12.55	1.046	LO	1	A	B
47		1,4-Dioxane	88	12.68	1.057	LO	1	A	B
48		Bromodichloromethane	83	12.48	1.041	A	2	A	B
49		Dibromomethane	93	12.39	1.033	A	2	A	B
50		4-Methyl-2-Pentanone	100	13.49	1.124	LO	3	A	B
51		2-Chloroethyl vinyl ether	63	12.79	1.066	A	2	A	B
52		2-Hexanone	43	14.19	1.183	LO	3	A	B
53		C-1,3-Dichloropropene	75	13.03	1.086	A	2	A	B
54	S	D8-Toluene	98	13.21	1.101	A	2	A	B
55		D8-Toluene	98	13.27	1.106	A	2	A	B
56	I	Chlorobenzene-d5(IS)	82	14.59	1.000	A	2	A	B
57	m*	Toluene	92	13.26	0.909	A	2	A	B
58		Ethyl Methacrylate	69	13.61	0.933	A	3	A	B
59		T-1,3-Dichloropropene	75	13.55	0.929	A	2	A	B
60		1,1,2-Trichloroethane	97	13.71	0.939	A	3	A	B
61		1,3-Dichloropropane	76	13.96	0.957	LO	1	A	B
62		Tetrachloroethene	164	13.64	0.935	A	3	A	B
63		Dibromochloromethane	129	13.90	0.953	A	2	A	B
64		1,2-Dibromoethane	107	14.16	0.970	A	2	A	B
65	**m	Chlorobenzene	112	14.61	1.001	A	2	A	B

66		1,1,1,2-Tetrachloroethane	131	14.63	1.003	A	2	A	B
67	*	Ethylbenzene	106	14.57	0.999	A	1	A	B
68		m-xylene & p-xylene	106	14.68	1.006	A	1	A	B
69		O-Xylene	106	15.10	1.035	A	1	A	B
70	**	Bromoform	173	15.23	1.044	A	3	A	B
71		Styrene	104	15.14	1.038	A	2	A	B
72		Isopropylbenzene	105	15.37	1.053	A	1	A	B
73		1,2,3-Trichloropropane	75	16.00	1.097	A	1	A	B
74	**	1,1,2,2-Tetrachloroethane	83	15.80	1.083	A	3	A	B
75	S	Bromofluorobenzene	95	15.71	1.077	A	2	A	B
76		Bromofluorobenzene	95	15.77	1.081	A	2	A	B
77		T-1,4-dichloro-2-butene	53	15.99	1.096	A	2	A	B
78		N-Propylbenzene	91	15.78	1.081	A	1	A	B
79	I	1,4-Dichlorobenzene-d4(IS)	152	16.95	1.000	A	2	A	B
80		Bromobenzene	156	15.87	0.936	A	2	A	B
81		1,3,5-Trimethylbenzene	105	15.93	0.940	A	1	A	B
82		2-Chlorotoluene	91	16.02	0.945	A	1	A	B
83		4-Chlorotoluene	91	16.18	0.954	A	1	A	B
84		1,2,4-Trimethylbenzene	105	16.38	0.966	A	1	A	B
85		s-Butylbenzene	105	16.51	0.974	A	1	A	B
86		tert-Butylbenzene	119	16.32	0.963	A	2	A	B
87		p-Isopropyltoluene	119	16.62	0.980	A	2	A	B
88		1,3-Dichlorobenzene	146	16.88	0.996	A	2	A	B
89		1,4-Dichlorobenzene	146	16.98	1.001	A	2	A	B
90		1,2-Dichlorobenzene	146	17.54	1.035	A	2	A	B
91		N-Butylbenzene	91	17.15	1.011	A	2	A	B
92		DBCP	75	18.65	1.100	LO	2	A	B
93		Naphthalene	128	20.64	1.217	A	0	A	B
94		1,2,4-Trichlorobenzene	180	19.93	1.176	A	2	A	B
95		Hexachlorobutadiene	225	19.79	1.167	A	2	A	B
96		1,2,3-Trichlorobenzene	180	21.07	1.243	A	2	A	B

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

011921.M Wed Jan 20 07:52:55 2021

Compound Name Duplication Report

Quant Method: C:\HPCHEM\1\METHODS\011921.M
Number of Compounds: 96

30 Dibromofluoromethane = 31 Dibromofluoromethane
54 D8-Toluene = 55 D8-Toluene
75 Bromofluorobenzene = 76 Bromofluorobenzene

3 Duplicate Names Detected!!!

Response Factor Report OVGCMS2

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Wed Jan 20 07:36:38 2021
Response via : Initial Calibration

Calibration Files
1 =212AN002.D 5 =212AN004.D 20 =212AN007.D
50 =212AN008.D 100 =212AN010.D 10 =212AN006.D

		Compound	1	5	20	50	100	10	Avg	%RSD
1)	i	Pentafluorobenzene(IS	----------	ISTD	----------					
2)		Dichlorodifluoromet	1.132	1.100	1.094	0.937	0.981	0.991	1.033	7.42
3)	**	Chloromethane	1.281	1.178	1.044	0.903	1.083	1.150	1.111	11.84
4)	*	Vinyl Chloride	1.382	1.103	1.029	0.877	0.881	0.938	1.030	18.13
5)		Bromomethane	2.625	1.381	0.697	0.615	0.522	0.753	1.131	68.49
6)		Chloroethane	0.980	0.744	0.690	0.574	0.549	0.640	0.715	25.37
7)		Trichlorofluorometh	1.534	1.602	1.543	1.316	1.306	1.424	1.442	9.14
8)		Trichlorotrifluoroe	0.707	0.631	0.522	0.495	0.481	0.508	0.558	15.42
9)		acrolein	0.026	0.020	0.021	0.025	0.051	0.024	0.028#	36.89
10)		Acetone	0.183	0.130	0.110	0.103	0.108	0.112	0.123	21.54
11)	*m	1,1-Dichloroethene	0.596	0.537	0.454	0.438	0.434	0.442	0.484	12.92
12)		3-Chloropropene	0.487	0.278	0.257	0.250	0.264	0.274	0.298	26.61
13)		Acetonitrile	0.080	0.042	0.040	0.042	0.045	0.039	0.046#	29.90
14)		Iodomethane	0.055	0.315	0.530	0.544	0.573	0.466	0.389	56.38
15)		Carbon disulfide	2.042	1.478	1.260	1.179	1.206	1.292	1.378	20.83
16)		Methylene Chloride	0.871	0.660	0.537	0.503	0.498	0.567	0.611	22.27
17)		Methyl tert-butyl e	1.329	1.202	0.998	0.978	0.980	0.971	1.081	12.93
18)		Acrylonitrile	0.290	0.233	0.223	0.223	0.233	0.219	0.234	10.09
19)		T-1,2-Dichloroethen	0.770	0.617	0.520	0.519	0.521	0.498	0.570	15.95
20)		Isopropyl Ether	3.694	3.242	2.654	2.585	2.599	2.596	2.899	14.68
21)		C-1,2-Dichloroethen	0.754	0.660	0.574	0.571	0.578	0.565	0.615	10.76
22)	**	1,1-Dichloroethane	1.447	1.240	1.034	1.032	1.054	1.013	1.144	13.77
23)		Vinyl Acetate	2.031	1.651	1.520	1.513	1.532	1.502	1.592	11.71
24)		Chloroprene	0.591	0.456	0.423	0.434	0.448	0.415	0.453	12.84
25)		2-Butanone	0.039	0.036	0.029	0.027	0.028	0.029	0.031#	13.82
26)		Propionitrile	0.062	0.047	0.044	0.042	0.044	0.041	0.046#	15.34
27)		2,2-Dichloropropane	1.203	1.015	0.817	0.791	0.782	0.803	0.892	17.29
28)		Methacrylonitrile	0.187	0.150	0.137	0.141	0.140	0.131	0.146	11.92
29)	*	Chloroform	1.505	1.218	1.000	0.960	0.929	0.977	1.095	18.38
30)	s	Dibromofluoromethan	0.585	0.623	0.555	0.531	0.546	0.601	0.568	6.38
31)		Dibromofluoromethan	0.585	0.623	0.555	0.531	0.546	0.601	0.568	6.38
32)		Bromochloromethane	0.367	0.321	0.278	0.282	0.285	0.267	0.303	11.39
33)		1,1,1-Trichloroetha	1.139	1.013	0.870	0.826	0.820	0.834	0.913	13.03
34)		1,1-Dichloropropene	0.970	0.839	0.723	0.702	0.696	0.701	0.770	13.01
35)		Diethyl Ether	0.627	0.507	0.415	0.390	0.387	0.413	0.455	18.65
36)		Methyl Acetate	0.074	0.070	0.050	0.049	0.047	0.050	0.056#	19.14
37)		Cyclohexane	1.165	1.022	0.915	0.886	0.882	0.872	0.949	10.68
38)	i	1,4-Difluorobenzene(I	----------	ISTD	----------					
39)		Methyl Cyclohexane	0.434	0.405	0.362	0.364	0.367	0.360	0.384	7.88
40)		Carbon Tetrachlorid	0.573	0.531	0.469	0.467	0.467	0.427	0.490	9.16
41)		1,2-Dichloroethane	0.476	0.410	0.352	0.346	0.366	0.334	0.385	12.21
42)	m	Benzene	1.322	1.187	1.077	1.132	1.082	0.982	1.145	8.88
43)		Isobutyl Alcohol	0.027	0.020	0.017	0.018	0.019	0.017	0.020#	15.91
44)	m	Trichloroethene	0.403	0.338	0.306	0.315	0.317	0.280	0.321	11.49
45)	*	1,2-Dichloropropane	0.432	0.334	0.286	0.290	0.287	0.269	0.317	16.55
46)		Methyl Methacrylate	0.061	0.051	0.050	0.052	0.053	0.044	0.048#	25.67
47)		1,4-Dioxane	0.001	0.001	0.001	0.001	0.001	0.001	0.001#	19.01
48)		Bromodichloromethan	0.490	0.414	0.366	0.373	0.370	0.345	0.396	11.69
49)		Dibromomethane	0.200	0.179	0.157	0.160	0.162	0.146	0.168	9.72
50)		4-Methyl-2-Pentanon	0.042	0.027	0.023	0.025	0.026	0.021	0.027#	23.84
51)		2-Chloroethyl vinyl				0.000	0.001	0.001	0.001#	56.31
52)		2-Hexanone	0.224	0.162	0.142	0.149	0.161	0.133	0.161	17.17
53)		C-1,3-Dichloroprope	0.528	0.460	0.417	0.436	0.447	0.397	0.451	8.58
54)	s	D8-Toluene	0.840	0.905	0.822	0.821	0.853	0.840	0.847	3.12
55)		D8-Toluene	0.840	0.905	0.822	0.821	0.853	0.840	0.847	3.12
56)	i	Chlorobenzene-d5(IS)	----------	ISTD	----------					

(#) = Out of Range ### Number of calibration levels exceeded format ###

Response Factor Report OVGCMS2

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Wed Jan 20 07:36:38 2021
Response via : Initial Calibration

Calibration Files
1 =212AN002.D 5 =212AN004.D 20 =212AN007.D
50 =212AN008.D 100 =212AN010.D 10 =212AN006.D

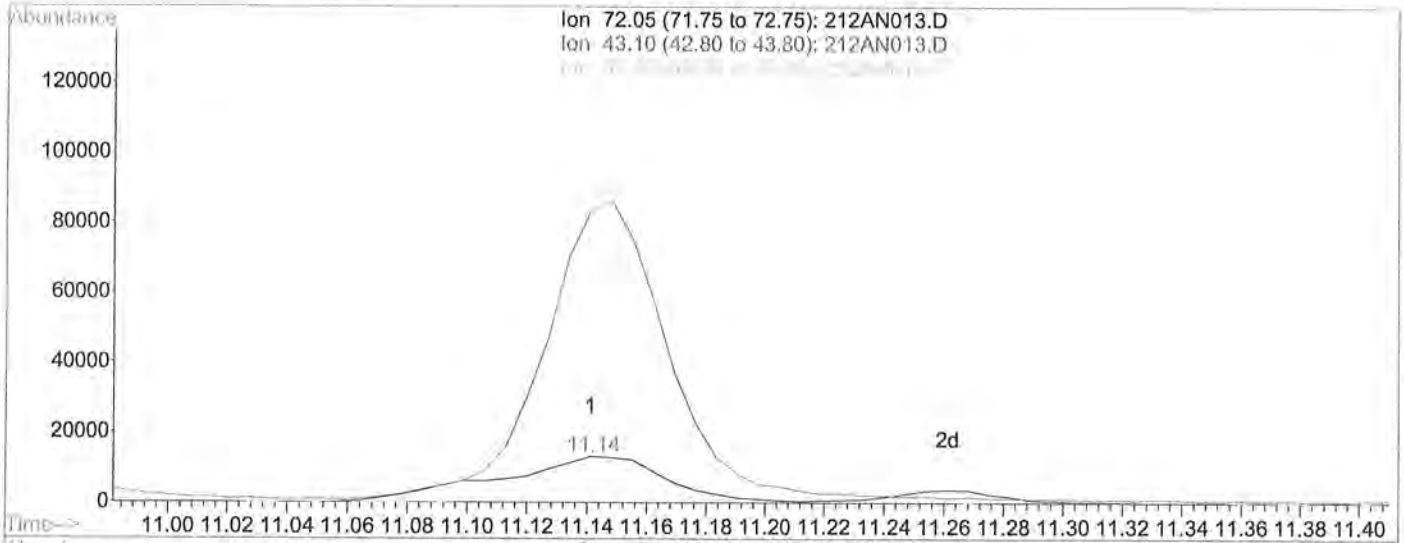
		Compound	1	5	20	50	100	10	Avg	%RSD
57)	m*	Toluene	1.931	1.626	1.441	1.433	1.387	1.315	1.520	12.91
58)		Ethyl Methacrylate	0.779	0.577	0.538	0.557	0.554	0.512	0.576	14.69
59)		T-1,3-Dichloroprope	1.008	0.844	0.769	0.768	0.761	0.715	0.811	11.32
60)		1,1,2-Trichloroetha	0.487	0.463	0.386	0.407	0.389	0.389	0.423	9.45
61)		1,3-Dichloropropane	1.085	0.936	0.742	0.762	0.740	0.733	0.834	15.62
62)		Tetrachloroethene	0.480	0.452	0.417	0.410	0.410	0.371	0.427	8.04
63)		Dibromochloromethan	0.758	0.631	0.582	0.595	0.588	0.543	0.622	10.98
64)		1,2-Dibromoethane	0.524	0.497	0.438	0.456	0.450	0.418	0.467	7.54
65)	**m	Chlorobenzene	2.118	1.775	1.606	1.632	1.597	1.469	1.703	11.63
66)		1,1,1,2-Tetrachloro	0.800	0.702	0.616	0.626	0.618	0.581	0.654	10.57
67)	*	Ethylbenzene	1.041	0.875	0.789	0.814	0.829	0.707	0.847	11.36
68)		m-xylene & p-xylene	1.166	1.042	0.942	1.002	0.992	0.873	1.007	8.34
69)		O-Xylene	1.029	0.983	0.896	0.967	0.997	0.816	0.967	7.89
70)	**	Bromoform	0.324	0.260	0.246	0.257	0.266	0.225	0.265	10.64
71)		Styrene	1.929	1.731	1.596	1.737	1.739	1.390	1.697	9.16
72)		Isopropylbenzene	2.878	2.458	2.279	2.440	2.525	2.073	2.452	9.36
73)		1,2,3-Trichloroprop	0.633	0.515	0.449	0.475	0.490	0.446	0.510	12.37
74)	**	1,1,2,2-Tetrachloro	0.502	0.439	0.396	0.398	0.395	0.375	0.418	9.55
75)	s	Bromofluorobenzene	0.680	0.721	0.666	0.664	0.700	0.661	0.679	3.16
76)		Bromofluorobenzene	0.680	0.721	0.666	0.664	0.700	0.661	0.679	3.16
77)		T-1,4-dichloro-2-bu	0.155	0.129	0.119	0.120	0.132	0.119	0.129	9.66
78)		N-Propylbenzene	3.283	2.714	2.515	2.668	2.743	2.308	2.728	10.24
79)	i	1,4-Dichlorobenzene-d	----------	ISTD	----------					
80)		Bromobenzene	0.946	0.850	0.778	0.799	0.815	0.683	0.817	9.08
81)		1,3,5-Trimethylbenz	3.386	3.029	2.698	2.858	2.888	2.416	2.904	9.59
82)		2-Chlorotoluene	3.326	2.809	2.460	2.526	2.557	2.222	2.661	12.21
83)		4-Chlorotoluene	3.332	2.769	2.474	2.573	2.613	2.267	2.692	11.61
84)		1,2,4-Trimethylbenz	3.334	2.916	2.734	2.884	2.943	2.300	2.871	10.09
85)		s-Butylbenzene	4.000	3.645	3.352	3.507	3.545	3.038	3.538	7.71
86)		tert-Butylbenzene	2.995	2.784	2.458	2.595	2.642	2.275	2.632	8.11
87)		p-Isopropyltoluene	3.376	3.097	2.828	2.996	3.083	2.448	2.986	9.02
88)		1,3-Dichlorobenzene	1.879	1.514	1.364	1.390	1.450	1.213	1.472	12.94
89)		1,4-Dichlorobenzene	1.879	1.595	1.406	1.420	1.478	1.284	1.526	11.91
90)		1,2-Dichlorobenzene	1.465	1.293	1.156	1.174	1.206	1.043	1.232	9.95
91)		N-Butylbenzene	2.422	2.380	2.207	2.300	2.412	1.863	2.280	8.30
92)		DBCP	0.023	0.103	0.062	0.065	0.066	0.069	0.064#	35.20
93)		Naphthalene	0.452	0.514	0.476	0.488	0.596	0.405	0.506	13.31
94)		1,2,4-Trichlorobenz	0.455	0.449	0.384	0.383	0.426	0.339	0.416	10.04
95)		Hexachlorobutadiene	0.262	0.304	0.251	0.244	0.253	0.245	0.260	7.68
96)		1,2,3-Trichlorobenz	0.266	0.300	0.254	0.254	0.287	0.216	0.270	10.49

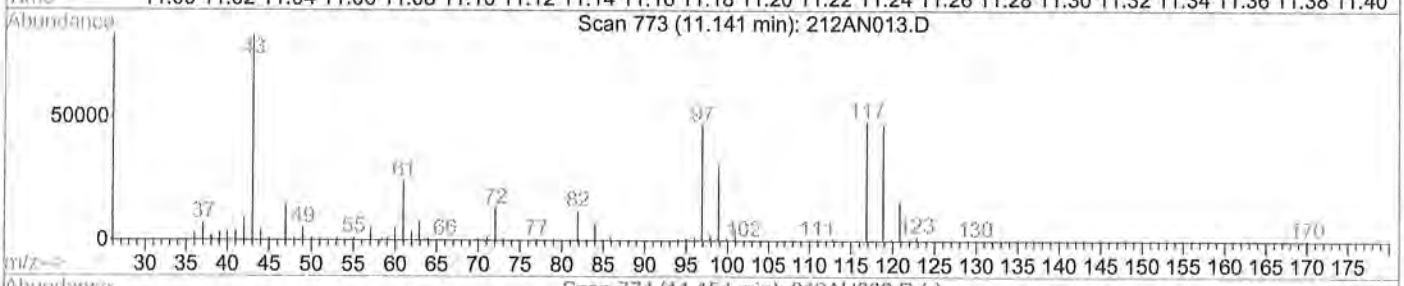
(#) = Out of Range ### Number of calibration levels exceeded format ###

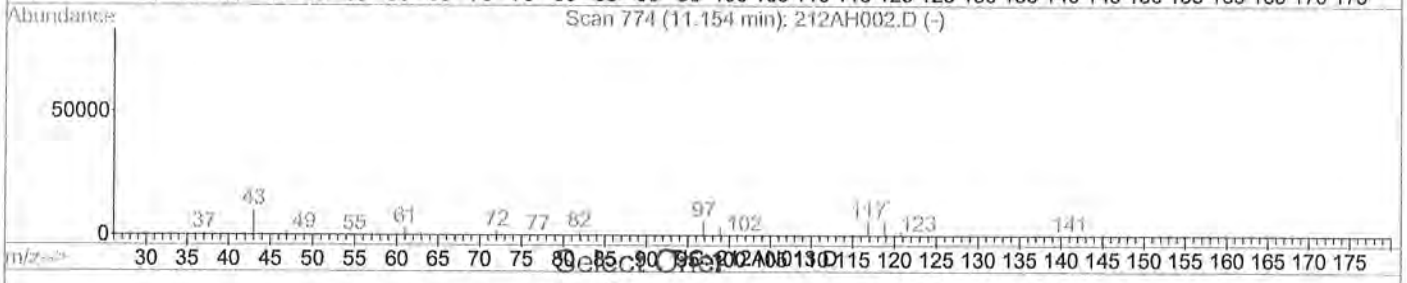
Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\011921\212AN013.D Vial: 13
Acq On : 19 Jan 2021 1:38 pm Operator: KKW
Sample : AA64539-SCV1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 14:01 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Wed Jan 20 08:36:49 2021
Response via : Multiple Level Calibration







(25) 2-Butanone

11.14min 358.25ug/kg

response 51146

Ion	Exp%	Act%
72.05	100	100
43.10	656.50	487.74
57.00	39.40	27.53#
0.00	0.00	0.00

Select One:

[x] Original Integration [ ] Manual Integration

Select reason for manual integration:

[x] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

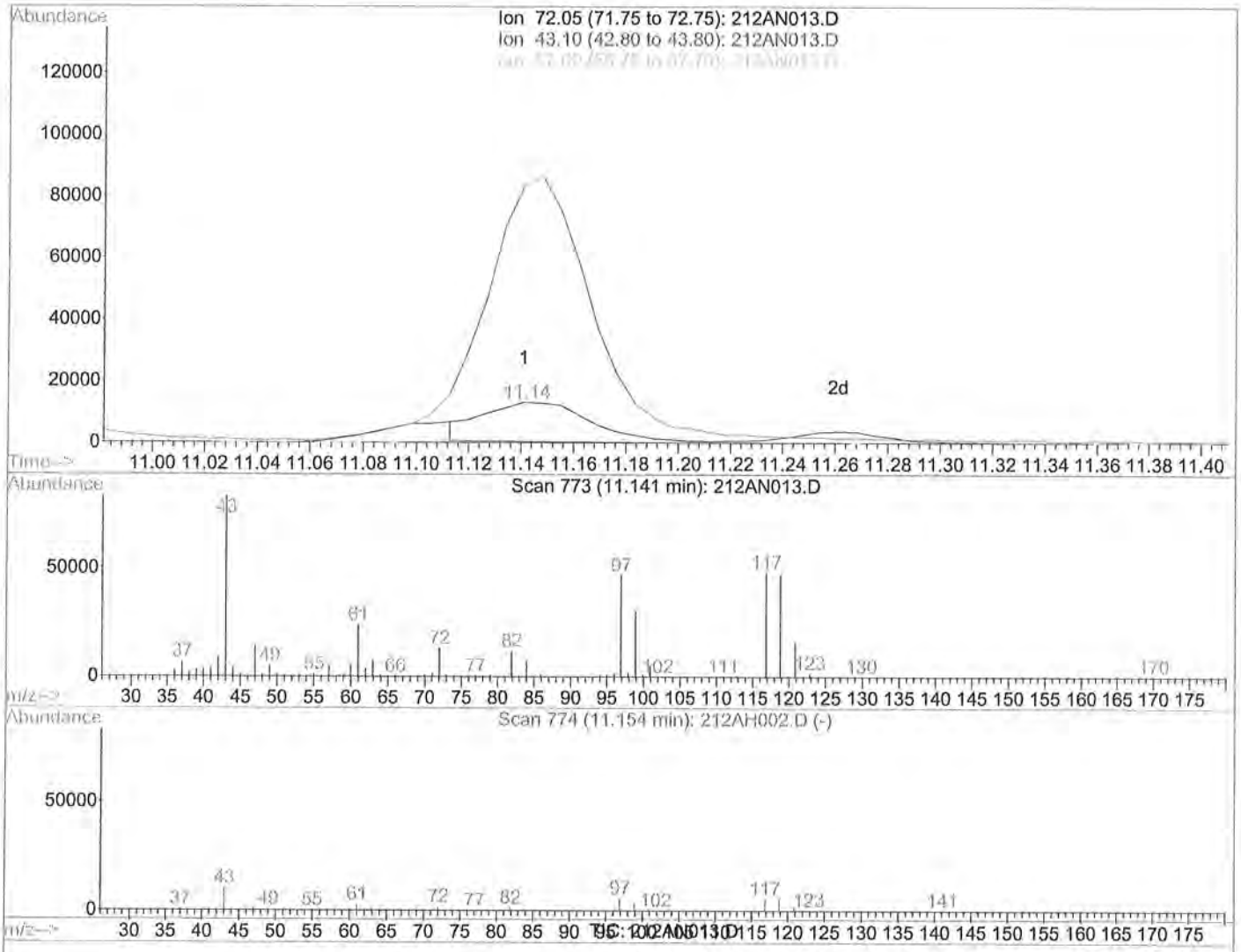
Review by/Date KH 1/20/21

Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\011921\212AN013.D Vial: 13
Acq On : 19 Jan 2021 1:38 pm Operator: KKW
Sample : AA64539-SCV1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 20 10:28 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Wed Jan 20 08:36:49 2021
Response via : Multiple Level Calibration



(25) 2-Butanone

11.14min 254.67ug/kg m

response 36358

Ion	Exp%	Act%
72.05	100	100
43.10	656.50	686.11
57.00	39.40	38.73
0.00	0.00	0.00

Select One:

[ ] Original Integration [✓] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

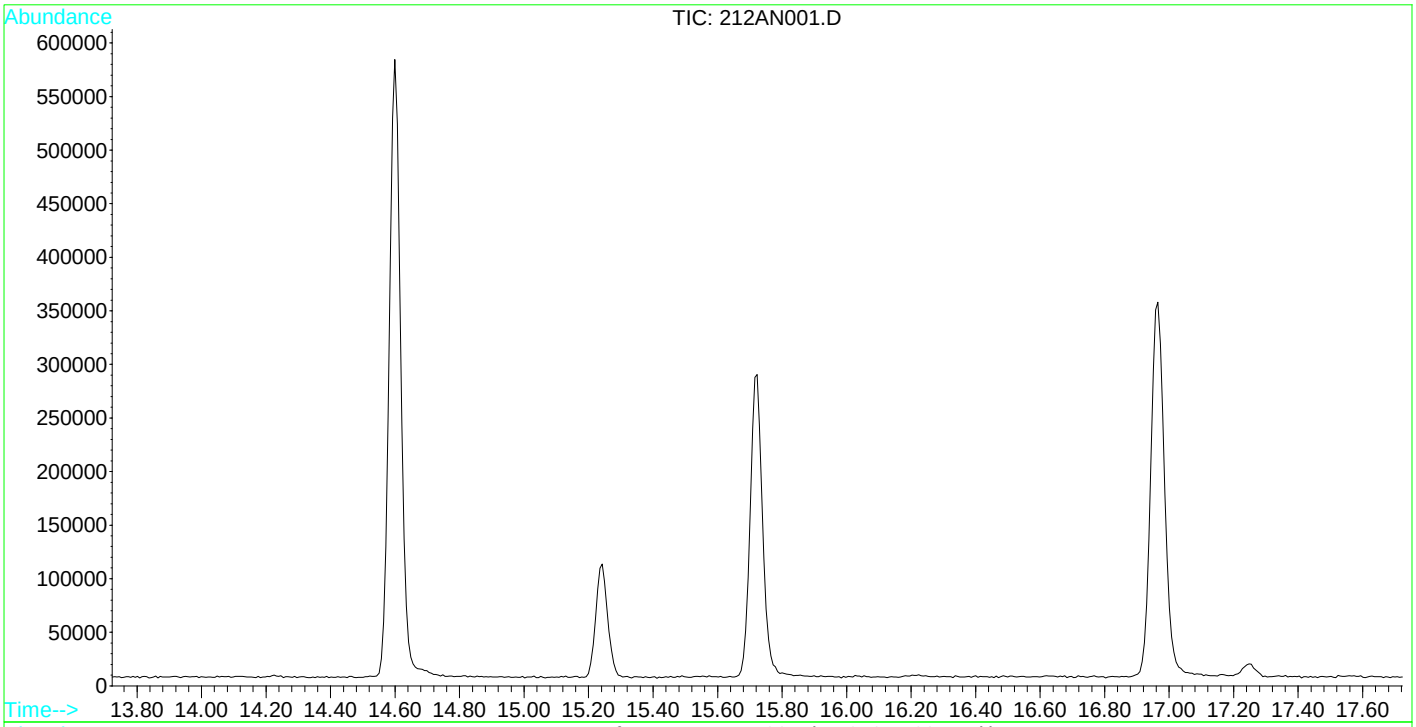
[ ] Other:

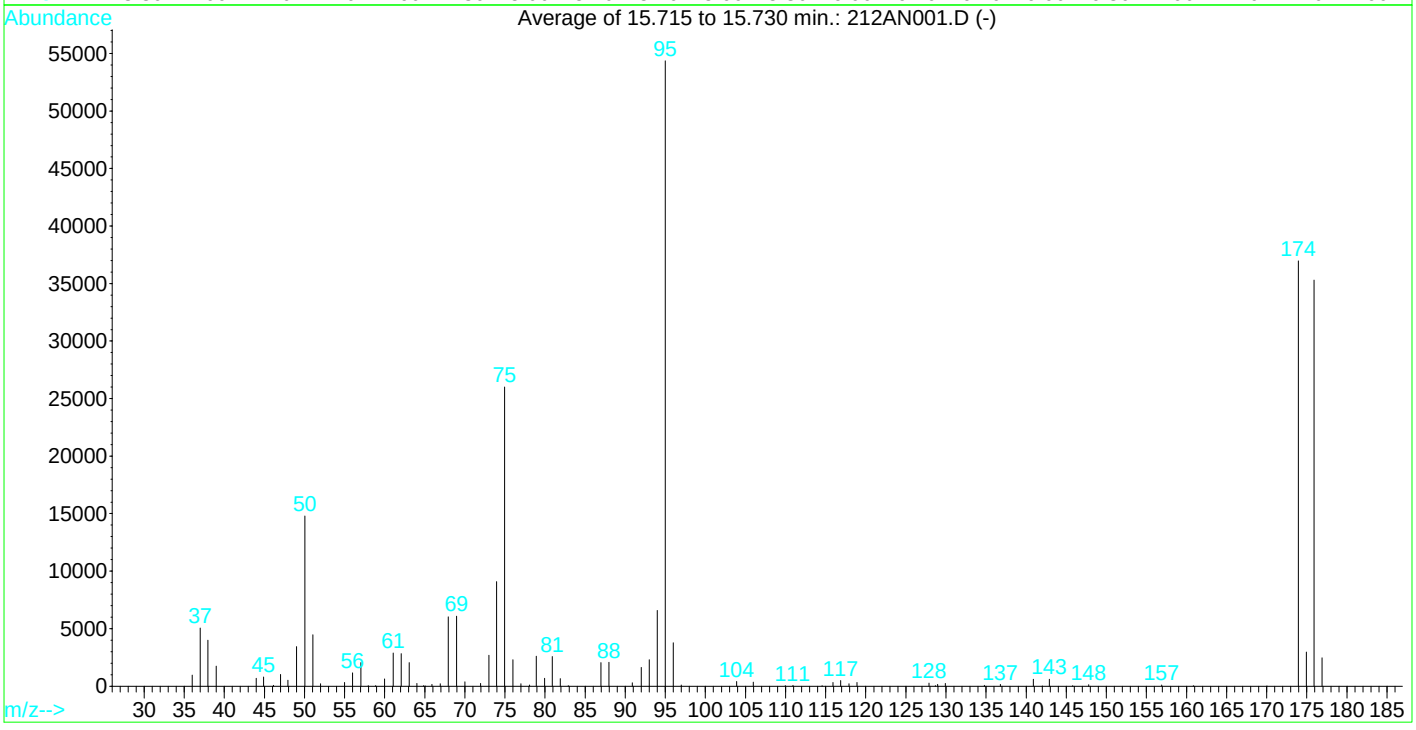
Review by/Date KK 1/20/21

Review by/Date:

212AN013.D 011921.M Wed Jan 20 10:28:52 2021

Data File : C:\HPCHEM\1\DATA\011921\212AN001.D Vial: 1
Acq On : 19 Jan 2021 7:42 am Operator: KKW
Sample : Tun1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal





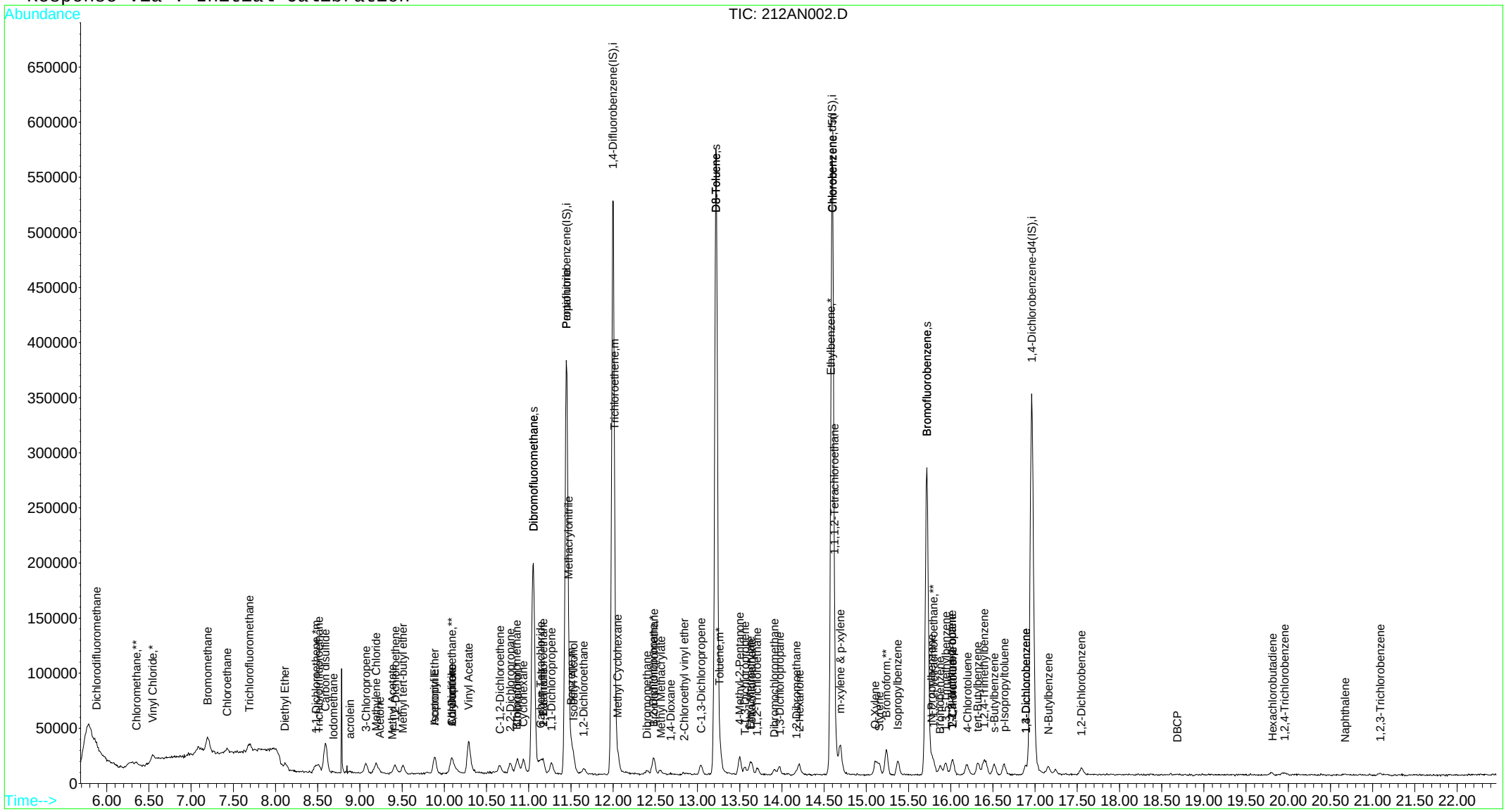
AutoFind: Scans 1420, 1421, 1422; Background Corrected with Scan 1409

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
95	174	50	200	147.0	54357	PASS
96	95	5	9	6.9	3768	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	200	68.0	36965	PASS
175	174	5	9	8.0	2968	PASS
176	174	95	105	95.5	35309	PASS
177	176	5	10	7.0	2456	PASS

Quantitation Report

Data File : C:\HPCHEM\1\DATA\011921\212AN002.D Vial: 2
Acq On : 19 Jan 2021 8:23 am Operator: KKW
Sample : AA64539-CAL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 10:47 2021 Quant Results File: 011921.RES

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 29 08:15:08 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011921\212AN002.D Vial: 2
Acq On : 19 Jan 2021 8:23 am Operator: KKW
Sample : AA64539-CAL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 10:47 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 09:09:11 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.44	168	274242	50.00	ug/kg	-0.02
38) 1,4-Difluorobenzene(IS)	12.00	114	530522	50.00	ug/kg	-0.02
56) Chlorobenzene-d5(IS)	14.59	82	220188	50.00	ug/kg	-0.02
79) 1,4-Dichlorobenzene-d4(IS)	16.96	152	135369	50.00	ug/kg	-0.02
System Monitoring Compounds						
30) Dibromofluoromethane	11.06	113	160417	52.64	ug/kg	-0.02
Spiked Amount 50.000	Range 53 - 146		Recovery = 105.28%			
54) D8-Toluene	13.22	98	445659	50.44	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 100.88%			
75) Bromofluorobenzene	15.72	95	149621	44.86	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 89.72%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.88	85	6210	1.55	ug/kg#	75
3) Chloromethane	6.35	50	7024	1.24	ug/kg	94
4) Vinyl Chloride	6.54	62	7578	2.29	ug/kg	73
5) Bromomethane	7.20	96	14398	8.42	ug/kg	95
6) Chloroethane	7.43	64	5374	2.79	ug/kg	82
7) Trichlorofluoromethane	7.69	101	8416	1.92	ug/kg	94
8) Trichlorotrifluoroethane	8.52	101	3876	1.57	ug/kg	92
9) acrolein	8.88	56	1415	5.98	ug/kg#	21
10) Acetone	9.24	43	5028	6.87	ug/kg	83
11) 1,1-Dichloroethene	8.47	96	3271	1.41	ug/kg	89
12) 3-Chloropropene	9.07	76	2671	1.76	ug/kg	99
13) Acetonitrile	9.88	41	4410	18.22	ug/kg	78
14) Iodomethane	8.68	142	1501	0.33	ug/kg#	38
15) Carbon disulfide	8.59	76	56011	6.59	ug/kg	99
16) Methylene Chloride	9.18	84	4776	1.74	ug/kg	79
17) Methyl tert-butyl ether	9.51	73	7292	2.29	ug/kg	76
18) Acrylonitrile	10.08	53	15904	14.96	ug/kg#	34
19) T-1,2-Dichloroethene	9.42	96	4221	1.67	ug/kg	98
20) Isopropyl Ether	9.89	45	20259	1.66	ug/kg#	92
21) C-1,2-Dichloroethene	10.65	96	4137	1.51	ug/kg	92
22) 1,1-Dichloroethane	10.09	63	7934	1.72	ug/kg	90
23) Vinyl Acetate	10.29	43	55698	8.73	ug/kg	96
24) Chloroprene	10.09	88	3241	1.51	ug/kg	92
25) 2-Butanone	11.18	72	1061	5.82	ug/kg#	35
26) Propionitrile	11.45	54	3396	14.58	ug/kg	100
27) 2,2-Dichloropropane	10.79	77	6600	2.15	ug/kg	59
28) Methacrylonitrile	11.48	67	10280	14.74	ug/kg	76
29) Chloroform	10.87	83	8257	1.90	ug/kg	85
31) Dibromofluoromethane	11.06	113	160417	52.64	ug/kg	100
32) Bromochloromethane	10.85	128	2014	1.34	ug/kg#	62
33) 1,1,1-Trichloroethane	11.17	97	6245	1.76	ug/kg	92
34) 1,1-Dichloropropene	11.27	75	5319	1.66	ug/kg	80
35) Diethyl Ether	8.12	59	3437	1.67	ug/kg	94
36) Methyl Acetate	9.38	74	408	1.33	ug/kg#	61
37) Cyclohexane	10.94	56	6388	1.56	ug/kg	99
39) Methyl Cyclohexane	12.06	55	4609	1.48	ug/kg#	84
40) Carbon Tetrachloride	11.13	117	6082	1.51	ug/kg	98
41) 1,2-Dichloroethane	11.66	62	5053	1.69	ug/kg	94
42) Benzene	11.51	78	14027	1.51	ug/kg	93
43) Isobutyl Alcohol	11.54	43	5671	67.18	ug/kg#	1
44) Trichloroethene	12.02	130	4274	1.45	ug/kg#	1
45) 1,2-Dichloropropane	12.48	63	4584	1.64	ug/kg	83
46) Methyl Methacrylate	12.56	100	644	1.10	ug/kg#	53
47) 1,4-Dioxane	12.69	88	220	15.51	ug/kg	89
48) Bromodichloromethane	12.49	83	5202	1.58	ug/kg	95
49) Dibromomethane	12.40	93	2122	1.37	ug/kg#	80
50) 4-Methyl-2-Pentanone	13.50	100	2243	7.31	ug/kg	91
51) 2-Chloroethyl vinyl ether	12.84	63	220	26.48	ug/kg#	59
52) 2-Hexanone	14.21	43	11906	7.57	ug/kg#	85

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011921\212AN002.D Vial: 2
Acq On : 19 Jan 2021 8:23 am Operator: KKW
Sample : AA64539-CAL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 10:47 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 09:09:11 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.03	75	5600	1.37	ug/kg	64
55) D8-Toluene	13.22	98	445659	50.44	ug/kg	93
57) Toluene	13.27	92	8503	1.42	ug/kg	97
58) Ethyl Methacrylate	13.62	69	3430	1.25	ug/kg#	65
59) T-1,3-Dichloropropene	13.56	75	4438	1.37	ug/kg	77
60) 1,1,2-Trichloroethane	13.71	97	2145	1.09	ug/kg	90
61) 1,3-Dichloropropane	13.97	76	4777	1.27	ug/kg	83
62) Tetrachloroethene	13.64	164	2115	1.06	ug/kg	89
63) Dibromochloromethane	13.91	129	3340	1.14	ug/kg#	88
64) 1,2-Dibromoethane	14.16	107	2309	1.02	ug/kg#	88
65) Chlorobenzene	14.61	112	9328	1.38	ug/kg#	59
66) 1,1,1,2-Tetrachloroethane	14.63	131	3525	1.29	ug/kg#	1
67) Ethylbenzene	14.57	106	4585	1.33	ug/kg	91
68) m-xylene & p-xylene	14.69	106	10267	2.51	ug/kg	99
69) O-Xylene	15.11	106	4532	1.10	ug/kg	76
70) Bromoform	15.24	173	1427	1.05	ug/kg	89
71) Styrene	15.15	104	8494	1.18	ug/kg	92
72) Isopropylbenzene	15.38	105	12673	1.25	ug/kg	95
73) 1,2,3-Trichloropropane	16.01	75	2786	1.21	ug/kg	86
74) 1,1,2,2-Tetrachloroethane	15.80	83	2212	1.06	ug/kg	94
76) Bromofluorobenzene	15.72	95	149621	44.86	ug/kg#	76
77) T-1,4-dichloro-2-butene	16.01	53	684	1.16	ug/kg#	84
78) N-Propylbenzene	15.78	91	14456	1.30	ug/kg	94
80) Bromobenzene	15.87	156	2562	1.29	ug/kg	87
81) 1,3,5-Trimethylbenzene	15.94	105	9168	1.50	ug/kg	92
82) 2-Chlorotoluene	16.03	91	9005	1.67	ug/kg	87
83) 4-Chlorotoluene	16.19	91	9022	1.61	ug/kg	90
84) 1,2,4-Trimethylbenzene	16.39	105	9026	1.47	ug/kg	97
85) s-Butylbenzene	16.52	105	10829	1.46	ug/kg	97
86) tert-Butylbenzene	16.32	119	8109	1.44	ug/kg	91
87) p-Isopropyltoluene	16.64	119	9139	1.39	ug/kg	93
88) 1,3-Dichlorobenzene	16.89	146	5088	1.42	ug/kg	97
89) 1,4-Dichlorobenzene	16.89	146	5088	1.39	ug/kg	97
90) 1,2-Dichlorobenzene	17.55	146	3967	1.24	ug/kg	95
91) N-Butylbenzene	17.16	91	6558	1.28	ug/kg	97
92) DBCP	18.68	75	62	0.31	ug/kg	72
93) Naphthalene	20.68	128	1225	0.61	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.96	180	1233	0.92	ug/kg	89
95) Hexachlorobutadiene	19.81	225	708	1.00	ug/kg#	63
96) 1,2,3-Trichlorobenzene	21.09	180	721	0.76	ug/kg	68

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011921\212AN003.D Vial: 3
Acq On : 19 Jan 2021 8:52 am Operator: KKW
Sample : AA64539-CAL2 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 12:38 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 09:09:11 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.44	168	267255	50.00	ug/kg	-0.02
38) 1,4-Difluorobenzene(IS)	12.00	114	516243	50.00	ug/kg	-0.02
56) Chlorobenzene-d5(IS)	14.59	82	215044	50.00	ug/kg	-0.02
79) 1,4-Dichlorobenzene-d4(IS)	16.96	152	132912	50.00	ug/kg	-0.02
System Monitoring Compounds						
30) Dibromofluoromethane	11.05	113	172575	58.11	ug/kg	-0.03
Spiked Amount 50.000	Range 53 - 146		Recovery = 116.22%			
54) D8-Toluene	13.22	98	481299	55.98	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 111.96%			
75) Bromofluorobenzene	15.71	95	161119	49.47	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 98.94%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.88	85	11564	2.95	ug/kg	90
3) Chloromethane	6.35	50	13482	2.45	ug/kg	95
4) Vinyl Chloride	6.54	62	12694	3.94	ug/kg#	44
5) Bromomethane	7.19	96	20377	12.22	ug/kg	97
6) Chloroethane	7.43	64	10628	5.67	ug/kg	93
7) Trichlorofluoromethane	7.69	101	16551	3.88	ug/kg	96
8) Trichlorotrifluoroethane	8.51	101	6767	2.81	ug/kg	90
9) acrolein	8.88	56	2473	10.72	ug/kg#	60
10) Acetone	9.23	43	6762	9.48	ug/kg	89
11) 1,1-Dichloroethene	8.47	96	5713	2.53	ug/kg	91
12) 3-Chloropropene	9.07	76	3437	2.32	ug/kg	95
13) Acetonitrile	9.79	41	4148	17.59	ug/kg	70
14) Iodomethane	8.70	142	3435	0.77	ug/kg	84
15) Carbon disulfide	8.58	76	73444	8.87	ug/kg	97
16) Methylene Chloride	9.18	84	7951	2.97	ug/kg	87
17) Methyl tert-butyl ether	9.50	73	12783	4.12	ug/kg	87
18) Acrylonitrile	10.09	53	23275	22.47	ug/kg#	39
19) T-1,2-Dichloroethene	9.41	96	6358	2.59	ug/kg	89
20) Isopropyl Ether	9.88	45	34328	2.89	ug/kg	95
21) C-1,2-Dichloroethene	10.65	96	6810	2.54	ug/kg	92
22) 1,1-Dichloroethane	10.09	63	13582	3.03	ug/kg	93
23) Vinyl Acetate	10.29	43	77384	12.44	ug/kg	96
24) Chloroprene	10.08	88	4379	2.09	ug/kg	94
25) 2-Butanone	11.16	72	1486	8.36	ug/kg#	40
26) Propionitrile	11.44	54	4285	18.88	ug/kg	100
27) 2,2-Dichloropropane	10.78	77	10172	3.40	ug/kg	55
28) Methacrylonitrile	11.47	67	15191	22.35	ug/kg	80
29) Chloroform	10.87	83	12952	3.06	ug/kg	90
31) Dibromofluoromethane	11.05	113	172575	58.11	ug/kg	100
32) Bromochloromethane	10.85	128	3568	2.44	ug/kg	81
33) 1,1,1-Trichloroethane	11.17	97	10488	3.03	ug/kg	92
34) 1,1-Dichloropropene	11.26	75	8853	2.83	ug/kg	96
35) Diethyl Ether	8.12	59	5388	2.69	ug/kg	91
36) Methyl Acetate	9.38	74	614	2.06	ug/kg#	11
37) Cyclohexane	10.93	56	10318	2.58	ug/kg	97
39) Methyl Cyclohexane	12.06	55	8619	2.85	ug/kg#	80
40) Carbon Tetrachloride	11.13	117	10282	2.63	ug/kg	97
41) 1,2-Dichloroethane	11.65	62	8598	2.95	ug/kg	92
42) Benzene	11.51	78	24734	2.73	ug/kg	86
43) Isobutyl Alcohol	11.53	43	7896m	96.12	ug/kg	
44) Trichloroethene	12.02	130	6381	2.22	ug/kg#	1
45) 1,2-Dichloropropane	12.48	63	7033	2.59	ug/kg	80
46) Methyl Methacrylate	12.56	100	411	0.72	ug/kg#	1
47) 1,4-Dioxane	12.67	88	250	18.11	ug/kg#	51
48) Bromodichloromethane	12.49	83	8828	2.76	ug/kg	99
49) Dibromomethane	12.41	93	3569	2.37	ug/kg	90
50) 4-Methyl-2-Pentanone	13.49	100	2989	10.01	ug/kg	89
51) 2-Chloroethyl vinyl ether	12.82	63	148	18.31	ug/kg#	20
52) 2-Hexanone	14.19	43	15744	10.29	ug/kg#	87

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011921\212AN003.D Vial: 3
Acq On : 19 Jan 2021 8:52 am Operator: KKW
Sample : AA64539-CAL2 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 12:38 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 09:09:11 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

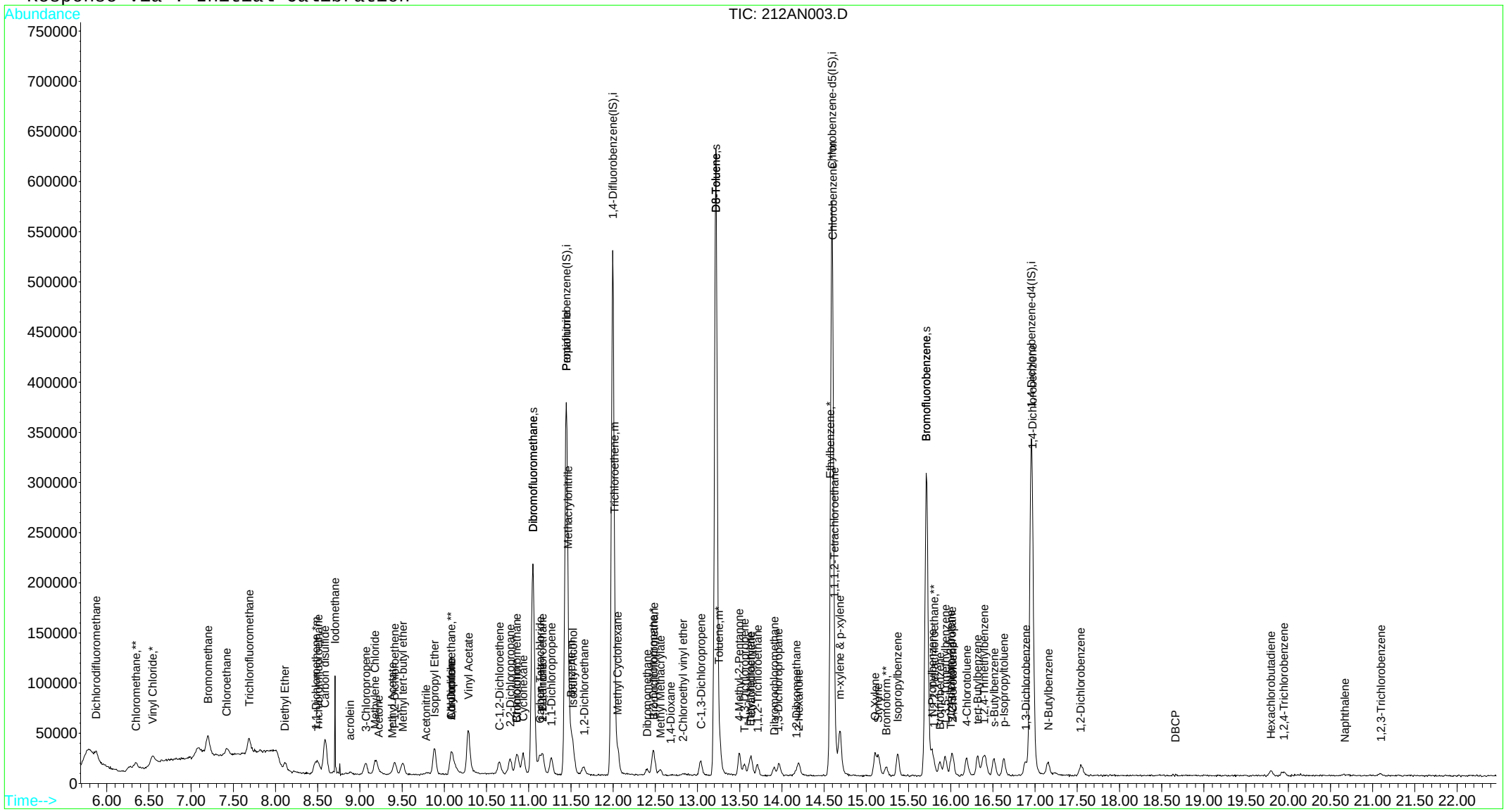
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.03	75	9492	2.39	ug/kg	77
55) D8-Toluene	13.22	98	481299	55.98	ug/kg	93
57) Toluene	13.26	92	13800	2.35	ug/kg	97
58) Ethyl Methacrylate	13.62	69	4523	1.69	ug/kg	73
59) T-1,3-Dichloropropene	13.56	75	7376	2.34	ug/kg	86
60) 1,1,2-Trichloroethane	13.70	97	3949	2.05	ug/kg	96
61) 1,3-Dichloropropane	13.97	76	7890	2.15	ug/kg	79
62) Tetrachloroethene	13.63	164	3925	2.01	ug/kg	96
63) Dibromochloromethane	13.91	129	5860	2.05	ug/kg#	92
64) 1,2-Dibromoethane	14.16	107	4261	1.93	ug/kg#	99
65) Chlorobenzene	14.61	112	15502	2.35	ug/kg#	73
66) 1,1,1,2-Tetrachloroethane	14.63	131	5691	2.13	ug/kg#	1
67) Ethylbenzene	14.57	106	7634	2.26	ug/kg	92
68) m-xylene & p-xylene	14.69	106	17710	4.43	ug/kg	94
69) O-Xylene	15.10	106	9038	2.25	ug/kg	100
70) Bromoform	15.23	173	2323	1.76	ug/kg	96
71) Styrene	15.15	104	14441	2.06	ug/kg	89
72) Isopropylbenzene	15.37	105	20859	2.11	ug/kg	97
73) 1,2,3-Trichloropropane	16.01	75	4893	2.18	ug/kg	85
74) 1,1,2,2-Tetrachloroethane	15.81	83	3727	1.83	ug/kg#	32
76) Bromofluorobenzene	15.71	95	161119	49.47	ug/kg#	75
77) T-1,4-dichloro-2-butene	15.99	53	1045	1.81	ug/kg	87
78) N-Propylbenzene	15.78	91	24430	2.24	ug/kg	93
80) Bromobenzene	15.87	156	4509	2.31	ug/kg	85
81) 1,3,5-Trimethylbenzene	15.94	105	15827	2.63	ug/kg	96
82) 2-Chlorotoluene	16.03	91	14707	2.78	ug/kg	94
83) 4-Chlorotoluene	16.19	91	15053	2.73	ug/kg	96
84) 1,2,4-Trimethylbenzene	16.39	105	15138	2.51	ug/kg	99
85) s-Butylbenzene	16.52	105	19115	2.63	ug/kg	96
86) tert-Butylbenzene	16.32	119	13882	2.50	ug/kg	93
87) p-Isopropyltoluene	16.64	119	15622	2.41	ug/kg	94
88) 1,3-Dichlorobenzene	16.89	146	7923	2.25	ug/kg	93
89) 1,4-Dichlorobenzene	16.97	146	8745	2.44	ug/kg	81
90) 1,2-Dichlorobenzene	17.55	146	6737	2.15	ug/kg	98
91) N-Butylbenzene	17.15	91	11866	2.36	ug/kg	97
92) DBCP	18.66	75	266	1.34	ug/kg#	55
93) Naphthalene	20.68	128	2731	1.38	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.94	180	2358	1.80	ug/kg#	22
95) Hexachlorobutadiene	19.79	225	1318	1.89	ug/kg#	34
96) 1,2,3-Trichlorobenzene	21.10	180	1500	1.61	ug/kg	89

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\011921\212AN003.D Vial: 3
Acq On : 19 Jan 2021 8:52 am Operator: KKW
Sample : AA64539-CAL2 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 12:38 2021 Quant Results File: 011921.RES

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 29 08:15:08 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011921\212AN004.D Vial: 4
Acq On : 19 Jan 2021 9:20 am Operator: KKW
Sample : AA64539-CAL3 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 9:43 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 09:09:11 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.45	168	259637	50.00	ug/kg	-0.02
38) 1,4-Difluorobenzene(IS)	12.00	114	509917	50.00	ug/kg	-0.02
56) Chlorobenzene-d5(IS)	14.60	82	220093	50.00	ug/kg	-0.01
79) 1,4-Dichlorobenzene-d4(IS)	16.95	152	135848	50.00	ug/kg	-0.02
System Monitoring Compounds						
30) Dibromofluoromethane	11.05	113	194177	67.30	ug/kg	-0.03
Spiked Amount 50.000	Range 53 - 146		Recovery = 134.60%			
54) D8-Toluene	13.22	98	554071	65.24	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 130.48%			
75) Bromofluorobenzene	15.71	95	190494	57.14	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 114.28%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.87	85	28552	7.51	ug/kg	94
3) Chloromethane	6.34	50	30593	5.72	ug/kg	96
4) Vinyl Chloride	6.54	62	28640	9.16	ug/kg	97
5) Bromomethane	7.19	96	35865	22.15	ug/kg	98
6) Chloroethane	7.42	64	19315	10.60	ug/kg	99
7) Trichlorofluoromethane	7.69	101	41596	10.03	ug/kg	97
8) Trichlorotrifluoroethane	8.51	101	16376	7.01	ug/kg	90
9) acrolein	8.88	56	5156	23.01	ug/kg	93
10) Acetone	9.23	43	16913	24.40	ug/kg	94
11) 1,1-Dichloroethene	8.47	96	13946	6.35	ug/kg	88
12) 3-Chloropropene	9.06	76	7218	5.02	ug/kg	55
13) Acetonitrile	9.79	41	10964	47.85	ug/kg	97
14) Iodomethane	8.69	142	40925	9.50	ug/kg	89
15) Carbon disulfide	8.59	76	191894	23.86	ug/kg	99
16) Methylene Chloride	9.19	84	17133	6.58	ug/kg	87
17) Methyl tert-butyl ether	9.50	73	31214	10.36	ug/kg	98
18) Acrylonitrile	10.08	53	60490	60.11	ug/kg	98
19) T-1,2-Dichloroethene	9.41	96	16008	6.71	ug/kg	91
20) Isopropyl Ether	9.88	45	84165	7.29	ug/kg	94
21) C-1,2-Dichloroethene	10.65	96	17146	6.59	ug/kg	92
22) 1,1-Dichloroethane	10.09	63	32191	7.38	ug/kg	95
23) Vinyl Acetate	10.28	43	214296	35.47	ug/kg	97
24) Chloroprene	10.08	88	11847	5.81	ug/kg	99
25) 2-Butanone	11.16	72	4672	27.05	ug/kg	90
26) Propionitrile	11.45	54	12278	55.69	ug/kg	100
27) 2,2-Dichloropropane	10.77	77	26355	9.07	ug/kg	99
28) Methacrylonitrile	11.47	67	39047	59.14	ug/kg	78
29) Chloroform	10.87	83	31611	7.69	ug/kg	95
31) Dibromofluoromethane	11.05	113	194177	67.30	ug/kg	100
32) Bromochloromethane	10.85	128	8339	5.88	ug/kg#	74
33) 1,1,1-Trichloroethane	11.17	97	26298	7.81	ug/kg	96
34) 1,1-Dichloropropene	11.26	75	21778	7.17	ug/kg	97
35) Diethyl Ether	8.11	59	13170	6.77	ug/kg	94
36) Methyl Acetate	9.36	74	1827	6.30	ug/kg	83
37) Cyclohexane	10.94	56	26537	6.83	ug/kg	97
39) Methyl Cyclohexane	12.06	55	20658	6.92	ug/kg	84
40) Carbon Tetrachloride	11.13	117	27073	7.01	ug/kg	98
41) 1,2-Dichloroethane	11.66	62	20905	7.25	ug/kg	96
42) Benzene	11.51	78	60532	6.76	ug/kg	95
43) Isobutyl Alcohol	11.53	43	20174	248.64	ug/kg#	1
44) Trichloroethene	12.02	130	17248	6.09	ug/kg#	64
45) 1,2-Dichloropropane	12.47	63	17056	6.36	ug/kg	89
46) Methyl Methacrylate	12.55	100	2604	4.63	ug/kg	80
47) 1,4-Dioxane	12.70	88	872	63.96	ug/kg#	10
48) Bromodichloromethane	12.49	83	21103	6.69	ug/kg	99
49) Dibromomethane	12.41	93	9116	6.14	ug/kg	92
50) 4-Methyl-2-Pentanone	13.49	100	6761	22.92	ug/kg	70
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	14.19	43	41325	27.33	ug/kg	90

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\011921\212AN004.D Vial: 4
Acq On : 19 Jan 2021 9:20 am Operator: KKW
Sample : AA64539-CAL3 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 9:43 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 09:09:11 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.03	75	23479	5.99	ug/kg	85
55) D8-Toluene	13.22	98	554071	65.24	ug/kg	92
57) Toluene	13.26	92	35797	5.97	ug/kg	98
58) Ethyl Methacrylate	13.61	69	12707	4.63	ug/kg	81
59) T-1,3-Dichloropropene	13.56	75	18577	5.76	ug/kg	93
60) 1,1,2-Trichloroethane	13.71	97	10192	5.18	ug/kg	96
61) 1,3-Dichloropropane	13.97	76	20598	5.47	ug/kg	95
62) Tetrachloroethene	13.63	164	9951	4.98	ug/kg	91
63) Dibromochloromethane	13.91	129	13895	4.75	ug/kg#	98
64) 1,2-Dibromoethane	14.16	107	10930	4.84	ug/kg#	98
65) Chlorobenzene	14.61	112	39067	5.79	ug/kg	88
66) 1,1,1,2-Tetrachloroethane	14.63	131	15454	5.66	ug/kg#	1
67) Ethylbenzene	14.57	106	19251	5.58	ug/kg	95
68) m-xylene & p-xylene	14.69	106	45867	11.22	ug/kg	94
69) O-Xylene	15.10	106	21642	5.26	ug/kg	92
70) Bromoform	15.24	173	5732	4.24	ug/kg#	95
71) Styrene	15.15	104	38102	5.31	ug/kg	92
72) Isopropylbenzene	15.37	105	54091	5.34	ug/kg	97
73) 1,2,3-Trichloropropane	16.01	75	11324	4.94	ug/kg	92
74) 1,1,2,2-Tetrachloroethane	15.81	83	9673	4.65	ug/kg	96
76) Bromofluorobenzene	15.71	95	190494	57.14	ug/kg#	75
77) T-1,4-dichloro-2-butene	15.99	53	2843	4.82	ug/kg#	83
78) N-Propylbenzene	15.77	91	59726	5.36	ug/kg	96
80) Bromobenzene	15.87	156	11542	5.80	ug/kg	89
81) 1,3,5-Trimethylbenzene	15.94	105	41148	6.69	ug/kg	95
82) 2-Chlorotoluene	16.02	91	38156	7.04	ug/kg	94
83) 4-Chlorotoluene	16.19	91	37616	6.67	ug/kg	96
84) 1,2,4-Trimethylbenzene	16.38	105	39617	6.42	ug/kg	100
85) s-Butylbenzene	16.51	105	49512	6.66	ug/kg	96
86) tert-Butylbenzene	16.32	119	37815	6.67	ug/kg	94
87) p-Isopropyltoluene	16.63	119	42072	6.36	ug/kg	96
88) 1,3-Dichlorobenzene	16.88	146	20563	5.72	ug/kg	95
89) 1,4-Dichlorobenzene	16.98	146	21664	5.91	ug/kg	90
90) 1,2-Dichlorobenzene	17.55	146	17562	5.49	ug/kg	97
91) N-Butylbenzene	17.15	91	32327	6.29	ug/kg	95
92) DBCP	18.65	75	1402	6.90	ug/kg#	47
93) Naphthalene	20.65	128	6980	3.45	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.95	180	6096	4.54	ug/kg	91
95) Hexachlorobutadiene	19.80	225	4126	5.80	ug/kg	96
96) 1,2,3-Trichlorobenzene	21.08	180	4082	4.29	ug/kg	93

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011921\212AN006.D Vial: 6
Acq On : 19 Jan 2021 10:17 am Operator: KKW
Sample : AA64539-CAL4 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 10:46 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 09:09:11 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.45	168	253281	50.00	ug/kg	-0.02
38) 1,4-Difluorobenzene(IS)	11.99	114	506895	50.00	ug/kg	-0.02
56) Chlorobenzene-d5(IS)	14.59	82	216205	50.00	ug/kg	-0.02
79) 1,4-Dichlorobenzene-d4(IS)	16.96	152	135032	50.00	ug/kg	-0.02
System Monitoring Compounds						
30) Dibromofluoromethane	11.05	113	152235	54.09	ug/kg	-0.03
Spiked Amount 50.000	Range 53 - 146		Recovery = 108.18%			
54) D8-Toluene	13.22	98	425876	50.44	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 100.88%			
75) Bromofluorobenzene	15.71	95	142861	43.63	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 87.26%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.89	85	50194	13.53	ug/kg	94
3) Chloromethane	6.35	50	58249	11.16	ug/kg	100
4) Vinyl Chloride	6.54	62	47529	15.58	ug/kg	99
5) Bromomethane	7.21	96	38123	24.13	ug/kg	96
6) Chloroethane	7.42	64	32408	18.24	ug/kg	96
7) Trichlorofluoromethane	7.69	101	72121	17.82	ug/kg	99
8) Trichlorotrifluoroethane	8.51	101	25750	11.29	ug/kg	98
9) acrolein	8.88	56	12318	56.36	ug/kg	86
10) Acetone	9.23	43	28324	41.90	ug/kg	90
11) 1,1-Dichloroethene	8.47	96	22393	10.45	ug/kg	91
12) 3-Chloropropene	9.06	76	13861	9.88	ug/kg	84
13) Acetonitrile	9.78	41	19868	88.89	ug/kg	88
14) Iodomethane	8.70	142	118071	28.11	ug/kg	91
15) Carbon disulfide	8.59	76	327326	41.73	ug/kg	99
16) Methylene Chloride	9.18	84	28699	11.30	ug/kg	85
17) Methyl tert-butyl ether	9.51	73	49179	16.73	ug/kg	93
18) Acrylonitrile	10.09	53	110813	112.87	ug/kg	99
19) T-1,2-Dichloroethene	9.42	96	25247	10.85	ug/kg	93
20) Isopropyl Ether	9.88	45	131500	11.68	ug/kg	95
21) C-1,2-Dichloroethene	10.66	96	28604	11.27	ug/kg	97
22) 1,1-Dichloroethane	10.09	63	51290	12.06	ug/kg	98
23) Vinyl Acetate	10.28	43	380308	64.53	ug/kg	96
24) Chloroprene	10.08	88	21025	10.58	ug/kg	95
25) 2-Butanone	11.15	72	7359	43.67	ug/kg	89
26) Propionitrile	11.44	54	20875	97.06	ug/kg	100
27) 2,2-Dichloropropane	10.78	77	40694	14.36	ug/kg	95
28) Methacrylonitrile	11.47	67	66437	103.16	ug/kg	77
29) Chloroform	10.87	83	49515	12.34	ug/kg	95
31) Dibromofluoromethane	11.05	113	152235	54.09	ug/kg	100
32) Bromochloromethane	10.85	128	13538	9.79	ug/kg#	74
33) 1,1,1-Trichloroethane	11.17	97	42232	12.86	ug/kg	96
34) 1,1-Dichloropropene	11.27	75	35500	11.98	ug/kg	96
35) Diethyl Ether	8.12	59	20913	11.01	ug/kg	99
36) Methyl Acetate	9.36	74	2526	8.93	ug/kg#	71
37) Cyclohexane	10.93	56	44165	11.65	ug/kg	95
39) Methyl Cyclohexane	12.06	55	36498	12.30	ug/kg#	82
40) Carbon Tetrachloride	11.13	117	43274	11.28	ug/kg	99
41) 1,2-Dichloroethane	11.65	62	33893	11.83	ug/kg	97
42) Benzene	11.51	78	99579	11.19	ug/kg	96
43) Isobutyl Alcohol	11.53	43	34037	421.99	ug/kg#	1
44) Trichloroethene	12.02	130	28345	10.06	ug/kg#	78
45) 1,2-Dichloropropane	12.47	63	27311	10.25	ug/kg	88
46) Methyl Methacrylate	12.56	100	4415	7.89	ug/kg	75
47) 1,4-Dioxane	12.68	88	1286	94.89	ug/kg	92
48) Bromodichloromethane	12.49	83	34928	11.14	ug/kg	96
49) Dibromomethane	12.40	93	14802	10.03	ug/kg	92
50) 4-Methyl-2-Pentanone	13.49	100	10634	36.26	ug/kg	61
51) 2-Chloroethyl vinyl ether	12.81	63	731	92.09	ug/kg#	17
52) 2-Hexanone	14.19	43	67615	44.99	ug/kg	92

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\011921\212AN006.D Vial: 6
Acq On : 19 Jan 2021 10:17 am Operator: KKW
Sample : AA64539-CAL4 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 10:46 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 09:09:11 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

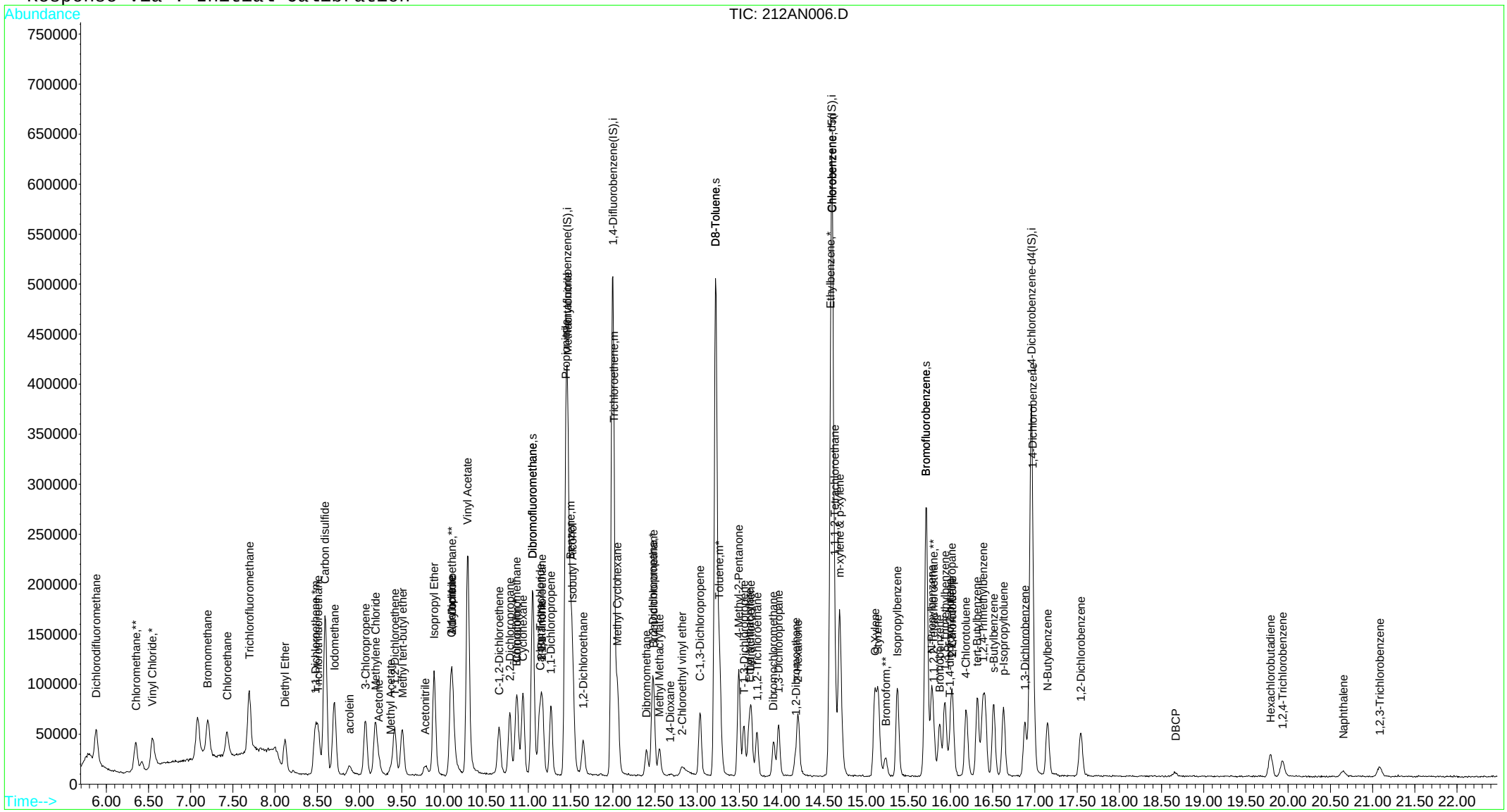
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.03	75	40265	10.33	ug/kg	87
55) D8-Toluene	13.22	98	425876	50.44	ug/kg	94
57) Toluene	13.27	92	56877	9.65	ug/kg	97
58) Ethyl Methacrylate	13.61	69	22159	8.22	ug/kg	82
59) T-1,3-Dichloropropene	13.55	75	30913	9.75	ug/kg	90
60) 1,1,2-Trichloroethane	13.71	97	16837	8.71	ug/kg	98
61) 1,3-Dichloropropane	13.96	76	31695	8.57	ug/kg	93
62) Tetrachloroethene	13.64	164	16060	8.18	ug/kg	95
63) Dibromochloromethane	13.91	129	23480	8.17	ug/kg#	96
64) 1,2-Dibromoethane	14.16	107	18059	8.14	ug/kg#	99
65) Chlorobenzene	14.61	112	63515	9.59	ug/kg	94
66) 1,1,1,2-Tetrachloroethane	14.64	131	25104	9.35	ug/kg#	1
67) Ethylbenzene	14.57	106	30550	9.01	ug/kg	93
68) m-xylene & p-xylene	14.69	106	75469	18.79	ug/kg	97
69) O-Xylene	15.11	106	35277	8.73	ug/kg	91
70) Bromoform	15.24	173	9740	7.33	ug/kg	96
71) Styrene	15.14	104	60125	8.53	ug/kg	97
72) Isopropylbenzene	15.37	105	89636	9.00	ug/kg	97
73) 1,2,3-Trichloropropane	16.01	75	19290	8.56	ug/kg	100
74) 1,1,2,2-Tetrachloroethane	15.81	83	16229	7.95	ug/kg	97
76) Bromofluorobenzene	15.71	95	142861	43.63	ug/kg#	76
77) T-1,4-dichloro-2-butene	15.98	53	5128	8.85	ug/kg#	76
78) N-Propylbenzene	15.78	91	99790	9.12	ug/kg	95
80) Bromobenzene	15.87	156	18450	9.32	ug/kg	84
81) 1,3,5-Trimethylbenzene	15.93	105	65240	10.67	ug/kg	97
82) 2-Chlorotoluene	16.02	91	60018	11.15	ug/kg	96
83) 4-Chlorotoluene	16.18	91	61224	10.92	ug/kg	96
84) 1,2,4-Trimethylbenzene	16.39	105	62110	10.12	ug/kg	100
85) s-Butylbenzene	16.51	105	82047	11.10	ug/kg	98
86) tert-Butylbenzene	16.32	119	61434	10.90	ug/kg	96
87) p-Isopropyltoluene	16.63	119	66111	10.06	ug/kg	95
88) 1,3-Dichlorobenzene	16.88	146	32754	9.16	ug/kg	95
89) 1,4-Dichlorobenzene	16.98	146	34665	9.51	ug/kg	94
90) 1,2-Dichlorobenzene	17.54	146	28174	8.86	ug/kg	97
91) N-Butylbenzene	17.15	91	50304	9.85	ug/kg	95
92) DBCP	18.67	75	1853	9.18	ug/kg	67
93) Naphthalene	20.65	128	10947	5.44	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.94	180	9165	6.87	ug/kg	99
95) Hexachlorobutadiene	19.80	225	6623	9.36	ug/kg	99
96) 1,2,3-Trichlorobenzene	21.09	180	5828	6.16	ug/kg	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\011921\212AN006.D Vial: 6
Acq On : 19 Jan 2021 10:17 am Operator: KKW
Sample : AA64539-CAL4 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 10:46 2021 Quant Results File: 011921.RES

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 29 08:15:08 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011921\212AN007.D Vial: 7
Acq On : 19 Jan 2021 10:46 am Operator: KKW
Sample : AA64539-CAL5 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 11:09 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 09:09:11 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.45	168	285339	50.00	ug/kg	-0.02
38) 1,4-Difluorobenzene(IS)	12.00	114	550117	50.00	ug/kg	-0.02
56) Chlorobenzene-d5(IS)	14.59	82	239824	50.00	ug/kg	-0.02
79) 1,4-Dichlorobenzene-d4(IS)	16.95	152	149699	50.00	ug/kg	-0.02
System Monitoring Compounds						
30) Dibromofluoromethane	11.05	113	205896	64.93	ug/kg	-0.03
Spiked Amount 50.000	Range 53 - 146		Recovery = 129.86%			
54) D8-Toluene	13.22	98	587621	64.13	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 128.26%			
75) Bromofluorobenzene	15.71	95	207579	57.15	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 114.30%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.87	85	124919	29.89	ug/kg	97
3) Chloromethane	6.35	50	119212	20.27	ug/kg	99
4) Vinyl Chloride	6.54	62	117431	34.18	ug/kg	100
5) Bromomethane	7.19	96	79597	44.72	ug/kg	99
6) Chloroethane	7.42	64	78732	39.33	ug/kg	99
7) Trichlorofluoromethane	7.69	101	176093	38.63	ug/kg	98
8) Trichlorotrifluoroethane	8.51	101	59537	23.18	ug/kg	93
9) acrolein	8.88	56	23596	95.83	ug/kg	96
10) Acetone	9.22	43	62627	82.23	ug/kg	92
11) 1,1-Dichloroethene	8.47	96	51765	21.45	ug/kg	90
12) 3-Chloropropene	9.07	76	29343	18.57	ug/kg	78
13) Acetonitrile	9.77	41	45484	180.63	ug/kg	93
14) Iodomethane	8.70	142	302241	63.87	ug/kg	90
15) Carbon disulfide	8.59	76	719122	81.38	ug/kg	99
16) Methylene Chloride	9.18	84	61257	21.42	ug/kg	89
17) Methyl tert-butyl ether	9.50	73	113943	34.42	ug/kg	93
18) Acrylonitrile	10.09	53	254126	229.77	ug/kg	99
19) T-1,2-Dichloroethene	9.41	96	59334	22.63	ug/kg	93
20) Isopropyl Ether	9.88	45	302927	23.88	ug/kg	95
21) C-1,2-Dichloroethene	10.65	96	65460	22.90	ug/kg	95
22) 1,1-Dichloroethane	10.09	63	118006	24.63	ug/kg	99
23) Vinyl Acetate	10.27	43	867232	130.61	ug/kg	97
24) Chloroprene	10.08	88	48296	21.57	ug/kg	96
25) 2-Butanone	11.15	72	16687	87.90	ug/kg	83
26) Propionitrile	11.43	54	49867	205.82	ug/kg	100
27) 2,2-Dichloropropane	10.78	77	93273	29.21	ug/kg	96
28) Methacrylonitrile	11.47	67	155882	214.85	ug/kg	79
29) Chloroform	10.87	83	114125	25.25	ug/kg	95
31) Dibromofluoromethane	11.05	113	205896	64.93	ug/kg	100
32) Bromochloromethane	10.85	128	31741	20.37	ug/kg	78
33) 1,1,1-Trichloroethane	11.16	97	99289	26.83	ug/kg	97
34) 1,1-Dichloropropene	11.26	75	82575	24.74	ug/kg	96
35) Diethyl Ether	8.11	59	47333	22.13	ug/kg	93
36) Methyl Acetate	9.36	74	5742	18.02	ug/kg#	75
37) Cyclohexane	10.93	56	104456	24.47	ug/kg	96
39) Methyl Cyclohexane	12.05	55	79593	24.72	ug/kg	91
40) Carbon Tetrachloride	11.13	117	103298	24.80	ug/kg	98
41) 1,2-Dichloroethane	11.64	62	77410	24.90	ug/kg	99
42) Benzene	11.50	78	236898	24.52	ug/kg	95
43) Isobutyl Alcohol	11.52	43	75080	857.71	ug/kg#	1
44) Trichloroethene	12.02	130	67316	22.02	ug/kg	90
45) 1,2-Dichloropropane	12.47	63	62897	21.76	ug/kg	90
46) Methyl Methacrylate	12.55	100	11031	18.17	ug/kg	88
47) 1,4-Dioxane	12.68	88	2861	194.51	ug/kg	85
48) Bromodichloromethane	12.48	83	80529	23.66	ug/kg	97
49) Dibromomethane	12.39	93	34607	21.61	ug/kg	90
50) 4-Methyl-2-Pentanone	13.49	100	25196	79.17	ug/kg	63
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	14.19	43	156713	96.08	ug/kg	92

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\011921\212AN007.D Vial: 7
Acq On : 19 Jan 2021 10:46 am Operator: KKW
Sample : AA64539-CAL5 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 11:09 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 09:09:11 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

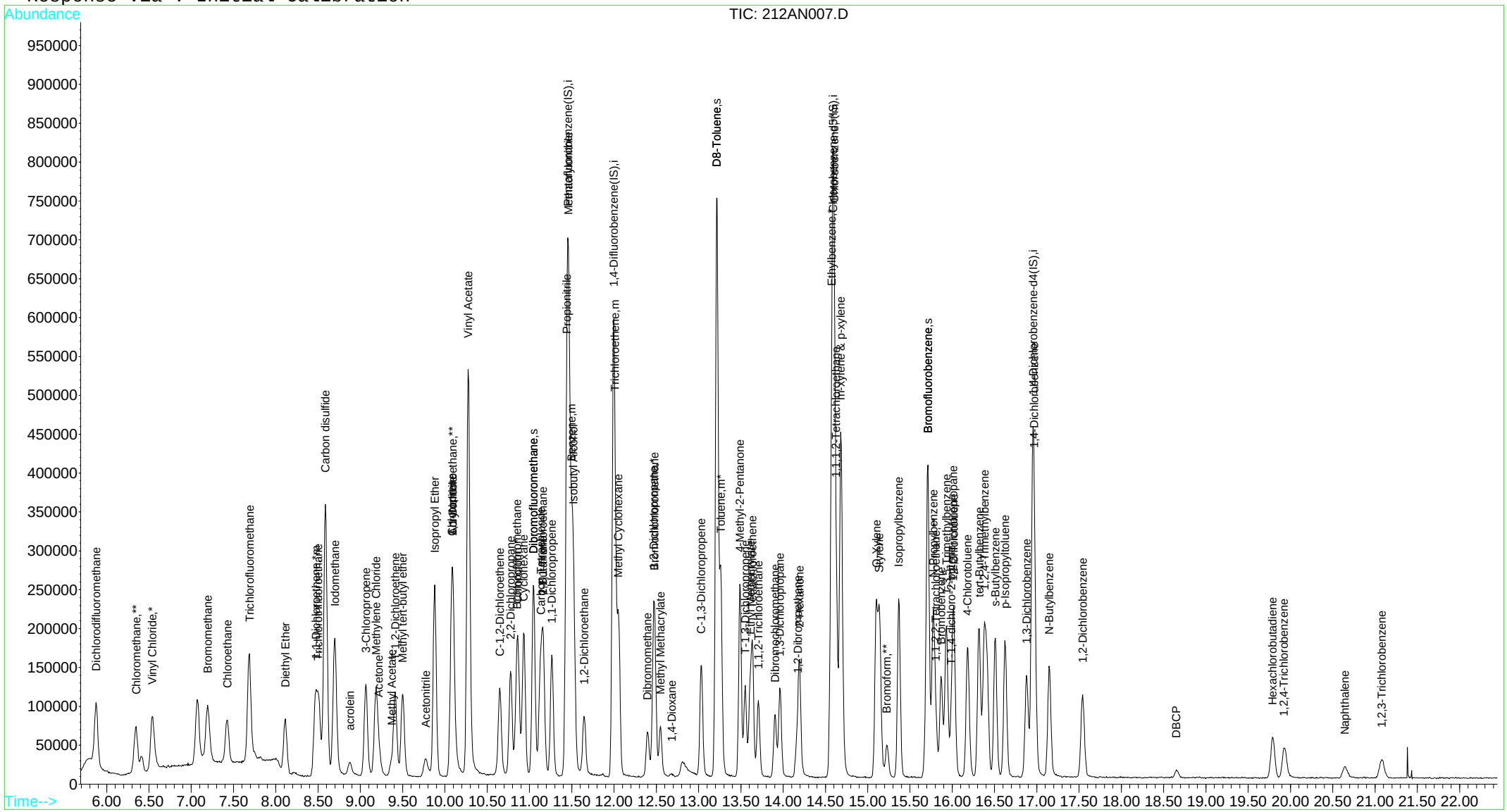
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	13.04	75	91738	21.70 ug/kg	87
55) D8-Toluene	13.22	98	587621	64.13 ug/kg	92
57) Toluene	13.26	92	138201	21.14 ug/kg	99
58) Ethyl Methacrylate	13.61	69	51603	17.26 ug/kg	83
59) T-1,3-Dichloropropene	13.55	75	73811	20.99 ug/kg	93
60) 1,1,2-Trichloroethane	13.71	97	37060	17.29 ug/kg	98
61) 1,3-Dichloropropane	13.96	76	71198	17.36 ug/kg	98
62) Tetrachloroethene	13.64	164	40040	18.39 ug/kg	97
63) Dibromochloromethane	13.90	129	55816	17.51 ug/kg	99
64) 1,2-Dibromoethane	14.17	107	42027	17.08 ug/kg	98
65) Chlorobenzene	14.61	112	154071	20.97 ug/kg	97
66) 1,1,1,2-Tetrachloroethane	14.63	131	59077	19.84 ug/kg#	25
67) Ethylbenzene	14.57	106	75712	20.14 ug/kg	98
68) m-xylene & p-xylene	14.68	106	180809	40.58 ug/kg	97
69) O-Xylene	15.10	106	85940	19.18 ug/kg	94
70) Bromoform	15.22	173	23599	16.02 ug/kg	98
71) Styrene	15.14	104	153066	19.58 ug/kg	97
72) Isopropylbenzene	15.37	105	218669	19.80 ug/kg	98
73) 1,2,3-Trichloropropane	16.00	75	43112	17.24 ug/kg	99
74) 1,1,2,2-Tetrachloroethane	15.81	83	37950	16.75 ug/kg	99
76) Bromofluorobenzene	15.71	95	207579	57.15 ug/kg#	75
77) T-1,4-dichloro-2-butene	15.98	53	11372	17.69 ug/kg#	81
78) N-Propylbenzene	15.78	91	241308	19.87 ug/kg	96
80) Bromobenzene	15.87	156	46575	21.23 ug/kg	88
81) 1,3,5-Trimethylbenzene	15.93	105	161552	23.83 ug/kg	97
82) 2-Chlorotoluene	16.02	91	147316	24.68 ug/kg	96
83) 4-Chlorotoluene	16.18	91	148171	23.85 ug/kg	97
84) 1,2,4-Trimethylbenzene	16.38	105	163709	24.06 ug/kg	99
85) s-Butylbenzene	16.51	105	200719	24.50 ug/kg	96
86) tert-Butylbenzene	16.32	119	147194	23.56 ug/kg	94
87) p-Isopropyltoluene	16.62	119	169355	23.24 ug/kg	96
88) 1,3-Dichlorobenzene	16.88	146	81703	20.62 ug/kg	97
89) 1,4-Dichlorobenzene	16.98	146	84175	20.82 ug/kg	95
90) 1,2-Dichlorobenzene	17.54	146	69217	19.63 ug/kg	97
91) N-Butylbenzene	17.15	91	132180	23.34 ug/kg	97
92) DBCP	18.65	75	3691	16.49 ug/kg	83
93) Naphthalene	20.65	128	28502	12.77 ug/kg	100
94) 1,2,4-Trichlorobenzene	19.93	180	23011	15.57 ug/kg	99
95) Hexachlorobutadiene	19.79	225	15036	19.18 ug/kg	99
96) 1,2,3-Trichlorobenzene	21.09	180	15225	14.52 ug/kg	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\011921\212AN007.D Vial: 7
Acq On : 19 Jan 2021 10:46 am Operator: KKW
Sample : AA64539-CAL5 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 11:09 2021 Quant Results File: 011921.RES

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 29 08:15:08 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011921\212AN008.D Vial: 8
Acq On : 19 Jan 2021 11:15 am Operator: KKW
Sample : AA64539-CAL6 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 11:37 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 09:09:11 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.45	168	320158	50.00	ug/kg	-0.02
38) 1,4-Difluorobenzene(IS)	12.00	114	592335	50.00	ug/kg	-0.02
56) Chlorobenzene-d5(IS)	14.59	82	268151	50.00	ug/kg	-0.02
79) 1,4-Dichlorobenzene-d4(IS)	16.95	152	170474	50.00	ug/kg	-0.02
System Monitoring Compounds						
30) Dibromofluoromethane	11.05	113	169958	47.77	ug/kg	-0.03
Spiked Amount 50.000	Range 53 - 146		Recovery = 95.54%			
54) D8-Toluene	13.21	98	486249	49.29	ug/kg	-0.03
Spiked Amount 50.000	Range 41 - 146		Recovery = 98.58%			
75) Bromofluorobenzene	15.71	95	178139	43.86	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 87.72%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.87	85	300122	63.99	ug/kg	98
3) Chloromethane	6.34	50	289115	43.81	ug/kg	100
4) Vinyl Chloride	6.54	62	280729	72.82	ug/kg	100
5) Bromomethane	7.18	96	196887	98.59	ug/kg	97
6) Chloroethane	7.42	64	183899	81.88	ug/kg	99
7) Trichlorofluoromethane	7.68	101	421371	82.39	ug/kg	100
8) Trichlorotrifluoroethane	8.51	101	158574	55.01	ug/kg	95
9) acrolein	8.87	56	78822	285.30	ug/kg	96
10) Acetone	9.21	43	164311	192.28	ug/kg	95
11) 1,1-Dichloroethene	8.47	96	140130	51.75	ug/kg	90
12) 3-Chloropropene	9.06	76	80139	45.21	ug/kg	75
13) Acetonitrile	9.77	41	133397	472.15	ug/kg	100
14) Iodomethane	8.70	142	870873	164.01	ug/kg	92
15) Carbon disulfide	8.59	76	1887336	190.35	ug/kg	100
16) Methylene Chloride	9.18	84	161025	50.18	ug/kg	90
17) Methyl tert-butyl ether	9.50	73	313026	84.27	ug/kg	96
18) Acrylonitrile	10.08	53	712538	574.18	ug/kg	99
19) T-1,2-Dichloroethene	9.41	96	166096	56.45	ug/kg	95
20) Isopropyl Ether	9.88	45	827705	58.15	ug/kg	96
21) C-1,2-Dichloroethene	10.65	96	182946	57.03	ug/kg	95
22) 1,1-Dichloroethane	10.08	63	330517	61.47	ug/kg	100
23) Vinyl Acetate	10.27	43	2421381	325.02	ug/kg	98
24) Chloroprene	10.08	88	139051	55.35	ug/kg	100
25) 2-Butanone	11.15	72	43787	205.57	ug/kg	78
26) Propionitrile	11.43	54	133062	489.47	ug/kg	100
27) 2,2-Dichloropropane	10.78	77	253267	70.69	ug/kg	98
28) Methacrylonitrile	11.46	67	450622	553.53	ug/kg	87
29) Chloroform	10.87	83	307495	60.63	ug/kg	94
31) Dibromofluoromethane	11.05	113	169958	47.77	ug/kg	100
32) Bromochloromethane	10.85	128	90126	51.54	ug/kg	83
33) 1,1,1-Trichloroethane	11.16	97	264511	63.71	ug/kg	97
34) 1,1-Dichloropropene	11.26	75	224604	59.97	ug/kg	97
35) Diethyl Ether	8.11	59	124960	52.06	ug/kg	95
36) Methyl Acetate	9.36	74	15544	43.48	ug/kg#	77
37) Cyclohexane	10.93	56	283750	59.23	ug/kg	95
39) Methyl Cyclohexane	12.05	55	215401	62.12	ug/kg	95
40) Carbon Tetrachloride	11.13	117	276818	61.72	ug/kg	100
41) 1,2-Dichloroethane	11.64	62	204865	61.20	ug/kg	97
42) Benzene	11.50	78	670248	64.43	ug/kg	95
43) Isobutyl Alcohol	11.52	43	217307	2305.57	ug/kg#	1
44) Trichloroethene	12.02	130	186396	56.63	ug/kg	95
45) 1,2-Dichloropropane	12.46	63	171852	55.21	ug/kg	92
46) Methyl Methacrylate	12.55	100	30541	46.72	ug/kg	90
47) 1,4-Dioxane	12.68	88	8155	514.91	ug/kg	98
48) Bromodichloromethane	12.48	83	220873	60.26	ug/kg	97
49) Dibromomethane	12.39	93	94664	54.90	ug/kg	94
50) 4-Methyl-2-Pentanone	13.49	100	72880	212.68	ug/kg	72
51) 2-Chloroethyl vinyl ether	12.79	63	720	77.62	ug/kg#	35
52) 2-Hexanone	14.19	43	441391	251.32	ug/kg	94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011921\212AN008.D Vial: 8
Acq On : 19 Jan 2021 11:15 am Operator: KKW
Sample : AA64539-CAL6 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 11:37 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 09:09:11 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

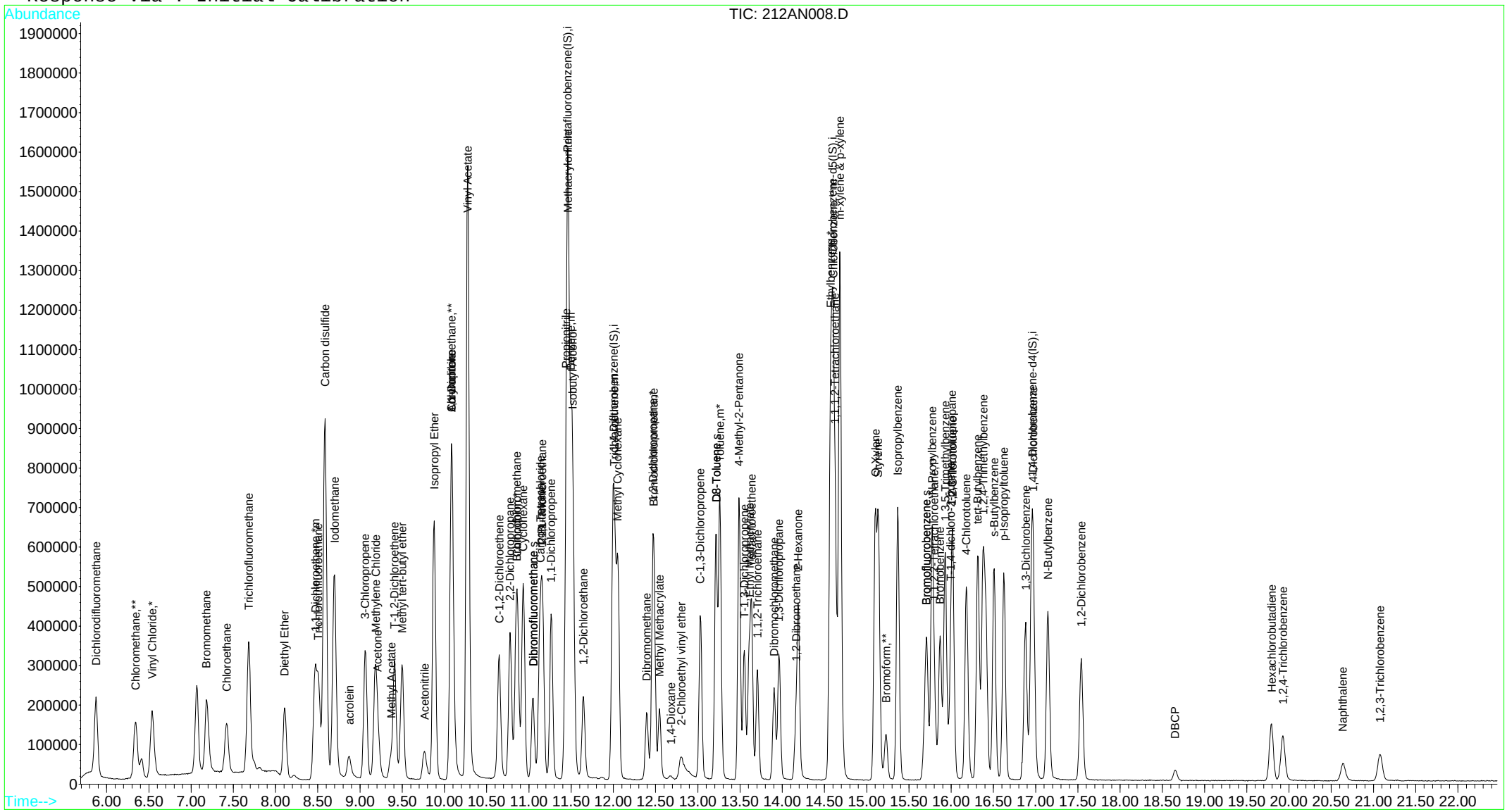
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.03	75	258078	56.68	ug/kg	89
55) D8-Toluene	13.21	98	486249	49.29	ug/kg	92
57) Toluene	13.26	92	384172	52.55	ug/kg	99
58) Ethyl Methacrylate	13.61	69	149300	44.66	ug/kg	91
59) T-1,3-Dichloropropene	13.55	75	205828	52.36	ug/kg	93
60) 1,1,2-Trichloroethane	13.71	97	109178	45.56	ug/kg	98
61) 1,3-Dichloropropane	13.96	76	204269	44.55	ug/kg	99
62) Tetrachloroethene	13.64	164	110059	45.21	ug/kg	96
63) Dibromochloromethane	13.90	129	159617	44.78	ug/kg	99
64) 1,2-Dibromoethane	14.16	107	122263	44.44	ug/kg	99
65) Chlorobenzene	14.61	112	437613	53.28	ug/kg	98
66) 1,1,1,2-Tetrachloroethane	14.63	131	167878	50.42	ug/kg	97
67) Ethylbenzene	14.57	106	218261	51.92	ug/kg	96
68) m-xylene & p-xylene	14.68	106	537384	107.86	ug/kg	98
69) O-Xylene	15.10	106	259375	51.77	ug/kg	96
70) Bromoform	15.23	173	68977	41.87	ug/kg	98
71) Styrene	15.14	104	465799	53.29	ug/kg	98
72) Isopropylbenzene	15.37	105	654363	53.00	ug/kg	99
73) 1,2,3-Trichloropropane	16.00	75	127463	45.60	ug/kg	98
74) 1,1,2,2-Tetrachloroethane	15.80	83	106670	42.11	ug/kg	99
76) Bromofluorobenzene	15.71	95	178139	43.86	ug/kg#	69
77) T-1,4-dichloro-2-butene	15.99	53	32209	44.82	ug/kg#	86
78) N-Propylbenzene	15.78	91	715494	52.70	ug/kg	97
80) Bromobenzene	15.87	156	136268	54.54	ug/kg	90
81) 1,3,5-Trimethylbenzene	15.93	105	487233	63.12	ug/kg	97
82) 2-Chlorotoluene	16.02	91	430693	63.36	ug/kg	96
83) 4-Chlorotoluene	16.18	91	438565	61.98	ug/kg	96
84) 1,2,4-Trimethylbenzene	16.38	105	491625	63.45	ug/kg	99
85) s-Butylbenzene	16.51	105	597776	64.06	ug/kg	97
86) tert-Butylbenzene	16.32	119	442352	62.17	ug/kg	96
87) p-Isopropyltoluene	16.62	119	510824	61.55	ug/kg	98
88) 1,3-Dichlorobenzene	16.88	146	236972	52.52	ug/kg	97
89) 1,4-Dichlorobenzene	16.98	146	242093	52.59	ug/kg	98
90) 1,2-Dichlorobenzene	17.54	146	200158	49.84	ug/kg	97
91) N-Butylbenzene	17.15	91	392034	60.78	ug/kg	97
92) DBCP	18.65	75	11148	43.73	ug/kg	77
93) Naphthalene	20.64	128	83189	32.72	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.93	180	65374	38.83	ug/kg	98
95) Hexachlorobutadiene	19.79	225	41568	46.55	ug/kg	99
96) 1,2,3-Trichlorobenzene	21.07	180	43223	36.20	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\011921\212AN008.D Vial: 8
Acq On : 19 Jan 2021 11:15 am Operator: KKW
Sample : AA64539-CAL6 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 11:37 2021 Quant Results File: 011921.RES

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 29 08:15:08 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011921\212AN009.D Vial: 9
Acq On : 19 Jan 2021 11:43 am Operator: KKW
Sample : AA64539-CAL7 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 12:06 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 09:09:11 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.45	168	331924	50.00	ug/kg	-0.02
38) 1,4-Difluorobenzene(IS)	12.00	114	589225	50.00	ug/kg	-0.02
56) Chlorobenzene-d5(IS)	14.59	82	284238	50.00	ug/kg	-0.02
79) 1,4-Dichlorobenzene-d4(IS)	16.96	152	179167	50.00	ug/kg	-0.02
System Monitoring Compounds						
30) Dibromofluoromethane	11.05	113	241371	65.44	ug/kg	-0.03
Spiked Amount 50.000	Range 53 - 146		Recovery = 130.88%			
54) D8-Toluene	13.22	98	695460	70.87	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 141.74%			
75) Bromofluorobenzene	15.71	95	263602	61.23	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 122.46%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.88	85	503848	103.63	ug/kg	98
3) Chloromethane	6.34	50	524496	76.67	ug/kg	100
4) Vinyl Chloride	6.54	62	445967	111.57	ug/kg	99
5) Bromomethane	7.18	96	292052	141.06	ug/kg	97
6) Chloroethane	7.42	64	291028	124.98	ug/kg	100
7) Trichlorofluoromethane	7.68	101	671769	126.69	ug/kg	100
8) Trichlorotrifluoroethane	8.51	101	258238	86.41	ug/kg	93
9) acrolein	8.87	56	191512	668.60	ug/kg	96
10) Acetone	9.22	43	286181	323.02	ug/kg	92
11) 1,1-Dichloroethene	8.47	96	232908	82.97	ug/kg	91
12) 3-Chloropropene	9.07	76	135915	73.96	ug/kg	74
13) Acetonitrile	9.76	41	237175	809.70	ug/kg	99
14) Iodomethane	8.70	142	1490011	270.67	ug/kg	93
15) Carbon disulfide	8.59	76	3164702	307.86	ug/kg	100
16) Methylene Chloride	9.19	84	270868	81.41	ug/kg	90
17) Methyl tert-butyl ether	9.50	73	528660	137.27	ug/kg	95
18) Acrylonitrile	10.09	53	1235695	960.46	ug/kg	98
19) T-1,2-Dichloroethene	9.42	96	275905	90.45	ug/kg	95
20) Isopropyl Ether	9.88	45	1388570	94.10	ug/kg	96
21) C-1,2-Dichloroethene	10.65	96	308373	92.72	ug/kg	96
22) 1,1-Dichloroethane	10.09	63	562812	100.97	ug/kg#	69
23) Vinyl Acetate	10.28	43	4081545	528.44	ug/kg	98
24) Chloroprene	10.08	88	236625	90.85	ug/kg	97
25) 2-Butanone	11.15	72	75899	343.70	ug/kg	80
26) Propionitrile	11.43	54	241525	856.96	ug/kg	100
27) 2,2-Dichloropropane	10.78	77	408436	109.96	ug/kg	98
28) Methacrylonitrile	11.47	67	760349	900.89	ug/kg	87
29) Chloroform	10.87	83	510092	97.01	ug/kg	94
31) Dibromofluoromethane	11.05	113	241371	65.44	ug/kg	100
32) Bromochloromethane	10.86	128	152672	84.21	ug/kg	84
33) 1,1,1-Trichloroethane	11.17	97	434564	100.97	ug/kg	98
34) 1,1-Dichloropropene	11.27	75	371121	95.58	ug/kg	97
35) Diethyl Ether	8.11	59	209939	84.36	ug/kg	95
36) Methyl Acetate	9.37	74	25779	69.56	ug/kg#	71
37) Cyclohexane	10.94	56	469548	94.54	ug/kg	95
39) Methyl Cyclohexane	12.06	55	340141	98.62	ug/kg	95
40) Carbon Tetrachloride	11.13	117	460596	103.24	ug/kg	100
41) 1,2-Dichloroethane	11.65	62	359777	108.05	ug/kg	98
42) Benzene	11.51	78	1110738	107.34	ug/kg	95
43) Isobutyl Alcohol	11.53	43	377241	4023.55	ug/kg#	1
44) Trichloroethene	12.02	130	283956	86.73	ug/kg	96
45) 1,2-Dichloropropane	12.47	63	281513	90.91	ug/kg	92
46) Methyl Methacrylate	12.55	100	51285	78.87	ug/kg	88
47) 1,4-Dioxane	12.68	88	15134	960.61	ug/kg	95
48) Bromodichloromethane	12.49	83	364796	100.05	ug/kg	98
49) Dibromomethane	12.40	93	159447	92.95	ug/kg	93
50) 4-Methyl-2-Pentanone	13.49	100	126291	370.48	ug/kg	72
51) 2-Chloroethyl vinyl ether	12.90	63	3906	423.30	ug/kg	85
52) 2-Hexanone	14.19	43	777943	445.28	ug/kg	94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011921\212AN009.D Vial: 9
Acq On : 19 Jan 2021 11:43 am Operator: KKW
Sample : AA64539-CAL7 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 12:06 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 09:09:11 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

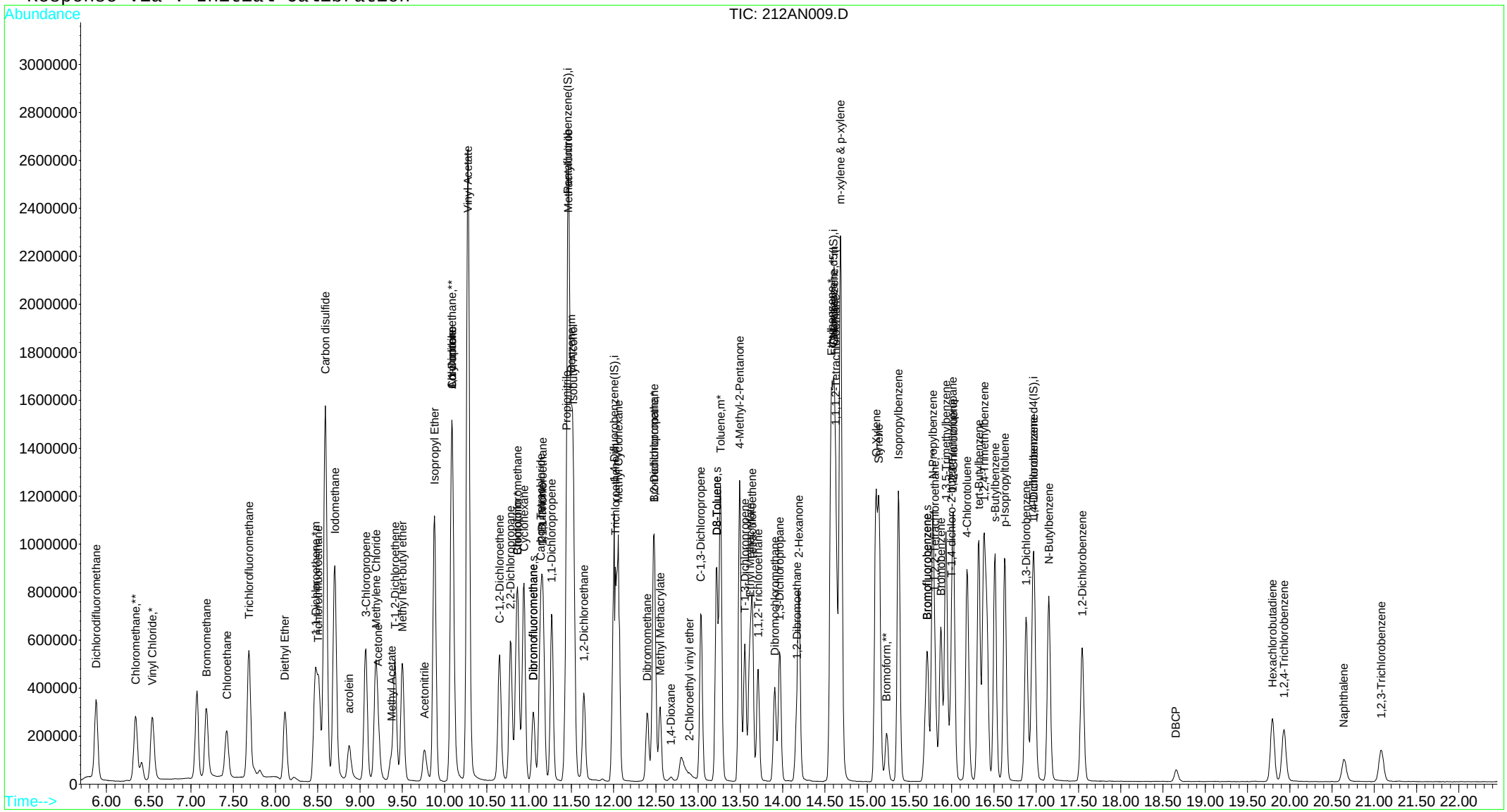
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.04	75	433769	95.78	ug/kg	89
55) D8-Toluene	13.22	98	695460	70.87	ug/kg	93
57) Toluene	13.26	92	648289	83.66	ug/kg	99
58) Ethyl Methacrylate	13.61	69	257223	72.59	ug/kg	89
59) T-1,3-Dichloropropene	13.55	75	349681	83.92	ug/kg	92
60) 1,1,2-Trichloroethane	13.71	97	184145	72.49	ug/kg	99
61) 1,3-Dichloropropane	13.96	76	344589	70.90	ug/kg	99
62) Tetrachloroethene	13.64	164	188642	73.10	ug/kg	96
63) Dibromochloromethane	13.91	129	270735	71.66	ug/kg	99
64) 1,2-Dibromoethane	14.16	107	209564	71.86	ug/kg	100
65) Chlorobenzene	14.61	112	737372	84.69	ug/kg	98
66) 1,1,1,2-Tetrachloroethane	14.63	131	285328	80.85	ug/kg#	56
67) Ethylbenzene	14.57	106	378942	85.04	ug/kg	97
68) m-xylene & p-xylene	14.68	106	918410	173.90	ug/kg	99
69) O-Xylene	15.11	106	451843	85.09	ug/kg	96
70) Bromoform	15.23	173	122179	69.97	ug/kg	99
71) Styrene	15.14	104	807539	87.16	ug/kg	99
72) Isopropylbenzene	15.37	105	1155907	88.32	ug/kg	98
73) 1,2,3-Trichloropropane	16.00	75	229737	77.53	ug/kg	99
74) 1,1,2,2-Tetrachloroethane	15.81	83	185107	68.93	ug/kg	99
76) Bromofluorobenzene	15.71	95	263602	61.23	ug/kg#	67
77) T-1,4-dichloro-2-butene	15.99	53	60997	80.07	ug/kg#	77
78) N-Propylbenzene	15.78	91	1252922	87.06	ug/kg	97
80) Bromobenzene	15.87	156	235309	89.61	ug/kg	88
81) 1,3,5-Trimethylbenzene	15.93	105	854848	105.38	ug/kg	97
82) 2-Chlorotoluene	16.02	91	750602	105.07	ug/kg	96
83) 4-Chlorotoluene	16.18	91	767772	103.25	ug/kg	96
84) 1,2,4-Trimethylbenzene	16.38	105	863579	106.05	ug/kg	98
85) s-Butylbenzene	16.51	105	1037799	105.83	ug/kg	97
86) tert-Butylbenzene	16.32	119	773321	103.41	ug/kg	96
87) p-Isopropyltoluene	16.63	119	894290	102.52	ug/kg	97
88) 1,3-Dichlorobenzene	16.88	146	422277	89.04	ug/kg	97
89) 1,4-Dichlorobenzene	16.98	146	429339	88.73	ug/kg	98
90) 1,2-Dichlorobenzene	17.54	146	359724	85.22	ug/kg	97
91) N-Butylbenzene	17.15	91	695269	102.56	ug/kg	97
92) DBCP	18.65	75	20916	78.07	ug/kg	78
93) Naphthalene	20.64	128	172752	64.66	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.93	180	127163	71.87	ug/kg	99
95) Hexachlorobutadiene	19.79	225	77733	82.83	ug/kg	99
96) 1,2,3-Trichlorobenzene	21.08	180	85373	68.03	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\011921\212AN009.D Vial: 9
Acq On : 19 Jan 2021 11:43 am Operator: KKW
Sample : AA64539-CAL7 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 12:06 2021 Quant Results File: 011921.RES

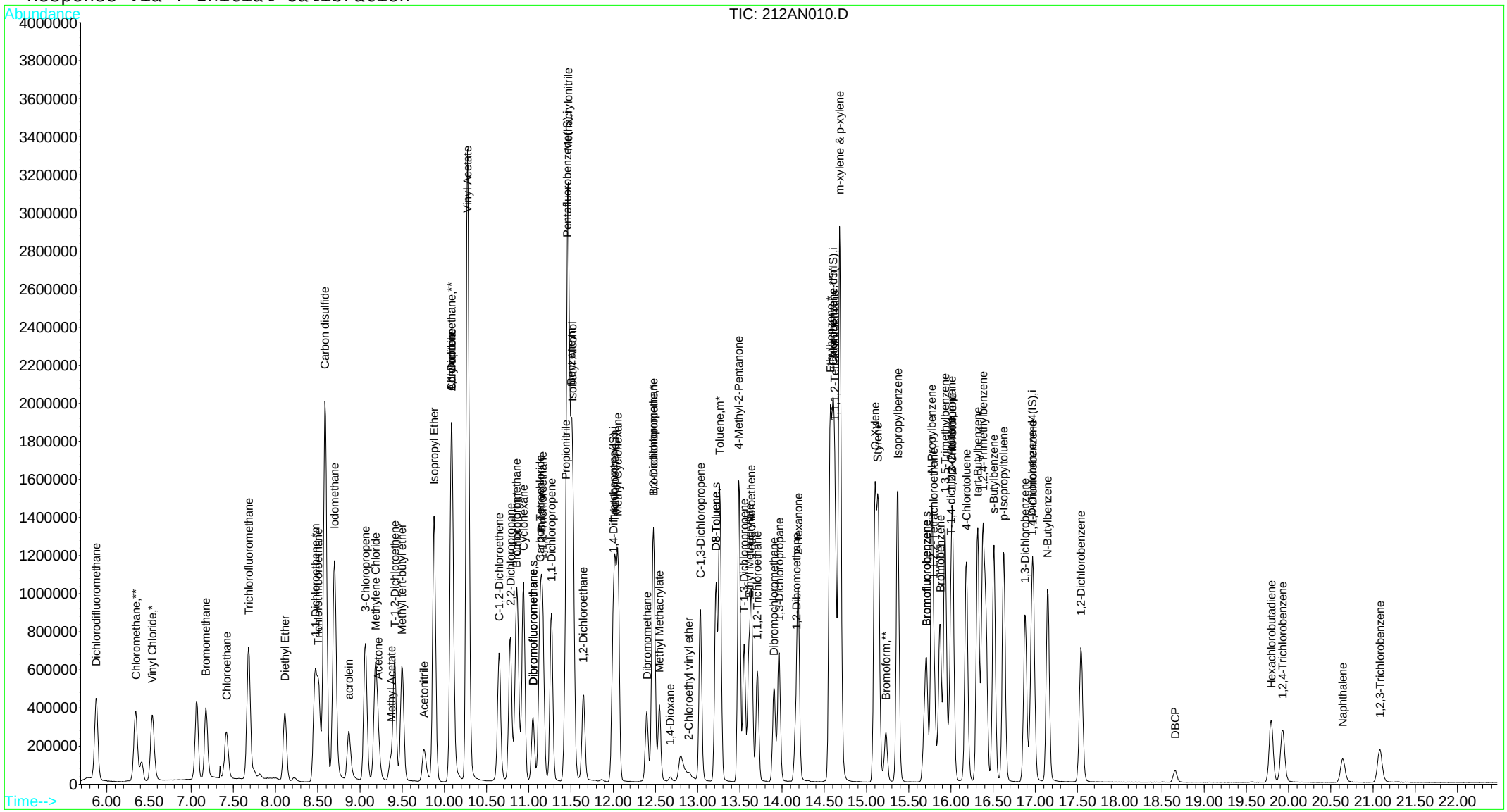
Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 29 08:15:08 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\011921\212AN010.D Vial: 10
Acq On : 19 Jan 2021 12:12 pm Operator: KKW
Sample : AA64539-CAL8 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 12:51 2021 Quant Results File: 011921.RES

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 29 08:15:08 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011921\212AN010.D Vial: 10
Acq On : 19 Jan 2021 12:12 pm Operator: KKW
Sample : AA64539-CAL8 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 12:51 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 09:09:11 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.45	168	335499	50.00	ug/kg	-0.02
38) 1,4-Difluorobenzene(IS)	12.00	114	624473	50.00	ug/kg	-0.02
56) Chlorobenzene-d5(IS)	14.60	82	294938	50.00	ug/kg	-0.01
79) 1,4-Dichlorobenzene-d4(IS)	16.95	152	191016	50.00	ug/kg	-0.02
System Monitoring Compounds						
30) Dibromofluoromethane	11.05	113	274606	73.66	ug/kg	-0.03
Spiked Amount 50.000	Range 53 - 146		Recovery = 147.32%#			
54) D8-Toluene	13.22	98	799216	76.84	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 153.68%#			
75) Bromofluorobenzene	15.71	95	309767	69.34	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 138.68%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.88	85	658142	133.92	ug/kg	99
3) Chloromethane	6.34	50	726367	105.04	ug/kg	100
4) Vinyl Chloride	6.54	62	591434	146.39	ug/kg	99
5) Bromomethane	7.17	96	350276	167.38	ug/kg	98
6) Chloroethane	7.42	64	368671	156.64	ug/kg	100
7) Trichlorofluoromethane	7.68	101	876249	163.49	ug/kg	100
8) Trichlorotrifluoroethane	8.51	101	322791	106.86	ug/kg	92
9) acrolein	8.87	56	340364	1175.61	ug/kg	97
10) Acetone	9.22	43	362640	404.96	ug/kg	94
11) 1,1-Dichloroethene	8.47	96	291082	102.59	ug/kg	91
12) 3-Chloropropene	9.07	76	177092	95.34	ug/kg	76
13) Acetonitrile	9.76	41	302571	1021.95	ug/kg	99
14) Iodomethane	8.70	142	1923709	345.73	ug/kg	92
15) Carbon disulfide	8.59	76	4045121	389.31	ug/kg	99
16) Methylene Chloride	9.19	84	334222	99.39	ug/kg	89
17) Methyl tert-butyl ether	9.50	73	657583	168.92	ug/kg	95
18) Acrylonitrile	10.08	53	1563556	1202.35	ug/kg	98
19) T-1,2-Dichloroethene	9.41	96	349683	113.41	ug/kg	94
20) Isopropyl Ether	9.88	45	1743899	116.92	ug/kg	96
21) C-1,2-Dichloroethene	10.65	96	387844	115.37	ug/kg	94
22) 1,1-Dichloroethane	10.09	63	707449	125.57	ug/kg	99
23) Vinyl Acetate	10.27	43	5139724	658.35	ug/kg	98
24) Chloroprene	10.08	88	300680	114.21	ug/kg	98
25) 2-Butanone	11.15	72	95563	428.14	ug/kg	81
26) Propionitrile	11.43	54	292821	1027.89	ug/kg	100
27) 2,2-Dichloropropane	10.78	77	524991	139.84	ug/kg	98
28) Methacrylonitrile	11.47	67	938027	1099.56	ug/kg	84
29) Chloroform	10.87	83	623507	117.31	ug/kg	95
31) Dibromofluoromethane	11.05	113	274606	73.66	ug/kg	100
32) Bromochloromethane	10.85	128	191328	104.41	ug/kg	84
33) 1,1,1-Trichloroethane	11.17	97	549899	126.40	ug/kg	98
34) 1,1-Dichloropropene	11.27	75	467078	119.01	ug/kg	97
35) Diethyl Ether	8.11	59	259793	103.28	ug/kg	94
36) Methyl Acetate	9.36	74	31863	85.06	ug/kg#	66
37) Cyclohexane	10.94	56	591548	117.84	ug/kg	95
39) Methyl Cyclohexane	12.05	55	458622	125.46	ug/kg	94
40) Carbon Tetrachloride	11.13	117	583290	123.37	ug/kg	99
41) 1,2-Dichloroethane	11.64	62	457707	129.70	ug/kg	99
42) Benzene	11.51	78	1351424	123.22	ug/kg	97
43) Isobutyl Alcohol	11.52	43	467871	4708.52	ug/kg#	1
44) Trichloroethene	12.02	130	395664	114.03	ug/kg	97
45) 1,2-Dichloropropane	12.47	63	358137	109.13	ug/kg	90
46) Methyl Methacrylate	12.55	100	66599	96.64	ug/kg	90
47) 1,4-Dioxane	12.67	88	19720	1181.05	ug/kg	96
48) Bromodichloromethane	12.48	83	462076	119.58	ug/kg	98
49) Dibromomethane	12.40	93	201818	111.02	ug/kg	93
50) 4-Methyl-2-Pentanone	13.49	100	160203	443.44	ug/kg	70
51) 2-Chloroethyl vinyl ether	12.90	63	7639	781.13	ug/kg	89
52) 2-Hexanone	14.19	43	1004164	542.32	ug/kg	94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011921\212AN010.D Vial: 10
Acq On : 19 Jan 2021 12:12 pm Operator: KKW
Sample : AA64539-CAL8 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 19 12:51 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 09:09:11 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

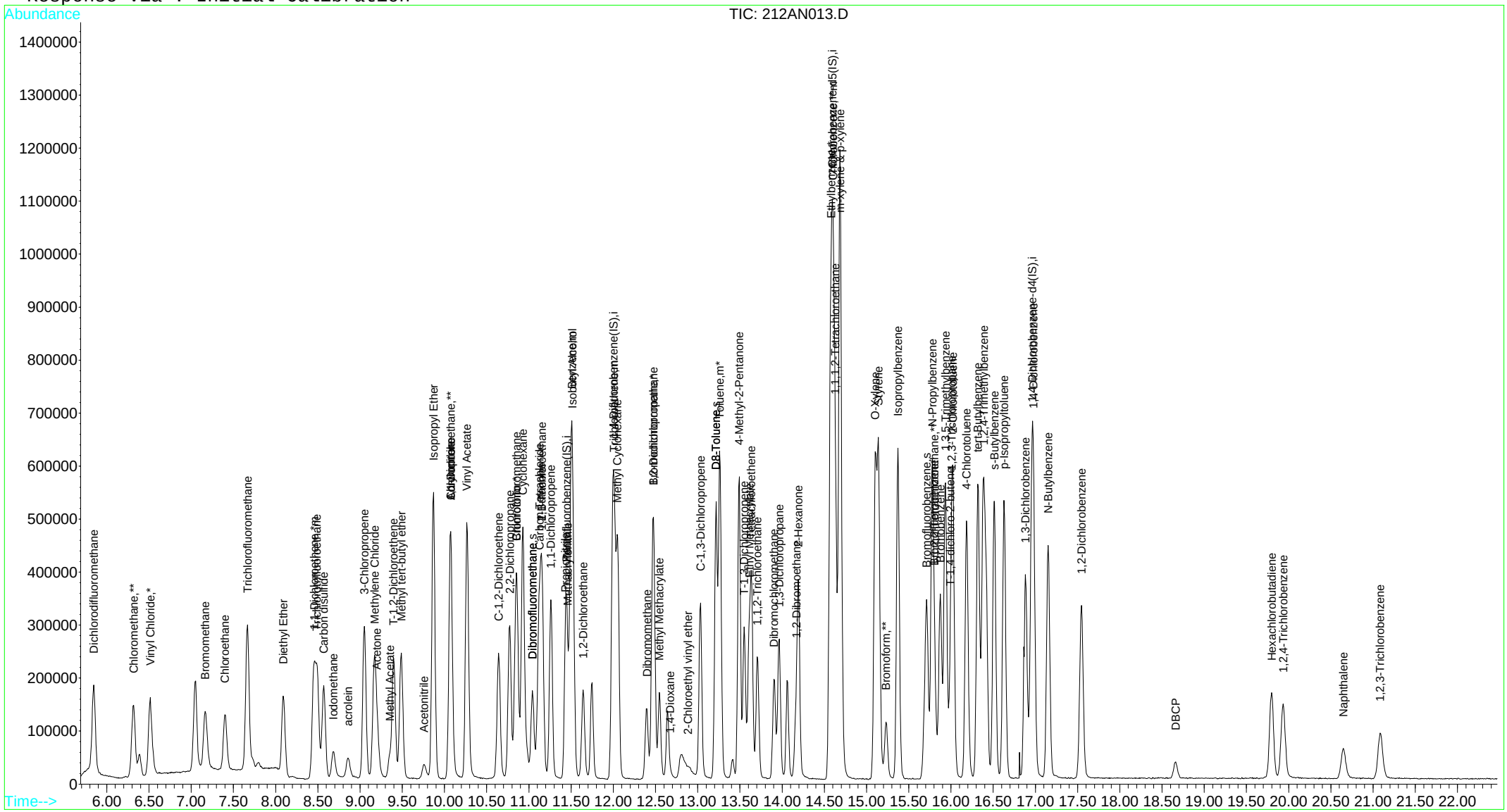
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	13.03	75	557809	116.21 ug/kg	88
55) D8-Toluene	13.22	98	799216	76.84 ug/kg	92
57) Toluene	13.26	92	818181	101.75 ug/kg	100
58) Ethyl Methacrylate	13.61	69	326692	88.85 ug/kg	88
59) T-1,3-Dichloropropene	13.55	75	448860	103.81 ug/kg	93
60) 1,1,2-Trichloroethane	13.71	97	229688	87.14 ug/kg	99
61) 1,3-Dichloropropane	13.97	76	436386	86.53 ug/kg	98
62) Tetrachloroethene	13.64	164	241689	90.26 ug/kg	96
63) Dibromochloromethane	13.90	129	346948	88.50 ug/kg	99
64) 1,2-Dibromoethane	14.16	107	265468	87.73 ug/kg	99
65) Chlorobenzene	14.61	112	941864	104.25 ug/kg	98
66) 1,1,1,2-Tetrachloroethane	14.63	131	364457	99.52 ug/kg#	56
67) Ethylbenzene	14.57	106	489230	105.80 ug/kg	98
68) m-xylene & p-xylene	14.68	106	1170107	213.52 ug/kg	99
69) O-Xylene	15.10	106	588287	106.76 ug/kg	97
70) Bromoform	15.23	173	156667	86.46 ug/kg	99
71) Styrene	15.14	104	1025614	106.68 ug/kg	99
72) Isopropylbenzene	15.37	105	1489315	109.67 ug/kg	98
73) 1,2,3-Trichloropropane	16.00	75	289049	94.01 ug/kg	100
74) 1,1,2,2-Tetrachloroethane	15.80	83	233095	83.65 ug/kg	99
76) Bromofluorobenzene	15.71	95	309769m	69.34 ug/kg	
77) T-1,4-dichloro-2-butene	15.99	53	77959	98.62 ug/kg#	77
78) N-Propylbenzene	15.77	91	1618025	108.35 ug/kg	98
80) Bromobenzene	15.87	156	311258	111.18 ug/kg	91
81) 1,3,5-Trimethylbenzene	15.93	105	1103463	127.59 ug/kg	98
82) 2-Chlorotoluene	16.02	91	976902	128.27 ug/kg	97
83) 4-Chlorotoluene	16.18	91	998408	125.94 ug/kg	97
84) 1,2,4-Trimethylbenzene	16.38	105	1124285	129.51 ug/kg	99
85) s-Butylbenzene	16.51	105	1354338	129.54 ug/kg	97
86) tert-Butylbenzene	16.32	119	1009440	126.62 ug/kg	96
87) p-Isopropyltoluene	16.63	119	1177857	126.66 ug/kg	98
88) 1,3-Dichlorobenzene	16.88	146	554029	109.58 ug/kg	97
89) 1,4-Dichlorobenzene	16.98	146	564682	109.46 ug/kg	98
90) 1,2-Dichlorobenzene	17.54	146	460789	102.39 ug/kg	98
91) N-Butylbenzene	17.14	91	921435	127.49 ug/kg	98
92) DBCP	18.66	75	25180	88.15 ug/kg	82
93) Naphthalene	20.64	128	227611	79.90 ug/kg	100
94) 1,2,4-Trichlorobenzene	19.93	180	162617	86.21 ug/kg	99
95) Hexachlorobutadiene	19.80	225	96827	96.77 ug/kg	99
96) 1,2,3-Trichlorobenzene	21.08	180	109598	81.91 ug/kg	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\011921\212AN013.D Vial: 13
Acq On : 19 Jan 2021 1:38 pm Operator: KKW
Sample : AA64539-SCV1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 20 10:28 2021 Quant Results File: 011921.RES

Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 29 08:15:08 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011921\212AN013.D Vial: 13
Acq On : 19 Jan 2021 1:38 pm Operator: KKW
Sample : AA64539-SCV1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 20 10:28 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 13:57:55 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.44	168	232904	50.00	ug/kg	0.00
38) 1,4-Difluorobenzene(IS)	12.00	114	448821	50.00	ug/kg	0.00
56) Chlorobenzene-d5(IS)	14.59	82	230350	50.00	ug/kg	0.00
79) 1,4-Dichlorobenzene-d4(IS)	16.95	152	165080	50.00	ug/kg	0.00
System Monitoring Compounds						
30) Dibromofluoromethane	11.04	113	130934	49.45	ug/kg	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 98.90%			
54) D8-Toluene	13.22	98	397158	52.27	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 146		Recovery = 104.54%			
75) Bromofluorobenzene	15.71	95	164379	52.52	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 142		Recovery = 105.04%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.84	85	240869	50.05	ug/kg	99
3) Chloromethane	6.32	50	264504	55.24	ug/kg	99
4) Vinyl Chloride	6.52	62	228398	56.31	ug/kg	99
5) Bromomethane	7.17	96	120410	47.05	ug/kg	98
6) Chloroethane	7.41	64	151490	55.94	ug/kg	99
7) Trichlorofluoromethane	7.67	101	344270	51.24	ug/kg	99
8) Trichlorotrifluoroethane	8.49	101	124080	54.83	ug/kg	97
9) acrolein	8.86	56	54263	479.58	ug/kg	99
10) Acetone	9.21	43	156179	312.26	ug/kg	97
11) 1,1-Dichloroethene	8.45	96	104438	46.31	ug/kg	99
12) 3-Chloropropene	9.05	76	70080	57.98	ug/kg	98
13) Acetonitrile	9.76	41	53554	259.13	ug/kg	99
14) Iodomethane	8.68	142	102821	43.28	ug/kg	99
15) Carbon disulfide	8.57	76	359427	64.32	ug/kg	99
16) Methylene Chloride	9.17	84	124333	52.95	ug/kg	98
17) Methyl tert-butyl ether	9.49	73	253513	50.34	ug/kg	98
18) Acrylonitrile	10.07	53	290278	266.55	ug/kg#	75
19) T-1,2-Dichloroethene	9.40	96	122736	50.64	ug/kg	98
20) Isopropyl Ether	9.87	45	681142	50.43	ug/kg	99
21) C-1,2-Dichloroethene	10.64	96	136341	47.59	ug/kg	98
22) 1,1-Dichloroethane	10.08	63	251432	47.19	ug/kg	100
23) Vinyl Acetate	10.27	43	391541	52.81	ug/kg	97
24) Chloroprene	10.07	88	113818	53.95	ug/kg	13
25) 2-Butanone	11.14	72	36358m	254.67	ug/kg	
26) Propionitrile	11.42	54	10537	51.44	ug/kg	100
27) 2,2-Dichloropropane	10.77	77	198598	54.64	ug/kg	100
28) Methacrylonitrile	11.47	67	33662	49.35	ug/kg	87
29) Chloroform	10.86	83	241733	54.88	ug/kg	98
31) Dibromofluoromethane	11.04	113	130934	49.45	ug/kg	100
32) Bromochloromethane	10.84	128	72396	51.34	ug/kg	98
33) 1,1,1-Trichloroethane	11.16	97	215089	50.60	ug/kg	98
34) 1,1-Dichloropropene	11.26	75	177394	49.48	ug/kg	99
35) Diethyl Ether	8.08	59	106726	58.58	ug/kg	100
36) Methyl Acetate	9.35	74	12211	54.53	ug/kg#	87
37) Cyclohexane	10.93	56	228411	51.68	ug/kg	100
39) Methyl Cyclohexane	12.05	55	173081	50.24	ug/kg	99
40) Carbon Tetrachloride	11.12	117	219611	49.91	ug/kg	99
41) 1,2-Dichloroethane	11.64	62	169863	49.11	ug/kg	100
42) Benzene	11.50	78	505361	49.18	ug/kg#	68
43) Isobutyl Alcohol	11.52	43	135670	793.02	ug/kg#	1
44) Trichloroethene	12.02	130	141896	49.24	ug/kg	99
45) 1,2-Dichloropropane	12.47	63	133445	51.08	ug/kg	98
46) Methyl Methacrylate	12.55	100	25281	52.81	ug/kg	97
47) 1,4-Dioxane	12.68	88	6516	934.01	ug/kg	84
48) Bromodichloromethane	12.48	83	174813	49.12	ug/kg	98
49) Dibromomethane	12.39	93	76562	50.72	ug/kg	98
50) 4-Methyl-2-Pentanone	13.49	100	58011	250.33	ug/kg	97
51) 2-Chloroethyl vinyl ether	12.89	63	2136	153.23	ug/kg#	100
52) 2-Hexanone	14.19	43	371839	258.63	ug/kg	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011921\212AN013.D Vial: 13
Acq On : 19 Jan 2021 1:38 pm Operator: KKW
Sample : AA64539-SCV1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 20 10:28 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Jan 19 13:57:55 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.03	75	205566	50.83	ug/kg	98
55) D8-Toluene	13.22	98	397158	52.27	ug/kg	92
57) Toluene	13.26	92	324409	46.32	ug/kg	99
58) Ethyl Methacrylate	13.61	69	127851	48.17	ug/kg	97
59) T-1,3-Dichloropropene	13.55	75	179900	48.13	ug/kg	96
60) 1,1,2-Trichloroethane	13.70	97	91455	46.90	ug/kg	99
61) 1,3-Dichloropropane	13.97	76	164826	47.78	ug/kg	100
62) Tetrachloroethene	13.64	164	90886	46.25	ug/kg	99
63) Dibromochloromethane	13.91	129	132770	46.35	ug/kg	100
64) 1,2-Dibromoethane	14.16	107	101475	47.13	ug/kg	98
65) Chlorobenzene	14.61	112	384477	49.02	ug/kg	99
66) 1,1,1,2-Tetrachloroethane	14.64	131	142543	47.31	ug/kg	100
67) Ethylbenzene	14.57	106	190953	48.94	ug/kg	100
68) m-xylene & p-xylene	14.69	106	489477	105.51	ug/kg	100
69) O-Xylene	15.10	106	233933	52.53	ug/kg	99
70) Bromoform	15.23	173	63119	51.77	ug/kg	99
71) Styrene	15.14	104	425176	54.38	ug/kg	99
72) Isopropylbenzene	15.37	105	600002	53.11	ug/kg	100
73) 1,2,3-Trichloropropane	16.00	75	115506	49.14	ug/kg	100
74) 1,1,2,2-Tetrachloroethane	15.81	83	101697	52.78	ug/kg	98
76) Bromofluorobenzene	15.81	95	18450	5.89	ug/kg#	4
77) T-1,4-dichloro-2-butene	15.99	53	29893	50.42	ug/kg	96
78) N-Propylbenzene	15.78	91	676471	53.82	ug/kg	100
80) Bromobenzene	15.87	156	126876	47.01	ug/kg	98
81) 1,3,5-Trimethylbenzene	15.94	105	475688	49.61	ug/kg	100
82) 2-Chlorotoluene	16.02	91	410122	46.69	ug/kg	99
83) 4-Chlorotoluene	16.18	91	422666	47.55	ug/kg	100
84) 1,2,4-Trimethylbenzene	16.38	105	481856	50.83	ug/kg	100
85) s-Butylbenzene	16.52	105	587516	50.30	ug/kg	100
86) tert-Butylbenzene	16.32	119	427521	49.19	ug/kg	99
87) p-Isopropyltoluene	16.63	119	510359	51.77	ug/kg	99
88) 1,3-Dichlorobenzene	16.88	146	242263	49.86	ug/kg	99
89) 1,4-Dichlorobenzene	16.98	146	241209	47.89	ug/kg	99
90) 1,2-Dichlorobenzene	17.55	146	210742	51.79	ug/kg	100
91) N-Butylbenzene	17.15	91	402279	53.44	ug/kg	99
92) DBCP	18.66	75	12465	55.41	ug/kg	97
93) Naphthalene	20.65	128	104829	62.75	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.93	180	80822	58.91	ug/kg	97
95) Hexachlorobutadiene	19.80	225	48053	56.03	ug/kg	98
96) 1,2,3-Trichlorobenzene	21.08	180	53691	60.31	ug/kg	96

(#) = qualifier out of range (m) = manual integration

ENCO Orlando

SDG: AE00066-TE016

CLASS: 06_VOA_AIR

METHOD: TO-15

ANALYSES DATA PACKAGE COVER PAGE

TO-15

Laboratory: ENCO Orlando

SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-VMP01-20210120	AE00066-13
CRCA-VMP01-20210120	AE00066-13RE1
CRCA-VMP02-20210120	AE00066-14
CRCA-VMP03-20210120	AE00066-15
CRCA-VMP03-20210120	AE00066-15RE1
CRCA-VMP04-20210120	AE00066-16
CRCA-VMP04-20210120	AE00066-16RE1
CRCA-SYSAIR-20210120	AE00066-17

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP01-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Air Laboratory ID: AE00066-13RE1 File ID: 217AS012.D

Sampled: 01/20/21 11:03 Prepared: 01/25/21 09:00 Analyzed: 01/25/21 10:36

Solids: Preparation: NO PREP 2 Initial/Final: 400 mL / 400 mL

Batch: 1A25023 Sequence: AA64633 Calibration: 2101005 Instrument: OVGCMS7

CAS NO.	COMPOUND	DILUTION	CONC. (ppbv)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1.34	0.74	UD	0.74	3.4
115-07-1	Propene	1.34	0.74	UD	0.74	3.4
74-87-3	Chloromethane	1.34	0.64	UD	0.64	3.4
75-01-4	Vinyl chloride	1.34	0.75	UD	0.75	3.4
74-83-9	Bromomethane	1.34	0.44	UD	0.44	3.4
75-00-3	Chloroethane	1.34	0.43	UD	0.43	3.4
75-69-4	Trichlorofluoromethane	1.34	0.46	UD	0.46	3.4
593-60-2	Bromoethene	1.34	0.44	UD	0.44	3.4
75-34-3	1,1-Dichloroethane	1.34	0.48	UD	0.48	3.4
67-64-1	Acetone	1.34	5.9	D	0.47	3.4
75-09-2	Methylene chloride	1.34	0.75	JBD	0.27	3.4
76-13-1	Freon 113	1.34	3.9	D	0.43	3.4
107-05-1	3-Chloropropene	1.34	0.52	UD	0.52	3.4
156-60-5	trans-1,2-Dichloroethene	1.34	0.43	UD	0.43	3.4
75-35-4	1,1-Dichloroethene	1.34	0.51	UD	0.51	3.4
156-59-2	cis-1,2-Dichloroethene	1.34	0.51	UD	0.51	3.4
67-66-3	Chloroform	1.34	0.51	UD	0.51	3.4
107-06-2	1,2-Dichloroethane	1.34	0.50	UD	0.50	3.4
71-55-6	1,1,1-Trichloroethane	1.34	0.46	UD	0.46	3.4
56-23-5	Carbon tetrachloride	1.34	0.36	UD	0.36	3.4
78-87-5	1,2-Dichloropropane	1.34	0.54	UD	0.54	3.4
79-01-6	Trichloroethene	1.34	0.47	UD	0.47	3.4
75-27-4	Bromodichloromethane	1.34	0.46	UD	0.46	3.4
10061-01-5	cis-1,3-Dichloropropene	1.34	0.51	UD	0.51	3.4
10061-02-6	trans-1,3-Dichloropropene	1.34	0.46	UD	0.46	3.4
79-00-5	1,1,2-Trichloroethane	1.34	0.47	UD	0.47	3.4
106-93-4	1,2-Dibromoethane	1.34	0.48	UD	0.48	3.4
127-18-4	Tetrachloroethene	1.34	0.42	UD	0.42	3.4
124-48-1	Dibromochloromethane	1.34	0.44	UD	0.44	3.4
108-90-7	Chlorobenzene	1.34	0.44	UD	0.44	3.4
75-25-2	Bromoform	1.34	0.51	UD	0.51	3.4
79-34-5	1,1,2,2-Tetrachloroethane	1.34	0.48	UD	0.48	3.4
541-73-1	1,3-Dichlorobenzene	1.34	0.38	UD	0.38	3.4
106-46-7	1,4-Dichlorobenzene	1.34	0.42	UD	0.42	3.4
95-50-1	1,2-Dichlorobenzene	1.34	0.36	UD	0.36	3.4
87-68-3	Hexachlorobutadiene	1.34	0.50	UD	0.50	3.4
76-14-2	Freon 114	1.34	0.70	UD	0.70	3.4

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	28	90	70 - 130	

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP01-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Air Laboratory ID: AE00066-13RE1 File ID: 217AS012.D

Sampled: 01/20/21 11:03 Prepared: 01/25/21 09:00 Analyzed: 01/25/21 10:36

Solids: Preparation: NO PREP 2 Initial/Final: 400 mL / 400 mL

Batch: 1A25023 Sequence: AA64633 Calibration: 2101005 Instrument: OVGCMS7

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	394787	10.98	368179	11	
1,4-Difluorobenzene	1326946	12.49	1236730	12.5	
Chlorobenzene-d5	966269	15.89	944742	15.9	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP02-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Air Laboratory ID: AE00066-14 File ID: 217AS013.D

Sampled: 01/20/21 11:06 Prepared: 01/25/21 09:00 Analyzed: 01/25/21 11:18

Solids: Preparation: NO PREP 2 Initial/Final: 200 mL / 400 mL

Batch: 1A25023 Sequence: AA64633 Calibration: 2101005 Instrument: OVGCMS7

CAS NO.	COMPOUND	DILUTION	CONC. (ppbv)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1.35	1.5	UD	1.5	6.8
115-07-1	Propene	1.35	1.5	UD	1.5	6.8
74-87-3	Chloromethane	1.35	1.3	UD	1.3	6.8
75-01-4	Vinyl chloride	1.35	1.5	UD	1.5	6.8
74-83-9	Bromomethane	1.35	0.89	UD	0.89	6.8
75-00-3	Chloroethane	1.35	0.86	UD	0.86	6.8
75-69-4	Trichlorofluoromethane	1.35	0.92	UD	0.92	6.8
593-60-2	Bromoethene	1.35	0.89	UD	0.89	6.8
75-34-3	1,1-Dichloroethane	1.35	0.97	UD	0.97	6.8
67-64-1	Acetone	1.35	3.5	JD	0.94	6.8
75-09-2	Methylene chloride	1.35	0.97	JBD	0.54	6.8
76-13-1	Freon 113	1.35	120	DE	0.86	6.8
107-05-1	3-Chloropropene	1.35	1.1	UD	1.1	6.8
156-60-5	trans-1,2-Dichloroethene	1.35	5.5	JD	0.86	6.8
75-35-4	1,1-Dichloroethene	1.35	1.0	UD	1.0	6.8
156-59-2	cis-1,2-Dichloroethene	1.35	1.0	UD	1.0	6.8
67-66-3	Chloroform	1.35	1.0	UD	1.0	6.8
107-06-2	1,2-Dichloroethane	1.35	1.0	UD	1.0	6.8
71-55-6	1,1,1-Trichloroethane	1.35	0.92	UD	0.92	6.8
56-23-5	Carbon tetrachloride	1.35	0.73	UD	0.73	6.8
78-87-5	1,2-Dichloropropane	1.35	1.1	UD	1.1	6.8
79-01-6	Trichloroethene	1.35	0.94	UD	0.94	6.8
75-27-4	Bromodichloromethane	1.35	0.92	UD	0.92	6.8
10061-01-5	cis-1,3-Dichloropropene	1.35	1.0	UD	1.0	6.8
10061-02-6	trans-1,3-Dichloropropene	1.35	0.92	UD	0.92	6.8
79-00-5	1,1,2-Trichloroethane	1.35	0.94	UD	0.94	6.8
106-93-4	1,2-Dibromoethane	1.35	0.97	UD	0.97	6.8
127-18-4	Tetrachloroethene	1.35	0.84	UD	0.84	6.8
124-48-1	Dibromochloromethane	1.35	0.89	UD	0.89	6.8
108-90-7	Chlorobenzene	1.35	0.89	UD	0.89	6.8
75-25-2	Bromoform	1.35	1.0	UD	1.0	6.8
79-34-5	1,1,2,2-Tetrachloroethane	1.35	0.97	UD	0.97	6.8
541-73-1	1,3-Dichlorobenzene	1.35	0.76	UD	0.76	6.8
106-46-7	1,4-Dichlorobenzene	1.35	0.84	UD	0.84	6.8
95-50-1	1,2-Dichlorobenzene	1.35	0.73	UD	0.73	6.8
87-68-3	Hexachlorobutadiene	1.35	1.0	UD	1.0	6.8
76-14-2	Freon 114	1.35	1.4	UD	1.4	6.8

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	27	87	70 - 130	

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP02-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Air Laboratory ID: AE00066-14 File ID: 217AS013.D

Sampled: 01/20/21 11:06 Prepared: 01/25/21 09:00 Analyzed: 01/25/21 11:18

Solids: Preparation: NO PREP 2 Initial/Final: 200 mL / 400 mL

Batch: 1A25023 Sequence: AA64633 Calibration: 2101005 Instrument: OVGCMS7

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	376564	10.98	368179	11	
1,4-Difluorobenzene	1276814	12.49	1236730	12.5	
Chlorobenzene-d5	910527	15.89	944742	15.9	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP03-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Air Laboratory ID: AE00066-15RE1 File ID: 217AS017.D

Sampled: 01/20/21 11:15 Prepared: 01/25/21 09:00 Analyzed: 01/25/21 14:06

Solids: Preparation: NO PREP 2 Initial/Final: 400 mL / 400 mL

Batch: 1A25023 Sequence: AA64633 Calibration: 2101005 Instrument: OVGCMS7

CAS NO.	COMPOUND	DILUTION	CONC. (ppbv)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1.59	0.87	UD	0.87	4.0
115-07-1	Propene	1.59	0.87	UD	0.87	4.0
74-87-3	Chloromethane	1.59	0.76	UD	0.76	4.0
75-01-4	Vinyl chloride	1.59	0.89	UD	0.89	4.0
74-83-9	Bromomethane	1.59	0.52	UD	0.52	4.0
75-00-3	Chloroethane	1.59	0.51	UD	0.51	4.0
75-69-4	Trichlorofluoromethane	1.59	0.54	UD	0.54	4.0
593-60-2	Bromoethene	1.59	0.52	UD	0.52	4.0
75-34-3	1,1-Dichloroethane	1.59	0.57	UD	0.57	4.0
67-64-1	Acetone	1.59	4.1	D	0.56	4.0
75-09-2	Methylene chloride	1.59	1.1	JBD	0.32	4.0
76-13-1	Freon 113	1.59	8.1	D	0.51	4.0
107-05-1	3-Chloropropene	1.59	0.62	UD	0.62	4.0
156-60-5	trans-1,2-Dichloroethene	1.59	0.51	UD	0.51	4.0
75-35-4	1,1-Dichloroethene	1.59	0.60	UD	0.60	4.0
156-59-2	cis-1,2-Dichloroethene	1.59	0.60	UD	0.60	4.0
67-66-3	Chloroform	1.59	1.9	JD	0.60	4.0
107-06-2	1,2-Dichloroethane	1.59	0.59	UD	0.59	4.0
71-55-6	1,1,1-Trichloroethane	1.59	0.54	UD	0.54	4.0
56-23-5	Carbon tetrachloride	1.59	0.43	UD	0.43	4.0
78-87-5	1,2-Dichloropropane	1.59	0.64	UD	0.64	4.0
79-01-6	Trichloroethene	1.59	0.56	UD	0.56	4.0
75-27-4	Bromodichloromethane	1.59	0.54	UD	0.54	4.0
10061-01-5	cis-1,3-Dichloropropene	1.59	0.60	UD	0.60	4.0
10061-02-6	trans-1,3-Dichloropropene	1.59	0.54	UD	0.54	4.0
79-00-5	1,1,2-Trichloroethane	1.59	0.56	UD	0.56	4.0
106-93-4	1,2-Dibromoethane	1.59	0.57	UD	0.57	4.0
127-18-4	Tetrachloroethene	1.59	0.49	UD	0.49	4.0
124-48-1	Dibromochloromethane	1.59	0.52	UD	0.52	4.0
108-90-7	Chlorobenzene	1.59	0.52	UD	0.52	4.0
75-25-2	Bromoform	1.59	0.60	UD	0.60	4.0
79-34-5	1,1,2,2-Tetrachloroethane	1.59	0.57	UD	0.57	4.0
541-73-1	1,3-Dichlorobenzene	1.59	0.45	UD	0.45	4.0
106-46-7	1,4-Dichlorobenzene	1.59	0.49	UD	0.49	4.0
95-50-1	1,2-Dichlorobenzene	1.59	0.43	UD	0.43	4.0
87-68-3	Hexachlorobutadiene	1.59	0.59	UD	0.59	4.0
76-14-2	Freon 114	1.59	0.83	UD	0.83	4.0

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	27	88	70 - 130	

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP03-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Air
Laboratory ID: AE00066-15RE1
File ID: 217AS017.D
Sampled: 01/20/21 11:15
Prepared: 01/25/21 09:00
Analyzed: 01/25/21 14:06
Solids:
Preparation: NO PREP 2
Initial/Final: 400 mL / 400 mL
Batch: 1A25023
Sequence: AA64633
Calibration: 2101005
Instrument: OVGCMS7

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	374110	10.99	368179	11	
1,4-Difluorobenzene	1263633	12.5	1236730	12.5	
Chlorobenzene-d5	911241	15.9	944742	15.9	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP04-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Air Laboratory ID: AE00066-16RE1 File ID: 217AS018.D

Sampled: 01/20/21 11:22 Prepared: 01/25/21 09:00 Analyzed: 01/25/21 14:47

Solids: Preparation: NO PREP 2 Initial/Final: 200 mL / 400 mL

Batch: 1A25023 Sequence: AA64633 Calibration: 2101005 Instrument: OVGCMS7

CAS NO.	COMPOUND	DILUTION	CONC. (ppbv)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1.4	1.5	UD	1.5	7.0
115-07-1	Propene	1.4	1.5	UD	1.5	7.0
74-87-3	Chloromethane	1.4	1.3	UD	1.3	7.0
75-01-4	Vinyl chloride	1.4	1.6	UD	1.6	7.0
74-83-9	Bromomethane	1.4	0.92	UD	0.92	7.0
75-00-3	Chloroethane	1.4	0.90	UD	0.90	7.0
75-69-4	Trichlorofluoromethane	1.4	0.95	UD	0.95	7.0
593-60-2	Bromoethene	1.4	0.92	UD	0.92	7.0
75-34-3	1,1-Dichloroethane	1.4	1.0	UD	1.0	7.0
67-64-1	Acetone	1.4	31	D	0.98	7.0
75-09-2	Methylene chloride	1.4	1.1	JBD	0.56	7.0
76-13-1	Freon 113	1.4	34	D	0.90	7.0
107-05-1	3-Chloropropene	1.4	1.1	UD	1.1	7.0
156-60-5	trans-1,2-Dichloroethene	1.4	0.90	UD	0.90	7.0
75-35-4	1,1-Dichloroethene	1.4	1.1	UD	1.1	7.0
156-59-2	cis-1,2-Dichloroethene	1.4	1.1	UD	1.1	7.0
67-66-3	Chloroform	1.4	1.1	UD	1.1	7.0
107-06-2	1,2-Dichloroethane	1.4	1.0	UD	1.0	7.0
71-55-6	1,1,1-Trichloroethane	1.4	0.95	UD	0.95	7.0
56-23-5	Carbon tetrachloride	1.4	0.76	UD	0.76	7.0
78-87-5	1,2-Dichloropropane	1.4	1.1	UD	1.1	7.0
79-01-6	Trichloroethene	1.4	0.98	UD	0.98	7.0
75-27-4	Bromodichloromethane	1.4	0.95	UD	0.95	7.0
10061-01-5	cis-1,3-Dichloropropene	1.4	1.1	UD	1.1	7.0
10061-02-6	trans-1,3-Dichloropropene	1.4	0.95	UD	0.95	7.0
79-00-5	1,1,2-Trichloroethane	1.4	0.98	UD	0.98	7.0
106-93-4	1,2-Dibromoethane	1.4	1.0	UD	1.0	7.0
127-18-4	Tetrachloroethene	1.4	0.87	UD	0.87	7.0
124-48-1	Dibromochloromethane	1.4	0.92	UD	0.92	7.0
108-90-7	Chlorobenzene	1.4	0.92	UD	0.92	7.0
75-25-2	Bromoform	1.4	1.1	UD	1.1	7.0
79-34-5	1,1,2,2-Tetrachloroethane	1.4	1.0	UD	1.0	7.0
541-73-1	1,3-Dichlorobenzene	1.4	0.78	UD	0.78	7.0
106-46-7	1,4-Dichlorobenzene	1.4	0.87	UD	0.87	7.0
95-50-1	1,2-Dichlorobenzene	1.4	0.76	UD	0.76	7.0
87-68-3	Hexachlorobutadiene	1.4	1.0	UD	1.0	7.0
76-14-2	Freon 114	1.4	1.5	UD	1.5	7.0

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	28	89	70 - 130	

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP04-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Air
Laboratory ID: AE00066-16RE1
File ID: 217AS018.D
Sampled: 01/20/21 11:22
Prepared: 01/25/21 09:00
Analyzed: 01/25/21 14:47
Solids:
Preparation: NO PREP 2
Initial/Final: 200 mL / 400 mL
Batch: 1A25023
Sequence: AA64633
Calibration: 2101005
Instrument: OVGCMS7

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	405636	10.99	368179	11	
1,4-Difluorobenzene	1356274	12.49	1236730	12.5	
Chlorobenzene-d5	989168	15.9	944742	15.9	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-SYSAIR-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Air Laboratory ID: AE00066-17 File ID: 217AS016.D

Sampled: 01/20/21 17:03 Prepared: 01/25/21 09:00 Analyzed: 01/25/21 13:21

Solids: Preparation: NO PREP 2 Initial/Final: 400 mL / 400 mL

Batch: 1A25023 Sequence: AA64633 Calibration: 2101005 Instrument: OVGCMS7

CAS NO.	COMPOUND	DILUTION	CONC. (ppbv)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1.32	0.73	UD	0.73	3.3
115-07-1	Propene	1.32	0.73	UD	0.73	3.3
74-87-3	Chloromethane	1.32	0.63	UD	0.63	3.3
75-01-4	Vinyl chloride	1.32	0.74	UD	0.74	3.3
74-83-9	Bromomethane	1.32	0.44	UD	0.44	3.3
75-00-3	Chloroethane	1.32	0.42	UD	0.42	3.3
75-69-4	Trichlorofluoromethane	1.32	0.45	UD	0.45	3.3
593-60-2	Bromoethene	1.32	0.44	UD	0.44	3.3
75-34-3	1,1-Dichloroethane	1.32	0.48	UD	0.48	3.3
67-64-1	Acetone	1.32	2.6	JD	0.46	3.3
75-09-2	Methylene chloride	1.32	0.99	JBD	0.26	3.3
76-13-1	Freon 113	1.32	0.42	UD	0.42	3.3
107-05-1	3-Chloropropene	1.32	0.51	UD	0.51	3.3
156-60-5	trans-1,2-Dichloroethene	1.32	0.96	JD	0.42	3.3
75-35-4	1,1-Dichloroethene	1.32	0.50	UD	0.50	3.3
156-59-2	cis-1,2-Dichloroethene	1.32	0.50	UD	0.50	3.3
67-66-3	Chloroform	1.32	0.50	UD	0.50	3.3
107-06-2	1,2-Dichloroethane	1.32	0.49	UD	0.49	3.3
71-55-6	1,1,1-Trichloroethane	1.32	0.45	UD	0.45	3.3
56-23-5	Carbon tetrachloride	1.32	0.36	UD	0.36	3.3
78-87-5	1,2-Dichloropropane	1.32	0.53	UD	0.53	3.3
79-01-6	Trichloroethene	1.32	0.46	UD	0.46	3.3
75-27-4	Bromodichloromethane	1.32	0.45	UD	0.45	3.3
10061-01-5	cis-1,3-Dichloropropene	1.32	0.50	UD	0.50	3.3
10061-02-6	trans-1,3-Dichloropropene	1.32	0.45	UD	0.45	3.3
79-00-5	1,1,2-Trichloroethane	1.32	0.46	UD	0.46	3.3
106-93-4	1,2-Dibromoethane	1.32	0.48	UD	0.48	3.3
127-18-4	Tetrachloroethene	1.32	0.41	UD	0.41	3.3
124-48-1	Dibromochloromethane	1.32	0.44	UD	0.44	3.3
108-90-7	Chlorobenzene	1.32	0.44	UD	0.44	3.3
75-25-2	Bromoform	1.32	0.50	UD	0.50	3.3
79-34-5	1,1,2,2-Tetrachloroethane	1.32	0.48	UD	0.48	3.3
541-73-1	1,3-Dichlorobenzene	1.32	0.37	UD	0.37	3.3
106-46-7	1,4-Dichlorobenzene	1.32	0.41	UD	0.41	3.3
95-50-1	1,2-Dichlorobenzene	1.32	0.36	UD	0.36	3.3
87-68-3	Hexachlorobutadiene	1.32	0.49	UD	0.49	3.3
76-14-2	Freon 114	1.32	0.69	UD	0.69	3.3

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	28	89	70 - 130	

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-SYSAIR-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Air
Laboratory ID: AE00066-17
File ID: 217AS016.D
Sampled: 01/20/21 17:03
Prepared: 01/25/21 09:00
Analyzed: 01/25/21 13:21
Solids:
Preparation: NO PREP 2
Initial/Final: 400 mL / 400 mL
Batch: 1A25023
Sequence: AA64633
Calibration: 2101005
Instrument: OVGCMS7

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	379518	10.99	368179	11	
1,4-Difluorobenzene	1282254	12.49	1236730	12.5	
Chlorobenzene-d5	929975	15.9	944742	15.9	

* Values outside of QC limits

HOLDING TIME SUMMARY

TO-15

Laboratory: ENCO Orlando

SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-VMP01-20210120	01/20/21 11:03	01/21/21 15:10	01/25/21 09:00	4.91	NA	01/25/21 10:36	5.00	30.00	
CRCA-VMP02-20210120	01/20/21 11:06	01/21/21 15:10	01/25/21 09:00	4.91	NA	01/25/21 11:18	5.00	30.00	
CRCA-VMP03-20210120	01/20/21 11:15	01/21/21 15:10	01/25/21 09:00	4.91	NA	01/25/21 14:06	5.00	30.00	
CRCA-VMP04-20210120	01/20/21 11:22	01/21/21 15:10	01/25/21 09:00	4.90	NA	01/25/21 14:47	5.00	30.00	
CRCA-SYSAIR-20210120	01/20/21 17:03	01/21/21 15:10	01/25/21 09:00	4.66	NA	01/25/21 13:21	5.00	30.00	

PREPARATION BATCH SUMMARY

TO-15

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1A25023 Batch Matrix: Air Preparation: NO PREP 2

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1A25023-BLK1	217AS009.D	01/24/21 17:30	
LCS	1A25023-BS1	217AS006.D	01/24/21 17:30	
LCS Dup	1A25023-BSD1	217AS007.D	01/24/21 17:30	
CRCA-VMP01-20210120	AE00066-13RE1	217AS012.D	01/25/21 09:00	
CRCA-VMP02-20210120	AE00066-14	217AS013.D	01/25/21 09:00	
CRCA-VMP03-20210120	AE00066-15RE1	217AS017.D	01/25/21 09:00	
CRCA-VMP04-20210120	AE00066-16RE1	217AS018.D	01/25/21 09:00	
CRCA-SYSAIR-20210120	AE00066-17	217AS016.D	01/25/21 09:00	

METHOD BLANK DATA SHEET
TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Air	Laboratory ID:	1A25023-BLK1	File ID:	217AS009.D
Prepared:	01/24/21 17:30	Preparation:	NO PREP 2	Initial/Final:	400 mL / 400 mL
Analyzed:	01/25/21 00:37	Instrument:	OVGCMS7		
Batch:	1A25023	Sequence:	AA64633	Calibration:	2101005

CAS NO.	COMPOUND	CONC. (ppbv)	Q
75-71-8	Dichlorodifluoromethane	0.55	U
115-07-1	Propene	0.55	U
74-87-3	Chloromethane	0.48	U
75-01-4	Vinyl chloride	0.56	U
74-83-9	Bromomethane	0.33	U
75-00-3	Chloroethane	0.32	U
75-69-4	Trichlorofluoromethane	0.34	U
593-60-2	Bromoethene	0.33	U
75-34-3	1,1-Dichloroethane	0.36	U
67-64-1	Acetone	0.35	U
75-09-2	Methylene chloride	0.29	J
76-13-1	Freon 113	0.32	U
107-05-1	3-Chloropropene	0.39	U
156-60-5	trans-1,2-Dichloroethene	0.32	U
75-35-4	1,1-Dichloroethene	0.38	U
156-59-2	cis-1,2-Dichloroethene	0.38	U
67-66-3	Chloroform	0.38	U
107-06-2	1,2-Dichloroethane	0.37	U
71-55-6	1,1,1-Trichloroethane	0.34	U
56-23-5	Carbon tetrachloride	0.27	U
78-87-5	1,2-Dichloropropane	0.40	U
79-01-6	Trichloroethene	0.35	U
75-27-4	Bromodichloromethane	0.34	U
10061-01-5	cis-1,3-Dichloropropene	0.38	U
10061-02-6	trans-1,3-Dichloropropene	0.34	U
79-00-5	1,1,2-Trichloroethane	0.35	U
106-93-4	1,2-Dibromoethane	0.36	U
127-18-4	Tetrachloroethene	0.31	U
124-48-1	Dibromochloromethane	0.33	U
108-90-7	Chlorobenzene	0.33	U

METHOD BLANK DATA SHEET
TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Air	Laboratory ID:	1A25023-BLK1	File ID:	217AS009.D
Prepared:	01/24/21 17:30	Preparation:	NO PREP 2	Initial/Final:	400 mL / 400 mL
Analyzed:	01/25/21 00:37	Instrument:	OVGCMS7		
Batch:	1A25023	Sequence:	AA64633	Calibration:	2101005

CAS NO.	COMPOUND	CONC. (ppbv)	Q
75-25-2	Bromoform	0.38	U
79-34-5	1,1,2,2-Tetrachloroethane	0.36	U
541-73-1	1,3-Dichlorobenzene	0.28	U
106-46-7	1,4-Dichlorobenzene	0.31	U
95-50-1	1,2-Dichlorobenzene	0.27	U
87-68-3	Hexachlorobutadiene	0.37	U
76-14-2	Freon 114	0.52	U

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	27	87	70 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	396636	10.99	368179	11	
1,4-Difluorobenzene	1324496	12.49	1236730	12.5	
Chlorobenzene-d5	957252	15.89	944742	15.9	

LCS / LCS DUPLICATE RECOVERY

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Air		
Batch:	1A25023	Laboratory ID:	1A25023-BS1
Preparation:	NO PREP 2	Initial/Final:	400 mL / 400 mL

COMPOUND	SPIKE ADDED (ppbv)	LCS CONCENTRATION (ppbv)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	10.0	9.3	93	61 - 137
Propene	10.0	8.9	89	63 - 132
Chloromethane	10.0	10	100	55 - 142
Vinyl chloride	10.0	11	106	53 - 148
Bromomethane	10.0	9.9	99	69 - 130
Chloroethane	10.0	10	101	69 - 131
Trichlorofluoromethane	10.0	9.7	97	46 - 161
Bromoethene	10.0	9.5	95	69 - 132
1,1-Dichloroethane	10.0	12	119	70 - 130
Acetone	10.0	10	104	65 - 130
Methylene chloride	10.0	13	128	59 - 136
Freon 113	10.0	11	111	67 - 140
3-Chloropropene	10.0	11	113	70 - 130
trans-1,2-Dichloroethene	10.0	11	113	70 - 130
1,1-Dichloroethene	10.0	11	113	67 - 142
cis-1,2-Dichloroethene	10.0	12	122	70 - 130
Chloroform	10.0	11	111	70 - 130
1,2-Dichloroethane	10.0	10	102	70 - 130
1,1,1-Trichloroethane	10.0	10	100	70 - 130
Carbon tetrachloride	10.0	8.3	83	22 - 166
1,2-Dichloropropane	10.0	12	121	70 - 130
Trichloroethene	10.0	11	114	70 - 130
Bromodichloromethane	10.0	11	109	70 - 130
cis-1,3-Dichloropropene	10.0	12	122	70 - 137
trans-1,3-Dichloropropene	10.0	16	156	59 - 166
1,1,2-Trichloroethane	10.0	12	117	70 - 134
1,2-Dibromoethane	10.0	12	118	70 - 141
Tetrachloroethene	10.0	10	104	70 - 141
Dibromochloromethane	10.0	11	110	70 - 130
Chlorobenzene	10.0	11	107	70 - 134

LCS / LCS DUPLICATE RECOVERY

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Air		
Batch:	1A25023	Laboratory ID:	1A25023-BS1
Preparation:	NO PREP 2	Initial/Final:	400 mL / 400 mL

COMPOUND	SPIKE ADDED (ppbv)	LCS CONCENTRATION (ppbv)	LCS % REC. #	QC LIMITS REC.
Bromoform	10.0	11	110	62 - 149
1,1,2,2-Tetrachloroethane	10.0	12	119	52 - 163
1,3-Dichlorobenzene	10.0	9.8	98	47 - 178
1,4-Dichlorobenzene	10.0	9.2	92	45 - 180
1,2-Dichlorobenzene	10.0	10	102	37 - 180
Hexachlorobutadiene	10.0	9.1	91	24 - 180
Freon 114	10.0	9.8	98	62 - 147

COMPOUND	SPIKE ADDED (ppbv)	LCSD CONCENTRATION (ppbv)	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	10.0	8.1	81	13	25	61 - 137
Propene	10.0	7.8	78	13	25	63 - 132
Chloromethane	10.0	8.8	88	12	25	55 - 142
Vinyl chloride	10.0	9.2	92	14	25	53 - 148
Bromomethane	10.0	8.6	86	14	25	69 - 130
Chloroethane	10.0	8.7	87	14	25	69 - 131
Trichlorofluoromethane	10.0	8.7	87	11	25	46 - 161
Bromoethene	10.0	8.6	86	10	25	69 - 132
1,1-Dichloroethane	10.0	11	110	8	25	70 - 130
Acetone	10.0	9.5	95	10	25	65 - 130
Methylene chloride	10.0	12	123	5	25	59 - 136
Freon 113	10.0	10	103	8	25	67 - 140
3-Chloropropene	10.0	10	105	7	25	70 - 130
trans-1,2-Dichloroethene	10.0	10	105	7	25	70 - 130
1,1-Dichloroethene	10.0	10	103	9	25	67 - 142
cis-1,2-Dichloroethene	10.0	11	114	6	25	70 - 130
Chloroform	10.0	10	101	9	25	70 - 130
1,2-Dichloroethane	10.0	8.8	88	15	25	70 - 130
1,1,1-Trichloroethane	10.0	9.1	91	9	25	70 - 130
Carbon tetrachloride	10.0	7.5	75	10	25	22 - 166

LCS / LCS DUPLICATE RECOVERY

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Air		
Batch:	1A25023	Laboratory ID:	1A25023-BSD1
Preparation:	NO PREP 2	Initial/Final:	400 mL / 400 mL

COMPOUND	SPIKE ADDED (ppbv)	LCSD CONCENTRATION (ppbv)	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,2-Dichloropropane	10.0	11	113	7	25	70 - 130
Trichloroethene	10.0	11	108	5	25	70 - 130
Bromodichloromethane	10.0	10	100	8	25	70 - 130
cis-1,3-Dichloropropene	10.0	11	113	7	25	70 - 137
trans-1,3-Dichloropropene	10.0	15	146	7	25	59 - 166
1,1,2-Trichloroethane	10.0	11	110	6	25	70 - 134
1,2-Dibromoethane	10.0	11	110	7	25	70 - 141
Tetrachloroethene	10.0	9.8	98	6	25	70 - 141
Dibromochloromethane	10.0	10	103	7	25	70 - 130
Chlorobenzene	10.0	10	100	6	25	70 - 134
Bromoform	10.0	10	103	7	25	62 - 149
1,1,2,2-Tetrachloroethane	10.0	11	111	7	25	52 - 163
1,3-Dichlorobenzene	10.0	9.1	91	7	25	47 - 178
1,4-Dichlorobenzene	10.0	8.5	85	8	25	45 - 180
1,2-Dichlorobenzene	10.0	9.5	95	7	25	37 - 180
Hexachlorobutadiene	10.0	8.5	85	7	25	24 - 180
Freon 114	10.0	8.8	88	11	25	62 - 147

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64317
Instrument: OVGCMS7
Matrix: Air
Calibration: 2101005

Surrogate Compound	Spike Level ppbv	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA64317-SCV1)			Lab File ID: 207LZ017.D		Analyzed: 12/31/20 23:23			
4-Bromofluorobenzene	31.0	101	0 - 200	17.33	17.33	0.0000	+/-1.0	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64633
Instrument: OVGCMS7
Matrix: Air
Calibration: 2101005

Surrogate Compound	Spike Level ppbv	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA64633-CCV1)			Lab File ID: 217AS004.D		Analyzed: 01/24/21 21:16			
4-Bromofluorobenzene	31.0	101	0 - 200	17.32	17.33	-0.0100	+/-1.0	
Instrument RL Check (AA64633-CRL1)			Lab File ID: 217AS005.D		Analyzed: 01/24/21 21:55			
4-Bromofluorobenzene	31.0	91	0 - 200	17.32	17.33	-0.0100	+/-1.0	
LCS (1A25023-BS1)			Lab File ID: 217AS006.D		Analyzed: 01/24/21 22:34			
4-Bromofluorobenzene	31.0	102	70 - 130	17.32	17.33	-0.0100	+/-1.0	
LCS Dup (1A25023-BSD1)			Lab File ID: 217AS007.D		Analyzed: 01/24/21 23:13			
4-Bromofluorobenzene	31.0	100	70 - 130	17.32	17.33	-0.0100	+/-1.0	
Blank (1A25023-BLK1)			Lab File ID: 217AS009.D		Analyzed: 01/25/21 00:37			
4-Bromofluorobenzene	31.0	87	70 - 130	17.32	17.33	-0.0100	+/-1.0	
CRCA-VMP01-20210120 (AE00066-13RE1)			Lab File ID: 217AS012.D		Analyzed: 01/25/21 10:36			
4-Bromofluorobenzene	31.0	90	70 - 130	17.32	17.33	-0.0100	+/-1.0	
CRCA-VMP02-20210120 (AE00066-14)			Lab File ID: 217AS013.D		Analyzed: 01/25/21 11:18			
4-Bromofluorobenzene	31.0	87	70 - 130	17.33	17.33	0.0000	+/-1.0	
CRCA-SYSAIR-20210120 (AE00066-17)			Lab File ID: 217AS016.D		Analyzed: 01/25/21 13:21			
4-Bromofluorobenzene	31.0	89	70 - 130	17.33	17.33	0.0000	+/-1.0	
CRCA-VMP03-20210120 (AE00066-15RE1)			Lab File ID: 217AS017.D		Analyzed: 01/25/21 14:06			
4-Bromofluorobenzene	31.0	88	70 - 130	17.33	17.33	0.0000	+/-1.0	
CRCA-VMP04-20210120 (AE00066-16RE1)			Lab File ID: 217AS018.D		Analyzed: 01/25/21 14:47			
4-Bromofluorobenzene	31.0	89	70 - 130	17.33	17.33	0.0000	+/-1.0	

INTERNAL STANDARD AREA AND RT SUMMARY
TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA64317
Instrument: OVGCMS7
Matrix: Air
Calibration: 2101005

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA64317-CAL1)			Lab File ID: 207LZ005.D			Analyzed: 12/31/20 15:30			
Bromochloromethane	373148	10.99	368179	11	101	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1252006	12.49	1236730	12.5	101	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	940921	15.9	944742	15.9	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64317-CAL2)			Lab File ID: 207LZ006.D			Analyzed: 12/31/20 16:10			
Bromochloromethane	374682	10.99	368179	11	102	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1271464	12.49	1236730	12.5	103	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	980132	15.9	944742	15.9	104	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64317-CAL3)			Lab File ID: 207LZ007.D			Analyzed: 12/31/20 16:48			
Bromochloromethane	375020	10.99	368179	11	102	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1254271	12.49	1236730	12.5	101	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	928803	15.9	944742	15.9	98	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64317-CAL4)			Lab File ID: 207LZ008.D			Analyzed: 12/31/20 17:27			
Bromochloromethane	356879	10.98	368179	11	97	60 - 140	-0.0200	+/-0.50	
1,4-Difluorobenzene	1194813	12.49	1236730	12.5	97	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	889493	15.9	944742	15.9	94	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64317-CAL5)			Lab File ID: 207LZ009.D			Analyzed: 12/31/20 18:08			
Bromochloromethane	359052	10.99	368179	11	98	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1218151	12.49	1236730	12.5	98	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	912184	15.9	944742	15.9	97	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64317-CAL6)			Lab File ID: 207LZ010.D			Analyzed: 12/31/20 18:46			
Bromochloromethane	364591	10.99	368179	11	99	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1225340	12.49	1236730	12.5	99	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	929328	15.9	944742	15.9	98	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64317-CAL7)			Lab File ID: 207LZ011.D			Analyzed: 12/31/20 19:25			
Bromochloromethane	368179	11	368179	11	100	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	1236730	12.5	1236730	12.5	100	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	944742	15.9	944742	15.9	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64317-CAL8)			Lab File ID: 207LZ012.D			Analyzed: 12/31/20 20:06			
Bromochloromethane	377607	11	368179	11	103	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	1273648	12.5	1236730	12.5	103	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	978882	15.9	944742	15.9	104	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64317-CAL9)			Lab File ID: 207LZ013.D			Analyzed: 12/31/20 20:51			
Bromochloromethane	394710	11	368179	11	107	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	1251209	12.5	1236730	12.5	101	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	933690	15.9	944742	15.9	99	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA64317
Instrument: OVGCMS7
Matrix: Air
Calibration: 2101005

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA64317-SCV1)			Lab File ID: 207LZ017.D			Analyzed: 12/31/20 23:23			
Bromochloromethane	376726	10.99	368179	11	102	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1252079	12.5	1236730	12.5	101	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	969254	15.89	944742	15.9	103	50 - 200	-0.0100	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA64633
Instrument: OVGCMS7
Matrix: Air
Calibration: 2101005

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA64633-CCV1)			Lab File ID: 217AS004.D			Analyzed: 01/24/21 21:16			
Bromochloromethane	392339	10.99	368179	11	107	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1301381	12.49	1236730	12.5	105	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	987702	15.89	944742	15.9	105	50 - 200	-0.0100	+/-0.50	
Instrument RL Check (AA64633-CRL1)			Lab File ID: 217AS005.D			Analyzed: 01/24/21 21:55			
Bromochloromethane	403704	10.98	368179	11	110	60 - 140	-0.0200	+/-0.50	
1,4-Difluorobenzene	1353586	12.49	1236730	12.5	109	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	996591	15.89	944742	15.9	105	50 - 200	-0.0100	+/-0.50	
LCS (1A25023-BS1)			Lab File ID: 217AS006.D			Analyzed: 01/24/21 22:34			
Bromochloromethane	390017	10.99	368179	11	106	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1295134	12.49	1236730	12.5	105	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	976746	15.89	944742	15.9	103	50 - 200	-0.0100	+/-0.50	
LCS Dup (1A25023-BSD1)			Lab File ID: 217AS007.D			Analyzed: 01/24/21 23:13			
Bromochloromethane	408298	10.99	368179	11	111	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1353473	12.49	1236730	12.5	109	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	1023882	15.89	944742	15.9	108	50 - 200	-0.0100	+/-0.50	
Blank (1A25023-BLK1)			Lab File ID: 217AS009.D			Analyzed: 01/25/21 00:37			
Bromochloromethane	396636	10.99	368179	11	108	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1324496	12.49	1236730	12.5	107	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	957252	15.89	944742	15.9	101	50 - 200	-0.0100	+/-0.50	
CRCA-VMP01-20210120 (AE00066-13RE1)			Lab File ID: 217AS012.D			Analyzed: 01/25/21 10:36			
Bromochloromethane	394787	10.98	368179	11	107	60 - 140	-0.0200	+/-0.50	
1,4-Difluorobenzene	1326946	12.49	1236730	12.5	107	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	966269	15.89	944742	15.9	102	50 - 200	-0.0100	+/-0.50	
CRCA-VMP02-20210120 (AE00066-14)			Lab File ID: 217AS013.D			Analyzed: 01/25/21 11:18			
Bromochloromethane	376564	10.98	368179	11	102	60 - 140	-0.0200	+/-0.50	
1,4-Difluorobenzene	1276814	12.49	1236730	12.5	103	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	910527	15.89	944742	15.9	96	50 - 200	-0.0100	+/-0.50	
CRCA-SYSAIR-20210120 (AE00066-17)			Lab File ID: 217AS016.D			Analyzed: 01/25/21 13:21			
Bromochloromethane	379518	10.99	368179	11	103	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1282254	12.49	1236730	12.5	104	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	929975	15.9	944742	15.9	98	50 - 200	0.0000	+/-0.50	
CRCA-VMP03-20210120 (AE00066-15RE1)			Lab File ID: 217AS017.D			Analyzed: 01/25/21 14:06			
Bromochloromethane	374110	10.99	368179	11	102	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1263633	12.5	1236730	12.5	102	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	911241	15.9	944742	15.9	96	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA64633
Instrument: OVGCMS7
Matrix: Air
Calibration: 2101005

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
CRCA-VMP04-20210120 (AE00066-16RE1)			Lab File ID: 217AS018.D			Analyzed: 01/25/21 14:47			
Bromochloromethane	405636	10.99	368179	11	110	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1356274	12.49	1236730	12.5	110	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	989168	15.9	944742	15.9	105	50 - 200	0.0000	+/-0.50	

ANALYSIS BATCH (SEQUENCE) SUMMARY

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64317		
Calibration:	2101005	Instrument:	OVGCMS7

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA64317-TUN1	207LZ003.D	12/31/20 11:50
Cal Standard	AA64317-CAL1	207LZ005.D	12/31/20 15:30
Cal Standard	AA64317-CAL2	207LZ006.D	12/31/20 16:10
Cal Standard	AA64317-CAL3	207LZ007.D	12/31/20 16:48
Cal Standard	AA64317-CAL4	207LZ008.D	12/31/20 17:27
Cal Standard	AA64317-CAL5	207LZ009.D	12/31/20 18:08
Cal Standard	AA64317-CAL6	207LZ010.D	12/31/20 18:46
Cal Standard	AA64317-CAL7	207LZ011.D	12/31/20 19:25
Cal Standard	AA64317-CAL8	207LZ012.D	12/31/20 20:06
Cal Standard	AA64317-CAL9	207LZ013.D	12/31/20 20:51
Secondary Cal Check	AA64317-SCV1	207LZ017.D	12/31/20 23:23

ANALYSIS BATCH (SEQUENCE) SUMMARY

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64633		
Calibration:	2101005	Instrument:	OVGCMS7

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA64633-TUN1	217AS003.D	01/24/21 20:13
Calibration Check	AA64633-CCV1	217AS004.D	01/24/21 21:16
Instrument RL Check	AA64633-CRL1	217AS005.D	01/24/21 21:55
LCS	1A25023-BS1	217AS006.D	01/24/21 22:34
LCS Dup	1A25023-BSD1	217AS007.D	01/24/21 23:13
Blank	1A25023-BLK1	217AS009.D	01/25/21 00:37
CRCA-VMP01-20210120	AE00066-13RE1	217AS012.D	01/25/21 10:36
CRCA-VMP02-20210120	AE00066-14	217AS013.D	01/25/21 11:18
CRCA-SYSAIR-20210120	AE00066-17	217AS016.D	01/25/21 13:21
CRCA-VMP03-20210120	AE00066-15RE1	217AS017.D	01/25/21 14:06
CRCA-VMP04-20210120	AE00066-16RE1	217AS018.D	01/25/21 14:47

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	207LZ003.D	Injection Date:	12/31/20
Instrument ID:	OVGCMS7	Injection Time:	11:50
Sequence:	AA64317	Lab Sample ID:	AA64317-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8 - 40% of 95	25.8	PASS
75	30 - 66% of 95	47.4	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.65	PASS
173	Less than 2% of 174	0	PASS
174	50 - 120% of 95	72	PASS
175	4 - 9% of 174	5.68	PASS
176	95 - 101% of 174	99.9	PASS
177	5 - 9% of 176	6.72	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	217AS003.D	Injection Date:	01/24/21
Instrument ID:	OVGCMS7	Injection Time:	20:13
Sequence:	AA64633	Lab Sample ID:	AA64633-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8 - 40% of 95	24.3	PASS
75	30 - 66% of 95	44.1	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.79	PASS
173	Less than 2% of 174	0	PASS
174	50 - 120% of 95	70.2	PASS
175	4 - 9% of 174	5.38	PASS
176	95 - 101% of 174	101	PASS
177	5 - 9% of 176	6.55	PASS

CONTINUING CALIBRATION CHECK

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS7	Calibration:	2101005
Lab File ID:	217AS004.D	Calibration Date:	12/31/20 11:50
Sequence:	AA64633	Injection Date:	01/24/21
Lab Sample ID:	AA64633-CCV1	Injection Time:	21:16

		CONC. (ppbv)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Dichlorodifluoromethane	A	10.0	9.4	5.909758	5.571931		-5.7	30
Propene	A	10.0	9.7	3.46891	3.347509		-3.5	30
Chloromethane	A	10.0	11	3.270463	3.477462		6.3	30
Vinyl chloride	A	10.0	11	2.909119	3.098262		6.5	30
Bromomethane	A	10.0	8.7	2.155586	1.86725		-13	30
Chloroethane	A	10.0	9.1	1.196796	1.084687		-9.4	30
Trichlorofluoromethane	A	10.0	8.8	3.437972	3.024969		-12	30
Bromoethene	A	10.0	9.0	1.796391	1.62381		-9.6	30
1,1-Dichloroethane	A	10.0	10	4.245974	4.44449		4.7	30
Acetone	A	10.0	10	5.226221	5.376271		2.9	30
Methylene chloride	A	10.0	11	1.858963	2.116016		14	30
Freon 113	A	10.0	9.8	2.911353	2.848145		-2.2	30
3-Chloropropene	A	10.0	11	4.465711	4.794069		7.4	30
trans-1,2-Dichloroethene	A	10.0	11	3.501546	3.714652		6.1	30
1,1-Dichloroethene	A	10.0	10	4.047849	4.131448		2.1	30
cis-1,2-Dichloroethene	A	10.0	11	2.164079	2.307536		6.6	30
Chloroform	A	10.0	9.8	4.470508	4.388644		-1.8	30
1,2-Dichloroethane	A	10.0	9.1	3.063206	2.785582		-9.1	30
1,1,1-Trichloroethane	A	10.0	9.0	3.961147	3.564211		-10	30
Carbon tetrachloride	A	10.0	8.6	3.970871	3.432433		-14	30
1,2-Dichloropropane	A	10.0	11	0.7791529	0.8254162		5.9	30
Trichloroethene	A	10.0	10	0.7646966	0.7661047		0.20	30
Bromodichloromethane	A	10.0	10	1.331697	1.373903		3.2	30
cis-1,3-Dichloropropene	A	10.0	10	1.13546	1.14883		1.2	30
trans-1,3-Dichloropropene	A	10.0	11	0.7768079	0.702079		6.6	30
1,1,2-Trichloroethane	A	10.0	10	0.6845185	0.700483		2.3	30
1,2-Dibromoethane	A	10.0	10	1.077347	1.086352		0.80	30
Tetrachloroethene	A	10.0	9.4	0.9008099	0.8440822		-6.3	30
Dibromochloromethane	A	10.0	10	0.9321549	0.9778625		4.9	30

CONTINUING CALIBRATION CHECK

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS7	Calibration:	2101005
Lab File ID:	217AS004.D	Calibration Date:	12/31/20 11:50
Sequence:	AA64633	Injection Date:	01/24/21
Lab Sample ID:	AA64633-CCV1	Injection Time:	21:16

		CONC. (ppbv)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Chlorobenzene	A	10.0	9.5	1.827847	1.731006		-5.3	30
Bromoform	A	10.0	11	1.163951	1.236068		6.2	30
1,1,2,2-Tetrachloroethane	A	10.0	10	1.719508	1.543626		-0.2	30
1,3-Dichlorobenzene	A	10.0	8.6	1.111419	0.9707873		-14	30
1,4-Dichlorobenzene	A	10.0	8.1	0.9386015	0.8564639		-19	30
1,2-Dichlorobenzene	A	10.0	9.3	1.129182	0.9221265		-7.5	30
Hexachlorobutadiene	A	10.0	10	1.190627	0.3855925		0.50	30
Freon 114	A	10.0	9.7	3.615481	3.499855		-3.2	30

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64317
Instrument: OVGCMS7

Calibration: 2101005

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A0L0713	Air- VIRTUAL TUN-121120	AA64317-TUN1	207LZ003.D	12/31/20 11:50
A0L1267	Air- Virtual CAL1 123120	AA64317-CAL1	207LZ005.D	12/31/20 15:30
A0L1268	Air- Virtual CAL2 123120	AA64317-CAL2	207LZ006.D	12/31/20 16:10
A0L1269	Air- Virtual CAL3 123120	AA64317-CAL3	207LZ007.D	12/31/20 16:48
A0L1270	Air- Virtual CAL4 123120	AA64317-CAL4	207LZ008.D	12/31/20 17:27
A0L1271	Air- Virtual CAL5 123120	AA64317-CAL5	207LZ009.D	12/31/20 18:08
A0L1272	Air- Virtual CAL6 123120	AA64317-CAL6	207LZ010.D	12/31/20 18:46
A0L1273	Air- Virtual CAL7 123120	AA64317-CAL7	207LZ011.D	12/31/20 19:25
A0L1274	Air- Virtual CAL8 123120	AA64317-CAL8	207LZ012.D	12/31/20 20:06
A0L1275	Air- Virtual CAL9 123120	AA64317-CAL9	207LZ013.D	12/31/20 20:51
A0L1276	Air- Virtual SCV 123120	AA64317-SCV1	207LZ017.D	12/31/20 23:23

INITIAL CALIBRATION DATA

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101005
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 12/31/20 11:50

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF
Dichlorodifluoromethane	0.125	6.880101	0.25	6.46307	0.5	6.55892	1.25	6.475759	2.5	6.347673	5	5.180784
Propene	0.125	5.166722	0.25	3.918085	0.5	3.628708	1.25	3.34844	2.5	3.259381	5	2.6502
Chloromethane	0.125	3.432075	0.25	3.317085	0.5	3.377745	1.25	3.392706	2.5	3.422284	5	2.898886
Vinyl chloride	0.125	2.926303	0.25	2.910351	0.5	3.025108	1.25	2.903209	2.5	3.127041	5	2.606207
Bromomethane	0.125	2.69701	0.25	2.348071	0.5	2.223615	1.25	2.279177	2.5	2.168719	5	1.855863
Chloroethane	0.125	1.403004	0.25	1.301616	0.5	1.248861	1.25	1.252373	2.5	1.208704	5	1.008265
Trichlorofluoromethane	0.125	3.751755	0.25	3.61229	0.5	3.714842	1.25	3.731129	2.5	3.656952	5	3.000595
Bromoethene	0.125	1.847632	0.25	1.915523	0.5	1.893627	1.25	1.921505	2.5	1.90031	5	1.566176
1,1-Dichloroethane	0.125	4.587842	0.25	4.427082	0.5	4.502117	1.25	4.411519	2.5	4.354947	5	3.613587
Acetone	0.125	~~8.840053~~	0.25	~~7.938764~~	0.5	~~6.312917~~	1.25	5.890989	2.5	5.909937	5	4.526588
Methylene chloride	0.125	~~2.279632~~	0.25	~~2.149503~~	0.5	~~2.038782~~	1.25	2.007813	2.5	1.956844	5	1.620185
Freon 113	0.125	3.213417	0.25	3.054313	0.5	3.068258	1.25	3.065888	2.5	3.041704	5	2.441884
3-Chloropropene	0.125	5.221221	0.25	4.37744	0.5	4.685462	1.25	4.571835	2.5	4.473334	5	3.74963
trans-1,2-Dichloroethene	0.125	3.659374	0.25	3.577871	0.5	3.722116	1.25	3.652743	2.5	3.616235	5	3.033875
1,1-Dichloroethene	0.125	4.333294	0.25	4.132208	0.5	4.270663	1.25	4.268089	2.5	4.245297	5	3.504379
cis-1,2-Dichloroethene	0.125	2.361379	0.25	2.314645	0.5	2.269906	1.25	2.200582	2.5	2.184674	5	1.812244
Chloroform	0.125	4.986611	0.25	4.827528	0.5	4.756221	1.25	4.724647	2.5	4.634925	5	3.852189
1,2-Dichloroethane	0.125	3.45866	0.25	3.277702	0.5	3.270615	1.25	3.26241	2.5	3.196526	5	2.67297
1,1,1-Trichloroethane	0.125	4.546636	0.25	4.35659	0.5	4.310341	1.25	4.287824	2.5	4.185724	5	3.398078
Carbon tetrachloride	0.125	4.508753	0.25	4.30066	0.5	4.37085	1.25	4.338066	2.5	4.300139	5	3.453023
1,2-Dichloropropane	0.125	0.9056314	0.25	0.8308186	0.5	0.8147235	1.25	0.7831177	2.5	0.7741099	5	0.641737
Trichloroethene	0.125	0.9135547	0.25	0.7955145	0.5	0.7908482	1.25	0.7879539	2.5	0.7603373	5	0.6314858
Bromodichloromethane	0.125	1.390735	0.25	1.32732	0.5	1.384071	1.25	1.385696	2.5	1.37739	5	1.201869
cis-1,3-Dichloropropene	0.125	1.466798	0.25	1.270073	0.5	1.169293	1.25	1.11879	2.5	1.066899	5	0.919683
trans-1,3-Dichloropropene	0.125	1.149074	0.25	0.9235653	0.5	0.7734485	1.25	0.7374121	2.5	0.6990371	5	0.6082157
1,1,2-Trichloroethane	0.125	0.885229	0.25	0.7505553	0.5	0.6969291	1.25	0.6704728	2.5	0.6593885	5	0.5529321
1,2-Dibromoethane	0.125	1.449169	0.25	1.184933	0.5	1.064449	1.25	1.038214	2.5	1.002301	5	0.8779901
Tetrachloroethene	0.125	1.237815	0.25	1.017385	0.5	0.9396853	1.25	0.911662	2.5	0.8898493	5	0.7195064
Dibromochloromethane	0.125	0.9973435	0.25	0.9393644	0.5	0.9030074	1.25	0.9199645	2.5	0.916509	5	0.8581506
Chlorobenzene	0.125	2.647576	0.25	2.210825	0.5	1.867804	1.25	1.779592	2.5	1.705377	5	1.433636
Bromoform	0.125	1.313904	0.25	1.153171	0.5	1.082994	1.25	1.047519	2.5	1.04506	5	1.073963

INITIAL CALIBRATION DATA

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101005
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 12/31/20 11:50

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF
1,1,2,2-Tetrachloroethane	0.125	3.355793	0.25	2.357707	0.5	1.595921	1.25	1.338458	2.5	1.238526	5	1.221836
1,3-Dichlorobenzene	0.125	2.246947	0.25	1.556876	0.5	0.9183153	1.25	0.7635226	2.5	0.7169343	5	0.7228623
1,4-Dichlorobenzene	0.125	1.798349	0.25	1.290312	0.5	0.7310743	1.25	0.6060504	2.5	0.5870324	5	0.6175462
1,2-Dichlorobenzene	0.125	2.594862	0.25	1.748544	0.5	0.9581666	1.25	0.7459296	2.5	0.6719118	5	0.6888911
Hexachlorobutadiene	0.125	4.434064	0.25	2.65514	0.5	1.091672	1.25	0.6082809	2.5	0.4176	5	0.3728628
4-Bromofluorobenzene	31	0.3913357	31	0.4006491	31	0.3970659	31	0.399884	31	0.4068192	31	0.4208729
Freon 114	0.125	3.779669	0.25	3.607326	0.5	3.76725	1.25	3.744958	2.5	3.889755	5	3.26996

INITIAL CALIBRATION DATA (Continued)

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101005
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 12/31/20 11:50

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF
Dichlorodifluoromethane	10	5.615951	25	5.419369	50	4.246195						
Propene	10	3.008182	25	3.11672	50	3.123749						
Chloromethane	10	3.169506	25	3.251157	50	3.172724						
Vinyl chloride	10	2.853906	25	2.959224	50	2.87072						
Bromomethane	10	1.930807	25	1.977297	50	1.919713						
Chloroethane	10	1.110843	25	1.128034	50	1.109461						
Trichlorofluoromethane	10	3.233858	25	3.218693	50	3.021634						
Bromoethene	10	1.699582	25	1.741409	50	1.681756						
1,1-Dichloroethane	10	3.96112	25	4.132328	50	4.223222						
Acetone	10	4.897522	25	5.085341	50	5.046947						
Methylene chloride	10	1.776514	25	1.866688	50	1.925732						
Freon 113	10	2.707914	25	2.85663	50	2.752168						
3-Chloropropene	10	4.19237	25	4.433256	50	4.486855						
trans-1,2-Dichloroethene	10	3.33264	25	3.467828	50	3.451228						
1,1-Dichloroethene	10	3.862532	25	3.935975	50	3.878202						
cis-1,2-Dichloroethene	10	2.030001	25	2.119635	50	2.183642						
Chloroform	10	4.155904	25	4.228046	50	4.068504						
1,2-Dichloroethane	10	2.910748	25	2.902288	50	2.616938						
1,1,1-Trichloroethane	10	3.669862	25	3.606957	50	3.288307						
Carbon tetrachloride	10	3.694978	25	3.61008	50	3.16129						
1,2-Dichloropropane	10	0.7108671	25	0.7490648	50	0.8023065						
Trichloroethene	10	0.7060494	25	0.7406131	50	0.7559124						
Bromodichloromethane	10	1.303312	25	1.315934	50	1.298943						
cis-1,3-Dichloropropene	10	1.008858	25	1.070744	50	1.128002						
trans-1,3-Dichloropropene	10	0.6649786	25	0.658732	50	~~0.6284878~~						
1,1,2-Trichloroethane	10	0.6177992	25	0.6484286	50	0.6789318						
1,2-Dibromoethane	10	0.9720885	25	1.032365	50	1.074613						
Tetrachloroethene	10	0.8026817	25	0.8236732	50	0.7650315						
Dibromochloromethane	10	0.9408311	25	0.9708301	50	0.9433932						
Chlorobenzene	10	1.587282	25	1.631059	50	1.587469						
Bromoform	10	1.206311	25	1.275365	50	1.277273						

INITIAL CALIBRATION DATA (Continued)

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Calibration:	2101005	Instrument:	OVGCMS7
Matrix:	Air	Calibration Date:	12/31/20 11:50

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF
1,1,2,2-Tetrachloroethane	10	1.334683	25	1.448604	50	1.584043						
1,3-Dichlorobenzene	10	0.8604144	25	1.050722	50	1.166179						
1,4-Dichlorobenzene	10	0.7563342	25	0.9658522	50	1.094863						
1,2-Dichlorobenzene	10	0.7972424	25	0.9320236	50	1.025071						
Hexachlorobutadiene	10	0.3747693	25	0.3752485	50	0.3860044						
4-Bromofluorobenzene	31	0.4342106	31	0.4570122	31	0.5070762						
Freon 114	10	3.553778	25	3.567669	50	3.358967						

INITIAL CALIBRATION DATA (Continued)

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101005
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 12/31/20 11:50

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	5.909758	14.41643	4.554445	0.3657128			30	
Propene	3.46891	21.11997	4.434444	0.4079925			30	
Chloromethane	3.270463	5.251503	5.056667	0.3954954			30	
Vinyl chloride	2.909119	4.862303	5.304445	0.3416295			30	
Bromomethane	2.155586	12.47015	6.132222	0.2415321			30	
Chloroethane	1.196796	10.00664	6.456667	0.1737744			30	
Trichlorofluoromethane	3.437972	9.162249	6.782222	0.1918591			30	
Bromoethene	1.796391	7.130515	6.71	0.2358246			30	
1,1-Dichloroethane	4.245974	7.206655	10.02	6.831281E-02			30	
Acetone	5.226221	10.68406	8.961667	4.651208E-02			30	
Methylene chloride	1.858963	7.610124	8.843334	9.214839E-02			30	
Freon 113	2.911353	8.301482	7.925556	0.1285941			30	
3-Chloropropene	4.465711	8.770412	8.683333	0.1404623			30	
trans-1,2-Dichloroethene	3.501546	6.111153	9.106667	0.1230645			30	
1,1-Dichloroethene	4.047849	6.747121	7.827778	0.1533387			30	
cis-1,2-Dichloroethene	2.164079	7.639813	10.73333	4.565553E-02			30	
Chloroform	4.470508	8.908179	11.06333	4.393534E-02			30	
1,2-Dichloroethane	3.063206	9.680406	12.04222	3.036601E-02			30	
1,1,1-Trichloroethane	3.961147	11.8354	11.35778	5.881745E-02			30	
Carbon tetrachloride	3.970871	12.37318	11.27333	4.399863E-02			30	
1,2-Dichloropropane	0.7791529	9.621557	13.10111	3.082214E-02			30	
Trichloroethene	0.7646966	9.937085	12.48222	2.837714E-02			30	
Bromodichloromethane	1.331697	4.616314	13.14222	3.087056E-02			30	
cis-1,3-Dichloropropene	1.13546	13.95501	13.86556	3.722169E-02			30	
trans-1,3-Dichloropropene	0.7768079	22.95632	14.59	8.747303E-03	0.9995491		0.99	
1,1,2-Trichloroethane	0.6845185	13.54061	14.78889	1.842179E-02			30	
1,2-Dibromoethane	1.077347	15.03899	15.33111	1.893985E-02			30	
Tetrachloroethene	0.9008099	17.36702	14.60556	3.242749E-02			30	
Dibromochloromethane	0.9321549	4.277446	15.01222	3.204912E-02			30	
Chlorobenzene	1.827847	20.71857	15.92111	0.0130558			30	

INITIAL CALIBRATION DATA (Continued)

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101005
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 12/31/20 11:50

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Bromoform	1.163951	9.213024	16.72222	2.792253E-02			30	
1,1,2,2-Tetrachloroethane	1.719508	40.93741	17.51778	1.861973E-02	0.9968896		0.99	
1,3-Dichlorobenzene	1.111419	45.2394	18.63222	2.725701E-02	0.9934773		0.99	
1,4-Dichlorobenzene	0.9386015	42.97438	18.74	2.050293E-03	0.9909597		0.99	
1,2-Dichlorobenzene	1.129182	56.6263	19.29	1.680822E-02	0.9949822		0.99	
Hexachlorobutadiene	1.190627	119.732	21.13	8.897437E-03	0.9973281		0.99	
4-Bromofluorobenzene	0.4238806	8.874238	17.33	1.878086E-02			30	
Freon 114	3.615481	5.645776	4.94	0.3921453			30	

SECOND-SOURCE CALIBRATION VERIFICATION

TO-15

Laboratory: ENCO Orlando **SDG:** AE00066-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2101005 **Laboratory ID:** AA64317-SCV1

Sequence: AA64317 **Standard ID:** A0L1276

ANALYTE	EXPECTED (ppbv)	FOUND (ppbv)	% DRIFT	QC LIMIT
Dibromochloromethane	10.0	11	11.4	30.00
Chloroform	10.0	11	6.9	30.00
Acetone	10.0	10	0.4	30.00
Bromoethene	10.0	10	2.6	30.00
Carbon tetrachloride	10.0	11	5.1	30.00
1,3-Dichlorobenzene	10.0	8.9	-11.5	30.00
trans-1,2-Dichloroethene	10.0	10	4.1	30.00
cis-1,3-Dichloropropene	10.0	11	11.9	30.00
Tetrachloroethene	10.0	10	3.3	30.00
Chloromethane	10.0	9.8	-1.6	30.00
Propene	10.0	8.7	-12.7	30.00
Chlorobenzene	10.0	10	-0.08	30.00
1,2-Dichloroethane	10.0	11	9.4	30.00
3-Chloropropene	10.0	10	0.4	30.00
1,2-Dibromoethane	10.0	11	8.8	30.00
1,4-Dichlorobenzene	10.0	8.4	-16.4	30.00
trans-1,3-Dichloropropene	10.0	15	54.4 *	30.00
cis-1,2-Dichloroethene	10.0	11	6.7	30.00
1,1-Dichloroethene	10.0	11	8.3	30.00
Hexachlorobutadiene	10.0	11	6.7	30.00
1,1,2,2-Tetrachloroethane	10.0	10	3.9	30.00
Trichloroethene	10.0	11	6.9	30.00
1,1,2-Trichloroethane	10.0	11	5.9	30.00
1,2-Dichloropropane	10.0	11	5.9	30.00
Freon 114	10.0	10	4.0	30.00
Freon 113	10.0	11	6.3	30.00
1,1,1-Trichloroethane	10.0	11	7.1	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

TO-15

Laboratory: ENCO Orlando **SDG:** AE00066-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2101005 **Laboratory ID:** AA64317-SCV1

Sequence: AA64317 **Standard ID:** A0L1276

ANALYTE	EXPECTED (ppbv)	FOUND (ppbv)	% DRIFT	QC LIMIT
Trichlorofluoromethane	10.0	11	8.5	30.00
Bromomethane	10.0	11	6.2	30.00
1,1-Dichloroethane	10.0	11	6.8	30.00
Bromodichloromethane	10.0	11	8.4	30.00
Bromoform	10.0	11	13.1	30.00
Methylene chloride	10.0	11	9.5	30.00
Vinyl chloride	10.0	10	2.5	30.00
Chloroethane	10.0	10	2.4	30.00
1,2-Dichlorobenzene	10.0	9.5	-4.8	30.00
Dichlorodifluoromethane	10.0	11	10.2	30.00

* Values outside of QC limits

ENVIRONMENTAL CONSERVATION LABORATORIES, INC.

SUMMA Canister Pressure Logbook

☐ Cary ☐ Jacksonville ☐ Orlando

Instrument ID: N/A

SUMMA Can ID#	Sample ID#	Initial Pressure (psia)	Final Pressure (psia)	Dilution Factor (F.P./I.P.)	Analyst	Date	Comments
JS-062	AE00066-13	13.53	18.16	1.34	KS	1/25/21	
JS-063	AE00066-14	13.85	18.70	1.35	KS	1/25/21	
JS-069	AE00066-15	10.85	17.22	1.59	KS	1/25/21	
JS-070	AE00066-16	13.53	18.97	1.40	KS	1/25/21	
JS-016	AE00066-17	14.15	18.74	1.32	KS	1/25/21	
5600	AE00374-01	14.39	18.20	1.26	KS	1/26/21	
5599	AE00374-02	14.49	18.26	1.26	KS	1/26/21	
5123	AE00374-03	14.34	18.26	1.27	KS	1/26/21	

SUMMA CANISTER CLEANING LOGBOOK

	SUMMA Canister ID / Regulator ID	Initial Leak Check				Final Leak Check				Analysis Date- SUMMA Humid Air Certification (Include Chem Station File ID)	Target Analytes below MRL (DOD-1/2 LOQ) (Yes/No)	Comments
		Pressure (psia)	Date 2020	Time	Analyst	Pressure (psia)	Date 2020	Time	Analyst			
1	JS-051	47.53	8/19	10:40	[illegible]	47.16	8/21	9:00	[illegible]	207HT023 [illegible] 8/25/20	Yes	Toluene OK Non-DoD
2	JS-016	47.53	8/19	10:40	[illegible]	47.24	8/21	9:00	[illegible]	207HT025 [illegible] 8/25/20	No	Toluene OK Non-DoD
3	JS-080	47.53	8/19	10:40	[illegible]	47.14	8/21	9:00	[illegible]	207HT024 [illegible] 8/25/20	No	Toluene OK Non-DoD
4	~~JS-073~~ NC 8/18/20				[illegible] 8/19/20							
5	JS-093	48.46	8/20	10:05	[illegible]	20.10	8/21	13:45	[illegible]			Failed Leak Check
6	JS-073	48.46	8/20	10:05	[illegible]	47.50	8/21	13:45	[illegible]	207HT022 [illegible] 8/25/20	No	Toluene OK Non-DoD
7	JS-087	48.46	8/20	10:05	[illegible]	46.84	8/21	13:45	[illegible]	207HW013 [illegible] 8/29/20	No	DCM, Hexane, Toluene, Xylenes OK - Non DoD
8	JS 073	47.58	9/9	8:00	[illegible]	47.09	9/10	09:25	[illegible]	207IH014 [illegible] 9/14/20	Yes (DoD Acetone IPA)	
9	JS-071	47.58	9/9	8:00	[illegible]	47.18	9/10	09:25	[illegible]	207IH017 2E [illegible] 9/14/20 [illegible] 9/14/20	Yes (DoD IPA THF)	
10	JS-016	47.58	9/9	8:00	[illegible]	47.08	9/10	09:25	[illegible]	207IH016 [illegible] 9/14/20	Yes (DoD Acetone IPA)	

SUMMA CANISTER CLEANING LOGBOOK

	SUMMA Canister ID / Regulator ID	Initial Leak Check				Final Leak Check				Analysis Date- SUMMA Humid Air Certification (Include Chem Station File ID)	Target Analytes below MRL (DOD-1/2 LOQ) (Yes/No)	Comments
		Pressure (psia)	Date	Time	Analyst	Pressure (psia)	Date	Time	Analyst			
1	JS-051	47.59	9/9	8:00	KS	47.14	9/10	09:25	KS	207IH015 KS 9/14/20	No	THF >MRL
2	93215	46.77	9/15	10:25	KS	46.42	9/16	13:25	KS	207IK004 KS 9/16/20	Yes	DCM, IPA
3	JS-079	46.77	9/15	10:25	KS	46.40	9/16	13:25	KS	207IK002 KS 9/16/20	Yes	DCM IPA
4	JS-082	46.77	9/15	10:25	KS	41.22	9/16	13:25	KS			Leak -Retest for Leak
5	JS-084	46.77	9/15	10:25	KS	46.36	9/16	13:25	KS	207IK003 KS 9/16/20	Yes	DCM, IPA
6	JS-051	48.51	9/17	08:25	KS	47.83	9/18	10:15	KS	207IL027 KS 9/18/20	No	THF >MRL
7	JS-025	48.32	9/18	10:30	KS	47.94	9/21	09:25	KS			CCV can Leak Test
8	JS-043	47.44	9/22	09:10	KS	46.72	9/23	10:00	KS	207IR009 KS 9/23/20	Yes	~~DCM~~ N/A 9/24/20
9	JS-063	47.44	9/22	09:10	KS	46.79	9/23	10:00	KS	207IR010 KS 9/23/20	Yes	
10	JS-064	47.44	9/22	09:10	KS	46.69	9/23	10:00	KS	207IR011 KS 9/23/20	Yes	

SUMMA CANISTER CLEANING LOGBOOK

	SUMMA Canister ID / Regulator ID	Initial Leak Check				Final Leak Check				Analysis Date- SUMMA Humid Air Certification (Include Chem Station File ID)	Target Analytes below MRL (DOD-1/2 LOQ) (Yes/No)	Comments
		Pressure (psia)	Date	Time	Analyst	Pressure (psia)	Date	Time	Analyst			
1	JS-072	47.44	9/22	09:10	KS	46.70	9/23	10:00	KS	207IR012 KS 9/23/20	Yes	DoD - DCM
2	JS-082	48.17	9/23	10:40	KS	47.06	9/24	12:30	KS	207IS003 KS 9/24/20	Yes	DoD - DCM
3	JS-093	48.17	9/23	10:40	KS	39.67	9/24	12:30	KS			Leak Confirmed
4	JS-026	47.47	9/25	10:45	KS	46.89	9/28	09:20	KS	207IX024 KS 9/30/20	Yes	DoD - Acetone
5	JS-062	47.47	9/25	10:45	KS	47.02	9/28	09:20	KS	207IY010 KS 9/30/20	Yes	
6	JS-069	47.47	9/25	10:45	KS	46.91	9/28	09:20	KS	207IY011 KS 9/30/20	Yes	
7	JS-086	47.47	9/25	10:45	KS	46.80	9/28	09:20	KS	207IY013 KS 9/30/20	Yes	DoD - DCM, Hexane
8	JS-017	48.11	9/29	08:20	KS	46.80	9/30	10:40	KS	207IY017 KS 10/1/20	Yes	DoD - DCM
9	JS-032	48.11	9/29	08:20	KS	46.75	9/30	10:40	KS	207IY020 KS 10/1/20	No - DCM	DoD - DCM, ~~Hexane~~ ~~DCM~~ 10/2/20
10	JS-074	48.11	9/29	08:20	KS	46.64	9/30	10:40	KS	207IY021 KS 10/1/20	No - DCM	DoD - DCM

SUMMA CANISTER CLEANING LOGBOOK

	SUMMA Canister ID / Regulator ID	Initial Leak Check				Final Leak Check				Analysis Date- SUMMA Humid Air Certification (Include Chem Station File ID)	Target Analytes below MRL (DOD-1/2 LOQ) (Yes/No)	Comments
		Pressure (psia)	Date	Time	Analyst	Pressure (psia)	Date	Time	Analyst			
1	JS-070	49.73	10/14	10:30	KS	49.45	10/15	12:20	KS	207JI020 KS 10/15/20	Yes	
2	JS-080	49.73	10/14	10:30	KS	49.45	10/15	12:20	KS	207JI021 KS 10/15/20	Yes	
3	JS-047	48.36	10/20	08:30	KS	47.55	10/21	09:15	KS	207JP003 KS 10/21/20	Yes	
4	JS 068	48.36	10/20	08:30	KS	47.62	10/21	09:15	KS	207JP004 KS 10/21/20	Yes	
5	JS-078	48.36	10/20	08:30	KS	47.67	10/21	09:15	KS	207JP005 KS 10/21/20	Yes	
6	JMS 008										No	Cleanliness Check only - can returned unused.
7	JMS003	49.88	11/02	11:50	KS	37.30	11/03	12:50	KS			Leak Check only - Leaks
8	JMS006	49.88	11/02	11:50	KS	48.17	11/03	12:50	KS			Leak Check only
9	4909	48.90	11/05	09:20	KS	47.96	11/06	11:35	KS	207KE019 KS 11/11/20	Yes	
10	5125	48.90	11/05	09:20	KS	47.77	11/06	11:35	KS	207KE020 KS 11/12/20	Yes	

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\091320\207IH016.D Vial: 16
Acq On : 14 Sep 2020 4:19 pm Operator: rgg
Sample : js016 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 14 16:47 2020 Quant Results File: 090120.RES

Quant Method : C:\HPCHEM\1\METHODS\090120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2009010)
Last Update : Wed Sep 02 07:31:44 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	11.03	130	721547	31000.00	PPTV	0.00
36) 1,4-DIFLUOROBENZENE	12.53	114	2532440	31000.00	PPTV	0.00
51) D5-CHLOROBENZENE	15.92	117	1908112	31000.00	PPTV	0.00
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.36	174	852861	28492.06	PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery =	91.17%		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.58	85	132	N.D.		
3) Propene	4.38	41	317	N.D.		
4) Chloromethane	5.12	50	450	N.D.		
5) Freon 114	5.01	135	51	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	5.38	39	98	N.D.		
8) Bromomethane	6.19	94	269	N.D.		
9) Chloroethane	6.49	64	38	N.D.		
10) Trichlorofluoromethane	6.83	101	47	N.D.		
11) Bromoethene	6.76	106	38	N.D.		
12) 1,1-Dichloroethene	7.88	61	120	N.D.		
13) Acetone	9.01	43	12340	225.40	PPTV	96
14) Isopropyl Alcohol	8.82	45	50024	869.26	PPTV	95
15) Carbon Disulfide	7.92	76	3951	N.D.		
16) Methylene Chloride	8.89	84	4724	N.D.		
17) Freon 113	7.98	151	89	N.D.		
18) 3-chloro-1-propene	8.71	41	699	N.D.		
19) t-1,2-Dichloroethene	0.00	61	0	N.D.		
20) Methyl tert-butyl ether	9.23	73	227	N.D.		
21) Hexane	9.27	57	482	N.D.		
22) 1,1-Dichloroethane	10.04	63	89	N.D.		
23) Vinyl Acetate	10.39	43	813	N.D.		
24) c-1,2-Dichloroethene	10.79	96	76	N.D.		
25) Ethyl Acetate	11.23	43	455	N.D.		
26) 2-Butanone	11.50	43	2876	N.D.		
27) Chloroform	11.11	83	250	N.D.		
28) Tetrahydrofuran	11.36	42	4540	N.D.		
29) 2,2,4-Trimethylpentane	11.65	57	1275	N.D.		
30) 1,2-Dichloroethane	12.08	62	140	N.D.		
31) 1,1,1-Trichloroethane	11.39	97	150	N.D.		
32) Cyclohexane	11.05	56	346	N.D.		
33) Carbon Tetrachloride	11.29	117	84	N.D.		
34) Benzene	11.85	78	2055	N.D.		
35) Heptane	11.74	43	1052	N.D.		
37) TLPH	0.00	TIC	0	N.D.	d	
38) 1,2-Dichloropropane	13.14	63	305	N.D.		
39) Trichloroethene	12.51	130	223	N.D.		
40) 1,4-Dioxane	13.43	88	749	N.D.		
41) Bromodichloromethane	13.17	83	208	N.D.		
42) c-1,3-Dichloropropene	13.90	75	480	N.D.		
43) t-1,3-Dichloropropene	14.61	75	578	N.D.		
44) 1,1,2-Trichloroethane	14.82	97	213	N.D.		
45) Methyl Isobutyl Ketone	14.57	43	1162	N.D.		
46) Toluene	14.17	92	2419	N.D.		
47) 2-Hexanone	15.52	43	2140	N.D.		
48) 1,2-Dibromoethane	15.36	107	405	N.D.		
49) Tetrachloroethene	14.64	166	419	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\091320\207IH016.D Vial: 16
Acq On : 14 Sep 2020 4:19 pm Operator: rgg
Sample : js016 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 14 16:47 2020 Quant Results File: 090120.RES

Quant Method : C:\HPCHEM\1\METHODS\090120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2009010)
Last Update : Wed Sep 02 07:31:44 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

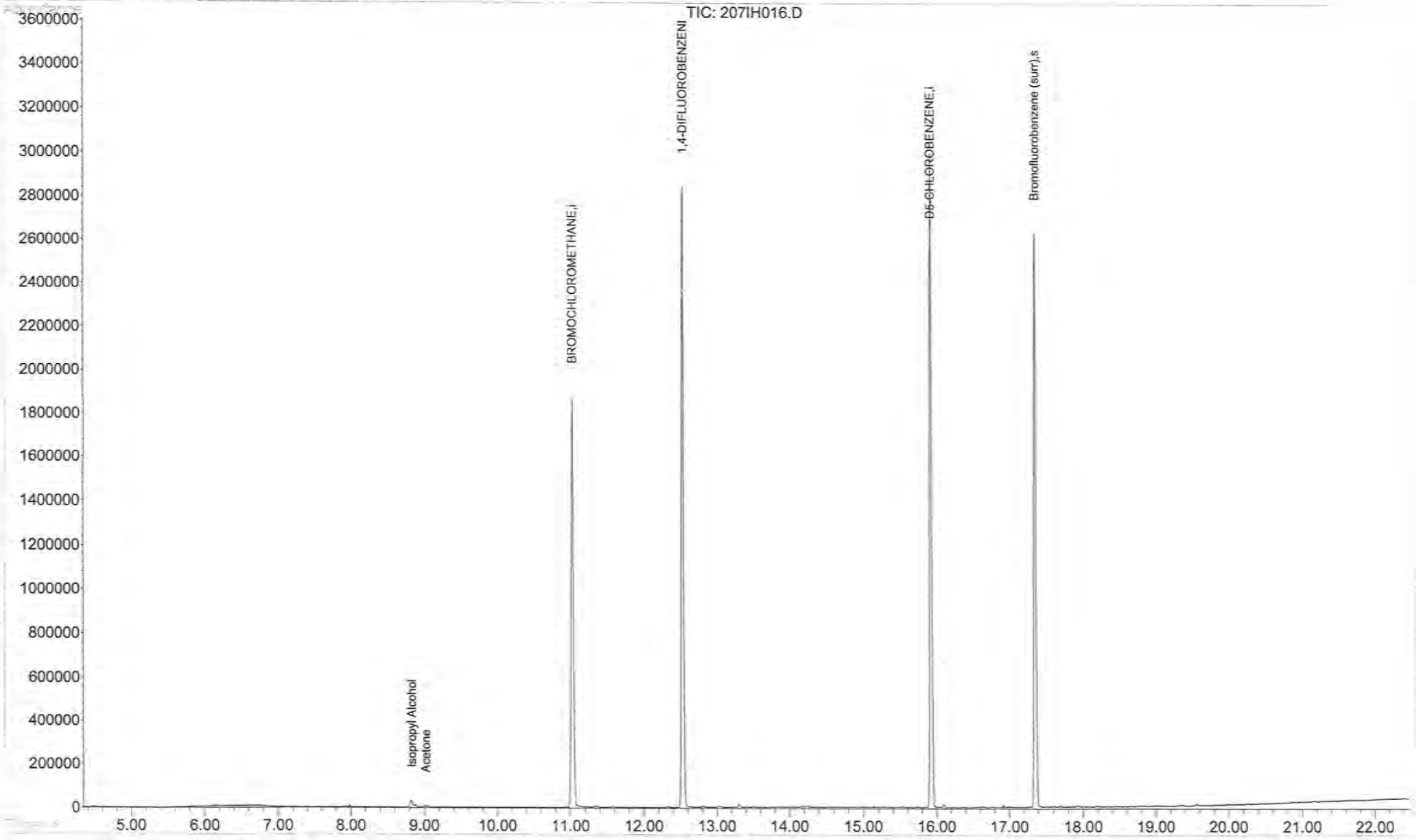
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
50) Dibromochloromethane	15.03	127	197	N.D.		
52) Chlorobenzene	15.95	112	869	N.D.		
53) Ethylbenzene	15.93	106	731	N.D.		
54) m-Xylene & p-Xylene	16.10	106	3661	N.D.		
55) Styrene	16.67	104	916	N.D.		
56) o-Xylene	16.61	106	1212	N.D.		
57) Bromoform	16.75	173	210	N.D.		
58) 1,1,2,2-Tetrachloroethane	17.54	83	1127	N.D.		
59) Bromofluorobenzene	17.36	174	852861	28492.06	PPTV	99
61) 4-ethyltoluene	17.60	105	2301	N.D.		
62) 1,3,5-Trimethylbenzene	17.69	105	1931	N.D.		
63) 1,2,4-Trimethylbenzene	18.18	105	2277	N.D.		
64) 1,3-Dichlorobenzene	18.66	146	1025	N.D.		
65) 1,4-Dichlorobenzene	18.76	146	874	N.D.		
66) Benzyl Chloride	19.05	91	806	N.D.		
67) 1,2-Dichlorobenzene	19.32	146	1099	N.D.		
68) 1,2,4-Trichlorobenzene	21.24	180	370	N.D.		
69) Hexachlorobutadiene	21.15	225	801	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\091320\207IH016.D Vial: 16
Acq On : 14 Sep 2020 4:19 pm Operator: rgg
Sample : js016 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 14 16:47 2020 Quant Results File: 090120.RES

Method : C:\HPCHEM\1\METHODS\090120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2009010)
Last Update : Wed Sep 02 07:31:44 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\093020\207IY010.D Vial: 10
Acq On : 30 Sep 2020 8:23 pm Operator: rgg
Sample : js062 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 30 20:45 2020 Quant Results File: 092920.RES

Quant Method : C:\HPCHEM\1\METHODS\092920.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2009161)
Last Update : Wed Sep 30 09:26:11 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) BROMOCHLOROMETHANE	11.00	130	146491	31000.00 PPTV	-0.04
36) 1,4-DIFLUOROBENZENE	12.51	114	496882	31000.00 PPTV	-0.03
51) D5-CHLOROBENZENE	15.91	117	389800	31000.00 PPTV	-0.02
System Monitoring Compounds					
60) Bromofluorobenzene (surr)	17.34	174	164808	29325.15 PPTV	-0.02
Spiked Amount 31250.000	Range 50 - 150		Recovery =	93.84%	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	4.58	85	2890	N.D.	
3) Propene	4.46	41	3086	N.D.	
4) Chloromethane	0.00	50	0	N.D.	
5) Freon 114	0.00	135	0	N.D.	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	0.00	39	0	N.D.	
8) Bromomethane	6.17	94	672	N.D.	
9) Chloroethane	6.63	64	215	N.D.	
10) Trichlorofluoromethane	6.80	101	1402	N.D.	
11) Bromoethene	0.00	106	0	N.D.	
12) 1,1-Dichloroethene	0.00	61	0	N.D.	
13) Acetone	8.98	43	36070	594.39 PPTV	99
14) Isopropyl Alcohol	0.00	45	0	N.D.	
15) Carbon Disulfide	0.00	76	0	N.D.	
16) Methylene Chloride	8.86	84	65709	852.62 PPTV	98
17) Freon 113	7.95	151	156	N.D.	
18) 3-chloro-1-propene	8.86	41	4567	N.D.	
19) t-1,2-Dichloroethene	0.00	61	0	N.D.	
20) Methyl tert-butyl ether	0.00	73	0	N.D.	
21) Hexane	0.00	57	0	N.D.	
22) 1,1-Dichloroethane	0.00	63	0	N.D.	
23) Vinyl Acetate	10.37	43	1379	N.D.	
24) c-1,2-Dichloroethene	10.76	96	191	N.D.	
25) Ethyl Acetate	0.00	43	0	N.D.	
26) 2-Butanone	11.48	43	5987	N.D.	
27) Chloroform	0.00	83	0	N.D.	
28) Tetrahydrofuran	0.00	42	0	N.D.	
29) 2,2,4-Trimethylpentane	11.63	57	2358	N.D.	
30) 1,2-Dichloroethane	0.00	62	0	N.D.	
31) 1,1,1-Trichloroethane	0.00	97	0	N.D.	
32) Cyclohexane	11.03	56	540	N.D.	
33) Carbon Tetrachloride	0.00	117	0	N.D.	
34) Benzene	11.83	78	2001	N.D.	
35) Heptane	11.72	43	2064	N.D.	
37) TLPH	14.18	TIC	-3380536m	Below Cal	
38) 1,2-Dichloropropane	0.00	63	0	N.D.	
39) Trichloroethene	12.50	130	235	N.D.	
40) 1,4-Dioxane	13.41	88	250	N.D.	
41) Bromodichloromethane	13.16	83	414	N.D.	
42) c-1,3-Dichloropropene	0.00	75	0	N.D.	
43) t-1,3-Dichloropropene	14.61	75	871	N.D.	
44) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
45) Methyl Isobutyl Ketone	0.00	43	0	N.D.	
46) Toluene	14.17	92	3122	N.D.	
47) 2-Hexanone	15.51	43	1843	N.D.	
48) 1,2-Dibromoethane	0.00	107	0	N.D.	
49) Tetrachloroethene	14.62	166	534	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\093020\207IY010.D Vial: 10
Acq On : 30 Sep 2020 8:23 pm Operator: rgg
Sample : js062 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 30 20:45 2020 Quant Results File: 092920.RES

Quant Method : C:\HPCHEM\1\METHODS\092920.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2009161)
Last Update : Wed Sep 30 09:26:11 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
50)	Dibromochloromethane	15.03	127	179	N.D.		
52)	Chlorobenzene	0.00	112	0	N.D.		
53)	Ethylbenzene	0.00	106	0	N.D.		
54)	m-Xylene & p-Xylene	16.09	106	3104	N.D.		
55)	Styrene	0.00	104	0	N.D.		
56)	o-Xylene	0.00	106	0	N.D.		
57)	Bromoform	0.00	173	0	N.D.		
58)	1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
59)	Bromofluorobenzene	17.34	174	164808	29325.15	PPTV	99
61)	4-ethyltoluene	0.00	105	0	N.D.		
62)	1,3,5-Trimethylbenzene	0.00	105	0	N.D.		
63)	1,2,4-Trimethylbenzene	0.00	105	0	N.D.		
64)	1,3-Dichlorobenzene	0.00	146	0	N.D.		
65)	1,4-Dichlorobenzene	0.00	146	0	N.D.		
66)	Benzyl Chloride	0.00	91	0	N.D.		
67)	1,2-Dichlorobenzene	19.30	146	691	N.D.		
68)	1,2,4-Trichlorobenzene	21.23	180	535	N.D.		
69)	Hexachlorobutadiene	21.16	225	620	N.D.		

(#) = qualifier out of range (m) = manual integration

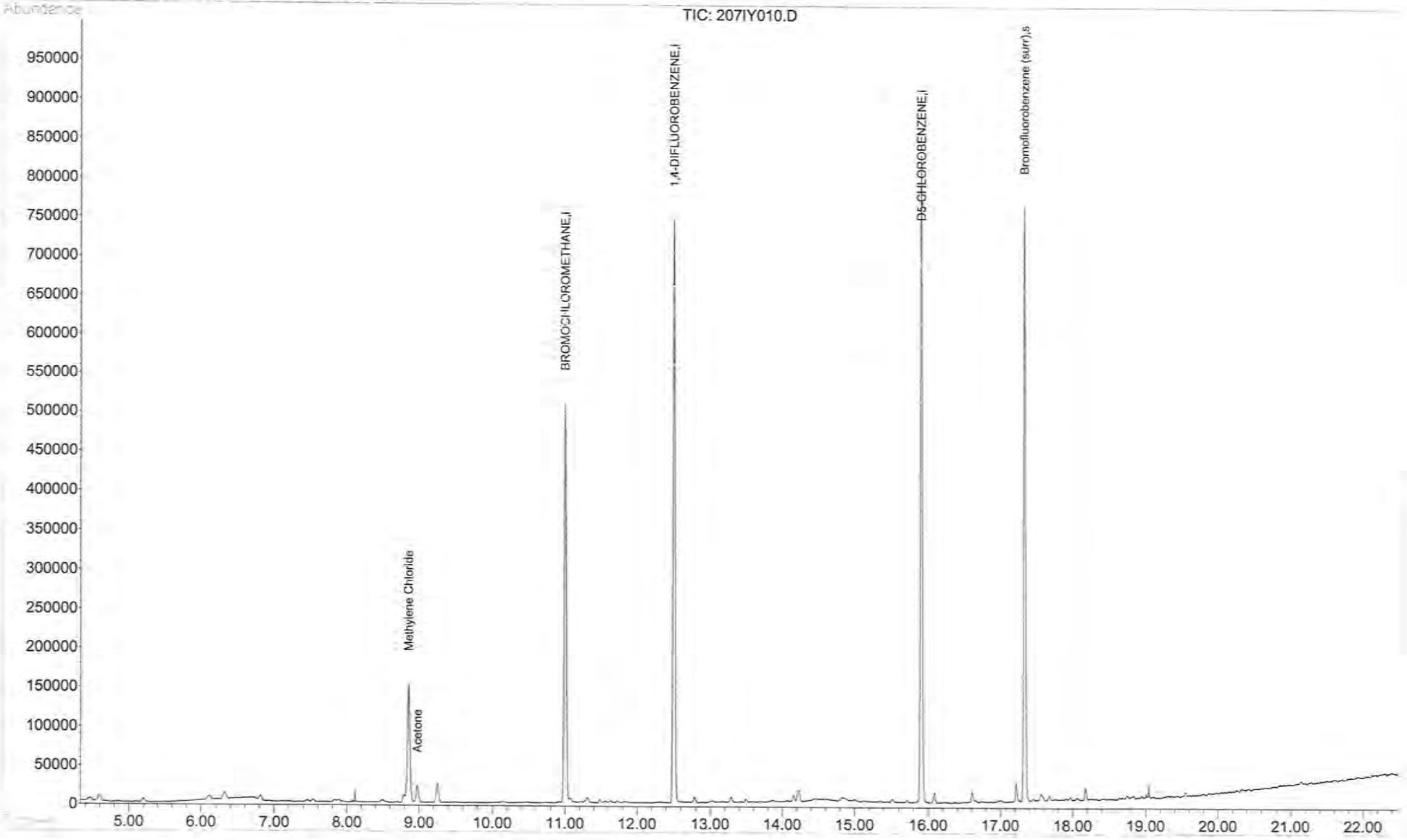
Quantitation Report

Data File : C:\HPCHEM\1\DATA\093020\207IY010.D
Acq On : 30 Sep 2020 8:23 pm
Sample : js062
Misc :
MS Integration Params: RTEINT.P
Quant Time: Sep 30 20:45 2020

Vial: 10
Operator: rgg
Inst : OVGCMS7
Multiplr: 1.00

Quant Results File: 092920.RES

Method : C:\HPCHEM\1\METHODS\092920.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2009161)
Last Update : Wed Sep 30 09:26:11 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\092320\207IR010.D Vial: 10
Acq On : 23 Sep 2020 3:59 pm Operator: rgg
Sample : js063 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 24 9:39 2020 Quant Results File: 092220A.RES

Quant Method : C:\HPCHEM\1\METHODS\092220A.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2009119)
Last Update : Thu Sep 24 08:09:44 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	11.01	130	323811	31000.00	PPTV	-0.01
36) 1,4-DIFLUOROBENZENE	12.52	114	1153737	31000.00	PPTV	0.00
51) D5-CHLOROBENZENE	15.92	117	877726	31000.00	PPTV	0.00
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.35	174	386501	28096.23	PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery =	89.91%		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.60	85	931	N.D.		
3) Propene	4.43	41	208	N.D.		
4) Chloromethane	5.07	50	76	N.D.		
5) Freon 114	4.96	135	44	N.D.		
6) Vinyl Chloride	5.34	62	47	N.D.		
7) 1,3-Butadiene	5.38	39	40	N.D.		
8) Bromomethane	5.99	94	72	N.D.		
9) Chloroethane	6.48	64	49	N.D.		
10) Trichlorofluoromethane	6.82	101	433	N.D.		
11) Bromoethene	0.00	106	0	N.D.		
12) 1,1-Dichloroethene	7.86	61	289	N.D.		
13) Acetone	8.99	43	23051	380.99	PPTV	97
14) Isopropyl Alcohol	8.82	45	3434	N.D.		
15) Carbon Disulfide	7.89	76	7183	N.D.		
16) Methylene Chloride	8.87	84	31814	1240.89	PPTV	97
17) Freon 113	7.95	151	85	N.D.		
18) 3-chloro-1-propene	8.71	41	666	N.D.		
19) t-1,2-Dichloroethene	9.13	61	137	N.D.		
20) Methyl tert-butyl ether	9.31	73	257	N.D.		
21) Hexane	9.26	57	4235	N.D.		
22) 1,1-Dichloroethane	10.05	63	200	N.D.		
23) Vinyl Acetate	10.38	43	1069	N.D.		
24) c-1,2-Dichloroethene	10.75	96	86	N.D.		
25) Ethyl Acetate	11.22	43	604	N.D.		
26) 2-Butanone	11.49	43	4465	N.D.		
27) Chloroform	11.09	83	563	N.D.		
28) Tetrahydrofuran	11.36	42	1093	N.D.		
29) 2,2,4-Trimethylpentane	11.64	57	1267	N.D.		
30) 1,2-Dichloroethane	12.07	62	149	N.D.		
31) 1,1,1-Trichloroethane	11.37	97	237	N.D.		
32) Cyclohexane	11.03	56	330	N.D.		
33) Carbon Tetrachloride	11.31	117	38	N.D.		
34) Benzene	11.95	78	665	N.D.		
35) Heptane	11.73	43	883	N.D.		
37) TLPH	0.00	TIC	0	N.D.	d	
38) 1,2-Dichloropropane	13.12	63	156	N.D.		
39) Trichloroethene	12.50	130	243	N.D.		
40) 1,4-Dioxane	13.40	88	188	N.D.		
41) Bromodichloromethane	13.15	83	256	N.D.		
42) c-1,3-Dichloropropene	13.88	75	712	N.D.		
43) t-1,3-Dichloropropene	14.61	75	719	N.D.		
44) 1,1,2-Trichloroethane	14.81	97	418	N.D.		
45) Methyl Isobutyl Ketone	14.57	43	1586	N.D.		
46) Toluene	14.17	92	2538	N.D.		
47) 2-Hexanone	15.52	43	2221	N.D.		
48) 1,2-Dibromoethane	15.35	107	720	N.D.		
49) Tetrachloroethene	14.62	166	642	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\092320\207IR010.D Vial: 10
Acq On : 23 Sep 2020 3:59 pm Operator: rgg
Sample : js063 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 24 9:39 2020 Quant Results File: 092220A.RES

Quant Method : C:\HPCHEM\1\METHODS\092220A.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2009119)
Last Update : Thu Sep 24 08:09:44 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

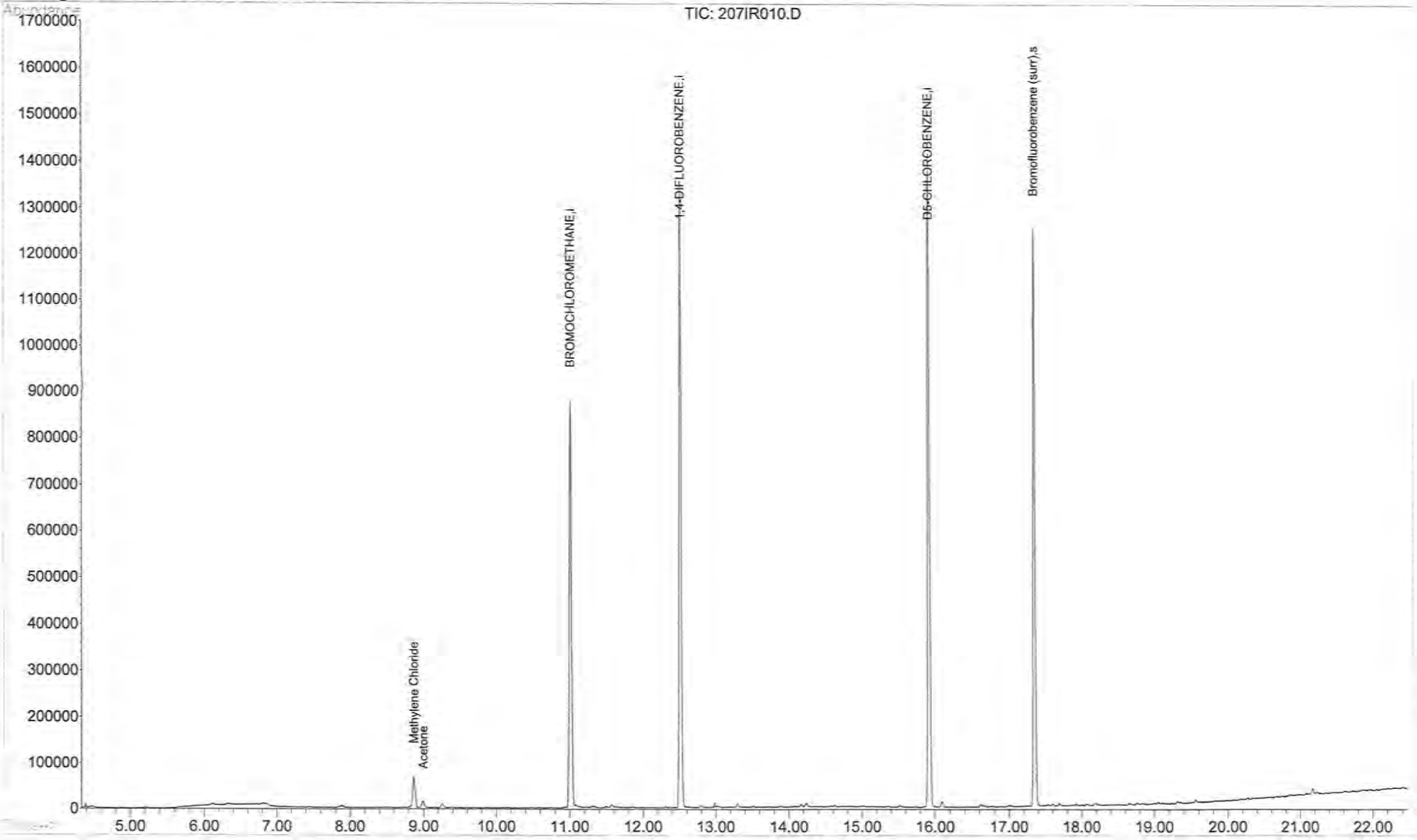
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
50) Dibromochloromethane	15.04	127	288	N.D.		
52) Chlorobenzene	15.94	112	1249	N.D.		
53) Ethylbenzene	15.93	106	897	N.D.		
54) m-Xylene & p-Xylene	16.09	106	3567	N.D.		
55) Styrene	16.67	104	1165	N.D.		
56) o-Xylene	16.62	106	1514	N.D.		
57) Bromoform	16.75	173	259	N.D.		
58) 1,1,2,2-Tetrachloroethane	17.54	83	1452	N.D.		
59) Bromofluorobenzene	17.35	174	386501	28096.23	PPTV	99
61) 4-ethyltoluene	17.60	105	3324	N.D.		
62) 1,3,5-Trimethylbenzene	17.69	105	2940	N.D.		
63) 1,2,4-Trimethylbenzene	18.19	105	3160	N.D.		
64) 1,3-Dichlorobenzene	18.66	146	1733	N.D.		
65) 1,4-Dichlorobenzene	18.76	146	1489	N.D.		
66) Benzyl Chloride	19.05	91	1565	N.D.		
67) 1,2-Dichlorobenzene	19.32	146	2152	N.D.		
68) 1,2,4-Trichlorobenzene	21.24	180	1484	N.D.		
69) Hexachlorobutadiene	21.16	225	1135	N.D.		

(#) = qualifier out of range (m) = manual integration
207IR010.D 092220A.M Thu Sep 24 09:40:41 2020

Quantitation Report

Data File : C:\HPCHEM\1\DATA\092320\207IR010.D Vial: 10
Acq On : 23 Sep 2020 3:59 pm Operator: rgg
Sample : js063 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 24 9:39 2020 Quant Results File: 092220A.RES

Method : C:\HPCHEM\1\METHODS\092220A.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2009119)
Last Update : Thu Sep 24 08:09:44 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\093020\207IY011.D Vial: 11
Acq On : 30 Sep 2020 9:06 pm Operator: rgg
Sample : js069 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 30 21:29 2020 Quant Results File: 092920.RES

Quant Method : C:\HPCHEM\1\METHODS\092920.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2009161)
Last Update : Wed Sep 30 09:26:11 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	11.01	130	142174	31000.00	PPTV	-0.03
36) 1,4-DIFLUOROBENZENE	12.51	114	477932	31000.00	PPTV	-0.02
51) D5-CHLOROBENZENE	15.91	117	379766	31000.00	PPTV	-0.02
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.34	174	161864	29562.28	PPTV	-0.02
Spiked Amount 31250.000	Range 50 - 150		Recovery = 94.60%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.		
3) Propene	0.00	41	0	N.D.		
4) Chloromethane	5.12	50	1815	N.D.		
5) Freon 114	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	39	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	6.50	64	423	N.D.		
10) Trichlorofluoromethane	6.83	101	1436	N.D.		
11) Bromoethene	0.00	106	0	N.D.		
12) 1,1-Dichloroethene	7.86	61	322	N.D.		
13) Acetone	8.98	43	16896	796.25	PPTV #	55
14) Isopropyl Alcohol	8.80	45	15068	281.19	PPTV #	61
15) Carbon Disulfide	0.00	76	0	N.D.		
16) Methylene Chloride	8.87	84	66420	1053.22	PPTV	97
17) Freon 113	0.00	151	0	N.D.		
18) 3-chloro-1-propene	8.87	41	4046	N.D.		
19) t-1,2-Dichloroethene	0.00	61	0	N.D.		
20) Methyl tert-butyl ether	9.37	73	613	N.D.		
21) Hexane	0.00	57	0	N.D.		
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	0.00	43	0	N.D.		
24) c-1,2-Dichloroethene	0.00	96	0	N.D.		
25) Ethyl Acetate	11.32	43	12184	N.D.		
26) 2-Butanone	11.32	43	9257	N.D.		
27) Chloroform	11.07	83	1472	N.D.		
28) Tetrahydrofuran	0.00	42	0	N.D.		
29) 2,2,4-Trimethylpentane	11.63	57	2413	N.D.		
30) 1,2-Dichloroethane	12.06	62	288	N.D.		
31) 1,1,1-Trichloroethane	11.37	97	366	N.D.		
32) Cyclohexane	11.03	56	525	N.D.		
33) Carbon Tetrachloride	0.00	117	0	N.D.		
34) Benzene	11.83	78	1977	N.D.		
35) Heptane	11.73	43	1875	N.D.		
37) TLPH	14.18	TIC	-2542046m	Below Cal		
38) 1,2-Dichloropropane	0.00	63	0	N.D.		
39) Trichloroethene	0.00	130	0	N.D.		
40) 1,4-Dioxane	13.41	88	166	N.D.		
41) Bromodichloromethane	13.16	83	439	N.D.		
42) c-1,3-Dichloropropene	0.00	75	0	N.D.		
43) t-1,3-Dichloropropene	0.00	75	0	N.D.		
44) 1,1,2-Trichloroethane	14.80	97	256	N.D.		
45) Methyl Isobutyl Ketone	14.56	43	1695	N.D.		
46) Toluene	0.00	92	0	N.D.		
47) 2-Hexanone	15.51	43	3964	N.D.		
48) 1,2-Dibromoethane	0.00	107	0	N.D.		
49) Tetrachloroethene	14.62	166	578	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\093020\207IY011.D Vial: 11
Acq On : 30 Sep 2020 9:06 pm Operator: rgg
Sample : js069 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 30 21:29 2020 Quant Results File: 092920.RES

Quant Method : C:\HPCHEM\1\METHODS\092920.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2009161)
Last Update : Wed Sep 30 09:26:11 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

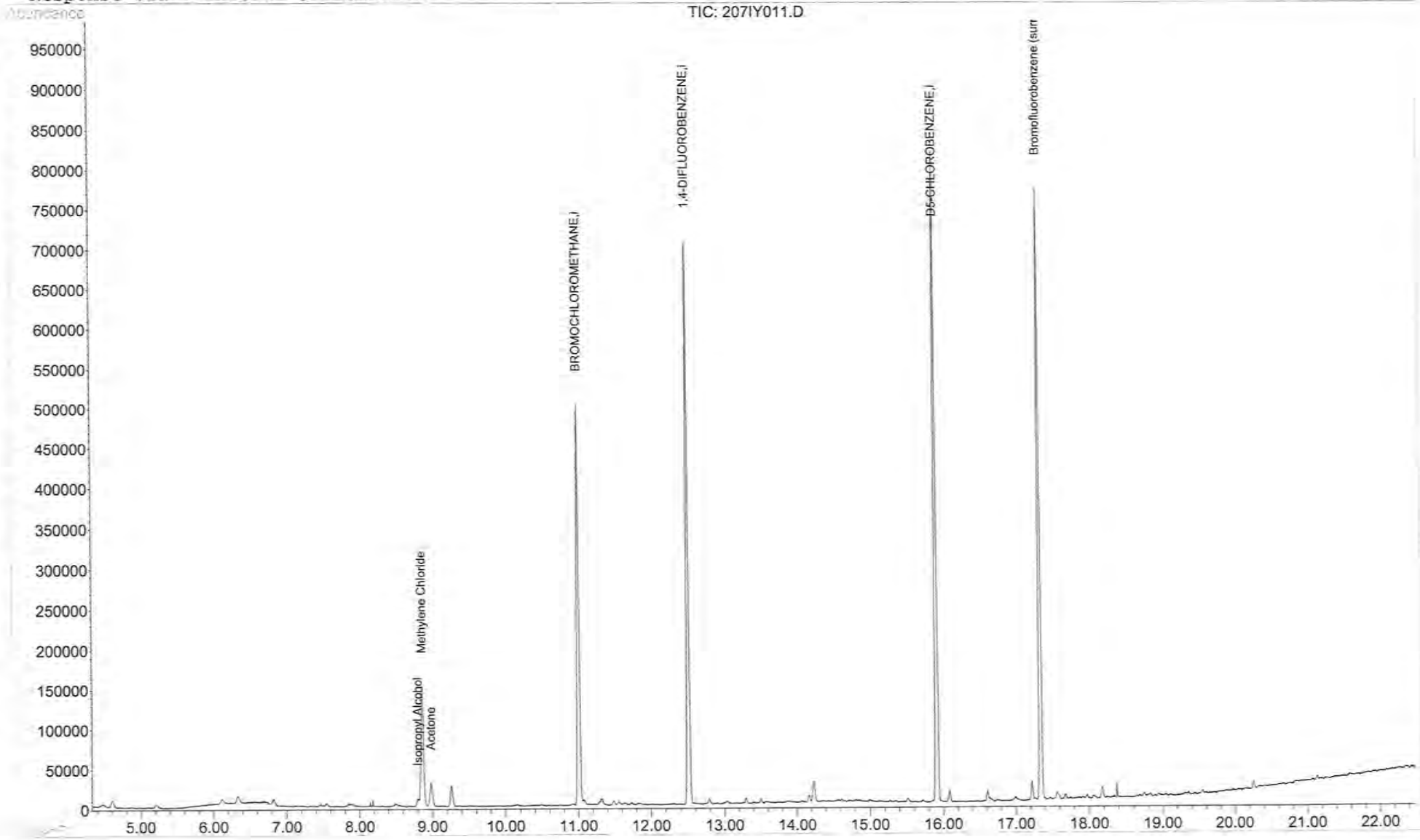
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
50) Dibromochloromethane	0.00	127	0	N.D.		
52) Chlorobenzene	15.93	112	564	N.D.		
53) Ethylbenzene	15.92	106	658	N.D.		
54) m-Xylene & p-Xylene	0.00	106	0	N.D.		
55) Styrene	0.00	104	0	N.D.		
56) o-Xylene	16.61	106	3004	N.D.		
57) Bromoform	0.00	173	0	N.D.		
58) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
59) Bromofluorobenzene	17.34	174	161864	29562.28	PPTV	99
61) 4-ethyltoluene	17.56	105	7549	N.D.		
62) 1,3,5-Trimethylbenzene	17.56	105	7549	N.D.		
63) 1,2,4-Trimethylbenzene	18.18	105	7007	N.D.		
64) 1,3-Dichlorobenzene	18.65	146	520	N.D.		
65) 1,4-Dichlorobenzene	18.76	146	460	N.D.		
66) Benzyl Chloride	0.00	91	0	N.D.		
67) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
68) 1,2,4-Trichlorobenzene	21.21	180	427	N.D.		
69) Hexachlorobutadiene	21.13	225	566	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\093020\207IY011.D Vial: 11
Acq On : 30 Sep 2020 9:06 pm Operator: rgg
Sample : js069 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 30 21:29 2020 Quant Results File: 092920.RES

Method : C:\HPCHEM\1\METHODS\092920.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2009161)
Last Update : Wed Sep 30 09:26:11 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\101420\207JI020.D Vial: 20
Acq On : 15 Oct 2020 5:33 pm Operator: rgg
Sample : js070 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 19:42 2020 Quant Results File: 100720.RES

Quant Method : C:\HPCHEM\1\METHODS\100720.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2009119)
Last Update : Thu Oct 08 09:55:52 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	11.02	130	290094	31000.00	PPTV	0.00
36) 1,4-DIFLUOROBENZENE	12.52	114	994642	31000.00	PPTV	0.00
51) D5-CHLOROBENZENE	15.92	117	764423	31000.00	PPTV	0.00
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.35	174	327647	30361.39	PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 97.16%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.61	85	40	N.D.		
3) Propene	4.42	41	166	N.D.		
4) Chloromethane	5.10	50	45	N.D.		
5) Freon 114	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	5.40	39	164	N.D.		
8) Bromomethane	6.20	94	534	N.D.		
9) Chloroethane	6.48	64	39	N.D.		
10) Trichlorofluoromethane	0.00	101	0	N.D.		
11) Bromoethene	0.00	106	0	N.D.		
12) 1,1-Dichloroethene	0.00	61	0	N.D.		
13) Acetone	9.01	43	13482	230.70	PPTV	97
14) Isopropyl Alcohol	8.81	45	4584	N.D.		
15) Carbon Disulfide	7.92	76	1516	N.D.		
16) Methylene Chloride	8.88	84	4388	231.71	PPTV	92
17) Freon 113	0.00	151	0	N.D.		
18) 3-chloro-1-propene	8.72	41	319	N.D.		
19) t-1,2-Dichloroethene	0.00	61	0	N.D.		
20) Methyl tert-butyl ether	9.48	73	235	N.D.		
21) Hexane	9.28	57	675	N.D.		
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	10.39	43	247	N.D.		
24) c-1,2-Dichloroethene	0.00	96	0	N.D.		
25) Ethyl Acetate	11.24	43	520	N.D.		
26) 2-Butanone	11.49	43	2882	N.D.		
27) Chloroform	11.09	83	122	N.D.		
28) Tetrahydrofuran	11.33	42	790	N.D.		
29) 2,2,4-Trimethylpentane	11.65	57	653	N.D.		
30) 1,2-Dichloroethane	0.00	62	0	N.D.		
31) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
32) Cyclohexane	11.04	56	43	N.D.		
33) Carbon Tetrachloride	0.00	117	0	N.D.		
34) Benzene	11.83	78	965	N.D.		
35) Heptane	11.74	43	586	N.D.		
37) TLPH	0.00	TIC	0	N.D.	d	
38) 1,2-Dichloropropane	13.03	63	38	N.D.		
39) Trichloroethene	0.00	130	0	N.D.		
40) 1,4-Dioxane	13.41	88	37	N.D.		
41) Bromodichloromethane	0.00	83	0	N.D.		
42) c-1,3-Dichloropropene	13.90	75	239	N.D.		
43) t-1,3-Dichloropropene	14.60	75	143	N.D.		
44) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
45) Methyl Isobutyl Ketone	14.57	43	1486	N.D.		
46) Toluene	14.17	92	1037	N.D.		
47) 2-Hexanone	15.51	43	1363	N.D.		
48) 1,2-Dibromoethane	15.35	107	83	N.D.		
49) Tetrachloroethene	14.63	166	40	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\101420\207JI020.D Vial: 20
Acq On : 15 Oct 2020 5:33 pm Operator: rgg
Sample : js070 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 19:42 2020 Quant Results File: 100720.RES

Quant Method : C:\HPCHEM\1\METHODS\100720.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2009119)
Last Update : Thu Oct 08 09:55:52 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

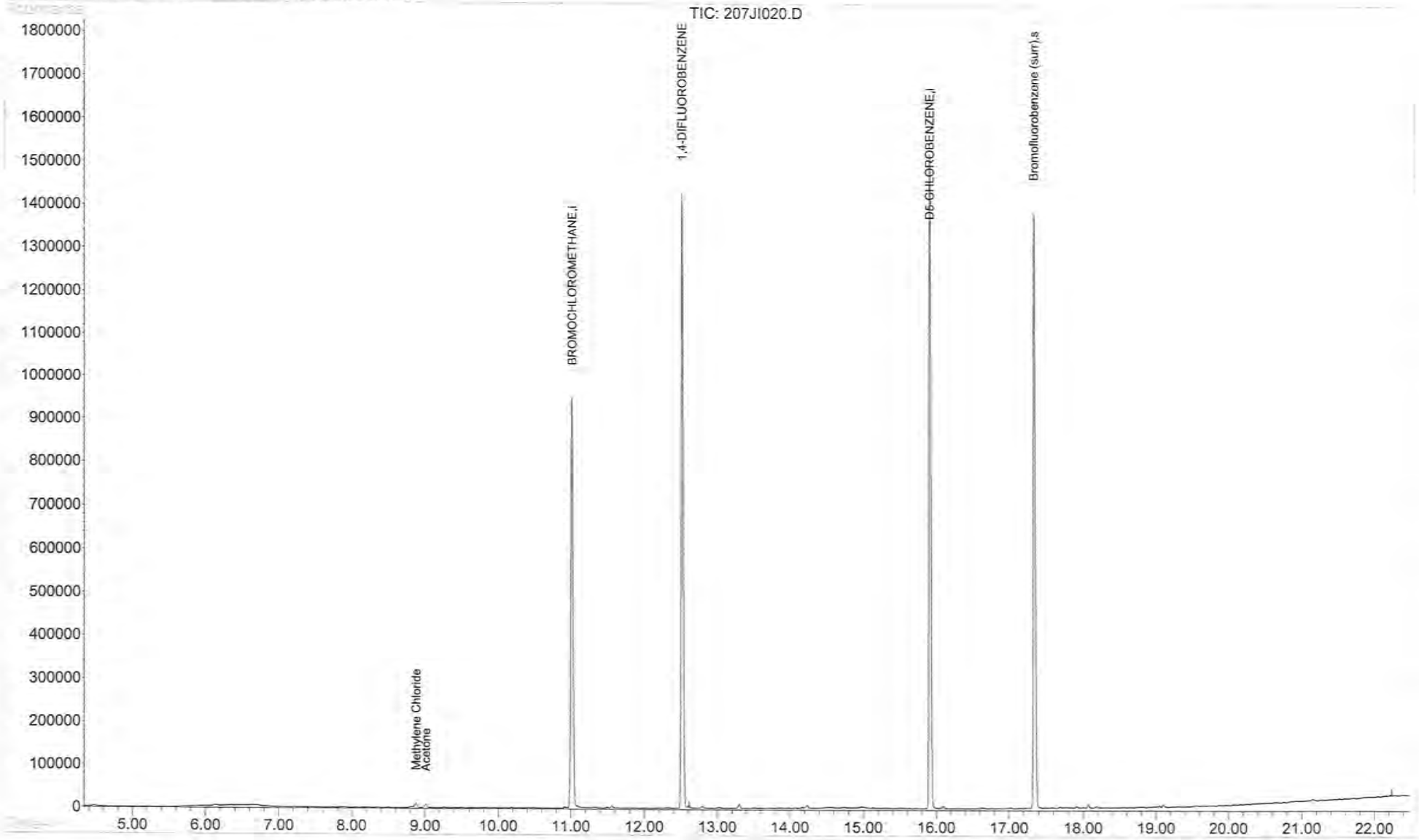
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
50) Dibromochloromethane	15.03	127	39	N.D.		
52) Chlorobenzene	15.94	112	261	N.D.		
53) Ethylbenzene	15.93	106	179	N.D.		
54) m-Xylene & p-Xylene	16.10	106	1360	N.D.		
55) Styrene	16.67	104	380	N.D.		
56) o-Xylene	16.61	106	689	N.D.		
57) Bromoform	0.00	173	0	N.D.		
58) 1,1,2,2-Tetrachloroethane	17.53	83	485	N.D.		
59) Bromofluorobenzene	17.35	174	327647	30361.39	PPTV	99
61) 4-ethyltoluene	17.59	105	1664	N.D.		
62) 1,3,5-Trimethylbenzene	17.69	105	1320	N.D.		
63) 1,2,4-Trimethylbenzene	18.19	105	1927	N.D.		
64) 1,3-Dichlorobenzene	18.65	146	359	N.D.		
65) 1,4-Dichlorobenzene	18.76	146	387	N.D.		
66) Benzyl Chloride	19.05	91	251	N.D.		
67) 1,2-Dichlorobenzene	19.31	146	411	N.D.		
68) 1,2,4-Trichlorobenzene	21.23	180	39	N.D.		
69) Hexachlorobutadiene	21.15	225	441	N.D.		

(#) = qualifier out of range (m) = manual integration
207JI020.D 100720.M Thu Oct 15 19:43:18 2020

Quantitation Report

Data File : C:\HPCHEM\1\DATA\101420\207JI020.D Vial: 20
Acq On : 15 Oct 2020 5:33 pm Operator: rgg
Sample : js070 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 19:42 2020 Quant Results File: 100720.RES

Method : C:\HPCHEM\1\METHODS\100720.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2009119)
Last Update : Thu Oct 08 09:55:52 2020
Response via : Initial Calibration



ANALYSIS SEQUENCE

AA64633

Instrument: OVGCMS7

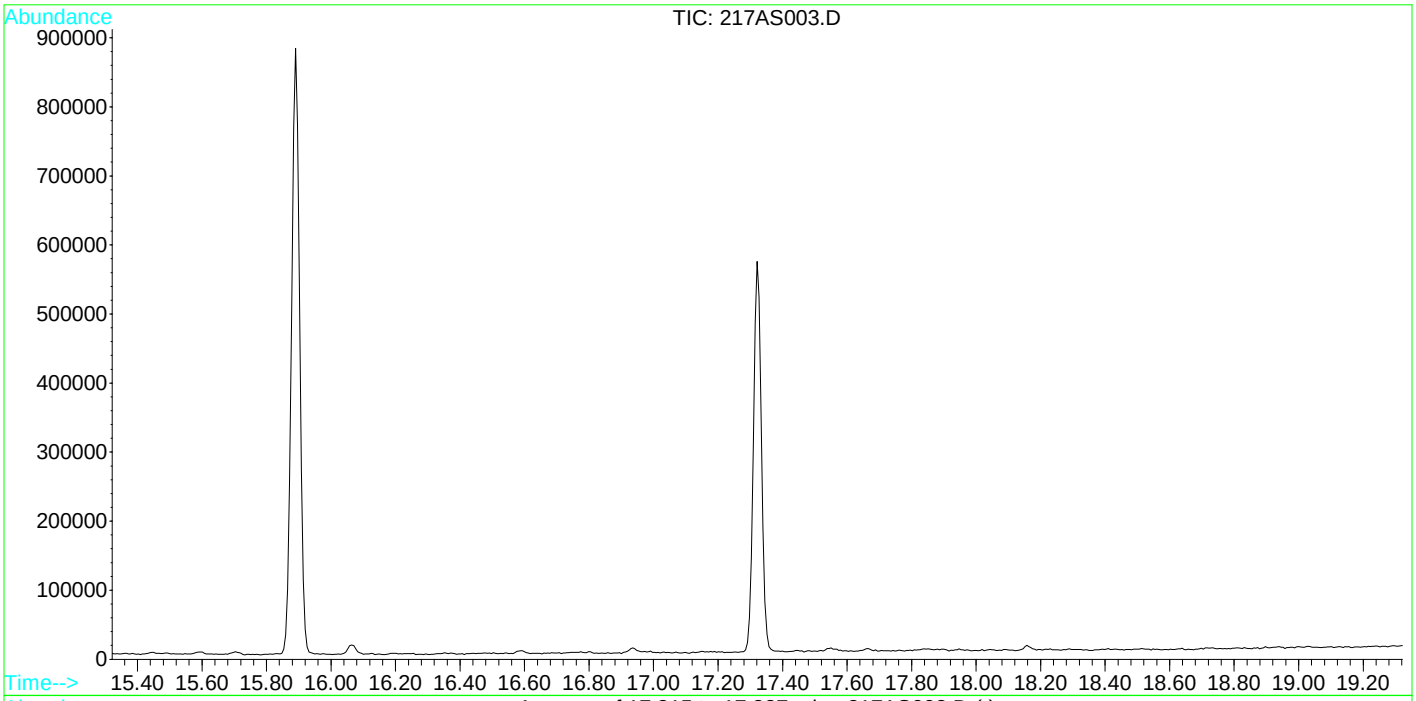
Calibration ID: 2101005 **Printed: 1/26/2021 10:19:29AM**

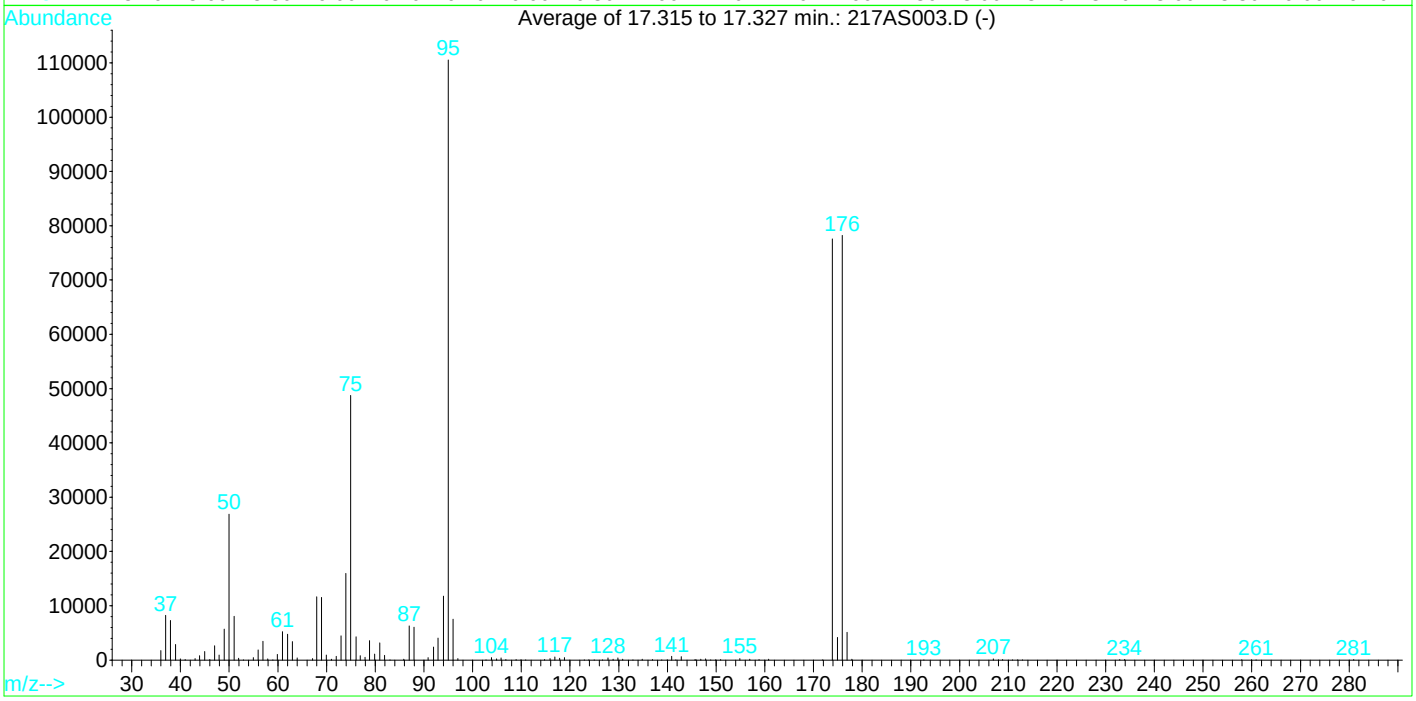
Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA64633-TUN1	QC		1		A1A0971			
AA64633-CCV1	QC		2		A0L1263	A1A0972		
AA64633-CRL1	QC		3		A0L1264	A1A0972		
1A25023-BS1	QC		4			A1A0972		
1A25023-BSD1	QC		5			A1A0972		
1A25023-BLK1	QC		6			A1A0972		
AE00066-13	TO15 (SUMMA)	A	7			A1A0972	Tetra Tech, Inc. (TE016)	CVOC custom. KD 7/8/20
AE00066-13RE1	TO15 (SUMMA)	A	8			A1A0972	Tetra Tech, Inc. (TE016)	run 400mL overdiluted Added 1/25/2(
AE00066-14	TO15 (SUMMA)	A	9			A1A0972	Tetra Tech, Inc. (TE016)	CVOC custom. KD 7/8/20
AE00066-15	TO15 (SUMMA)	A	10			A1A0972	Tetra Tech, Inc. (TE016)	CVOC custom. KD 7/8/20
AE00066-16	TO15 (SUMMA)	A	11			A1A0972	Tetra Tech, Inc. (TE016)	CVOC custom. KD 7/8/20
AE00066-17	TO15 (SUMMA)	A	12			A1A0972	Tetra Tech, Inc. (TE016)	CVOC custom. KD 7/8/20
AE00066-15RE1	TO15 (SUMMA)	A	13			A1A0972	Tetra Tech, Inc. (TE016)	run 400mL overdiluted Added 1/25/2(
AE00066-16RE1	TO15 (SUMMA)	A	14			A1A0972	Tetra Tech, Inc. (TE016)	run 200mL overdiluted Added 1/25/2(

Samples Loaded By Date

Data Processed By Date

Data File : C:\HPCHEM\1\DATA\012421\217AS003.D Vial: 3
Acq On : 24 Jan 2021 8:13 pm Operator: rgg
Sample : tun1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)





AutoFind: Scans 2159, 2160, 2161; Background Corrected with Scan 2150

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	24.3	26883	PASS
75	95	30	60	44.1	48756	PASS
95	95	100	100	100.0	110512	PASS
96	95	5	9	6.8	7507	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	70.2	77581	PASS
175	174	5	9	5.4	4176	PASS
176	174	95	101	100.8	78189	PASS
177	176	5	9	6.5	5119	PASS

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012421\217AS004.D Vial: 4
Acq On : 24 Jan 2021 9:16 pm Operator: rgg
Sample : ccv1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 10:15 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.99	130	392339	31000.00 PPTV	-0.01
36) 1,4-DIFLUOROBENZENE	12.49	114	1301381	31000.00 PPTV	0.00
51) D5-CHLOROBENZENE	15.89	117	987702	31000.00 PPTV	0.00
System Monitoring Compounds					
60) Bromofluorobenzene (surr)	17.32	174	424836	31456.72 PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 100.66%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	4.55	85	705189	9428.36 PPTV	99
3) Propene	4.43	41	423664	9650.03 PPTV	93
4) Chloromethane	5.05	50	440111	10632.94 PPTV	99
5) Freon 114	4.94	135	442945	9680.19 PPTV	98
6) Vinyl Chloride	5.31	62	392119	10650.17 PPTV	100
7) 1,3-Butadiene	5.38	39	384832	10164.75 PPTV	89
8) Bromomethane	6.12	94	236321	8662.38 PPTV	100
9) Chloroethane	6.45	64	137279	9063.26 PPTV	99
10) Trichlorofluoromethane	6.78	101	382843	8798.70 PPTV	100
11) Bromoethene	6.71	106	205511	9039.29 PPTV	100
12) 1,1-Dichloroethene	7.83	61	522880	10206.53 PPTV	91
13) Acetone	8.95	43	680426	10287.11 PPTV	89
14) Isopropyl Alcohol	8.77	45	687482	10234.19 PPTV	95
15) Carbon Disulfide	7.87	76	881727	10505.25 PPTV	97
16) Methylene Chloride	8.84	84	267805	11382.78 PPTV	92
17) Freon 113	7.93	151	360464	9782.89 PPTV	100
18) 3-chloro-1-propene	8.68	41	606742	10735.29 PPTV	83
19) t-1,2-Dichloroethene	9.10	61	470130	10608.61 PPTV	94
20) Methyl tert-butyl ether	9.31	73	796014	10184.31 PPTV	95
21) Hexane	9.23	57	544964	11335.68 PPTV	90
22) 1,1-Dichloroethane	10.01	63	562499	10467.54 PPTV	100
23) Vinyl Acetate	10.35	43	1211004	10785.53 PPTV	99
24) c-1,2-Dichloroethene	10.73	96	292044	10662.90 PPTV	97
25) Ethyl Acetate	11.20	43	1095505	10402.65 PPTV	97
26) 2-Butanone	11.45	43	962664	10488.70 PPTV	97
27) Chloroform	11.06	83	555431	9816.88 PPTV	99
28) Tetrahydrofuran	11.30	42	464075	10759.52 PPTV	99
29) 2,2,4-Trimethylpentane	11.62	57	1755537	10741.04 PPTV	93
30) 1,2-Dichloroethane	12.04	62	352546	9093.68 PPTV	100
31) 1,1,1-Trichloroethane	11.36	97	451090	8997.93 PPTV	99
32) Cyclohexane	11.01	56	553001	10756.42 PPTV	94
33) Carbon Tetrachloride	11.27	117	434412	8644.03 PPTV	99
34) Benzene	11.81	78	838534	9983.38 PPTV	99
35) Heptane	11.72	43	776352	10686.54 PPTV	98
37) TLPH	14.14	TIC	2185208m	10687.31 PPTV	
38) 1,2-Dichloropropane	13.09	63	346510	10593.76 PPTV	80
39) Trichloroethene	12.47	130	321611	10018.41 PPTV	99
40) 1,4-Dioxane	13.36	88	191750	10679.05 PPTV	97
41) Bromodichloromethane	13.14	83	576765	10316.94 PPTV	99
42) c-1,3-Dichloropropene	13.86	75	482279	10117.75 PPTV	98
43) t-1,3-Dichloropropene	14.59	75	294733	10662.53 PPTV	96
44) 1,1,2-Trichloroethane	14.78	97	294063	10233.22 PPTV	99
45) Methyl Isobutyl Ketone	14.53	43	1057876	10765.43 PPTV	96
46) Toluene	14.14	92	512467	10627.62 PPTV	100
47) 2-Hexanone	15.48	43	872944	10911.75 PPTV	94
48) 1,2-Dibromoethane	15.33	107	456051	10083.59 PPTV	100
49) Tetrachloroethene	14.60	166	354346	9370.26 PPTV	98
50) Dibromochloromethane	15.01	127	410507	10490.34 PPTV	99
52) Chlorobenzene	15.92	112	551522	9470.19 PPTV	94
53) Ethylbenzene	15.90	106	272442	11116.16 PPTV	93
54) m-Xylene & p-Xylene	16.07	106	686520	23088.11 PPTV	92
55) Styrene	16.64	104	485457	9782.70 PPTV	90
56) o-Xylene	16.59	106	335358	10499.63 PPTV	90
57) Bromoform	16.72	173	393828	10619.59 PPTV #	89

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012421\217AS004.D Vial: 4
Acq On : 24 Jan 2021 9:16 pm Operator: rgg
Sample : ccv1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 10:15 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

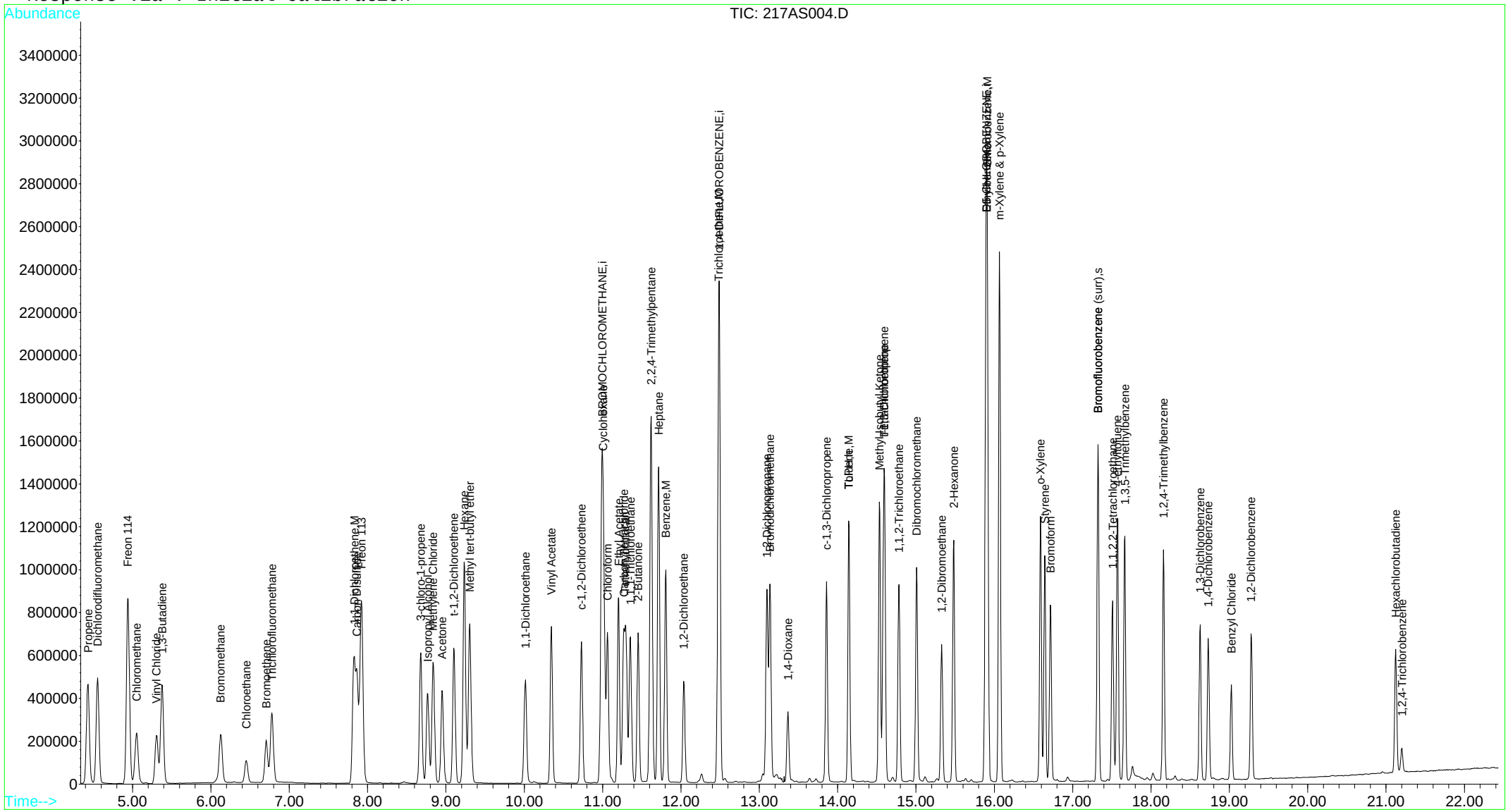
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.51	83	491820	9979.01 PPTV	99
59) Bromofluorobenzene	17.32	174	424836	31456.72 PPTV #	95
61) 4-ethyltoluene	17.58	105	858614	10634.83 PPTV	98
62) 1,3,5-Trimethylbenzene	17.67	105	636561	10624.12 PPTV	94
63) 1,2,4-Trimethylbenzene	18.16	105	603501	10318.72 PPTV	94
64) 1,3-Dichlorobenzene	18.63	146	309306	8589.64 PPTV	97
65) 1,4-Dichlorobenzene	18.73	146	272881	8119.43 PPTV	97
66) Benzyl Chloride	19.02	91	327369	7390.41 PPTV	94
67) 1,2-Dichlorobenzene	19.28	146	293802	9250.36 PPTV	96
68) 1,2,4-Trichlorobenzene	21.20	180	37978	5222.95 PPTV	99
69) Hexachlorobutadiene	21.12	225	122855	10047.23 PPTV	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\012421\217AS004.D Vial: 4
Acq On : 24 Jan 2021 9:16 pm Operator: rgg
Sample : ccv1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 10:15 2021 Quant Results File: 123120.RES

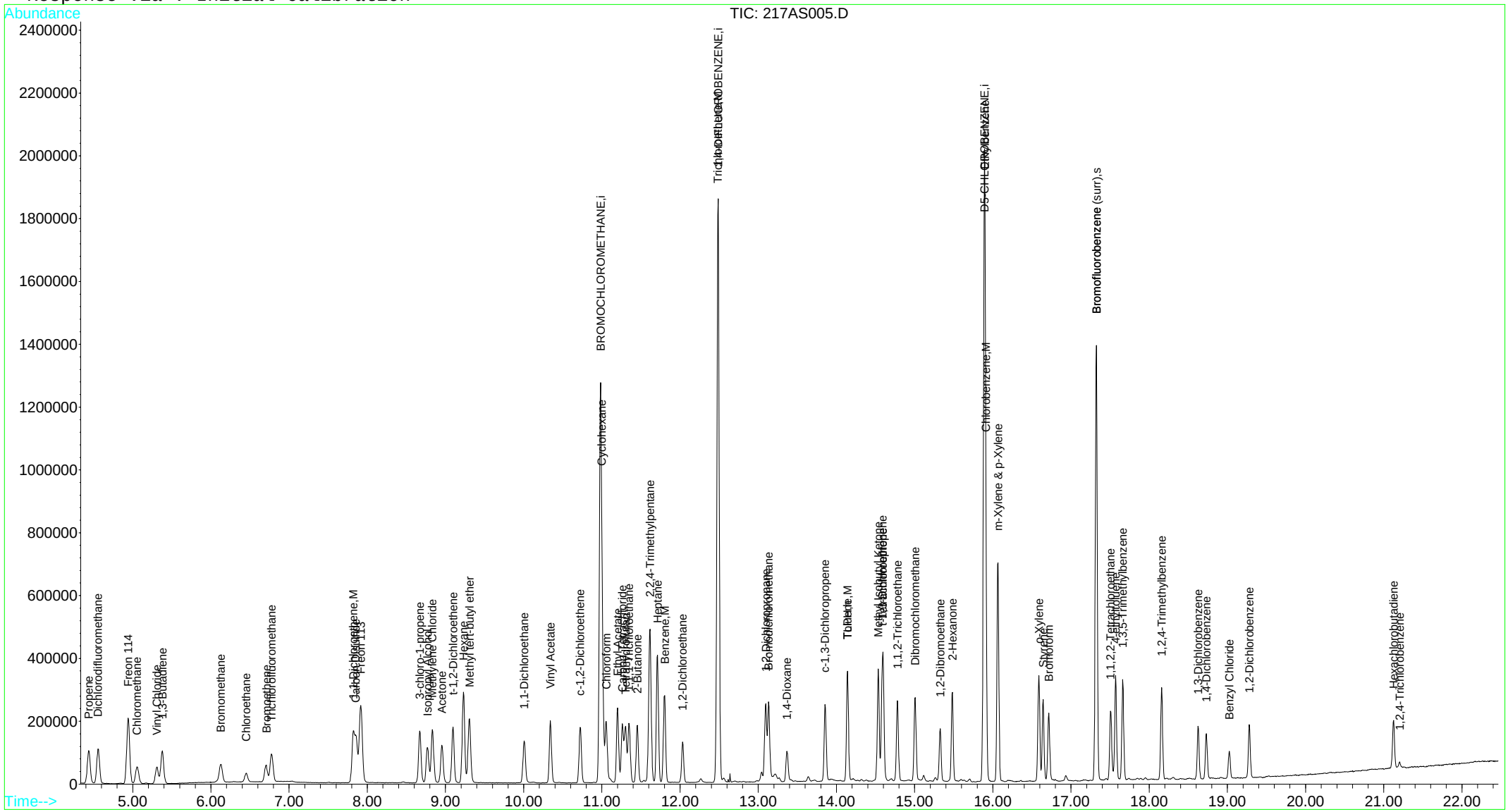
Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\012421\217AS005.D Vial: 5
Acq On : 24 Jan 2021 9:55 pm Operator: rgg
Sample : crl1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 10:16 2021 Quant Results File: 123120.RES

Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012421\217AS005.D Vial: 5
Acq On : 24 Jan 2021 9:55 pm Operator: rgg
Sample : crl1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 10:16 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.98	130	403704	31000.00	PPTV	-0.02
36) 1,4-DIFLUOROBENZENE	12.49	114	1353586	31000.00	PPTV	-0.01
51) D5-CHLOROBENZENE	15.89	117	996591	31000.00	PPTV	0.00
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.32	174	384503	28216.35	PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 90.29%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.56	85	161353	2096.55	PPTV	99
3) Propene	4.43	41	96242	2130.44	PPTV	92
4) Chloromethane	5.05	50	97644	2292.64	PPTV	100
5) Freon 114	4.94	135	108361	2301.47	PPTV	98
6) Vinyl Chloride	5.31	62	90154	2379.70	PPTV	100
7) 1,3-Butadiene	5.38	39	86883	2230.28	PPTV	88
8) Bromomethane	6.13	94	60001	2137.43	PPTV	100
9) Chloroethane	6.46	64	35465	2275.51	PPTV	95
10) Trichlorofluoromethane	6.77	101	100610	2247.18	PPTV	100
11) Bromoethene	6.71	106	53921	2304.92	PPTV	100
12) 1,1-Dichloroethene	7.82	61	139994	2655.73	PPTV	87
13) Acetone	8.95	43	186648	2742.42	PPTV	87
14) Isopropyl Alcohol	8.77	45	186701	2701.08	PPTV	95
15) Carbon Disulfide	7.86	76	245406	2841.55	PPTV	97
16) Methylene Chloride	8.83	84	78450	3240.57	PPTV	92
17) Freon 113	7.92	151	102158	2694.49	PPTV	99
18) 3-chloro-1-propene	8.67	41	161377	2774.91	PPTV	80
19) t-1,2-Dichloroethene	9.10	61	127130	2787.96	PPTV	91
20) Methyl tert-butyl ether	9.31	73	216677	2694.15	PPTV	92
21) Hexane	9.23	57	148835	3008.73	PPTV	88
22) 1,1-Dichloroethane	10.00	63	153261	2771.74	PPTV	99
23) Vinyl Acetate	10.34	43	317406	2747.32	PPTV	99
24) c-1,2-Dichloroethene	10.73	96	79851	2833.39	PPTV	97
25) Ethyl Acetate	11.20	43	296247	2733.90	PPTV	94
26) 2-Butanone	11.45	43	258263	2734.69	PPTV	96
27) Chloroform	11.06	83	151413	2600.79	PPTV	98
28) Tetrahydrofuran	11.30	42	126457	2849.35	PPTV	98
29) 2,2,4-Trimethylpentane	11.62	57	501315	2980.89	PPTV	93
30) 1,2-Dichloroethane	12.03	62	94736	2374.86	PPTV	100
31) 1,1,1-Trichloroethane	11.35	97	121486	2355.07	PPTV	98
32) Cyclohexane	11.00	56	153940	2909.99	PPTV	93
33) Carbon Tetrachloride	11.26	117	116582	2254.47	PPTV	100
34) Benzene	11.80	78	233215	2698.44	PPTV	100
35) Heptane	11.71	43	213820	2860.39	PPTV	98
37) TLPH	14.14	TIC	624382m	2935.92	PPTV	
38) 1,2-Dichloropropane	13.10	63	95345	2802.53	PPTV #	78
39) Trichloroethene	12.48	130	89359	2676.24	PPTV	98
40) 1,4-Dioxane	13.37	88	52455	2808.68	PPTV	96
41) Bromodichloromethane	13.13	83	154542	2657.77	PPTV	99
42) c-1,3-Dichloropropene	13.85	75	128470	2591.23	PPTV	98
43) t-1,3-Dichloropropene	14.58	75	79232	2755.82	PPTV	96
44) 1,1,2-Trichloroethane	14.78	97	80378	2689.23	PPTV	99
45) Methyl Isobutyl Ketone	14.53	43	282608	2765.03	PPTV	97
46) Toluene	14.14	92	142972	2850.62	PPTV	100
47) 2-Hexanone	15.48	43	220479	2649.68	PPTV	93
48) 1,2-Dibromoethane	15.33	107	120939	2570.91	PPTV	99
49) Tetrachloroethene	14.60	166	98323	2499.76	PPTV	99
50) Dibromochloromethane	15.01	127	108544	2666.82	PPTV	99
52) Chlorobenzene	15.92	112	150721	2564.95	PPTV	98
53) Ethylbenzene	15.91	106	77128	3118.90	PPTV	93
54) m-Xylene & p-Xylene	16.07	106	196537	6550.71	PPTV	91
55) Styrene	16.64	104	121336	2423.30	PPTV	92
56) o-Xylene	16.59	106	91952	2853.22	PPTV	90
57) Bromoform	16.72	173	102111	2728.87	PPTV #	89

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012421\217AS005.D Vial: 5
Acq On : 24 Jan 2021 9:55 pm Operator: rgg
Sample : crl1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 10:16 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.50	83	132460	2663.64	PPTV	100
59) Bromofluorobenzene	17.32	174	384503	28216.35	PPTV #	94
61) 4-ethyltoluene	17.57	105	226046	2774.84	PPTV	97
62) 1,3,5-Trimethylbenzene	17.66	105	170728	2824.01	PPTV	93
63) 1,2,4-Trimethylbenzene	18.16	105	163686	2773.76	PPTV	94
64) 1,3-Dichlorobenzene	18.62	146	71376	1964.48	PPTV	97
65) 1,4-Dichlorobenzene	18.73	146	58552	1726.64	PPTV	97
66) Benzyl Chloride	19.03	91	63078	1411.30	PPTV	95
67) 1,2-Dichlorobenzene	19.28	146	70698	2206.07	PPTV	97
68) 1,2,4-Trichlorobenzene	21.20	180	6275	855.28	PPTV #	89
69) Hexachlorobutadiene	21.13	225	31948	2589.44	PPTV	95

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012421\217AS006.D Vial: 6
Acq On : 24 Jan 2021 10:34 pm Operator: rgg
Sample : bs1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 10:17 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.99	130	390017	31000.00	PPTV	-0.01
36) 1,4-DIFLUOROBENZENE	12.49	114	1295134	31000.00	PPTV	0.00
51) D5-CHLOROBENZENE	15.89	117	976746	31000.00	PPTV	0.00
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.32	174	423653	31720.99	PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 101.51%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.54	85	691249	9297.00	PPTV	99
3) Propene	4.41	41	389846	8932.61	PPTV	93
4) Chloromethane	5.03	50	409960	9963.46	PPTV	99
5) Freon 114	4.93	135	445236	9788.19	PPTV	100
6) Vinyl Chloride	5.29	62	387904	10598.42	PPTV	99
7) 1,3-Butadiene	5.36	39	348933	9271.40	PPTV	86
8) Bromomethane	6.12	94	268328	9894.16	PPTV	99
9) Chloroethane	6.44	64	151376	10053.45	PPTV	99
10) Trichlorofluoromethane	6.77	101	418728	9680.72	PPTV	100
11) Bromoethene	6.70	106	215416	9531.37	PPTV	99
12) 1,1-Dichloroethene	7.82	61	577602	11341.82	PPTV	89
13) Acetone	8.95	43	685310	10422.63	PPTV	88
14) Isopropyl Alcohol	8.77	45	722103	10813.57	PPTV	94
15) Carbon Disulfide	7.86	76	946298	11341.69	PPTV	97
16) Methylene Chloride	8.84	84	300219	12836.47	PPTV	92
17) Freon 113	7.92	151	407268	11118.95	PPTV	99
18) 3-chloro-1-propene	8.68	41	633149	11269.21	PPTV	82
19) t-1,2-Dichloroethene	9.10	61	496518	11270.76	PPTV	93
20) Methyl tert-butyl ether	9.30	73	844536	10869.44	PPTV	94
21) Hexane	9.23	57	583247	12204.23	PPTV	90
22) 1,1-Dichloroethane	10.01	63	634871	11884.65	PPTV	100
23) Vinyl Acetate	10.35	43	1279718	11465.37	PPTV	99
24) c-1,2-Dichloroethene	10.73	96	330990	12156.82	PPTV	97
25) Ethyl Acetate	11.21	43	1175404	11227.80	PPTV	96
26) 2-Butanone	11.45	43	1024226	11225.89	PPTV	97
27) Chloroform	11.06	83	622283	11063.92	PPTV	98
28) Tetrahydrofuran	11.30	42	496089	11570.24	PPTV	98
29) 2,2,4-Trimethylpentane	11.62	57	1875509	11543.39	PPTV	93
30) 1,2-Dichloroethane	12.04	62	393251	10204.03	PPTV	99
31) 1,1,1-Trichloroethane	11.36	97	496039	9953.44	PPTV	99
32) Cyclohexane	11.01	56	593940	11621.51	PPTV	93
33) Carbon Tetrachloride	11.27	117	413110	8269.10	PPTV	100
34) Benzene	11.81	78	945066	11318.72	PPTV	99
35) Heptane	11.72	43	814900	11283.94	PPTV	98
37) TLPH	14.15	TIC	2484419m	12209.29	PPTV	
38) 1,2-Dichloropropane	13.10	63	394307	12113.20	PPTV	79
39) Trichloroethene	12.48	130	363329	11372.55	PPTV	98
40) 1,4-Dioxane	13.36	88	203908	11410.94	PPTV	98
41) Bromodichloromethane	13.14	83	605259	10878.85	PPTV	99
42) c-1,3-Dichloropropene	13.86	75	579625	12218.62	PPTV	98
43) t-1,3-Dichloropropene	14.59	75	428957	15593.19	PPTV	97
44) 1,1,2-Trichloroethane	14.78	97	335828	11742.99	PPTV	100
45) Methyl Isobutyl Ketone	14.54	43	1131813	11573.40	PPTV	96
46) Toluene	14.15	92	584262	12174.96	PPTV	99
47) 2-Hexanone	15.48	43	927669	11651.74	PPTV	93
48) 1,2-Dibromoethane	15.33	107	531385	11805.94	PPTV	100
49) Tetrachloroethene	14.60	166	393118	10445.68	PPTV	98
50) Dibromochloromethane	15.01	127	428627	11006.23	PPTV	98
52) Chlorobenzene	15.92	112	614242	10665.47	PPTV	93
53) Ethylbenzene	15.91	106	304160	12549.51	PPTV	93
54) m-Xylene & p-Xylene	16.07	106	768323	26129.04	PPTV	92
55) Styrene	16.65	104	576809	11753.96	PPTV	89
56) o-Xylene	16.59	106	378292	11976.69	PPTV	89
57) Bromoform	16.72	173	404054	11017.54	PPTV #	89

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012421\217AS006.D Vial: 6
Acq On : 24 Jan 2021 10:34 pm Operator: rgg
Sample : bs1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 10:17 2021 Quant Results File: 123120.RES

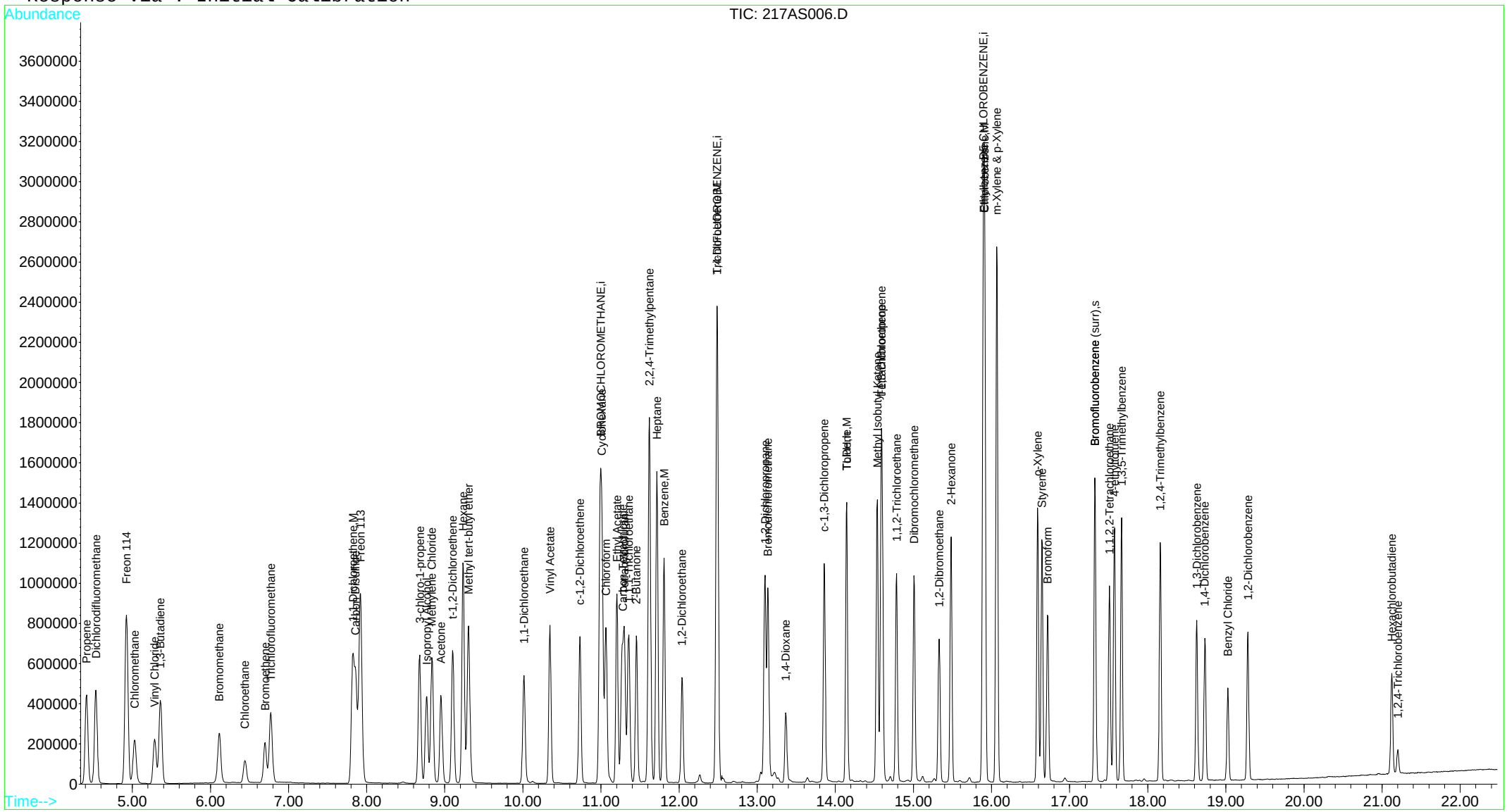
Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
58) 1,1,2,2-Tetrachloroethane	17.51	83	582205	11945.42	PPTV		99
59) Bromofluorobenzene	17.32	174	423653	31720.99	PPTV	#	93
61) 4-ethyltoluene	17.58	105	884635	11080.03	PPTV		98
62) 1,3,5-Trimethylbenzene	17.67	105	728606	12296.74	PPTV		94
63) 1,2,4-Trimethylbenzene	18.16	105	670539	11593.54	PPTV		93
64) 1,3-Dichlorobenzene	18.63	146	347752	9765.64	PPTV		97
65) 1,4-Dichlorobenzene	18.73	146	305335	9186.99	PPTV		96
66) Benzyl Chloride	19.02	91	332375	7587.59	PPTV		93
67) 1,2-Dichlorobenzene	19.28	146	319758	10180.51	PPTV		97
68) 1,2,4-Trichlorobenzene	21.20	180	40777	5670.78	PPTV		95
69) Hexachlorobutadiene	21.12	225	109510	9056.32	PPTV		96

Quantitation Report

Data File : C:\HPCHEM\1\DATA\012421\217AS006.D Vial: 6
Acq On : 24 Jan 2021 10:34 pm Operator: rgg
Sample : bs1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 10:17 2021 Quant Results File: 123120.RES

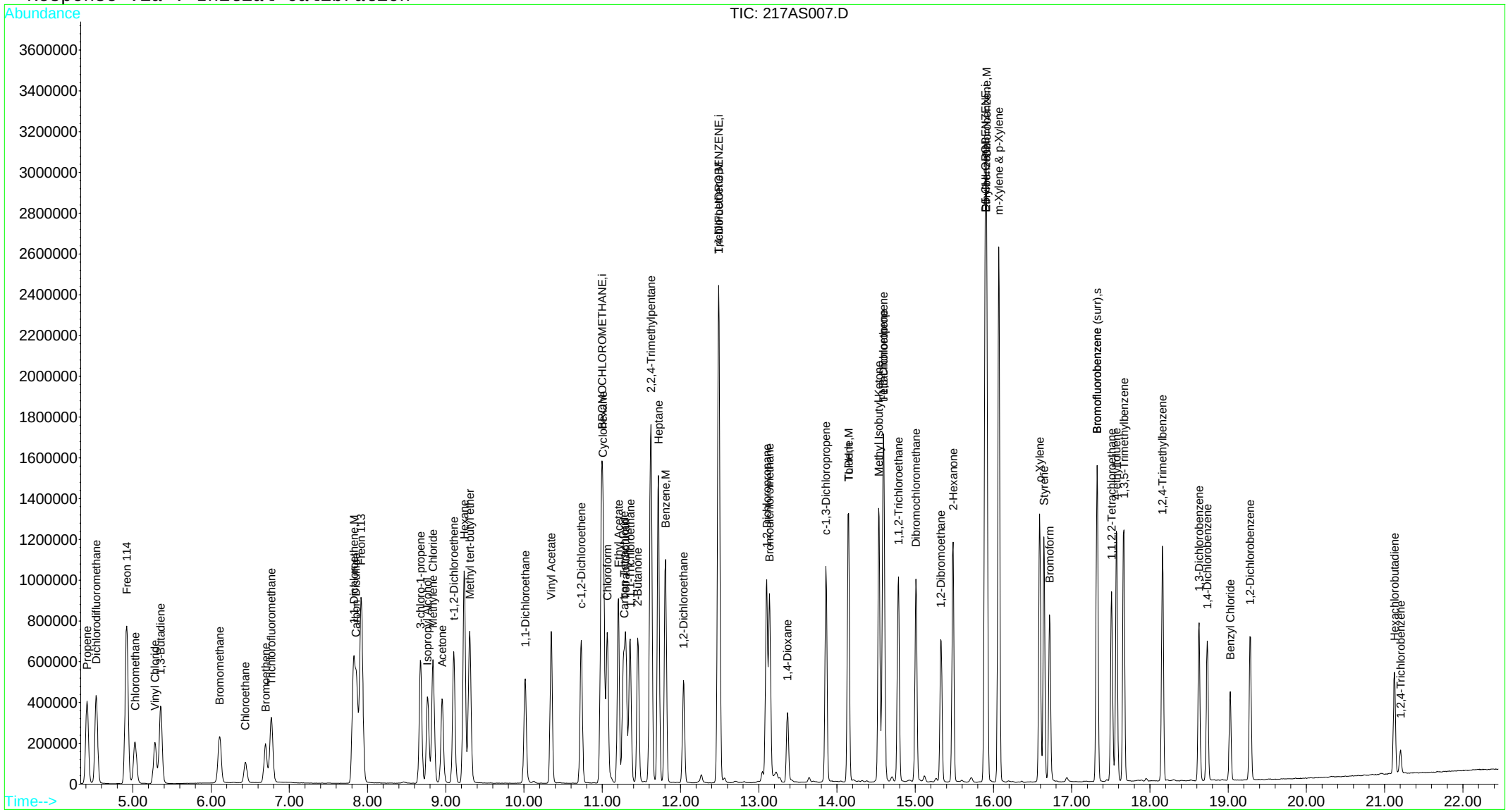
Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\012421\217AS007.D Vial: 7
Acq On : 24 Jan 2021 11:13 pm Operator: rgg
Sample : bsd1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 10:18 2021 Quant Results File: 123120.RES

Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012421\217AS007.D Vial: 7
Acq On : 24 Jan 2021 11:13 pm Operator: rgg
Sample : bsd1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 10:18 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.99	130	408298	31000.00	PPTV	-0.01
36) 1,4-DIFLUOROBENZENE	12.49	114	1353473	31000.00	PPTV	0.00
51) D5-CHLOROBENZENE	15.89	117	1023882	31000.00	PPTV	0.00
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.32	174	435960	31139.73	PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 99.65%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.53	85	633715	8141.58	PPTV	99
3) Propene	4.42	41	357041	7814.65	PPTV	93
4) Chloromethane	5.03	50	379051	8799.80	PPTV	100
5) Freon 114	4.92	135	418539	8789.30	PPTV	98
6) Vinyl Chloride	5.28	62	353862	9235.43	PPTV	99
7) 1,3-Butadiene	5.35	39	320967	8146.48	PPTV	87
8) Bromomethane	6.11	94	244654	8617.30	PPTV	99
9) Chloroethane	6.44	64	137870	8746.50	PPTV	99
10) Trichlorofluoromethane	6.77	101	394608	8714.61	PPTV	100
11) Bromoethene	6.70	106	203053	8582.09	PPTV	100
12) 1,1-Dichloroethene	7.82	61	550399	10323.76	PPTV	86
13) Acetone	8.95	43	651881	9470.33	PPTV #	86
14) Isopropyl Alcohol	8.77	45	701800	10038.98	PPTV	93
15) Carbon Disulfide	7.86	76	931948	10669.60	PPTV	96
16) Methylene Chloride	8.84	84	300235	12262.39	PPTV	89
17) Freon 113	7.92	151	394942	10299.66	PPTV	100
18) 3-chloro-1-propene	8.67	41	616790	10486.51	PPTV	80
19) t-1,2-Dichloroethene	9.10	61	482652	10465.47	PPTV	92
20) Methyl tert-butyl ether	9.31	73	816423	10037.15	PPTV	94
21) Hexane	9.23	57	562420	11241.52	PPTV	89
22) 1,1-Dichloroethane	10.02	63	615249	11001.66	PPTV	100
23) Vinyl Acetate	10.35	43	1233853	10559.51	PPTV	99
24) c-1,2-Dichloroethene	10.73	96	324856	11397.31	PPTV	96
25) Ethyl Acetate	11.21	43	1132728	10335.69	PPTV	96
26) 2-Butanone	11.45	43	988198	10346.06	PPTV	96
27) Chloroform	11.06	83	593477	10079.32	PPTV	98
28) Tetrahydrofuran	11.30	42	479633	10685.58	PPTV	98
29) 2,2,4-Trimethylpentane	11.62	57	1842906	10834.87	PPTV	92
30) 1,2-Dichloroethane	12.04	62	354811	8794.38	PPTV	99
31) 1,1,1-Trichloroethane	11.36	97	473010	9066.38	PPTV	98
32) Cyclohexane	11.01	56	581686	10872.13	PPTV	93
33) Carbon Tetrachloride	11.27	117	391235	7480.60	PPTV	99
34) Benzene	11.81	78	935308	10700.30	PPTV	99
35) Heptane	11.72	43	790070	10450.29	PPTV	97
37) TLPH	14.15	TIC	2416478m	11363.54	PPTV	
38) 1,2-Dichloropropane	13.10	63	385564	11334.07	PPTV #	78
39) Trichloroethene	12.48	130	359966	10781.63	PPTV	97
40) 1,4-Dioxane	13.37	88	201734	10802.68	PPTV	97
41) Bromodichloromethane	13.14	83	582808	10023.80	PPTV	99
42) c-1,3-Dichloropropene	13.86	75	562520	11346.93	PPTV	98
43) t-1,3-Dichloropropene	14.59	75	419852	14604.36	PPTV	96
44) 1,1,2-Trichloroethane	14.79	97	329426	11022.62	PPTV	99
45) Methyl Isobutyl Ketone	14.53	43	1093799	10702.59	PPTV	96
46) Toluene	14.15	92	572401	11413.67	PPTV	100
47) 2-Hexanone	15.48	43	899050	10805.54	PPTV	93
48) 1,2-Dibromoethane	15.33	107	516858	10988.23	PPTV	99
49) Tetrachloroethene	14.60	166	385908	9812.12	PPTV	98
50) Dibromochloromethane	15.01	127	417609	10261.10	PPTV	98
52) Chlorobenzene	15.92	112	605218	10024.99	PPTV	92
53) Ethylbenzene	15.91	106	297499	11709.60	PPTV	92
54) m-Xylene & p-Xylene	16.07	106	750999	24364.12	PPTV	90
55) Styrene	16.64	104	566554	11013.49	PPTV	88
56) o-Xylene	16.59	106	366481	11068.60	PPTV	89
57) Bromoform	16.72	173	394396	10259.11	PPTV #	88

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\012421\217AS007.D Vial: 7
Acq On : 24 Jan 2021 11:13 pm Operator: rgg
Sample : bsd1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 10:18 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

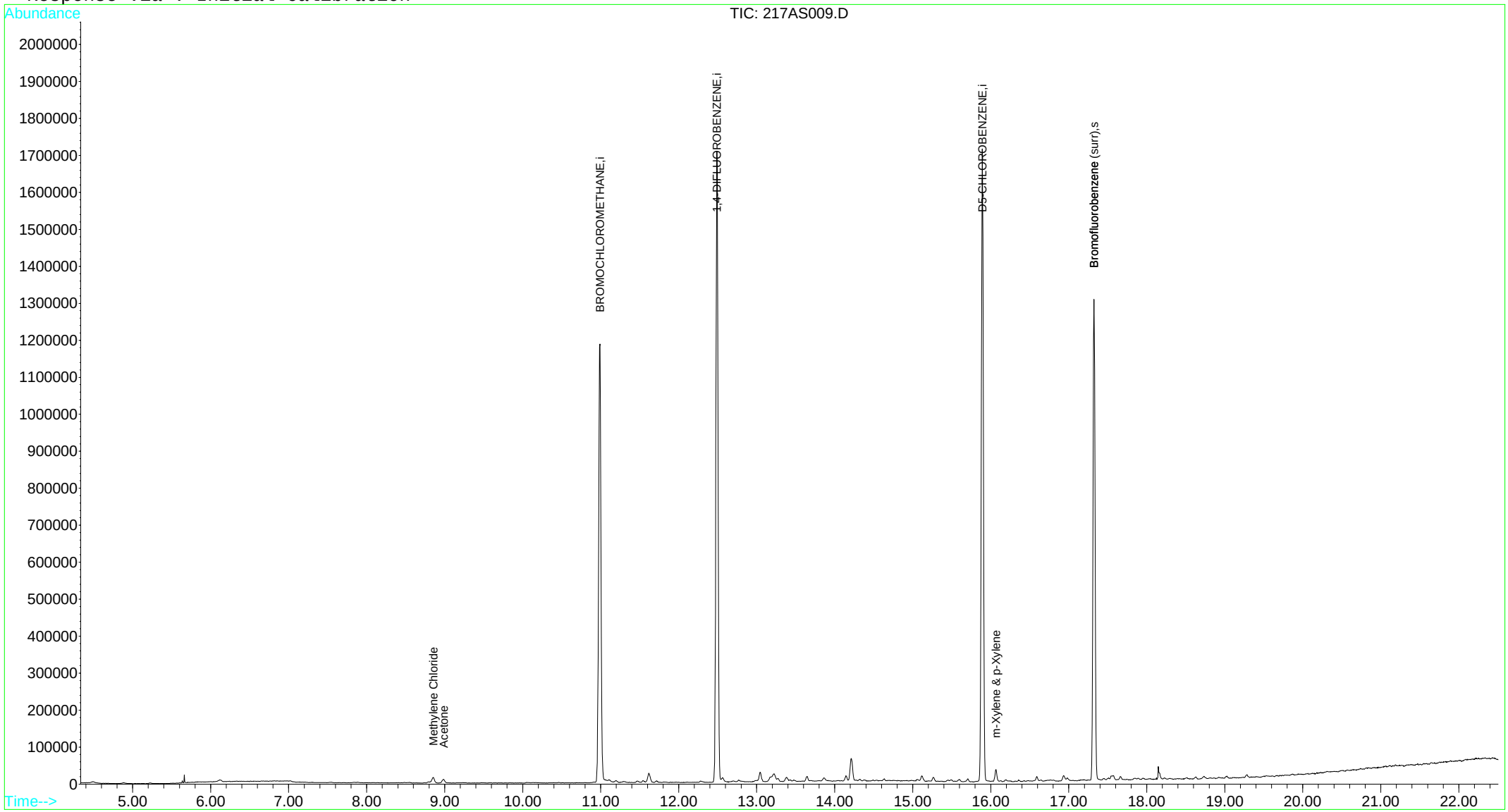
Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
58) 1,1,2,2-Tetrachloroethane	17.51	83	569164	11140.24	PPTV		99
59) Bromofluorobenzene	17.32	174	435960	31139.73	PPTV	#	93
61) 4-ethyltoluene	17.58	105	866995	10359.18	PPTV		98
62) 1,3,5-Trimethylbenzene	17.67	105	705519	11358.93	PPTV		93
63) 1,2,4-Trimethylbenzene	18.16	105	651950	10753.21	PPTV		93
64) 1,3-Dichlorobenzene	18.63	146	340685	9126.74	PPTV		97
65) 1,4-Dichlorobenzene	18.73	146	295012	8467.75	PPTV		97
66) Benzyl Chloride	19.03	91	323487	7044.72	PPTV		93
67) 1,2-Dichlorobenzene	19.28	146	313471	9520.88	PPTV		97
68) 1,2,4-Trichlorobenzene	21.20	180	39416	5229.16	PPTV		98
69) Hexachlorobutadiene	21.13	225	107354	8469.31	PPTV		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\012421\217AS009.D Vial: 9
Acq On : 25 Jan 2021 12:37 am Operator: rgg
Sample : blk1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 10:19 2021 Quant Results File: 123120.RES

Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012421\217AS009.D Vial: 9
Acq On : 25 Jan 2021 12:37 am Operator: rgg
Sample : blk1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 10:19 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.99	130	396636	31000.00	PPTV	-0.01
36) 1,4-DIFLUOROBENZENE	12.49	114	1324496	31000.00	PPTV	-0.01
51) D5-CHLOROBENZENE	15.89	117	957252	31000.00	PPTV	0.00
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.32	174	354024	27047.34	PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 86.55%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.		
3) Propene	4.50	41	3996	N.D.		
4) Chloromethane	5.11	50	96	N.D.		
5) Freon 114	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	5.40	39	310	N.D.		
8) Bromomethane	6.14	94	201	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Trichlorofluoromethane	0.00	101	0	N.D.		
11) Bromoethene	0.00	106	0	N.D.		
12) 1,1-Dichloroethene	0.00	61	0	N.D.		
13) Acetone	8.98	43	14974	223.93	PPTV	87
14) Isopropyl Alcohol	8.79	45	4370	N.D.		
15) Carbon Disulfide	7.89	76	1761	N.D.		
16) Methylene Chloride	8.86	84	7002	294.39	PPTV	87
17) Freon 113	0.00	151	0	N.D.		
18) 3-chloro-1-propene	8.69	41	24	N.D.		
19) t-1,2-Dichloroethene	0.00	61	0	N.D.		
20) Methyl tert-butyl ether	9.31	73	71	N.D.		
21) Hexane	9.23	57	342	N.D.		
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	10.37	43	229	N.D.		
24) c-1,2-Dichloroethene	10.73	96	39	N.D.		
25) Ethyl Acetate	11.20	43	2268	N.D.		
26) 2-Butanone	11.47	43	5229	N.D.		
27) Chloroform	10.99	83	177	N.D.		
28) Tetrahydrofuran	11.30	42	1117	N.D.		
29) 2,2,4-Trimethylpentane	11.62	57	24729	N.D.		
30) 1,2-Dichloroethane	0.00	62	0	N.D.		
31) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
32) Cyclohexane	11.01	56	140	N.D.		
33) Carbon Tetrachloride	0.00	117	0	N.D.		
34) Benzene	11.81	78	1385	N.D.		
35) Heptane	11.71	43	2223	N.D.		
37) TLPH	0.00	TIC	0	N.D. d		
38) 1,2-Dichloropropane	13.04	63	37	N.D.		
39) Trichloroethene	12.48	130	38	N.D.		
40) 1,4-Dioxane	13.38	88	192	N.D.		
41) Bromodichloromethane	13.14	83	43	N.D.		
42) c-1,3-Dichloropropene	13.87	75	761	N.D.		
43) t-1,3-Dichloropropene	14.58	75	802	N.D.		
44) 1,1,2-Trichloroethane	14.79	97	274	N.D.		
45) Methyl Isobutyl Ketone	14.54	43	2134	N.D.		
46) Toluene	14.14	92	5090	N.D.		
47) 2-Hexanone	15.49	43	4129	N.D.		
48) 1,2-Dibromoethane	15.32	107	382	N.D.		
49) Tetrachloroethene	14.59	166	114	N.D.		
50) Dibromochloromethane	15.00	127	205	N.D.		
52) Chlorobenzene	15.90	112	730	N.D.		
53) Ethylbenzene	15.90	106	2496	N.D.		
54) m-Xylene & p-Xylene	16.07	106	8460	293.57	PPTV	91
55) Styrene	16.65	104	1198	N.D.		
56) o-Xylene	16.59	106	3046	N.D.		
57) Bromoform	16.72	173	564	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012421\217AS009.D Vial: 9
Acq On : 25 Jan 2021 12:37 am Operator: rgg
Sample : blk1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 10:19 2021 Quant Results File: 123120.RES

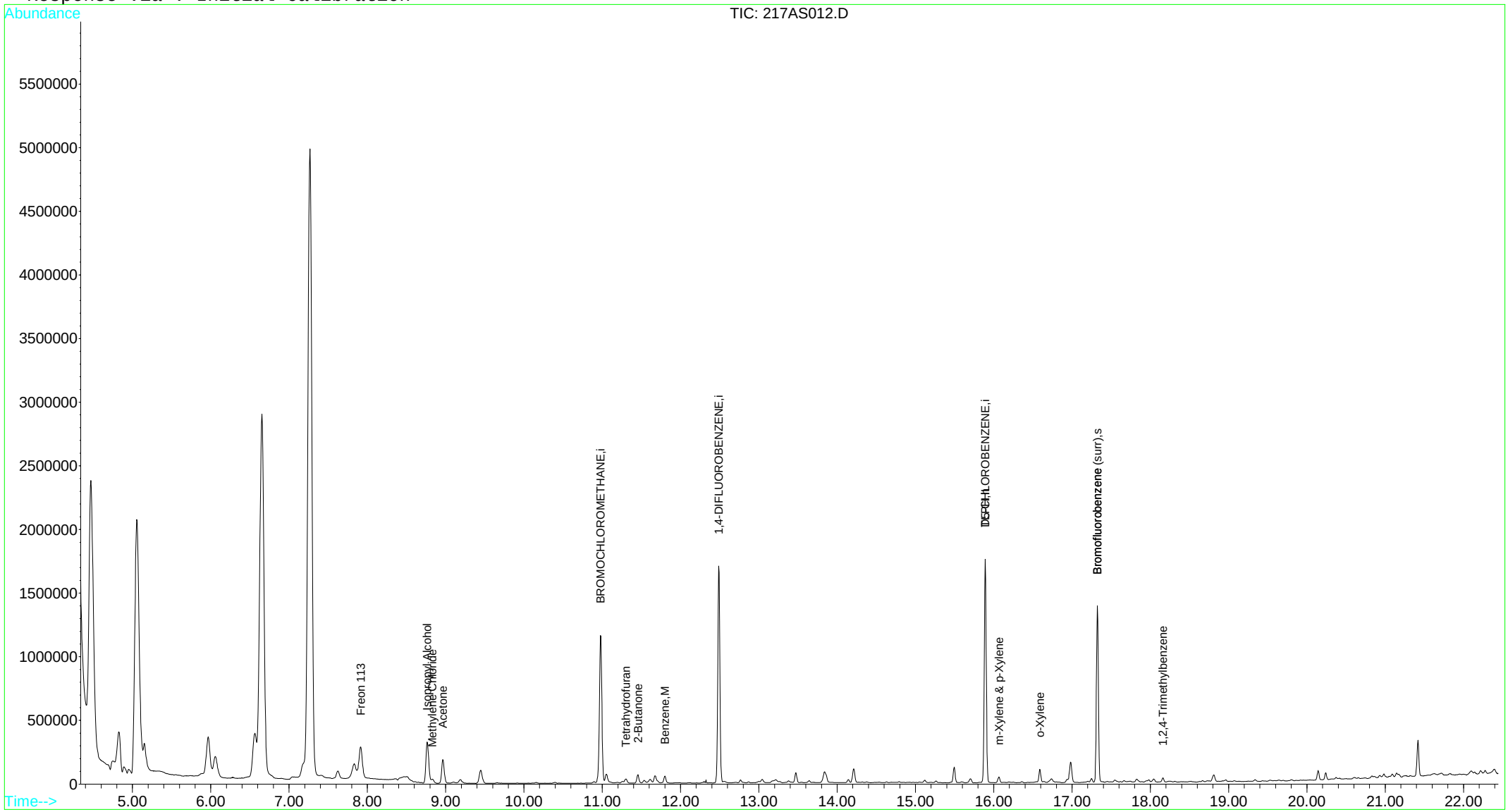
Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.51	83	2458	N.D.		
59) Bromofluorobenzene	17.32	174	354024	27047.34	PPTV #	94
61) 4-ethyltoluene	17.57	105	12551	N.D.		
62) 1,3,5-Trimethylbenzene	17.66	105	4719	N.D.		
63) 1,2,4-Trimethylbenzene	18.16	105	8037	N.D.		
64) 1,3-Dichlorobenzene	18.62	146	1890	N.D.		
65) 1,4-Dichlorobenzene	18.74	146	1549	N.D.		
66) Benzyl Chloride	19.03	91	2802	N.D.		
67) 1,2-Dichlorobenzene	19.29	146	3076	N.D.		
68) 1,2,4-Trichlorobenzene	21.19	180	1286	N.D.		
69) Hexachlorobutadiene	21.11	225	558	N.D.		

Quantitation Report

Data File : C:\HPCHEM\1\DATA\012421\217AS012.D Vial: 12
Acq On : 25 Jan 2021 10:36 am Operator: rgg
Sample : ae00066-13re1 Inst : OVGCMS7
Misc : 1.34 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 11:01 2021 Quant Results File: 123120.RES

Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012421\217AS012.D Vial: 12
Acq On : 25 Jan 2021 10:36 am Operator: rgg
Sample : ae00066-13re1 Inst : OVGCMS7
Misc : 1.34 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 11:01 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.98	130	394787	31000.00 PPTV	-0.02
36) 1,4-DIFLUOROBENZENE	12.49	114	1326946	31000.00 PPTV	-0.01
51) D5-CHLOROBENZENE	15.89	117	966269	31000.00 PPTV	0.00
System Monitoring Compounds					
60) Bromofluorobenzene (surr)	17.32	174	368789	27912.45 PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 89.32%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D. d	
3) Propene	0.00	41	0	N.D. d	
4) Chloromethane	0.00	50	0	N.D. d	
5) Freon 114	4.93	135	405	N.D.	
6) Vinyl Chloride	5.29	62	582	N.D.	
7) 1,3-Butadiene	5.35	39	3717	N.D.	
8) Bromomethane	6.16	94	281	N.D.	
9) Chloroethane	6.44	64	275	N.D.	
10) Trichlorofluoromethane	6.77	101	6840	N.D.	
11) Bromoethene	0.00	106	0	N.D.	
12) 1,1-Dichloroethene	7.92	61	282	N.D.	
13) Acetone	8.96	43	291645	4381.93 PPTV	89
14) Isopropyl Alcohol	8.76	45	536638	7939.12 PPTV	95
15) Carbon Disulfide	0.00	76	0	N.D. d	
16) Methylene Chloride	8.83	84	13270	560.53 PPTV	89
17) Freon 113	7.92	151	109122	2943.18 PPTV	100
18) 3-chloro-1-propene	0.00	41	0	N.D. d	
19) t-1,2-Dichloroethene	9.09	61	2820	N.D.	
20) Methyl tert-butyl ether	9.31	73	1481	N.D.	
21) Hexane	9.22	57	3182	N.D.	
22) 1,1-Dichloroethane	0.00	63	0	N.D.	
23) Vinyl Acetate	10.35	43	1739	N.D.	
24) c-1,2-Dichloroethene	10.75	96	41	N.D.	
25) Ethyl Acetate	0.00	43	0	N.D. d	
26) 2-Butanone	11.45	43	91456	990.28 PPTV	98
27) Chloroform	11.05	83	8717	N.D.	
28) Tetrahydrofuran	11.31	42	16601	382.51 PPTV	92
29) 2,2,4-Trimethylpentane	11.61	57	26936	N.D.	
30) 1,2-Dichloroethane	12.03	62	355	N.D.	
31) 1,1,1-Trichloroethane	0.00	97	0	N.D.	
32) Cyclohexane	11.01	56	780	N.D.	
33) Carbon Tetrachloride	11.26	117	1483	N.D.	
34) Benzene	11.80	78	45256	535.47 PPTV	98
35) Heptane	11.70	43	10061	N.D.	
37) TLPH	15.89	TIC	23067612m	110644.46 PPTV	
38) 1,2-Dichloropropane	13.09	63	97	N.D.	
39) Trichloroethene	12.47	130	44	N.D.	
40) 1,4-Dioxane	13.38	88	219	N.D.	
41) Bromodichloromethane	13.14	83	44	N.D.	
42) c-1,3-Dichloropropene	13.88	75	312	N.D.	
43) t-1,3-Dichloropropene	14.60	75	508	N.D.	
44) 1,1,2-Trichloroethane	14.78	97	168	N.D.	
45) Methyl Isobutyl Ketone	14.53	43	3493	N.D.	
46) Toluene	14.15	92	8718	N.D.	
47) 2-Hexanone	0.00	43	0	N.D. d	
48) 1,2-Dibromoethane	15.33	107	143	N.D.	
49) Tetrachloroethene	14.60	166	130	N.D.	
50) Dibromochloromethane	0.00	127	0	N.D.	
52) Chlorobenzene	15.92	112	460	N.D.	
53) Ethylbenzene	15.90	106	3218	N.D.	
54) m-Xylene & p-Xylene	16.07	106	11850	407.36 PPTV	94
55) Styrene	16.64	104	3555	N.D.	
56) o-Xylene	16.59	106	27059	865.97 PPTV	93
57) Bromoform	16.72	173	43	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012421\217AS012.D Vial: 12
Acq On : 25 Jan 2021 10:36 am Operator: rgg
Sample : ae00066-13re1 Inst : OVGCMS7
Misc : 1.34 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 11:01 2021 Quant Results File: 123120.RES

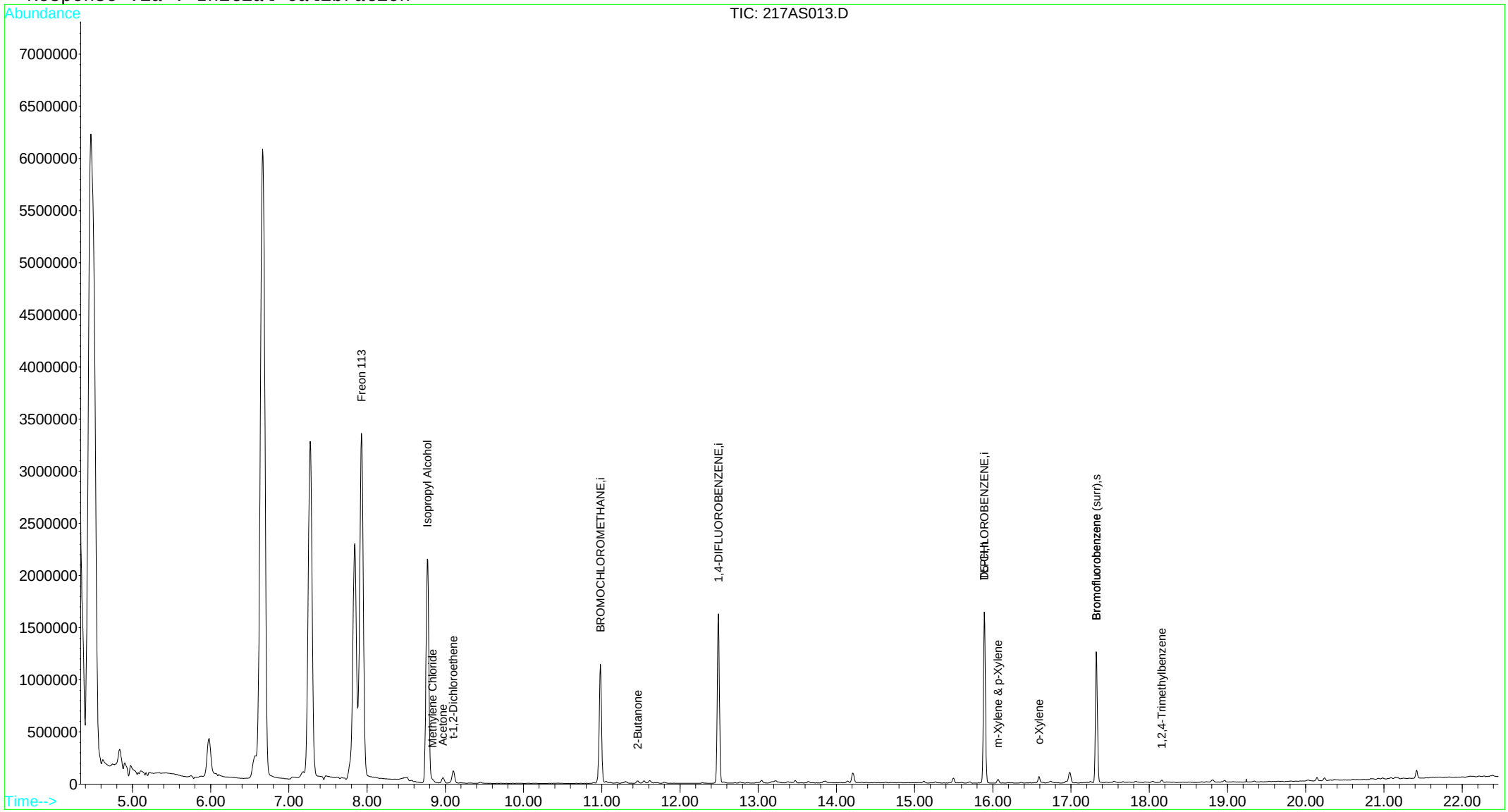
Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.50	83	1161	N.D.		
59) Bromofluorobenzene	17.32	174	368789	27912.45	PPTV #	95
61) 4-ethyltoluene	17.55	105	15487	N.D.		
62) 1,3,5-Trimethylbenzene	17.66	105	6110	N.D.		
63) 1,2,4-Trimethylbenzene	18.16	105	15081	263.58	PPTV	98
64) 1,3-Dichlorobenzene	18.63	146	1124	N.D.		
65) 1,4-Dichlorobenzene	18.73	146	603	N.D.		
66) Benzyl Chloride	19.00	91	1064	N.D.		
67) 1,2-Dichlorobenzene	19.28	146	606	N.D.		
68) 1,2,4-Trichlorobenzene	21.19	180	617	N.D.		
69) Hexachlorobutadiene	21.13	225	719	N.D.		

Quantitation Report

Data File : C:\HPCHEM\1\DATA\012421\217AS013.D Vial: 13
Acq On : 25 Jan 2021 11:18 am Operator: rgg
Sample : ae00066-14 Inst : OVGCMS7
Misc : 1.35 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 11:53 2021 Quant Results File: 123120.RES

Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012421\217AS013.D Vial: 13
Acq On : 25 Jan 2021 11:18 am Operator: rgg
Sample : ae00066-14 Inst : OVGCMS7
Misc : 1.35 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 11:53 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.98	130	376564	31000.00	PPTV	-0.02
36) 1,4-DIFLUOROBENZENE	12.49	114	1276814	31000.00	PPTV	0.00
51) D5-CHLOROBENZENE	15.89	117	910527	31000.00	PPTV	0.00
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.33	174	335481	26945.93	PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 86.23%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.53	85	6536	N.D.		
3) Propene	4.40	41	5399	N.D.		
4) Chloromethane	5.04	50	2156	N.D.		
5) Freon 114	0.00	135	0	N.D.		
6) Vinyl Chloride	5.28	62	51	N.D.		
7) 1,3-Butadiene	5.40	39	117	N.D.		
8) Bromomethane	6.15	94	356	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Trichlorofluoromethane	6.77	101	2110	N.D.		
11) Bromoethene	6.64	106	39	N.D.		
12) 1,1-Dichloroethene	7.84	61	2902	N.D.		
13) Acetone	8.97	43	81648	1286.12	PPTV	89
14) Isopropyl Alcohol	8.77	45	3760751	58329.65	PPTV	92
15) Carbon Disulfide	7.85	76	9726	N.D.		
16) Methylene Chloride	8.84	84	8117	359.46	PPTV	90
17) Freon 113	7.93	151	1621884	45861.46	PPTV	99
18) 3-chloro-1-propene	0.00	41	0	N.D. d		
19) t-1,2-Dichloroethene	9.10	61	86743	2039.38	PPTV	93
20) Methyl tert-butyl ether	9.30	73	324	N.D.		
21) Hexane	9.24	57	941	N.D.		
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	10.36	43	1180	N.D.		
24) c-1,2-Dichloroethene	10.72	96	198	N.D.		
25) Ethyl Acetate	11.30	43	10414	N.D.		
26) 2-Butanone	11.46	43	30648	347.91	PPTV	97
27) Chloroform	11.06	83	3109	N.D.		
28) Tetrahydrofuran	11.30	42	7484	N.D.		
29) 2,2,4-Trimethylpentane	11.61	57	24895	N.D.		
30) 1,2-Dichloroethane	0.00	62	0	N.D.		
31) 1,1,1-Trichloroethane	11.33	97	627	N.D.		
32) Cyclohexane	11.01	56	494	N.D.		
33) Carbon Tetrachloride	11.27	117	463	N.D.		
34) Benzene	11.81	78	6957	N.D.		
35) Heptane	11.71	43	3882	N.D.		
37) TLPH	15.89	TIC	19354579m	96479.79	PPTV	
38) 1,2-Dichloropropane	12.98	63	51	N.D.		
39) Trichloroethene	12.47	130	36	N.D.		
40) 1,4-Dioxane	13.38	88	122	N.D.		
41) Bromodichloromethane	13.12	83	114	N.D.		
42) c-1,3-Dichloropropene	13.85	75	452	N.D.		
43) t-1,3-Dichloropropene	14.60	75	119	N.D.		
44) 1,1,2-Trichloroethane	14.81	97	113	N.D.		
45) Methyl Isobutyl Ketone	14.53	43	1171	N.D.		
46) Toluene	14.14	92	6768	N.D.		
47) 2-Hexanone	15.49	43	12090	N.D.		
48) 1,2-Dibromoethane	15.32	107	75	N.D.		
49) Tetrachloroethene	14.60	166	84	N.D.		
50) Dibromochloromethane	0.00	127	0	N.D.		
52) Chlorobenzene	15.92	112	166	N.D.		
53) Ethylbenzene	15.90	106	2698	N.D.		
54) m-Xylene & p-Xylene	16.07	106	9354	341.24	PPTV	96
55) Styrene	16.65	104	2224	N.D.		
56) o-Xylene	16.59	106	16391	556.68	PPTV	91
57) Bromoform	0.00	173	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012421\217AS013.D Vial: 13
Acq On : 25 Jan 2021 11:18 am Operator: rgg
Sample : ae00066-14 Inst : OVGCMS7
Misc : 1.35 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 11:53 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.50	83	1004	N.D.		
59) Bromofluorobenzene	17.33	174	335481	26945.93	PPTV #	94
61) 4-ethyltoluene	17.55	105	11772	N.D.		
62) 1,3,5-Trimethylbenzene	17.67	105	4801	N.D.		
63) 1,2,4-Trimethylbenzene	18.16	105	11061	205.15	PPTV	95
64) 1,3-Dichlorobenzene	18.63	146	513	N.D.		
65) 1,4-Dichlorobenzene	18.75	146	467	N.D.		
66) Benzyl Chloride	19.03	91	682	N.D.		
67) 1,2-Dichlorobenzene	19.28	146	491	N.D.		
68) 1,2,4-Trichlorobenzene	21.20	180	251	N.D.		
69) Hexachlorobutadiene	21.12	225	618	N.D.		

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012421\217AS016.D Vial: 16
Acq On : 25 Jan 2021 1:21 pm Operator: rgg
Sample : ae00066-17 Inst : OVGCMS7
Misc : 1.32 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 13:45 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.99	130	379518	31000.00	PPTV	-0.01
36) 1,4-DIFLUOROBENZENE	12.49	114	1282254	31000.00	PPTV	0.00
51) D5-CHLOROBENZENE	15.90	117	929975	31000.00	PPTV	0.00
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.33	174	350716	27580.52	PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 88.26%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.54	85	24884	343.94	PPTV	99
3) Propene	0.00	41	0	N.D.	d	
4) Chloromethane	5.06	50	18566	463.70	PPTV	99
5) Freon 114	4.94	135	428	N.D.		
6) Vinyl Chloride	5.31	62	39	N.D.		
7) 1,3-Butadiene	5.37	39	542	N.D.		
8) Bromomethane	6.18	94	152	N.D.		
9) Chloroethane	6.46	64	225	N.D.		
10) Trichlorofluoromethane	6.77	101	6691	N.D.		
11) Bromoethene	0.00	106	0	N.D.		
12) 1,1-Dichloroethene	0.00	61	0	N.D.		
13) Acetone	8.96	43	125772	1965.74	PPTV	88
14) Isopropyl Alcohol	8.78	45	113457	1746.03	PPTV	96
15) Carbon Disulfide	7.86	76	3237	N.D.		
16) Methylene Chloride	8.84	84	17144	753.30	PPTV	92
17) Freon 113	7.92	151	8591	241.03	PPTV	99
18) 3-chloro-1-propene	8.66	41	492	N.D.		
19) t-1,2-Dichloroethene	9.10	61	31052	724.37	PPTV	92
20) Methyl tert-butyl ether	9.34	73	471	N.D.		
21) Hexane	9.23	57	2047	N.D.		
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	10.38	43	244	N.D.		
24) c-1,2-Dichloroethene	10.70	96	39	N.D.		
25) Ethyl Acetate	11.20	43	4878	N.D.		
26) 2-Butanone	11.46	43	28444	320.38	PPTV	100
27) Chloroform	11.06	83	1021	N.D.		
28) Tetrahydrofuran	11.31	42	1314	N.D.		
29) 2,2,4-Trimethylpentane	11.62	57	26178	N.D.		
30) 1,2-Dichloroethane	12.04	62	631	N.D.		
31) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
32) Cyclohexane	11.10	56	2580	N.D.		
33) Carbon Tetrachloride	11.26	117	2894	N.D.		
34) Benzene	11.80	78	7851	N.D.		
35) Heptane	11.71	43	3078	N.D.		
37) TLPH	12.49	TIC	18956858m	94096.31	PPTV	
38) 1,2-Dichloropropane	13.11	63	79	N.D.		
39) Trichloroethene	0.00	130	0	N.D.		
40) 1,4-Dioxane	13.38	88	129	N.D.		
41) Bromodichloromethane	13.22	83	39	N.D.		
42) c-1,3-Dichloropropene	13.84	75	603	N.D.		
43) t-1,3-Dichloropropene	14.60	75	511	N.D.		
44) 1,1,2-Trichloroethane	14.79	97	97	N.D.		
45) Methyl Isobutyl Ketone	14.54	43	2001	N.D.		
46) Toluene	14.15	92	7476	N.D.		
47) 2-Hexanone	15.50	43	9263	N.D.		
48) 1,2-Dibromoethane	15.34	107	38	N.D.		
49) Tetrachloroethene	14.61	166	43	N.D.		
50) Dibromochloromethane	0.00	127	0	N.D.		
52) Chlorobenzene	15.92	112	283	N.D.		
53) Ethylbenzene	15.91	106	2208	N.D.		
54) m-Xylene & p-Xylene	16.07	106	7944	283.75	PPTV	95
55) Styrene	16.65	104	505	N.D.		
56) o-Xylene	16.60	106	2860	N.D.		
57) Bromoform	0.00	173	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012421\217AS016.D Vial: 16
Acq On : 25 Jan 2021 1:21 pm Operator: rgg
Sample : ae00066-17 Inst : OVGCMS7
Misc : 1.32 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 13:45 2021 Quant Results File: 123120.RES

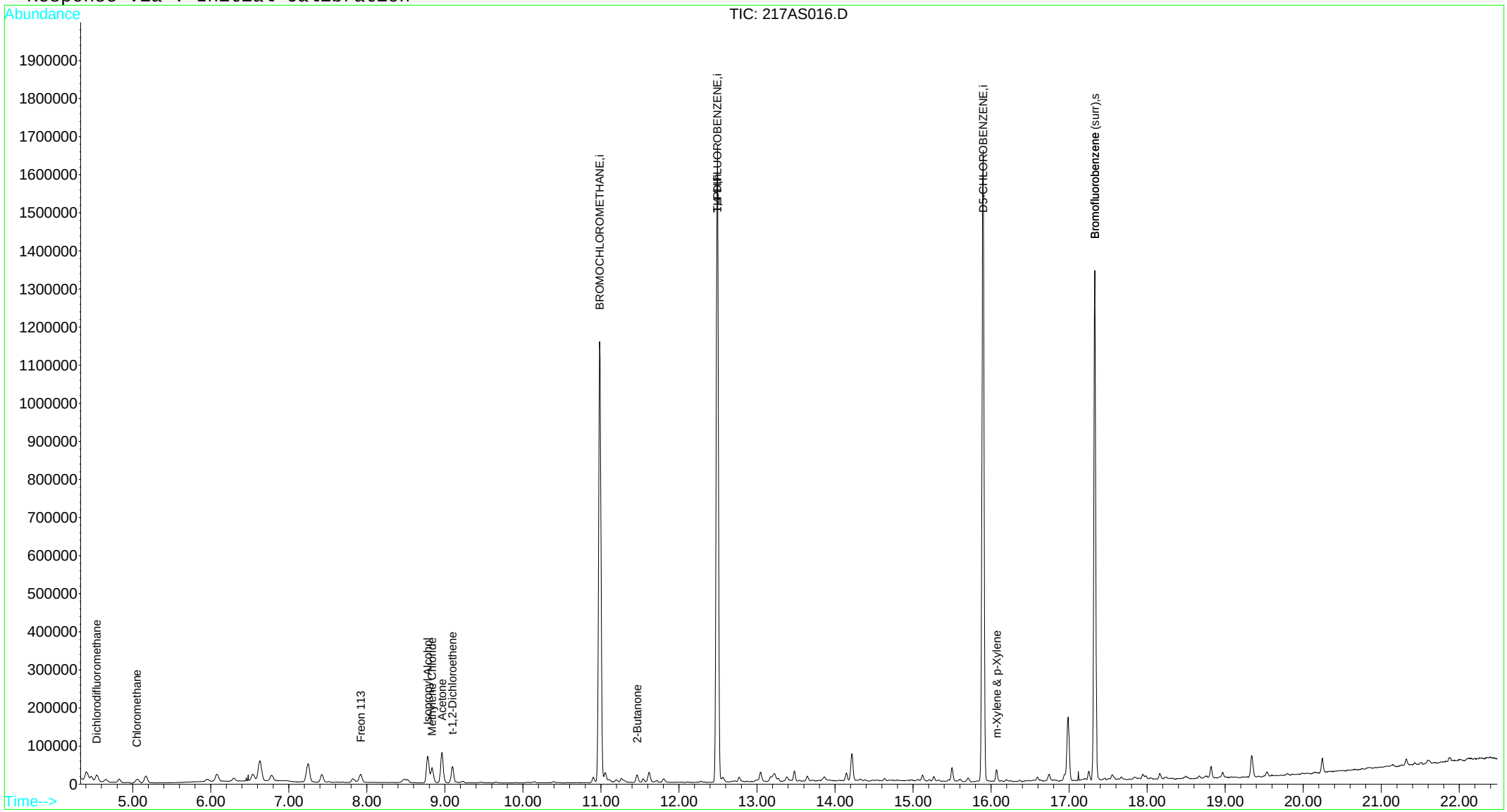
Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.52	83	618	N.D.		
59) Bromofluorobenzene	17.33	174	350716	27580.52	PPTV #	95
61) 4-ethyltoluene	17.55	105	10056	N.D.		
62) 1,3,5-Trimethylbenzene	17.67	105	3796	N.D.		
63) 1,2,4-Trimethylbenzene	18.17	105	7039	N.D.		
64) 1,3-Dichlorobenzene	18.64	146	287	N.D.		
65) 1,4-Dichlorobenzene	18.74	146	401	N.D.		
66) Benzyl Chloride	19.01	91	503	N.D.		
67) 1,2-Dichlorobenzene	19.29	146	394	N.D.		
68) 1,2,4-Trichlorobenzene	21.21	180	37	N.D.		
69) Hexachlorobutadiene	21.14	225	604	N.D.		

Quantitation Report

Data File : C:\HPCHEM\1\DATA\012421\217AS016.D Vial: 16
Acq On : 25 Jan 2021 1:21 pm Operator: rgg
Sample : ae00066-17 Inst : OVGCMS7
Misc : 1.32 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 13:45 2021 Quant Results File: 123120.RES

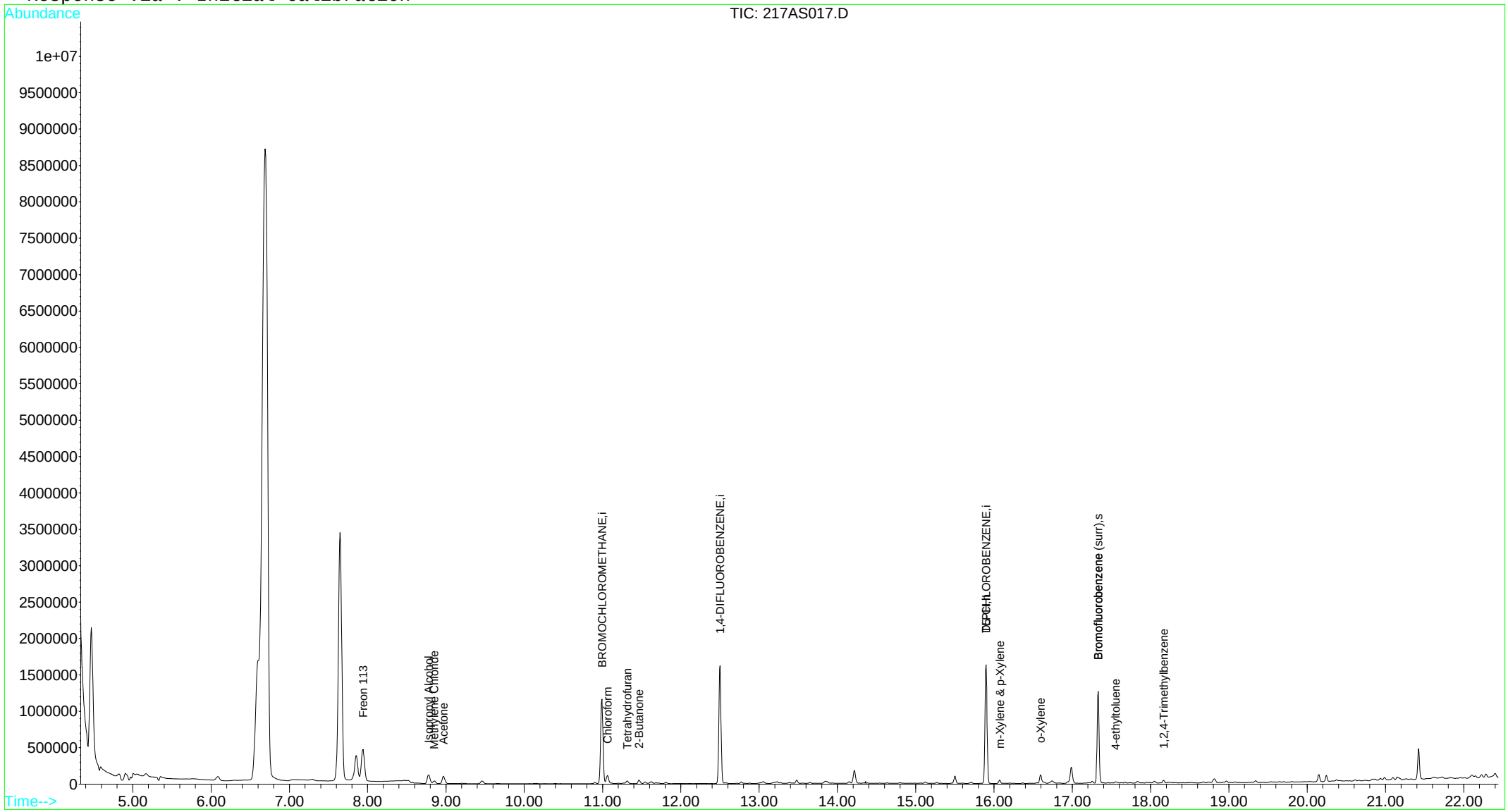
Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\012421\217AS017.D Vial: 17
Acq On : 25 Jan 2021 2:06 pm Operator: rgg
Sample : ae00066-15re1 Inst : OVGCMS7
Misc : 1.59 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 16:15 2021 Quant Results File: 123120.RES

Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012421\217AS017.D Vial: 17
Acq On : 25 Jan 2021 2:06 pm Operator: rgg
Sample : ae00066-15re1 Inst : OVGCMS7
Misc : 1.59 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 16:15 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.99	130	374110	31000.00	PPTV	-0.01
36) 1,4-DIFLUOROBENZENE	12.50	114	1263633	31000.00	PPTV	0.00
51) D5-CHLOROBENZENE	15.90	117	911241	31000.00	PPTV	0.00
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.33	174	338901	27199.30	PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 87.04%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.54	85	14011	N.D.		
3) Propene	0.00	41	0	N.D. d		
4) Chloromethane	5.05	50	2923	N.D.		
5) Freon 114	4.93	135	368	N.D.		
6) Vinyl Chloride	5.32	62	40	N.D.		
7) 1,3-Butadiene	5.42	39	156	N.D.		
8) Bromomethane	6.24	94	82	N.D.		
9) Chloroethane	6.49	64	676	N.D.		
10) Trichlorofluoromethane	6.79	101	4753	N.D.		
11) Bromoethene	0.00	106	0	N.D.		
12) 1,1-Dichloroethene	0.00	61	0	N.D.		
13) Acetone	8.97	43	163762	2596.50	PPTV	90
14) Isopropyl Alcohol	8.78	45	195487	3051.91	PPTV	97
15) Carbon Disulfide	0.00	76	0	N.D. d		
16) Methylene Chloride	8.86	84	15055	671.08	PPTV	93
17) Freon 113	7.94	151	179271	5102.44	PPTV	99
18) 3-chloro-1-propene	0.00	41	0	N.D. d		
19) t-1,2-Dichloroethene	9.11	61	1552	N.D.		
20) Methyl tert-butyl ether	9.33	73	302	N.D.		
21) Hexane	9.25	57	1525	N.D.		
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	10.34	43	380	N.D.		
24) c-1,2-Dichloroethene	10.80	96	36	N.D.		
25) Ethyl Acetate	11.20	43	3731	N.D.		
26) 2-Butanone	11.47	43	68173	778.97	PPTV	97
27) Chloroform	11.06	83	64705	1199.34	PPTV	100
28) Tetrahydrofuran	11.32	42	19550	475.35	PPTV	90
29) 2,2,4-Trimethylpentane	11.62	57	25741	N.D.		
30) 1,2-Dichloroethane	12.04	62	48	N.D.		
31) 1,1,1-Trichloroethane	11.36	97	43	N.D.		
32) Cyclohexane	11.01	56	686	N.D.		
33) Carbon Tetrachloride	11.26	117	1050	N.D.		
34) Benzene	11.81	78	13492	N.D.		
35) Heptane	11.71	43	4067	N.D.		
37) TLPH	15.90	TIC	23358185m	117651.76	PPTV	
38) 1,2-Dichloropropane	13.10	63	91	N.D.		
39) Trichloroethene	12.49	130	126	N.D.		
40) 1,4-Dioxane	13.39	88	141	N.D.		
41) Bromodichloromethane	13.13	83	104	N.D.		
42) c-1,3-Dichloropropene	13.88	75	782	N.D.		
43) t-1,3-Dichloropropene	14.60	75	471	N.D.		
44) 1,1,2-Trichloroethane	14.79	97	238	N.D.		
45) Methyl Isobutyl Ketone	14.54	43	2649	N.D.		
46) Toluene	14.15	92	8241	N.D.		
47) 2-Hexanone	0.00	43	0	N.D. d		
48) 1,2-Dibromoethane	15.33	107	38	N.D.		
49) Tetrachloroethene	14.60	166	241	N.D.		
50) Dibromochloromethane	0.00	127	0	N.D.		
52) Chlorobenzene	15.92	112	280	N.D.		
53) Ethylbenzene	15.91	106	3120	N.D.		
54) m-Xylene & p-Xylene	16.07	106	11723	427.33	PPTV	99
55) Styrene	16.65	104	4016	N.D.		
56) o-Xylene	16.60	106	31650	1074.07	PPTV	90
57) Bromoform	16.72	173	37	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012421\217AS017.D Vial: 17
Acq On : 25 Jan 2021 2:06 pm Operator: rgg
Sample : ae00066-15re1 Inst : OVGCMS7
Misc : 1.59 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 16:15 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.51	83	969	N.D.	
59) Bromofluorobenzene	17.33	174	338901	27199.30 PPTV #	94
61) 4-ethyltoluene	17.55	105	15259	204.86 PPTV	96
62) 1,3,5-Trimethylbenzene	17.67	105	6099	N.D.	
63) 1,2,4-Trimethylbenzene	18.17	105	16509	305.96 PPTV	97
64) 1,3-Dichlorobenzene	18.64	146	553	N.D.	
65) 1,4-Dichlorobenzene	18.73	146	388	N.D.	
66) Benzyl Chloride	19.08	91	2597	N.D.	
67) 1,2-Dichlorobenzene	19.29	146	524	N.D.	
68) 1,2,4-Trichlorobenzene	21.22	180	258	N.D.	
69) Hexachlorobutadiene	21.14	225	636	N.D.	

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012421\217AS018.D Vial: 18
Acq On : 25 Jan 2021 2:47 pm Operator: rgg
Sample : ae00066-16re1 Inst : OVGCMS7
Misc : 1.40 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 16:18 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.99	130	405636	31000.00	PPTV	-0.01
36) 1,4-DIFLUOROBENZENE	12.49	114	1356274	31000.00	PPTV	0.00
51) D5-CHLOROBENZENE	15.90	117	989168	31000.00	PPTV	0.00
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.33	174	374373	27679.14	PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 88.57%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.54	85	9418	N.D.		
3) Propene	0.00	41	0	N.D. d		
4) Chloromethane	5.04	50	6125	N.D.		
5) Freon 114	4.92	135	38	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	5.41	39	97	N.D.		
8) Bromomethane	6.15	94	199	N.D.		
9) Chloroethane	6.46	64	92	N.D.		
10) Trichlorofluoromethane	6.77	101	2890	N.D.		
11) Bromoethene	0.00	106	0	N.D.		
12) 1,1-Dichloroethene	7.92	61	1402	N.D.		
13) Acetone	8.96	43	761325	11132.88	PPTV	87
14) Isopropyl Alcohol	8.79	45	6692107	96356.26	PPTV	91
15) Carbon Disulfide	7.85	76	8254	N.D.		
16) Methylene Chloride	8.84	84	9928	408.15	PPTV	91
17) Freon 113	7.92	151	457110	11999.17	PPTV	100
18) 3-chloro-1-propene	0.00	41	0	N.D. d		
19) t-1,2-Dichloroethene	9.10	61	12241	267.17	PPTV	90
20) Methyl tert-butyl ether	9.37	73	380	N.D.		
21) Hexane	9.23	57	2415	N.D.		
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	10.35	43	491	N.D.		
24) c-1,2-Dichloroethene	10.74	96	119	N.D.		
25) Ethyl Acetate	11.21	43	10822	N.D.		
26) 2-Butanone	11.46	43	40947	431.51	PPTV	100
27) Chloroform	11.06	83	17462	298.51	PPTV	97
28) Tetrahydrofuran	11.31	42	8242	N.D.		
29) 2,2,4-Trimethylpentane	11.62	57	27103	N.D.		
30) 1,2-Dichloroethane	12.04	62	165	N.D.		
31) 1,1,1-Trichloroethane	11.36	97	286	N.D.		
32) Cyclohexane	11.01	56	982	N.D.		
33) Carbon Tetrachloride	11.26	117	1206	N.D.		
34) Benzene	11.81	78	11118	N.D.		
35) Heptane	11.71	43	5510	N.D.		
37) TLPH	15.90	TIC	20965800m	98388.49	PPTV	
38) 1,2-Dichloropropane	13.10	63	80	N.D.		
39) Trichloroethene	0.00	130	0	N.D.		
40) 1,4-Dioxane	13.24	88	39	N.D.		
41) Bromodichloromethane	13.14	83	235	N.D.		
42) c-1,3-Dichloropropene	13.86	75	237	N.D.		
43) t-1,3-Dichloropropene	14.58	75	681	N.D.		
44) 1,1,2-Trichloroethane	14.79	97	644	N.D.		
45) Methyl Isobutyl Ketone	14.54	43	2800	N.D.		
46) Toluene	14.15	92	19292	383.89	PPTV	99
47) 2-Hexanone	15.49	43	9987	N.D.		
48) 1,2-Dibromoethane	0.00	107	0	N.D.		
49) Tetrachloroethene	0.00	166	0	N.D.		
50) Dibromochloromethane	0.00	127	0	N.D.		
52) Chlorobenzene	15.93	112	267	N.D.		
53) Ethylbenzene	15.91	106	4865	N.D.		
54) m-Xylene & p-Xylene	16.07	106	20264	680.48	PPTV	93
55) Styrene	16.65	104	2311	N.D.		
56) o-Xylene	16.60	106	13695	428.14	PPTV	92
57) Bromoform	0.00	173	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\012421\217AS018.D Vial: 18
Acq On : 25 Jan 2021 2:47 pm Operator: rgg
Sample : ae00066-16re1 Inst : OVGCMS7
Misc : 1.40 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 16:18 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

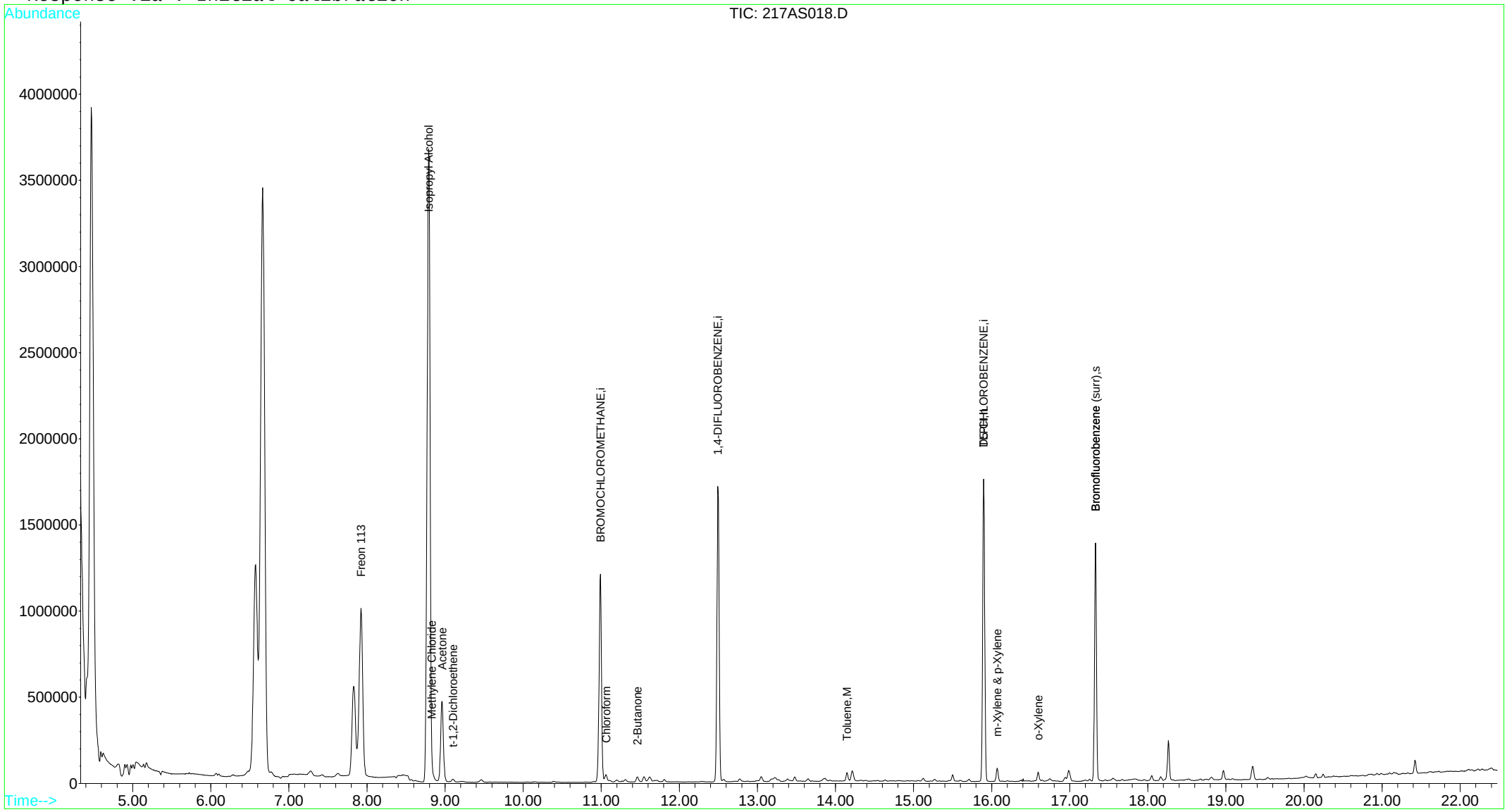
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.51	83	1209	N.D.		
59) Bromofluorobenzene	17.33	174	374373	27679.14	PPTV #	94
61) 4-ethyltoluene	17.55	105	12001	N.D.		
62) 1,3,5-Trimethylbenzene	17.67	105	4615	N.D.		
63) 1,2,4-Trimethylbenzene	18.17	105	10127	N.D.		
64) 1,3-Dichlorobenzene	18.63	146	367	N.D.		
65) 1,4-Dichlorobenzene	18.72	146	440	N.D.		
66) Benzyl Chloride	19.00	91	751	N.D.		
67) 1,2-Dichlorobenzene	19.28	146	486	N.D.		
68) 1,2,4-Trichlorobenzene	21.22	180	92	N.D.		
69) Hexachlorobutadiene	21.14	225	697	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\012421\217AS018.D Vial: 18
Acq On : 25 Jan 2021 2:47 pm Operator: rgg
Sample : ae00066-16re1 Inst : OVGCMS7
Misc : 1.40 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 25 16:18 2021 Quant Results File: 123120.RES

Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration



Response Factor Report OVGCMS7

Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration

Calibration Files
1 =207LZ005.D 2 =207LZ006.D 3 =207LZ007.D
4 =207LZ008.D 5 =207LZ009.D 6 =207LZ010.D

		Compound	1	2	3	4	5	6	Avg	%RSD
1)	i	BROMOCHLOROMETHANE	----------ISTD----------							
2)		Dichlorodifluoromet	6.880	6.463	6.559	6.476	6.348	5.181	5.910	14.42
3)		Propene	5.167	3.918	3.629	3.348	3.259	2.650	3.469	21.12
4)		Chloromethane	3.432	3.317	3.378	3.393	3.422	2.899	3.270	5.25
5)		Freon 114	3.780	3.607	3.767	3.745	3.890	3.270	3.615	5.65
6)		Vinyl Chloride	2.926	2.910	3.025	2.903	3.127	2.606	2.909	4.86
7)		1,3-Butadiene	3.475	3.292	3.056	3.054	3.044	2.566	2.991	9.27
8)		Bromomethane	2.697	2.348	2.224	2.279	2.169	1.856	2.156	12.47
9)		Chloroethane	1.403	1.302	1.249	1.252	1.209	1.008	1.197	10.01
10)		Trichlorofluorometh	3.752	3.612	3.715	3.731	3.657	3.001	3.438	9.16
11)		Bromoethene	1.848	1.916	1.894	1.922	1.900	1.566	1.796	7.13
12)	M	1,1-Dichloroethene	4.333	4.132	4.271	4.268	4.245	3.504	4.048	6.75
13)		Acetone				5.891	5.910	4.527	5.226	10.68
14)		Isopropyl Alcohol	6.303	5.941	5.383	5.370	5.309	4.357	5.308	10.73
15)		Carbon Disulfide	8.025	7.761	6.523	6.551	6.558	5.364	6.632	12.34
16)		Methylene Chloride				2.008	1.957	1.620	1.859	7.61
17)		Freon 113	3.213	3.054	3.068	3.066	3.042	2.442	2.911	8.30
18)		3-chloro-1-propene	5.221	4.377	4.685	4.572	4.473	3.750	4.466	8.77
19)		t-1,2-Dichloroethen	3.659	3.578	3.722	3.653	3.616	3.034	3.502	6.11
20)		Methyl tert-butyl e	6.821	6.250	6.556	6.388	6.377	5.303	6.176	7.20
21)		Hexane	4.053	3.871	3.976	3.929	3.969	3.326	3.799	6.22
22)		1,1-Dichloroethane	4.588	4.427	4.502	4.412	4.355	3.614	4.246	7.21
23)		Vinyl Acetate	9.299	8.816	8.974	9.026	8.906	7.709	8.872	5.77
24)		c-1,2-Dichloroethen	2.361	2.315	2.270	2.201	2.185	1.812	2.164	7.64
25)		Ethyl Acetate	9.428	8.744	8.639	8.380	8.409	7.040	8.321	7.92
26)		2-Butanone	8.088	7.845	7.322	7.336	7.275	6.193	7.252	7.64
27)		Chloroform	4.987	4.828	4.756	4.725	4.635	3.852	4.471	8.91
28)		Tetrahydrofuran	3.832	3.552	3.540	3.490	3.461	2.958	3.408	7.25
29)		2,2,4-Trimethylpent	1.487	1.399	1.333	1.335	1.314	1.074	1.291	E1 9.36
30)		1,2-Dichloroethane	3.459	3.278	3.271	3.262	3.197	2.673	3.063	9.68
31)		1,1,1-Trichloroetha	4.547	4.357	4.310	4.288	4.186	3.398	3.961	11.84
32)		Cyclohexane	4.283	4.306	4.256	4.199	4.168	3.460	4.062	6.69
33)		Carbon Tetrachlorid	4.509	4.301	4.371	4.338	4.300	3.453	3.971	12.37
34)	M	Benzene	8.584	7.758	6.883	6.691	6.554	5.226	6.637	15.43
35)		Heptane	6.509	6.224	5.956	5.966	5.914	4.928	5.740	8.79
36)	i	1,4-DIFLUOROBENZENE	----------ISTD----------							
37)	h	TLPH	1.029	0.911	0.657	0.609	0.581	0.428	0.628	E1 33.33
38)		1,2-Dichloropropane	0.906	0.831	0.815	0.783	0.774	0.642	0.779	9.62
39)	M	Trichloroethene	0.914	0.796	0.791	0.788	0.760	0.631	0.765	9.94
40)		1,4-Dioxane	0.509	0.420	0.436	0.425	0.407	0.358	0.428	9.99
41)		Bromodichloromethan	1.391	1.327	1.384	1.386	1.377	1.202	1.332	4.62
42)		c-1,3-Dichloroprope	1.467	1.270	1.169	1.119	1.067	0.920	1.135	13.96
43)		t-1,3-Dichloroprope	1.149	0.924	0.773	0.737	0.699	0.608	0.777	22.96
44)		1,1,2-Trichloroetha	0.885	0.751	0.697	0.670	0.659	0.553	0.685	13.54
45)		Methyl Isobutyl Ket	2.444	2.324	2.362	2.371	2.327	2.046	2.341	5.54
46)	M	Toluene	2.225	1.939	1.429	1.335	1.307	0.966	1.394	30.30
47)		2-Hexanone	2.115	1.870	1.811	1.792	1.784	1.658	1.906	9.09
48)		1,2-Dibromoethane	1.449	1.185	1.064	1.038	1.002	0.878	1.077	15.04
49)		Tetrachloroethene	1.238	1.017	0.940	0.912	0.890	0.720	0.901	17.37
50)		Dibromochloromethan	0.997	0.939	0.903	0.920	0.917	0.858	0.932	4.28
51)	i	D5-CHLOROBENZENE	----------ISTD----------							
52)	M	Chlorobenzene	2.648	2.211	1.868	1.780	1.705	1.434	1.828	20.72
53)		Ethylbenzene	1.676	1.388	1.021	0.963	0.918	0.715	1.003	32.37
54)		m-Xylene & p-Xylene	2.077	1.682	1.246	1.167	1.124	0.873	1.226	32.80
55)		Styrene	2.367	1.888	1.433	1.346	1.338	1.186	1.557	23.35
56)		o-Xylene	1.979	1.584	1.163	1.067	1.042	0.821	1.171	31.81
57)		Bromoform	1.314	1.153	1.083	1.048	1.045	1.074	1.164	9.21
58)		1,1,2,2-Tetrachloro	3.356	2.358	1.596	1.338	1.239	1.222	1.720	40.94
59)		Bromofluorobenzene	0.391	0.401	0.397	0.400	0.407	0.421	0.424	8.87
60)	s	Bromofluorobenzene	0.391	0.401	0.397	0.400	0.407	0.421	0.424	8.87
61)		4-ethyltoluene	3.652	3.077	2.129	2.129	2.158	2.081	2.534	21.01
62)		1,3,5-Trimethylbenz	5.566	3.966	2.389	2.073	1.944	1.644	2.562	51.86

(#) = Out of Range ### Number of calibration levels exceeded format ###

Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration

Calibration Files
1 =207LZ005.D 2 =207LZ006.D 3 =207LZ007.D
4 =207LZ008.D 5 =207LZ009.D 6 =207LZ010.D

	Compound	1	2	3	4	5	6	Avg	%RSD
63)	1,2,4-Trimethylbenz	5.312	3.878	2.137	1.842	1.732	1.519	2.416	53.69
64)	1,3-Dichlorobenzene	2.247	1.557	0.918	0.764	0.717	0.723	1.111	45.24
65)	1,4-Dichlorobenzene	1.798	1.290	0.731	0.606	0.587	0.618	0.939	42.97
66)	Benzyl Chloride	0.790	0.670	0.408	0.430	0.524	0.710	0.799	45.14
67)	1,2-Dichlorobenzene	2.595	1.749	0.958	0.746	0.672	0.689	1.129	56.63
68)	1,2,4-Trichlorobenz					0.096	0.084	0.149	44.85
69)	Hexachlorobutadiene	4.434	2.655	1.092	0.608	0.418	0.373	1.191	119.73

ANALYSIS SEQUENCE

AA64317

Instrument: OVGCMS7

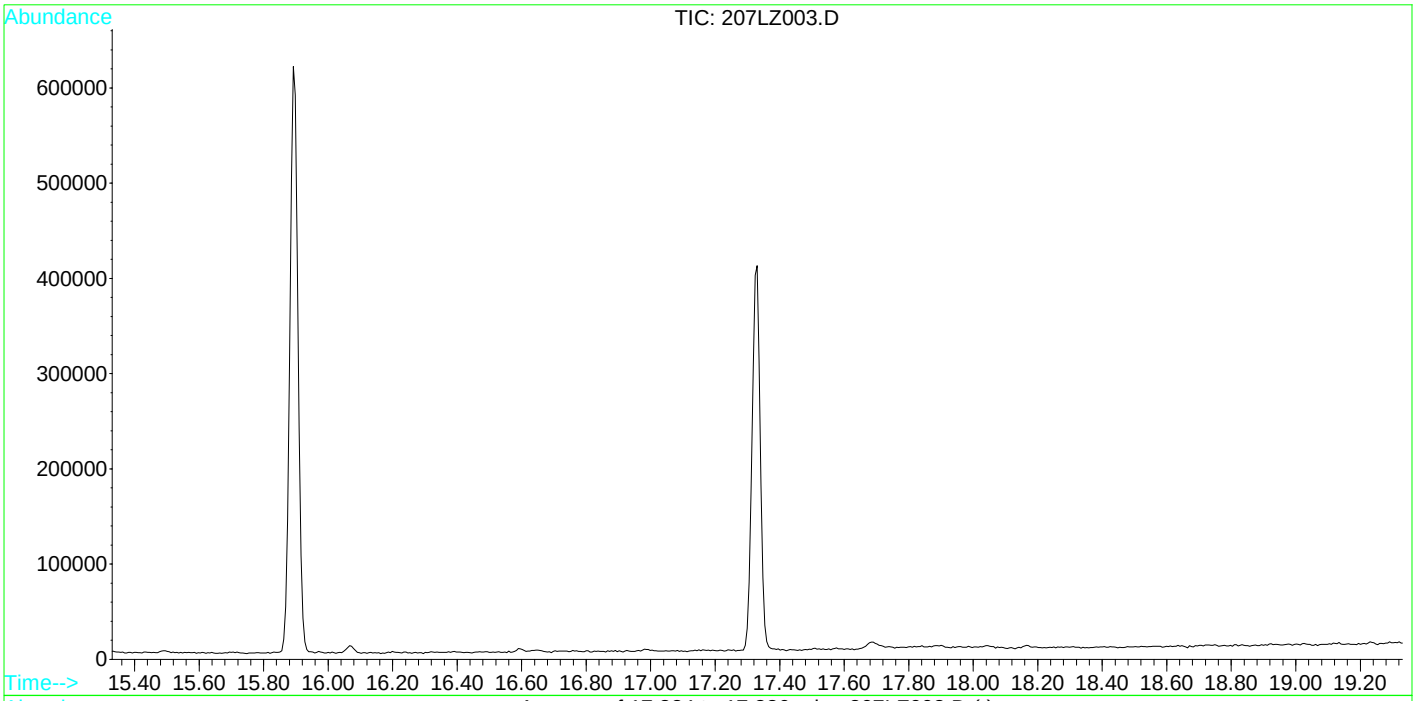
Calibration ID: 2101005 **Printed: 1/4/2021 12:31:23PM**

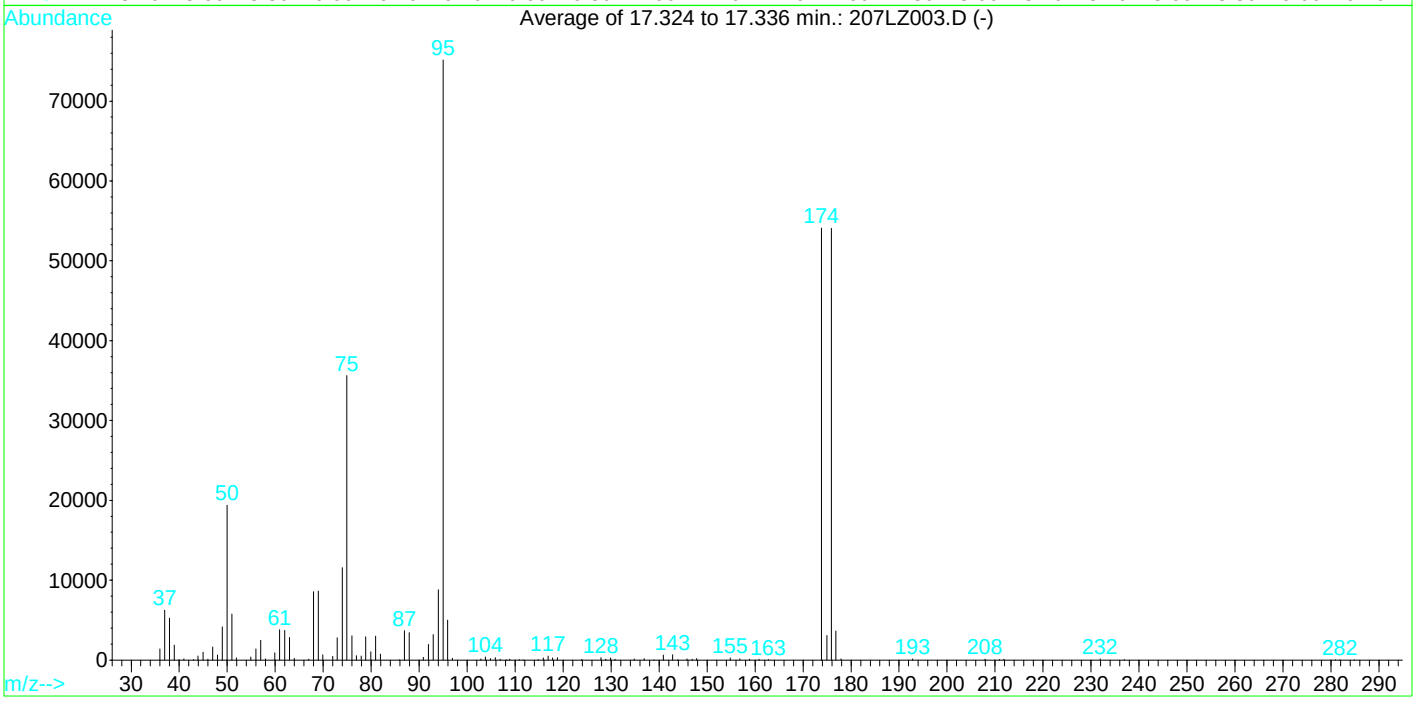
Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA64317-TUN1	QC		1		A0L0713			
AA64317-CAL1	QC		2		A0L1267	A0L0714		
AA64317-CAL2	QC		3		A0L1268	A0L0714		
AA64317-CAL3	QC		4		A0L1269	A0L0714		
AA64317-CAL4	QC		5		A0L1270	A0L0714		
AA64317-CAL5	QC		6		A0L1271	A0L0714		
AA64317-CAL6	QC		7		A0L1272	A0L0714		
AA64317-CAL7	QC		8		A0L1273	A0L0714		
AA64317-CAL8	QC		9		A0L1274	A0L0714		
AA64317-CAL9	QC		10		A0L1275	A0L0714		
AA64317-SCV1	QC		11		A0L1276	A0L0714		

Samples Loaded By Date

Data Processed By Date

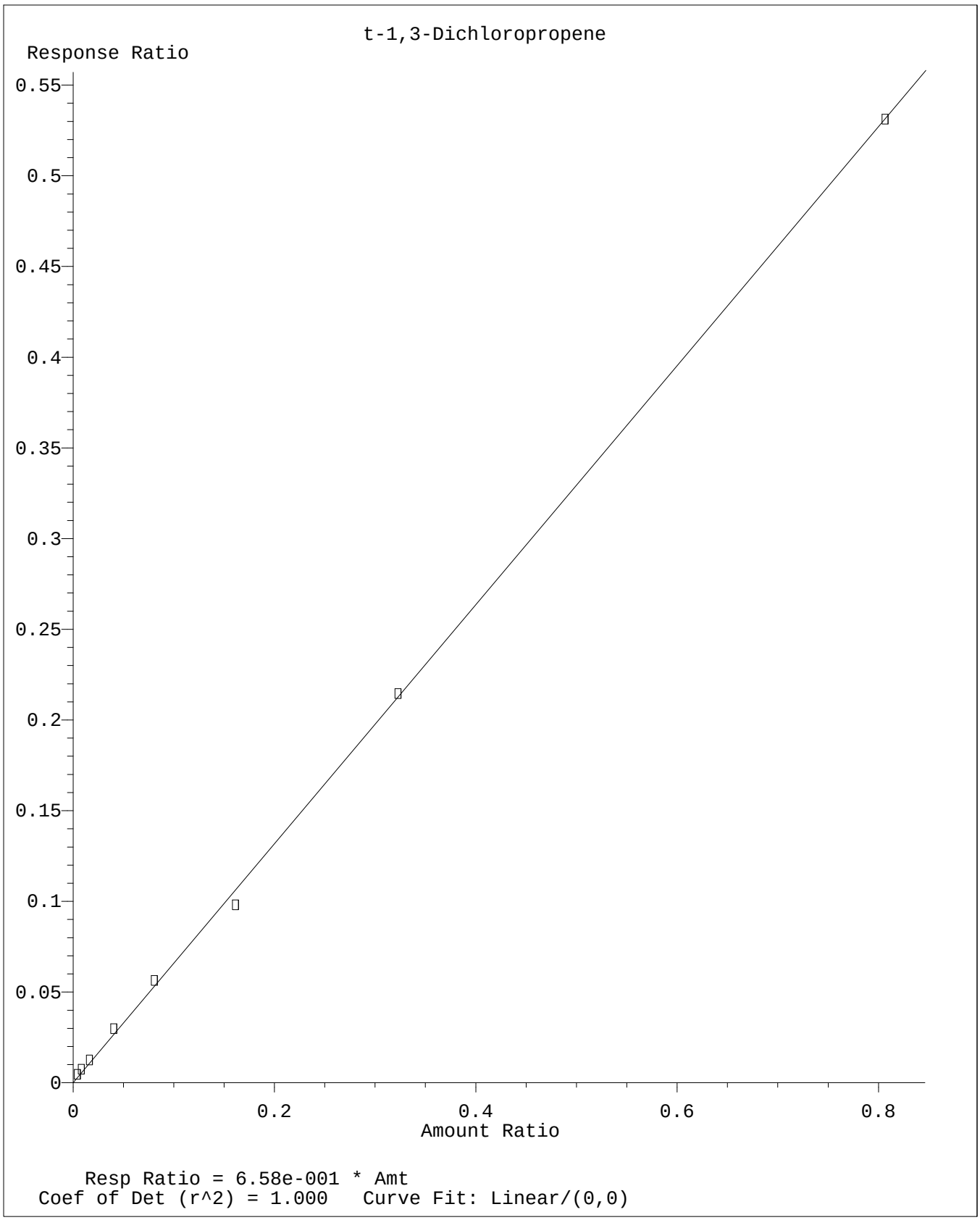
Data File : C:\HPCHEM\1\DATA\123120\207LZ003.D Vial: 3
Acq On : 31 Dec 2020 11:50 am Operator: rgg
Sample : tun1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)



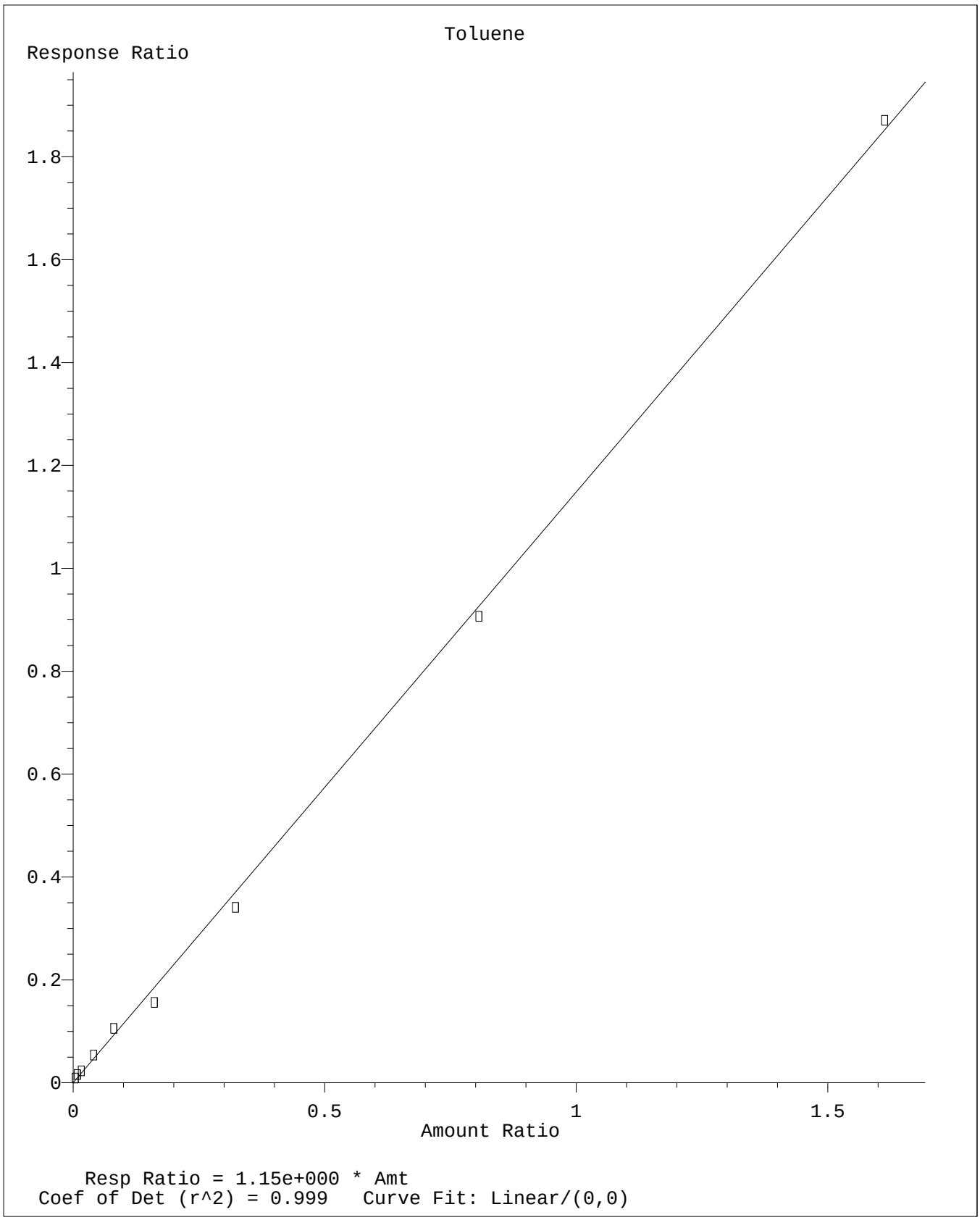


AutoFind: Scans 2160, 2161, 2162; Background Corrected with Scan 2151

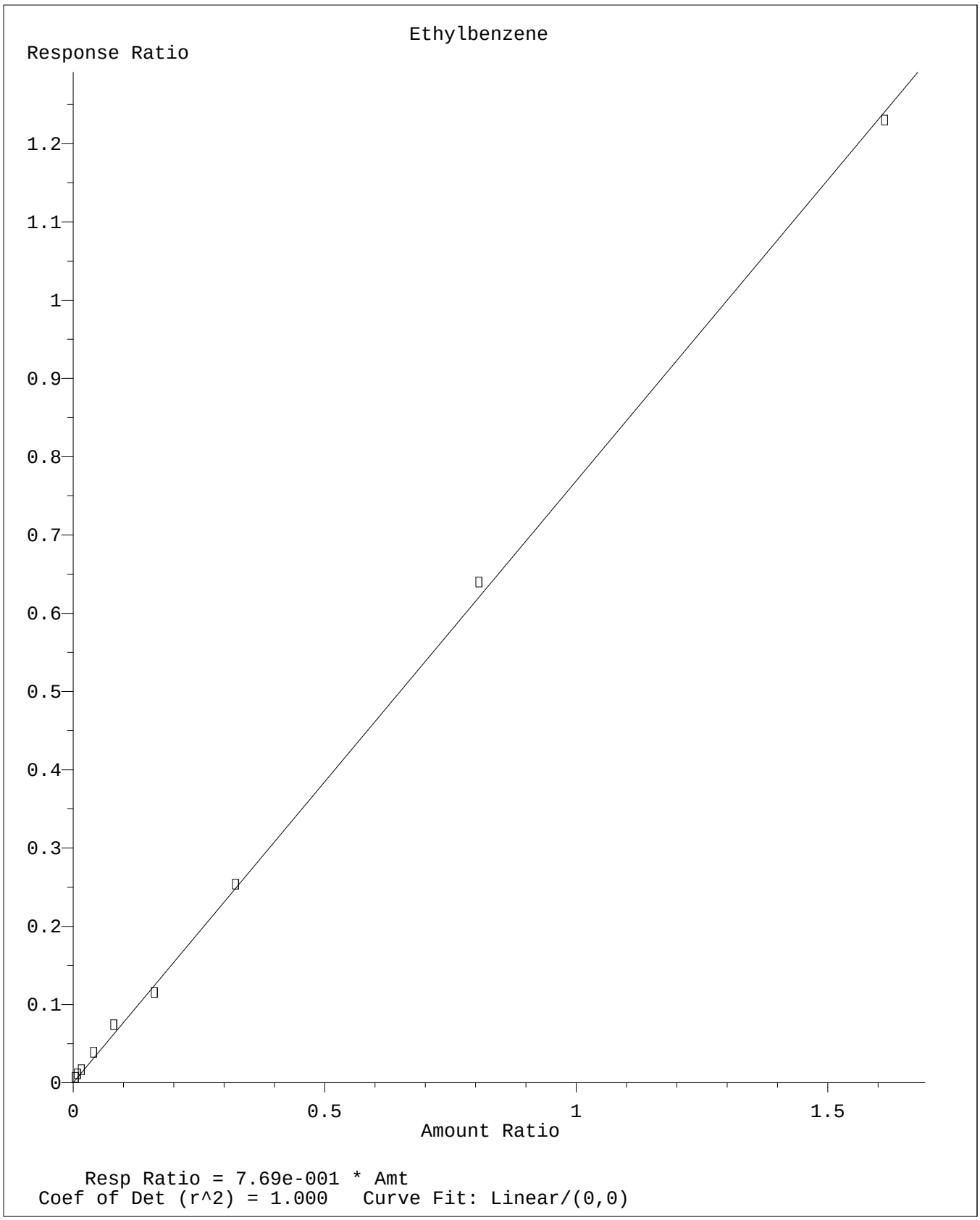
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	25.8	19403	PASS
75	95	30	60	47.4	35625	PASS
95	95	100	100	100.0	75144	PASS
96	95	5	9	6.6	4996	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	72.0	54099	PASS
175	174	5	9	5.7	3072	PASS
176	174	95	101	99.9	54069	PASS
177	176	5	9	6.7	3636	PASS



Method Name: C:\HPCHEM\1\METHODS\123120.M
Calibration Table Last Updated: Mon Jan 04 10:39:50 2021

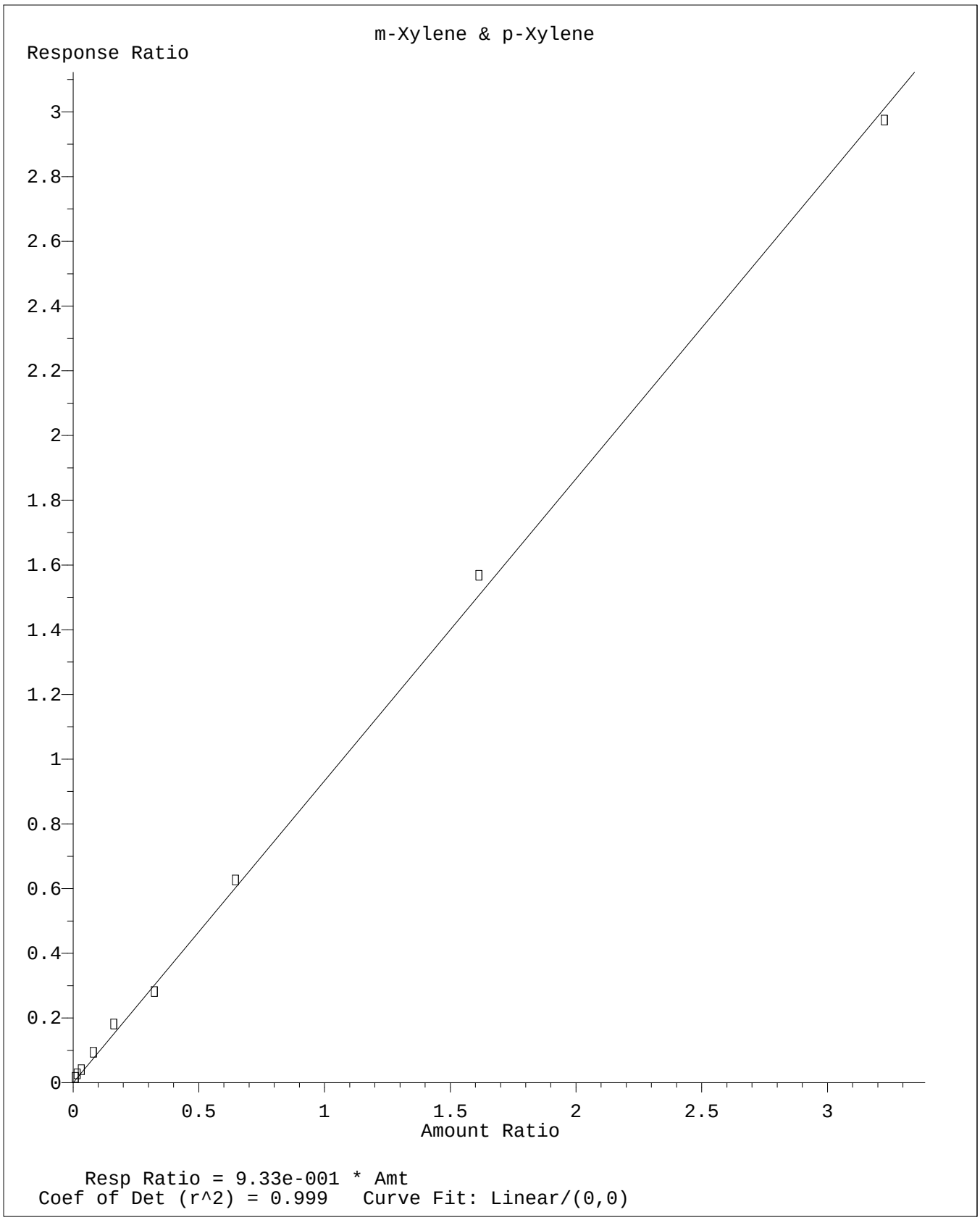


Method Name: C:\HPCHEM\1\METHODS\123120.M
Calibration Table Last Updated: Mon Jan 04 10:39:50 2021

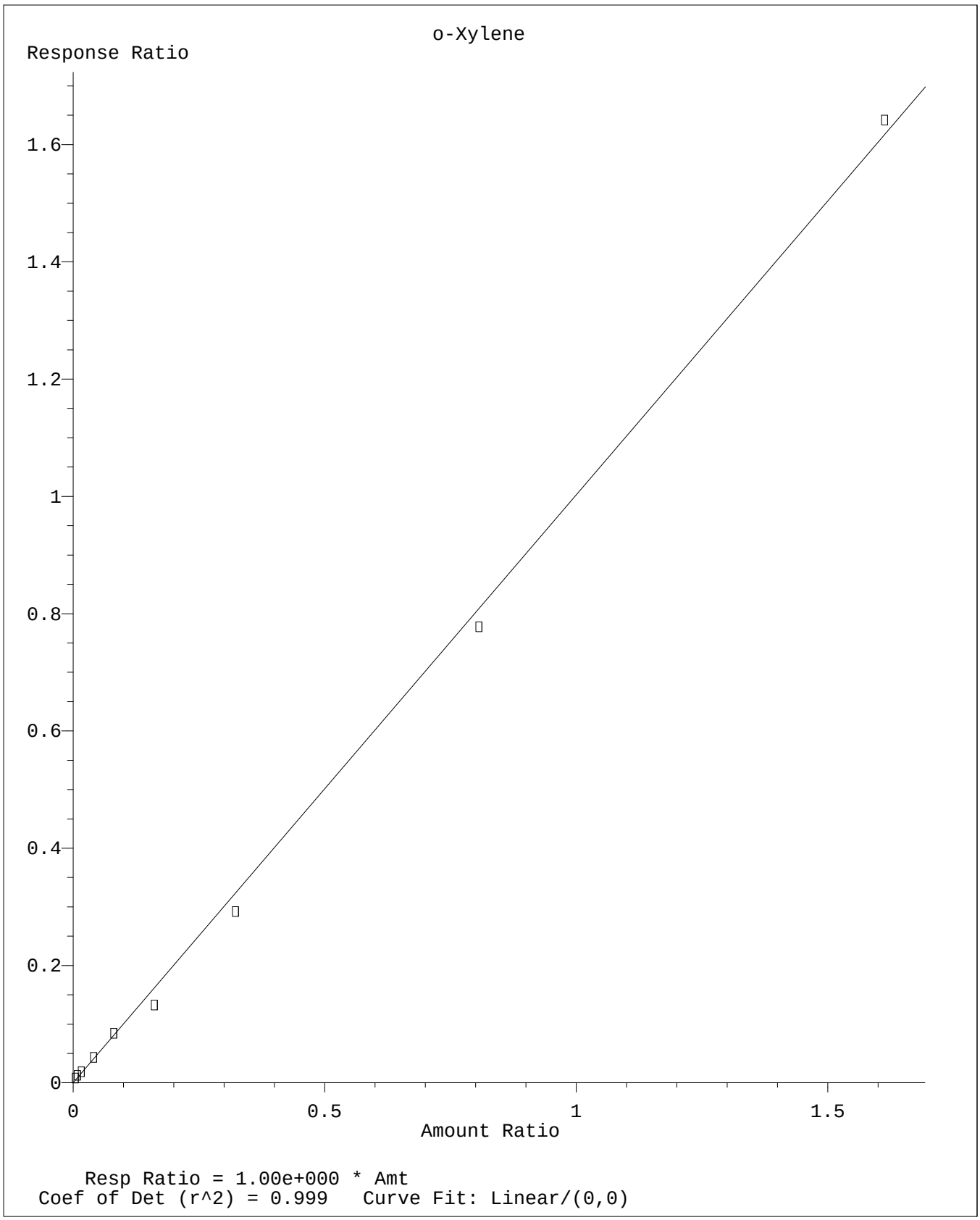


Resp Ratio = 7.69e-001 * Amt
Coef of Det (r^2) = 1.000 Curve Fit: Linear/(0,0)

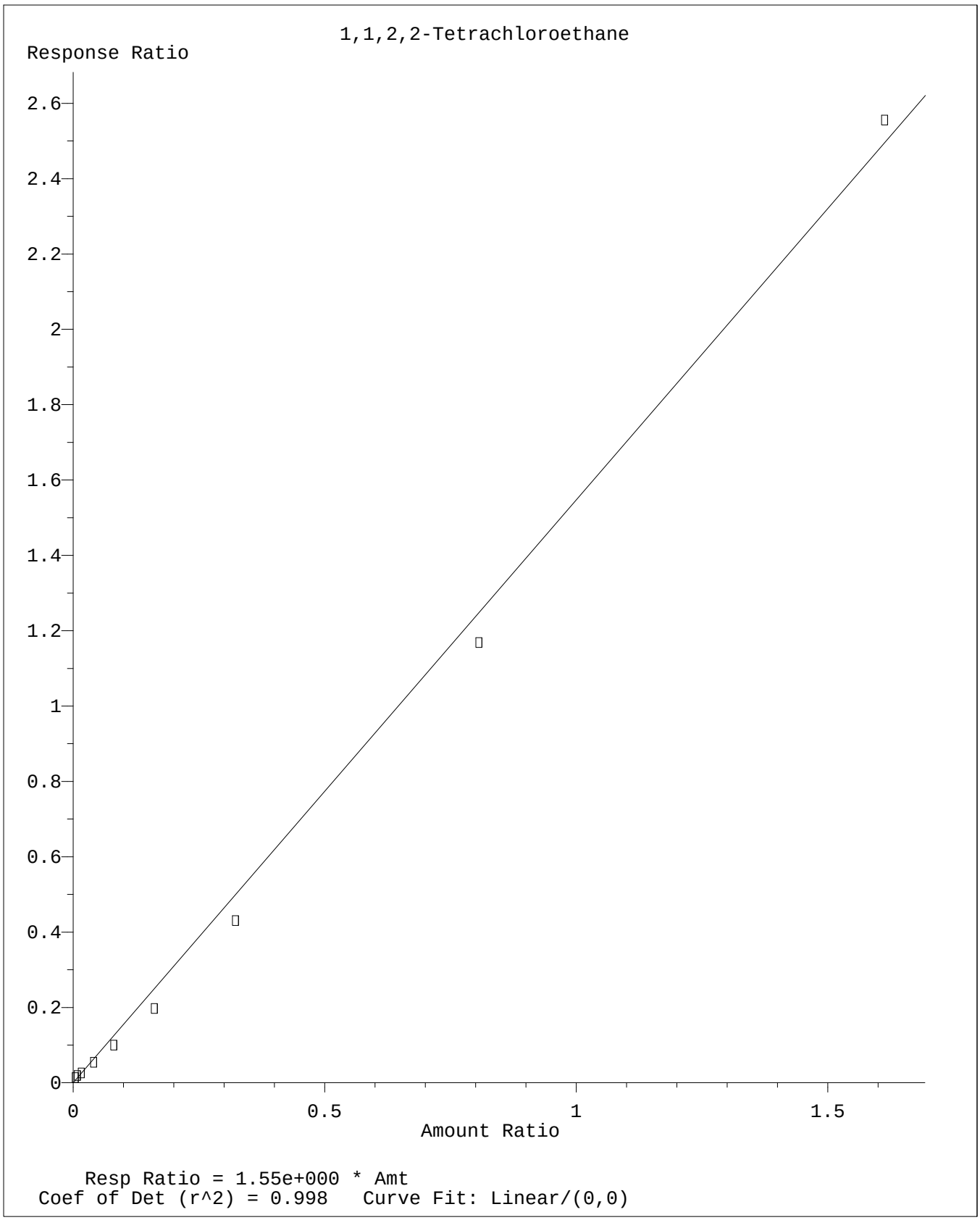
Method Name: C:\HPCHEM\1\METHODS\123120.M
Calibration Table Last Updated: Mon Jan 04 10:39:50 2021



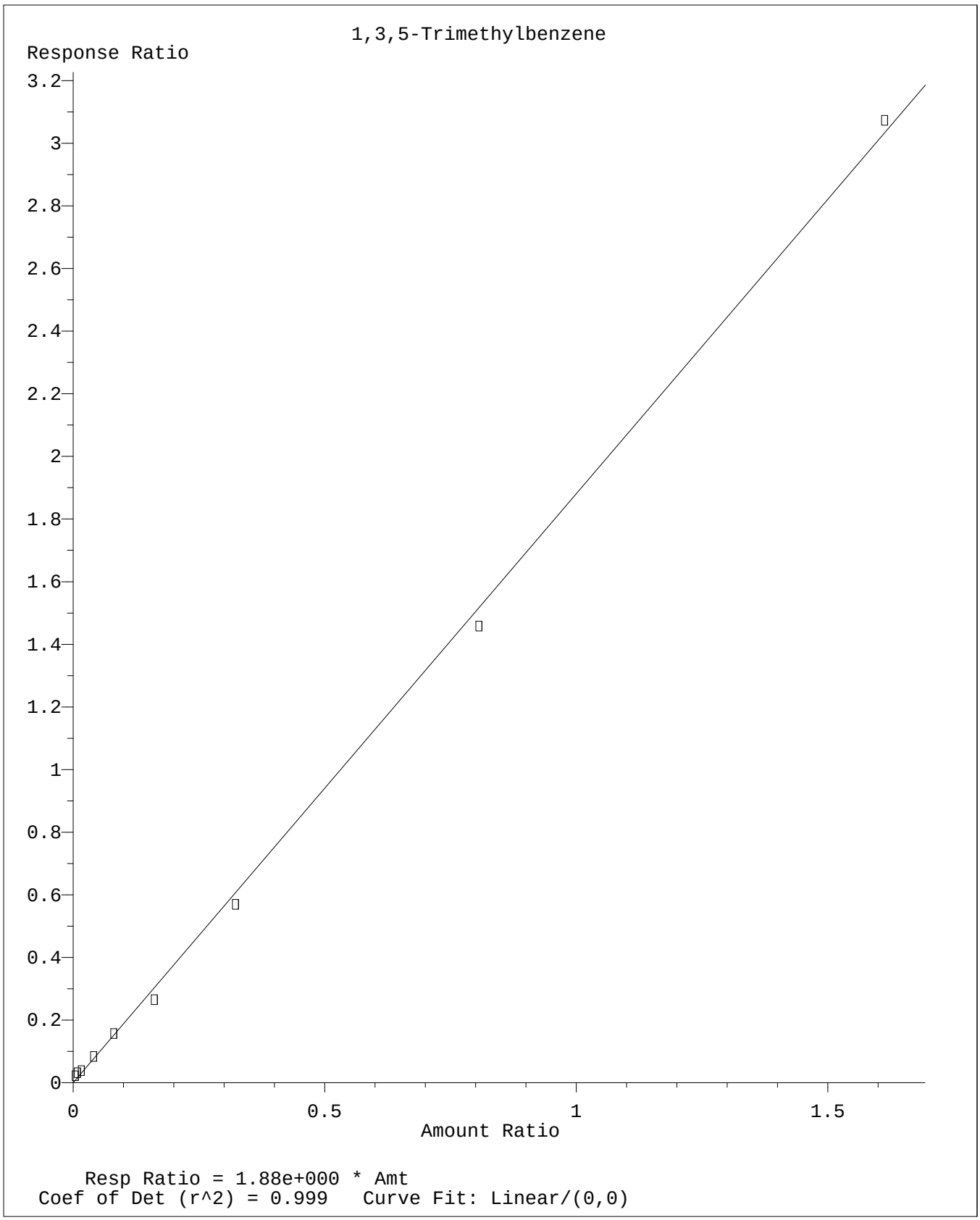
Method Name: C:\HPCHEM\1\METHODS\123120.M
Calibration Table Last Updated: Mon Jan 04 10:39:50 2021



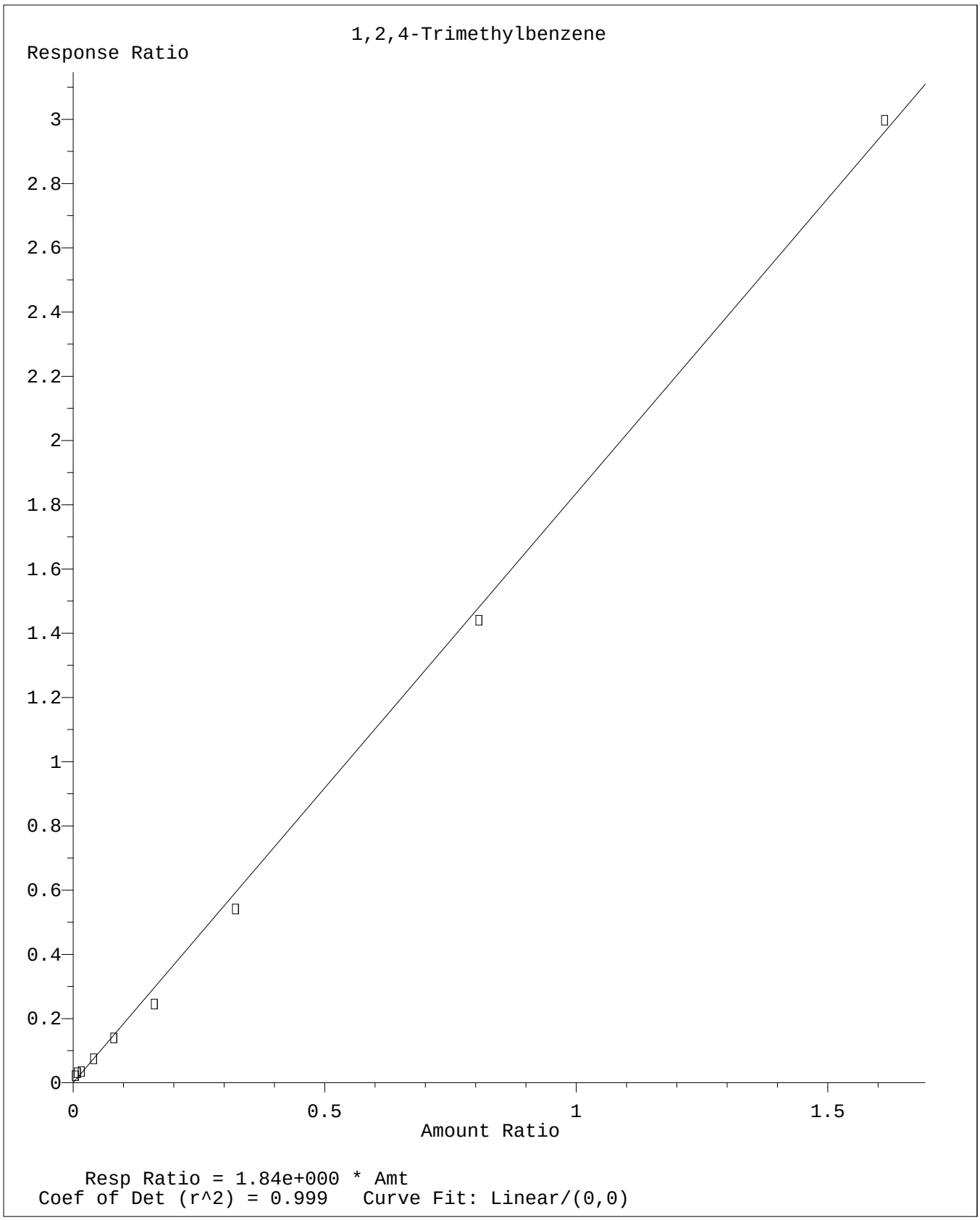
Method Name: C:\HPCHEM\1\METHODS\123120.M
Calibration Table Last Updated: Mon Jan 04 10:39:50 2021



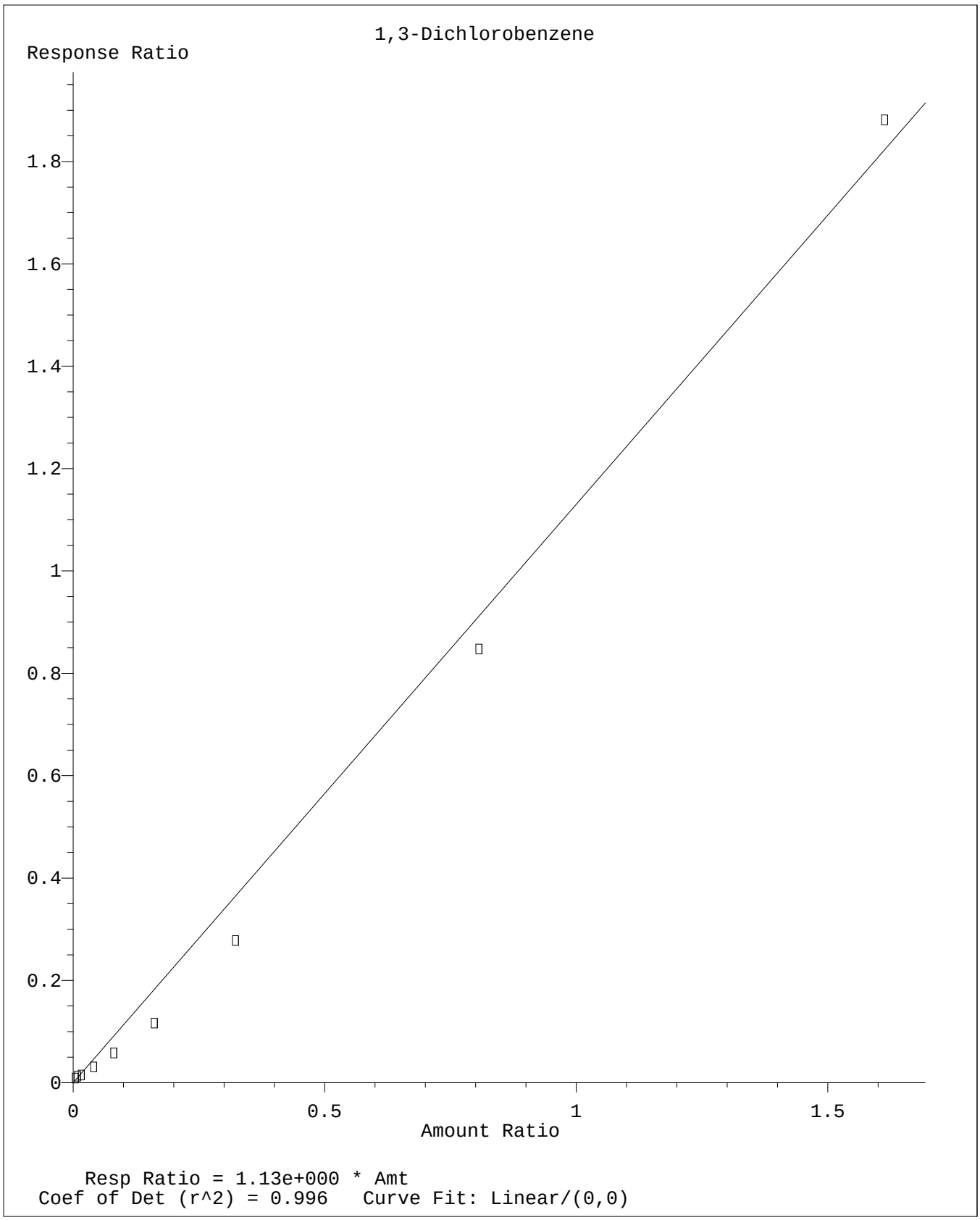
Method Name: C:\HPCHEM\1\METHODS\123120.M
Calibration Table Last Updated: Mon Jan 04 10:39:50 2021



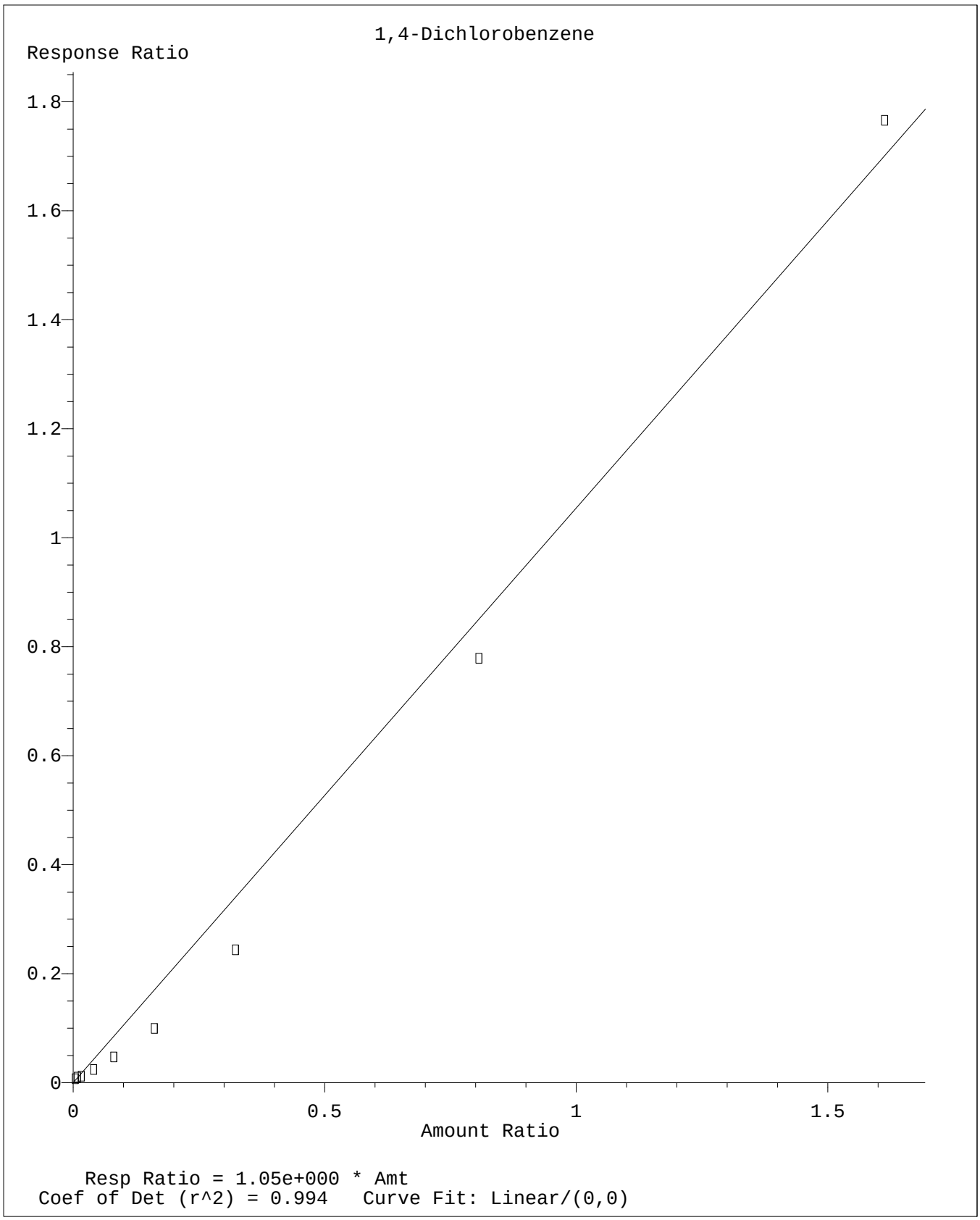
Method Name: C:\HPCHEM\1\METHODS\123120.M
Calibration Table Last Updated: Mon Jan 04 10:39:50 2021



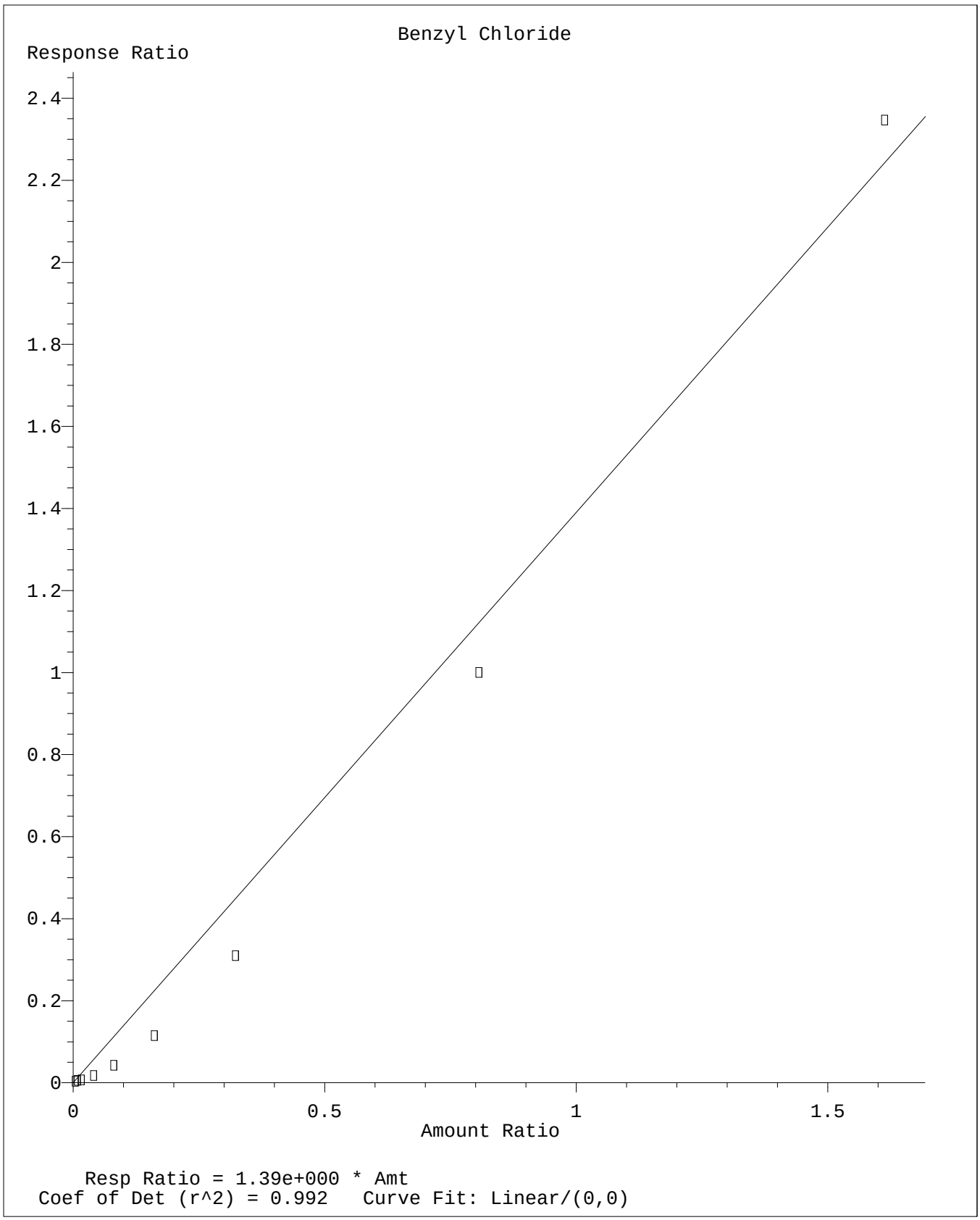
Method Name: C:\HPCHEM\1\METHODS\123120.M
Calibration Table Last Updated: Mon Jan 04 10:39:50 2021



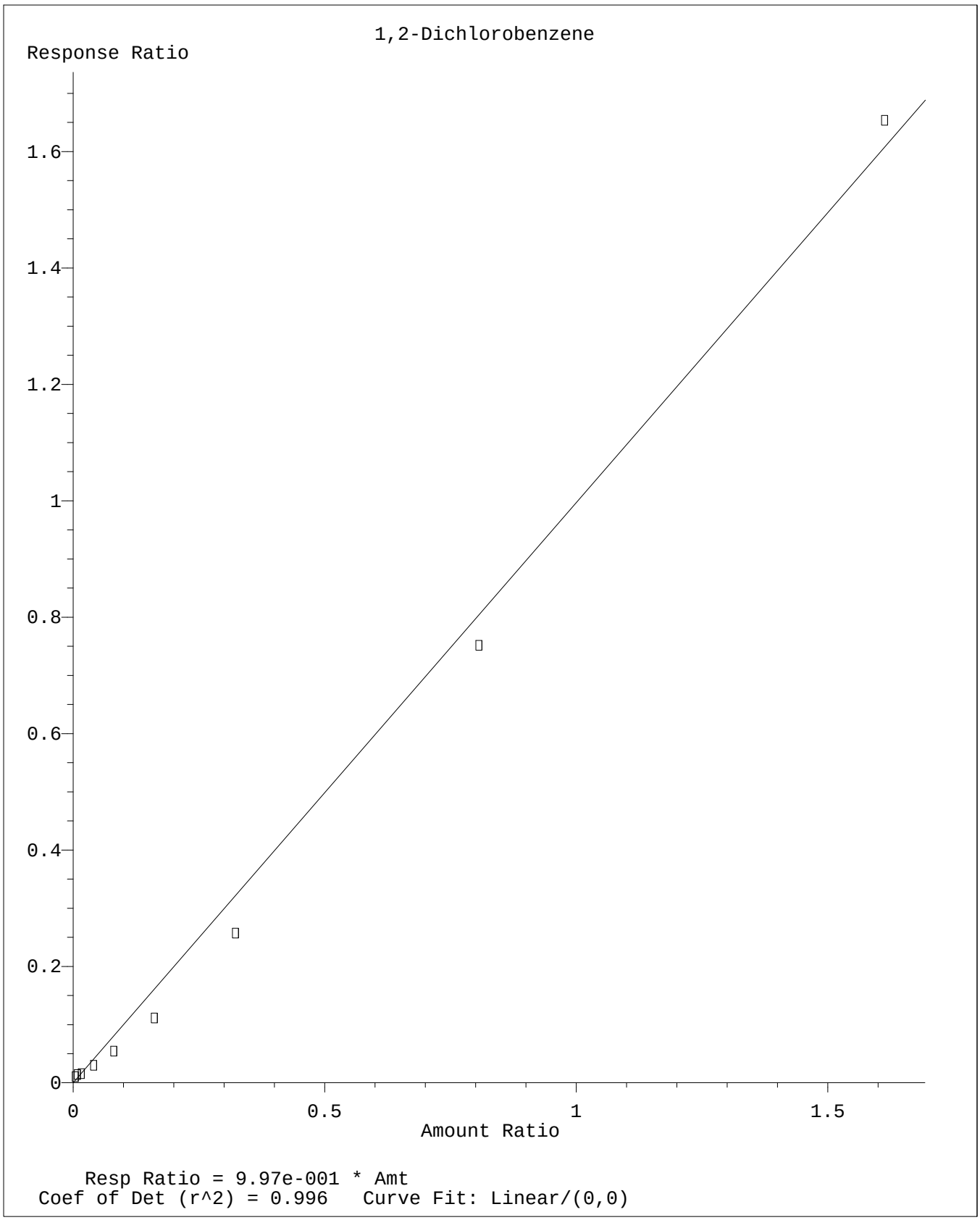
Method Name: C:\HPCHEM\1\METHODS\123120.M
Calibration Table Last Updated: Mon Jan 04 10:39:50 2021



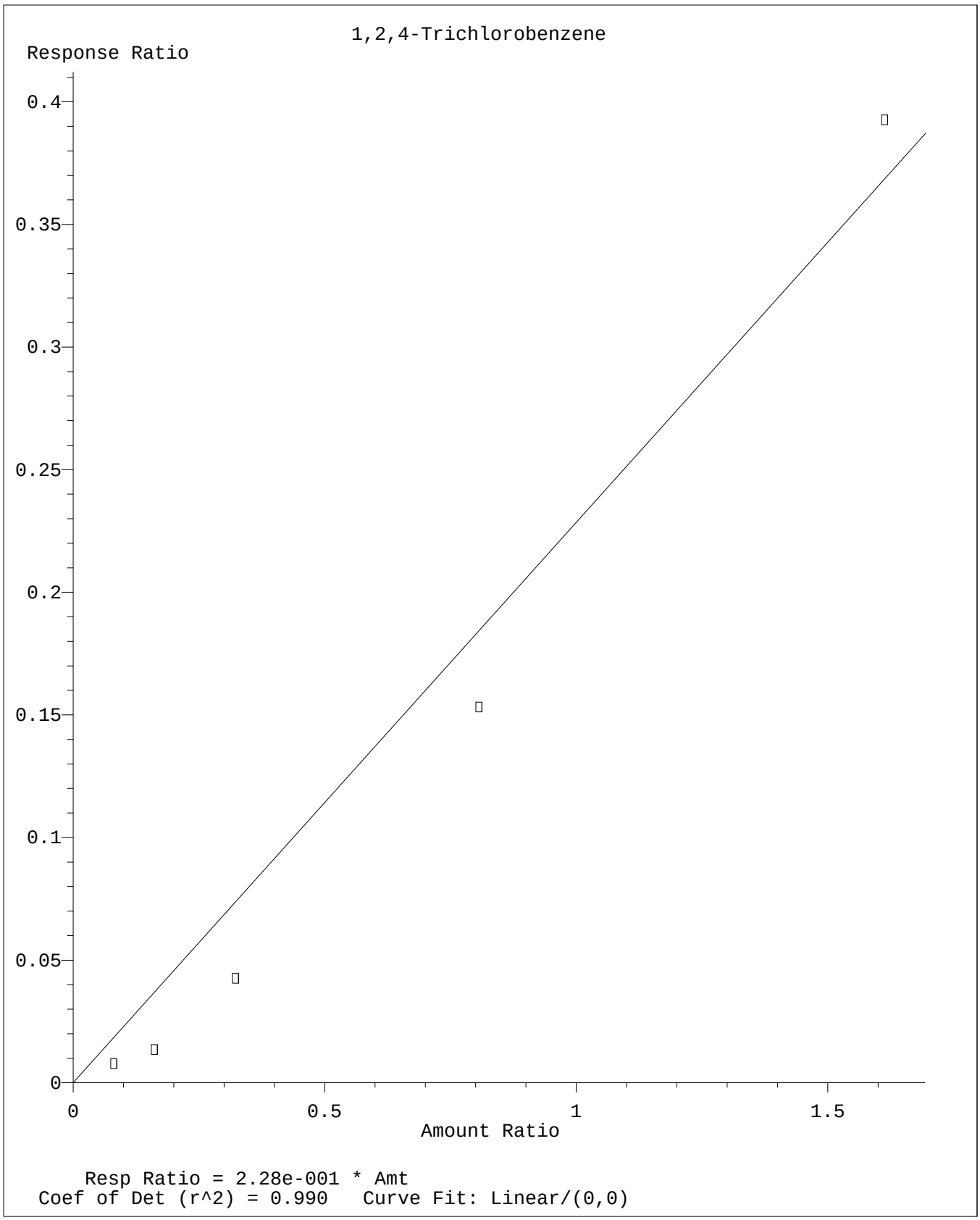
Method Name: C:\HPCHEM\1\METHODS\123120.M
Calibration Table Last Updated: Mon Jan 04 10:39:50 2021



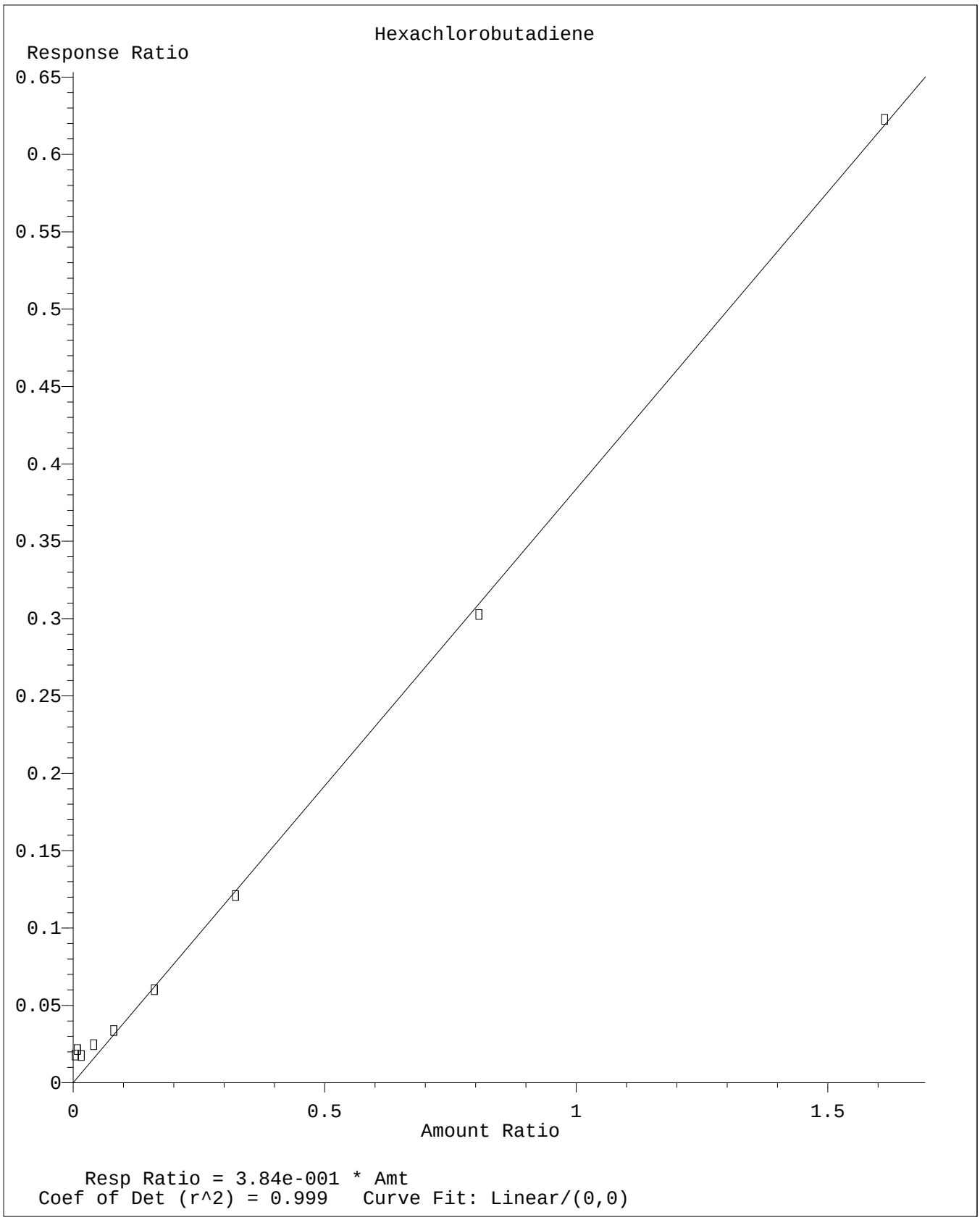
Method Name: C:\HPCHEM\1\METHODS\123120.M
Calibration Table Last Updated: Mon Jan 04 10:39:50 2021



Method Name: C:\HPCHEM\1\METHODS\123120.M
Calibration Table Last Updated: Mon Jan 04 10:39:50 2021



Method Name: C:\HPCHEM\1\METHODS\123120.M
Calibration Table Last Updated: Mon Jan 04 10:39:50 2021

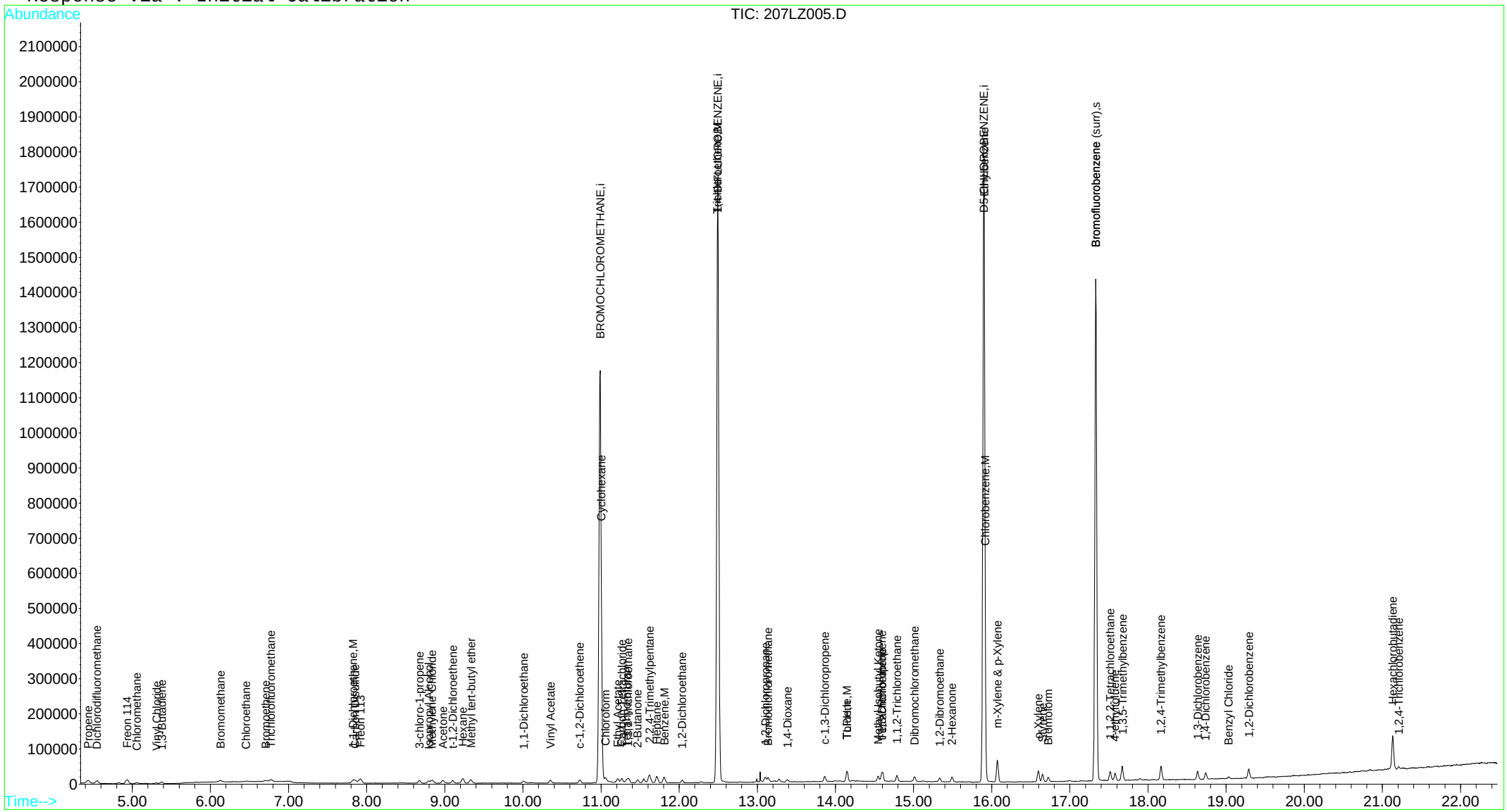


Method Name: C:\HPCHEM\1\METHODS\123120.M
Calibration Table Last Updated: Mon Jan 04 10:39:50 2021

Quantitation Report

Data File : C:\HPCHEM\1\DATA\123120\207LZ005.D Vial: 5
Acq On : 31 Dec 2020 3:30 pm Operator: rgg
Sample : aa64317-cal1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:04 2021 Quant Results File: 123120.RES

Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ005.D Vial: 5
Acq On : 31 Dec 2020 3:30 pm Operator: rgg
Sample : aa64317-cal1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:04 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Wed Dec 30 08:16:18 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) BROMOCHLOROMETHANE	10.99	130	373148	31000.00	PPTV		0.01
36) 1,4-DIFLUOROBENZENE	12.49	114	1252006	31000.00	PPTV		0.01
51) D5-CHLOROBENZENE	15.90	117	940921	31000.00	PPTV		0.01
System Monitoring Compounds							
60) Bromofluorobenzene (surr)	17.33	174	368216	28773.99	PPTV		0.01
Spiked Amount 31250.000	Range 50 - 150		Recovery = 92.08%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.55	85	10352	117.95	PPTV		99
3) Propene	4.43	41	7774	182.04	PPTV		94
4) Chloromethane	5.06	50	5164	118.36	PPTV		95
5) Freon 114	4.93	135	5687	108.73	PPTV		100
6) Vinyl Chloride	5.31	62	4403	111.96	PPTV		99
7) 1,3-Butadiene	5.38	39	5228	128.28	PPTV		92
8) Bromomethane	6.14	94	4058	128.85	PPTV		96
9) Chloroethane	6.46	64	2111	129.88	PPTV	#	72
10) Trichlorofluoromethane	6.77	101	5645	107.66	PPTV		98
11) Bromoethene	6.71	106	2780	103.24	PPTV		90
12) 1,1-Dichloroethene	7.82	61	6520	112.84	PPTV		91
13) Acetone	8.98	43	13301	190.13	PPTV		97
14) Isopropyl Alcohol	8.79	45	9483	150.21	PPTV	#	83
15) Carbon Disulfide	7.86	76	12075	125.48	PPTV		92
16) Methylene Chloride	8.84	84	3430	125.04	PPTV		97
17) Freon 113	7.92	151	4835	111.32	PPTV		97
18) 3-chloro-1-propene	8.67	41	7856	131.19	PPTV		86
19) t-1,2-Dichloroethene	9.10	61	5506	109.69	PPTV		93
20) Methyl tert-butyl ether	9.34	73	10263	114.95	PPTV		96
21) Hexane	9.23	57	6099	100.64	PPTV		93
22) 1,1-Dichloroethane	10.02	63	6903	115.75	PPTV		96
23) Vinyl Acetate	10.35	43	13991	116.55	PPTV		99
24) c-1,2-Dichloroethene	10.73	96	3553	112.78	PPTV		97
25) Ethyl Acetate	11.22	43	14186	117.37	PPTV	#	93
26) 2-Butanone	11.47	43	12170	111.74	PPTV		99
27) Chloroform	11.06	83	7503	114.84	PPTV		99
28) Tetrahydrofuran	11.33	42	5766	123.64	PPTV		95
29) 2,2,4-Trimethylpentane	11.62	57	22375	119.18	PPTV		97
30) 1,2-Dichloroethane	12.04	62	5204	120.28	PPTV		100
31) 1,1,1-Trichloroethane	11.35	97	6841	118.67	PPTV	#	96
32) Cyclohexane	11.01	56	6445	108.35	PPTV		88
33) Carbon Tetrachloride	11.27	117	6784	144.57	PPTV		100
34) Benzene	11.81	78	12916	137.79	PPTV		94
35) Heptane	11.71	43	9794	121.50	PPTV		96
37) TLPH	14.15	TIC	51924m	204.40	PPTV		
38) 1,2-Dichloropropane	13.10	63	4572	127.10	PPTV		89
39) Trichloroethene	12.48	130	4612	125.11	PPTV		98
40) 1,4-Dioxane	13.38	88	2569	133.82	PPTV	#	65
41) Bromodichloromethane	13.14	83	7021	107.95	PPTV		98
42) c-1,3-Dichloropropene	13.87	75	7405	142.76	PPTV		98
43) t-1,3-Dichloropropene	14.59	75	5801	164.59	PPTV		91
44) 1,1,2-Trichloroethane	14.79	97	4469	144.91	PPTV		95
45) Methyl Isobutyl Ketone	14.54	43	12338	118.86	PPTV		99
46) Toluene	14.15	92	11235	195.92	PPTV		98
47) 2-Hexanone	15.49	43	10675	130.81	PPTV		98
48) 1,2-Dibromoethane	15.33	107	7316	153.21	PPTV		99
49) Tetrachloroethene	14.60	166	6249	152.03	PPTV		97
50) Dibromochloromethane	15.01	127	5035	113.16	PPTV	#	97
52) Chlorobenzene	15.92	112	10045	171.59	PPTV	#	1
53) Ethylbenzene	15.91	106	6360	211.00	PPTV		93
54) m-Xylene & p-Xylene	16.07	106	15763	434.12	PPTV		98
55) Styrene	16.65	104	8981	188.63	PPTV		90
56) o-Xylene	16.60	106	7509	214.58	PPTV		98
57) Bromoform	16.73	173	4985	125.26	PPTV		92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ005.D Vial: 5
Acq On : 31 Dec 2020 3:30 pm Operator: rgg
Sample : aa64317-cal1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:04 2021 Quant Results File: 123120.RES

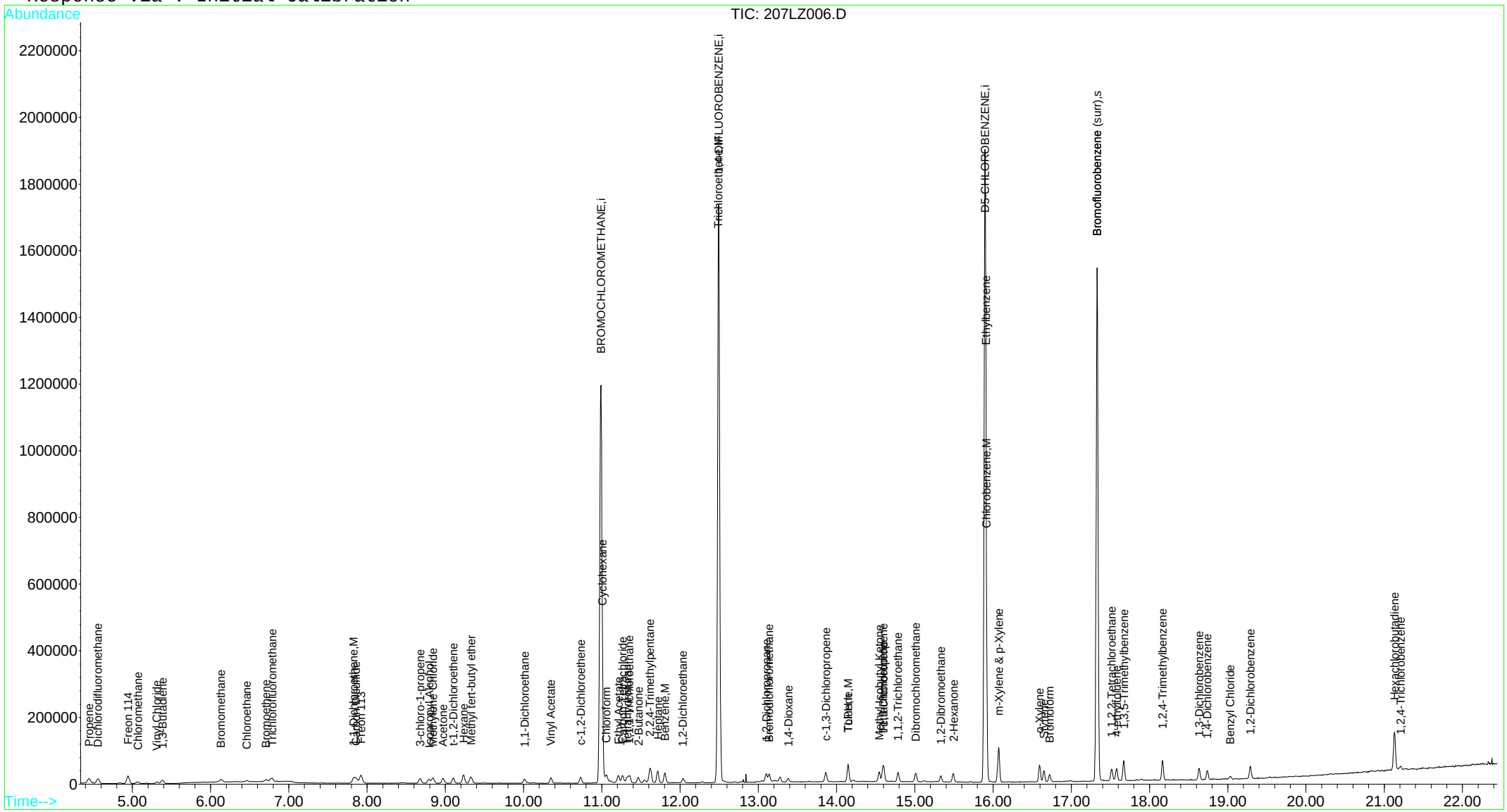
Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Wed Dec 30 08:16:18 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.52	83	12732	300.05	PPTV	99
59) Bromofluorobenzene	17.33	174	368216	28773.99	PPTV	95
61) 4-ethyltoluene	17.58	105	13855	166.71	PPTV	99
62) 1,3,5-Trimethylbenzene	17.67	105	21118	318.85	PPTV	99
63) 1,2,4-Trimethylbenzene	18.17	105	20154	332.51	PPTV	98
64) 1,3-Dichlorobenzene	18.63	146	8525	232.46	PPTV	97
65) 1,4-Dichlorobenzene	18.74	146	6823	208.00	PPTV	97
66) Benzyl Chloride	19.03	91	2998	73.12	PPTV	100
67) 1,2-Dichlorobenzene	19.29	146	9845	302.72	PPTV	97
68) 1,2,4-Trichlorobenzene	21.21	180	2195	415.76	PPTV	88
69) Hexachlorobutadiene	21.13	225	16823	1086.72	PPTV	96

Quantitation Report

Data File : C:\HPCHEM\1\DATA\123120\207LZ006.D Vial: 6
Acq On : 31 Dec 2020 4:10 pm Operator: rgg
Sample : aa64317-cal2 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:05 2021 Quant Results File: 123120.RES

Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration



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Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ006.D Vial: 6
Acq On : 31 Dec 2020 4:10 pm Operator: rgg
Sample : aa64317-cal2 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:05 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Wed Dec 30 08:16:18 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) BROMOCHLOROMETHANE	10.99	130	374682	31000.00	PPTV		0.00
36) 1,4-DIFLUOROBENZENE	12.49	114	1271464	31000.00	PPTV		0.00
51) D5-CHLOROBENZENE	15.90	117	980132	31000.00	PPTV		0.00
System Monitoring Compounds							
60) Bromofluorobenzene (surr)	17.33	174	392689	29458.78	PPTV		0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 94.27%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.56	85	19529	221.61	PPTV		99
3) Propene	4.45	41	11839	276.09	PPTV		95
4) Chloromethane	5.07	50	10023	228.78	PPTV		99
5) Freon 114	4.95	135	10900	207.54	PPTV		98
6) Vinyl Chloride	5.31	62	8794	222.71	PPTV		97
7) 1,3-Butadiene	5.38	39	9947	243.07	PPTV		96
8) Bromomethane	6.13	94	7095	224.36	PPTV		99
9) Chloroethane	6.45	64	3933	241.00	PPTV		90
10) Trichlorofluoromethane	6.79	101	10915	207.31	PPTV		98
11) Bromoethene	6.71	106	5788	214.06	PPTV		98
12) 1,1-Dichloroethene	7.83	61	12486	215.21	PPTV		93
13) Acetone	8.97	43	23988	341.48	PPTV		97
14) Isopropyl Alcohol	8.79	45	17952	283.19	PPTV	#	88
15) Carbon Disulfide	7.86	76	23450	242.68	PPTV		97
16) Methylene Chloride	8.84	84	6495	235.80	PPTV		96
17) Freon 113	7.92	151	9229	211.61	PPTV		99
18) 3-chloro-1-propene	8.68	41	13227	219.97	PPTV		99
19) t-1,2-Dichloroethene	9.10	61	10811	214.50	PPTV		94
20) Methyl tert-butyl ether	9.33	73	18884	210.64	PPTV		92
21) Hexane	9.23	57	11698	192.25	PPTV		98
22) 1,1-Dichloroethane	10.01	63	13377	223.39	PPTV		100
23) Vinyl Acetate	10.35	43	26639	221.01	PPTV		99
24) c-1,2-Dichloroethene	10.73	96	6994	221.09	PPTV		98
25) Ethyl Acetate	11.21	43	26421	217.70	PPTV	#	93
26) 2-Butanone	11.47	43	23706	216.77	PPTV		100
27) Chloroform	11.06	83	14587	222.35	PPTV		98
28) Tetrahydrofuran	11.32	42	10733	229.20	PPTV		97
29) 2,2,4-Trimethylpentane	11.62	57	42277	224.26	PPTV		97
30) 1,2-Dichloroethane	12.04	62	9904	227.98	PPTV		99
31) 1,1,1-Trichloroethane	11.35	97	13164	227.41	PPTV		98
32) Cyclohexane	11.01	56	13010	217.82	PPTV		93
33) Carbon Tetrachloride	11.27	117	12995	275.80	PPTV		98
34) Benzene	11.81	78	23441	249.05	PPTV		96
35) Heptane	11.71	43	18808	232.37	PPTV		98
37) TLPH	14.15	TIC	93365m	361.92	PPTV		
38) 1,2-Dichloropropane	13.10	63	8519	233.20	PPTV		90
39) Trichloroethene	12.48	130	8157	217.89	PPTV		97
40) 1,4-Dioxane	13.38	88	4310	221.08	PPTV	#	64
41) Bromodichloromethane	13.14	83	13610	206.06	PPTV		98
42) c-1,3-Dichloropropene	13.86	75	13023	247.23	PPTV		97
43) t-1,3-Dichloropropene	14.59	75	9470	264.58	PPTV		95
44) 1,1,2-Trichloroethane	14.79	97	7696	245.73	PPTV		94
45) Methyl Isobutyl Ketone	14.54	43	23831	226.07	PPTV		99
46) Toluene	14.15	92	19887	341.48	PPTV		99
47) 2-Hexanone	15.49	43	19171	231.33	PPTV		98
48) 1,2-Dibromoethane	15.33	107	12150	250.54	PPTV		91
49) Tetrachloroethene	14.60	166	10432	249.91	PPTV		99
50) Dibromochloromethane	15.01	127	9632	213.17	PPTV	#	97
52) Chlorobenzene	15.92	112	17475	286.58	PPTV	#	44
53) Ethylbenzene	15.92	106	10969	349.35	PPTV		95
54) m-Xylene & p-Xylene	16.07	106	26591	703.03	PPTV		96
55) Styrene	16.65	104	14923	300.90	PPTV		98
56) o-Xylene	16.60	106	12520	343.47	PPTV		95
57) Bromoform	16.72	173	9115	219.87	PPTV		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ006.D Vial: 6
Acq On : 31 Dec 2020 4:10 pm Operator: rgg
Sample : aa64317-cal2 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:05 2021 Quant Results File: 123120.RES

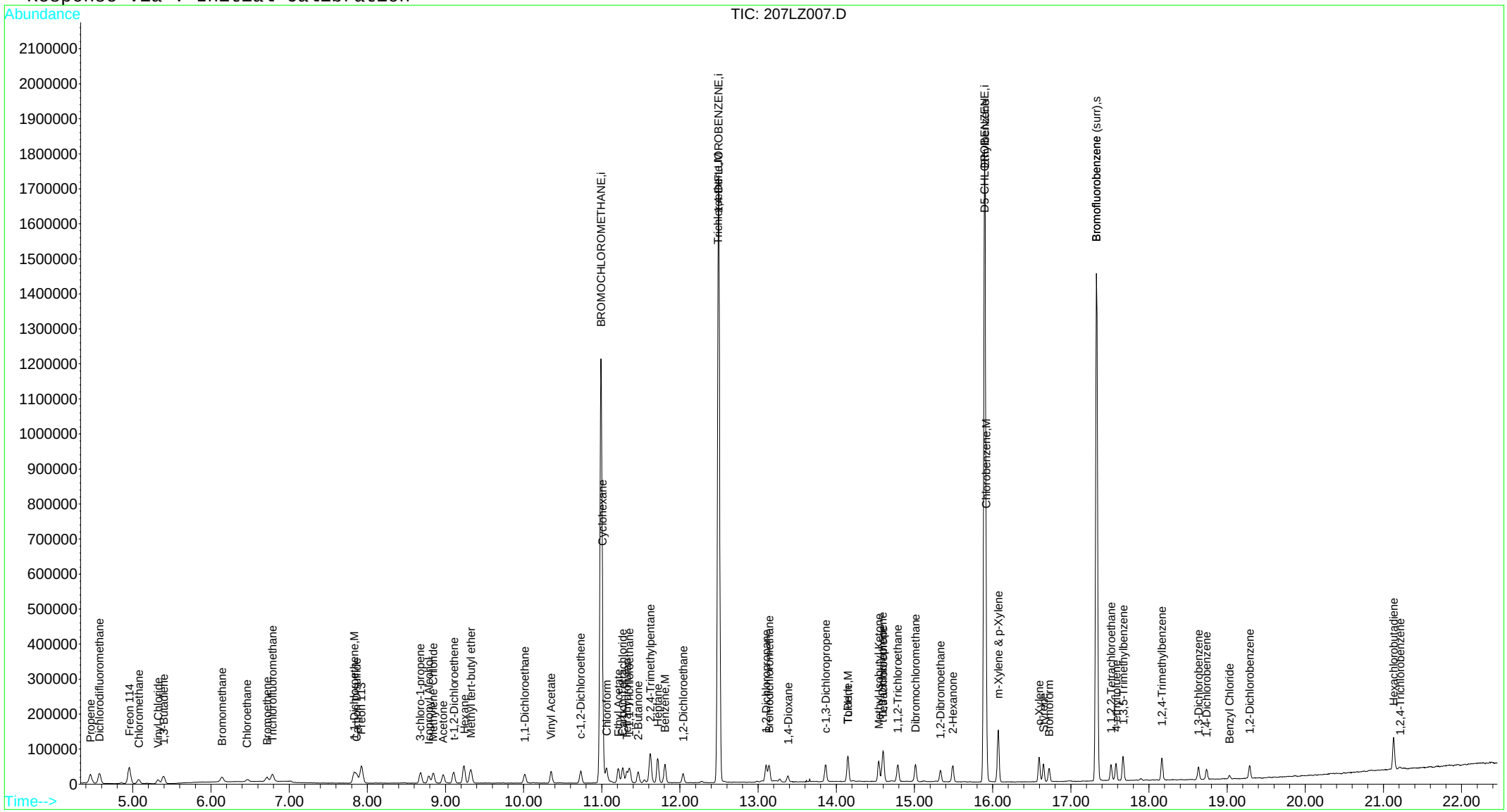
Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Wed Dec 30 08:16:18 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.52	83	18636	421.62	PPTV	99
59) Bromofluorobenzene	17.33	174	392689	29458.78	PPTV	95
61) 4-ethyltoluene	17.58	105	24321	280.93	PPTV	96
62) 1,3,5-Trimethylbenzene	17.67	105	31352	454.43	PPTV	98
63) 1,2,4-Trimethylbenzene	18.17	105	30653	485.50	PPTV	98
64) 1,3-Dichlorobenzene	18.63	146	12306	322.14	PPTV	98
65) 1,4-Dichlorobenzene	18.74	146	10199	298.48	PPTV	98
66) Benzyl Chloride	19.03	91	5294	123.95	PPTV	97
67) 1,2-Dichlorobenzene	19.29	146	13821	407.97	PPTV	98
68) 1,2,4-Trichlorobenzene	21.21	180	3320	603.69	PPTV	99
69) Hexachlorobutadiene	21.13	225	20987	1301.47	PPTV	96

Quantitation Report

Data File : C:\HPCHEM\1\DATA\123120\207LZ007.D Vial: 7
Acq On : 31 Dec 2020 4:48 pm Operator: rgg
Sample : aa64317-cal3 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:06 2021 Quant Results File: 123120.RES

Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ007.D Vial: 7
Acq On : 31 Dec 2020 4:48 pm Operator: rgg
Sample : aa64317-cal3 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:06 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Wed Dec 30 08:16:18 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.99	130	375020	31000.00	PPTV	0.00
36) 1,4-DIFLUOROBENZENE	12.49	114	1254271	31000.00	PPTV	0.00
51) D5-CHLOROBENZENE	15.90	117	928803	31000.00	PPTV	0.00
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.33	174	368796	29195.31	PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 93.42%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.57	85	39673	449.79	PPTV	98
3) Propene	4.46	41	21949	511.39	PPTV	99
4) Chloromethane	5.08	50	20431	465.94	PPTV	100
5) Freon 114	4.96	135	22787	433.49	PPTV	98
6) Vinyl Chloride	5.32	62	18298	462.98	PPTV	99
7) 1,3-Butadiene	5.40	39	18485	451.30	PPTV	95
8) Bromomethane	6.15	94	13450	424.93	PPTV	95
9) Chloroethane	6.47	64	7554	462.46	PPTV	93
10) Trichlorofluoromethane	6.79	101	22470	426.38	PPTV	100
11) Bromoethene	6.72	106	11454	423.23	PPTV	97
12) 1,1-Dichloroethene	7.83	61	25832	444.85	PPTV	94
13) Acetone	8.97	43	38185	543.09	PPTV	97
14) Isopropyl Alcohol	8.79	45	32559	513.15	PPTV	95
15) Carbon Disulfide	7.87	76	39453	407.93	PPTV	97
16) Methylene Chloride	8.85	84	12332	447.31	PPTV	98
17) Freon 113	7.93	151	18559	425.15	PPTV	98
18) 3-chloro-1-propene	8.69	41	28341	470.90	PPTV	90
19) t-1,2-Dichloroethene	9.11	61	22514	446.30	PPTV	96
20) Methyl tert-butyl ether	9.32	73	39654	441.93	PPTV	96
21) Hexane	9.24	57	24048	394.86	PPTV	95
22) 1,1-Dichloroethane	10.02	63	27232	454.35	PPTV	99
23) Vinyl Acetate	10.35	43	54282	449.95	PPTV	100
24) c-1,2-Dichloroethene	10.73	96	13730	433.64	PPTV	96
25) Ethyl Acetate	11.21	43	52254	430.17	PPTV	95
26) 2-Butanone	11.46	43	44291	404.64	PPTV	99
27) Chloroform	11.06	83	28769	438.14	PPTV	99
28) Tetrahydrofuran	11.31	42	21413	456.86	PPTV	98
29) 2,2,4-Trimethylpentane	11.62	57	80652	427.44	PPTV	96
30) 1,2-Dichloroethane	12.04	62	19783	454.97	PPTV	97
31) 1,1,1-Trichloroethane	11.36	97	26072	450.00	PPTV	99
32) Cyclohexane	11.01	56	25742	430.60	PPTV	97
33) Carbon Tetrachloride	11.27	117	26438	560.60	PPTV	99
34) Benzene	11.81	78	41631	441.91	PPTV	99
35) Heptane	11.72	43	36024	444.67	PPTV	98
37) TLPH	14.15	TIC	132900m	522.23	PPTV	
38) 1,2-Dichloropropane	13.10	63	16482	457.37	PPTV	89
39) Trichloroethene	12.48	130	15999	433.22	PPTV	98
40) 1,4-Dioxane	13.38	88	8819	458.56	PPTV #	86
41) Bromodichloromethane	13.14	83	28000	429.74	PPTV	99
42) c-1,3-Dichloropropene	13.86	75	23655	455.22	PPTV	94
43) t-1,3-Dichloropropene	14.59	75	15647	443.15	PPTV	98
44) 1,1,2-Trichloroethane	14.78	97	14099	456.34	PPTV	99
45) Methyl Isobutyl Ketone	14.54	43	47782	459.48	PPTV	99
46) Toluene	14.15	92	28915	503.31	PPTV	99
47) 2-Hexanone	15.49	43	36646	448.26	PPTV	97
48) 1,2-Dibromoethane	15.33	107	21534	450.14	PPTV	100
49) Tetrachloroethene	14.60	166	19010	461.65	PPTV	99
50) Dibromochloromethane	15.01	127	18268	409.84	PPTV #	96
52) Chlorobenzene	15.92	112	27981	484.22	PPTV #	68
53) Ethylbenzene	15.91	106	15298	514.15	PPTV	99
54) m-Xylene & p-Xylene	16.07	106	37330	1041.50	PPTV	96
55) Styrene	16.65	104	21468	456.79	PPTV	94
56) o-Xylene	16.60	106	17418	504.24	PPTV	97
57) Bromoform	16.72	173	16224	412.99	PPTV	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ007.D Vial: 7
Acq On : 31 Dec 2020 4:48 pm Operator: rgg
Sample : aa64317-cal3 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:06 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Wed Dec 30 08:16:18 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.52	83	23908	570.79	PPTV	100
59) Bromofluorobenzene	17.33	174	368796	29195.31	PPTV	95
61) 4-ethyltoluene	17.58	105	31892	388.74	PPTV	97
62) 1,3,5-Trimethylbenzene	17.67	105	35793	547.47	PPTV	96
63) 1,2,4-Trimethylbenzene	18.17	105	32020	535.18	PPTV	96
64) 1,3-Dichlorobenzene	18.63	146	13757	380.03	PPTV	98
65) 1,4-Dichlorobenzene	18.74	146	10952	338.23	PPTV	96
66) Benzyl Chloride	19.03	91	6119	151.18	PPTV	95
67) 1,2-Dichlorobenzene	19.29	146	14354	447.12	PPTV	99
68) 1,2,4-Trichlorobenzene	21.21	180	2479	475.68	PPTV	93
69) Hexachlorobutadiene	21.13	225	16354	1070.21	PPTV	98

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ008.D Vial: 8
Acq On : 31 Dec 2020 5:27 pm Operator: rgg
Sample : aa64317-cal4 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:06 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Wed Dec 30 08:16:18 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.98	130	356879	31000.00	PPTV	0.00
36) 1,4-DIFLUOROBENZENE	12.49	114	1194813	31000.00	PPTV	0.01
51) D5-CHLOROBENZENE	15.90	117	889493	31000.00	PPTV	0.01
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.33	174	355694	29402.52	PPTV	0.01
Spiked Amount 31250.000	Range 50 - 150		Recovery = 94.09%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.54	85	93188	1110.22	PPTV	99
3) Propene	4.42	41	48185	1179.74	PPTV	97
4) Chloromethane	5.04	50	48822	1170.00	PPTV	97
5) Freon 114	4.91	135	53891	1077.32	PPTV	97
6) Vinyl Chloride	5.28	62	41778	1110.81	PPTV	100
7) 1,3-Butadiene	5.35	39	43944	1127.40	PPTV	96
8) Bromomethane	6.11	94	32798	1088.87	PPTV	98
9) Chloroethane	6.44	64	18022	1159.40	PPTV	98
10) Trichlorofluoromethane	6.76	101	53692	1070.63	PPTV	99
11) Bromoethene	6.68	106	27651	1073.65	PPTV	100
12) 1,1-Dichloroethene	7.81	61	61419	1111.46	PPTV	95
13) Acetone	8.96	43	84773	1266.99	PPTV	95
14) Isopropyl Alcohol	8.78	45	77275	1279.81	PPTV	97
15) Carbon Disulfide	7.84	76	94273	1024.30	PPTV	100
16) Methylene Chloride	8.83	84	28893	1101.29	PPTV	97
17) Freon 113	7.91	151	44119	1062.05	PPTV	97
18) 3-chloro-1-propene	8.67	41	65790	1148.70	PPTV	91
19) t-1,2-Dichloroethene	9.09	61	52564	1094.96	PPTV	97
20) Methyl tert-butyl ether	9.31	73	91932	1076.63	PPTV	93
21) Hexane	9.23	57	56539	975.53	PPTV	97
22) 1,1-Dichloroethane	10.01	63	63483	1113.03	PPTV	100
23) Vinyl Acetate	10.35	43	129884	1131.35	PPTV	100
24) c-1,2-Dichloroethene	10.73	96	31667	1051.00	PPTV	97
25) Ethyl Acetate	11.21	43	120584	1043.14	PPTV	94
26) 2-Butanone	11.46	43	105571	1013.52	PPTV	99
27) Chloroform	11.06	83	67989	1088.07	PPTV	99
28) Tetrahydrofuran	11.31	42	50222	1126.00	PPTV	99
29) 2,2,4-Trimethylpentane	11.62	57	192103	1069.85	PPTV	96
30) 1,2-Dichloroethane	12.04	62	46947	1134.57	PPTV	100
31) 1,1,1-Trichloroethane	11.35	97	61703	1119.12	PPTV	99
32) Cyclohexane	11.01	56	60421	1062.06	PPTV	98
33) Carbon Tetrachloride	11.27	117	62426	1390.99	PPTV	99
34) Benzene	11.81	78	96283	1073.99	PPTV	99
35) Heptane	11.71	43	85854	1113.63	PPTV	99
37) TLPH	14.15	TIC	293276m	1209.78	PPTV	
38) 1,2-Dichloropropane	13.10	63	37729	1099.08	PPTV	90
39) Trichloroethene	12.48	130	37962	1079.09	PPTV	99
40) 1,4-Dioxane	13.38	88	20475	1117.62	PPTV	92
41) Bromodichloromethane	13.14	83	66760	1075.60	PPTV	100
42) c-1,3-Dichloropropene	13.86	75	53901	1088.89	PPTV	99
43) t-1,3-Dichloropropene	14.59	75	35527	1056.27	PPTV	99
44) 1,1,2-Trichloroethane	14.79	97	32302	1097.54	PPTV	99
45) Methyl Isobutyl Ketone	14.55	43	114207	1152.89	PPTV	99
46) Toluene	14.15	92	64326	1175.41	PPTV	100
47) 2-Hexanone	15.49	43	86316	1108.38	PPTV	98
48) 1,2-Dibromoethane	15.33	107	50019	1097.61	PPTV	99
49) Tetrachloroethene	14.61	166	43922	1119.70	PPTV	99
50) Dibromochloromethane	15.01	127	44322	1043.85	PPTV	100
52) Chlorobenzene	15.92	112	63828	1153.39	PPTV	88
53) Ethylbenzene	15.91	106	34530	1211.80	PPTV	98
54) m-Xylene & p-Xylene	16.07	106	83678	2437.78	PPTV	96
55) Styrene	16.65	104	48279	1072.67	PPTV	99
56) o-Xylene	16.60	106	38283	1157.25	PPTV	96
57) Bromoform	16.72	173	37571	998.65	PPTV	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ008.D Vial: 8
Acq On : 31 Dec 2020 5:27 pm Operator: rgg
Sample : aa64317-cal4 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:06 2021 Quant Results File: 123120.RES

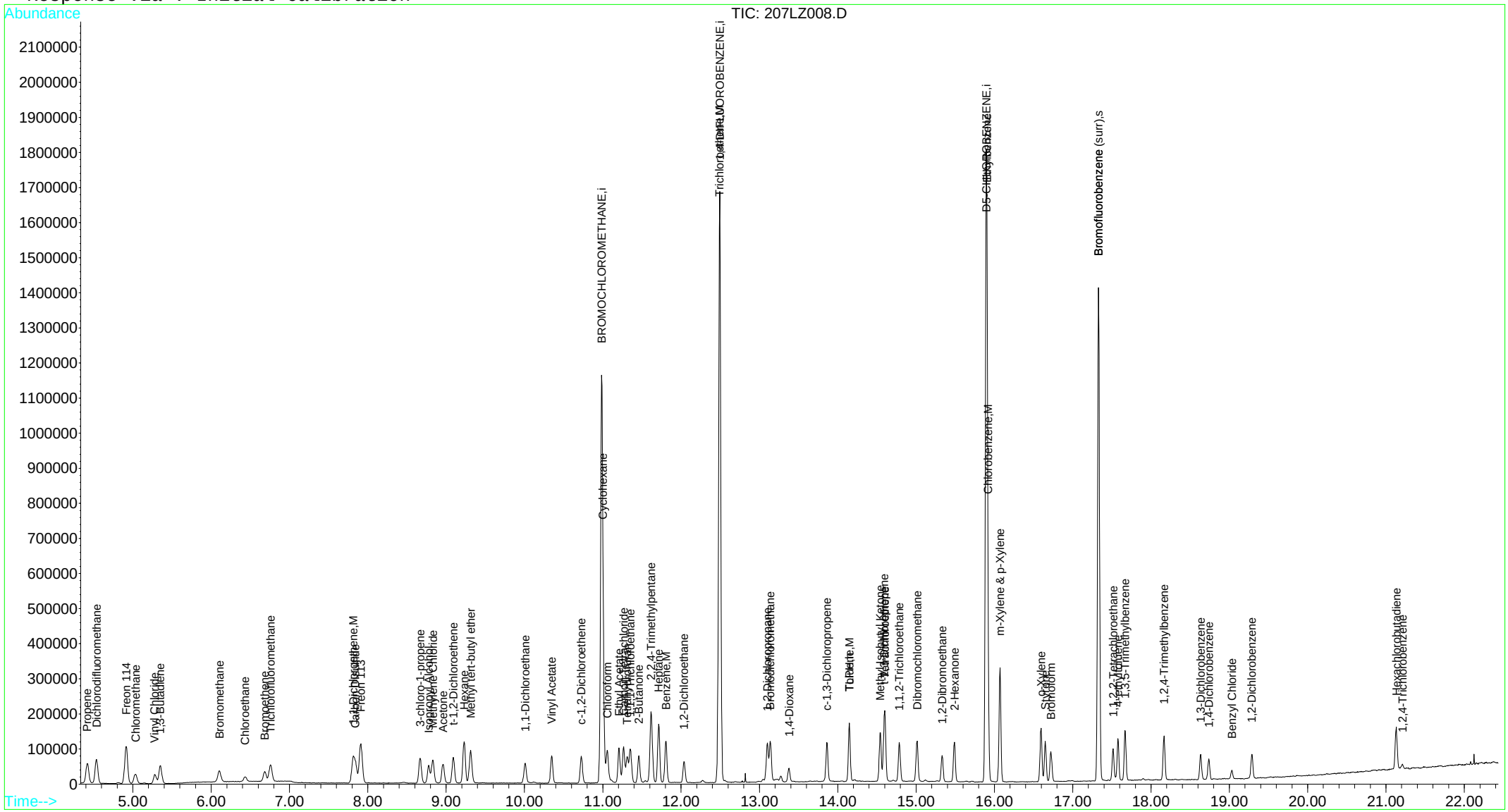
Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Wed Dec 30 08:16:18 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.52	83	48006	1196.76	PPTV	100
59) Bromofluorobenzene	17.33	174	355694	29402.52	PPTV	95
61) 4-ethyltoluene	17.58	105	76358	971.89	PPTV	98
62) 1,3,5-Trimethylbenzene	17.67	105	74334	1187.21	PPTV	95
63) 1,2,4-Trimethylbenzene	18.17	105	66067	1153.04	PPTV	97
64) 1,3-Dichlorobenzene	18.64	146	27385	789.93	PPTV	99
65) 1,4-Dichlorobenzene	18.74	146	21737	700.96	PPTV	98
66) Benzyl Chloride	19.03	91	15438	398.29	PPTV	95
67) 1,2-Dichlorobenzene	19.29	146	26754	870.20	PPTV	98
68) 1,2,4-Trichlorobenzene	21.21	180	3492	699.67	PPTV	94
69) Hexachlorobutadiene	21.13	225	21817	1490.80	PPTV	97

Quantitation Report

Data File : C:\HPCHEM\1\DATA\123120\207LZ008.D Vial: 8
Acq On : 31 Dec 2020 5:27 pm Operator: rgg
Sample : aa64317-cal4 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:06 2021 Quant Results File: 123120.RES

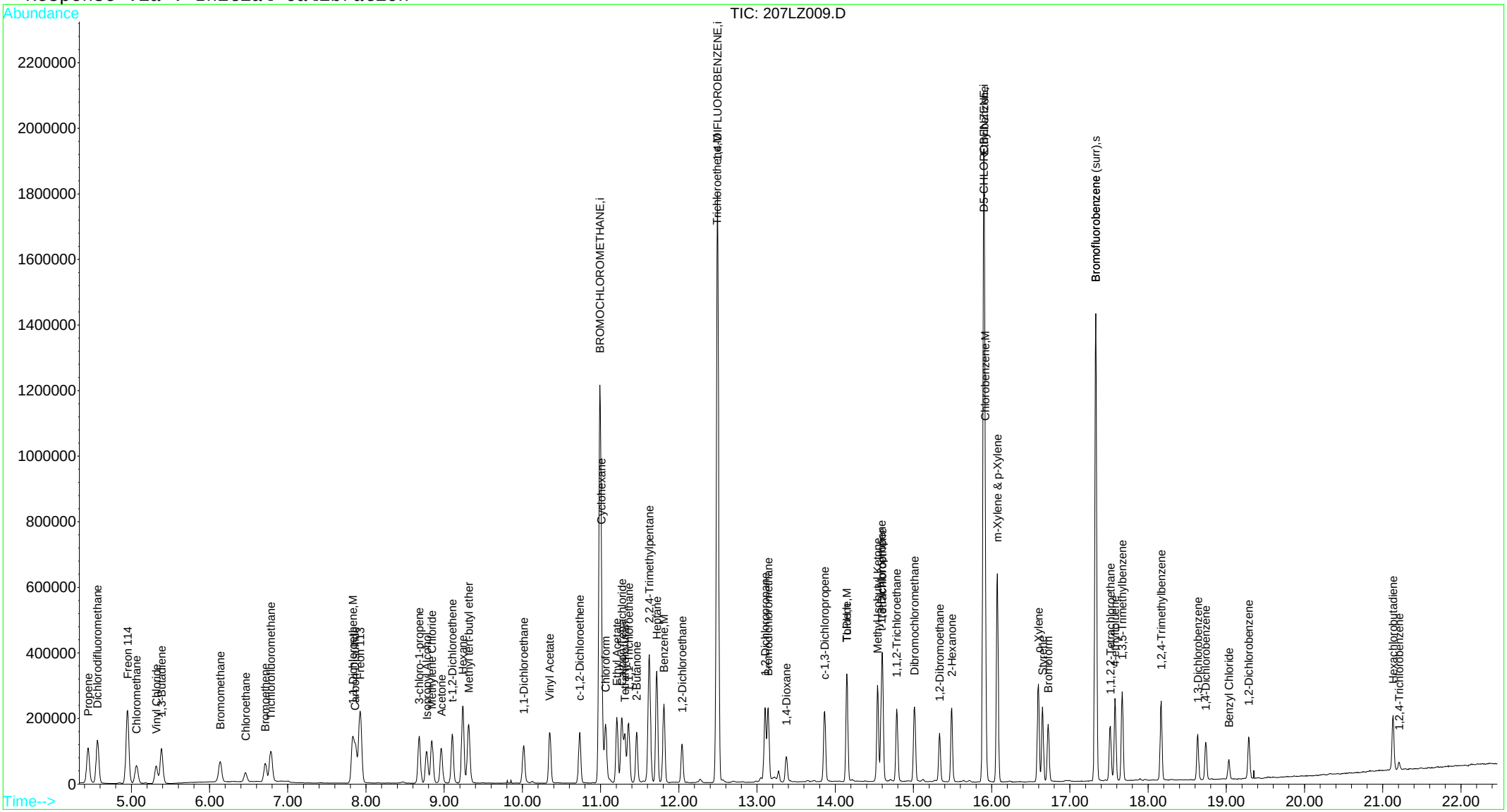
Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\123120\207LZ009.D Vial: 9
Acq On : 31 Dec 2020 6:08 pm Operator: rgg
Sample : aa64317-cal5 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:07 2021 Quant Results File: 123120.RES

Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ009.D Vial: 9
Acq On : 31 Dec 2020 6:08 pm Operator: rgg
Sample : aa64317-cal5 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:07 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Wed Dec 30 08:16:18 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.99	130	359052	31000.00	PPTV	0.01
36) 1,4-DIFLUOROBENZENE	12.49	114	1218151	31000.00	PPTV	0.01
51) D5-CHLOROBENZENE	15.90	117	912184	31000.00	PPTV	0.01
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.33	174	371094	29912.45	PPTV	0.01
Spiked Amount 31250.000	Range 50 - 150		Recovery = 95.72%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.57	85	183802	2176.51	PPTV	100
3) Propene	4.45	41	94378	2296.72	PPTV	96
4) Chloromethane	5.07	50	99095	2360.41	PPTV	99
5) Freon 114	4.95	135	112631	2237.94	PPTV	98
6) Vinyl Chloride	5.32	62	90546	2392.90	PPTV	100
7) 1,3-Butadiene	5.39	39	88127	2247.25	PPTV	94
8) Bromomethane	6.14	94	62797	2072.21	PPTV	100
9) Chloroethane	6.46	64	34999	2237.94	PPTV	97
10) Trichlorofluoromethane	6.78	101	105890	2098.70	PPTV	99
11) Bromoethene	6.71	106	55025	2123.61	PPTV	100
12) 1,1-Dichloroethene	7.83	61	122926	2211.05	PPTV	95
13) Acetone	8.96	43	171127	2542.13	PPTV	95
14) Isopropyl Alcohol	8.77	45	153736	2530.73	PPTV	99
15) Carbon Disulfide	7.86	76	189882	2050.63	PPTV	99
16) Methylene Chloride	8.84	84	56662	2146.67	PPTV	95
17) Freon 113	7.92	151	88075	2107.35	PPTV	97
18) 3-chloro-1-propene	8.68	41	129529	2247.90	PPTV	91
19) t-1,2-Dichloroethene	9.10	61	104711	2168.03	PPTV	98
20) Methyl tert-butyl ether	9.31	73	184656	2149.44	PPTV	94
21) Hexane	9.23	57	114922	1970.88	PPTV	95
22) 1,1-Dichloroethane	10.02	63	126101	2197.51	PPTV	99
23) Vinyl Acetate	10.35	43	257874	2232.61	PPTV	99
24) c-1,2-Dichloroethene	10.73	96	63259	2086.80	PPTV	99
25) Ethyl Acetate	11.21	43	243476	2093.50	PPTV	97
26) 2-Butanone	11.46	43	210657	2010.15	PPTV	98
27) Chloroform	11.06	83	134208	2134.82	PPTV	98
28) Tetrahydrofuran	11.31	42	100213	2233.22	PPTV	100
29) 2,2,4-Trimethylpentane	11.62	57	380524	2106.38	PPTV	96
30) 1,2-Dichloroethane	12.04	62	92558	2223.32	PPTV	100
31) 1,1,1-Trichloroethane	11.36	97	121201	2184.95	PPTV	99
32) Cyclohexane	11.02	56	120702	2108.82	PPTV	97
33) Carbon Tetrachloride	11.27	117	124514	2757.67	PPTV	100
34) Benzene	11.81	78	189769	2103.98	PPTV	100
35) Heptane	11.72	43	171236	2207.69	PPTV	99
37) TLPH	14.15	TIC	571028m	2310.39	PPTV	
38) 1,2-Dichloropropane	13.10	63	76047	2172.87	PPTV	89
39) Trichloroethene	12.48	130	74694	2082.54	PPTV	99
40) 1,4-Dioxane	13.37	88	40007	2141.93	PPTV	91
41) Bromodichloromethane	13.14	83	135312	2138.30	PPTV	99
42) c-1,3-Dichloropropene	13.87	75	104810	2076.77	PPTV	98
43) t-1,3-Dichloropropene	14.59	75	68672	2002.60	PPTV	98
44) 1,1,2-Trichloroethane	14.79	97	64777	2158.78	PPTV	98
45) Methyl Isobutyl Ketone	14.54	43	228604	2263.49	PPTV	99
46) Toluene	14.15	92	128404	2301.34	PPTV	100
47) 2-Hexanone	15.49	43	175278	2207.61	PPTV	98
48) 1,2-Dibromoethane	15.33	107	98464	2119.28	PPTV	99
49) Tetrachloroethene	14.61	166	87417	2185.82	PPTV	99
50) Dibromochloromethane	15.01	127	90036	2079.85	PPTV	99
52) Chlorobenzene	15.92	112	125453	2210.58	PPTV	94
53) Ethylbenzene	15.91	106	67505	2310.10	PPTV	98
54) m-Xylene & p-Xylene	16.07	106	165325	4696.58	PPTV	96
55) Styrene	16.65	104	98416	2132.22	PPTV	95
56) o-Xylene	16.60	106	76660	2259.70	PPTV	95
57) Bromoform	16.72	173	76878	1992.60	PPTV	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ009.D Vial: 9
Acq On : 31 Dec 2020 6:08 pm Operator: rgg
Sample : aa64317-cal5 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:07 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Wed Dec 30 08:16:18 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.52	83	91110	2214.82	PPTV	100
59) Bromofluorobenzene	17.33	174	371094	29912.45	PPTV	95
61) 4-ethyltoluene	17.58	105	158785	1970.76	PPTV	98
62) 1,3,5-Trimethylbenzene	17.67	105	142993	2226.97	PPTV	97
63) 1,2,4-Trimethylbenzene	18.17	105	127432	2168.69	PPTV	97
64) 1,3-Dichlorobenzene	18.64	146	52740	1483.45	PPTV	98
65) 1,4-Dichlorobenzene	18.74	146	43184	1357.93	PPTV	98
66) Benzyl Chloride	19.03	91	38529	969.29	PPTV	96
67) 1,2-Dichlorobenzene	19.29	146	49428	1567.71	PPTV	98
68) 1,2,4-Trichlorobenzene	21.21	180	7090	1385.24	PPTV	95
69) Hexachlorobutadiene	21.13	225	30720	2046.95	PPTV	97

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ010.D Vial: 10
Acq On : 31 Dec 2020 6:46 pm Operator: rgg
Sample : aa64317-cal6 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:07 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Wed Dec 30 08:16:18 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.99	130	364591	31000.00	PPTV	0.00
36) 1,4-DIFLUOROBENZENE	12.49	114	1225340	31000.00	PPTV	0.00
51) D5-CHLOROBENZENE	15.90	117	929328	31000.00	PPTV	0.00
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.33	174	391129	30945.79	PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 99.03%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.54	85	304656	3552.81	PPTV	100
3) Propene	4.42	41	155845	3734.91	PPTV	95
4) Chloromethane	5.03	50	170469	3998.82	PPTV	100
5) Freon 114	4.92	135	192290	3762.69	PPTV	96
6) Vinyl Chloride	5.28	62	153258	3988.68	PPTV	99
7) 1,3-Butadiene	5.35	39	150869	3788.73	PPTV	91
8) Bromomethane	6.11	94	109134	3546.55	PPTV	97
9) Chloroethane	6.44	64	59291	3733.65	PPTV	100
10) Trichlorofluoromethane	6.77	101	176450	3444.04	PPTV	100
11) Bromoethene	6.69	106	92099	3500.43	PPTV	98
12) 1,1-Dichloroethene	7.81	61	206075	3650.32	PPTV	95
13) Acetone	8.96	43	266186	3894.18	PPTV	95
14) Isopropyl Alcohol	8.77	45	256209	4153.51	PPTV	98
15) Carbon Disulfide	7.86	76	315452	3354.96	PPTV	99
16) Methylene Chloride	8.84	84	95275	3554.71	PPTV	96
17) Freon 113	7.92	151	143595	3383.57	PPTV	99
18) 3-chloro-1-propene	8.67	41	220497	3768.46	PPTV	89
19) t-1,2-Dichloroethene	9.10	61	178407	3637.77	PPTV	97
20) Methyl tert-butyl ether	9.31	73	311840	3574.74	PPTV	95
21) Hexane	9.23	57	195590	3303.35	PPTV	94
22) 1,1-Dichloroethane	10.02	63	212497	3646.84	PPTV	100
23) Vinyl Acetate	10.35	43	453337	3865.26	PPTV	100
24) c-1,2-Dichloroethene	10.73	96	106569	3462.10	PPTV	98
25) Ethyl Acetate	11.21	43	413985	3505.53	PPTV	98
26) 2-Butanone	11.46	43	364172	3422.24	PPTV	99
27) Chloroform	11.06	83	226528	3548.59	PPTV	98
28) Tetrahydrofuran	11.31	42	173919	3816.85	PPTV	100
29) 2,2,4-Trimethylpentane	11.62	57	631390	3441.94	PPTV	96
30) 1,2-Dichloroethane	12.04	62	157184	3718.33	PPTV	100
31) 1,1,1-Trichloroethane	11.36	97	199824	3547.60	PPTV	99
32) Cyclohexane	11.01	56	203453	3500.58	PPTV	96
33) Carbon Tetrachloride	11.27	117	203055	4428.83	PPTV	100
34) Benzene	11.81	78	307336	3355.68	PPTV	100
35) Heptane	11.72	43	289807	3679.62	PPTV	99
37) TLPH	14.15	TIC	845891m	3402.41	PPTV	
38) 1,2-Dichloropropane	13.10	63	126830	3602.61	PPTV	88
39) Trichloroethene	12.48	130	124804	3459.24	PPTV	99
40) 1,4-Dioxane	13.37	88	70736	3764.91	PPTV	99
41) Bromodichloromethane	13.14	83	237532	3731.64	PPTV	99
42) c-1,3-Dichloropropene	13.86	75	181762	3580.41	PPTV	99
43) t-1,3-Dichloropropene	14.59	75	120205	3484.82	PPTV	99
44) 1,1,2-Trichloroethane	14.79	97	109279	3620.51	PPTV	99
45) Methyl Isobutyl Ketone	14.54	43	404273	3979.37	PPTV	99
46) Toluene	14.15	92	190916	3401.65	PPTV	100
47) 2-Hexanone	15.49	43	327608	4101.98	PPTV	97
48) 1,2-Dibromoethane	15.33	107	173522	3712.87	PPTV	99
49) Tetrachloroethene	14.60	166	142200	3534.78	PPTV	98
50) Dibromochloromethane	15.01	127	169601	3894.84	PPTV	99
52) Chlorobenzene	15.92	112	214890	3716.67	PPTV	99
53) Ethylbenzene	15.91	106	107150	3599.15	PPTV	96
54) m-Xylene & p-Xylene	16.07	106	261801	7300.09	PPTV	96
55) Styrene	16.65	104	177794	3780.92	PPTV	95
56) o-Xylene	16.60	106	123126	3562.42	PPTV	95
57) Bromoform	16.72	173	160978	4095.42	PPTV	93

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ010.D Vial: 10
Acq On : 31 Dec 2020 6:46 pm Operator: rgg
Sample : aa64317-cal6 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:07 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Wed Dec 30 08:16:18 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.52	83	183143	4369.94	PPTV	99
59) Bromofluorobenzene	17.33	174	391129	30945.79	PPTV	94
61) 4-ethyltoluene	17.58	105	311994	3800.87	PPTV	99
62) 1,3,5-Trimethylbenzene	17.67	105	246459	3767.54	PPTV	98
63) 1,2,4-Trimethylbenzene	18.16	105	227659	3802.92	PPTV	96
64) 1,3-Dichlorobenzene	18.63	146	108351	2991.44	PPTV	98
65) 1,4-Dichlorobenzene	18.74	146	92565	2857.04	PPTV	97
66) Benzyl Chloride	19.03	91	106390	2627.11	PPTV	97
67) 1,2-Dichlorobenzene	19.29	146	103259	3214.64	PPTV	98
68) 1,2,4-Trichlorobenzene	21.21	180	12568	2410.23	PPTV	97
69) Hexachlorobutadiene	21.13	225	55889	3655.32	PPTV	98

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ010.D Vial: 10
Acq On : 31 Dec 2020 6:46 pm Operator: rgg
Sample : aa64317-cal6 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:07 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Wed Dec 30 08:16:18 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.99	130	364591	31000.00	PPTV	0.00
36) 1,4-DIFLUOROBENZENE	12.49	114	1225340	31000.00	PPTV	0.00
51) D5-CHLOROBENZENE	15.90	117	929328	31000.00	PPTV	0.00
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.33	174	391129	30945.79	PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 99.03%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.54	85	304656	3552.81	PPTV	100
3) Propene	4.42	41	155845	3734.91	PPTV	95
4) Chloromethane	5.03	50	170469	3998.82	PPTV	100
5) Freon 114	4.92	135	192290	3762.69	PPTV	96
6) Vinyl Chloride	5.28	62	153258	3988.68	PPTV	99
7) 1,3-Butadiene	5.35	39	150869	3788.73	PPTV	91
8) Bromomethane	6.11	94	109134	3546.55	PPTV	97
9) Chloroethane	6.44	64	59291	3733.65	PPTV	100
10) Trichlorofluoromethane	6.77	101	176450	3444.04	PPTV	100
11) Bromoethene	6.69	106	92099	3500.43	PPTV	98
12) 1,1-Dichloroethene	7.81	61	206075	3650.32	PPTV	95
13) Acetone	8.96	43	266186	3894.18	PPTV	95
14) Isopropyl Alcohol	8.77	45	256209	4153.51	PPTV	98
15) Carbon Disulfide	7.86	76	315452	3354.96	PPTV	99
16) Methylene Chloride	8.84	84	95275	3554.71	PPTV	96
17) Freon 113	7.92	151	143595	3383.57	PPTV	99
18) 3-chloro-1-propene	8.67	41	220497	3768.46	PPTV	89
19) t-1,2-Dichloroethene	9.10	61	178407	3637.77	PPTV	97
20) Methyl tert-butyl ether	9.31	73	311840	3574.74	PPTV	95
21) Hexane	9.23	57	195590	3303.35	PPTV	94
22) 1,1-Dichloroethane	10.02	63	212497	3646.84	PPTV	100
23) Vinyl Acetate	10.35	43	453337	3865.26	PPTV	100
24) c-1,2-Dichloroethene	10.73	96	106569	3462.10	PPTV	98
25) Ethyl Acetate	11.21	43	413985	3505.53	PPTV	98
26) 2-Butanone	11.46	43	364172	3422.24	PPTV	99
27) Chloroform	11.06	83	226528	3548.59	PPTV	98
28) Tetrahydrofuran	11.31	42	173919	3816.85	PPTV	100
29) 2,2,4-Trimethylpentane	11.62	57	631390	3441.94	PPTV	96
30) 1,2-Dichloroethane	12.04	62	157184	3718.33	PPTV	100
31) 1,1,1-Trichloroethane	11.36	97	199824	3547.60	PPTV	99
32) Cyclohexane	11.01	56	203453	3500.58	PPTV	96
33) Carbon Tetrachloride	11.27	117	203055	4428.83	PPTV	100
34) Benzene	11.81	78	307336	3355.68	PPTV	100
35) Heptane	11.72	43	289807	3679.62	PPTV	99
37) TLPH	14.15	TIC	845891m	3402.41	PPTV	
38) 1,2-Dichloropropane	13.10	63	126830	3602.61	PPTV	88
39) Trichloroethene	12.48	130	124804	3459.24	PPTV	99
40) 1,4-Dioxane	13.37	88	70736	3764.91	PPTV	99
41) Bromodichloromethane	13.14	83	237532	3731.64	PPTV	99
42) c-1,3-Dichloropropene	13.86	75	181762	3580.41	PPTV	99
43) t-1,3-Dichloropropene	14.59	75	120205	3484.82	PPTV	99
44) 1,1,2-Trichloroethane	14.79	97	109279	3620.51	PPTV	99
45) Methyl Isobutyl Ketone	14.54	43	404273	3979.37	PPTV	99
46) Toluene	14.15	92	190916	3401.65	PPTV	100
47) 2-Hexanone	15.49	43	327608	4101.98	PPTV	97
48) 1,2-Dibromoethane	15.33	107	173522	3712.87	PPTV	99
49) Tetrachloroethene	14.60	166	142200	3534.78	PPTV	98
50) Dibromochloromethane	15.01	127	169601	3894.84	PPTV	99
52) Chlorobenzene	15.92	112	214890	3716.67	PPTV	99
53) Ethylbenzene	15.91	106	107150	3599.15	PPTV	96
54) m-Xylene & p-Xylene	16.07	106	261801	7300.09	PPTV	96
55) Styrene	16.65	104	177794	3780.92	PPTV	95
56) o-Xylene	16.60	106	123126	3562.42	PPTV	95
57) Bromoform	16.72	173	160978	4095.42	PPTV	93

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ010.D Vial: 10
Acq On : 31 Dec 2020 6:46 pm Operator: rgg
Sample : aa64317-cal6 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:07 2021 Quant Results File: 123120.RES

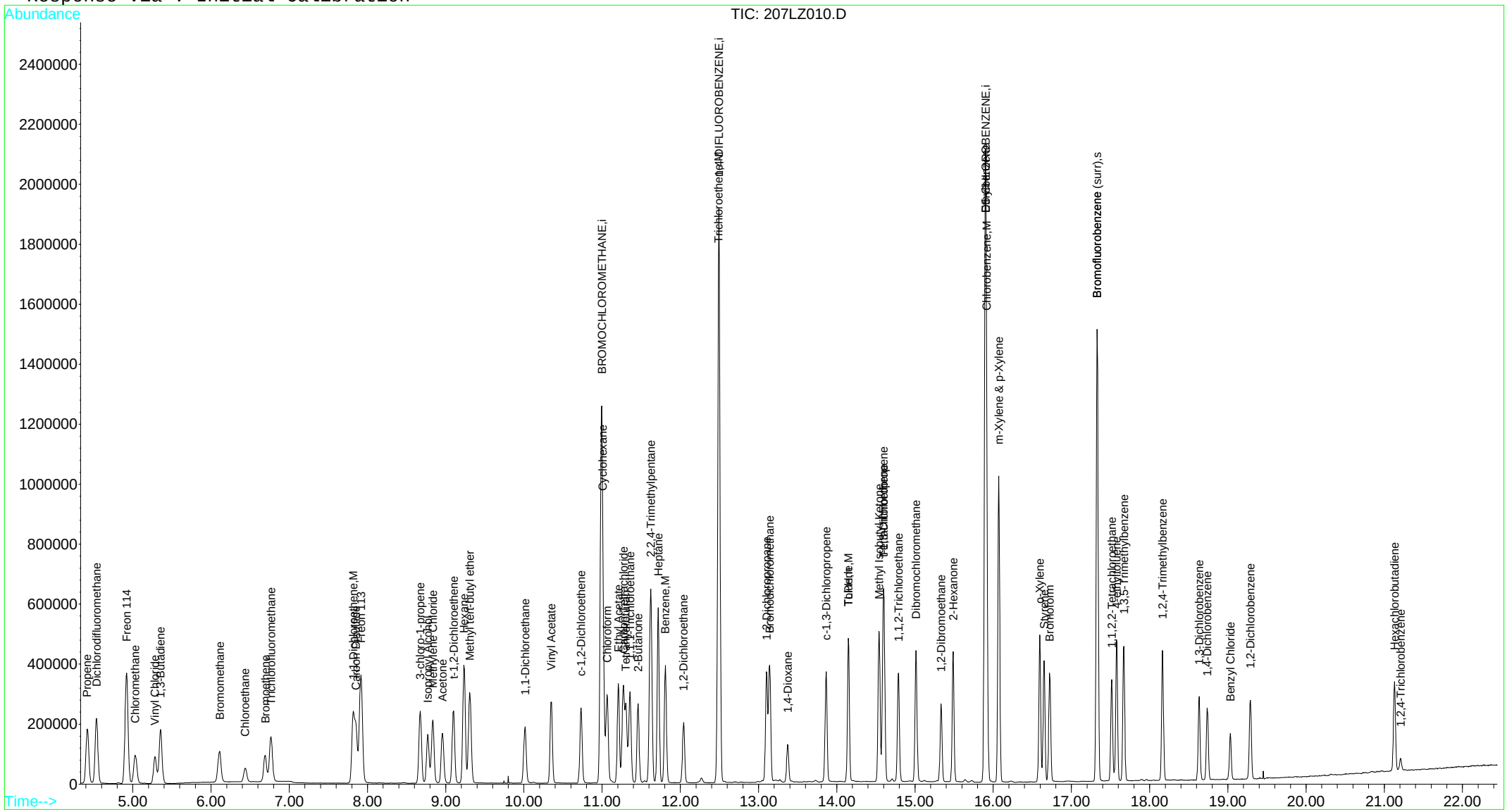
Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Wed Dec 30 08:16:18 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.52	83	183143	4369.94	PPTV	99
59) Bromofluorobenzene	17.33	174	391129	30945.79	PPTV	94
61) 4-ethyltoluene	17.58	105	311994	3800.87	PPTV	99
62) 1,3,5-Trimethylbenzene	17.67	105	246459	3767.54	PPTV	98
63) 1,2,4-Trimethylbenzene	18.16	105	227659	3802.92	PPTV	96
64) 1,3-Dichlorobenzene	18.63	146	108351	2991.44	PPTV	98
65) 1,4-Dichlorobenzene	18.74	146	92565	2857.04	PPTV	97
66) Benzyl Chloride	19.03	91	106390	2627.11	PPTV	97
67) 1,2-Dichlorobenzene	19.29	146	103259	3214.64	PPTV	98
68) 1,2,4-Trichlorobenzene	21.21	180	12568	2410.23	PPTV	97
69) Hexachlorobutadiene	21.13	225	55889	3655.32	PPTV	98

Quantitation Report

Data File : C:\HPCHEM\1\DATA\123120\207LZ010.D Vial: 10
Acq On : 31 Dec 2020 6:46 pm Operator: rgg
Sample : aa64317-cal6 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:07 2021 Quant Results File: 123120.RES

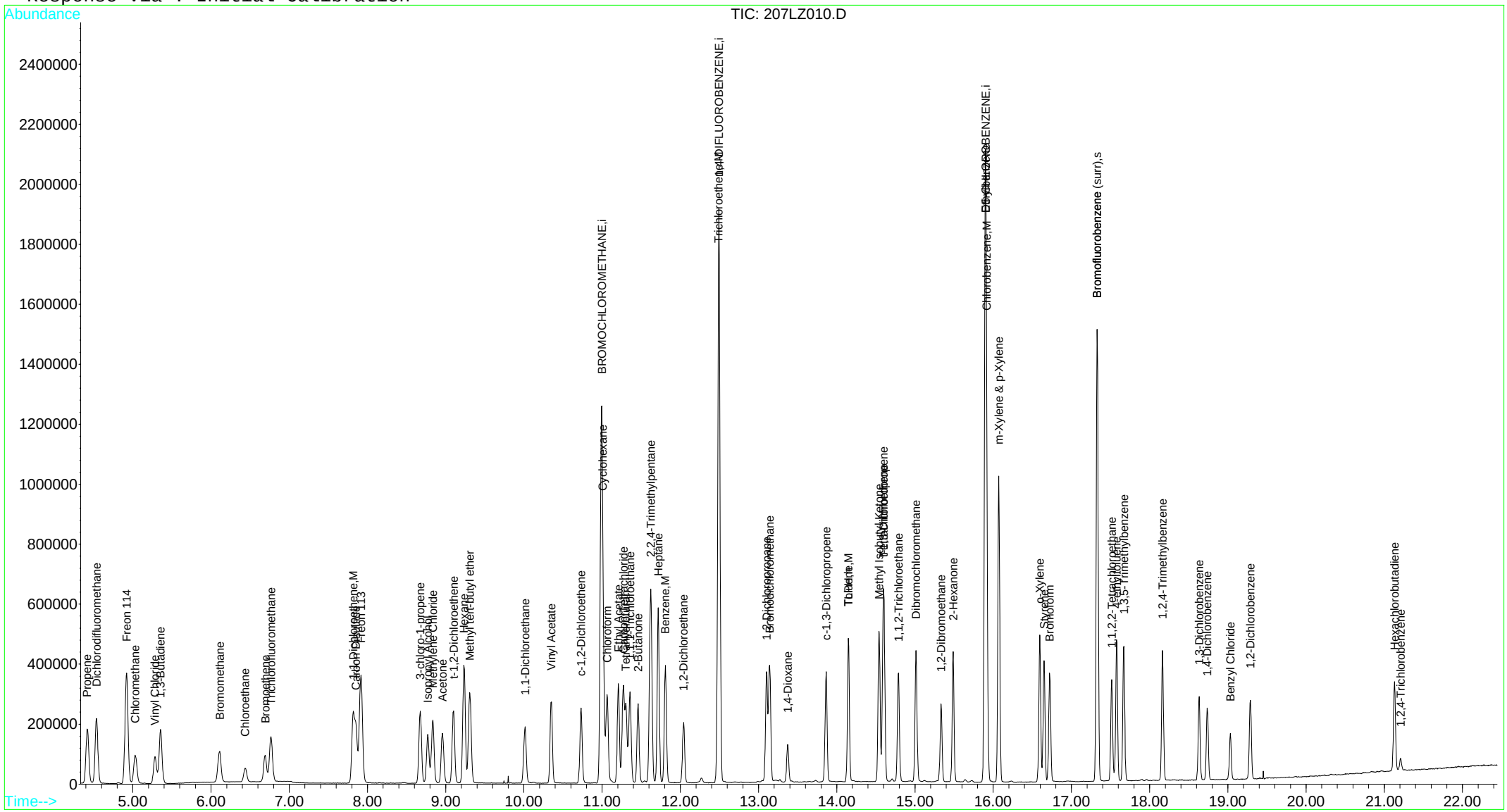
Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\123120\207LZ010.D Vial: 10
Acq On : 31 Dec 2020 6:46 pm Operator: rgg
Sample : aa64317-cal6 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:07 2021 Quant Results File: 123120.RES

Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration



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Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ011.D Vial: 11
Acq On : 31 Dec 2020 7:25 pm Operator: rgg
Sample : aa64317-cal7 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:08 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Wed Dec 30 08:16:18 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	11.00	130	368179	31000.00	PPTV	0.02
36) 1,4-DIFLUOROBENZENE	12.50	114	1236730	31000.00	PPTV	0.02
51) D5-CHLOROBENZENE	15.90	117	944742	31000.00	PPTV	0.01
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.33	174	410217	31926.47	PPTV	0.01
Spiked Amount 31250.000	Range 50 - 150		Recovery = 102.16%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.58	85	666992	7702.48	PPTV	99
3) Propene	4.45	41	357274	8478.83	PPTV	94
4) Chloromethane	5.08	50	376434	8744.25	PPTV	100
5) Freon 114	4.97	135	422073	8178.55	PPTV	97
6) Vinyl Chloride	5.33	62	338951	8735.54	PPTV	100
7) 1,3-Butadiene	5.40	39	330807	8226.51	PPTV	90
8) Bromomethane	6.15	94	229317	7379.53	PPTV	99
9) Chloroethane	6.47	64	131932	8227.00	PPTV	100
10) Trichlorofluoromethane	6.80	101	384077	7423.55	PPTV	99
11) Bromoethene	6.73	106	201855	7597.19	PPTV	98
12) 1,1-Dichloroethene	7.84	61	458743	8046.77	PPTV	95
13) Acetone	8.97	43	581666	8426.59	PPTV	94
14) Isopropyl Alcohol	8.78	45	573422	9205.40	PPTV	97
15) Carbon Disulfide	7.89	76	709127	7468.36	PPTV	98
16) Methylene Chloride	8.85	84	210992	7795.39	PPTV	96
17) Freon 113	7.94	151	321612	7504.38	PPTV	97
18) 3-chloro-1-propene	8.70	41	497917	8426.84	PPTV	90
19) t-1,2-Dichloroethene	9.12	61	395809	7992.01	PPTV	96
20) Methyl tert-butyl ether	9.32	73	691731	7852.30	PPTV	96
21) Hexane	9.25	57	418803	7004.30	PPTV	94
22) 1,1-Dichloroethane	10.03	63	470452	7995.15	PPTV	100
23) Vinyl Acetate	10.36	43	1011739	8542.26	PPTV	99
24) c-1,2-Dichloroethene	10.74	96	241098	7756.21	PPTV	98
25) Ethyl Acetate	11.21	43	923749	7745.86	PPTV	98
26) 2-Butanone	11.47	43	800805	7452.07	PPTV	99
27) Chloroform	11.07	83	493586	7656.75	PPTV	98
28) Tetrahydrofuran	11.31	42	384518	8356.45	PPTV	100
29) 2,2,4-Trimethylpentane	11.63	57	1408896	7605.56	PPTV	96
30) 1,2-Dichloroethane	12.05	62	345702	8098.21	PPTV	100
31) 1,1,1-Trichloroethane	11.36	97	435860	7662.69	PPTV	99
32) Cyclohexane	11.03	56	455935	7768.29	PPTV	96
33) Carbon Tetrachloride	11.28	117	438843	9478.32	PPTV	100
34) Benzene	11.81	78	682115	7375.16	PPTV	100
35) Heptane	11.72	43	638921	8033.20	PPTV	99
37) TLPH	14.15	TIC	1854857m	7392.05	PPTV	
38) 1,2-Dichloropropane	13.11	63	283597	7981.40	PPTV	87
39) Trichloroethene	12.49	130	281675	7735.38	PPTV	99
40) 1,4-Dioxane	13.37	88	159163	8393.41	PPTV	98
41) Bromodichloromethane	13.14	83	519950	8093.22	PPTV	99
42) c-1,3-Dichloropropene	13.87	75	402479	7855.16	PPTV	99
43) t-1,3-Dichloropropene	14.59	75	265290	7620.10	PPTV	99
44) 1,1,2-Trichloroethane	14.79	97	246468	8090.49	PPTV	99
45) Methyl Isobutyl Ketone	14.54	43	907701	8852.46	PPTV	98
46) Toluene	14.15	92	421254	7436.58	PPTV	99
47) 2-Hexanone	15.49	43	756575	9385.84	PPTV	96
48) 1,2-Dibromoethane	15.33	107	387810	8221.58	PPTV	99
49) Tetrachloroethene	14.61	166	320226	7886.81	PPTV	98
50) Dibromochloromethane	15.01	127	375340	8540.19	PPTV	99
52) Chlorobenzene	15.92	112	483733	8230.00	PPTV	95
53) Ethylbenzene	15.91	106	239601	7916.84	PPTV	94
54) m-Xylene & p-Xylene	16.07	106	591388	16221.29	PPTV	94
55) Styrene	16.65	104	413823	8656.67	PPTV	93
56) o-Xylene	16.60	106	275681	7846.17	PPTV	94
57) Bromoform	16.72	173	367630	9200.23	PPTV	92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ011.D Vial: 11
Acq On : 31 Dec 2020 7:25 pm Operator: rgg
Sample : aa64317-cal7 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:08 2021 Quant Results File: 123120.RES

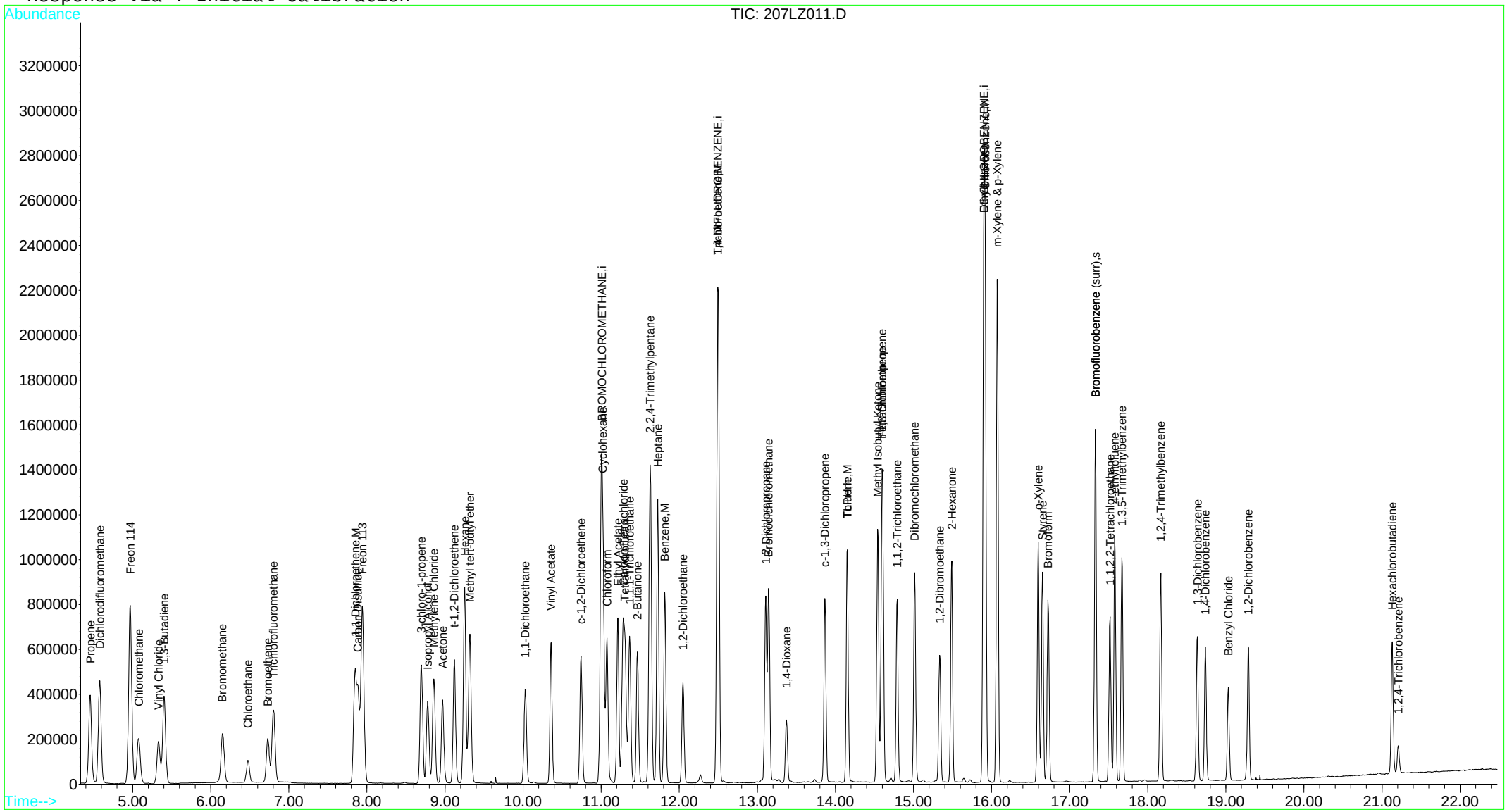
Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Wed Dec 30 08:16:18 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.52	83	406752	9547.08	PPTV	100
59) Bromofluorobenzene	17.33	174	410217	31926.47	PPTV	94
61) 4-ethyltoluene	17.58	105	717240	8595.23	PPTV	98
62) 1,3,5-Trimethylbenzene	17.67	105	537669	8085.08	PPTV	96
63) 1,2,4-Trimethylbenzene	18.17	105	511139	8398.99	PPTV	97
64) 1,3-Dichlorobenzene	18.63	146	262216	7121.35	PPTV	98
65) 1,4-Dichlorobenzene	18.74	146	230497	6998.26	PPTV	98
66) Benzyl Chloride	19.03	91	292618	7107.78	PPTV	96
67) 1,2-Dichlorobenzene	19.29	146	242964	7440.51	PPTV	98
68) 1,2,4-Trichlorobenzene	21.21	180	40219	7587.15	PPTV	98
69) Hexachlorobutadiene	21.13	225	114213	7348.02	PPTV	97

Quantitation Report

Data File : C:\HPCHEM\1\DATA\123120\207LZ011.D Vial: 11
Acq On : 31 Dec 2020 7:25 pm Operator: rgg
Sample : aa64317-cal7 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:08 2021 Quant Results File: 123120.RES

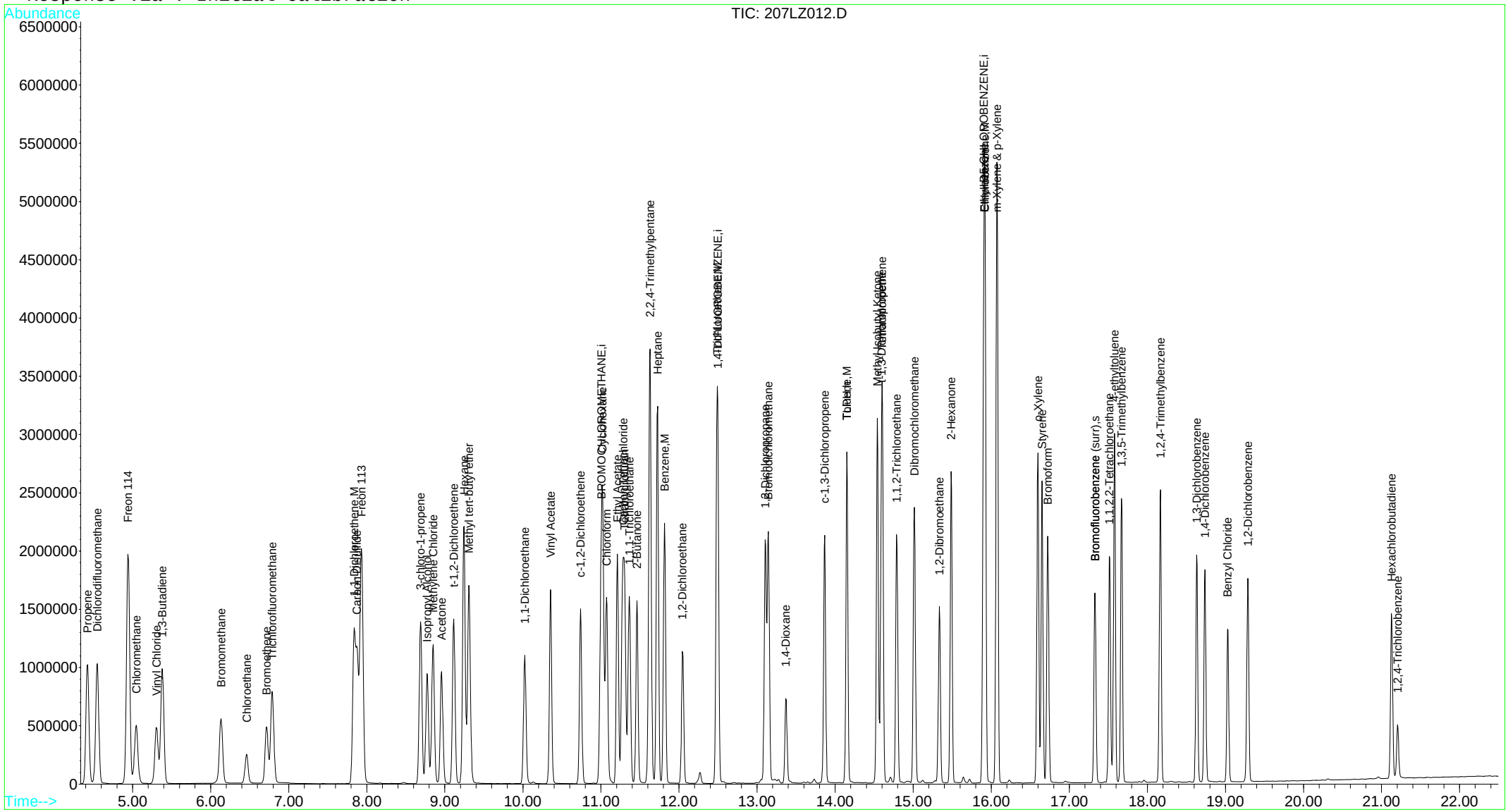
Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\123120\207LZ012.D Vial: 12
Acq On : 31 Dec 2020 8:06 pm Operator: rgg
Sample : aa64317-cal8 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:08 2021 Quant Results File: 123120.RES

Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ012.D Vial: 12
Acq On : 31 Dec 2020 8:06 pm Operator: rgg
Sample : aa64317-cal8 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:08 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Wed Dec 30 08:16:18 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	11.00	130	377607	31000.00	PPTV	0.02
36) 1,4-DIFLUOROBENZENE	12.50	114	1273648	31000.00	PPTV	0.02
51) D5-CHLOROBENZENE	15.90	117	978882	31000.00	PPTV	0.01
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.33	174	447361	33603.02	PPTV	0.01
Spiked Amount 31250.000	Range 50 - 150		Recovery = 107.53%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.55	85	1650316	18582.14	PPTV	99
3) Propene	4.42	41	949109	21961.89	PPTV	94
4) Chloromethane	5.05	50	990048	22423.78	PPTV	100
5) Freon 114	4.94	135	1086433	20526.30	PPTV	96
6) Vinyl Chloride	5.30	62	901148	22644.77	PPTV	100
7) 1,3-Butadiene	5.38	39	868642	21062.06	PPTV	89
8) Bromomethane	6.13	94	602130	18893.04	PPTV	100
9) Chloroethane	6.46	64	343511	20885.79	PPTV	99
10) Trichlorofluoromethane	6.79	101	980162	18471.85	PPTV	100
11) Bromoethene	6.72	106	530297	19460.39	PPTV	99
12) 1,1-Dichloroethene	7.84	61	1198590	20499.44	PPTV	93
13) Acetone	8.96	43	1548597	21874.37	PPTV	93
14) Isopropyl Alcohol	8.77	45	1549480	24253.42	PPTV	96
15) Carbon Disulfide	7.88	76	1939488	19916.25	PPTV	97
16) Methylene Chloride	8.85	84	568447	20477.69	PPTV	94
17) Freon 113	7.93	151	869906	19791.28	PPTV	96
18) 3-chloro-1-propene	8.69	41	1350023	22277.57	PPTV	88
19) t-1,2-Dichloroethene	9.12	61	1056029	20790.52	PPTV	95
20) Methyl tert-butyl ether	9.31	73	1851173	20489.24	PPTV	98
21) Hexane	9.25	57	1147511	18712.45	PPTV	91
22) 1,1-Dichloroethane	10.02	63	1258384	20851.79	PPTV	100
23) Vinyl Acetate	10.35	43	2789022	22960.16	PPTV	99
24) c-1,2-Dichloroethene	10.74	96	645475	20246.72	PPTV	98
25) Ethyl Acetate	11.21	43	2492957	20382.13	PPTV	98
26) 2-Butanone	11.46	43	2181453	19793.16	PPTV	99
27) Chloroform	11.07	83	1287532	19474.14	PPTV	98
28) Tetrahydrofuran	11.30	42	1022299	21662.18	PPTV	99
29) 2,2,4-Trimethylpentane	11.63	57	3835079	20185.79	PPTV	94
30) 1,2-Dichloroethane	12.04	62	883810	20186.68	PPTV	100
31) 1,1,1-Trichloroethane	11.36	97	1098397	18828.36	PPTV	99
32) Cyclohexane	11.02	56	1223613	20327.57	PPTV	95
33) Carbon Tetrachloride	11.28	117	1099348	23151.34	PPTV	100
34) Benzene	11.82	78	1859729	19605.70	PPTV	99
35) Heptane	11.73	43	1691409	20735.24	PPTV	98
37) TLPH	14.15	TIC	4967101m	19221.30	PPTV	
38) 1,2-Dichloropropane	13.10	63	769391	21025.67	PPTV	83
39) Trichloroethene	12.48	130	760710	20285.14	PPTV	98
40) 1,4-Dioxane	13.37	88	437116	22383.00	PPTV	96
41) Bromodichloromethane	13.15	83	1351642	20428.98	PPTV	99
42) c-1,3-Dichloropropene	13.87	75	1099799	20842.54	PPTV	99
43) t-1,3-Dichloropropene	14.59	75	676607	18871.30	PPTV	96
44) 1,1,2-Trichloroethane	14.79	97	666024	21229.01	PPTV	100
45) Methyl Isobutyl Ketone	14.54	43	2488556	23566.45	PPTV	97
46) Toluene	14.15	92	1154438	19789.05	PPTV	99
47) 2-Hexanone	15.48	43	2093242	25215.41	PPTV	96
48) 1,2-Dibromoethane	15.33	107	1060379	21828.46	PPTV	100
49) Tetrachloroethene	14.61	166	846024	20232.65	PPTV	99
50) Dibromochloromethane	15.02	127	997174	22031.25	PPTV	98
52) Chlorobenzene	15.92	112	1287592	21142.44	PPTV	91
53) Ethylbenzene	15.91	106	626267	19971.27	PPTV	94
54) m-Xylene & p-Xylene	16.07	106	1534810	40630.33	PPTV	93
55) Styrene	16.65	104	1177981	23782.49	PPTV	90
56) o-Xylene	16.60	106	760894	20900.57	PPTV	91
57) Bromoform	16.72	173	1006800	24317.21	PPTV #	90

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ012.D Vial: 12
Acq On : 31 Dec 2020 8:06 pm Operator: rgg
Sample : aa64317-cal8 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:08 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Wed Dec 30 08:16:18 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
58)	1,1,2,2-Tetrachloroethane	17.51	83	1143558	25904.91	PPTV		99
59)	Bromofluorobenzene	17.33	174	447361	33603.02	PPTV	#	94
61)	4-ethyltoluene	17.58	105	2029605	23474.01	PPTV		98
62)	1,3,5-Trimethylbenzene	17.67	105	1427187	20712.52	PPTV		95
63)	1,2,4-Trimethylbenzene	18.17	105	1409454	22352.27	PPTV		95
64)	1,3-Dichlorobenzene	18.63	146	829462	21741.14	PPTV		96
65)	1,4-Dichlorobenzene	18.74	146	762464	22342.24	PPTV		96
66)	Benzyl Chloride	19.03	91	979021	22951.34	PPTV		95
67)	1,2-Dichlorobenzene	19.29	146	735759	21745.99	PPTV		97
68)	1,2,4-Trichlorobenzene	21.21	180	149928	27296.88	PPTV		98
69)	Hexachlorobutadiene	21.13	225	296229	18393.55	PPTV		97

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ013.D Vial: 13
Acq On : 31 Dec 2020 8:51 pm Operator: rgg
Sample : aa64317-cal9 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:09 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Wed Dec 30 08:16:18 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) BROMOCHLOROMETHANE	11.00	130	394710	31000.00	PPTV	0.02
36) 1,4-DIFLUOROBENZENE	12.50	114	1251209	31000.00	PPTV	0.02
51) D5-CHLOROBENZENE	15.90	117	933690	31000.00	PPTV	0.01
System Monitoring Compounds						
60) Bromofluorobenzene (surr)	17.33	174	473452	37284.11	PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 119.31%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.53	85	2703251	29119.04	PPTV	99
3) Propene	4.41	41	1988669	44022.85	PPTV	93
4) Chloromethane	5.03	50	2019848	43765.62	PPTV	99
5) Freon 114	4.93	135	2138416	38651.10	PPTV	97
6) Vinyl Chloride	5.29	62	1827584	43935.03	PPTV	100
7) 1,3-Butadiene	5.37	39	1782193	41340.59	PPTV	89
8) Bromomethane	6.13	94	1222145	36685.64	PPTV	99
9) Chloroethane	6.46	64	706315	41083.79	PPTV	99
10) Trichlorofluoromethane	6.79	101	1923660	34681.89	PPTV	100
11) Bromoethene	6.72	106	1070655	37587.54	PPTV	99
12) 1,1-Dichloroethene	7.84	61	2468976	40397.09	PPTV	89
13) Acetone	8.96	43	3213033	43418.44	PPTV	91
14) Isopropyl Alcohol	8.77	45	3304376	49481.00	PPTV	94
15) Carbon Disulfide	7.88	76	4179082	41054.73	PPTV	96
16) Methylene Chloride	8.85	84	1225977	42250.83	PPTV	93
17) Freon 113	7.94	151	1752110	38135.09	PPTV	97
18) 3-chloro-1-propene	8.70	41	2856462	45093.81	PPTV	85
19) t-1,2-Dichloroethene	9.12	61	2197152	41382.00	PPTV	93
20) Methyl tert-butyl ether	9.31	73	3809304	40335.40	PPTV	98
21) Hexane	9.25	57	2398883	37423.53	PPTV	89
22) 1,1-Dichloroethane	10.03	63	2688626	42620.88	PPTV	99
23) Vinyl Acetate	10.36	43	6008399	47319.89	PPTV	99
24) c-1,2-Dichloroethene	10.74	96	1390170	41716.23	PPTV	96
25) Ethyl Acetate	11.21	43	5274344	41253.91	PPTV	98
26) 2-Butanone	11.46	43	4647836	40344.29	PPTV	98
27) Chloroform	11.07	83	2590128	37478.61	PPTV	99
28) Tetrahydrofuran	11.31	42	2065412	41869.02	PPTV	97
29) 2,2,4-Trimethylpentane	11.63	57	7860039	39578.38	PPTV	92
30) 1,2-Dichloroethane	12.05	62	1666019	36403.90	PPTV	100
31) 1,1,1-Trichloroethane	11.37	97	2093432	34330.01	PPTV	98
32) Cyclohexane	11.02	56	2566019	40781.51	PPTV	93
33) Carbon Tetrachloride	11.28	117	2012569	40546.53	PPTV	99
34) Benzene	11.82	78	3936436	39700.68	PPTV	99
35) Heptane	11.73	43	3329453	39047.69	PPTV	97
37) TLPH	14.15	TIC	9869604m	38877.56	PPTV	
38) 1,2-Dichloropropane	13.10	63	1619118	45040.26	PPTV	79
39) Trichloroethene	12.49	130	1525491	41408.36	PPTV	97
40) 1,4-Dioxane	13.37	88	947832	49405.18	PPTV	93
41) Bromodichloromethane	13.15	83	2621369	40330.42	PPTV	99
42) c-1,3-Dichloropropene	13.87	75	2276397	43914.18	PPTV	98
43) t-1,3-Dichloropropene	14.59	75	1268338	36009.74	PPTV	95
44) 1,1,2-Trichloroethane	14.79	97	1370138	44455.31	PPTV	99
45) Methyl Isobutyl Ketone	14.54	43	5036853	48554.06	PPTV	96
46) Toluene	14.15	92	2340557	40840.70	PPTV	98
47) 2-Hexanone	15.49	43	4414774	54134.57	PPTV	94
48) 1,2-Dibromoethane	15.34	107	2168654	45443.51	PPTV	100
49) Tetrachloroethene	14.61	166	1543894	37584.36	PPTV	99
50) Dibromochloromethane	15.02	127	1903842	42817.24	PPTV	97
52) Chlorobenzene	15.93	112	2390652	41154.83	PPTV	90
53) Ethylbenzene	15.91	106	1148334	38392.12	PPTV	95
54) m-Xylene & p-Xylene	16.08	106	2776919	77070.22	PPTV	94
55) Styrene	16.65	104	2423377	51294.14	PPTV	87
56) o-Xylene	16.60	106	1532559	44134.55	PPTV	91
57) Bromoform	16.73	173	1923512	48707.20	PPTV #	88

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ013.D Vial: 13
Acq On : 31 Dec 2020 8:51 pm Operator: rgg
Sample : aa64317-cal9 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:09 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Wed Dec 30 08:16:18 2020
Response via : Initial Calibration
DataAcq Meth : AIR19JW

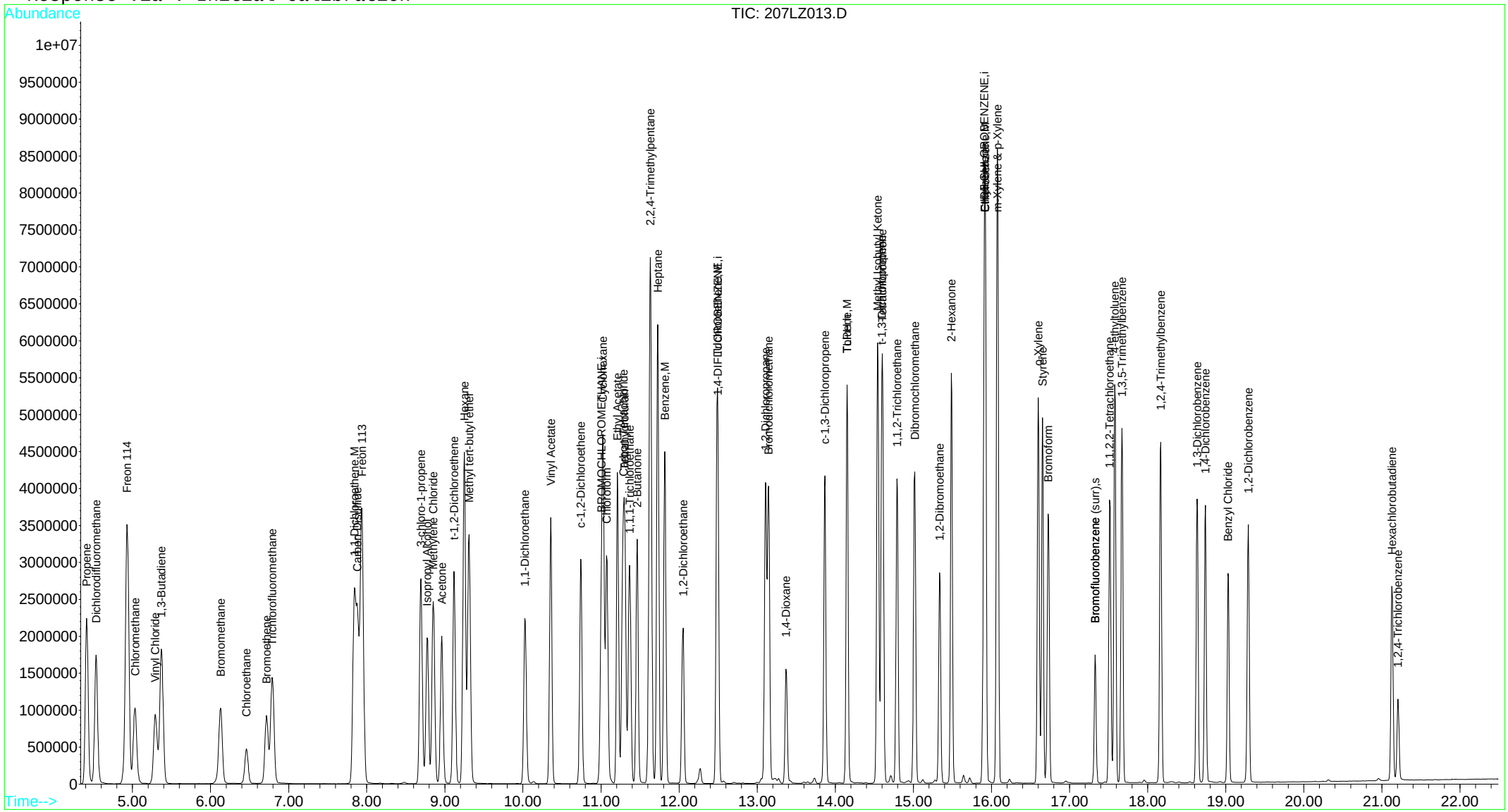
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
58)	1,1,2,2-Tetrachloroethane	17.51	83	2385492	56653.87	PPTV		99
59)	Bromofluorobenzene	17.33	174	473452	37284.11	PPTV	#	93
61)	4-ethyltoluene	17.58	105	3998054	48478.82	PPTV		98
62)	1,3,5-Trimethylbenzene	17.67	105	2869311	43657.34	PPTV		95
63)	1,2,4-Trimethylbenzene	18.17	105	2797836	46517.97	PPTV		94
64)	1,3-Dichlorobenzene	18.63	146	1756209	48260.26	PPTV		96
65)	1,4-Dichlorobenzene	18.74	146	1648810	50653.06	PPTV		96
66)	Benzyl Chloride	19.03	91	2190726	53843.31	PPTV		94
67)	1,2-Dichlorobenzene	19.29	146	1543708	47833.97	PPTV		96
68)	1,2,4-Trichlorobenzene	21.21	180	366574	69971.25	PPTV		98
69)	Hexachlorobutadiene	21.13	225	581304	37841.55	PPTV		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\123120\207LZ013.D Vial: 13
Acq On : 31 Dec 2020 8:51 pm Operator: rgg
Sample : aa64317-cal9 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 1 15:09 2021 Quant Results File: 123120.RES

Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ017.D Vial: 17
Acq On : 31 Dec 2020 11:23 pm Operator: rgg
Sample : aa64317-scv1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 4 11:07 2021 Quant Results File: 123120.RES

Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) BROMOCHLOROMETHANE	10.99	130	376726	31000.00 PPTV	0.00
36) 1,4-DIFLUOROBENZENE	12.50	114	1252079	31000.00 PPTV	0.00
51) D5-CHLOROBENZENE	15.89	117	969254	31000.00 PPTV	0.00
System Monitoring Compounds					
60) Bromofluorobenzene (surr)	17.33	174	415926	31383.15 PPTV	0.00
Spiked Amount 31250.000	Range 50 - 150		Recovery = 100.43%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	4.53	85	791215	11016.94 PPTV	99
3) Propene	4.41	41	367872	8726.50 PPTV	96
4) Chloromethane	5.03	50	390994	9837.78 PPTV	100
5) Freon 114	4.93	135	456743	10395.42 PPTV	99
6) Vinyl Chloride	5.29	62	362428	10251.71 PPTV	100
7) 1,3-Butadiene	5.36	39	356033	9793.81 PPTV	93
8) Bromomethane	6.12	94	278139	10617.75 PPTV	99
9) Chloroethane	6.45	64	148910	10238.59 PPTV	100
10) Trichlorofluoromethane	6.78	101	453239	10848.28 PPTV	100
11) Bromoethene	6.70	106	223923	10257.32 PPTV	100
12) 1,1-Dichloroethene	7.82	61	532716	10829.48 PPTV	95
13) Acetone	8.95	43	637917	10044.13 PPTV	95
14) Isopropyl Alcohol	8.77	45	633006	9813.77 PPTV	97
15) Carbon Disulfide	7.86	76	780946	9690.12 PPTV	98
16) Methylene Chloride	8.84	84	247414	10951.91 PPTV	96
17) Freon 113	7.92	151	376072	10629.49 PPTV	98
18) 3-chloro-1-propene	8.68	41	544603	10035.19 PPTV	90
19) t-1,2-Dichloroethene	9.10	61	442968	10409.95 PPTV	97
20) Methyl tert-butyl ether	9.30	73	769030	10246.85 PPTV	96
21) Hexane	9.24	57	488300	10577.97 PPTV	93
22) 1,1-Dichloroethane	10.02	63	550876	10676.10 PPTV	100
23) Vinyl Acetate	10.35	43	1152121	10686.36 PPTV	100
24) c-1,2-Dichloroethene	10.73	96	280659	10671.91 PPTV	98
25) Ethyl Acetate	11.21	43	1034194	10227.45 PPTV	98
26) 2-Butanone	11.46	43	895391	10160.04 PPTV	99
27) Chloroform	11.06	83	580575	10686.55 PPTV	98
28) Tetrahydrofuran	11.30	42	432796	10450.19 PPTV	100
29) 2,2,4-Trimethylpentane	11.62	57	1582878	10086.02 PPTV	96
30) 1,2-Dichloroethane	12.04	62	407075	10935.39 PPTV	99
31) 1,1,1-Trichloroethane	11.36	97	515546	10709.83 PPTV	99
32) Cyclohexane	11.02	56	505035	10230.56 PPTV	96
33) Carbon Tetrachloride	11.27	117	507125	10509.10 PPTV	100
34) Benzene	11.81	78	817273	10133.51 PPTV	99
35) Heptane	11.72	43	708712	10159.78 PPTV	99
37) TLPH	14.15	TIC	2208858m	11228.36 PPTV	
38) 1,2-Dichloropropane	13.10	63	333205	10588.12 PPTV	87
39) Trichloroethene	12.48	130	330282	10693.64 PPTV	98
40) 1,4-Dioxane	13.37	88	172392	9979.01 PPTV	100
41) Bromodichloromethane	13.14	83	582950	10838.17 PPTV	100
42) c-1,3-Dichloropropene	13.86	75	513102	11188.24 PPTV	99
43) t-1,3-Dichloropropene	14.59	75	410707	15443.17 PPTV	98
44) 1,1,2-Trichloroethane	14.79	97	292736	10588.17 PPTV	99
45) Methyl Isobutyl Ketone	14.54	43	995476	10529.31 PPTV	98
46) Toluene	14.15	92	503525	10853.35 PPTV	100
47) 2-Hexanone	15.49	43	875658	11376.67 PPTV	97
48) 1,2-Dibromoethane	15.33	107	473414	10879.66 PPTV	99
49) Tetrachloroethene	14.60	166	375813	10329.25 PPTV	98
50) Dibromochloromethane	15.01	127	419381	11139.11 PPTV	99
52) Chlorobenzene	15.92	112	571045	9992.05 PPTV	94
53) Ethylbenzene	15.91	106	280330	11655.70 PPTV	96
54) m-Xylene & p-Xylene	16.07	106	700403	24003.34 PPTV	94
55) Styrene	16.65	104	513280	10540.24 PPTV	93
56) o-Xylene	16.59	106	326884	10429.11 PPTV	93
57) Bromoform	16.72	173	411774	11314.84 PPTV	92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123120\207LZ017.D Vial: 17
Acq On : 31 Dec 2020 11:23 pm Operator: rgg
Sample : aa64317-scv1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 4 11:07 2021 Quant Results File: 123120.RES

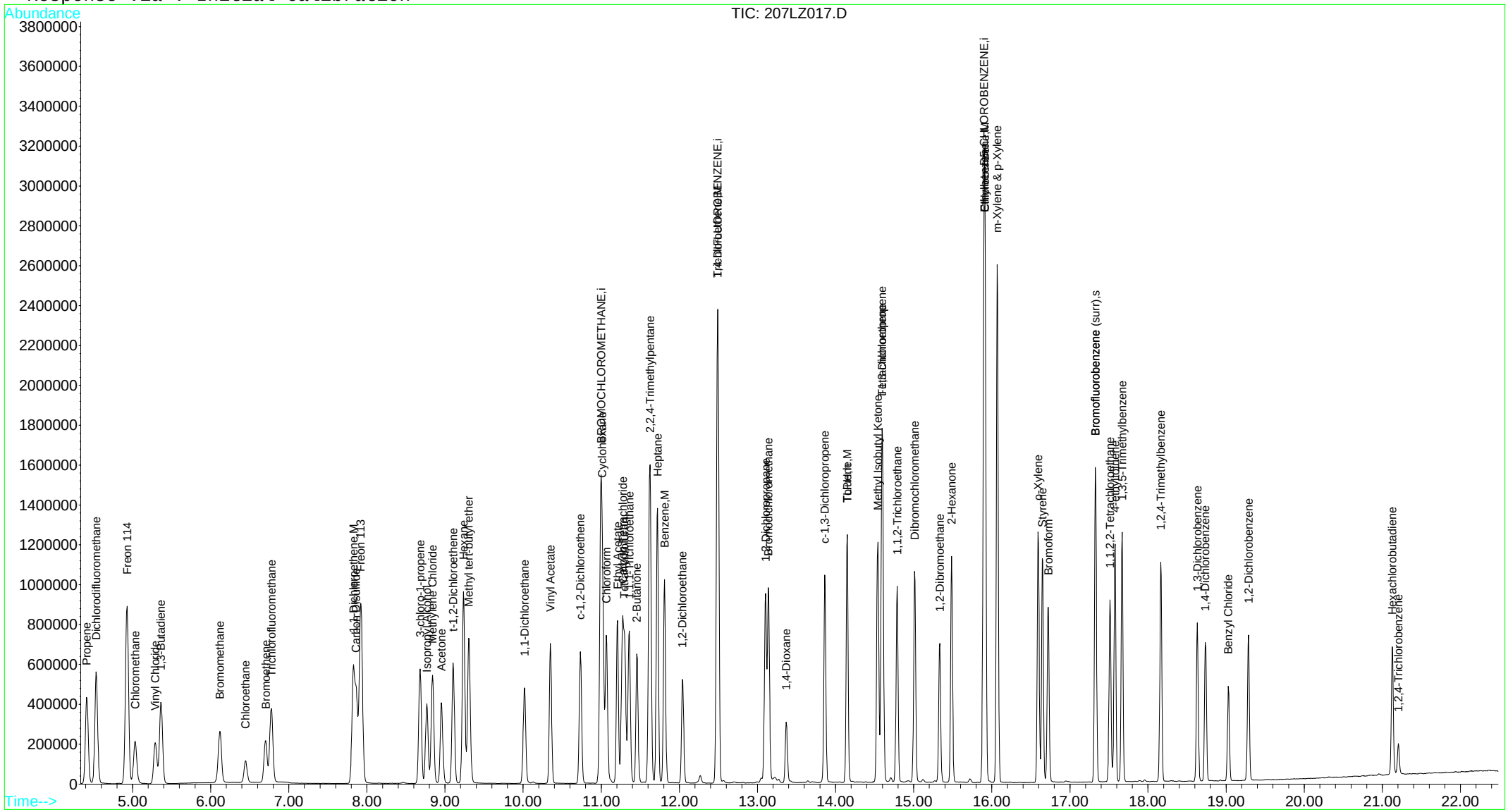
Quant Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2011052)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration
DataAcq Meth : AIR19JW

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-Tetrachloroethane	17.51	83	502384	10387.36	PPTV	100
59) Bromofluorobenzene	17.33	174	415926	31383.15	PPTV	94
61) 4-ethyltoluene	17.58	105	782238	9873.24	PPTV	98
62) 1,3,5-Trimethylbenzene	17.67	105	672326	11434.60	PPTV	96
63) 1,2,4-Trimethylbenzene	18.16	105	614590	10708.33	PPTV	96
64) 1,3-Dichlorobenzene	18.63	146	312847	8853.34	PPTV	98
65) 1,4-Dichlorobenzene	18.73	146	275813	8362.87	PPTV	98
66) Benzyl Chloride	19.03	91	332790	7655.78	PPTV	96
67) 1,2-Dichlorobenzene	19.29	146	296755	9521.16	PPTV	97
68) 1,2,4-Trichlorobenzene	21.21	180	47931	6717.20	PPTV	98
69) Hexachlorobutadiene	21.13	225	128071	10673.15	PPTV	97

Quantitation Report

Data File : C:\HPCHEM\1\DATA\123120\207LZ017.D Vial: 17
Acq On : 31 Dec 2020 11:23 pm Operator: rgg
Sample : aa64317-scv1 Inst : OVGCMS7
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 4 11:07 2021 Quant Results File: 123120.RES

Method : C:\HPCHEM\1\METHODS\123120.M (RTE Integrator)
Title : Analysis of VOCs in air by VGCMS-07 (LIMS2101005)
Last Update : Mon Jan 04 10:39:50 2021
Response via : Initial Calibration



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ENCO Orlando

SDG: AE00066-TE016

CLASS: 06_VOA_AIR_RSK

METHOD: RSK 175

ANALYSES DATA PACKAGE COVER PAGE

RSK 175

Laboratory: ENCO Orlando

SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-MW0031-058.0-20210120	AE00066-09
CRCA-MW0018-058.0-20210120	AE00066-11
CRCA-MW0018-058.0-20210120	AE00066-11RE1
CRCA-MW0019-058.0-20210120	AE00066-12

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0031-058.0-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-09 File ID: 21AU009.D

Sampled: 01/20/21 12:15 Prepared: 01/26/21 00:00 Analyzed: 01/26/21 11:20

Solids: Preparation: Same Initial/Final: 1 mL / 1 mL

Batch: 1A26006 Sequence: AA64653 Calibration: 2006012 Instrument: OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-82-8	Methane	1	0.152		0.00400	0.00500
74-85-1	Ethene	1	0.00510	U	0.00510	0.00600
74-84-0	Ethane	1	0.00510	U	0.00510	0.00600

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0018-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE00066-11
File ID: 21AU010.D
Sampled: 01/20/21 14:00
Prepared: 01/26/21 00:00
Analyzed: 01/26/21 11:36
Solids:
Preparation: Same
Initial/Final: 1 mL / 1 mL
Batch: 1A26006
Sequence: AA64653
Calibration: 2006012
Instrument: OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-85-1	Ethene	1	0.0216		0.00510	0.00600
74-84-0	Ethane	1	0.00510	U	0.00510	0.00600

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0018-058.0-20210120

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Ground Water	Laboratory ID:	AE00066-11RE1	File ID:	21AU012.D
Sampled:	01/20/21 14:00	Prepared:	01/26/21 00:00	Analyzed:	01/26/21 12:16
Solids:		Preparation:	Same	Initial/Final:	1 mL / 1 mL
Batch:	1A26006	Sequence:	AA64653	Calibration:	2006012
Instrument:	OVGCFID2				

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-82-8	Methane	10	2.09	D	0.0400	0.0500

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0019-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE00066-12
File ID: 21AU011.D
Sampled: 01/20/21 16:00
Prepared: 01/26/21 00:00
Analyzed: 01/26/21 11:52
Solids:
Preparation: Same
Initial/Final: 1 mL / 1 mL
Batch: 1A26006
Sequence: AA64653
Calibration: 2006012
Instrument: OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-82-8	Methane	1	0.510		0.00400	0.00500
74-85-1	Ethene	1	0.00510	U	0.00510	0.00600
74-84-0	Ethane	1	0.00510	U	0.00510	0.00600

* Values outside of QC limits

HOLDING TIME SUMMARY

RSK 175

Laboratory: ENCO Orlando

SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-MW0031-058.0-20210120	01/20/21 12:15	01/21/21 15:10	01/26/21 00:00	5.49	NA	01/26/21 11:20	6.00	14.00	
CRCA-MW0018-058.0-20210120	01/20/21 14:00	01/21/21 15:10	01/26/21 00:00	5.42	NA	01/26/21 11:36	6.00	14.00	
CRCA-MW0018-058.0-20210120	01/20/21 14:00	01/21/21 15:10	01/26/21 00:00	5.42	NA	01/26/21 12:16	6.00	14.00	
CRCA-MW0019-058.0-20210120	01/20/21 16:00	01/21/21 15:10	01/26/21 00:00	5.33	NA	01/26/21 11:52	6.00	14.00	

PREPARATION BATCH SUMMARY

RSK 175

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1A26006 Batch Matrix: Water Preparation: Same

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1A26006-BLK1	21AU005.D	01/26/21 00:00	
LCS	1A26006-BS1	21AU003.D	01/26/21 00:00	
LCS Dup	1A26006-BSD1	21AU004.D	01/26/21 00:00	
CRCA-MW0031-058.0-20210120	1A26006-DUP1	21AU013.D	01/26/21 00:00	
CRCA-MW0031-058.0-20210120	AE00066-09	21AU009.D	01/26/21 00:00	
CRCA-MW0018-058.0-20210120	AE00066-11	21AU010.D	01/26/21 00:00	
CRCA-MW0018-058.0-20210120	AE00066-11RE1	21AU012.D	01/26/21 00:00	
CRCA-MW0019-058.0-20210120	AE00066-12	21AU011.D	01/26/21 00:00	

METHOD BLANK DATA SHEET
RSK 175

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1A26006-BLK1	File ID:	21AU005.D
Prepared:	01/26/21 00:00	Preparation:	Same	Initial/Final:	1 mL / 1 mL
Analyzed:	01/26/21 10:17	Instrument:	OVGCFID2		
Batch:	1A26006	Sequence:	AA64653	Calibration:	2006012

CAS NO.	COMPOUND	CONC. (mg/L)	Q
74-82-8	Methane	0.00400	U
74-85-1	Ethene	0.00510	U
74-84-0	Ethane	0.00510	U

LCS / LCS DUPLICATE RECOVERY

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1A26006	Laboratory ID:	1A26006-BS1
Preparation:	Same	Initial/Final:	1 mL / 1 mL

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC. #	QC LIMITS REC.
Methane	0.172	0.187	109	70 - 130
Ethene	0.302	0.348	115	70 - 130
Ethane	0.323	0.395	122	70 - 130

COMPOUND	SPIKE ADDED (mg/L)	LCSD CONCENTRATION (mg/L)	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Methane	0.172	0.192	112	3	30	70 - 130
Ethene	0.302	0.354	117	2	30	70 - 130
Ethane	0.323	0.401	124	1	30	70 - 130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

DUPLICATES

RSK 175

CRCA-MW0031-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Water
Laboratory ID: 1A26006-DUP1
Batch: 1A26006
Lab Source ID: AE00066-09
Preparation: Same
Initial/Final: 1 mL / 1 mL
Source Sample Name: CRCA-MW0031-058.0-20210120
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/L)	C	DUPLICATE CONCENTRATION (mg/L)	C	RPD %	Q	METHOD
Methane	30	0.152		0.442		98	*	RSK 175
Ethene	30	0.000196		ND				RSK 175
Ethane	30	0.000295		ND				RSK 175

* Values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA60736		
Calibration:	2006012	Instrument:	OVGCFID2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	AA60736-CAL8	20F1009.D	06/01/20 12:05
Cal Standard	AA60736-CAL9	20F1010.D	06/01/20 12:21
Cal Standard	AA60736-CALA	20F1011.D	06/01/20 12:37
Cal Standard	AA60736-CALB	20F1012.D	06/01/20 12:53
Cal Standard	AA60736-CALC	20F1013.D	06/01/20 13:09
Cal Standard	AA60736-CALD	20F1014.D	06/01/20 13:25
Cal Standard	AA60736-CALE	20F1015.D	06/01/20 13:40
Secondary Cal Check	AA60736-SCV1	20F1019.D	06/01/20 15:20

ANALYSIS BATCH (SEQUENCE) SUMMARY

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64653		
Calibration:	2006012	Instrument:	OVGCFID2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA64653-CCV2	21AU002.D	01/26/21 08:53
LCS	1A26006-BS1	21AU003.D	01/26/21 09:33
LCS Dup	1A26006-BSD1	21AU004.D	01/26/21 09:54
Blank	1A26006-BLK1	21AU005.D	01/26/21 10:17
CRCA-MW0031-058.0-20210120	AE00066-09	21AU009.D	01/26/21 11:20
CRCA-MW0018-058.0-20210120	AE00066-11	21AU010.D	01/26/21 11:36
CRCA-MW0019-058.0-20210120	AE00066-12	21AU011.D	01/26/21 11:52
CRCA-MW0018-058.0-20210120	AE00066-11RE1	21AU012.D	01/26/21 12:16
CRCA-MW0031-058.0-20210120	1A26006-DUP1	21AU013.D	01/26/21 12:39
Calibration Check	AA64653-CCV3	21AU014.D	01/26/21 12:54

CONTINUING CALIBRATION CHECK

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCFID2	Calibration:	2006012
Lab File ID:	21AU002.D	Calibration Date:	06/01/20 15:24
Sequence:	AA64653	Injection Date:	01/26/21
Lab Sample ID:	AA64653-CCV2	Injection Time:	08:53

		CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Methane	A	0.174	0.194	1.126908E+08	1.255182E+08		11	20	
Ethene	A	0.302	0.354	7.423174E+07	8.694755E+07		17	20	
Ethane	A	0.323	0.402	9.625369E+07	1.197335E+08		24	20	*

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

CONTINUING CALIBRATION CHECK

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCFID2	Calibration:	2006012
Lab File ID:	21AU014.D	Calibration Date:	06/01/20 15:24
Sequence:	AA64653	Injection Date:	01/26/21
Lab Sample ID:	AA64653-CCV3	Injection Time:	12:54

		CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Methane	A	0.174	0.186	1.126908E+08	1.203125E+08		6.8	20
Ethene	A	0.302	0.338	7.423174E+07	8.309354E+07		12	20
Ethane	A	0.323	0.383	9.625369E+07	1.141398E+08		19	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA60736	Instrument:	OVGCFID2
Calibration:	2006012		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A0F0616	RSK175-Cal 1 06/01/2020	AA60736-CAL8	20F1009.D	06/01/20 12:05
A0F0617	RSK175-Cal 2 06/01/2020	AA60736-CAL9	20F1010.D	06/01/20 12:21
A0F0618	RSK175-Cal 3 06/01/2020	AA60736-CALA	20F1011.D	06/01/20 12:37
A0F0619	RSK175-Cal 4 06/01/2020	AA60736-CALB	20F1012.D	06/01/20 12:53
A0F0620	RSK175-Cal 5 06/01/2020	AA60736-CALC	20F1013.D	06/01/20 13:09
A0F0621	RSK175-Cal 6 06/01/2020	AA60736-CALD	20F1014.D	06/01/20 13:25
A0F0622	RSK175-Cal 7 06/01/2020	AA60736-CALE	20F1015.D	06/01/20 13:40
A0E1329	RSK175- SCV/BS water CO2 and MEE	AA60736-SCV1	20F1019.D	06/01/20 15:20

INITIAL CALIBRATION DATA

RSK 175

Laboratory: ENCO Orlando

SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Calibration: 2006012

Instrument: OVGCFID2

Matrix: Water

Calibration Date: 06/01/20 15:24

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Methane												
Ethene												
Ethane												

INITIAL CALIBRATION DATA (Continued)

RSK 175

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2006012
Instrument: OVGCFID2
Matrix: Water
Calibration Date: 06/01/20 15:24

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Methane			0.000869	1.542071E+08	0.00869	1.148276E+08	0.0348	1.096007E+08	0.0869	1.14924E+08	0.174	1.027563E+08
Ethene			0.00151	8.601126E+07	0.0151	7.321662E+07	0.0603	7.770179E+07	0.151	7.66896E+07	0.302	7.178556E+07
Ethane			0.00161	8.453354E+07	0.0161	1.035332E+08	0.0646	1.030982E+08	0.161	1.064607E+08	0.323	9.54717E+07

INITIAL CALIBRATION DATA

RSK 175

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2006012
Instrument: OVGCFID2
Matrix: Water
Calibration Date: 06/01/20 15:24

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Methane	0.348	1.073666E+08	0.695	8.515321E+07								
Ethene	0.603	7.388967E+07	1.21	6.03277E+07								
Ethane	0.646	1.002134E+08	1.29	8.046512E+07								

INITIAL CALIBRATION DATA (Continued)

RSK 175

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2006012
Instrument: OVGCFID2
Matrix: Water
Calibration Date: 06/01/20 15:24

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Methane	1.126908E+08	18.57182	1.965857	4.844227E-02			20	
Ethene	7.423174E+07	10.39554	3.747571	9.783909E-02			20	
Ethane	9.625369E+07	10.44924	4.679286	0.1221713			20	

SECOND-SOURCE CALIBRATION VERIFICATION

RSK 175

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2006012
Laboratory ID: AA60736-SCV1
Sequence: AA60736
Standard ID: A0E1329

ANALYTE	EXPECTED (mg/L)	FOUND (mg/L)	% DRIFT	QC LIMIT
Ethene	0.302	0.300	-0.6	25.00
Ethane	0.323	0.333	3.0	25.00
Methane	0.172	0.167	-2.7	25.00

* Values outside of QC limits

ANALYSIS SEQUENCE

AA64653

Instrument: OVGCFID2

Calibration ID: 2006012

Printed: 1/26/2021 1:07:09PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA64653-CCV1	QC		1		A0L0956			
AA64653-CCV2	QC		2		A0L0956			
1A26006-BS1	QC		3					
1A26006-BSD1	QC		4					
1A26006-BLK1	QC		5					
AE00066-09	RSK175	D	6				Tetra Tech, Inc. (TE016)	CLP like need raw data
AE00066-11	RSK175	D	7				Tetra Tech, Inc. (TE016)	CLP like need raw data
AE00066-12	RSK175	D	8				Tetra Tech, Inc. (TE016)	CLP like need raw data
AE00066-11RE1	RSK175	E	9				Tetra Tech, Inc. (TE016)	RR 10x for Methane 1/26/2021 by JM
1A26006-DUP1	QC		10					
AA64653-CCV3	QC		11		A0L0956			

Samples Loaded By Date

Data Processed By Date

VOLATILES GC/MS LOGBOOK (EPA Method 624.1 / SW-846 Method 8260D)

Tune Start Date: 1/26/2021
Sequence: AA646653
Batch: IA26006
Method: RSK
Analyst: JMW
Instrument EM Voltage: N/A

Surrogate: N/A
Internal: N/A
LCS Mix 2°: N/A AIA0923
LCS Acrolein 2°: N/A
LCS Gas 2°: N/A

8260 Mix: N/A
8260 Add: N/A
8260 Ac/Ac: N/A AOL0607
8260 Gases: N/A
Instrument #: OVGCFID2

21AU Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)	Comments	LIMS
001	AA646653-CCV1			1			Ethane ↑, RR A-01 see CCV2	✓
002	AA646653-CCV2			2				✓
003	IA26006-BS1	NC 1/27/21		3	NC 1/27/21			✓
004	IA26006-BSD1			4				✓
005	IA26006-BLK1			5				✓
006	AE00066-09	D	1	6			RR vial not loaded on instrument	✓
007	AE00066-11	D	1	7	NC 1/27/21		↓	✓
008	AE00066-12	D	1	8				✓
009	AE00066-09	D	1	9				✓
010	AE00066-11	D	1	10			RR @10x for Methane	✓
011	AE00066-12	D	1	11				✓
012	AE00066-11	E	10	12				✓
013	IA26006-DUP1	E	1	13				✓
014	AA646653-CCV3	NC 1/27/21		14				

JMW 1/26/2021

PREPARATION BENCH SHEET

Printed: 1/26/2021 12:03:10PM

Analysis
RSK175 [RSK 175]

1A26006

ENCO Orlando

Prepared using: Same

Surrogate Solution
—

Spiking Solution
A1A0933 **RSK175- SCV/BS water CO2 and MEE**

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl[(1)]	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
1A26006-BLK1		Blank		QC			1	1				
1A26006-BS1		LCS		QC			1	1	A1A0933	1000		
1A26006-BSD1		LCS Dup		QC			1	1	A1A0933	1000		
1A26006-DUP1		Duplicate [AE00066-09]		QC			1	1				
AE00066-09	C	CRCA-MW0031-058.0-20210120[R11]	28-Jan-21	RSK175			1	1				CLP like need raw data
AE00066-11	C	CRCA-MW0018-058.0-20210120[R11]	28-Jan-21	RSK175			1	1				CLP like need raw data
AE00066-11RE1	C	CRCA-MW0018-058.0-20210120[R11]	28-Jan-21	RSK175			1	1				RR 10x for Methane 1/26/2021 by JMW
AE00066-12	C	CRCA-MW0019-058.0-20210120[R11]	28-Jan-21	RSK175			1	1				CLP like need raw data

(1) Before solvent extraction proceeds, verify that there is no residual chlorine above 0.5 mg/L. Any sample above this must be treated to remove excess chlorine before extraction, and this documented as a comment.

Start Date _____

StopDate _____

Instrument ID _____

Standard ID#	Description	Manufacture Lot#

_____ _____

Samples Prepared By Date

_____ _____

Samples Prepared By Date

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU001.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 8:25 am
Operator : JMW
Sample : AA64653-CCV1
Misc :
ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 08:30:55 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.671	2.789	6554262	33305	13.355827	NoCal	#
2)	Methane	0.000	1.960	0	22302943	N.D.	0.197913	#
3)	Ethene	3.701f	3.730f	960562	26835952	NoCal	0.361516	#
4)	Ethyne	0.000	4.395f	0	5552459	N.D.	0.330512	#
5)	Ethane	4.634f	4.656f	47148405	38984919	NoCal	0.405040	#

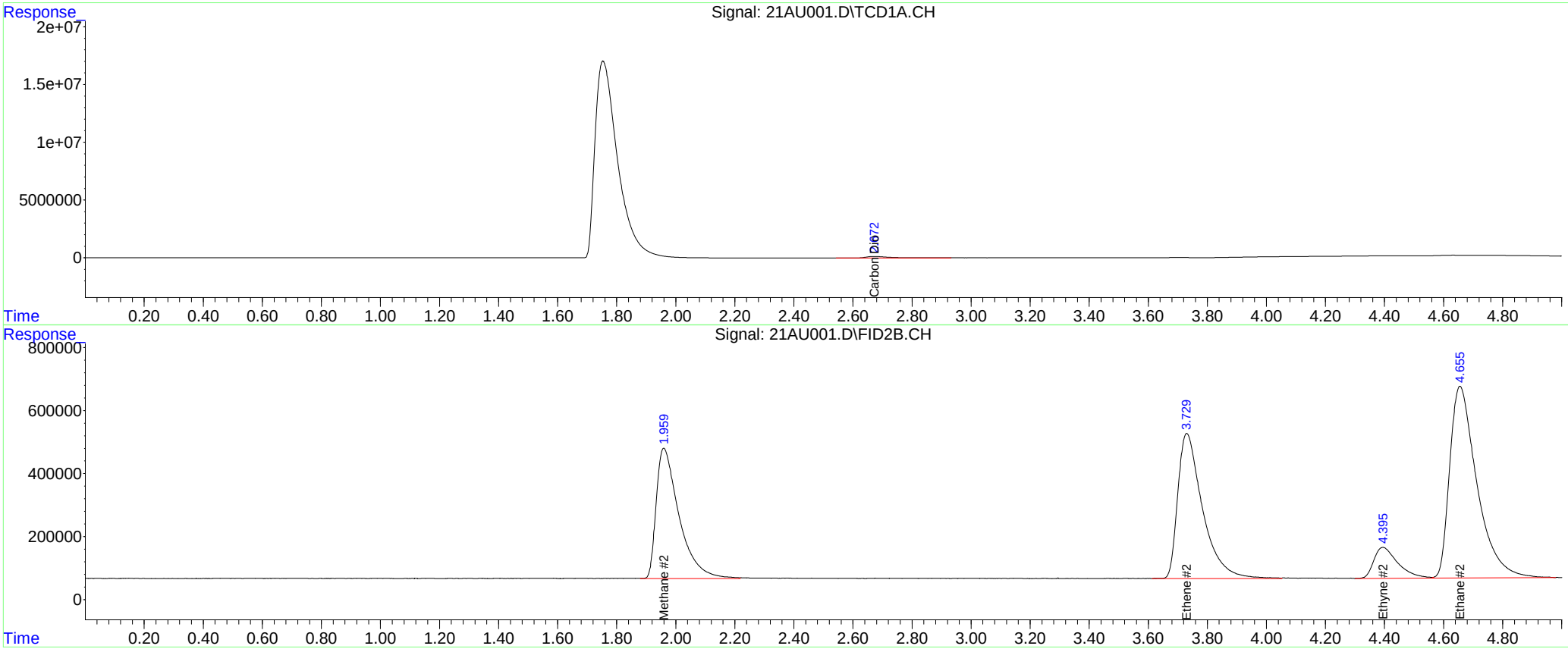
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU001.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 8:25 am
Operator : JMW
Sample : AA64653-CCV1
Misc :
ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 08:30:55 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU002.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 8:53 am
Operator : JMW
Sample : AA64653-CCV2
Misc :
ALS Vial : 2 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 08:58:47 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.677	2.808	5917327	15668	12.057923	NoCal	#
2)	Methane	0.000	1.964	0	21840162	N.D.	0.193806	#
3)	Ethene	3.709	3.737	841568	26258157	NoCal	0.353732	#
4)	Ethyne	0.000	4.402f	0	5516564	N.D.	0.328375	#
5)	Ethane	4.642	4.664f	42463518	38673926	NoCal	0.401809	#

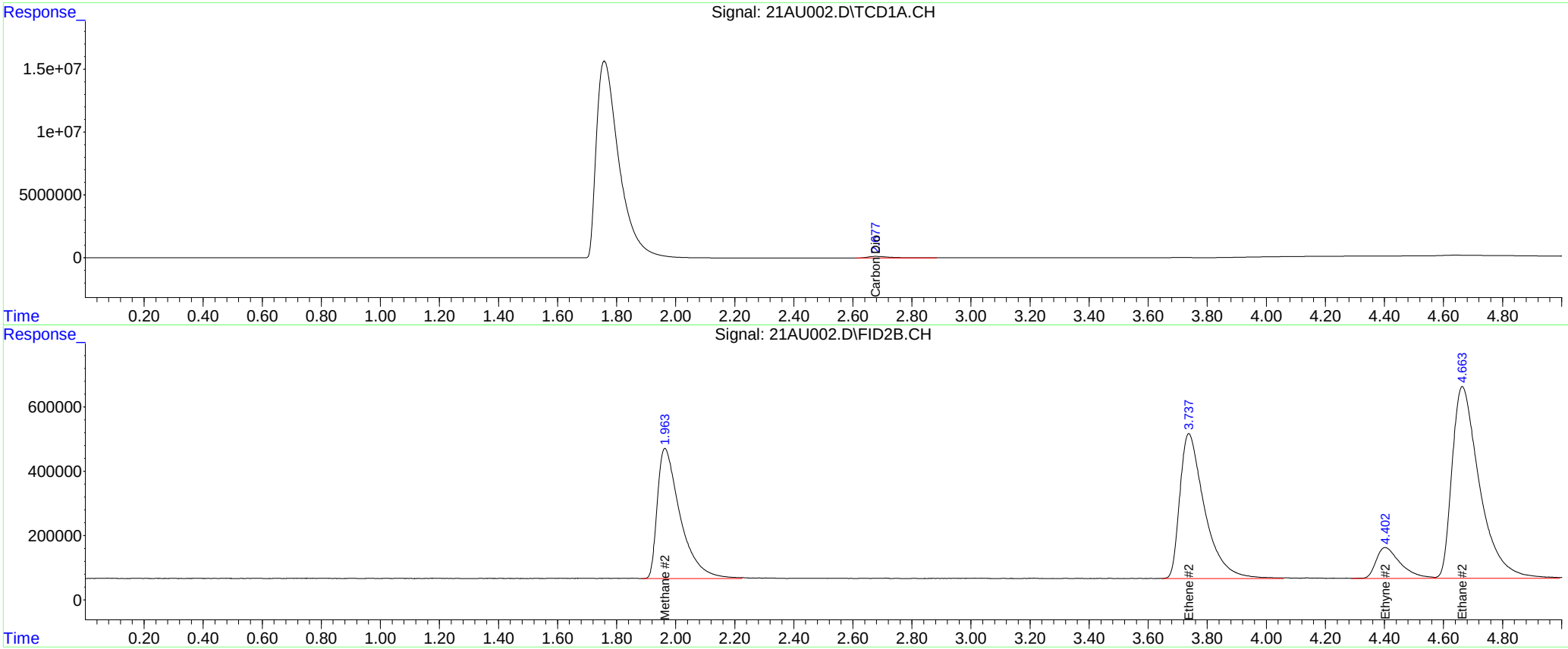
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU002.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 8:53 am
Operator : JMW
Sample : AA64653-CCV2
Misc :
ALS Vial : 2 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 08:58:47 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU003.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 9:33 am
Operator : JMW
Sample : 1A26006-BS1
Misc :
ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 09:38:16 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.667	2.781	34988604	36209	71.297381	NoCal	#
2)	Methane	0.000	1.966	0	21071884	N.D.	0.186989	#
3)	Ethene	3.712	3.742	822976	25869262	NoCal	0.348493	#
4)	Ethyne	0.000	4.409	0	5390391	N.D.	0.320865	#
5)	Ethane	4.644	4.669	30682947	38034406	NoCal	0.395164	#

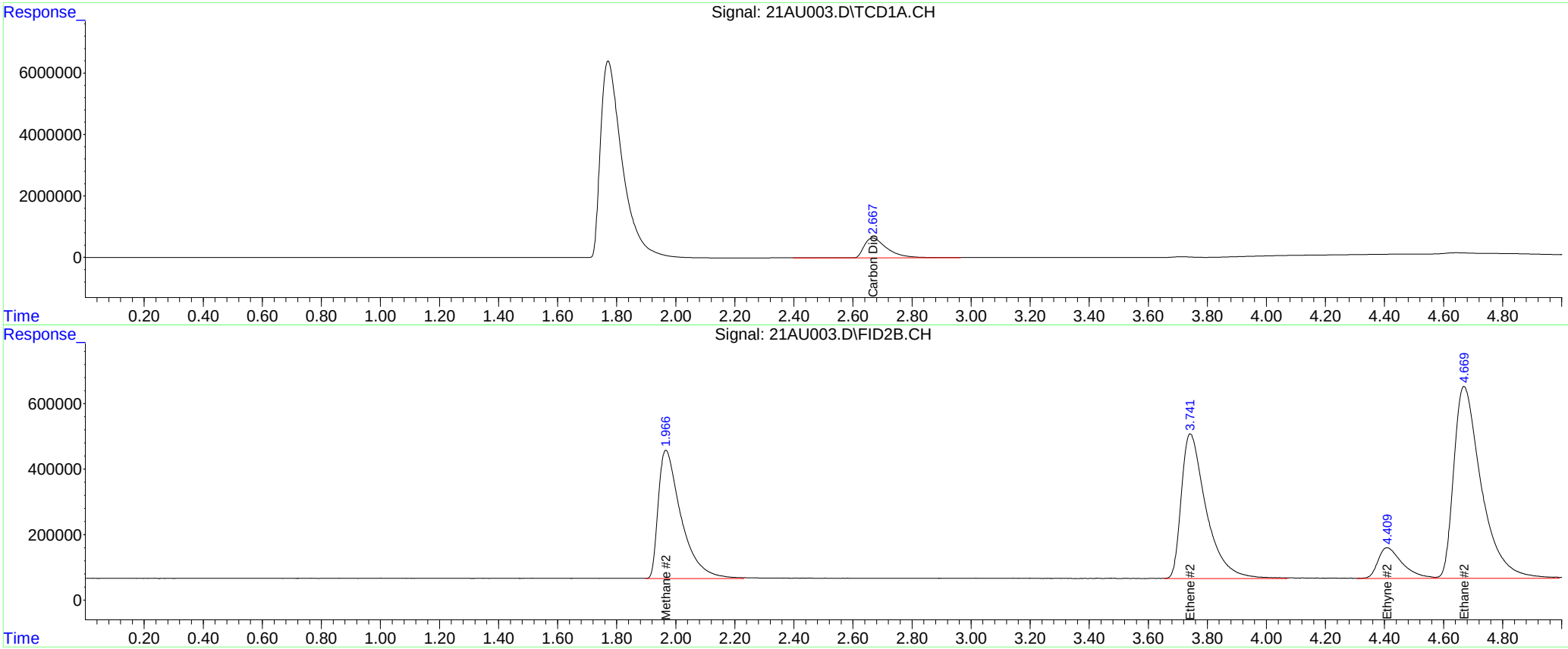
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU003.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 9:33 am
Operator : JMW
Sample : 1A26006-BS1
Misc :
ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 09:38:16 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU004.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 9:54 am
Operator : JMW
Sample : 1A26006-BSD1
Misc :
ALS Vial : 4 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 09:59:15 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.666	2.763	35191581	31558	71.710992	NoCal	#
2)	Methane	0.000	1.966	0	21665091	N.D.	0.192253	#
3)	Ethene	3.714	3.742	876565	26296628	NoCal	0.354250	#
4)	Ethyne	4.391	4.409	11324030	5494065	NoCal	0.327036	#
5)	Ethane	4.643	4.669	14734402	38589321	NoCal	0.400929	#

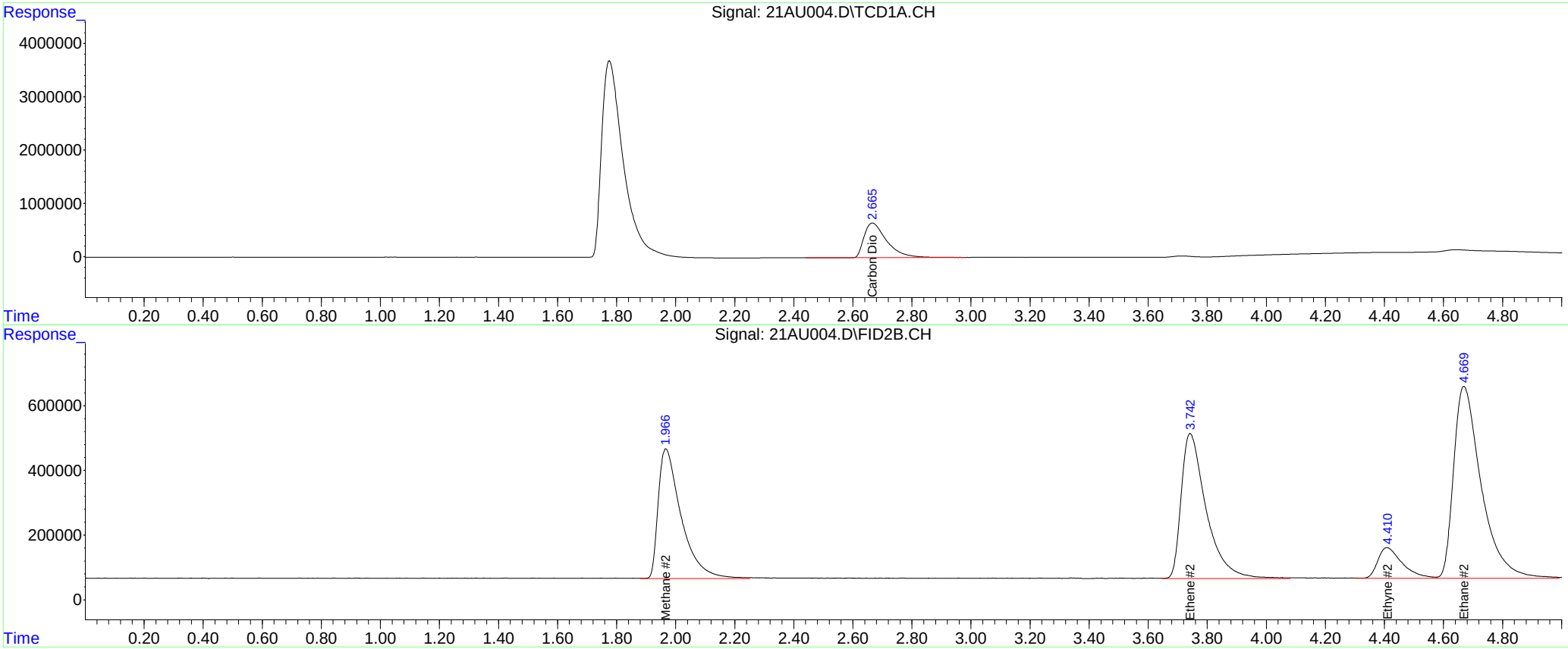
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU004.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 9:54 am
Operator : JMW
Sample : 1A26006-BSD1
Misc :
ALS Vial : 4 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 09:59:15 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU005.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 10:17 am
Operator : JMW
Sample : 1A26006-BLK1
Misc :
ALS Vial : 5 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 10:22:09 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.682	2.806	5407577	9033	11.019189	NoCal	#
2)	Methane	0.000	1.966	0	32613	N.D.	0.000289	#
3)	Ethene	0.000	3.741	0	9785	N.D.	0.000132	#
4)	Ethyne	0.000	4.407	0	18106	N.D.	0.001078	#
5)	Ethane	0.000	4.694	0	10004	N.D.	0.000104	#

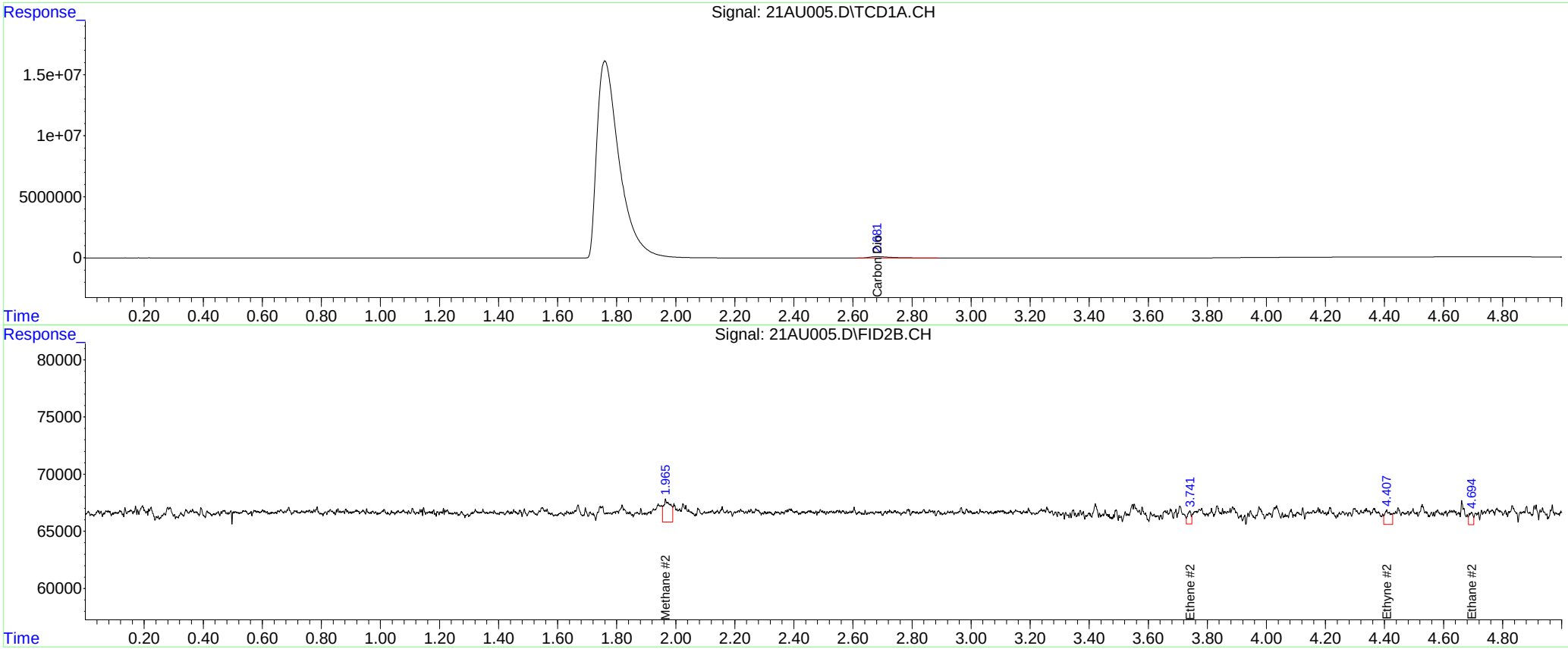
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU005.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 10:17 am
Operator : JMW
Sample : 1A26006-BLK1
Misc :
ALS Vial : 5 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 10:22:09 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU009.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 11:20 am
Operator : JMW
Sample : AE00066-09
Misc :
ALS Vial : 9 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 11:25:34 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.673	2.816	11205099	14078	22.832984	NoCal	#
2)	Methane	0.000	1.962	0	17107707	N.D.	0.151811	#
3)	Ethene	3.708	3.760	62712	14536	NoCal	0.000196	#
4)	Ethyne	0.000	4.417	0	11294	N.D.	0.000672	#
5)	Ethane	0.000	4.693	0	28412	N.D.	0.000295	#

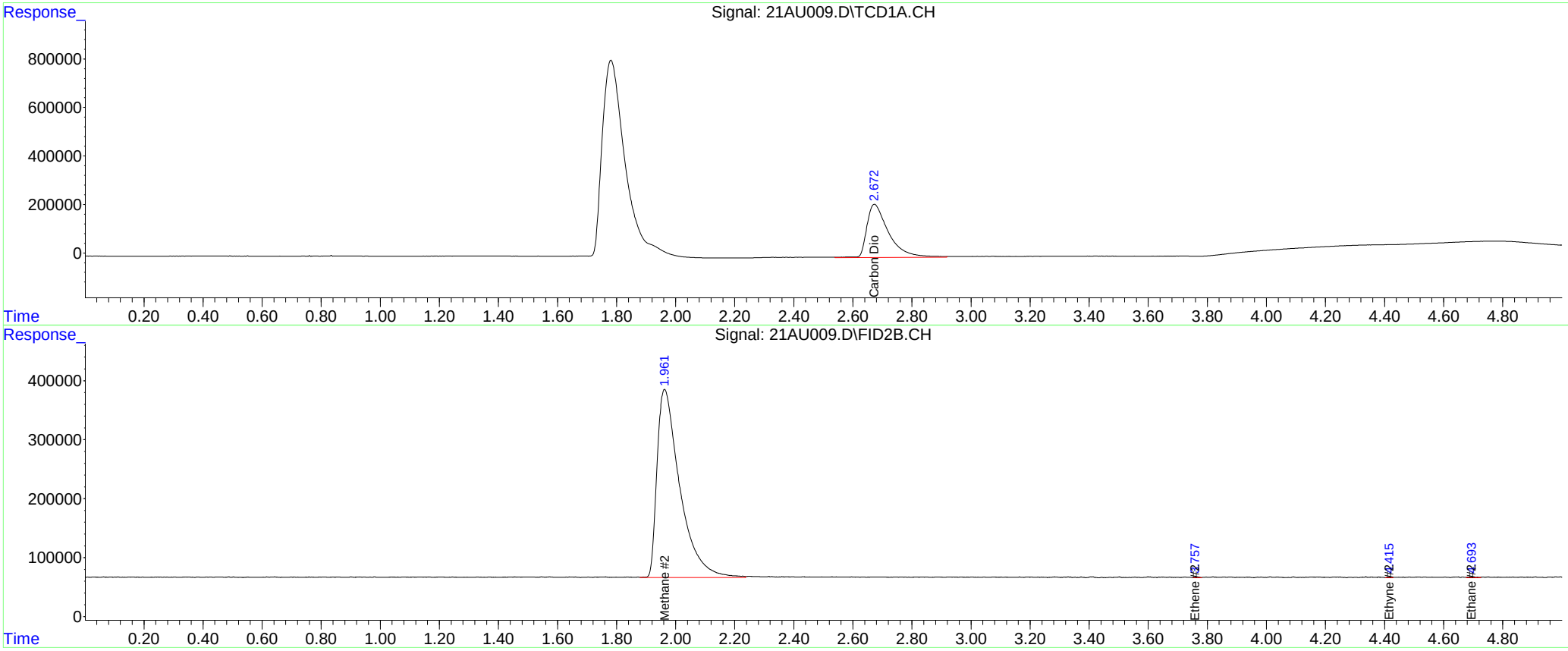
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU009.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 11:20 am
Operator : JMW
Sample : AE00066-09
Misc :
ALS Vial : 9 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 11:25:34 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU010.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 11:36 am
Operator : JMW
Sample : AE00066-11
Misc :
ALS Vial : 10 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 11:41:30 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.666	2.819	34772936	21915	70.857905	NoCal	#
2)	Methane	1.924f	1.964	14718805	158.0E6	NoCal	1.401871	#
3)	Ethene	3.710	3.742	127213	1601791	NoCal	0.021578	#
4)	Ethyne	0.000	4.424	0	21510	N.D.	0.001280	#
5)	Ethane	4.746f	4.698f	12146838	26311	NoCal	0.000273	#

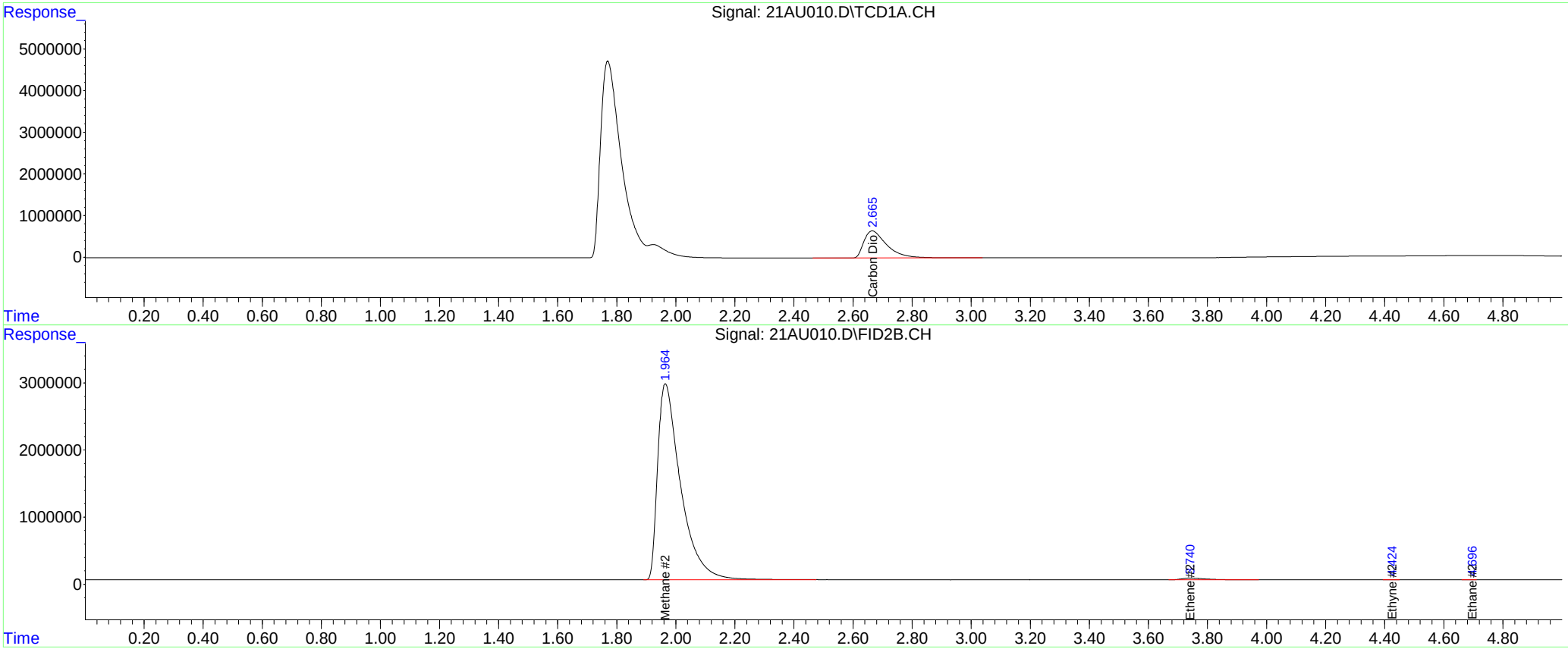
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU010.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 11:36 am
Operator : JMW
Sample : AE00066-11
Misc :
ALS Vial : 10 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 11:41:30 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU011.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 11:52 am
Operator : JMW
Sample : AE00066-12
Misc :
ALS Vial : 11 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 11:57:18 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.665	2.808	37809152	41521	77.044899	NoCal	#
2)	Methane	0.000	1.966	0	57475430	N.D.	0.510028	#
3)	Ethene	3.719	3.745	27859	100751	NoCal	0.001357	#
4)	Ethyne	0.000	4.403f	0	24190	N.D.	0.001440	#
5)	Ethane	4.572f	4.663f	7165651	38447	NoCal	0.000399	#

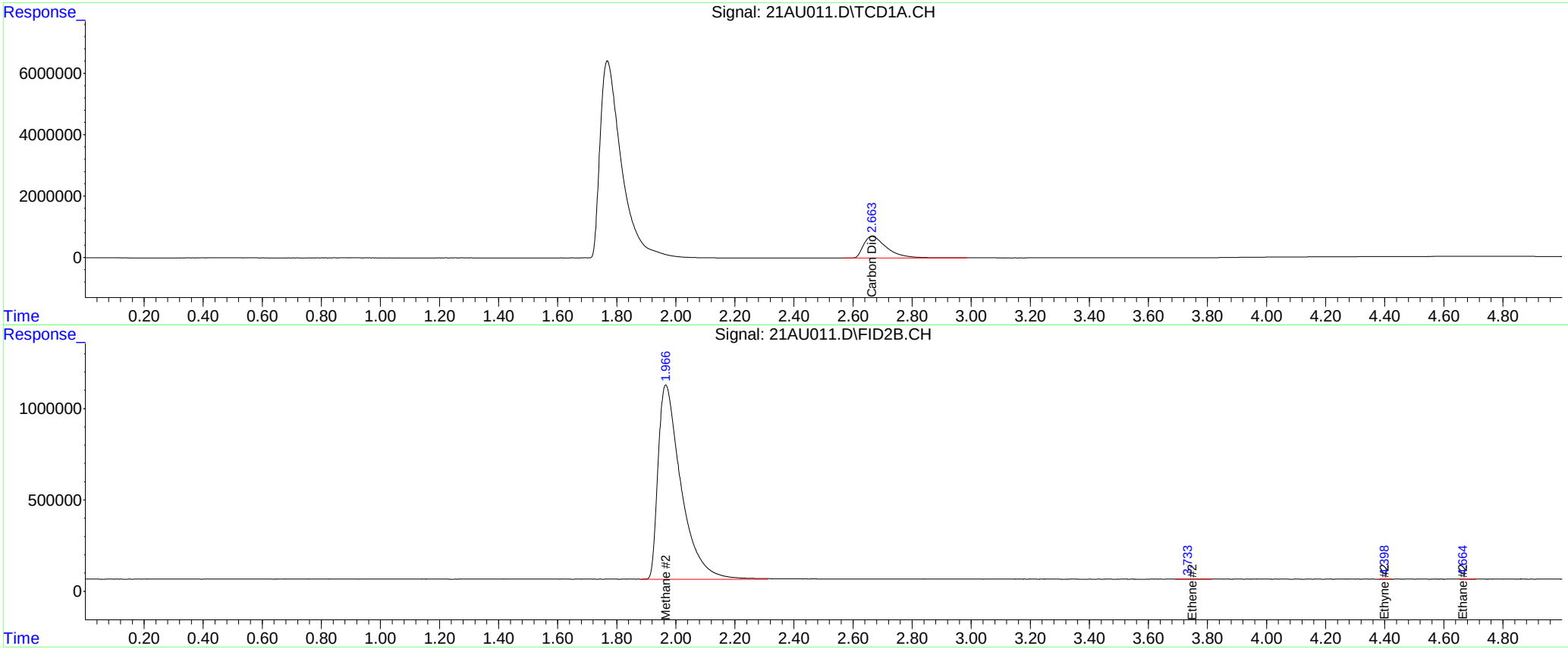
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU011.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 11:52 am
Operator : JMW
Sample : AE00066-12
Misc :
ALS Vial : 11 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 11:57:18 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU012.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 12:16 pm
Operator : JMW
Sample : AE00066-11RE1
Misc :
ALS Vial : 12 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 12:21:15 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.679	2.826	7994679	15764	16.291010	NoCal	#
2)	Methane	0.000	1.966	0	23583783	N.D.	0.209279	#
3)	Ethene	3.727	3.743	42291	133270	NoCal	0.001795	#
4)	Ethyne	0.000	4.428	0	46638	N.D.	0.002776	#
5)	Ethane	0.000	4.667	0	38030	N.D.	0.000395	#

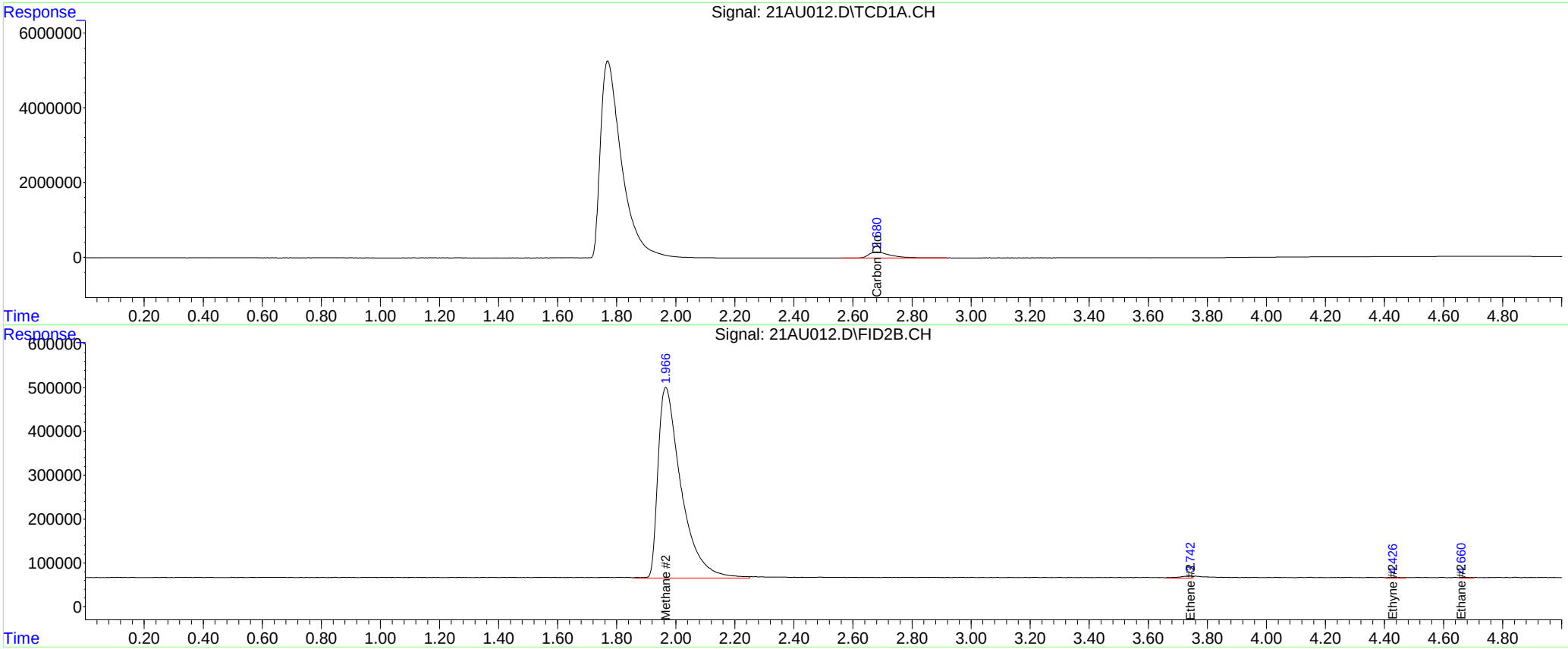
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU012.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 12:16 pm
Operator : JMW
Sample : AE00066-11RE1
Misc :
ALS Vial : 12 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 12:21:15 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU013.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 12:39 pm
Operator : JMW
Sample : 1A26006-DUP1
Misc :
ALS Vial : 13 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 12:44:07 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.665	2.800	36353492	28784	74.078656	NoCal	#
2)	Methane	0.000	1.966	0	49811203	N.D.	0.442017	#
3)	Ethene	3.647f	3.769f	28220	34434	NoCal	0.000464	#
4)	Ethyne	0.000	4.424	0	22033	N.D.	0.001312	#
5)	Ethane	4.744f	4.660f	6561398	47589	NoCal	0.000494	#

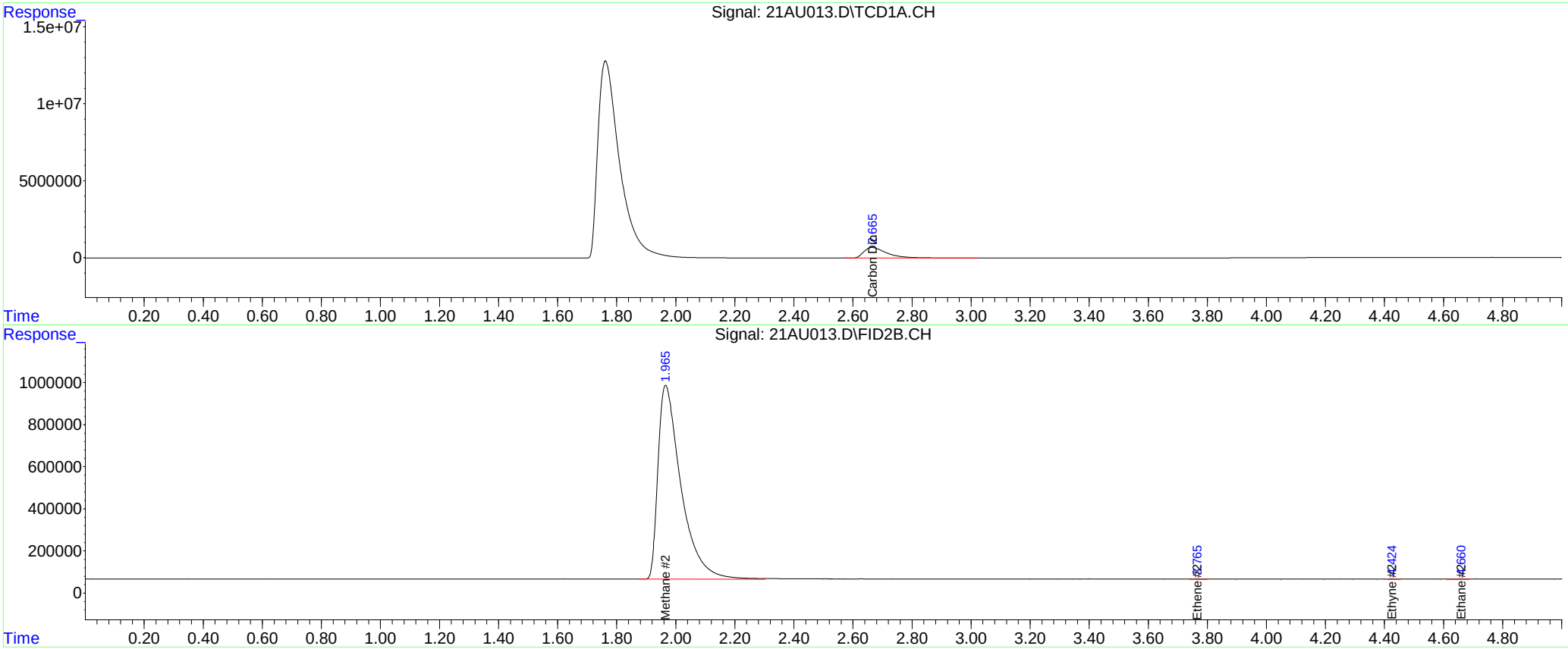
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU013.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 12:39 pm
Operator : JMW
Sample : 1A26006-DUP1
Misc :
ALS Vial : 13 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 12:44:07 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU014.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 12:54 pm
Operator : JMW
Sample : AA64653-CCV3
Misc :
ALS Vial : 14 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 12:59:59 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.681	2.771	5227331	27146	10.651896	NoCal	#
2)	Methane	0.000	1.966	0	20934374	N.D.	0.185768	#
3)	Ethene	3.713	3.741	937611	25094248	NoCal	0.338053	#
4)	Ethyne	4.389	4.408	3124387	5373812	NoCal	0.319878	#
5)	Ethane	4.641	4.668	4789080	36867165	NoCal	0.383037	#

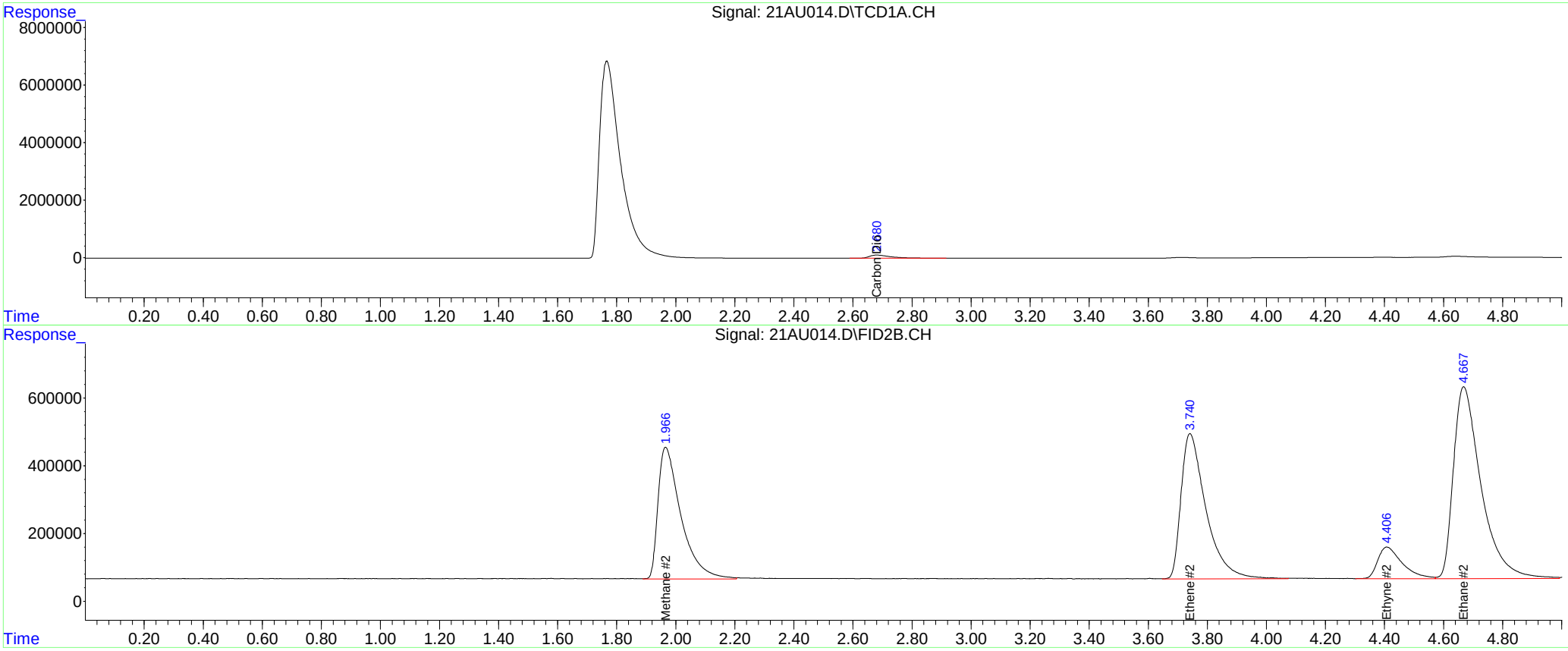
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012621\
Data File : 21AU014.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 26 Jan 2021 12:54 pm
Operator : JMW
Sample : AA64653-CCV3
Misc :
ALS Vial : 14 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jan 26 12:59:59 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



ANALYSIS SEQUENCE

AA60736

Instrument: OVGCFID2

Calibration ID: 2006012

Printed: 6/1/2020 4:11:40PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA60736-CAL1	QC		1		A0F0609			
AA60736-CAL2	QC		2		A0F0610			
AA60736-CAL3	QC		3		A0F0611			
AA60736-CAL4	QC		4		A0F0612			
AA60736-CAL5	QC		5		A0F0613			
AA60736-CAL6	QC		6		A0F0614			
AA60736-CAL7	QC		7		A0F0615			
AA60736-CAL8	QC		8		A0F0616			
AA60736-CAL9	QC		9		A0F0617			
AA60736-CALA	QC		10		A0F0618			
AA60736-CALB	QC		11		A0F0619			
AA60736-CALC	QC		12		A0F0620			
AA60736-CALD	QC		13		A0F0621			
AA60736-CALE	QC		14		A0F0622			
AA60736-SCV1	QC		15		A0E1329			

Samples Loaded By _____ Date _____

Data Processed By _____ Date _____

VOLATILES GC/MS LOGBOOK (EPA Method 624.1 / SW-846 Method 8260D)

Tune Start Date: 6/1/2020
Sequence: AA160736
Batch: DF01022
Method: RSK
Analyst: KH
Instrument EM Voltage: n/a

Surrogate: n/a
Internal: n/a
LCS Mix 2⁰: ADE1151
LCS Acrolein 2⁰: n/a
LCS Gas 2⁰: n/a

8260 Mix: n/a
8260 Add: n/a
8260 Ac/Ac: n/a
8260 Gases: n/a
RSK CO2 ADE1153
RSK MEE ADE1152
Instrument #: GVGCFID2

Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)	Comments	LIMS
20F1001 F1001	BLK			1			✓	✓
20F1002 F1002	Cal 1 CO_2			2			✓	✓
20F1003 F1003	Cal 2 CO_2			3			✓	✓
20F1004 F1004	Cal 3 CO_2			4			✓	✓
20F1005 F1005	Cal 4 CO_2			5			✓	✓
20F1006 1006	Cal 5 CO_2			6			✓	✓
20F1007 1007	Cal 6 CO_2			7			reprep, rerun; swap prep	
20F1008 1008	Cal 7 CO_2 kh 6/1/20			8			reprep, rerun	
20F1009 1009	Cal 1 MEE			9			✓	✓
20F1010 1010	Cal 2 MEE	NC 6/3/20		10			✓	✓
20F1011 1011	Cal 3 MEE			11			✓	✓
20F1012 1012	Cal 4 MEE			12			✓	✓
20F1013 1013	Cal 5 MEE			13			✓	✓
20F1014 1014	Cal 6 MEE			14			✓	✓
20F1015 1015	Cal 7 MEE			15			✓	✓
20F1016 kh 6/1/20	Cal 6 CO_2			16			✓ Reprep, kh 6/1/20	
20F1017	Cal 7 CO_2			17			✓ double spike, reprep kh 6/1/2020	
20F1018	Cal 7 CO_2			18			✓	
20F1019	SCV			19			✓	✓
		NC 6/3/20					kh 6/1/2020	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1002.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 10:14 am
Operator : KG
Sample : CAL1 CO2
Misc :
ALS Vial : 2 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:47:00 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
Target Compounds								
1)	Carbon Di...	2.685	2.806	721663	11255	1.539480	NoCal	#
2)	Methane	0.000	0.000	0	0	N.D. d	N.D. d	
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

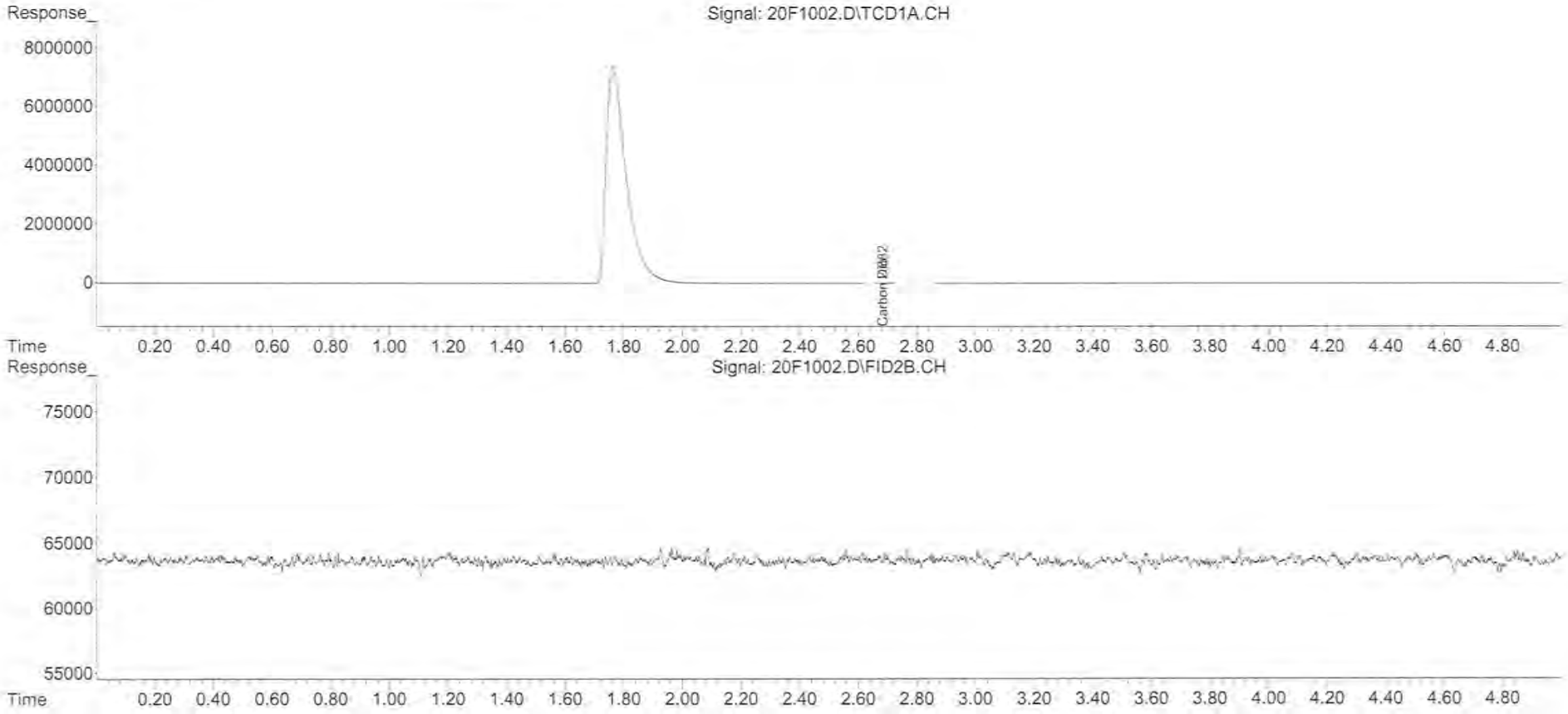
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1002.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 10:14 am
Operator : KG
Sample : CAL1 CO2
Misc :
ALS Vial : 2 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:47:00 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1003.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 10:30 am
Operator : KG
Sample : CAL2 CO2
Misc :
ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:02:26 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.681	2.790	2400420	7389	5.120669	NoCal	#
2)	Methane	0.000	0.000	0	0	N.D. d	N.D. d	
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

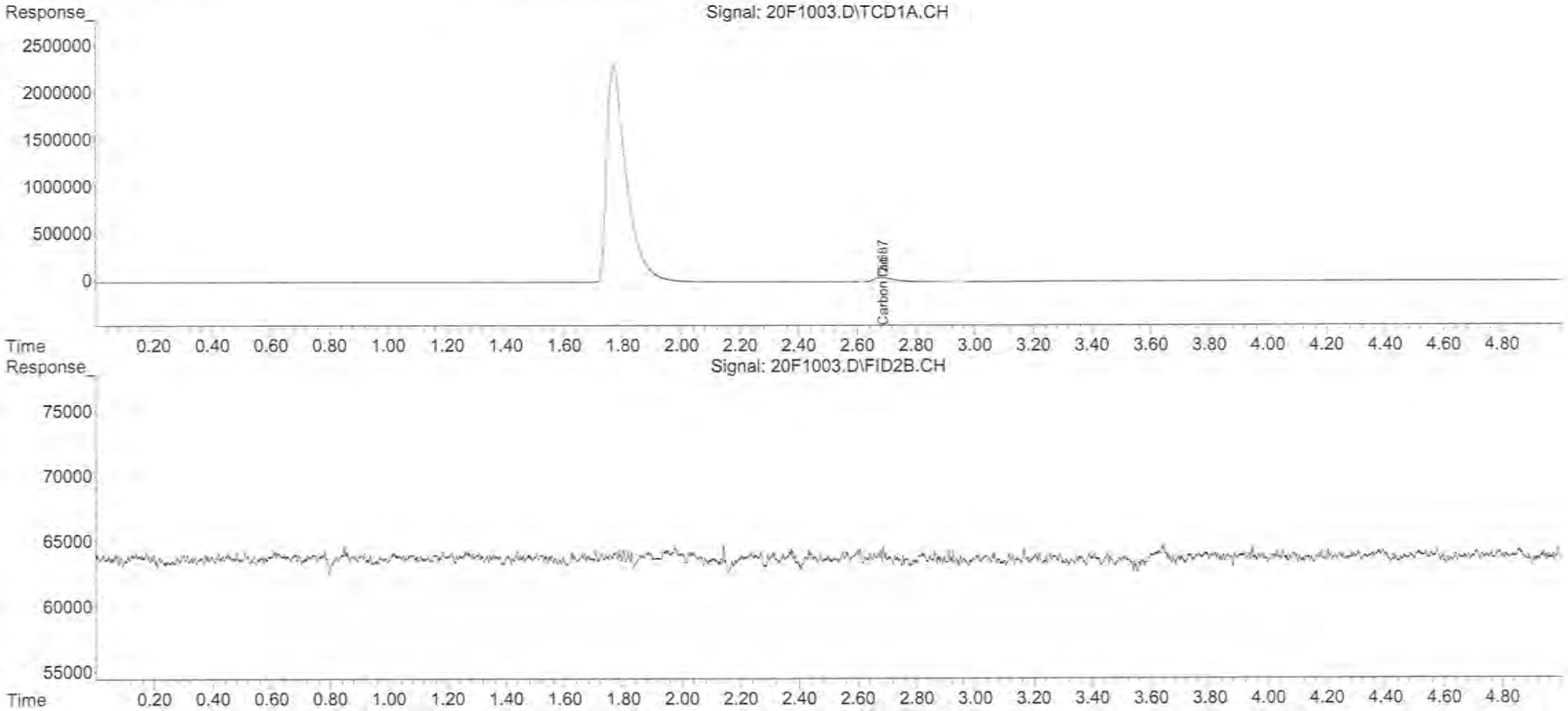
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1003.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 10:30 am
Operator : KG
Sample : CAL2 CO2
Misc :
ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:02:26 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1004.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 10:46 am
Operator : KG
Sample : CAL3 CO2
Misc :
ALS Vial : 4 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:03:07 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
Target Compounds								
1)	Carbon Di...	2.681	2.804	4373287	3461	9.329266	NoCal	#
2)	Methane	0.000	0.000	0	0	N.D. d	N.D. d	
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

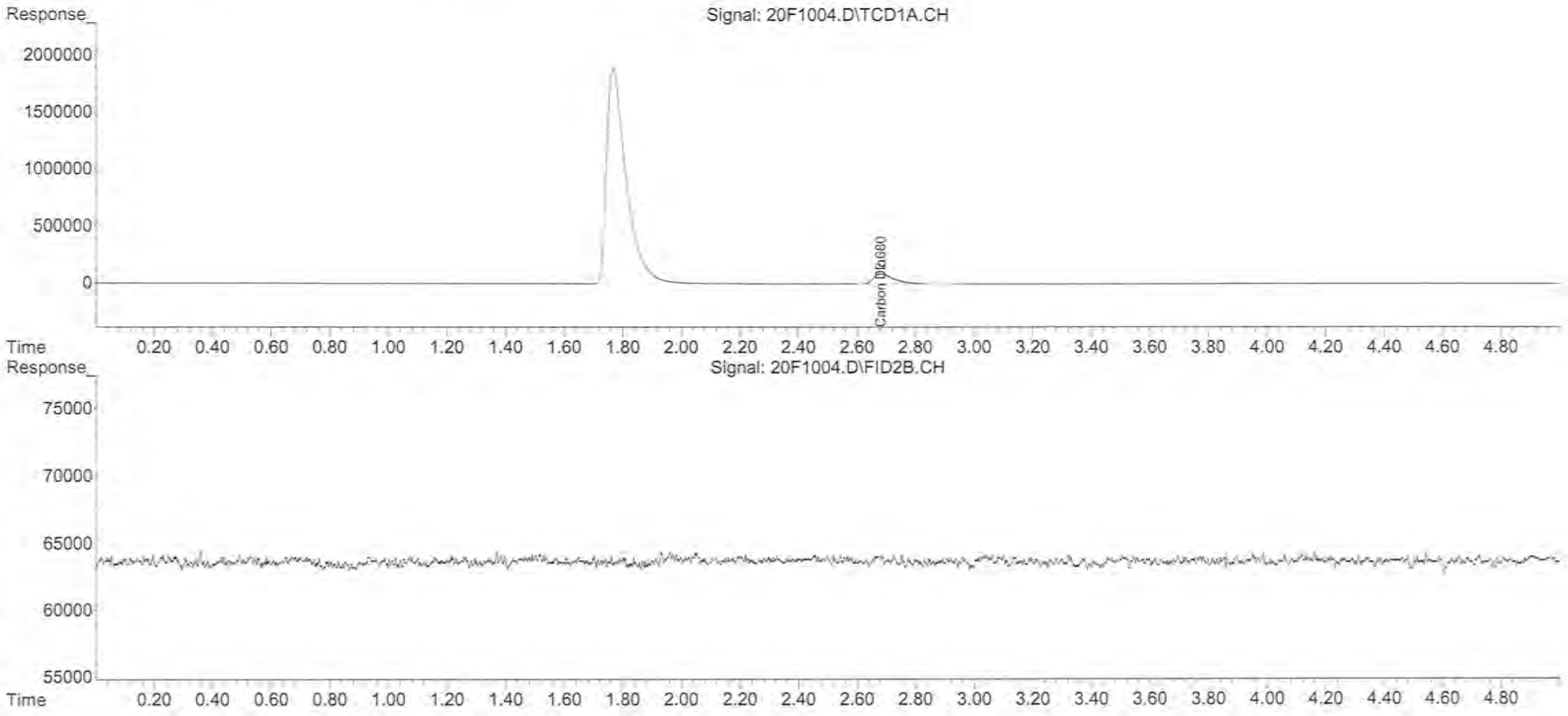
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1004.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 10:46 am
Operator : KG
Sample : CAL3 CO2
Misc :
ALS Vial : 4 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:03:07 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1005.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 11:02 am
Operator : KG
Sample : CAL4 CO2
Misc :
ALS Vial : 5 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:03:53 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.677	2.793	12281980	5873	26.200400	NoCal	#
2)	Methane	0.000	0.000	0	0	N.D. d	N.D. d	
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

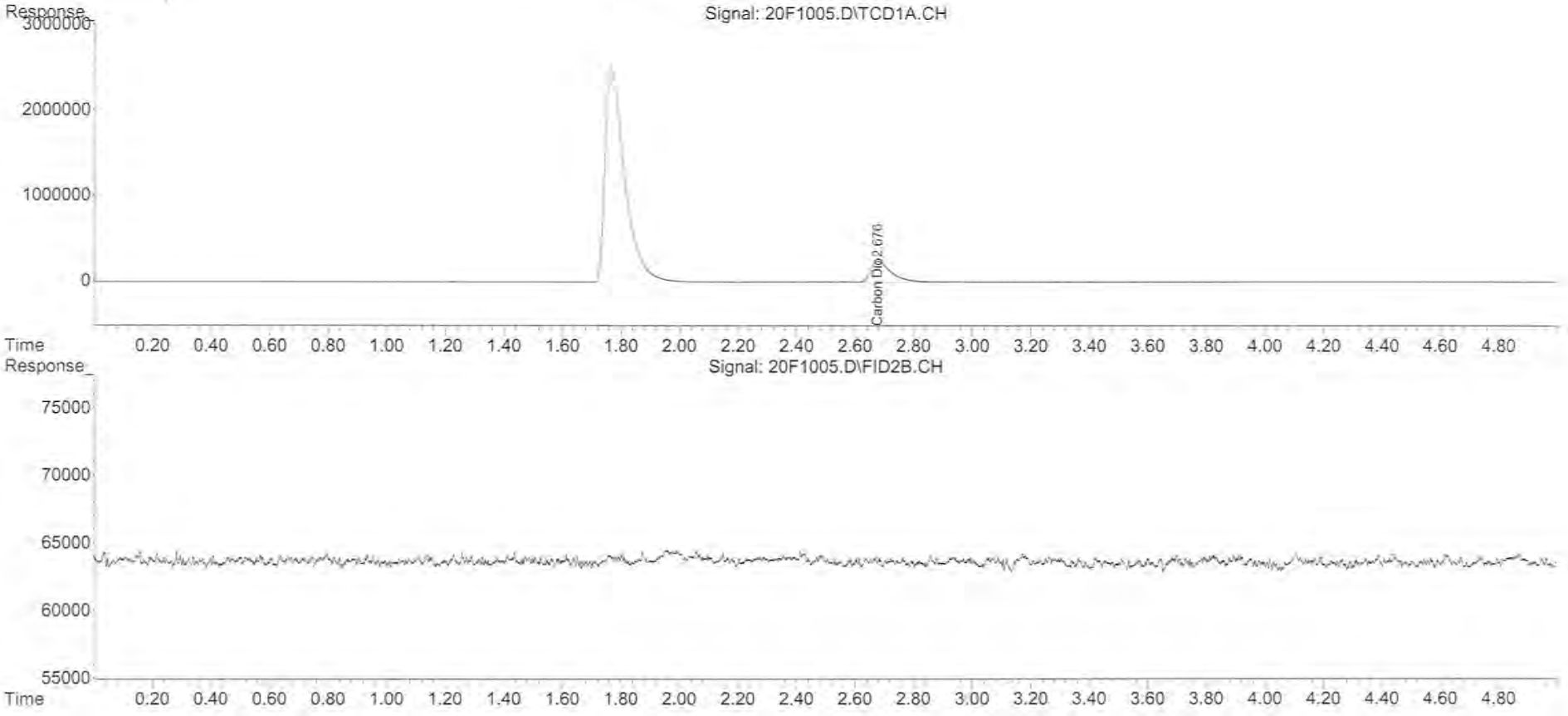
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1005.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 11:02 am
Operator : KG
Sample : CAL4 CO2
Misc :
ALS Vial : 5 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:03:53 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1006.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 11:18 am
Operator : KG
Sample : CAL5 CO2
Misc :
ALS Vial : 6 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:07:33 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.671	2.796	26615594	10925	56.777427	NoCal	#
2)	Methane	0.000	0.000	0	0	N.D. d	N.D. d	
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

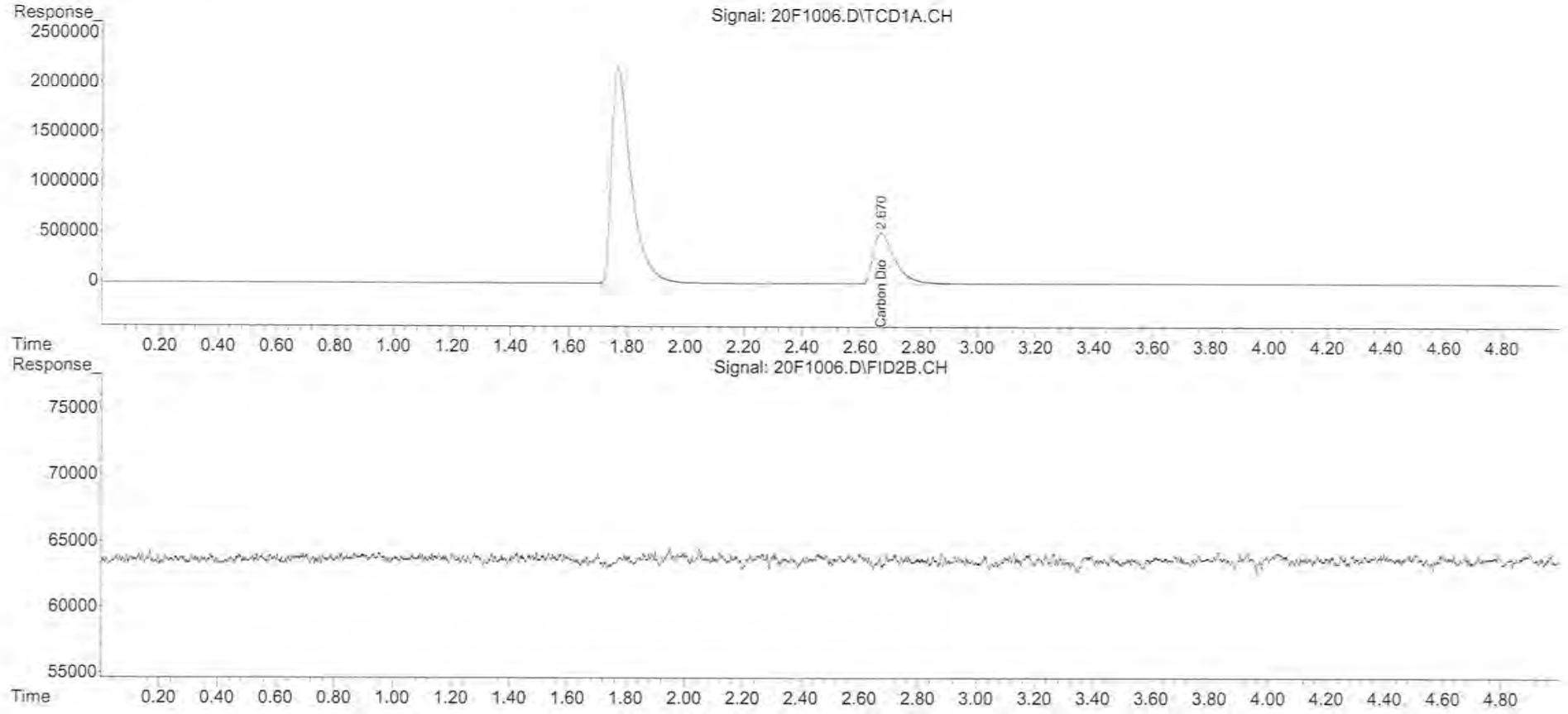
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1006.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 11:18 am
Operator : KG
Sample : CAL5 CO2
Misc :
ALS Vial : 6 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:07:33 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1009.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 12:05 pm
Operator : KG
Sample : CAL1 mee
Misc :
ALS Vial : 9 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:51:42 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L
	Target Compounds						
1)	Carbon Di...	0.000	0.000	0	0	N.D. d	N.D. d
2)	Methane	0.000	1.966	0	134006	N.D.	0.001055m#
3)	Ethene	3.697f	3.741	157759	129877	NoCal	0.001599m#
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d
5)	Ethane	4.645	4.682	82454	136099	NoCal	0.001263m#

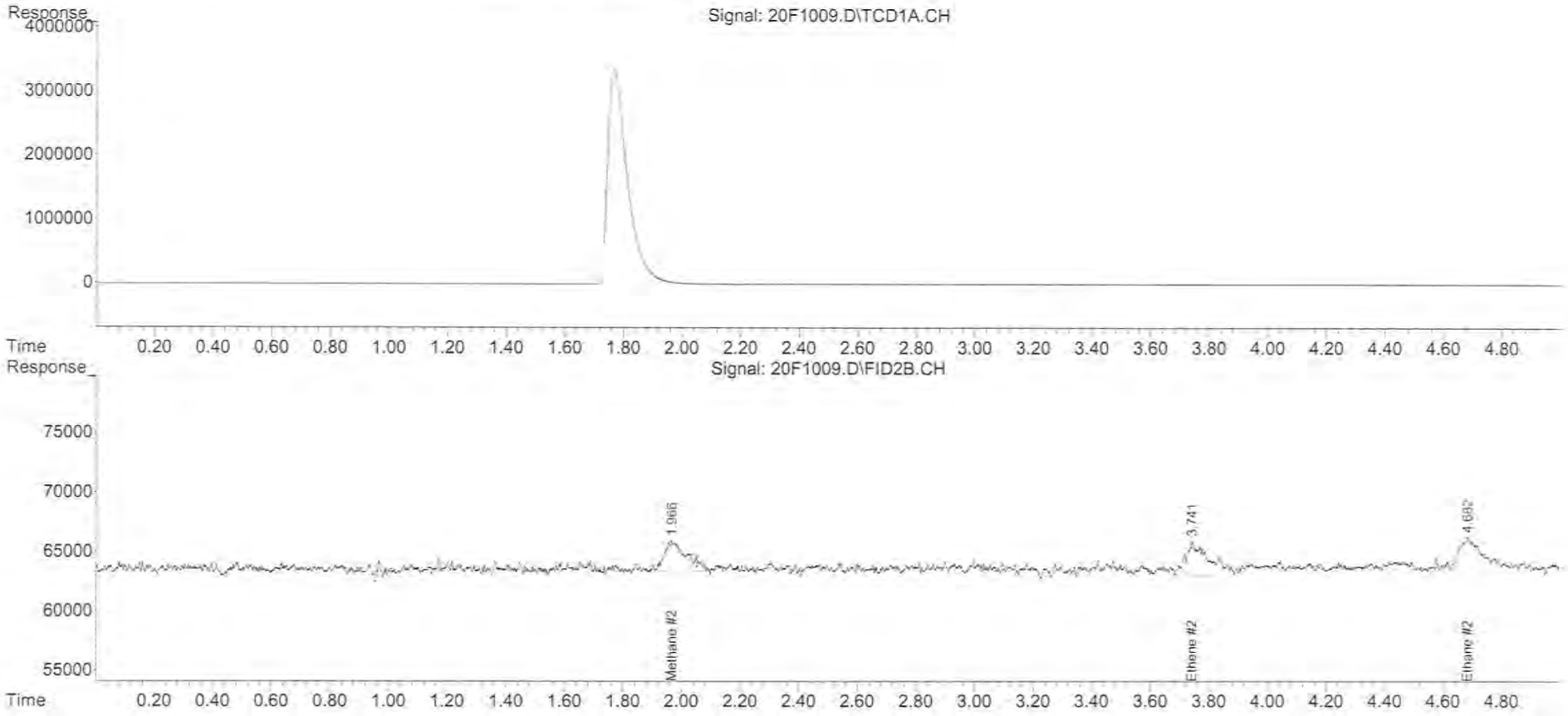
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1009.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 12:05 pm
Operator : KG
Sample : CAL1 mee
Misc :
ALS Vial : 9 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:51:42 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1010.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 12:21 pm
Operator : KG
Sample : CAL2 mee
Misc :
ALS Vial : 10 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:54:18 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L
	Target Compounds						
1)	Carbon Di...	0.000	0.000	0	0	N.D. d	N.D. d
2)	Methane	0.000	1.966	0	997852	N.D.	0.007853m#
3)	Ethene	3.717	3.748	143000	1105571	NoCal	0.013608m#
4)	Ethyne	0.000	4.410	0	231887	N.D.	0.013129 #
5)	Ethane	4.660	4.680	124428	1666884	NoCal	0.015470 #

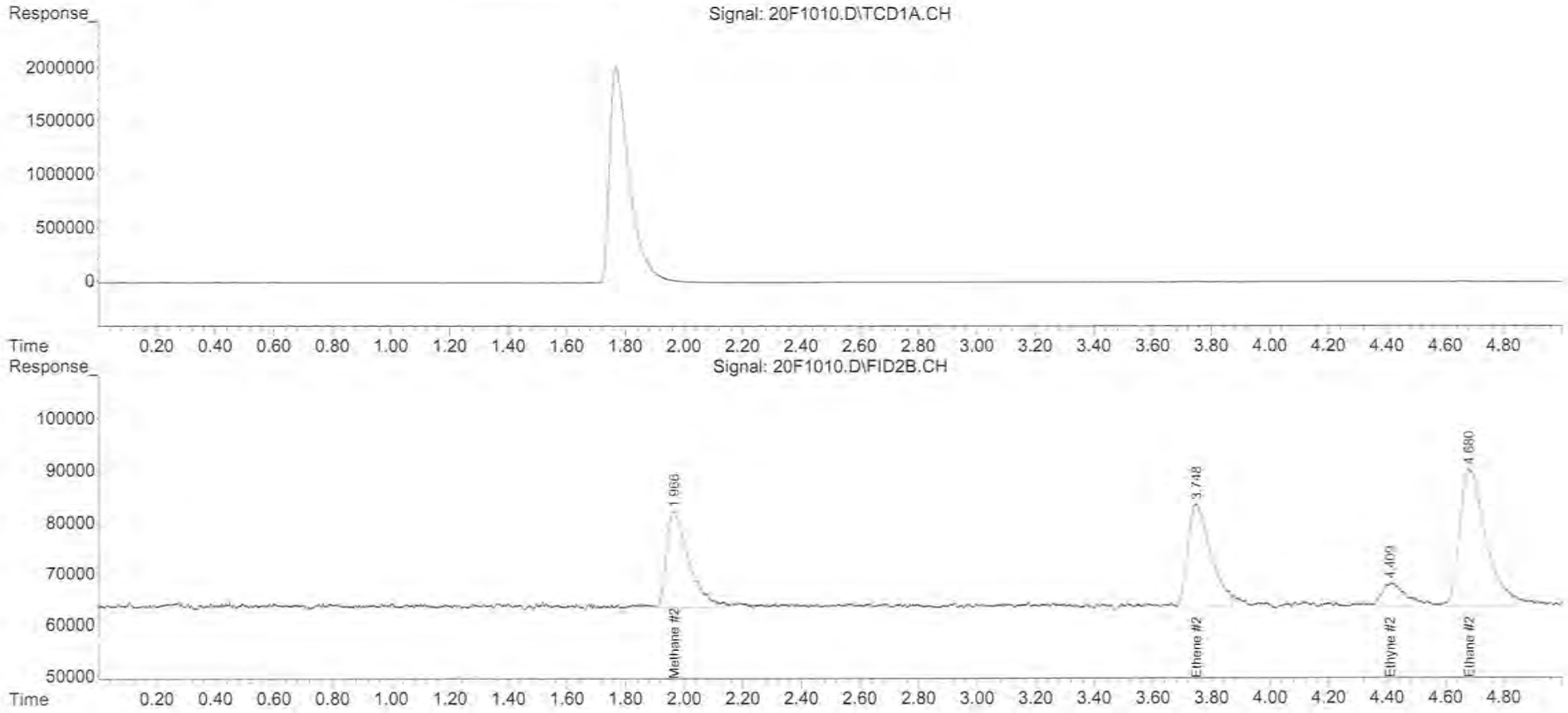
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1010.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 12:21 pm
Operator : KG
Sample : CAL2 mee
Misc :
ALS Vial : 10 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:54:18 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1011.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 12:37 pm
Operator : KG
Sample : CAL3 mee
Misc :
ALS Vial : 11 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:12:55 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L
	Target Compounds						
1)	Carbon Di...	0.000	0.000	0	0	N.D. d	N.D. d
2)	Methane	0.000	1.964	0	3814103	N.D.	0.030017m#
3)	Ethene	3.722	3.750	292147	4685418	NoCal	0.057672 #
4)	Ethyne	4.376	4.417	142974	1033383	NoCal	0.058507 #
5)	Ethane	4.653	4.685	426043	6660142	NoCal	0.061812 #

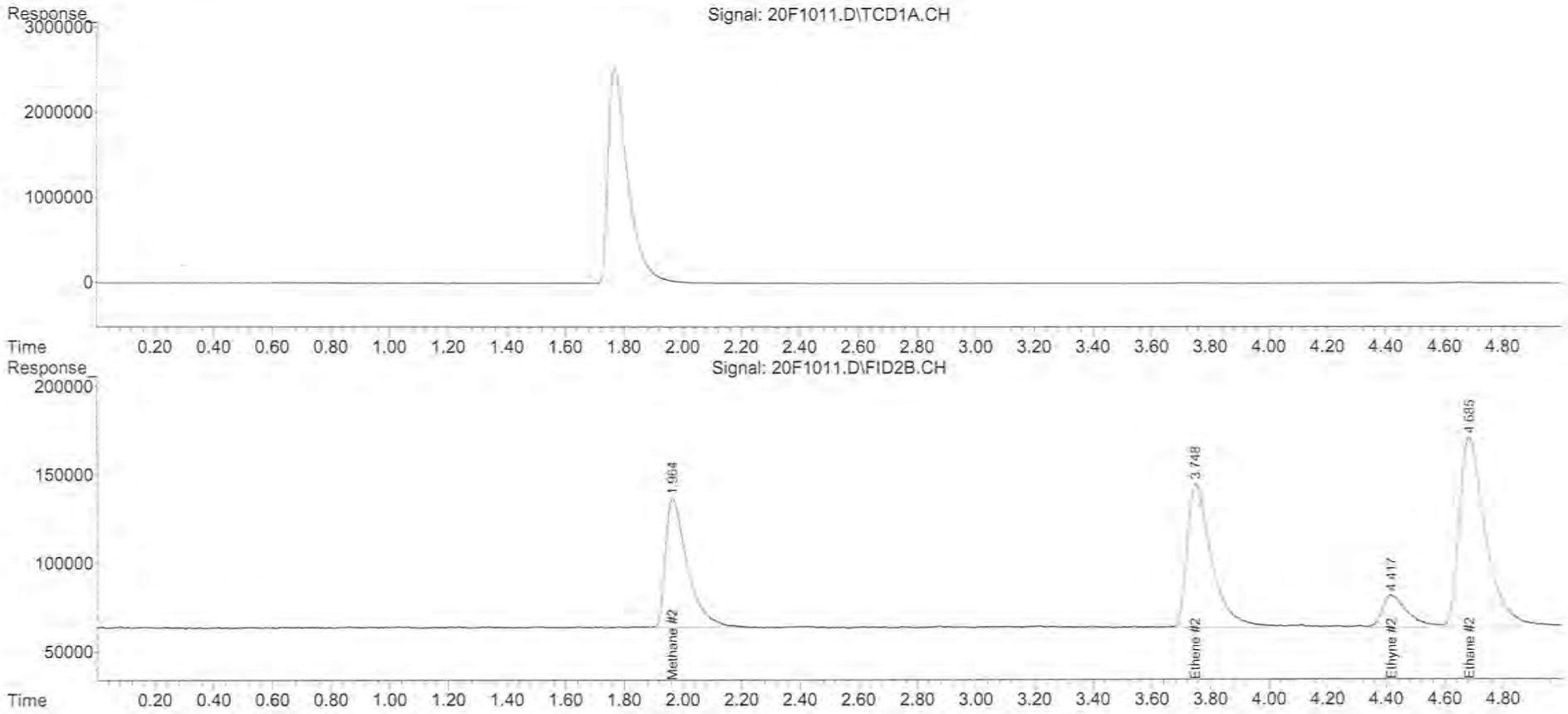
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1011.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 12:37 pm
Operator : KG
Sample : CAL3 mee
Misc :
ALS Vial : 11 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:12:55 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1012.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 12:53 pm
Operator : KG
Sample : CAL4 mee
Misc :
ALS Vial : 12 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:13:42 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L
	Target Compounds						
1)	Carbon Di...	0.000	0.000	0	0	N.D. d	N.D. d
2)	Methane	0.000	1.966	0	9986895	N.D.	0.078597 #
3)	Ethene	3.728	3.751	559705	11580125	NoCal	0.142538 #
4)	Ethyne	4.390	4.419	127570	2407110	NoCal	0.136282 #
5)	Ethane	4.653	4.683	906840	17140182	NoCal	0.159076 #

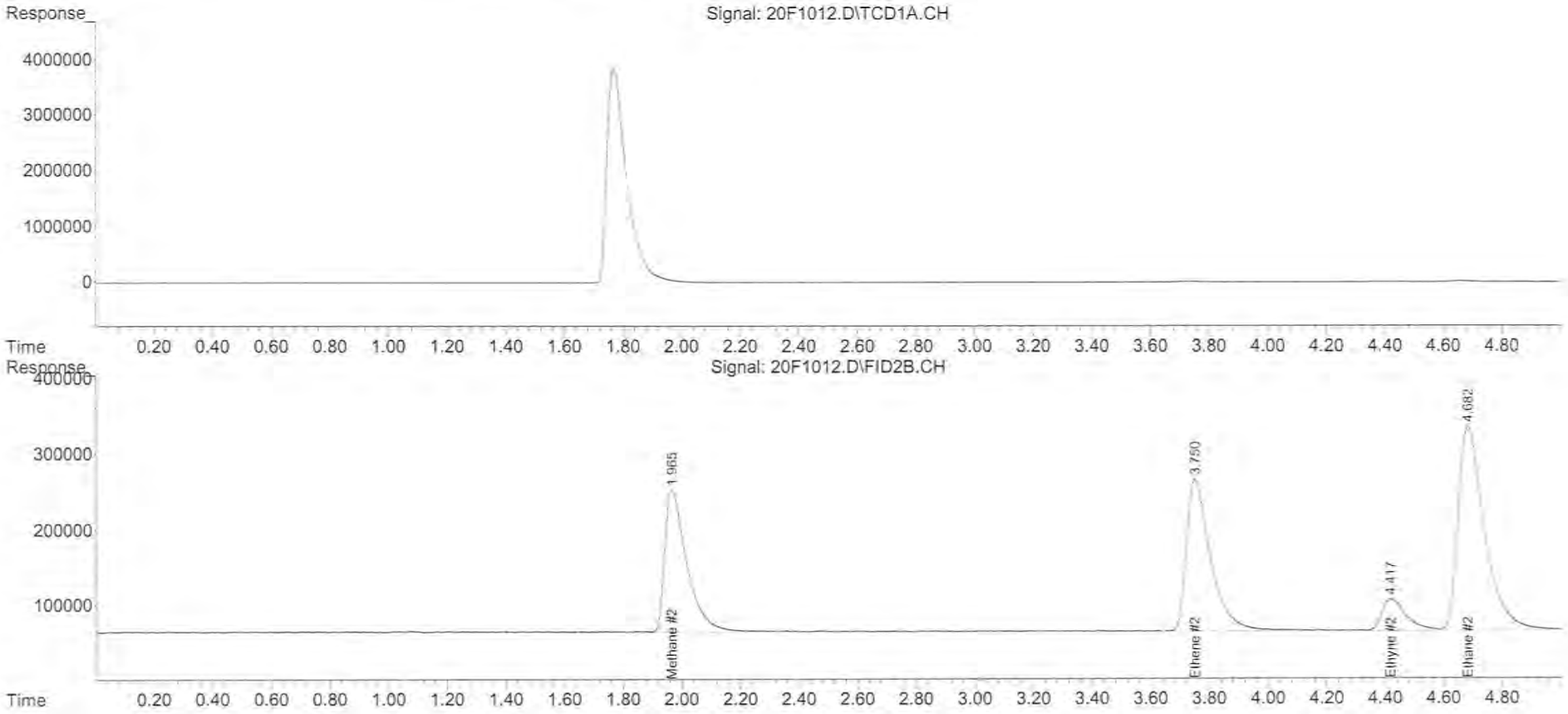
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1012.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 12:53 pm
Operator : KG
Sample : CAL4 mee
Misc :
ALS Vial : 12 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:13:42 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1013.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 1:09 pm
Operator : KG
Sample : CAL5 mee
Misc :
ALS Vial : 13 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:14:31 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L
	Target Compounds						
1)	Carbon Di...	0.000	0.000	0	0	N.D. d	N.D. d
2)	Methane	0.000	1.967	0	17879589	N.D.	0.140713 #
3)	Ethene	3.722	3.751	1053481	21679236	NoCal	0.266846 #
4)	Ethyne	4.389	4.420	283468	4815455	NoCal	0.272635 #
5)	Ethane	4.654	4.682	1690549	30837357	NoCal	0.286199 #

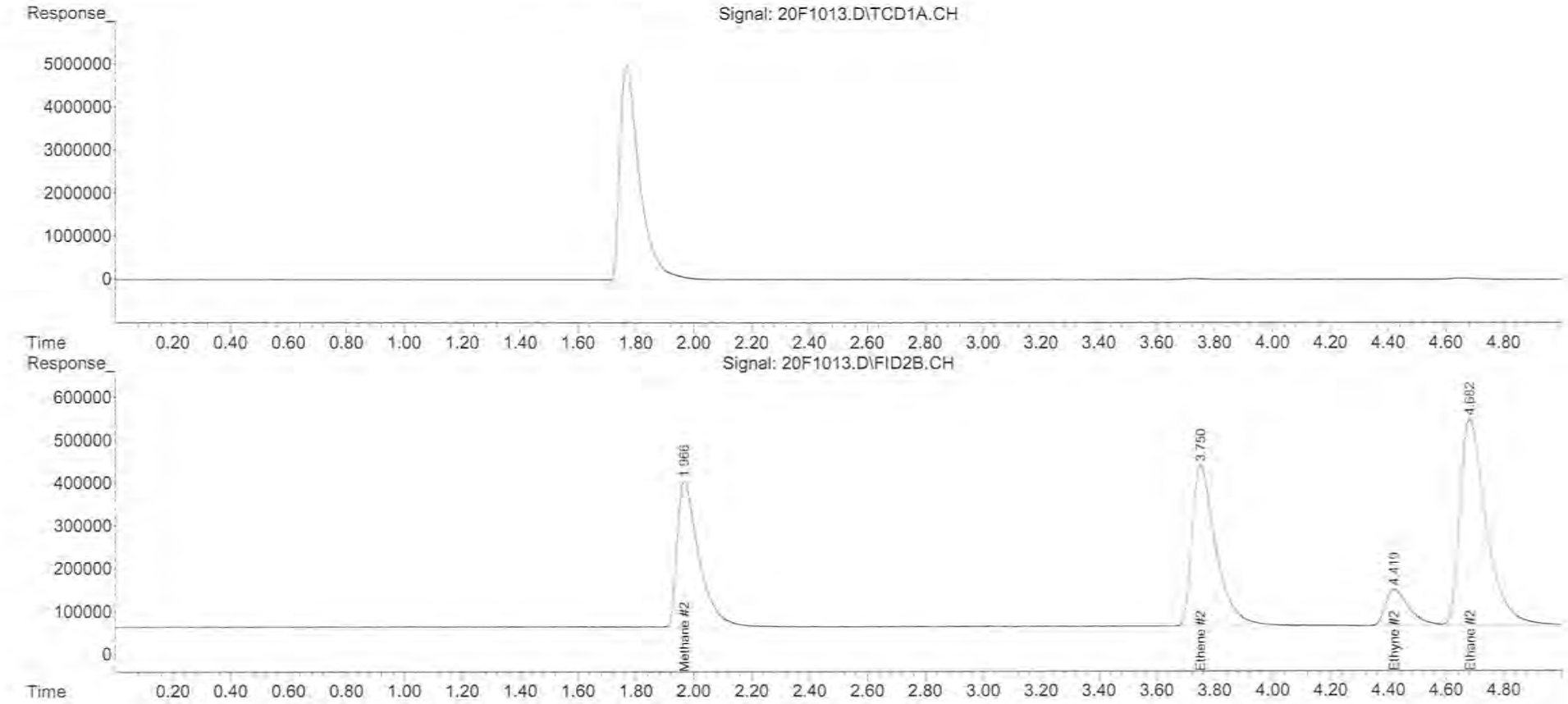
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1013.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 1:09 pm
Operator : KG
Sample : CAL5 mee
Misc :
ALS Vial : 13 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:14:31 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1014.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 1:25 pm
Operator : KG
Sample : CAL6 mee
Misc :
ALS Vial : 14 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:15:18 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L
	Target Compounds						
1)	Carbon Di...	0.000	0.000	0	0	N.D. d	N.D. d
2)	Methane	0.000	1.966	0	37363555	N.D.	0.294053 #
3)	Ethene	3.719	3.747	2182432	44555469	NoCal	0.548425 #
4)	Ethyne	4.390	4.416	452150	9580830	NoCal	0.542434 #
5)	Ethane	4.646	4.674	3507222	64737858	NoCal	0.600826 #

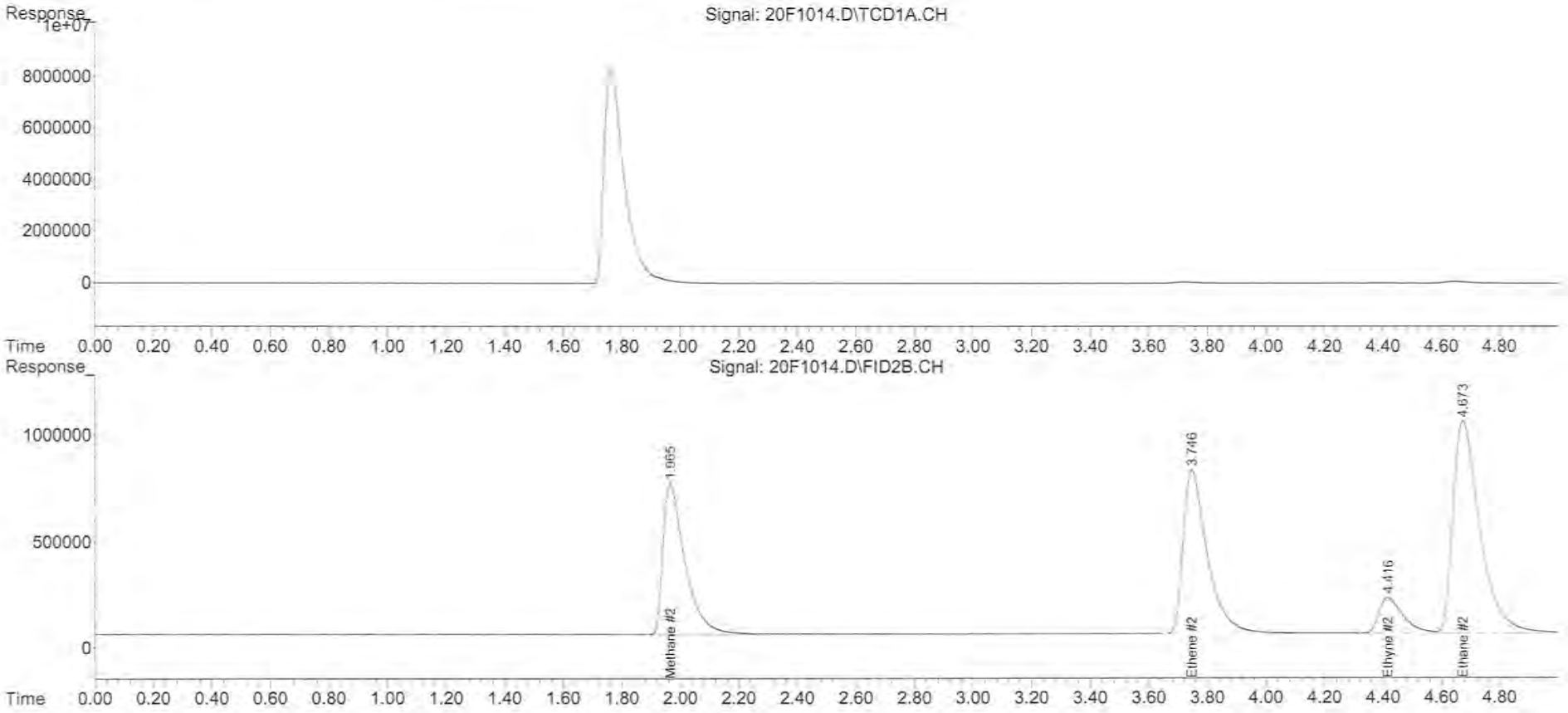
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1014.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 1:25 pm
Operator : KG
Sample : CAL6 mee
Misc :
ALS Vial : 14 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:15:18 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1015.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 1:40 pm
Operator : KG
Sample : CAL7 mee
Misc :
ALS Vial : 15 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 13:46:03 2020
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2003003::JVGCFID2
QLast Update : Wed May 20 12:03:42 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L
	Target Compounds						
1)	Carbon Di...	0.000	0.000	0	0	N.D. d	N.D. d
2)	Methane	0.000	1.966	0	59181475	N.D.	0.526084 #
3)	Ethene	3.716f	3.745	3207518	72996512	NoCal	0.961111 #
4)	Ethyne	0.000	4.416	0	16065092	N.D.	0.940023 #
5)	Ethane	4.640	4.669	5337942	103.8E6	NoCal	0.998252 #

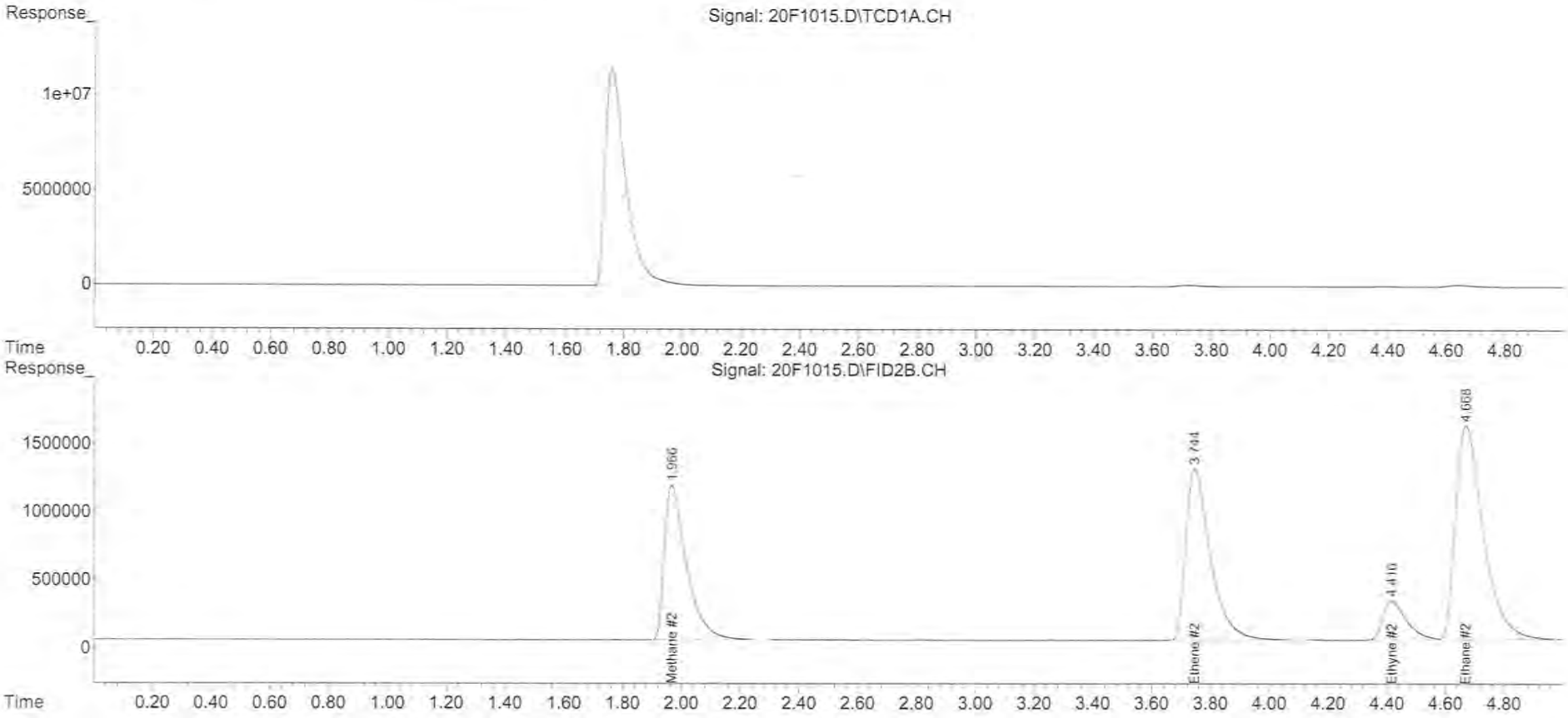
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1015.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 1:40 pm
Operator : KG
Sample : CAL7 mee
Misc :
ALS Vial : 15 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 13:46:03 2020
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2003003::JVGCFID2
QLast Update : Wed May 20 12:03:42 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1016.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 1:56 pm
Operator : KG
Sample : CAL6 co2
Misc :
ALS Vial : 16 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:49:12 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
Target Compounds								
1)	Carbon Di...	2.661	2.797	52729277	14958	112.484156	NoCal	#
2)	Methane	0.000	0.000	0	0	N.D. d	N.D. d	
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

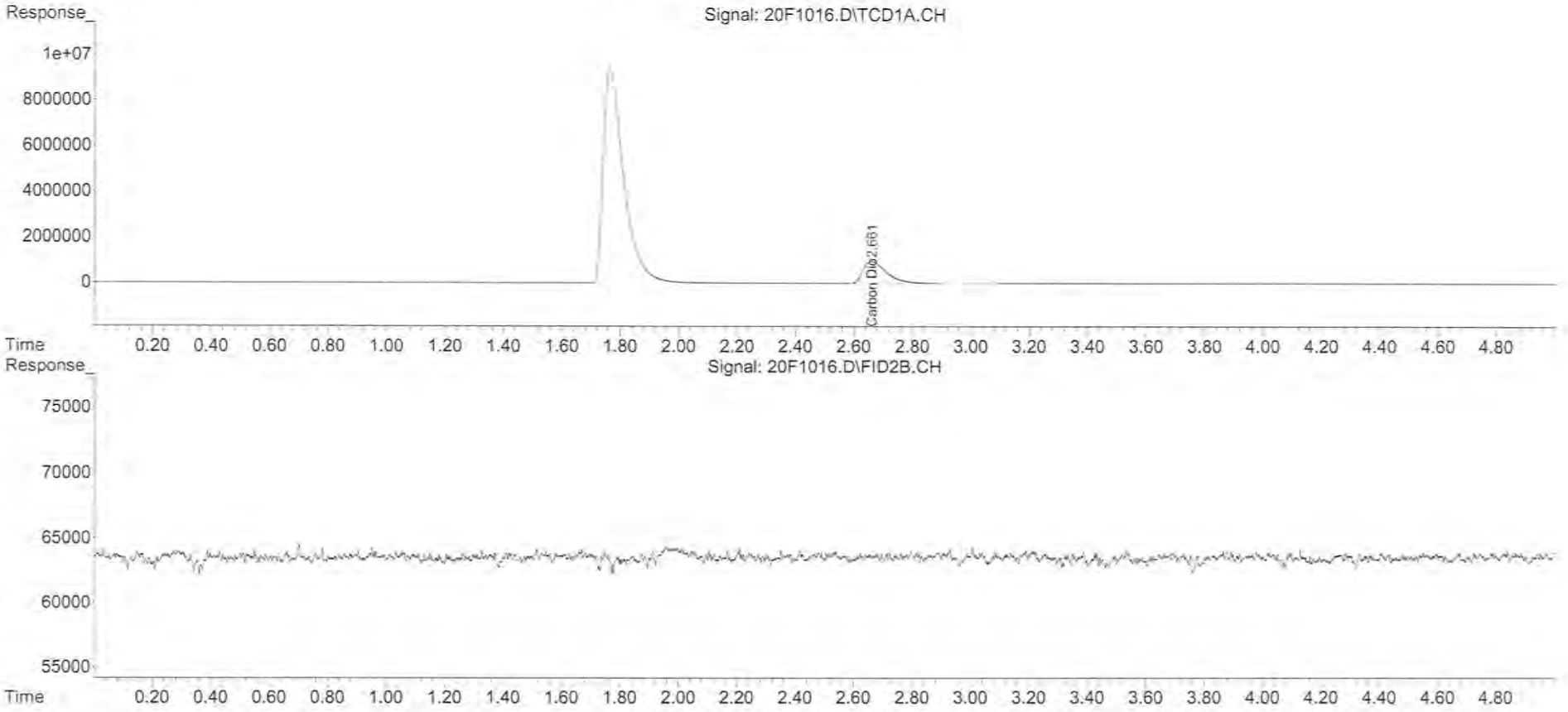
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1016.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 1:56 pm
Operator : KG
Sample : CAL6 co2
Misc :
ALS Vial : 16 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:49:12 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1018.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 2:46 pm
Operator : KG
Sample : CAL7 co2
Misc :
ALS Vial : 18 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:51:08 2020
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2003003::JVGCFID2
QLast Update : Wed May 20 12:03:42 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.650	0.000	95263377	0	181.428495	N.D.	#
2)	Methane	0.000	0.000	0	0	N.D.	N.D.	
3)	Ethene	0.000	0.000	0	0	N.D.	N.D.	
4)	Ethyne	0.000	0.000	0	0	N.D.	N.D.	
5)	Ethane	0.000	0.000	0	0	N.D.	N.D.	

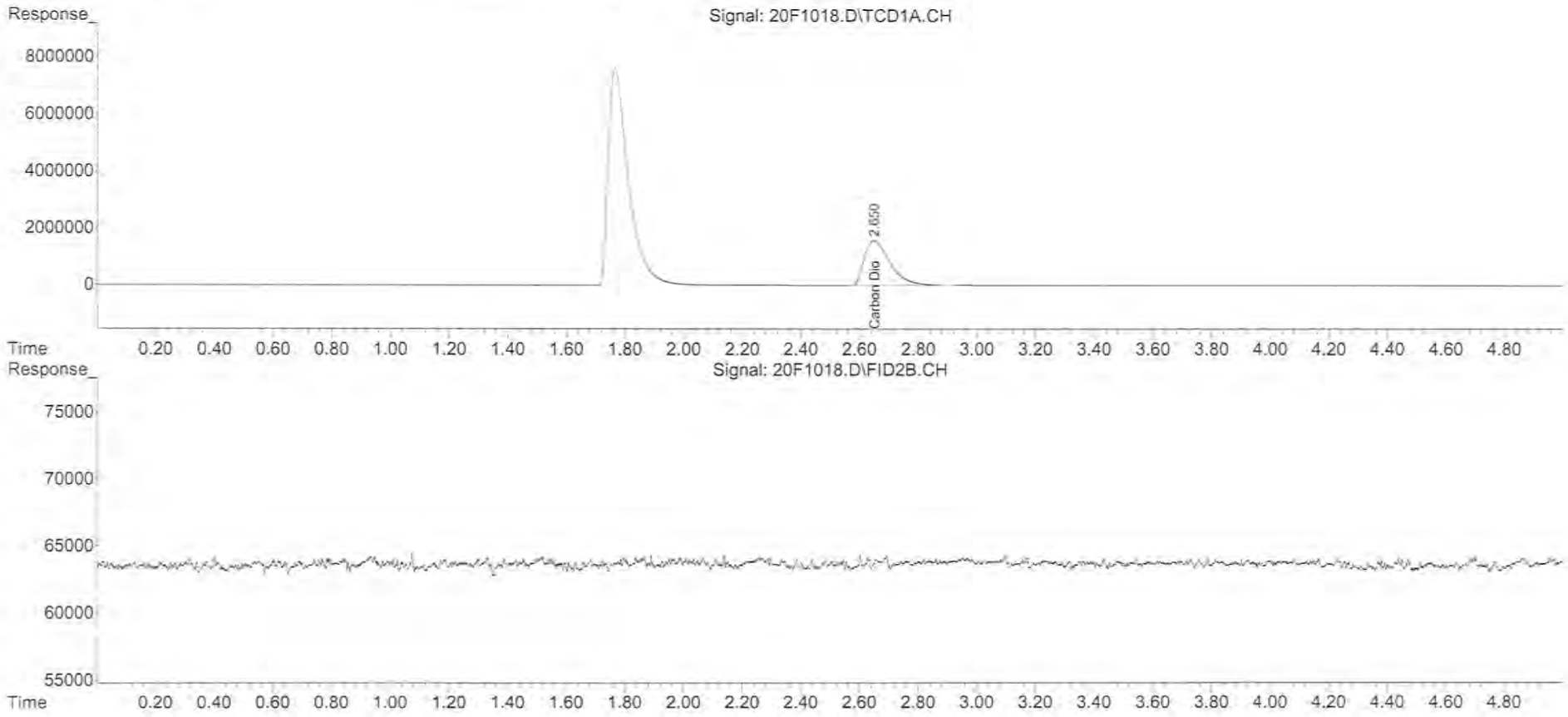
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1018.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 2:46 pm
Operator : KG
Sample : CAL7 co2
Misc :
ALS Vial : 18 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:51:08 2020
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2003003::JVGCFID2
QLast Update : Wed May 20 12:03:42 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1019.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 3:20 pm
Operator : KG
Sample : scv
Misc :
ALS Vial : 19 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 15:37:08 2020
Quant Method : C:\msdchem\1\methods\060120.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
Target Compounds								
1)	Carbon Di...	2.675	2.808	24137180	23532	49.185092	NoCal	#
2)	Methane	0.000	1.966	0	18867811	N.D.	0.167430	#
3)	Ethene	3.722	3.750	1086342	22283694	NoCal	0.300191	#
4)	Ethyne	4.394	4.419	231524	4784315	NoCal	0.284788	#
5)	Ethane	4.653	4.680	1750563	32024183	NoCal	0.332720	#

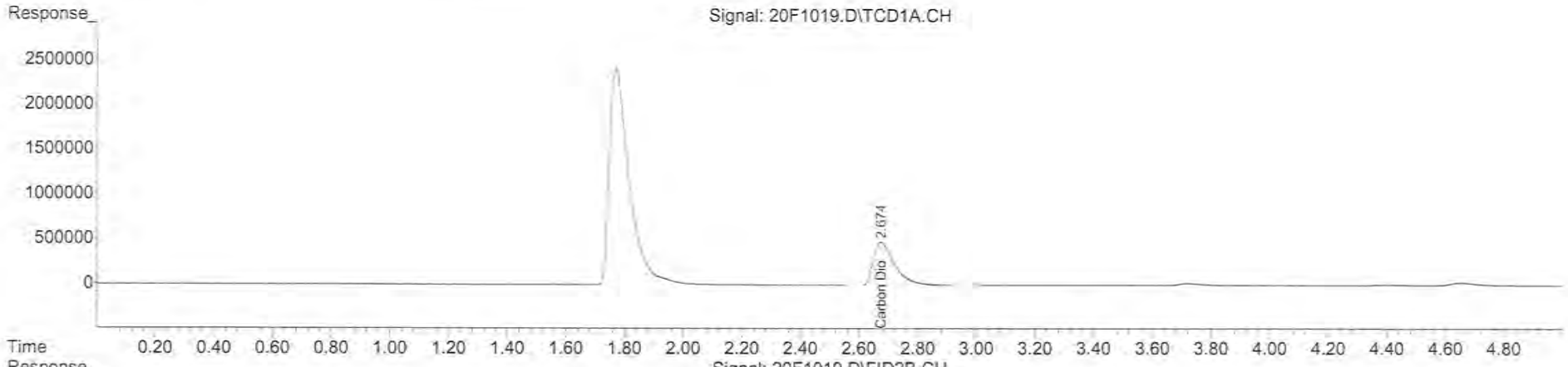
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

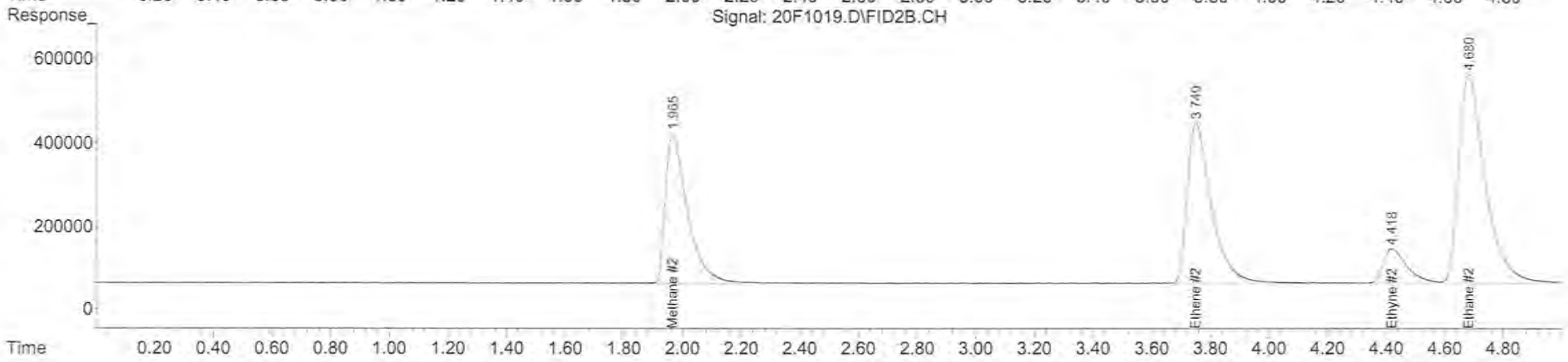
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1019.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 3:20 pm
Operator : KG
Sample : scv
Misc :
ALS Vial : 19 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 15:37:08 2020
Quant Method : C:\msdchem\1\methods\060120.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Manual Integration Review Form

ENVIRONMENTAL CONSERVATION LABORATORIES, INC. ☐ Cary ☐ Jacksonville ☑ Orlando

I hereby attest that the manual integrations contained in this package have been thoroughly reviewed and are in agreement with the associated hardcopy data.

The electronic files listed below have been reviewed for accuracy, completeness and comply with ENCO labs QA-11 Manual Integration Policy including:

- "Before" and "After" chromatograms are provided
- Manual integrations are indicated on expanded scale "after" chromatograms at a scale large enough to see the manual integration performed.
- Reintegration technique marked if available on the data system
- Technical justification for manual integration
- Appropriate flags indicating which analytes were manually integrated are included in the raw data
- Analyst's initials and date.

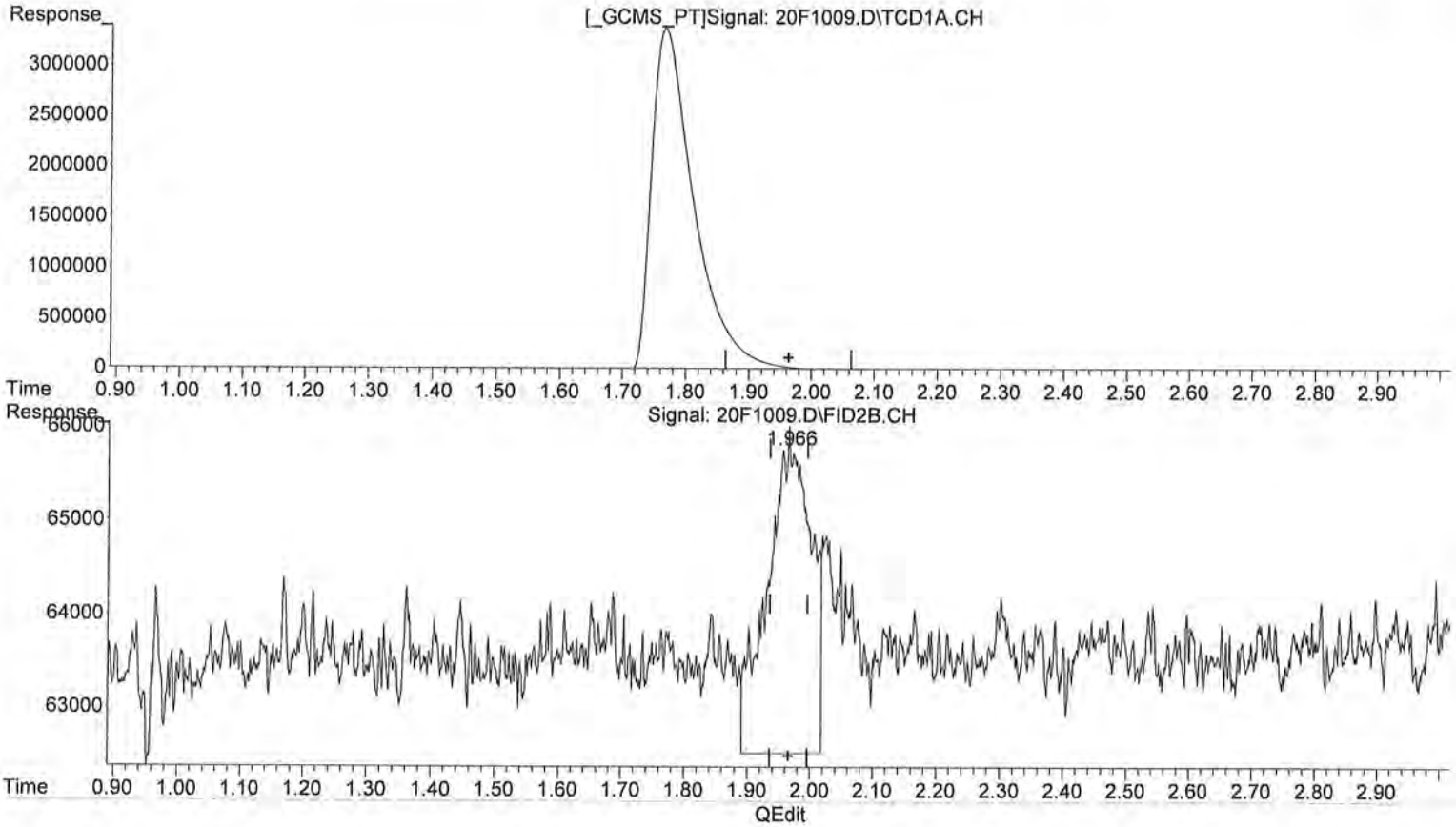
Instrument ID:	OVGCFID2
Sequence/Batch ID:	AA60736
Data File Prefix:	2DF1
Date and Time Range of MIs:	6/1/2020 14:52 - 14:55
Reviewer Print Name:	Karen Watson
Reviewer Signature:	
Date of Review:	06/02/20

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1009.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 12:05 pm
Operator : KG
Sample : CAL1 mee
Misc :
ALS Vial : 9 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:51:42 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(2) Methane

0.000min 0.000 mg/L

response 0

(2) Methane #2

1.967min 0.001 mg/L

response 163615

(+) = Expected Retention Time
052820.M Mon Jun 01 14:52:54 2020

Select One:

[✓] Original Integration [ ] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date KK 6/11/2020

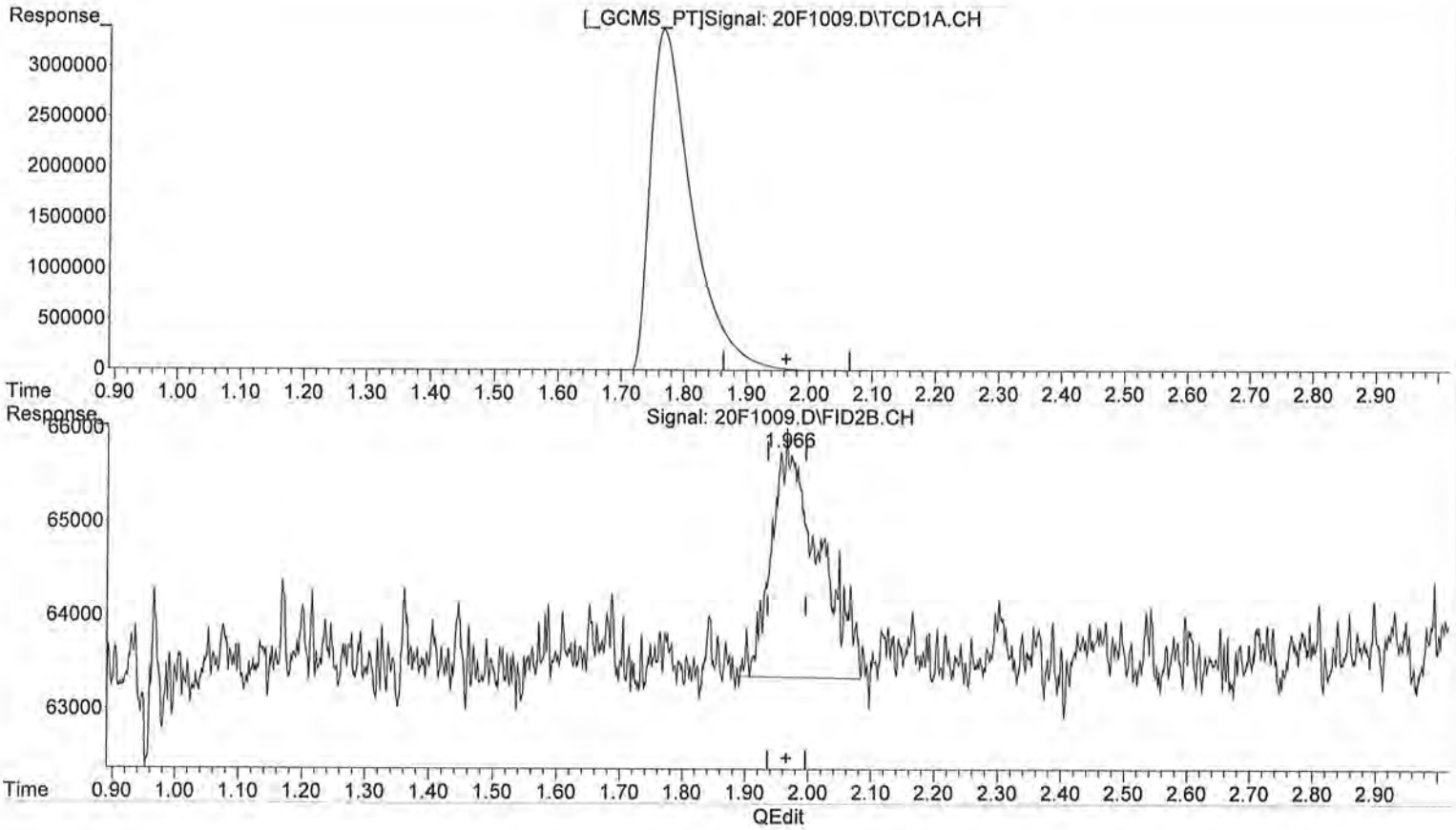
Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1009.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 12:05 pm
Operator : KG
Sample : CAL1 mee
Misc :
ALS Vial : 9 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:51:42 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(2) Methane

0.000min 0.000 mg/L

response 0

(2) Methane #2

1.966min 0.001 mg/L m

response 134006

(+) = Expected Retention Time

052820.M Mon Jun 01 14:53:24 2020

Select One:

[ ] Original Integration [✓] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date KG 6/1/2020

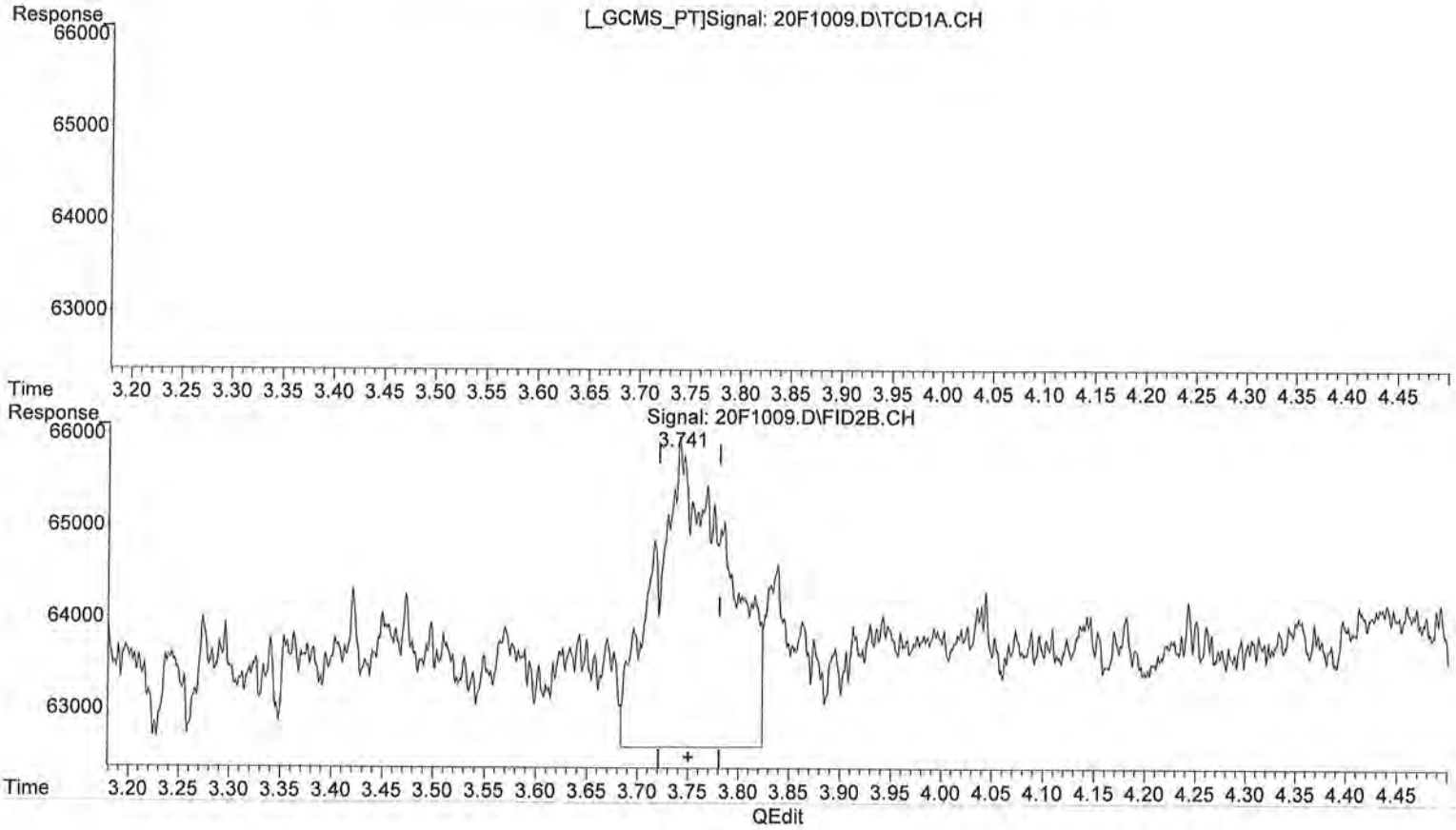
Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1009.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 12:05 pm
Operator : KG
Sample : CAL1 mee
Misc :
ALS Vial : 9 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:51:42 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(3) Ethene
3.697min 0.000 mg/L
response 157759

(3) Ethene #2
3.743min 0.002 mg/L
response 165714

(+) = Expected Retention Time
052820.M Mon Jun 01 14:53:35 2020

Select One:
[✓] Original Integration [ ] Manual Integration
Select reason for manual integration:
[✓] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date MB 6/01/2020
Review by/Date:

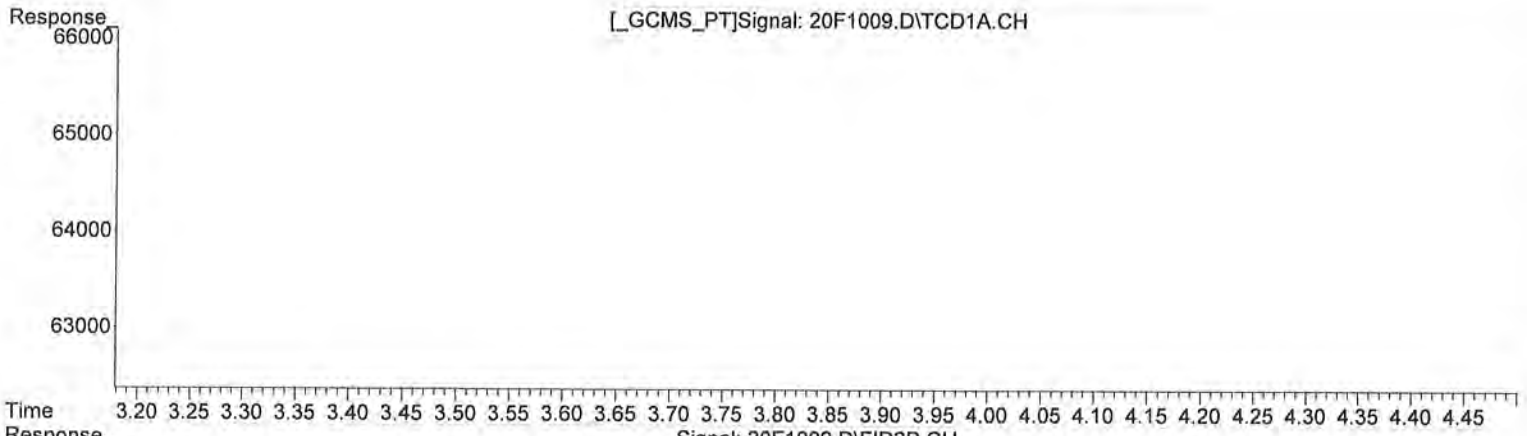
Page: 1

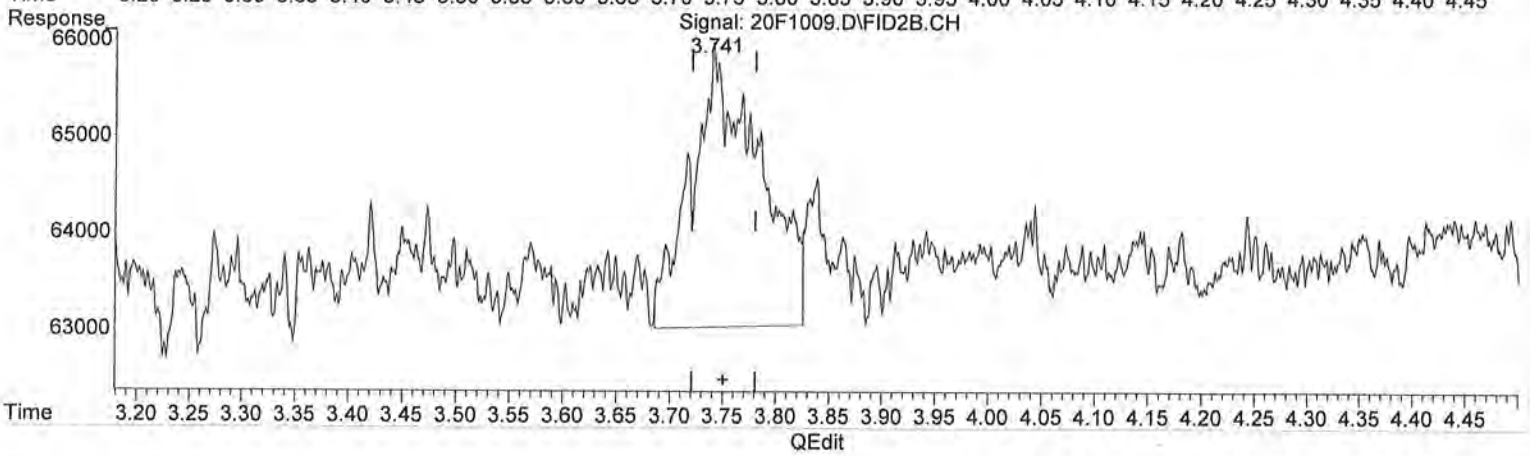
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1009.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 12:05 pm
Operator : KG
Sample : CAL1 mee
Misc :
ALS Vial : 9 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:51:42 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





(3) Ethene
3.697min 0.000 mg/L
response 157759

(3) Ethene #2
3.741min 0.002 mg/L m
response 129877

Select One:
[ ] Original Integration [✓] Manual Integration
Select reason for manual integration:
[✓] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date [illegible] 6/1/2020
Review by/Date:

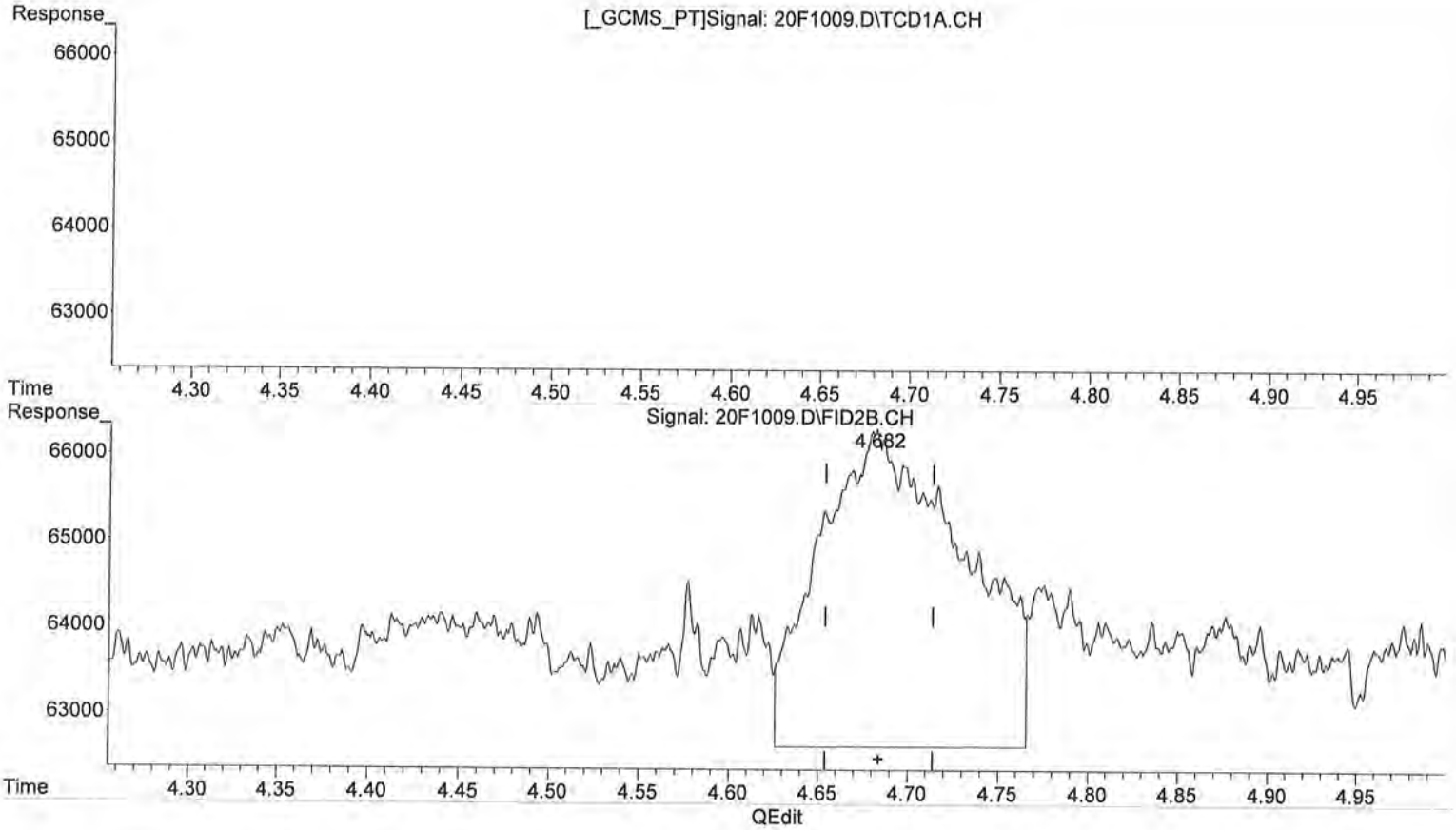
(+) = Expected Retention Time
052820.M Mon Jun 01 14:53:41 2020

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1009.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 12:05 pm
Operator : KG
Sample : CAL1 mee
Misc :
ALS Vial : 9 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:51:42 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(5) Ethane
4.645min 0.000 mg/L
response 82454

(5) Ethane #2
4.682min 0.002 mg/L
response 205250

(+) = Expected Retention Time

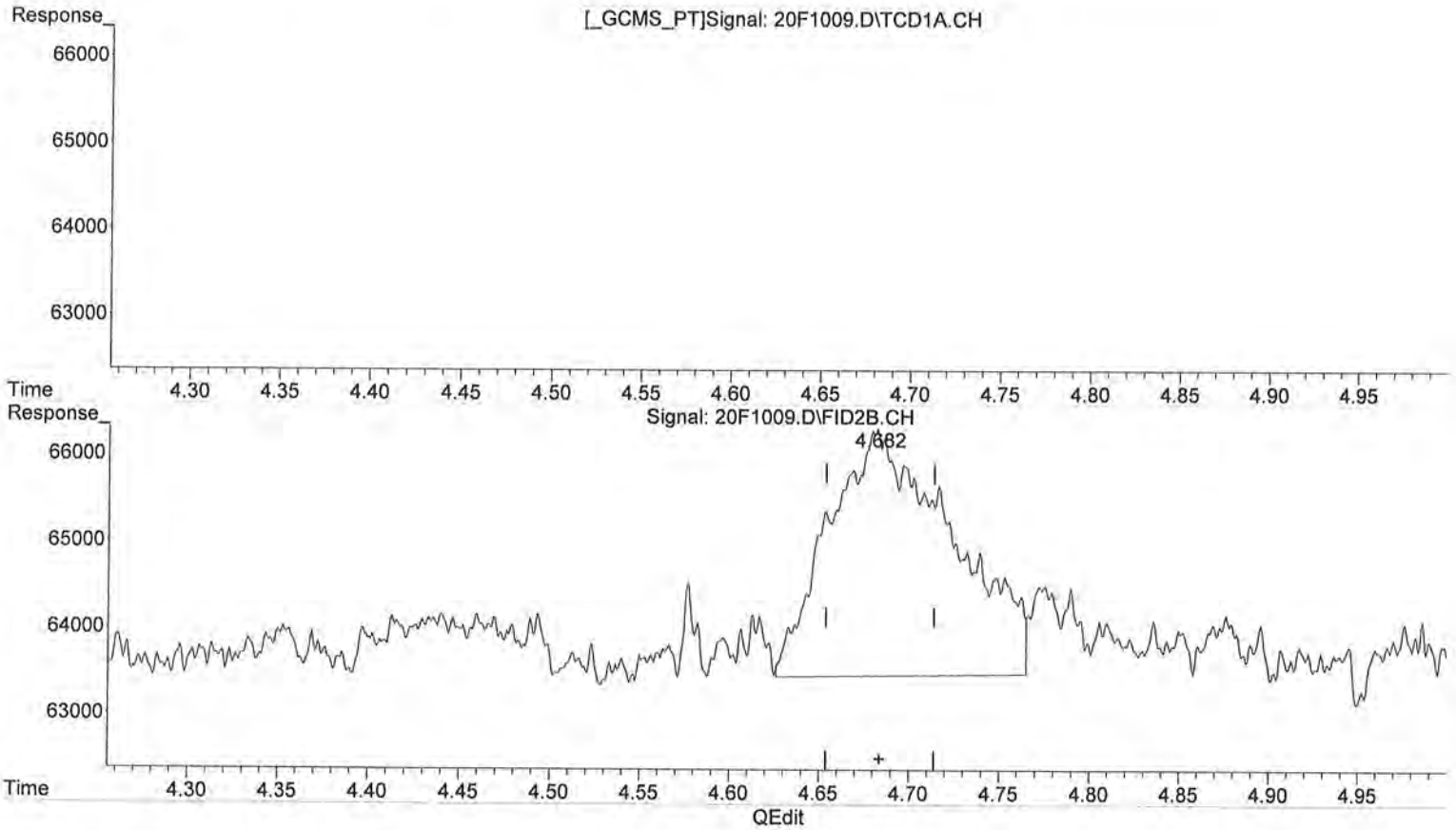
Select One:
[✓] Original Integration [ ] Manual Integration
Select reason for manual integration:
[✓] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date MF 6/1/2020
Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1009.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 12:05 pm
Operator : KG
Sample : CAL1 mee
Misc :
ALS Vial : 9 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:51:42 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(5) Ethane
4.645min 0.000 mg/L
response 82454

(5) Ethane #2
4.682min 0.001 mg/L m
response 136099

(+) = Expected Retention Time
052820.M Mon Jun 01 14:54:09 2020

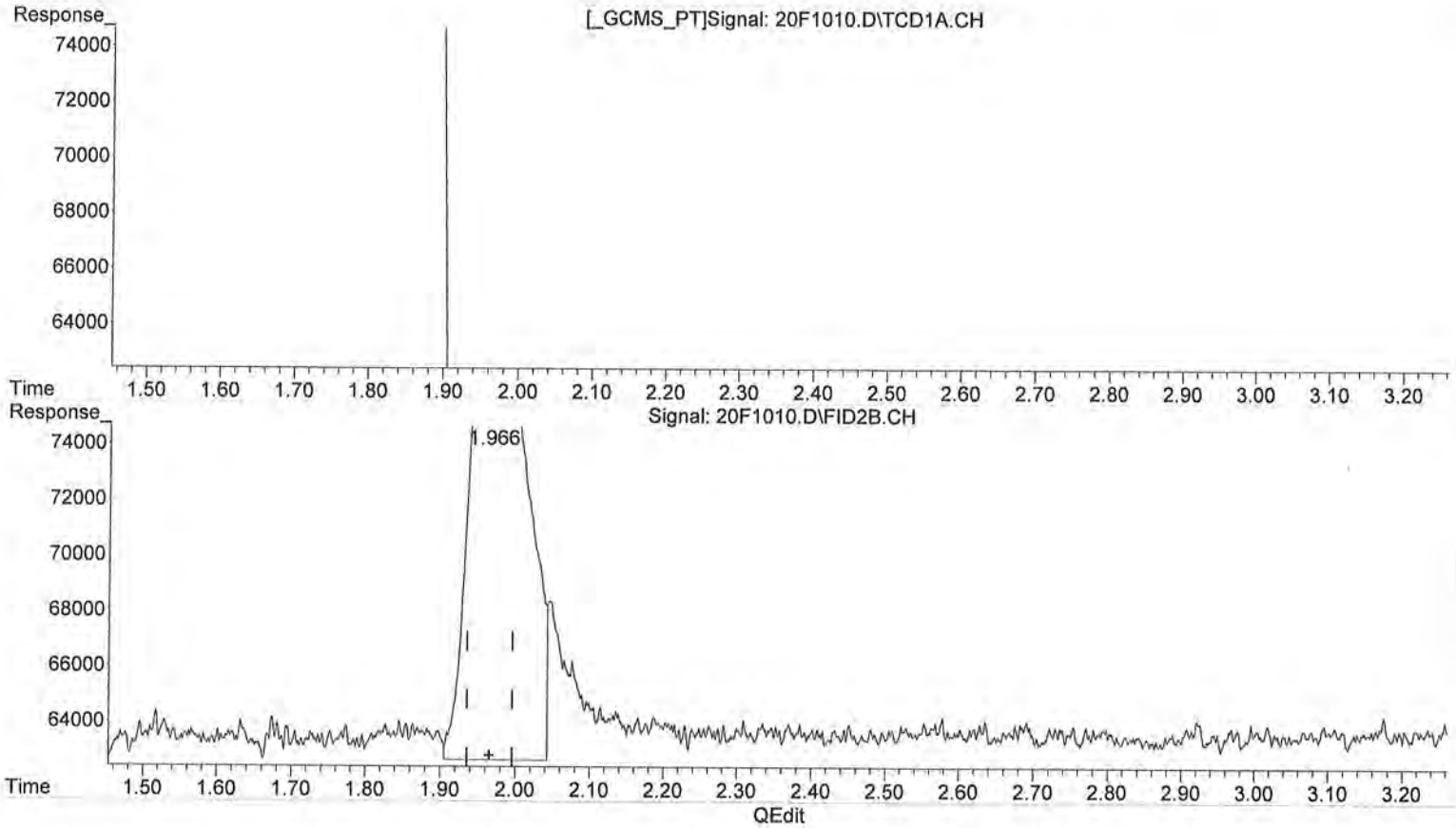
Select One:
[ ] Original Integration [X] Manual Integration
Select reason for manual integration:
[X] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date KG 6/1/2020
Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1010.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 12:21 pm
Operator : KG
Sample : CAL2 mee
Misc :
ALS Vial : 10 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:54:18 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(2) Methane

0.000min 0.000 mg/L

response 0

(2) Methane #2

1.966min 0.007 mg/L

response 923443

(+) = Expected Retention Time

052820.M Mon Jun 01 14:54:30 2020

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date LB 6/1/2020

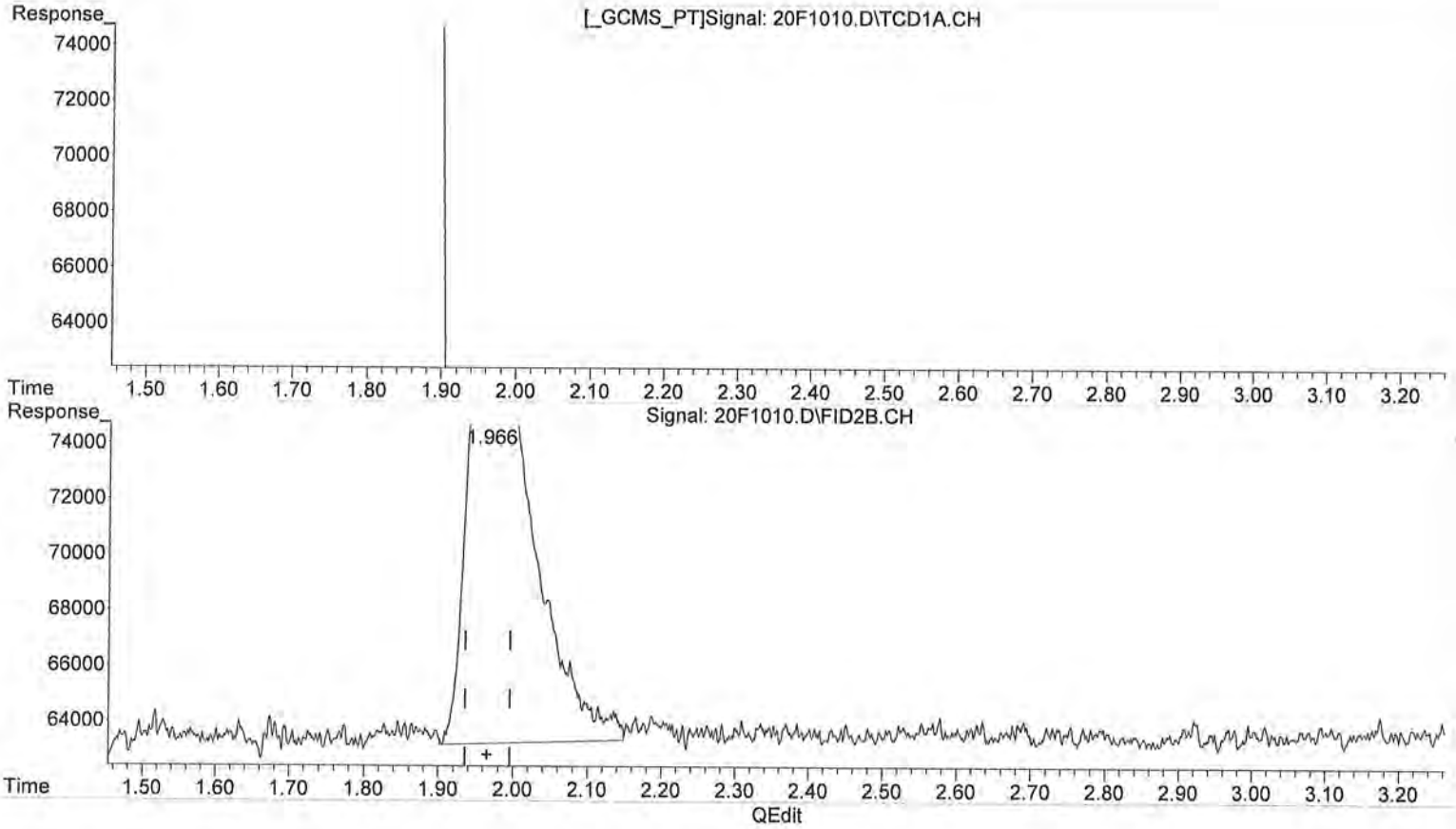
Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1010.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 12:21 pm
Operator : KG
Sample : CAL2 mee
Misc :
ALS Vial : 10 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:54:18 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(2) Methane

0.000min 0.000 mg/L

response 0

(2) Methane #2

1.966min 0.008 mg/L m

response 997852

(+) = Expected Retention Time

052820.M Mon Jun 01 14:54:37 2020

Select One:

[ ] Original Integration [✓] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date [illegible] 6/1/2020

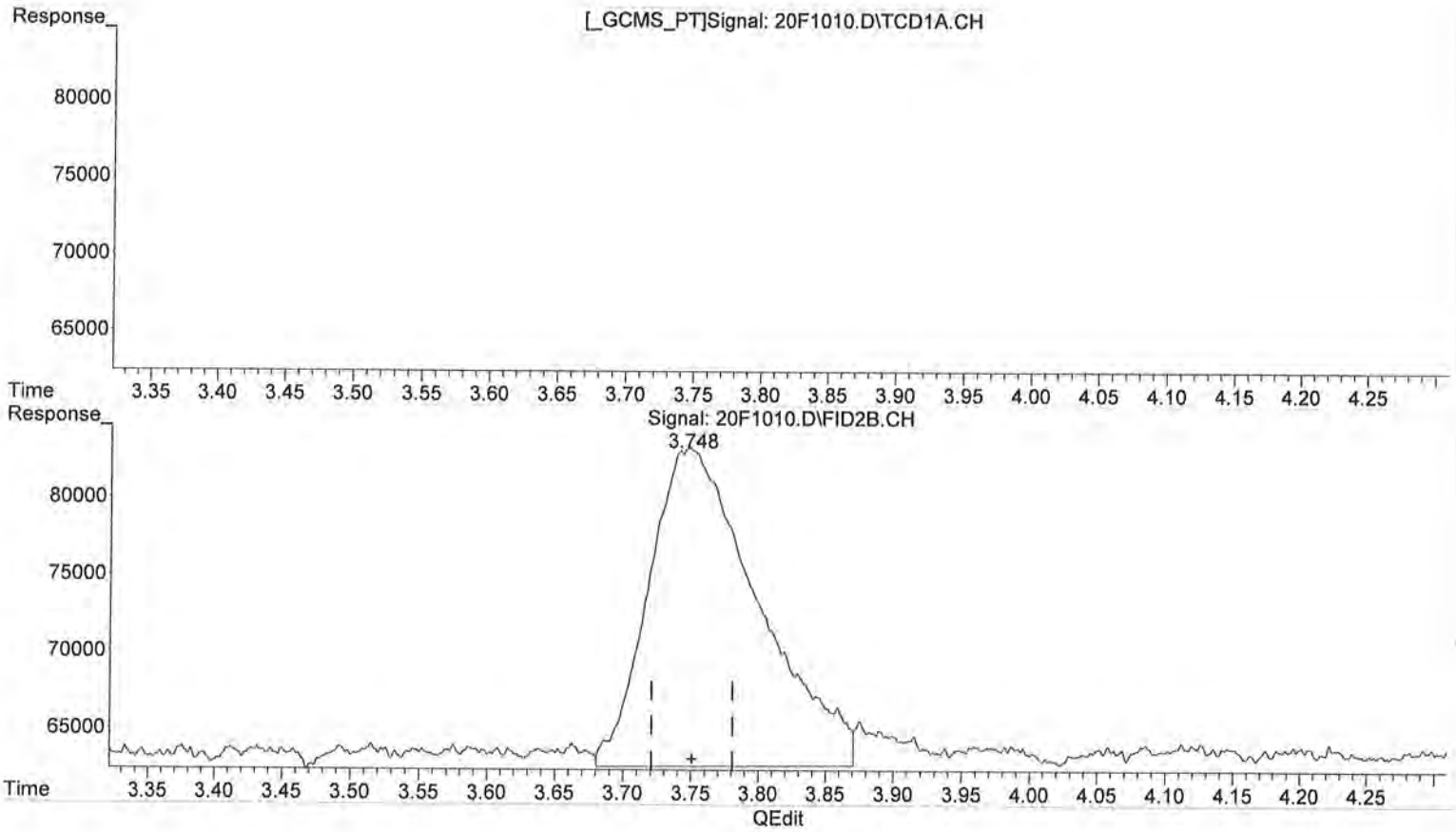
Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1010.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 12:21 pm
Operator : KG
Sample : CAL2 mee
Misc :
ALS Vial : 10 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:54:18 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(3) Ethene
3.717min 0.000 mg/L
response 143000

(3) Ethene #2
3.749min 0.014 mg/L
response 1162514

(+) = Expected Retention Time
052820.M Mon Jun 01 14:55:15 2020

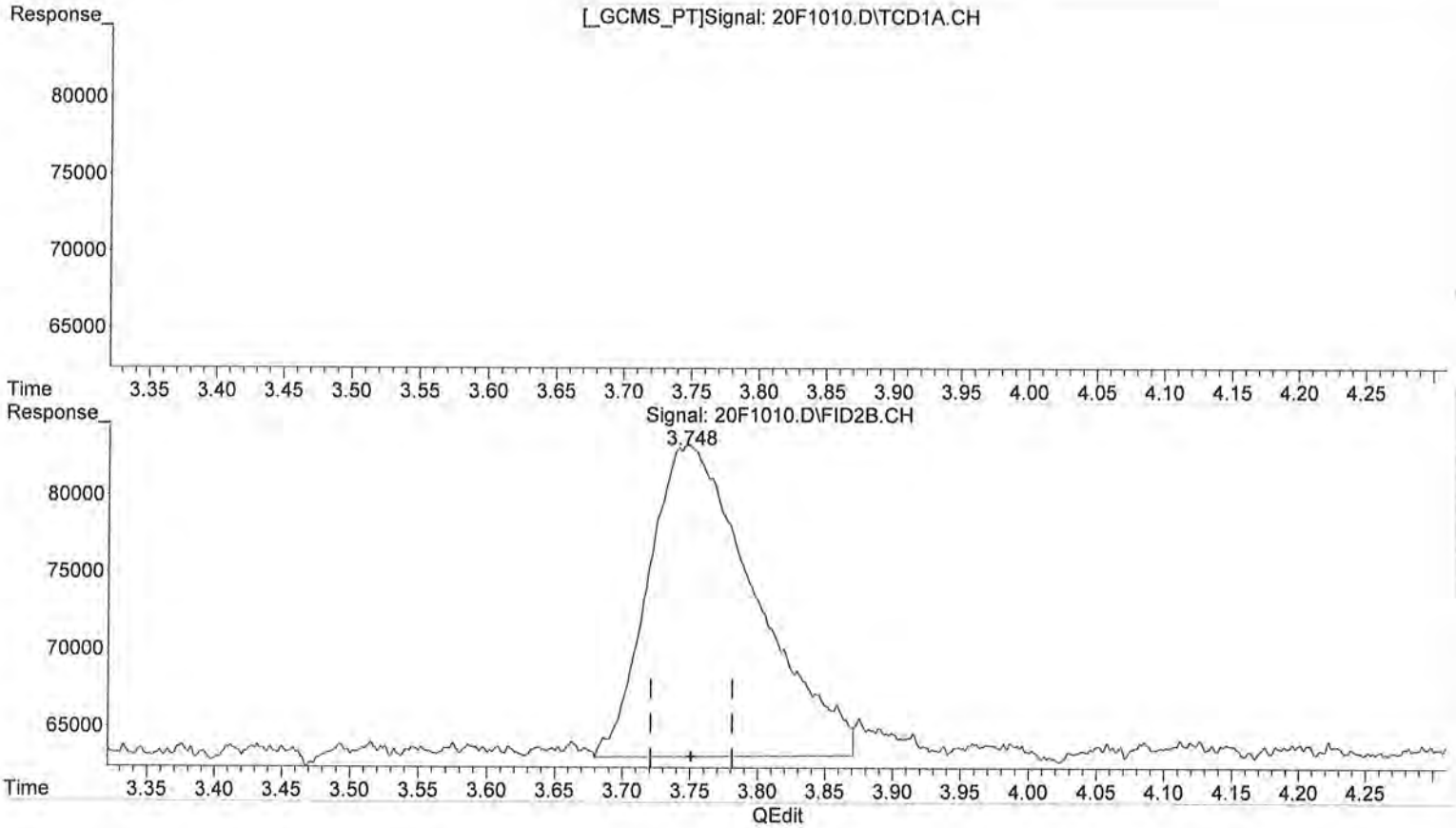
Select One:
[✓] Original Integration [ ] Manual Integration
Select reason for manual integration:
[✓] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date KS 6/1/2020
Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1010.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 12:21 pm
Operator : KG
Sample : CAL2 mee
Misc :
ALS Vial : 10 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:54:18 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(3) Ethene
3.717min 0.000 mg/L
response 143000

(3) Ethene #2
3.748min 0.014 mg/L m
response 1105571

Select One:
[ ] Original Integration [✓] Manual Integration
Select reason for manual integration:
[✓] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date ks 6/1/2020
Review by/Date:

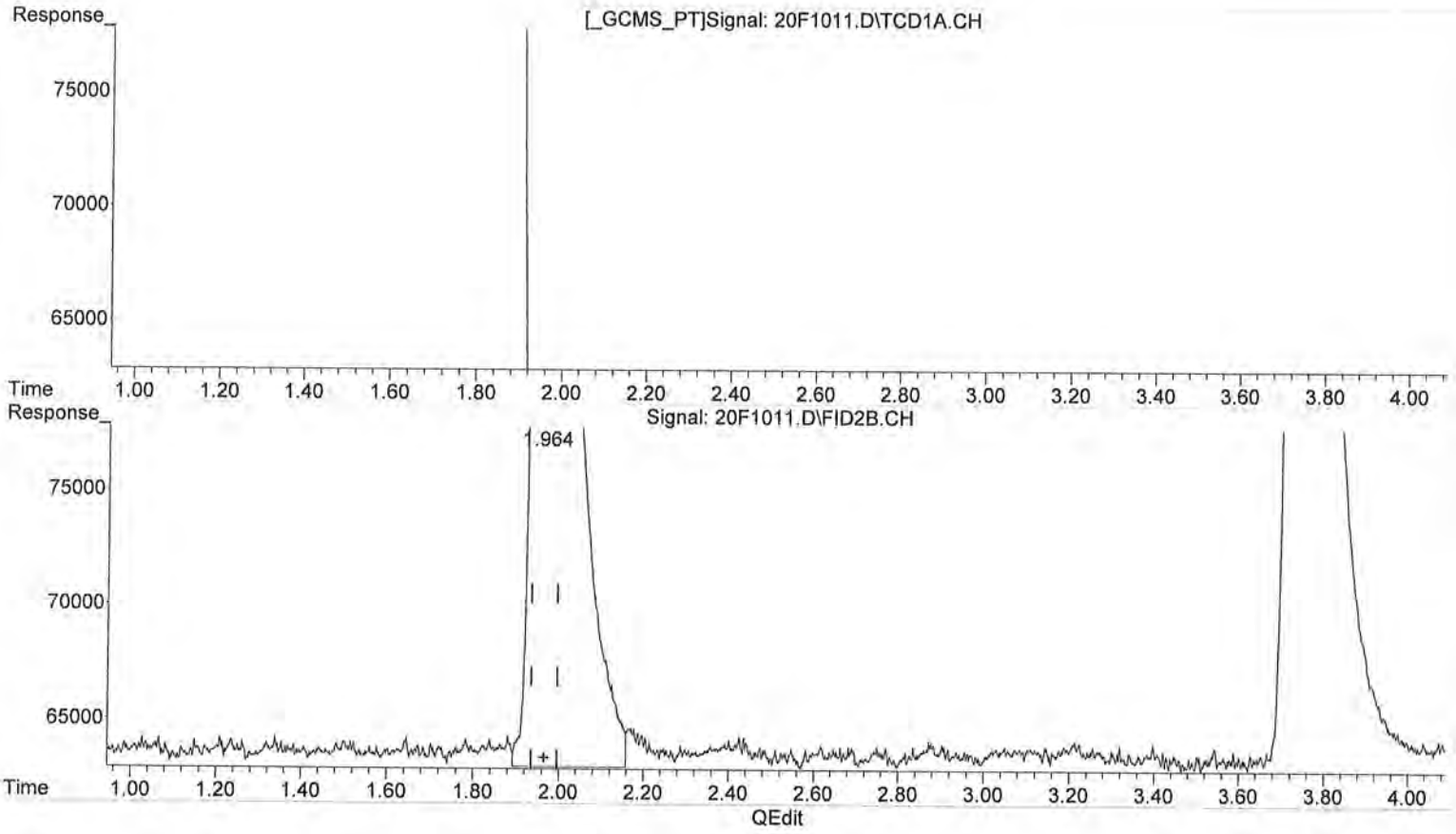
(+) = Expected Retention Time
052820.M Mon Jun 01 14:55:21 2020

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1011.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 12:37 pm
Operator : KG
Sample : CAL3 mee
Misc :
ALS Vial : 11 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:12:55 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(2) Methane

0.000min 0.000 mg/L

response 0

(2) Methane #2

1.965min 0.030 mg/L

response 3865957

(+) = Expected Retention Time
052820.M Mon Jun 01 14:55:42 2020

Select One:

[✓] Original Integration [ ] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date KR 6/1/2020

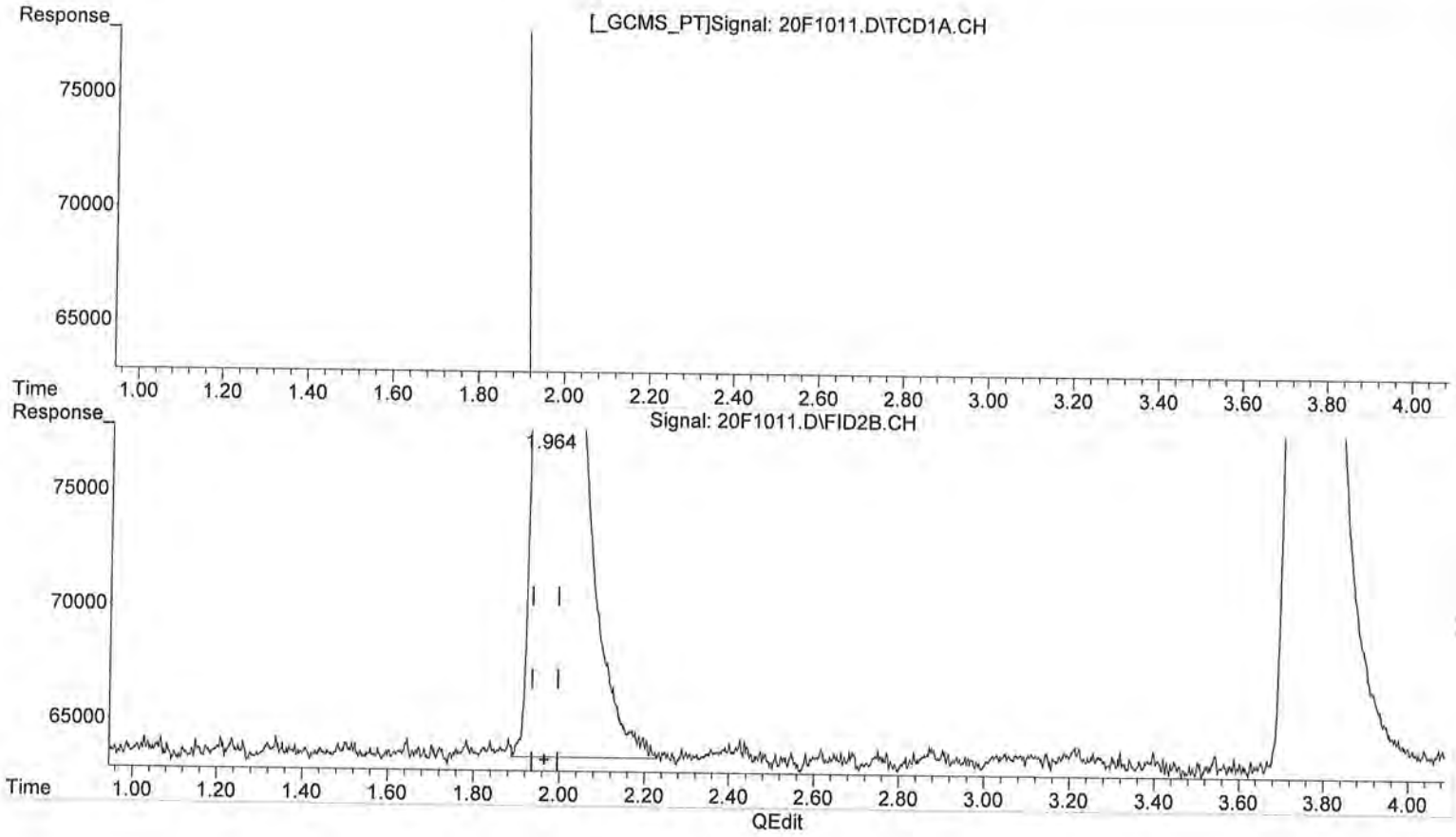
Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\060120\
Data File : 20F1011.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Jun 2020 12:37 pm
Operator : KG
Sample : CAL3 mee
Misc :
ALS Vial : 11 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 01 14:12:55 2020
Quant Method : C:\msdchem\1\methods\052820.M
Quant Title : VGC-2005126::OVGCFID2
QLast Update : Thu May 28 13:27:10 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(2) Methane

0.000min 0.000 mg/L

response 0

(2) Methane #2

1.964min 0.030 mg/L m

response 3814103

(+) = Expected Retention Time

052820.M Mon Jun 01 14:55:47 2020

Select One:

[ ] Original Integration [✓] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date KEF 6/1/2020

Review by/Date:

TETRA TECH ISG
TtNUS, Information Systems Group

Completion Ticket

On 2/4/2021 at 1:15 PM the following files were submitted to Tetra Tech by kdylnicki@encolabs.com with ENCO:

TE016AE00066A1.txt, TE016AE00066A3.txt

If you need to identify this session at a later date refer to Ticket Key:

202124_3028038536_ledd_ENCO

You may print this page by clicking on the "Print This Page" button

Thank you for using the Data Checker, to upload more files click the "Upload/Check Files" link on navigation menu.

Print this Page Back To Upload

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I Lori S. Mangrum, as the designated Quality Assurance Officer, hereby attest that all electronic deliverables have been thoroughly reviewed and are in agreement with the associated hardcopy data. The enclosed electronic files have been reviewed for accuracy (including significant figures), completeness and format. The laboratory will be responsible for any labor time necessary to correct enclosed electronic deliverables that have been found to be in error. I can be reached at (407) 826-5314 if there are any questions or problems with the enclosed electronic deliverables.

Signature:_____ Title: Quality Assurance Manager Date: February 10, 2021

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ENCO Laboratories

Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Thursday, January 28, 2021
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AE00066

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Thursday, January 21, 2021.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

www.encolabs.com

Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Client PM: Alex Murphy
Project Number: 112G08970
ENCO Project ID: AE00066
SDG: AE00066-TE016

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling and processing will be discussed in the Remarks section below.

Remarks

List of instruments used:

Analytical and Preparation Method	SOP Reference Instrument
EPA 8260D / 5030B_MS	OVGCMS2, OVGCMS5
TO-15	OVGCMS7
RSK-175	OVGCFID2

Analysis: EPA 8260D

Manual integrations were performed on samples associated with EPA 8260D. All data & explanations are included in the raw data section of the report.

Affected Samples: 1A25020-BS1, CRCA-MW0030-058.0-20210119[AE00066-01], CRCA-MW0029-035.0-20210119[AE00066-02], CRCA-MW0028-058.0-20210119[AE00066-03], CRCA-MW0027-035.0-20210119[AE00066-04], CRCA-MW0015-027.5-20210119[AE00066-05], CRCA-MW0013-027.5-20210119[AE00066-06], CRCA-MW0012-027.5-20210119[AE00066-07], CRCA-MW0002-032.5-20210119[AE00066-08], CRCA-MW0031-058.0-20210120[AE00066-09], CRCA-MW0032-058.0-20210120[AE00066-10], CRCA-MW0019-058.0-20210120[AE00066-12]
The associated laboratory control sample exhibited low bias for methyl acetate; the associated sample had ND (non-detect) results, but sensitivity was verified by analyzing a standard with a concentration equivalent to the reporting limit.

Affected Samples: CRCA-MW0032-058.0-20210120[AE00066-10], 1A25020-MS1, 1A25020-MSD1
Matrix spike recovery was outside acceptance limits for m,p-xylenes, methyl acetate, and/or styrene.

Affected Samples: 1A26010-BS1, CRCA-MW0018-058.0-20210120[AE00066-11RE1]
The associated laboratory control sample for multiple analytes exhibited high bias. Analyte(s) not detected in the sample.

Affected Samples: AA64658-CCV1, CRCA-MW0018-058.0-20210120[AE00066-11RE1]
The associated calibration verification standard for methyl acetate exhibited high bias. Analyte(s) not detected in the sample

Affected Samples: CRCA-MW0018-058.0-20210120[AE00066-11]
Sample was analyzed at a dilution due to suspected matrix interference.

Affected Samples: CRCA-MW0018-058.0-20210120[AE00066-11]
Initial analysis was over diluted. Sample was reanalyzed at a lower dilution.

Affected Samples: 1A26010-MS1, 1A26010-MSD1
Matrix spike recovery was outside acceptance limits for carbon disulfide, cyclohexane, and/or methyl acetate.

Affected Samples: AA64632-CCV1, AA64658-CCV1
The continuing calibration verification standard exhibited low bias for multiple analytes; the associated sample had ND (non-detect) results, but sensitivity was verified by analyzing a standard with a concentration equivalent to the reporting limit.

Analysis: TO-15

The calibration curve and the continuing calibration standards are in ppbv. Raw data is reported in pptv. Per request, results may be reported in a unit other than ppbv which is obtained through a conversion factor set up in the laboratories' database.

Methylene chloride is a common laboratory contaminant.

Affected Samples: 1A25023-BLK1, CRCA-VMP01-20210120[AE00066-13RE1], CRCA-VMP02-20210120[AE00066-14], CRCA-VMP03-20210120[AE00066-15RE1], CRCA-SYSAIR-20210120[AE00066-17]
Result for methylene chloride may be biased high due to positive results in the associated method blank.

Affected Samples: CRCA-VMP01-20210120[AE00066-13], CRCA-VMP03-20210120[AE00066-15], CRCA-VMP04-20210120[AE00066-16]
Sample was analyzed at a dilution due to suspected matrix interference.

Affected Samples: CRCA-VMP01-20210120[AE00066-13], CRCA-VMP03-20210120[AE00066-15], CRCA-VMP04-20210120[AE00066-16],
Initial analysis was over diluted. Sample was reanalyzed at a lower dilution.

Affected Samples: CRCA-VMP04-20210120[AE00066-16RE1]
Sample was analyzed at a dilution due to the presence of high non-target analytes.

Affected Samples: AA64317-SCV1
SCV recovery for trans-1,3-dichloropropene was outside acceptance limits. Analyte was not detected in the samples.

Analysis: RSK-175

Manual integrations were performed on samples associated with RSK-175. All data & explanations are included in the raw data section of the report.

Affected Samples: CRCA-MW0031-058.0-20210120[AE00066-09], CRCA-MW0018-058.0-20210120[AE00066-11], CRCA-MW0019-058.0-20210120[AE00066-12]
The associated calibration verification standard for ethane exhibited high bias. Analyte(s) not detected in the sample.

Affected Samples: CRCA-MW0031-058.0-20210120[AE00066-09], 1A26006-DUP1
Precision between duplicate samples was outside acceptance limits for methane.

Affected Samples: AA64653-CCV2, CRCA-MW0018-058.0-20210120[AE00066-11]
Initial result for methane was above the calibration range of the instrument. Sample was reanalyzed at a dilution.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-MW0030-058.0-20210119 **Lab ID: AE00066-01** **Sampled: 01/19/21 11:05** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 12:17

Client ID: CRCA-MW0029-035.0-20210119 **Lab ID: AE00066-02** **Sampled: 01/19/21 11:40** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 12:46

Client ID: CRCA-MW0028-058.0-20210119 **Lab ID: AE00066-03** **Sampled: 01/19/21 12:20** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 13:15

Client ID: CRCA-MW0027-035.0-20210119 **Lab ID: AE00066-04** **Sampled: 01/19/21 13:00** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 13:45

Client ID: CRCA-MW0015-027.5-20210119 **Lab ID: AE00066-05** **Sampled: 01/19/21 13:35** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 14:14

Client ID: CRCA-MW0013-027.5-20210119 **Lab ID: AE00066-06** **Sampled: 01/19/21 14:30** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 14:44

Client ID: CRCA-MW0012-027.5-20210119 **Lab ID: AE00066-07** **Sampled: 01/19/21 15:10** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 15:13

Client ID: CRCA-MW0002-032.5-20210119 **Lab ID: AE00066-08** **Sampled: 01/19/21 15:45** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 15:43

Client ID: CRCA-MW0031-058.0-20210120 **Lab ID: AE00066-09** **Sampled: 01/20/21 12:15** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/03/21	01/25/21 00:00	01/25/21 16:12
RSK 175	Same	02/03/21	01/26/21 00:00	01/26/21 11:20

Client ID: CRCA-MW0032-058.0-20210120 **Lab ID: AE00066-10** **Sampled: 01/20/21 13:00** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/03/21	01/25/21 00:00	01/25/21 11:47

Client ID: CRCA-MW0018-058.0-20210120 **Lab ID: AE00066-11** **Sampled: 01/20/21 14:00** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	02/03/21	01/26/21 00:00	01/26/21 11:36

Client ID: CRCA-MW0018-058.0-20210120 **Lab ID: AE00066-11RE1** **Sampled: 01/20/21 14:00** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/03/21	01/26/21 00:00	01/26/21 15:52
RSK 175	Same	02/03/21	01/26/21 00:00	01/26/21 12:16

Client ID: CRCA-MW0019-058.0-20210120 **Lab ID: AE00066-12** **Sampled: 01/20/21 16:00** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/03/21	01/25/21 00:00	01/25/21 17:11
RSK 175	Same	02/03/21	01/26/21 00:00	01/26/21 11:52

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-VMP01-20210120 **Lab ID: AE00066-13RE1** **Sampled: 01/20/21 11:03** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	02/19/21	01/25/21 09:00	01/25/21 10:36

Client ID: CRCA-VMP02-20210120 **Lab ID: AE00066-14** **Sampled: 01/20/21 11:06** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	02/19/21	01/25/21 09:00	01/25/21 11:18

Client ID: CRCA-VMP03-20210120 **Lab ID: AE00066-15RE1** **Sampled: 01/20/21 11:15** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	02/19/21	01/25/21 09:00	01/25/21 14:06

Client ID: CRCA-VMP04-20210120 **Lab ID: AE00066-16RE1** **Sampled: 01/20/21 11:22** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	02/19/21	01/25/21 09:00	01/25/21 14:47

Client ID: CRCA-SYSAIR-20210120 **Lab ID: AE00066-17** **Sampled: 01/20/21 17:03** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	02/19/21	01/25/21 09:00	01/25/21 13:21

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-MW0027-035.0-20210119 **Lab ID:** AE00066-04

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	7.0		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0013-027.5-20210119 **Lab ID:** AE00066-06

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	2.1	I	0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0002-032.5-20210119 **Lab ID:** AE00066-08

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	3.1		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0031-058.0-20210120 **Lab ID:** AE00066-09

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	0.152		0.00400	0.00500	mg/L	RSK 175	QM-12
Vinyl chloride	29		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0018-058.0-20210120 **Lab ID:** AE00066-11

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethene	0.0216		0.00510	0.00600	mg/L	RSK 175	

Client ID: CRCA-MW0018-058.0-20210120 **Lab ID:** AE00066-11RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	2.09		0.0400	0.0500	mg/L	RSK 175	
Vinyl chloride	97		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0019-058.0-20210120 **Lab ID:** AE00066-12

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	0.510		0.00400	0.00500	mg/L	RSK 175	
Vinyl chloride	2.8		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-VMP01-20210120 **Lab ID:** AE00066-13RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	5.9		0.47	3.4	ppbv	TO-15	
Freon 113	3.9		0.43	3.4	ppbv	TO-15	
Methylene chloride	0.75	IV	0.27	3.4	ppbv	TO-15	J-01, O-01

Client ID: CRCA-VMP02-20210120 **Lab ID:** AE00066-14

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	3.5	I	0.94	6.8	ppbv	TO-15	
Freon 113	120		0.86	6.8	ppbv	TO-15	
Methylene chloride	0.97	IV	0.54	6.8	ppbv	TO-15	J-01, O-01
trans-1,2-Dichloroethene	5.5	I	0.86	6.8	ppbv	TO-15	

Client ID: CRCA-VMP03-20210120 **Lab ID:** AE00066-15RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	4.1		0.56	4.0	ppbv	TO-15	
Chloroform	1.9	I	0.60	4.0	ppbv	TO-15	
Freon 113	8.1		0.51	4.0	ppbv	TO-15	
Methylene chloride	1.1	IV	0.32	4.0	ppbv	TO-15	J-01, O-01

Client ID: CRCA-VMP04-20210120 **Lab ID:** AE00066-16RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	31		0.98	7.0	ppbv	TO-15	
Freon 113	34		0.90	7.0	ppbv	TO-15	
Methylene chloride	1.1	IV	0.56	7.0	ppbv	TO-15	J-01, O-01, R-05

Client ID: CRCA-SYSAIR-20210120 **Lab ID:** AE00066-17

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	2.6	I	0.46	3.3	ppbv	TO-15	
Methylene chloride	0.99	IV	0.26	3.3	ppbv	TO-15	J-01, O-01
trans-1,2-Dichloroethene	0.96	I	0.42	3.3	ppbv	TO-15	

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ANALYTICAL RESULTS

Description: CRCA-MW0030-058.0-20210119 **Lab Sample ID:** AE00066-01 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 11:05 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 12:17	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:17	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	

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ANALYTICAL RESULTS

Description: CRCA-MW0030-058.0-20210119 **Lab Sample ID:** AE00066-01 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 11:05 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 12:17	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*106 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 12:17*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*115 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 12:17*	*KKW*	
Toluene-d8	*48*	*1*	*50.0*	*97 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 12:17*	*KKW*	

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ANALYTICAL RESULTS

Description: CRCA-MW0029-035.0-20210119 **Lab Sample ID:** AE00066-02 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 11:40 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 12:46	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:46	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0029-035.0-20210119 **Lab Sample ID:** AE00066-02 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 11:40 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 12:46	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*107 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 12:46*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*114 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 12:46*	*KKW*	
Toluene-d8	*48*	*1*	*50.0*	*96 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 12:46*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0028-058.0-20210119 **Lab Sample ID:** AE00066-03 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 12:20 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 13:15	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:15	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0028-058.0-20210119 **Lab Sample ID:** AE00066-03 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 12:20 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 13:15	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*105 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 13:15*	*KKW*	
Dibromofluoromethane	*56*	*1*	*50.0*	*111 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 13:15*	*KKW*	
Toluene-d8	*48*	*1*	*50.0*	*95 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 13:15*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0027-035.0-20210119 **Lab Sample ID:** AE00066-04 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 13:45	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:45	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0027-035.0-20210119 **Lab Sample ID:** AE00066-04 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Vinyl chloride [75-01-4]^	**7.0**		ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 13:45	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*52*	*1*	*50.0*	*104 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 13:45*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*115 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 13:45*	*KKW*	
Toluene-d8	*46*	*1*	*50.0*	*93 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 13:45*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0015-027.5-20210119 **Lab Sample ID:** AE00066-05 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:35 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 14:14	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:14	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0015-027.5-20210119 **Lab Sample ID:** AE00066-05 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:35 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 14:14	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*54*	*1*	*50.0*	*108 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 14:14*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*114 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 14:14*	*KKW*	
Toluene-d8	*47*	*1*	*50.0*	*94 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 14:14*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0013-027.5-20210119 **Lab Sample ID:** AE00066-06 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 14:30 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 14:44	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:44	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0013-027.5-20210119 **Lab Sample ID:** AE00066-06 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 14:30 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Vinyl chloride [75-01-4]^	**2.1**	I	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 14:44	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*55*	*1*	*50.0*	*109 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 14:44*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*114 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 14:44*	*KKW*	
Toluene-d8	*48*	*1*	*50.0*	*96 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 14:44*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0012-027.5-20210119 **Lab Sample ID:** AE00066-07 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 15:10 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 15:13	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:13	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0012-027.5-20210119 **Lab Sample ID:** AE00066-07 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 15:10 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 15:13	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*54*	*1*	*50.0*	*109 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 15:13*	*KKW*	
Dibromofluoromethane	*59*	*1*	*50.0*	*118 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 15:13*	*KKW*	
Toluene-d8	*48*	*1*	*50.0*	*96 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 15:13*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0002-032.5-20210119 **Lab Sample ID:** AE00066-08 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 15:45 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 15:43	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:43	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	

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ANALYTICAL RESULTS

Description: CRCA-MW0002-032.5-20210119 **Lab Sample ID:** AE00066-08 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 15:45 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Vinyl chloride [75-01-4]^	**3.1**		ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 15:43	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*55*	*1*	*50.0*	*109 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 15:43*	*KKW*	
Dibromofluoromethane	*56*	*1*	*50.0*	*113 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 15:43*	*KKW*	
Toluene-d8	*49*	*1*	*50.0*	*97 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 15:43*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0031-058.0-20210120 **Lab Sample ID:** AE00066-09 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 12:15 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 16:12	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 16:12	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0031-058.0-20210120 **Lab Sample ID:** AE00066-09 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 12:15 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Vinyl chloride [75-01-4]^	**29**		ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 16:12	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*52*	*1*	*50.0*	*105 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 16:12*	*KKW*	
Dibromofluoromethane	*59*	*1*	*50.0*	*118 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 16:12*	*KKW*	
Toluene-d8	*47*	*1*	*50.0*	*93 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 16:12*	*KKW*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1A26006	RSK 175	01/26/21 11:20	JMW	QV-01
Ethene [74-85-1]^	0.00510	U	mg/L	1	0.00510	0.00600	1A26006	RSK 175	01/26/21 11:20	JMW	
Methane [74-82-8]^	**0.152**		mg/L	1	0.00400	0.00500	1A26006	RSK 175	01/26/21 11:20	JMW	QM-12

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0032-058.0-20210120 **Lab Sample ID:** AE00066-10 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 13:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 11:47	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 11:47	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 11:47	KKW	QM-07
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	A-07, QM-19
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	QM-07
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0032-058.0-20210120 **Lab Sample ID:** AE00066-10 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 13:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 11:47	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*106 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 11:47*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*114 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 11:47*	*KKW*	
Toluene-d8	*47*	*1*	*50.0*	*94 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 11:47*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0018-058.0-20210120 **Lab Sample ID:** AE00066-11 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 14:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A26010	EPA 8260D	01/26/21 15:52	KG	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A26010	EPA 8260D	01/26/21 15:52	KG	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A26010	EPA 8260D	01/26/21 15:52	KG	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A26010	EPA 8260D	01/26/21 15:52	KG	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A26010	EPA 8260D	01/26/21 15:52	KG	QL-02
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	QL-02
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	QL-02
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A26010	EPA 8260D	01/26/21 15:52	KG	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	QL-02, QV-01
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A26010	EPA 8260D	01/26/21 15:52	KG	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	QL-02
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0018-058.0-20210120 **Lab Sample ID:** AE00066-11 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 14:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Vinyl chloride [75-01-4]^	**97**		ug/L	1	0.71	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A26010	EPA 8260D	01/26/21 15:52	KG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*54*	*1*	*50.0*	*108 %*	*41-142*	*1A26010*	*EPA 8260D*	*01/26/21 15:52*	*KG*	
Dibromofluoromethane	*55*	*1*	*50.0*	*110 %*	*53-146*	*1A26010*	*EPA 8260D*	*01/26/21 15:52*	*KG*	
Toluene-d8	*55*	*1*	*50.0*	*109 %*	*41-146*	*1A26010*	*EPA 8260D*	*01/26/21 15:52*	*KG*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1A26006	RSK 175	01/26/21 11:36	JMW	QV-01
Ethene [74-85-1]^	**0.0216**		mg/L	1	0.00510	0.00600	1A26006	RSK 175	01/26/21 11:36	JMW	
Methane [74-82-8]^	**2.09**		mg/L	10	0.0400	0.0500	1A26006	RSK 175	01/26/21 12:16	JMW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0019-058.0-20210120 **Lab Sample ID:** AE00066-12 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 16:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 17:11	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:11	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0019-058.0-20210120 **Lab Sample ID:** AE00066-12 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 16:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Vinyl chloride [75-01-4]^	**2.8**		ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 17:11	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*55*	*1*	*50.0*	*110 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 17:11*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*113 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 17:11*	*KKW*	
Toluene-d8	*47*	*1*	*50.0*	*95 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 17:11*	*KKW*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1A26006	RSK 175	01/26/21 11:52	JMW	QV-01
Ethene [74-85-1]^	0.00510	U	mg/L	1	0.00510	0.00600	1A26006	RSK 175	01/26/21 11:52	JMW	
Methane [74-82-8]^	**0.510**		mg/L	1	0.00400	0.00500	1A26006	RSK 175	01/26/21 11:52	JMW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-VMP01-20210120 | **Lab Sample ID:** AE00066-13 | **Received:** 01/21/21 15:10

Matrix: Air | **Sampled:** 01/20/21 11:03 | **Work Order:** AE00066

Project: NASA KSC CRCA | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.46	U	ppbv	1.34	0.46	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.48	U	ppbv	1.34	0.48	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.47	U	ppbv	1.34	0.47	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,1-Dichloroethane [75-34-3]^	0.48	U	ppbv	1.34	0.48	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,1-Dichloroethene [75-35-4]^	0.51	U	ppbv	1.34	0.51	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,2-Dibromoethane [106-93-4]^	0.48	U	ppbv	1.34	0.48	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.36	U	ppbv	1.34	0.36	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,2-Dichloroethane [107-06-2]^	0.50	U	ppbv	1.34	0.50	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,2-Dichloropropane [78-87-5]^	0.54	U	ppbv	1.34	0.54	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.38	U	ppbv	1.34	0.38	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.42	U	ppbv	1.34	0.42	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
3-Chloropropene [107-05-1]^	0.52	U	ppbv	1.34	0.52	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Acetone [67-64-1]^	**5.9**		ppbv	1.34	0.47	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Bromodichloromethane [75-27-4]^	0.46	U	ppbv	1.34	0.46	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Bromoethene [593-60-2]^	0.44	U	ppbv	1.34	0.44	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Bromoform [75-25-2]^	0.51	U	ppbv	1.34	0.51	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Bromomethane [74-83-9]^	0.44	U	ppbv	1.34	0.44	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Carbon tetrachloride [56-23-5]^	0.36	U	ppbv	1.34	0.36	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Chlorobenzene [108-90-7]^	0.44	U	ppbv	1.34	0.44	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Chloroethane [75-00-3]^	0.43	U	ppbv	1.34	0.43	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Chloroform [67-66-3]^	0.51	U	ppbv	1.34	0.51	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Chloromethane [74-87-3]^	0.64	U	ppbv	1.34	0.64	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
cis-1,2-Dichloroethene [156-59-2]^	0.51	U	ppbv	1.34	0.51	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	0.51	U	ppbv	1.34	0.51	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Dibromochloromethane [124-48-1]^	0.44	U	ppbv	1.34	0.44	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ppbv	1.34	0.74	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Freon 113 [76-13-1]^	**3.9**		ppbv	1.34	0.43	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Freon 114 [76-14-2]^	0.70	U	ppbv	1.34	0.70	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Hexachlorobutadiene [87-68-3]^	0.50	U	ppbv	1.34	0.50	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Methylene chloride [75-09-2]^	**0.75**	IV	ppbv	1.34	0.27	3.4	1A25023	TO-15	01/25/21 10:36	rgg	J-01, O-01
Propene [115-07-1]^	0.74	U	ppbv	1.34	0.74	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Tetrachloroethene [127-18-4]^	0.42	U	ppbv	1.34	0.42	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
trans-1,2-Dichloroethene [156-60-5]^	0.43	U	ppbv	1.34	0.43	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.46	U	ppbv	1.34	0.46	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Trichloroethene [79-01-6]^	0.47	U	ppbv	1.34	0.47	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Trichlorofluoromethane [75-69-4]^	0.46	U	ppbv	1.34	0.46	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Vinyl chloride [75-01-4]^	0.75	U	ppbv	1.34	0.75	3.4	1A25023	TO-15	01/25/21 10:36	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*28*	*1*	*31.0*	*90 %*	*70-130*	*1A25023*	*TO-15*	*01/25/21 10:36*	*rgg*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-VMP02-20210120 | **Lab Sample ID:** AE00066-14 | **Received:** 01/21/21 15:10

Matrix: Air | **Sampled:** 01/20/21 11:06 | **Work Order:** AE00066

Project: NASA KSC CRCA | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.92	U	ppbv	1.35	0.92	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.97	U	ppbv	1.35	0.97	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.94	U	ppbv	1.35	0.94	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,1-Dichloroethane [75-34-3]^	0.97	U	ppbv	1.35	0.97	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,1-Dichloroethene [75-35-4]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,2-Dibromoethane [106-93-4]^	0.97	U	ppbv	1.35	0.97	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ppbv	1.35	0.73	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,2-Dichloroethane [107-06-2]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,2-Dichloropropane [78-87-5]^	1.1	U	ppbv	1.35	1.1	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.76	U	ppbv	1.35	0.76	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.84	U	ppbv	1.35	0.84	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
3-Chloropropene [107-05-1]^	1.1	U	ppbv	1.35	1.1	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Acetone [67-64-1]^	**3.5**	I	ppbv	1.35	0.94	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Bromodichloromethane [75-27-4]^	0.92	U	ppbv	1.35	0.92	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Bromoethene [593-60-2]^	0.89	U	ppbv	1.35	0.89	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Bromoform [75-25-2]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Bromomethane [74-83-9]^	0.89	U	ppbv	1.35	0.89	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Carbon tetrachloride [56-23-5]^	0.73	U	ppbv	1.35	0.73	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Chlorobenzene [108-90-7]^	0.89	U	ppbv	1.35	0.89	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Chloroethane [75-00-3]^	0.86	U	ppbv	1.35	0.86	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Chloroform [67-66-3]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Chloromethane [74-87-3]^	1.3	U	ppbv	1.35	1.3	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
cis-1,2-Dichloroethene [156-59-2]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Dibromochloromethane [124-48-1]^	0.89	U	ppbv	1.35	0.89	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Dichlorodifluoromethane [75-71-8]^	1.5	U	ppbv	1.35	1.5	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Freon 113 [76-13-1]^	**120**		ppbv	1.35	0.86	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Freon 114 [76-14-2]^	1.4	U	ppbv	1.35	1.4	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Hexachlorobutadiene [87-68-3]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Methylene chloride [75-09-2]^	**0.97**	IV	ppbv	1.35	0.54	6.8	1A25023	TO-15	01/25/21 11:18	rgg	J-01, O-01
Propene [115-07-1]^	1.5	U	ppbv	1.35	1.5	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Tetrachloroethene [127-18-4]^	0.84	U	ppbv	1.35	0.84	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
trans-1,2-Dichloroethene [156-60-5]^	**5.5**	I	ppbv	1.35	0.86	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.92	U	ppbv	1.35	0.92	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Trichloroethene [79-01-6]^	0.94	U	ppbv	1.35	0.94	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Trichlorofluoromethane [75-69-4]^	0.92	U	ppbv	1.35	0.92	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Vinyl chloride [75-01-4]^	1.5	U	ppbv	1.35	1.5	6.8	1A25023	TO-15	01/25/21 11:18	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*27*	*1*	*31.0*	*87 %*	*70-130*	*1A25023*	*TO-15*	*01/25/21 11:18*	*rgg*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-VMP03-20210120 **Lab Sample ID:** AE00066-15 **Received:** 01/21/21 15:10

Matrix: Air **Sampled:** 01/20/21 11:15 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.54	U	ppbv	1.59	0.54	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.57	U	ppbv	1.59	0.57	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.56	U	ppbv	1.59	0.56	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,1-Dichloroethane [75-34-3]^	0.57	U	ppbv	1.59	0.57	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,1-Dichloroethene [75-35-4]^	0.60	U	ppbv	1.59	0.60	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,2-Dibromoethane [106-93-4]^	0.57	U	ppbv	1.59	0.57	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.43	U	ppbv	1.59	0.43	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,2-Dichloroethane [107-06-2]^	0.59	U	ppbv	1.59	0.59	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,2-Dichloropropane [78-87-5]^	0.64	U	ppbv	1.59	0.64	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.45	U	ppbv	1.59	0.45	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.49	U	ppbv	1.59	0.49	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
3-Chloropropene [107-05-1]^	0.62	U	ppbv	1.59	0.62	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Acetone [67-64-1]^	**4.1**		ppbv	1.59	0.56	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Bromodichloromethane [75-27-4]^	0.54	U	ppbv	1.59	0.54	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Bromoethene [593-60-2]^	0.52	U	ppbv	1.59	0.52	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Bromoform [75-25-2]^	0.60	U	ppbv	1.59	0.60	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Bromomethane [74-83-9]^	0.52	U	ppbv	1.59	0.52	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Carbon tetrachloride [56-23-5]^	0.43	U	ppbv	1.59	0.43	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Chlorobenzene [108-90-7]^	0.52	U	ppbv	1.59	0.52	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Chloroethane [75-00-3]^	0.51	U	ppbv	1.59	0.51	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Chloroform [67-66-3]^	**1.9**	I	ppbv	1.59	0.60	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Chloromethane [74-87-3]^	0.76	U	ppbv	1.59	0.76	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
cis-1,2-Dichloroethene [156-59-2]^	0.60	U	ppbv	1.59	0.60	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	0.60	U	ppbv	1.59	0.60	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Dibromochloromethane [124-48-1]^	0.52	U	ppbv	1.59	0.52	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Dichlorodifluoromethane [75-71-8]^	0.87	U	ppbv	1.59	0.87	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Freon 113 [76-13-1]^	**8.1**		ppbv	1.59	0.51	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Freon 114 [76-14-2]^	0.83	U	ppbv	1.59	0.83	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Hexachlorobutadiene [87-68-3]^	0.59	U	ppbv	1.59	0.59	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Methylene chloride [75-09-2]^	**1.1**	IV	ppbv	1.59	0.32	4.0	1A25023	TO-15	01/25/21 14:06	rgg	J-01, O-01
Propene [115-07-1]^	0.87	U	ppbv	1.59	0.87	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Tetrachloroethene [127-18-4]^	0.49	U	ppbv	1.59	0.49	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
trans-1,2-Dichloroethene [156-60-5]^	0.51	U	ppbv	1.59	0.51	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.54	U	ppbv	1.59	0.54	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Trichloroethene [79-01-6]^	0.56	U	ppbv	1.59	0.56	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Trichlorofluoromethane [75-69-4]^	0.54	U	ppbv	1.59	0.54	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Vinyl chloride [75-01-4]^	0.89	U	ppbv	1.59	0.89	4.0	1A25023	TO-15	01/25/21 14:06	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*27*	*1*	*31.0*	*88 %*	*70-130*	*1A25023*	*TO-15*	*01/25/21 14:06*	*rgg*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-VMP04-20210120 | **Lab Sample ID:** AE00066-16 | **Received:** 01/21/21 15:10

Matrix: Air | **Sampled:** 01/20/21 11:22 | **Work Order:** AE00066

Project: NASA KSC CRCA | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.95	U	ppbv	1.4	0.95	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,1,2,2-Tetrachloroethane [79-34-5]^	1.0	U	ppbv	1.4	1.0	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,1,2-Trichloroethane [79-00-5]^	0.98	U	ppbv	1.4	0.98	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,1-Dichloroethane [75-34-3]^	1.0	U	ppbv	1.4	1.0	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,1-Dichloroethene [75-35-4]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,2-Dibromoethane [106-93-4]^	1.0	U	ppbv	1.4	1.0	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,2-Dichlorobenzene [95-50-1]^	0.76	U	ppbv	1.4	0.76	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,2-Dichloroethane [107-06-2]^	1.0	U	ppbv	1.4	1.0	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,2-Dichloropropane [78-87-5]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,3-Dichlorobenzene [541-73-1]^	0.78	U	ppbv	1.4	0.78	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,4-Dichlorobenzene [106-46-7]^	0.87	U	ppbv	1.4	0.87	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
3-Chloropropene [107-05-1]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Acetone [67-64-1]^	**31**		ppbv	1.4	0.98	7.0	1A25023	TO-15	01/25/21 14:47	rgg	
Bromodichloromethane [75-27-4]^	0.95	U	ppbv	1.4	0.95	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Bromoethene [593-60-2]^	0.92	U	ppbv	1.4	0.92	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Bromoform [75-25-2]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Bromomethane [74-83-9]^	0.92	U	ppbv	1.4	0.92	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Carbon tetrachloride [56-23-5]^	0.76	U	ppbv	1.4	0.76	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Chlorobenzene [108-90-7]^	0.92	U	ppbv	1.4	0.92	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Chloroethane [75-00-3]^	0.90	U	ppbv	1.4	0.90	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Chloroform [67-66-3]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Chloromethane [74-87-3]^	1.3	U	ppbv	1.4	1.3	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
cis-1,2-Dichloroethene [156-59-2]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
cis-1,3-Dichloropropene [10061-01-5]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Dibromochloromethane [124-48-1]^	0.92	U	ppbv	1.4	0.92	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Dichlorodifluoromethane [75-71-8]^	1.5	U	ppbv	1.4	1.5	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Freon 113 [76-13-1]^	**34**		ppbv	1.4	0.90	7.0	1A25023	TO-15	01/25/21 14:47	rgg	
Freon 114 [76-14-2]^	1.5	U	ppbv	1.4	1.5	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Hexachlorobutadiene [87-68-3]^	1.0	U	ppbv	1.4	1.0	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Methylene chloride [75-09-2]^	**1.1**	IV	ppbv	1.4	0.56	7.0	1A25023	TO-15	01/25/21 14:47	rgg	J-01, O-01, R-05
Propene [115-07-1]^	1.5	U	ppbv	1.4	1.5	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Tetrachloroethene [127-18-4]^	0.87	U	ppbv	1.4	0.87	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
trans-1,2-Dichloroethene [156-60-5]^	0.90	U	ppbv	1.4	0.90	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
trans-1,3-Dichloropropene [10061-02-6]^	0.95	U	ppbv	1.4	0.95	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Trichloroethene [79-01-6]^	0.98	U	ppbv	1.4	0.98	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Trichlorofluoromethane [75-69-4]^	0.95	U	ppbv	1.4	0.95	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Vinyl chloride [75-01-4]^	1.6	U	ppbv	1.4	1.6	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*28*	*1*	*31.0*	*89 %*	*70-130*	*1A25023*	*TO-15*	*01/25/21 14:47*	*rgg*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-SYSAIR-20210120 | **Lab Sample ID:** AE00066-17 | **Received:** 01/21/21 15:10

Matrix: Air | **Sampled:** 01/20/21 17:03 | **Work Order:** AE00066

Project: NASA KSC CRCA | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.45	U	ppbv	1.32	0.45	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.48	U	ppbv	1.32	0.48	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.46	U	ppbv	1.32	0.46	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,1-Dichloroethane [75-34-3]^	0.48	U	ppbv	1.32	0.48	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,1-Dichloroethene [75-35-4]^	0.50	U	ppbv	1.32	0.50	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,2-Dibromoethane [106-93-4]^	0.48	U	ppbv	1.32	0.48	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.36	U	ppbv	1.32	0.36	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,2-Dichloroethane [107-06-2]^	0.49	U	ppbv	1.32	0.49	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,2-Dichloropropane [78-87-5]^	0.53	U	ppbv	1.32	0.53	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.37	U	ppbv	1.32	0.37	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.41	U	ppbv	1.32	0.41	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
3-Chloropropene [107-05-1]^	0.51	U	ppbv	1.32	0.51	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Acetone [67-64-1]^	**2.6**	I	ppbv	1.32	0.46	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Bromodichloromethane [75-27-4]^	0.45	U	ppbv	1.32	0.45	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Bromoethene [593-60-2]^	0.44	U	ppbv	1.32	0.44	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Bromoform [75-25-2]^	0.50	U	ppbv	1.32	0.50	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Bromomethane [74-83-9]^	0.44	U	ppbv	1.32	0.44	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Carbon tetrachloride [56-23-5]^	0.36	U	ppbv	1.32	0.36	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Chlorobenzene [108-90-7]^	0.44	U	ppbv	1.32	0.44	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Chloroethane [75-00-3]^	0.42	U	ppbv	1.32	0.42	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Chloroform [67-66-3]^	0.50	U	ppbv	1.32	0.50	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Chloromethane [74-87-3]^	0.63	U	ppbv	1.32	0.63	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
cis-1,2-Dichloroethene [156-59-2]^	0.50	U	ppbv	1.32	0.50	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	0.50	U	ppbv	1.32	0.50	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Dibromochloromethane [124-48-1]^	0.44	U	ppbv	1.32	0.44	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Dichlorodifluoromethane [75-71-8]^	0.73	U	ppbv	1.32	0.73	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Freon 113 [76-13-1]^	0.42	U	ppbv	1.32	0.42	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Freon 114 [76-14-2]^	0.69	U	ppbv	1.32	0.69	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Hexachlorobutadiene [87-68-3]^	0.49	U	ppbv	1.32	0.49	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Methylene chloride [75-09-2]^	**0.99**	IV	ppbv	1.32	0.26	3.3	1A25023	TO-15	01/25/21 13:21	rgg	J-01, O-01
Propene [115-07-1]^	0.73	U	ppbv	1.32	0.73	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Tetrachloroethene [127-18-4]^	0.41	U	ppbv	1.32	0.41	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
trans-1,2-Dichloroethene [156-60-5]^	**0.96**	I	ppbv	1.32	0.42	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.45	U	ppbv	1.32	0.45	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Trichloroethene [79-01-6]^	0.46	U	ppbv	1.32	0.46	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Trichlorofluoromethane [75-69-4]^	0.45	U	ppbv	1.32	0.45	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Vinyl chloride [75-01-4]^	0.74	U	ppbv	1.32	0.74	3.3	1A25023	TO-15	01/25/21 13:21	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*28*	*1*	*31.0*	*89 %*	*70-130*	*1A25023*	*TO-15*	*01/25/21 13:21*	*rgg*	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS

Blank (1A25020-BLK1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 10:19

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

Blank (1A25020-BLK1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 10:19

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*54*			*ug/L*	*50.0*		*109*	*41-142*			
Dibromofluoromethane	*55*			*ug/L*	*50.0*		*111*	*53-146*			
Toluene-d8	*48*	*I*		*ug/L*	*50.0*		*96*	*41-146*			

LCS (1A25020-BS1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 09:20

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	19		2.5	ug/L	20.0		97	57-148			
1,1,2,2-Tetrachloroethane	21		2.5	ug/L	20.0		105	60-139			
1,1,2-Trichloroethane	21		2.5	ug/L	20.0		107	57-141			
1,1-Dichloroethane	19		2.5	ug/L	20.0		93	57-142			
1,1-Dichloroethene	20		2.5	ug/L	20.0		102	47-139			
1,2,4-Trichlorobenzene	17		2.5	ug/L	20.0		87	52-159			
1,2-Dibromo-3-chloropropane	20		2.5	ug/L	20.0		102	48-150			
1,2-Dibromoethane	22		2.5	ug/L	20.0		110	57-140			
1,2-Dichlorobenzene	23		2.5	ug/L	20.0		113	63-131			
1,2-Dichloroethane	15		2.5	ug/L	20.0		75	50-156			
1,2-Dichloropropane	16		2.5	ug/L	20.0		80	61-133			
1,3-Dichlorobenzene	24		2.5	ug/L	20.0		118	66-129			
1,4-Dichlorobenzene	21		2.5	ug/L	20.0		106	65-133			
2-Butanone	90		12	ug/L	100		90	10-180			
2-Hexanone	68		12	ug/L	100		68	12-180			
4-Methyl-2-pentanone	90		12	ug/L	100		90	19-180			
Acetone	71		25	ug/L	100		71	10-180			
Benzene	19		2.5	ug/L	20.0		94	56-136			
Bromodichloromethane	18		2.5	ug/L	20.0		89	58-135			
Bromoform	21		2.5	ug/L	20.0		107	46-148			
Bromomethane	8.7		2.5	ug/L	20.0		44	10-173			
Carbon disulfide	20		12	ug/L	20.0		102	43-153			
Carbon Tetrachloride	16		2.5	ug/L	20.0		80	54-156			
Chlorobenzene	24		2.5	ug/L	20.0		120	51-139			
Chloroethane	22		2.5	ug/L	20.0		109	27-180			
Chloroform	20		2.5	ug/L	20.0		99	58-139			
Chloromethane	9.3		2.5	ug/L	20.0		46	33-154			
cis-1,2-Dichloroethene	22		2.5	ug/L	20.0		109	56-128			
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0		87	64-128			
Cyclohexane	16		2.5	ug/L	20.0		82	70-130			
Dibromochloromethane	24		2.5	ug/L	20.0		118	50-140			
Dichlorodifluoromethane	12		2.5	ug/L	20.0		61	10-180			
Ethylbenzene	22		2.5	ug/L	20.0		108	63-133			
Freon 113	21		2.5	ug/L	20.0		104	47-173			
Isopropylbenzene	24		2.5	ug/L	20.0		118	60-132			
m,p-Xylenes	50		5.0	ug/L	40.0		125	64-133			
Methyl acetate	13		2.5	ug/L	20.0		65	70-130			A-07
Methyl cyclohexane	18		2.5	ug/L	20.0		89	70-130			
Methylene Chloride	20		12	ug/L	20.0		100	43-142			
Methyl-tert-Butyl Ether	20		2.5	ug/L	20.0		99	51-145			

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

LCS (1A25020-BS1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 09:20

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
o-Xylene	23		2.5	ug/L	20.0		117	61-129			
Styrene	25		2.5	ug/L	20.0		126	59-136			
Tetrachloroethene	21		2.5	ug/L	20.0		104	60-147			
Toluene	23		2.5	ug/L	20.0		114	64-131			
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0		108	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0		103	65-149			
Trichloroethene	21		2.5	ug/L	20.0		103	62-135			
Trichlorofluoromethane	20		2.5	ug/L	20.0		100	56-155			
Vinyl chloride	17		2.5	ug/L	20.0		85	20-167			
4-Bromofluorobenzene	*52*			*ug/L*	*50.0*		*105*	*41-142*			
Dibromofluoromethane	*55*			*ug/L*	*50.0*		*111*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*98*	*41-146*			

Matrix Spike (1A25020-MS1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 18:39

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	22		2.5	ug/L	20.0	0.80 U	110	57-148			
1,1,2,2-Tetrachloroethane	23		2.5	ug/L	20.0	0.54 U	114	60-139			
1,1,2-Trichloroethane	22		2.5	ug/L	20.0	0.76 U	110	57-141			
1,1-Dichloroethane	19		2.5	ug/L	20.0	0.62 U	96	57-142			
1,1-Dichloroethene	23		2.5	ug/L	20.0	0.94 U	114	47-139			
1,2,4-Trichlorobenzene	15		2.5	ug/L	20.0	0.70 U	74	52-159			
1,2-Dibromo-3-chloropropane	14		2.5	ug/L	20.0	0.96 U	72	48-150			
1,2-Dibromoethane	23		2.5	ug/L	20.0	0.78 U	115	57-140			
1,2-Dichlorobenzene	23		2.5	ug/L	20.0	0.73 U	114	63-131			
1,2-Dichloroethane	16		2.5	ug/L	20.0	0.63 U	79	50-156			
1,2-Dichloropropane	16		2.5	ug/L	20.0	0.80 U	79	61-133			
1,3-Dichlorobenzene	25		2.5	ug/L	20.0	0.77 U	125	66-129			
1,4-Dichlorobenzene	23		2.5	ug/L	20.0	0.76 U	114	65-133			
2-Butanone	88		12	ug/L	100	4.5 U	88	10-180			
2-Hexanone	62		12	ug/L	100	2.5 U	62	12-180			
4-Methyl-2-pentanone	87		12	ug/L	100	2.5 U	87	19-180			
Acetone	65		25	ug/L	100	10 U	65	10-180			
Benzene	20		2.5	ug/L	20.0	0.71 U	100	56-136			
Bromodichloromethane	19		2.5	ug/L	20.0	0.52 U	95	58-135			
Bromoform	22		2.5	ug/L	20.0	0.75 U	109	46-148			
Bromomethane	10		2.5	ug/L	20.0	0.95 U	50	10-173			
Carbon disulfide	21		12	ug/L	20.0	2.5 U	106	43-153			
Carbon Tetrachloride	18		2.5	ug/L	20.0	0.94 U	89	54-156			
Chlorobenzene	27		2.5	ug/L	20.0	0.72 U	135	51-139			
Chloroethane	23		2.5	ug/L	20.0	0.98 U	113	27-180			
Chloroform	21		2.5	ug/L	20.0	0.80 U	104	58-139			
Chloromethane	9.6		2.5	ug/L	20.0	0.82 U	48	33-154			
cis-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.53 U	110	56-128			
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0	0.59 U	85	64-128			
Cyclohexane	16		2.5	ug/L	20.0	0.93 U	82	70-130			
Dibromochloromethane	25		2.5	ug/L	20.0	0.50 U	127	50-140			
Dichlorodifluoromethane	13		2.5	ug/L	20.0	0.74 U	66	10-180			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

Matrix Spike (1A25020-MS1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 18:39

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	24		2.5	ug/L	20.0	0.69 U	119	63-133			
Freon 113	23		2.5	ug/L	20.0	0.73 U	115	47-173			
Isopropylbenzene	26		2.5	ug/L	20.0	0.67 U	131	60-132			
m,p-Xylenes	55		5.0	ug/L	40.0	1.3 U	137	64-133			QM-07
Methyl acetate	10		2.5	ug/L	20.0	0.95 U	51	70-130			QM-19
Methyl cyclohexane	19		2.5	ug/L	20.0	0.64 U	95	70-130			
Methylene Chloride	21		12	ug/L	20.0	2.5 U	105	43-142			
Methyl-tert-Butyl Ether	20		2.5	ug/L	20.0	0.60 U	100	51-145			
o-Xylene	25		2.5	ug/L	20.0	0.53 U	127	61-129			
Styrene	28		2.5	ug/L	20.0	0.61 U	140	59-136			QM-07
Tetrachloroethene	24		2.5	ug/L	20.0	0.76 U	122	60-147			
Toluene	24		2.5	ug/L	20.0	0.72 U	122	64-131			
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.73 U	111	54-134			
trans-1,3-Dichloropropene	20		2.5	ug/L	20.0	0.73 U	102	65-149			
Trichloroethene	24		2.5	ug/L	20.0	0.89 U	122	62-135			
Trichlorofluoromethane	23		2.5	ug/L	20.0	0.94 U	113	56-155			
Vinyl chloride	17		2.5	ug/L	20.0	0.71 U	84	20-167			
4-Bromofluorobenzene	*54*			*ug/L*	*50.0*		*109*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*112*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*97*	*41-146*			

Matrix Spike Dup (1A25020-MSD1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 19:09

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	20		2.5	ug/L	20.0	0.80 U	102	57-148	8	25	
1,1,2,2-Tetrachloroethane	22		2.5	ug/L	20.0	0.54 U	110	60-139	4	17	
1,1,2-Trichloroethane	21		2.5	ug/L	20.0	0.76 U	106	57-141	3	16	
1,1-Dichloroethane	18		2.5	ug/L	20.0	0.62 U	90	57-142	6	24	
1,1-Dichloroethene	21		2.5	ug/L	20.0	0.94 U	103	47-139	10	16	
1,2,4-Trichlorobenzene	16		2.5	ug/L	20.0	0.70 U	81	52-159	9	24	
1,2-Dibromo-3-chloropropane	18		2.5	ug/L	20.0	0.96 U	88	48-150	21	21	
1,2-Dibromoethane	22		2.5	ug/L	20.0	0.78 U	110	57-140	4	16	
1,2-Dichlorobenzene	23		2.5	ug/L	20.0	0.73 U	113	63-131	1	25	
1,2-Dichloroethane	15		2.5	ug/L	20.0	0.63 U	77	50-156	1	18	
1,2-Dichloropropane	15		2.5	ug/L	20.0	0.80 U	76	61-133	4	26	
1,3-Dichlorobenzene	24		2.5	ug/L	20.0	0.77 U	120	66-129	4	23	
1,4-Dichlorobenzene	22		2.5	ug/L	20.0	0.76 U	110	65-133	4	23	
2-Butanone	83		12	ug/L	100	4.5 U	83	10-180	5	29	
2-Hexanone	66		12	ug/L	100	2.5 U	66	12-180	5	28	
4-Methyl-2-pentanone	87		12	ug/L	100	2.5 U	87	19-180	0.5	24	
Acetone	70		25	ug/L	100	10 U	70	10-180	7	19	
Benzene	19		2.5	ug/L	20.0	0.71 U	96	56-136	5	14	
Bromodichloromethane	18		2.5	ug/L	20.0	0.52 U	89	58-135	7	19	
Bromoform	21		2.5	ug/L	20.0	0.75 U	106	46-148	2	18	
Bromomethane	11		2.5	ug/L	20.0	0.95 U	55	10-173	10	29	
Carbon disulfide	19		12	ug/L	20.0	2.5 U	94	43-153	12	26	
Carbon Tetrachloride	16		2.5	ug/L	20.0	0.94 U	79	54-156	12	27	
Chlorobenzene	26		2.5	ug/L	20.0	0.72 U	129	51-139	5	13	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

Matrix Spike Dup (1A25020-MSD1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 19:09

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloroethane	21		2.5	ug/L	20.0	0.98 U	105	27-180	7	22	
Chloroform	20		2.5	ug/L	20.0	0.80 U	102	58-139	2	17	
Chloromethane	9.0		2.5	ug/L	20.0	0.82 U	45	33-154	7	31	
cis-1,2-Dichloroethene	21		2.5	ug/L	20.0	0.53 U	104	56-128	5	17	
cis-1,3-Dichloropropene	16		2.5	ug/L	20.0	0.59 U	78	64-128	9	20	
Cyclohexane	15		2.5	ug/L	20.0	0.93 U	75	70-130	8	20	
Dibromochloromethane	23		2.5	ug/L	20.0	0.50 U	117	50-140	8	18	
Dichlorodifluoromethane	13		2.5	ug/L	20.0	0.74 U	63	10-180	4	26	
Ethylbenzene	22		2.5	ug/L	20.0	0.69 U	112	63-133	6	18	
Freon 113	21		2.5	ug/L	20.0	0.73 U	105	47-173	9	30	
Isopropylbenzene	24		2.5	ug/L	20.0	0.67 U	122	60-132	7	23	
m,p-Xylenes	51		5.0	ug/L	40.0	1.3 U	129	64-133	6	18	
Methyl acetate	9.5		2.5	ug/L	20.0	0.95 U	48	70-130	6	20	QM-19
Methyl cyclohexane	18		2.5	ug/L	20.0	0.64 U	91	70-130	4	20	
Methylene Chloride	19		12	ug/L	20.0	2.5 U	95	43-142	9	23	
Methyl-tert-Butyl Ether	19		2.5	ug/L	20.0	0.60 U	95	51-145	5	22	
o-Xylene	25		2.5	ug/L	20.0	0.53 U	123	61-129	4	16	
Styrene	26		2.5	ug/L	20.0	0.61 U	130	59-136	7	32	
Tetrachloroethene	23		2.5	ug/L	20.0	0.76 U	113	60-147	8	21	
Toluene	23		2.5	ug/L	20.0	0.72 U	117	64-131	4	16	
trans-1,2-Dichloroethene	21		2.5	ug/L	20.0	0.73 U	103	54-134	8	20	
trans-1,3-Dichloropropene	19		2.5	ug/L	20.0	0.73 U	97	65-149	5	17	
Trichloroethene	21		2.5	ug/L	20.0	0.89 U	107	62-135	12	20	
Trichlorofluoromethane	20		2.5	ug/L	20.0	0.94 U	102	56-155	10	22	
Vinyl chloride	15		2.5	ug/L	20.0	0.71 U	77	20-167	8	24	
4-Bromofluorobenzene	*55*			*ug/L*	*50.0*		*110*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*111*	*53-146*			
Toluene-d8	*48*	*I*		*ug/L*	*50.0*		*96*	*41-146*			

Batch 1A25023 - NO PREP 2

Blank (1A25023-BLK1) Prepared: 01/24/2021 17:30 Analyzed: 01/25/2021 00:37

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.34	U	2.5	ppbv							
1,1,2,2-Tetrachloroethane	0.36	U	2.5	ppbv							
1,1,2-Trichloroethane	0.35	U	2.5	ppbv							
1,1-Dichloroethane	0.36	U	2.5	ppbv							
1,1-Dichloroethene	0.38	U	2.5	ppbv							
1,2-Dibromoethane	0.36	U	2.5	ppbv							
1,2-Dichlorobenzene	0.27	U	2.5	ppbv							
1,2-Dichloroethane	0.37	U	2.5	ppbv							
1,2-Dichloropropane	0.40	U	2.5	ppbv							
1,3-Dichlorobenzene	0.28	U	2.5	ppbv							
1,4-Dichlorobenzene	0.31	U	2.5	ppbv							
3-Chloropropene	0.39	U	2.5	ppbv							
Acetone	0.35	U	2.5	ppbv							
Bromodichloromethane	0.34	U	2.5	ppbv							
Bromoethene	0.33	U	2.5	ppbv							

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25023 - NO PREP 2 - Continued

Blank (1A25023-BLK1) Continued Prepared: 01/24/2021 17:30 Analyzed: 01/25/2021 00:37

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Bromoform	0.38	U	2.5	ppbv							
Bromomethane	0.33	U	2.5	ppbv							
Carbon tetrachloride	0.27	U	2.5	ppbv							
Chlorobenzene	0.33	U	2.5	ppbv							
Chloroethane	0.32	U	2.5	ppbv							
Chloroform	0.38	U	2.5	ppbv							
Chloromethane	0.48	U	2.5	ppbv							
cis-1,2-Dichloroethene	0.38	U	2.5	ppbv							
cis-1,3-Dichloropropene	0.38	U	2.5	ppbv							
Dibromochloromethane	0.33	U	2.5	ppbv							
Dichlorodifluoromethane	0.55	U	2.5	ppbv							
Freon 113	0.32	U	2.5	ppbv							
Freon 114	0.52	U	2.5	ppbv							
Hexachlorobutadiene	0.37	U	2.5	ppbv							
Methylene chloride	**0.29**	**I**	2.5	ppbv							J-01, O-01
Propene	0.55	U	2.5	ppbv							
Tetrachloroethene	0.31	U	2.5	ppbv							
trans-1,2-Dichloroethene	0.32	U	2.5	ppbv							
trans-1,3-Dichloropropene	0.34	U	2.5	ppbv							
Trichloroethene	0.35	U	2.5	ppbv							
Trichlorofluoromethane	0.34	U	2.5	ppbv							
Vinyl chloride	0.56	U	2.5	ppbv							
4-Bromofluorobenzene	*27*			*ppbv*	*31.0*		*87*	*70-130*			

LCS (1A25023-BS1) Prepared: 01/24/2021 17:30 Analyzed: 01/24/2021 22:34

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	10		2.5	ppbv	10.0		100	70-130			
1,1,2,2-Tetrachloroethane	12		2.5	ppbv	10.0		119	52-163			
1,1,2-Trichloroethane	12		2.5	ppbv	10.0		117	70-134			
1,1-Dichloroethane	12		2.5	ppbv	10.0		119	70-130			
1,1-Dichloroethene	11		2.5	ppbv	10.0		113	67-142			
1,2-Dibromoethane	12		2.5	ppbv	10.0		118	70-141			
1,2-Dichlorobenzene	10		2.5	ppbv	10.0		102	37-180			
1,2-Dichloroethane	10		2.5	ppbv	10.0		102	70-130			
1,2-Dichloropropane	12		2.5	ppbv	10.0		121	70-130			
1,3-Dichlorobenzene	9.8		2.5	ppbv	10.0		98	47-178			
1,4-Dichlorobenzene	9.2		2.5	ppbv	10.0		92	45-180			
3-Chloropropene	11		2.5	ppbv	10.0		113	70-130			
Acetone	10		2.5	ppbv	10.0		104	65-130			
Bromodichloromethane	11		2.5	ppbv	10.0		109	70-130			
Bromoethene	9.5		2.5	ppbv	10.0		95	69-132			
Bromoform	11		2.5	ppbv	10.0		110	62-149			
Bromomethane	9.9		2.5	ppbv	10.0		99	69-130			
Carbon tetrachloride	8.3		2.5	ppbv	10.0		83	22-166			
Chlorobenzene	11		2.5	ppbv	10.0		107	70-134			
Chloroethane	10		2.5	ppbv	10.0		101	69-131			
Chloroform	11		2.5	ppbv	10.0		111	70-130			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25023 - NO PREP 2 - Continued

LCS (1A25023-BS1) Continued Prepared: 01/24/2021 17:30 Analyzed: 01/24/2021 22:34

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloromethane	10		2.5	ppbv	10.0		100	55-142			
cis-1,2-Dichloroethene	12		2.5	ppbv	10.0		122	70-130			
cis-1,3-Dichloropropene	12		2.5	ppbv	10.0		122	70-137			
Dibromochloromethane	11		2.5	ppbv	10.0		110	70-130			
Dichlorodifluoromethane	9.3		2.5	ppbv	10.0		93	61-137			
Freon 113	11		2.5	ppbv	10.0		111	67-140			
Freon 114	9.8		2.5	ppbv	10.0		98	62-147			
Hexachlorobutadiene	9.1		2.5	ppbv	10.0		91	24-180			
Methylene chloride	13		2.5	ppbv	10.0		128	59-136			
Propene	8.9		2.5	ppbv	10.0		89	63-132			
Tetrachloroethene	10		2.5	ppbv	10.0		104	70-141			
trans-1,2-Dichloroethene	11		2.5	ppbv	10.0		113	70-130			
trans-1,3-Dichloropropene	16		2.5	ppbv	10.0		156	59-166			
Trichloroethene	11		2.5	ppbv	10.0		114	70-130			
Trichlorofluoromethane	9.7		2.5	ppbv	10.0		97	46-161			
Vinyl chloride	11		2.5	ppbv	10.0		106	53-148			
4-Bromofluorobenzene	*32*			*ppbv*	*31.0*		*102*	*70-130*			

LCS Dup (1A25023-BSD1) Prepared: 01/24/2021 17:30 Analyzed: 01/24/2021 23:13

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	9.1		2.5	ppbv	10.0		91	70-130	9	25	
1,1,2,2-Tetrachloroethane	11		2.5	ppbv	10.0		111	52-163	7	25	
1,1,2-Trichloroethane	11		2.5	ppbv	10.0		110	70-134	6	25	
1,1-Dichloroethane	11		2.5	ppbv	10.0		110	70-130	8	25	
1,1-Dichloroethene	10		2.5	ppbv	10.0		103	67-142	9	25	
1,2-Dibromoethane	11		2.5	ppbv	10.0		110	70-141	7	25	
1,2-Dichlorobenzene	9.5		2.5	ppbv	10.0		95	37-180	7	25	
1,2-Dichloroethane	8.8		2.5	ppbv	10.0		88	70-130	15	25	
1,2-Dichloropropane	11		2.5	ppbv	10.0		113	70-130	7	25	
1,3-Dichlorobenzene	9.1		2.5	ppbv	10.0		91	47-178	7	25	
1,4-Dichlorobenzene	8.5		2.5	ppbv	10.0		85	45-180	8	25	
3-Chloropropene	10		2.5	ppbv	10.0		105	70-130	7	25	
Acetone	9.5		2.5	ppbv	10.0		95	65-130	10	25	
Bromodichloromethane	10		2.5	ppbv	10.0		100	70-130	8	25	
Bromoethene	8.6		2.5	ppbv	10.0		86	69-132	10	25	
Bromoform	10		2.5	ppbv	10.0		103	62-149	7	25	
Bromomethane	8.6		2.5	ppbv	10.0		86	69-130	14	25	
Carbon tetrachloride	7.5		2.5	ppbv	10.0		75	22-166	10	25	
Chlorobenzene	10		2.5	ppbv	10.0		100	70-134	6	25	
Chloroethane	8.7		2.5	ppbv	10.0		87	69-131	14	25	
Chloroform	10		2.5	ppbv	10.0		101	70-130	9	25	
Chloromethane	8.8		2.5	ppbv	10.0		88	55-142	12	25	
cis-1,2-Dichloroethene	11		2.5	ppbv	10.0		114	70-130	6	25	
cis-1,3-Dichloropropene	11		2.5	ppbv	10.0		113	70-137	7	25	
Dibromochloromethane	10		2.5	ppbv	10.0		103	70-130	7	25	
Dichlorodifluoromethane	8.1		2.5	ppbv	10.0		81	61-137	13	25	
Freon 113	10		2.5	ppbv	10.0		103	67-140	8	25	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25023 - NO PREP 2 - Continued

LCS Dup (1A25023-BSD1) Continued Prepared: 01/24/2021 17:30 Analyzed: 01/24/2021 23:13

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Freon 114	8.8		2.5	ppbv	10.0		88	62-147	11	25	
Hexachlorobutadiene	8.5		2.5	ppbv	10.0		85	24-180	7	25	
Methylene chloride	12		2.5	ppbv	10.0		123	59-136	5	25	
Propene	7.8		2.5	ppbv	10.0		78	63-132	13	25	
Tetrachloroethene	9.8		2.5	ppbv	10.0		98	70-141	6	25	
trans-1,2-Dichloroethene	10		2.5	ppbv	10.0		105	70-130	7	25	
trans-1,3-Dichloropropene	15		2.5	ppbv	10.0		146	59-166	7	25	
Trichloroethene	11		2.5	ppbv	10.0		108	70-130	5	25	
Trichlorofluoromethane	8.7		2.5	ppbv	10.0		87	46-161	11	25	
Vinyl chloride	9.2		2.5	ppbv	10.0		92	53-148	14	25	
4-Bromofluorobenzene	*31*			*ppbv*	*31.0*		*100*	*70-130*			

Batch 1A26010 - EPA 5030B_MS

Blank (1A26010-BLK1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 11:19

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A26010 - EPA 5030B_MS - Continued

Blank (1A26010-BLK1) Continued Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 11:19

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*51*			*ug/L*	*50.0*		*103*	*41-142*			
Dibromofluoromethane	*58*			*ug/L*	*50.0*		*116*	*53-146*			
Toluene-d8	*51*			*ug/L*	*50.0*		*102*	*41-146*			

LCS (1A26010-BS1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 08:43

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	25		2.5	ug/L	20.0		127	57-148			
1,1,2,2-Tetrachloroethane	23		2.5	ug/L	20.0		115	60-139			
1,1,2-Trichloroethane	23		2.5	ug/L	20.0		114	57-141			
1,1-Dichloroethane	24		2.5	ug/L	20.0		119	57-142			
1,1-Dichloroethene	25		2.5	ug/L	20.0		125	47-139			
1,2,4-Trichlorobenzene	25		2.5	ug/L	20.0		127	52-159			
1,2-Dibromo-3-chloropropane	27		2.5	ug/L	20.0		137	48-150			
1,2-Dibromoethane	23		2.5	ug/L	20.0		116	57-140			
1,2-Dichlorobenzene	22		2.5	ug/L	20.0		109	63-131			
1,2-Dichloroethane	24		2.5	ug/L	20.0		119	50-156			
1,2-Dichloropropane	24		2.5	ug/L	20.0		118	61-133			
1,3-Dichlorobenzene	21		2.5	ug/L	20.0		105	66-129			
1,4-Dichlorobenzene	20		2.5	ug/L	20.0		101	65-133			
2-Butanone	130		12	ug/L	100		126	10-180			
2-Hexanone	110		12	ug/L	100		114	12-180			
4-Methyl-2-pentanone	110		12	ug/L	100		114	19-180			
Acetone	160		25	ug/L	100		156	10-180			
Benzene	21		2.5	ug/L	20.0		106	56-136			
Bromodichloromethane	23		2.5	ug/L	20.0		117	58-135			
Bromoform	23		2.5	ug/L	20.0		113	46-148			
Bromomethane	20		2.5	ug/L	20.0		101	10-173			
Carbon disulfide	36		12	ug/L	20.0		178	43-153			QL-02
Carbon Tetrachloride	23		2.5	ug/L	20.0		115	54-156			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A26010 - EPA 5030B_MS - Continued

LCS (1A26010-BS1) Continued Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 08:43

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chlorobenzene	20		2.5	ug/L	20.0		101	51-139			
Chloroethane	25		2.5	ug/L	20.0		124	27-180			
Chloroform	28		2.5	ug/L	20.0		140	58-139			QL-02
Chloromethane	19		2.5	ug/L	20.0		97	33-154			
cis-1,2-Dichloroethene	25		2.5	ug/L	20.0		124	56-128			
cis-1,3-Dichloropropene	23		2.5	ug/L	20.0		116	64-128			
Cyclohexane	26		2.5	ug/L	20.0		132	70-130			QL-02
Dibromochloromethane	22		2.5	ug/L	20.0		112	50-140			
Dichlorodifluoromethane	14		2.5	ug/L	20.0		69	10-180			
Ethylbenzene	20		2.5	ug/L	20.0		100	63-133			
Freon 113	28		2.5	ug/L	20.0		142	47-173			
Isopropylbenzene	21		2.5	ug/L	20.0		104	60-132			
m,p-Xylenes	40		5.0	ug/L	40.0		99	64-133			
Methyl acetate	30		2.5	ug/L	20.0		148	70-130			QL-02
Methyl cyclohexane	23		2.5	ug/L	20.0		116	70-130			
Methylene Chloride	27		12	ug/L	20.0		136	43-142			
Methyl-tert-Butyl Ether	28		2.5	ug/L	20.0		141	51-145			
o-Xylene	20		2.5	ug/L	20.0		102	61-129			
Styrene	21		2.5	ug/L	20.0		103	59-136			
Tetrachloroethene	19		2.5	ug/L	20.0		97	60-147			
Toluene	20		2.5	ug/L	20.0		101	64-131			
trans-1,2-Dichloroethene	27		2.5	ug/L	20.0		135	54-134			QL-02
trans-1,3-Dichloropropene	23		2.5	ug/L	20.0		116	65-149			
Trichloroethene	22		2.5	ug/L	20.0		112	62-135			
Trichlorofluoromethane	25		2.5	ug/L	20.0		123	56-155			
Vinyl chloride	24		2.5	ug/L	20.0		118	20-167			
4-Bromofluorobenzene	*51*			*ug/L*	*50.0*		*103*	*41-142*			
Dibromofluoromethane	*57*			*ug/L*	*50.0*		*114*	*53-146*			
Toluene-d8	*51*			*ug/L*	*50.0*		*103*	*41-146*			

Matrix Spike (1A26010-MS1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 09:24

Source: AD08635-03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	25		2.5	ug/L	20.0	0.80 U	125	57-148			
1,1,2,2-Tetrachloroethane	22		2.5	ug/L	20.0	0.54 U	112	60-139			
1,1,2-Trichloroethane	22		2.5	ug/L	20.0	0.76 U	109	57-141			
1,1-Dichloroethane	23		2.5	ug/L	20.0	0.62 U	115	57-142			
1,1-Dichloroethene	25		2.5	ug/L	20.0	0.94 U	126	47-139			
1,2,4-Trichlorobenzene	24		2.5	ug/L	20.0	0.70 U	122	52-159			
1,2-Dibromo-3-chloropropane	27		2.5	ug/L	20.0	0.96 U	136	48-150			
1,2-Dibromoethane	22		2.5	ug/L	20.0	0.78 U	110	57-140			
1,2-Dichlorobenzene	20		2.5	ug/L	20.0	0.73 U	102	63-131			
1,2-Dichloroethane	22		2.5	ug/L	20.0	0.63 U	112	50-156			
1,2-Dichloropropane	23		2.5	ug/L	20.0	0.80 U	115	61-133			
1,3-Dichlorobenzene	20		2.5	ug/L	20.0	0.77 U	99	66-129			
1,4-Dichlorobenzene	19		2.5	ug/L	20.0	0.76 U	97	65-133			
2-Butanone	140		12	ug/L	100	4.5 U	137	10-180			
2-Hexanone	120		12	ug/L	100	2.5 U	123	12-180			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A26010 - EPA 5030B_MS - Continued

Matrix Spike (1A26010-MS1) Continued Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 09:24

Source: AD08635-03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
4-Methyl-2-pentanone	120		12	ug/L	100	2.5 U	119	19-180			
Acetone	150		25	ug/L	100	10 U	152	10-180			
Benzene	20		2.5	ug/L	20.0	0.71 U	102	56-136			
Bromodichloromethane	22		2.5	ug/L	20.0	0.52 U	110	58-135			
Bromoform	22		2.5	ug/L	20.0	0.75 U	108	46-148			
Bromomethane	22		2.5	ug/L	20.0	0.95 U	108	10-173			
Carbon disulfide	35		12	ug/L	20.0	2.5 U	173	43-153			QM-19
Carbon Tetrachloride	23		2.5	ug/L	20.0	0.94 U	114	54-156			
Chlorobenzene	20		2.5	ug/L	20.0	0.72 U	98	51-139			
Chloroethane	25		2.5	ug/L	20.0	0.98 U	125	27-180			
Chloroform	27		2.5	ug/L	20.0	0.80 U	134	58-139			
Chloromethane	20		2.5	ug/L	20.0	0.82 U	98	33-154			
cis-1,2-Dichloroethene	24		2.5	ug/L	20.0	0.53 U	118	56-128			
cis-1,3-Dichloropropene	22		2.5	ug/L	20.0	0.59 U	111	64-128			
Cyclohexane	27		2.5	ug/L	20.0	0.93 U	134	70-130			QM-19
Dibromochloromethane	21		2.5	ug/L	20.0	0.50 U	107	50-140			
Dichlorodifluoromethane	15		2.5	ug/L	20.0	0.74 U	75	10-180			
Ethylbenzene	20		2.5	ug/L	20.0	0.69 U	98	63-133			
Freon 113	29		2.5	ug/L	20.0	0.73 U	146	47-173			
Isopropylbenzene	20		2.5	ug/L	20.0	0.67 U	100	60-132			
m,p-Xylenes	39		5.0	ug/L	40.0	1.3 U	97	64-133			
Methyl acetate	29		2.5	ug/L	20.0	0.95 U	144	70-130			QM-19
Methyl cyclohexane	23		2.5	ug/L	20.0	0.64 U	114	70-130			
Methylene Chloride	26		12	ug/L	20.0	2.5 U	129	43-142			
Methyl-tert-Butyl Ether	28		2.5	ug/L	20.0	0.60 U	139	51-145			
o-Xylene	19		2.5	ug/L	20.0	0.53 U	97	61-129			
Styrene	20		2.5	ug/L	20.0	0.61 U	98	59-136			
Tetrachloroethene	19		2.5	ug/L	20.0	0.76 U	96	60-147			
Toluene	20		2.5	ug/L	20.0	0.72 U	98	64-131			
trans-1,2-Dichloroethene	26		2.5	ug/L	20.0	0.73 U	130	54-134			
trans-1,3-Dichloropropene	22		2.5	ug/L	20.0	0.73 U	110	65-149			
Trichloroethene	21		2.5	ug/L	20.0	0.89 U	106	62-135			
Trichlorofluoromethane	26		2.5	ug/L	20.0	0.94 U	128	56-155			
Vinyl chloride	25		2.5	ug/L	20.0	0.71 U	125	20-167			
4-Bromofluorobenzene	*50*			*ug/L*	*50.0*		*101*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*112*	*53-146*			
Toluene-d8	*50*			*ug/L*	*50.0*		*101*	*41-146*			

Matrix Spike Dup (1A26010-MSD1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 09:53

Source: AD08635-03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	25		2.5	ug/L	20.0	0.80 U	124	57-148	1	25	
1,1,2,2-Tetrachloroethane	23		2.5	ug/L	20.0	0.54 U	114	60-139	3	17	
1,1,2-Trichloroethane	21		2.5	ug/L	20.0	0.76 U	106	57-141	3	16	
1,1-Dichloroethane	23		2.5	ug/L	20.0	0.62 U	115	57-142	0.2	24	
1,1-Dichloroethene	24		2.5	ug/L	20.0	0.94 U	120	47-139	5	16	
1,2,4-Trichlorobenzene	24		2.5	ug/L	20.0	0.70 U	119	52-159	2	24	
1,2-Dibromo-3-chloropropane	28		2.5	ug/L	20.0	0.96 U	141	48-150	4	21	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A26010 - EPA 5030B_MS - Continued

Matrix Spike Dup (1A26010-MSD1) Continued Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 09:53

Source: AD08635-03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,2-Dibromoethane	22		2.5	ug/L	20.0	0.78 U	110	57-140	0.09	16	
1,2-Dichlorobenzene	20		2.5	ug/L	20.0	0.73 U	100	63-131	2	25	
1,2-Dichloroethane	22		2.5	ug/L	20.0	0.63 U	112	50-156	0.6	18	
1,2-Dichloropropane	23		2.5	ug/L	20.0	0.80 U	113	61-133	2	26	
1,3-Dichlorobenzene	19		2.5	ug/L	20.0	0.77 U	94	66-129	5	23	
1,4-Dichlorobenzene	19		2.5	ug/L	20.0	0.76 U	94	65-133	4	23	
2-Butanone	130		12	ug/L	100	4.5 U	129	10-180	6	29	
2-Hexanone	130		12	ug/L	100	2.5 U	133	12-180	8	28	
4-Methyl-2-pentanone	130		12	ug/L	100	2.5 U	125	19-180	5	24	
Acetone	160		25	ug/L	100	10 U	157	10-180	3	19	
Benzene	20		2.5	ug/L	20.0	0.71 U	101	56-136	0.5	14	
Bromodichloromethane	22		2.5	ug/L	20.0	0.52 U	110	58-135	0.1	19	
Bromoform	21		2.5	ug/L	20.0	0.75 U	107	46-148	0.9	18	
Bromomethane	23		2.5	ug/L	20.0	0.95 U	114	10-173	5	29	
Carbon disulfide	33		12	ug/L	20.0	2.5 U	163	43-153	6	26	QM-19
Carbon Tetrachloride	23		2.5	ug/L	20.0	0.94 U	113	54-156	0.4	27	
Chlorobenzene	19		2.5	ug/L	20.0	0.72 U	95	51-139	3	13	
Chloroethane	25		2.5	ug/L	20.0	0.98 U	125	27-180	0.2	22	
Chloroform	27		2.5	ug/L	20.0	0.80 U	133	58-139	1	17	
Chloromethane	19		2.5	ug/L	20.0	0.82 U	96	33-154	3	31	
cis-1,2-Dichloroethene	23		2.5	ug/L	20.0	0.53 U	115	56-128	2	17	
cis-1,3-Dichloropropene	22		2.5	ug/L	20.0	0.59 U	111	64-128	0.2	20	
Cyclohexane	26		2.5	ug/L	20.0	0.93 U	128	70-130	5	20	
Dibromochloromethane	21		2.5	ug/L	20.0	0.50 U	107	50-140	0.3	18	
Dichlorodifluoromethane	14		2.5	ug/L	20.0	0.74 U	70	10-180	6	26	
Ethylbenzene	19		2.5	ug/L	20.0	0.69 U	95	63-133	3	18	
Freon 113	29		2.5	ug/L	20.0	0.73 U	144	47-173	2	30	
Isopropylbenzene	19		2.5	ug/L	20.0	0.67 U	97	60-132	3	23	
m,p-Xylenes	38		5.0	ug/L	40.0	1.3 U	94	64-133	3	18	
Methyl acetate	31		2.5	ug/L	20.0	0.95 U	155	70-130	7	20	QM-19
Methyl cyclohexane	22		2.5	ug/L	20.0	0.64 U	112	70-130	2	20	
Methylene Chloride	26		12	ug/L	20.0	2.5 U	128	43-142	1	23	
Methyl-tert-Butyl Ether	28		2.5	ug/L	20.0	0.60 U	141	51-145	1	22	
o-Xylene	19		2.5	ug/L	20.0	0.53 U	96	61-129	1	16	
Styrene	19		2.5	ug/L	20.0	0.61 U	97	59-136	2	32	
Tetrachloroethene	18		2.5	ug/L	20.0	0.76 U	92	60-147	4	21	
Toluene	19		2.5	ug/L	20.0	0.72 U	95	64-131	3	16	
trans-1,2-Dichloroethene	26		2.5	ug/L	20.0	0.73 U	128	54-134	2	20	
trans-1,3-Dichloropropene	22		2.5	ug/L	20.0	0.73 U	108	65-149	2	17	
Trichloroethene	21		2.5	ug/L	20.0	0.89 U	106	62-135	0.4	20	
Trichlorofluoromethane	26		2.5	ug/L	20.0	0.94 U	131	56-155	3	22	
Vinyl chloride	24		2.5	ug/L	20.0	0.71 U	120	20-167	4	24	
4-Bromofluorobenzene	*55*			*ug/L*	*50.0*		*109*	*41-142*			
Dibromofluoromethane	*60*			*ug/L*	*50.0*		*121*	*53-146*			
Toluene-d8	*55*			*ug/L*	*50.0*		*109*	*41-146*			

Dissolved Gases by GC - Quality Control

Batch 1A26006 - Same

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Dissolved Gases by GC - Quality Control

Batch 1A26006 - Same - Continued

Blank (1A26006-BLK1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 10:17

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.00510	U	0.00600	mg/L							
Ethene	0.00510	U	0.00600	mg/L							
Methane	0.00400	U	0.00500	mg/L							

LCS (1A26006-BS1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 09:33

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.395		0.00600	mg/L	0.323		122	70-130			
Ethene	0.348		0.00600	mg/L	0.302		115	70-130			
Methane	0.187		0.00500	mg/L	0.172		109	70-130			

LCS Dup (1A26006-BSD1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 09:54

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.401		0.00600	mg/L	0.323		124	70-130	1	30	
Ethene	0.354		0.00600	mg/L	0.302		117	70-130	2	30	
Methane	0.192		0.00500	mg/L	0.172		112	70-130	3	30	

Duplicate (1A26006-DUP1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 12:39

Source: AE00066-09

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.00510	U	0.00600	mg/L		0.00510 U				30	QV-01
Ethene	0.00510	U	0.00600	mg/L		0.00510 U				30	
Methane	0.442		0.00500	mg/L		0.152			98	30	QM-12

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
A-07	Analyte biased low in LCS but detected in the reporting limit standard. Since the analyte in the associated sample was not detected, there is no impact on data quality.
J-01	Result may be biased high due to positive results in the associated method blank at a concentration above the MDL and/or greater than one-half the MRL.
O-01	This compound is a common laboratory contaminant.
QL-02	The associated laboratory control sample exhibited high bias; since the result is ND, there is no impact.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-12	Precision between duplicate samples was outside acceptance limits.
QM-19	The spike recovery was outside acceptance limits for the MS and/or MSD.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.
R-05	The sample was diluted due to the presence of high levels of non-target analytes resulting in elevated reporting limits.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported result is an estimated value.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence (85% or greater confidence) to make a “tentative identification".
Q	One or more quality control criteria failed.

AE000606

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 2220 | PAGE 1 OF 2

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G08970	KSC- CRCA	Alex Murphy	321-292-0842	ENCO, Kaitlin Dylnicki
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER: Melissa Bennett	PHONE NUMBER: 321-914-9394	ADDRESS
		CARRIER/WAYBILL NUMBER		CITY, STATE: Orlando, FL

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE (YEAR 2021)	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	TYPE OF ANALYSIS: VOC	MEE	COMMENTS
								CONTAINER TYPE PLASTIC (P) or GLASS (G)	G	G	
								PRESERVATIVE USED	HCl	ice	
1/19	1105	CRCA-MW0030-058.0-20210119	30	53	63	GW	G	3	X		
1/19	1140	CRCA-MW0029-035.0-20210119	29	30	40	GW	G	3	X		
1/19	1220	CRCA-MW0028-058.0-20210119	28	53	63	GW	G	3	X		
1/19	1300	CRCA-MW0027-035.0-20210119	27	30	40	GW	G	3	X		
1/19	1335	CRCA-MW0015-027.5-20210119	15	25	30	GW	G	3	X		
1/19	1430	CRCA-MW0013-027.5-20210119	13	25	30	GW	G	3	X		
1/19	1510	CRCA-MW0012-027.5-20210119	12	25	30	GW	G	3	X		
1/19	1545	CRCA-MW0002-032.5-20210119	2	30	35	GW	G	3	X		
1/20	1215	CRCA-MW0031-058.0-20210120	31	53	63	GW	G	6	X	X	
1/20	1300	CRCA-MW0032-058.0-20210120	32	53	63	GW	G	6	X	X MB	VOC analysis only
1/20	1400	CRCA-MW0018-058.0-20210120	18	53	63	GW	G	6	X	X	
1/20	1600	CRCA-MW0019-058.0-20210120	19	53	63	GW	G	6	X	X	

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	1-21-21	1500	1. RECEIVED BY	1/21/21	1500
2. RELINQUISHED BY	1/21/21	1500	2. RECEIVED BY	1/21/21	1500
3. RELINQUISHED BY	1/21/21		3. RECEIVED BY	1/22/21	1510

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

(-025 4.29, 6001 24.19C, 1002 23.9

4/02R FORM NO. TtNUS-001

AE000166

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 2222 | PAGE 2 OF 2

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G08970	CRCA	Alex Murphy	321-292-0842	ENCO
SAMPLERS (SIGNATURE)		**FIELD OPERATIONS LEADER** Melissa Bennett	**PHONE NUMBER** 321-914-9394	**ADDRESS**
		CARRIER/WAYBILL NUMBER		**CITY, STATE** Orlando, FL

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2021	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TYPE OF ANALYSIS: VOC TO-15	COMMENTS
											Summa /	
1/20	1103	CRCA-VMP01-20210120	VMP1	—	—	air	G	1			X	1001-1103
1/20	1106	CRCA-VMP02-20210120	VMP2	—	—	air	G	1			X	1008-1106
1/20	1115	CRCA-VMP03-20210120	VMP3	—	—	air	G	1			X	1014-1115
1/20	1122	CRCA-VMP04-20210120	VMP4	—	—	air	G	1			X	1022-1122
1/20	1703	CRCA-SYSAIR-20210120	SYS	—	-	air	G	1			X	1900-1703

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	1-21-21	1500	1. RECEIVED BY KE	Date	15:10
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY KE	DATE 1/21/21	TIME 15:10	3. RECEIVED BY	DATE 1-21-21	TIME 1500
COMMENTS	1-21-21	15 10	James W Gregory	1/21/21	1510

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

C-025 4.2°C Box 1 24.1 °C, Box 2 23.1°C

4/02R FORM NO. TtNUS-001

Environmental Conservation Laboratories, Inc.
10775 Central Port Drive, Orlando, FL 32824
4810 Executive Park Court, Suite 211,Jacksonville, FL 32216
102-A Woodwinds Industrial Ct, Cary, NC 27511

www.encolabs.com

COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

General Information

SITE LOCATION:	KSC- CRCA .
SITE ADDRESS:	Contractor Road
SAMPLER ID:	CRCA- VMPol- 20210120
SAMPLING DATE:	1-20-21
OPERATOR:	Tetra tech / melisse Bennett
SHIPPING DATE:	1/13/21
CANISTER SERIAL NO.:	1158
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	JAK-P-14

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	60°F	-14 mmHg	1001	1HR
STOP		-14mmHg	1103	

Signature/Title: / Env. Engineer

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COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15
CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

2

General Information

SITE LOCATION:	KSC- CBCA
SITE ADDRESS:	Contractor Road
SAMPLER ID:	CBCA – VM002-20210120
SAMPLING DATE:	1-2021
OPERATOR:	Tetra tech / melissa Bennett
SHIPPING DATE:	113121
CANISTER SERIAL NO.:	15863
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	JAY-R-056

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	60°F	-30mmHg	1008	1HR
STOP		-13mmHg	1100	1HR

Signature/Title: [signature] / Env. Engineer

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COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

3

General Information

SITE LOCATION:	KSC- CRCA
SITE ADDRESS:	Contractor Road
SAMPLER ID:	CRCA- VMP03-20210120
SAMPLING DATE:	1-20-21
OPERATOR:	Tetra tech / Melissa Bennett
SHIPPING DATE:	1/13/21
CANISTER SERIAL NO.:	1S-069
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	1A10-14-059

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	60°F	-30mmHg	1014	1HR
STOP	60°F	-13 mmHg	1115	1HR

Signature/Title: [signature] / Env. Engineer

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COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

4

General Information

SITE LOCATION:	KSC- CRCA
SITE ADDRESS:	Contractor Road
SAMPLER ID:	CRCA-UMP04-20210120
SAMPLING DATE:	1-20-21
OPERATOR:	Tetra tech / Melissa Bennett
SHIPPING DATE:	1/15/21
CANISTER SERIAL NO.:	0S-070
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	JAV-R-04

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	60°F	-30 mm Hg	1022	1 HR
STOP	60°F	-9 mm Hg	1122	1 HR

Signature/Title: [signature] / Env. Engineer

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COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

SYSAIR

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

General Information

SITE LOCATION:	KSC- CRCA ,
SITE ADDRESS:	Contractor Road
SAMPLER ID:	CRCA- SYSAIR-20210120
SAMPLING DATE:	1-20-21
OPERATOR:	Tetra tech / Melissa Bennett
SHIPPING DATE:	1/21/21
CANISTER SERIAL NO.:	18-016
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	6685

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	55°F	-30mm Hg	0900	8 HR
STOP	72°F	0mmHg	1703	8 HR

Signature/Title: [signature] / Env. Engineer

1/22/2021

Environmental Conservation Labs, Inc.

Alex Murphy
Tetra Tech, Inc. (TE016)
11 Riverside Drive, Suite 204
Cocoa, FL 32922
Phone: (321) 636-6470
Fax: (321) 636-6473

Reference : **Sample Receipt Confirmation - *Please Review***
Project Name / Number : NASA KSC CRCA / 112G08970
Purchase Order # : 1165883

Lab Reference # : AE00066 Lab Receipt Date: 21-Jan-21 15:10
Anticipated ***(Estimated)*** Completion Date: 28-Jan-21 19:00

This is an automated notification from our laboratory information management system (LIMS), indicating the samples we have recently received and their associated analyses. Should any of the following information be in error, please contact us immediately.

Thank you for choosing Environmental Conservation Laboratories. Should any events occur that delay the processing of your samples or inhibit our ability to complete the project within the projected time frame you will be contacted.

Sincerely,

Kaitlin Dylnicki

Client: Tetra Tech, Inc. (TE016) **Project Name:** NASA KSC CRCA
Requested TAT: 5 **Project Number:** 112G08970

Analysis	TAT	Expires	Status
Sample ID: CRCA-MW0030-058.0-20210119(Lab ID: AE00066-01), Matrix: Ground Water, Sampled: 19-Jan-21 11:05 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received
Sample ID: CRCA-MW0029-035.0-20210119(Lab ID: AE00066-02), Matrix: Ground Water, Sampled: 19-Jan-21 11:40 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received
Sample ID: CRCA-MW0028-058.0-20210119(Lab ID: AE00066-03), Matrix: Ground Water, Sampled: 19-Jan-21 12:20 (GMT-05:00) Eastern Time (US & Canada)			
Sample Comments: Time on Vials is 1215			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received
Sample ID: CRCA-MW0027-035.0-20210119(Lab ID: AE00066-04), Matrix: Ground Water, Sampled: 19-Jan-21 13:00 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received
Sample ID: CRCA-MW0015-027.5-20210119(Lab ID: AE00066-05), Matrix: Ground Water, Sampled: 19-Jan-21 13:35 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received
Sample ID: CRCA-MW0013-027.5-20210119(Lab ID: AE00066-06), Matrix: Ground Water, Sampled: 19-Jan-21 14:30 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received
Sample ID: CRCA-MW0012-0.275-20210119(Lab ID: AE00066-07), Matrix: Ground Water, Sampled: 19-Jan-21 15:10 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received
Sample ID: CRCA-MW0002-032.5-20210119(Lab ID: AE00066-08), Matrix: Ground Water, Sampled: 19-Jan-21 15:45 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received

Client: Tetra Tech, Inc. (TE016)
Requested TAT: 5

Project Name: NASA KSC CRCA
Project Number: 112G08970

Analysis	TAT	Expires	Status
Sample ID: CRCA-MW0031-058.0-20210120(Lab ID: AE00066-09), Matrix: Ground Water, Sampled: 20-Jan-21 12:15 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	03-Feb-21 23:59	Received
RSK175	5	03-Feb-21 23:59	Received
Sample ID: CRCA-MW0032-058.0-20210120(Lab ID: AE00066-10), Matrix: Ground Water, Sampled: 20-Jan-21 13:00 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	03-Feb-21 23:59	Received
Sample ID: CRCA-MW0018-058.0-20210120(Lab ID: AE00066-11), Matrix: Ground Water, Sampled: 20-Jan-21 14:00 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	03-Feb-21 23:59	Received
RSK175	5	03-Feb-21 23:59	Received
Sample ID: CRCA-MW0019-058.0-20210120(Lab ID: AE00066-12), Matrix: Ground Water, Sampled: 20-Jan-21 16:00 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	03-Feb-21 23:59	Received
RSK175	5	03-Feb-21 23:59	Received
Sample ID: CRCA-VMP01-20210120(Lab ID: AE00066-13), Matrix: Air, Sampled: 20-Jan-21 11:03 (GMT-05:00) Eastern Time (US & Canada)			
Sample Comments: 1001-1103			
TO15 (SUMMA)	5	19-Feb-21 23:59	Received
Sample ID: CRCA-VMP02-20210120(Lab ID: AE00066-14), Matrix: Air, Sampled: 20-Jan-21 11:06 (GMT-05:00) Eastern Time (US & Canada)			
Sample Comments: 1008-1106			
TO15 (SUMMA)	5	19-Feb-21 23:59	Received
Sample ID: CRCA-VMP03-20210120(Lab ID: AE00066-15), Matrix: Air, Sampled: 20-Jan-21 11:15 (GMT-05:00) Eastern Time (US & Canada)			
Sample Comments: 1014-1115			
TO15 (SUMMA)	5	19-Feb-21 23:59	Received
Sample ID: CRCA-VMP04-20210120(Lab ID: AE00066-16), Matrix: Air, Sampled: 20-Jan-21 11:22 (GMT-05:00) Eastern Time (US & Canada)			
Sample Comments: 1022-1122			
TO15 (SUMMA)	5	19-Feb-21 23:59	Received
Sample ID: CRCA-SYSAIR-20210120(Lab ID: AE00066-17), Matrix: Air, Sampled: 20-Jan-21 17:03 (GMT-05:00) Eastern Time (US & Canada)			
Sample Comments: 1900-1703			
TO15 (SUMMA)	5	19-Feb-21 23:59	Received

Analysis Groups included in this work order

ENCO Orlando

SDG: AE00066-TE016

CLASS: 01_VOA_MS

METHOD: EPA 8260D

ANALYSES DATA PACKAGE COVER PAGE

EPA 8260D

Laboratory: ENCO Orlando

SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-MW0030-058.0-20210119	AE00066-01
CRCA-MW0029-035.0-20210119	AE00066-02
CRCA-MW0028-058.0-20210119	AE00066-03
CRCA-MW0027-035.0-20210119	AE00066-04
CRCA-MW0015-027.5-20210119	AE00066-05
CRCA-MW0013-027.5-20210119	AE00066-06
CRCA-MW0012-027.5-20210119	AE00066-07
CRCA-MW0002-032.5-20210119	AE00066-08
CRCA-MW0031-058.0-20210120	AE00066-09
CRCA-MW0032-058.0-20210120	AE00066-10
CRCA-MW0018-058.0-20210120	AE00066-11
CRCA-MW0018-058.0-20210120	AE00066-11RE1
CRCA-MW0019-058.0-20210120	AE00066-12

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0030-058.0-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-01 File ID: 215AT010.D

Sampled: 01/19/21 11:05 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 12:17

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0030-058.0-20210119

Laboratory: ENCO Orlando | SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) | Project: NASA KSC CRCA

Matrix: Ground Water | Laboratory ID: AE00066-01 | File ID: 215AT010.D

Sampled: 01/19/21 11:05 | Prepared: 01/25/21 00:00 | Analyzed: 01/25/21 12:17

Solids: | Preparation: EPA 5030B_MS | Initial/Final: 5 mL / 5 mL

Batch: 1A25020 | Sequence: AA64632 | Calibration: 2011113 | Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	57	115	53 - 146	
Toluene-d8	50.0	48	97	41 - 146	
4-Bromofluorobenzene	50.0	53	106	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1351808	9.863	1217120	9.845	
1,4-Difluorobenzene	2866333	10.456	2353990	10.438	
Chlorobenzene-d5	1635734	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1522320	15.491	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0029-035.0-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-02 File ID: 215AT011.D

Sampled: 01/19/21 11:40 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 12:46

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0029-035.0-20210119

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE00066-02
File ID: 215AT011.D
Sampled: 01/19/21 11:40
Prepared: 01/25/21 00:00
Analyzed: 01/25/21 12:46
Solids:
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Batch: 1A25020
Sequence: AA64632
Calibration: 2011113
Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	57	114	53 - 146	
Toluene-d8	50.0	48	96	41 - 146	
4-Bromofluorobenzene	50.0	53	107	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1334319	9.863	1217120	9.845	
1,4-Difluorobenzene	2846320	10.456	2353990	10.438	
Chlorobenzene-d5	1622830	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1514443	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0028-058.0-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-03 File ID: 215AT012.D

Sampled: 01/19/21 12:20 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 13:15

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0028-058.0-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-03 File ID: 215AT012.D

Sampled: 01/19/21 12:20 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 13:15

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	56	111	53 - 146	
Toluene-d8	50.0	48	95	41 - 146	
4-Bromofluorobenzene	50.0	53	105	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1325539	9.862	1217120	9.845	
1,4-Difluorobenzene	2841226	10.456	2353990	10.438	
Chlorobenzene-d5	1602227	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1534202	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0027-035.0-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-04 File ID: 215AT013.D

Sampled: 01/19/21 13:00 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 13:45

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	7.0		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0027-035.0-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-04 File ID: 215AT013.D

Sampled: 01/19/21 13:00 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 13:45

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	57	115	53 - 146	
Toluene-d8	50.0	46	93	41 - 146	
4-Bromofluorobenzene	50.0	52	104	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1342454	9.863	1217120	9.845	
1,4-Difluorobenzene	2980618	10.462	2353990	10.438	
Chlorobenzene-d5	1652145	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1560174	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0015-027.5-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-05 File ID: 215AT014.D

Sampled: 01/19/21 13:35 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 14:14

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0015-027.5-20210119

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE00066-05
File ID: 215AT014.D
Sampled: 01/19/21 13:35
Prepared: 01/25/21 00:00
Analyzed: 01/25/21 14:14
Solids:
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Batch: 1A25020
Sequence: AA64632
Calibration: 2011113
Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	57	114	53 - 146	
Toluene-d8	50.0	47	94	41 - 146	
4-Bromofluorobenzene	50.0	54	108	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1353784	9.868	1217120	9.845	
1,4-Difluorobenzene	2923690	10.462	2353990	10.438	
Chlorobenzene-d5	1584476	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1534322	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0013-027.5-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-06 File ID: 215AT015.D

Sampled: 01/19/21 14:30 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 14:44

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	2.1	J	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0013-027.5-20210119

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE00066-06
File ID: 215AT015.D
Sampled: 01/19/21 14:30
Prepared: 01/25/21 00:00
Analyzed: 01/25/21 14:44
Solids:
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Batch: 1A25020
Sequence: AA64632
Calibration: 2011113
Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	57	114	53 - 146	
Toluene-d8	50.0	48	96	41 - 146	
4-Bromofluorobenzene	50.0	55	109	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1323227	9.868	1217120	9.845	
1,4-Difluorobenzene	2812403	10.462	2353990	10.438	
Chlorobenzene-d5	1560555	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1499588	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0012-027.5-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-07 File ID: 215AT016.D

Sampled: 01/19/21 15:10 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 15:13

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0012-027.5-20210119

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE00066-07
File ID: 215AT016.D
Sampled: 01/19/21 15:10
Prepared: 01/25/21 00:00
Analyzed: 01/25/21 15:13
Solids:
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Batch: 1A25020
Sequence: AA64632
Calibration: 2011113
Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	59	118	53 - 146	
Toluene-d8	50.0	48	96	41 - 146	
4-Bromofluorobenzene	50.0	54	109	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1311393	9.868	1217120	9.845	
1,4-Difluorobenzene	2857206	10.462	2353990	10.438	
Chlorobenzene-d5	1588971	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1519324	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0002-032.5-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-08 File ID: 215AT017.D

Sampled: 01/19/21 15:45 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 15:43

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	3.1		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0002-032.5-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-08 File ID: 215AT017.D

Sampled: 01/19/21 15:45 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 15:43

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	56	113	53 - 146	
Toluene-d8	50.0	49	97	41 - 146	
4-Bromofluorobenzene	50.0	55	109	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1324243	9.863	1217120	9.845	
1,4-Difluorobenzene	2844356	10.456	2353990	10.438	
Chlorobenzene-d5	1569592	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1496442	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0031-058.0-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-09 File ID: 215AT018.D

Sampled: 01/20/21 12:15 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 16:12

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	29		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0031-058.0-20210120

Laboratory: ENCO Orlando | SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) | Project: NASA KSC CRCA

Matrix: Ground Water | Laboratory ID: AE00066-09 | File ID: 215AT018.D

Sampled: 01/20/21 12:15 | Prepared: 01/25/21 00:00 | Analyzed: 01/25/21 16:12

Solids: | Preparation: EPA 5030B_MS | Initial/Final: 5 mL / 5 mL

Batch: 1A25020 | Sequence: AA64632 | Calibration: 2011113 | Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	59	118	53 - 146	
Toluene-d8	50.0	47	93	41 - 146	
4-Bromofluorobenzene	50.0	52	105	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1346166	9.863	1217120	9.845	
1,4-Difluorobenzene	3057273	10.462	2353990	10.438	
Chlorobenzene-d5	1666053	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1548120	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0032-058.0-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-10 File ID: 215AT009.D

Sampled: 01/20/21 13:00 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 11:47

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0032-058.0-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-10 File ID: 215AT009.D

Sampled: 01/20/21 13:00 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 11:47

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	57	114	53 - 146	
Toluene-d8	50.0	47	94	41 - 146	
4-Bromofluorobenzene	50.0	53	106	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1353992	9.863	1217120	9.845	
1,4-Difluorobenzene	2910142	10.456	2353990	10.438	
Chlorobenzene-d5	1676020	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1554117	15.491	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0018-058.0-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-11RE1 File ID: 212AU017.D

Sampled: 01/20/21 14:00 Prepared: 01/26/21 00:00 Analyzed: 01/26/21 15:52

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A26010 Sequence: AA64658 Calibration: 2101077 Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	97		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0018-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE00066-11RE1
File ID: 212AU017.D
Sampled: 01/20/21 14:00
Prepared: 01/26/21 00:00
Analyzed: 01/26/21 15:52
Solids:
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Batch: 1A26010
Sequence: AA64658
Calibration: 2101077
Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	55	110	53 - 146	
Toluene-d8	50.0	55	109	41 - 146	
4-Bromofluorobenzene	50.0	54	108	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	193931	11.47	253281	11.45	
1,4-Difluorobenzene	383784	12.02	506895	11.99	
Chlorobenzene-d5	191378	14.62	216205	14.59	
1,4-Dichlorobenzene-d4	134955	16.99	135032	16.96	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0019-058.0-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-12 File ID: 215AT020.D

Sampled: 01/20/21 16:00 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 17:11

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	2.8		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0019-058.0-20210120

Laboratory: ENCO Orlando | SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) | Project: NASA KSC CRCA

Matrix: Ground Water | Laboratory ID: AE00066-12 | File ID: 215AT020.D

Sampled: 01/20/21 16:00 | Prepared: 01/25/21 00:00 | Analyzed: 01/25/21 17:11

Solids: | Preparation: EPA 5030B_MS | Initial/Final: 5 mL / 5 mL

Batch: 1A25020 | Sequence: AA64632 | Calibration: 2011113 | Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	57	113	53 - 146	
Toluene-d8	50.0	47	95	41 - 146	
4-Bromofluorobenzene	50.0	55	110	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1326429	9.868	1217120	9.845	
1,4-Difluorobenzene	2844280	10.462	2353990	10.438	
Chlorobenzene-d5	1585901	13.241	1612072	13.217	
1,4-Dichlorobenzene-d4	1547465	15.497	1366836	15.474	

* Values outside of QC limits

HOLDING TIME SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-MW0030-058.0-20210119	01/19/21 11:05	01/21/21 15:10	01/25/21 00:00	5.54	NA	01/25/21 12:17	6.00	14.00	
CRCA-MW0029-035.0-20210119	01/19/21 11:40	01/21/21 15:10	01/25/21 00:00	5.51	NA	01/25/21 12:46	6.00	14.00	
CRCA-MW0028-058.0-20210119	01/19/21 12:20	01/21/21 15:10	01/25/21 00:00	5.49	NA	01/25/21 13:15	6.00	14.00	
CRCA-MW0027-035.0-20210119	01/19/21 13:00	01/21/21 15:10	01/25/21 00:00	5.46	NA	01/25/21 13:45	6.00	14.00	
CRCA-MW0015-027.5-20210119	01/19/21 13:35	01/21/21 15:10	01/25/21 00:00	5.43	NA	01/25/21 14:14	6.00	14.00	
CRCA-MW0013-027.5-20210119	01/19/21 14:30	01/21/21 15:10	01/25/21 00:00	5.40	NA	01/25/21 14:44	6.00	14.00	
CRCA-MW0012-027.5-20210119	01/19/21 15:10	01/21/21 15:10	01/25/21 00:00	5.37	NA	01/25/21 15:13	6.00	14.00	
CRCA-MW0002-032.5-20210119	01/19/21 15:45	01/21/21 15:10	01/25/21 00:00	5.34	NA	01/25/21 15:43	6.00	14.00	
CRCA-MW0031-058.0-20210120	01/20/21 12:15	01/21/21 15:10	01/25/21 00:00	4.49	NA	01/25/21 16:12	5.00	14.00	
CRCA-MW0032-058.0-20210120	01/20/21 13:00	01/21/21 15:10	01/25/21 00:00	4.46	NA	01/25/21 11:47	5.00	14.00	
CRCA-MW0018-058.0-20210120	01/20/21 14:00	01/21/21 15:10	01/26/21 00:00	5.42	NA	01/26/21 15:52	6.00	14.00	
CRCA-MW0019-058.0-20210120	01/20/21 16:00	01/21/21 15:10	01/25/21 00:00	4.33	NA	01/25/21 17:11	5.00	14.00	

PREPARATION BATCH SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1A25020 Batch Matrix: Water Preparation: EPA 5030B_MS

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1A25020-BLK1	215AT006.D	01/25/21 00:00	
LCS	1A25020-BS1	215AT004.D	01/25/21 00:00	
CRCA-MW0032-058.0-20210120	1A25020-MS1	215AT023.D	01/25/21 00:00	
CRCA-MW0032-058.0-20210120	1A25020-MSD1	215AT024.D	01/25/21 00:00	
CRCA-MW0030-058.0-20210119	AE00066-01	215AT010.D	01/25/21 00:00	
CRCA-MW0029-035.0-20210119	AE00066-02	215AT011.D	01/25/21 00:00	
CRCA-MW0028-058.0-20210119	AE00066-03	215AT012.D	01/25/21 00:00	
CRCA-MW0027-035.0-20210119	AE00066-04	215AT013.D	01/25/21 00:00	
CRCA-MW0015-027.5-20210119	AE00066-05	215AT014.D	01/25/21 00:00	
CRCA-MW0013-027.5-20210119	AE00066-06	215AT015.D	01/25/21 00:00	
CRCA-MW0012-027.5-20210119	AE00066-07	215AT016.D	01/25/21 00:00	
CRCA-MW0002-032.5-20210119	AE00066-08	215AT017.D	01/25/21 00:00	
CRCA-MW0031-058.0-20210120	AE00066-09	215AT018.D	01/25/21 00:00	
CRCA-MW0032-058.0-20210120	AE00066-10	215AT009.D	01/25/21 00:00	
CRCA-MW0019-058.0-20210120	AE00066-12	215AT020.D	01/25/21 00:00	

PREPARATION BATCH SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1A26010 Batch Matrix: Water Preparation: EPA 5030B_MS

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1A26010-BLK1	212AU008.D	01/26/21 00:00	
LCS	1A26010-BS1	212AU003.D	01/26/21 00:00	
MW-3R	1A26010-MS1	212AU004.D	01/26/21 00:00	
MW-3R	1A26010-MSD1	212AU005.D	01/26/21 00:00	
CRCA-MW0018-058.0-20210120	AE00066-11RE1	212AU017.D	01/26/21 00:00	

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1A25020-BLK1	File ID:	215AT006.D
Prepared:	01/25/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	01/25/21 10:19	Instrument:	OVGCMS5		
Batch:	1A25020	Sequence:	AA64632	Calibration:	2011113

CAS NO.	COMPOUND	CONC. (ug/L)	Q
75-71-8	Dichlorodifluoromethane	0.74	U
74-87-3	Chloromethane	0.82	U
75-01-4	Vinyl chloride	0.71	U
74-83-9	Bromomethane	0.95	U
75-00-3	Chloroethane	0.98	U
75-69-4	Trichlorofluoromethane	0.94	U
76-13-1	Freon 113	0.73	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	0.94	U
75-15-0	Carbon disulfide	2.5	U
75-09-2	Methylene Chloride	2.5	U
1634-04-4	Methyl-tert-Butyl Ether	0.60	U
156-60-5	trans-1,2-Dichloroethene	0.73	U
156-59-2	cis-1,2-Dichloroethene	0.53	U
75-34-3	1,1-Dichloroethane	0.62	U
78-93-3	2-Butanone	4.5	U
67-66-3	Chloroform	0.80	U
71-55-6	1,1,1-Trichloroethane	0.80	U
79-20-9	Methyl acetate	0.95	U
110-82-7	Cyclohexane	0.93	U
108-87-2	Methyl cyclohexane	0.64	U
56-23-5	Carbon Tetrachloride	0.94	U
107-06-2	1,2-Dichloroethane	0.63	U
71-43-2	Benzene	0.71	U
79-01-6	Trichloroethene	0.89	U
78-87-5	1,2-Dichloropropane	0.80	U
75-27-4	Bromodichloromethane	0.52	U
108-10-1	4-Methyl-2-pentanone	2.5	U
591-78-6	2-Hexanone	2.5	U
10061-01-5	cis-1,3-Dichloropropene	0.59	U

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1A25020-BLK1	File ID:	215AT006.D
Prepared:	01/25/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	01/25/21 10:19	Instrument:	OVGCMS5		
Batch:	1A25020	Sequence:	AA64632	Calibration:	2011113

CAS NO.	COMPOUND	CONC. (ug/L)	Q
108-88-3	Toluene	0.72	U
10061-02-6	trans-1,3-Dichloropropene	0.73	U
79-00-5	1,1,2-Trichloroethane	0.76	U
127-18-4	Tetrachloroethene	0.76	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.78	U
108-90-7	Chlorobenzene	0.72	U
100-41-4	Ethylbenzene	0.69	U
108-38-3/106-42-3	m,p-Xylenes	1.3	U
95-47-6	o-Xylene	0.53	U
75-25-2	Bromoform	0.75	U
100-42-5	Styrene	0.61	U
98-82-8	Isopropylbenzene	0.67	U
79-34-5	1,1,2,2-Tetrachloroethane	0.54	U
120-82-1	1,2,4-Trichlorobenzene	0.70	U
541-73-1	1,3-Dichlorobenzene	0.77	U
106-46-7	1,4-Dichlorobenzene	0.76	U
95-50-1	1,2-Dichlorobenzene	0.73	U
96-12-8	1,2-Dibromo-3-chloropropane	0.96	U
1330-20-7	Xylenes (Total)	1.3	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	55	111	53 - 146	
Toluene-d8	50.0	48	96	41 - 146	
4-Bromofluorobenzene	50.0	54	109	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1492905	9.857	1217120	9.845	
1,4-Difluorobenzene	3146822	10.456	2353990	10.438	
Chlorobenzene-d5	1772986	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1644956	15.491	1366836	15.474	

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1A26010-BLK1	File ID:	212AU008.D
Prepared:	01/26/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	01/26/21 11:19	Instrument:	OVGCMS2		
Batch:	1A26010	Sequence:	AA64658	Calibration:	2101077

CAS NO.	COMPOUND	CONC. (ug/L)	Q
75-71-8	Dichlorodifluoromethane	0.74	U
74-87-3	Chloromethane	0.82	U
75-01-4	Vinyl chloride	0.71	U
74-83-9	Bromomethane	0.95	U
75-00-3	Chloroethane	0.98	U
75-69-4	Trichlorofluoromethane	0.94	U
76-13-1	Freon 113	0.73	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	0.94	U
75-15-0	Carbon disulfide	2.5	U
75-09-2	Methylene Chloride	2.5	U
1634-04-4	Methyl-tert-Butyl Ether	0.60	U
156-60-5	trans-1,2-Dichloroethene	0.73	U
156-59-2	cis-1,2-Dichloroethene	0.53	U
75-34-3	1,1-Dichloroethane	0.62	U
78-93-3	2-Butanone	4.5	U
67-66-3	Chloroform	0.80	U
71-55-6	1,1,1-Trichloroethane	0.80	U
79-20-9	Methyl acetate	0.95	U
110-82-7	Cyclohexane	0.93	U
108-87-2	Methyl cyclohexane	0.64	U
56-23-5	Carbon Tetrachloride	0.94	U
107-06-2	1,2-Dichloroethane	0.63	U
71-43-2	Benzene	0.71	U
79-01-6	Trichloroethene	0.89	U
78-87-5	1,2-Dichloropropane	0.80	U
75-27-4	Bromodichloromethane	0.52	U
108-10-1	4-Methyl-2-pentanone	2.5	U
591-78-6	2-Hexanone	2.5	U
10061-01-5	cis-1,3-Dichloropropene	0.59	U

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1A26010-BLK1	File ID:	212AU008.D
Prepared:	01/26/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	01/26/21 11:19	Instrument:	OVGCMS2		
Batch:	1A26010	Sequence:	AA64658	Calibration:	2101077

CAS NO.	COMPOUND	CONC. (ug/L)	Q
108-88-3	Toluene	0.72	U
10061-02-6	trans-1,3-Dichloropropene	0.73	U
79-00-5	1,1,2-Trichloroethane	0.76	U
127-18-4	Tetrachloroethene	0.76	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.78	U
108-90-7	Chlorobenzene	0.72	U
100-41-4	Ethylbenzene	0.69	U
108-38-3/106-42-3	m,p-Xylenes	1.3	U
95-47-6	o-Xylene	0.53	U
75-25-2	Bromoform	0.75	U
100-42-5	Styrene	0.61	U
98-82-8	Isopropylbenzene	0.67	U
79-34-5	1,1,2,2-Tetrachloroethane	0.54	U
120-82-1	1,2,4-Trichlorobenzene	0.70	U
541-73-1	1,3-Dichlorobenzene	0.77	U
106-46-7	1,4-Dichlorobenzene	0.76	U
95-50-1	1,2-Dichlorobenzene	0.73	U
96-12-8	1,2-Dibromo-3-chloropropane	0.96	U
1330-20-7	Xylenes (Total)	1.3	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	58	116	53 - 146	
Toluene-d8	50.0	51	102	41 - 146	
4-Bromofluorobenzene	50.0	51	103	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	294699	11.47	253281	11.45	
1,4-Difluorobenzene	604071	12.02	506895	11.99	
Chlorobenzene-d5	274826	14.62	216205	14.59	
1,4-Dichlorobenzene-d4	171064	16.98	135032	16.96	

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1A25020	Laboratory ID:	1A25020-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	12	61	10 - 180
Chloromethane	20.0	9.3	46	33 - 154
Vinyl chloride	20.0	17	85	20 - 167
Bromomethane	20.0	8.7	44	10 - 173
Chloroethane	20.0	22	109	27 - 180
Trichlorofluoromethane	20.0	20	100	56 - 155
Freon 113	20.0	21	104	47 - 173
Acetone	100	71	71	10 - 180
1,1-Dichloroethene	20.0	20	102	47 - 139
Carbon disulfide	20.0	20	102	43 - 153
Methylene Chloride	20.0	20	100	43 - 142
Methyl-tert-Butyl Ether	20.0	20	99	51 - 145
trans-1,2-Dichloroethene	20.0	22	108	54 - 134
cis-1,2-Dichloroethene	20.0	22	109	56 - 128
1,1-Dichloroethane	20.0	19	93	57 - 142
2-Butanone	100	90	90	10 - 180
Chloroform	20.0	20	99	58 - 139
1,1,1-Trichloroethane	20.0	19	97	57 - 148
Methyl acetate	20.0	13	65 *	70 - 130
Cyclohexane	20.0	16	82	70 - 130
Methyl cyclohexane	20.0	18	89	70 - 130
Carbon Tetrachloride	20.0	16	80	54 - 156
1,2-Dichloroethane	20.0	15	75	50 - 156
Benzene	20.0	19	94	56 - 136
Trichloroethene	20.0	21	103	62 - 135
1,2-Dichloropropane	20.0	16	80	61 - 133
Bromodichloromethane	20.0	18	89	58 - 135
4-Methyl-2-pentanone	100	90	90	19 - 180
2-Hexanone	100	68	68	12 - 180
cis-1,3-Dichloropropene	20.0	17	87	64 - 128

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1A25020	Laboratory ID:	1A25020-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Toluene	20.0	23	114	64 - 131
trans-1,3-Dichloropropene	20.0	21	103	65 - 149
1,1,2-Trichloroethane	20.0	21	107	57 - 141
Tetrachloroethene	20.0	21	104	60 - 147
Dibromochloromethane	20.0	24	118	50 - 140
1,2-Dibromoethane	20.0	22	110	57 - 140
Chlorobenzene	20.0	24	120	51 - 139
Ethylbenzene	20.0	22	108	63 - 133
m,p-Xylenes	40.0	50	125	64 - 133
o-Xylene	20.0	23	117	61 - 129
Bromoform	20.0	21	107	46 - 148
Styrene	20.0	25	126	59 - 136
Isopropylbenzene	20.0	24	118	60 - 132
1,1,2,2-Tetrachloroethane	20.0	21	105	60 - 139
1,2,4-Trichlorobenzene	20.0	17	87	52 - 159
1,3-Dichlorobenzene	20.0	24	118	66 - 129
1,4-Dichlorobenzene	20.0	21	106	65 - 133
1,2-Dichlorobenzene	20.0	23	113	63 - 131
1,2-Dibromo-3-chloropropane	20.0	20	102	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1A26010	Laboratory ID:	1A26010-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	14	69	10 - 180
Chloromethane	20.0	19	97	33 - 154
Vinyl chloride	20.0	24	118	20 - 167
Bromomethane	20.0	20	101	10 - 173
Chloroethane	20.0	25	124	27 - 180
Trichlorofluoromethane	20.0	25	123	56 - 155
Freon 113	20.0	28	142	47 - 173
Acetone	100	160	156	10 - 180
1,1-Dichloroethene	20.0	25	125	47 - 139
Carbon disulfide	20.0	36	178 *	43 - 153
Methylene Chloride	20.0	27	136	43 - 142
Methyl-tert-Butyl Ether	20.0	28	141	51 - 145
trans-1,2-Dichloroethene	20.0	27	135 *	54 - 134
cis-1,2-Dichloroethene	20.0	25	124	56 - 128
1,1-Dichloroethane	20.0	24	119	57 - 142
2-Butanone	100	130	126	10 - 180
Chloroform	20.0	28	140 *	58 - 139
1,1,1-Trichloroethane	20.0	25	127	57 - 148
Methyl acetate	20.0	30	148 *	70 - 130
Cyclohexane	20.0	26	132 *	70 - 130
Methyl cyclohexane	20.0	23	116	70 - 130
Carbon Tetrachloride	20.0	23	115	54 - 156
1,2-Dichloroethane	20.0	24	119	50 - 156
Benzene	20.0	21	106	56 - 136
Trichloroethene	20.0	22	112	62 - 135
1,2-Dichloropropane	20.0	24	118	61 - 133
Bromodichloromethane	20.0	23	117	58 - 135
4-Methyl-2-pentanone	100	110	114	19 - 180
2-Hexanone	100	110	114	12 - 180
cis-1,3-Dichloropropene	20.0	23	116	64 - 128

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1A26010	Laboratory ID:	1A26010-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Toluene	20.0	20	101	64 - 131
trans-1,3-Dichloropropene	20.0	23	116	65 - 149
1,1,2-Trichloroethane	20.0	23	114	57 - 141
Tetrachloroethene	20.0	19	97	60 - 147
Dibromochloromethane	20.0	22	112	50 - 140
1,2-Dibromoethane	20.0	23	116	57 - 140
Chlorobenzene	20.0	20	101	51 - 139
Ethylbenzene	20.0	20	100	63 - 133
m,p-Xylenes	40.0	40	99	64 - 133
o-Xylene	20.0	20	102	61 - 129
Bromoform	20.0	23	113	46 - 148
Styrene	20.0	21	103	59 - 136
Isopropylbenzene	20.0	21	104	60 - 132
1,1,2,2-Tetrachloroethane	20.0	23	115	60 - 139
1,2,4-Trichlorobenzene	20.0	25	127	52 - 159
1,3-Dichlorobenzene	20.0	21	105	66 - 129
1,4-Dichlorobenzene	20.0	20	101	65 - 133
1,2-Dichlorobenzene	20.0	22	109	63 - 131
1,2-Dibromo-3-chloropropane	20.0	27	137	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0032-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A25020
Laboratory ID: 1A25020-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0032-058.0-20210120

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	ND	13	66	10 - 180
Chloromethane	20.0	ND	9.6	48	33 - 154
Vinyl chloride	20.0	ND	17	84	20 - 167
Bromomethane	20.0	ND	10	50	10 - 173
Chloroethane	20.0	ND	23	113	27 - 180
Trichlorofluoromethane	20.0	ND	23	113	56 - 155
Freon 113	20.0	ND	23	115	47 - 173
Acetone	100	ND	65	65	10 - 180
1,1-Dichloroethene	20.0	ND	23	114	47 - 139
Carbon disulfide	20.0	ND	21	106	43 - 153
Methylene Chloride	20.0	ND	21	105	43 - 142
Methyl-tert-Butyl Ether	20.0	ND	20	100	51 - 145
trans-1,2-Dichloroethene	20.0	ND	22	111	54 - 134
cis-1,2-Dichloroethene	20.0	ND	22	110	56 - 128
1,1-Dichloroethane	20.0	ND	19	96	57 - 142
2-Butanone	100	ND	88	88	10 - 180
Chloroform	20.0	ND	21	104	58 - 139
1,1,1-Trichloroethane	20.0	ND	22	110	57 - 148
Methyl acetate	20.0	ND	10	51 *	70 - 130
Cyclohexane	20.0	ND	16	82	70 - 130
Methyl cyclohexane	20.0	ND	19	95	70 - 130
Carbon Tetrachloride	20.0	ND	18	89	54 - 156
1,2-Dichloroethane	20.0	ND	16	79	50 - 156
Benzene	20.0	ND	20	100	56 - 136
Trichloroethene	20.0	ND	24	122	62 - 135
1,2-Dichloropropane	20.0	ND	16	79	61 - 133
Bromodichloromethane	20.0	ND	19	95	58 - 135
4-Methyl-2-pentanone	100	ND	87	87	19 - 180
2-Hexanone	100	ND	62	62	12 - 180
cis-1,3-Dichloropropene	20.0	ND	17	85	64 - 128
Toluene	20.0	ND	24	122	64 - 131

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0032-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A25020
Laboratory ID: 1A25020-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0032-058.0-20210120

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
trans-1,3-Dichloropropene	20.0	ND	20	102	65 - 149
1,1,2-Trichloroethane	20.0	ND	22	110	57 - 141
Tetrachloroethene	20.0	ND	24	122	60 - 147
Dibromochloromethane	20.0	ND	25	127	50 - 140
1,2-Dibromoethane	20.0	ND	23	115	57 - 140
Chlorobenzene	20.0	ND	27	135	51 - 139
Ethylbenzene	20.0	ND	24	119	63 - 133
m,p-Xylenes	40.0	ND	55	137 *	64 - 133
o-Xylene	20.0	ND	25	127	61 - 129
Bromoform	20.0	ND	22	109	46 - 148
Styrene	20.0	ND	28	140 *	59 - 136
Isopropylbenzene	20.0	ND	26	131	60 - 132
1,1,2,2-Tetrachloroethane	20.0	ND	23	114	60 - 139
1,2,4-Trichlorobenzene	20.0	ND	15	74	52 - 159
1,3-Dichlorobenzene	20.0	ND	25	125	66 - 129
1,4-Dichlorobenzene	20.0	ND	23	114	65 - 133
1,2-Dichlorobenzene	20.0	ND	23	114	63 - 131
1,2-Dibromo-3-chloropropane	20.0	ND	14	72	48 - 150

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0032-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A25020
Laboratory ID: 1A25020-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0032-058.0-20210120

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20.0	13	63	4	26	10 - 180
Chloromethane	20.0	9.0	45	7	31	33 - 154
Vinyl chloride	20.0	15	77	8	24	20 - 167
Bromomethane	20.0	11	55	10	29	10 - 173
Chloroethane	20.0	21	105	7	22	27 - 180
Trichlorofluoromethane	20.0	20	102	10	22	56 - 155
Freon 113	20.0	21	105	9	30	47 - 173
Acetone	100	70	70	7	19	10 - 180
1,1-Dichloroethene	20.0	21	103	10	16	47 - 139
Carbon disulfide	20.0	19	94	12	26	43 - 153
Methylene Chloride	20.0	19	95	9	23	43 - 142
Methyl-tert-Butyl Ether	20.0	19	95	5	22	51 - 145
trans-1,2-Dichloroethene	20.0	21	103	8	20	54 - 134
cis-1,2-Dichloroethene	20.0	21	104	5	17	56 - 128
1,1-Dichloroethane	20.0	18	90	6	24	57 - 142
2-Butanone	100	83	83	5	29	10 - 180
Chloroform	20.0	20	102	2	17	58 - 139
1,1,1-Trichloroethane	20.0	20	102	8	25	57 - 148
Methyl acetate	20.0	9.5	48 *	6	20	70 - 130
Cyclohexane	20.0	15	75	8	20	70 - 130
Methyl cyclohexane	20.0	18	91	4	20	70 - 130
Carbon Tetrachloride	20.0	16	79	12	27	54 - 156
1,2-Dichloroethane	20.0	15	77	1	18	50 - 156
Benzene	20.0	19	96	5	14	56 - 136
Trichloroethene	20.0	21	107	12	20	62 - 135
1,2-Dichloropropane	20.0	15	76	4	26	61 - 133
Bromodichloromethane	20.0	18	89	7	19	58 - 135
4-Methyl-2-pentanone	100	87	87	0.5	24	19 - 180
2-Hexanone	100	66	66	5	28	12 - 180
cis-1,3-Dichloropropene	20.0	16	78	9	20	64 - 128
Toluene	20.0	23	117	4	16	64 - 131
trans-1,3-Dichloropropene	20.0	19	97	5	17	65 - 149

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0032-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A25020
Laboratory ID: 1A25020-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0032-058.0-20210120

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,2-Trichloroethane	20.0	21	106	3	16	57 - 141
Tetrachloroethene	20.0	23	113	8	21	60 - 147
Dibromochloromethane	20.0	23	117	8	18	50 - 140
1,2-Dibromoethane	20.0	22	110	4	16	57 - 140
Chlorobenzene	20.0	26	129	5	13	51 - 139
Ethylbenzene	20.0	22	112	6	18	63 - 133
m,p-Xylenes	40.0	51	129	6	18	64 - 133
o-Xylene	20.0	25	123	4	16	61 - 129
Bromoform	20.0	21	106	2	18	46 - 148
Styrene	20.0	26	130	7	32	59 - 136
Isopropylbenzene	20.0	24	122	7	23	60 - 132
1,1,2,2-Tetrachloroethane	20.0	22	110	4	17	60 - 139
1,2,4-Trichlorobenzene	20.0	16	81	9	24	52 - 159
1,3-Dichlorobenzene	20.0	24	120	4	23	66 - 129
1,4-Dichlorobenzene	20.0	22	110	4	23	65 - 133
1,2-Dichlorobenzene	20.0	23	113	1	25	63 - 131
1,2-Dibromo-3-chloropropane	20.0	18	88	21	21	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-3R

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A26010
Laboratory ID: 1A26010-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-3R

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	ND	15	75	10 - 180
Chloromethane	20.0	ND	20	98	33 - 154
Vinyl chloride	20.0	ND	25	125	20 - 167
Bromomethane	20.0	ND	22	108	10 - 173
Chloroethane	20.0	ND	25	125	27 - 180
Trichlorofluoromethane	20.0	ND	26	128	56 - 155
Freon 113	20.0	ND	29	146	47 - 173
Acetone	100	ND	150	152	10 - 180
1,1-Dichloroethene	20.0	ND	25	126	47 - 139
Carbon disulfide	20.0	ND	35	173 *	43 - 153
Methylene Chloride	20.0	ND	26	129	43 - 142
Methyl-tert-Butyl Ether	20.0	ND	28	139	51 - 145
trans-1,2-Dichloroethene	20.0	ND	26	130	54 - 134
cis-1,2-Dichloroethene	20.0	ND	24	118	56 - 128
1,1-Dichloroethane	20.0	ND	23	115	57 - 142
2-Butanone	100	ND	140	137	10 - 180
Chloroform	20.0	ND	27	134	58 - 139
1,1,1-Trichloroethane	20.0	ND	25	125	57 - 148
Methyl acetate	20.0	ND	29	144 *	70 - 130
Cyclohexane	20.0	ND	27	134 *	70 - 130
Methyl cyclohexane	20.0	ND	23	114	70 - 130
Carbon Tetrachloride	20.0	ND	23	114	54 - 156
1,2-Dichloroethane	20.0	ND	22	112	50 - 156
Benzene	20.0	ND	20	102	56 - 136
Trichloroethene	20.0	ND	21	106	62 - 135
1,2-Dichloropropane	20.0	ND	23	115	61 - 133
Bromodichloromethane	20.0	ND	22	110	58 - 135
4-Methyl-2-pentanone	100	ND	120	119	19 - 180
2-Hexanone	100	ND	120	123	12 - 180
cis-1,3-Dichloropropene	20.0	ND	22	111	64 - 128
Toluene	20.0	ND	20	98	64 - 131

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-3R

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A26010
Laboratory ID: 1A26010-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-3R

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
trans-1,3-Dichloropropene	20.0	ND	22	110	65 - 149
1,1,2-Trichloroethane	20.0	ND	22	109	57 - 141
Tetrachloroethene	20.0	ND	19	96	60 - 147
Dibromochloromethane	20.0	ND	21	107	50 - 140
1,2-Dibromoethane	20.0	ND	22	110	57 - 140
Chlorobenzene	20.0	ND	20	98	51 - 139
Ethylbenzene	20.0	ND	20	98	63 - 133
m,p-Xylenes	40.0	ND	39	97	64 - 133
o-Xylene	20.0	ND	19	97	61 - 129
Bromoform	20.0	ND	22	108	46 - 148
Styrene	20.0	ND	20	98	59 - 136
Isopropylbenzene	20.0	ND	20	100	60 - 132
1,1,2,2-Tetrachloroethane	20.0	ND	22	112	60 - 139
1,2,4-Trichlorobenzene	20.0	ND	24	122	52 - 159
1,3-Dichlorobenzene	20.0	ND	20	99	66 - 129
1,4-Dichlorobenzene	20.0	ND	19	97	65 - 133
1,2-Dichlorobenzene	20.0	ND	20	102	63 - 131
1,2-Dibromo-3-chloropropane	20.0	ND	27	136	48 - 150

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-3R

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A26010
Laboratory ID: 1A26010-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-3R

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #		% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20.0	14	70		6	26	10 - 180
Chloromethane	20.0	19	96		3	31	33 - 154
Vinyl chloride	20.0	24	120		4	24	20 - 167
Bromomethane	20.0	23	114		5	29	10 - 173
Chloroethane	20.0	25	125		0.2	22	27 - 180
Trichlorofluoromethane	20.0	26	131		3	22	56 - 155
Freon 113	20.0	29	144		2	30	47 - 173
Acetone	100	160	157		3	19	10 - 180
1,1-Dichloroethene	20.0	24	120		5	16	47 - 139
Carbon disulfide	20.0	33	163	*	6	26	43 - 153
Methylene Chloride	20.0	26	128		1	23	43 - 142
Methyl-tert-Butyl Ether	20.0	28	141		1	22	51 - 145
trans-1,2-Dichloroethene	20.0	26	128		2	20	54 - 134
cis-1,2-Dichloroethene	20.0	23	115		2	17	56 - 128
1,1-Dichloroethane	20.0	23	115		0.2	24	57 - 142
2-Butanone	100	130	129		6	29	10 - 180
Chloroform	20.0	27	133		1	17	58 - 139
1,1,1-Trichloroethane	20.0	25	124		1	25	57 - 148
Methyl acetate	20.0	31	155	*	7	20	70 - 130
Cyclohexane	20.0	26	128		5	20	70 - 130
Methyl cyclohexane	20.0	22	112		2	20	70 - 130
Carbon Tetrachloride	20.0	23	113		0.4	27	54 - 156
1,2-Dichloroethane	20.0	22	112		0.6	18	50 - 156
Benzene	20.0	20	101		0.5	14	56 - 136
Trichloroethene	20.0	21	106		0.4	20	62 - 135
1,2-Dichloropropane	20.0	23	113		2	26	61 - 133
Bromodichloromethane	20.0	22	110		0.1	19	58 - 135
4-Methyl-2-pentanone	100	130	125		5	24	19 - 180
2-Hexanone	100	130	133		8	28	12 - 180
cis-1,3-Dichloropropene	20.0	22	111		0.2	20	64 - 128
Toluene	20.0	19	95		3	16	64 - 131
trans-1,3-Dichloropropene	20.0	22	108		2	17	65 - 149

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-3R

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A26010
Laboratory ID: 1A26010-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-3R

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,2-Trichloroethane	20.0	21	106	3	16	57 - 141
Tetrachloroethene	20.0	18	92	4	21	60 - 147
Dibromochloromethane	20.0	21	107	0.3	18	50 - 140
1,2-Dibromoethane	20.0	22	110	0.09	16	57 - 140
Chlorobenzene	20.0	19	95	3	13	51 - 139
Ethylbenzene	20.0	19	95	3	18	63 - 133
m,p-Xylenes	40.0	38	94	3	18	64 - 133
o-Xylene	20.0	19	96	1	16	61 - 129
Bromoform	20.0	21	107	0.9	18	46 - 148
Styrene	20.0	19	97	2	32	59 - 136
Isopropylbenzene	20.0	19	97	3	23	60 - 132
1,1,2,2-Tetrachloroethane	20.0	23	114	3	17	60 - 139
1,2,4-Trichlorobenzene	20.0	24	119	2	24	52 - 159
1,3-Dichlorobenzene	20.0	19	94	5	23	66 - 129
1,4-Dichlorobenzene	20.0	19	94	4	23	65 - 133
1,2-Dichlorobenzene	20.0	20	100	2	25	63 - 131
1,2-Dibromo-3-chloropropane	20.0	28	141	4	21	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA63653
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA63653-SCV1)			Lab File ID: 205KN012.D		Analyzed: 11/19/20 13:24			
Dibromofluoromethane	50.0	100	70 - 130	9.422	9.4205	0.0015	+/-0.5	
Toluene-d8	50.0	104	70 - 130	11.772	11.77275	-0.0008	+/-0.5	
4-Bromofluorobenzene	50.0	105	70 - 130	14.322	14.322	0.0000	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64539
Instrument: OVGCMS2
Matrix: Water
Calibration: 2101077

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA64539-SCV1)			Lab File ID: 212AN013.D		Analyzed: 01/19/21 13:38			
Dibromofluoromethane	50.0	99	70 - 130	11.04	11.05125	-0.0113	+/-0.5	
Toluene-d8	50.0	105	70 - 130	13.22	13.21875	0.0013	+/-0.5	
4-Bromofluorobenzene	50.0	105	70 - 130	15.71	15.71125	-0.0012	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64632
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA64632-CCV1)			Lab File ID: 215AT003.D		Analyzed: 01/25/21 08:47			
Dibromofluoromethane	50.0	107	80 - 120	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	99	80 - 120	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	103	80 - 120	14.334	14.322	0.0120	+/-0.5	
LCS (1A25020-BS1)			Lab File ID: 215AT004.D		Analyzed: 01/25/21 09:20			
Dibromofluoromethane	50.0	111	53 - 146	9.434	9.4205	0.0135	+/-0.5	
Toluene-d8	50.0	98	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	105	41 - 142	14.334	14.322	0.0120	+/-0.5	
Blank (1A25020-BLK1)			Lab File ID: 215AT006.D		Analyzed: 01/25/21 10:19			
Dibromofluoromethane	50.0	111	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	96	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	14.34	14.322	0.0180	+/-0.5	
Instrument RL Check (AA64632-CRL1)			Lab File ID: 215AT007.D		Analyzed: 01/25/21 10:48			
Dibromofluoromethane	50.0	108	1 - 199	9.434	9.4205	0.0135	+/-0.5	
Toluene-d8	50.0	95	1 - 199	11.784	11.77275	0.0113	+/-0.5	
4-Bromofluorobenzene	50.0	106	1 - 199	14.334	14.322	0.0120	+/-0.5	
CRCA-MW0032-058.0-20210120 (AE00066-10)			Lab File ID: 215AT009.D		Analyzed: 01/25/21 11:47			
Dibromofluoromethane	50.0	114	53 - 146	9.434	9.4205	0.0135	+/-0.5	
Toluene-d8	50.0	94	41 - 146	11.784	11.77275	0.0113	+/-0.5	
4-Bromofluorobenzene	50.0	106	41 - 142	14.334	14.322	0.0120	+/-0.5	
CRCA-MW0030-058.0-20210119 (AE00066-01)			Lab File ID: 215AT010.D		Analyzed: 01/25/21 12:17			
Dibromofluoromethane	50.0	115	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	97	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	106	41 - 142	14.334	14.322	0.0120	+/-0.5	
CRCA-MW0029-035.0-20210119 (AE00066-02)			Lab File ID: 215AT011.D		Analyzed: 01/25/21 12:46			
Dibromofluoromethane	50.0	114	53 - 146	9.44	9.4205	0.0195	+/-0.5	
Toluene-d8	50.0	96	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	107	41 - 142	14.34	14.322	0.0180	+/-0.5	
CRCA-MW0028-058.0-20210119 (AE00066-03)			Lab File ID: 215AT012.D		Analyzed: 01/25/21 13:15			
Dibromofluoromethane	50.0	111	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	95	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	105	41 - 142	14.34	14.322	0.0180	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64632
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
CRCA-MW0027-035.0-20210119 (AE00066-04)			Lab File ID: 215AT013.D		Analyzed: 01/25/21 13:45			
Dibromofluoromethane	50.0	115	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	93	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	104	41 - 142	14.34	14.322	0.0180	+/-0.5	
CRCA-MW0015-027.5-20210119 (AE00066-05)			Lab File ID: 215AT014.D		Analyzed: 01/25/21 14:14			
Dibromofluoromethane	50.0	114	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	94	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	108	41 - 142	14.34	14.322	0.0180	+/-0.5	
CRCA-MW0013-027.5-20210119 (AE00066-06)			Lab File ID: 215AT015.D		Analyzed: 01/25/21 14:44			
Dibromofluoromethane	50.0	114	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	96	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	14.34	14.322	0.0180	+/-0.5	
CRCA-MW0012-027.5-20210119 (AE00066-07)			Lab File ID: 215AT016.D		Analyzed: 01/25/21 15:13			
Dibromofluoromethane	50.0	118	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	96	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	14.34	14.322	0.0180	+/-0.5	
CRCA-MW0002-032.5-20210119 (AE00066-08)			Lab File ID: 215AT017.D		Analyzed: 01/25/21 15:43			
Dibromofluoromethane	50.0	113	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	97	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	14.34	14.322	0.0180	+/-0.5	
CRCA-MW0031-058.0-20210120 (AE00066-09)			Lab File ID: 215AT018.D		Analyzed: 01/25/21 16:12			
Dibromofluoromethane	50.0	118	53 - 146	9.44	9.4205	0.0195	+/-0.5	
Toluene-d8	50.0	93	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	105	41 - 142	14.34	14.322	0.0180	+/-0.5	
CRCA-MW0019-058.0-20210120 (AE00066-12)			Lab File ID: 215AT020.D		Analyzed: 01/25/21 17:11			
Dibromofluoromethane	50.0	113	53 - 146	9.445	9.4205	0.0245	+/-0.5	
Toluene-d8	50.0	95	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	110	41 - 142	14.34	14.322	0.0180	+/-0.5	
Matrix Spike (1A25020-MS1)			Lab File ID: 215AT023.D		Analyzed: 01/25/21 18:39			
Dibromofluoromethane	50.0	112	53 - 146	9.44	9.4205	0.0195	+/-0.5	
Toluene-d8	50.0	97	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	14.34	14.322	0.0180	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64632
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Matrix Spike Dup (1A25020-MSD1)			Lab File ID: 215AT024.D		Analyzed: 01/25/21 19:09			
Dibromofluoromethane	50.0	111	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	96	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	110	41 - 142	14.34	14.322	0.0180	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64658
Instrument: OVGCMS2
Matrix: Water
Calibration: 2101077

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA64658-CCV1)				Lab File ID: 212AU002.D		Analyzed: 01/26/21 08:06		
Dibromofluoromethane	50.0	100	80 - 120	11.08	11.05125	0.0288	+/-0.5	
Toluene-d8	50.0	99	80 - 120	13.24	13.21875	0.0213	+/-0.5	
4-Bromofluorobenzene	50.0	100	80 - 120	15.74	15.71125	0.0288	+/-0.5	
LCS (1A26010-BS1)				Lab File ID: 212AU003.D		Analyzed: 01/26/21 08:43		
Dibromofluoromethane	50.0	114	53 - 146	11.08	11.05125	0.0288	+/-0.5	
Toluene-d8	50.0	103	41 - 146	13.24	13.21875	0.0213	+/-0.5	
4-Bromofluorobenzene	50.0	103	41 - 142	15.74	15.71125	0.0288	+/-0.5	
Matrix Spike (1A26010-MS1)				Lab File ID: 212AU004.D		Analyzed: 01/26/21 09:24		
Dibromofluoromethane	50.0	112	53 - 146	11.09	11.05125	0.0388	+/-0.5	
Toluene-d8	50.0	101	41 - 146	13.25	13.21875	0.0313	+/-0.5	
4-Bromofluorobenzene	50.0	101	41 - 142	15.74	15.71125	0.0288	+/-0.5	
Matrix Spike Dup (1A26010-MSD1)				Lab File ID: 212AU005.D		Analyzed: 01/26/21 09:53		
Dibromofluoromethane	50.0	121	53 - 146	11.08	11.05125	0.0288	+/-0.5	
Toluene-d8	50.0	109	41 - 146	13.24	13.21875	0.0213	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	15.73	15.71125	0.0188	+/-0.5	
Blank (1A26010-BLK1)				Lab File ID: 212AU008.D		Analyzed: 01/26/21 11:19		
Dibromofluoromethane	50.0	116	53 - 146	11.09	11.05125	0.0388	+/-0.5	
Toluene-d8	50.0	102	41 - 146	13.24	13.21875	0.0213	+/-0.5	
4-Bromofluorobenzene	50.0	103	41 - 142	15.74	15.71125	0.0288	+/-0.5	
Instrument RL Check (AA64658-CRL1)				Lab File ID: 212AU009.D		Analyzed: 01/26/21 12:02		
Dibromofluoromethane	50.0	116	1 - 199	11.08	11.05125	0.0288	+/-0.5	
Toluene-d8	50.0	102	1 - 199	13.24	13.21875	0.0213	+/-0.5	
4-Bromofluorobenzene	50.0	101	1 - 199	15.74	15.71125	0.0288	+/-0.5	
CRCA-MW0018-058.0-20210120 (AE00066-11RE1)				Lab File ID: 212AU017.D		Analyzed: 01/26/21 15:52		
Dibromofluoromethane	50.0	110	53 - 146	11.07	11.05125	0.0188	+/-0.5	
Toluene-d8	50.0	109	41 - 146	13.24	13.21875	0.0213	+/-0.5	
4-Bromofluorobenzene	50.0	108	41 - 142	15.74	15.71125	0.0288	+/-0.5	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA63653
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA63653-CAL1)			Lab File ID: 205KN003.D			Analyzed: 11/19/20 08:46			
Pentafluorobenzene	1250058	9.851	1217120	9.845	103	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2384669	10.444	2353990	10.438	101	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1608704	13.223	1612072	13.217	100	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1323293	15.48	1366836	15.474	97	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL2)			Lab File ID: 205KN004.D			Analyzed: 11/19/20 09:16			
Pentafluorobenzene	1204238	9.845	1217120	9.845	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2405138	10.438	2353990	10.438	102	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1568806	13.217	1612072	13.217	97	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1312583	15.48	1366836	15.474	96	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL3)			Lab File ID: 205KN005.D			Analyzed: 11/19/20 09:47			
Pentafluorobenzene	1203996	9.845	1217120	9.845	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2450219	10.438	2353990	10.438	104	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1607155	13.217	1612072	13.217	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1325758	15.48	1366836	15.474	97	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL4)			Lab File ID: 205KN006.D			Analyzed: 11/19/20 10:18			
Pentafluorobenzene	1172592	9.845	1217120	9.845	96	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2346408	10.438	2353990	10.438	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1580434	13.223	1612072	13.217	98	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1299188	15.48	1366836	15.474	95	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL5)			Lab File ID: 205KN007.D			Analyzed: 11/19/20 10:49			
Pentafluorobenzene	1203065	9.845	1217120	9.845	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2330356	10.438	2353990	10.438	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1579586	13.217	1612072	13.217	98	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1295652	15.48	1366836	15.474	95	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL6)			Lab File ID: 205KN008.D			Analyzed: 11/19/20 11:20			
Pentafluorobenzene	1217120	9.845	1217120	9.845	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2353990	10.438	2353990	10.438	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1612072	13.217	1612072	13.217	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1366836	15.474	1366836	15.474	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA63653-CAL7)			Lab File ID: 205KN009.D			Analyzed: 11/19/20 11:51			
Pentafluorobenzene	1208553	9.845	1217120	9.845	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2324329	10.438	2353990	10.438	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1614423	13.217	1612072	13.217	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1389872	15.48	1366836	15.474	102	50 - 200	0.0060	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA63653
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA63653-CAL8)			Lab File ID: 205KN010.D			Analyzed: 11/19/20 12:22			
Pentafluorobenzene	1285587	9.845	1217120	9.845	106	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2302813	10.438	2353990	10.438	98	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1664856	13.218	1612072	13.217	103	50 - 200	0.0010	+/-0.50	
1,4-Dichlorobenzene-d4	1435917	15.48	1366836	15.474	105	50 - 200	0.0060	+/-0.50	
Secondary Cal Check (AA63653-SCV1)			Lab File ID: 205KN012.D			Analyzed: 11/19/20 13:24			
Pentafluorobenzene	1335071	9.851	1217120	9.845	110	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2438645	10.444	2353990	10.438	104	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1652574	13.223	1612072	13.217	103	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1403353	15.48	1366836	15.474	103	50 - 200	0.0060	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64539
Instrument: OVGCMS2
Matrix: Water
Calibration: 2101077

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA64539-CAL1)			Lab File ID: 212AN002.D			Analyzed: 01/19/21 08:23			
Pentafluorobenzene	274242	11.44	253281	11.45	108	50 - 200	-0.0100	+/-0.50	
1,4-Difluorobenzene	530522	12	506895	11.99	105	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	220188	14.59	216205	14.59	102	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	135369	16.96	135032	16.96	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64539-CAL2)			Lab File ID: 212AN003.D			Analyzed: 01/19/21 08:52			
Pentafluorobenzene	267255	11.44	253281	11.45	106	50 - 200	-0.0100	+/-0.50	
1,4-Difluorobenzene	516243	12	506895	11.99	102	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	215044	14.59	216205	14.59	99	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	132912	16.96	135032	16.96	98	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64539-CAL3)			Lab File ID: 212AN004.D			Analyzed: 01/19/21 09:20			
Pentafluorobenzene	259637	11.45	253281	11.45	103	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	509917	12	506895	11.99	101	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	220093	14.6	216205	14.59	102	50 - 200	0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	135848	16.95	135032	16.96	101	50 - 200	-0.0100	+/-0.50	
Cal Standard (AA64539-CAL4)			Lab File ID: 212AN006.D			Analyzed: 01/19/21 10:17			
Pentafluorobenzene	253281	11.45	253281	11.45	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	506895	11.99	506895	11.99	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	216205	14.59	216205	14.59	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	135032	16.96	135032	16.96	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64539-CAL5)			Lab File ID: 212AN007.D			Analyzed: 01/19/21 10:46			
Pentafluorobenzene	285339	11.45	253281	11.45	113	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	550117	12	506895	11.99	109	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	239824	14.59	216205	14.59	111	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	149699	16.95	135032	16.96	111	50 - 200	-0.0100	+/-0.50	
Cal Standard (AA64539-CAL6)			Lab File ID: 212AN008.D			Analyzed: 01/19/21 11:15			
Pentafluorobenzene	320158	11.45	253281	11.45	126	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	592335	12	506895	11.99	117	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	268151	14.59	216205	14.59	124	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	170474	16.95	135032	16.96	126	50 - 200	-0.0100	+/-0.50	
Cal Standard (AA64539-CAL7)			Lab File ID: 212AN009.D			Analyzed: 01/19/21 11:43			
Pentafluorobenzene	331924	11.45	253281	11.45	131	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	589225	12	506895	11.99	116	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	284238	14.59	216205	14.59	131	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	179167	16.96	135032	16.96	133	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64539
Instrument: OVGCMS2
Matrix: Water
Calibration: 2101077

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA64539-CAL8)			Lab File ID: 212AN010.D			Analyzed: 01/19/21 12:12			
Pentafluorobenzene	335499	11.45	253281	11.45	132	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	624473	12	506895	11.99	123	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	294938	14.6	216205	14.59	136	50 - 200	0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	191016	16.95	135032	16.96	141	50 - 200	-0.0100	+/-0.50	
Secondary Cal Check (AA64539-SCV1)			Lab File ID: 212AN013.D			Analyzed: 01/19/21 13:38			
Pentafluorobenzene	232904	11.44	253281	11.45	92	50 - 200	-0.0100	+/-0.50	
1,4-Difluorobenzene	448821	12	506895	11.99	89	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	230350	14.59	216205	14.59	107	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	165080	16.95	135032	16.96	122	50 - 200	-0.0100	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64632
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA64632-CCV1)			Lab File ID: 215AT003.D			Analyzed: 01/25/21 08:47			
Pentafluorobenzene	1707380	9.862	1217120	9.845	140	50 - 200	0.0170	+/-0.50	
1,4-Difluorobenzene	3441893	10.456	2353990	10.438	146	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	2103106	13.235	1612072	13.217	130	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1782629	15.497	1366836	15.474	130	50 - 200	0.0230	+/-0.50	
LCS (1A25020-BS1)			Lab File ID: 215AT004.D			Analyzed: 01/25/21 09:20			
Pentafluorobenzene	1599715	9.862	1217120	9.845	131	50 - 200	0.0170	+/-0.50	
1,4-Difluorobenzene	3376621	10.456	2353990	10.438	143	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1975824	13.235	1612072	13.217	123	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1733612	15.497	1366836	15.474	127	50 - 200	0.0230	+/-0.50	
Blank (1A25020-BLK1)			Lab File ID: 215AT006.D			Analyzed: 01/25/21 10:19			
Pentafluorobenzene	1492905	9.857	1217120	9.845	123	50 - 200	0.0120	+/-0.50	
1,4-Difluorobenzene	3146822	10.456	2353990	10.438	134	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1772986	13.235	1612072	13.217	110	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1644956	15.491	1366836	15.474	120	50 - 200	0.0170	+/-0.50	
Instrument RL Check (AA64632-CRL1)			Lab File ID: 215AT007.D			Analyzed: 01/25/21 10:48			
Pentafluorobenzene	1450199	9.863	1217120	9.845	119	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	3054870	10.456	2353990	10.438	130	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1722975	13.235	1612072	13.217	107	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1562753	15.491	1366836	15.474	114	50 - 200	0.0170	+/-0.50	
CRCA-MW0032-058.0-20210120 (AE00066-10)			Lab File ID: 215AT009.D			Analyzed: 01/25/21 11:47			
Pentafluorobenzene	1353992	9.863	1217120	9.845	111	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	2910142	10.456	2353990	10.438	124	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1676020	13.235	1612072	13.217	104	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1554117	15.491	1366836	15.474	114	50 - 200	0.0170	+/-0.50	
CRCA-MW0030-058.0-20210119 (AE00066-01)			Lab File ID: 215AT010.D			Analyzed: 01/25/21 12:17			
Pentafluorobenzene	1351808	9.863	1217120	9.845	111	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	2866333	10.456	2353990	10.438	122	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1635734	13.235	1612072	13.217	101	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1522320	15.491	1366836	15.474	111	50 - 200	0.0170	+/-0.50	
CRCA-MW0029-035.0-20210119 (AE00066-02)			Lab File ID: 215AT011.D			Analyzed: 01/25/21 12:46			
Pentafluorobenzene	1334319	9.863	1217120	9.845	110	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	2846320	10.456	2353990	10.438	121	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1622830	13.235	1612072	13.217	101	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1514443	15.497	1366836	15.474	111	50 - 200	0.0230	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA64632
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
CRCA-MW0028-058.0-20210119 (AE00066-03)			Lab File ID: 215AT012.D			Analyzed: 01/25/21 13:15			
Pentafluorobenzene	1325539	9.862	1217120	9.845	109	50 - 200	0.0170	+/-0.50	
1,4-Difluorobenzene	2841226	10.456	2353990	10.438	121	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1602227	13.235	1612072	13.217	99	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1534202	15.497	1366836	15.474	112	50 - 200	0.0230	+/-0.50	
CRCA-MW0027-035.0-20210119 (AE00066-04)			Lab File ID: 215AT013.D			Analyzed: 01/25/21 13:45			
Pentafluorobenzene	1342454	9.863	1217120	9.845	110	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	2980618	10.462	2353990	10.438	127	50 - 200	0.0240	+/-0.50	
Chlorobenzene-d5	1652145	13.235	1612072	13.217	102	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1560174	15.497	1366836	15.474	114	50 - 200	0.0230	+/-0.50	
CRCA-MW0015-027.5-20210119 (AE00066-05)			Lab File ID: 215AT014.D			Analyzed: 01/25/21 14:14			
Pentafluorobenzene	1353784	9.868	1217120	9.845	111	50 - 200	0.0230	+/-0.50	
1,4-Difluorobenzene	2923690	10.462	2353990	10.438	124	50 - 200	0.0240	+/-0.50	
Chlorobenzene-d5	1584476	13.235	1612072	13.217	98	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1534322	15.497	1366836	15.474	112	50 - 200	0.0230	+/-0.50	
CRCA-MW0013-027.5-20210119 (AE00066-06)			Lab File ID: 215AT015.D			Analyzed: 01/25/21 14:44			
Pentafluorobenzene	1323227	9.868	1217120	9.845	109	50 - 200	0.0230	+/-0.50	
1,4-Difluorobenzene	2812403	10.462	2353990	10.438	119	50 - 200	0.0240	+/-0.50	
Chlorobenzene-d5	1560555	13.235	1612072	13.217	97	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1499588	15.497	1366836	15.474	110	50 - 200	0.0230	+/-0.50	
CRCA-MW0012-027.5-20210119 (AE00066-07)			Lab File ID: 215AT016.D			Analyzed: 01/25/21 15:13			
Pentafluorobenzene	1311393	9.868	1217120	9.845	108	50 - 200	0.0230	+/-0.50	
1,4-Difluorobenzene	2857206	10.462	2353990	10.438	121	50 - 200	0.0240	+/-0.50	
Chlorobenzene-d5	1588971	13.235	1612072	13.217	99	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1519324	15.497	1366836	15.474	111	50 - 200	0.0230	+/-0.50	
CRCA-MW0002-032.5-20210119 (AE00066-08)			Lab File ID: 215AT017.D			Analyzed: 01/25/21 15:43			
Pentafluorobenzene	1324243	9.863	1217120	9.845	109	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	2844356	10.456	2353990	10.438	121	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1569592	13.235	1612072	13.217	97	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1496442	15.497	1366836	15.474	109	50 - 200	0.0230	+/-0.50	
CRCA-MW0031-058.0-20210120 (AE00066-09)			Lab File ID: 215AT018.D			Analyzed: 01/25/21 16:12			
Pentafluorobenzene	1346166	9.863	1217120	9.845	111	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	3057273	10.462	2353990	10.438	130	50 - 200	0.0240	+/-0.50	
Chlorobenzene-d5	1666053	13.235	1612072	13.217	103	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1548120	15.497	1366836	15.474	113	50 - 200	0.0230	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA64632
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
CRCA-MW0019-058.0-20210120 (AE00066-12)			Lab File ID: 215AT020.D			Analyzed: 01/25/21 17:11			
Pentafluorobenzene	1326429	9.868	1217120	9.845	109	50 - 200	0.0230	+/-0.50	
1,4-Difluorobenzene	2844280	10.462	2353990	10.438	121	50 - 200	0.0240	+/-0.50	
Chlorobenzene-d5	1585901	13.241	1612072	13.217	98	50 - 200	0.0240	+/-0.50	
1,4-Dichlorobenzene-d4	1547465	15.497	1366836	15.474	113	50 - 200	0.0230	+/-0.50	
Matrix Spike (1A25020-MS1)			Lab File ID: 215AT023.D			Analyzed: 01/25/21 18:39			
Pentafluorobenzene	1347954	9.863	1217120	9.845	111	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	2823243	10.456	2353990	10.438	120	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1642590	13.235	1612072	13.217	102	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1598011	15.497	1366836	15.474	117	50 - 200	0.0230	+/-0.50	
Matrix Spike Dup (1A25020-MSD1)			Lab File ID: 215AT024.D			Analyzed: 01/25/21 19:09			
Pentafluorobenzene	1455730	9.862	1217120	9.845	120	50 - 200	0.0170	+/-0.50	
1,4-Difluorobenzene	3018464	10.456	2353990	10.438	128	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1707516	13.235	1612072	13.217	106	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1611682	15.497	1366836	15.474	118	50 - 200	0.0230	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64658
Instrument: OVGCMS2
Matrix: Water
Calibration: 2101077

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA64658-CCV1)			Lab File ID: 212AU002.D			Analyzed: 01/26/21 08:06			
Pentafluorobenzene	380115	11.47	253281	11.45	150	50 - 200	0.0200	+/-0.50	
1,4-Difluorobenzene	741405	12.03	506895	11.99	146	50 - 200	0.0400	+/-0.50	
Chlorobenzene-d5	366094	14.62	216205	14.59	169	50 - 200	0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	237068	16.98	135032	16.96	176	50 - 200	0.0200	+/-0.50	
LCS (1A26010-BS1)			Lab File ID: 212AU003.D			Analyzed: 01/26/21 08:43			
Pentafluorobenzene	324503	11.48	253281	11.45	128	50 - 200	0.0300	+/-0.50	
1,4-Difluorobenzene	677646	12.02	506895	11.99	134	50 - 200	0.0300	+/-0.50	
Chlorobenzene-d5	321367	14.62	216205	14.59	149	50 - 200	0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	201276	16.99	135032	16.96	149	50 - 200	0.0300	+/-0.50	
Matrix Spike (1A26010-MS1)			Lab File ID: 212AU004.D			Analyzed: 01/26/21 09:24			
Pentafluorobenzene	331145	11.47	253281	11.45	131	50 - 200	0.0200	+/-0.50	
1,4-Difluorobenzene	698701	12.02	506895	11.99	138	50 - 200	0.0300	+/-0.50	
Chlorobenzene-d5	329572	14.62	216205	14.59	152	50 - 200	0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	204382	16.99	135032	16.96	151	50 - 200	0.0300	+/-0.50	
Matrix Spike Dup (1A26010-MSD1)			Lab File ID: 212AU005.D			Analyzed: 01/26/21 09:53			
Pentafluorobenzene	305426	11.47	253281	11.45	121	50 - 200	0.0200	+/-0.50	
1,4-Difluorobenzene	636767	12.02	506895	11.99	126	50 - 200	0.0300	+/-0.50	
Chlorobenzene-d5	309741	14.61	216205	14.59	143	50 - 200	0.0200	+/-0.50	
1,4-Dichlorobenzene-d4	201759	16.98	135032	16.96	149	50 - 200	0.0200	+/-0.50	
Blank (1A26010-BLK1)			Lab File ID: 212AU008.D			Analyzed: 01/26/21 11:19			
Pentafluorobenzene	294699	11.47	253281	11.45	116	50 - 200	0.0200	+/-0.50	
1,4-Difluorobenzene	604071	12.02	506895	11.99	119	50 - 200	0.0300	+/-0.50	
Chlorobenzene-d5	274826	14.62	216205	14.59	127	50 - 200	0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	171064	16.98	135032	16.96	127	50 - 200	0.0200	+/-0.50	
Instrument RL Check (AA64658-CRL1)			Lab File ID: 212AU009.D			Analyzed: 01/26/21 12:02			
Pentafluorobenzene	287383	11.48	253281	11.45	113	50 - 200	0.0300	+/-0.50	
1,4-Difluorobenzene	593855	12.03	506895	11.99	117	50 - 200	0.0400	+/-0.50	
Chlorobenzene-d5	273190	14.62	216205	14.59	126	50 - 200	0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	169027	16.98	135032	16.96	125	50 - 200	0.0200	+/-0.50	
CRCA-MW0018-058.0-20210120 (AE00066-11RE1)			Lab File ID: 212AU017.D			Analyzed: 01/26/21 15:52			
Pentafluorobenzene	193931	11.47	253281	11.45	77	50 - 200	0.0200	+/-0.50	
1,4-Difluorobenzene	383784	12.02	506895	11.99	76	50 - 200	0.0300	+/-0.50	
Chlorobenzene-d5	191378	14.62	216205	14.59	89	50 - 200	0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	134955	16.99	135032	16.96	100	50 - 200	0.0300	+/-0.50	

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA63653		
Calibration:	2011113	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA63653-TUN1	205KN002.D	11/19/20 08:07
Cal Standard	AA63653-CAL1	205KN003.D	11/19/20 08:46
Cal Standard	AA63653-CAL2	205KN004.D	11/19/20 09:16
Cal Standard	AA63653-CAL3	205KN005.D	11/19/20 09:47
Cal Standard	AA63653-CAL4	205KN006.D	11/19/20 10:18
Cal Standard	AA63653-CAL5	205KN007.D	11/19/20 10:49
Cal Standard	AA63653-CAL6	205KN008.D	11/19/20 11:20
Cal Standard	AA63653-CAL7	205KN009.D	11/19/20 11:51
Cal Standard	AA63653-CAL8	205KN010.D	11/19/20 12:22
Secondary Cal Check	AA63653-SCV1	205KN012.D	11/19/20 13:24

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64539		
Calibration:	2101077	Instrument:	OVGCMS2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA64539-TUN1	212AN001.D	01/19/21 07:42
Cal Standard	AA64539-CAL1	212AN002.D	01/19/21 08:23
Cal Standard	AA64539-CAL2	212AN003.D	01/19/21 08:52
Cal Standard	AA64539-CAL3	212AN004.D	01/19/21 09:20
Cal Standard	AA64539-CAL4	212AN006.D	01/19/21 10:17
Cal Standard	AA64539-CAL5	212AN007.D	01/19/21 10:46
Cal Standard	AA64539-CAL6	212AN008.D	01/19/21 11:15
Cal Standard	AA64539-CAL7	212AN009.D	01/19/21 11:43
Cal Standard	AA64539-CAL8	212AN010.D	01/19/21 12:12
Secondary Cal Check	AA64539-SCV1	212AN013.D	01/19/21 13:38

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64632		
Calibration:	2011113	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA64632-CCV1	215AT003.D	01/25/21 08:47
LCS	1A25020-BS1	215AT004.D	01/25/21 09:20
Blank	1A25020-BLK1	215AT006.D	01/25/21 10:19
Instrument RL Check	AA64632-CRL1	215AT007.D	01/25/21 10:48
CRCA-MW0032-058.0-20210120	AE00066-10	215AT009.D	01/25/21 11:47
CRCA-MW0030-058.0-20210119	AE00066-01	215AT010.D	01/25/21 12:17
CRCA-MW0029-035.0-20210119	AE00066-02	215AT011.D	01/25/21 12:46
CRCA-MW0028-058.0-20210119	AE00066-03	215AT012.D	01/25/21 13:15
CRCA-MW0027-035.0-20210119	AE00066-04	215AT013.D	01/25/21 13:45
CRCA-MW0015-027.5-20210119	AE00066-05	215AT014.D	01/25/21 14:14
CRCA-MW0013-027.5-20210119	AE00066-06	215AT015.D	01/25/21 14:44
CRCA-MW0012-027.5-20210119	AE00066-07	215AT016.D	01/25/21 15:13
CRCA-MW0002-032.5-20210119	AE00066-08	215AT017.D	01/25/21 15:43
CRCA-MW0031-058.0-20210120	AE00066-09	215AT018.D	01/25/21 16:12
CRCA-MW0019-058.0-20210120	AE00066-12	215AT020.D	01/25/21 17:11
CRCA-MW0032-058.0-20210120	1A25020-MS1	215AT023.D	01/25/21 18:39
CRCA-MW0032-058.0-20210120	1A25020-MSD1	215AT024.D	01/25/21 19:09

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64658		
Calibration:	2101077	Instrument:	OVGCMS2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA64658-TUN1	212AU001.D	01/26/21 07:32
Calibration Check	AA64658-CCV1	212AU002.D	01/26/21 08:06
LCS	1A26010-BS1	212AU003.D	01/26/21 08:43
MW-3R	1A26010-MS1	212AU004.D	01/26/21 09:24
MW-3R	1A26010-MSD1	212AU005.D	01/26/21 09:53
Blank	1A26010-BLK1	212AU008.D	01/26/21 11:19
Instrument RL Check	AA64658-CRL1	212AU009.D	01/26/21 12:02
CRCA-MW0018-058.0-20210120	AE00066-11RE1	212AU017.D	01/26/21 15:52

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	205KN002.D	Injection Date:	11/19/20
Instrument ID:	OVGCMS5	Injection Time:	08:07
Sequence:	AA63653	Lab Sample ID:	AA63653-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	155	PASS
96	5 - 9% of 95	7.22	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	64.6	PASS
175	5 - 9% of 174	5.13	PASS
176	95 - 105% of 174	97.9	PASS
177	5 - 10% of 176	5.82	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	212AN001.D	Injection Date:	01/19/21
Instrument ID:	OVGCMS2	Injection Time:	07:42
Sequence:	AA64539	Lab Sample ID:	AA64539-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	147	PASS
96	5 - 9% of 95	6.93	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	68	PASS
175	5 - 9% of 174	8.03	PASS
176	95 - 105% of 174	95.5	PASS
177	5 - 10% of 176	6.96	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	212AU001.D	Injection Date:	01/26/21
Instrument ID:	OVGCMS2	Injection Time:	07:32
Sequence:	AA64658	Lab Sample ID:	AA64658-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	157	PASS
96	5 - 9% of 95	6.64	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	63.7	PASS
175	5 - 9% of 174	7.39	PASS
176	95 - 105% of 174	97.2	PASS
177	5 - 10% of 176	6.78	PASS

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2011113
Lab File ID:	215AT003.D	Calibration Date:	11/19/20 00:00
Sequence:	AA64632	Injection Date:	01/25/21
Lab Sample ID:	AA64632-CCV1	Injection Time:	08:47

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Dichlorodifluoromethane	A	20.0	19	0.6454795	0.6065492		-6	20	
Chloromethane	A	20.0	12	0.7429916	0.4439653		-40	20	*
Vinyl chloride	A	20.0	19	0.6032767	0.5739686		-4.9	20	
Bromomethane	A	20.0	19	0.2658711	0.149807		-7.2	20	
Chloroethane	A	20.0	20	0.3233106	0.2720557		2.5	20	
Trichlorofluoromethane	A	20.0	20	0.739293	0.7547265		2.1	20	
Freon 113	A	50.0	50	0.2891047	0.2868658		-0.8	20	
Acetone	A	250	180	0.1178043	8.350467E-02		-29	20	*
1,1-Dichloroethene	A	50.0	49	0.4316853	0.4258747		-1.3	20	
Carbon disulfide	A	250	150	1.413985	0.8728756		-38	20	*
Methylene Chloride	A	50.0	45	0.5959536	0.4701877		-10	20	
Methyl-tert-Butyl Ether	A	50.0	45	1.264184	1.149021		-9.1	20	
trans-1,2-Dichloroethene	A	50.0	49	0.4994822	0.489495		-2	20	
cis-1,2-Dichloroethene	A	50.0	50	0.5290745	0.5271984		-0.4	20	
1,1-Dichloroethane	A	50.0	41	1.027426	0.8473456		-18	20	
2-Butanone	A	250	220	5.654494E-02	5.142944E-02		-10	20	
Chloroform	A	50.0	45	0.9811366	0.8818576		-10	20	
1,1,1-Trichloroethane	A	50.0	46	0.8099887	0.7425781		-8.3	20	
Methyl acetate	A	50.0	31	0.4097982	0.2287546		-38	20	*
Cyclohexane	A	50.0	36	1.084118	0.8065902		-28	20	*
Methyl cyclohexane	A	50.0	41	0.6851364	0.4685979		-18	20	
Carbon Tetrachloride	A	50.0	39	0.3247415	0.2907839		-22	20	*
1,2-Dichloroethane	A	50.0	36	0.3947961	0.2986964		-28	20	*
Benzene	A	50.0	44	1.143102	1.009598		-12	20	
Trichloroethene	A	50.0	50	0.2308676	0.2294848		-0.6	20	
1,2-Dichloropropane	A	50.0	35	0.3327441	0.2311986		-30	20	*
Bromodichloromethane	A	50.0	41	0.3384447	0.3043776		-17	20	
4-Methyl-2-pentanone	A	250	260	3.573082E-02	3.583226E-02		5.6	20	
2-Hexanone	A	250	190	0.1672315	0.116342		-30	20	*

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2011113
Lab File ID:	215AT003.D	Calibration Date:	11/19/20 00:00
Sequence:	AA64632	Injection Date:	01/25/21
Lab Sample ID:	AA64632-CCV1	Injection Time:	08:47

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
cis-1,3-Dichloropropene	A	50.0	41	0.4465376	0.410246		-18	20	
Toluene	A	50.0	51	1.066872	1.094805		2.6	20	
trans-1,3-Dichloropropene	A	50.0	46	0.5606682	0.5777288		-9	20	
1,1,2-Trichloroethane	A	50.0	48	0.3401845	0.3445765		-4.4	20	
Tetrachloroethene	A	50.0	47	0.2798513	0.273757		-6.7	20	
Dibromochloromethane	A	50.0	52	0.2803526	0.3436893		3.5	20	
1,2-Dibromoethane	A	50.0	52	0.3355065	0.3483481		3.8	20	
Chlorobenzene	A	50.0	54	1.074819	1.151012		7.1	20	
Ethylbenzene	A	50.0	52	0.6263821	0.6735562		3.9	20	
m,p-Xylenes	A	100	110	0.7525839	0.8321309		11	20	
o-Xylene	A	50.0	54	0.7718014	0.8358423		8.3	20	
Bromoform	A	50.0	47	0.1740972	0.178584		-6.2	20	
Styrene	A	50.0	57	1.260238	1.447695		15	20	
Isopropylbenzene	A	50.0	54	2.031474	2.17933		7.3	20	
1,1,2,2-Tetrachloroethane	A	50.0	49	0.5037271	0.4924835		-2.2	20	
1,2,4-Trichlorobenzene	A	50.0	38	0.4097947	0.3618818		-24	20	*
1,3-Dichlorobenzene	A	50.0	53	1.008577	1.072036		6.3	20	
1,4-Dichlorobenzene	A	50.0	51	1.081206	1.09674		1.4	20	
1,2-Dichlorobenzene	A	50.0	51	0.9520015	0.9653383		1.4	20	
1,2-Dibromo-3-chloropropane	A	50.0	45	7.396002E-02	6.969369E-02		-11	20	

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS2	Calibration:	2101077
Lab File ID:	212AU002.D	Calibration Date:	01/20/21 08:19
Sequence:	AA64658	Injection Date:	01/26/21
Lab Sample ID:	AA64658-CCV1	Injection Time:	08:06

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Dichlorodifluoromethane	A	50.0	46	1.033247	0.9560186		-7.5	20	
Chloromethane	A	50.0	43	1.11095	0.8811912		-14	20	
Vinyl chloride	A	50.0	51	1.029662	0.8920274		2.4	20	
Bromomethane	A	50.0	50	1.131179	0.5546506		0.90	20	
Chloroethane	A	50.0	52	0.7149129	0.6073004		3.8	20	
Trichlorofluoromethane	A	50.0	49	1.442281	1.409345		-2.3	20	
Freon 113	A	50.0	58	0.5578733	0.5662076		17	20	
Acetone	A	250	300	0.1225261	0.127594		19	20	
1,1-Dichloroethene	A	50.0	52	0.4841962	0.5072833		4.8	20	
Carbon disulfide	A	250	200	1.377947	0.9361635		-22	20	*
Methylene Chloride	A	50.0	57	0.6110932	0.5700038		13	20	
Methyl-tert-Butyl Ether	A	50.0	60	1.081225	1.292033		20	20	
trans-1,2-Dichloroethene	A	50.0	56	0.5698231	0.5869434		13	20	
cis-1,2-Dichloroethene	A	50.0	53	0.6149954	0.6469963		5.2	20	
1,1-Dichloroethane	A	50.0	53	1.143718	1.202412		5.1	20	
2-Butanone	A	250	280	3.064923E-02	3.390974E-02		11	20	
Chloroform	A	50.0	59	1.095255	1.119782		18	20	
1,1,1-Trichloroethane	A	50.0	53	0.9125193	0.975831		6.9	20	
Methyl acetate	A	50.0	65	5.586777E-02	6.273628E-02		31	20	*
Cyclohexane	A	50.0	54	0.9488744	1.019076		7.4	20	
Methyl cyclohexane	A	50.0	52	0.3837839	0.3984705		3.8	20	
Carbon Tetrachloride	A	50.0	53	0.4901592	0.5204079		6.2	20	
1,2-Dichloroethane	A	50.0	57	0.3853295	0.4362879		13	20	
Benzene	A	50.0	53	1.144684	1.216519		6.3	20	
Trichloroethene	A	50.0	53	0.3210324	0.3386934		5.5	20	
1,2-Dichloropropane	A	50.0	55	0.3172264	0.3218915		11	20	
Bromodichloromethane	A	50.0	53	0.3964913	0.4239289		6.9	20	
4-Methyl-2-pentanone	A	250	280	2.733494E-02	2.885494E-02		12	20	
2-Hexanone	A	250	280	0.1612112	0.1821674		14	20	

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS2	Calibration:	2101077
Lab File ID:	212AU002.D	Calibration Date:	01/20/21 08:19
Sequence:	AA64658	Injection Date:	01/26/21
Lab Sample ID:	AA64658-CCV1	Injection Time:	08:06

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
cis-1,3-Dichloropropene	A	50.0	56	0.4505496	0.5022612		12	20
Toluene	A	50.0	48	1.520353	1.445754		-4.9	20
trans-1,3-Dichloropropene	A	50.0	51	0.8113847	0.8306173		2.4	20
1,1,2-Trichloroethane	A	50.0	51	0.4232997	0.432348		2.1	20
Tetrachloroethene	A	50.0	46	0.4265574	0.394609		-7.5	20
Dibromochloromethane	A	50.0	51	0.6218249	0.6359487		2.3	20
1,2-Dibromoethane	A	50.0	53	0.4673533	0.4960038		6.1	20
Chlorobenzene	A	50.0	48	1.702551	1.642045		-3.6	20
Ethylbenzene	A	50.0	49	0.8469553	0.821748		-3	20
m,p-Xylenes	A	100	99	1.006971	0.9926877		-1.4	20
o-Xylene	A	50.0	51	0.9666193	0.9816441		1.6	20
Bromoform	A	50.0	54	0.2646587	0.2849459		7.7	20
Styrene	A	50.0	52	1.697042	1.768628		4.2	20
Isopropylbenzene	A	50.0	51	2.452443	2.500123		1.9	20
1,1,2,2-Tetrachloroethane	A	50.0	53	0.4182472	0.4432086		6.0	20
1,2,4-Trichlorobenzene	A	50.0	48	0.4155094	0.3997039		-3.8	20
1,3-Dichlorobenzene	A	50.0	48	1.471736	1.401083		-4.8	20
1,4-Dichlorobenzene	A	50.0	48	1.525519	1.450398		-4.9	20
1,2-Dichlorobenzene	A	50.0	47	1.232439	1.169221		-5.1	20
1,2-Dibromo-3-chloropropane	A	50.0	54	6.383229E-02	7.325324E-02		7.5	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA63653
Instrument: OVGCMS5
Calibration: 2011113

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A0F0994	MS Tune (lower conc.)	AA63653-TUN1	205KN002.D	11/19/20 08:07
A0K1094	8260 CAL 1 PPB	AA63653-CAL1	205KN003.D	11/19/20 08:46
A0K1095	8260 CAL 2 PPB	AA63653-CAL2	205KN004.D	11/19/20 09:16
A0K1096	8260 CAL 5 PPB	AA63653-CAL3	205KN005.D	11/19/20 09:47
A0K1097	8260 CAL 10 PPB	AA63653-CAL4	205KN006.D	11/19/20 10:18
A0K1098	8260 CAL 20 PPB	AA63653-CAL5	205KN007.D	11/19/20 10:49
A0K1099	8260 CAL 50 PPB	AA63653-CAL6	205KN008.D	11/19/20 11:20
A0K1100	8260 CAL 80 PPB	AA63653-CAL7	205KN009.D	11/19/20 11:51
A0K1101	8260 CAL 100 PPB	AA63653-CAL8	205KN010.D	11/19/20 12:22
A0K1038	8260 SCV 50 PPB/20 Gases (Surr. Lower Conc.)	AA63653-SCV1	205KN012.D	11/19/20 13:24

INITIAL CALIBRATION STANDARDS

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64539	Instrument:	OVGCMS2
Calibration:	2101077		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A0I0903	MS Tune	AA64539-TUN1	212AN001.D	01/19/21 07:42
A1A0926	8260 Cal 1PPB	AA64539-CAL1	212AN002.D	01/19/21 08:23
A1A0927	8260 Cal 2 PPB	AA64539-CAL2	212AN003.D	01/19/21 08:52
A1A0928	8260 Cal 5 PPB	AA64539-CAL3	212AN004.D	01/19/21 09:20
A1A0929	8260 Cal 10 PPB	AA64539-CAL4	212AN006.D	01/19/21 10:17
A1A0930	8260 Cal 20 PPB	AA64539-CAL5	212AN007.D	01/19/21 10:46
A1A0932	8260 Cal 50 PPB	AA64539-CAL6	212AN008.D	01/19/21 11:15
A1A0934	8260 Cal 80PPB	AA64539-CAL7	212AN009.D	01/19/21 11:43
A1A0935	8260 Cal 100 PPB	AA64539-CAL8	212AN010.D	01/19/21 12:12
A1A0936	8260 SCV 50 PPB	AA64539-SCV1	212AN013.D	01/19/21 13:38

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	1	0.731806	2	0.5311658	5	0.6196449	10	0.5826494	20	0.6291202	50	0.6876832
Chloromethane	1	0.9635553	2	0.7678092	5	0.7533414	10	0.6436211	20	0.6665122	50	0.6618772
Vinyl chloride	1	0.6389704	2	0.4961021	5	0.5937063	10	0.518373	20	0.6097052	50	0.6178544
Bromomethane	1	0.5487745	2	0.3936929	5	0.2468862	10	0.1795339	20	0.1536388	50	0.1805656
Chloroethane	1	0.5095364	2	0.3356687	5	0.2733979	10	0.2639921	20	0.2971223	50	0.2601461
Trichlorofluoromethane	1	0.796403	2	0.6188353	5	0.6866136	10	0.7074541	20	0.7578705	50	0.7930894
Freon 113	1	0.2609479	2	0.2643996	5	0.2925508	10	0.3082914	20	0.2611185	50	0.3063124
Acetone	5	0.1640884	10	7.640101E-02	25	0.1132944	50	0.1270502	100	0.1080203	250	0.1165466
1,1-Dichloroethene	1	0.5304954	2	0.3722686	5	0.3921026	10	0.3748874	20	0.4134066	50	0.4489426
Carbon disulfide	5	1.625549	10	1.279116	25	1.418201	50	1.427008	100	1.452276	250	1.421308
Methylene Chloride	1	0.949196	2	0.6799528	5	0.584977	10	0.4949633	20	0.4791616	50	0.5261996
Methyl-tert-Butyl Ether	1	1.207824	2	1.067003	5	1.181117	10	1.225797	20	1.218685	50	1.417615
trans-1,2-Dichloroethene	1	0.6322907	2	0.4293379	5	0.4477091	10	0.4308276	20	0.4738958	50	0.5202946
cis-1,2-Dichloroethene	1	0.5540143	2	0.424397	5	0.5243456	10	0.4742059	20	0.5250755	50	0.5758438
1,1-Dichloroethane	1	1.150187	2	0.7455129	5	1.073417	10	0.9430262	20	0.9854351	50	1.108909
2-Butanone	5	0.0948676	10	2.903081E-02	25	6.102678E-02	50	0.0450745	100	4.561931E-02	250	5.804341E-02
Chloroform	1	1.008433	2	0.8175709	5	1.016573	10	0.9572895	20	0.9442549	50	1.031745
1,1,1-Trichloroethane	1	0.8856789	2	0.6484806	5	0.7444128	10	0.6971223	20	0.8036702	50	0.8940367
Methyl acetate	1	0.7524051	2	0.3734104	5	0.3421025	10	0.3735826	20	0.3312477	50	0.3623833
Cyclohexane	1	1.445653	2	0.8159309	5	1.111773	10	0.900795	20	1.011174	50	1.139422
Methyl cyclohexane	1	1.296553	2	0.7643948	5	0.6505051	10	0.4980933	20	0.5493699	50	0.5706184
Carbon Tetrachloride	1	0.3562759	2	0.265754	5	0.2802362	10	0.2692435	20	0.3099687	50	0.358654
1,2-Dichloroethane	1	0.52978	2	0.3246383	5	0.3561682	10	0.3270765	20	0.3804547	50	0.3951041
Benzene	1	1.368953	2	0.8953644	5	1.012387	10	1.019627	20	1.160622	50	1.20187
Trichloroethene	1	0.2433461	2	0.2067345	5	0.2092384	10	0.2186576	20	0.2226559	50	0.2443388
1,2-Dichloropropane	1	0.4168922	2	0.2741735	5	0.2789057	10	0.3037835	20	0.3161759	50	0.336891
Bromodichloromethane	1	0.3390617	2	0.2184906	5	0.3136005	10	0.3123434	20	0.3305471	50	0.3770309
4-Methyl-2-pentanone	5	5.360492E-02	10	3.485663E-02	25	3.163227E-02	50	3.145233E-02	100	3.245856E-02	250	3.359233E-02
2-Hexanone	5	0.1888606	10	0.1362687	25	0.1491622	50	0.1581622	100	0.1619347	250	0.1747743
cis-1,3-Dichloropropene	1	0.38758	2	0.337174	5	0.3962381	10	0.3859495	20	0.4436114	50	0.5153998
Toluene	1	1.301234	2	0.8125606	5	1.029104	10	0.9467653	20	1.065835	50	1.125779

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	1	0.5782294	2	0.3963364	5	0.5391328	10	0.5150579	20	0.5581557	50	0.6082166
1,1,2-Trichloroethane	1	0.4258708	2	0.2571382	5	0.3085141	10	0.3163403	20	0.3319446	50	0.354357
Tetrachloroethene	1	0.3547887	2	0.216805	5	0.2447617	10	0.2609188	20	0.2888004	50	0.2808423
Dibromochloromethane	1	0.261577	2	0.1928537	5	0.2186472	10	0.2340749	20	0.271185	50	0.3243124
1,2-Dibromoethane	1	0.3776332	2	0.275273	5	0.3089372	10	0.289778	20	0.3254935	50	0.3684265
Chlorobenzene	1	1.227137	2	0.9187082	5	1.088831	10	1.029964	20	1.028877	50	1.084228
Ethylbenzene	1	0.8370092	2	0.5046991	5	0.5351257	10	0.5817041	20	0.6079204	50	0.6386446
m,p-Xylenes	2	0.7709622	4	0.6304954	10	0.7519001	20	0.7265378	40	0.7815244	100	0.7925899
o-Xylene	1	0.827343	2	0.5495581	5	0.7980935	10	0.715101	20	0.7577872	50	0.8412149
Bromoform	1	0.2244042	2	0.1325052	5	0.1113209	10	0.1336911	20	0.151421	50	0.198042
Styrene	1	1.184587	2	0.9487151	5	1.197756	10	1.179467	20	1.329056	50	1.37226
Isopropylbenzene	1	2.11919	2	1.612596	5	1.9581	10	1.86924	20	2.054396	50	2.203894
1,1,2,2-Tetrachloroethane	1	0.5748727	2	0.4241761	5	0.4667316	10	0.4666946	20	0.48922	50	0.5296984
1,2,4-Trichlorobenzene	1	0.444006	2	0.2155102	5	0.3665073	10	0.3682377	20	0.3931939	50	0.481305
1,3-Dichlorobenzene	1	1.059554	2	0.8308046	5	0.914986	10	0.9259784	20	1.006449	50	1.075948
1,4-Dichlorobenzene	1	1.342371	2	0.9420738	5	0.9853156	10	0.9772104	20	1.047961	50	1.090424
1,2-Dichlorobenzene	1	1.133196	2	0.6932895	5	0.9302226	10	0.8814044	20	0.8963441	50	1.002858
1,2-Dibromo-3-chloropropane	1	0.1462261	2	0.0374643	5	3.684685E-02	10	6.679172E-02	20	6.657845E-02	50	7.807374E-02
Dibromofluoromethane	50	0.4987681	55	0.5168814	57.5	0.5405413	50	0.5403508	65	0.5020478	50	0.5574545
Toluene-d8	50	1.241808	55	1.219018	57.5	1.232296	50	1.264503	65	1.198608	50	1.317554
4-Bromofluorobenzene	50	0.9421565	55	0.8971015	57.5	0.892347	50	0.9405353	65	0.8691396	50	0.9269369

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	80	0.70919	100	0.6725768								
Chloromethane	80	0.754096	100	0.7331207								
Vinyl chloride	80	0.6865886	100	0.6649138								
Bromomethane	80	0.2051834	100	0.2186939								
Chloroethane	80	~~0.1749365~~	100	~~0.1284219~~								
Trichlorofluoromethane	80	~~0.8301317~~	100	0.814785								
Freon 113	80	0.3132915	100	0.3059256								
Acetone	400	0.1217886	500	0.1152447								
1,1-Dichloroethene	80	0.4650106	100	0.4563686								
Carbon disulfide	400	1.39256	500	1.295861								
Methylene Chloride	80	0.5379475	100	0.5152308								
Methyl-tert-Butyl Ether	80	1.459444	100	1.335989								
trans-1,2-Dichloroethene	80	0.5437929	100	0.517709								
cis-1,2-Dichloroethene	80	0.6019223	100	0.5527918								
1,1-Dichloroethane	80	1.134374	100	1.078543								
2-Butanone	400	6.102308E-02	500	5.767404E-02								
Chloroform	80	1.078098	100	0.9951283								
1,1,1-Trichloroethane	80	0.9329545	100	0.8735539								
Methyl acetate	80	0.3852903	100	0.3579641								
Cyclohexane	80	1.150511	100	1.097683								
Methyl cyclohexane	80	0.580204	100	0.5713529								
Carbon Tetrachloride	80	0.3766286	100	0.3811714								
1,2-Dichloroethane	80	0.4259138	100	0.4192331								
Benzene	80	1.233887	100	1.252102								
Trichloroethene	80	0.2480525	100	0.2539173								
1,2-Dichloropropane	80	0.3671019	100	0.3680292								
Bromodichloromethane	80	0.405243	100	0.4112405								
4-Methyl-2-pentanone	400	3.457471E-02	500	3.367481E-02								
2-Hexanone	400	0.1842147	500	0.1844748								
cis-1,3-Dichloropropene	80	0.5492152	100	0.5571325								
Toluene	80	1.145043	100	1.108659								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	80	0.6603691	100	0.6298476								
1,1,2-Trichloroethane	80	0.3689886	100	0.3583223								
Tetrachloroethene	80	0.2965475	100	0.2953463								
Dibromochloromethane	80	0.3768537	100	0.3633167								
1,2-Dibromoethane	80	0.3782567	100	0.360254								
Chlorobenzene	80	1.134842	100	1.085963								
Ethylbenzene	80	0.6600876	100	0.6458658								
m,p-Xylenes	160	0.7997641	200	0.7668973								
o-Xylene	80	0.8625415	100	0.8227721								
Bromoform	80	0.2162944	100	0.2250987								
Styrene	80	1.466473	100	1.403591								
Isopropylbenzene	80	2.273953	100	2.16042								
1,1,2,2-Tetrachloroethane	80	0.5602106	100	0.5182127								
1,2,4-Trichlorobenzene	80	0.5236953	100	0.485902								
1,3-Dichlorobenzene	80	1.133433	100	1.121463								
1,4-Dichlorobenzene	80	1.14285	100	1.121445								
1,2-Dichlorobenzene	80	1.071346	100	1.007351								
1,2-Dibromo-3-chloropropane	80	8.573901E-02	100	~~8.239508E-02~~								
Dibromofluoromethane	70	0.5077306	75	0.4842722								
Toluene-d8	70	1.203106	75	1.255696								
4-Bromofluorobenzene	70	0.8681085	75	0.8442992								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	0.6454795	10.47099	3.97125	7.848416E-02			20	
Chloromethane	0.7429916	13.64009	4.39275	4.507071E-02			20	
Vinyl chloride	0.6032767	11.0407	4.575	4.400144E-02			20	
Bromomethane	0.2658711	51.25071	5.221	5.968524E-02		0.9984319	0.99	
Chloroethane	0.3233106	29.51129	5.432333	0.1760207	0.9952741		0.99	
Trichlorofluoromethane	0.739293	9.643804	5.680714	0.1191043			20	
Freon 113	0.2891047	7.985007	6.54225	5.909168E-02			20	
Acetone	0.1178043	20.49874	7.39275	7.521591E-02	0.9984468		0.99	
1,1-Dichloroethene	0.4316853	12.51718	6.52275	4.626374E-02			20	
Carbon disulfide	1.413985	7.516358	6.611625	4.231748E-02			20	
Methylene Chloride	0.5959536	26.19116	7.33075	6.734604E-02	0.9988511		0.99	
Methyl-tert-Butyl Ether	1.264184	10.32773	7.62475	5.009821E-02			20	
trans-1,2-Dichloroethene	0.4994822	13.81611	7.540375	0.0786285			20	
cis-1,2-Dichloroethene	0.5290745	10.75978	8.94375	6.951434E-02			20	
1,1-Dichloroethane	1.027426	13.07056	8.305375	3.359958E-02			20	
2-Butanone	5.654494E-02	33.55672	9.542875	0.1054762		0.9965506	0.99	
Chloroform	0.9811366	7.973652	9.21525	9.664849E-02			20	
1,1,1-Trichloroethane	0.8099887	12.78922	9.4765	4.549804E-02			20	
Methyl acetate	0.4097982	34.05137	7.5195	0.1021645	0.9973892		0.99	
Cyclohexane	1.084118	17.43103	9.1825	2.763801E-02	0.9983605		0.99	
Methyl cyclohexane	0.6851364	37.89251	10.4425	2.481194E-02	0.9994238		0.99	
Carbon Tetrachloride	0.3247415	15.07661	9.40325	3.946246E-02	0.997318		0.99	
1,2-Dichloroethane	0.3947961	16.85402	10.083	6.413568E-02	0.998277		0.99	
Benzene	1.143102	13.57666	9.871	4.625673E-02			20	
Trichloroethene	0.2308676	8.071231	10.4425	2.481194E-02			20	
1,2-Dichloropropane	0.3327441	14.79548	10.97825	3.768472E-02		0.9995583	0.99	
Bromodichloromethane	0.3384447	18.35051	11.0095	2.483783E-02		0.9995909	0.99	
4-Methyl-2-pentanone	3.573082E-02	20.51705	12.12775	4.882009E-02	0.9995377		0.99	
2-Hexanone	0.1672315	11.31414	12.874	0.0309941			20	
cis-1,3-Dichloropropene	0.4465376	18.76753	11.60275	0.0283524		0.999376	0.99	

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Toluene	1.066872	13.57287	11.82575	3.641946E-02			20	
trans-1,3-Dichloropropene	0.5606682	14.59159	12.1935	6.110681E-02	0.9976126		0.99	
1,1,2-Trichloroethane	0.3401845	14.58738	12.35775	3.776279E-02	0.9991086		0.99	
Tetrachloroethene	0.2798513	14.65878	12.20475	6.050502E-02	0.9992435		0.99	
Dibromochloromethane	0.2803526	24.18079	12.54425	2.540952E-02		0.9966995	0.99	
1,2-Dibromoethane	0.3355065	12.24976	12.80675	5.029451E-02			20	
Chlorobenzene	1.074819	8.299772	13.238	2.555814E-02			20	
Ethylbenzene	0.6263821	16.13499	13.20525	2.269002E-02	0.9993938		0.99	
m,p-Xylenes	0.7525839	7.241605	13.32075	3.483174E-02			20	
o-Xylene	0.7718014	13.16143	13.726	2.743597E-02			20	
Bromoform	0.1740972	26.85684	13.86988	2.962488E-02		0.9990525	0.99	
Styrene	1.260238	13.19508	13.77575	6.052145E-02			20	
Isopropylbenzene	2.031474	10.53359	13.99225	2.532555E-02			20	
1,1,2,2-Tetrachloroethane	0.5037271	10.18228	14.463	1.928567E-02			20	
1,2,4-Trichlorobenzene	0.4097947	23.81543	18.13363	0.0263798		0.9955535	0.99	
1,3-Dichlorobenzene	1.008577	10.77426	15.4075	2.626486E-02			20	
1,4-Dichlorobenzene	1.081206	11.81261	15.49775	7.350592E-03			20	
1,2-Dichlorobenzene	0.9520015	14.21603	16.01475	1.858857E-02			20	
1,2-Dibromo-3-chloropropane	7.396002E-02	49.9638	17.07629	4.554431E-02		0.9992021	0.99	
Dibromofluoromethane	0.5185058	4.852246	9.4205	3.503454E-02			20	
Toluene-d8	1.241574	3.107317	11.77275	1.495661E-03			20	
4-Bromofluorobenzene	0.8975781	4.047299	14.322	1.411585E-02			20	

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101077
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 01/20/21 08:19

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	1	1.132212	2	1.081738	5	1.099689	10	0.9908757	20	1.094479	50	0.9374184
Chloromethane	1	1.280621	2	1.261155	5	1.178299	10	1.149889	20	1.044477	50	0.9030385
Vinyl chloride	1	1.381626	2	1.187443	5	1.103079	10	0.9382662	20	1.028873	50	0.8768452
Bromomethane	1	2.625054	2	1.906138	5	1.381352	10	0.7525831	20	0.6973898	50	0.6149682
Chloroethane	1	0.9797916	2	0.9941816	5	0.7439232	10	0.6397637	20	0.6898111	50	0.5744008
Trichlorofluoromethane	1	1.534411	2	1.54824	5	1.602083	10	1.423735	20	1.54284	50	1.316135
Freon 113	1	0.7066751	2	0.6330097	5	0.6307267	10	0.5083287	20	0.5216339	50	0.4952992
Acetone	5	0.1833417	10	0.1265084	25	0.1302819	50	0.1118284	100	0.1097414	250	0.1026437
1,1-Dichloroethene	1	0.5963711	2	0.5344147	5	0.5371345	10	0.4420584	20	0.4535395	50	0.4376901
Carbon disulfide	5	2.042393	10	1.374044	25	1.478171	50	1.292343	100	1.260119	250	1.179003
Methylene Chloride	1	0.8707638	2	0.7437653	5	0.6598828	10	0.5665447	20	0.5367037	50	0.5029548
Methyl-tert-Butyl Ether	1	1.329483	2	1.195768	5	1.202217	10	0.9708387	20	0.9983125	50	0.9777235
trans-1,2-Dichloroethene	1	0.7695758	2	0.5947503	5	0.6165531	10	0.498399	20	0.5198553	50	0.5187938
cis-1,2-Dichloroethene	1	0.7542608	2	0.637032	5	0.6603835	10	0.5646693	20	0.5735283	50	0.5714241
1,1-Dichloroethane	1	1.446533	2	1.270509	5	1.239846	10	1.012512	20	1.033911	50	1.032356
2-Butanone	5	3.868846E-02	10	2.780116E-02	25	3.598871E-02	50	2.905469E-02	100	2.924066E-02	250	2.735337E-02
Chloroform	1	1.505422	2	1.211577	5	1.217508	10	0.9774717	20	0.9999071	50	0.9604477
1,1,1-Trichloroethane	1	1.138593	2	0.9810855	5	1.012876	10	0.8336985	20	0.8699214	50	0.8261889
Methyl acetate	1	7.438686E-02	2	5.743578E-02	5	7.036747E-02	10	4.986556E-02	20	5.030858E-02	50	4.855103E-02
Cyclohexane	1	1.164665	2	0.9651831	5	1.022081	10	0.8718577	20	0.9151921	50	0.8862811
Methyl cyclohexane	1	0.4343835	2	0.4173906	5	0.4051248	10	0.3600154	20	0.3617094	50	0.3636473
Carbon Tetrachloride	1	0.573209	2	0.4979244	5	0.5309295	10	0.4268537	20	0.4694365	50	0.4673335
1,2-Dichloroethane	1	0.4762291	2	0.4163737	5	0.4099687	10	0.3343197	20	0.3517888	50	0.34586
Benzene	1	1.322	2	1.197789	5	1.187095	10	0.9822448	20	1.07658	50	1.131535
Trichloroethene	1	0.4028108	2	0.3090115	5	0.3382511	10	0.2795944	20	0.3059167	50	0.31468
1,2-Dichloropropane	1	0.4320273	2	0.3405857	5	0.3344858	10	0.269395	20	0.2858346	50	0.2901264
Bromodichloromethane	1	0.4902718	2	0.4275119	5	0.4138517	10	0.3445289	20	0.3659631	50	0.3728853
4-Methyl-2-pentanone	5	4.227911E-02	10	2.894955E-02	25	2.651804E-02	50	0.0209787	100	2.290058E-02	250	0.0246077
2-Hexanone	5	0.2244205	10	0.1524863	25	0.1620852	50	0.1333905	100	0.1424361	250	0.1490342
cis-1,3-Dichloropropene	1	0.5277821	2	0.4596672	5	0.4604475	10	0.397173	20	0.4169022	50	0.435696
Toluene	1	1.93085	2	1.604323	5	1.626449	10	1.315349	20	1.44065	50	1.43267

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101077
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 01/20/21 08:19

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	1	1.007775	2	0.8574989	5	0.8440523	10	0.7149002	20	0.7694288	50	0.7675824
1,1,2-Trichloroethane	1	0.4870838	2	0.4590921	5	0.463077	10	0.3893758	20	0.386325	50	0.4071512
Tetrachloroethene	1	0.4802714	2	0.456302	5	0.4521271	10	0.3714068	20	0.4173894	50	0.4104367
Dibromochloromethane	1	0.7584428	2	0.6812559	5	0.631324	10	0.5430032	20	0.5818434	50	0.5952504
1,2-Dibromoethane	1	0.5243247	2	0.4953637	5	0.4966083	10	0.417636	20	0.4381025	50	0.4559483
Chlorobenzene	1	2.11819	2	1.802189	5	1.775022	10	1.468861	20	1.606084	50	1.631965
Ethylbenzene	1	1.041156	2	0.8874928	5	0.8746757	10	0.7065054	20	0.7892454	50	0.8139481
m,p-Xylenes	2	1.165708	4	1.02944	10	1.041991	20	0.8726556	40	0.9424046	100	1.002018
o-Xylene	1	1.029121	2	1.050715	5	0.9833116	10	0.8158229	20	0.8958653	50	0.9672722
Bromoform	1	0.3240413	2	0.270061	5	0.2604354	10	0.2252492	20	0.2460033	50	0.2572319
Styrene	1	1.928806	2	1.678842	5	1.731177	10	1.390463	20	1.595608	50	1.737077
Isopropylbenzene	1	2.877768	2	2.424969	5	2.457643	10	2.07294	20	2.279474	50	2.440278
1,1,2,2-Tetrachloroethane	1	0.502298	2	0.4332834	5	0.439496	10	0.3753151	20	0.3956026	50	0.3977983
1,2,4-Trichlorobenzene	1	0.4554218	2	0.4435265	5	0.4487368	10	0.339364	20	0.3842878	50	0.3834837
1,3-Dichlorobenzene	1	1.879308	2	1.490272	5	1.513677	10	1.212824	20	1.364455	50	1.390077
1,4-Dichlorobenzene	1	1.879308	2	1.644885	5	1.594724	10	1.283585	20	1.405738	50	1.420117
1,2-Dichlorobenzene	1	1.465254	2	1.267192	5	1.292768	10	1.043234	20	1.155936	50	1.174126
1,2-Dibromo-3-chloropropane	1	2.290037E-02	2	0.0500331	5	0.1032036	10	6.861337E-02	20	6.164036E-02	50	6.539414E-02
Dibromofluoromethane	50	0.5849469	55	0.5870287	60	0.6232323	50	0.6010518	65	0.5550645	50	0.5308566
Toluene-d8	50	0.8400387	55	0.8475554	60	0.9054921	50	0.8401661	65	0.8216728	50	0.820902
4-Bromofluorobenzene	50	0.6795148	55	0.6811249	60	0.7212633	50	0.6607664	65	0.6658056	50	0.6643235

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101077
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 01/20/21 08:19

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	80	0.9487262	100	0.9808405								
Chloromethane	80	0.9876056	100	1.082517								
Vinyl chloride	80	0.8397385	100	0.8814244								
Bromomethane	80	0.5499226	100	0.5220224								
Chloroethane	80	0.5479944	100	0.5494368								
Trichlorofluoromethane	80	1.264915	100	1.305889								
Freon 113	80	0.4862521	100	0.481061								
Acetone	400	0.1077735	500	0.1080897								
1,1-Dichloroethene	80	0.4385567	100	0.4338046								
Carbon disulfide	400	1.191802	500	1.205703								
Methylene Chloride	80	0.5100339	100	0.4980969								
Methyl-tert-Butyl Ether	80	0.9954462	100	0.9800074								
trans-1,2-Dichloroethene	80	0.5195184	100	0.5211387								
cis-1,2-Dichloroethene	80	0.5806544	100	0.5780107								
1,1-Dichloroethane	80	1.059753	100	1.054324								
2-Butanone	400	2.858297E-02	500	2.848384E-02								
Chloroform	80	0.9604834	100	0.9292233								
1,1,1-Trichloroethane	80	0.8182671	100	0.8195241								
Methyl acetate	80	4.854086E-02	100	4.748598E-02								
Cyclohexane	80	0.8841406	100	0.8815943								
Methyl cyclohexane	80	0.3607928	100	0.3672072								
Carbon Tetrachloride	80	0.4885612	100	0.4670258								
1,2-Dichloroethane	80	0.381621	100	0.3664746								
Benzene	80	1.178177	100	1.082052								
Trichloroethene	80	0.3011965	100	0.3167983								
1,2-Dichloropropane	80	0.2986052	100	0.2867514								
Bromodichloromethane	80	0.3869447	100	0.3699728								
4-Methyl-2-pentanone	400	2.679176E-02	500	2.565411E-02								
2-Hexanone	400	0.1650352	500	0.1608018								
cis-1,3-Dichloropropene	80	0.4601054	100	0.4466238								
Toluene	80	1.425498	100	1.387039								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101077
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 01/20/21 08:19

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	80	0.7689001	100	0.7609396								
1,1,2-Trichloroethane	80	0.4049094	100	0.3893835								
Tetrachloroethene	80	0.4147976	100	0.4097285								
Dibromochloromethane	80	0.5953088	100	0.5881711								
1,2-Dibromoethane	80	0.4608022	100	0.4500403								
Chlorobenzene	80	1.621379	100	1.596715								
Ethylbenzene	80	0.833241	100	0.8293777								
m,p-Xylenes	160	1.009728	200	0.9918246								
o-Xylene	80	0.9935402	100	0.9973062								
Bromoform	80	0.2686547	100	0.2655931								
Styrene	80	1.775666	100	1.738694								
Isopropylbenzene	80	2.541679	100	2.524793								
1,1,2,2-Tetrachloroethane	80	0.4070247	100	0.3951593								
1,2,4-Trichlorobenzene	80	0.443591	100	0.4256633								
1,3-Dichlorobenzene	80	1.473057	100	1.450216								
1,4-Dichlorobenzene	80	1.497691	100	1.478101								
1,2-Dichlorobenzene	80	1.254849	100	1.206153								
1,2-Dibromo-3-chloropropane	80	7.296265E-02	100	6.591071E-02								
Dibromofluoromethane	70	0.5194197	75	0.5456668								
Toluene-d8	70	0.8430687	75	0.8532165								
4-Bromofluorobenzene	70	0.6624278	75	0.7001856								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2101077
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 01/20/21 08:19

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	1.033247	7.422996	5.8775	0.1198878			20	
Chloromethane	1.11095	11.8379	6.345	8.425355E-02	0.9927055		0.99	
Vinyl chloride	1.029662	18.1291	6.54	1.353011E-02	0.9974044		0.99	
Bromomethane	1.131179	68.49097	7.18875	0.1738033	0.996		0.99	
Chloroethane	0.7149129	25.36914	7.4225	6.189921E-02		0.9982915	0.99	
Trichlorofluoromethane	1.442281	9.141456	7.68625	6.810643E-02			20	
Freon 113	0.5578733	15.42109	8.51125	4.342495E-02	0.9993003		0.99	
Acetone	0.1225261	21.53556	9.225	0.1017803	0.9992732		0.99	
1,1-Dichloroethene	0.4841962	12.92318	8.47	1.404484E-02			20	
Carbon disulfide	1.377947	20.82942	8.58875	0.0394861	0.999531		0.99	
Methylene Chloride	0.6110932	22.26659	9.18375	5.802199E-02	0.9990741		0.99	
Methyl-tert-Butyl Ether	1.081225	12.9278	9.5025	4.782094E-02			20	
trans-1,2-Dichloroethene	0.5698231	15.94811	9.41375	5.524527E-02	0.9998645		0.99	
cis-1,2-Dichloroethene	0.6149954	10.75752	10.65125	3.471958E-02			20	
1,1-Dichloroethane	1.143718	13.77425	10.08875	3.844483E-02			20	
2-Butanone	3.064923E-02	13.82049	11.15625	9.569697E-02			20	
Chloroform	1.095255	18.37698	10.87	9.768114E-03	0.9990787		0.99	
1,1,1-Trichloroethane	0.9125193	13.02548	11.1675	3.725675E-02			20	
Methyl acetate	5.586777E-02	19.136	9.36625	0.0994785	0.9990959		0.99	
Cyclohexane	0.9488744	10.68026	10.935	4.938657E-02			20	
Methyl cyclohexane	0.3837839	7.882556	12.05625	3.694256E-02			20	
Carbon Tetrachloride	0.4901592	9.161404	11.13	1.615315E-02			20	
1,2-Dichloroethane	0.3853295	12.20707	11.64875	7.128164E-02			20	
Benzene	1.144684	8.878515	11.5075	0.0379681			20	
Trichloroethene	0.3210324	11.491	12.02	1.613154E-02			20	
1,2-Dichloropropane	0.3172264	16.55493	12.47125	4.719873E-02	0.9992204		0.99	
Bromodichloromethane	0.3964913	11.69154	12.48625	3.738691E-02			20	
4-Methyl-2-pentanone	2.733494E-02	23.83835	13.49125	1.808956E-02	0.9977426		0.99	
2-Hexanone	0.1612112	17.16777	14.1925	5.296872E-02	0.9975808		0.99	
cis-1,3-Dichloropropene	0.4505496	8.577485	13.0325	3.879666E-02			20	

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101077
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 01/20/21 08:19

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Toluene	1.520353	12.90949	13.2625	3.467364E-02			20	
trans-1,3-Dichloropropene	0.8113847	11.32455	13.55375	3.988811E-02			20	
1,1,2-Trichloroethane	0.4232997	9.449146	13.70875	1.851086E-02			20	
Tetrachloroethene	0.4265574	8.038834	13.6375	3.135631E-02			20	
Dibromochloromethane	0.6218249	10.9814	13.90625	0.0389754			20	
1,2-Dibromoethane	0.4673533	7.537445	14.16125	2.800208E-02			20	
Chlorobenzene	1.702551	11.63378	14.61	1.172072E-02			20	
Ethylbenzene	0.8469553	11.35726	14.57	1.758415E-02			20	
m,p-Xylenes	1.006971	8.342498	14.685	3.483417E-02			20	
o-Xylene	0.9666193	7.885543	15.10375	3.299662E-02			20	
Bromoform	0.2646587	10.63585	15.2325	4.612938E-02			20	
Styrene	1.697042	9.156187	15.14375	3.225299E-02			20	
Isopropylbenzene	2.452443	9.361543	15.37125	0.0191395			20	
1,1,2,2-Tetrachloroethane	0.4182472	9.553144	15.80625	3.206999E-02			20	
1,2,4-Trichlorobenzene	0.4155094	10.03589	19.93875	5.693414E-02			20	
1,3-Dichlorobenzene	1.471736	12.94042	16.8825	0.0122198			20	
1,4-Dichlorobenzene	1.525519	11.91359	16.9675	0.1844742			20	
1,2-Dichlorobenzene	1.232439	9.951522	17.54375	3.282852E-02			20	
1,2-Dibromo-3-chloropropane	6.383229E-02	35.19873	18.65875	5.922873E-02	0.9945011		0.99	
Dibromofluoromethane	0.5684084	6.37686	11.05125	2.725859E-02			20	
Toluene-d8	0.846514	3.122799	13.21875	0.0214707			20	
4-Bromofluorobenzene	0.6794265	3.164043	15.71125	2.770036E-02			20	

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE00066-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2011113 **Laboratory ID:** AA63653-SCV1

Sequence: AA63653 **Standard ID:** A0K1038

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Cyclohexane	50.0	46	-8.0	30.00
Ethylbenzene	50.0	49	-2.4	30.00
Carbon Tetrachloride	50.0	55	10.9	30.00
1,3-Dichlorobenzene	50.0	55	9.4	30.00
4-Bromofluorobenzene	50.0	52	4.6	30.00
Toluene-d8	50.0	52	4.4	30.00
Dibromofluoromethane	50.0	50	-0.5	30.00
Methyl-tert-Butyl Ether	50.0	49	-1.8	30.00
trans-1,2-Dichloroethene	50.0	48	-4.3	30.00
cis-1,2-Dichloroethene	50.0	50	-0.1	30.00
Tetrachloroethene	50.0	48	-3.1	30.00
Acetone	250	240	-4.3	30.00
1,2,4-Trichlorobenzene	50.0	49	-2.0	30.00
Chloroform	50.0	49	-2.2	30.00
Chlorobenzene	50.0	52	3.4	30.00
Toluene	50.0	53	5.9	30.00
Methyl cyclohexane	50.0	47	-5.0	30.00
m,p-Xylenes	100	110	5.6	30.00
4-Methyl-2-pentanone	250	230	-7.3	30.00
1,2-Dichloroethane	50.0	46	-8.3	30.00
1,2-Dibromoethane	50.0	52	3.4	30.00
1,4-Dichlorobenzene	50.0	51	1.3	30.00
trans-1,3-Dichloropropene	50.0	49	-1.5	30.00
cis-1,3-Dichloropropene	50.0	49	-2.4	30.00
Styrene	50.0	55	10.3	30.00
Dibromochloromethane	50.0	52	3.8	30.00
1,1-Dichloroethene	50.0	49	-2.0	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE00066-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2011113 **Laboratory ID:** AA63653-SCV1

Sequence: AA63653 **Standard ID:** A0K1038

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
1,2-Dibromo-3-chloropropane	50.0	55	9.4	30.00
1,2-Dichlorobenzene	50.0	52	3.8	30.00
o-Xylene	50.0	53	5.4	30.00
1,1,2,2-Tetrachloroethane	50.0	52	3.2	30.00
Methyl acetate	50.0	38	-23.9	30.00
Trichloroethene	50.0	54	7.6	30.00
1,1,2-Trichloroethane	50.0	50	-0.4	30.00
2-Butanone	250	250	-1.7	30.00
1,2-Dichloropropane	50.0	50	-0.4	30.00
Freon 113	50.0	51	2.3	30.00
2-Hexanone	250	250	0.6	30.00
Trichlorofluoromethane	20.0	21	2.9	30.00
Isopropylbenzene	50.0	54	8.8	30.00
1,1-Dichloroethane	50.0	48	-4.6	30.00
Bromodichloromethane	50.0	50	-0.1	30.00
Bromoform	50.0	52	3.8	30.00
Carbon disulfide	50.0	52	4.0	30.00
Methylene Chloride	50.0	47	-5.6	30.00
Vinyl chloride	20.0	21	3.6	30.00
Chloroethane	20.0	22	8.4	30.00
Chloromethane	20.0	20	-0.1	30.00
Bromomethane	20.0	25	24.8	30.00
1,1,1-Trichloroethane	50.0	51	1.2	30.00
Benzene	50.0	54	7.1	30.00
Dichlorodifluoromethane	20.0	21	3.0	30.00

* Values outside of QC limits

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2101077
Laboratory ID: AA64539-SCV1
Sequence: AA64539
Standard ID: A1A0936

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Cyclohexane	50.0	52	3.4	30.00
Ethylbenzene	50.0	49	-2.1	30.00
Carbon Tetrachloride	50.0	50	-0.2	30.00
1,3-Dichlorobenzene	50.0	50	-0.3	30.00
4-Bromofluorobenzene	50.0	53	5.0	30.00
Toluene-d8	50.0	52	4.5	30.00
Dibromofluoromethane	50.0	49	-1.1	30.00
Methyl-tert-Butyl Ether	50.0	50	0.7	30.00
trans-1,2-Dichloroethene	50.0	51	1.3	30.00
cis-1,2-Dichloroethene	50.0	48	-4.8	30.00
Tetrachloroethene	50.0	46	-7.5	30.00
Acetone	250	310	24.9	30.00
1,2,4-Trichlorobenzene	50.0	59	17.8	30.00
Chloroform	50.0	55	9.8	30.00
Chlorobenzene	50.0	49	-2.0	30.00
Toluene	50.0	46	-7.4	30.00
Methyl cyclohexane	50.0	50	0.5	30.00
m,p-Xylenes	100	110	5.5	30.00
4-Methyl-2-pentanone	250	250	0.1	30.00
1,2-Dichloroethane	50.0	49	-1.8	30.00
1,2-Dibromoethane	50.0	47	-5.7	30.00
1,4-Dichlorobenzene	50.0	48	-4.2	30.00
trans-1,3-Dichloropropene	50.0	48	-3.7	30.00
cis-1,3-Dichloropropene	50.0	51	1.7	30.00
Styrene	50.0	54	8.8	30.00
Dibromochloromethane	50.0	46	-7.3	30.00
1,1-Dichloroethene	50.0	46	-7.4	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE00066-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2101077 **Laboratory ID:** AA64539-SCV1

Sequence: AA64539 **Standard ID:** A1A0936

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
1,2-Dibromo-3-chloropropane	50.0	55	10.8	30.00
1,2-Dichlorobenzene	50.0	52	3.6	30.00
o-Xylene	50.0	53	5.1	30.00
1,1,2,2-Tetrachloroethane	50.0	53	5.6	30.00
Methyl acetate	50.0	55	9.1	30.00
Trichloroethene	50.0	49	-1.5	30.00
1,1,2-Trichloroethane	50.0	47	-6.2	30.00
2-Butanone	250	250	1.9	30.00
1,2-Dichloropropane	50.0	51	2.2	30.00
Freon 113	50.0	55	9.7	30.00
2-Hexanone	250	260	3.5	30.00
Trichlorofluoromethane	50.0	51	2.5	30.00
Isopropylbenzene	50.0	53	6.2	30.00
1,1-Dichloroethane	50.0	47	-5.6	30.00
Bromodichloromethane	50.0	49	-1.8	30.00
Bromoform	50.0	52	3.5	30.00
Carbon disulfide	50.0	64	28.6	30.00
Methylene Chloride	50.0	53	5.9	30.00
Vinyl chloride	50.0	56	12.6	30.00
Chloroethane	50.0	56	11.9	30.00
Chloromethane	50.0	55	10.5	30.00
Bromomethane	50.0	47	-5.9	30.00
1,1,1-Trichloroethane	50.0	51	1.2	30.00
Benzene	50.0	49	-1.6	30.00
Dichlorodifluoromethane	50.0	50	0.1	30.00

* Values outside of QC limits

ENCO Orlando

SDG: AE00066-TE016

CLASS: 06_VOA_AIR

METHOD: TO-15

ANALYSES DATA PACKAGE COVER PAGE

TO-15

Laboratory: ENCO Orlando

SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-VMP01-20210120	AE00066-13
CRCA-VMP01-20210120	AE00066-13RE1
CRCA-VMP02-20210120	AE00066-14
CRCA-VMP03-20210120	AE00066-15
CRCA-VMP03-20210120	AE00066-15RE1
CRCA-VMP04-20210120	AE00066-16
CRCA-VMP04-20210120	AE00066-16RE1
CRCA-SYSAIR-20210120	AE00066-17

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP01-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Air Laboratory ID: AE00066-13RE1 File ID: 217AS012.D

Sampled: 01/20/21 11:03 Prepared: 01/25/21 09:00 Analyzed: 01/25/21 10:36

Solids: Preparation: NO PREP 2 Initial/Final: 400 mL / 400 mL

Batch: 1A25023 Sequence: AA64633 Calibration: 2101005 Instrument: OVGCMS7

CAS NO.	COMPOUND	DILUTION	CONC. (ppbv)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1.34	0.74	UD	0.74	3.4
115-07-1	Propene	1.34	0.74	UD	0.74	3.4
74-87-3	Chloromethane	1.34	0.64	UD	0.64	3.4
75-01-4	Vinyl chloride	1.34	0.75	UD	0.75	3.4
74-83-9	Bromomethane	1.34	0.44	UD	0.44	3.4
75-00-3	Chloroethane	1.34	0.43	UD	0.43	3.4
75-69-4	Trichlorofluoromethane	1.34	0.46	UD	0.46	3.4
593-60-2	Bromoethene	1.34	0.44	UD	0.44	3.4
75-34-3	1,1-Dichloroethane	1.34	0.48	UD	0.48	3.4
67-64-1	Acetone	1.34	5.9	D	0.47	3.4
75-09-2	Methylene chloride	1.34	0.75	JBD	0.27	3.4
76-13-1	Freon 113	1.34	3.9	D	0.43	3.4
107-05-1	3-Chloropropene	1.34	0.52	UD	0.52	3.4
156-60-5	trans-1,2-Dichloroethene	1.34	0.43	UD	0.43	3.4
75-35-4	1,1-Dichloroethene	1.34	0.51	UD	0.51	3.4
156-59-2	cis-1,2-Dichloroethene	1.34	0.51	UD	0.51	3.4
67-66-3	Chloroform	1.34	0.51	UD	0.51	3.4
107-06-2	1,2-Dichloroethane	1.34	0.50	UD	0.50	3.4
71-55-6	1,1,1-Trichloroethane	1.34	0.46	UD	0.46	3.4
56-23-5	Carbon tetrachloride	1.34	0.36	UD	0.36	3.4
78-87-5	1,2-Dichloropropane	1.34	0.54	UD	0.54	3.4
79-01-6	Trichloroethene	1.34	0.47	UD	0.47	3.4
75-27-4	Bromodichloromethane	1.34	0.46	UD	0.46	3.4
10061-01-5	cis-1,3-Dichloropropene	1.34	0.51	UD	0.51	3.4
10061-02-6	trans-1,3-Dichloropropene	1.34	0.46	UD	0.46	3.4
79-00-5	1,1,2-Trichloroethane	1.34	0.47	UD	0.47	3.4
106-93-4	1,2-Dibromoethane	1.34	0.48	UD	0.48	3.4
127-18-4	Tetrachloroethene	1.34	0.42	UD	0.42	3.4
124-48-1	Dibromochloromethane	1.34	0.44	UD	0.44	3.4
108-90-7	Chlorobenzene	1.34	0.44	UD	0.44	3.4
75-25-2	Bromoform	1.34	0.51	UD	0.51	3.4
79-34-5	1,1,2,2-Tetrachloroethane	1.34	0.48	UD	0.48	3.4
541-73-1	1,3-Dichlorobenzene	1.34	0.38	UD	0.38	3.4
106-46-7	1,4-Dichlorobenzene	1.34	0.42	UD	0.42	3.4
95-50-1	1,2-Dichlorobenzene	1.34	0.36	UD	0.36	3.4
87-68-3	Hexachlorobutadiene	1.34	0.50	UD	0.50	3.4
76-14-2	Freon 114	1.34	0.70	UD	0.70	3.4

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	28	90	70 - 130	

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP01-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Air Laboratory ID: AE00066-13RE1 File ID: 217AS012.D

Sampled: 01/20/21 11:03 Prepared: 01/25/21 09:00 Analyzed: 01/25/21 10:36

Solids: Preparation: NO PREP 2 Initial/Final: 400 mL / 400 mL

Batch: 1A25023 Sequence: AA64633 Calibration: 2101005 Instrument: OVGCMS7

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	394787	10.98	368179	11	
1,4-Difluorobenzene	1326946	12.49	1236730	12.5	
Chlorobenzene-d5	966269	15.89	944742	15.9	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP02-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Air Laboratory ID: AE00066-14 File ID: 217AS013.D

Sampled: 01/20/21 11:06 Prepared: 01/25/21 09:00 Analyzed: 01/25/21 11:18

Solids: Preparation: NO PREP 2 Initial/Final: 200 mL / 400 mL

Batch: 1A25023 Sequence: AA64633 Calibration: 2101005 Instrument: OVGCMS7

CAS NO.	COMPOUND	DILUTION	CONC. (ppbv)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1.35	1.5	UD	1.5	6.8
115-07-1	Propene	1.35	1.5	UD	1.5	6.8
74-87-3	Chloromethane	1.35	1.3	UD	1.3	6.8
75-01-4	Vinyl chloride	1.35	1.5	UD	1.5	6.8
74-83-9	Bromomethane	1.35	0.89	UD	0.89	6.8
75-00-3	Chloroethane	1.35	0.86	UD	0.86	6.8
75-69-4	Trichlorofluoromethane	1.35	0.92	UD	0.92	6.8
593-60-2	Bromoethene	1.35	0.89	UD	0.89	6.8
75-34-3	1,1-Dichloroethane	1.35	0.97	UD	0.97	6.8
67-64-1	Acetone	1.35	3.5	JD	0.94	6.8
75-09-2	Methylene chloride	1.35	0.97	JBD	0.54	6.8
76-13-1	Freon 113	1.35	120	DE	0.86	6.8
107-05-1	3-Chloropropene	1.35	1.1	UD	1.1	6.8
156-60-5	trans-1,2-Dichloroethene	1.35	5.5	JD	0.86	6.8
75-35-4	1,1-Dichloroethene	1.35	1.0	UD	1.0	6.8
156-59-2	cis-1,2-Dichloroethene	1.35	1.0	UD	1.0	6.8
67-66-3	Chloroform	1.35	1.0	UD	1.0	6.8
107-06-2	1,2-Dichloroethane	1.35	1.0	UD	1.0	6.8
71-55-6	1,1,1-Trichloroethane	1.35	0.92	UD	0.92	6.8
56-23-5	Carbon tetrachloride	1.35	0.73	UD	0.73	6.8
78-87-5	1,2-Dichloropropane	1.35	1.1	UD	1.1	6.8
79-01-6	Trichloroethene	1.35	0.94	UD	0.94	6.8
75-27-4	Bromodichloromethane	1.35	0.92	UD	0.92	6.8
10061-01-5	cis-1,3-Dichloropropene	1.35	1.0	UD	1.0	6.8
10061-02-6	trans-1,3-Dichloropropene	1.35	0.92	UD	0.92	6.8
79-00-5	1,1,2-Trichloroethane	1.35	0.94	UD	0.94	6.8
106-93-4	1,2-Dibromoethane	1.35	0.97	UD	0.97	6.8
127-18-4	Tetrachloroethene	1.35	0.84	UD	0.84	6.8
124-48-1	Dibromochloromethane	1.35	0.89	UD	0.89	6.8
108-90-7	Chlorobenzene	1.35	0.89	UD	0.89	6.8
75-25-2	Bromoform	1.35	1.0	UD	1.0	6.8
79-34-5	1,1,2,2-Tetrachloroethane	1.35	0.97	UD	0.97	6.8
541-73-1	1,3-Dichlorobenzene	1.35	0.76	UD	0.76	6.8
106-46-7	1,4-Dichlorobenzene	1.35	0.84	UD	0.84	6.8
95-50-1	1,2-Dichlorobenzene	1.35	0.73	UD	0.73	6.8
87-68-3	Hexachlorobutadiene	1.35	1.0	UD	1.0	6.8
76-14-2	Freon 114	1.35	1.4	UD	1.4	6.8

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	27	87	70 - 130	

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP02-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Air
Laboratory ID: AE00066-14
File ID: 217AS013.D
Sampled: 01/20/21 11:06
Prepared: 01/25/21 09:00
Analyzed: 01/25/21 11:18
Solids:
Preparation: NO PREP 2
Initial/Final: 200 mL / 400 mL
Batch: 1A25023
Sequence: AA64633
Calibration: 2101005
Instrument: OVGCMS7

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	376564	10.98	368179	11	
1,4-Difluorobenzene	1276814	12.49	1236730	12.5	
Chlorobenzene-d5	910527	15.89	944742	15.9	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP03-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Air Laboratory ID: AE00066-15RE1 File ID: 217AS017.D

Sampled: 01/20/21 11:15 Prepared: 01/25/21 09:00 Analyzed: 01/25/21 14:06

Solids: Preparation: NO PREP 2 Initial/Final: 400 mL / 400 mL

Batch: 1A25023 Sequence: AA64633 Calibration: 2101005 Instrument: OVGCMS7

CAS NO.	COMPOUND	DILUTION	CONC. (ppbv)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1.59	0.87	UD	0.87	4.0
115-07-1	Propene	1.59	0.87	UD	0.87	4.0
74-87-3	Chloromethane	1.59	0.76	UD	0.76	4.0
75-01-4	Vinyl chloride	1.59	0.89	UD	0.89	4.0
74-83-9	Bromomethane	1.59	0.52	UD	0.52	4.0
75-00-3	Chloroethane	1.59	0.51	UD	0.51	4.0
75-69-4	Trichlorofluoromethane	1.59	0.54	UD	0.54	4.0
593-60-2	Bromoethene	1.59	0.52	UD	0.52	4.0
75-34-3	1,1-Dichloroethane	1.59	0.57	UD	0.57	4.0
67-64-1	Acetone	1.59	4.1	D	0.56	4.0
75-09-2	Methylene chloride	1.59	1.1	JBD	0.32	4.0
76-13-1	Freon 113	1.59	8.1	D	0.51	4.0
107-05-1	3-Chloropropene	1.59	0.62	UD	0.62	4.0
156-60-5	trans-1,2-Dichloroethene	1.59	0.51	UD	0.51	4.0
75-35-4	1,1-Dichloroethene	1.59	0.60	UD	0.60	4.0
156-59-2	cis-1,2-Dichloroethene	1.59	0.60	UD	0.60	4.0
67-66-3	Chloroform	1.59	1.9	JD	0.60	4.0
107-06-2	1,2-Dichloroethane	1.59	0.59	UD	0.59	4.0
71-55-6	1,1,1-Trichloroethane	1.59	0.54	UD	0.54	4.0
56-23-5	Carbon tetrachloride	1.59	0.43	UD	0.43	4.0
78-87-5	1,2-Dichloropropane	1.59	0.64	UD	0.64	4.0
79-01-6	Trichloroethene	1.59	0.56	UD	0.56	4.0
75-27-4	Bromodichloromethane	1.59	0.54	UD	0.54	4.0
10061-01-5	cis-1,3-Dichloropropene	1.59	0.60	UD	0.60	4.0
10061-02-6	trans-1,3-Dichloropropene	1.59	0.54	UD	0.54	4.0
79-00-5	1,1,2-Trichloroethane	1.59	0.56	UD	0.56	4.0
106-93-4	1,2-Dibromoethane	1.59	0.57	UD	0.57	4.0
127-18-4	Tetrachloroethene	1.59	0.49	UD	0.49	4.0
124-48-1	Dibromochloromethane	1.59	0.52	UD	0.52	4.0
108-90-7	Chlorobenzene	1.59	0.52	UD	0.52	4.0
75-25-2	Bromoform	1.59	0.60	UD	0.60	4.0
79-34-5	1,1,2,2-Tetrachloroethane	1.59	0.57	UD	0.57	4.0
541-73-1	1,3-Dichlorobenzene	1.59	0.45	UD	0.45	4.0
106-46-7	1,4-Dichlorobenzene	1.59	0.49	UD	0.49	4.0
95-50-1	1,2-Dichlorobenzene	1.59	0.43	UD	0.43	4.0
87-68-3	Hexachlorobutadiene	1.59	0.59	UD	0.59	4.0
76-14-2	Freon 114	1.59	0.83	UD	0.83	4.0

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	27	88	70 - 130	

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP03-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Air
Laboratory ID: AE00066-15RE1
File ID: 217AS017.D
Sampled: 01/20/21 11:15
Prepared: 01/25/21 09:00
Analyzed: 01/25/21 14:06
Solids:
Preparation: NO PREP 2
Initial/Final: 400 mL / 400 mL
Batch: 1A25023
Sequence: AA64633
Calibration: 2101005
Instrument: OVGCMS7

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	374110	10.99	368179	11	
1,4-Difluorobenzene	1263633	12.5	1236730	12.5	
Chlorobenzene-d5	911241	15.9	944742	15.9	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP04-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Air Laboratory ID: AE00066-16RE1 File ID: 217AS018.D

Sampled: 01/20/21 11:22 Prepared: 01/25/21 09:00 Analyzed: 01/25/21 14:47

Solids: Preparation: NO PREP 2 Initial/Final: 200 mL / 400 mL

Batch: 1A25023 Sequence: AA64633 Calibration: 2101005 Instrument: OVGCMS7

CAS NO.	COMPOUND	DILUTION	CONC. (ppbv)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1.4	1.5	UD	1.5	7.0
115-07-1	Propene	1.4	1.5	UD	1.5	7.0
74-87-3	Chloromethane	1.4	1.3	UD	1.3	7.0
75-01-4	Vinyl chloride	1.4	1.6	UD	1.6	7.0
74-83-9	Bromomethane	1.4	0.92	UD	0.92	7.0
75-00-3	Chloroethane	1.4	0.90	UD	0.90	7.0
75-69-4	Trichlorofluoromethane	1.4	0.95	UD	0.95	7.0
593-60-2	Bromoethene	1.4	0.92	UD	0.92	7.0
75-34-3	1,1-Dichloroethane	1.4	1.0	UD	1.0	7.0
67-64-1	Acetone	1.4	31	D	0.98	7.0
75-09-2	Methylene chloride	1.4	1.1	JBD	0.56	7.0
76-13-1	Freon 113	1.4	34	D	0.90	7.0
107-05-1	3-Chloropropene	1.4	1.1	UD	1.1	7.0
156-60-5	trans-1,2-Dichloroethene	1.4	0.90	UD	0.90	7.0
75-35-4	1,1-Dichloroethene	1.4	1.1	UD	1.1	7.0
156-59-2	cis-1,2-Dichloroethene	1.4	1.1	UD	1.1	7.0
67-66-3	Chloroform	1.4	1.1	UD	1.1	7.0
107-06-2	1,2-Dichloroethane	1.4	1.0	UD	1.0	7.0
71-55-6	1,1,1-Trichloroethane	1.4	0.95	UD	0.95	7.0
56-23-5	Carbon tetrachloride	1.4	0.76	UD	0.76	7.0
78-87-5	1,2-Dichloropropane	1.4	1.1	UD	1.1	7.0
79-01-6	Trichloroethene	1.4	0.98	UD	0.98	7.0
75-27-4	Bromodichloromethane	1.4	0.95	UD	0.95	7.0
10061-01-5	cis-1,3-Dichloropropene	1.4	1.1	UD	1.1	7.0
10061-02-6	trans-1,3-Dichloropropene	1.4	0.95	UD	0.95	7.0
79-00-5	1,1,2-Trichloroethane	1.4	0.98	UD	0.98	7.0
106-93-4	1,2-Dibromoethane	1.4	1.0	UD	1.0	7.0
127-18-4	Tetrachloroethene	1.4	0.87	UD	0.87	7.0
124-48-1	Dibromochloromethane	1.4	0.92	UD	0.92	7.0
108-90-7	Chlorobenzene	1.4	0.92	UD	0.92	7.0
75-25-2	Bromoform	1.4	1.1	UD	1.1	7.0
79-34-5	1,1,2,2-Tetrachloroethane	1.4	1.0	UD	1.0	7.0
541-73-1	1,3-Dichlorobenzene	1.4	0.78	UD	0.78	7.0
106-46-7	1,4-Dichlorobenzene	1.4	0.87	UD	0.87	7.0
95-50-1	1,2-Dichlorobenzene	1.4	0.76	UD	0.76	7.0
87-68-3	Hexachlorobutadiene	1.4	1.0	UD	1.0	7.0
76-14-2	Freon 114	1.4	1.5	UD	1.5	7.0

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	28	89	70 - 130	

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP04-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Air Laboratory ID: AE00066-16RE1 File ID: 217AS018.D

Sampled: 01/20/21 11:22 Prepared: 01/25/21 09:00 Analyzed: 01/25/21 14:47

Solids: Preparation: NO PREP 2 Initial/Final: 200 mL / 400 mL

Batch: 1A25023 Sequence: AA64633 Calibration: 2101005 Instrument: OVGCMS7

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	405636	10.99	368179	11	
1,4-Difluorobenzene	1356274	12.49	1236730	12.5	
Chlorobenzene-d5	989168	15.9	944742	15.9	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-SYSAIR-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Air Laboratory ID: AE00066-17 File ID: 217AS016.D

Sampled: 01/20/21 17:03 Prepared: 01/25/21 09:00 Analyzed: 01/25/21 13:21

Solids: Preparation: NO PREP 2 Initial/Final: 400 mL / 400 mL

Batch: 1A25023 Sequence: AA64633 Calibration: 2101005 Instrument: OVGCMS7

CAS NO.	COMPOUND	DILUTION	CONC. (ppbv)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1.32	0.73	UD	0.73	3.3
115-07-1	Propene	1.32	0.73	UD	0.73	3.3
74-87-3	Chloromethane	1.32	0.63	UD	0.63	3.3
75-01-4	Vinyl chloride	1.32	0.74	UD	0.74	3.3
74-83-9	Bromomethane	1.32	0.44	UD	0.44	3.3
75-00-3	Chloroethane	1.32	0.42	UD	0.42	3.3
75-69-4	Trichlorofluoromethane	1.32	0.45	UD	0.45	3.3
593-60-2	Bromoethene	1.32	0.44	UD	0.44	3.3
75-34-3	1,1-Dichloroethane	1.32	0.48	UD	0.48	3.3
67-64-1	Acetone	1.32	2.6	JD	0.46	3.3
75-09-2	Methylene chloride	1.32	0.99	JBD	0.26	3.3
76-13-1	Freon 113	1.32	0.42	UD	0.42	3.3
107-05-1	3-Chloropropene	1.32	0.51	UD	0.51	3.3
156-60-5	trans-1,2-Dichloroethene	1.32	0.96	JD	0.42	3.3
75-35-4	1,1-Dichloroethene	1.32	0.50	UD	0.50	3.3
156-59-2	cis-1,2-Dichloroethene	1.32	0.50	UD	0.50	3.3
67-66-3	Chloroform	1.32	0.50	UD	0.50	3.3
107-06-2	1,2-Dichloroethane	1.32	0.49	UD	0.49	3.3
71-55-6	1,1,1-Trichloroethane	1.32	0.45	UD	0.45	3.3
56-23-5	Carbon tetrachloride	1.32	0.36	UD	0.36	3.3
78-87-5	1,2-Dichloropropane	1.32	0.53	UD	0.53	3.3
79-01-6	Trichloroethene	1.32	0.46	UD	0.46	3.3
75-27-4	Bromodichloromethane	1.32	0.45	UD	0.45	3.3
10061-01-5	cis-1,3-Dichloropropene	1.32	0.50	UD	0.50	3.3
10061-02-6	trans-1,3-Dichloropropene	1.32	0.45	UD	0.45	3.3
79-00-5	1,1,2-Trichloroethane	1.32	0.46	UD	0.46	3.3
106-93-4	1,2-Dibromoethane	1.32	0.48	UD	0.48	3.3
127-18-4	Tetrachloroethene	1.32	0.41	UD	0.41	3.3
124-48-1	Dibromochloromethane	1.32	0.44	UD	0.44	3.3
108-90-7	Chlorobenzene	1.32	0.44	UD	0.44	3.3
75-25-2	Bromoform	1.32	0.50	UD	0.50	3.3
79-34-5	1,1,2,2-Tetrachloroethane	1.32	0.48	UD	0.48	3.3
541-73-1	1,3-Dichlorobenzene	1.32	0.37	UD	0.37	3.3
106-46-7	1,4-Dichlorobenzene	1.32	0.41	UD	0.41	3.3
95-50-1	1,2-Dichlorobenzene	1.32	0.36	UD	0.36	3.3
87-68-3	Hexachlorobutadiene	1.32	0.49	UD	0.49	3.3
76-14-2	Freon 114	1.32	0.69	UD	0.69	3.3

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	28	89	70 - 130	

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-SYSAIR-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Air
Laboratory ID: AE00066-17
File ID: 217AS016.D
Sampled: 01/20/21 17:03
Prepared: 01/25/21 09:00
Analyzed: 01/25/21 13:21
Solids:
Preparation: NO PREP 2
Initial/Final: 400 mL / 400 mL
Batch: 1A25023
Sequence: AA64633
Calibration: 2101005
Instrument: OVGCMS7

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	379518	10.99	368179	11	
1,4-Difluorobenzene	1282254	12.49	1236730	12.5	
Chlorobenzene-d5	929975	15.9	944742	15.9	

* Values outside of QC limits

HOLDING TIME SUMMARY

TO-15

Laboratory: ENCO Orlando

SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-VMP01-20210120	01/20/21 11:03	01/21/21 15:10	01/25/21 09:00	4.91	NA	01/25/21 10:36	5.00	30.00	
CRCA-VMP02-20210120	01/20/21 11:06	01/21/21 15:10	01/25/21 09:00	4.91	NA	01/25/21 11:18	5.00	30.00	
CRCA-VMP03-20210120	01/20/21 11:15	01/21/21 15:10	01/25/21 09:00	4.91	NA	01/25/21 14:06	5.00	30.00	
CRCA-VMP04-20210120	01/20/21 11:22	01/21/21 15:10	01/25/21 09:00	4.90	NA	01/25/21 14:47	5.00	30.00	
CRCA-SYSAIR-20210120	01/20/21 17:03	01/21/21 15:10	01/25/21 09:00	4.66	NA	01/25/21 13:21	5.00	30.00	

PREPARATION BATCH SUMMARY

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Batch: 1A25023 Batch Matrix: Air Preparation: NO PREP 2

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1A25023-BLK1	217AS009.D	01/24/21 17:30	
LCS	1A25023-BS1	217AS006.D	01/24/21 17:30	
LCS Dup	1A25023-BSD1	217AS007.D	01/24/21 17:30	
CRCA-VMP01-20210120	AE00066-13RE1	217AS012.D	01/25/21 09:00	
CRCA-VMP02-20210120	AE00066-14	217AS013.D	01/25/21 09:00	
CRCA-VMP03-20210120	AE00066-15RE1	217AS017.D	01/25/21 09:00	
CRCA-VMP04-20210120	AE00066-16RE1	217AS018.D	01/25/21 09:00	
CRCA-SYSAIR-20210120	AE00066-17	217AS016.D	01/25/21 09:00	

METHOD BLANK DATA SHEET
TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Air	Laboratory ID:	1A25023-BLK1	File ID:	217AS009.D
Prepared:	01/24/21 17:30	Preparation:	NO PREP 2	Initial/Final:	400 mL / 400 mL
Analyzed:	01/25/21 00:37	Instrument:	OVGCMS7		
Batch:	1A25023	Sequence:	AA64633	Calibration:	2101005

CAS NO.	COMPOUND	CONC. (ppbv)	Q
75-71-8	Dichlorodifluoromethane	0.55	U
115-07-1	Propene	0.55	U
74-87-3	Chloromethane	0.48	U
75-01-4	Vinyl chloride	0.56	U
74-83-9	Bromomethane	0.33	U
75-00-3	Chloroethane	0.32	U
75-69-4	Trichlorofluoromethane	0.34	U
593-60-2	Bromoethene	0.33	U
75-34-3	1,1-Dichloroethane	0.36	U
67-64-1	Acetone	0.35	U
75-09-2	Methylene chloride	0.29	J
76-13-1	Freon 113	0.32	U
107-05-1	3-Chloropropene	0.39	U
156-60-5	trans-1,2-Dichloroethene	0.32	U
75-35-4	1,1-Dichloroethene	0.38	U
156-59-2	cis-1,2-Dichloroethene	0.38	U
67-66-3	Chloroform	0.38	U
107-06-2	1,2-Dichloroethane	0.37	U
71-55-6	1,1,1-Trichloroethane	0.34	U
56-23-5	Carbon tetrachloride	0.27	U
78-87-5	1,2-Dichloropropane	0.40	U
79-01-6	Trichloroethene	0.35	U
75-27-4	Bromodichloromethane	0.34	U
10061-01-5	cis-1,3-Dichloropropene	0.38	U
10061-02-6	trans-1,3-Dichloropropene	0.34	U
79-00-5	1,1,2-Trichloroethane	0.35	U
106-93-4	1,2-Dibromoethane	0.36	U
127-18-4	Tetrachloroethene	0.31	U
124-48-1	Dibromochloromethane	0.33	U
108-90-7	Chlorobenzene	0.33	U

METHOD BLANK DATA SHEET
TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Air	Laboratory ID:	1A25023-BLK1	File ID:	217AS009.D
Prepared:	01/24/21 17:30	Preparation:	NO PREP 2	Initial/Final:	400 mL / 400 mL
Analyzed:	01/25/21 00:37	Instrument:	OVGCMS7		
Batch:	1A25023	Sequence:	AA64633	Calibration:	2101005

CAS NO.	COMPOUND	CONC. (ppbv)	Q
75-25-2	Bromoform	0.38	U
79-34-5	1,1,2,2-Tetrachloroethane	0.36	U
541-73-1	1,3-Dichlorobenzene	0.28	U
106-46-7	1,4-Dichlorobenzene	0.31	U
95-50-1	1,2-Dichlorobenzene	0.27	U
87-68-3	Hexachlorobutadiene	0.37	U
76-14-2	Freon 114	0.52	U

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	27	87	70 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	396636	10.99	368179	11	
1,4-Difluorobenzene	1324496	12.49	1236730	12.5	
Chlorobenzene-d5	957252	15.89	944742	15.9	

LCS / LCS DUPLICATE RECOVERY

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Air		
Batch:	1A25023	Laboratory ID:	1A25023-BS1
Preparation:	NO PREP 2	Initial/Final:	400 mL / 400 mL

COMPOUND	SPIKE ADDED (ppbv)	LCS CONCENTRATION (ppbv)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	10.0	9.3	93	61 - 137
Propene	10.0	8.9	89	63 - 132
Chloromethane	10.0	10	100	55 - 142
Vinyl chloride	10.0	11	106	53 - 148
Bromomethane	10.0	9.9	99	69 - 130
Chloroethane	10.0	10	101	69 - 131
Trichlorofluoromethane	10.0	9.7	97	46 - 161
Bromoethene	10.0	9.5	95	69 - 132
1,1-Dichloroethane	10.0	12	119	70 - 130
Acetone	10.0	10	104	65 - 130
Methylene chloride	10.0	13	128	59 - 136
Freon 113	10.0	11	111	67 - 140
3-Chloropropene	10.0	11	113	70 - 130
trans-1,2-Dichloroethene	10.0	11	113	70 - 130
1,1-Dichloroethene	10.0	11	113	67 - 142
cis-1,2-Dichloroethene	10.0	12	122	70 - 130
Chloroform	10.0	11	111	70 - 130
1,2-Dichloroethane	10.0	10	102	70 - 130
1,1,1-Trichloroethane	10.0	10	100	70 - 130
Carbon tetrachloride	10.0	8.3	83	22 - 166
1,2-Dichloropropane	10.0	12	121	70 - 130
Trichloroethene	10.0	11	114	70 - 130
Bromodichloromethane	10.0	11	109	70 - 130
cis-1,3-Dichloropropene	10.0	12	122	70 - 137
trans-1,3-Dichloropropene	10.0	16	156	59 - 166
1,1,2-Trichloroethane	10.0	12	117	70 - 134
1,2-Dibromoethane	10.0	12	118	70 - 141
Tetrachloroethene	10.0	10	104	70 - 141
Dibromochloromethane	10.0	11	110	70 - 130
Chlorobenzene	10.0	11	107	70 - 134

LCS / LCS DUPLICATE RECOVERY

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Air		
Batch:	1A25023	Laboratory ID:	1A25023-BS1
Preparation:	NO PREP 2	Initial/Final:	400 mL / 400 mL

COMPOUND	SPIKE ADDED (ppbv)	LCS CONCENTRATION (ppbv)	LCS % REC. #	QC LIMITS REC.
Bromoform	10.0	11	110	62 - 149
1,1,2,2-Tetrachloroethane	10.0	12	119	52 - 163
1,3-Dichlorobenzene	10.0	9.8	98	47 - 178
1,4-Dichlorobenzene	10.0	9.2	92	45 - 180
1,2-Dichlorobenzene	10.0	10	102	37 - 180
Hexachlorobutadiene	10.0	9.1	91	24 - 180
Freon 114	10.0	9.8	98	62 - 147

COMPOUND	SPIKE ADDED (ppbv)	LCSD CONCENTRATION (ppbv)	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	10.0	8.1	81	13	25	61 - 137
Propene	10.0	7.8	78	13	25	63 - 132
Chloromethane	10.0	8.8	88	12	25	55 - 142
Vinyl chloride	10.0	9.2	92	14	25	53 - 148
Bromomethane	10.0	8.6	86	14	25	69 - 130
Chloroethane	10.0	8.7	87	14	25	69 - 131
Trichlorofluoromethane	10.0	8.7	87	11	25	46 - 161
Bromoethene	10.0	8.6	86	10	25	69 - 132
1,1-Dichloroethane	10.0	11	110	8	25	70 - 130
Acetone	10.0	9.5	95	10	25	65 - 130
Methylene chloride	10.0	12	123	5	25	59 - 136
Freon 113	10.0	10	103	8	25	67 - 140
3-Chloropropene	10.0	10	105	7	25	70 - 130
trans-1,2-Dichloroethene	10.0	10	105	7	25	70 - 130
1,1-Dichloroethene	10.0	10	103	9	25	67 - 142
cis-1,2-Dichloroethene	10.0	11	114	6	25	70 - 130
Chloroform	10.0	10	101	9	25	70 - 130
1,2-Dichloroethane	10.0	8.8	88	15	25	70 - 130
1,1,1-Trichloroethane	10.0	9.1	91	9	25	70 - 130
Carbon tetrachloride	10.0	7.5	75	10	25	22 - 166

LCS / LCS DUPLICATE RECOVERY

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Air		
Batch:	1A25023	Laboratory ID:	1A25023-BSD1
Preparation:	NO PREP 2	Initial/Final:	400 mL / 400 mL

COMPOUND	SPIKE ADDED (ppbv)	LCSD CONCENTRATION (ppbv)	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,2-Dichloropropane	10.0	11	113	7	25	70 - 130
Trichloroethene	10.0	11	108	5	25	70 - 130
Bromodichloromethane	10.0	10	100	8	25	70 - 130
cis-1,3-Dichloropropene	10.0	11	113	7	25	70 - 137
trans-1,3-Dichloropropene	10.0	15	146	7	25	59 - 166
1,1,2-Trichloroethane	10.0	11	110	6	25	70 - 134
1,2-Dibromoethane	10.0	11	110	7	25	70 - 141
Tetrachloroethene	10.0	9.8	98	6	25	70 - 141
Dibromochloromethane	10.0	10	103	7	25	70 - 130
Chlorobenzene	10.0	10	100	6	25	70 - 134
Bromoform	10.0	10	103	7	25	62 - 149
1,1,2,2-Tetrachloroethane	10.0	11	111	7	25	52 - 163
1,3-Dichlorobenzene	10.0	9.1	91	7	25	47 - 178
1,4-Dichlorobenzene	10.0	8.5	85	8	25	45 - 180
1,2-Dichlorobenzene	10.0	9.5	95	7	25	37 - 180
Hexachlorobutadiene	10.0	8.5	85	7	25	24 - 180
Freon 114	10.0	8.8	88	11	25	62 - 147

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64317
Instrument: OVGCMS7
Matrix: Air
Calibration: 2101005

Surrogate Compound	Spike Level ppbv	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA64317-SCV1)			Lab File ID: 207LZ017.D		Analyzed: 12/31/20 23:23			
4-Bromofluorobenzene	31.0	101	0 - 200	17.33	17.33	0.0000	+/-1.0	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64633
Instrument: OVGCMS7
Matrix: Air
Calibration: 2101005

Surrogate Compound	Spike Level ppbv	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA64633-CCV1)			Lab File ID: 217AS004.D		Analyzed: 01/24/21 21:16			
4-Bromofluorobenzene	31.0	101	0 - 200	17.32	17.33	-0.0100	+/-1.0	
Instrument RL Check (AA64633-CRL1)			Lab File ID: 217AS005.D		Analyzed: 01/24/21 21:55			
4-Bromofluorobenzene	31.0	91	0 - 200	17.32	17.33	-0.0100	+/-1.0	
LCS (1A25023-BS1)			Lab File ID: 217AS006.D		Analyzed: 01/24/21 22:34			
4-Bromofluorobenzene	31.0	102	70 - 130	17.32	17.33	-0.0100	+/-1.0	
LCS Dup (1A25023-BSD1)			Lab File ID: 217AS007.D		Analyzed: 01/24/21 23:13			
4-Bromofluorobenzene	31.0	100	70 - 130	17.32	17.33	-0.0100	+/-1.0	
Blank (1A25023-BLK1)			Lab File ID: 217AS009.D		Analyzed: 01/25/21 00:37			
4-Bromofluorobenzene	31.0	87	70 - 130	17.32	17.33	-0.0100	+/-1.0	
CRCA-VMP01-20210120 (AE00066-13RE1)			Lab File ID: 217AS012.D		Analyzed: 01/25/21 10:36			
4-Bromofluorobenzene	31.0	90	70 - 130	17.32	17.33	-0.0100	+/-1.0	
CRCA-VMP02-20210120 (AE00066-14)			Lab File ID: 217AS013.D		Analyzed: 01/25/21 11:18			
4-Bromofluorobenzene	31.0	87	70 - 130	17.33	17.33	0.0000	+/-1.0	
CRCA-SYSAIR-20210120 (AE00066-17)			Lab File ID: 217AS016.D		Analyzed: 01/25/21 13:21			
4-Bromofluorobenzene	31.0	89	70 - 130	17.33	17.33	0.0000	+/-1.0	
CRCA-VMP03-20210120 (AE00066-15RE1)			Lab File ID: 217AS017.D		Analyzed: 01/25/21 14:06			
4-Bromofluorobenzene	31.0	88	70 - 130	17.33	17.33	0.0000	+/-1.0	
CRCA-VMP04-20210120 (AE00066-16RE1)			Lab File ID: 217AS018.D		Analyzed: 01/25/21 14:47			
4-Bromofluorobenzene	31.0	89	70 - 130	17.33	17.33	0.0000	+/-1.0	

INTERNAL STANDARD AREA AND RT SUMMARY
TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA64317
Instrument: OVGCMS7
Matrix: Air
Calibration: 2101005

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA64317-CAL1)			Lab File ID: 207LZ005.D			Analyzed: 12/31/20 15:30			
Bromochloromethane	373148	10.99	368179	11	101	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1252006	12.49	1236730	12.5	101	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	940921	15.9	944742	15.9	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64317-CAL2)			Lab File ID: 207LZ006.D			Analyzed: 12/31/20 16:10			
Bromochloromethane	374682	10.99	368179	11	102	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1271464	12.49	1236730	12.5	103	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	980132	15.9	944742	15.9	104	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64317-CAL3)			Lab File ID: 207LZ007.D			Analyzed: 12/31/20 16:48			
Bromochloromethane	375020	10.99	368179	11	102	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1254271	12.49	1236730	12.5	101	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	928803	15.9	944742	15.9	98	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64317-CAL4)			Lab File ID: 207LZ008.D			Analyzed: 12/31/20 17:27			
Bromochloromethane	356879	10.98	368179	11	97	60 - 140	-0.0200	+/-0.50	
1,4-Difluorobenzene	1194813	12.49	1236730	12.5	97	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	889493	15.9	944742	15.9	94	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64317-CAL5)			Lab File ID: 207LZ009.D			Analyzed: 12/31/20 18:08			
Bromochloromethane	359052	10.99	368179	11	98	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1218151	12.49	1236730	12.5	98	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	912184	15.9	944742	15.9	97	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64317-CAL6)			Lab File ID: 207LZ010.D			Analyzed: 12/31/20 18:46			
Bromochloromethane	364591	10.99	368179	11	99	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1225340	12.49	1236730	12.5	99	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	929328	15.9	944742	15.9	98	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64317-CAL7)			Lab File ID: 207LZ011.D			Analyzed: 12/31/20 19:25			
Bromochloromethane	368179	11	368179	11	100	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	1236730	12.5	1236730	12.5	100	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	944742	15.9	944742	15.9	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64317-CAL8)			Lab File ID: 207LZ012.D			Analyzed: 12/31/20 20:06			
Bromochloromethane	377607	11	368179	11	103	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	1273648	12.5	1236730	12.5	103	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	978882	15.9	944742	15.9	104	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64317-CAL9)			Lab File ID: 207LZ013.D			Analyzed: 12/31/20 20:51			
Bromochloromethane	394710	11	368179	11	107	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	1251209	12.5	1236730	12.5	101	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	933690	15.9	944742	15.9	99	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA64317
Instrument: OVGCMS7
Matrix: Air
Calibration: 2101005

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA64317-SCV1)			Lab File ID: 207LZ017.D			Analyzed: 12/31/20 23:23			
Bromochloromethane	376726	10.99	368179	11	102	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1252079	12.5	1236730	12.5	101	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	969254	15.89	944742	15.9	103	50 - 200	-0.0100	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64633
Instrument: OVGCMS7
Matrix: Air
Calibration: 2101005

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA64633-CCV1)			Lab File ID: 217AS004.D			Analyzed: 01/24/21 21:16			
Bromochloromethane	392339	10.99	368179	11	107	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1301381	12.49	1236730	12.5	105	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	987702	15.89	944742	15.9	105	50 - 200	-0.0100	+/-0.50	
Instrument RL Check (AA64633-CRL1)			Lab File ID: 217AS005.D			Analyzed: 01/24/21 21:55			
Bromochloromethane	403704	10.98	368179	11	110	60 - 140	-0.0200	+/-0.50	
1,4-Difluorobenzene	1353586	12.49	1236730	12.5	109	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	996591	15.89	944742	15.9	105	50 - 200	-0.0100	+/-0.50	
LCS (1A25023-BS1)			Lab File ID: 217AS006.D			Analyzed: 01/24/21 22:34			
Bromochloromethane	390017	10.99	368179	11	106	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1295134	12.49	1236730	12.5	105	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	976746	15.89	944742	15.9	103	50 - 200	-0.0100	+/-0.50	
LCS Dup (1A25023-BSD1)			Lab File ID: 217AS007.D			Analyzed: 01/24/21 23:13			
Bromochloromethane	408298	10.99	368179	11	111	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1353473	12.49	1236730	12.5	109	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	1023882	15.89	944742	15.9	108	50 - 200	-0.0100	+/-0.50	
Blank (1A25023-BLK1)			Lab File ID: 217AS009.D			Analyzed: 01/25/21 00:37			
Bromochloromethane	396636	10.99	368179	11	108	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1324496	12.49	1236730	12.5	107	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	957252	15.89	944742	15.9	101	50 - 200	-0.0100	+/-0.50	
CRCA-VMP01-20210120 (AE00066-13RE1)			Lab File ID: 217AS012.D			Analyzed: 01/25/21 10:36			
Bromochloromethane	394787	10.98	368179	11	107	60 - 140	-0.0200	+/-0.50	
1,4-Difluorobenzene	1326946	12.49	1236730	12.5	107	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	966269	15.89	944742	15.9	102	50 - 200	-0.0100	+/-0.50	
CRCA-VMP02-20210120 (AE00066-14)			Lab File ID: 217AS013.D			Analyzed: 01/25/21 11:18			
Bromochloromethane	376564	10.98	368179	11	102	60 - 140	-0.0200	+/-0.50	
1,4-Difluorobenzene	1276814	12.49	1236730	12.5	103	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	910527	15.89	944742	15.9	96	50 - 200	-0.0100	+/-0.50	
CRCA-SYSAIR-20210120 (AE00066-17)			Lab File ID: 217AS016.D			Analyzed: 01/25/21 13:21			
Bromochloromethane	379518	10.99	368179	11	103	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1282254	12.49	1236730	12.5	104	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	929975	15.9	944742	15.9	98	50 - 200	0.0000	+/-0.50	
CRCA-VMP03-20210120 (AE00066-15RE1)			Lab File ID: 217AS017.D			Analyzed: 01/25/21 14:06			
Bromochloromethane	374110	10.99	368179	11	102	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1263633	12.5	1236730	12.5	102	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	911241	15.9	944742	15.9	96	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA64633
Instrument: OVGCMS7
Matrix: Air
Calibration: 2101005

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
CRCA-VMP04-20210120 (AE00066-16RE1)			Lab File ID: 217AS018.D			Analyzed: 01/25/21 14:47			
Bromochloromethane	405636	10.99	368179	11	110	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1356274	12.49	1236730	12.5	110	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	989168	15.9	944742	15.9	105	50 - 200	0.0000	+/-0.50	

ANALYSIS BATCH (SEQUENCE) SUMMARY

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64317		
Calibration:	2101005	Instrument:	OVGCMS7

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA64317-TUN1	207LZ003.D	12/31/20 11:50
Cal Standard	AA64317-CAL1	207LZ005.D	12/31/20 15:30
Cal Standard	AA64317-CAL2	207LZ006.D	12/31/20 16:10
Cal Standard	AA64317-CAL3	207LZ007.D	12/31/20 16:48
Cal Standard	AA64317-CAL4	207LZ008.D	12/31/20 17:27
Cal Standard	AA64317-CAL5	207LZ009.D	12/31/20 18:08
Cal Standard	AA64317-CAL6	207LZ010.D	12/31/20 18:46
Cal Standard	AA64317-CAL7	207LZ011.D	12/31/20 19:25
Cal Standard	AA64317-CAL8	207LZ012.D	12/31/20 20:06
Cal Standard	AA64317-CAL9	207LZ013.D	12/31/20 20:51
Secondary Cal Check	AA64317-SCV1	207LZ017.D	12/31/20 23:23

ANALYSIS BATCH (SEQUENCE) SUMMARY

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64633		
Calibration:	2101005	Instrument:	OVGCMS7

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA64633-TUN1	217AS003.D	01/24/21 20:13
Calibration Check	AA64633-CCV1	217AS004.D	01/24/21 21:16
Instrument RL Check	AA64633-CRL1	217AS005.D	01/24/21 21:55
LCS	1A25023-BS1	217AS006.D	01/24/21 22:34
LCS Dup	1A25023-BSD1	217AS007.D	01/24/21 23:13
Blank	1A25023-BLK1	217AS009.D	01/25/21 00:37
CRCA-VMP01-20210120	AE00066-13RE1	217AS012.D	01/25/21 10:36
CRCA-VMP02-20210120	AE00066-14	217AS013.D	01/25/21 11:18
CRCA-SYSAIR-20210120	AE00066-17	217AS016.D	01/25/21 13:21
CRCA-VMP03-20210120	AE00066-15RE1	217AS017.D	01/25/21 14:06
CRCA-VMP04-20210120	AE00066-16RE1	217AS018.D	01/25/21 14:47

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	207LZ003.D	Injection Date:	12/31/20
Instrument ID:	OVGCMS7	Injection Time:	11:50
Sequence:	AA64317	Lab Sample ID:	AA64317-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8 - 40% of 95	25.8	PASS
75	30 - 66% of 95	47.4	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.65	PASS
173	Less than 2% of 174	0	PASS
174	50 - 120% of 95	72	PASS
175	4 - 9% of 174	5.68	PASS
176	95 - 101% of 174	99.9	PASS
177	5 - 9% of 176	6.72	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	217AS003.D	Injection Date:	01/24/21
Instrument ID:	OVGCMS7	Injection Time:	20:13
Sequence:	AA64633	Lab Sample ID:	AA64633-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8 - 40% of 95	24.3	PASS
75	30 - 66% of 95	44.1	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.79	PASS
173	Less than 2% of 174	0	PASS
174	50 - 120% of 95	70.2	PASS
175	4 - 9% of 174	5.38	PASS
176	95 - 101% of 174	101	PASS
177	5 - 9% of 176	6.55	PASS

CONTINUING CALIBRATION CHECK

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS7	Calibration:	2101005
Lab File ID:	217AS004.D	Calibration Date:	12/31/20 11:50
Sequence:	AA64633	Injection Date:	01/24/21
Lab Sample ID:	AA64633-CCV1	Injection Time:	21:16

		CONC. (ppbv)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Dichlorodifluoromethane	A	10.0	9.4	5.909758	5.571931		-5.7	30
Propene	A	10.0	9.7	3.46891	3.347509		-3.5	30
Chloromethane	A	10.0	11	3.270463	3.477462		6.3	30
Vinyl chloride	A	10.0	11	2.909119	3.098262		6.5	30
Bromomethane	A	10.0	8.7	2.155586	1.86725		-13	30
Chloroethane	A	10.0	9.1	1.196796	1.084687		-9.4	30
Trichlorofluoromethane	A	10.0	8.8	3.437972	3.024969		-12	30
Bromoethene	A	10.0	9.0	1.796391	1.62381		-9.6	30
1,1-Dichloroethane	A	10.0	10	4.245974	4.44449		4.7	30
Acetone	A	10.0	10	5.226221	5.376271		2.9	30
Methylene chloride	A	10.0	11	1.858963	2.116016		14	30
Freon 113	A	10.0	9.8	2.911353	2.848145		-2.2	30
3-Chloropropene	A	10.0	11	4.465711	4.794069		7.4	30
trans-1,2-Dichloroethene	A	10.0	11	3.501546	3.714652		6.1	30
1,1-Dichloroethene	A	10.0	10	4.047849	4.131448		2.1	30
cis-1,2-Dichloroethene	A	10.0	11	2.164079	2.307536		6.6	30
Chloroform	A	10.0	9.8	4.470508	4.388644		-1.8	30
1,2-Dichloroethane	A	10.0	9.1	3.063206	2.785582		-9.1	30
1,1,1-Trichloroethane	A	10.0	9.0	3.961147	3.564211		-10	30
Carbon tetrachloride	A	10.0	8.6	3.970871	3.432433		-14	30
1,2-Dichloropropane	A	10.0	11	0.7791529	0.8254162		5.9	30
Trichloroethene	A	10.0	10	0.7646966	0.7661047		0.20	30
Bromodichloromethane	A	10.0	10	1.331697	1.373903		3.2	30
cis-1,3-Dichloropropene	A	10.0	10	1.13546	1.14883		1.2	30
trans-1,3-Dichloropropene	A	10.0	11	0.7768079	0.702079		6.6	30
1,1,2-Trichloroethane	A	10.0	10	0.6845185	0.700483		2.3	30
1,2-Dibromoethane	A	10.0	10	1.077347	1.086352		0.80	30
Tetrachloroethene	A	10.0	9.4	0.9008099	0.8440822		-6.3	30
Dibromochloromethane	A	10.0	10	0.9321549	0.9778625		4.9	30

CONTINUING CALIBRATION CHECK

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS7	Calibration:	2101005
Lab File ID:	217AS004.D	Calibration Date:	12/31/20 11:50
Sequence:	AA64633	Injection Date:	01/24/21
Lab Sample ID:	AA64633-CCV1	Injection Time:	21:16

		CONC. (ppbv)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Chlorobenzene	A	10.0	9.5	1.827847	1.731006		-5.3	30
Bromoform	A	10.0	11	1.163951	1.236068		6.2	30
1,1,2,2-Tetrachloroethane	A	10.0	10	1.719508	1.543626		-0.2	30
1,3-Dichlorobenzene	A	10.0	8.6	1.111419	0.9707873		-14	30
1,4-Dichlorobenzene	A	10.0	8.1	0.9386015	0.8564639		-19	30
1,2-Dichlorobenzene	A	10.0	9.3	1.129182	0.9221265		-7.5	30
Hexachlorobutadiene	A	10.0	10	1.190627	0.3855925		0.50	30
Freon 114	A	10.0	9.7	3.615481	3.499855		-3.2	30

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64317
Instrument: OVGCMS7

Calibration: 2101005

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A0L0713	Air- VIRTUAL TUN-121120	AA64317-TUN1	207LZ003.D	12/31/20 11:50
A0L1267	Air- Virtual CAL1 123120	AA64317-CAL1	207LZ005.D	12/31/20 15:30
A0L1268	Air- Virtual CAL2 123120	AA64317-CAL2	207LZ006.D	12/31/20 16:10
A0L1269	Air- Virtual CAL3 123120	AA64317-CAL3	207LZ007.D	12/31/20 16:48
A0L1270	Air- Virtual CAL4 123120	AA64317-CAL4	207LZ008.D	12/31/20 17:27
A0L1271	Air- Virtual CAL5 123120	AA64317-CAL5	207LZ009.D	12/31/20 18:08
A0L1272	Air- Virtual CAL6 123120	AA64317-CAL6	207LZ010.D	12/31/20 18:46
A0L1273	Air- Virtual CAL7 123120	AA64317-CAL7	207LZ011.D	12/31/20 19:25
A0L1274	Air- Virtual CAL8 123120	AA64317-CAL8	207LZ012.D	12/31/20 20:06
A0L1275	Air- Virtual CAL9 123120	AA64317-CAL9	207LZ013.D	12/31/20 20:51
A0L1276	Air- Virtual SCV 123120	AA64317-SCV1	207LZ017.D	12/31/20 23:23

INITIAL CALIBRATION DATA

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101005
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 12/31/20 11:50

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF
Dichlorodifluoromethane	0.125	6.880101	0.25	6.46307	0.5	6.55892	1.25	6.475759	2.5	6.347673	5	5.180784
Propene	0.125	5.166722	0.25	3.918085	0.5	3.628708	1.25	3.34844	2.5	3.259381	5	2.6502
Chloromethane	0.125	3.432075	0.25	3.317085	0.5	3.377745	1.25	3.392706	2.5	3.422284	5	2.898886
Vinyl chloride	0.125	2.926303	0.25	2.910351	0.5	3.025108	1.25	2.903209	2.5	3.127041	5	2.606207
Bromomethane	0.125	2.69701	0.25	2.348071	0.5	2.223615	1.25	2.279177	2.5	2.168719	5	1.855863
Chloroethane	0.125	1.403004	0.25	1.301616	0.5	1.248861	1.25	1.252373	2.5	1.208704	5	1.008265
Trichlorofluoromethane	0.125	3.751755	0.25	3.61229	0.5	3.714842	1.25	3.731129	2.5	3.656952	5	3.000595
Bromoethene	0.125	1.847632	0.25	1.915523	0.5	1.893627	1.25	1.921505	2.5	1.90031	5	1.566176
1,1-Dichloroethane	0.125	4.587842	0.25	4.427082	0.5	4.502117	1.25	4.411519	2.5	4.354947	5	3.613587
Acetone	0.125	~~8.840053~~	0.25	~~7.938764~~	0.5	~~6.312917~~	1.25	5.890989	2.5	5.909937	5	4.526588
Methylene chloride	0.125	~~2.279632~~	0.25	~~2.149503~~	0.5	~~2.038782~~	1.25	2.007813	2.5	1.956844	5	1.620185
Freon 113	0.125	3.213417	0.25	3.054313	0.5	3.068258	1.25	3.065888	2.5	3.041704	5	2.441884
3-Chloropropene	0.125	5.221221	0.25	4.37744	0.5	4.685462	1.25	4.571835	2.5	4.473334	5	3.74963
trans-1,2-Dichloroethene	0.125	3.659374	0.25	3.577871	0.5	3.722116	1.25	3.652743	2.5	3.616235	5	3.033875
1,1-Dichloroethene	0.125	4.333294	0.25	4.132208	0.5	4.270663	1.25	4.268089	2.5	4.245297	5	3.504379
cis-1,2-Dichloroethene	0.125	2.361379	0.25	2.314645	0.5	2.269906	1.25	2.200582	2.5	2.184674	5	1.812244
Chloroform	0.125	4.986611	0.25	4.827528	0.5	4.756221	1.25	4.724647	2.5	4.634925	5	3.852189
1,2-Dichloroethane	0.125	3.45866	0.25	3.277702	0.5	3.270615	1.25	3.26241	2.5	3.196526	5	2.67297
1,1,1-Trichloroethane	0.125	4.546636	0.25	4.35659	0.5	4.310341	1.25	4.287824	2.5	4.185724	5	3.398078
Carbon tetrachloride	0.125	4.508753	0.25	4.30066	0.5	4.37085	1.25	4.338066	2.5	4.300139	5	3.453023
1,2-Dichloropropane	0.125	0.9056314	0.25	0.8308186	0.5	0.8147235	1.25	0.7831177	2.5	0.7741099	5	0.641737
Trichloroethene	0.125	0.9135547	0.25	0.7955145	0.5	0.7908482	1.25	0.7879539	2.5	0.7603373	5	0.6314858
Bromodichloromethane	0.125	1.390735	0.25	1.32732	0.5	1.384071	1.25	1.385696	2.5	1.37739	5	1.201869
cis-1,3-Dichloropropene	0.125	1.466798	0.25	1.270073	0.5	1.169293	1.25	1.11879	2.5	1.066899	5	0.919683
trans-1,3-Dichloropropene	0.125	1.149074	0.25	0.9235653	0.5	0.7734485	1.25	0.7374121	2.5	0.6990371	5	0.6082157
1,1,2-Trichloroethane	0.125	0.885229	0.25	0.7505553	0.5	0.6969291	1.25	0.6704728	2.5	0.6593885	5	0.5529321
1,2-Dibromoethane	0.125	1.449169	0.25	1.184933	0.5	1.064449	1.25	1.038214	2.5	1.002301	5	0.8779901
Tetrachloroethene	0.125	1.237815	0.25	1.017385	0.5	0.9396853	1.25	0.911662	2.5	0.8898493	5	0.7195064
Dibromochloromethane	0.125	0.9973435	0.25	0.9393644	0.5	0.9030074	1.25	0.9199645	2.5	0.916509	5	0.8581506
Chlorobenzene	0.125	2.647576	0.25	2.210825	0.5	1.867804	1.25	1.779592	2.5	1.705377	5	1.433636
Bromoform	0.125	1.313904	0.25	1.153171	0.5	1.082994	1.25	1.047519	2.5	1.04506	5	1.073963

INITIAL CALIBRATION DATA

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101005
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 12/31/20 11:50

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF
1,1,2,2-Tetrachloroethane	0.125	3.355793	0.25	2.357707	0.5	1.595921	1.25	1.338458	2.5	1.238526	5	1.221836
1,3-Dichlorobenzene	0.125	2.246947	0.25	1.556876	0.5	0.9183153	1.25	0.7635226	2.5	0.7169343	5	0.7228623
1,4-Dichlorobenzene	0.125	1.798349	0.25	1.290312	0.5	0.7310743	1.25	0.6060504	2.5	0.5870324	5	0.6175462
1,2-Dichlorobenzene	0.125	2.594862	0.25	1.748544	0.5	0.9581666	1.25	0.7459296	2.5	0.6719118	5	0.6888911
Hexachlorobutadiene	0.125	4.434064	0.25	2.65514	0.5	1.091672	1.25	0.6082809	2.5	0.4176	5	0.3728628
4-Bromofluorobenzene	31	0.3913357	31	0.4006491	31	0.3970659	31	0.399884	31	0.4068192	31	0.4208729
Freon 114	0.125	3.779669	0.25	3.607326	0.5	3.76725	1.25	3.744958	2.5	3.889755	5	3.26996

INITIAL CALIBRATION DATA (Continued)

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101005
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 12/31/20 11:50

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF
Dichlorodifluoromethane	10	5.615951	25	5.419369	50	4.246195						
Propene	10	3.008182	25	3.11672	50	3.123749						
Chloromethane	10	3.169506	25	3.251157	50	3.172724						
Vinyl chloride	10	2.853906	25	2.959224	50	2.87072						
Bromomethane	10	1.930807	25	1.977297	50	1.919713						
Chloroethane	10	1.110843	25	1.128034	50	1.109461						
Trichlorofluoromethane	10	3.233858	25	3.218693	50	3.021634						
Bromoethene	10	1.699582	25	1.741409	50	1.681756						
1,1-Dichloroethane	10	3.96112	25	4.132328	50	4.223222						
Acetone	10	4.897522	25	5.085341	50	5.046947						
Methylene chloride	10	1.776514	25	1.866688	50	1.925732						
Freon 113	10	2.707914	25	2.85663	50	2.752168						
3-Chloropropene	10	4.19237	25	4.433256	50	4.486855						
trans-1,2-Dichloroethene	10	3.33264	25	3.467828	50	3.451228						
1,1-Dichloroethene	10	3.862532	25	3.935975	50	3.878202						
cis-1,2-Dichloroethene	10	2.030001	25	2.119635	50	2.183642						
Chloroform	10	4.155904	25	4.228046	50	4.068504						
1,2-Dichloroethane	10	2.910748	25	2.902288	50	2.616938						
1,1,1-Trichloroethane	10	3.669862	25	3.606957	50	3.288307						
Carbon tetrachloride	10	3.694978	25	3.61008	50	3.16129						
1,2-Dichloropropane	10	0.7108671	25	0.7490648	50	0.8023065						
Trichloroethene	10	0.7060494	25	0.7406131	50	0.7559124						
Bromodichloromethane	10	1.303312	25	1.315934	50	1.298943						
cis-1,3-Dichloropropene	10	1.008858	25	1.070744	50	1.128002						
trans-1,3-Dichloropropene	10	0.6649786	25	0.658732	50	~~0.6284878~~						
1,1,2-Trichloroethane	10	0.6177992	25	0.6484286	50	0.6789318						
1,2-Dibromoethane	10	0.9720885	25	1.032365	50	1.074613						
Tetrachloroethene	10	0.8026817	25	0.8236732	50	0.7650315						
Dibromochloromethane	10	0.9408311	25	0.9708301	50	0.9433932						
Chlorobenzene	10	1.587282	25	1.631059	50	1.587469						
Bromoform	10	1.206311	25	1.275365	50	1.277273						

INITIAL CALIBRATION DATA (Continued)

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101005
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 12/31/20 11:50

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF
1,1,2,2-Tetrachloroethane	10	1.334683	25	1.448604	50	1.584043						
1,3-Dichlorobenzene	10	0.8604144	25	1.050722	50	1.166179						
1,4-Dichlorobenzene	10	0.7563342	25	0.9658522	50	1.094863						
1,2-Dichlorobenzene	10	0.7972424	25	0.9320236	50	1.025071						
Hexachlorobutadiene	10	0.3747693	25	0.3752485	50	0.3860044						
4-Bromofluorobenzene	31	0.4342106	31	0.4570122	31	0.5070762						
Freon 114	10	3.553778	25	3.567669	50	3.358967						

INITIAL CALIBRATION DATA (Continued)

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101005
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 12/31/20 11:50

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	5.909758	14.41643	4.554445	0.3657128			30	
Propene	3.46891	21.11997	4.434444	0.4079925			30	
Chloromethane	3.270463	5.251503	5.056667	0.3954954			30	
Vinyl chloride	2.909119	4.862303	5.304445	0.3416295			30	
Bromomethane	2.155586	12.47015	6.132222	0.2415321			30	
Chloroethane	1.196796	10.00664	6.456667	0.1737744			30	
Trichlorofluoromethane	3.437972	9.162249	6.782222	0.1918591			30	
Bromoethene	1.796391	7.130515	6.71	0.2358246			30	
1,1-Dichloroethane	4.245974	7.206655	10.02	6.831281E-02			30	
Acetone	5.226221	10.68406	8.961667	4.651208E-02			30	
Methylene chloride	1.858963	7.610124	8.843334	9.214839E-02			30	
Freon 113	2.911353	8.301482	7.925556	0.1285941			30	
3-Chloropropene	4.465711	8.770412	8.683333	0.1404623			30	
trans-1,2-Dichloroethene	3.501546	6.111153	9.106667	0.1230645			30	
1,1-Dichloroethene	4.047849	6.747121	7.827778	0.1533387			30	
cis-1,2-Dichloroethene	2.164079	7.639813	10.73333	4.565553E-02			30	
Chloroform	4.470508	8.908179	11.06333	4.393534E-02			30	
1,2-Dichloroethane	3.063206	9.680406	12.04222	3.036601E-02			30	
1,1,1-Trichloroethane	3.961147	11.8354	11.35778	5.881745E-02			30	
Carbon tetrachloride	3.970871	12.37318	11.27333	4.399863E-02			30	
1,2-Dichloropropane	0.7791529	9.621557	13.10111	3.082214E-02			30	
Trichloroethene	0.7646966	9.937085	12.48222	2.837714E-02			30	
Bromodichloromethane	1.331697	4.616314	13.14222	3.087056E-02			30	
cis-1,3-Dichloropropene	1.13546	13.95501	13.86556	3.722169E-02			30	
trans-1,3-Dichloropropene	0.7768079	22.95632	14.59	8.747303E-03	0.9995491		0.99	
1,1,2-Trichloroethane	0.6845185	13.54061	14.78889	1.842179E-02			30	
1,2-Dibromoethane	1.077347	15.03899	15.33111	1.893985E-02			30	
Tetrachloroethene	0.9008099	17.36702	14.60556	3.242749E-02			30	
Dibromochloromethane	0.9321549	4.277446	15.01222	3.204912E-02			30	
Chlorobenzene	1.827847	20.71857	15.92111	0.0130558			30	

INITIAL CALIBRATION DATA (Continued)

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101005
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 12/31/20 11:50

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Bromoform	1.163951	9.213024	16.72222	2.792253E-02			30	
1,1,2,2-Tetrachloroethane	1.719508	40.93741	17.51778	1.861973E-02	0.9968896		0.99	
1,3-Dichlorobenzene	1.111419	45.2394	18.63222	2.725701E-02	0.9934773		0.99	
1,4-Dichlorobenzene	0.9386015	42.97438	18.74	2.050293E-03	0.9909597		0.99	
1,2-Dichlorobenzene	1.129182	56.6263	19.29	1.680822E-02	0.9949822		0.99	
Hexachlorobutadiene	1.190627	119.732	21.13	8.897437E-03	0.9973281		0.99	
4-Bromofluorobenzene	0.4238806	8.874238	17.33	1.878086E-02			30	
Freon 114	3.615481	5.645776	4.94	0.3921453			30	

SECOND-SOURCE CALIBRATION VERIFICATION

TO-15

Laboratory: ENCO Orlando **SDG:** AE00066-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2101005 **Laboratory ID:** AA64317-SCV1

Sequence: AA64317 **Standard ID:** A0L1276

ANALYTE	EXPECTED (ppbv)	FOUND (ppbv)	% DRIFT	QC LIMIT
Dibromochloromethane	10.0	11	11.4	30.00
Chloroform	10.0	11	6.9	30.00
Acetone	10.0	10	0.4	30.00
Bromoethene	10.0	10	2.6	30.00
Carbon tetrachloride	10.0	11	5.1	30.00
1,3-Dichlorobenzene	10.0	8.9	-11.5	30.00
trans-1,2-Dichloroethene	10.0	10	4.1	30.00
cis-1,3-Dichloropropene	10.0	11	11.9	30.00
Tetrachloroethene	10.0	10	3.3	30.00
Chloromethane	10.0	9.8	-1.6	30.00
Propene	10.0	8.7	-12.7	30.00
Chlorobenzene	10.0	10	-0.08	30.00
1,2-Dichloroethane	10.0	11	9.4	30.00
3-Chloropropene	10.0	10	0.4	30.00
1,2-Dibromoethane	10.0	11	8.8	30.00
1,4-Dichlorobenzene	10.0	8.4	-16.4	30.00
trans-1,3-Dichloropropene	10.0	15	54.4 *	30.00
cis-1,2-Dichloroethene	10.0	11	6.7	30.00
1,1-Dichloroethene	10.0	11	8.3	30.00
Hexachlorobutadiene	10.0	11	6.7	30.00
1,1,2,2-Tetrachloroethane	10.0	10	3.9	30.00
Trichloroethene	10.0	11	6.9	30.00
1,1,2-Trichloroethane	10.0	11	5.9	30.00
1,2-Dichloropropane	10.0	11	5.9	30.00
Freon 114	10.0	10	4.0	30.00
Freon 113	10.0	11	6.3	30.00
1,1,1-Trichloroethane	10.0	11	7.1	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

TO-15

Laboratory: ENCO Orlando **SDG:** AE00066-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2101005 **Laboratory ID:** AA64317-SCV1

Sequence: AA64317 **Standard ID:** A0L1276

ANALYTE	EXPECTED (ppbv)	FOUND (ppbv)	% DRIFT	QC LIMIT
Trichlorofluoromethane	10.0	11	8.5	30.00
Bromomethane	10.0	11	6.2	30.00
1,1-Dichloroethane	10.0	11	6.8	30.00
Bromodichloromethane	10.0	11	8.4	30.00
Bromoform	10.0	11	13.1	30.00
Methylene chloride	10.0	11	9.5	30.00
Vinyl chloride	10.0	10	2.5	30.00
Chloroethane	10.0	10	2.4	30.00
1,2-Dichlorobenzene	10.0	9.5	-4.8	30.00
Dichlorodifluoromethane	10.0	11	10.2	30.00

* Values outside of QC limits

ENCO Orlando

SDG: AE00066-TE016

CLASS: 06_VOA_AIR_RSK

METHOD: RSK 175

ANALYSES DATA PACKAGE COVER PAGE

RSK 175

Laboratory: ENCO Orlando

SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-MW0031-058.0-20210120	AE00066-09
CRCA-MW0018-058.0-20210120	AE00066-11
CRCA-MW0018-058.0-20210120	AE00066-11RE1
CRCA-MW0019-058.0-20210120	AE00066-12

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0031-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE00066-09
File ID: 21AU009.D
Sampled: 01/20/21 12:15
Prepared: 01/26/21 00:00
Analyzed: 01/26/21 11:20
Solids:
Preparation: Same
Initial/Final: 1 mL / 1 mL
Batch: 1A26006
Sequence: AA64653
Calibration: 2006012
Instrument: OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-82-8	Methane	1	0.152		0.00400	0.00500
74-85-1	Ethene	1	0.00510	U	0.00510	0.00600
74-84-0	Ethane	1	0.00510	U	0.00510	0.00600

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0018-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE00066-11
File ID: 21AU010.D
Sampled: 01/20/21 14:00
Prepared: 01/26/21 00:00
Analyzed: 01/26/21 11:36
Solids:
Preparation: Same
Initial/Final: 1 mL / 1 mL
Batch: 1A26006
Sequence: AA64653
Calibration: 2006012
Instrument: OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-85-1	Ethene	1	0.0216		0.00510	0.00600
74-84-0	Ethane	1	0.00510	U	0.00510	0.00600

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0018-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE00066-11RE1
File ID: 21AU012.D
Sampled: 01/20/21 14:00
Prepared: 01/26/21 00:00
Analyzed: 01/26/21 12:16
Solids:
Preparation: Same
Initial/Final: 1 mL / 1 mL
Batch: 1A26006
Sequence: AA64653
Calibration: 2006012
Instrument: OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-82-8	Methane	10	2.09	D	0.0400	0.0500

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0019-058.0-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-12 File ID: 21AU011.D

Sampled: 01/20/21 16:00 Prepared: 01/26/21 00:00 Analyzed: 01/26/21 11:52

Solids: Preparation: Same Initial/Final: 1 mL / 1 mL

Batch: 1A26006 Sequence: AA64653 Calibration: 2006012 Instrument: OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-82-8	Methane	1	0.510		0.00400	0.00500
74-85-1	Ethene	1	0.00510	U	0.00510	0.00600
74-84-0	Ethane	1	0.00510	U	0.00510	0.00600

* Values outside of QC limits

HOLDING TIME SUMMARY

RSK 175

Laboratory: ENCO Orlando

SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-MW0031-058.0-20210120	01/20/21 12:15	01/21/21 15:10	01/26/21 00:00	5.49	NA	01/26/21 11:20	6.00	14.00	
CRCA-MW0018-058.0-20210120	01/20/21 14:00	01/21/21 15:10	01/26/21 00:00	5.42	NA	01/26/21 11:36	6.00	14.00	
CRCA-MW0018-058.0-20210120	01/20/21 14:00	01/21/21 15:10	01/26/21 00:00	5.42	NA	01/26/21 12:16	6.00	14.00	
CRCA-MW0019-058.0-20210120	01/20/21 16:00	01/21/21 15:10	01/26/21 00:00	5.33	NA	01/26/21 11:52	6.00	14.00	

PREPARATION BATCH SUMMARY

RSK 175

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1A26006 Batch Matrix: Water Preparation: Same

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1A26006-BLK1	21AU005.D	01/26/21 00:00	
LCS	1A26006-BS1	21AU003.D	01/26/21 00:00	
LCS Dup	1A26006-BSD1	21AU004.D	01/26/21 00:00	
CRCA-MW0031-058.0-20210120	1A26006-DUP1	21AU013.D	01/26/21 00:00	
CRCA-MW0031-058.0-20210120	AE00066-09	21AU009.D	01/26/21 00:00	
CRCA-MW0018-058.0-20210120	AE00066-11	21AU010.D	01/26/21 00:00	
CRCA-MW0018-058.0-20210120	AE00066-11RE1	21AU012.D	01/26/21 00:00	
CRCA-MW0019-058.0-20210120	AE00066-12	21AU011.D	01/26/21 00:00	

METHOD BLANK DATA SHEET
RSK 175

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1A26006-BLK1	File ID:	21AU005.D
Prepared:	01/26/21 00:00	Preparation:	Same	Initial/Final:	1 mL / 1 mL
Analyzed:	01/26/21 10:17	Instrument:	OVGCFID2		
Batch:	1A26006	Sequence:	AA64653	Calibration:	2006012

CAS NO.	COMPOUND	CONC. (mg/L)	Q
74-82-8	Methane	0.00400	U
74-85-1	Ethene	0.00510	U
74-84-0	Ethane	0.00510	U

LCS / LCS DUPLICATE RECOVERY

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1A26006	Laboratory ID:	1A26006-BS1
Preparation:	Same	Initial/Final:	1 mL / 1 mL

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC. #	QC LIMITS REC.
Methane	0.172	0.187	109	70 - 130
Ethene	0.302	0.348	115	70 - 130
Ethane	0.323	0.395	122	70 - 130

COMPOUND	SPIKE ADDED (mg/L)	LCSD CONCENTRATION (mg/L)	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Methane	0.172	0.192	112	3	30	70 - 130
Ethene	0.302	0.354	117	2	30	70 - 130
Ethane	0.323	0.401	124	1	30	70 - 130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

DUPLICATES

RSK 175

CRCA-MW0031-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Water
Laboratory ID: 1A26006-DUP1
Batch: 1A26006
Lab Source ID: AE00066-09
Preparation: Same
Initial/Final: 1 mL / 1 mL
Source Sample Name: CRCA-MW0031-058.0-20210120
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/L)	C	DUPLICATE CONCENTRATION (mg/L)	C	RPD %	Q	METHOD
Methane	30	0.152		0.442		98	*	RSK 175
Ethene	30	0.000196		ND				RSK 175
Ethane	30	0.000295		ND				RSK 175

* Values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA60736		
Calibration:	2006012	Instrument:	OVGCFID2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	AA60736-CAL8	20F1009.D	06/01/20 12:05
Cal Standard	AA60736-CAL9	20F1010.D	06/01/20 12:21
Cal Standard	AA60736-CALA	20F1011.D	06/01/20 12:37
Cal Standard	AA60736-CALB	20F1012.D	06/01/20 12:53
Cal Standard	AA60736-CALC	20F1013.D	06/01/20 13:09
Cal Standard	AA60736-CALD	20F1014.D	06/01/20 13:25
Cal Standard	AA60736-CALE	20F1015.D	06/01/20 13:40
Secondary Cal Check	AA60736-SCV1	20F1019.D	06/01/20 15:20

ANALYSIS BATCH (SEQUENCE) SUMMARY

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64653		
Calibration:	2006012	Instrument:	OVGCFID2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA64653-CCV2	21AU002.D	01/26/21 08:53
LCS	1A26006-BS1	21AU003.D	01/26/21 09:33
LCS Dup	1A26006-BSD1	21AU004.D	01/26/21 09:54
Blank	1A26006-BLK1	21AU005.D	01/26/21 10:17
CRCA-MW0031-058.0-20210120	AE00066-09	21AU009.D	01/26/21 11:20
CRCA-MW0018-058.0-20210120	AE00066-11	21AU010.D	01/26/21 11:36
CRCA-MW0019-058.0-20210120	AE00066-12	21AU011.D	01/26/21 11:52
CRCA-MW0018-058.0-20210120	AE00066-11RE1	21AU012.D	01/26/21 12:16
CRCA-MW0031-058.0-20210120	1A26006-DUP1	21AU013.D	01/26/21 12:39
Calibration Check	AA64653-CCV3	21AU014.D	01/26/21 12:54

CONTINUING CALIBRATION CHECK

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCFID2	Calibration:	2006012
Lab File ID:	21AU002.D	Calibration Date:	06/01/20 15:24
Sequence:	AA64653	Injection Date:	01/26/21
Lab Sample ID:	AA64653-CCV2	Injection Time:	08:53

		CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Methane	A	0.174	0.194	1.126908E+08	1.255182E+08		11	20	
Ethene	A	0.302	0.354	7.423174E+07	8.694755E+07		17	20	
Ethane	A	0.323	0.402	9.625369E+07	1.197335E+08		24	20	*

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

CONTINUING CALIBRATION CHECK

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCFID2	Calibration:	2006012
Lab File ID:	21AU014.D	Calibration Date:	06/01/20 15:24
Sequence:	AA64653	Injection Date:	01/26/21
Lab Sample ID:	AA64653-CCV3	Injection Time:	12:54

		CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Methane	A	0.174	0.186	1.126908E+08	1.203125E+08		6.8	20
Ethene	A	0.302	0.338	7.423174E+07	8.309354E+07		12	20
Ethane	A	0.323	0.383	9.625369E+07	1.141398E+08		19	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA60736	Instrument:	OVGCFID2
Calibration:	2006012		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A0F0616	RSK175-Cal 1 06/01/2020	AA60736-CAL8	20F1009.D	06/01/20 12:05
A0F0617	RSK175-Cal 2 06/01/2020	AA60736-CAL9	20F1010.D	06/01/20 12:21
A0F0618	RSK175-Cal 3 06/01/2020	AA60736-CALA	20F1011.D	06/01/20 12:37
A0F0619	RSK175-Cal 4 06/01/2020	AA60736-CALB	20F1012.D	06/01/20 12:53
A0F0620	RSK175-Cal 5 06/01/2020	AA60736-CALC	20F1013.D	06/01/20 13:09
A0F0621	RSK175-Cal 6 06/01/2020	AA60736-CALD	20F1014.D	06/01/20 13:25
A0F0622	RSK175-Cal 7 06/01/2020	AA60736-CALE	20F1015.D	06/01/20 13:40
A0E1329	RSK175- SCV/BS water CO2 and MEE	AA60736-SCV1	20F1019.D	06/01/20 15:20

INITIAL CALIBRATION DATA

RSK 175

Laboratory: ENCO Orlando

SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Calibration: 2006012

Instrument: OVGCFID2

Matrix: Water

Calibration Date: 06/01/20 15:24

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Methane												
Ethene												
Ethane												

INITIAL CALIBRATION DATA (Continued)

RSK 175

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2006012
Instrument: OVGCFID2
Matrix: Water
Calibration Date: 06/01/20 15:24

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Methane			0.000869	1.542071E+08	0.00869	1.148276E+08	0.0348	1.096007E+08	0.0869	1.14924E+08	0.174	1.027563E+08
Ethene			0.00151	8.601126E+07	0.0151	7.321662E+07	0.0603	7.770179E+07	0.151	7.66896E+07	0.302	7.178556E+07
Ethane			0.00161	8.453354E+07	0.0161	1.035332E+08	0.0646	1.030982E+08	0.161	1.064607E+08	0.323	9.54717E+07

INITIAL CALIBRATION DATA

RSK 175

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2006012
Instrument: OVGCFID2
Matrix: Water
Calibration Date: 06/01/20 15:24

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Methane	0.348	1.073666E+08	0.695	8.515321E+07								
Ethene	0.603	7.388967E+07	1.21	6.03277E+07								
Ethane	0.646	1.002134E+08	1.29	8.046512E+07								

INITIAL CALIBRATION DATA (Continued)

RSK 175

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2006012
Instrument: OVGCFID2
Matrix: Water
Calibration Date: 06/01/20 15:24

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Methane	1.126908E+08	18.57182	1.965857	4.844227E-02			20	
Ethene	7.423174E+07	10.39554	3.747571	9.783909E-02			20	
Ethane	9.625369E+07	10.44924	4.679286	0.1221713			20	

SECOND-SOURCE CALIBRATION VERIFICATION

RSK 175

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2006012
Laboratory ID: AA60736-SCV1
Sequence: AA60736
Standard ID: A0E1329

ANALYTE	EXPECTED (mg/L)	FOUND (mg/L)	% DRIFT	QC LIMIT
Ethene	0.302	0.300	-0.6	25.00
Ethane	0.323	0.333	3.0	25.00
Methane	0.172	0.167	-2.7	25.00

* Values outside of QC limits

TETRA TECH ISG
TtNUS, Information Systems Group

Completion Ticket

On 2/4/2021 at 1:15 PM the following files were submitted to Tetra Tech by kdylnicki@encolabs.com with ENCO:

TE016AE00066A1.txt, TE016AE00066A3.txt

If you need to identify this session at a later date refer to Ticket Key:

202124_3028038536_ledd_ENCO

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I Lori S. mangrum, as the designated Quality Assurance Officer, hereby attest that all electronic deliverables have been thoroughly reviewed and are in agreement with the associated hardcopy data. The enclosed electronic files have been reviewed for accuracy (including significant figures), completeness and format. The laboratory will be responsible for any labor time necessary to correct enclosed electronic deliverables that have been found to be in error. I can be reached at (407) 826-5314 if there are any questions or problems with the enclosed electronic deliverables.

Signature:_____ Title: Quality Assurance Manager Date: February 10, 2021

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ENCO Laboratories

Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Monday, April 26, 2021
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AE02765

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Friday, April 16, 2021.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

www.encolabs.com

Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Client PM: Alex Murphy
Project Number: 112G08970
ENCO Project ID: AE02765
SDG: AE02765-TE016

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling and processing will be discussed in the Remarks section below.

Remarks

List of instruments used:

Analytical and Preparation Method	SOP Reference Instrument
EPA 8260D / 5030B_MS	OVGCMS2
RSK-175	OVGCFID2

Analysis: EPA 8260D

Manual integrations were performed on samples associated with EPA 8260D. All data & explanations are included in the raw data section of the report.

Affected Samples: CRCA-MW0031-058.0-20210414[AE02765-01], CRCA-MW0018-058.0-20210414[AE02765-02], CRCA-MW0019-058.0-20210414[AE02765-03], CRCA-MW0032-058.0-20210415[AE02765-04], AA66012-CCV1
The associated calibration verification standard for multiple analytes exhibited high bias. Analyte(s) not detected in the sample.

Affected Samples: CRCA-MW0031-058.0-20210414[AE02765-01], 1D21003-MS1, 1D21003-MSD1
Matrix spike recovery was outside acceptance limits for benzene.

Affected Samples: AA66012-CCV1
The continuing calibration verification standard exhibited low bias for 1,2-Dibromo-3-chloropropane; the associated sample had ND (non-detect) results, but sensitivity was verified by analyzing a standard with a concentration equivalent to the reporting limit.

Affected Samples: AA65289-SCV1
Recovery for bromomethane was outside acceptance limits. Analyte was not detected in the samples.

Analysis: RSK-175

Manual integrations were performed on samples associated with RSK-175. All data & explanations are included in the raw data section of the report.

Affected Samples: CRCA-MW0018-058.0-20210414[AE02765-02], CRCA-MW0019-058.0-20210414[AE02765-03]
Samples reanalyzed due to bad injection during initial analysis.

Affected Samples: CRCA-MW0018-058.0-20210414[AE02765-02RE1], CRCA-MW0019-058.0-20210414[AE02765-03RE1]
Result for methane was above the calibration range of the instrument. Sample was reanalyzed at a dilution.

Affected Samples: 1D21038-DUP1
Precision between duplicate samples was outside acceptance limits for methane.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Kaitlin Dylnicki
Project Manager

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-MW0031-058.0-20210414 **Lab ID: AE02765-01** **Sampled: 04/14/21 11:20** **Received: 04/16/21 14:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	04/28/21	04/21/21 00:00	04/21/21 10:53
RSK 175	Same	04/28/21	04/21/21 00:00	04/21/21 13:26

Client ID: CRCA-MW0018-058.0-20210414 **Lab ID: AE02765-02** **Sampled: 04/14/21 12:30** **Received: 04/16/21 14:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	04/28/21	04/21/21 00:00	04/21/21 11:22

Client ID: CRCA-MW0018-058.0-20210414 **Lab ID: AE02765-02RE1** **Sampled: 04/14/21 12:30** **Received: 04/16/21 14:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/28/21	04/21/21 00:00	04/21/21 15:45

Client ID: CRCA-MW0018-058.0-20210414 **Lab ID: AE02765-02RE2** **Sampled: 04/14/21 12:30** **Received: 04/16/21 14:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/28/21	04/21/21 14:27	04/21/21 19:30

Client ID: CRCA-MW0019-058.0-20210414 **Lab ID: AE02765-03** **Sampled: 04/14/21 14:00** **Received: 04/16/21 14:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	04/28/21	04/21/21 00:00	04/21/21 11:50

Client ID: CRCA-MW0019-058.0-20210414 **Lab ID: AE02765-03RE1** **Sampled: 04/14/21 14:00** **Received: 04/16/21 14:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/28/21	04/21/21 00:00	04/21/21 14:45

Client ID: CRCA-MW0019-058.0-20210414 **Lab ID: AE02765-03RE2** **Sampled: 04/14/21 14:00** **Received: 04/16/21 14:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/28/21	04/21/21 00:00	04/21/21 15:13

Client ID: CRCA-MW0032-058.0-20210415 **Lab ID: AE02765-04** **Sampled: 04/15/21 16:00** **Received: 04/16/21 14:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	04/29/21	04/21/21 00:00	04/21/21 12:19

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-MW0031-058.0-20210414 **Lab ID:** AE02765-01

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	0.370		0.00400	0.00500	mg/L	RSK 175	
Vinyl chloride	13		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0018-058.0-20210414 **Lab ID:** AE02765-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	63		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0018-058.0-20210414 **Lab ID:** AE02765-02RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethene	0.0156		0.00510	0.00600	mg/L	RSK 175	

Client ID: CRCA-MW0018-058.0-20210414 **Lab ID:** AE02765-02RE2

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	0.178		0.0600	0.0750	mg/L	RSK 175	

Client ID: CRCA-MW0019-058.0-20210414 **Lab ID:** AE02765-03

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	2.8		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0019-058.0-20210414 **Lab ID:** AE02765-03RE2

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	0.386		0.0280	0.0350	mg/L	RSK 175	

Client ID: CRCA-MW0032-058.0-20210415 **Lab ID:** AE02765-04

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	6.0		0.71	2.5	ug/L	EPA 8260D	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0031-058.0-20210414 **Lab Sample ID:** AE02765-01 **Received:** 04/16/21 14:16

Matrix: Ground Water **Sampled:** 04/14/21 11:20 **Work Order:** AE02765

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1D21003	EPA 8260D	04/21/21 10:53	nmc	QV-01
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 10:53	nmc	QV-01
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 10:53	nmc	QV-01
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	QM-07, QV-01
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	QV-01
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	

ANALYTICAL RESULTS

Description: CRCA-MW0031-058.0-20210414 **Lab Sample ID:** AE02765-01 **Received:** 04/16/21 14:16

Matrix: Ground Water **Sampled:** 04/14/21 11:20 **Work Order:** AE02765

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Vinyl chloride [75-01-4]^	**13**		ug/L	1	0.71	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1D21003	EPA 8260D	04/21/21 10:53	nmc	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*45*	*1*	*50.0*	*89 %*	*41-142*	*1D21003*	*EPA 8260D*	*04/21/21 10:53*	*nmc*	
Dibromofluoromethane	*48*	*1*	*50.0*	*96 %*	*53-146*	*1D21003*	*EPA 8260D*	*04/21/21 10:53*	*nmc*	
Toluene-d8	*55*	*1*	*50.0*	*111 %*	*41-146*	*1D21003*	*EPA 8260D*	*04/21/21 10:53*	*nmc*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1D21012	RSK 175	04/21/21 13:26	JMW	
Ethene [74-85-1]^	0.00510	U	mg/L	1	0.00510	0.00600	1D21012	RSK 175	04/21/21 13:26	JMW	
Methane [74-82-8]^	**0.370**		mg/L	1	0.00400	0.00500	1D21012	RSK 175	04/21/21 13:26	JMW	

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ANALYTICAL RESULTS

Description: CRCA-MW0018-058.0-20210414 **Lab Sample ID:** AE02765-02 **Received:** 04/16/21 14:16

Matrix: Ground Water **Sampled:** 04/14/21 12:30 **Work Order:** AE02765

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1D21003	EPA 8260D	04/21/21 11:22	nmc	QV-01
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 11:22	nmc	QV-01
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 11:22	nmc	QV-01
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	QV-01
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	QV-01
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0018-058.0-20210414 **Lab Sample ID:** AE02765-02 **Received:** 04/16/21 14:16
Matrix: Ground Water **Sampled:** 04/14/21 12:30 **Work Order:** AE02765
Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Vinyl chloride [75-01-4]^	**63**		ug/L	1	0.71	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1D21003	EPA 8260D	04/21/21 11:22	nmc	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*45*	*1*	*50.0*	*89 %*	*41-142*	*1D21003*	*EPA 8260D*	*04/21/21 11:22*	*nmc*	
Dibromofluoromethane	*48*	*1*	*50.0*	*95 %*	*53-146*	*1D21003*	*EPA 8260D*	*04/21/21 11:22*	*nmc*	
Toluene-d8	*54*	*1*	*50.0*	*109 %*	*41-146*	*1D21003*	*EPA 8260D*	*04/21/21 11:22*	*nmc*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1D21012	RSK 175	04/21/21 15:45	JMW	
Ethene [74-85-1]^	**0.0156**		mg/L	1	0.00510	0.00600	1D21012	RSK 175	04/21/21 15:45	JMW	
Methane [74-82-8]^	**0.178**		mg/L	15	0.0600	0.0750	1D21038	RSK 175	04/21/21 19:30	JMW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0019-058.0-20210414 **Lab Sample ID:** AE02765-03 **Received:** 04/16/21 14:16

Matrix: Ground Water **Sampled:** 04/14/21 14:00 **Work Order:** AE02765

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1D21003	EPA 8260D	04/21/21 11:50	nmc	QV-01
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 11:50	nmc	QV-01
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 11:50	nmc	QV-01
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	QV-01
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	QV-01
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	

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ANALYTICAL RESULTS

Description: CRCA-MW0019-058.0-20210414 **Lab Sample ID:** AE02765-03 **Received:** 04/16/21 14:16

Matrix: Ground Water **Sampled:** 04/14/21 14:00 **Work Order:** AE02765

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Vinyl chloride [75-01-4]^	**2.8**		ug/L	1	0.71	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1D21003	EPA 8260D	04/21/21 11:50	nmc	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*45*	*1*	*50.0*	*90 %*	*41-142*	*1D21003*	*EPA 8260D*	*04/21/21 11:50*	*nmc*	
Dibromofluoromethane	*48*	*1*	*50.0*	*96 %*	*53-146*	*1D21003*	*EPA 8260D*	*04/21/21 11:50*	*nmc*	
Toluene-d8	*55*	*1*	*50.0*	*111 %*	*41-146*	*1D21003*	*EPA 8260D*	*04/21/21 11:50*	*nmc*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1D21012	RSK 175	04/21/21 14:45	JMW	
Ethene [74-85-1]^	0.00510	U	mg/L	1	0.00510	0.00600	1D21012	RSK 175	04/21/21 14:45	JMW	
Methane [74-82-8]^	**0.386**		mg/L	7	0.0280	0.0350	1D21012	RSK 175	04/21/21 15:13	JMW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0032-058.0-20210415 **Lab Sample ID:** AE02765-04 **Received:** 04/16/21 14:16

Matrix: Ground Water **Sampled:** 04/15/21 16:00 **Work Order:** AE02765

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1D21003	EPA 8260D	04/21/21 12:19	nmc	QV-01
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 12:19	nmc	QV-01
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 12:19	nmc	QV-01
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	QV-01
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	QV-01
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	

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ANALYTICAL RESULTS

Description: CRCA-MW0032-058.0-20210415 **Lab Sample ID:** AE02765-04 **Received:** 04/16/21 14:16

Matrix: Ground Water **Sampled:** 04/15/21 16:00 **Work Order:** AE02765

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Vinyl chloride [75-01-4]^	**6.0**		ug/L	1	0.71	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1D21003	EPA 8260D	04/21/21 12:19	nmc	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*44*	*1*	*50.0*	*89 %*	*41-142*	*1D21003*	*EPA 8260D*	*04/21/21 12:19*	*nmc*	
Dibromofluoromethane	*48*	*1*	*50.0*	*97 %*	*53-146*	*1D21003*	*EPA 8260D*	*04/21/21 12:19*	*nmc*	
Toluene-d8	*55*	*1*	*50.0*	*110 %*	*41-146*	*1D21003*	*EPA 8260D*	*04/21/21 12:19*	*nmc*	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D21003 - EPA 5030B_MS

Blank (1D21003-BLK1) Prepared: 04/21/2021 00:00 Analyzed: 04/21/2021 09:56

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D21003 - EPA 5030B_MS - Continued

Blank (1D21003-BLK1) Continued Prepared: 04/21/2021 00:00 Analyzed: 04/21/2021 09:56

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*45*	*I*		*ug/L*	*50.0*		*90*	*41-142*			
Dibromofluoromethane	*47*	*I*		*ug/L*	*50.0*		*95*	*53-146*			
Toluene-d8	*55*			*ug/L*	*50.0*		*111*	*41-146*			

LCS (1D21003-BS1) Prepared: 04/21/2021 00:00 Analyzed: 04/21/2021 08:02

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	19		2.5	ug/L	20.0		94	57-148			
1,1,2,2-Tetrachloroethane	19		2.5	ug/L	20.0		97	60-139			
1,1,2-Trichloroethane	19		2.5	ug/L	20.0		94	57-141			
1,1-Dichloroethane	21		2.5	ug/L	20.0		104	57-142			
1,1-Dichloroethene	20		2.5	ug/L	20.0		100	47-139			
1,2,4-Trichlorobenzene	20		2.5	ug/L	20.0		99	52-159			
1,2-Dibromo-3-chloropropane	14		2.5	ug/L	20.0		71	48-150			
1,2-Dibromoethane	18		2.5	ug/L	20.0		88	57-140			
1,2-Dichlorobenzene	19		2.5	ug/L	20.0		94	63-131			
1,2-Dichloroethane	20		2.5	ug/L	20.0		99	50-156			
1,2-Dichloropropane	22		2.5	ug/L	20.0		109	61-133			
1,3-Dichlorobenzene	19		2.5	ug/L	20.0		93	66-129			
1,4-Dichlorobenzene	18		2.5	ug/L	20.0		89	65-133			
2-Butanone	160		12	ug/L	100		157	10-180			
2-Hexanone	100		12	ug/L	100		103	12-180			
4-Methyl-2-pentanone	120		12	ug/L	100		116	19-180			
Acetone	100		25	ug/L	100		103	10-180			
Benzene	26		2.5	ug/L	20.0		130	56-136			
Bromodichloromethane	23		2.5	ug/L	20.0		114	58-135			
Bromoform	22		2.5	ug/L	20.0		110	46-148			
Bromomethane	6.3		2.5	ug/L	20.0		31	10-173			
Carbon disulfide	26		12	ug/L	20.0		128	43-153			
Carbon Tetrachloride	18		2.5	ug/L	20.0		91	54-156			
Chlorobenzene	19		2.5	ug/L	20.0		95	51-139			
Chloroethane	21		2.5	ug/L	20.0		105	27-180			
Chloroform	22		2.5	ug/L	20.0		109	58-139			
Chloromethane	18		2.5	ug/L	20.0		89	33-154			
cis-1,2-Dichloroethene	23		2.5	ug/L	20.0		115	56-128			
cis-1,3-Dichloropropene	22		2.5	ug/L	20.0		109	64-128			
Cyclohexane	22		2.5	ug/L	20.0		110	70-130			
Dibromochloromethane	17		2.5	ug/L	20.0		86	50-140			
Dichlorodifluoromethane	17		2.5	ug/L	20.0		83	10-180			
Ethylbenzene	19		2.5	ug/L	20.0		93	63-133			
Freon 113	19		2.5	ug/L	20.0		97	47-173			
Isopropylbenzene	19		2.5	ug/L	20.0		93	60-132			
m,p-Xylenes	36		5.0	ug/L	40.0		91	64-133			
Methyl acetate	22		2.5	ug/L	20.0		110	70-130			
Methyl cyclohexane	21		2.5	ug/L	20.0		106	70-130			
Methylene Chloride	21		12	ug/L	20.0		106	43-142			
Methyl-tert-Butyl Ether	21		2.5	ug/L	20.0		106	51-145			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D21003 - EPA 5030B_MS - Continued

LCS (1D21003-BS1) Continued Prepared: 04/21/2021 00:00 Analyzed: 04/21/2021 08:02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
o-Xylene	19		2.5	ug/L	20.0		95	61-129			
Styrene	19		2.5	ug/L	20.0		96	59-136			
Tetrachloroethene	21		2.5	ug/L	20.0		107	60-147			
Toluene	20		2.5	ug/L	20.0		101	64-131			
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0		110	54-134			
trans-1,3-Dichloropropene	19		2.5	ug/L	20.0		96	65-149			
Trichloroethene	22		2.5	ug/L	20.0		112	62-135			
Trichlorofluoromethane	18		2.5	ug/L	20.0		92	56-155			
Vinyl chloride	20		2.5	ug/L	20.0		102	20-167			
4-Bromofluorobenzene	*45*	*I*		*ug/L*	*50.0*		*90*	*41-142*			
Dibromofluoromethane	*46*	*I*		*ug/L*	*50.0*		*92*	*53-146*			
Toluene-d8	*55*			*ug/L*	*50.0*		*110*	*41-146*			

Matrix Spike (1D21003-MS1) Prepared: 04/21/2021 00:00 Analyzed: 04/21/2021 08:30

Source: AE02765-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	21		2.5	ug/L	20.0	0.80 U	106	57-148			
1,1,2,2-Tetrachloroethane	19		2.5	ug/L	20.0	0.54 U	97	60-139			
1,1,2-Trichloroethane	18		2.5	ug/L	20.0	0.76 U	92	57-141			
1,1-Dichloroethane	22		2.5	ug/L	20.0	0.62 U	111	57-142			
1,1-Dichloroethene	22		2.5	ug/L	20.0	0.94 U	111	47-139			
1,2,4-Trichlorobenzene	20		2.5	ug/L	20.0	0.70 U	100	52-159			
1,2-Dibromo-3-chloropropane	14		2.5	ug/L	20.0	0.96 U	70	48-150			
1,2-Dibromoethane	18		2.5	ug/L	20.0	0.78 U	88	57-140			
1,2-Dichlorobenzene	19		2.5	ug/L	20.0	0.73 U	95	63-131			
1,2-Dichloroethane	20		2.5	ug/L	20.0	0.63 U	98	50-156			
1,2-Dichloropropane	22		2.5	ug/L	20.0	0.80 U	112	61-133			
1,3-Dichlorobenzene	19		2.5	ug/L	20.0	0.77 U	96	66-129			
1,4-Dichlorobenzene	18		2.5	ug/L	20.0	0.76 U	90	65-133			
2-Butanone	160		12	ug/L	100	4.5 U	155	10-180			
2-Hexanone	110		12	ug/L	100	2.5 U	107	12-180			
4-Methyl-2-pentanone	120		12	ug/L	100	2.5 U	119	19-180			
Acetone	98		25	ug/L	100	10 U	98	10-180			
Benzene	27		2.5	ug/L	20.0	0.71 U	137	56-136			QM-07
Bromodichloromethane	23		2.5	ug/L	20.0	0.52 U	115	58-135			
Bromoform	22		2.5	ug/L	20.0	0.75 U	109	46-148			
Bromomethane	8.2		2.5	ug/L	20.0	0.95 U	41	10-173			
Carbon disulfide	25		12	ug/L	20.0	2.5 U	127	43-153			
Carbon Tetrachloride	20		2.5	ug/L	20.0	0.94 U	102	54-156			
Chlorobenzene	20		2.5	ug/L	20.0	0.72 U	98	51-139			
Chloroethane	22		2.5	ug/L	20.0	0.98 U	111	27-180			
Chloroform	23		2.5	ug/L	20.0	0.80 U	114	58-139			
Chloromethane	20		2.5	ug/L	20.0	0.82 U	100	33-154			
cis-1,2-Dichloroethene	25		2.5	ug/L	20.0	0.53 U	123	56-128			
cis-1,3-Dichloropropene	22		2.5	ug/L	20.0	0.59 U	112	64-128			
Cyclohexane	24		2.5	ug/L	20.0	0.93 U	121	70-130			
Dibromochloromethane	17		2.5	ug/L	20.0	0.50 U	87	50-140			
Dichlorodifluoromethane	19		2.5	ug/L	20.0	0.74 U	93	10-180			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D21003 - EPA 5030B_MS - Continued

Matrix Spike (1D21003-MS1) Continued Prepared: 04/21/2021 00:00 Analyzed: 04/21/2021 08:30

Source: AE02765-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	20		2.5	ug/L	20.0	0.69 U	98	63-133			
Freon 113	22		2.5	ug/L	20.0	0.73 U	109	47-173			
Isopropylbenzene	20		2.5	ug/L	20.0	0.67 U	99	60-132			
m,p-Xylenes	38		5.0	ug/L	40.0	1.3 U	95	64-133			
Methyl acetate	22		2.5	ug/L	20.0	0.95 U	112	70-130			
Methyl cyclohexane	23		2.5	ug/L	20.0	0.64 U	117	70-130			
Methylene Chloride	22		12	ug/L	20.0	2.5 U	110	43-142			
Methyl-tert-Butyl Ether	21		2.5	ug/L	20.0	0.60 U	107	51-145			
o-Xylene	20		2.5	ug/L	20.0	0.53 U	100	61-129			
Styrene	20		2.5	ug/L	20.0	0.61 U	98	59-136			
Tetrachloroethene	23		2.5	ug/L	20.0	0.76 U	117	60-147			
Toluene	21		2.5	ug/L	20.0	0.72 U	105	64-131			
trans-1,2-Dichloroethene	24		2.5	ug/L	20.0	0.73 U	122	54-134			
trans-1,3-Dichloropropene	19		2.5	ug/L	20.0	0.73 U	96	65-149			
Trichloroethene	24		2.5	ug/L	20.0	0.89 U	118	62-135			
Trichlorofluoromethane	21		2.5	ug/L	20.0	0.94 U	105	56-155			
Vinyl chloride	36		2.5	ug/L	20.0	13	114	20-167			
4-Bromofluorobenzene	*44*	*I*		*ug/L*	*50.0*		*89*	*41-142*			
Dibromofluoromethane	*46*	*I*		*ug/L*	*50.0*		*92*	*53-146*			
Toluene-d8	*54*			*ug/L*	*50.0*		*108*	*41-146*			

Matrix Spike Dup (1D21003-MSD1) Prepared: 04/21/2021 00:00 Analyzed: 04/21/2021 08:59

Source: AE02765-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	21		2.5	ug/L	20.0	0.80 U	104	57-148	2	25	
1,1,2,2-Tetrachloroethane	20		2.5	ug/L	20.0	0.54 U	100	60-139	3	17	
1,1,2-Trichloroethane	19		2.5	ug/L	20.0	0.76 U	95	57-141	3	16	
1,1-Dichloroethane	22		2.5	ug/L	20.0	0.62 U	110	57-142	0.7	24	
1,1-Dichloroethene	22		2.5	ug/L	20.0	0.94 U	111	47-139	0.05	16	
1,2,4-Trichlorobenzene	19		2.5	ug/L	20.0	0.70 U	97	52-159	3	24	
1,2-Dibromo-3-chloropropane	15		2.5	ug/L	20.0	0.96 U	75	48-150	6	21	
1,2-Dibromoethane	18		2.5	ug/L	20.0	0.78 U	90	57-140	2	16	
1,2-Dichlorobenzene	19		2.5	ug/L	20.0	0.73 U	94	63-131	0.2	25	
1,2-Dichloroethane	20		2.5	ug/L	20.0	0.63 U	100	50-156	2	18	
1,2-Dichloropropane	22		2.5	ug/L	20.0	0.80 U	110	61-133	2	26	
1,3-Dichlorobenzene	19		2.5	ug/L	20.0	0.77 U	95	66-129	1	23	
1,4-Dichlorobenzene	18		2.5	ug/L	20.0	0.76 U	91	65-133	1	23	
2-Butanone	160		12	ug/L	100	4.5 U	158	10-180	2	29	
2-Hexanone	110		12	ug/L	100	2.5 U	111	12-180	3	28	
4-Methyl-2-pentanone	130		12	ug/L	100	2.5 U	126	19-180	6	24	
Acetone	100		25	ug/L	100	10 U	101	10-180	4	19	
Benzene	28		2.5	ug/L	20.0	0.71 U	138	56-136	0.8	14	QM-07
Bromodichloromethane	23		2.5	ug/L	20.0	0.52 U	113	58-135	1	19	
Bromoform	22		2.5	ug/L	20.0	0.75 U	110	46-148	0.6	18	
Bromomethane	9.9		2.5	ug/L	20.0	0.95 U	49	10-173	19	29	
Carbon disulfide	25		12	ug/L	20.0	2.5 U	123	43-153	3	26	
Carbon Tetrachloride	20		2.5	ug/L	20.0	0.94 U	102	54-156	0.1	27	
Chlorobenzene	19		2.5	ug/L	20.0	0.72 U	96	51-139	1	13	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D21003 - EPA 5030B_MS - Continued

Matrix Spike Dup (1D21003-MSD1) Continued Prepared: 04/21/2021 00:00 Analyzed: 04/21/2021 08:59

Source: AE02765-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloroethane	24		2.5	ug/L	20.0	0.98 U	118	27-180	6	22	
Chloroform	22		2.5	ug/L	20.0	0.80 U	112	58-139	2	17	
Chloromethane	20		2.5	ug/L	20.0	0.82 U	98	33-154	2	31	
cis-1,2-Dichloroethene	24		2.5	ug/L	20.0	0.53 U	121	56-128	1	17	
cis-1,3-Dichloropropene	23		2.5	ug/L	20.0	0.59 U	114	64-128	1	20	
Cyclohexane	24		2.5	ug/L	20.0	0.93 U	122	70-130	0.5	20	
Dibromochloromethane	18		2.5	ug/L	20.0	0.50 U	88	50-140	0.8	18	
Dichlorodifluoromethane	18		2.5	ug/L	20.0	0.74 U	90	10-180	4	26	
Ethylbenzene	19		2.5	ug/L	20.0	0.69 U	97	63-133	1	18	
Freon 113	21		2.5	ug/L	20.0	0.73 U	106	47-173	3	30	
Isopropylbenzene	20		2.5	ug/L	20.0	0.67 U	98	60-132	1	23	
m,p-Xylenes	38		5.0	ug/L	40.0	1.3 U	96	64-133	0.5	18	
Methyl acetate	23		2.5	ug/L	20.0	0.95 U	115	70-130	2	20	
Methyl cyclohexane	23		2.5	ug/L	20.0	0.64 U	116	70-130	1	20	
Methylene Chloride	22		12	ug/L	20.0	2.5 U	110	43-142	0.09	23	
Methyl-tert-Butyl Ether	22		2.5	ug/L	20.0	0.60 U	110	51-145	2	22	
o-Xylene	20		2.5	ug/L	20.0	0.53 U	100	61-129	0.1	16	
Styrene	20		2.5	ug/L	20.0	0.61 U	99	59-136	0.7	32	
Tetrachloroethene	24		2.5	ug/L	20.0	0.76 U	118	60-147	1	21	
Toluene	21		2.5	ug/L	20.0	0.72 U	104	64-131	2	16	
trans-1,2-Dichloroethene	24		2.5	ug/L	20.0	0.73 U	118	54-134	3	20	
trans-1,3-Dichloropropene	19		2.5	ug/L	20.0	0.73 U	97	65-149	0.9	17	
Trichloroethene	24		2.5	ug/L	20.0	0.89 U	119	62-135	1	20	
Trichlorofluoromethane	21		2.5	ug/L	20.0	0.94 U	104	56-155	2	22	
Vinyl chloride	35		2.5	ug/L	20.0	13	112	20-167	1	24	
4-Bromofluorobenzene	*46*	*I*		*ug/L*	*50.0*		*92*	*41-142*			
Dibromofluoromethane	*47*	*I*		*ug/L*	*50.0*		*93*	*53-146*			
Toluene-d8	*56*			*ug/L*	*50.0*		*112*	*41-146*			

Dissolved Gases by GC - Quality Control

Batch 1D21012 - Same

Blank (1D21012-BLK1) Prepared: 04/21/2021 00:00 Analyzed: 04/21/2021 10:00

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.00510	U	0.00600	mg/L							
Ethene	0.00510	U	0.00600	mg/L							
Methane	0.00400	U	0.00500	mg/L							

LCS (1D21012-BS1) Prepared: 04/21/2021 00:00 Analyzed: 04/21/2021 09:22

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.326		0.00600	mg/L	0.323		101	70-130			
Ethene	0.317		0.00600	mg/L	0.302		105	70-130			
Methane	0.177		0.00500	mg/L	0.172		103	70-130			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Dissolved Gases by GC - Quality Control

Batch 1D21012 - Same - Continued

LCS Dup (1D21012-BSD1) Prepared: 04/21/2021 00:00 Analyzed: 04/21/2021 09:37

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.316		0.00600	mg/L	0.323		98	70-130	3	30	
Ethene	0.312		0.00600	mg/L	0.302		103	70-130	2	30	
Methane	0.172		0.00500	mg/L	0.172		100	70-130	3	30	

Duplicate (1D21012-DUP1) Prepared: 04/21/2021 00:00 Analyzed: 04/21/2021 16:17

Source: AE03147-01RE1

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.0357	U	0.0420	mg/L		0.0357 U				30	
Ethene	0.0357	U	0.0420	mg/L		0.0357 U				30	
Methane	0.663		0.0350	mg/L		0.586			12	30	

Batch 1D21038 - Same

Blank (1D21038-BLK1) Prepared: 04/21/2021 14:27 Analyzed: 04/21/2021 18:10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.00510	U	0.00600	mg/L							
Ethene	0.00510	U	0.00600	mg/L							
Methane	0.00400	U	0.00500	mg/L							

LCS (1D21038-BS1) Prepared: 04/21/2021 14:27 Analyzed: 04/21/2021 17:29

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.325		0.00600	mg/L	0.323		101	70-130			
Ethene	0.317		0.00600	mg/L	0.302		105	70-130			
Methane	0.178		0.00500	mg/L	0.172		104	70-130			

LCS Dup (1D21038-BSD1) Prepared: 04/21/2021 14:27 Analyzed: 04/21/2021 17:45

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.325		0.00600	mg/L	0.323		101	70-130	0.04	30	
Ethene	0.321		0.00600	mg/L	0.302		106	70-130	1	30	
Methane	0.178		0.00500	mg/L	0.172		103	70-130	0.2	30	

Duplicate (1D21038-DUP1) Prepared: 04/21/2021 14:27 Analyzed: 04/22/2021 09:35

Source: AE03290-03RE1

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.00510	U	0.00600	mg/L		0.00510 U				30	
Ethene	0.00510	U	0.00600	mg/L		0.00510 U				30	
Methane	0.0146		0.00500	mg/L		0.0351			83	30	QM-12

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-12	Precision between duplicate samples was outside acceptance limits.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported result is an estimated value.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence (85% or greater confidence) to make a “tentative identification".
Q	One or more quality control criteria failed.

AE02765

SGS North America Inc - Orlando

Chain of Custody

4405 Vineland Road, Suite C-15 Orlando, Fl 32811
TEL. 407-425-6700 FAX: 407-425-0707
www.sgs.com

SGS - ORLANDO JOB # : PAGE 1 OF 1

SGS - ORLANDO Quote # SKIFF #

Client / Reporting Information

Company Name: Tetra Tech
Address: N Riverside Dr.
City: Cocoa State: FL Zip: 32922
Project Contact: Alex Murphy Email: alex.murphy@tetratech.com
Phone #:
Sampler(s) Name(s) (Printed)
Sampler 1: Melissa Brant Sampler 2:

Project Information

Project Name: CRCA
Street
City NASA State FL
Project # 112G08970
Fax #
Client Purchase Order #

Analytical Information

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid

SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION DATE	TIME	SAMPLED BY:	CONTAINER INFORMATION MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	HCl	NaOH	HNO3	H2SO4	NAOH+ZNAC	DI WATER	MEOH	VOC	MEE	LAB USE ONLY
	CRCA-MW0031-058.0-20210414	4-14-21	1120	MB	GW	6			✓							X	X	
	CRCA-MW0018-058.0-20210414	4-14-21	1230	MB	GW	6			✓							X	X	
	CRCA-MW0019-058.0-20210414	4-14-21	1400	MB	GW	6			✓							X	X	
	CRCA-MW0032-058.0-20210415	4-15-21	1600	MB	GW	3			✓							X		

Turnaround Time (Business days)

10 Day (Business) Approved By: / Date:
7 Day
5 Day
3 Day *RUSH*
2 Day *RUSH*
1 Day *RUSH*
Other
Rush T/A Data Available VIA Email or Lablink

Data Deliverable Information

- ☐ COMMERCIAL "A" (RESULTS ONLY)
- ☐ COMMERCIAL "B" (RESULTS PLUS QC)
- ☐ REDT1 (EPA LEVEL 3)
- ☐ FULLT1 (EPA LEVEL 4)
- ☐ EDD'S

Comments / Remarks

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler/Affiliation	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	Received By/Affiliation
1	Melissa Brant	4-15-21 0900	Tetra Tech		4-16-21	James W Gregory
5	Relinquished by/Affiliation	Date Time:	Received By/Affiliation 6	Relinquished By/Affiliation 7	Date Time:	Received By/Affiliation 8

Lab Use Only : Cooler Temperature (s) Celsius (corrected): Med-290 3.0°C

http://www.sgs.com/en/terms-and-conditions

ENCO Orlando

SDG: AE02765-TE016

CLASS: 01_VOA_MS

METHOD: EPA 8260D

ANALYSES DATA PACKAGE COVER PAGE

EPA 8260D

Laboratory: ENCO Orlando

SDG: AE02765-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-MW0031-058.0-20210414	AE02765-01
CRCA-MW0018-058.0-20210414	AE02765-02
CRCA-MW0019-058.0-20210414	AE02765-03
CRCA-MW0032-058.0-20210415	AE02765-04

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0031-058.0-20210414

Laboratory: ENCO Orlando SDG: AE02765-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE02765-01 File ID: 212DP009.D

Sampled: 04/14/21 11:20 Prepared: 04/21/21 00:00 Analyzed: 04/21/21 10:53

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1D21003 Sequence: AA66012 Calibration: 2103054 Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	13		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0031-058.0-20210414

Laboratory: ENCO Orlando | SDG: AE02765-TE016

Client: Tetra Tech, Inc. (TE016) | Project: NASA KSC CRCA

Matrix: Ground Water | Laboratory ID: AE02765-01 | File ID: 212DP009.D

Sampled: 04/14/21 11:20 | Prepared: 04/21/21 00:00 | Analyzed: 04/21/21 10:53

Solids: | Preparation: EPA 5030B_MS | Initial/Final: 5 mL / 5 mL

Batch: 1D21003 | Sequence: AA66012 | Calibration: 2103054 | Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	48	96	53 - 146	
Toluene-d8	50.0	55	111	41 - 146	
4-Bromofluorobenzene	50.0	45	89	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	254822	11.49	231702	11.44	
1,4-Difluorobenzene	440851	12.04	427152	11.99	
Chlorobenzene-d5	264655	14.63	207404	14.59	
1,4-Dichlorobenzene-d4	229135	17	156147	16.94	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0018-058.0-20210414

Laboratory: ENCO Orlando SDG: AE02765-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE02765-02 File ID: 212DP010.D

Sampled: 04/14/21 12:30 Prepared: 04/21/21 00:00 Analyzed: 04/21/21 11:22

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1D21003 Sequence: AA66012 Calibration: 2103054 Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	63		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0018-058.0-20210414

Laboratory: ENCO Orlando | SDG: AE02765-TE016

Client: Tetra Tech, Inc. (TE016) | Project: NASA KSC CRCA

Matrix: Ground Water | Laboratory ID: AE02765-02 | File ID: 212DP010.D

Sampled: 04/14/21 12:30 | Prepared: 04/21/21 00:00 | Analyzed: 04/21/21 11:22

Solids: | Preparation: EPA 5030B_MS | Initial/Final: 5 mL / 5 mL

Batch: 1D21003 | Sequence: AA66012 | Calibration: 2103054 | Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	48	95	53 - 146	
Toluene-d8	50.0	54	109	41 - 146	
4-Bromofluorobenzene	50.0	45	89	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	255442	11.49	231702	11.44	
1,4-Difluorobenzene	444829	12.04	427152	11.99	
Chlorobenzene-d5	266073	14.63	207404	14.59	
1,4-Dichlorobenzene-d4	232620	16.99	156147	16.94	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0019-058.0-20210414

Laboratory: ENCO Orlando SDG: AE02765-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE02765-03 File ID: 212DP011.D

Sampled: 04/14/21 14:00 Prepared: 04/21/21 00:00 Analyzed: 04/21/21 11:50

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1D21003 Sequence: AA66012 Calibration: 2103054 Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	2.8		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0019-058.0-20210414

Laboratory: ENCO Orlando SDG: AE02765-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE02765-03 File ID: 212DP011.D

Sampled: 04/14/21 14:00 Prepared: 04/21/21 00:00 Analyzed: 04/21/21 11:50

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1D21003 Sequence: AA66012 Calibration: 2103054 Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	48	96	53 - 146	
Toluene-d8	50.0	55	111	41 - 146	
4-Bromofluorobenzene	50.0	45	90	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	252709	11.49	231702	11.44	
1,4-Difluorobenzene	437760	12.04	427152	11.99	
Chlorobenzene-d5	263419	14.63	207404	14.59	
1,4-Dichlorobenzene-d4	227694	17	156147	16.94	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0032-058.0-20210415

Laboratory: ENCO Orlando SDG: AE02765-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE02765-04 File ID: 212DP012.D

Sampled: 04/15/21 16:00 Prepared: 04/21/21 00:00 Analyzed: 04/21/21 12:19

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1D21003 Sequence: AA66012 Calibration: 2103054 Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	6.0		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0032-058.0-20210415

Laboratory: ENCO Orlando | SDG: AE02765-TE016

Client: Tetra Tech, Inc. (TE016) | Project: NASA KSC CRCA

Matrix: Ground Water | Laboratory ID: AE02765-04 | File ID: 212DP012.D

Sampled: 04/15/21 16:00 | Prepared: 04/21/21 00:00 | Analyzed: 04/21/21 12:19

Solids: | Preparation: EPA 5030B_MS | Initial/Final: 5 mL / 5 mL

Batch: 1D21003 | Sequence: AA66012 | Calibration: 2103054 | Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	48	97	53 - 146	
Toluene-d8	50.0	55	110	41 - 146	
4-Bromofluorobenzene	50.0	44	89	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	250145	11.49	231702	11.44	
1,4-Difluorobenzene	441975	12.04	427152	11.99	
Chlorobenzene-d5	266964	14.63	207404	14.59	
1,4-Dichlorobenzene-d4	231703	16.99	156147	16.94	

* Values outside of QC limits

HOLDING TIME SUMMARY

EPA 8260D

Laboratory: ENCO Orlando

SDG: AE02765-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-MW0031-058.0-20210414	04/14/21 11:20	04/16/21 14:16	04/21/21 00:00	6.53	NA	04/21/21 10:53	7.00	14.00	
CRCA-MW0018-058.0-20210414	04/14/21 12:30	04/16/21 14:16	04/21/21 00:00	6.48	NA	04/21/21 11:22	7.00	14.00	
CRCA-MW0019-058.0-20210414	04/14/21 14:00	04/16/21 14:16	04/21/21 00:00	6.42	NA	04/21/21 11:50	7.00	14.00	
CRCA-MW0032-058.0-20210415	04/15/21 16:00	04/16/21 14:16	04/21/21 00:00	5.33	NA	04/21/21 12:19	6.00	14.00	

PREPARATION BATCH SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AE02765-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1D21003 Batch Matrix: Water Preparation: EPA 5030B_MS

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1D21003-BLK1	212DP007.D	04/21/21 00:00	
LCS	1D21003-BS1	212DP003.D	04/21/21 00:00	
CRCA-MW0031-058.0-20210414	1D21003-MS1	212DP004.D	04/21/21 00:00	
CRCA-MW0031-058.0-20210414	1D21003-MSD1	212DP005.D	04/21/21 00:00	
CRCA-MW0031-058.0-20210414	AE02765-01	212DP009.D	04/21/21 00:00	
CRCA-MW0018-058.0-20210414	AE02765-02	212DP010.D	04/21/21 00:00	
CRCA-MW0019-058.0-20210414	AE02765-03	212DP011.D	04/21/21 00:00	
CRCA-MW0032-058.0-20210415	AE02765-04	212DP012.D	04/21/21 00:00	

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1D21003-BLK1	File ID:	212DP007.D
Prepared:	04/21/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	04/21/21 09:56	Instrument:	OVGCMS2		
Batch:	1D21003	Sequence:	AA66012	Calibration:	2103054

CAS NO.	COMPOUND	CONC. (ug/L)	Q
75-71-8	Dichlorodifluoromethane	0.74	U
74-87-3	Chloromethane	0.82	U
75-01-4	Vinyl chloride	0.71	U
74-83-9	Bromomethane	0.95	U
75-00-3	Chloroethane	0.98	U
75-69-4	Trichlorofluoromethane	0.94	U
76-13-1	Freon 113	0.73	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	0.94	U
75-15-0	Carbon disulfide	2.5	U
75-09-2	Methylene Chloride	2.5	U
1634-04-4	Methyl-tert-Butyl Ether	0.60	U
156-60-5	trans-1,2-Dichloroethene	0.73	U
156-59-2	cis-1,2-Dichloroethene	0.53	U
75-34-3	1,1-Dichloroethane	0.62	U
78-93-3	2-Butanone	4.5	U
67-66-3	Chloroform	0.80	U
71-55-6	1,1,1-Trichloroethane	0.80	U
79-20-9	Methyl acetate	0.95	U
110-82-7	Cyclohexane	0.93	U
108-87-2	Methyl cyclohexane	0.64	U
56-23-5	Carbon Tetrachloride	0.94	U
107-06-2	1,2-Dichloroethane	0.63	U
71-43-2	Benzene	0.71	U
79-01-6	Trichloroethene	0.89	U
78-87-5	1,2-Dichloropropane	0.80	U
75-27-4	Bromodichloromethane	0.52	U
108-10-1	4-Methyl-2-pentanone	2.5	U
591-78-6	2-Hexanone	2.5	U
10061-01-5	cis-1,3-Dichloropropene	0.59	U

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1D21003-BLK1	File ID:	212DP007.D
Prepared:	04/21/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	04/21/21 09:56	Instrument:	OVGCMS2		
Batch:	1D21003	Sequence:	AA66012	Calibration:	2103054

CAS NO.	COMPOUND	CONC. (ug/L)	Q
108-88-3	Toluene	0.72	U
10061-02-6	trans-1,3-Dichloropropene	0.73	U
79-00-5	1,1,2-Trichloroethane	0.76	U
127-18-4	Tetrachloroethene	0.76	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.78	U
108-90-7	Chlorobenzene	0.72	U
100-41-4	Ethylbenzene	0.69	U
108-38-3/106-42-3	m,p-Xylenes	1.3	U
95-47-6	o-Xylene	0.53	U
75-25-2	Bromoform	0.75	U
100-42-5	Styrene	0.61	U
98-82-8	Isopropylbenzene	0.67	U
79-34-5	1,1,2,2-Tetrachloroethane	0.54	U
120-82-1	1,2,4-Trichlorobenzene	0.70	U
541-73-1	1,3-Dichlorobenzene	0.77	U
106-46-7	1,4-Dichlorobenzene	0.76	U
95-50-1	1,2-Dichlorobenzene	0.73	U
96-12-8	1,2-Dibromo-3-chloropropane	0.96	U
1330-20-7	Xylenes (Total)	1.3	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	47	95	53 - 146	
Toluene-d8	50.0	55	111	41 - 146	
4-Bromofluorobenzene	50.0	45	90	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	257477	11.49	231702	11.44	
1,4-Difluorobenzene	441969	12.04	427152	11.99	
Chlorobenzene-d5	264990	14.63	207404	14.59	
1,4-Dichlorobenzene-d4	231606	17	156147	16.94	

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1D21003	Laboratory ID:	1D21003-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	17	83	10 - 180
Chloromethane	20.0	18	89	33 - 154
Vinyl chloride	20.0	20	102	20 - 167
Bromomethane	20.0	6.3	31	10 - 173
Chloroethane	20.0	21	105	27 - 180
Trichlorofluoromethane	20.0	18	92	56 - 155
Freon 113	20.0	19	97	47 - 173
Acetone	100	100	103	10 - 180
1,1-Dichloroethene	20.0	20	100	47 - 139
Carbon disulfide	20.0	26	128	43 - 153
Methylene Chloride	20.0	21	106	43 - 142
Methyl-tert-Butyl Ether	20.0	21	106	51 - 145
trans-1,2-Dichloroethene	20.0	22	110	54 - 134
cis-1,2-Dichloroethene	20.0	23	115	56 - 128
1,1-Dichloroethane	20.0	21	104	57 - 142
2-Butanone	100	160	157	10 - 180
Chloroform	20.0	22	109	58 - 139
1,1,1-Trichloroethane	20.0	19	94	57 - 148
Methyl acetate	20.0	22	110	70 - 130
Cyclohexane	20.0	22	110	70 - 130
Methyl cyclohexane	20.0	21	106	70 - 130
Carbon Tetrachloride	20.0	18	91	54 - 156
1,2-Dichloroethane	20.0	20	99	50 - 156
Benzene	20.0	26	130	56 - 136
Trichloroethene	20.0	22	112	62 - 135
1,2-Dichloropropane	20.0	22	109	61 - 133
Bromodichloromethane	20.0	23	114	58 - 135
4-Methyl-2-pentanone	100	120	116	19 - 180
2-Hexanone	100	100	103	12 - 180
cis-1,3-Dichloropropene	20.0	22	109	64 - 128

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1D21003	Laboratory ID:	1D21003-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Toluene	20.0	20	101	64 - 131
trans-1,3-Dichloropropene	20.0	19	96	65 - 149
1,1,2-Trichloroethane	20.0	19	94	57 - 141
Tetrachloroethene	20.0	21	107	60 - 147
Dibromochloromethane	20.0	17	86	50 - 140
1,2-Dibromoethane	20.0	18	88	57 - 140
Chlorobenzene	20.0	19	95	51 - 139
Ethylbenzene	20.0	19	93	63 - 133
m,p-Xylenes	40.0	36	91	64 - 133
o-Xylene	20.0	19	95	61 - 129
Bromoform	20.0	22	110	46 - 148
Styrene	20.0	19	96	59 - 136
Isopropylbenzene	20.0	19	93	60 - 132
1,1,2,2-Tetrachloroethane	20.0	19	97	60 - 139
1,2,4-Trichlorobenzene	20.0	20	99	52 - 159
1,3-Dichlorobenzene	20.0	19	93	66 - 129
1,4-Dichlorobenzene	20.0	18	89	65 - 133
1,2-Dichlorobenzene	20.0	19	94	63 - 131
1,2-Dibromo-3-chloropropane	20.0	14	71	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0031-058.0-20210414

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1D21003
Laboratory ID: 1D21003-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0031-058.0-20210414

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	ND	19	93	10 - 180
Chloromethane	20.0	ND	20	100	33 - 154
Vinyl chloride	20.0	13	36	114	20 - 167
Bromomethane	20.0	ND	8.2	41	10 - 173
Chloroethane	20.0	ND	22	111	27 - 180
Trichlorofluoromethane	20.0	ND	21	105	56 - 155
Freon 113	20.0	ND	22	109	47 - 173
Acetone	100	ND	98	98	10 - 180
1,1-Dichloroethene	20.0	ND	22	111	47 - 139
Carbon disulfide	20.0	ND	25	127	43 - 153
Methylene Chloride	20.0	ND	22	110	43 - 142
Methyl-tert-Butyl Ether	20.0	ND	21	107	51 - 145
trans-1,2-Dichloroethene	20.0	ND	24	122	54 - 134
cis-1,2-Dichloroethene	20.0	ND	25	123	56 - 128
1,1-Dichloroethane	20.0	ND	22	111	57 - 142
2-Butanone	100	ND	160	155	10 - 180
Chloroform	20.0	ND	23	114	58 - 139
1,1,1-Trichloroethane	20.0	ND	21	106	57 - 148
Methyl acetate	20.0	ND	22	112	70 - 130
Cyclohexane	20.0	ND	24	121	70 - 130
Methyl cyclohexane	20.0	ND	23	117	70 - 130
Carbon Tetrachloride	20.0	ND	20	102	54 - 156
1,2-Dichloroethane	20.0	ND	20	98	50 - 156
Benzene	20.0	ND	27	137 *	56 - 136
Trichloroethene	20.0	ND	24	118	62 - 135
1,2-Dichloropropane	20.0	ND	22	112	61 - 133
Bromodichloromethane	20.0	ND	23	115	58 - 135
4-Methyl-2-pentanone	100	ND	120	119	19 - 180
2-Hexanone	100	ND	110	107	12 - 180
cis-1,3-Dichloropropene	20.0	ND	22	112	64 - 128
Toluene	20.0	ND	21	105	64 - 131

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0031-058.0-20210414

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1D21003
Laboratory ID: 1D21003-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0031-058.0-20210414

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
trans-1,3-Dichloropropene	20.0	ND	19	96	65 - 149
1,1,2-Trichloroethane	20.0	ND	18	92	57 - 141
Tetrachloroethene	20.0	ND	23	117	60 - 147
Dibromochloromethane	20.0	ND	17	87	50 - 140
1,2-Dibromoethane	20.0	ND	18	88	57 - 140
Chlorobenzene	20.0	ND	20	98	51 - 139
Ethylbenzene	20.0	ND	20	98	63 - 133
m,p-Xylenes	40.0	ND	38	95	64 - 133
o-Xylene	20.0	ND	20	100	61 - 129
Bromoform	20.0	ND	22	109	46 - 148
Styrene	20.0	ND	20	98	59 - 136
Isopropylbenzene	20.0	ND	20	99	60 - 132
1,1,2,2-Tetrachloroethane	20.0	ND	19	97	60 - 139
1,2,4-Trichlorobenzene	20.0	ND	20	100	52 - 159
1,3-Dichlorobenzene	20.0	ND	19	96	66 - 129
1,4-Dichlorobenzene	20.0	ND	18	90	65 - 133
1,2-Dichlorobenzene	20.0	ND	19	95	63 - 131
1,2-Dibromo-3-chloropropane	20.0	ND	14	70	48 - 150

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0031-058.0-20210414

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1D21003
Laboratory ID: 1D21003-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0031-058.0-20210414

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #		% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20.0	18	90		4	26	10 - 180
Chloromethane	20.0	20	98		2	31	33 - 154
Vinyl chloride	20.0	35	112		1	24	20 - 167
Bromomethane	20.0	9.9	49		19	29	10 - 173
Chloroethane	20.0	24	118		6	22	27 - 180
Trichlorofluoromethane	20.0	21	104		2	22	56 - 155
Freon 113	20.0	21	106		3	30	47 - 173
Acetone	100	100	101		4	19	10 - 180
1,1-Dichloroethene	20.0	22	111		0.05	16	47 - 139
Carbon disulfide	20.0	25	123		3	26	43 - 153
Methylene Chloride	20.0	22	110		0.09	23	43 - 142
Methyl-tert-Butyl Ether	20.0	22	110		2	22	51 - 145
trans-1,2-Dichloroethene	20.0	24	118		3	20	54 - 134
cis-1,2-Dichloroethene	20.0	24	121		1	17	56 - 128
1,1-Dichloroethane	20.0	22	110		0.7	24	57 - 142
2-Butanone	100	160	158		2	29	10 - 180
Chloroform	20.0	22	112		2	17	58 - 139
1,1,1-Trichloroethane	20.0	21	104		2	25	57 - 148
Methyl acetate	20.0	23	115		2	20	70 - 130
Cyclohexane	20.0	24	122		0.5	20	70 - 130
Methyl cyclohexane	20.0	23	116		1	20	70 - 130
Carbon Tetrachloride	20.0	20	102		0.1	27	54 - 156
1,2-Dichloroethane	20.0	20	100		2	18	50 - 156
Benzene	20.0	28	138	*	0.8	14	56 - 136
Trichloroethene	20.0	24	119		1	20	62 - 135
1,2-Dichloropropane	20.0	22	110		2	26	61 - 133
Bromodichloromethane	20.0	23	113		1	19	58 - 135
4-Methyl-2-pentanone	100	130	126		6	24	19 - 180
2-Hexanone	100	110	111		3	28	12 - 180
cis-1,3-Dichloropropene	20.0	23	114		1	20	64 - 128
Toluene	20.0	21	104		2	16	64 - 131
trans-1,3-Dichloropropene	20.0	19	97		0.9	17	65 - 149

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0031-058.0-20210414

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1D21003
Laboratory ID: 1D21003-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0031-058.0-20210414

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,2-Trichloroethane	20.0	19	95	3	16	57 - 141
Tetrachloroethene	20.0	24	118	1	21	60 - 147
Dibromochloromethane	20.0	18	88	0.8	18	50 - 140
1,2-Dibromoethane	20.0	18	90	2	16	57 - 140
Chlorobenzene	20.0	19	96	1	13	51 - 139
Ethylbenzene	20.0	19	97	1	18	63 - 133
m,p-Xylenes	40.0	38	96	0.5	18	64 - 133
o-Xylene	20.0	20	100	0.1	16	61 - 129
Bromoform	20.0	22	110	0.6	18	46 - 148
Styrene	20.0	20	99	0.7	32	59 - 136
Isopropylbenzene	20.0	20	98	1	23	60 - 132
1,1,2,2-Tetrachloroethane	20.0	20	100	3	17	60 - 139
1,2,4-Trichlorobenzene	20.0	19	97	3	24	52 - 159
1,3-Dichlorobenzene	20.0	19	95	1	23	66 - 129
1,4-Dichlorobenzene	20.0	18	91	1	23	65 - 133
1,2-Dichlorobenzene	20.0	19	94	0.2	25	63 - 131
1,2-Dibromo-3-chloropropane	20.0	15	75	6	21	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA65289
Instrument: OVGCMS2
Matrix: Water
Calibration: 2103054

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA65289-SCV1)			Lab File ID: 212CD013.D		Analyzed: 03/09/21 14:04			
Dibromofluoromethane	50.0	96	70 - 130	11.05	11.05	0.0000	+/-0.5	
Toluene-d8	50.0	101	70 - 130	13.22	13.21375	0.0063	+/-0.5	
4-Bromofluorobenzene	50.0	103	70 - 130	15.71	15.70875	0.0013	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA66012
Instrument: OVGCMS2
Matrix: Water
Calibration: 2103054

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA66012-CCV1)			Lab File ID: 212DP002.D		Analyzed: 04/21/21 07:30			
Dibromofluoromethane	50.0	96	80 - 120	11.1	11.05	0.0500	+/-0.5	
Toluene-d8	50.0	112	80 - 120	13.25	13.21375	0.0363	+/-0.5	
4-Bromofluorobenzene	50.0	93	80 - 120	15.75	15.70875	0.0412	+/-0.5	
LCS (1D21003-BS1)			Lab File ID: 212DP003.D		Analyzed: 04/21/21 08:02			
Dibromofluoromethane	50.0	92	53 - 146	11.09	11.05	0.0400	+/-0.5	
Toluene-d8	50.0	110	41 - 146	13.26	13.21375	0.0463	+/-0.5	
4-Bromofluorobenzene	50.0	90	41 - 142	15.75	15.70875	0.0412	+/-0.5	
Matrix Spike (1D21003-MS1)			Lab File ID: 212DP004.D		Analyzed: 04/21/21 08:30			
Dibromofluoromethane	50.0	92	53 - 146	11.1	11.05	0.0500	+/-0.5	
Toluene-d8	50.0	108	41 - 146	13.26	13.21375	0.0463	+/-0.5	
4-Bromofluorobenzene	50.0	89	41 - 142	15.75	15.70875	0.0412	+/-0.5	
Matrix Spike Dup (1D21003-MSD1)			Lab File ID: 212DP005.D		Analyzed: 04/21/21 08:59			
Dibromofluoromethane	50.0	93	53 - 146	11.09	11.05	0.0400	+/-0.5	
Toluene-d8	50.0	112	41 - 146	13.25	13.21375	0.0363	+/-0.5	
4-Bromofluorobenzene	50.0	92	41 - 142	15.75	15.70875	0.0412	+/-0.5	
Blank (1D21003-BLK1)			Lab File ID: 212DP007.D		Analyzed: 04/21/21 09:56			
Dibromofluoromethane	50.0	95	53 - 146	11.1	11.05	0.0500	+/-0.5	
Toluene-d8	50.0	111	41 - 146	13.25	13.21375	0.0363	+/-0.5	
4-Bromofluorobenzene	50.0	90	41 - 142	15.75	15.70875	0.0412	+/-0.5	
Instrument RL Check (AA66012-CRL1)			Lab File ID: 212DP008.D		Analyzed: 04/21/21 10:25			
Dibromofluoromethane	50.0	96	1 - 199	11.1	11.05	0.0500	+/-0.5	
Toluene-d8	50.0	111	1 - 199	13.25	13.21375	0.0363	+/-0.5	
4-Bromofluorobenzene	50.0	91	1 - 199	15.75	15.70875	0.0412	+/-0.5	
CRCA-MW0031-058.0-20210414 (AE02765-01)			Lab File ID: 212DP009.D		Analyzed: 04/21/21 10:53			
Dibromofluoromethane	50.0	96	53 - 146	11.1	11.05	0.0500	+/-0.5	
Toluene-d8	50.0	111	41 - 146	13.25	13.21375	0.0363	+/-0.5	
4-Bromofluorobenzene	50.0	89	41 - 142	15.75	15.70875	0.0412	+/-0.5	
CRCA-MW0018-058.0-20210414 (AE02765-02)			Lab File ID: 212DP010.D		Analyzed: 04/21/21 11:22			
Dibromofluoromethane	50.0	95	53 - 146	11.1	11.05	0.0500	+/-0.5	
Toluene-d8	50.0	109	41 - 146	13.25	13.21375	0.0363	+/-0.5	
4-Bromofluorobenzene	50.0	89	41 - 142	15.75	15.70875	0.0412	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA66012
Instrument: OVGCMS2
Matrix: Water
Calibration: 2103054

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
CRCA-MW0019-058.0-20210414 (AE02765-03)			Lab File ID: 212DP011.D		Analyzed: 04/21/21 11:50			
Dibromofluoromethane	50.0	96	53 - 146	11.1	11.05	0.0500	+/-0.5	
Toluene-d8	50.0	111	41 - 146	13.26	13.21375	0.0463	+/-0.5	
4-Bromofluorobenzene	50.0	90	41 - 142	15.76	15.70875	0.0512	+/-0.5	
CRCA-MW0032-058.0-20210415 (AE02765-04)			Lab File ID: 212DP012.D		Analyzed: 04/21/21 12:19			
Dibromofluoromethane	50.0	97	53 - 146	11.1	11.05	0.0500	+/-0.5	
Toluene-d8	50.0	110	41 - 146	13.25	13.21375	0.0363	+/-0.5	
4-Bromofluorobenzene	50.0	89	41 - 142	15.75	15.70875	0.0412	+/-0.5	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA65289
Instrument: OVGCMS2
Matrix: Water
Calibration: 2103054

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA65289-CAL1)			Lab File ID: 212CD002.D			Analyzed: 03/09/21 08:30			
Pentafluorobenzene	258684	11.44	231702	11.44	112	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	456563	12	427152	11.99	107	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	220295	14.59	207404	14.59	106	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	157950	16.96	156147	16.94	101	50 - 200	0.0200	+/-0.50	
Cal Standard (AA65289-CAL2)			Lab File ID: 212CD003.D			Analyzed: 03/09/21 08:59			
Pentafluorobenzene	252984	11.44	231702	11.44	109	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	447138	11.99	427152	11.99	105	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	219862	14.59	207404	14.59	106	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	160130	16.95	156147	16.94	103	50 - 200	0.0100	+/-0.50	
Cal Standard (AA65289-CAL3)			Lab File ID: 212CD004.D			Analyzed: 03/09/21 09:27			
Pentafluorobenzene	249505	11.44	231702	11.44	108	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	443522	11.99	427152	11.99	104	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	215472	14.59	207404	14.59	104	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	156777	16.95	156147	16.94	100	50 - 200	0.0100	+/-0.50	
Cal Standard (AA65289-CAL4)			Lab File ID: 212CD005.D			Analyzed: 03/09/21 09:56			
Pentafluorobenzene	244206	11.44	231702	11.44	105	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	431789	11.99	427152	11.99	101	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	212013	14.59	207404	14.59	102	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	155190	16.95	156147	16.94	99	50 - 200	0.0100	+/-0.50	
Cal Standard (AA65289-CAL5)			Lab File ID: 212CD006.D			Analyzed: 03/09/21 10:25			
Pentafluorobenzene	236992	11.44	231702	11.44	102	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	433407	11.99	427152	11.99	101	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	209656	14.59	207404	14.59	101	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	155955	16.95	156147	16.94	100	50 - 200	0.0100	+/-0.50	
Cal Standard (AA65289-CAL6)			Lab File ID: 212CD007.D			Analyzed: 03/09/21 10:53			
Pentafluorobenzene	231702	11.44	231702	11.44	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	427152	11.99	427152	11.99	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	207404	14.59	207404	14.59	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	156147	16.94	156147	16.94	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA65289-CAL7)			Lab File ID: 212CD008.D			Analyzed: 03/09/21 11:22			
Pentafluorobenzene	226247	11.44	231702	11.44	98	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	427385	11.99	427152	11.99	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	206954	14.58	207404	14.59	100	50 - 200	-0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	158337	16.95	156147	16.94	101	50 - 200	0.0100	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA65289
Instrument: OVGCMS2
Matrix: Water
Calibration: 2103054

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA65289-CAL8)			Lab File ID: 212CD009.D			Analyzed: 03/09/21 11:50			
Pentafluorobenzene	228850	11.44	231702	11.44	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	429679	11.99	427152	11.99	101	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	211567	14.59	207404	14.59	102	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	163882	16.95	156147	16.94	105	50 - 200	0.0100	+/-0.50	
Secondary Cal Check (AA65289-SCV1)			Lab File ID: 212CD013.D			Analyzed: 03/09/21 14:04			
Pentafluorobenzene	241526	11.45	231702	11.44	104	50 - 200	0.0100	+/-0.50	
1,4-Difluorobenzene	436002	12	427152	11.99	102	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	211494	14.6	207404	14.59	102	50 - 200	0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	162014	16.95	156147	16.94	104	50 - 200	0.0100	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA66012
Instrument: OVGCMS2
Matrix: Water
Calibration: 2103054

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA66012-CCV1)			Lab File ID: 212DP002.D			Analyzed: 04/21/21 07:30			
Pentafluorobenzene	232489	11.49	231702	11.44	100	50 - 200	0.0500	+/-0.50	
1,4-Difluorobenzene	416501	12.04	427152	11.99	98	50 - 200	0.0500	+/-0.50	
Chlorobenzene-d5	252025	14.63	207404	14.59	122	50 - 200	0.0400	+/-0.50	
1,4-Dichlorobenzene-d4	224868	17	156147	16.94	144	50 - 200	0.0600	+/-0.50	
LCS (1D21003-BS1)			Lab File ID: 212DP003.D			Analyzed: 04/21/21 08:02			
Pentafluorobenzene	255057	11.49	231702	11.44	110	50 - 200	0.0500	+/-0.50	
1,4-Difluorobenzene	441136	12.04	427152	11.99	103	50 - 200	0.0500	+/-0.50	
Chlorobenzene-d5	262953	14.63	207404	14.59	127	50 - 200	0.0400	+/-0.50	
1,4-Dichlorobenzene-d4	231899	17	156147	16.94	149	50 - 200	0.0600	+/-0.50	
Matrix Spike (1D21003-MS1)			Lab File ID: 212DP004.D			Analyzed: 04/21/21 08:30			
Pentafluorobenzene	250304	11.49	231702	11.44	108	50 - 200	0.0500	+/-0.50	
1,4-Difluorobenzene	441194	12.04	427152	11.99	103	50 - 200	0.0500	+/-0.50	
Chlorobenzene-d5	261355	14.64	207404	14.59	126	50 - 200	0.0500	+/-0.50	
1,4-Dichlorobenzene-d4	228054	17	156147	16.94	146	50 - 200	0.0600	+/-0.50	
Matrix Spike Dup (1D21003-MSD1)			Lab File ID: 212DP005.D			Analyzed: 04/21/21 08:59			
Pentafluorobenzene	247415	11.49	231702	11.44	107	50 - 200	0.0500	+/-0.50	
1,4-Difluorobenzene	430586	12.04	427152	11.99	101	50 - 200	0.0500	+/-0.50	
Chlorobenzene-d5	256802	14.63	207404	14.59	124	50 - 200	0.0400	+/-0.50	
1,4-Dichlorobenzene-d4	225554	17	156147	16.94	144	50 - 200	0.0600	+/-0.50	
Blank (1D21003-BLK1)			Lab File ID: 212DP007.D			Analyzed: 04/21/21 09:56			
Pentafluorobenzene	257477	11.49	231702	11.44	111	50 - 200	0.0500	+/-0.50	
1,4-Difluorobenzene	441969	12.04	427152	11.99	103	50 - 200	0.0500	+/-0.50	
Chlorobenzene-d5	264990	14.63	207404	14.59	128	50 - 200	0.0400	+/-0.50	
1,4-Dichlorobenzene-d4	231606	17	156147	16.94	148	50 - 200	0.0600	+/-0.50	
Instrument RL Check (AA66012-CRL1)			Lab File ID: 212DP008.D			Analyzed: 04/21/21 10:25			
Pentafluorobenzene	256652	11.49	231702	11.44	111	50 - 200	0.0500	+/-0.50	
1,4-Difluorobenzene	443568	12.04	427152	11.99	104	50 - 200	0.0500	+/-0.50	
Chlorobenzene-d5	265324	14.63	207404	14.59	128	50 - 200	0.0400	+/-0.50	
1,4-Dichlorobenzene-d4	230689	17	156147	16.94	148	50 - 200	0.0600	+/-0.50	
CRCA-MW0031-058.0-20210414 (AE02765-01)			Lab File ID: 212DP009.D			Analyzed: 04/21/21 10:53			
Pentafluorobenzene	254822	11.49	231702	11.44	110	50 - 200	0.0500	+/-0.50	
1,4-Difluorobenzene	440851	12.04	427152	11.99	103	50 - 200	0.0500	+/-0.50	
Chlorobenzene-d5	264655	14.63	207404	14.59	128	50 - 200	0.0400	+/-0.50	
1,4-Dichlorobenzene-d4	229135	17	156147	16.94	147	50 - 200	0.0600	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA66012
Instrument: OVGCMS2
Matrix: Water
Calibration: 2103054

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
CRCA-MW0018-058.0-20210414 (AE02765-02)			Lab File ID: 212DP010.D			Analyzed: 04/21/21 11:22			
Pentafluorobenzene	255442	11.49	231702	11.44	110	50 - 200	0.0500	+/-0.50	
1,4-Difluorobenzene	444829	12.04	427152	11.99	104	50 - 200	0.0500	+/-0.50	
Chlorobenzene-d5	266073	14.63	207404	14.59	128	50 - 200	0.0400	+/-0.50	
1,4-Dichlorobenzene-d4	232620	16.99	156147	16.94	149	50 - 200	0.0500	+/-0.50	
CRCA-MW0019-058.0-20210414 (AE02765-03)			Lab File ID: 212DP011.D			Analyzed: 04/21/21 11:50			
Pentafluorobenzene	252709	11.49	231702	11.44	109	50 - 200	0.0500	+/-0.50	
1,4-Difluorobenzene	437760	12.04	427152	11.99	102	50 - 200	0.0500	+/-0.50	
Chlorobenzene-d5	263419	14.63	207404	14.59	127	50 - 200	0.0400	+/-0.50	
1,4-Dichlorobenzene-d4	227694	17	156147	16.94	146	50 - 200	0.0600	+/-0.50	
CRCA-MW0032-058.0-20210415 (AE02765-04)			Lab File ID: 212DP012.D			Analyzed: 04/21/21 12:19			
Pentafluorobenzene	250145	11.49	231702	11.44	108	50 - 200	0.0500	+/-0.50	
1,4-Difluorobenzene	441975	12.04	427152	11.99	103	50 - 200	0.0500	+/-0.50	
Chlorobenzene-d5	266964	14.63	207404	14.59	129	50 - 200	0.0400	+/-0.50	
1,4-Dichlorobenzene-d4	231703	16.99	156147	16.94	148	50 - 200	0.0500	+/-0.50	

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA65289		
Calibration:	2103054	Instrument:	OVGCMS2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA65289-TUN1	212CD001.D	03/09/21 07:55
Cal Standard	AA65289-CAL1	212CD002.D	03/09/21 08:30
Cal Standard	AA65289-CAL2	212CD003.D	03/09/21 08:59
Cal Standard	AA65289-CAL3	212CD004.D	03/09/21 09:27
Cal Standard	AA65289-CAL4	212CD005.D	03/09/21 09:56
Cal Standard	AA65289-CAL5	212CD006.D	03/09/21 10:25
Cal Standard	AA65289-CAL6	212CD007.D	03/09/21 10:53
Cal Standard	AA65289-CAL7	212CD008.D	03/09/21 11:22
Cal Standard	AA65289-CAL8	212CD009.D	03/09/21 11:50
Secondary Cal Check	AA65289-SCV1	212CD013.D	03/09/21 14:04

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA66012		
Calibration:	2103054	Instrument:	OVGCMS2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA66012-TUN1	212DP001.D	04/21/21 06:59
Calibration Check	AA66012-CCV1	212DP002.D	04/21/21 07:30
LCS	1D21003-BS1	212DP003.D	04/21/21 08:02
CRCA-MW0031-058.0-20210414	1D21003-MS1	212DP004.D	04/21/21 08:30
CRCA-MW0031-058.0-20210414	1D21003-MSD1	212DP005.D	04/21/21 08:59
Blank	1D21003-BLK1	212DP007.D	04/21/21 09:56
Instrument RL Check	AA66012-CRL1	212DP008.D	04/21/21 10:25
CRCA-MW0031-058.0-20210414	AE02765-01	212DP009.D	04/21/21 10:53
CRCA-MW0018-058.0-20210414	AE02765-02	212DP010.D	04/21/21 11:22
CRCA-MW0019-058.0-20210414	AE02765-03	212DP011.D	04/21/21 11:50
CRCA-MW0032-058.0-20210415	AE02765-04	212DP012.D	04/21/21 12:19

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	212CD001.D	Injection Date:	03/09/21
Instrument ID:	OVGCMS2	Injection Time:	07:55
Sequence:	AA65289	Lab Sample ID:	AA65289-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	146	PASS
96	5 - 9% of 95	6.75	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	68.3	PASS
175	5 - 9% of 174	7.6	PASS
176	95 - 105% of 174	99.7	PASS
177	5 - 10% of 176	6.62	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	212DP001.D	Injection Date:	04/21/21
Instrument ID:	OVGCMS2	Injection Time:	06:59
Sequence:	AA66012	Lab Sample ID:	AA66012-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	125	PASS
96	5 - 9% of 95	6.68	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	79.9	PASS
175	5 - 9% of 174	7.63	PASS
176	95 - 105% of 174	96.1	PASS
177	5 - 10% of 176	6.62	PASS

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS2	Calibration:	2103054
Lab File ID:	212DP002.D	Calibration Date:	03/10/21 08:57
Sequence:	AA66012	Injection Date:	04/21/21
Lab Sample ID:	AA66012-CCV1	Injection Time:	07:30

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Dichlorodifluoromethane	A	20.0	21	1.0726	1.111784		3.6	20	
Chloromethane	A	20.0	21	1.125442	1.194078		6.1	20	
Vinyl chloride	A	20.0	23	0.871695	1.021607		17	20	
Bromomethane	A	20.0	25	0.4216486	0.5230678		25	20	*
Chloroethane	A	20.0	23	0.4594287	0.5210139		13	20	
Trichlorofluoromethane	A	20.0	20	0.8444659	0.8295661		-1.8	20	
Freon 113	A	50.0	49	0.5353971	0.5240635		-2.1	20	
Acetone	A	250	270	0.2098613	0.210539		9.8	20	
1,1-Dichloroethene	A	50.0	47	0.492039	0.4671963		-5	20	
Carbon disulfide	A	250	290	1.675395	1.971496		18	20	
Methylene Chloride	A	50.0	53	0.6372904	0.6770686		6.2	20	
Methyl-tert-Butyl Ether	A	50.0	56	1.629343	1.8321		12	20	
trans-1,2-Dichloroethene	A	50.0	56	0.5294924	0.5958518		13	20	
cis-1,2-Dichloroethene	A	50.0	60	0.5730141	0.6844453		19	20	
1,1-Dichloroethane	A	50.0	52	1.11993	1.1567		3.3	20	
2-Butanone	A	250	320	6.656362E-02	7.775594E-02		28	20	*
Chloroform	A	50.0	56	1.034125	1.158752		12	20	
1,1,1-Trichloroethane	A	50.0	51	0.8170626	0.8253896		1.0	20	
Methyl acetate	A	50.0	56	0.1098139	0.1231026		12	20	
Cyclohexane	A	50.0	50	0.9572176	0.9483502		-0.9	20	
Methyl cyclohexane	A	50.0	51	0.4112075	0.4172331		1.5	20	
Carbon Tetrachloride	A	50.0	48	0.4638802	0.4455908		-3.9	20	
1,2-Dichloroethane	A	50.0	50	0.4782864	0.4798452		0.30	20	
Benzene	A	50.0	62	1.177328	1.317277		23	20	*
Trichloroethene	A	50.0	59	0.3209742	0.3804601		19	20	
1,2-Dichloropropane	A	50.0	56	0.3667572	0.412424		13	20	
Bromodichloromethane	A	50.0	58	0.4279118	0.4974202		16	20	
4-Methyl-2-pentanone	A	250	340	4.721789E-02	5.958017E-02		35	20	*
2-Hexanone	A	250	310	0.2679157	0.3300079		23	20	*

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS2	Calibration:	2103054
Lab File ID:	212DP002.D	Calibration Date:	03/10/21 08:57
Sequence:	AA66012	Injection Date:	04/21/21
Lab Sample ID:	AA66012-CCV1	Injection Time:	07:30

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
cis-1,3-Dichloropropene	A	50.0	62	0.5858308	0.7273188		24	20	*
Toluene	A	50.0	51	1.382929	1.402524		1.4	20	
trans-1,3-Dichloropropene	A	50.0	49	0.9949631	0.9746255		-2	20	
1,1,2-Trichloroethane	A	50.0	49	0.5380963	0.5260351		-2.2	20	
Tetrachloroethene	A	50.0	56	0.4198975	0.4667235		11	20	
Dibromochloromethane	A	50.0	45	0.7405405	0.660859		-11	20	
1,2-Dibromoethane	A	50.0	47	0.6605201	0.6242793		-5.5	20	
Chlorobenzene	A	50.0	47	1.550303	1.471886		-5.1	20	
Ethylbenzene	A	50.0	48	0.7935253	0.7606745		-4.1	20	
m,p-Xylenes	A	100	96	0.9705429	0.9315663		-4	20	
o-Xylene	A	50.0	49	0.9559986	0.9459419		-1.1	20	
Bromoform	A	50.0	55	0.3849412	0.4255451		11	20	
Styrene	A	50.0	49	1.637021	1.61926		-1.1	20	
Isopropylbenzene	A	50.0	48	2.395216	2.280571		-4.8	20	
1,1,2,2-Tetrachloroethane	A	50.0	53	0.6920671	0.7274596		5.1	20	
1,2,4-Trichlorobenzene	A	50.0	47	0.6933419	0.6460057		-6.8	20	
1,3-Dichlorobenzene	A	50.0	47	1.398388	1.304125		-6.7	20	
1,4-Dichlorobenzene	A	50.0	45	1.454236	1.299909		-11	20	
1,2-Dichlorobenzene	A	50.0	47	1.33251	1.239456		-7	20	
1,2-Dibromo-3-chloropropane	A	50.0	35	0.1676609	0.1140313		-31	20	*

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA65289	Instrument:	OVGCMS2
Calibration:	2103054		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A0I0903	MS Tune	AA65289-TUN1	212CD001.D	03/09/21 07:55
A1C0778	8260 Calibration 1.0 PPB	AA65289-CAL1	212CD002.D	03/09/21 08:30
A1C0779	8260 Calibration 2.0 PPB	AA65289-CAL2	212CD003.D	03/09/21 08:59
A1C0780	8260 Calibration 5.0 PPB	AA65289-CAL3	212CD004.D	03/09/21 09:27
A1C0781	8260 Calibration 10 PPB	AA65289-CAL4	212CD005.D	03/09/21 09:56
A1C0782	8260 Calibration 20 PPB	AA65289-CAL5	212CD006.D	03/09/21 10:25
A1C0783	8260 Calibration 50 PPB	AA65289-CAL6	212CD007.D	03/09/21 10:53
A1C0784	8260 Calibration 80 PPB	AA65289-CAL7	212CD008.D	03/09/21 11:22
A1C0785	8260 Calibration 100 PPB	AA65289-CAL8	212CD009.D	03/09/21 11:50
A1C0786	8260 SCV 50 PPB/20 Gases	AA65289-SCV1	212CD013.D	03/09/21 14:04

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2103054
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 03/10/21 08:57

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	1	0.9629509	2	1.00115	5	0.9130478	10	0.9351326	20	1.143952	50	1.135256
Chloromethane	1	1.218475	2	1.166378	5	1.020541	10	0.977044	20	1.141262	50	1.093927
Vinyl chloride	1	0.7831949	2	0.8310802	5	0.7680407	10	0.7799153	20	0.924546	50	0.9082744
Bromomethane	1	0.4855345	2	0.5247368	5	0.4775856	10	0.4689483	20	0.4404474	50	0.329613
Chloroethane	1	0.528444	2	0.4736466	5	0.4094507	10	0.4309886	20	0.464119	50	0.4424994
Trichlorofluoromethane	1	0.7571013	2	0.7682304	5	0.7569387	10	0.773343	20	0.9107586	50	0.8884645
Freon 113	1	0.5095019	2	0.5238474	5	0.4960221	10	0.4951967	20	0.5375287	50	0.5569136
Acetone	5	0.2865658	10	0.2420706	25	0.2098635	50	0.1748565	100	0.1906963	250	0.1898775
1,1-Dichloroethene	1	0.5052496	2	0.5066526	5	0.4470051	10	0.4257881	20	0.4741616	50	0.5130383
Carbon disulfide	5	1.604545	10	1.478097	25	1.434809	50	1.684823	100	1.766817	250	1.783578
Methylene Chloride	1	0.7313943	2	0.6639748	5	0.5697681	10	0.6298371	20	0.6457918	50	0.6253248
Methyl-tert-Butyl Ether	1	1.692219	2	1.743589	5	1.519288	10	1.4515	20	1.605888	50	1.652303
trans-1,2-Dichloroethene	1	0.5549242	2	0.5545805	5	0.4825955	10	0.4601443	20	0.5098801	50	0.5331158
cis-1,2-Dichloroethene	1	0.5491256	2	0.5892665	5	0.5344983	10	0.5027518	20	0.5582572	50	0.5942978
1,1-Dichloroethane	1	1.280713	2	1.21816	5	1.08567	10	0.9896563	20	1.077779	50	1.087997
2-Butanone	5	7.661858E-02	10	9.215998E-02	25	6.869602E-02	50	5.517473E-02	100	5.833319E-02	250	5.888253E-02
Chloroform	1	1.055342	2	1.133669	5	0.9757319	10	0.918794	20	1.014148	50	1.017747
1,1,1-Trichloroethane	1	0.8206924	2	0.8531172	5	0.7725697	10	0.7257193	20	0.7969784	50	0.828478
Methyl acetate	1	0.1266023	2	0.1356805	5	0.1047674	10	9.784772E-02	20	9.921221E-02	50	0.102088
Cyclohexane	1	0.9718421	2	0.9865248	5	0.9136089	10	0.8608306	20	0.9439559	50	0.9671388
Methyl cyclohexane	1	0.4186717	2	0.3889739	5	0.4548591	10	0.3709682	20	0.4003569	50	0.4160229
Carbon Tetrachloride	1	0.4693766	2	0.4823455	5	0.4463815	10	0.4293764	20	0.4484988	50	0.4707247
1,2-Dichloroethane	1	0.49566	2	0.544351	5	0.4632916	10	0.4320281	20	0.460018	50	0.4697415
Benzene	1	1.574153	2	1.399847	5	1.148849	10	1.023984	20	1.057862	50	1.064724
Trichloroethene	1	0.3158381	2	0.3365851	5	0.3050131	10	0.2902344	20	0.3088552	50	0.327305
1,2-Dichloropropane	1	0.4654341	2	0.3979197	5	0.3542553	10	0.3214417	20	0.3365832	50	0.3523757
Bromodichloromethane	1	0.4583157	2	0.446786	5	0.4029338	10	0.3869483	20	0.4193806	50	0.4279179
4-Methyl-2-pentanone	5	6.124018E-02	10	5.602297E-02	25	0.045292	50	0.0415087	100	4.095342E-02	250	4.409484E-02
2-Hexanone	5	0.2715288	10	0.3137622	25	0.2659034	50	0.2507961	100	0.2534477	250	0.2628961
cis-1,3-Dichloropropene	1	0.6047358	2	0.6238566	5	0.5429268	10	0.5238322	20	0.5713625	50	0.6005754
Toluene	1	1.402892	2	1.460348	5	1.337111	10	1.220114	20	1.333804	50	1.417909

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2103054
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 03/10/21 08:57

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	1	0.9725595	2	1.063622	5	0.9537202	10	0.8917849	20	0.9930434	50	1.017975
1,1,2-Trichloroethane	1	0.5631086	2	0.5902566	5	0.504149	10	0.4915265	20	0.5228565	50	0.5465517
Tetrachloroethene	1	0.3992374	2	0.4373198	5	0.3966177	10	0.3935136	20	0.4211542	50	0.4276677
Dibromochloromethane	1	0.6797703	2	0.7931111	5	0.7216715	10	0.6373902	20	0.7296715	50	0.7748404
1,2-Dibromoethane	1	0.660705	2	0.7008942	5	0.6155324	10	0.5821577	20	0.6495998	50	0.6778992
Chlorobenzene	1	1.636896	2	1.693107	5	1.465991	10	1.383689	20	1.511416	50	1.544965
Ethylbenzene	1	0.7800903	2	0.8283605	5	0.7558291	10	0.707268	20	0.7802424	50	0.8101387
m,p-Xylenes	2	0.9854967	4	1.008019	10	0.9411896	20	0.8773283	40	0.9404274	100	0.9805163
o-Xylene	1	0.8624799	2	0.9894843	5	0.9094917	10	0.8640508	20	0.950414	50	0.9956992
Bromoform	1	0.3665539	2	0.376941	5	0.3603716	10	0.3450732	20	0.3851428	50	0.4018968
Styrene	1	1.65528	2	1.688787	5	1.520012	10	1.433898	20	1.618377	50	1.683169
Isopropylbenzene	1	2.361833	2	2.459042	5	2.266234	10	2.135364	20	2.351638	50	2.476129
1,1,2,2-Tetrachloroethane	1	0.7374203	2	0.7504707	5	0.6396191	10	0.6174857	20	0.6664488	50	0.7033133
1,2,4-Trichlorobenzene	1	0.6755302	2	0.64151	5	0.6263674	10	0.6048392	20	0.683242	50	0.7261299
1,3-Dichlorobenzene	1	1.413105	2	1.435084	5	1.271424	10	1.261615	20	1.355599	50	1.435628
1,4-Dichlorobenzene	1	1.567901	2	1.517829	5	1.405755	10	1.288807	20	1.371389	50	1.446464
1,2-Dichlorobenzene	1	1.303261	2	1.371542	5	1.211721	10	1.177105	20	1.299253	50	1.387116
1,2-Dibromo-3-chloropropane	1	0.212409	2	0.2065509	5	0.154168	10	0.1373155	20	0.1453144	50	0.1527023
Dibromofluoromethane	50	0.548855	55	0.5608799	60	0.5543643	50	0.5496016	65	0.5539103	50	0.5533358
Toluene-d8	50	0.9346092	55	0.9465188	60	0.9424974	50	0.9553555	65	0.934185	50	0.9392933
4-Bromofluorobenzene	50	0.8534919	55	0.85705	60	0.8490276	50	0.8645696	65	0.8573421	50	0.8856145

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2103054
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 03/10/21 08:57

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	80	1.232381	100	1.256932								
Chloromethane	80	1.163767	100	1.222139								
Vinyl chloride	80	0.9791373	100	0.9993708								
Bromomethane	80	0.2246743	100	~~0.1871663~~								
Chloroethane	80	0.4667161	100	0.4595652								
Trichlorofluoromethane	80	0.9518414	100	0.9490496								
Freon 113	80	0.5854884	100	0.5786782								
Acetone	400	0.1939092	500	0.1910513								
1,1-Dichloroethene	80	0.535717	100	0.5287								
Carbon disulfide	400	1.852588	500	1.797904								
Methylene Chloride	80	0.6246768	100	0.6075552								
Methyl-tert-Butyl Ether	80	1.705031	100	1.664927								
trans-1,2-Dichloroethene	80	0.5679302	100	0.5727682								
cis-1,2-Dichloroethene	80	0.6332128	100	0.6227026								
1,1-Dichloroethane	80	1.123556	100	1.095906								
2-Butanone	400	6.190635E-02	500	0.0607376								
Chloroform	80	1.08207	100	1.075495								
1,1,1-Trichloroethane	80	0.874716	100	0.8642298								
Methyl acetate	80	0.1070014	100	0.1053113								
Cyclohexane	80	1.021414	100	0.9924252								
Methyl cyclohexane	80	0.4241667	100	0.4156405								
Carbon Tetrachloride	80	0.4847605	100	0.4795778								
1,2-Dichloroethane	80	0.4831183	100	0.4780825								
Benzene	80	1.085549	100	1.063654								
Trichloroethene	80	0.3415202	100	0.3424428								
1,2-Dichloropropane	80	0.3541874	100	0.3518603								
Bromodichloromethane	80	0.4406068	100	0.4404055								
4-Methyl-2-pentanone	400	0.0443242	500	0.0443068								
2-Hexanone	400	0.2636715	500	0.26132								
cis-1,3-Dichloropropene	80	0.6136402	100	0.6057173								
Toluene	80	1.458214	100	1.433042								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2103054
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 03/10/21 08:57

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	80	1.039968	100	1.027032								
1,1,2-Trichloroethane	80	0.5449611	100	0.5413604								
Tetrachloroethene	80	0.4422631	100	0.4414063								
Dibromochloromethane	80	0.7952009	100	0.7926685								
1,2-Dibromoethane	80	0.7030185	100	0.6943545								
Chlorobenzene	80	1.597327	100	1.569035								
Ethylbenzene	80	0.8495578	100	0.836716								
m,p-Xylenes	160	1.0277	200	1.003666								
o-Xylene	80	1.04198	100	1.034389								
Bromoform	80	0.4259642	100	0.4175864								
Styrene	80	1.754819	100	1.741829								
Isopropylbenzene	80	2.570765	100	2.54072								
1,1,2,2-Tetrachloroethane	80	0.7186047	100	0.7031744								
1,2,4-Trichlorobenzene	80	0.7855318	100	0.8035843								
1,3-Dichlorobenzene	80	1.512372	100	1.502279								
1,4-Dichlorobenzene	80	1.521959	100	1.513784								
1,2-Dichlorobenzene	80	1.455057	100	1.455029								
1,2-Dibromo-3-chloropropane	80	0.1656948	100	0.1671324								
Dibromofluoromethane	70	0.5717455	75	0.5773826								
Toluene-d8	70	0.9384964	75	0.9464445								
4-Bromofluorobenzene	70	0.8628971	75	0.8715379								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2103054
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 03/10/21 08:57

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	1.0726	12.70566	5.88125	6.074623E-02	0.9973265		0.99	
Chloromethane	1.125442	7.90604	6.3475	7.247758E-02			20	
Vinyl chloride	0.871695	10.67617	6.545	0.0823081			20	
Bromomethane	0.4216486	25.19187	7.194286	0.2101729		0.999951	0.99	
Chloroethane	0.4594287	7.644151	7.41625	0.160176	0.9994555		0.99	
Trichlorofluoromethane	0.8444659	10.49299	7.68375	0.1189745			20	
Freon 113	0.5353971	6.630047	8.50875	4.331832E-02			20	
Acetone	0.2098613	17.57383	9.22375	5.911442E-02	0.9997398		0.99	
1,1-Dichloroethene	0.492039	7.989483	8.47	9.018307E-02			20	
Carbon disulfide	1.675395	9.257298	8.58625	6.056953E-02			20	
Methylene Chloride	0.6372904	7.369772	9.18375	5.802199E-02			20	
Methyl-tert-Butyl Ether	1.629343	6.085416	9.50625	7.749071E-02			20	
trans-1,2-Dichloroethene	0.5294924	7.8302	9.415	7.998514E-02			20	
cis-1,2-Dichloroethene	0.5730141	7.809786	10.65	1.055785E-02			20	
1,1-Dichloroethane	1.11993	8.059711	10.08875	6.528508E-02			20	
2-Butanone	6.656362E-02	18.59918	11.155	6.816518E-02	0.9992668		0.99	
Chloroform	1.034125	6.512295	10.86625	4.746036E-02			20	
1,1,1-Trichloroethane	0.8170626	6.157609	11.16375	4.279369E-02			20	
Methyl acetate	0.1098139	12.50422	9.36875	9.042621E-02			20	
Cyclohexane	0.9572176	5.282833	10.9325	4.156259E-02			20	
Methyl cyclohexane	0.4112075	6.099235	12.05375	3.732049E-02			20	
Carbon Tetrachloride	0.4638802	4.337352	11.1275	3.876405E-02			20	
1,2-Dichloroethane	0.4782864	6.826013	11.6475	6.000561E-02			20	
Benzene	1.177328	16.97569	11.505	4.517505E-02	0.9997383		0.99	
Trichloroethene	0.3209742	5.934409	12.01875	2.655112E-02			20	
1,2-Dichloropropane	0.3667572	12.37323	12.46625	3.825721E-02			20	
Bromodichloromethane	0.4279118	5.567148	12.48625	5.670444E-02			20	
4-Methyl-2-pentanone	4.721789E-02	15.52791	13.48875	4.481918E-02	0.9997048		0.99	
2-Hexanone	0.2679157	7.341542	14.19125	7.085091E-02			20	
cis-1,3-Dichloropropene	0.5858308	6.149003	13.03	4.463944E-02			20	

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2103054
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 03/10/21 08:57

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Toluene	1.382929	5.913577	13.26125	2.659049E-02			20	
trans-1,3-Dichloropropene	0.9949631	5.524546	13.55125	2.941279E-02			20	
1,1,2-Trichloroethane	0.5380963	5.888949	13.70375	3.200149E-02			20	
Tetrachloroethene	0.4198975	4.924694	13.6375	3.135631E-02			20	
Dibromochloromethane	0.7405405	7.981106	13.9025	3.514839E-02			20	
1,2-Dibromoethane	0.6605201	6.566072	14.15875	4.622794E-02			20	
Chlorobenzene	1.550303	6.30415	14.6075	2.830057E-02			20	
Ethylbenzene	0.7935253	5.970608	14.565	3.673003E-02			20	
m,p-Xylenes	0.9705429	5.009833	14.68	1.011355E-02			20	
o-Xylene	0.9559986	7.462735	15.09875	4.087533E-02			20	
Bromoform	0.3849412	7.36823	15.23125	5.294235E-02			20	
Styrene	1.637021	6.743335	15.13875	1.643833E-02			20	
Isopropylbenzene	2.395216	6.107116	15.365	3.572018E-02			20	
1,1,2,2-Tetrachloroethane	0.6920671	6.775523	15.805	3.237499E-02			20	
1,2,4-Trichlorobenzene	0.6933419	10.50731	19.93125	5.589857E-02			20	
1,3-Dichlorobenzene	1.398388	6.805273	16.87875	0.0307369			20	
1,4-Dichlorobenzene	1.454236	6.457885	16.97375	2.211872E-02			20	
1,2-Dichlorobenzene	1.33251	7.780255	17.54125	2.676335E-02			20	
1,2-Dibromo-3-chloropropane	0.1676609	16.48136	18.65125	5.267157E-02	0.9977345		0.99	
Dibromofluoromethane	0.5587594	1.882086	11.05	1.757405E-02			20	
Toluene-d8	0.942175	0.7546022	13.21375	3.949602E-02			20	
4-Bromofluorobenzene	0.8626913	1.34262	15.70875	2.732772E-02			20	

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE02765-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2103054 **Laboratory ID:** AA65289-SCV1

Sequence: AA65289 **Standard ID:** A1C0786

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Cyclohexane	50.0	54	7.3	30.00
Ethylbenzene	50.0	55	9.8	30.00
Carbon Tetrachloride	50.0	52	4.1	30.00
1,3-Dichlorobenzene	50.0	56	11.1	30.00
4-Bromofluorobenzene	50.0	51	2.7	30.00
Toluene-d8	50.0	50	0.9	30.00
Dibromofluoromethane	50.0	48	-3.9	30.00
Methyl-tert-Butyl Ether	50.0	52	4.8	30.00
trans-1,2-Dichloroethene	50.0	52	3.3	30.00
cis-1,2-Dichloroethene	50.0	54	8.4	30.00
Tetrachloroethene	50.0	54	7.8	30.00
Acetone	250	280	12.8	30.00
1,2,4-Trichlorobenzene	50.0	58	16.6	30.00
Chloroform	50.0	51	2.3	30.00
Chlorobenzene	50.0	53	6.7	30.00
Toluene	50.0	55	9.5	30.00
Methyl cyclohexane	50.0	53	6.1	30.00
m,p-Xylenes	100	100	5.0	30.00
4-Methyl-2-pentanone	250	260	2.9	30.00
1,2-Dichloroethane	50.0	52	3.8	30.00
1,2-Dibromoethane	50.0	53	6.0	30.00
1,4-Dichlorobenzene	50.0	52	4.4	30.00
trans-1,3-Dichloropropene	50.0	55	10.2	30.00
cis-1,3-Dichloropropene	50.0	50	-0.4	30.00
Styrene	50.0	55	9.6	30.00
Dibromochloromethane	50.0	56	11.5	30.00
1,1-Dichloroethene	50.0	50	-0.2	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE02765-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2103054 **Laboratory ID:** AA65289-SCV1

Sequence: AA65289 **Standard ID:** A1C0786

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
1,2-Dibromo-3-chloropropane	50.0	51	1.5	30.00
1,2-Dichlorobenzene	50.0	56	11.0	30.00
o-Xylene	50.0	56	12.5	30.00
1,1,2,2-Tetrachloroethane	50.0	52	3.4	30.00
Methyl acetate	50.0	48	-4.6	30.00
Trichloroethene	50.0	54	8.1	30.00
1,1,2-Trichloroethane	50.0	52	3.7	30.00
2-Butanone	250	270	8.6	30.00
1,2-Dichloropropane	50.0	50	-0.6	30.00
Freon 113	50.0	52	3.1	30.00
2-Hexanone	250	240	-3.3	30.00
Trichlorofluoromethane	20.0	21	4.4	30.00
Isopropylbenzene	50.0	55	10.8	30.00
1,1-Dichloroethane	50.0	51	2.8	30.00
Bromodichloromethane	50.0	53	5.9	30.00
Bromoform	50.0	59	17.2	30.00
Carbon disulfide	50.0	56	12.2	30.00
Methylene Chloride	50.0	48	-3.6	30.00
Vinyl chloride	20.0	20	1.8	30.00
Chloroethane	20.0	19	-3.8	30.00
Chloromethane	20.0	20	1.4	30.00
Bromomethane	20.0	13	-37.0 *	30.00
1,1,1-Trichloroethane	50.0	52	4.1	30.00
Benzene	50.0	56	13.0	30.00
Dichlorodifluoromethane	20.0	20	-2.1	30.00

* Values outside of QC limits

ANALYSIS SEQUENCE

AA66012

Instrument: OVGCMS2

Calibration ID: 2103054

Printed: 4/21/2021 12:22:10PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA66012-TUN1	QC		1		A1B1157			
AA66012-CCV1	QC		2		A1D0987	A1B0764		
1D21003-BS1	QC		3			A1B0764		
1D21003-MS1	QC		4			A1B0764		
1D21003-MSD1	QC		5			A1B0764		
1D21003-BLK1	QC		6			A1B0764		
AA66012-CRL1	QC		7		A1D0993	A1B0764		
AE02765-01	60D TCL SOM01.2 CLP-LIK	E	8			A1B0764	Tetra Tech, Inc. (TE016)	History 1x VC jmw 4/19/21 custom
AE02765-01	8260D Halo	E	9			A1B0764	Tetra Tech, Inc. (TE016)	BatchQC
AE02765-01	8260D Arom	E	10			A1B0764	Tetra Tech, Inc. (TE016)	BatchQC
AE02765-01	624.1 Extended	E	11			A1B0764	Tetra Tech, Inc. (TE016)	BatchQC
AE02765-02	60D TCL SOM01.2 CLP-LIK	D	12			A1B0764	Tetra Tech, Inc. (TE016)	History 1x VC jmw 4/19/21 custom
AE02765-03	60D TCL SOM01.2 CLP-LIK	D	13			A1B0764	Tetra Tech, Inc. (TE016)	History 1x VC jmw 4/19/21 custom
AE02765-04	60D TCL SOM01.2 CLP-LIK	A	14			A1B0764	Tetra Tech, Inc. (TE016)	History 1x VC jmw 4/19/21 custom
AE03130-01	624.1 Extended	I	15			A1B0764		History ND jmw 4/16/21 Custom List,
AE01027-01RE1	8260D Halo	A	16			A1B0764		rr@1x VC high in CCV; cis12dce high
AE01027-02RE1	8260D Halo	B	17			A1B0764		rr@1x VC high in CCV; cis12dce high
AE01027-04RE1	8260D Halo	B	18			A1B0764		rr@50x cis12dce Re-extract added 4/2
AE01027-05RE1	8260D Halo	B	19			A1B0764		rr@50x cis12dce Re-extract added 4/2
AE01028-01RE1	8260D Halo	A	20			A1B0764		rr@2x VC high in CCV Re-extract ad
AE01028-01RE2	8260D Halo	A	21			A1B0764		rr@10x cis12dce Re-extract added 4/2
AE03217-02RE1	8260D Arom	B	22			A1B0764		rr@5x xylenes Re-extract added 4/21/
AE02941-01	8260D Arom	D	23			A1B0764		hist 1x

Samples Loaded By 4/21/21 Date

Data Processed By 4/21/21 Date

ANALYSIS SEQUENCE

AA66012

Instrument: OVGCMS2

Calibration ID: 2103054

Printed: 4/21/2021 12:22:10PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AE02941-02	8260D Arom	C	24			A1B0764		hist5x EB nc4/21/21
AE02941-03	8260D Arom	E	25			A1B0764		hist1x ND
AE02941-07	8260D Arom	C	26			A1B0764		hist1x ND
AE02941-08	8260D Arom	A	27			A1B0764		tb

Samples Loaded By 4/21/21 Date

Data Processed By 4/21/21 Date

PREPARATION BENCH SHEET

Printed: 4/21/2021 12:22:43PM

1D21003

ENCO Orlando

Analysis
624.1 Extended [EPA 624.1]
8260D Arom [EPA 8260D]
8260D Halo [EPA 8260D]
8260D TCL SOM01.2 CLP-LIKE [EPA 8260D]

Surrogate Solution
___ A1B1156 8260 surr working

Prepared using: EPA 5030B_MS

Spiking Solution
A1C1069 8260 2nd source Mega Mix
A1D0951 8260 2nd source
Gases/Acrolein virtual

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl[(1)]	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
1D21003-BLK1		Blank		QC			5	5			1	
1D21003-BS1		LCS		QC			5	5	A1D0951 A1C1069	2 2	1	
1D21003-MS1		Matrix Spike [AE02765-01]		QC	c2	N	5	5	A1D0951 A1C1069	2 2	1	
1D21003-MSD1		Matrix Spike Dup [AE02765-01]		QC	c2	N	5	5	A1D0951 A1C1069	2 2	1	
AE01027-01RE1		MW004/GW293 A[MS15	23-Apr-21	8260D Halo	c2	N	5	5			1	rr@1x VC high in CCV Re-extract added 4/21/2021 by KKW
AE01027-02RE1		MW005/GW294 B[MS15	23-Apr-21	8260D Halo	c2	N	5	5			1	rr@1x VC high in CCV Re-extract added 4/21/2021 by KKW
AE01027-04RE1		MW014/GW296 B[MS15	23-Apr-21	8260D Halo	c2	N	5	5			1	rr@50x cis12dce Re-extract added 4/21/2021 by KKW
AE01027-05RE1		DUP/QC084 B[MS15	23-Apr-21	8260D Halo	c2	N	5	5			1	rr@50x cis12dce Re-extract added 4/21/2021 by KKW
AE01028-01RE1		IDW A[MS15	23-Apr-21	8260D Halo	c2	N	5	5			1	rr@2x VC high in CCV Re-extract added 4/21/2021 by KKW
AE01028-01RE2		IDW A[MS15	23-Apr-21	8260D Halo	c2	N	5	5			1	rr@10x cis12dce Re-extract added 4/21/2021 by KKW
AE02765-01	C	CRCA-MW0031-058.0-202104E[MS50	23-Apr-21	8260D TCL SOM01.2 CLP-LIKE	c2	N	5	5			1	History 1x VC jmw 4/19/21 custom
AE02765-01	C	CRCA-MW0031-058.0-202104E[MS50		8260D Halo	c2	N	5	5			1	Added for BatchQC in: 1D21003
AE02765-01	C	CRCA-MW0031-058.0-202104E[MS50		8260D Arom	c2	N	5	5			1	Added for BatchQC in: 1D21003
AE02765-01	C	CRCA-MW0031-058.0-202104E[MS50		624.1 Extended	c2	N	5	5			1	Added for BatchQC in: 1D21003
AE02765-02	C	CRCA-MW0018-058.0-202104D[MS50	23-Apr-21	8260D TCL SOM01.2 CLP-LIKE	c2	N	5	5			1	History 1x VC jmw 4/19/21 custom

PREPARATION BENCH SHEET

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1D21003

ENCO Orlando

Prepared using: EPA 5030B_MS

Surrogate Solution
___ A1B1156 8260 surr working

Spiking Solution
A1C1069 8260 2nd source Mega Mix
A1D0951 8260 2nd source Gases/Acrolein virtual

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
AE02765-03	C	CRCA-MW0019-058.0-202104 D[MS50	23-Apr-21	8260D TCL SOM01.2 CLP-LIKE	<2	N	5	5			1	History 1x VC jmw 4/19/21 custom
AE02765-04	C	CRCA-MW0032-058.0-202104 A[MS50	23-Apr-21	8260D TCL SOM01.2 CLP-LIKE	<2	N	5	5			1	History 1x VC jmw 4/19/21 custom
AE02941-01		MW-15 D[MS18	27-Apr-21	8260D Arom	<2	N	5	5			1	hist 1x
AE02941-02		MW-1 C[MS18	27-Apr-21	8260D Arom	<2	N	5	5			1	hist5x EB nc4/21/21
AE02941-03		MW-12 E[MS18	27-Apr-21	8260D Arom	<2	N	5	5			1	hist1x ND
AE02941-07		MW-2 C[MS18	27-Apr-21	8260D Arom	<2	N	5	5			1	hist1x ND
AE02941-08		TRIP BLANK A[MS18	27-Apr-21	8260D Arom	<2	N	5	5			1	tb
AE03130-01		EFF-OF1 (GRAB) I[MS11]	28-Apr-21	624.1 Extended	<2	N	5	5			1	History ND jmw 4/16/21 Custom List, JAJ 3/9/20.
AE03217-02RE1		MW-5 B[MS18	26-Apr-21	8260D Arom	<2	N	5	5			1	rr@5x xylenes Re-extract added 4/21/2021 by KKW

(1) Before solvent extraction proceeds, verify that there is no residual chlorine above 0.5 mg/L. Any sample above this must be treated to remove excess chlorine before extraction, and this documented as a comment.

Instrument 2

Start Date 4/21/21

StopDate 4/21/21

Instrument ID OVGCMS2

Standard ID#	Description	Manufacture Lot#
A0A1401	pH Test Papers (1.0 to 12.0)	231018
A1B0955	Residual Chlorine Strips (Potassium Iodide S	102916
A1C1135	P&T Anti-Foam working solution	N/A

Samples Prepared By Date 4/21/21

Samples Prepared By Date

Manual Integration Review Form

ENVIRONMENTAL CONSERVATION LABORATORIES, INC. ☐ Cary ☐ Jacksonville ☒ Orlando

I hereby attest that the manual integrations contained in this package have been thoroughly reviewed and are in agreement with the associated hardcopy data.

The electronic files listed below have been reviewed for accuracy, completeness and comply with ENCO labs QA-11 Manual Integration Policy including:

- "Before" and "After" chromatograms are provided
- Manual integrations are indicated on expanded scale "after" chromatograms at a scale large enough to see the manual integration performed.
- Reintegration technique marked if available on the data system
- Technical justification for manual integration
- Appropriate flags indicating which analytes were manually integrated are included in the raw data
- Analyst's initials and date.

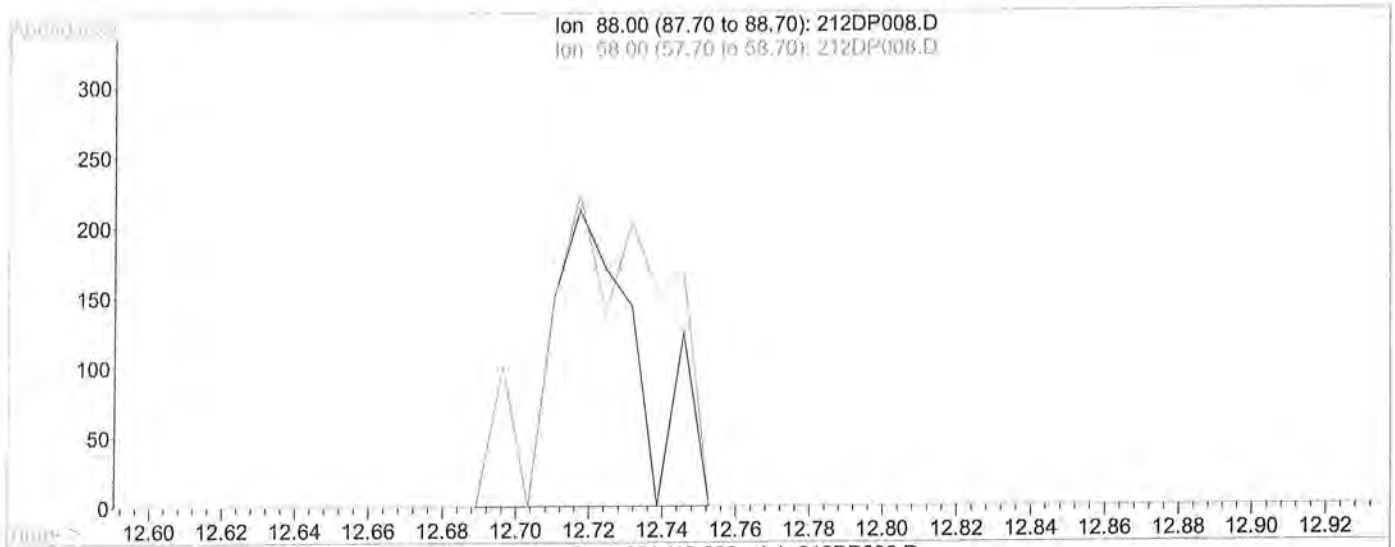
Instrument ID:	OVGCMS 2
Sequence/Batch ID:	AA66012 / 1021003
Data File Prefix:	212DP
Date and Time Range of MIs:	4/21/21 12:00
Reviewer Print Name:	Karen Watson
Reviewer Signature:	[signature] 4/22/21
Date of Review:	04/22/21

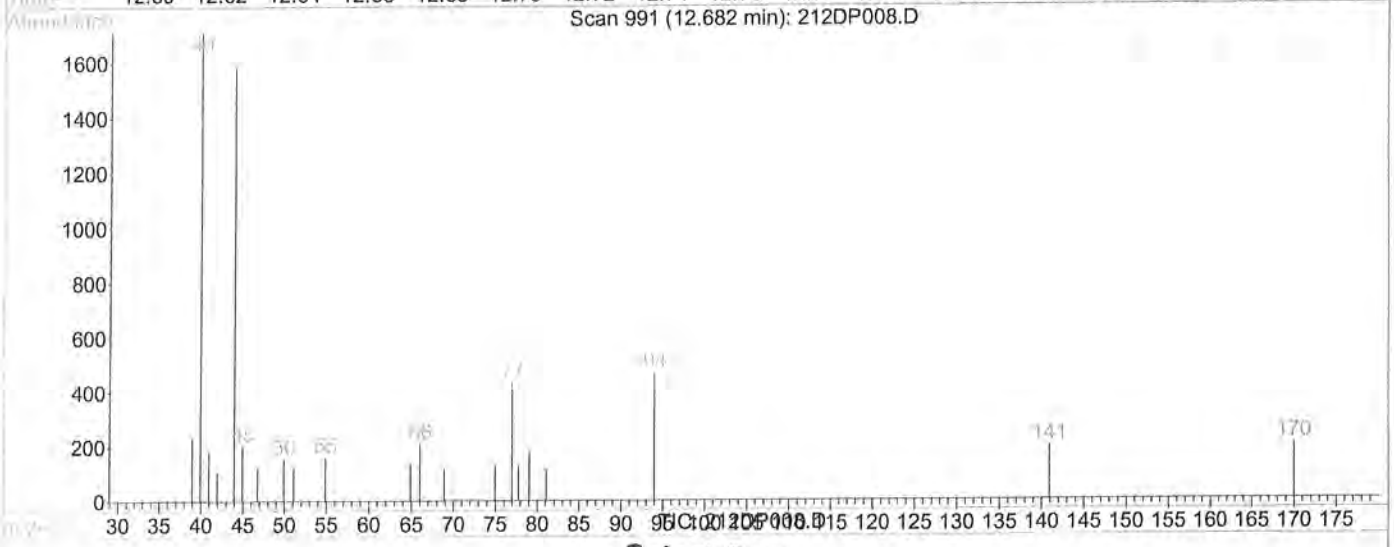
Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\042121\212DP008.D
Acq On : 21 Apr 2021 10:25 am
Sample : aa66012-cr11
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 21 12:00 2021

Vial: 7
Operator: nmc
Inst : OVGCMS2
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Multiple Level Calibration





(47) 1,4-Dioxane

12.68min 0.00ug/kg

response 0

Ion	Exp%	Act%
88.00	100	0.00
58.00	82.60	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)
[X] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:

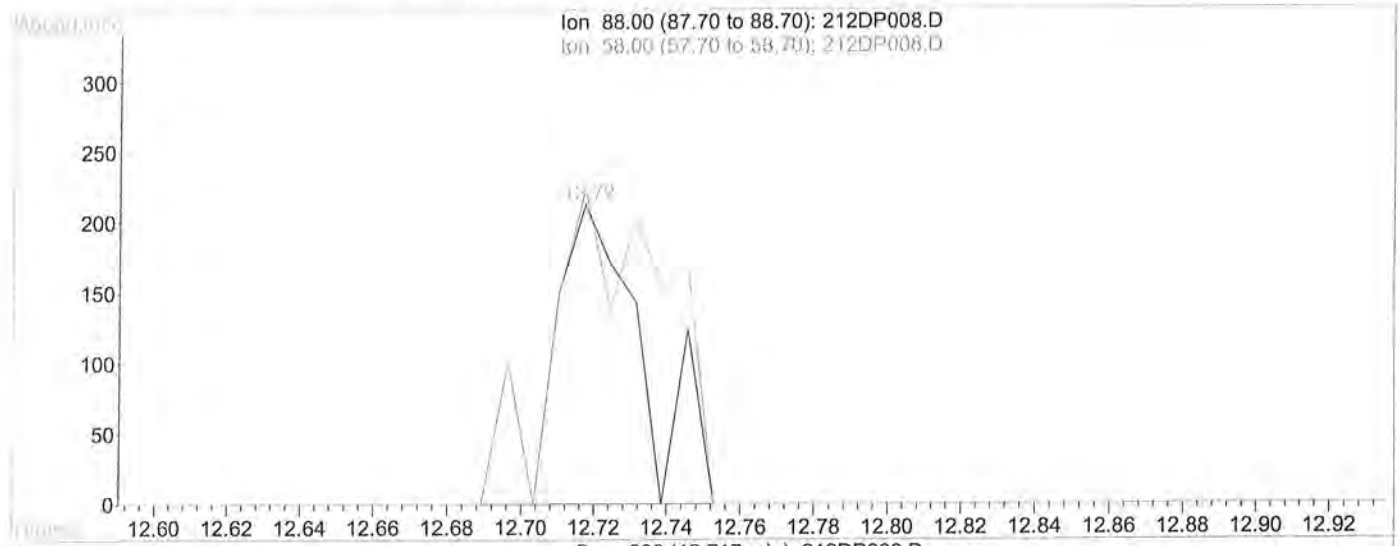
Review by/Date NL 4/21/21

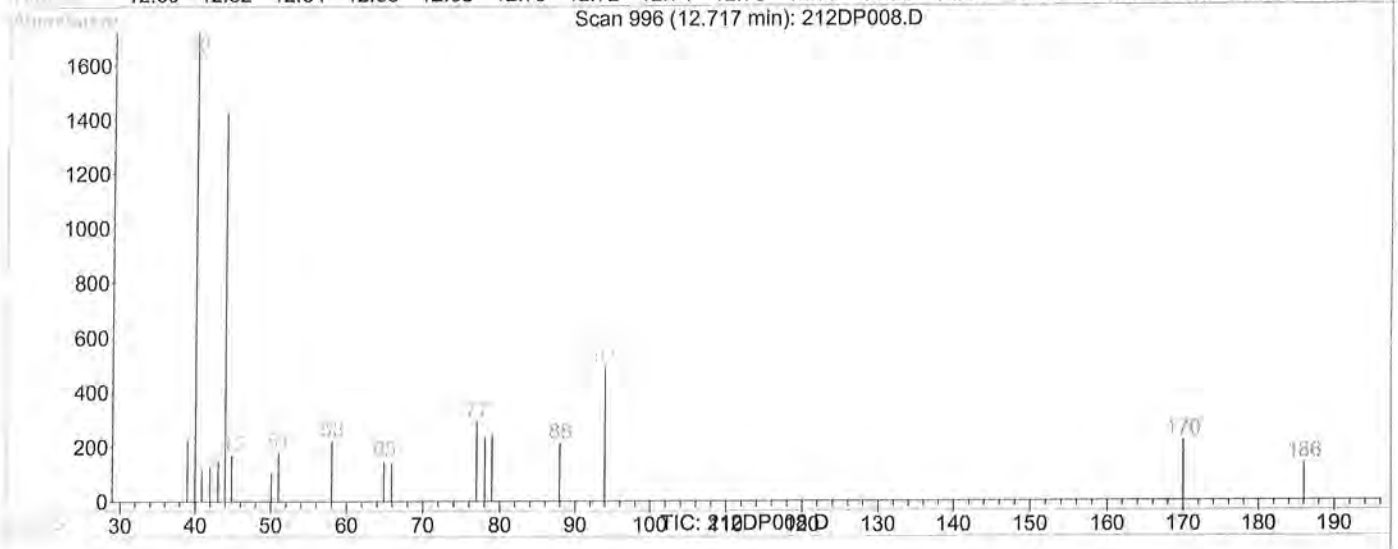
Reviewed by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\042121\212DP008.D Vial: 7
Acq On : 21 Apr 2021 10:25 am Operator: nmc
Sample : aa66012-crl1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 12:00 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Multiple Level Calibration





(47) 1,4-Dioxane

12.72min 13.91ug/kg m

response 339

Ion	Exp%	Act%
88.00	100	100
58.00	82.60	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

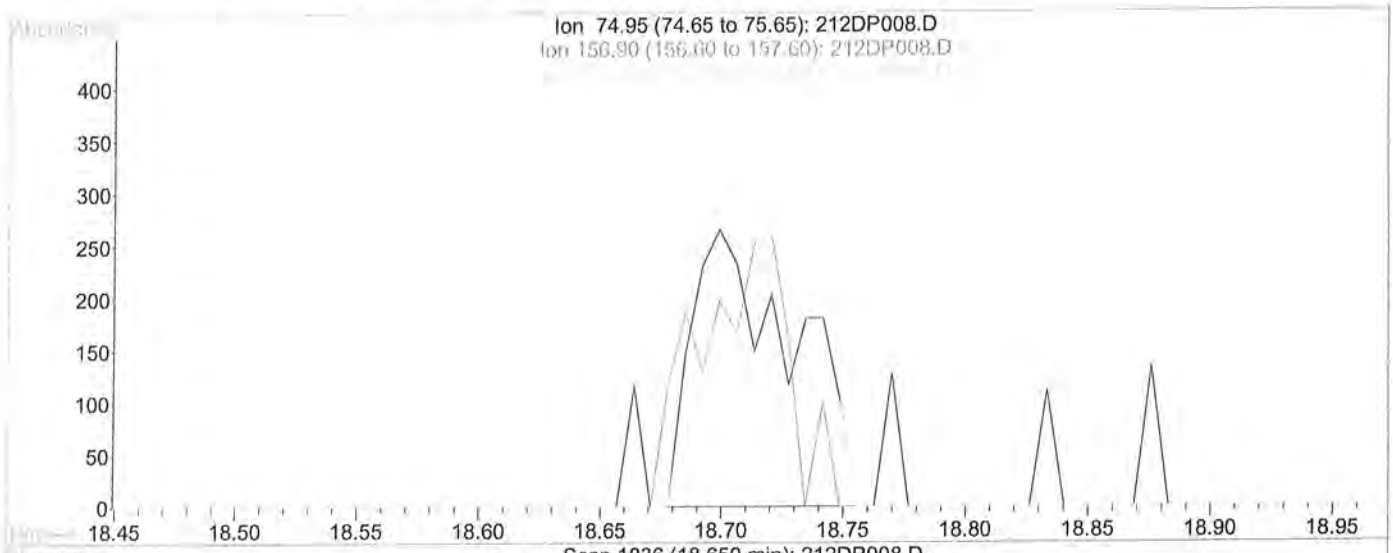
Review by/Date MC 4/4/21

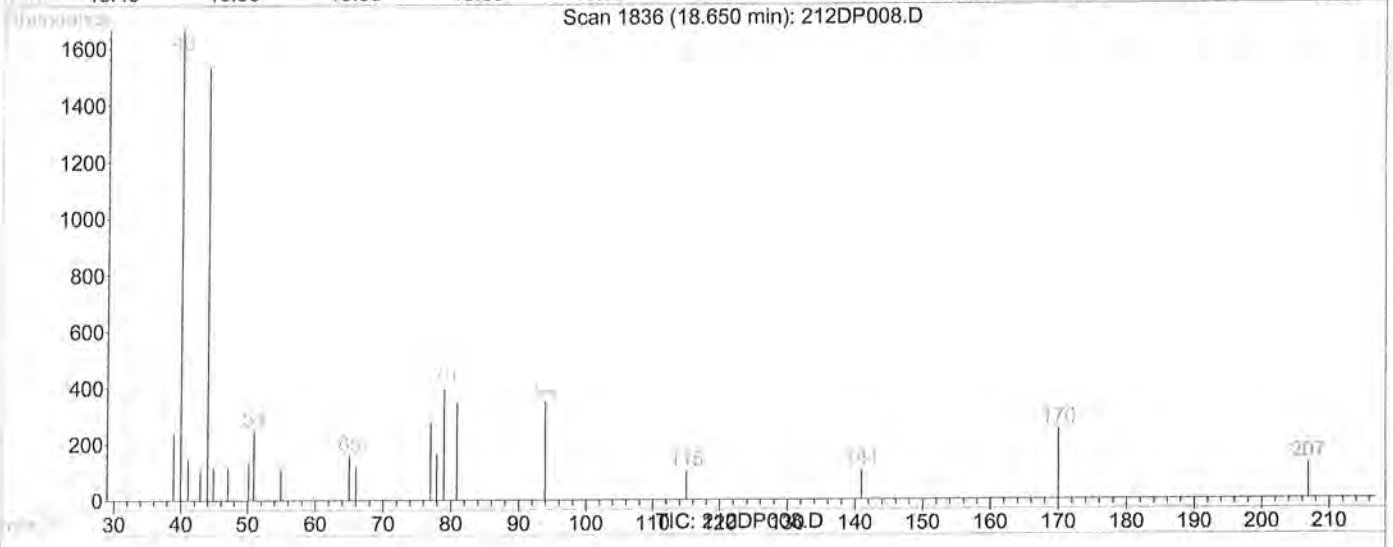
Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\042121\212DP008.D Vial: 7
Acq On : 21 Apr 2021 10:25 am Operator: nmc
Sample : aa66012-crl1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 12:00 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Multiple Level Calibration





(92) DBCP

18.65min 0.00ug/kg

response 0

Ion	Exp%	Act%
74.95	100	0.00
156.90	103.00	0.00#
154.90	79.30	0.00#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date: NC 4/21/21

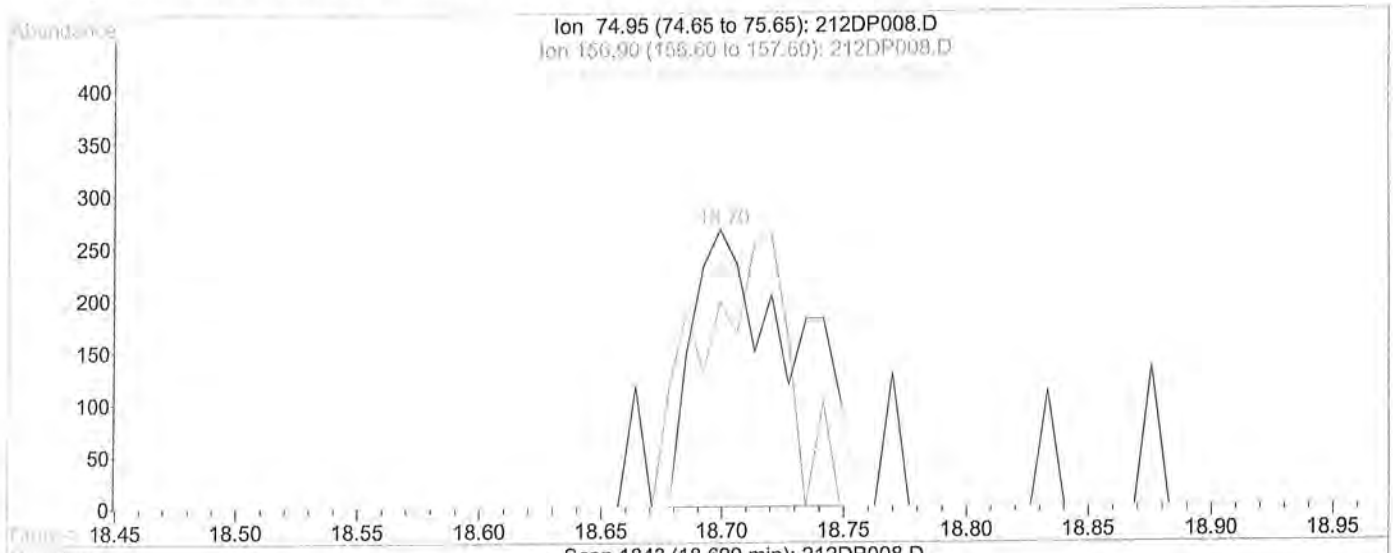
Review by/Date:

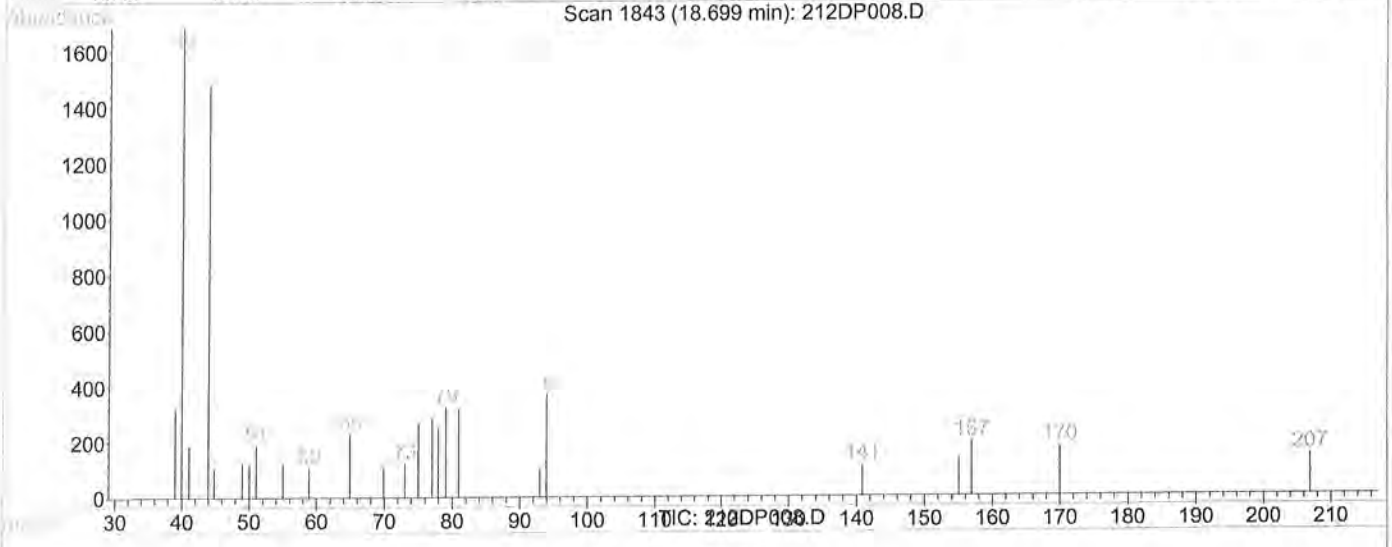
Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\042121\212DP008.D
Acq On : 21 Apr 2021 10:25 am
Sample : aa66012-crl1
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 21 12:00 2021

Vial: 7
Operator: nmc
Inst : OVGCMS2
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Multiple Level Calibration





(92) DBCP

18.70min 1.15ug/kg m

response 870

Ion	Exp%	Act%
74.95	100	100
156.90	103.00	0.00#
154.90	79.30	0.00#
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date NC 4/21/21

Review by/Date:

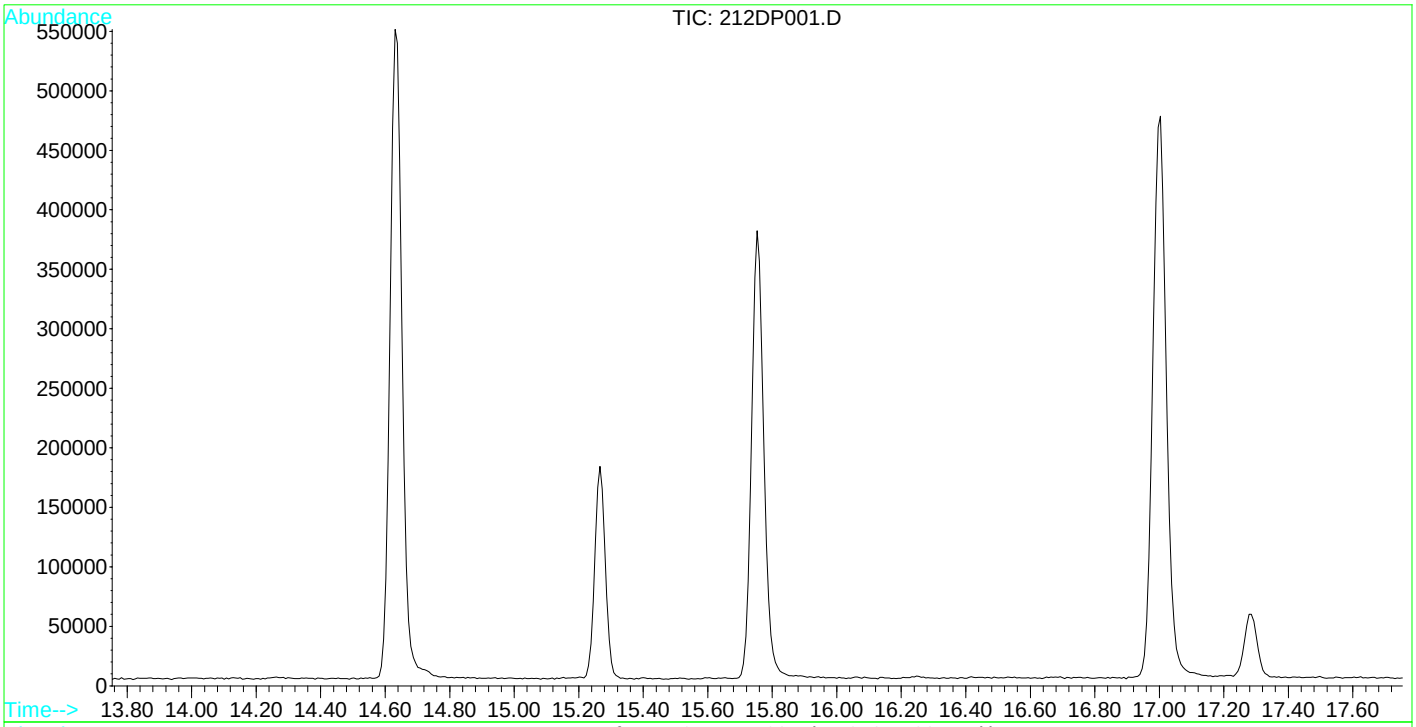
Sequence Name: C:\HPCHEM\1\SEQUENCE\212DP.S
Comment:
Operator: nmc
Data Path: C:\HPchem\1\DATA\042121\
Pre-Seq Cmd:
Post-Seq Cmd:

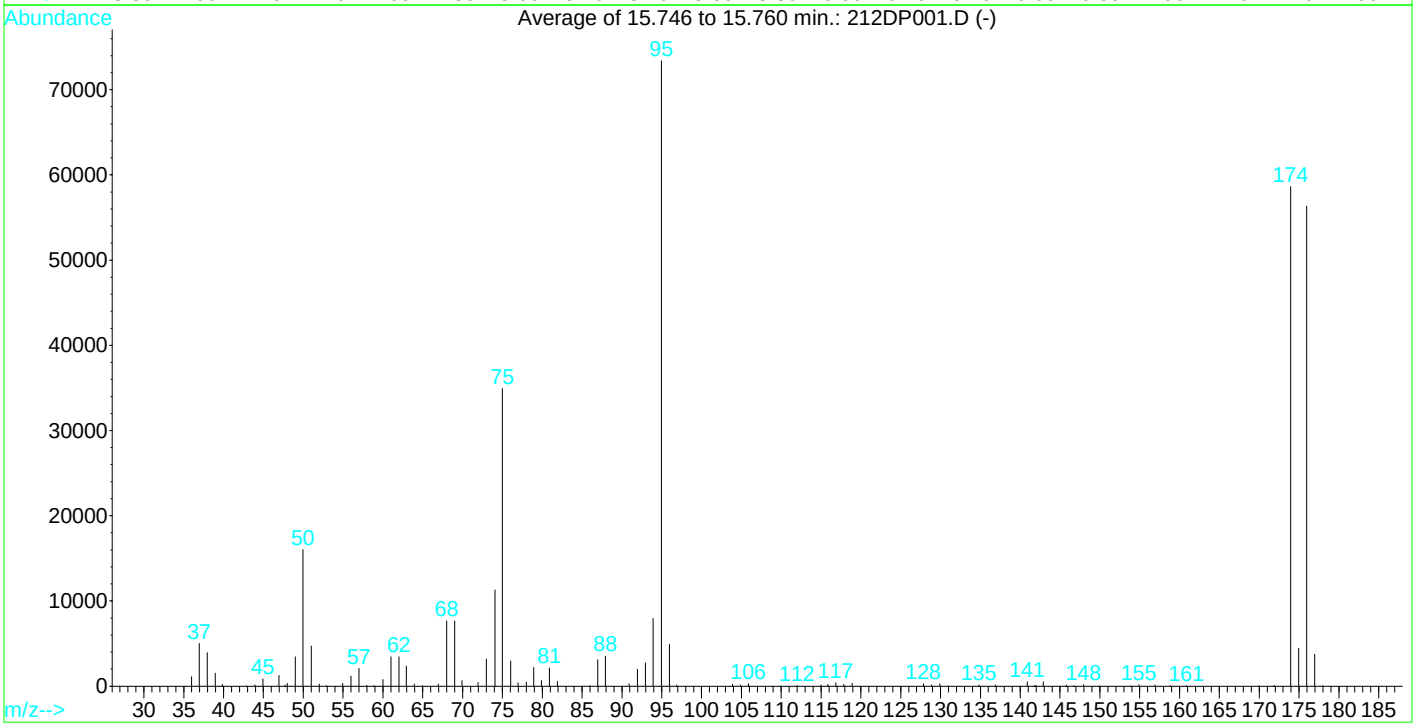
Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line	Type	Vial	DataFile	Method	Sample Name
1	Sample	1	212DP001	8260S	tun1
2	Sample	2	212DP002	8260S	aa66012-ccv1
3	Sample	3	212DP003	8260S	1d21003-bs1
4	Sample	4	212DP004	8260S	1d21003-ms1
5	Sample	4	212DP005	8260S	1d21003-msd1
6	Sample	5	212DP006	8260S	rinse
7	Sample	6	212DP007	8260S	1d21003-blk1
8	Sample	7	212DP008	8260S	aa66012-crl1
9	Sample	8	212DP009	8260S	ae02765-01
10	Sample	9	212DP010	8260S	ae02765-02
11	Sample	10	212DP011	8260S	ae02765-03
12	Sample	11	212DP012	8260S	ae02765-04
13	Sample	12	212DP013	8260S	ae03130-01
14	Sample	13	212DP014	8260S	ae01027-01re1
15	Sample	14	212DP015	8260S	ae01027-02re1
16	Sample	15	212DP016	8260S	ae01027-04re1@50
17	Sample	16	212DP017	8260S	ae01027-05re1@50
18	Sample	17	212DP018	8260S	ae01028-01re1@2
19	Sample	18	212DP019	8260S	ae01028-01re2@10
20	Sample	19	212DP020	8260S	ae03217-02re2@5
21	Sample	20	212DP021	8260S	ae02941-01 R1 50x EB, xylenes
22	Sample	21	212DP022	8260S	ae02941-02@5x; RT 1x overdilute
23	Sample	22	212DP023	8260S	ae02941-03
24	Sample	23	212DP024	8260S	ae02941-07
25	Sample	24	212DP025	8260S	ae02941-08

Data File : C:\HPCHEM\1\DATA\042121\212DP001.D Vial: 1
Acq On : 21 Apr 2021 6:59 am Operator: nmc
Sample : tun1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal





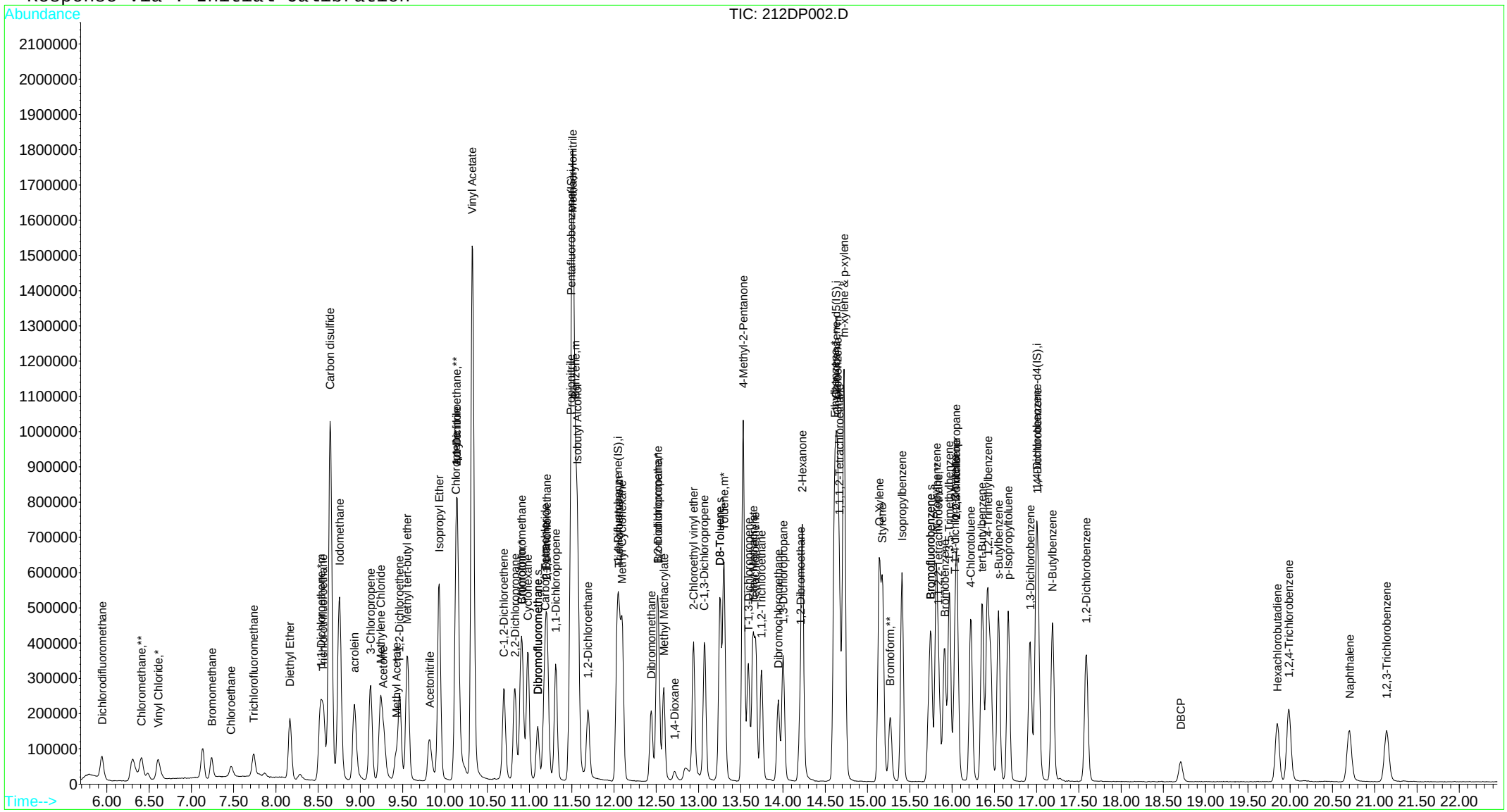
AutoFind: Scans 1425, 1426, 1427; Background Corrected with Scan 1414

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
95	174	50	200	125.2	73384	PASS
96	95	5	9	6.7	4904	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	200	79.9	58611	PASS
175	174	5	9	7.6	4470	PASS
176	174	95	105	96.1	56349	PASS
177	176	5	10	6.6	3732	PASS

Quantitation Report

Data File : C:\HPCHEM\1\DATA\042121\212DP002.D Vial: 2
Acq On : 21 Apr 2021 7:30 am Operator: nmc
Sample : aa66012-ccv1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 7:53 2021 Quant Results File: 030921.RES

Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\042121\212DP002.D Vial: 2
Acq On : 21 Apr 2021 7:30 am Operator: nmc
Sample : aa66012-ccv1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 7:53 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.49	168	232489	50.00	ug/kg	0.04
38) 1,4-Difluorobenzene(IS)	12.04	114	416501	50.00	ug/kg	0.04
56) Chlorobenzene-d5(IS)	14.63	82	252025	50.00	ug/kg	0.04
79) 1,4-Dichlorobenzene-d4(IS)	17.00	152	224868	50.00	ug/kg	0.05
System Monitoring Compounds						
30) Dibromofluoromethane	11.10	113	124382	47.87	ug/kg	0.05
Spiked Amount 50.000	Range 53 - 146		Recovery = 95.74%			
54) D8-Toluene	13.25	98	440456	56.12	ug/kg	0.04
Spiked Amount 50.000	Range 41 - 146		Recovery = 112.24%			
75) Bromofluorobenzene	15.75	95	202635	46.60	ug/kg	0.04
Spiked Amount 50.000	Range 41 - 142		Recovery = 93.20%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.94	85	103391	20.73	ug/kg	99
3) Chloromethane	6.41	50	111044	21.22	ug/kg	98
4) Vinyl Chloride	6.61	62	95005	23.44	ug/kg	91
5) Bromomethane	7.24	96	48643	24.90	ug/kg	95
6) Chloroethane	7.47	64	48452	22.68	ug/kg	96
7) Trichlorofluoromethane	7.74	101	77146	19.65	ug/kg	99
8) Trichlorotrifluoroethane	8.56	101	121839	48.94	ug/kg	89
9) acrolein	8.93	56	337185	493.15	ug/kg	98
10) Acetone	9.28	43	244740	274.44	ug/kg	92
11) 1,1-Dichloroethene	8.53	96	108618	47.48	ug/kg	90
12) 3-Chloropropene	9.12	76	89732	60.44	ug/kg	82
13) Acetonitrile	9.82	41	227385	606.57	ug/kg	100
14) Iodomethane	8.75	142	961260	290.54	ug/kg	89
15) Carbon disulfide	8.64	76	2291756	294.18	ug/kg	100
16) Methylene Chloride	9.24	84	157411	53.12	ug/kg	90
17) Methyl tert-butyl ether	9.55	73	425943	56.22	ug/kg	98
18) Acrylonitrile	10.15	53	887114	555.36	ug/kg	98
19) T-1,2-Dichloroethene	9.47	96	138529	56.27	ug/kg	90
20) Isopropyl Ether	9.93	45	679647	53.31	ug/kg	96
21) C-1,2-Dichloroethene	10.70	96	159126	59.72	ug/kg	94
22) 1,1-Dichloroethane	10.14	63	268920	51.64	ug/kg	99
23) Vinyl Acetate	10.33	43	2418729	285.97	ug/kg	97
24) Chloroprene	10.12	88	137427	63.01	ug/kg	79
25) 2-Butanone	11.20	72	90387	319.60	ug/kg	85
26) Propionitrile	11.48	54	256160	599.70	ug/kg	100
27) 2,2-Dichloropropane	10.82	77	211716	53.28	ug/kg	98
28) Methacrylonitrile	11.51	67	705466	601.10	ug/kg	91
29) Chloroform	10.91	83	269397	56.03	ug/kg	97
31) Dibromofluoromethane	11.10	113	124382	47.87	ug/kg	100
32) Bromochloromethane	10.90	128	88025	55.21	ug/kg	94
33) 1,1,1-Trichloroethane	11.21	97	191894	50.51	ug/kg	95
34) 1,1-Dichloropropene	11.31	75	208283	55.96	ug/kg	99
35) Diethyl Ether	8.17	59	136444	50.58	ug/kg	94
36) Methyl Acetate	9.42	74	28620	56.05	ug/kg	86
37) Cyclohexane	10.98	56	220481	49.54	ug/kg	93
39) Methyl Cyclohexane	12.10	55	173778	50.73	ug/kg	88
40) Carbon Tetrachloride	11.18	117	185589	48.03	ug/kg	99
41) 1,2-Dichloroethane	11.69	62	199856	50.16	ug/kg	97
42) Benzene	11.55	78	548647	61.50	ug/kg	95
43) Isobutyl Alcohol	11.57	43	276658	1157.61	ug/kg	93
44) Trichloroethene	12.07	130	158462	59.27	ug/kg	100
45) 1,2-Dichloropropane	12.51	63	171775	56.23	ug/kg	97
46) Methyl Methacrylate	12.59	100	51173	65.82	ug/kg	99
47) 1,4-Dioxane	12.72	88	32192	1406.42	ug/kg	91
48) Bromodichloromethane	12.52	83	207176	58.12	ug/kg	99
49) Dibromomethane	12.44	93	106868	59.46	ug/kg	93
50) 4-Methyl-2-Pentanone	13.53	100	124076	336.94	ug/kg	87
51) 2-Chloroethyl vinyl ether	12.94	63	201674	256.65	ug/kg	99
52) 2-Hexanone	14.23	43	687243	307.94	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\042121\212DP002.D Vial: 2
Acq On : 21 Apr 2021 7:30 am Operator: nmc
Sample : aa66012-ccv1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 7:53 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	13.07	75	302929	62.08 ug/kg	94
55) D8-Toluene	13.25	98	440456	56.12 ug/kg	94
57) Toluene	13.30	92	353471	50.71 ug/kg	99
58) Ethyl Methacrylate	13.64	69	241525	49.11 ug/kg	97
59) T-1,3-Dichloropropene	13.59	75	245630	48.98 ug/kg	96
60) 1,1,2-Trichloroethane	13.75	97	132574	48.88 ug/kg	96
61) 1,3-Dichloropropane	14.00	76	280168	48.73 ug/kg	99
62) Tetrachloroethene	13.68	164	117626	55.58 ug/kg	87
63) Dibromochloromethane	13.94	129	166553	44.62 ug/kg	97
64) 1,2-Dibromoethane	14.20	107	157334	47.26 ug/kg	99
65) Chlorobenzene	14.65	112	370952	47.47 ug/kg	98
66) 1,1,1,2-Tetrachloroethane	14.67	131	138969	44.52 ug/kg	95
67) Ethylbenzene	14.61	106	191709	47.93 ug/kg	96
68) m-xylene & p-xylene	14.72	106	469556	95.98 ug/kg	98
69) O-Xylene	15.14	106	238401	49.47 ug/kg	97
70) Bromoform	15.27	173	107248	55.27 ug/kg	97
71) Styrene	15.18	104	408094	49.46 ug/kg	99
72) Isopropylbenzene	15.41	105	574761	47.61 ug/kg	100
73) 1,2,3-Trichloropropane	16.04	75	218705	50.60 ug/kg	96
74) 1,1,2,2-Tetrachloroethane	15.84	83	183338	52.56 ug/kg	99
76) Bromofluorobenzene	15.75	95	202635	46.60 ug/kg#	70
77) T-1,4-dichloro-2-butene	16.03	53	52780	46.75 ug/kg	98
78) N-Propylbenzene	15.82	91	684872	49.98 ug/kg	98
80) Bromobenzene	15.91	156	171556	47.33 ug/kg	91
81) 1,3,5-Trimethylbenzene	15.97	105	441679	39.57 ug/kg	99
82) 2-Chlorotoluene	16.06	91	413131	40.49 ug/kg	98
83) 4-Chlorotoluene	16.22	91	432636	40.94 ug/kg	97
84) 1,2,4-Trimethylbenzene	16.42	105	448354	39.73 ug/kg	99
85) s-Butylbenzene	16.55	105	528544	39.99 ug/kg	100
86) tert-Butylbenzene	16.36	119	386507	39.02 ug/kg	99
87) p-Isopropyltoluene	16.66	119	454554	38.61 ug/kg	98
88) 1,3-Dichlorobenzene	16.92	146	293256	46.63 ug/kg	96
89) 1,4-Dichlorobenzene	17.02	146	292308	44.69 ug/kg	96
90) 1,2-Dichlorobenzene	17.59	146	278714	46.51 ug/kg	95
91) N-Butylbenzene	17.19	91	416546	41.90 ug/kg	99
92) DBCP	18.70	75	25642	34.72 ug/kg	76
93) Naphthalene	20.70	128	284434	43.75 ug/kg	100
94) 1,2,4-Trichlorobenzene	19.98	180	145266	46.59 ug/kg	98
95) Hexachlorobutadiene	19.85	225	69301	50.30 ug/kg	99
96) 1,2,3-Trichlorobenzene	21.14	180	112207	45.75 ug/kg	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\042121\212DP003.D Vial: 3
Acq On : 21 Apr 2021 8:02 am Operator: nmc
Sample : 1d21003-bs1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 8:24 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.49	168	255057	50.00	ug/kg	0.05
38) 1,4-Difluorobenzene(IS)	12.04	114	441136	50.00	ug/kg	0.05
56) Chlorobenzene-d5(IS)	14.63	82	262953	50.00	ug/kg	0.05
79) 1,4-Dichlorobenzene-d4(IS)	17.00	152	231899	50.00	ug/kg	0.05
System Monitoring Compounds						
30) Dibromofluoromethane	11.09	113	131371	46.09	ug/kg	0.05
Spiked Amount 50.000	Range 53 - 146		Recovery = 92.18%			
54) D8-Toluene	13.26	98	458484	55.16	ug/kg	0.05
Spiked Amount 50.000	Range 41 - 146		Recovery = 110.32%			
75) Bromofluorobenzene	15.75	95	204997	45.18	ug/kg	0.04
Spiked Amount 50.000	Range 41 - 142		Recovery = 90.36%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.94	85	90564	16.55	ug/kg	99
3) Chloromethane	6.41	50	102415	17.84	ug/kg	97
4) Vinyl Chloride	6.60	62	90468	20.35	ug/kg	91
5) Bromomethane	7.25	96	15571	6.26	ug/kg	92
6) Chloroethane	7.48	64	49200	20.99	ug/kg	95
7) Trichlorofluoromethane	7.74	101	79092	18.36	ug/kg	99
8) Trichlorotrifluoroethane	8.57	101	52801	19.33	ug/kg	86
9) acrolein	8.93	56	58148	77.52	ug/kg	99
10) Acetone	9.28	43	100772	103.00	ug/kg	94
11) 1,1-Dichloroethene	8.52	96	49962	19.91	ug/kg	88
12) 3-Chloropropene	9.12	76	36599	22.47	ug/kg	86
13) Acetonitrile	9.83	41	36100	87.78	ug/kg	98
14) Iodomethane	8.76	142	147930	40.75	ug/kg	88
15) Carbon disulfide	8.64	76	219240	25.65	ug/kg	100
16) Methylene Chloride	9.24	84	69019	21.23	ug/kg	91
17) Methyl tert-butyl ether	9.56	73	176436	21.23	ug/kg	98
18) Acrylonitrile	10.13	53	123571	70.51	ug/kg#	72
19) T-1,2-Dichloroethene	9.47	96	59543	22.04	ug/kg	93
20) Isopropyl Ether	9.93	45	286868	20.51	ug/kg	95
21) C-1,2-Dichloroethene	10.70	96	67388	23.05	ug/kg	92
22) 1,1-Dichloroethane	10.14	63	119310	20.88	ug/kg	98
23) Vinyl Acetate	10.33	43	184357	19.87	ug/kg	100
24) Chloroprene	10.13	88	52601	21.98	ug/kg	1
25) 2-Butanone	11.20	72	48695	156.94	ug/kg#	37
26) Propionitrile	11.48	54	8614	18.38	ug/kg	100
27) 2,2-Dichloropropane	10.83	77	87869	20.16	ug/kg	98
28) Methacrylonitrile	11.52	67	28536	22.16	ug/kg	73
29) Chloroform	10.92	83	114590	21.72	ug/kg	95
31) Dibromofluoromethane	11.09	113	131371	46.09	ug/kg	100
32) Bromochloromethane	10.90	128	37396	21.38	ug/kg	93
33) 1,1,1-Trichloroethane	11.21	97	78745	18.89	ug/kg	93
34) 1,1-Dichloropropene	11.31	75	86155	21.10	ug/kg	99
35) Diethyl Ether	8.17	59	60032	20.28	ug/kg	93
36) Methyl Acetate	9.42	74	12332	22.01	ug/kg#	84
37) Cyclohexane	10.98	56	106976	21.91	ug/kg	96
39) Methyl Cyclohexane	12.10	55	77269	21.30	ug/kg	86
40) Carbon Tetrachloride	11.18	117	74850	18.29	ug/kg	98
41) 1,2-Dichloroethane	11.69	62	83853	19.87	ug/kg	99
42) Benzene	11.55	78	246187	26.06	ug/kg#	49
43) Isobutyl Alcohol	11.57	43	65793	259.92	ug/kg#	1
44) Trichloroethene	12.06	130	63560	22.44	ug/kg	95
45) 1,2-Dichloropropane	12.51	63	70330	21.73	ug/kg	96
46) Methyl Methacrylate	12.59	100	19399	23.56	ug/kg	99
47) 1,4-Dioxane	12.72	88	11784	486.07	ug/kg	91
48) Bromodichloromethane	12.53	83	86110	22.81	ug/kg	96
49) Dibromomethane	12.44	93	43177	22.68	ug/kg	93
50) 4-Methyl-2-Pentanone	13.53	100	45258	116.04	ug/kg	83
51) 2-Chloroethyl vinyl ether	12.94	63	60353	72.52	ug/kg	99
52) 2-Hexanone	14.23	43	243176	102.88	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\042121\212DP003.D Vial: 3
Acq On : 21 Apr 2021 8:02 am Operator: nmc
Sample : 1d21003-bs1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 8:24 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

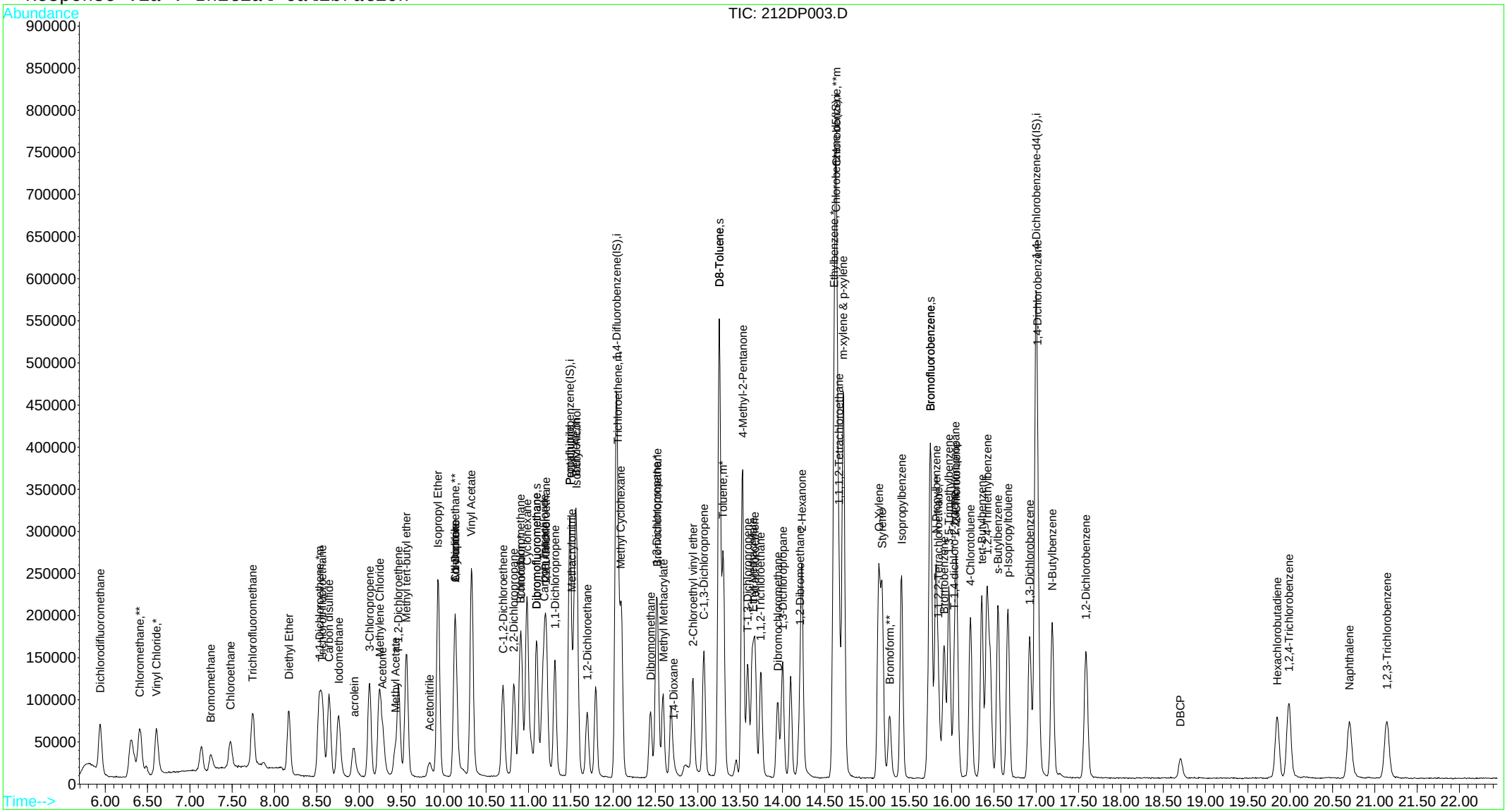
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.07	75	112743	21.81	ug/kg	94
55) D8-Toluene	13.26	98	458484	55.16	ug/kg	93
57) Toluene	13.30	92	147208	20.24	ug/kg	98
58) Ethyl Methacrylate	13.64	69	88790	17.30	ug/kg	95
59) T-1,3-Dichloropropene	13.59	75	100186	19.15	ug/kg	95
60) 1,1,2-Trichloroethane	13.74	97	53375	18.86	ug/kg	95
61) 1,3-Dichloropropane	14.00	76	108833	18.14	ug/kg	100
62) Tetrachloroethene	13.68	164	47071	21.32	ug/kg	87
63) Dibromochloromethane	13.95	129	67348	17.29	ug/kg	96
64) 1,2-Dibromoethane	14.20	107	61320	17.65	ug/kg	99
65) Chlorobenzene	14.65	112	154996	19.01	ug/kg	95
66) 1,1,1,2-Tetrachloroethane	14.67	131	57377	17.62	ug/kg#	23
67) Ethylbenzene	14.60	106	77294	18.52	ug/kg	95
68) m-xylene & p-xylene	14.72	106	186036	36.45	ug/kg	98
69) O-Xylene	15.14	106	95424	18.98	ug/kg	98
70) Bromoform	15.27	173	44600	22.03	ug/kg	98
71) Styrene	15.18	104	166060	19.29	ug/kg	99
72) Isopropylbenzene	15.41	105	234840	18.64	ug/kg	100
73) 1,2,3-Trichloropropane	16.04	75	82145	18.21	ug/kg	97
74) 1,1,2,2-Tetrachloroethane	15.85	83	70904	19.48	ug/kg	98
76) Bromofluorobenzene	15.75	95	204997	45.18	ug/kg#	82
77) T-1,4-dichloro-2-butene	16.02	53	18927	16.07	ug/kg	90
78) N-Propylbenzene	15.81	91	281634	19.70	ug/kg	98
80) Bromobenzene	15.91	156	71108	19.02	ug/kg	91
81) 1,3,5-Trimethylbenzene	15.97	105	181894	15.80	ug/kg	97
82) 2-Chlorotoluene	16.06	91	170217	16.18	ug/kg	97
83) 4-Chlorotoluene	16.22	91	177682	16.31	ug/kg	98
84) 1,2,4-Trimethylbenzene	16.42	105	188912	16.23	ug/kg	99
85) s-Butylbenzene	16.55	105	221708	16.27	ug/kg	99
86) tert-Butylbenzene	16.36	119	157064	15.38	ug/kg	98
87) p-Isopropyltoluene	16.67	119	190109	15.66	ug/kg	99
88) 1,3-Dichlorobenzene	16.92	146	121006	18.66	ug/kg	96
89) 1,4-Dichlorobenzene	17.02	146	119917	17.78	ug/kg	95
90) 1,2-Dichlorobenzene	17.58	146	116527	18.86	ug/kg	95
91) N-Butylbenzene	17.19	91	172021	16.78	ug/kg	99
92) DBCP	18.70	75	10850	14.25	ug/kg	80
93) Naphthalene	20.70	128	133272	21.80	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.99	180	63801	19.84	ug/kg	97
95) Hexachlorobutadiene	19.84	225	29770	20.95	ug/kg	98
96) 1,2,3-Trichlorobenzene	21.14	180	53518	21.16	ug/kg	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\042121\212DP003.D Vial: 3
Acq On : 21 Apr 2021 8:02 am Operator: nmc
Sample : 1d21003-bs1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 8:24 2021 Quant Results File: 030921.RES

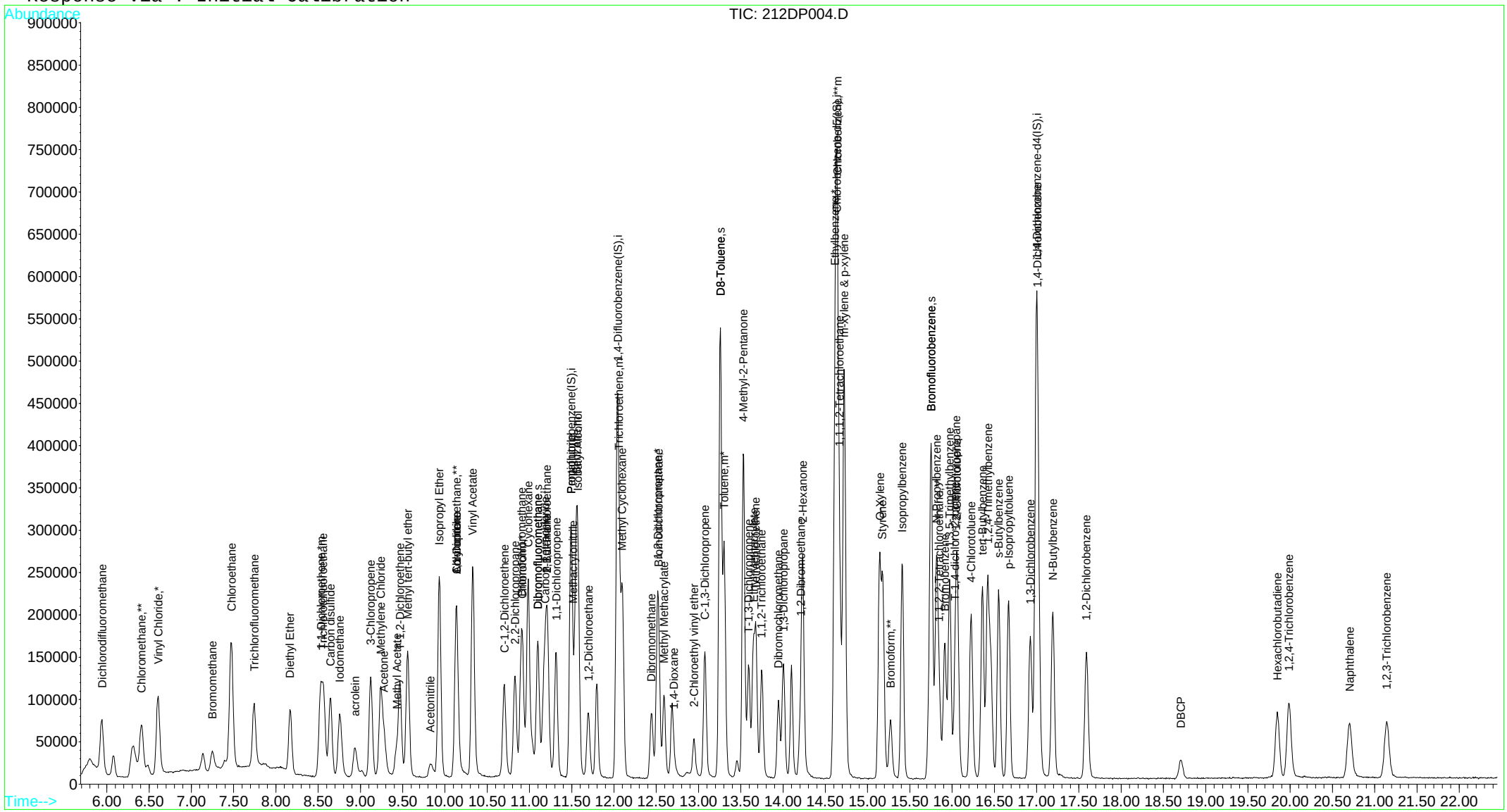
Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\042121\212DP004.D Vial: 4
Acq On : 21 Apr 2021 8:30 am Operator: nmc
Sample : 1d21003-ms1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 8:53 2021 Quant Results File: 030921.RES

Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\042121\212DP004.D Vial: 4
Acq On : 21 Apr 2021 8:30 am Operator: nmc
Sample : 1d21003-ms1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 8:53 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.49	168	250304	50.00	ug/kg	0.04
38) 1,4-Difluorobenzene(IS)	12.04	114	441194	50.00	ug/kg	0.04
56) Chlorobenzene-d5(IS)	14.64	82	261355	50.00	ug/kg	0.05
79) 1,4-Dichlorobenzene-d4(IS)	17.00	152	228054	50.00	ug/kg	0.06
System Monitoring Compounds						
30) Dibromofluoromethane	11.10	113	129365	46.25	ug/kg	0.05
Spiked Amount 50.000	Range 53 - 146		Recovery = 92.50%			
54) D8-Toluene	13.26	98	449451	54.06	ug/kg	0.05
Spiked Amount 50.000	Range 41 - 146		Recovery = 108.12%			
75) Bromofluorobenzene	15.75	95	200536	44.47	ug/kg	0.04
Spiked Amount 50.000	Range 41 - 142		Recovery = 88.94%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.94	85	99893	18.60	ug/kg	99
3) Chloromethane	6.41	50	113232	20.10	ug/kg	99
4) Vinyl Chloride	6.61	62	156025	35.75	ug/kg	98
5) Bromomethane	7.25	96	19724	8.20	ug/kg	95
6) Chloroethane	7.48	64	51219	22.27	ug/kg	97
7) Trichlorofluoromethane	7.74	101	89106	21.08	ug/kg	99
8) Trichlorotrifluoroethane	8.56	101	58291	21.75	ug/kg	89
9) acrolein	8.94	56	57760	78.46	ug/kg	99
10) Acetone	9.28	43	93719	97.61	ug/kg	92
11) 1,1-Dichloroethene	8.53	96	54715	22.21	ug/kg	90
12) 3-Chloropropene	9.12	76	38436	24.05	ug/kg	85
13) Acetonitrile	9.83	41	33520	83.05	ug/kg	88
14) Iodomethane	8.75	142	146625	41.16	ug/kg	89
15) Carbon disulfide	8.65	76	213233	25.42	ug/kg	100
16) Methylene Chloride	9.24	84	70234	22.01	ug/kg	91
17) Methyl tert-butyl ether	9.56	73	175204	21.48	ug/kg	98
18) Acrylonitrile	10.13	53	130995	76.17	ug/kg#	72
19) T-1,2-Dichloroethene	9.47	96	64722	24.42	ug/kg	91
20) Isopropyl Ether	9.93	45	289234	21.07	ug/kg	95
21) C-1,2-Dichloroethene	10.70	96	70333	24.52	ug/kg	92
22) 1,1-Dichloroethane	10.14	63	124056	22.13	ug/kg#	68
23) Vinyl Acetate	10.34	43	178944	19.65	ug/kg	99
24) Chloroprene	10.13	88	58136	24.76	ug/kg	1
25) 2-Butanone	11.20	72	47213	155.06	ug/kg#	40
26) Propionitrile	11.49	54	7789	16.94	ug/kg	100
27) 2,2-Dichloropropane	10.83	77	95100	22.23	ug/kg	99
28) Methacrylonitrile	11.52	67	27701	21.92	ug/kg	67
29) Chloroform	10.92	83	118271	22.85	ug/kg	96
31) Dibromofluoromethane	11.10	113	129365	46.25	ug/kg	100
32) Bromochloromethane	10.90	128	38055	22.17	ug/kg	94
33) 1,1,1-Trichloroethane	11.21	97	86956	21.26	ug/kg	94
34) 1,1-Dichloropropene	11.32	75	94128	23.49	ug/kg	100
35) Diethyl Ether	8.17	59	60437	20.81	ug/kg	93
36) Methyl Acetate	9.42	74	12342	22.45	ug/kg#	84
37) Cyclohexane	10.99	56	116151	24.24	ug/kg	90
39) Methyl Cyclohexane	12.10	55	85154	23.47	ug/kg	91
40) Carbon Tetrachloride	11.18	117	83290	20.35	ug/kg	97
41) 1,2-Dichloroethane	11.70	62	82513	19.55	ug/kg	96
42) Benzene	11.55	78	258196	27.32	ug/kg#	48
43) Isobutyl Alcohol	11.58	43	64907	256.39	ug/kg#	1
44) Trichloroethene	12.07	130	66853	23.60	ug/kg	95
45) 1,2-Dichloropropane	12.52	63	72744	22.48	ug/kg	95
46) Methyl Methacrylate	12.59	100	19504	23.68	ug/kg	98
47) 1,4-Dioxane	12.72	88	11675	481.51	ug/kg	99
48) Bromodichloromethane	12.53	83	86759	22.98	ug/kg	99
49) Dibromomethane	12.44	93	42254	22.20	ug/kg	94
50) 4-Methyl-2-Pentanone	13.53	100	46330	118.77	ug/kg	87
51) 2-Chloroethyl vinyl ether	12.95	63	24697	29.67	ug/kg	97
52) 2-Hexanone	14.23	43	253517	107.24	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\042121\212DP004.D Vial: 4
Acq On : 21 Apr 2021 8:30 am Operator: nmc
Sample : 1d21003-ms1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 8:53 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

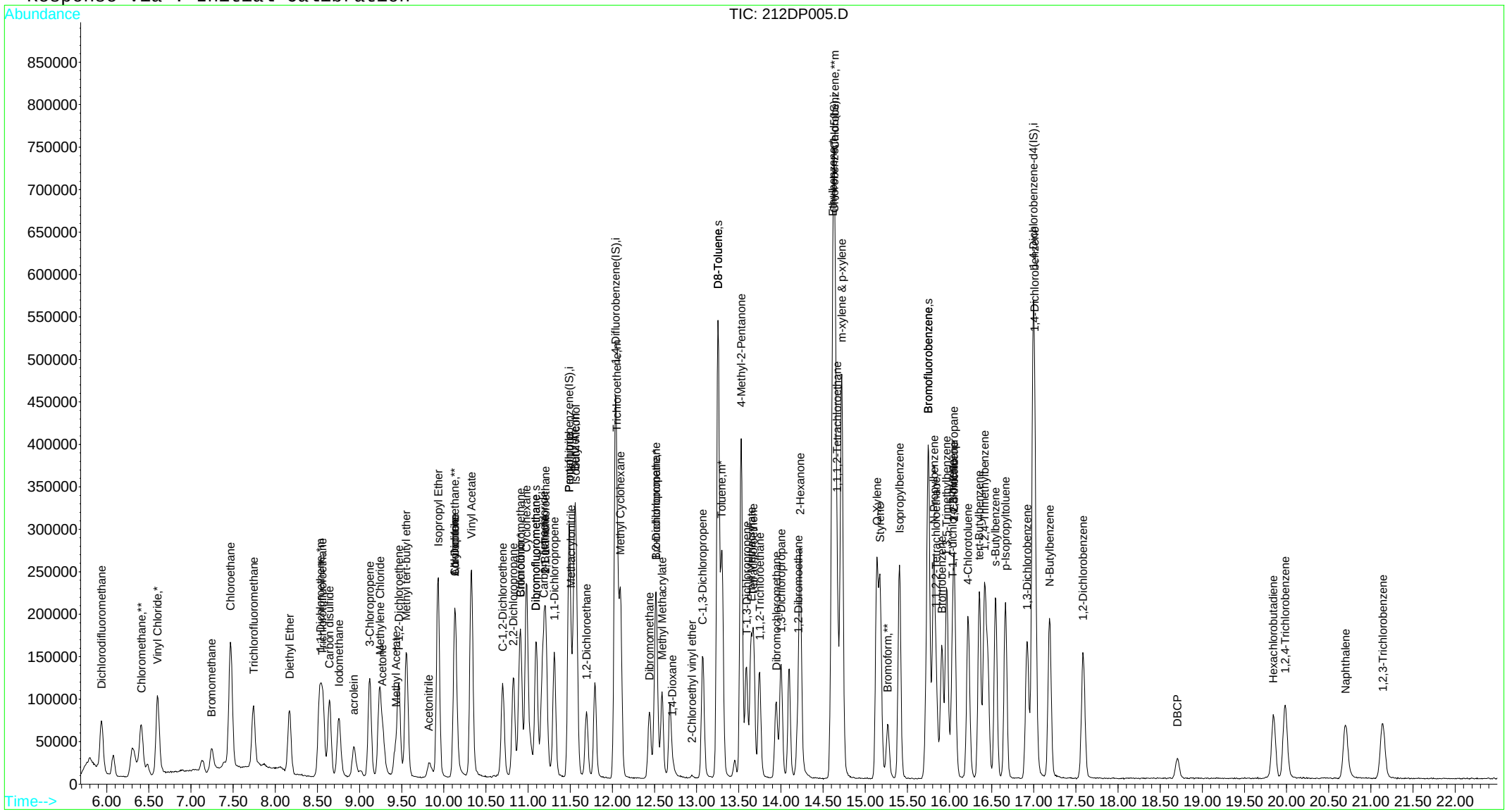
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	13.08	75	116162	22.47 ug/kg	93
55) D8-Toluene	13.26	98	449451	54.06 ug/kg	93
57) Toluene	13.30	92	152205	21.06 ug/kg	99
58) Ethyl Methacrylate	13.65	69	92857	18.21 ug/kg	93
59) T-1,3-Dichloropropene	13.59	75	99996	19.23 ug/kg	92
60) 1,1,2-Trichloroethane	13.75	97	51642	18.36 ug/kg	93
61) 1,3-Dichloropropane	14.01	76	110959	18.61 ug/kg	100
62) Tetrachloroethene	13.68	164	51193	23.32 ug/kg	88
63) Dibromochloromethane	13.94	129	67399	17.41 ug/kg	97
64) 1,2-Dibromoethane	14.21	107	60767	17.60 ug/kg	100
65) Chlorobenzene	14.65	112	158078	19.51 ug/kg	96
66) 1,1,1,2-Tetrachloroethane	14.67	131	57825	17.86 ug/kg#	25
67) Ethylbenzene	14.61	106	81114	19.56 ug/kg	96
68) m-xylene & p-xylene	14.72	106	193364	38.12 ug/kg	97
69) O-Xylene	15.14	106	100030	20.02 ug/kg	97
70) Bromoform	15.27	173	43880	21.81 ug/kg	99
71) Styrene	15.18	104	168220	19.66 ug/kg	99
72) Isopropylbenzene	15.41	105	248754	19.87 ug/kg	99
73) 1,2,3-Trichloropropane	16.04	75	82564	18.42 ug/kg	99
74) 1,1,2,2-Tetrachloroethane	15.85	83	70046	19.36 ug/kg	97
76) Bromofluorobenzene	15.75	95	200536	44.47 ug/kg#	81
77) T-1,4-dichloro-2-butene	16.03	53	18438	15.75 ug/kg#	85
78) N-Propylbenzene	15.82	91	294862	20.75 ug/kg	97
80) Bromobenzene	15.91	156	71975	19.58 ug/kg	92
81) 1,3,5-Trimethylbenzene	15.97	105	187934	16.60 ug/kg	97
82) 2-Chlorotoluene	16.06	91	173461	16.76 ug/kg	97
83) 4-Chlorotoluene	16.23	91	179133	16.72 ug/kg	98
84) 1,2,4-Trimethylbenzene	16.42	105	193561	16.91 ug/kg	100
85) s-Butylbenzene	16.55	105	238770	17.81 ug/kg	99
86) tert-Butylbenzene	16.36	119	166292	16.55 ug/kg	97
87) p-Isopropyltoluene	16.67	119	200850	16.82 ug/kg	99
88) 1,3-Dichlorobenzene	16.92	146	121791	19.10 ug/kg	96
89) 1,4-Dichlorobenzene	17.02	146	119778	18.06 ug/kg	96
90) 1,2-Dichlorobenzene	17.59	146	115069	18.93 ug/kg	95
91) N-Butylbenzene	17.19	91	184747	18.33 ug/kg	100
92) DBCP	18.71	75	10482	14.00 ug/kg	78
93) Naphthalene	20.70	128	127872	21.32 ug/kg	100
94) 1,2,4-Trichlorobenzene	19.98	180	63018	19.93 ug/kg	98
95) Hexachlorobutadiene	19.85	225	31822	22.77 ug/kg	99
96) 1,2,3-Trichlorobenzene	21.15	180	52380	21.06 ug/kg	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\042121\212DP005.D Vial: 4
Acq On : 21 Apr 2021 8:59 am Operator: nmc
Sample : 1d21003-msd1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 9:21 2021 Quant Results File: 030921.RES

Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\042121\212DP005.D Vial: 4
Acq On : 21 Apr 2021 8:59 am Operator: nmc
Sample : 1d21003-msd1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 9:21 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.49	168	247415	50.00	ug/kg	0.04
38) 1,4-Difluorobenzene(IS)	12.04	114	430586	50.00	ug/kg	0.04
56) Chlorobenzene-d5(IS)	14.63	82	256802	50.00	ug/kg	0.04
79) 1,4-Dichlorobenzene-d4(IS)	17.00	152	225554	50.00	ug/kg	0.05
System Monitoring Compounds						
30) Dibromofluoromethane	11.09	113	129217	46.73	ug/kg	0.04
Spiked Amount 50.000	Range 53 - 146		Recovery = 93.46%			
54) D8-Toluene	13.25	98	452520	55.77	ug/kg	0.04
Spiked Amount 50.000	Range 41 - 146		Recovery = 111.54%			
75) Bromofluorobenzene	15.75	95	203489	45.93	ug/kg	0.04
Spiked Amount 50.000	Range 41 - 142		Recovery = 91.86%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.94	85	95329	17.96	ug/kg	99
3) Chloromethane	6.41	50	109539	19.67	ug/kg	98
4) Vinyl Chloride	6.60	62	152662	35.39	ug/kg	94
5) Bromomethane	7.24	96	23215	9.89	ug/kg	99
6) Chloroethane	7.48	64	53516	23.54	ug/kg	94
7) Trichlorofluoromethane	7.74	101	86646	20.74	ug/kg	100
8) Trichlorotrifluoroethane	8.56	101	56174	21.20	ug/kg	87
9) acrolein	8.94	56	58769	80.77	ug/kg	100
10) Acetone	9.28	43	96173	101.34	ug/kg	94
11) 1,1-Dichloroethene	8.53	96	54049	22.20	ug/kg	87
12) 3-Chloropropene	9.12	76	40008	25.32	ug/kg	77
13) Acetonitrile	9.83	41	35722	89.54	ug/kg	91
14) Iodomethane	8.75	142	136741	38.84	ug/kg	88
15) Carbon disulfide	8.64	76	204476	24.66	ug/kg	99
16) Methylene Chloride	9.24	84	69354	21.99	ug/kg	89
17) Methyl tert-butyl ether	9.56	73	176597	21.90	ug/kg	98
18) Acrylonitrile	10.13	53	129237	76.03	ug/kg#	72
19) T-1,2-Dichloroethene	9.47	96	62106	23.70	ug/kg	92
20) Isopropyl Ether	9.93	45	288061	21.23	ug/kg	96
21) C-1,2-Dichloroethene	10.70	96	68781	24.26	ug/kg	93
22) 1,1-Dichloroethane	10.14	63	121822	21.98	ug/kg	98
23) Vinyl Acetate	10.34	43	186213	20.69	ug/kg	100
24) Chloroprene	10.12	88	57265	24.67	ug/kg	1
25) 2-Butanone	11.20	72	47485	157.77	ug/kg#	43
26) Propionitrile	11.49	54	7399	16.28	ug/kg	100
27) 2,2-Dichloropropane	10.82	77	94273	22.29	ug/kg	98
28) Methacrylonitrile	11.52	67	27789	22.25	ug/kg	72
29) Chloroform	10.92	83	114921	22.46	ug/kg	92
31) Dibromofluoromethane	11.09	113	129217	46.73	ug/kg	100
32) Bromochloromethane	10.90	128	36690	21.62	ug/kg	99
33) 1,1,1-Trichloroethane	11.21	97	83988	20.77	ug/kg	95
34) 1,1-Dichloropropene	11.31	75	91771	23.17	ug/kg	99
35) Diethyl Ether	8.17	59	59011	20.56	ug/kg	93
36) Methyl Acetate	9.42	74	12476	22.96	ug/kg#	80
37) Cyclohexane	10.98	56	115444	24.37	ug/kg	95
39) Methyl Cyclohexane	12.09	55	82183	23.21	ug/kg	88
40) Carbon Tetrachloride	11.18	117	81205	20.33	ug/kg	99
41) 1,2-Dichloroethane	11.69	62	82354	19.99	ug/kg	97
42) Benzene	11.55	78	254095	27.55	ug/kg#	48
43) Isobutyl Alcohol	11.57	43	64749	262.06	ug/kg#	1
44) Trichloroethene	12.06	130	65922	23.85	ug/kg	96
45) 1,2-Dichloropropane	12.51	63	69783	22.09	ug/kg	97
46) Methyl Methacrylate	12.59	100	19340	24.06	ug/kg	99
47) 1,4-Dioxane	12.72	88	11880	502.04	ug/kg	94
48) Bromodichloromethane	12.53	83	83498	22.66	ug/kg	98
49) Dibromomethane	12.44	93	43279	23.29	ug/kg	94
50) 4-Methyl-2-Pentanone	13.53	100	47930	125.90	ug/kg	85
51) 2-Chloroethyl vinyl ether	12.94	63	1894	2.33	ug/kg#	71
52) 2-Hexanone	14.23	43	256214	111.05	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\042121\212DP005.D Vial: 4
Acq On : 21 Apr 2021 8:59 am Operator: nmc
Sample : 1d21003-msd1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 9:21 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.08	75	114823	22.76	ug/kg	94
55) D8-Toluene	13.25	98	452520	55.77	ug/kg	93
57) Toluene	13.30	92	147145	20.72	ug/kg	99
58) Ethyl Methacrylate	13.64	69	92600	18.48	ug/kg	94
59) T-1,3-Dichloropropene	13.59	75	99157	19.40	ug/kg	95
60) 1,1,2-Trichloroethane	13.75	97	52535	19.01	ug/kg	94
61) 1,3-Dichloropropane	14.00	76	107723	18.39	ug/kg	99
62) Tetrachloroethene	13.68	164	50820	23.56	ug/kg	86
63) Dibromochloromethane	13.94	129	66764	17.55	ug/kg	97
64) 1,2-Dibromoethane	14.20	107	60893	17.95	ug/kg	97
65) Chlorobenzene	14.64	112	153581	19.29	ug/kg	95
66) 1,1,1,2-Tetrachloroethane	14.67	131	57019	17.93	ug/kg#	25
67) Ethylbenzene	14.61	106	78797	19.33	ug/kg	95
68) m-xylene & p-xylene	14.72	106	191004	38.32	ug/kg	97
69) O-Xylene	15.14	106	98415	20.04	ug/kg	98
70) Bromoform	15.27	173	43382	21.94	ug/kg	98
71) Styrene	15.17	104	166424	19.79	ug/kg	99
72) Isopropylbenzene	15.41	105	241126	19.60	ug/kg	100
73) 1,2,3-Trichloropropane	16.04	75	82165	18.66	ug/kg	100
74) 1,1,2,2-Tetrachloroethane	15.84	83	71196	20.03	ug/kg	99
76) Bromofluorobenzene	15.75	95	203489	45.93	ug/kg#	81
77) T-1,4-dichloro-2-butene	16.03	53	17488	15.20	ug/kg#	79
78) N-Propylbenzene	15.82	91	286781	20.54	ug/kg	98
80) Bromobenzene	15.92	156	70354	19.35	ug/kg	91
81) 1,3,5-Trimethylbenzene	15.96	105	184295	16.46	ug/kg	98
82) 2-Chlorotoluene	16.06	91	171148	16.72	ug/kg	98
83) 4-Chlorotoluene	16.22	91	176520	16.65	ug/kg	99
84) 1,2,4-Trimethylbenzene	16.42	105	189204	16.72	ug/kg	100
85) s-Butylbenzene	16.54	105	231598	17.47	ug/kg	99
86) tert-Butylbenzene	16.35	119	163303	16.44	ug/kg	99
87) p-Isopropyltoluene	16.66	119	193488	16.39	ug/kg	98
88) 1,3-Dichlorobenzene	16.92	146	119272	18.91	ug/kg	96
89) 1,4-Dichlorobenzene	17.02	146	119947	18.28	ug/kg	96
90) 1,2-Dichlorobenzene	17.58	146	113599	18.90	ug/kg	95
91) N-Butylbenzene	17.19	91	176426	17.69	ug/kg	99
92) DBCP	18.70	75	11069	14.94	ug/kg	82
93) Naphthalene	20.70	128	125173	21.12	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.98	180	60440	19.32	ug/kg	99
95) Hexachlorobutadiene	19.84	225	30688	22.21	ug/kg	100
96) 1,2,3-Trichlorobenzene	21.14	180	49946	20.30	ug/kg	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\042121\212DP007.D Vial: 6
Acq On : 21 Apr 2021 9:56 am Operator: nmc
Sample : 1d21003-blk1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 11:59 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.49	168	257477	50.00	ug/kg	0.04
38) 1,4-Difluorobenzene(IS)	12.04	114	441969	50.00	ug/kg	0.04
56) Chlorobenzene-d5(IS)	14.63	82	264990	50.00	ug/kg	0.04
79) 1,4-Dichlorobenzene-d4(IS)	17.00	152	231606	50.00	ug/kg	0.05
System Monitoring Compounds						
30) Dibromofluoromethane	11.10	113	136015	47.27	ug/kg	0.05
Spiked Amount 50.000	Range 53 - 146		Recovery = 94.54%			
54) D8-Toluene	13.25	98	460491	55.29	ug/kg	0.04
Spiked Amount 50.000	Range 41 - 146		Recovery = 110.58%			
75) Bromofluorobenzene	15.75	95	206522	45.17	ug/kg	0.04
Spiked Amount 50.000	Range 41 - 142		Recovery = 90.34%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.		
3) Chloromethane	0.00	50	0	N.D. d		
4) Vinyl Chloride	0.00	62	0	N.D.		
5) Bromomethane	0.00	96	0	N.D.		
6) Chloroethane	0.00	64	0	N.D. d		
7) Trichlorofluoromethane	0.00	101	0	N.D.		
8) Trichlorotrifluoroethane	0.00	101	0	N.D.		
9) acrolein	0.00	56	0	N.D.		
10) Acetone	0.00	43	0	N.D. d		
11) 1,1-Dichloroethene	0.00	96	0	N.D.		
12) 3-Chloropropene	0.00	76	0	N.D.		
13) Acetonitrile	0.00	41	0	N.D.		
14) Iodomethane	0.00	142	0	N.D. d		
15) Carbon disulfide	8.64	76	8364	0.97	ug/kg	95
16) Methylene Chloride	0.00	84	0	N.D.		
17) Methyl tert-butyl ether	0.00	73	0	N.D.		
18) Acrylonitrile	0.00	53	0	N.D.		
19) T-1,2-Dichloroethene	0.00	96	0	N.D.		
20) Isopropyl Ether	0.00	45	0	N.D.		
21) C-1,2-Dichloroethene	0.00	96	0	N.D.		
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	0.00	43	0	N.D. d		
24) Chloroprene	0.00	88	0	N.D.		
25) 2-Butanone	0.00	72	0	N.D. d		
26) Propionitrile	0.00	54	0	N.D.		
27) 2,2-Dichloropropane	0.00	77	0	N.D.		
28) Methacrylonitrile	0.00	67	0	N.D. d		
29) Chloroform	0.00	83	0	N.D.		
31) Dibromofluoromethane	11.10	113	136015	47.27	ug/kg	100
32) Bromochloromethane	0.00	128	0	N.D.		
33) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
34) 1,1-Dichloropropene	0.00	75	0	N.D.		
35) Diethyl Ether	0.00	59	0	N.D.		
36) Methyl Acetate	0.00	74	0	N.D.		
37) Cyclohexane	0.00	56	0	N.D.		
39) Methyl Cyclohexane	0.00	55	0	N.D. d		
40) Carbon Tetrachloride	0.00	117	0	N.D.		
41) 1,2-Dichloroethane	0.00	62	0	N.D.		
42) Benzene	0.00	78	0	N.D. d		
43) Isobutyl Alcohol	0.00	43	0	N.D. d		
44) Trichloroethene	0.00	130	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Methyl Methacrylate	0.00	100	0	N.D.		
47) 1,4-Dioxane	0.00	88	0	N.D.		
48) Bromodichloromethane	0.00	83	0	N.D.		
49) Dibromomethane	0.00	93	0	N.D.		
50) 4-Methyl-2-Pentanone	0.00	100	0	N.D. d		
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	0.00	43	0	N.D. d		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\042121\212DP007.D Vial: 6
Acq On : 21 Apr 2021 9:56 am Operator: nmc
Sample : 1d21003-blk1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 11:59 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

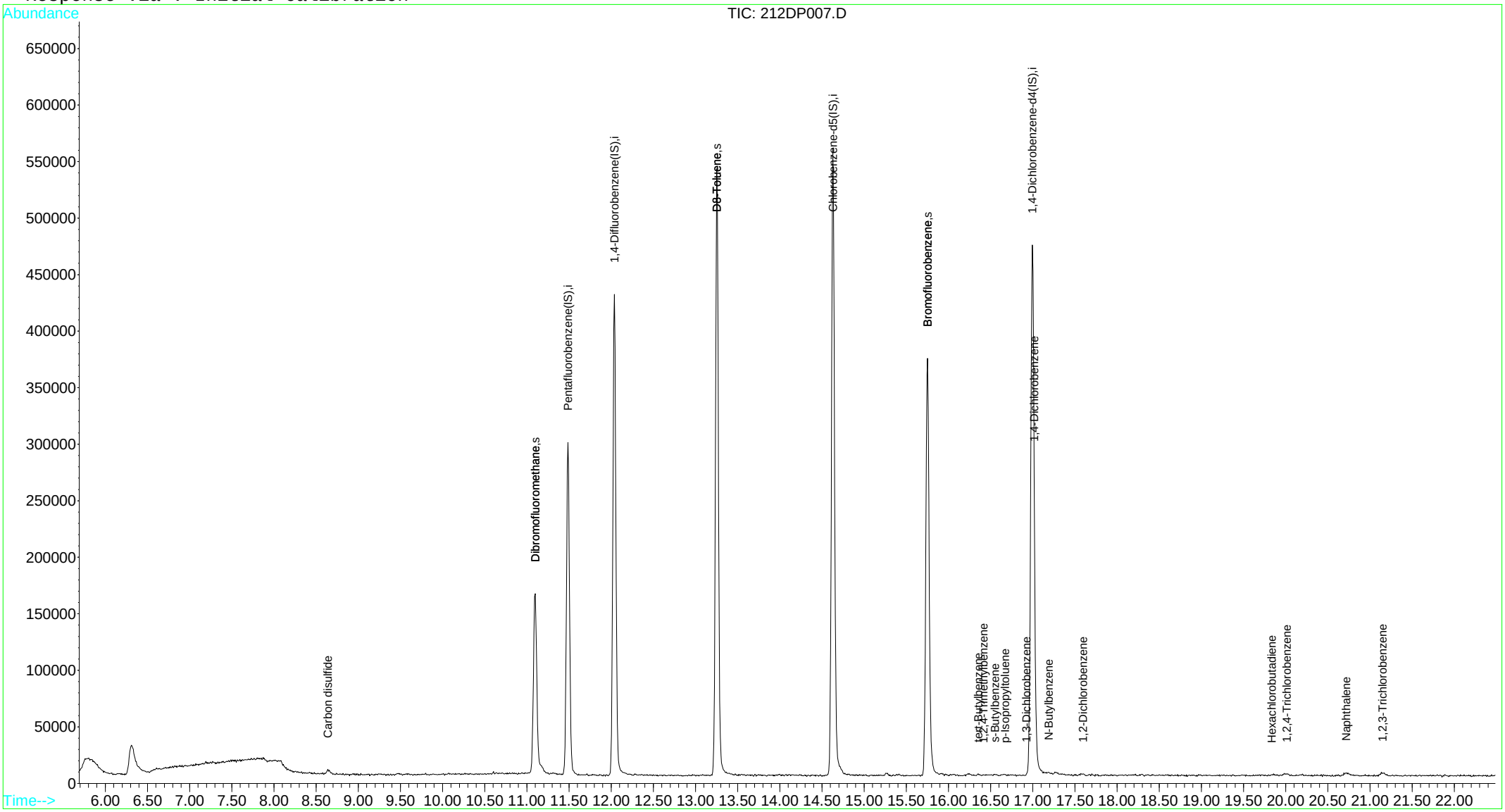
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	0.00	75	0	N.D.	
55) D8-Toluene	13.25	98	460491	55.29 ug/kg	94
57) Toluene	0.00	92	0	N.D.	
58) Ethyl Methacrylate	0.00	69	0	N.D.	
59) T-1,3-Dichloropropene	0.00	75	0	N.D.	
60) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
61) 1,3-Dichloropropane	0.00	76	0	N.D.	
62) Tetrachloroethene	0.00	164	0	N.D.	
63) Dibromochloromethane	0.00	129	0	N.D.	
64) 1,2-Dibromoethane	0.00	107	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
67) Ethylbenzene	0.00	106	0	N.D.	
68) m-xylene & p-xylene	0.00	106	0	N.D.	
69) O-Xylene	0.00	106	0	N.D.	
70) Bromoform	0.00	173	0	N.D.	
71) Styrene	0.00	104	0	N.D.	
72) Isopropylbenzene	0.00	105	0	N.D.	
73) 1,2,3-Trichloropropane	0.00	75	0	N.D.	
74) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
76) Bromofluorobenzene	15.75	95	206522	45.17 ug/kg#	86
77) T-1,4-dichloro-2-butene	0.00	53	0	N.D.	
78) N-Propylbenzene	0.00	91	0	N.D. d	
80) Bromobenzene	0.00	156	0	N.D.	
81) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
82) 2-Chlorotoluene	0.00	91	0	N.D.	
83) 4-Chlorotoluene	0.00	91	0	N.D. d	
84) 1,2,4-Trimethylbenzene	16.42	105	701	0.06 ug/kg#	29
85) s-Butylbenzene	16.55	105	1256	0.09 ug/kg#	57
86) tert-Butylbenzene	16.36	119	623	0.06 ug/kg#	28
87) p-Isopropyltoluene	16.67	119	825	0.07 ug/kg#	52
88) 1,3-Dichlorobenzene	16.92	146	695	0.11 ug/kg#	24
89) 1,4-Dichlorobenzene	17.02	146	879	0.13 ug/kg#	1
90) 1,2-Dichlorobenzene	17.60	146	661	0.11 ug/kg#	24
91) N-Butylbenzene	17.19	91	1189	0.12 ug/kg#	30
92) DBCP	0.00	75	0	N.D.	
93) Naphthalene	20.72	128	5660	1.02 ug/kg	100
94) 1,2,4-Trichlorobenzene	20.00	180	1496	0.47 ug/kg#	82
95) Hexachlorobutadiene	19.84	225	774	0.55 ug/kg#	19
96) 1,2,3-Trichlorobenzene	21.16	180	2083	0.82 ug/kg	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\042121\212DP007.D Vial: 6
Acq On : 21 Apr 2021 9:56 am Operator: nmc
Sample : 1d21003-blk1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 11:59 2021 Quant Results File: 030921.RES

Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\042121\212DP008.D Vial: 7
Acq On : 21 Apr 2021 10:25 am Operator: nmc
Sample : aa66012-crl1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 12:00 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.49	168	256652	50.00	ug/kg	0.04
38) 1,4-Difluorobenzene(IS)	12.04	114	443568	50.00	ug/kg	0.04
56) Chlorobenzene-d5(IS)	14.63	82	265324	50.00	ug/kg	0.05
79) 1,4-Dichlorobenzene-d4(IS)	17.00	152	230689	50.00	ug/kg	0.05
System Monitoring Compounds						
30) Dibromofluoromethane	11.10	113	136962	47.75	ug/kg	0.05
Spiked Amount 50.000	Range 53 - 146		Recovery = 95.50%			
54) D8-Toluene	13.25	98	465746	55.72	ug/kg	0.04
Spiked Amount 50.000	Range 41 - 146		Recovery = 111.44%			
75) Bromofluorobenzene	15.75	95	207965	45.43	ug/kg	0.04
Spiked Amount 50.000	Range 41 - 142		Recovery = 90.86%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.94	85	6301	1.14	ug/kg#	94
3) Chloromethane	6.42	50	7143	1.24	ug/kg	90
4) Vinyl Chloride	6.61	62	6781	1.52	ug/kg#	93
5) Bromomethane	7.26	96	3775	1.46	ug/kg#	84
6) Chloroethane	7.41	64	673	0.29	ug/kg#	45
7) Trichlorofluoromethane	7.74	101	4757	1.10	ug/kg	88
8) Trichlorotrifluoroethane	8.56	101	3091	1.12	ug/kg	91
9) acrolein	8.95	56	7138	9.46	ug/kg	84
10) Acetone	9.29	43	7080	7.19	ug/kg	92
11) 1,1-Dichloroethene	8.53	96	2885	1.14	ug/kg	89
12) 3-Chloropropene	9.12	76	2595	1.58	ug/kg	57
13) Acetonitrile	9.84	41	2781	6.72	ug/kg#	78
14) Iodomethane	8.76	142	19059	5.22	ug/kg	87
15) Carbon disulfide	8.64	76	55325	6.43	ug/kg	99
16) Methylene Chloride	9.23	84	4131	1.26	ug/kg	96
17) Methyl tert-butyl ether	9.57	73	10727	1.28	ug/kg	96
18) Acrylonitrile	10.18	53	17634	10.00	ug/kg#	89
19) T-1,2-Dichloroethene	9.46	96	3741	1.38	ug/kg	93
20) Isopropyl Ether	9.93	45	16681	1.19	ug/kg	94
21) C-1,2-Dichloroethene	10.70	96	3933	1.34	ug/kg	98
22) 1,1-Dichloroethane	10.13	63	7640	1.33	ug/kg	96
23) Vinyl Acetate	10.34	43	49982	5.35	ug/kg	99
24) Chloroprene	10.13	88	2571	1.07	ug/kg	90
25) 2-Butanone	11.21	72	1999	6.40	ug/kg	88
26) Propionitrile	11.50	54	4167	8.84	ug/kg	100
27) 2,2-Dichloropropane	10.82	77	5874	1.34	ug/kg	78
28) Methacrylonitrile	11.52	67	15860	12.24	ug/kg	91
29) Chloroform	10.91	83	7741	1.46	ug/kg	93
31) Dibromofluoromethane	11.10	113	136962	47.75	ug/kg	100
32) Bromochloromethane	10.90	128	2308	1.31	ug/kg	99
33) 1,1,1-Trichloroethane	11.21	97	5035	1.20	ug/kg	90
34) 1,1-Dichloropropene	11.31	75	5717	1.39	ug/kg	91
35) Diethyl Ether	8.17	59	3416	1.15	ug/kg#	84
36) Methyl Acetate	9.43	74	681	1.21	ug/kg#	94
37) Cyclohexane	10.97	56	5843	1.19	ug/kg#	92
39) Methyl Cyclohexane	12.09	55	5431	1.49	ug/kg	86
40) Carbon Tetrachloride	11.18	117	4550	1.11	ug/kg	96
41) 1,2-Dichloroethane	11.69	62	5595	1.32	ug/kg#	90
42) Benzene	11.56	78	17022	1.79	ug/kg	78
43) Isobutyl Alcohol	11.58	43	7301	28.69	ug/kg#	1
44) Trichloroethene	12.07	130	3665	1.29	ug/kg#	1
45) 1,2-Dichloropropane	12.51	63	4791	1.47	ug/kg	97
46) Methyl Methacrylate	12.60	100	968	1.17	ug/kg	95
47) 1,4-Dioxane	12.72	88	339m	13.91	ug/kg	
48) Bromodichloromethane	12.53	83	5195	1.37	ug/kg#	91
49) Dibromomethane	12.44	93	2640	1.38	ug/kg	96
50) 4-Methyl-2-Pentanone	13.54	100	3089	7.88	ug/kg	57
51) 2-Chloroethyl vinyl ether	12.94	63	2305	2.75	ug/kg#	45
52) 2-Hexanone	14.24	43	14216	5.98	ug/kg	96

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\042121\212DP008.D Vial: 7
Acq On : 21 Apr 2021 10:25 am Operator: nmc
Sample : aa66012-crl1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 12:00 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

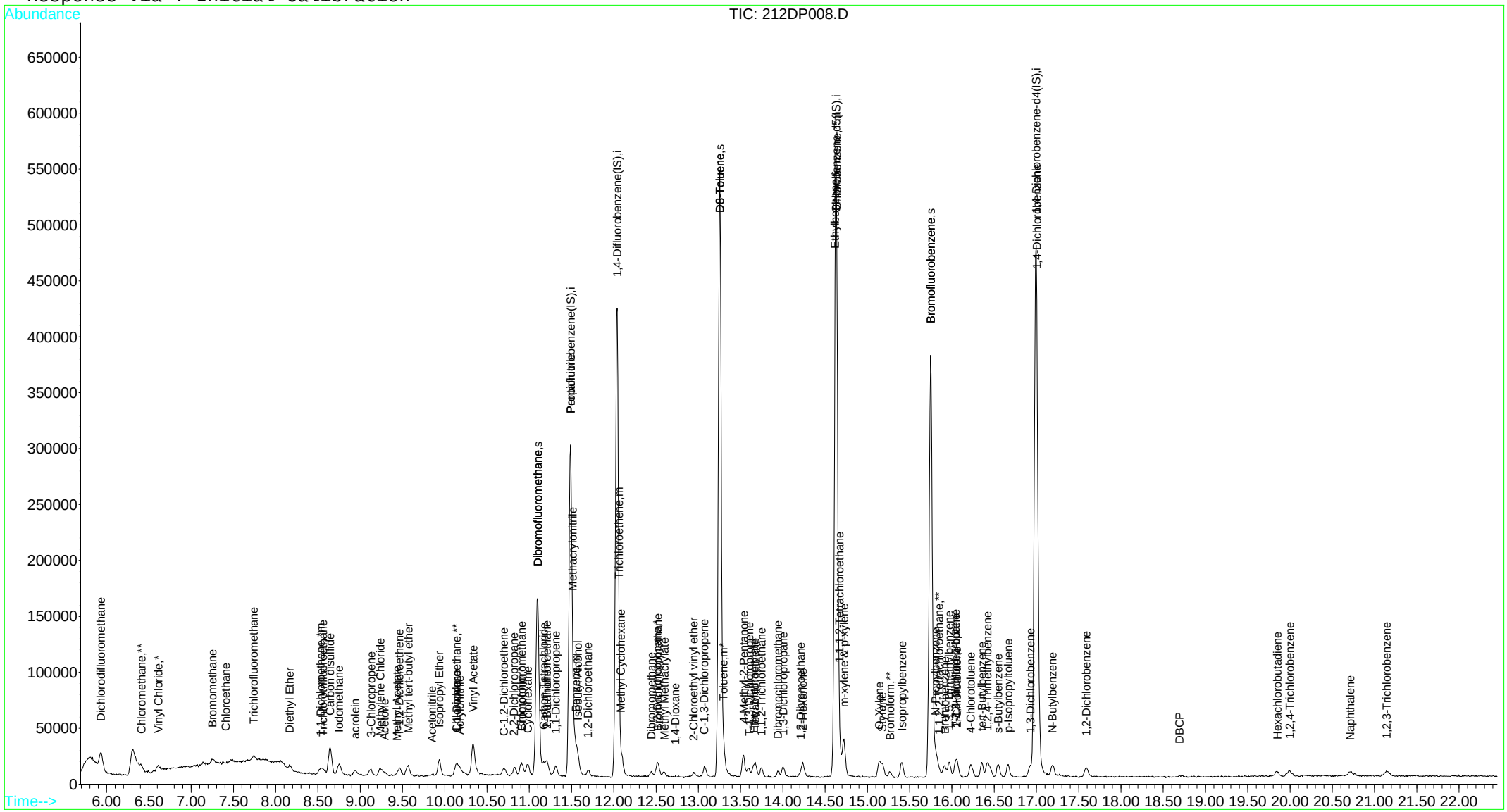
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.07	75	7423	1.43	ug/kg	98
55) D8-Toluene	13.25	98	465746	55.72	ug/kg	94
57) Toluene	13.30	92	8741	1.19	ug/kg	98
58) Ethyl Methacrylate	13.65	69	4655	0.90	ug/kg#	91
59) T-1,3-Dichloropropene	13.60	75	6208	1.18	ug/kg	90
60) 1,1,2-Trichloroethane	13.75	97	3397	1.19	ug/kg	90
61) 1,3-Dichloropropane	14.00	76	7253	1.20	ug/kg	99
62) Tetrachloroethene	13.68	164	3129	1.40	ug/kg	86
63) Dibromochloromethane	13.95	129	4040	1.03	ug/kg#	88
64) 1,2-Dibromoethane	14.20	107	3401	0.97	ug/kg#	89
65) Chlorobenzene	14.65	112	9171	1.11	ug/kg#	58
66) 1,1,1,2-Tetrachloroethane	14.67	131	3239	0.99	ug/kg#	1
67) Ethylbenzene	14.61	106	4499	1.07	ug/kg	82
68) m-xylene & p-xylene	14.72	106	11603	2.25	ug/kg	95
69) O-Xylene	15.14	106	5540	1.09	ug/kg	96
70) Bromoform	15.27	173	2549	1.25	ug/kg#	91
71) Styrene	15.18	104	9083	1.05	ug/kg	96
72) Isopropylbenzene	15.41	105	13381	1.05	ug/kg	98
73) 1,2,3-Trichloropropane	16.04	75	5301	1.16	ug/kg	87
74) 1,1,2,2-Tetrachloroethane	15.85	83	4238	1.15	ug/kg#	88
76) Bromofluorobenzene	15.75	95	207965	45.43	ug/kg#	85
77) T-1,4-dichloro-2-butene	16.04	53	1258	1.06	ug/kg#	90
78) N-Propylbenzene	15.81	91	16096	1.12	ug/kg	97
80) Bromobenzene	15.91	156	4147	1.12	ug/kg	93
81) 1,3,5-Trimethylbenzene	15.97	105	10144	0.89	ug/kg	97
82) 2-Chlorotoluene	16.06	91	10141	0.97	ug/kg	100
83) 4-Chlorotoluene	16.23	91	10268	0.95	ug/kg	98
84) 1,2,4-Trimethylbenzene	16.42	105	10552	0.91	ug/kg	100
85) s-Butylbenzene	16.55	105	12701	0.94	ug/kg	97
86) tert-Butylbenzene	16.36	119	9457	0.93	ug/kg	95
87) p-Isopropyltoluene	16.67	119	10116	0.84	ug/kg	96
88) 1,3-Dichlorobenzene	16.93	146	7204	1.12	ug/kg	95
89) 1,4-Dichlorobenzene	17.01	146	7328	1.09	ug/kg	73
90) 1,2-Dichlorobenzene	17.59	146	6209	1.01	ug/kg	92
91) N-Butylbenzene	17.19	91	9522	0.93	ug/kg	96
92) DBCP	18.70	75	870m	1.15	ug/kg	
93) Naphthalene	20.71	128	8453	1.53	ug/kg	100
94) 1,2,4-Trichlorobenzene	20.00	180	3873	1.21	ug/kg#	78
95) Hexachlorobutadiene	19.85	225	1865	1.32	ug/kg	91
96) 1,2,3-Trichlorobenzene	21.15	180	3398	1.35	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\042121\212DP008.D Vial: 7
Acq On : 21 Apr 2021 10:25 am Operator: nmc
Sample : aa66012-crl1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 12:00 2021 Quant Results File: 030921.RES

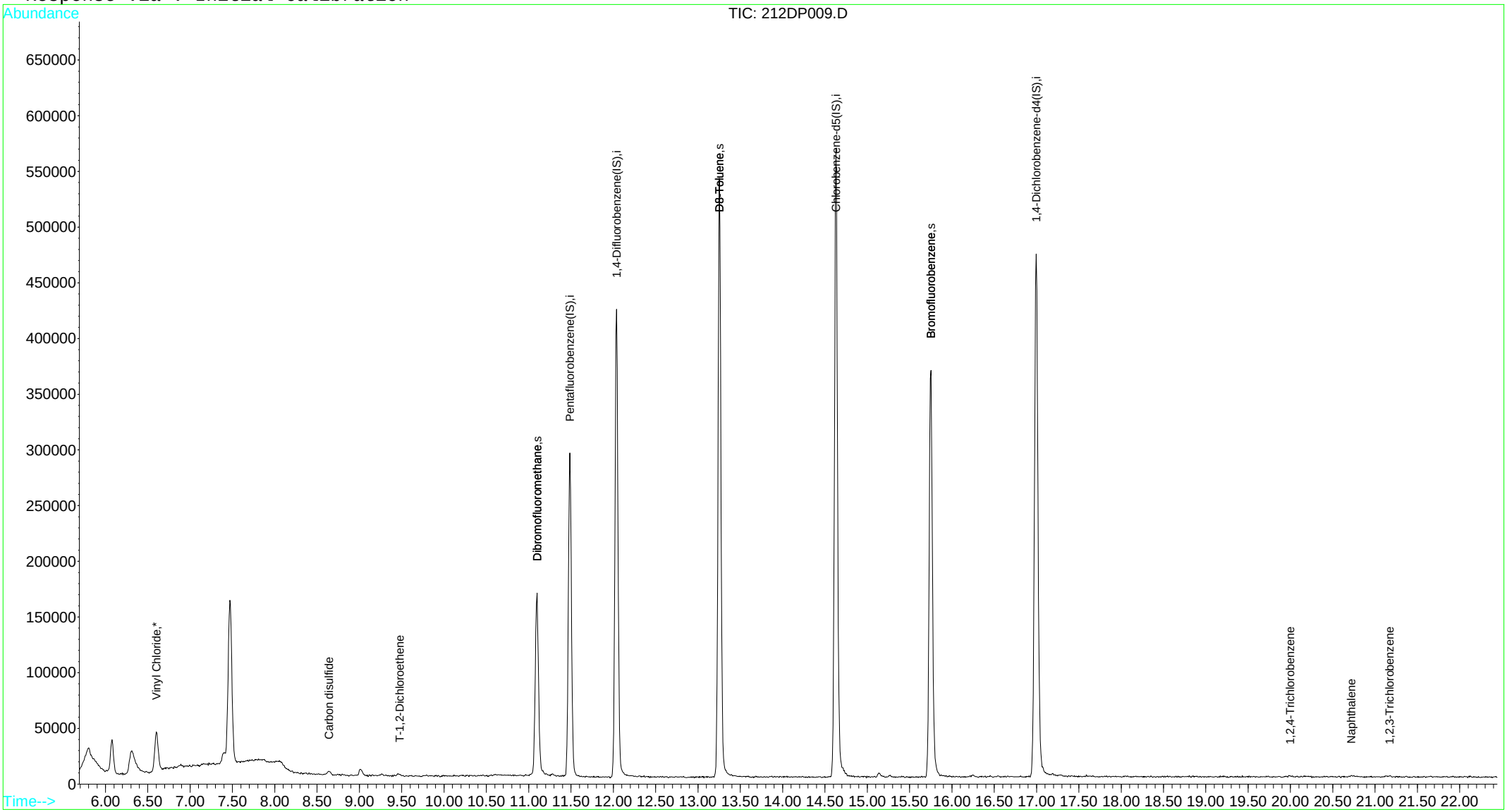
Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\042121\212DP009.D Vial: 8
Acq On : 21 Apr 2021 10:53 am Operator: nmc
Sample : ae02765-01 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 12:01 2021 Quant Results File: 030921.RES

Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\042121\212DP009.D Vial: 8
Acq On : 21 Apr 2021 10:53 am Operator: nmc
Sample : ae02765-01 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 12:01 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.49	168	254822	50.00	ug/kg	0.04
38) 1,4-Difluorobenzene(IS)	12.04	114	440851	50.00	ug/kg	0.04
56) Chlorobenzene-d5(IS)	14.63	82	264655	50.00	ug/kg	0.04
79) 1,4-Dichlorobenzene-d4(IS)	17.00	152	229135	50.00	ug/kg	0.05
System Monitoring Compounds						
30) Dibromofluoromethane	11.10	113	137074	48.14	ug/kg	0.05
Spiked Amount 50.000	Range 53 - 146		Recovery = 96.28%			
54) D8-Toluene	13.25	98	459789	55.35	ug/kg	0.04
Spiked Amount 50.000	Range 41 - 146		Recovery = 110.70%			
75) Bromofluorobenzene	15.75	95	203730	44.62	ug/kg	0.04
Spiked Amount 50.000	Range 41 - 142		Recovery = 89.24%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.		
3) Chloromethane	0.00	50	0	N.D. d		
4) Vinyl Chloride	6.60	62	57717	12.99	ug/kg	98
5) Bromomethane	0.00	96	0	N.D.		
6) Chloroethane	0.00	64	0	N.D. d		
7) Trichlorofluoromethane	0.00	101	0	N.D.		
8) Trichlorotrifluoroethane	0.00	101	0	N.D.		
9) acrolein	0.00	56	0	N.D.		
10) Acetone	0.00	43	0	N.D. d		
11) 1,1-Dichloroethene	0.00	96	0	N.D.		
12) 3-Chloropropene	0.00	76	0	N.D.		
13) Acetonitrile	0.00	41	0	N.D.		
14) Iodomethane	0.00	142	0	N.D. d		
15) Carbon disulfide	8.64	76	7300	0.85	ug/kg#	75
16) Methylene Chloride	0.00	84	0	N.D.		
17) Methyl tert-butyl ether	0.00	73	0	N.D.		
18) Acrylonitrile	0.00	53	0	N.D.		
19) T-1,2-Dichloroethene	9.47	96	871	0.32	ug/kg#	69
20) Isopropyl Ether	0.00	45	0	N.D. d		
21) C-1,2-Dichloroethene	0.00	96	0	N.D.		
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	0.00	43	0	N.D.		
24) Chloroprene	0.00	88	0	N.D.		
25) 2-Butanone	0.00	72	0	N.D.		
26) Propionitrile	0.00	54	0	N.D.		
27) 2,2-Dichloropropane	0.00	77	0	N.D.		
28) Methacrylonitrile	0.00	67	0	N.D. d		
29) Chloroform	0.00	83	0	N.D.		
31) Dibromofluoromethane	11.10	113	137074	48.14	ug/kg	100
32) Bromochloromethane	0.00	128	0	N.D.		
33) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
34) 1,1-Dichloropropene	0.00	75	0	N.D.		
35) Diethyl Ether	0.00	59	0	N.D.		
36) Methyl Acetate	0.00	74	0	N.D.		
37) Cyclohexane	0.00	56	0	N.D.		
39) Methyl Cyclohexane	0.00	55	0	N.D. d		
40) Carbon Tetrachloride	0.00	117	0	N.D.		
41) 1,2-Dichloroethane	0.00	62	0	N.D.		
42) Benzene	0.00	78	0	N.D. d		
43) Isobutyl Alcohol	0.00	43	0	N.D. d		
44) Trichloroethene	0.00	130	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Methyl Methacrylate	0.00	100	0	N.D.		
47) 1,4-Dioxane	0.00	88	0	N.D.		
48) Bromodichloromethane	0.00	83	0	N.D.		
49) Dibromomethane	0.00	93	0	N.D.		
50) 4-Methyl-2-Pentanone	0.00	100	0	N.D.		
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	0.00	43	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\042121\212DP009.D Vial: 8
Acq On : 21 Apr 2021 10:53 am Operator: nmc
Sample : ae02765-01 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 12:01 2021 Quant Results File: 030921.RES

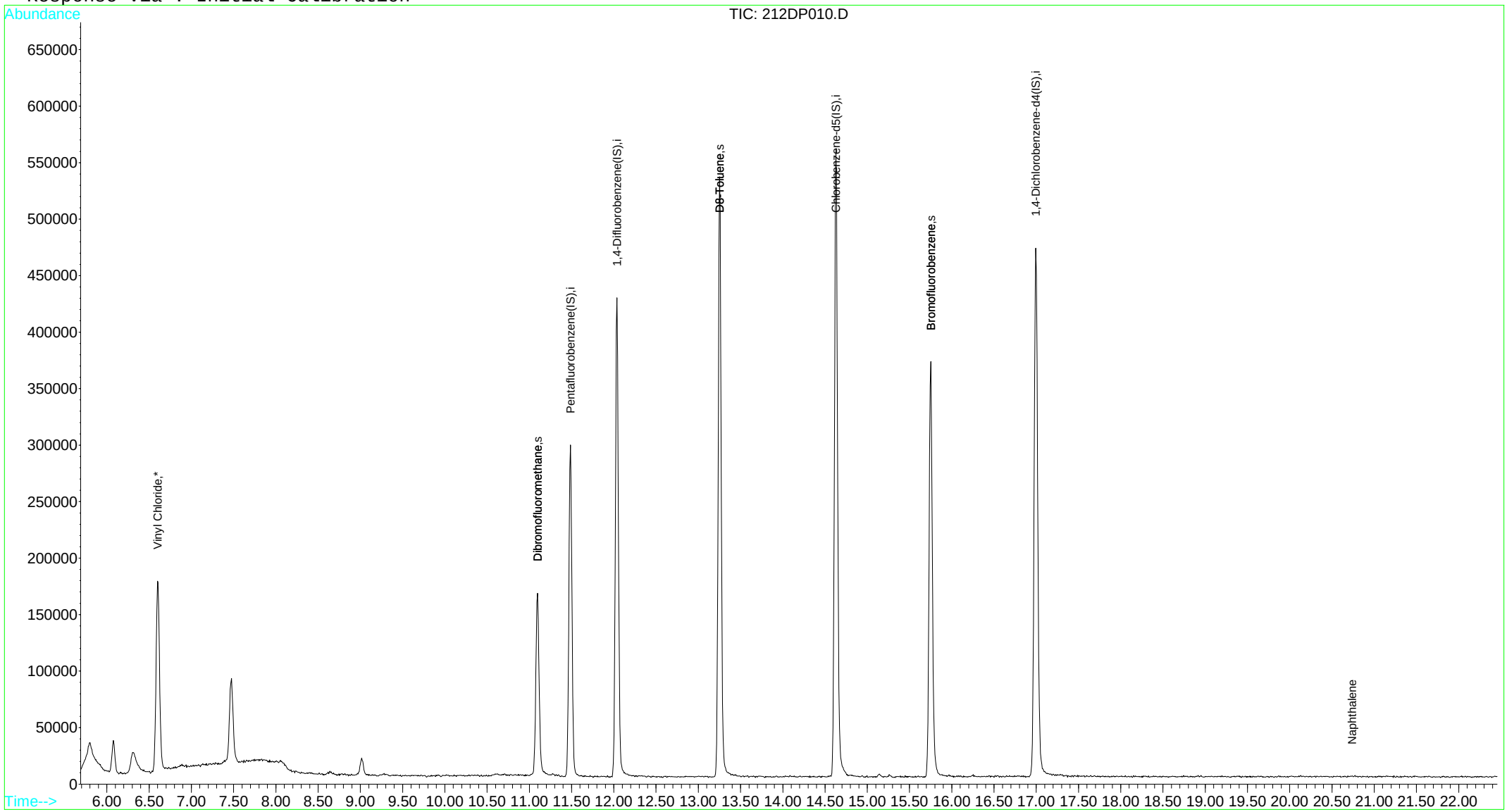
Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	0.00	75	0	N.D.	
55) D8-Toluene	13.25	98	459789	55.35 ug/kg	94
57) Toluene	0.00	92	0	N.D.	
58) Ethyl Methacrylate	0.00	69	0	N.D.	
59) T-1,3-Dichloropropene	0.00	75	0	N.D.	
60) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
61) 1,3-Dichloropropane	0.00	76	0	N.D.	
62) Tetrachloroethene	0.00	164	0	N.D.	
63) Dibromochloromethane	0.00	129	0	N.D.	
64) 1,2-Dibromoethane	0.00	107	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
67) Ethylbenzene	0.00	106	0	N.D.	
68) m-xylene & p-xylene	0.00	106	0	N.D.	
69) O-Xylene	0.00	106	0	N.D. d	
70) Bromoform	0.00	173	0	N.D.	
71) Styrene	0.00	104	0	N.D.	
72) Isopropylbenzene	0.00	105	0	N.D. d	
73) 1,2,3-Trichloropropane	0.00	75	0	N.D.	
74) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
76) Bromofluorobenzene	15.75	95	203730	44.62 ug/kg#	86
77) T-1,4-dichloro-2-butene	0.00	53	0	N.D.	
78) N-Propylbenzene	0.00	91	0	N.D. d	
80) Bromobenzene	0.00	156	0	N.D.	
81) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
82) 2-Chlorotoluene	0.00	91	0	N.D.	
83) 4-Chlorotoluene	0.00	91	0	N.D.	
84) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.	
85) s-Butylbenzene	0.00	105	0	N.D.	
86) tert-Butylbenzene	0.00	119	0	N.D.	
87) p-Isopropyltoluene	0.00	119	0	N.D.	
88) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
89) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) N-Butylbenzene	0.00	91	0	N.D. d	
92) DBCP	0.00	75	0	N.D.	
93) Naphthalene	20.72	128	1106	0.20 ug/kg	100
94) 1,2,4-Trichlorobenzene	20.00	180	610	0.19 ug/kg#	12
95) Hexachlorobutadiene	0.00	225	0	N.D.	
96) 1,2,3-Trichlorobenzene	21.16	180	876	0.35 ug/kg#	11

Quantitation Report

Data File : C:\HPCHEM\1\DATA\042121\212DP010.D Vial: 9
Acq On : 21 Apr 2021 11:22 am Operator: nmc
Sample : ae02765-02 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 12:01 2021 Quant Results File: 030921.RES

Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\042121\212DP010.D Vial: 9
Acq On : 21 Apr 2021 11:22 am Operator: nmc
Sample : ae02765-02 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 12:01 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.49	168	255442	50.00	ug/kg	0.04
38) 1,4-Difluorobenzene(IS)	12.04	114	444829	50.00	ug/kg	0.04
56) Chlorobenzene-d5(IS)	14.63	82	266073	50.00	ug/kg	0.04
79) 1,4-Dichlorobenzene-d4(IS)	16.99	152	232620	50.00	ug/kg	0.05
System Monitoring Compounds						
30) Dibromofluoromethane	11.10	113	136110	47.68	ug/kg	0.05
Spiked Amount 50.000	Range 53 - 146		Recovery = 95.36%			
54) D8-Toluene	13.25	98	456213	54.43	ug/kg	0.04
Spiked Amount 50.000	Range 41 - 146		Recovery = 108.86%			
75) Bromofluorobenzene	15.75	95	204646	44.58	ug/kg	0.04
Spiked Amount 50.000	Range 41 - 142		Recovery = 89.16%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.		
3) Chloromethane	0.00	50	0	N.D. d		
4) Vinyl Chloride	6.61	62	282606	63.46	ug/kg	100
5) Bromomethane	0.00	96	0	N.D.		
6) Chloroethane	0.00	64	0	N.D. d		
7) Trichlorofluoromethane	0.00	101	0	N.D.		
8) Trichlorotrifluoroethane	0.00	101	0	N.D.		
9) acrolein	0.00	56	0	N.D.		
10) Acetone	0.00	43	0	N.D. d		
11) 1,1-Dichloroethene	0.00	96	0	N.D.		
12) 3-Chloropropene	0.00	76	0	N.D.		
13) Acetonitrile	0.00	41	0	N.D.		
14) Iodomethane	0.00	142	0	N.D.		
15) Carbon disulfide	0.00	76	0	N.D. d		
16) Methylene Chloride	0.00	84	0	N.D.		
17) Methyl tert-butyl ether	0.00	73	0	N.D.		
18) Acrylonitrile	0.00	53	0	N.D.		
19) T-1,2-Dichloroethene	0.00	96	0	N.D.		
20) Isopropyl Ether	0.00	45	0	N.D.		
21) C-1,2-Dichloroethene	0.00	96	0	N.D.		
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	0.00	43	0	N.D. d		
24) Chloroprene	0.00	88	0	N.D.		
25) 2-Butanone	0.00	72	0	N.D.		
26) Propionitrile	0.00	54	0	N.D.		
27) 2,2-Dichloropropane	0.00	77	0	N.D.		
28) Methacrylonitrile	0.00	67	0	N.D. d		
29) Chloroform	0.00	83	0	N.D.		
31) Dibromofluoromethane	11.10	113	136110	47.68	ug/kg	100
32) Bromochloromethane	0.00	128	0	N.D.		
33) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
34) 1,1-Dichloropropene	0.00	75	0	N.D.		
35) Diethyl Ether	0.00	59	0	N.D.		
36) Methyl Acetate	0.00	74	0	N.D.		
37) Cyclohexane	0.00	56	0	N.D.		
39) Methyl Cyclohexane	0.00	55	0	N.D. d		
40) Carbon Tetrachloride	0.00	117	0	N.D.		
41) 1,2-Dichloroethane	0.00	62	0	N.D.		
42) Benzene	0.00	78	0	N.D. d		
43) Isobutyl Alcohol	0.00	43	0	N.D. d		
44) Trichloroethene	0.00	130	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Methyl Methacrylate	0.00	100	0	N.D.		
47) 1,4-Dioxane	0.00	88	0	N.D.		
48) Bromodichloromethane	0.00	83	0	N.D.		
49) Dibromomethane	0.00	93	0	N.D.		
50) 4-Methyl-2-Pentanone	0.00	100	0	N.D.		
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	0.00	43	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\042121\212DP010.D Vial: 9
Acq On : 21 Apr 2021 11:22 am Operator: nmc
Sample : ae02765-02 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 21 12:01 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	0.00	75	0	N.D.	
55) D8-Toluene	13.25	98	456213	54.43 ug/kg	94
57) Toluene	0.00	92	0	N.D.	
58) Ethyl Methacrylate	0.00	69	0	N.D.	
59) T-1,3-Dichloropropene	0.00	75	0	N.D.	
60) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
61) 1,3-Dichloropropane	0.00	76	0	N.D.	
62) Tetrachloroethene	0.00	164	0	N.D.	
63) Dibromochloromethane	0.00	129	0	N.D.	
64) 1,2-Dibromoethane	0.00	107	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
67) Ethylbenzene	0.00	106	0	N.D.	
68) m-xylene & p-xylene	0.00	106	0	N.D.	
69) O-Xylene	0.00	106	0	N.D. d	
70) Bromoform	0.00	173	0	N.D.	
71) Styrene	0.00	104	0	N.D.	
72) Isopropylbenzene	0.00	105	0	N.D.	
73) 1,2,3-Trichloropropane	0.00	75	0	N.D.	
74) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
76) Bromofluorobenzene	15.75	95	204646	44.58 ug/kg#	85
77) T-1,4-dichloro-2-butene	0.00	53	0	N.D.	
78) N-Propylbenzene	0.00	91	0	N.D. d	
80) Bromobenzene	0.00	156	0	N.D.	
81) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
82) 2-Chlorotoluene	0.00	91	0	N.D.	
83) 4-Chlorotoluene	0.00	91	0	N.D.	
84) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.	
85) s-Butylbenzene	0.00	105	0	N.D.	
86) tert-Butylbenzene	0.00	119	0	N.D.	
87) p-Isopropyltoluene	0.00	119	0	N.D.	
88) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
89) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) N-Butylbenzene	0.00	91	0	N.D.	
92) DBCP	0.00	75	0	N.D.	
93) Naphthalene	20.74	128	1355	0.24 ug/kg	100
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Hexachlorobutadiene	0.00	225	0	N.D.	
96) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

ANALYSIS SEQUENCE

AA65289

Instrument: OVGCMS2

Calibration ID: UNASSIGNED = 2103054

Printed: 3/9/2021 1:53:16PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA65289-TUN1	QC		1		A0I0903			
AA65289-CAL1	QC		2		A1C0778	A1B0764		
AA65289-CAL2	QC		3		A1C0779	A1B0764		
AA65289-CAL3	QC		4		A1C0780	A1B0764		
AA65289-CAL4	QC		5		A1C0781	A1B0764		
AA65289-CAL5	QC		6		A1C0782	A1B0764		
AA65289-CAL6	QC		7		A1C0783	A1B0764		
AA65289-CAL7	QC		8		A1C0784	A1B0764		
AA65289-CAL8	QC		9		A1C0785	A1B0764		
AA65289-SCV1	QC		10		A1C0786	A1B0764		

Samples Loaded By — 03/09/21 Date

Data Processed By — 3/10/21 Date

Sequence Name: C:\HPCHEM\1\SEQUENCE\212CD.S
Comment:
Operator: KG
Data Path: C:\HPchem\1\DATA\030921\
Pre-Seq Cmd:
Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line	Type	Vial	DataFile	Method	Sample Name
1	Sample	1	212CD001	8260S	AA65289-TUN1
2	Sample	2	212CD002	8260S	AA65289-CAL1
3	Sample	3	212CD003	8260S	AA65289-CAL2
4	Sample	4	212CD004	8260S	AA65289-CAL3
5	Sample	5	212CD005	8260S	AA65289-CAL4
6	Sample	6	212CD006	8260S	AA65289-CAL5
7	Sample	7	212CD007	8260S	AA65289-CAL6
8	Sample	8	212CD008	8260S	AA65289-CAL7
9	Sample	9	212CD009	8260S	AA65289-CAL8
10	Sample	10	212CD010	8260S	rinse
11	Sample	11	212CD011	8260S	rinse
12	Sample	12	212CD012	8260S	rinse
13	Sample	13	212CD013	8260S	AA65289-SCV1
14	Sample	14	212CD014	8260S	1C09037-BS1
15	Sample	15	212CD015	8260S	1C09037-MS1
16	Sample	15	212CD016	8260S	1C09037-MSD1
17	Sample	16	212CD017	8260S	RINSE
18	Sample	17	212CD018	8260S	RINSE
19	Sample	18	212CD019	8260S	RINSE
20	Sample	19	212CD020	8260S	1C09037-BLK1
21	Sample	20	212CD021	8260S	AE01878-01
22	Sample	21	212CD022	8260S	AE01528-01RE1
23	Sample	22	212CD023	8260S	AE01808-04
24	Sample	23	212CD024	8260S	AE01808-05
25	Sample	24	212CD025	8260S	AE01808-06
26	Sample	25	212CD026	8260S	AE01808-07
27	Sample	26	212CD027	8260S	AE01808-08
28	Sample	27	212CD028	8260S	AE01808-09
29	Sample	28	212CD029	8260S	AE01808-10
30	Sample	29	212CD030	8260S	AE01808-11
31	Sample	30	212CD031	8260S	AE01808-12
32	Sample	31	212CD032	8260S	AE01808-13
33	Sample	32	212CD033	8260S	AE01808-14
34	Sample	33	212CD034	8260S	AE01808-15
35	Sample	34	212CD035	8260S	AE01808-16
36	Sample	35	212CD036	8260S	AE01808-17

Compound List Report OVGCMS2

Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Wed Mar 10 11:37:03 2021
Response via : Initial Calibration
Total Cpnds : 96

PK#	Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1 I	Pentafluorobenzene(IS)	168	11.44	1.000	A	2	A	B
2	Dichlorodifluoromethane	85	5.88	0.514	A	3	A	B
3 **	Chloromethane	50	6.35	0.555	A	2	A	B
4 *	Vinyl Chloride	62	6.54	0.572	A	2	A	B
5	Bromomethane	96	7.18	0.627	QO	2	A	B
6	Chloroethane	64	7.41	0.648	A	2	A	R
7	Trichlorofluoromethane	101	7.68	0.671	A	2	A	B
8	Trichlorotrifluoroethane	101	8.51	0.743	A	1	A	B
9	acrolein	56	8.87	0.775	A	1	A	B
10	Acetone	43	9.22	0.806	LO	1	A	B
11 *m	1,1-Dichloroethene	96	8.46	0.740	A	2	A	B
12	3-Chloropropene	76	9.06	0.791	A	1	A	B
13	Acetonitrile	41	9.76	0.853	A	2	A	B
14	Iodomethane	142	8.69	0.759	LO	2	A	B
15	Carbon disulfide	76	8.58	0.750	A	1	A	B
16	Methylene Chloride	84	9.18	0.803	A	3	A	B
17	Methyl tert-butyl ether	73	9.50	0.830	A	2	A	B
18	Acrylonitrile	53	10.09	0.882	A	2	A	B
19	T-1,2-Dichloroethene	96	9.41	0.822	A	2	A	B
20	Isopropyl Ether	45	9.88	0.863	A	1	A	B
21	C-1,2-Dichloroethene	96	10.65	0.930	A	2	A	B
22 **	1,1-Dichloroethane	63	10.09	0.882	A	3	A	B
23	Vinyl Acetate	43	10.27	0.898	A	1	A	B
24	Chloroprene	88	10.07	0.880	A	2	A	B
25	2-Butanone	72	11.15	0.974	LO	2	A	B
26	Propionitrile	54	11.43	0.999	A	0	A	B
27	2,2-Dichloropropane	77	10.77	0.941	A	1	A	B
28	Methacrylonitrile	67	11.47	1.002	A	1	A	B
29 *	Chloroform	83	10.87	0.949	A	2	A	B
30 S	Dibromofluoromethane	113	11.05	0.965	A	0	A	B
31	Dibromofluoromethane	113	11.10	0.970	A	0	A	B
32	Bromochloromethane	128	10.84	0.948	A	2	A	B
33	1,1,1-Trichloroethane	97	11.16	0.975	A	2	A	B
34	1,1-Dichloropropene	75	11.26	0.984	A	2	A	B
35	Diethyl Ether	59	8.10	0.708	A	2	A	B
36	Methyl Acetate	74	9.36	0.818	A	2	A	B
37	Cyclohexane	56	10.93	0.955	A	2	A	B
38 I	1,4-Difluorobenzene(IS)	114	11.99	1.000	A	2	A	B
39	Methyl Cyclohexane	55	12.05	1.005	A	2	A	B
40	Carbon Tetrachloride	117	11.13	0.928	A	2	A	B
41	1,2-Dichloroethane	62	11.64	0.971	A	2	A	B
42 m	Benzene	78	11.50	0.959	LO	2	A	B
43	Isobutyl Alcohol	43	11.52	0.961	A	2	A	B
44 m	Trichloroethene	130	12.02	1.002	A	3	A	B
45 *	1,2-Dichloropropane	63	12.47	1.039	A	2	A	B
46	Methyl Methacrylate	100	12.55	1.046	A	1	A	B
47	1,4-Dioxane	88	12.68	1.057	A	1	A	B
48	Bromodichloromethane	83	12.48	1.041	A	2	A	B
49	Dibromomethane	93	12.39	1.033	A	2	A	B
50	4-Methyl-2-Pentanone	100	13.48	1.124	LO	3	A	B
51	2-Chloroethyl vinyl ether	63	12.90	1.075	LO	2	A	B
52	2-Hexanone	43	14.18	1.182	A	3	A	B
53	C-1,3-Dichloropropene	75	13.03	1.086	A	2	A	B
54 S	D8-Toluene	98	13.21	1.101	A	2	A	B
55	D8-Toluene	98	13.27	1.106	A	2	A	B
56 I	Chlorobenzene-d5(IS)	82	14.59	1.000	A	2	A	B
57 m*	Toluene	92	13.26	0.909	A	2	A	B
58	Ethyl Methacrylate	69	13.60	0.933	A	3	A	B
59	T-1,3-Dichloropropene	75	13.55	0.929	A	2	A	B
60	1,1,2-Trichloroethane	97	13.70	0.939	A	3	A	B
61	1,3-Dichloropropane	76	13.96	0.957	A	1	A	B
62	Tetrachloroethene	164	13.63	0.935	A	3	A	B
63	Dibromochloromethane	129	13.90	0.953	A	2	A	B
64	1,2-Dibromoethane	107	14.16	0.970	A	2	A	B
65 **m	Chlorobenzene	112	14.61	1.001	A	2	A	B

66		1,1,1,2-Tetrachloroethane	131	14.63	1.003	A	2	A	B
67	*	Ethylbenzene	106	14.56	0.999	A	1	A	B
68		m-xylene & p-xylene	106	14.68	1.006	A	1	A	B
69		O-Xylene	106	15.09	1.035	A	1	A	B
70	**	Bromoform	173	15.23	1.044	A	3	A	B
71		Styrene	104	15.14	1.038	A	2	A	B
72		Isopropylbenzene	105	15.36	1.053	A	1	A	B
73		1,2,3-Trichloropropane	75	15.99	1.096	A	1	A	B
74	**	1,1,2,2-Tetrachloroethane	83	15.80	1.083	A	3	A	B
75	S	Bromofluorobenzene	95	15.71	1.077	A	2	A	B
76		Bromofluorobenzene	95	15.71	1.077	A	2	A	B
77		T-1,4-dichloro-2-butene	53	15.98	1.096	A	2	A	B
78		N-Propylbenzene	91	15.77	1.081	A	1	A	B
79	I	1,4-Dichlorobenzene-d4(IS)	152	16.94	1.000	A	2	A	B
80		Bromobenzene	156	15.86	0.936	A	2	A	B
81		1,3,5-Trimethylbenzene	105	15.93	0.940	A	1	A	B
82		2-Chlorotoluene	91	16.01	0.945	A	1	A	B
83		4-Chlorotoluene	91	16.17	0.955	A	1	A	B
84		1,2,4-Trimethylbenzene	105	16.37	0.966	A	1	A	B
85		s-Butylbenzene	105	16.51	0.974	A	1	A	B
86		tert-Butylbenzene	119	16.31	0.962	A	2	A	B
87		p-Isopropyltoluene	119	16.62	0.981	A	2	A	B
88		1,3-Dichlorobenzene	146	16.87	0.996	A	2	A	B
89		1,4-Dichlorobenzene	146	16.97	1.002	A	2	A	B
90		1,2-Dichlorobenzene	146	17.54	1.035	A	2	A	B
91		N-Butylbenzene	91	17.14	1.012	A	2	A	B
92		DBCP	75	18.65	1.101	LO	2	A	B
93		Naphthalene	128	20.63	1.217	QO	0	A	B
94		1,2,4-Trichlorobenzene	180	19.92	1.176	A	2	A	B
95		Hexachlorobutadiene	225	19.78	1.168	A	2	A	B
96		1,2,3-Trichlorobenzene	180	21.07	1.244	A	2	A	B

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

030921.M Wed Mar 10 11:37:57 2021

Compound Name Duplication Report

Quant Method: C:\HPCHEM\1\METHODS\030921.M
Number of Compounds: 96

30 Dibromofluoromethane = 31 Dibromofluoromethane
54 D8-Toluene = 55 D8-Toluene
75 Bromofluorobenzene = 76 Bromofluorobenzene

3 Duplicate Names Detected!!!

Response Factor Report OVGCMS2

Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Wed Mar 10 11:37:03 2021
Response via : Initial Calibration

Calibration Files
1 =212CD002.D 5 =212CD004.D 20 =212CD006.D
50 =212CD007.D 100 =212CD009.D 10 =212CD005.D

		Compound	1	5	20	50	100	10	Avg	%RSD
1)	i	Pentafluorobenzene(IS	----------	ISTD	----------					
2)		Dichlorodifluoromet	0.963	0.913	1.144	1.135	1.257	0.935	1.073	12.71
3)	**	Chloromethane	1.218	1.021	1.141	1.094	1.222	0.977	1.125	7.91
4)	*	Vinyl Chloride	0.783	0.768	0.925	0.908	0.999	0.780	0.872	10.68
5)		Bromomethane	0.486	0.478	0.440	0.330		0.469	0.422	25.19
6)		Chloroethane	0.528	0.409	0.464	0.442	0.460	0.431	0.459	7.64
7)		Trichlorofluorometh	0.757	0.757	0.911	0.888	0.949	0.773	0.844	10.49
8)		Trichlorotrifluoroe	0.510	0.496	0.538	0.557	0.579	0.495	0.535	6.63
9)		acrolein	0.160	0.145	0.143	0.147	0.147	0.131	0.147	5.75
10)		Acetone	0.287	0.210	0.191	0.190	0.191	0.175	0.210	17.57
11)	*m	1,1-Dichloroethene	0.505	0.447	0.474	0.513	0.529	0.426	0.492	7.99
12)		3-Chloropropene	0.398	0.285	0.309	0.307	0.317	0.282	0.319	11.40
13)		Acetonitrile	0.063	0.073	0.080	0.089	0.095	0.074	0.081#	14.86
14)		Iodomethane	0.309	0.376	0.576	0.665	0.721	0.459	0.523	32.97
15)		Carbon disulfide	1.605	1.435	1.767	1.784	1.798	1.685	1.675	9.26
16)		Methylene Chloride	0.731	0.570	0.646	0.625	0.608	0.630	0.637	7.37
17)		Methyl tert-butyl e	1.692	1.519	1.606	1.652	1.665	1.451	1.629	6.09
18)		Acrylonitrile	0.355	0.355	0.340	0.343	0.342	0.325	0.344	2.94
19)		T-1,2-Dichloroethen	0.555	0.483	0.510	0.533	0.573	0.460	0.529	7.83
20)		Isopropyl Ether	2.997	2.591	2.646	2.746	2.743	2.451	2.742	6.57
21)		C-1,2-Dichloroethen	0.549	0.534	0.558	0.594	0.623	0.503	0.573	7.81
22)	**	1,1-Dichloroethane	1.281	1.086	1.078	1.088	1.096	0.990	1.120	8.06
23)		Vinyl Acetate	2.086	1.887	1.753	1.718	1.670	1.693	1.819	8.67
24)		Chloroprene	0.438	0.465	0.463	0.476	0.484	0.442	0.469	4.51
25)		2-Butanone	0.077	0.069	0.058	0.059	0.061	0.055	0.067#	18.60
26)		Propionitrile	0.099	0.091	0.088	0.091	0.094	0.079	0.092#	6.63
27)		2,2-Dichloropropane	0.930	0.770	0.826	0.863	0.918	0.766	0.855	7.69
28)		Methacrylonitrile	0.295	0.252	0.237	0.238	0.239	0.229	0.252	9.86
29)	*	Chloroform	1.055	0.976	1.014	1.018	1.075	0.919	1.034	6.51
30)	s	Dibromofluoromethan	0.549	0.554	0.554	0.553	0.577	0.550	0.559	1.88
31)		Dibromofluoromethan	0.549	0.554	0.554	0.553	0.577	0.550	0.559	1.88
32)		Bromochloromethane	0.381	0.315	0.325	0.340	0.354	0.304	0.343	7.76
33)		1,1,1-Trichloroetha	0.821	0.773	0.797	0.828	0.864	0.726	0.817	6.16
34)		1,1-Dichloropropene	0.792	0.719	0.789	0.817	0.853	0.711	0.800	7.52
35)		Diethyl Ether	0.625	0.535	0.553	0.578	0.602	0.503	0.580	7.95
36)		Methyl Acetate	0.127	0.105	0.099	0.102	0.105	0.098	0.110	12.50
37)		Cyclohexane	0.972	0.914	0.944	0.967	0.992	0.861	0.957	5.28
38)	i	1,4-Difluorobenzene(I	----------	ISTD	----------					
39)		Methyl Cyclohexane	0.419	0.455	0.400	0.416	0.416	0.371	0.411	6.10
40)		Carbon Tetrachlorid	0.469	0.446	0.448	0.471	0.480	0.429	0.464	4.34
41)		1,2-Dichloroethane	0.496	0.463	0.460	0.470	0.478	0.432	0.478	6.83
42)	m	Benzene	1.574	1.149	1.058	1.065	1.064	1.024	1.177	16.98
43)		Isobutyl Alcohol	0.031	0.029	0.028	0.028	0.027	0.026	0.029#	6.14
44)	m	Trichloroethene	0.316	0.305	0.309	0.327	0.342	0.290	0.321	5.93
45)	*	1,2-Dichloropropane	0.465	0.354	0.337	0.352	0.352	0.321	0.367	12.37
46)		Methyl Methacrylate	0.082	0.097	0.090	0.095	0.098	0.085	0.093#	7.38
47)		1,4-Dioxane	0.002	0.003	0.003	0.003	0.003	0.002	0.003#	10.92
48)		Bromodichloromethan	0.458	0.403	0.419	0.428	0.440	0.387	0.428	5.57
49)		Dibromomethane	0.225	0.196	0.212	0.217	0.230	0.191	0.216	6.93
50)		4-Methyl-2-Pentanon	0.061	0.045	0.041	0.044	0.044	0.042	0.047#	15.53
51)		2-Chloroethyl vinyl	0.071	0.062	0.073	0.087	0.097	0.062	0.077#	18.49
52)		2-Hexanone	0.272	0.266	0.253	0.263	0.261	0.251	0.268	7.34
53)		C-1,3-Dichloroprope	0.605	0.543	0.571	0.601	0.606	0.524	0.586	6.15
54)	s	D8-Toluene	0.935	0.942	0.934	0.939	0.946	0.955	0.942	0.75
55)		D8-Toluene	0.935	0.942	0.934	0.939	0.946	0.955	0.942	0.75
56)	i	Chlorobenzene-d5(IS)	----------	ISTD	----------					

(#) = Out of Range ### Number of calibration levels exceeded format ###

Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Wed Mar 10 11:37:03 2021
Response via : Initial Calibration

Calibration Files
1 =212CD002.D 5 =212CD004.D 20 =212CD006.D
50 =212CD007.D 100 =212CD009.D 10 =212CD005.D

		Compound	1	5	20	50	100	10	Avg	%RSD
57)	m*	Toluene	1.403	1.337	1.334	1.418	1.433	1.220	1.383	5.91
58)		Ethyl Methacrylate	1.090	1.034	0.940	0.948	0.937	0.883	0.976	6.72
59)		T-1,3-Dichloroprope	0.973	0.954	0.993	1.018	1.027	0.892	0.995	5.52
60)		1,1,2-Trichloroetha	0.563	0.504	0.523	0.547	0.541	0.492	0.538	5.89
61)		1,3-Dichloropropane	1.226	1.080	1.109	1.133	1.137	1.006	1.141	7.28
62)		Tetrachloroethene	0.399	0.397	0.421	0.428	0.441	0.394	0.420	4.92
63)		Dibromochloromethan	0.680	0.722	0.730	0.775	0.793	0.637	0.741	7.98
64)		1,2-Dibromoethane	0.661	0.616	0.650	0.678	0.694	0.582	0.661	6.57
65)	**m	Chlorobenzene	1.637	1.466	1.511	1.545	1.569	1.384	1.550	6.30
66)		1,1,1,2-Tetrachloro	0.665	0.562	0.599	0.628	0.640	0.568	0.619	6.17
67)	*	Ethylbenzene	0.780	0.756	0.780	0.810	0.837	0.707	0.794	5.97
68)		m-xylene & p-xylene	0.985	0.941	0.940	0.981	1.004	0.877	0.971	5.01
69)		O-Xylene	0.862	0.909	0.950	0.996	1.034	0.864	0.956	7.46
70)	**	Bromoform	0.367	0.360	0.385	0.402	0.418	0.345	0.385	7.37
71)		Styrene	1.655	1.520	1.618	1.683	1.742	1.434	1.637	6.74
72)		Isopropylbenzene	2.362	2.266	2.352	2.476	2.541	2.135	2.395	6.11
73)		1,2,3-Trichloroprop	0.944	0.818	0.809	0.848	0.870	0.755	0.858	7.39
74)	**	1,1,2,2-Tetrachloro	0.737	0.640	0.666	0.703	0.703	0.617	0.692	6.78
75)	s	Bromofluorobenzene	0.853	0.849	0.857	0.886	0.872	0.865	0.863	1.34
76)		Bromofluorobenzene	0.853	0.849	0.857	0.886	0.872	0.865	0.863	1.34
77)		T-1,4-dichloro-2-bu	0.259	0.228	0.192	0.206	0.221	0.196	0.224	12.39
78)		N-Propylbenzene	2.800	2.556	2.623	2.801	2.906	2.371	2.719	6.98
79)	i	1,4-Dichlorobenzene-d	----------	ISTD	----------					
80)		Bromobenzene	0.788	0.761	0.785	0.821	0.828	0.747	0.806	5.37
81)		1,3,5-Trimethylbenz	2.515	2.341	2.460	2.526	2.557	2.281	2.482	4.61
82)		2-Chlorotoluene	2.403	2.261	2.181	2.238	2.255	2.056	2.269	5.55
83)		4-Chlorotoluene	2.473	2.270	2.246	2.362	2.415	2.092	2.350	5.88
84)		1,2,4-Trimethylbenz	2.525	2.392	2.483	2.551	2.593	2.293	2.509	4.62
85)		s-Butylbenzene	2.907	2.749	2.892	3.010	3.097	2.638	2.939	6.03
86)		tert-Butylbenzene	2.191	2.112	2.154	2.268	2.339	1.989	2.203	5.45
87)		p-Isopropyltoluene	2.697	2.469	2.550	2.679	2.764	2.349	2.617	5.77
88)		1,3-Dichlorobenzene	1.413	1.271	1.356	1.436	1.502	1.262	1.398	6.81
89)		1,4-Dichlorobenzene	1.568	1.406	1.371	1.446	1.514	1.289	1.454	6.46
90)		1,2-Dichlorobenzene	1.303	1.212	1.299	1.387	1.455	1.177	1.333	7.78
91)		N-Butylbenzene	2.167	2.080	2.162	2.311	2.414	1.993	2.210	7.61
92)		DBCP	0.212	0.154	0.145	0.153	0.167	0.137	0.168	16.48
93)		Naphthalene	1.148	1.132	1.263	1.482	1.762	1.113	1.338	19.92
94)		1,2,4-Trichlorobenz	0.676	0.626	0.683	0.726	0.804	0.605	0.693	10.51
95)		Hexachlorobutadiene	0.281	0.274	0.293	0.327	0.363	0.279	0.306	13.09
96)		1,2,3-Trichlorobenz	0.463	0.516	0.533	0.576	0.643	0.487	0.545	11.74

(#) = Out of Range ### Number of calibration levels exceeded format ###

Manual Integration Review Form

ENVIRONMENTAL CONSERVATION LABORATORIES, INC. ☐ Cary ☐ Jacksonville ☑ Orlando

I hereby attest that the manual integrations contained in this package have been thoroughly reviewed and are in agreement with the associated hardcopy data.

The electronic files listed below have been reviewed for accuracy, completeness and comply with ENCO labs QA-11 Manual Integration Policy including:

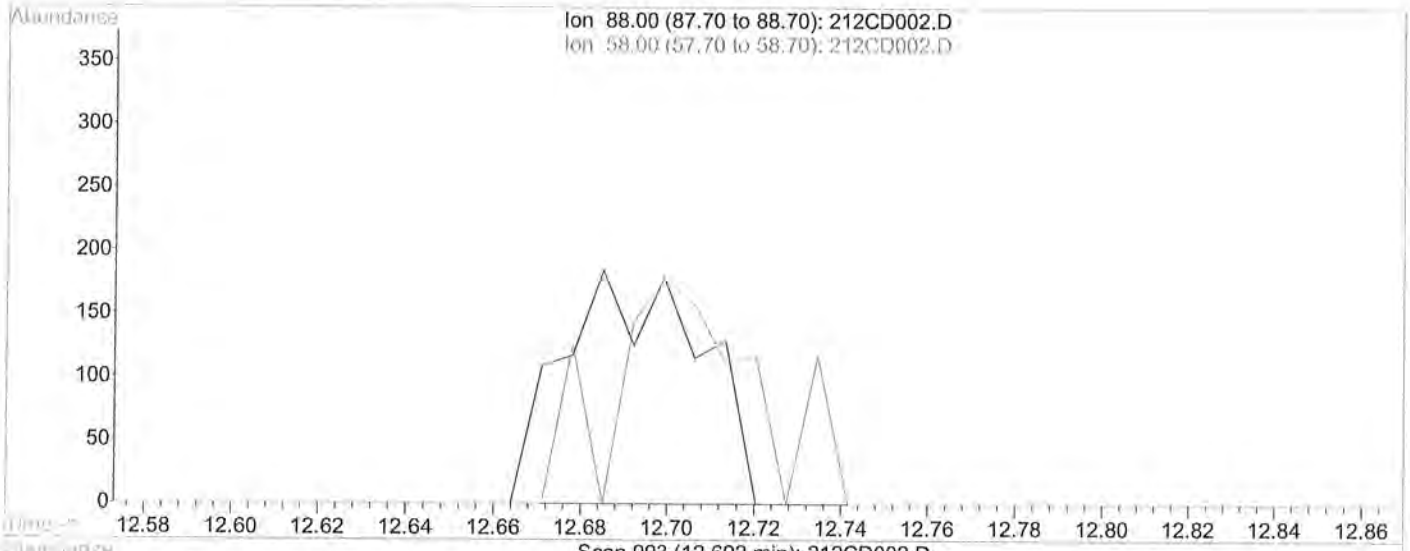
- "Before" and "After" chromatograms are provided
- Manual integrations are indicated on expanded scale "after" chromatograms at a scale large enough to see the manual integration performed.
- Reintegration technique marked if available on the data system
- Technical justification for manual integration
- Appropriate flags indicating which analytes were manually integrated are included in the raw data
- Analyst's initials and date.

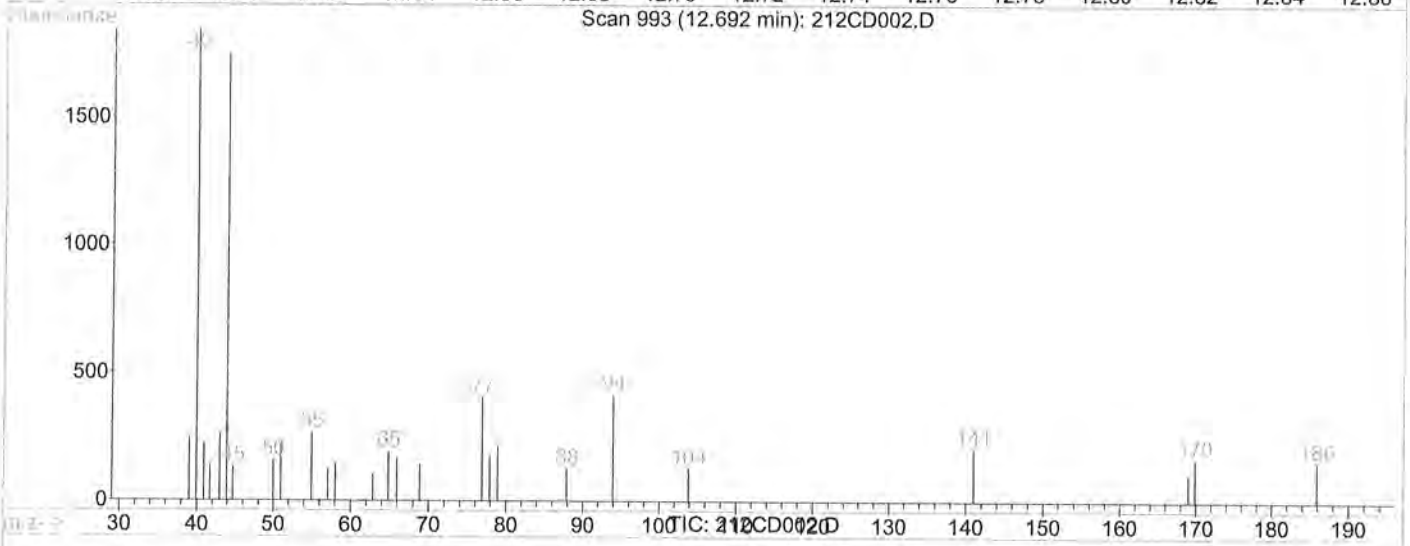
Instrument ID:	ONGCMS2
Sequence/Batch ID:	AA6S289
Data File Prefix:	212CD
Date and Time Range of MIs:	3/9/21 10:03-10:04 3/10/21 11:48-11:49
Reviewer Print Name:	Kara Watson
Reviewer Signature:	KW 05/10/21
Date of Review:	KW 05/10/21 05/10/21

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\030921\212CD002.D Vial: 2
Acq On : 9 Mar 2021 8:30 am Operator: KG
Sample : AA65289-CAL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 8:53 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Feb 23 09:01:32 2021
Response via : Multiple Level Calibration





(47) 1,4-Dioxane

12.70min 0.00ug/kg

response 0

Ion	Exp%	Act%
88.00	100	0.00
58.00	83.90	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

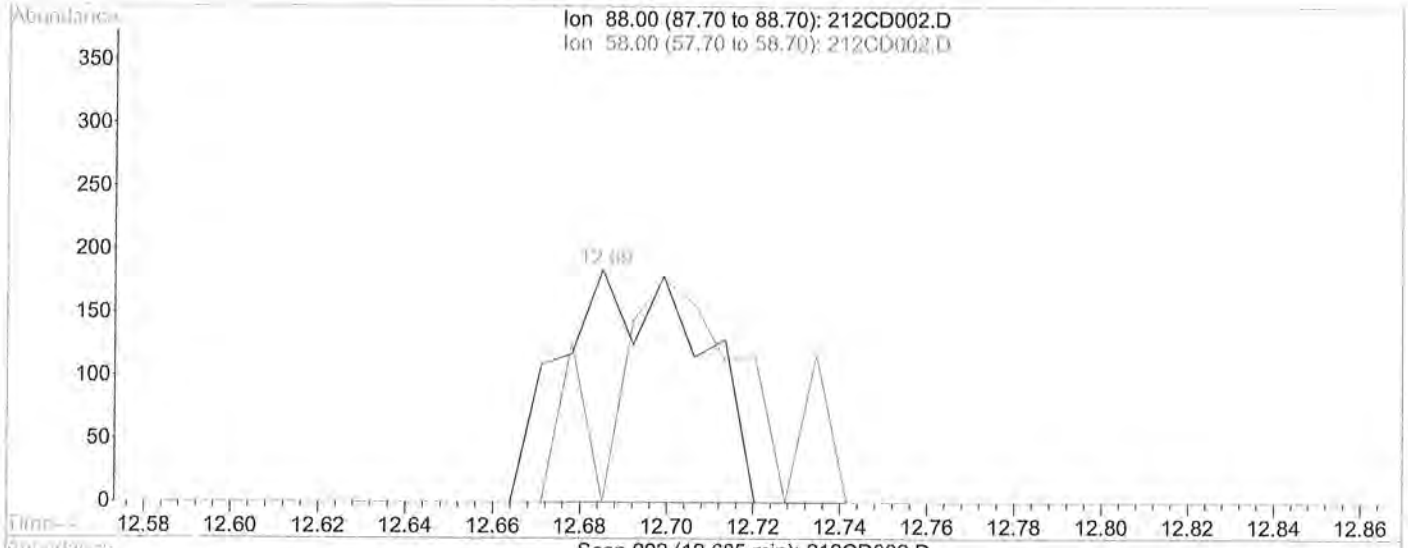
Review by/Date KS 3/10/21

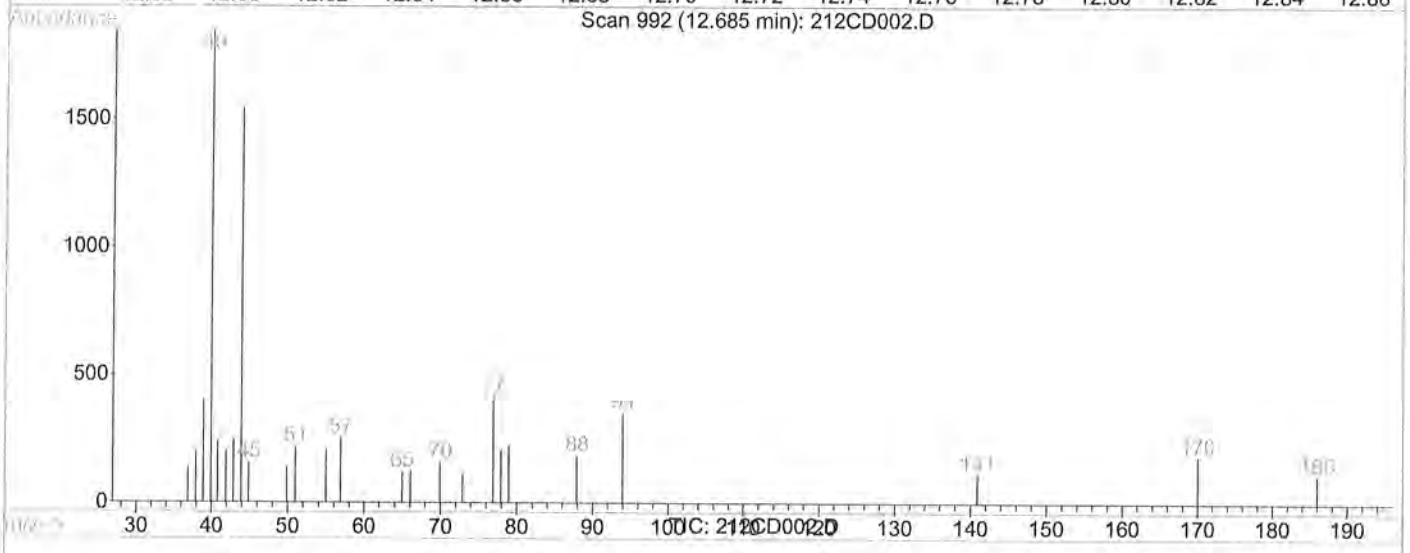
212CD002.D 020421.M Tue Mar 09 10:03:55 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\030921\212CD002.D Vial: 2
Acq On : 9 Mar 2021 8:30 am Operator: KG
Sample : AA65289-CAL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 10:03 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Feb 23 09:01:32 2021
Response via : Multiple Level Calibration





(47) 1,4-Dioxane

12.69min 39.14ug/kg m

response 406

Ion	Exp%	Act%
88.00	100	100
58.00	83.90	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

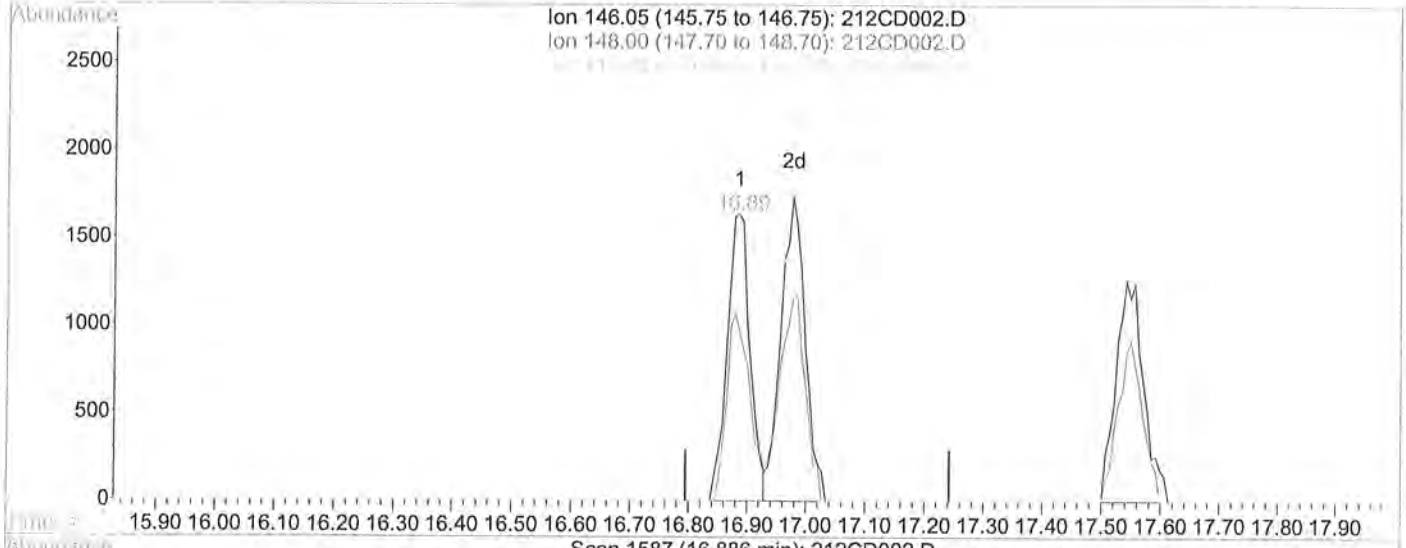
Review by/Date MT 3/10/21

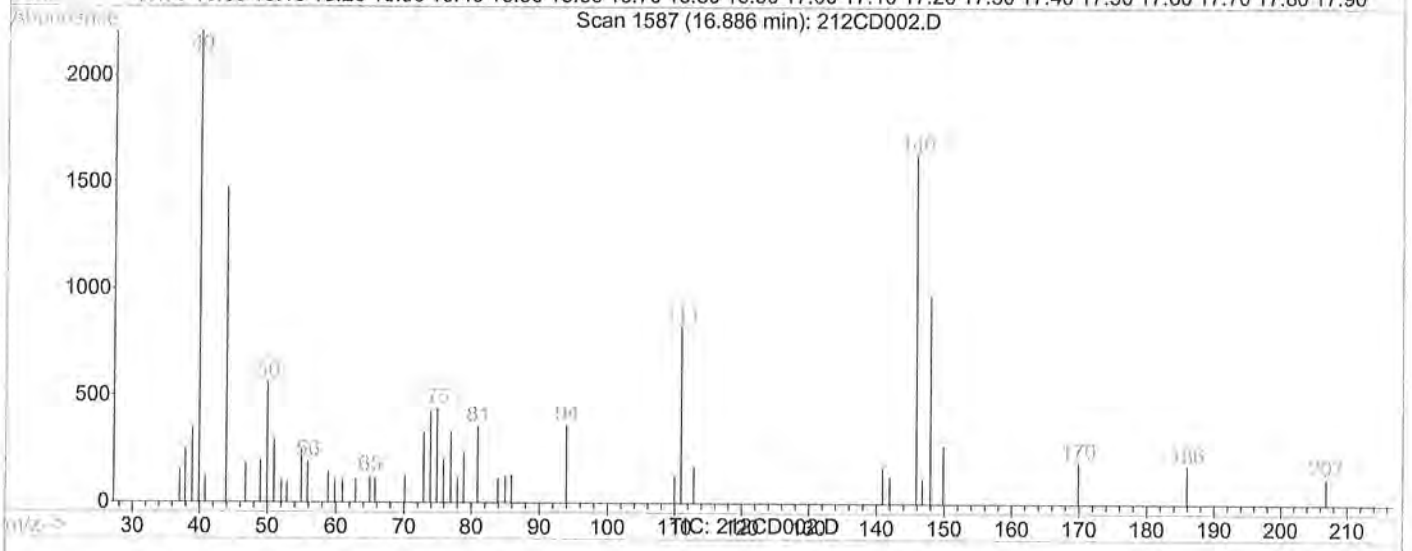
Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\030921\212CD002.D Vial: 2
Acq On : 9 Mar 2021 8:30 am Operator: KG
Sample : AA65289-CAL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 10:03 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Feb 23 09:01:32 2021
Response via : Multiple Level Calibration





(89) 1,4-Dichlorobenzene

16.89min 0.95ug/kg

response 4464

Ion	Exp%	Act%
146.05	100	100
148.00	63.90	67.34
111.00	40.00	48.30
0.00	0.00	0.00

Select One:

[✓] Original Integration [ ] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

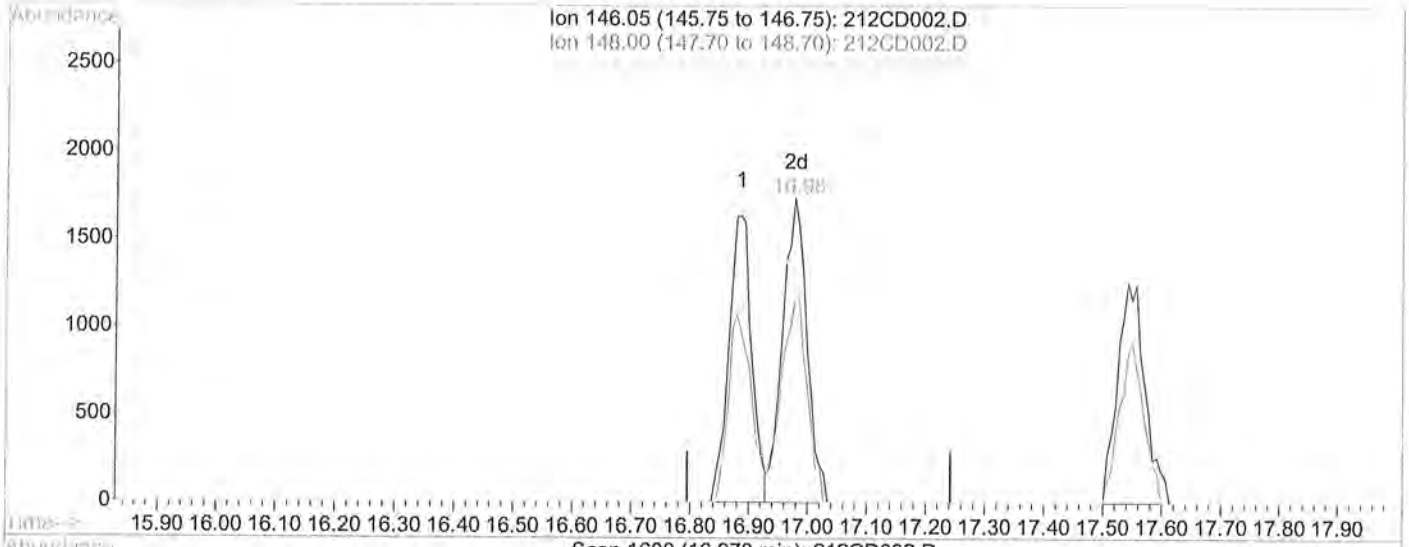
Reviewed by/Date KH 3/10/21

Approved by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\030921\212CD002.D Vial: 2
Acq On : 9 Mar 2021 8:30 am Operator: KG
Sample : AA65289-CAL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 10:04 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Feb 23 09:01:32 2021
Response via : Multiple Level Calibration



(89) 1,4-Dichlorobenzene

16.98min 1.05ug/kg m

response 4953

Ion	Exp%	Act%
146.05	100	100
148.00	63.90	60.69
111.00	40.00	43.53
0.00	0.00	0.00

Select One:

[ ] Original Integration [✓] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

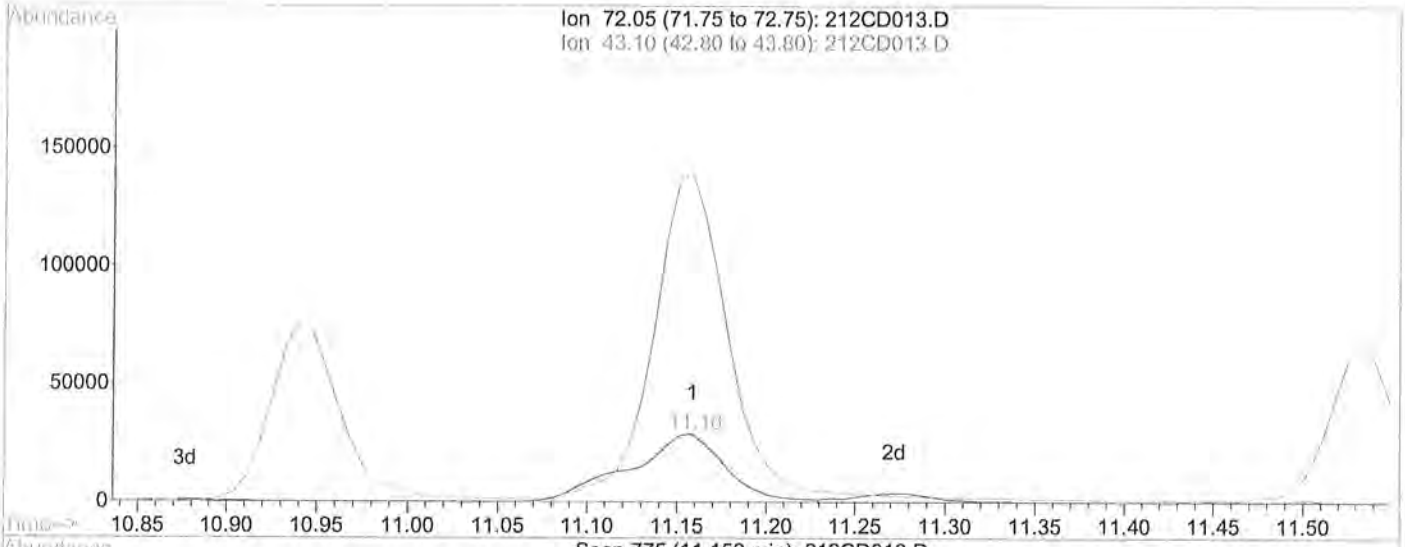
Review by/Date KH 3/10/21

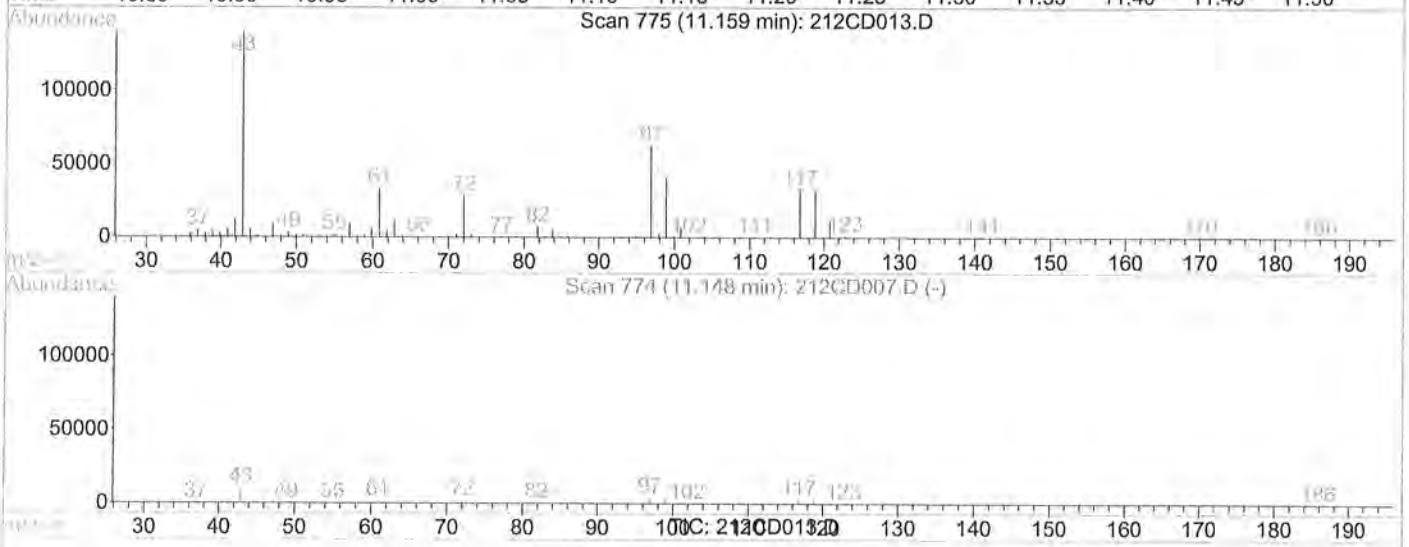
Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\030921\212CD013.D Vial: 13
Acq On : 9 Mar 2021 2:04 pm Operator: KG
Sample : AA65289-SCV1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 10 11:40 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Wed Mar 10 11:37:03 2021
Response via : Multiple Level Calibration





(25) 2-Butanone

11.16min 362.68ug/kg

response 106558

Ion	Exp%	Act%
72.05	100	100
43.10	535.50	380.24
57.00	36.00	24.20#
0.00	0.00	0.00

Select One:

[✓] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

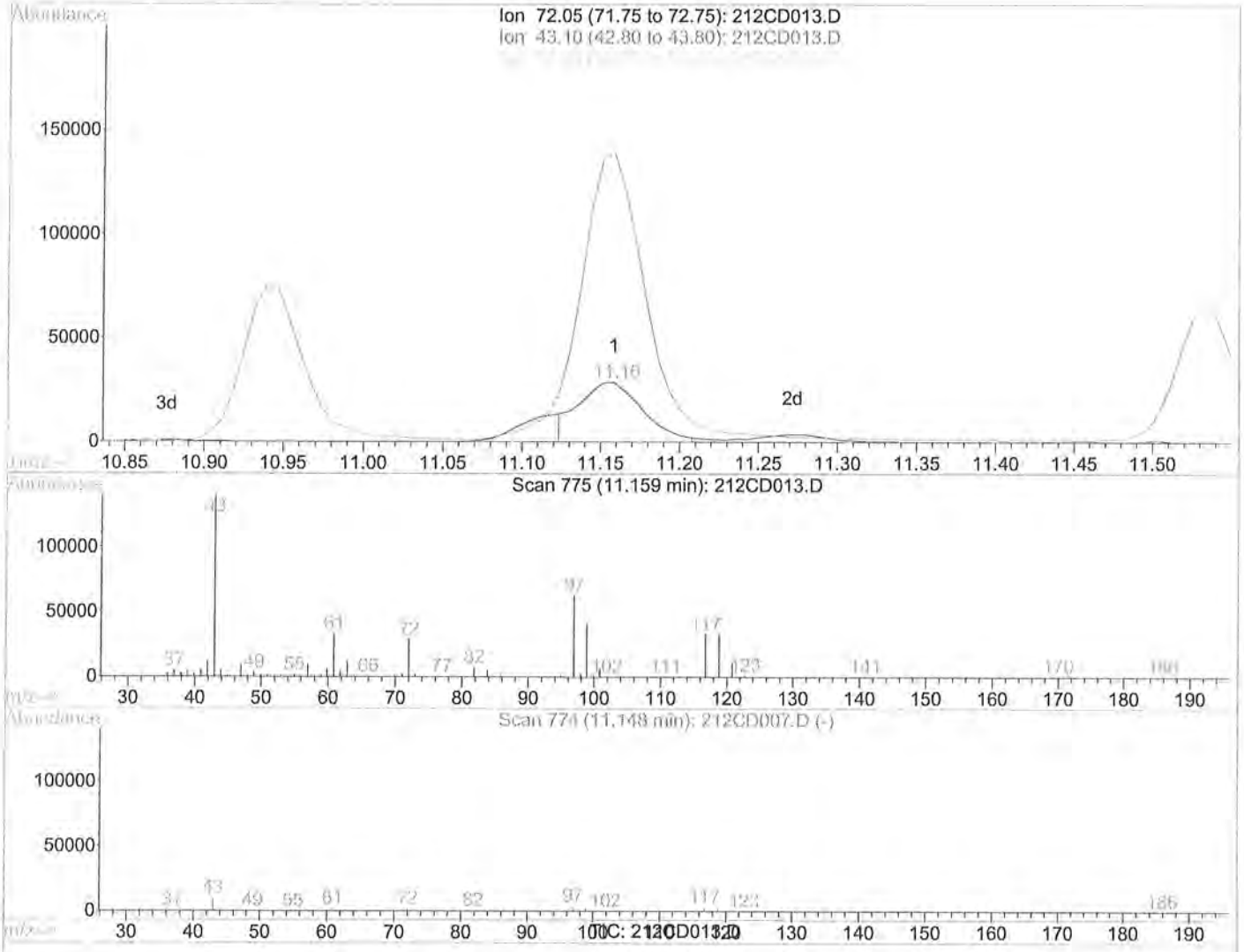
Review by/Date KH 3/10/21

Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\030921\212CD013.D Vial: 13
Acq On : 9 Mar 2021 2:04 pm Operator: KG
Sample : AA65289-SCV1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 10 11:48 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Wed Mar 10 11:37:03 2021
Response via : Multiple Level Calibration



(25) 2-Butanone

11.16min 271.47ug/kg m

response 79759

Ion	Exp%	Act%
72.05	100	100
43.10	535.50	508.01
57.00	36.00	32.33
0.00	0.00	0.00

Select One:

[ ] Original Integration [✓] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date KH 3/10/21

Review by/Date:

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\030921\212CD001.D Vial: 1
Acq On : 9 Mar 2021 7:55 am Operator: KG
Sample : AA65289-TUN1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 8:17 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Feb 23 09:01:32 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.45	168	226215	50.00	ug/kg	-0.02
38) 1,4-Difluorobenzene(IS)	12.00	114	425525	50.00	ug/kg	-0.02
56) Chlorobenzene-d5(IS)	14.60	82	225186	50.00	ug/kg	-0.01
79) 1,4-Dichlorobenzene-d4(IS)	16.96	152	168003	50.00	ug/kg	-0.01
System Monitoring Compounds						
30) Dibromofluoromethane	11.05	113	139067	59.52	ug/kg	-0.02
Spiked Amount 50.000	Range 53 - 146		Recovery = 119.04%			
54) D8-Toluene	13.22	98	422902	56.30	ug/kg	-0.01
Spiked Amount 50.000	Range 41 - 146		Recovery = 112.60%			
75) Bromofluorobenzene	15.71	95	187125	57.47	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 114.94%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.		
3) Chloromethane	6.36	50	1900	0.42	ug/kg#	50
4) Vinyl Chloride	0.00	62	0	N.D.		
5) Bromomethane	0.00	96	0	N.D.		
6) Chloroethane	7.39	64	735	0.36	ug/kg#	45
7) Trichlorofluoromethane	0.00	101	0	N.D.		
8) Trichlorotrifluoroethane	0.00	101	0	N.D.		
9) acrolein	0.00	56	0	N.D.		
10) Acetone	9.24	43	2534	5.07	ug/kg#	46
11) 1,1-Dichloroethene	0.00	96	0	N.D.		
12) 3-Chloropropene	0.00	76	0	N.D.		
13) Acetonitrile	9.64	41	610	2.74	ug/kg#	1
14) Iodomethane	0.00	142	0	N.D.		
15) Carbon disulfide	8.60	76	9521	1.05	ug/kg#	75
16) Methylene Chloride	9.19	84	4950	1.83	ug/kg	98
17) Methyl tert-butyl ether	0.00	73	0	N.D.		
18) Acrylonitrile	0.00	53	0	N.D.		
19) T-1,2-Dichloroethene	0.00	96	0	N.D.		
20) Isopropyl Ether	9.76	45	620	0.05	ug/kg#	60
21) C-1,2-Dichloroethene	0.00	96	0	N.D.		
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	0.00	43	0	N.D.		
24) Chloroprene	0.00	88	0	N.D.		
25) 2-Butanone	11.12	72	1398	7.96	ug/kg#	1
26) Propionitrile	0.00	54	0	N.D.		
27) 2,2-Dichloropropane	0.00	77	0	N.D.		
28) Methacrylonitrile	11.45	67	757	0.93	ug/kg#	22
29) Chloroform	0.00	83	0	N.D.		
31) Dibromofluoromethane	11.05	113	139067	59.52	ug/kg	100
32) Bromochloromethane	0.00	128	0	N.D.		
33) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
34) 1,1-Dichloropropene	0.00	75	0	N.D.		
35) Diethyl Ether	0.00	59	0	N.D.		
36) Methyl Acetate	0.00	74	0	N.D.		
37) Cyclohexane	0.00	56	0	N.D.		
39) Methyl Cyclohexane	12.00	55	1949	0.56	ug/kg#	1
40) Carbon Tetrachloride	0.00	117	0	N.D.		
41) 1,2-Dichloroethane	0.00	62	0	N.D.		
42) Benzene	11.51	78	4954	0.48	ug/kg#	61
43) Isobutyl Alcohol	11.45	43	663	3.51	ug/kg#	1
44) Trichloroethene	0.00	130	0	N.D.		
45) 1,2-Dichloropropane	12.27	63	824	0.26	ug/kg#	40
46) Methyl Methacrylate	0.00	100	0	N.D.		
47) 1,4-Dioxane	0.00	88	0	N.D.		
48) Bromodichloromethane	0.00	83	0	N.D.		
49) Dibromomethane	0.00	93	0	N.D.		
50) 4-Methyl-2-Pentanone	13.41	100	1243	5.08	ug/kg#	1
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	14.02	43	634	0.47	ug/kg#	40

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\030921\212CD001.D Vial: 1
Acq On : 9 Mar 2021 7:55 am Operator: KG
Sample : AA65289-TUN1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 8:17 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Feb 23 09:01:32 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

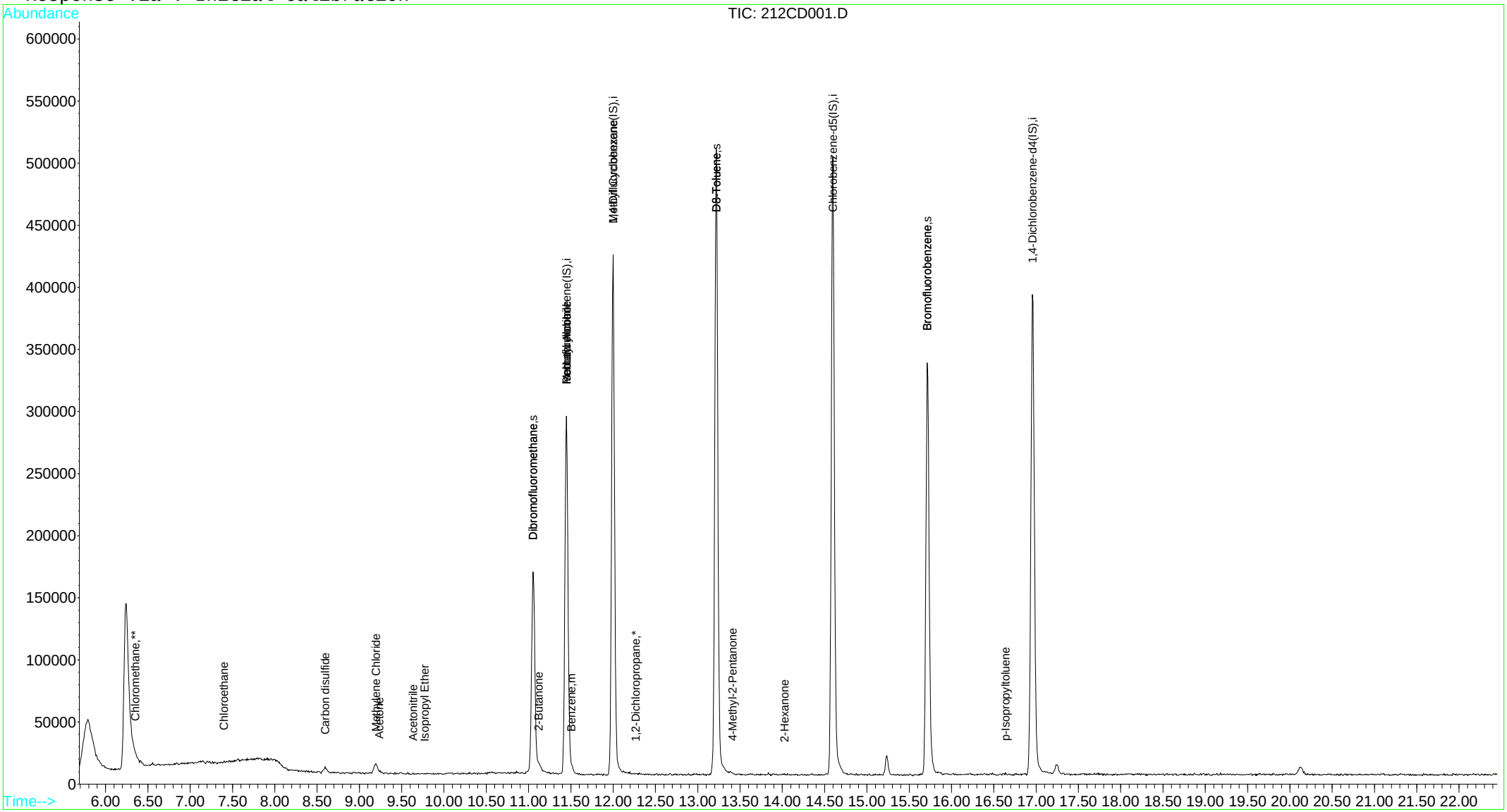
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	0.00	75	0	N.D.	
55) D8-Toluene	13.22	98	422902	56.30 ug/kg	93
57) Toluene	0.00	92	0	N.D.	
58) Ethyl Methacrylate	0.00	69	0	N.D.	
59) T-1,3-Dichloropropene	0.00	75	0	N.D.	
60) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
61) 1,3-Dichloropropane	0.00	76	0	N.D.	
62) Tetrachloroethene	0.00	164	0	N.D.	
63) Dibromochloromethane	0.00	129	0	N.D.	
64) 1,2-Dibromoethane	0.00	107	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
67) Ethylbenzene	0.00	106	0	N.D.	
68) m-xylene & p-xylene	0.00	106	0	N.D.	
69) O-Xylene	0.00	106	0	N.D.	
70) Bromoform	0.00	173	0	N.D.	
71) Styrene	0.00	104	0	N.D.	
72) Isopropylbenzene	0.00	105	0	N.D.	
73) 1,2,3-Trichloropropane	0.00	75	0	N.D.	
74) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
76) Bromofluorobenzene	15.71	95	187125	57.47 ug/kg#	78
77) T-1,4-dichloro-2-butene	0.00	53	0	N.D.	
78) N-Propylbenzene	0.00	91	0	N.D.	
80) Bromobenzene	0.00	156	0	N.D.	
81) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
82) 2-Chlorotoluene	0.00	91	0	N.D.	
83) 4-Chlorotoluene	0.00	91	0	N.D.	
84) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.	
85) s-Butylbenzene	0.00	105	0	N.D.	
86) tert-Butylbenzene	0.00	119	0	N.D.	
87) p-Isopropyltoluene	16.64	119	665	0.07 ug/kg#	51
88) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
89) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) N-Butylbenzene	0.00	91	0	N.D.	
92) DBCP	0.00	75	0	N.D.	
93) Naphthalene	0.00	128	0	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Hexachlorobutadiene	0.00	225	0	N.D.	
96) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\030921\212CD001.D Vial: 1
Acq On : 9 Mar 2021 7:55 am Operator: KG
Sample : AA65289-TUN1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 8:17 2021 Quant Results File: 020421.RES

Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\030921\212CD002.D Vial: 2
Acq On : 9 Mar 2021 8:30 am Operator: KG
Sample : AA65289-CAL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 10:04 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Feb 23 09:01:32 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.44	168	258684	50.00	ug/kg	-0.02
38) 1,4-Difluorobenzene(IS)	12.00	114	456563	50.00	ug/kg	-0.02
56) Chlorobenzene-d5(IS)	14.59	82	220295	50.00	ug/kg	-0.02
79) 1,4-Dichlorobenzene-d4(IS)	16.96	152	157950	50.00	ug/kg	-0.02
System Monitoring Compounds						
30) Dibromofluoromethane	11.05	113	141980	53.14	ug/kg	-0.02
Spiked Amount 50.000	Range 53 - 146		Recovery = 106.28%			
54) D8-Toluene	13.21	98	426708	52.95	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 105.90%			
75) Bromofluorobenzene	15.71	95	188020	59.02	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 118.04%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.88	85	4982	0.93	ug/kg#	90
3) Chloromethane	6.35	50	6304	1.21	ug/kg	76
4) Vinyl Chloride	6.55	62	4052	0.86	ug/kg#	1
5) Bromomethane	7.21	96	2512	1.49	ug/kg	82
6) Chloroethane	7.43	64	2734	1.19	ug/kg	93
7) Trichlorofluoromethane	7.69	101	3917	0.83	ug/kg	88
8) Trichlorotrifluoroethane	8.51	101	2636	0.97	ug/kg	95
9) acrolein	8.89	56	8281	19.26	ug/kg	98
10) Acetone	9.23	43	7413	12.97	ug/kg	81
11) 1,1-Dichloroethene	8.48	96	2614	0.96	ug/kg	98
12) 3-Chloropropene	9.08	76	2061	1.08	ug/kg	91
13) Acetonitrile	9.89	41	3248	12.74	ug/kg	54
14) Iodomethane	8.70	142	7988	2.64	ug/kg	95
15) Carbon disulfide	8.59	76	41507	4.00	ug/kg	99
16) Methylene Chloride	9.19	84	3784	1.22	ug/kg	93
17) Methyl tert-butyl ether	9.52	73	8755	1.29	ug/kg	83
18) Acrylonitrile	10.12	53	18345	13.25	ug/kg#	71
19) T-1,2-Dichloroethene	9.43	96	2871	0.94	ug/kg	96
20) Isopropyl Ether	9.89	45	15506	1.12	ug/kg	95
21) C-1,2-Dichloroethene	10.65	96	2841	0.86	ug/kg	93
22) 1,1-Dichloroethane	10.10	63	6626	1.12	ug/kg#	86
23) Vinyl Acetate	10.29	43	53961	7.24	ug/kg	97
24) Chloroprene	10.09	88	2266	0.81	ug/kg	1
25) 2-Butanone	11.16	72	1982	9.87	ug/kg	90
26) Propionitrile	11.44	54	5113	18.28	ug/kg	100
27) 2,2-Dichloropropane	10.78	77	4810	1.01	ug/kg	58
28) Methacrylonitrile	11.48	67	15254	16.42	ug/kg	96
29) Chloroform	10.87	83	5460	0.97	ug/kg	90
31) Dibromofluoromethane	11.05	113	141980	53.14	ug/kg	100
32) Bromochloromethane	10.86	128	1973	1.25	ug/kg	83
33) 1,1,1-Trichloroethane	11.17	97	4246	1.01	ug/kg	96
34) 1,1-Dichloropropene	11.27	75	4098	0.94	ug/kg	70
35) Diethyl Ether	8.11	59	3233	1.26	ug/kg	97
36) Methyl Acetate	9.37	74	655	1.81	ug/kg#	69
37) Cyclohexane	10.94	56	5028	1.01	ug/kg	95
39) Methyl Cyclohexane	12.06	55	3823	1.03	ug/kg	86
40) Carbon Tetrachloride	11.12	117	4286	1.04	ug/kg	96
41) 1,2-Dichloroethane	11.65	62	4526	1.17	ug/kg#	82
42) Benzene	11.51	78	14374	1.29	ug/kg	82
43) Isobutyl Alcohol	11.53	43	5603	27.67	ug/kg#	67
44) Trichloroethene	12.02	130	2884	0.96	ug/kg#	1
45) 1,2-Dichloropropane	12.47	63	4250	1.24	ug/kg	94
46) Methyl Methacrylate	12.55	100	751	1.26	ug/kg	59
47) 1,4-Dioxane	12.69	88	406m	39.14	ug/kg	
48) Bromodichloromethane	12.49	83	4185	1.01	ug/kg#	90
49) Dibromomethane	12.40	93	2058	1.18	ug/kg	92
50) 4-Methyl-2-Pentanone	13.50	100	2796	10.65	ug/kg	66
51) 2-Chloroethyl vinyl ether	12.91	63	3248	31.06	ug/kg#	100
52) 2-Hexanone	14.21	43	12397	8.50	ug/kg	96

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\030921\212CD002.D Vial: 2
Acq On : 9 Mar 2021 8:30 am Operator: KG
Sample : AA65289-CAL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 10:04 2021 Quant Results File: 020421.RES

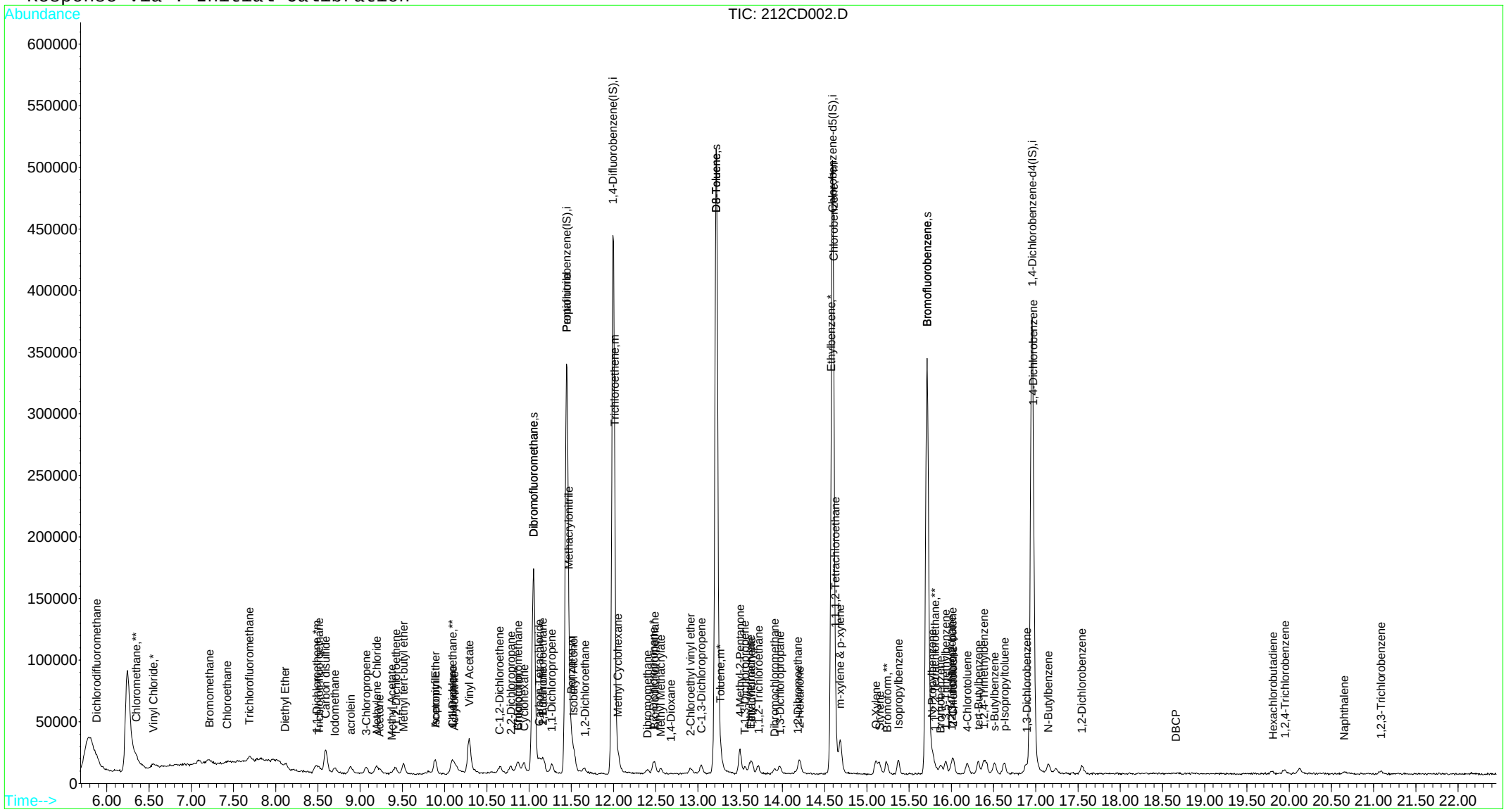
Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Feb 23 09:01:32 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.04	75	5522	1.00	ug/kg	96
55) D8-Toluene	13.21	98	426708	52.95	ug/kg	93
57) Toluene	13.27	92	6181	0.97	ug/kg	97
58) Ethyl Methacrylate	13.62	69	4803	1.55	ug/kg#	79
59) T-1,3-Dichloropropene	13.56	75	4285	1.04	ug/kg	92
60) 1,1,2-Trichloroethane	13.71	97	2481	1.20	ug/kg	98
61) 1,3-Dichloropropane	13.96	76	5400	1.27	ug/kg	97
62) Tetrachloroethene	13.64	164	1759	0.92	ug/kg#	77
63) Dibromochloromethane	13.91	129	2995	1.05	ug/kg#	85
64) 1,2-Dibromoethane	14.17	107	2911	1.35	ug/kg#	99
65) Chlorobenzene	14.61	112	7212	1.04	ug/kg#	51
66) 1,1,1,2-Tetrachloroethane	14.63	131	2929	1.09	ug/kg#	1
67) Ethylbenzene	14.57	106	3437	0.96	ug/kg	91
68) m-xylene & p-xylene	14.68	106	8684	2.04	ug/kg	97
69) O-Xylene	15.10	106	3800	0.87	ug/kg	88
70) Bromoform	15.25	173	1615	1.19	ug/kg#	97
71) Styrene	15.14	104	7293	1.01	ug/kg	91
72) Isopropylbenzene	15.37	105	10406	0.97	ug/kg	99
73) 1,2,3-Trichloropropane	16.00	75	4161	1.64	ug/kg	100
74) 1,1,2,2-Tetrachloroethane	15.81	83	3249	1.53	ug/kg#	93
76) Bromofluorobenzene	15.71	95	188020	59.02	ug/kg#	77
77) T-1,4-dichloro-2-butene	16.00	53	1141	2.00	ug/kg#	66
78) N-Propylbenzene	15.78	91	12338	1.01	ug/kg	100
80) Bromobenzene	15.88	156	2489	0.93	ug/kg	90
81) 1,3,5-Trimethylbenzene	15.94	105	7944	0.96	ug/kg	99
82) 2-Chlorotoluene	16.02	91	7592	1.01	ug/kg	98
83) 4-Chlorotoluene	16.18	91	7812	0.99	ug/kg	99
84) 1,2,4-Trimethylbenzene	16.38	105	7977	0.95	ug/kg	100
85) s-Butylbenzene	16.51	105	9183	0.91	ug/kg	98
86) tert-Butylbenzene	16.32	119	6921	0.96	ug/kg	92
87) p-Isopropyltoluene	16.63	119	8520	0.97	ug/kg	99
88) 1,3-Dichlorobenzene	16.89	146	4464	0.95	ug/kg	92
89) 1,4-Dichlorobenzene	16.98	146	4953m	1.05	ug/kg	
90) 1,2-Dichlorobenzene	17.54	146	4117	1.02	ug/kg	98
91) N-Butylbenzene	17.15	91	6844	0.91	ug/kg	93
92) DBCP	18.66	75	671	2.47	ug/kg#	1
93) Naphthalene	20.66	128	3626	2.05	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.95	180	2134	1.23	ug/kg	100
95) Hexachlorobutadiene	19.81	225	888	0.86	ug/kg#	19
96) 1,2,3-Trichlorobenzene	21.09	180	1463	1.30	ug/kg#	85

Quantitation Report

Data File : C:\HPCHEM\1\DATA\030921\212CD002.D Vial: 2
Acq On : 9 Mar 2021 8:30 am Operator: KG
Sample : AA65289-CAL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 10:04 2021 Quant Results File: 020421.RES

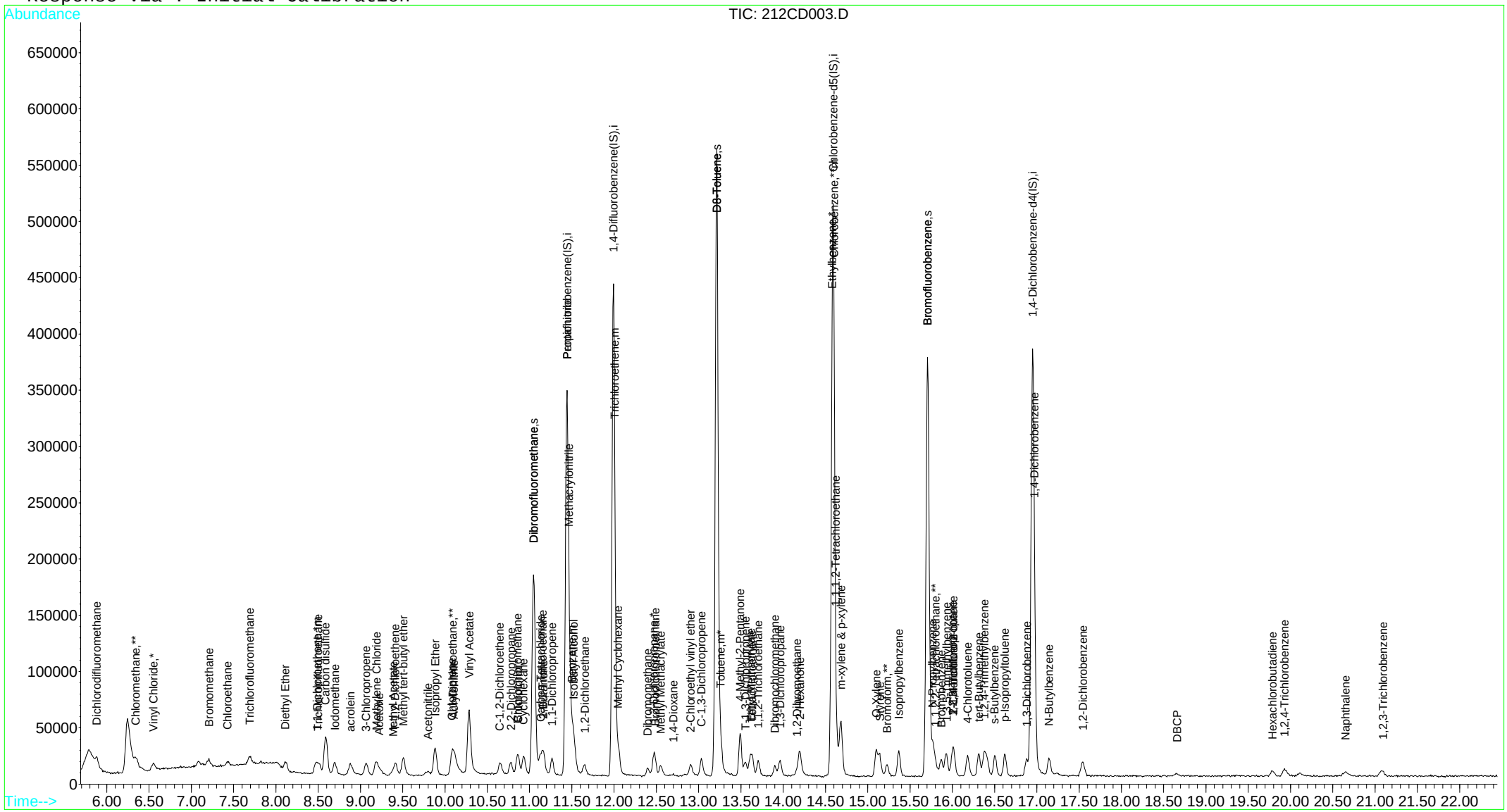
Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\030921\212CD003.D Vial: 3
Acq On : 9 Mar 2021 8:59 am Operator: KG
Sample : AA65289-CAL2 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 9:21 2021 Quant Results File: 020421.RES

Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\030921\212CD003.D Vial: 3
Acq On : 9 Mar 2021 8:59 am Operator: KG
Sample : AA65289-CAL2 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 9:21 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Feb 23 09:01:32 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.44	168	252984	50.00	ug/kg	-0.02
38) 1,4-Difluorobenzene(IS)	11.99	114	447138	50.00	ug/kg	-0.02
56) Chlorobenzene-d5(IS)	14.59	82	219862	50.00	ug/kg	-0.02
79) 1,4-Dichlorobenzene-d4(IS)	16.95	152	160130	50.00	ug/kg	-0.02
System Monitoring Compounds						
30) Dibromofluoromethane	11.05	113	156083	59.73	ug/kg	-0.02
Spiked Amount 50.000	Range 53 - 146		Recovery = 119.46%			
54) D8-Toluene	13.22	98	465547	58.99	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 117.98%			
75) Bromofluorobenzene	15.71	95	207276	65.20	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 130.40%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.89	85	10131	1.94	ug/kg	83
3) Chloromethane	6.35	50	11803	2.33	ug/kg	95
4) Vinyl Chloride	6.55	62	8410	1.82	ug/kg	59
5) Bromomethane	7.21	96	5310	3.22	ug/kg	94
6) Chloroethane	7.42	64	4793	2.13	ug/kg	78
7) Trichlorofluoromethane	7.69	101	7774	1.68	ug/kg	95
8) Trichlorotrifluoroethane	8.51	101	5301	1.99	ug/kg	100
9) acrolein	8.88	56	15280	36.34	ug/kg	90
10) Acetone	9.23	43	12248	21.92	ug/kg	88
11) 1,1-Dichloroethene	8.48	96	5127	1.92	ug/kg	96
12) 3-Chloropropene	9.07	76	3383	1.82	ug/kg	95
13) Acetonitrile	9.80	41	7495	30.07	ug/kg	88
14) Iodomethane	8.70	142	17478	5.90	ug/kg	98
15) Carbon disulfide	8.59	76	74787	7.37	ug/kg	100
16) Methylene Chloride	9.19	84	6719	2.22	ug/kg	88
17) Methyl tert-butyl ether	9.51	73	17644	2.66	ug/kg	96
18) Acrylonitrile	10.11	53	34029	25.13	ug/kg	91
19) T-1,2-Dichloroethene	9.42	96	5612	1.87	ug/kg	96
20) Isopropyl Ether	9.88	45	29745	2.20	ug/kg	98
21) C-1,2-Dichloroethene	10.65	96	5963	1.84	ug/kg	96
22) 1,1-Dichloroethane	10.09	63	12327	2.12	ug/kg#	68
23) Vinyl Acetate	10.29	43	101871	13.97	ug/kg	98
24) Chloroprene	10.07	88	4941	1.80	ug/kg	28
25) 2-Butanone	11.17	72	4663	23.74	ug/kg	65
26) Propionitrile	11.44	54	9751	35.66	ug/kg	100
27) 2,2-Dichloropropane	10.78	77	8523	1.82	ug/kg	98
28) Methacrylonitrile	11.47	67	29107	32.04	ug/kg	96
29) Chloroform	10.87	83	11472	2.09	ug/kg	95
31) Dibromofluoromethane	11.05	113	156083	59.73	ug/kg	100
32) Bromochloromethane	10.85	128	3692	2.39	ug/kg	87
33) 1,1,1-Trichloroethane	11.16	97	8633	2.10	ug/kg	96
34) 1,1-Dichloropropene	11.27	75	8643	2.02	ug/kg	98
35) Diethyl Ether	8.11	59	6393	2.55	ug/kg	95
36) Methyl Acetate	9.38	74	1373	3.88	ug/kg#	85
37) Cyclohexane	10.93	56	9983	2.06	ug/kg	97
39) Methyl Cyclohexane	12.05	55	6957	1.92	ug/kg	98
40) Carbon Tetrachloride	11.13	117	8627	2.13	ug/kg	98
41) 1,2-Dichloroethane	11.66	62	9736	2.57	ug/kg	92
42) Benzene	11.51	78	25037	2.30	ug/kg	80
43) Isobutyl Alcohol	11.53	43	11348	57.22	ug/kg#	1
44) Trichloroethene	12.02	130	6020	2.04	ug/kg#	20
45) 1,2-Dichloropropane	12.46	63	7117	2.11	ug/kg	97
46) Methyl Methacrylate	12.56	100	1831	3.14	ug/kg	96
47) 1,4-Dioxane	12.69	88	1024	100.79	ug/kg	86
48) Bromodichloromethane	12.50	83	7991	1.97	ug/kg	100
49) Dibromomethane	12.40	93	4044	2.37	ug/kg	93
50) 4-Methyl-2-Pentanone	13.49	100	5010	19.48	ug/kg	86
51) 2-Chloroethyl vinyl ether	12.91	63	6013	58.72	ug/kg#	100
52) 2-Hexanone	14.20	43	28059	19.64	ug/kg	94

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\030921\212CD003.D Vial: 3
Acq On : 9 Mar 2021 8:59 am Operator: KG
Sample : AA65289-CAL2 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 9:21 2021 Quant Results File: 020421.RES

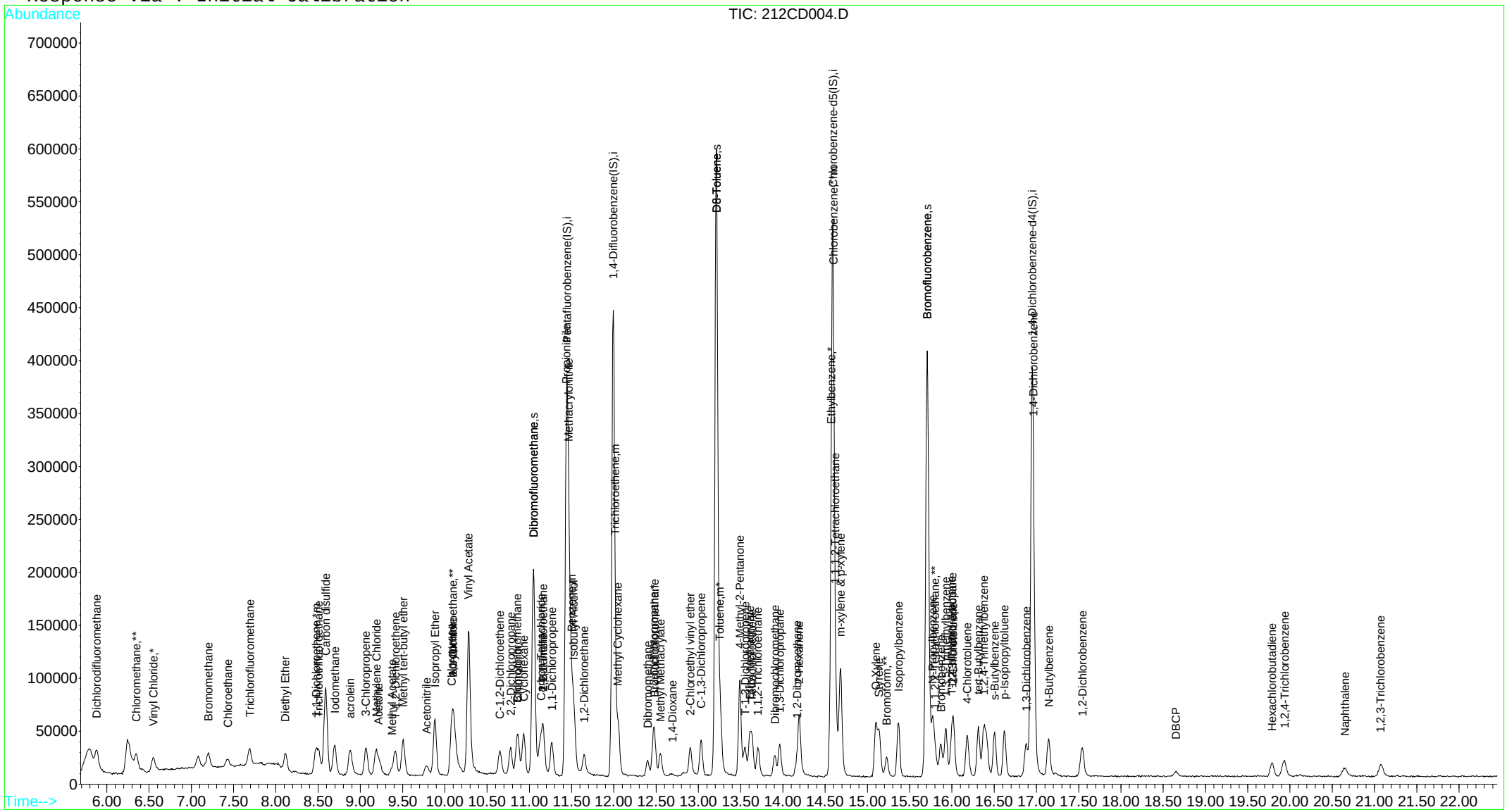
Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Feb 23 09:01:32 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.03	75	11158	2.06	ug/kg	91
55) D8-Toluene	13.22	98	465547	58.99	ug/kg	93
57) Toluene	13.26	92	12843	2.02	ug/kg	97
58) Ethyl Methacrylate	13.61	69	8903	2.88	ug/kg#	88
59) T-1,3-Dichloropropene	13.55	75	9354	2.27	ug/kg	89
60) 1,1,2-Trichloroethane	13.70	97	5191	2.52	ug/kg	96
61) 1,3-Dichloropropane	13.96	76	11199	2.65	ug/kg	97
62) Tetrachloroethene	13.64	164	3846	2.02	ug/kg	88
63) Dibromochloromethane	13.90	129	6975	2.45	ug/kg#	85
64) 1,2-Dibromoethane	14.15	107	6164	2.87	ug/kg#	94
65) Chlorobenzene	14.61	112	14890	2.16	ug/kg	83
66) 1,1,1,2-Tetrachloroethane	14.63	131	5660	2.11	ug/kg#	1
67) Ethylbenzene	14.57	106	7285	2.04	ug/kg	100
68) m-xylene & p-xylene	14.68	106	17730	4.17	ug/kg	98
69) O-Xylene	15.10	106	8702	2.00	ug/kg	94
70) Bromoform	15.23	173	3315	2.45	ug/kg#	93
71) Styrene	15.14	104	14852	2.05	ug/kg	98
72) Isopropylbenzene	15.37	105	21626	2.01	ug/kg	99
73) 1,2,3-Trichloropropane	16.00	75	8175	3.24	ug/kg	98
74) 1,1,2,2-Tetrachloroethane	15.81	83	6600	3.12	ug/kg	99
76) Bromofluorobenzene	15.71	95	207276	65.20	ug/kg#	77
77) T-1,4-dichloro-2-butene	16.00	53	2359	4.14	ug/kg#	65
78) N-Propylbenzene	15.77	91	24284	1.99	ug/kg	99
80) Bromobenzene	15.87	156	5612	2.07	ug/kg	96
81) 1,3,5-Trimethylbenzene	15.93	105	16473	1.97	ug/kg	96
82) 2-Chlorotoluene	16.01	91	15788	2.07	ug/kg	99
83) 4-Chlorotoluene	16.18	91	16035	2.01	ug/kg	99
84) 1,2,4-Trimethylbenzene	16.38	105	16717	1.97	ug/kg	97
85) s-Butylbenzene	16.51	105	19727	1.92	ug/kg	98
86) tert-Butylbenzene	16.31	119	14215	1.94	ug/kg	99
87) p-Isopropyltoluene	16.62	119	16939	1.90	ug/kg	99
88) 1,3-Dichlorobenzene	16.88	146	9192	1.93	ug/kg	98
89) 1,4-Dichlorobenzene	16.98	146	9722	2.03	ug/kg	81
90) 1,2-Dichlorobenzene	17.55	146	8785	2.15	ug/kg	98
91) N-Butylbenzene	17.14	91	13409	1.76	ug/kg	99
92) DBCP	18.67	75	1323	4.79	ug/kg	67
93) Naphthalene	20.66	128	7202	3.97	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.94	180	4109	2.34	ug/kg	94
95) Hexachlorobutadiene	19.80	225	1715	1.63	ug/kg	96
96) 1,2,3-Trichlorobenzene	21.09	180	3325	2.92	ug/kg#	63

Quantitation Report

Data File : C:\HPCHEM\1\DATA\030921\212CD004.D Vial: 4
Acq On : 9 Mar 2021 9:27 am Operator: KG
Sample : AA65289-CAL3 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 9:50 2021 Quant Results File: 020421.RES

Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\030921\212CD004.D Vial: 4
Acq On : 9 Mar 2021 9:27 am Operator: KG
Sample : AA65289-CAL3 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 9:50 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Feb 23 09:01:32 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.44	168	249505	50.00	ug/kg	-0.02
38) 1,4-Difluorobenzene(IS)	11.99	114	443522	50.00	ug/kg	-0.02
56) Chlorobenzene-d5(IS)	14.59	82	215472	50.00	ug/kg	-0.02
79) 1,4-Dichlorobenzene-d4(IS)	16.95	152	156777	50.00	ug/kg	-0.02
System Monitoring Compounds						
30) Dibromofluoromethane	11.05	113	165980	64.40	ug/kg	-0.02
Spiked Amount 50.000	Range 53 - 146		Recovery = 128.80%			
54) D8-Toluene	13.22	98	501622	64.08	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 128.16%			
75) Bromofluorobenzene	15.71	95	219530	70.46	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 140.92%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.88	85	22781	4.42	ug/kg	97
3) Chloromethane	6.35	50	25463	5.09	ug/kg	100
4) Vinyl Chloride	6.54	62	19163	4.21	ug/kg	83
5) Bromomethane	7.20	96	11916	7.32	ug/kg	91
6) Chloroethane	7.43	64	10216	4.59	ug/kg	93
7) Trichlorofluoromethane	7.69	101	18886	4.13	ug/kg	96
8) Trichlorotrifluoroethane	8.51	101	12376	4.72	ug/kg	100
9) acrolein	8.88	56	36275	87.49	ug/kg	91
10) Acetone	9.22	43	26181	47.50	ug/kg	93
11) 1,1-Dichloroethene	8.47	96	11153	4.23	ug/kg	93
12) 3-Chloropropene	9.06	76	7119	3.89	ug/kg	87
13) Acetonitrile	9.78	41	18199	74.03	ug/kg	85
14) Iodomethane	8.70	142	46849	15.94	ug/kg	95
15) Carbon disulfide	8.59	76	178996	17.89	ug/kg	100
16) Methylene Chloride	9.18	84	14216	4.76	ug/kg	97
17) Methyl tert-butyl ether	9.51	73	37907	5.79	ug/kg	96
18) Acrylonitrile	10.10	53	88544	66.30	ug/kg	95
19) T-1,2-Dichloroethene	9.42	96	12041	4.07	ug/kg	91
20) Isopropyl Ether	9.88	45	64655	4.85	ug/kg	99
21) C-1,2-Dichloroethene	10.65	96	13336	4.17	ug/kg	97
22) 1,1-Dichloroethane	10.09	63	27088	4.73	ug/kg#	67
23) Vinyl Acetate	10.29	43	235433	32.73	ug/kg	98
24) Chloroprene	10.07	88	11591	4.29	ug/kg	2
25) 2-Butanone	11.15	72	8570	44.25	ug/kg	82
26) Propionitrile	11.43	54	22721	84.24	ug/kg	100
27) 2,2-Dichloropropane	10.78	77	19216	4.17	ug/kg	96
28) Methacrylonitrile	11.47	67	62951	70.27	ug/kg	91
29) Chloroform	10.86	83	24345	4.50	ug/kg	99
31) Dibromofluoromethane	11.05	113	165980	64.40	ug/kg	100
32) Bromochloromethane	10.85	128	7869	5.17	ug/kg	97
33) 1,1,1-Trichloroethane	11.16	97	19276	4.75	ug/kg	100
34) 1,1-Dichloropropene	11.27	75	17929	4.25	ug/kg	95
35) Diethyl Ether	8.11	59	13348	5.41	ug/kg	98
36) Methyl Acetate	9.37	74	2614	7.49	ug/kg	97
37) Cyclohexane	10.93	56	22795	4.76	ug/kg	96
39) Methyl Cyclohexane	12.05	55	20174	5.60	ug/kg#	79
40) Carbon Tetrachloride	11.13	117	19798	4.94	ug/kg	99
41) 1,2-Dichloroethane	11.65	62	20548	5.47	ug/kg	93
42) Benzene	11.51	78	50954	4.73	ug/kg	75
43) Isobutyl Alcohol	11.53	43	25850	131.41	ug/kg#	71
44) Trichloroethene	12.02	130	13528	4.62	ug/kg#	68
45) 1,2-Dichloropropane	12.47	63	15712	4.70	ug/kg	97
46) Methyl Methacrylate	12.55	100	4292	7.43	ug/kg	98
47) 1,4-Dioxane	12.69	88	2392	237.35	ug/kg	90
48) Bromodichloromethane	12.49	83	17871	4.44	ug/kg	99
49) Dibromomethane	12.40	93	8708	5.15	ug/kg	95
50) 4-Methyl-2-Pentanone	13.49	100	10044	39.37	ug/kg	93
51) 2-Chloroethyl vinyl ether	12.90	63	13725	135.13	ug/kg#	100
52) 2-Hexanone	14.19	43	58967	41.61	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\030921\212CD004.D Vial: 4
Acq On : 9 Mar 2021 9:27 am Operator: KG
Sample : AA65289-CAL3 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 9:50 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Feb 23 09:01:32 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	13.03	75	24080	4.49 ug/kg	95
55) D8-Toluene	13.22	98	501622	64.08 ug/kg	93
57) Toluene	13.26	92	28811	4.62 ug/kg	95
58) Ethyl Methacrylate	13.60	69	22271	7.35 ug/kg	98
59) T-1,3-Dichloropropene	13.55	75	20550	5.10 ug/kg	92
60) 1,1,2-Trichloroethane	13.70	97	10863	5.38 ug/kg	98
61) 1,3-Dichloropropane	13.96	76	23264	5.61 ug/kg	97
62) Tetrachloroethene	13.64	164	8546	4.59 ug/kg	93
63) Dibromochloromethane	13.90	129	15550	5.57 ug/kg#	95
64) 1,2-Dibromoethane	14.16	107	13263	6.29 ug/kg#	98
65) Chlorobenzene	14.61	112	31588	4.67 ug/kg	92
66) 1,1,1,2-Tetrachloroethane	14.63	131	12114	4.60 ug/kg#	1
67) Ethylbenzene	14.56	106	16286	4.66 ug/kg	99
68) m-xylene & p-xylene	14.68	106	40560	9.73 ug/kg	97
69) O-Xylene	15.11	106	19597	4.61 ug/kg	99
70) Bromoform	15.23	173	7765	5.84 ug/kg	98
71) Styrene	15.14	104	32752	4.62 ug/kg	99
72) Isopropylbenzene	15.37	105	48831	4.64 ug/kg	99
73) 1,2,3-Trichloropropane	16.00	75	17627	7.12 ug/kg	94
74) 1,1,2,2-Tetrachloroethane	15.81	83	13782	6.66 ug/kg	95
76) Bromofluorobenzene	15.71	95	219530	70.46 ug/kg#	77
77) T-1,4-dichloro-2-butene	15.99	53	4919	8.81 ug/kg#	69
78) N-Propylbenzene	15.77	91	55080	4.60 ug/kg	100
80) Bromobenzene	15.87	156	11929	4.50 ug/kg	95
81) 1,3,5-Trimethylbenzene	15.93	105	36698	4.48 ug/kg	99
82) 2-Chlorotoluene	16.02	91	35449	4.76 ug/kg	99
83) 4-Chlorotoluene	16.18	91	35589	4.56 ug/kg	99
84) 1,2,4-Trimethylbenzene	16.37	105	37494	4.52 ug/kg	99
85) s-Butylbenzene	16.51	105	43105	4.29 ug/kg	99
86) tert-Butylbenzene	16.31	119	33104	4.61 ug/kg	99
87) p-Isopropyltoluene	16.62	119	38707	4.44 ug/kg	98
88) 1,3-Dichlorobenzene	16.88	146	19933	4.27 ug/kg	94
89) 1,4-Dichlorobenzene	16.97	146	22039	4.71 ug/kg	93
90) 1,2-Dichlorobenzene	17.54	146	18997	4.75 ug/kg	95
91) N-Butylbenzene	17.15	91	32604	4.38 ug/kg	96
92) DBCP	18.65	75	2417	8.95 ug/kg	80
93) Naphthalene	20.65	128	17741	9.77 ug/kg	100
94) 1,2,4-Trichlorobenzene	19.94	180	9820	5.71 ug/kg	98
95) Hexachlorobutadiene	19.79	225	4299	4.18 ug/kg	98
96) 1,2,3-Trichlorobenzene	21.08	180	8089	7.24 ug/kg	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\030921\212CD005.D Vial: 5
Acq On : 9 Mar 2021 9:56 am Operator: KG
Sample : AA65289-CAL4 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 10:19 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Feb 23 09:01:32 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.44	168	244206	50.00	ug/kg	-0.03
38) 1,4-Difluorobenzene(IS)	11.99	114	431789	50.00	ug/kg	-0.03
56) Chlorobenzene-d5(IS)	14.59	82	212013	50.00	ug/kg	-0.02
79) 1,4-Dichlorobenzene-d4(IS)	16.95	152	155190	50.00	ug/kg	-0.03
System Monitoring Compounds						
30) Dibromofluoromethane	11.05	113	134216	53.21	ug/kg	-0.02
Spiked Amount 50.000	Range 53 - 146		Recovery = 106.42%			
54) D8-Toluene	13.21	98	412512	54.12	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 108.24%			
75) Bromofluorobenzene	15.71	95	183300	59.79	ug/kg	-0.03
Spiked Amount 50.000	Range 41 - 142		Recovery = 119.58%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.88	85	45673	9.05	ug/kg	97
3) Chloromethane	6.34	50	47720	9.74	ug/kg	98
4) Vinyl Chloride	6.55	62	38092	8.54	ug/kg	86
5) Bromomethane	7.20	96	22904	14.38	ug/kg	95
6) Chloroethane	7.42	64	21050	9.67	ug/kg	95
7) Trichlorofluoromethane	7.69	101	37771	8.45	ug/kg	98
8) Trichlorotrifluoroethane	8.51	101	24186	9.43	ug/kg	96
9) acrolein	8.88	56	63752	157.09	ug/kg	98
10) Acetone	9.23	43	42701	79.16	ug/kg	94
11) 1,1-Dichloroethene	8.47	96	20796	8.05	ug/kg	96
12) 3-Chloropropene	9.07	76	13773	7.68	ug/kg	90
13) Acetonitrile	9.78	41	36059	149.87	ug/kg	98
14) Iodomethane	8.69	142	112166	38.54	ug/kg	95
15) Carbon disulfide	8.59	76	411444	42.01	ug/kg	99
16) Methylene Chloride	9.19	84	30762	10.53	ug/kg	97
17) Methyl tert-butyl ether	9.51	73	70893	11.06	ug/kg	98
18) Acrylonitrile	10.10	53	158967	121.62	ug/kg	95
19) T-1,2-Dichloroethene	9.41	96	22474	7.75	ug/kg	96
20) Isopropyl Ether	9.88	45	119716	9.18	ug/kg	97
21) C-1,2-Dichloroethene	10.65	96	24555	7.85	ug/kg	98
22) 1,1-Dichloroethane	10.09	63	48336	8.62	ug/kg	100
23) Vinyl Acetate	10.28	43	413370	58.71	ug/kg	99
24) Chloroprene	10.08	88	21601	8.17	ug/kg	12
25) 2-Butanone	11.16	72	13474	71.08	ug/kg	95
26) Propionitrile	11.43	54	38758	146.82	ug/kg	100
27) 2,2-Dichloropropane	10.78	77	37406	8.29	ug/kg	99
28) Methacrylonitrile	11.47	67	112006	127.74	ug/kg	94
29) Chloroform	10.87	83	44875	8.47	ug/kg	97
31) Dibromofluoromethane	11.05	113	134216	53.21	ug/kg	100
32) Bromochloromethane	10.86	128	14842	9.96	ug/kg	87
33) 1,1,1-Trichloroethane	11.17	97	35445	8.92	ug/kg	98
34) 1,1-Dichloropropene	11.26	75	34737	8.42	ug/kg	100
35) Diethyl Ether	8.11	59	24581	10.17	ug/kg	98
36) Methyl Acetate	9.38	74	4779	13.99	ug/kg#	93
37) Cyclohexane	10.93	56	42044	8.98	ug/kg	99
39) Methyl Cyclohexane	12.06	55	32036	9.13	ug/kg	92
40) Carbon Tetrachloride	11.12	117	37080	9.50	ug/kg	96
41) 1,2-Dichloroethane	11.65	62	37309	10.20	ug/kg	99
42) Benzene	11.50	78	88429	8.42	ug/kg	74
43) Isobutyl Alcohol	11.53	43	45468	237.41	ug/kg#	74
44) Trichloroethene	12.02	130	25064	8.79	ug/kg#	85
45) 1,2-Dichloropropane	12.46	63	27759	8.53	ug/kg	98
46) Methyl Methacrylate	12.54	100	7365	13.09	ug/kg	91
47) 1,4-Dioxane	12.68	88	4189	426.96	ug/kg	96
48) Bromodichloromethane	12.49	83	33416	8.53	ug/kg	100
49) Dibromomethane	12.40	93	16470	10.00	ug/kg	97
50) 4-Methyl-2-Pentanone	13.49	100	17923	72.17	ug/kg	98
51) 2-Chloroethyl vinyl ether	12.90	63	26905	272.09	ug/kg#	100
52) 2-Hexanone	14.19	43	108291	78.50	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\030921\212CD005.D Vial: 5
Acq On : 9 Mar 2021 9:56 am Operator: KG
Sample : AA65289-CAL4 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 10:19 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Feb 23 09:01:32 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

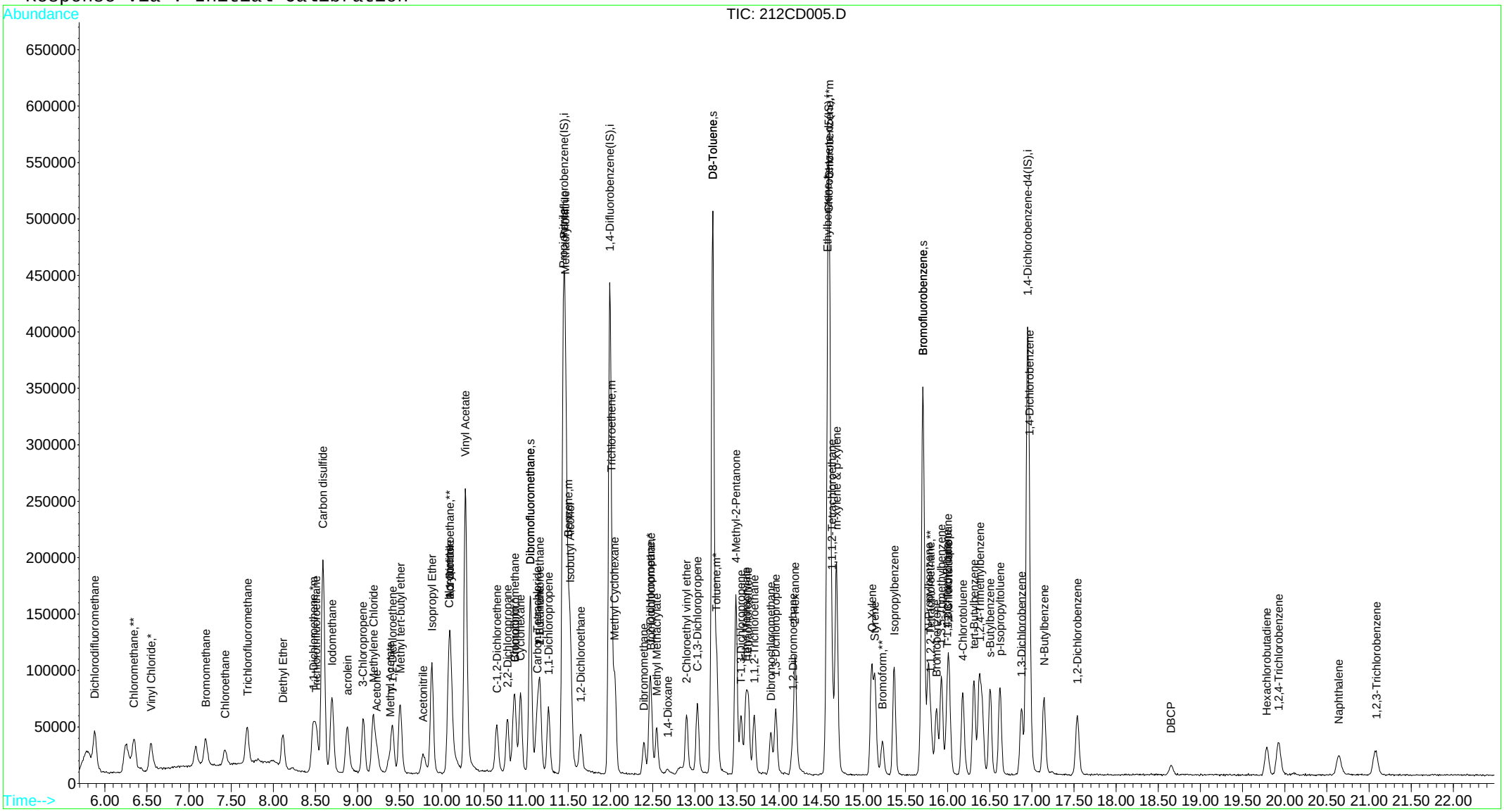
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.03	75	45237	8.66	ug/kg	98
55) D8-Toluene	13.21	98	412512	54.12	ug/kg	94
57) Toluene	13.26	92	51736	8.43	ug/kg	95
58) Ethyl Methacrylate	13.60	69	37443	12.56	ug/kg#	94
59) T-1,3-Dichloropropene	13.55	75	37814	9.54	ug/kg	98
60) 1,1,2-Trichloroethane	13.71	97	20842	10.49	ug/kg	99
61) 1,3-Dichloropropane	13.96	76	42653	10.45	ug/kg	99
62) Tetrachloroethene	13.64	164	16686	9.10	ug/kg	94
63) Dibromochloromethane	13.91	129	27027	9.84	ug/kg#	95
64) 1,2-Dibromoethane	14.16	107	24685	11.91	ug/kg	100
65) Chlorobenzene	14.60	112	58672	8.82	ug/kg	97
66) 1,1,1,2-Tetrachloroethane	14.63	131	24102	9.31	ug/kg#	1
67) Ethylbenzene	14.57	106	29990	8.72	ug/kg	98
68) m-xylene & p-xylene	14.68	106	74402	18.15	ug/kg	99
69) O-Xylene	15.10	106	36638	8.75	ug/kg	98
70) Bromoform	15.23	173	14632	11.19	ug/kg	98
71) Styrene	15.14	104	60801	8.71	ug/kg	98
72) Isopropylbenzene	15.37	105	90545	8.75	ug/kg	99
73) 1,2,3-Trichloropropane	15.99	75	32025	13.14	ug/kg	100
74) 1,1,2,2-Tetrachloroethane	15.80	83	26183	12.85	ug/kg	99
76) Bromofluorobenzene	15.71	95	183300	59.79	ug/kg#	76
77) T-1,4-dichloro-2-butene	15.99	53	8296	15.10	ug/kg#	80
78) N-Propylbenzene	15.77	91	100518	8.54	ug/kg	99
80) Bromobenzene	15.87	156	23186	8.84	ug/kg	97
81) 1,3,5-Trimethylbenzene	15.92	105	70809	8.73	ug/kg	97
82) 2-Chlorotoluene	16.02	91	63815	8.65	ug/kg	98
83) 4-Chlorotoluene	16.18	91	64947	8.41	ug/kg	99
84) 1,2,4-Trimethylbenzene	16.38	105	71167	8.67	ug/kg	99
85) s-Butylbenzene	16.50	105	81867	8.24	ug/kg	99
86) tert-Butylbenzene	16.31	119	61729	8.68	ug/kg	98
87) p-Isopropyltoluene	16.62	119	72916	8.45	ug/kg	99
88) 1,3-Dichlorobenzene	16.88	146	39158	8.48	ug/kg	97
89) 1,4-Dichlorobenzene	16.98	146	40002	8.63	ug/kg	95
90) 1,2-Dichlorobenzene	17.54	146	36535	9.23	ug/kg	98
91) N-Butylbenzene	17.15	91	61846	8.40	ug/kg	99
92) DBCP	18.65	75	4262	15.94	ug/kg	89
93) Naphthalene	20.64	128	34530	18.55	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.93	180	18773	11.02	ug/kg	98
95) Hexachlorobutadiene	19.79	225	8658	8.51	ug/kg	97
96) 1,2,3-Trichlorobenzene	21.08	180	15115	13.67	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\030921\212CD005.D Vial: 5
Acq On : 9 Mar 2021 9:56 am Operator: KG
Sample : AA65289-CAL4 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 10:19 2021 Quant Results File: 020421.RES

Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\030921\212CD006.D Vial: 6
Acq On : 9 Mar 2021 10:25 am Operator: KG
Sample : AA65289-CAL5 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 10:47 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Feb 23 09:01:32 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.44	168	236992	50.00	ug/kg	-0.02
38) 1,4-Difluorobenzene(IS)	11.99	114	433407	50.00	ug/kg	-0.02
56) Chlorobenzene-d5(IS)	14.59	82	209656	50.00	ug/kg	-0.02
79) 1,4-Dichlorobenzene-d4(IS)	16.95	152	155955	50.00	ug/kg	-0.02
System Monitoring Compounds						
30) Dibromofluoromethane	11.05	113	170654	69.71	ug/kg	-0.02
Spiked Amount 50.000	Range 53 - 146		Recovery = 139.42%			
54) D8-Toluene	13.22	98	526347	68.80	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 137.60%			
75) Bromofluorobenzene	15.71	95	233671	77.08	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 154.16%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.88	85	108443	22.13	ug/kg	99
3) Chloromethane	6.35	50	108188	22.75	ug/kg	99
4) Vinyl Chloride	6.54	62	87644	20.26	ug/kg	98
5) Bromomethane	7.19	96	41753	27.00	ug/kg	93
6) Chloroethane	7.42	64	43997	20.83	ug/kg	100
7) Trichlorofluoromethane	7.69	101	86337	19.90	ug/kg	98
8) Trichlorotrifluoroethane	8.51	101	50956	20.47	ug/kg	99
9) acrolein	8.87	56	135972	345.24	ug/kg	96
10) Acetone	9.22	43	90387	172.66	ug/kg	95
11) 1,1-Dichloroethene	8.47	96	44949	17.93	ug/kg	94
12) 3-Chloropropene	9.07	76	29308	16.84	ug/kg	98
13) Acetonitrile	9.77	41	76255	326.57	ug/kg	95
14) Iodomethane	8.70	142	273200	94.10	ug/kg	95
15) Carbon disulfide	8.59	76	837443	88.11	ug/kg	100
16) Methylene Chloride	9.18	84	61219	21.59	ug/kg	96
17) Methyl tert-butyl ether	9.50	73	152233	24.46	ug/kg	97
18) Acrylonitrile	10.09	53	322000	253.84	ug/kg	92
19) T-1,2-Dichloroethene	9.41	96	48335	17.18	ug/kg	97
20) Isopropyl Ether	9.88	45	250862	19.83	ug/kg	99
21) C-1,2-Dichloroethene	10.65	96	52921	17.44	ug/kg	97
22) 1,1-Dichloroethane	10.09	63	102170	18.79	ug/kg	100
23) Vinyl Acetate	10.28	43	830658	121.57	ug/kg	99
24) Chloroprene	10.08	88	43904	17.12	ug/kg	12
25) 2-Butanone	11.15	72	27649	150.29	ug/kg	93
26) Propionitrile	11.43	54	83617	326.38	ug/kg	100
27) 2,2-Dichloropropane	10.78	77	78344	17.90	ug/kg	99
28) Methacrylonitrile	11.46	67	224306	263.60	ug/kg	96
29) Chloroform	10.86	83	96138	18.70	ug/kg	97
31) Dibromofluoromethane	11.05	113	170654	69.71	ug/kg	100
32) Bromochloromethane	10.85	128	30810	21.31	ug/kg	94
33) 1,1,1-Trichloroethane	11.17	97	75551	19.59	ug/kg	99
34) 1,1-Dichloropropene	11.27	75	74798	18.68	ug/kg	99
35) Diethyl Ether	8.11	59	52448	22.36	ug/kg	97
36) Methyl Acetate	9.37	74	9405	28.37	ug/kg#	88
37) Cyclohexane	10.94	56	89484	19.69	ug/kg	98
39) Methyl Cyclohexane	12.06	55	69407	19.71	ug/kg	95
40) Carbon Tetrachloride	11.13	117	77753	19.85	ug/kg	100
41) 1,2-Dichloroethane	11.65	62	79750	21.72	ug/kg	98
42) Benzene	11.51	78	183394	17.40	ug/kg	78
43) Isobutyl Alcohol	11.53	43	96340	501.17	ug/kg#	88
44) Trichloroethene	12.02	130	53544	18.70	ug/kg	94
45) 1,2-Dichloropropane	12.47	63	58351	17.87	ug/kg	99
46) Methyl Methacrylate	12.54	100	15588	27.61	ug/kg	97
47) 1,4-Dioxane	12.68	88	9448	959.38	ug/kg	97
48) Bromodichloromethane	12.48	83	72705	18.49	ug/kg	96
49) Dibromomethane	12.40	93	36830	22.28	ug/kg	94
50) 4-Methyl-2-Pentanone	13.49	100	35499	142.41	ug/kg	90
51) 2-Chloroethyl vinyl ether	12.90	63	63229	637.04	ug/kg#	100
52) 2-Hexanone	14.19	43	219692	158.65	ug/kg	99

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\030921\212CD006.D Vial: 6
Acq On : 9 Mar 2021 10:25 am Operator: KG
Sample : AA65289-CAL5 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 10:47 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Feb 23 09:01:32 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

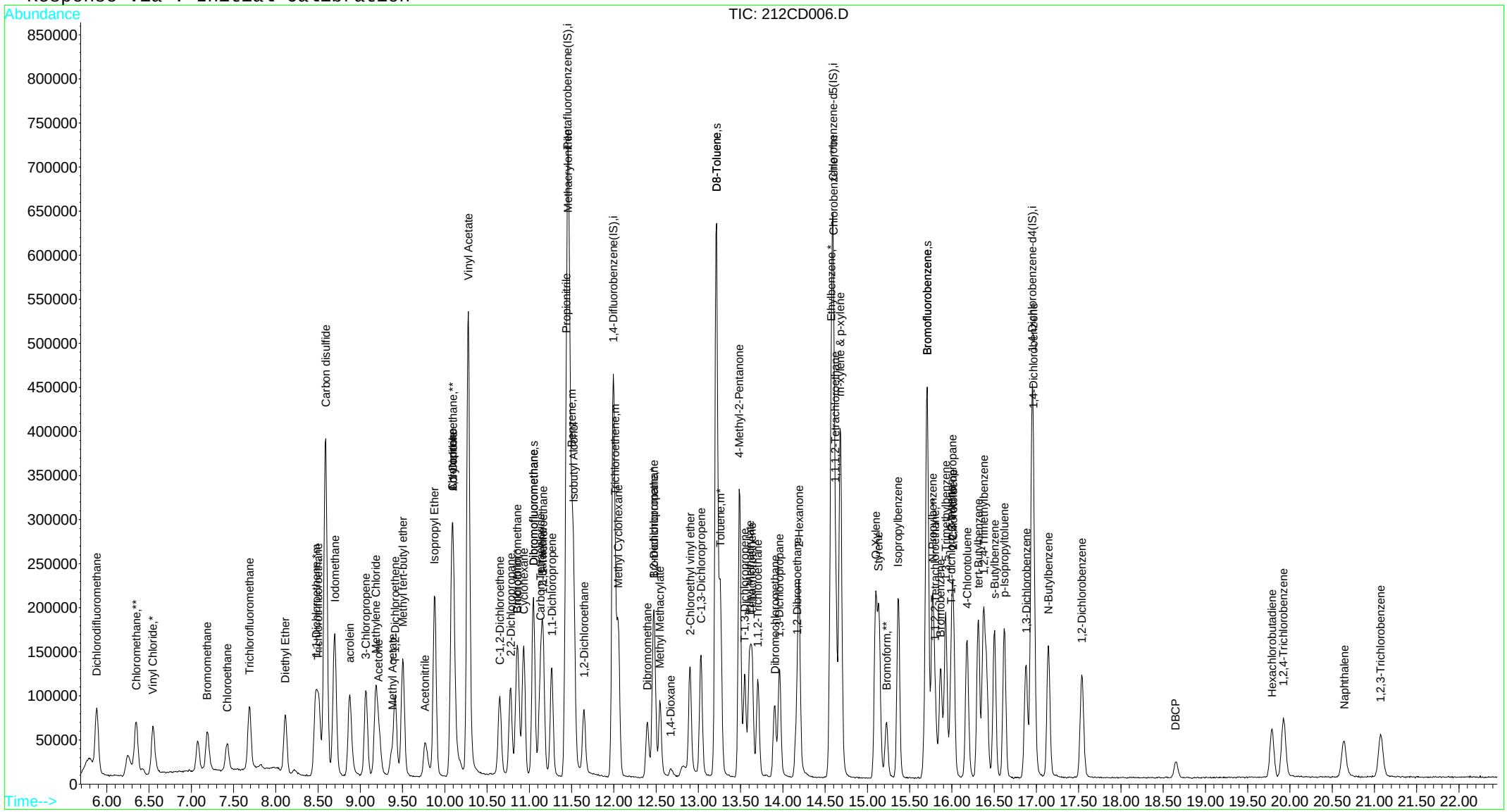
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.03	75	99053	18.89	ug/kg	97
55) D8-Toluene	13.22	98	526347	68.80	ug/kg	94
57) Toluene	13.26	92	111856	18.43	ug/kg	97
58) Ethyl Methacrylate	13.60	69	78845	26.75	ug/kg	94
59) T-1,3-Dichloropropene	13.55	75	83279	21.24	ug/kg	99
60) 1,1,2-Trichloroethane	13.70	97	43848	22.31	ug/kg	98
61) 1,3-Dichloropropane	13.96	76	92997	23.04	ug/kg	98
62) Tetrachloroethene	13.64	164	35319	19.49	ug/kg	94
63) Dibromochloromethane	13.90	129	61192	22.53	ug/kg	97
64) 1,2-Dibromoethane	14.16	107	54477	26.57	ug/kg	99
65) Chlorobenzene	14.61	112	126751	19.28	ug/kg	100
66) 1,1,1,2-Tetrachloroethane	14.63	131	50275	19.64	ug/kg#	1
67) Ethylbenzene	14.56	106	65433	19.24	ug/kg	98
68) m-xylene & p-xylene	14.68	106	157733	38.90	ug/kg	99
69) O-Xylene	15.10	106	79704	19.25	ug/kg	100
70) Bromoform	15.23	173	32299	24.98	ug/kg	99
71) Styrene	15.14	104	135721	19.67	ug/kg	98
72) Isopropylbenzene	15.36	105	197214	19.26	ug/kg	100
73) 1,2,3-Trichloropropane	16.00	75	67844	28.16	ug/kg	99
74) 1,1,2,2-Tetrachloroethane	15.81	83	55890	27.74	ug/kg	99
76) Bromofluorobenzene	15.71	95	233671	77.08	ug/kg#	74
77) T-1,4-dichloro-2-butene	15.98	53	16079	29.60	ug/kg	97
78) N-Propylbenzene	15.77	91	219991	18.90	ug/kg	99
80) Bromobenzene	15.87	156	48993	18.58	ug/kg	96
81) 1,3,5-Trimethylbenzene	15.93	105	153489	18.84	ug/kg	97
82) 2-Chlorotoluene	16.02	91	136065	18.35	ug/kg	97
83) 4-Chlorotoluene	16.18	91	140109	18.06	ug/kg	98
84) 1,2,4-Trimethylbenzene	16.37	105	154905	18.77	ug/kg	98
85) s-Butylbenzene	16.51	105	180409	18.07	ug/kg	99
86) tert-Butylbenzene	16.31	119	134395	18.81	ug/kg	99
87) p-Isopropyltoluene	16.62	119	159056	18.35	ug/kg	99
88) 1,3-Dichlorobenzene	16.88	146	84565	18.22	ug/kg	98
89) 1,4-Dichlorobenzene	16.97	146	85550	18.37	ug/kg	96
90) 1,2-Dichlorobenzene	17.54	146	81050	20.39	ug/kg	98
91) N-Butylbenzene	17.14	91	134900	18.22	ug/kg	99
92) DBCP	18.64	75	9065	33.73	ug/kg	90
93) Naphthalene	20.64	128	78811	39.02	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.92	180	42622	24.89	ug/kg	99
95) Hexachlorobutadiene	19.78	225	18265	17.86	ug/kg	96
96) 1,2,3-Trichlorobenzene	21.07	180	33263	29.94	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\030921\212CD006.D Vial: 6
Acq On : 9 Mar 2021 10:25 am Operator: KG
Sample : AA65289-CAL5 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 10:47 2021 Quant Results File: 020421.RES

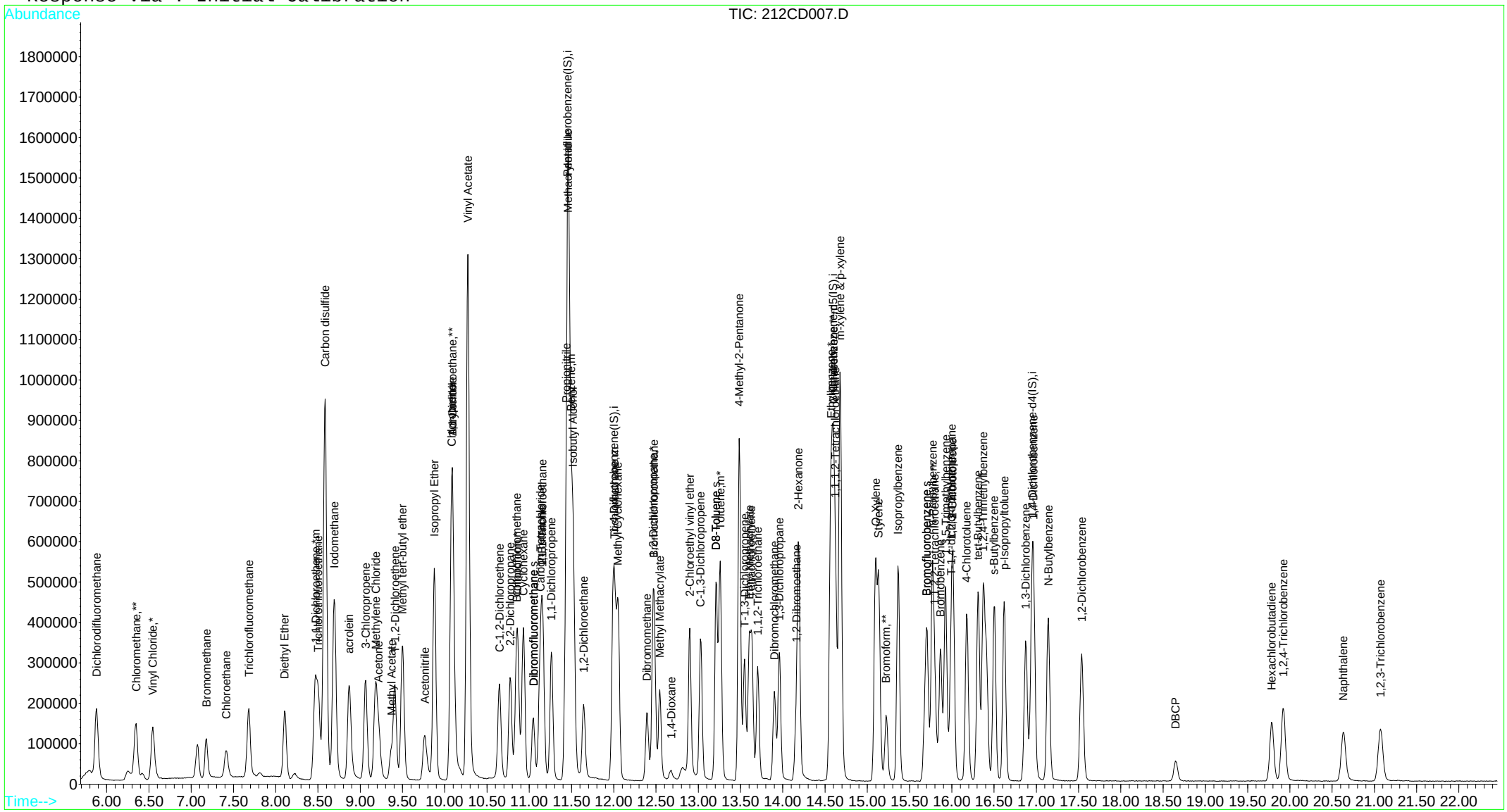
Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\030921\212CD007.D Vial: 7
Acq On : 9 Mar 2021 10:53 am Operator: KG
Sample : AA65289-CAL6 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 11:16 2021 Quant Results File: 030921.RES

Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\030921\212CD007.D Vial: 7
Acq On : 9 Mar 2021 10:53 am Operator: KG
Sample : AA65289-CAL6 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 11:16 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Mar 09 11:05:56 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.44	168	231702	50.00	ug/kg	-0.02
38) 1,4-Difluorobenzene(IS)	11.99	114	427152	50.00	ug/kg	-0.02
56) Chlorobenzene-d5(IS)	14.59	82	207404	50.00	ug/kg	-0.02
79) 1,4-Dichlorobenzene-d4(IS)	16.94	152	156147	50.00	ug/kg	-0.03
System Monitoring Compounds						
30) Dibromofluoromethane	11.05	113	128209	49.98	ug/kg	-0.02
Spiked Amount 50.000	Range 53 - 146		Recovery = 99.96%			
54) D8-Toluene	13.21	98	401221	49.82	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 99.64%			
75) Bromofluorobenzene	15.71	95	183680	51.71	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 103.42%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.88	85	263041	57.26	ug/kg	100
3) Chloromethane	6.35	50	253465	49.51	ug/kg	99
4) Vinyl Chloride	6.54	62	210449	55.56	ug/kg	99
5) Bromomethane	7.18	96	76372	34.37	ug/kg	95
6) Chloroethane	7.41	64	102528	47.96	ug/kg	99
7) Trichlorofluoromethane	7.68	101	205859	56.00	ug/kg	99
8) Trichlorotrifluoroethane	8.51	101	129038	54.34	ug/kg	99
9) acrolein	8.87	56	339585	501.64	ug/kg	99
10) Acetone	9.22	43	219975	214.98	ug/kg	94
11) 1,1-Dichloroethene	8.46	96	118872	54.37	ug/kg	96
12) 3-Chloropropene	9.06	76	71209	47.75	ug/kg	95
13) Acetonitrile	9.76	41	207202	614.10	ug/kg	97
14) Iodomethane	8.69	142	770158	402.32	ug/kg	96
15) Carbon disulfide	8.58	76	2066293	279.76	ug/kg	100
16) Methylene Chloride	9.18	84	144889	48.24	ug/kg	98
17) Methyl tert-butyl ether	9.50	73	382842	51.55	ug/kg	99
18) Acrylonitrile	10.09	53	795572	501.73	ug/kg	93
19) T-1,2-Dichloroethene	9.41	96	123524	52.02	ug/kg	96
20) Isopropyl Ether	9.88	45	636276	50.39	ug/kg	99
21) C-1,2-Dichloroethene	10.65	96	137700	54.35	ug/kg	99
22) 1,1-Dichloroethane	10.09	63	252091	48.12	ug/kg	100
23) Vinyl Acetate	10.27	43	1989869	227.64	ug/kg	99
24) Chloroprene	10.07	88	110264	51.81	ug/kg	17
25) 2-Butanone	11.15	72	68216	209.71	ug/kg	88
26) Propionitrile	11.43	54	211377	502.56	ug/kg	100
27) 2,2-Dichloropropane	10.77	77	199861	52.16	ug/kg	97
28) Methacrylonitrile	11.47	67	550395	456.56	ug/kg	96
29) Chloroform	10.87	83	235814	49.91	ug/kg	96
31) Dibromofluoromethane	11.05	113	128209	49.98	ug/kg	100
32) Bromochloromethane	10.84	128	78732	50.25	ug/kg	94
33) 1,1,1-Trichloroethane	11.16	97	191960	52.18	ug/kg	99
34) 1,1-Dichloropropene	11.26	75	189325	52.85	ug/kg	99
35) Diethyl Ether	8.10	59	133944	50.74	ug/kg	97
36) Methyl Acetate	9.36	74	23654	45.24	ug/kg	86
37) Cyclohexane	10.93	56	224088	51.70	ug/kg	97
39) Methyl Cyclohexane	12.05	55	177705	51.14	ug/kg	95
40) Carbon Tetrachloride	11.13	117	201071	51.71	ug/kg	100
41) 1,2-Dichloroethane	11.64	62	200651	49.03	ug/kg	99
42) Benzene	11.50	78	454799	42.90	ug/kg	78
43) Isobutyl Alcohol	11.52	43	239515	962.41	ug/kg#	89
44) Trichloroethene	12.02	130	139809	52.57	ug/kg	99
45) 1,2-Dichloropropane	12.47	63	150518	46.97	ug/kg	99
46) Methyl Methacrylate	12.55	100	40558	51.99	ug/kg	95
47) 1,4-Dioxane	12.68	88	24949	1129.07	ug/kg	99
48) Bromodichloromethane	12.48	83	182786	50.60	ug/kg	98
49) Dibromomethane	12.39	93	92812	51.69	ug/kg	98
50) 4-Methyl-2-Pentanone	13.48	100	94176	224.96	ug/kg	99
51) 2-Chloroethyl vinyl ether	12.90	63	186311	324.99	ug/kg#	100
52) 2-Hexanone	14.18	43	561483	242.45	ug/kg	99

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\030921\212CD007.D Vial: 7
Acq On : 9 Mar 2021 10:53 am Operator: KG
Sample : AA65289-CAL6 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 11:16 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Mar 09 11:05:56 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

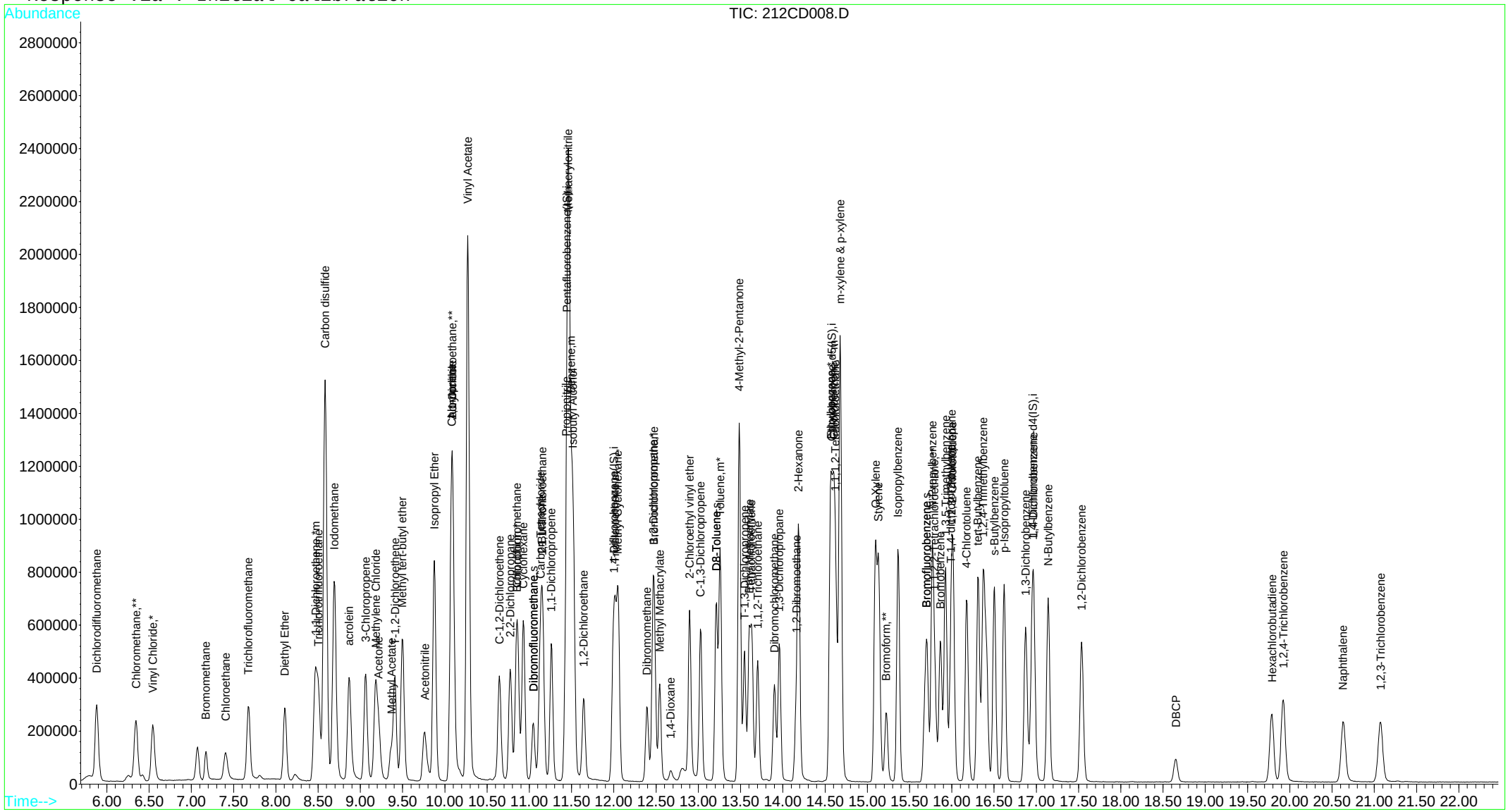
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.03	75	256537	52.37	ug/kg	99
55) D8-Toluene	13.21	98	401221	49.82	ug/kg	93
57) Toluene	13.26	92	294080	52.48	ug/kg	99
58) Ethyl Methacrylate	13.60	69	196532	47.77	ug/kg	98
59) T-1,3-Dichloropropene	13.55	75	211132	52.21	ug/kg	100
60) 1,1,2-Trichloroethane	13.70	97	113357	51.14	ug/kg	96
61) 1,3-Dichloropropane	13.96	76	235050	49.76	ug/kg	100
62) Tetrachloroethene	13.63	164	88700	52.21	ug/kg	93
63) Dibromochloromethane	13.90	129	160705	54.39	ug/kg	97
64) 1,2-Dibromoethane	14.16	107	140599	52.81	ug/kg	100
65) Chlorobenzene	14.61	112	320432	50.22	ug/kg	98
66) 1,1,1,2-Tetrachloroethane	14.63	131	130272	51.68	ug/kg#	72
67) Ethylbenzene	14.56	106	168026	52.58	ug/kg	98
68) m-xylene & p-xylene	14.68	106	406726	103.16	ug/kg	99
69) O-Xylene	15.09	106	206512	54.40	ug/kg	99
70) Bromoform	15.23	173	83355	54.78	ug/kg	99
71) Styrene	15.14	104	349096	53.15	ug/kg	99
72) Isopropylbenzene	15.36	105	513559	53.48	ug/kg	100
73) 1,2,3-Trichloropropane	15.99	75	175930	49.82	ug/kg	100
74) 1,1,2,2-Tetrachloroethane	15.80	83	145870	51.54	ug/kg	99
76) Bromofluorobenzene	15.71	95	183680	51.71	ug/kg#	65
77) T-1,4-dichloro-2-butene	15.98	53	42676	45.01	ug/kg	90
78) N-Propylbenzene	15.77	91	580894	53.40	ug/kg	98
80) Bromobenzene	15.86	156	128260	51.89	ug/kg	97
81) 1,3,5-Trimethylbenzene	15.93	105	394478	51.90	ug/kg	99
82) 2-Chlorotoluene	16.01	91	349413	49.22	ug/kg	97
83) 4-Chlorotoluene	16.17	91	368825	50.97	ug/kg	98
84) 1,2,4-Trimethylbenzene	16.37	105	398353	51.84	ug/kg	99
85) s-Butylbenzene	16.51	105	470021	52.75	ug/kg	100
86) tert-Butylbenzene	16.31	119	354072	53.15	ug/kg	99
87) p-Isopropyltoluene	16.62	119	418301	52.69	ug/kg	99
88) 1,3-Dichlorobenzene	16.87	146	224169	53.28	ug/kg	99
89) 1,4-Dichlorobenzene	16.97	146	225861	50.56	ug/kg	98
90) 1,2-Dichlorobenzene	17.54	146	216594	54.50	ug/kg	98
91) N-Butylbenzene	17.14	91	360779	55.04	ug/kg	99
92) DBCP	18.65	75	23844	44.61	ug/kg	94
93) Naphthalene	20.63	128	231475	64.12	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.92	180	113383	56.18	ug/kg	98
95) Hexachlorobutadiene	19.78	225	51130	58.69	ug/kg	99
96) 1,2,3-Trichlorobenzene	21.07	180	89980	57.20	ug/kg	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\030921\212CD008.D Vial: 8
Acq On : 9 Mar 2021 11:22 am Operator: KG
Sample : AA65289-CAL7 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 11:44 2021 Quant Results File: 030921.RES

Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\030921\212CD008.D Vial: 8
Acq On : 9 Mar 2021 11:22 am Operator: KG
Sample : AA65289-CAL7 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 11:44 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Mar 09 11:17:08 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.44	168	226247	50.00	ug/kg	0.00
38) 1,4-Difluorobenzene(IS)	11.99	114	427385	50.00	ug/kg	0.00
56) Chlorobenzene-d5(IS)	14.58	82	206954	50.00	ug/kg	0.00
79) 1,4-Dichlorobenzene-d4(IS)	16.95	152	158337	50.00	ug/kg	0.00
System Monitoring Compounds						
30) Dibromofluoromethane	11.05	113	181098	72.31	ug/kg	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 144.62%			
54) D8-Toluene	13.21	98	561539	69.73	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 146		Recovery = 139.46%			
75) Bromofluorobenzene	15.71	95	250012	70.14	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 142		Recovery = 140.28%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.88	85	446116	97.11	ug/kg	100
3) Chloromethane	6.35	50	421278	84.41	ug/kg	98
4) Vinyl Chloride	6.54	62	354443	94.09	ug/kg	99
5) Bromomethane	7.17	96	81331	39.55	ug/kg	98
6) Chloroethane	7.40	64	168949	81.49	ug/kg	98
7) Trichlorofluoromethane	7.67	101	344562	94.11	ug/kg	100
8) Trichlorotrifluoroethane	8.51	101	211944	90.10	ug/kg	98
9) acrolein	8.87	56	551067	833.22	ug/kg	99
10) Acetone	9.22	43	350971	359.67	ug/kg	98
11) 1,1-Dichloroethene	8.46	96	193927	89.54	ug/kg	99
12) 3-Chloropropene	9.06	76	115962	80.23	ug/kg	100
13) Acetonitrile	9.76	41	351053	1026.48	ug/kg	98
14) Iodomethane	8.69	142	1318681	640.44	ug/kg	100
15) Carbon disulfide	8.58	76	3353140	455.90	ug/kg	100
16) Methylene Chloride	9.18	84	226130	77.56	ug/kg	99
17) Methyl tert-butyl ether	9.50	73	617213	84.68	ug/kg	99
18) Acrylonitrile	10.09	53	1273469	822.00	ug/kg	99
19) T-1,2-Dichloroethene	9.41	96	205588	88.07	ug/kg	99
20) Isopropyl Ether	9.88	45	1021459	82.73	ug/kg	99
21) C-1,2-Dichloroethene	10.65	96	229220	91.32	ug/kg	99
22) 1,1-Dichloroethane	10.08	63	406722	80.02	ug/kg#	68
23) Vinyl Acetate	10.27	43	3135851	372.94	ug/kg	100
24) Chloroprene	10.07	88	179737	85.97	ug/kg	96
25) 2-Butanone	11.15	72	112049	362.50	ug/kg	96
26) Propionitrile	11.43	54	346290	842.46	ug/kg	100
27) 2,2-Dichloropropane	10.77	77	333652	88.54	ug/kg	99
28) Methacrylonitrile	11.46	67	877734	756.61	ug/kg	99
29) Chloroform	10.86	83	391704	84.93	ug/kg	98
31) Dibromofluoromethane	11.05	113	181098	72.30	ug/kg	100
32) Bromochloromethane	10.84	128	130017	84.91	ug/kg	97
33) 1,1,1-Trichloroethane	11.16	97	316643	87.52	ug/kg	100
34) 1,1-Dichloropropene	11.26	75	314085	88.95	ug/kg	99
35) Diethyl Ether	8.10	59	222050	85.93	ug/kg	99
36) Methyl Acetate	9.36	74	38734	77.10	ug/kg#	97
37) Cyclohexane	10.93	56	369747	86.87	ug/kg	100
39) Methyl Cyclohexane	12.05	55	290052	83.11	ug/kg	98
40) Carbon Tetrachloride	11.13	117	331487	84.71	ug/kg	99
41) 1,2-Dichloroethane	11.64	62	330364	80.94	ug/kg	99
42) Benzene	11.50	78	742316	71.68	ug/kg	98
43) Isobutyl Alcohol	11.52	43	387451	1565.80	ug/kg	96
44) Trichloroethene	12.01	130	233537	87.02	ug/kg	98
45) 1,2-Dichloropropane	12.47	63	242199	76.31	ug/kg	100
46) Methyl Methacrylate	12.54	100	66373	84.47	ug/kg	98
47) 1,4-Dioxane	12.67	88	41327	1829.88	ug/kg	99
48) Bromodichloromethane	12.48	83	301294	83.19	ug/kg	99
49) Dibromomethane	12.39	93	155539	86.09	ug/kg	98
50) 4-Methyl-2-Pentanone	13.48	100	151548	367.95	ug/kg	98
51) 2-Chloroethyl vinyl ether	12.90	63	323559	537.23	ug/kg	99
52) 2-Hexanone	14.18	43	901514	391.03	ug/kg	99

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\030921\212CD008.D Vial: 8
Acq On : 9 Mar 2021 11:22 am Operator: KG
Sample : AA65289-CAL7 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 11:44 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Mar 09 11:17:08 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

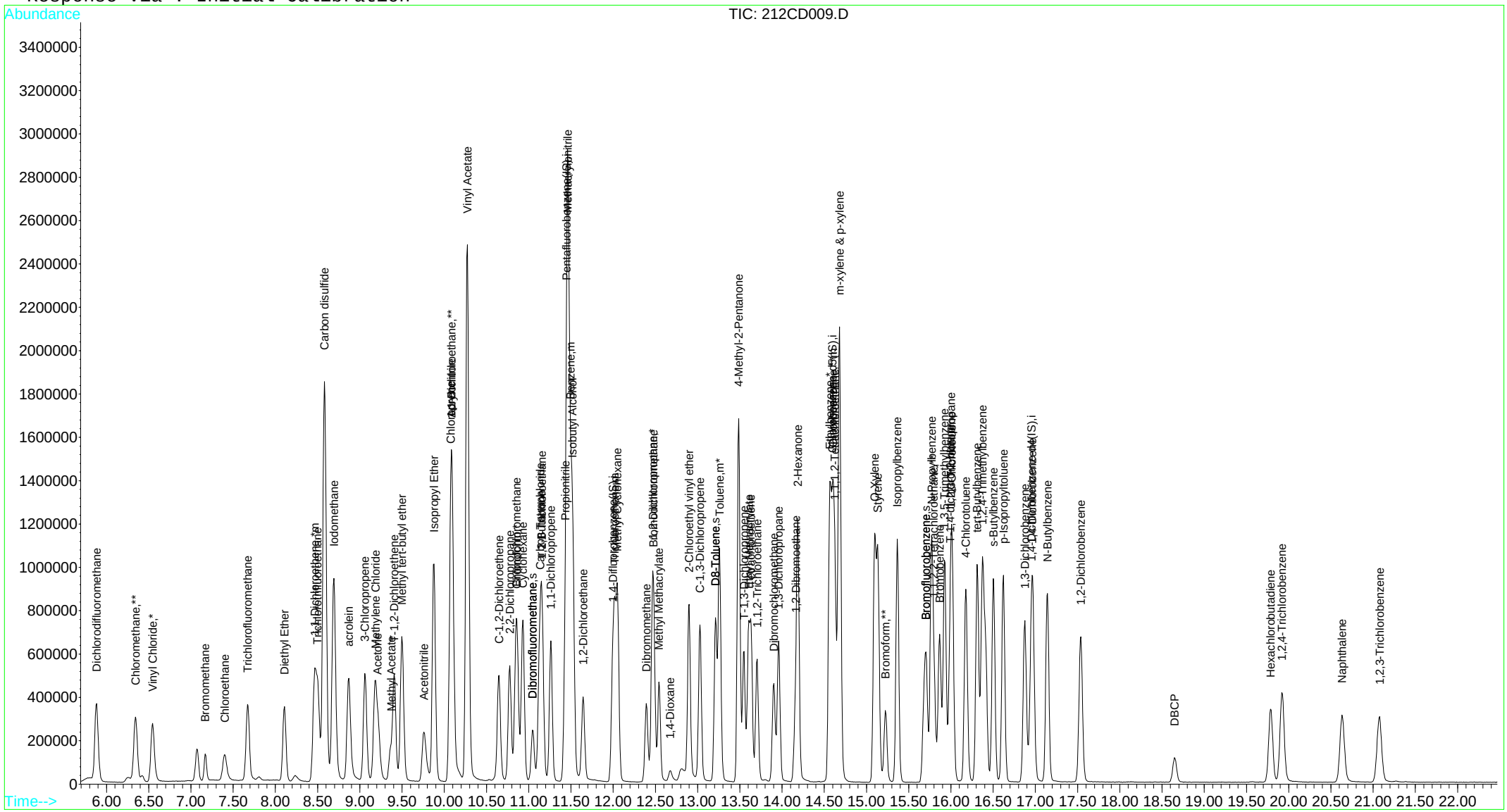
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	13.02	75	419617	84.95 ug/kg	100
55) D8-Toluene	13.21	98	561539	69.69 ug/kg	94
57) Toluene	13.26	92	482853	85.65 ug/kg	99
58) Ethyl Methacrylate	13.60	69	318818	78.24 ug/kg	100
59) T-1,3-Dichloropropene	13.55	75	344361	84.71 ug/kg	98
60) 1,1,2-Trichloroethane	13.70	97	180451	81.28 ug/kg	97
61) 1,3-Dichloropropane	13.96	76	384450	81.63 ug/kg	98
62) Tetrachloroethene	13.63	164	146445	85.75 ug/kg	99
63) Dibromochloromethane	13.90	129	263312	88.02 ug/kg	100
64) 1,2-Dibromoethane	14.15	107	232788	86.82 ug/kg	100
65) Chlorobenzene	14.61	112	528917	83.01 ug/kg	99
66) 1,1,1,2-Tetrachloroethane	14.63	131	214483	84.80 ug/kg#	56
67) Ethylbenzene	14.56	106	281311	87.47 ug/kg	98
68) m-xylene & p-xylene	14.68	106	680597	172.09 ug/kg	99
69) O-Xylene	15.09	106	345027	89.77 ug/kg	99
70) Bromoform	15.23	173	141048	91.44 ug/kg	97
71) Styrene	15.14	104	581067	87.75 ug/kg	99
72) Isopropylbenzene	15.36	105	851248	87.83 ug/kg	100
73) 1,2,3-Trichloropropane	15.99	75	293270	83.28 ug/kg	99
74) 1,1,2,2-Tetrachloroethane	15.80	83	237949	83.83 ug/kg	99
76) Bromofluorobenzene	15.71	95	250012	70.54 ug/kg#	61
77) T-1,4-dichloro-2-butene	15.98	53	73438	78.94 ug/kg	95
78) N-Propylbenzene	15.77	91	970591	88.42 ug/kg	100
80) Bromobenzene	15.87	156	213078	84.48 ug/kg	99
81) 1,3,5-Trimethylbenzene	15.93	105	658903	84.95 ug/kg	100
82) 2-Chlorotoluene	16.01	91	580194	80.81 ug/kg	100
83) 4-Chlorotoluene	16.17	91	616798	83.79 ug/kg	100
84) 1,2,4-Trimethylbenzene	16.37	105	665289	84.86 ug/kg	100
85) s-Butylbenzene	16.51	105	795225	87.21 ug/kg	100
86) tert-Butylbenzene	16.31	119	595080	87.18 ug/kg	100
87) p-Isopropyltoluene	16.62	119	706104	86.94 ug/kg	100
88) 1,3-Dichlorobenzene	16.87	146	383143	88.83 ug/kg	100
89) 1,4-Dichlorobenzene	16.97	146	385572	84.96 ug/kg	99
90) 1,2-Dichlorobenzene	17.54	146	368623	90.12 ug/kg	100
91) N-Butylbenzene	17.14	91	624186	92.36 ug/kg	100
92) DBCP	18.64	75	41977	78.87 ug/kg	99
93) Naphthalene	20.63	128	425188	110.93 ug/kg	100
94) 1,2,4-Trichlorobenzene	19.92	180	199006	95.27 ug/kg	98
95) Hexachlorobutadiene	19.79	225	92714	102.00 ug/kg	98
96) 1,2,3-Trichlorobenzene	21.07	180	158242	96.88 ug/kg	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\030921\212CD009.D Vial: 9
Acq On : 9 Mar 2021 11:50 am Operator: KG
Sample : AA65289-CAL8 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 12:13 2021 Quant Results File: 030921.RES

Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\030921\212CD009.D Vial: 9
Acq On : 9 Mar 2021 11:50 am Operator: KG
Sample : AA65289-CAL8 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 12:13 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Mar 09 11:17:20 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.44	168	228850	50.00	ug/kg	0.00
38) 1,4-Difluorobenzene(IS)	11.99	114	429679	50.00	ug/kg	0.00
56) Chlorobenzene-d5(IS)	14.59	82	211567	50.00	ug/kg	0.00
79) 1,4-Dichlorobenzene-d4(IS)	16.95	152	163882	50.00	ug/kg	0.00
System Monitoring Compounds						
30) Dibromofluoromethane	11.05	113	198201	78.24	ug/kg	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 156.48%#			
54) D8-Toluene	13.21	98	610001	75.35	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 146		Recovery = 150.70%#			
75) Bromofluorobenzene	15.70	95	276583	75.90	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 142		Recovery = 151.80%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.88	85	575298	123.81	ug/kg	99
3) Chloromethane	6.34	50	559373	110.81	ug/kg	99
4) Vinyl Chloride	6.55	62	457412	120.04	ug/kg	99
5) Bromomethane	7.17	96	85666	41.18	ug/kg	97
6) Chloroethane	7.40	64	210343	100.30	ug/kg	98
7) Trichlorofluoromethane	7.67	101	434380	117.29	ug/kg	99
8) Trichlorotrifluoroethane	8.50	101	264861	111.32	ug/kg	99
9) acrolein	8.87	56	673615	1006.92	ug/kg	100
10) Acetone	9.22	43	437221	442.96	ug/kg	98
11) 1,1-Dichloroethene	8.47	96	241986	110.46	ug/kg	100
12) 3-Chloropropene	9.06	76	145237	99.34	ug/kg	98
13) Acetonitrile	9.76	41	432559	1250.42	ug/kg	99
14) Iodomethane	8.69	142	1650738	792.59	ug/kg	100
15) Carbon disulfide	8.58	76	4114504	553.05	ug/kg	100
16) Methylene Chloride	9.18	84	278078	94.29	ug/kg	99
17) Methyl tert-butyl ether	9.50	73	762037	103.36	ug/kg	100
18) Acrylonitrile	10.09	53	1566403	999.59	ug/kg	99
19) T-1,2-Dichloroethene	9.41	96	262156	111.03	ug/kg	97
20) Isopropyl Ether	9.87	45	1255486	100.53	ug/kg	99
21) C-1,2-Dichloroethene	10.65	96	285011	112.26	ug/kg	99
22) 1,1-Dichloroethane	10.08	63	501596	97.56	ug/kg	100
23) Vinyl Acetate	10.27	43	3822229	449.40	ug/kg	99
24) Chloroprene	10.07	88	221479	104.74	ug/kg	96
25) 2-Butanone	11.15	72	138998	444.57	ug/kg	97
26) Propionitrile	11.43	54	431174	1037.04	ug/kg	100
27) 2,2-Dichloropropane	10.78	77	420250	110.25	ug/kg	99
28) Methacrylonitrile	11.46	67	1091640	930.29	ug/kg	97
29) Chloroform	10.87	83	492254	105.52	ug/kg	98
31) Dibromofluoromethane	11.05	113	198201	78.23	ug/kg	100
32) Bromochloromethane	10.85	128	161994	104.60	ug/kg	96
33) 1,1,1-Trichloroethane	11.16	97	395558	108.08	ug/kg	99
34) 1,1-Dichloropropene	11.26	75	390603	109.36	ug/kg	100
35) Diethyl Ether	8.11	59	275355	105.35	ug/kg	99
36) Methyl Acetate	9.36	74	48201	94.85	ug/kg	99
37) Cyclohexane	10.93	56	454233	105.50	ug/kg	100
39) Methyl Cyclohexane	12.05	55	357184	101.80	ug/kg	98
40) Carbon Tetrachloride	11.13	117	412129	104.76	ug/kg	100
41) 1,2-Dichloroethane	11.64	62	410844	100.12	ug/kg	99
42) Benzene	11.50	78	914060	87.79	ug/kg	97
43) Isobutyl Alcohol	11.52	43	472635	1899.85	ug/kg	97
44) Trichloroethene	12.02	130	294281	109.07	ug/kg	97
45) 1,2-Dichloropropane	12.46	63	302374	94.76	ug/kg	100
46) Methyl Methacrylate	12.54	100	84278	106.69	ug/kg	99
47) 1,4-Dioxane	12.68	88	53412	2352.35	ug/kg	99
48) Bromodichloromethane	12.48	83	378466	103.94	ug/kg	99
49) Dibromomethane	12.39	93	197877	108.93	ug/kg	98
50) 4-Methyl-2-Pentanone	13.49	100	190377	459.75	ug/kg	96
51) 2-Chloroethyl vinyl ether	12.90	63	417587	689.65	ug/kg	100
52) 2-Hexanone	14.19	43	1122837	484.42	ug/kg	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\030921\212CD009.D Vial: 9
Acq On : 9 Mar 2021 11:50 am Operator: KG
Sample : AA65289-CAL8 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 12:13 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Mar 09 11:17:20 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

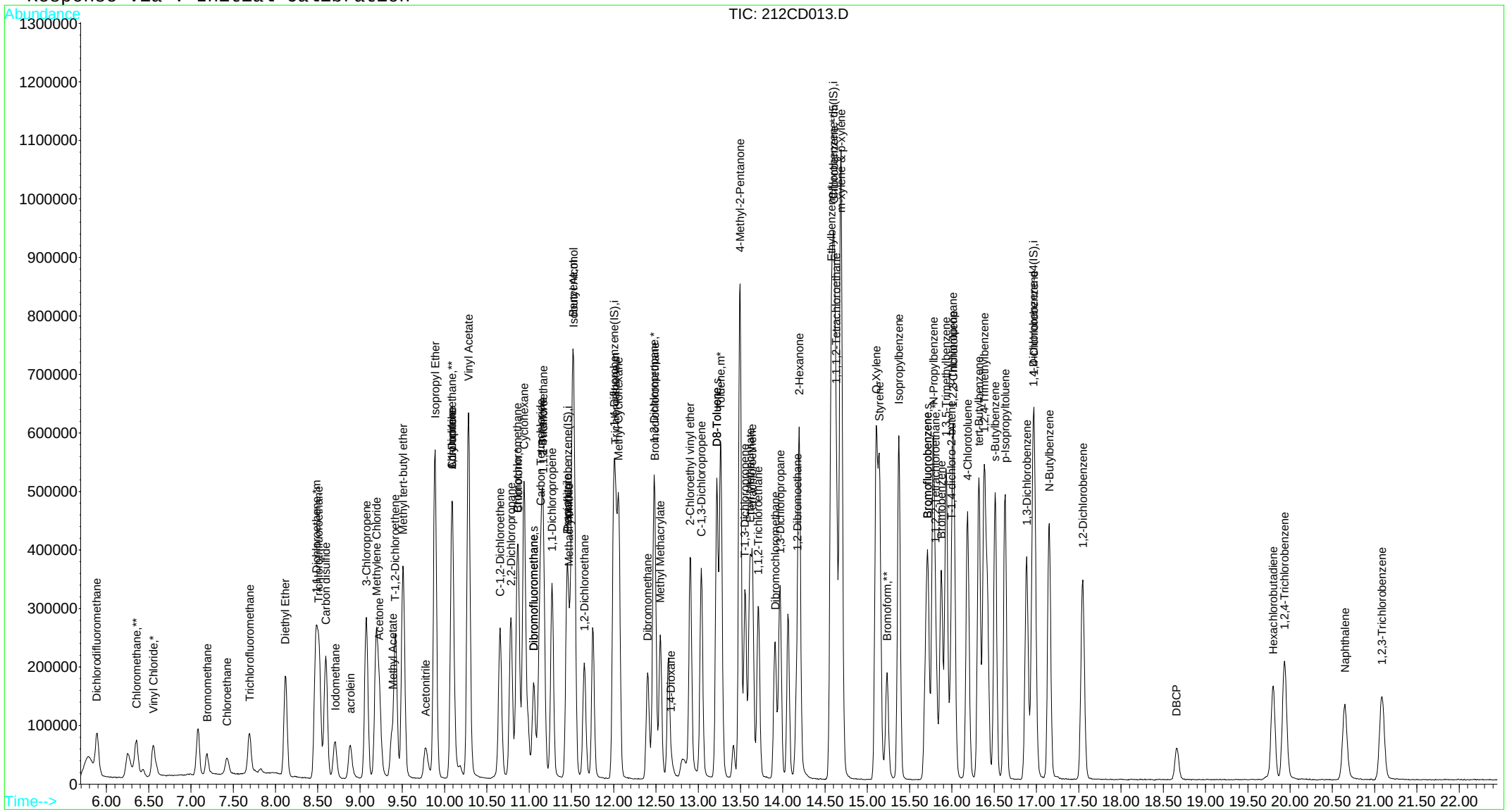
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	13.03	75	520528	104.82 ug/kg	100
55) D8-Toluene	13.21	98	610001	75.30 ug/kg	93
57) Toluene	13.26	92	606369	105.21 ug/kg	99
58) Ethyl Methacrylate	13.60	69	396283	95.13 ug/kg	99
59) T-1,3-Dichloropropene	13.55	75	434572	104.57 ug/kg	98
60) 1,1,2-Trichloroethane	13.71	97	229068	100.92 ug/kg	98
61) 1,3-Dichloropropane	13.96	76	481071	99.92 ug/kg	98
62) Tetrachloroethene	13.64	164	186774	106.99 ug/kg	99
63) Dibromochloromethane	13.90	129	335405	109.68 ug/kg	100
64) 1,2-Dibromoethane	14.16	107	293805	107.19 ug/kg	99
65) Chlorobenzene	14.60	112	663912	101.93 ug/kg	99
66) 1,1,1,2-Tetrachloroethane	14.63	131	270696	104.69 ug/kg#	78
67) Ethylbenzene	14.57	106	354043	107.69 ug/kg	98
68) m-xylene & p-xylene	14.68	106	849370	210.08 ug/kg	99
69) O-Xylene	15.10	106	437685	111.39 ug/kg	99
70) Bromoform	15.22	173	176695	112.05 ug/kg	99
71) Styrene	15.13	104	737027	108.87 ug/kg	99
72) Isopropylbenzene	15.36	105	1075065	108.50 ug/kg	100
73) 1,2,3-Trichloropropane	15.99	75	368186	102.28 ug/kg	99
74) 1,1,2,2-Tetrachloroethane	15.80	83	297537	102.53 ug/kg	99
76) Bromofluorobenzene	15.70	95	276583	76.33 ug/kg#	59
77) T-1,4-dichloro-2-butene	15.99	53	93716	98.54 ug/kg	93
78) N-Propylbenzene	15.77	91	1229533	109.57 ug/kg	100
80) Bromobenzene	15.87	156	271247	103.91 ug/kg	99
81) 1,3,5-Trimethylbenzene	15.93	105	838057	104.40 ug/kg	99
82) 2-Chlorotoluene	16.01	91	738976	99.44 ug/kg	99
83) 4-Chlorotoluene	16.18	91	791463	103.88 ug/kg	100
84) 1,2,4-Trimethylbenzene	16.37	105	849962	104.75 ug/kg	100
85) s-Butylbenzene	16.50	105	1014974	107.55 ug/kg	100
86) tert-Butylbenzene	16.31	119	766619	108.51 ug/kg	98
87) p-Isopropyltoluene	16.62	119	906055	107.78 ug/kg	99
88) 1,3-Dichlorobenzene	16.88	146	492393	110.29 ug/kg	100
89) 1,4-Dichlorobenzene	16.97	146	496164	105.64 ug/kg	99
90) 1,2-Dichlorobenzene	17.54	146	476906	112.65 ug/kg	99
91) N-Butylbenzene	17.14	91	791207	113.11 ug/kg	100
92) DBCP	18.65	75	54780	99.44 ug/kg	99
93) Naphthalene	20.63	128	577378	145.54 ug/kg	100
94) 1,2,4-Trichlorobenzene	19.93	180	263386	121.83 ug/kg	99
95) Hexachlorobutadiene	19.78	225	118851	126.33 ug/kg	98
96) 1,2,3-Trichlorobenzene	21.08	180	210790	124.69 ug/kg	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\030921\212CD013.D Vial: 13
Acq On : 9 Mar 2021 2:04 pm Operator: KG
Sample : AA65289-SCV1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 10 11:48 2021 Quant Results File: 030921.RES

Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\030921\212CD013.D Vial: 13
Acq On : 9 Mar 2021 2:04 pm Operator: KG
Sample : AA65289-SCV1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 10 11:48 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Wed Mar 10 11:37:03 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.45	168	241526	50.00	ug/kg	0.00
38) 1,4-Difluorobenzene(IS)	12.00	114	436002	50.00	ug/kg	0.00
56) Chlorobenzene-d5(IS)	14.60	82	211494	50.00	ug/kg	0.01
79) 1,4-Dichlorobenzene-d4(IS)	16.95	152	162014	50.00	ug/kg	0.01
System Monitoring Compounds						
30) Dibromofluoromethane	11.05	113	129676	48.04	ug/kg	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 96.08%			
54) D8-Toluene	13.22	98	414318	50.43	ug/kg	0.01
Spiked Amount 50.000	Range 41 - 146		Recovery = 100.86%			
75) Bromofluorobenzene	15.71	95	187389	51.35	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 142		Recovery = 102.70%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.89	85	101463	19.58	ug/kg	98
3) Chloromethane	6.36	50	110249	20.28	ug/kg	99
4) Vinyl Chloride	6.56	62	85788	20.37	ug/kg	96
5) Bromomethane	7.19	96	28127	12.59	ug/kg	96
6) Chloroethane	7.42	64	42669	19.23	ug/kg	99
7) Trichlorofluoromethane	7.69	101	85168	20.88	ug/kg	100
8) Trichlorotrifluoroethane	8.52	101	133314	51.55	ug/kg	99
9) acrolein	8.89	56	86415	121.66	ug/kg	98
10) Acetone	9.23	43	261169	281.90	ug/kg	98
11) 1,1-Dichloroethene	8.48	96	118632	49.91	ug/kg	99
12) 3-Chloropropene	9.08	76	80880	52.44	ug/kg	100
13) Acetonitrile	9.77	41	106740	274.09	ug/kg	97
14) Iodomethane	8.70	142	109164	31.76	ug/kg	100
15) Carbon disulfide	8.60	76	453823	56.08	ug/kg	100
16) Methylene Chloride	9.20	84	148395	48.20	ug/kg	100
17) Methyl tert-butyl ether	9.51	73	412289	52.38	ug/kg	99
18) Acrylonitrile	10.09	53	319587	192.59	ug/kg#	72
19) T-1,2-Dichloroethene	9.42	96	132097	51.65	ug/kg	99
20) Isopropyl Ether	9.89	45	690387	52.12	ug/kg	100
21) C-1,2-Dichloroethene	10.66	96	150017	54.20	ug/kg	99
22) 1,1-Dichloroethane	10.09	63	278049	51.40	ug/kg	100
23) Vinyl Acetate	10.28	43	442429	50.35	ug/kg	98
24) Chloroprene	10.09	88	120372	53.12	ug/kg	1
25) 2-Butanone	11.16	72	79759m	271.47	ug/kg	
26) Propionitrile	11.44	54	20314	45.78	ug/kg	100
27) 2,2-Dichloropropane	10.78	77	217288	52.63	ug/kg	100
28) Methacrylonitrile	11.48	67	61933	50.80	ug/kg	86
29) Chloroform	10.88	83	255547	51.16	ug/kg	95
31) Dibromofluoromethane	11.05	113	129676	48.04	ug/kg	100
32) Bromochloromethane	10.85	128	86958	52.50	ug/kg	98
33) 1,1,1-Trichloroethane	11.17	97	205463	52.06	ug/kg	99
34) 1,1-Dichloropropene	11.27	75	200537	51.87	ug/kg	99
35) Diethyl Ether	8.12	59	141906	50.64	ug/kg	98
36) Methyl Acetate	9.38	74	25307	47.71	ug/kg	97
37) Cyclohexane	10.94	56	248100	53.66	ug/kg	99
39) Methyl Cyclohexane	12.06	55	190278	53.07	ug/kg	99
40) Carbon Tetrachloride	11.13	117	210560	52.05	ug/kg	99
41) 1,2-Dichloroethane	11.65	62	216541	51.92	ug/kg	98
42) Benzene	11.51	78	527635	56.50	ug/kg#	50
43) Isobutyl Alcohol	11.53	43	166249	664.52	ug/kg#	1
44) Trichloroethene	12.03	130	151322	54.06	ug/kg	98
45) 1,2-Dichloropropane	12.47	63	158989	49.71	ug/kg	99
46) Methyl Methacrylate	12.56	100	44844	55.10	ug/kg	100
47) 1,4-Dioxane	12.68	88	23679	988.23	ug/kg	97
48) Bromodichloromethane	12.49	83	197648	52.97	ug/kg	100
49) Dibromomethane	12.40	93	99320	52.79	ug/kg	100
50) 4-Methyl-2-Pentanone	13.50	100	99128	257.15	ug/kg	93
51) 2-Chloroethyl vinyl ether	12.91	63	190991	232.18	ug/kg	99
52) 2-Hexanone	14.19	43	564717	241.72	ug/kg	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\030921\212CD013.D Vial: 13
Acq On : 9 Mar 2021 2:04 pm Operator: KG
Sample : AA65289-SCV1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 10 11:48 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Wed Mar 10 11:37:03 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.04	75	254362	49.79	ug/kg	98
55) D8-Toluene	13.22	98	414318	50.43	ug/kg	93
57) Toluene	13.27	92	320275	54.75	ug/kg	99
58) Ethyl Methacrylate	13.61	69	203404	49.28	ug/kg	99
59) T-1,3-Dichloropropene	13.55	75	231809	55.08	ug/kg	100
60) 1,1,2-Trichloroethane	13.71	97	118005	51.85	ug/kg	96
61) 1,3-Dichloropropane	13.97	76	243197	50.41	ug/kg	100
62) Tetrachloroethene	13.64	164	95727	53.90	ug/kg	99
63) Dibromochloromethane	13.91	129	174564	55.73	ug/kg	99
64) 1,2-Dibromoethane	14.17	107	148111	53.01	ug/kg	100
65) Chlorobenzene	14.61	112	349792	53.34	ug/kg	100
66) 1,1,1,2-Tetrachloroethane	14.64	131	141709	54.10	ug/kg	97
67) Ethylbenzene	14.57	106	184295	54.91	ug/kg	97
68) m-xylene & p-xylene	14.69	106	430965	104.98	ug/kg	100
69) O-Xylene	15.11	106	227451	56.25	ug/kg	98
70) Bromoform	15.23	173	95384	58.58	ug/kg	98
71) Styrene	15.14	104	379517	54.81	ug/kg	99
72) Isopropylbenzene	15.37	105	561483	55.42	ug/kg	100
73) 1,2,3-Trichloropropane	16.00	75	183209	50.51	ug/kg	100
74) 1,1,2,2-Tetrachloroethane	15.81	83	151382	51.71	ug/kg	99
76) Bromofluorobenzene	15.71	95	187389	51.35	ug/kg#	65
77) T-1,4-dichloro-2-butene	15.99	53	42194	44.53	ug/kg	90
78) N-Propylbenzene	15.78	91	638895	55.56	ug/kg	100
80) Bromobenzene	15.87	156	141510	54.19	ug/kg	100
81) 1,3,5-Trimethylbenzene	15.93	105	439785	54.69	ug/kg	100
82) 2-Chlorotoluene	16.02	91	381727	51.93	ug/kg	100
83) 4-Chlorotoluene	16.19	91	406683	53.42	ug/kg	99
84) 1,2,4-Trimethylbenzene	16.38	105	446194	54.88	ug/kg	99
85) s-Butylbenzene	16.51	105	528277	55.47	ug/kg	100
86) tert-Butylbenzene	16.32	119	394580	55.29	ug/kg	98
87) p-Isopropyltoluene	16.63	119	463619	54.66	ug/kg	100
88) 1,3-Dichlorobenzene	16.88	146	251664	55.54	ug/kg	99
89) 1,4-Dichlorobenzene	16.98	146	246025	52.21	ug/kg	99
90) 1,2-Dichlorobenzene	17.55	146	239735	55.52	ug/kg	100
91) N-Butylbenzene	17.15	91	395563	55.23	ug/kg	99
92) DBCP	18.66	75	27013	50.77	ug/kg	99
93) Naphthalene	20.65	128	242673	50.45	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.93	180	130949	58.29	ug/kg	99
95) Hexachlorobutadiene	19.80	225	56989	57.41	ug/kg	99
96) 1,2,3-Trichlorobenzene	21.09	180	102888	58.23	ug/kg	98

(#) = qualifier out of range (m) = manual integration

ENCO Orlando

SDG: AE02765-TE016

CLASS: 06_VOA_AIR_RSK

METHOD: RSK 175

ANALYSES DATA PACKAGE COVER PAGE

RSK 175

Laboratory: ENCO Orlando

SDG: AE02765-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-MW0031-058.0-20210414	AE02765-01
CRCA-MW0018-058.0-20210414	AE02765-02
CRCA-MW0018-058.0-20210414	AE02765-02RE1
CRCA-MW0018-058.0-20210414	AE02765-02RE2
CRCA-MW0019-058.0-20210414	AE02765-03
CRCA-MW0019-058.0-20210414	AE02765-03RE1
CRCA-MW0019-058.0-20210414	AE02765-03RE2

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0031-058.0-20210414

Laboratory: ENCO Orlando SDG: AE02765-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE02765-01 File ID: 21DP016.D

Sampled: 04/14/21 11:20 Prepared: 04/21/21 00:00 Analyzed: 04/21/21 13:26

Solids: Preparation: Same Initial/Final: 1 mL / 1 mL

Batch: 1D21012 Sequence: AA66018 Calibration: 2102005 Instrument: OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-82-8	Methane	1	0.370		0.00400	0.00500
74-85-1	Ethene	1	0.00510	U	0.00510	0.00600
74-84-0	Ethane	1	0.00510	U	0.00510	0.00600

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0018-058.0-20210414

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE02765-02RE1
File ID: 21DP024.D
Sampled: 04/14/21 12:30
Prepared: 04/21/21 00:00
Analyzed: 04/21/21 15:45
Solids:
Preparation: Same
Initial/Final: 1 mL / 1 mL
Batch: 1D21012
Sequence: AA66018
Calibration: 2102005
Instrument: OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-85-1	Ethene	1	0.0156		0.00510	0.00600
74-84-0	Ethane	1	0.00510	U	0.00510	0.00600

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0018-058.0-20210414

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Ground Water	Laboratory ID:	AE02765-02RE2	File ID:	21DP035.D
Sampled:	04/14/21 12:30	Prepared:	04/21/21 14:27	Analyzed:	04/21/21 19:30
Solids:		Preparation:	Same	Initial/Final:	1 mL / 1 mL

Batch:	1D21038	Sequence:	AA66036	Calibration:	2102005	Instrument:	OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-82-8	Methane	15	0.178	D	0.0600	0.0750

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0019-058.0-20210414

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE02765-03RE1
File ID: 21DP021.D
Sampled: 04/14/21 14:00
Prepared: 04/21/21 00:00
Analyzed: 04/21/21 14:45
Solids:
Preparation: Same
Initial/Final: 1 mL / 1 mL
Batch: 1D21012
Sequence: AA66018
Calibration: 2102005
Instrument: OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-85-1	Ethene	1	0.00510	U	0.00510	0.00600
74-84-0	Ethane	1	0.00510	U	0.00510	0.00600

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0019-058.0-20210414

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE02765-03RE2
File ID: 21DP022.D
Sampled: 04/14/21 14:00
Prepared: 04/21/21 00:00
Analyzed: 04/21/21 15:13
Solids:
Preparation: Same
Initial/Final: 1 mL / 1 mL
Batch: 1D21012
Sequence: AA66018
Calibration: 2102005
Instrument: OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-82-8	Methane	7	0.386	D	0.0280	0.0350

* Values outside of QC limits

HOLDING TIME SUMMARY

RSK 175

Laboratory: ENCO Orlando

SDG: AE02765-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-MW0031-058.0-20210414	04/14/21 11:20	04/16/21 14:16	04/21/21 00:00	6.53	NA	04/21/21 13:26	7.00	14.00	
CRCA-MW0018-058.0-20210414	04/14/21 12:30	04/16/21 14:16	04/21/21 00:00	6.48	NA	04/21/21 15:45	7.00	14.00	
CRCA-MW0018-058.0-20210414	04/14/21 12:30	04/16/21 14:16	04/21/21 14:27	7.08	NA	04/21/21 19:30	7.00	14.00	
CRCA-MW0019-058.0-20210414	04/14/21 14:00	04/16/21 14:16	04/21/21 00:00	6.42	NA	04/21/21 14:45	7.00	14.00	
CRCA-MW0019-058.0-20210414	04/14/21 14:00	04/16/21 14:16	04/21/21 00:00	6.42	NA	04/21/21 15:13	7.00	14.00	

PREPARATION BATCH SUMMARY

RSK 175

Laboratory: ENCO Orlando SDG: AE02765-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1D21012 Batch Matrix: Water Preparation: Same

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1D21012-BLK1	21DP003.D	04/21/21 00:00	
LCS	1D21012-BS1	21DP001.D	04/21/21 00:00	
LCS Dup	1D21012-BSD1	21DP002.D	04/21/21 00:00	
CE04807-01 (GW-12S)	1D21012-DUP1	21DP025.D	04/21/21 00:00	
CRCA-MW0031-058.0-20210414	AE02765-01	21DP016.D	04/21/21 00:00	
CRCA-MW0018-058.0-20210414	AE02765-02RE1	21DP024.D	04/21/21 00:00	
CRCA-MW0019-058.0-20210414	AE02765-03RE1	21DP021.D	04/21/21 00:00	
CRCA-MW0019-058.0-20210414	AE02765-03RE2	21DP022.D	04/21/21 00:00	

PREPARATION BATCH SUMMARY

RSK 175

Laboratory: ENCO Orlando SDG: AE02765-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1D21038 Batch Matrix: Water Preparation: Same

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1D21038-BLK1	21DP030.D	04/21/21 14:27	
LCS	1D21038-BS1	21DP028.D	04/21/21 14:27	
LCS Dup	1D21038-BSD1	21DP029.D	04/21/21 14:27	
CE05720-03 (GW-14I (MS/MSD))	1D21038-DUP1	21DP051.D	04/21/21 14:27	
CRCA-MW0018-058.0-20210414	AE02765-02RE2	21DP035.D	04/21/21 14:27	

METHOD BLANK DATA SHEET
RSK 175

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1D21012-BLK1	File ID:	21DP003.D
Prepared:	04/21/21 00:00	Preparation:	Same	Initial/Final:	1 mL / 1 mL
Analyzed:	04/21/21 10:00	Instrument:	OVGCFID2		
Batch:	1D21012	Sequence:	AA66018	Calibration:	2102005

CAS NO.	COMPOUND	CONC. (mg/L)	Q
74-82-8	Methane	0.00400	U
74-85-1	Ethene	0.00510	U
74-84-0	Ethane	0.00510	U

METHOD BLANK DATA SHEET
RSK 175

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1D21038-BLK1	File ID:	21DP030.D
Prepared:	04/21/21 14:27	Preparation:	Same	Initial/Final:	1 mL / 1 mL
Analyzed:	04/21/21 18:10	Instrument:	OVGCFID2		
Batch:	1D21038	Sequence:	AA66036	Calibration:	2102005

CAS NO.	COMPOUND	CONC. (mg/L)	Q
74-82-8	Methane	0.00400	U
74-85-1	Ethene	0.00510	U
74-84-0	Ethane	0.00510	U

LCS / LCS DUPLICATE RECOVERY

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1D21012	Laboratory ID:	1D21012-BS1
Preparation:	Same	Initial/Final:	1 mL / 1 mL

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC. #	QC LIMITS REC.
Methane	0.172	0.177	103	70 - 130
Ethene	0.302	0.317	105	70 - 130
Ethane	0.323	0.326	101	70 - 130

COMPOUND	SPIKE ADDED (mg/L)	LCSD CONCENTRATION (mg/L)	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Methane	0.172	0.172	100	3	30	70 - 130
Ethene	0.302	0.312	103	2	30	70 - 130
Ethane	0.323	0.316	98	3	30	70 - 130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

LCS / LCS DUPLICATE RECOVERY

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1D21038	Laboratory ID:	1D21038-BS1
Preparation:	Same	Initial/Final:	1 mL / 1 mL

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC. #	QC LIMITS REC.
Methane	0.172	0.178	104	70 - 130
Ethene	0.302	0.317	105	70 - 130
Ethane	0.323	0.325	101	70 - 130

COMPOUND	SPIKE ADDED (mg/L)	LCSD CONCENTRATION (mg/L)	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Methane	0.172	0.178	103	0.2	30	70 - 130
Ethene	0.302	0.321	106	1	30	70 - 130
Ethane	0.323	0.325	101	0.04	30	70 - 130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

DUPLICATES

RSK 175

CE04807-01 (GW-12S)

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Water
Laboratory ID: 1D21012-DUP1
Batch: 1D21012
Lab Source ID: AE03147-01RE1
Preparation: Same
Initial/Final: 1 mL / 1 mL
Source Sample Name: CE04807-01 (GW-12S)
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/L)	C	DUPLICATE CONCENTRATION (mg/L)	C	RPD %	Q	METHOD
Methane	30	0.586		0.663		12		RSK 175
Ethene	30	0.00		ND				RSK 175
Ethane	30	0.00		ND				RSK 175

* Values outside of QC limits

DUPLICATES

RSK 175

CE05720-03 (GW-14I (MS/MSD))

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Water
Laboratory ID: 1D21038-DUP1
Batch: 1D21038
Lab Source ID: AE03290-03RE1
Preparation: Same
Initial/Final: 1 mL / 1 mL
Source Sample Name: CE05720-03 (GW-14I (MS/MSD))
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/L)	C	DUPLICATE CONCENTRATION (mg/L)	C	RPD %	Q	METHOD
Methane	30	0.0351		0.0146		83	*	RSK 175
Ethene	30	0.00146		ND				RSK 175
Ethane	30	0.00		ND				RSK 175

* Values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64746		
Calibration:	2102005	Instrument:	OVGCFID2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	AA64746-CAL8	21B1014.D	02/01/21 14:12
Cal Standard	AA64746-CAL9	21B1015.D	02/01/21 14:27
Cal Standard	AA64746-CALB	21B1017.D	02/01/21 14:59
Cal Standard	AA64746-CALC	21B1018.D	02/01/21 15:15
Cal Standard	AA64746-CALD	21B1019.D	02/01/21 15:31
Cal Standard	AA64746-CALE	21B1020.D	02/01/21 15:47
Cal Standard	AA64746-CALA	21B1022.D	02/01/21 16:18
Secondary Cal Check	AA64746-SCV1	21B1023.D	02/01/21 17:03

ANALYSIS BATCH (SEQUENCE) SUMMARY

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA66018		
Calibration:	2102005	Instrument:	OVGCFID2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA66018-CCV1	21DO053.D	04/21/21 08:54
LCS	1D21012-BS1	21DP001.D	04/21/21 09:22
LCS Dup	1D21012-BSD1	21DP002.D	04/21/21 09:37
Blank	1D21012-BLK1	21DP003.D	04/21/21 10:00
CRCA-MW0031-058.0-20210414	AE02765-01	21DP016.D	04/21/21 13:26
CRCA-MW0019-058.0-20210414	AE02765-03RE1	21DP021.D	04/21/21 14:45
CRCA-MW0019-058.0-20210414	AE02765-03RE2	21DP022.D	04/21/21 15:13
CRCA-MW0018-058.0-20210414	AE02765-02RE1	21DP024.D	04/21/21 15:45
CE04807-01 (GW-12S)	1D21012-DUP1	21DP025.D	04/21/21 16:17
Calibration Check	AA66018-CCV2	21DP026.D	04/21/21 16:40

ANALYSIS BATCH (SEQUENCE) SUMMARY

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA66036		
Calibration:	2102005	Instrument:	OVGCFID2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA66036-CCV1	21DP026.D	04/21/21 16:40
LCS	1D21038-BS1	21DP028.D	04/21/21 17:29
LCS Dup	1D21038-BSD1	21DP029.D	04/21/21 17:45
Blank	1D21038-BLK1	21DP030.D	04/21/21 18:10
CRCA-MW0018-058.0-20210414	AE02765-02RE2	21DP035.D	04/21/21 19:30
CE05720-03 (GW-14I (MS/MSD))	1D21038-DUP1	21DP051.D	04/22/21 09:35
Calibration Check	AA66036-CCV3	21DP052.D	04/22/21 09:57

CONTINUING CALIBRATION CHECK

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCFID2	Calibration:	2102005
Lab File ID:	21DO053.D	Calibration Date:	02/01/21 15:19
Sequence:	AA66018	Injection Date:	04/21/21
Lab Sample ID:	AA66018-CCV1	Injection Time:	08:54

		CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Methane	A	0.174	0.170	1.362132E+08	1.170426E+08		-2.4	20
Ethene	A	0.302	0.305	7.977246E+07	8.051781E+07		0.90	20
Ethane	A	0.323	0.310	1.170026E+08	1.121379E+08		-4.2	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

CONTINUING CALIBRATION CHECK

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCFID2	Calibration:	2102005
Lab File ID:	21DP026.D	Calibration Date:	02/01/21 15:19
Sequence:	AA66018	Injection Date:	04/21/21
Lab Sample ID:	AA66018-CCV2	Injection Time:	16:40

		CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Methane	A	0.174	0.166	1.362132E+08	1.141416E+08		-4.8	20
Ethene	A	0.302	0.296	7.977246E+07	7.807344E+07		-2.1	20
Ethane	A	0.323	0.299	1.170026E+08	1.082784E+08		-7.5	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

CONTINUING CALIBRATION CHECK

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCFID2	Calibration:	2102005
Lab File ID:	21DP026.D	Calibration Date:	02/01/21 15:19
Sequence:	AA66036	Injection Date:	04/21/21
Lab Sample ID:	AA66036-CCV1	Injection Time:	16:40

		CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Methane	A	0.174	0.166	1.362132E+08	1.141416E+08		-4.8	20
Ethene	A	0.302	0.296	7.977246E+07	7.807344E+07		-2.1	20
Ethane	A	0.323	0.299	1.170026E+08	1.082784E+08		-7.5	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

CONTINUING CALIBRATION CHECK

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCFID2	Calibration:	2102005
Lab File ID:	21DP052.D	Calibration Date:	02/01/21 15:19
Sequence:	AA66036	Injection Date:	04/22/21
Lab Sample ID:	AA66036-CCV3	Injection Time:	09:57

		CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Methane	A	0.174	0.164	1.362132E+08	1.131614E+08		-5.6	20
Ethene	A	0.302	0.299	7.977246E+07	7.892318E+07		-1.1	20
Ethane	A	0.323	0.300	1.170026E+08	1.085095E+08		-7.3	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64746	Instrument:	OVGCFID2
Calibration:	2102005		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A1B0547	RSK175-Cal 1 02/01/2021	AA64746-CAL8	21B1014.D	02/01/21 14:12
A1B0548	RSK175-Cal 2 02/01/2021	AA64746-CAL9	21B1015.D	02/01/21 14:27
A1B0550	RSK175-Cal 4 02/01/2021	AA64746-CALB	21B1017.D	02/01/21 14:59
A1B0551	RSK175-Cal 5 02/01/2021	AA64746-CALC	21B1018.D	02/01/21 15:15
A1B0552	RSK175-Cal 6 02/01/2021	AA64746-CALD	21B1019.D	02/01/21 15:31
A1B0553	RSK175-Cal 7 02/01/2021	AA64746-CALE	21B1020.D	02/01/21 15:47
A1B0549	RSK175-Cal 3 02/01/2021	AA64746-CALA	21B1022.D	02/01/21 16:18
A1A0933	RSK175- SCV/BS water CO2 and MEE	AA64746-SCV1	21B1023.D	02/01/21 17:03

INITIAL CALIBRATION DATA

RSK 175

Laboratory: ENCO Orlando

SDG: AE02765-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Calibration: 2102005

Instrument: OVGCFID2

Matrix: Water

Calibration Date: 02/01/21 15:19

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Methane												
Ethene												
Ethane												

INITIAL CALIBRATION DATA (Continued)

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Calibration:	2102005	Instrument:	OVGCFID2
Matrix:	Water	Calibration Date:	02/01/21 15:19

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Methane			0.000869	2.083245E+08	0.00869	1.311052E+08	0.0348	1.235944E+08	0.0869	1.272044E+08	0.174	1.263457E+08
Ethene			0.00151	5.315364E+07	0.0151	8.579782E+07	0.0603	8.372541E+07	0.151	8.751709E+07	0.302	8.48997E+07
Ethane			0.00161	1.263348E+08	0.0161	1.172619E+08	0.0646	1.169587E+08	0.161	1.212085E+08	0.323	1.152432E+08

INITIAL CALIBRATION DATA

RSK 175

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2102005
Instrument: OVGCFID2
Matrix: Water
Calibration Date: 02/01/21 15:19

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Methane	0.348	1.167678E+08	0.695	1.201502E+08								
Ethene	0.603	8.025572E+07	1.21	8.305785E+07								
Ethane	0.646	1.092976E+08	1.29	1.127132E+08								

INITIAL CALIBRATION DATA (Continued)

RSK 175

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2102005
Instrument: OVGCFID2
Matrix: Water
Calibration Date: 02/01/21 15:19

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Methane	1.362132E+08	23.59947	1.965429	4.209304E-02	0.9994672		0.99	
Ethene	7.977246E+07	14.9886	3.742286	0.1553695			20	
Ethane	1.170026E+08	4.754952	4.669571	0.2502584			20	

SECOND-SOURCE CALIBRATION VERIFICATION

RSK 175

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2102005
Laboratory ID: AA64746-SCV1
Sequence: AA64746
Standard ID: A1A0933

ANALYTE	EXPECTED (mg/L)	FOUND (mg/L)	% DRIFT	QC LIMIT
Ethene	0.302	0.315	4.2	25.00
Ethane	0.323	0.312	-3.4	25.00
Methane	0.172	0.171	-0.7	25.00

* Values outside of QC limits

ANALYSIS SEQUENCE

AA66018

Instrument: OVGCFID2

Calibration ID: 2102005

Printed: 4/21/2021 6:19:41PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA66018-CCV1	QC		1	25	A0L0956			
1D21012-BS1	QC		2	1				
1D21012-BSD1	QC		3	2				
1D21012-BLK1	QC		4	3				
AE03029-05RE2	RSK175	D	5	4				RR @1x bad injection jmw 4/21/21
AE03028-03RE2	RSK175	D	6	5				RR @30x Methane jmw 4/21/21
AE03124-06RE1	RSK175	B	7	6				RR @1x bad injection jmw 4/21/21
AE03147-03RE1	RSK175	C	8	7				RR @1x bad injection jmw 4/21/21
AE03183-04RE1	RSK175	C	9	8				RR @1x bad injection jmw 4/21/21
AE03147-01RE1	RSK175	C	10	9				RR @7x Methane jmw 4/21/21
AE03147-02RE1	RSK175	C	11	10				RR @70x Methane jmw 4/21/21
AE03147-04RE1	RSK175	C	12	11				RR @52x Methane jmw 4/21/21
AE03147-06RE1	RSK175	C	13	12				RR @70x Methane, Ethene jmw 4/21/2
AE03183-01RE1	RSK175	C	14	13				RR @105x Methane jmw 4/21/21
AE03183-04RE2	RSK175	D	15	14				RR @1x Bad injection jmw 4/21/21
AE03147-03RE2	RSK175	D	16	15				RR @105x Methane jmw 4/21/21
AE02765-01	RSK175	A	17	16			Tetra Tech, Inc. (TE016)	CLP like need raw data
AE02765-02	RSK175	A	18	17			Tetra Tech, Inc. (TE016)	CLP like need raw data
AE02765-03	RSK175	A	19	18			Tetra Tech, Inc. (TE016)	CLP like need raw data
AE03183-04RE3	RSK175	C	20	19				RR @105x Methane jmw 4/21/21
AE02765-02RE1	RSK175	B	21	24			Tetra Tech, Inc. (TE016)	RR @1x bad injection jmw 4/21/21
AE02765-03RE1	RSK175	B	22	21			Tetra Tech, Inc. (TE016)	RR @1x bad injection jmw 4/21/21
AE02765-03RE2	RSK175	C	23	22			Tetra Tech, Inc. (TE016)	RR @7x Methane jmw 4/21/21

JMW — Samples Loaded By — 4/21/2021 — Date

JMW — Data Processed By — 4/21/2021 — Date

ANALYSIS SEQUENCE

AA66018

Instrument: OVGCFID2

Calibration ID: 2102005

Printed: 4/21/2021 6:19:41PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AE03183-05	RSK175	A	24	23			ENCO Cary	Sub to ORL CLP-Like
1D21012-DUP1	QC		25	25				
AA66018-CCV2	QC		26	26	A0L0956			

JMW — Samples Loaded By

4/21/2021 ~~4/20/2021~~ JMW 4/21/21 — Date

JMW — Data Processed By

4/21/2021 — Date

PREPARATION BENCH SHEET

Printed: 4/21/2021 6:19:58PM

1D21012

ENCO Orlando

Analysis
RSK175 [RSK 175]

Surrogate Solution
—

Spiking Solution
A1A0933 RSK175- SCV/BS water CO2 and MEE

Prepared using: Same

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
1D21012-BLK1		Blank		QC			1	1				
1D21012-BS1		LCS		QC			1	1	A1A0933	1000		
1D21012-BSD1		LCS Dup		QC			1	1	A1A0933	1000		
1D21012-DUP1		Duplicate [AE03147-01RE1]		QC			1	1				
AE02765-01	C	CRCA-MW0031-058.0-202104[illegible]R12]	23-Apr-21	RSK175			1	1				CLP like need raw data
AE02765-02	C	CRCA-MW0018-058.0-202104[illegible]R12]	23-Apr-21	RSK175			1	1				CLP like need raw data
AE02765-02RE1	C	CRCA-MW0018-058.0-202104[illegible]R12]	23-Apr-21	RSK175			1	1				RR @1x bad injection jmw 4/21/21
AE02765-03	C	CRCA-MW0019-058.0-202104[illegible]R12]	23-Apr-21	RSK175			1	1				CLP like need raw data
AE02765-03RE1	C	CRCA-MW0019-058.0-202104[illegible]R12]	23-Apr-21	RSK175			1	1				RR @1x bad injection jmw 4/21/21
AE02765-03RE2	C	CRCA-MW0019-058.0-202104[illegible]R12]	23-Apr-21	RSK175			1	1				RR @7x Methane jmw 4/21/21
AE03028-03RE2	C	CE05350-03 (W-1) D[R8]	20-Apr-21	RSK175			1	1				RR @30x Methane jmw 4/21/21
AE03029-05RE2	C	CE04808-05 (IW-08D) D[R8]	20-Apr-21	RSK175			1	1				RR @1x bad injection jmw 4/21/21
AE03124-06RE1	C	CE05527-11 (Trip Blank 2) B[R9]	23-Apr-21	RSK175			1	1				RR @1x bad injection jmw 4/21/21
AE03147-01RE1	C	CE04807-01 (GW-12S) C[R9]	23-Apr-21	RSK175			1	1				RR @7x Methane jmw 4/21/21
AE03147-02RE1	C	CE04807-02 (P-4) C[R9]	23-Apr-21	RSK175			1	1				RR @70x Methane jmw 4/21/21
AE03147-03RE1	C	CE04807-03 (IW-12) C[R9]	23-Apr-21	RSK175			1	1				RR @1x bad injection jmw 4/21/21
AE03147-03RE2	C	CE04807-03 (IW-12) D[R9]	23-Apr-21	RSK175			1	1				RR @105x Methane jmw 4/21/21
AE03147-04RE1	C	CE04807-04 (IW-14) C[R9]	23-Apr-21	RSK175			1	1				RR @52x Methane jmw 4/21/21
AE03147-06RE1	C	CE04807-06 (GW-22S DUP) C[R9]	23-Apr-21	RSK175			1	1				RR @70x Methane, Ethene jmw 4/21/21
AE03183-01RE1	C	CE05668-01 (BR-3) C[R10]	26-Apr-21	RSK175			1	1				RR @105x Methane jmw 4/21/21
AE03183-04RE1	C	CE05668-07 (IW-07) C[R10]	26-Apr-21	RSK175			1	1				RR @1x bad injection jmw 4/21/21

JMW 4/21/21

PREPARATION BENCH SHEET

Printed: 4/21/2021 6:19:58PM

1D21012

ENCO Orlando

Prepared using: Same

Surrogate Solution

—

Spiking Solution

A1A0933 **RSK175- SCV/BS water CO2 and MEE**

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
AE03183-04RE2	C	CE05668-07 (IW-07) D[R10]	26-Apr-21	RSK175			1	1				RR @1x Bad injection jmw 4/21/21
AE03183-04RE3	C	CE05668-07 (IW-07) C[R10]	26-Apr-21	RSK175	JMW 4/21/21		1	1				RR @105x Methane jmw 4/21/21
AE03183-05	C	CE05668-08 (IW-10) A[C37]	26-Apr-21	RSK175			1	1				Sub to ORL CLP-Like

(1) Before solvent extraction proceeds, verify that there is no residual chlorine above 0.5 mg/L. Any sample above this must be treated to remove excess chlorine before extraction, and this documented as a comment.

JMW 4/21/21

Start Date ~~4/20~~ 4/21/2021

StopDate 4/21/2021

Instrument ID OVGCFID2

Standard ID#	Description	Manufacture Lot#

JMW 4/21/2021

Samples Prepared By Date

Samples Prepared By Date

VOLATILES GC/MS LOGBOOK (EPA Method 624.1 / SW-846 Method 8260D)

Tune Start Date: 4/21/2021
Sequence: AA66018
Batch: ID21012
Method: BSK
Analyst: JMW
Instrument EM Voltage: N/A

Surrogate: N/A
Internal: N/A
LCS Mix 2°: N/A AIA0923
LCS Acrolein 2°: N/A
LCS Gas 2°: N/A

8260 Mix: N/A
8260 Add: N/A
8260 Ac/Ac: N/A AOL0607
8260 Gases: N/A
Instrument #: OVGCFID2

21DP Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)	Comments	LIMS
21D0053	AA66018-CCV1			25			✓	✓
001	ID21012-BS1			1			✓	✓
002	ID21012-BSD1		JMW 4/21/21	2			✓	✓
003	ID21012-BLK1			3			✓	✓
004	AE03029-05RE2	D	1	4			✓ Matrix confirm	✓
005	AE03028-03RE2	D	30	5			✓	✓
006	AE03124-06RE1	B	1	6			✓ H.S.	✓
007	AE03147-03RE1	C	1	7			✓ RR@105x Methane	✓
008	AE03183-04RE1	C	1	8			✓ RR@1x Bad injection, Matrix	✓
009	AE03147-01RE1	C	7	9			✓ Dup1	✓
010	AE03147-02RE1	C	70	10			✓	✓
011	AE03147-04RE1	C	52	11			✓	✓
012	AE03147-06RE1	C	70	12			✓	✓
013	AE03183-01RE1	C	105	13			✓	✓
014	AE03183-04RE2	D	1	14			✓ RR@105x Methane	✓
015	AE03147-03RE2	D	105	15			✓	✓
016	AE02765-01	A	1	16			✓	✓
017	AE02765-02	A	1	17			✓ RR; Bad injection	✓
018	AE02765-03	A	1	18			✓ RR; Bad injection	✓
019	AE03183-04RE3	C	105	19	JMW 4/21/21		✓ H.S.	✓
024 ~~020~~	AE02765-02RE1	B	1	2024			✓ ~~Dup~~ JMW 4/21/21 RR@15x Methane	

JMW 4/21/21 (Vial #)
JMW 4/21/21 (Pos.)

Tune Start Date:
Sequence:
Batch:
Method:
Analyst:
Instrument ~~EM Voltage~~:

Surrogate:
~~Internal~~:
LCS Mix 2^0:
LCS Acrolein 2^0:
LCS Gas 2^0:
See page 144 JMW 4/21/21

8260 Mix:
8260 Add:
8260 Ac/Ac:
8260 Gases:
Instrument #: OVGCFID2

21DP Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)	Comments	LIMS
021	AE02765-03RE1	B	1	21			✓RR @ 7x Methane	✓
022	AE02765-03RE2	C	7	22			✓~~RR @ 105x Methane~~	✓
023	AE03183-05	A	1	23			✓RR @ 105x Methane	✓
024	ID21012-DUP1	C	1	24			Methane ↑, Pick new Dup source	✓
025	ID21012-DUP1	D	7	25	JMW 4/21/21		✓	✓
026	AA66018-CCV2	JMW 4/21/21		26			✓	✓

JMW 4/21/21

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042021\
Data File : 21DO053.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 21 Apr 2021 8:54 am
Operator : JMW
Sample : AA66009-CCV2
Misc :
ALS Vial : 25 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 21 08:59:52 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.685	2.770	632415	7639	0.998789	NoCal	#
2)	Methane	0.000	1.967	0	20365424	N.D.	0.169860	#
3)	Ethene	3.713	3.743	1198015	24316379	NoCal	0.304825	#
4)	Ethyne	4.377	4.410	225083	5025521	NoCal	NoCal	
5)	Ethane	4.639f	4.668	1886433	36220534	NoCal	0.309561	#

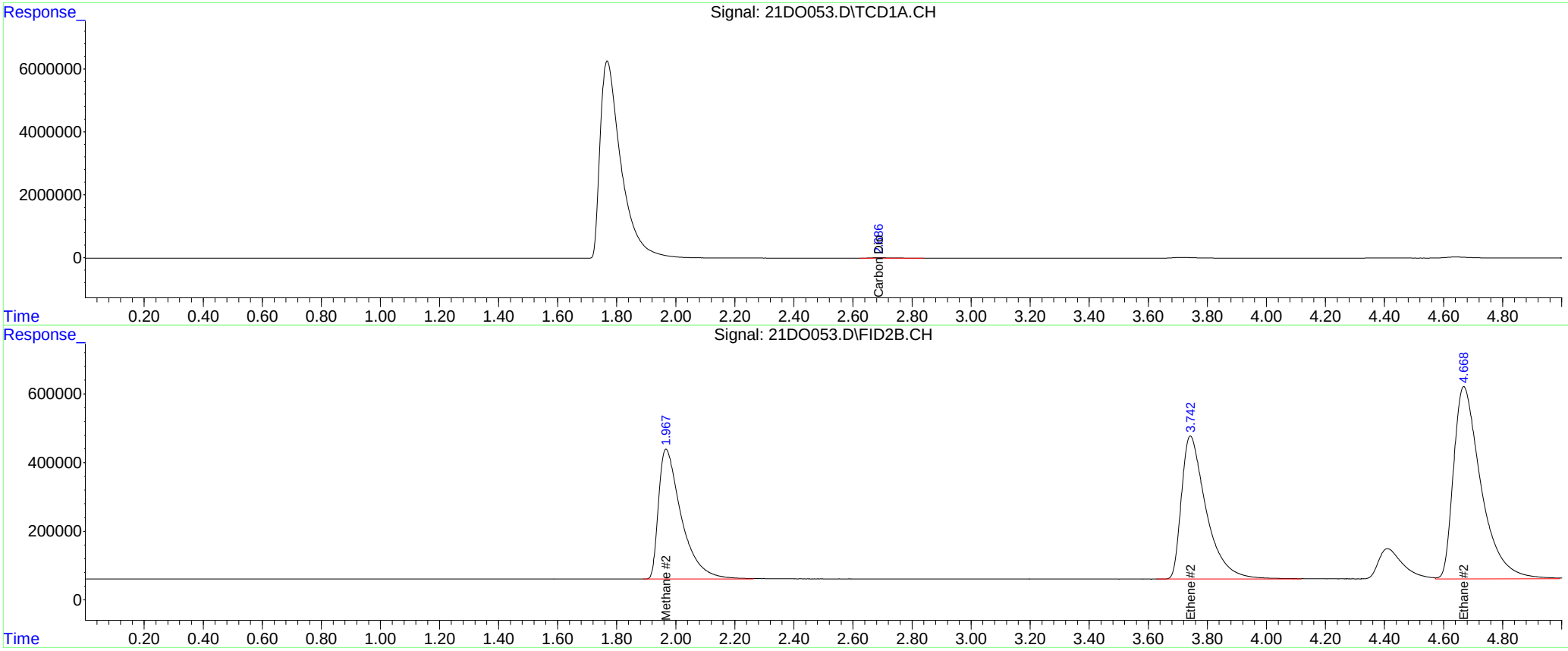
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042021\
Data File : 21DO053.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 21 Apr 2021 8:54 am
Operator : JMW
Sample : AA66009-CCV2
Misc :
ALS Vial : 25 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 21 08:59:52 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP001.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 21 Apr 2021 9:22 am
Operator : JMW
Sample : 1D21012-BS1
Misc :
ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 21 09:32:12 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.670	2.755	27789158	6169	43.888111	NoCal	#
2)	Methane	0.000	1.967	0	21224220	N.D.	0.177022	#
3)	Ethene	3.713	3.742	1213285	25296296	NoCal	0.317109	#
4)	Ethyne	4.384	4.410	256312	5097633	NoCal	NoCal	
5)	Ethane	4.640	4.668	2129390	38136785	NoCal	0.325939	#

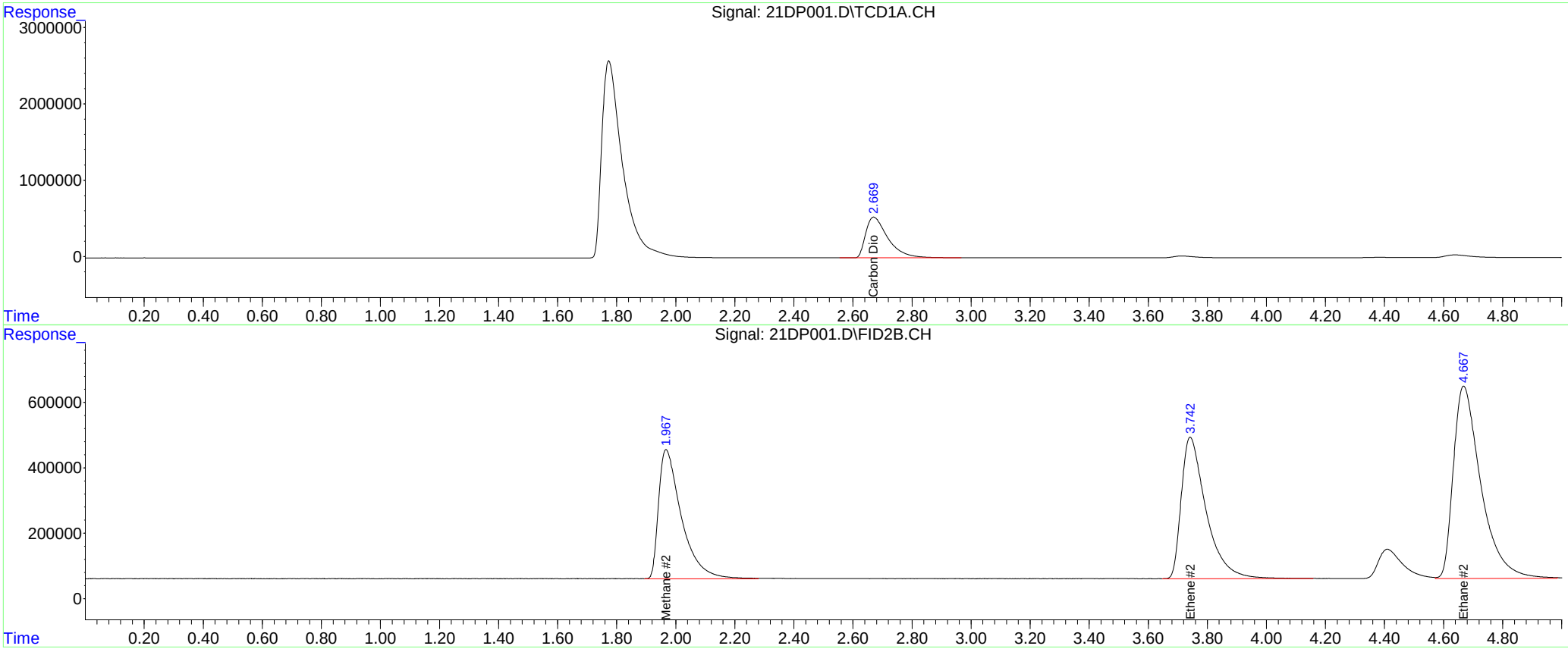
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP001.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 21 Apr 2021 9:22 am
Operator : JMW
Sample : 1D21012-BS1
Misc :
ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 21 09:32:12 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP002.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 21 Apr 2021 9:37 am
Operator : JMW
Sample : 1D21012-BSD1
Misc :
ALS Vial : 2 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 21 09:43:12 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.671	2.792	27712895	13666	43.767667	NoCal	#
2)	Methane	0.000	1.967	0	20591861	N.D.	0.171748	#
3)	Ethene	3.712	3.742	1187063	24863181	NoCal	0.311680	#
4)	Ethyne	4.378	4.410	273036	5051886	NoCal	NoCal	
5)	Ethane	4.639	4.668	2081392	36989108	NoCal	0.316130	#

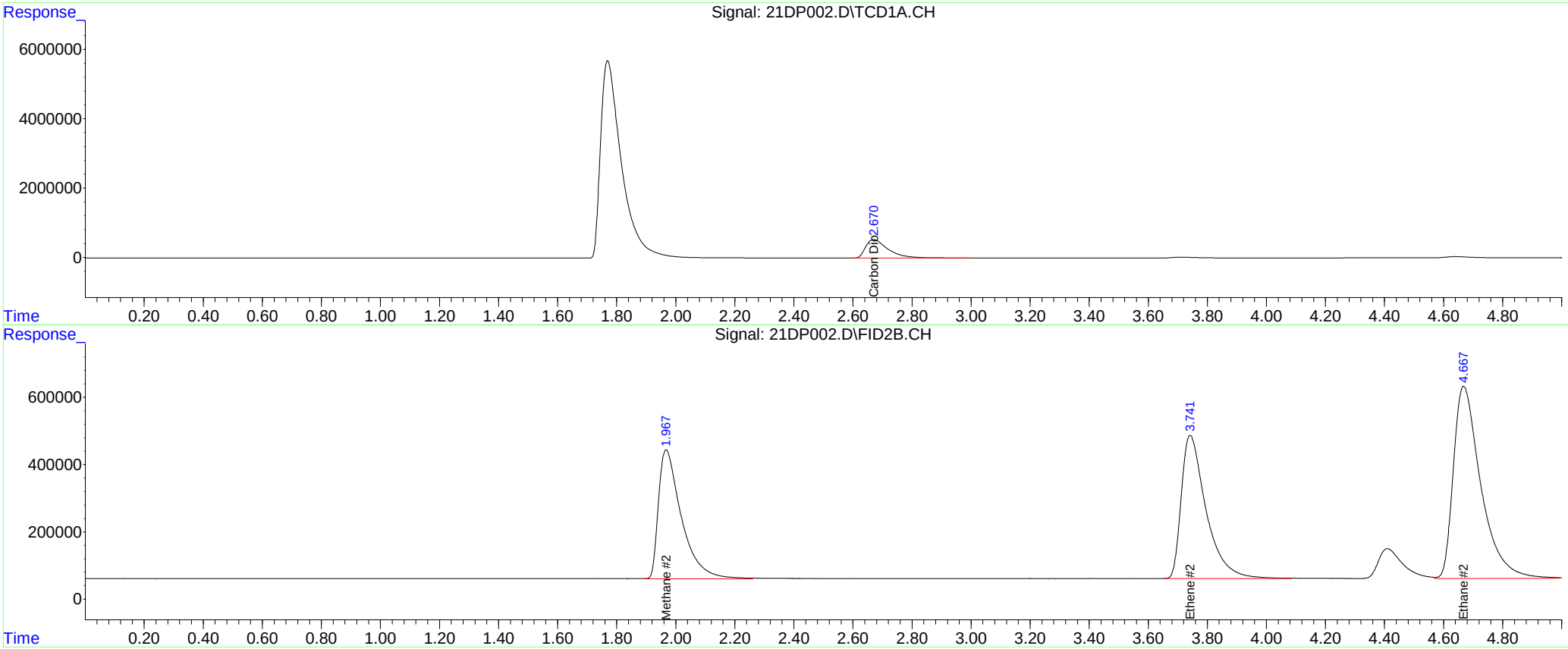
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP002.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 21 Apr 2021 9:37 am
Operator : JMW
Sample : 1D21012-BSD1
Misc :
ALS Vial : 2 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 21 09:43:12 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP003.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 21 Apr 2021 10:00 am
Operator : JMW
Sample : 1D21012-BLK1
Misc :
ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 21 10:18:53 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.688	2.808	215369	16453	0.340138	NoCal	#
2)	Methane	0.000	1.951f	0	6289	N.D.	0.000052	#
3)	Ethene	0.000	0.000	0	0	N.D.	N.D.	
4)	Ethyne	4.392	0.000	53709	0	NoCal	N.D.	
5)	Ethane	4.662	4.684	4673	7696	NoCal	0.000066	#

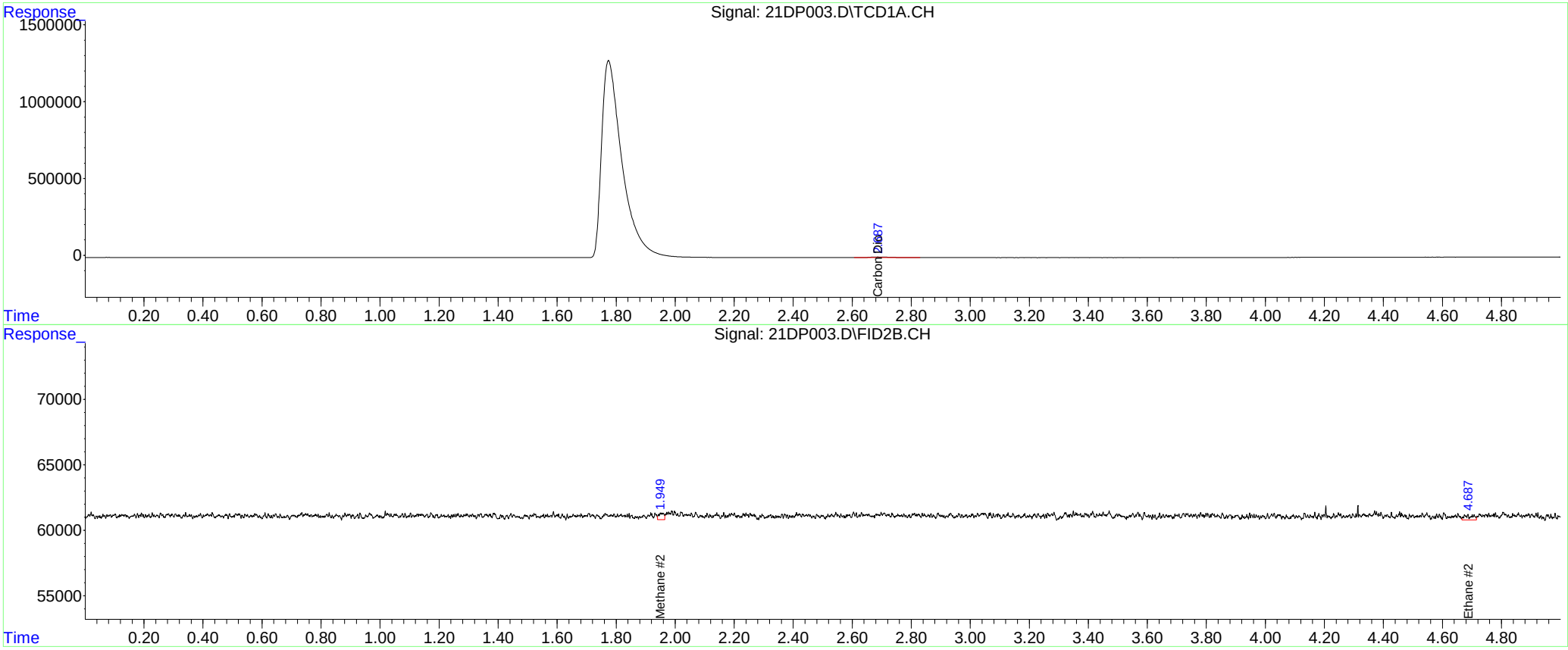
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP003.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 21 Apr 2021 10:00 am
Operator : JMW
Sample : 1D21012-BLK1
Misc :
ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 21 10:18:53 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP009.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 21 Apr 2021 11:35 am
Operator : JMW
Sample : AE03147-01RE1
Misc : 7
ALS Vial : 9 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 21 11:40:42 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.661	2.791	47389943	9544	74.844120	NoCal	#
2)	Methane	0.000	1.966	0	10030030	N.D.	0.083656	#
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	4.395	4.408	9158	3759	NoCal	NoCal	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

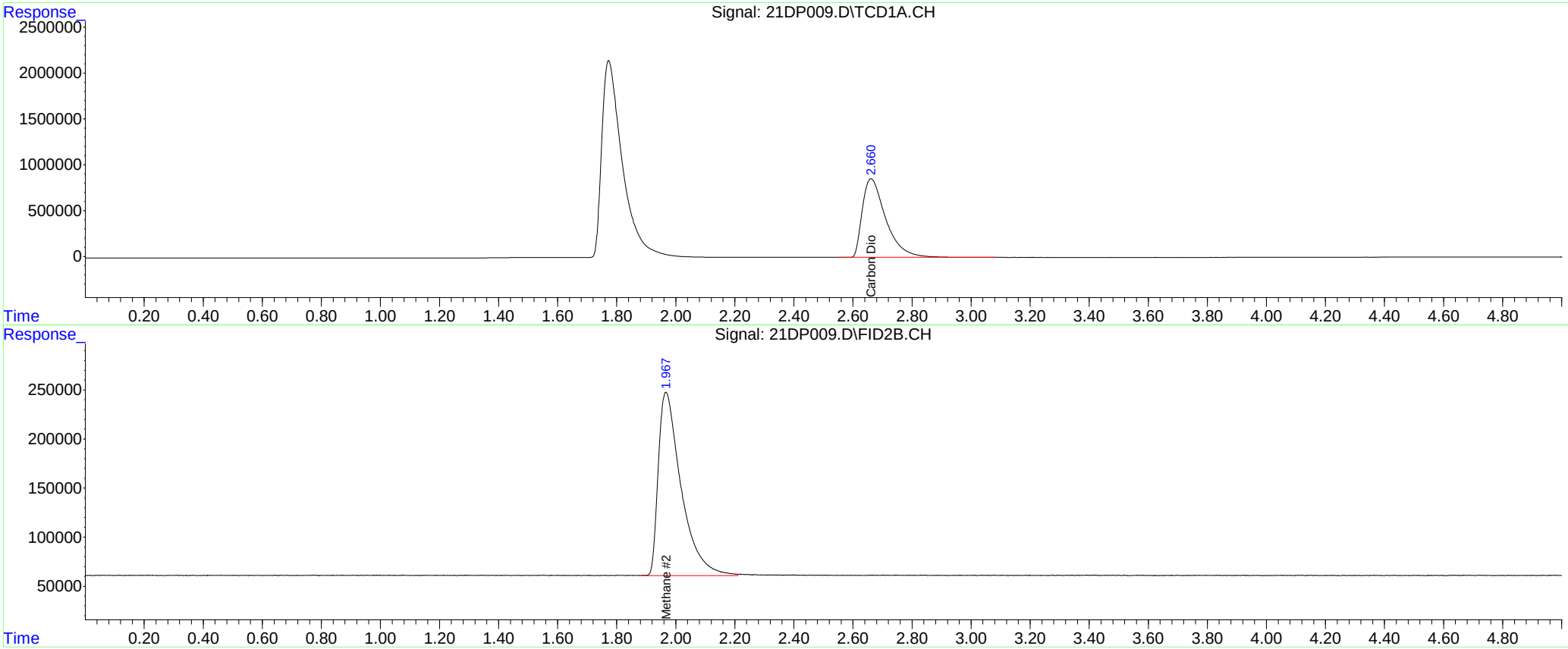
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP009.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 21 Apr 2021 11:35 am
Operator : JMW
Sample : AE03147-01RE1
Misc : 7
ALS Vial : 9 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 21 11:40:42 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP016.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 21 Apr 2021 1:26 pm
Operator : JMW
Sample : AE02765-01
Misc :
ALS Vial : 16 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 21 13:32:57 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.674	2.802	7503290	7582	11.850134	NoCal	#
2)	Methane	1.927f	1.961	3930733	44338448	NoCal	0.369809	#
3)	Ethene	3.707	3.736	14072	324613	NoCal	0.004069	#
4)	Ethyne	4.373f	4.416	90153	4475	NoCal	NoCal	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

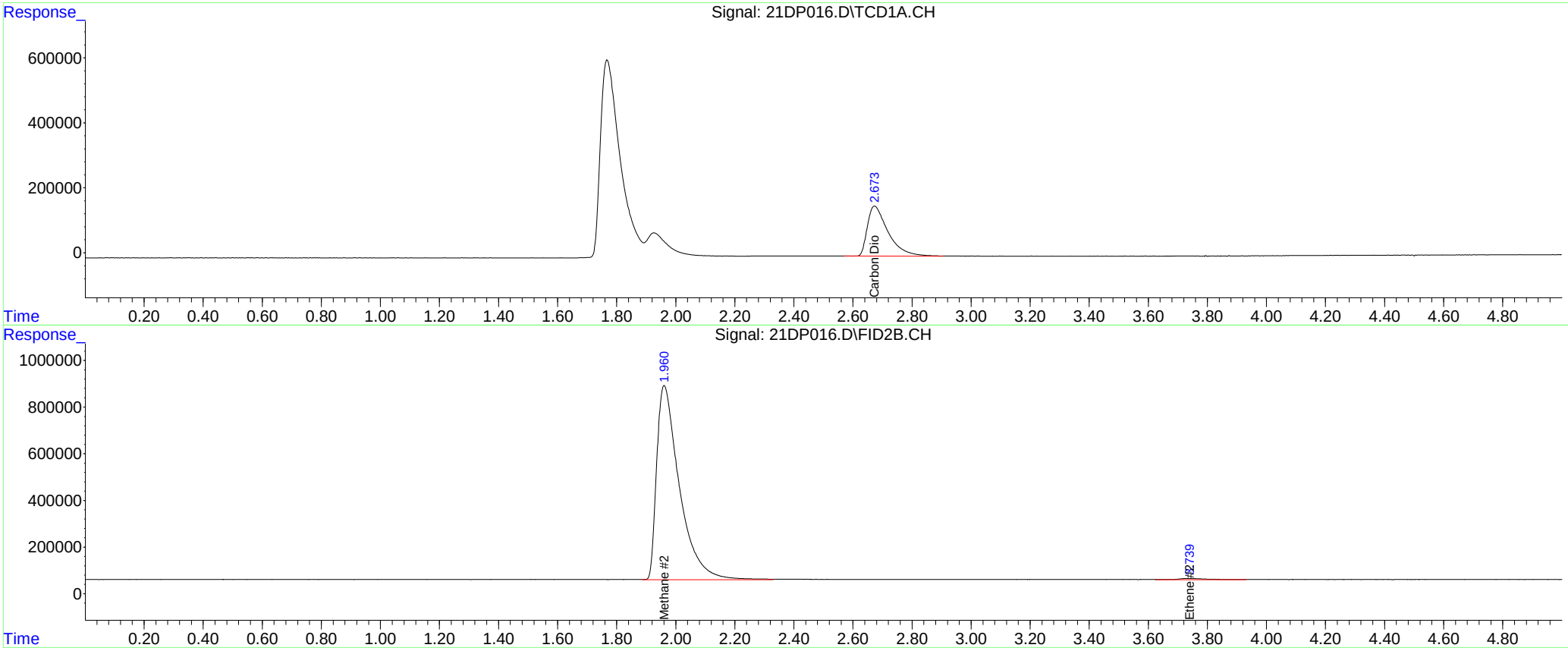
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP016.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 21 Apr 2021 1:26 pm
Operator : JMW
Sample : AE02765-01
Misc :
ALS Vial : 16 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 21 13:32:57 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP017.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 21 Apr 2021 1:42 pm
Operator : JMW
Sample : AE02765-02
Misc :
ALS Vial : 17 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 21 13:50:44 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.670	2.779	111312	9979	0.175798	NoCal	#
2)	Methane	1.992f	1.966	2760	4923	NoCal	0.000041	#
3)	Ethene	3.741f	3.759	7375	6586	NoCal	0.000083	#
4)	Ethyne	0.000	4.417	0	8657	N.D.	NoCal	
5)	Ethane	0.000	4.686	0	2249	N.D.	0.000019	#

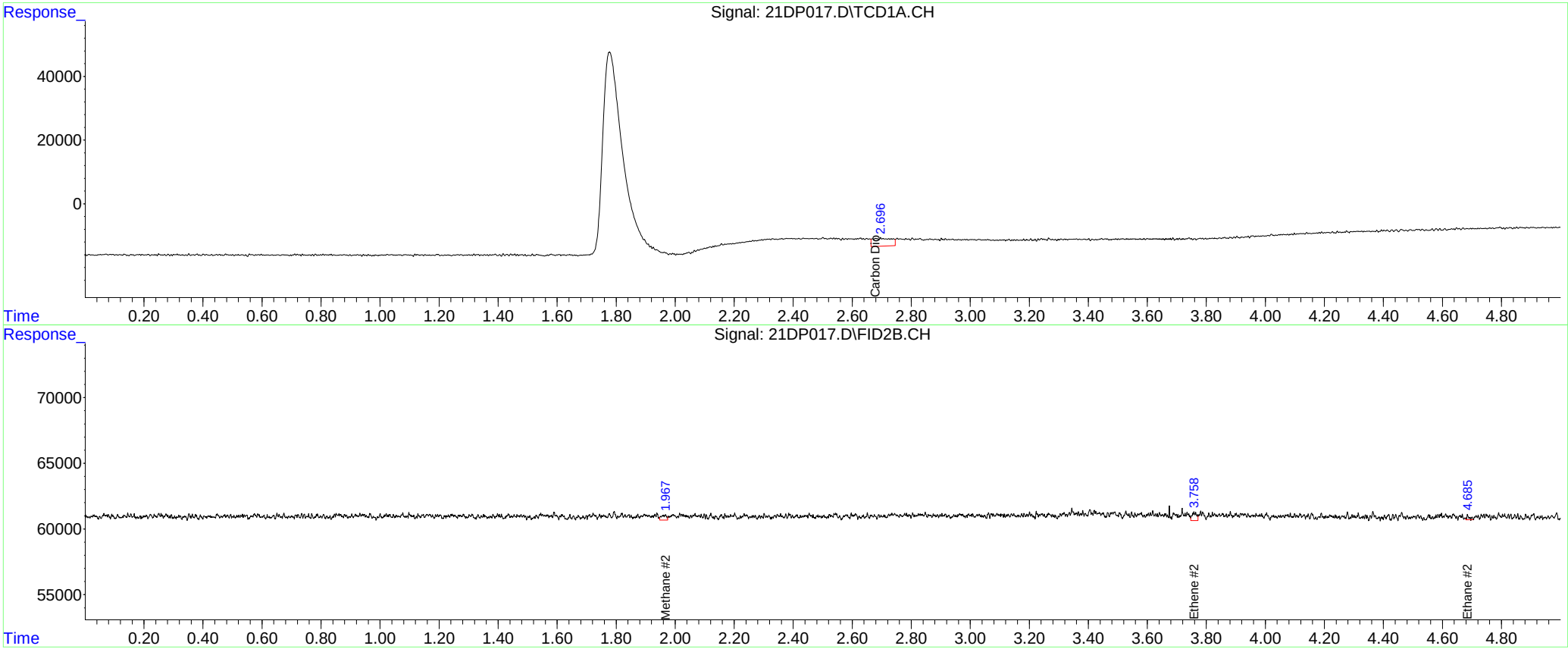
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP017.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 21 Apr 2021 1:42 pm
Operator : JMW
Sample : AE02765-02
Misc :
ALS Vial : 17 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 21 13:50:44 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP018.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 21 Apr 2021 1:58 pm
Operator : JMW
Sample : AE02765-03
Misc :
ALS Vial : 18 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 21 14:04:12 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L
	Target Compounds						
1)	Carbon Di...	0.000	2.804	0	5695	N.D.	NoCal
2)	Methane	0.000	1.973	0	2562	N.D.	0.000021 #
3)	Ethene	3.657f	3.756	13363	6297	NoCal	0.000079 #
4)	Ethyne	4.486f	4.418	42102	4482	NoCal	NoCal
5)	Ethane	4.720f	4.683	49088	3216	NoCal	0.000027 #

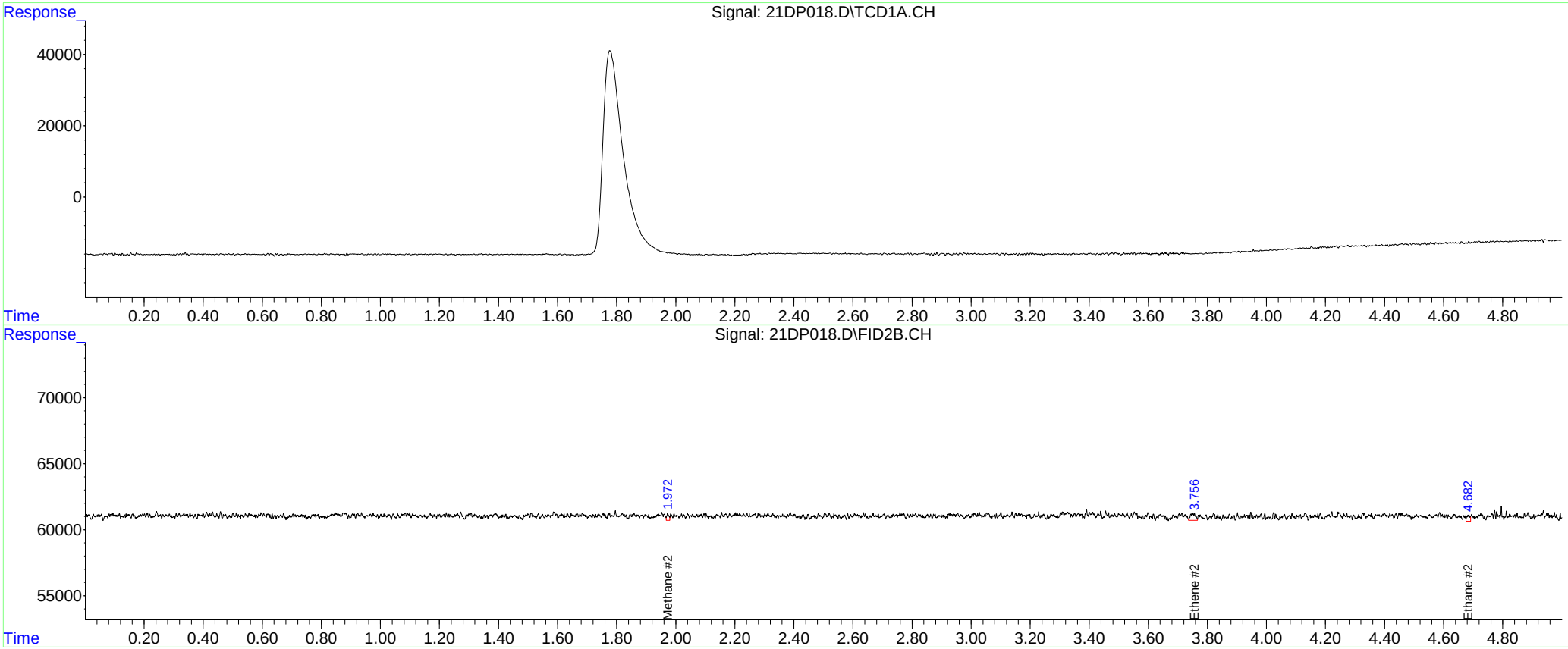
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP018.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 21 Apr 2021 1:58 pm
Operator : JMW
Sample : AE02765-03
Misc :
ALS Vial : 18 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 21 14:04:12 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP021.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 21 Apr 2021 2:45 pm
Operator : JMW
Sample : AE02765-03RE1
Misc :
ALS Vial : 21 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 21 14:51:25 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.666	2.778	37547203	11662	59.299235	NoCal	#
2)	Methane	1.927f	1.966	8592797	89660979	NoCal	0.747825	#
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	4.376	4.404f	58711	3078	NoCal	NoCal	
5)	Ethane	0.000	4.677	0	176594	N.D.	0.001509	#

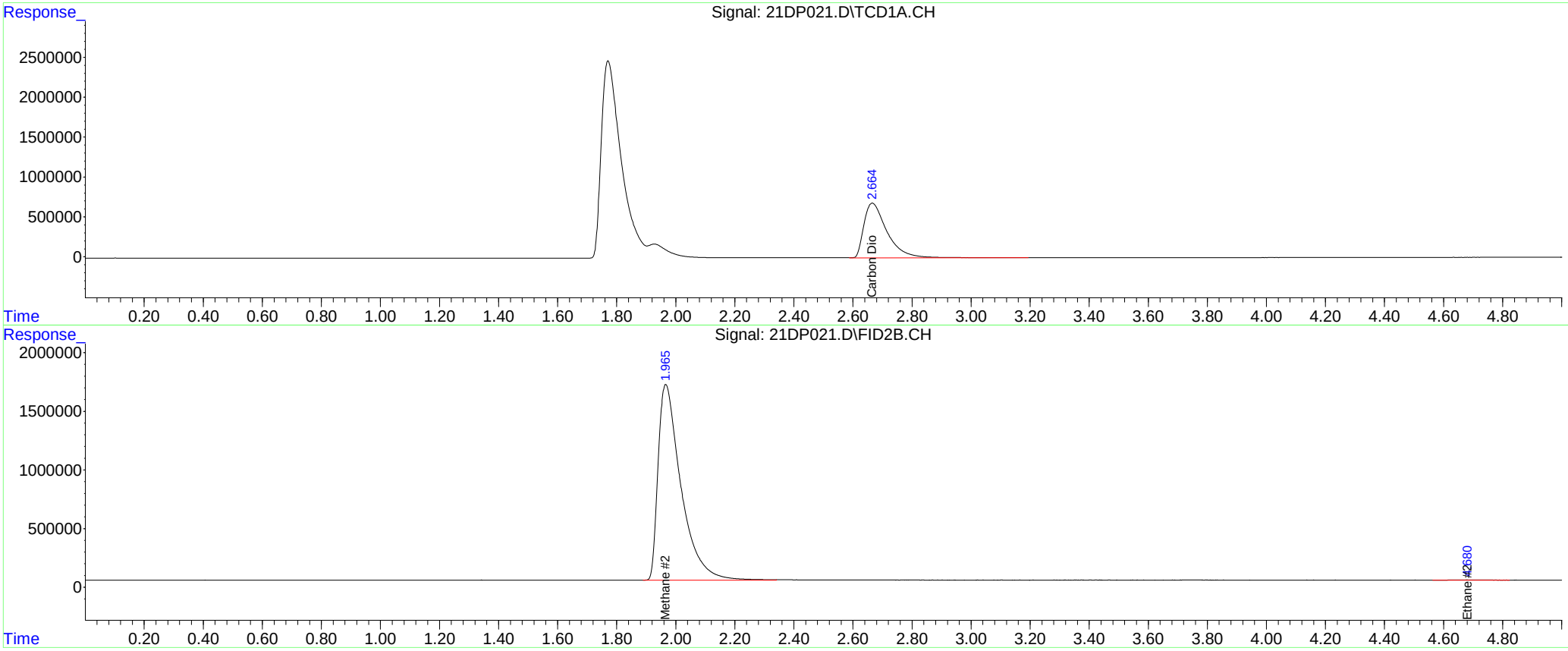
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP021.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 21 Apr 2021 2:45 pm
Operator : JMW
Sample : AE02765-03RE1
Misc :
ALS Vial : 21 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 21 14:51:25 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP022.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 21 Apr 2021 3:13 pm
Operator : JMW
Sample : AE02765-03RE2
Misc : 7
ALS Vial : 22 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 21 15:18:56 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.684	2.785	3587204	4522	5.665361	NoCal	#
2)	Methane	0.000	1.967	0	6608134	N.D.	0.055116	#
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	4.406f	4.420	28991	7308	NoCal	NoCal	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

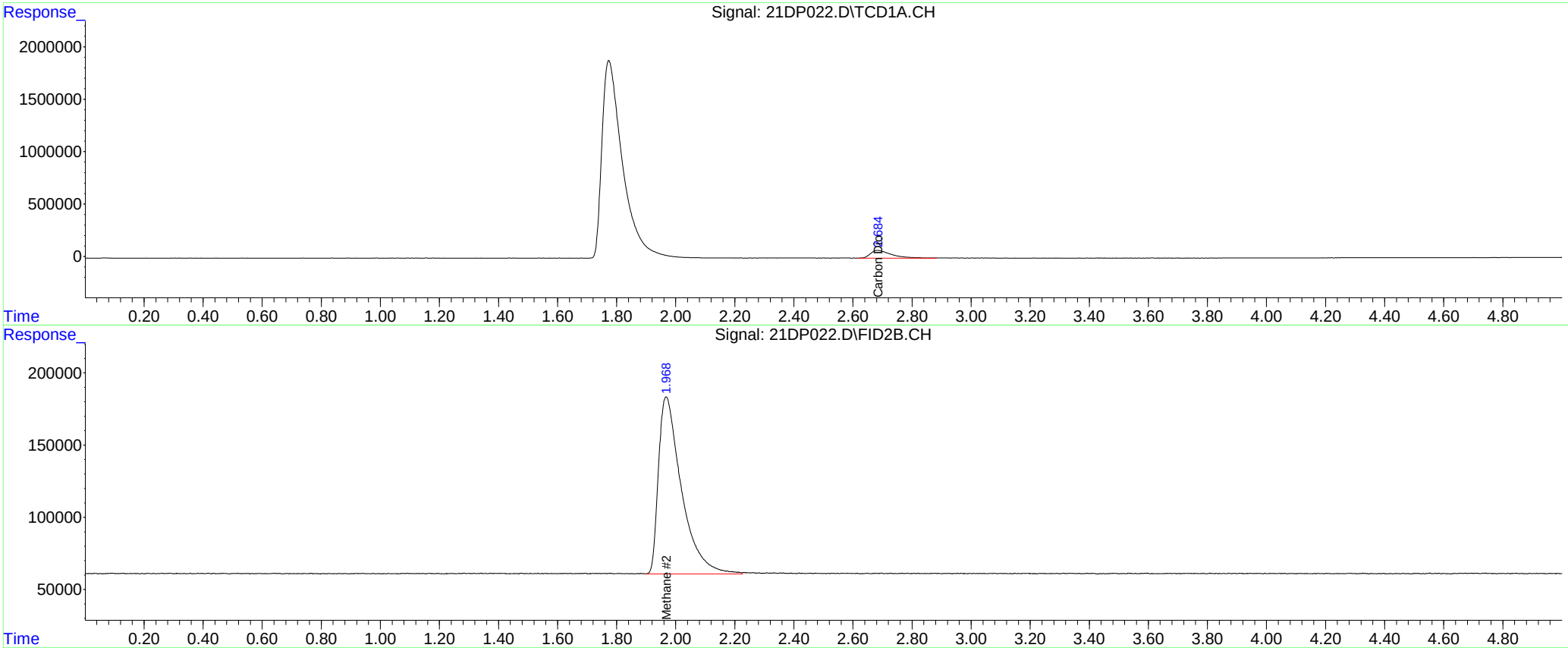
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP022.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 21 Apr 2021 3:13 pm
Operator : JMW
Sample : AE02765-03RE2
Misc : 7
ALS Vial : 22 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 21 15:18:56 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP024.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 21 Apr 2021 3:45 pm
Operator : JMW
Sample : 1D21012-DUP1
Misc :
ALS Vial : 24 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 21 15:50:36 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.667	2.799	31736524	22471	50.122285	NoCal	#
2)	Methane	1.931f	1.965	15942742	197.9E6	NoCal	1.650494	#
3)	Ethene	3.720	3.743	59321	1247463	NoCal	0.015638	#
4)	Ethyne	0.000	4.449f	0	7474	N.D.	NoCal	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

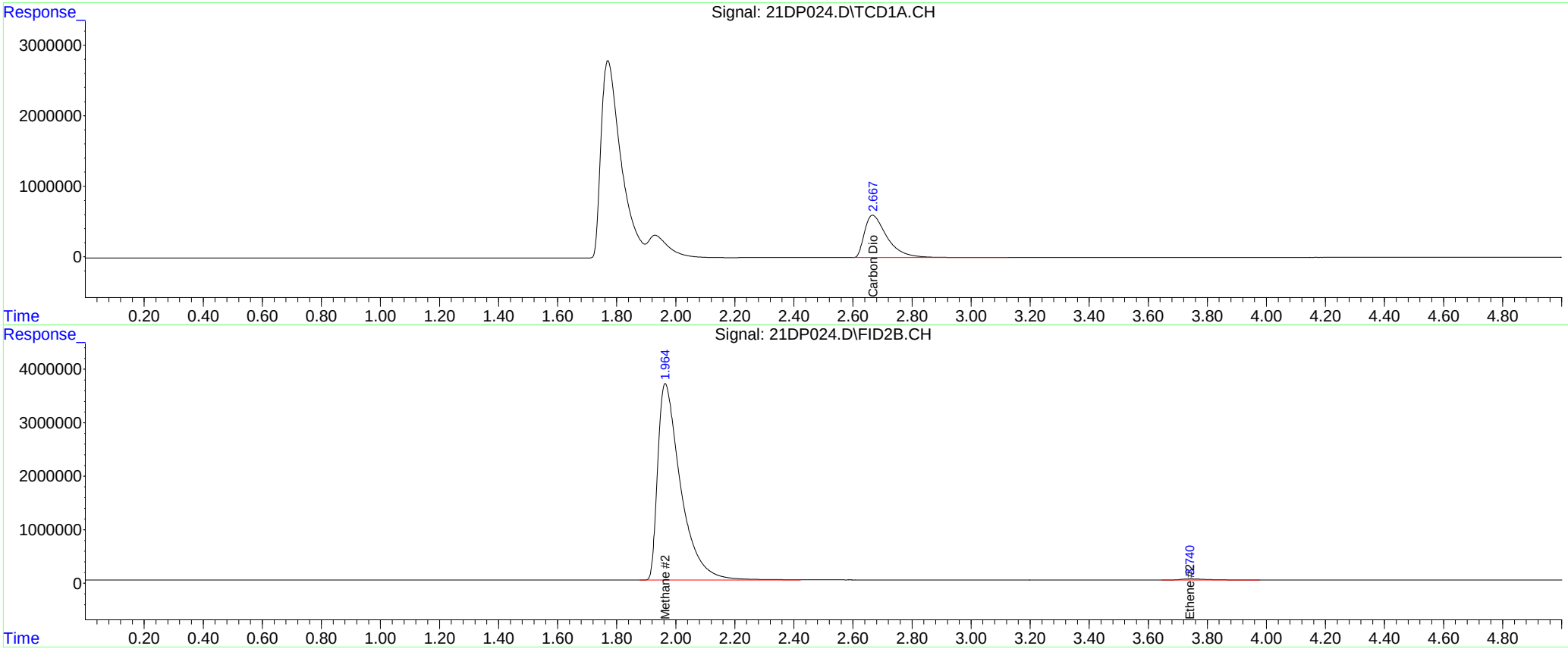
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP024.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 21 Apr 2021 3:45 pm
Operator : JMW
Sample : 1D21012-DUP1
Misc :
ALS Vial : 24 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 21 15:50:36 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP025.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 21 Apr 2021 4:17 pm
Operator : JMW
Sample : 1D21012-DUP1
Misc : 7
ALS Vial : 25 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 21 16:23:05 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.663	2.792	45859393	7507	72.426885	NoCal	#
2)	Methane	0.000	1.967	0	11362811	N.D.	0.094772	#
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	4.341f	4.410	25036	10670	NoCal	NoCal	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

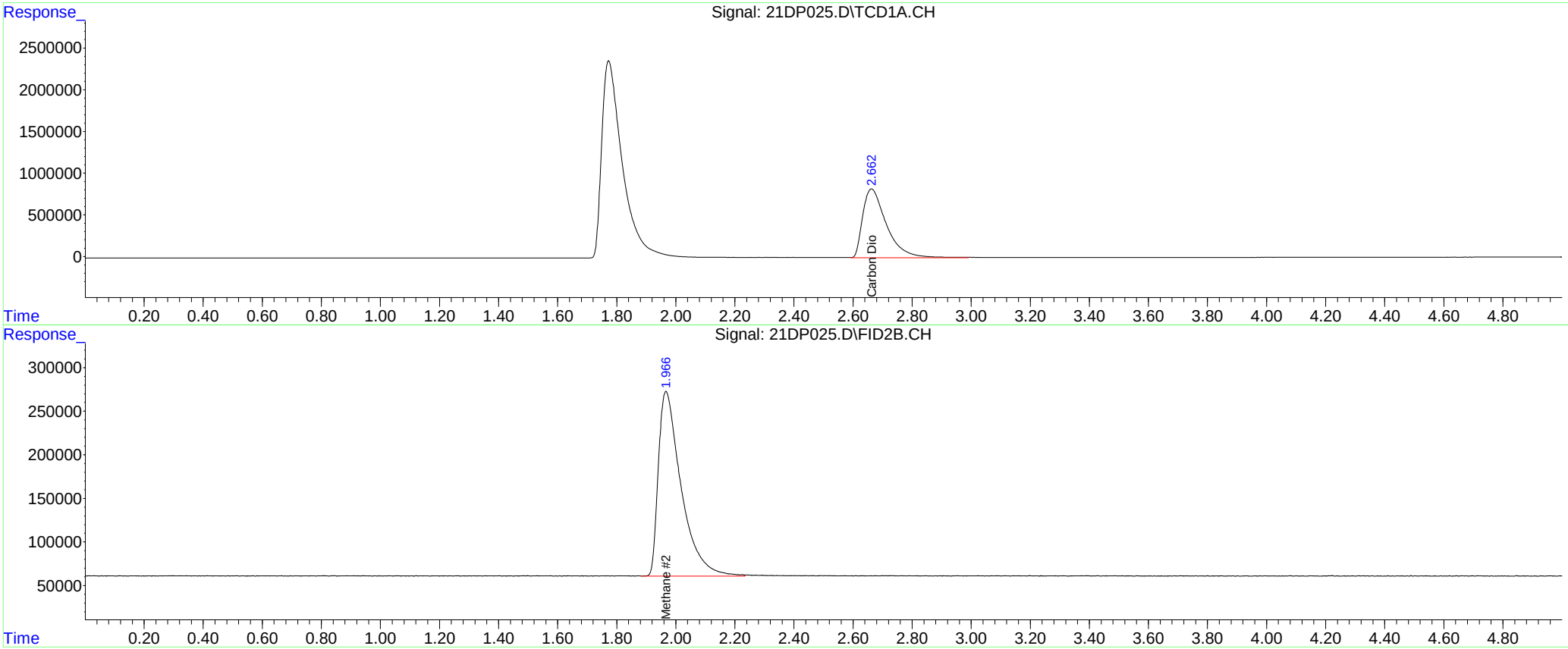
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP025.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 21 Apr 2021 4:17 pm
Operator : JMW
Sample : 1D21012-DUP1
Misc : 7
ALS Vial : 25 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 21 16:23:05 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP026.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 21 Apr 2021 4:40 pm
Operator : JMW
Sample : AA66018-CCV2
Misc :
ALS Vial : 26 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 21 16:46:11 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.685	2.806	582652	5519	0.920196	NoCal	#
2)	Methane	0.000	1.967	0	19860634	N.D.	0.165649	#
3)	Ethene	3.713	3.741	1129248	23578184	NoCal	0.295571	#
4)	Ethyne	4.386	4.409	291059	4905958	NoCal	NoCal	
5)	Ethane	4.639f	4.667f	1961883	34973926	NoCal	0.298907	#

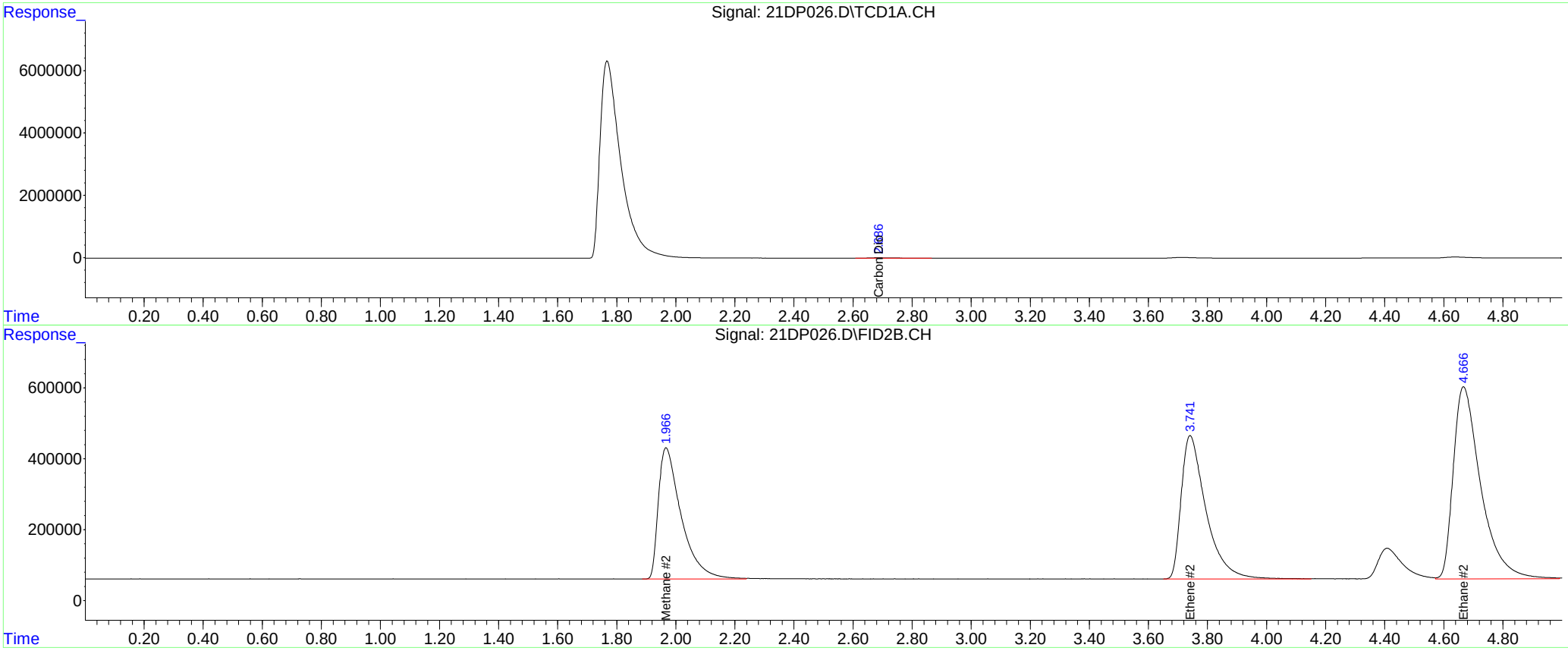
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP026.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 21 Apr 2021 4:40 pm
Operator : JMW
Sample : AA66018-CCV2
Misc :
ALS Vial : 26 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 21 16:46:11 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



ANALYSIS SEQUENCE

AA66036

Instrument: OVGCFID2

Calibration ID: 2102005

Printed: 4/22/2021 10:55:15AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA66036-CCV1	QC		1	26	A0L0956			
AA66036-CCV2	QC		2	1	A0J0840			
1D21038-BS1	QC		3	2				
1D21038-BSD1	QC		4	3				
1D21038-BLK1	QC		5	4				
AE03290-03	RSK175	A	6	7				MS/MSD CLP-Like
AE03183-05RE1	RSK175	C	7	8				RR @105x Methane jmw 4/21/21
AE02765-02RE2	RSK175	C	8	9			Tetra Tech, Inc. (TE016)	RR @15x Methane jmw 4/21/21
AE03183-06	RSK175	A	9	10				Sub to ORL CLP-Like
AE03293-01	RSK 175 + CO2	A	10	11				
AE03293-02	RSK 175 + CO2	A	11	12				
AE03290-01	RSK175	A	12	13				CLP-Like
AE03290-02	RSK175	A	13	14				CLP-Like
AE03290-04	RSK175	A	14	15				CLP-Like
AE03290-05	RSK175	A	15	16				CLP-Like
AE03290-06	RSK175	A	16	17				CLP-Like
AE03290-07	RSK175	A	17	18				CLP-Like
AE03290-08	RSK175	A	18	19				CLP-Like
AE03290-09	RSK175	C	19	20				CLP-Like
AE03290-03RE1	RSK175	B	20	21				RR @1x bad injection jmw 4/22/21
AE03290-03RE1	RSK 175 + CO2	B	21	21				BatchQC
AE03290-09RE1	RSK175	D	22	22				RR @1x bad injection jmw 4/22/21
AE03293-02RE1	RSK 175 + CO2	B	23	23				RR @1x bad injection jmw 4/22/21

JMW — Samples Loaded By — 4/21/2021 — Date

JMW — Data Processed By — 4/22/2021 — Date

ANALYSIS SEQUENCE

AA66036

Instrument: OVGCFID2

Calibration ID: 2102005

Printed: 4/22/2021 10:55:15AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
1D21038-DUP1	QC		24	25				
AA66036-CCV3	QC		25	26	A0L0956			
AA66036-CCV4	QC		26	27	A0J0840			

JMW — Samples Loaded By — 4/21/2021 — Date

JMW — Data Processed By — 4/22/2021 — Date

PREPARATION BENCH SHEET

Printed: 4/22/2021 10:52:04AM

Analysis
RSK 175 + CO2 [RSK 175]
RSK175 [RSK 175]

1D21038

ENCO Orlando

Prepared using: Same

Surrogate Solution
—

Spiking Solution
A1A0933 RSK175- SCV/BS water CO2 and MEE

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl[(1)]	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
1D21038-BLK1		Blank		QC			1	1				
1D21038-BS1		LCS		QC			1	1	A1A0933	1000		
1D21038-BSD1		LCS Dup		QC			1	1	A1A0933	1000		
1D21038-DUP1		Duplicate [AE03290-03RE1]		QC			1	1				
AE02765-02RE2	C	CRCA-MW0018-058.0-202104 C[R12]	23-Apr-21	RSK175			1	1				RR @15x Methane jmw 4/21/21
AE03183-05RE1	C	CE05668-08 (IW-10) C[R10]	26-Apr-21	RSK175			1	1				RR @105x Methane jmw 4/21/21
AE03183-06	C	CE05668-10 (Trip Blank 5) A[R10]	26-Apr-21	RSK175			1	1				Sub to ORL CLP-Like
AE03290-01	C	CE05720-01 (GW-4I) A[R10]	27-Apr-21	RSK175			1	1				CLP-Like
AE03290-02	C	CE05720-02 (GW-14S) A[R10]	27-Apr-21	RSK175			1	1				CLP-Like
AE03290-03	C	CE05720-03 (GW-14I (MS/MSD A[R10]	27-Apr-21	RSK175			1	1				MS/MSD CLP-Like
AE03290-03RE1	C	CE05720-03 (GW-14I (MS/MSD B[R10]	27-Apr-21	RSK175			1	1				RR @1x bad injection jmw 4/22/21
AE03290-03RE1	C	CE05720-03 (GW-14I (MS/MSD B[R10]		RSK 175 + CO2			1	1				Added for BatchQC in: 1D21038
AE03290-04	C	CE05720-05 (IW-02) A[R10]	27-Apr-21	RSK175			1	1				CLP-Like
AE03290-05	C	CE05720-06 (IW-09) A[R10]	27-Apr-21	RSK175			1	1				CLP-Like
AE03290-06	C	CE05720-07 (IW-12D) A[R10]	27-Apr-21	RSK175			1	1				CLP-Like
AE03290-07	C	CE05720-08 (P-6) A[R10]	27-Apr-21	RSK175			1	1				CLP-Like
AE03290-08	C	CE05720-09 (Trip Blank 4) A[R10]	27-Apr-21	RSK175			1	1				CLP-Like
AE03290-09	C	CE05720-10 (FB-2) C[R10]	27-Apr-21	RSK175			1	1				CLP-Like
AE03290-09RE1	C	CE05720-10 (FB-2) D[R10]	27-Apr-21	RSK175			1	1				RR @1x bad injection jmw 4/22/21
AE03293-01		CE05732-01 (SSL-1) A[R10]	27-Apr-21	RSK 175 + CO2			1	1				

JMW 4/22/21

PREPARATION BENCH SHEET

Printed: 4/22/2021 10:52:04AM

1D21038

ENCO Orlando

Prepared using: Same

Surrogate Solution

—

Spiking Solution

A1A0933 **RSK175- SCV/BS water CO2 and MEE**

Matrix: Water

Lab Number Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
AE03293-02	CE05732-02 (SSL-2) A[R10]	27-Apr-21	RSK 175 + CO2	JMW 4/22/21		1	1				
AE03293-02RE1	CE05732-02 (SSL-2) B[R10]	27-Apr-21	RSK 175 + CO2			1	1				RR @1x bad injection jmw 4/22/21

(1) Before solvent extraction proceeds, verify that there is no residual chlorine above 0.5 mg/L. Any sample above this must be treated to remove excess chlorine before extraction, and this documented as a comment.

Start Date 4/21/2021

StopDate 4/22/2021

Instrument ID OVGCFID2

Standard ID#	Description	Manufacture Lot#

JMW 4/21/2021

Samples Prepared By Date

Samples Prepared By Date

Tune Start Date: 4/21/2021
Sequence: AA66036 / AA66039
Batch: ID21038 / ID21039
Method: BSH
Analyst: JMW
Instrument EM Voltage: NIA

Surrogate: NIA
Internal: NIA
LCS Mix 2°: NIA A1A0923
LCS Acrolein 2°: NIA
LCS Gas 2°: NIA

8260 Mix: NIA
8260 Add: NIA A0J0838
8260 Ac/Ac: NIA A0L0607
8260 Gases: NA
Instrument #: OV4GCFID2

21DP

Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)	Comments	LIMS
026	AA66039-CCV1			26			✓ MEE	—
027 ~~028~~	AA66039-CCV2			1			✓ CO_2	—
028 029	ID21038-BS1			2			✓	—
029 030	ID21038-BSD1		JMW 4/21/21	3			—	✓
030 031	ID21038-BLK1			4			✓	✓
031 032	~~ID21038-~~ AE02497-01	A	1	5			MDL MEE ✓	—
032 033	AE02497-01RE1	A	1	6			MDL CO_2 ✓	—
033 034	AE03290-03	A	1	7			RR@1x; Bad injection ✓	—
034 035	AE03183-05RE1	C	105	8			✓	—
035 036	AE02765-02RE2	C	15	9			H.S. ✓	—
036 037	AE03183-06	A	1	10			✓	—
037 038	AE03293-01	A	1	11			✓	—
038 039	AE03293-02	A	1	12			RR@1x; Bad injection ✓	—
039 040	AE03290-01	A	1	13			RR@70x Methane ✓	—
040 041	AE03290-02	A	1	14			RR@210x Methane ✓	—
041 042	AE03290-04	A	1	15			RR@ ~~105x~~ 105x Methane + Ethene ✓	—
042 043	AE03290-05	A	1	16			RR@70x Methane ✓	—
043 044	AE03290-06	A	1	17			RR@210x Methane ✓	—
044 045	AE03290-07	A	1	18	JMW 4/21/21		RR@210x Methane ✓	—
045 046	AE03290-08	A	1	19			✓	✓
046 ~~047~~	AE03290-09	C	1	20			RR@1x; Bad injection	—

JMW 4/21/21

Tune Start Date: | Surrogate: | 8260 Mix:
Sequence: | Internal: | 8260 Add:
Batch: | LCS Mix 2⁰: | 8260 Ac/Ac:
Method: | LCS Acrolein 2⁰: | 8260 Gases:
Analyst: | LCS Gas 2⁰: | Instrument #: 0V6CF3D2
Instrument EM Voltage: See page 147 JMW 4/22/21

21DP Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)	Comments	LIMS
047	AE03290-03RE1	B	1	21			✓ ~~JMW 4/22/21 BA-810x CO2~~ DUP	✓
048	AE03290-09RE1	D	1	22			✓	✓
049	AE03293-02RE1	B	1	23			✓	✓
050	ID21038-DUP1	C	1	24			RR; Bad injection	.
051	ID21038-DUP1	D	1	25			✓	✓
052	AA66036-CCV3	~~JMW 4/22/21~~		26	JMW 4/22/21		MEE ✓	✓
053	AA66036-CCV4			27			CO2 ✓	✓

JMW 4/22/21

Manual Integration Review Form

ENVIRONMENTAL CONSERVATION LABORATORIES, INC. ☐ Cary ☐ Jacksonville ☑ Orlando

I hereby attest that the manual integrations contained in this package have been thoroughly reviewed and are in agreement with the associated hardcopy data.

The electronic files listed below have been reviewed for accuracy, completeness and comply with ENCO labs QA-11 Manual Integration Policy including:

- "Before" and "After" chromatograms are provided
- Manual integrations are indicated on expanded scale "after" chromatograms at a scale large enough to see the manual integration performed.
- Reintegration technique marked if available on the data system
- Technical justification for manual integration
- Appropriate flags indicating which analytes were manually integrated are included in the raw data
- Analyst's initials and date.

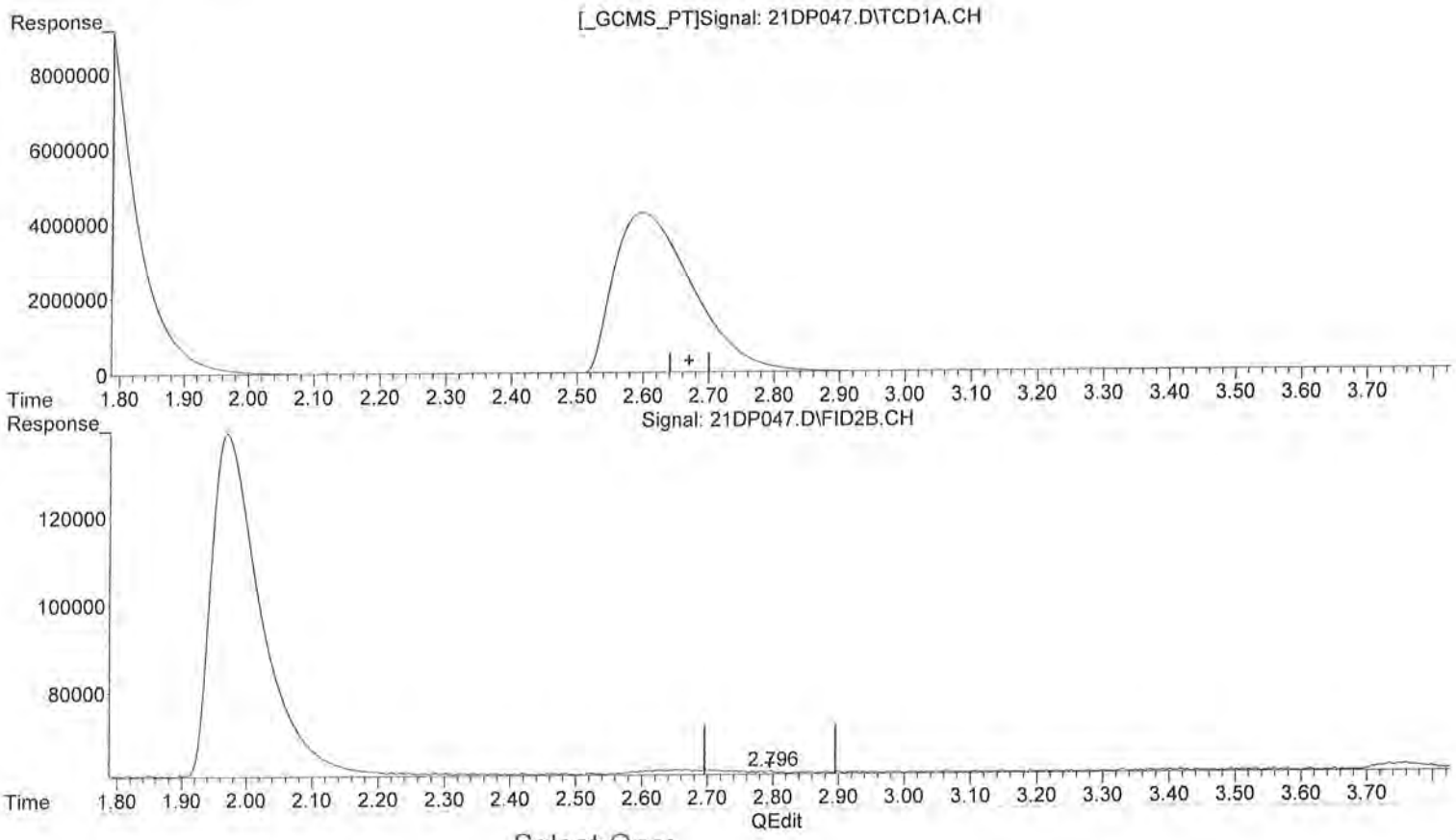
Instrument ID:	OVGCFID2
Sequence/Batch ID:	AA66036 / ID21038
Data File Prefix:	21DP
Date and Time Range of MIs:	4/22/2021 7:42 - 9:41
Reviewer Print Name:	Neil Christian
Reviewer Signature:	
Date of Review:	4/22/21

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP047.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 22 Apr 2021 7:38 am
Operator : JMW
Sample : AE03290-03RE1
Misc :
ALS Vial : 21 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 22 07:50:08 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase :
Signal #1 Info :
Signal #2 Phase:
Signal #2 Info :



(1) Carbon Dioxide

0.000min 0.000 ppmv

response 0

(1) Carbon Dioxide #2

2.796min 0.000 ppmv

response 12754

Select One:

[Y] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[Y] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date JMW 4/22/21

(+) = Expected Retention Time

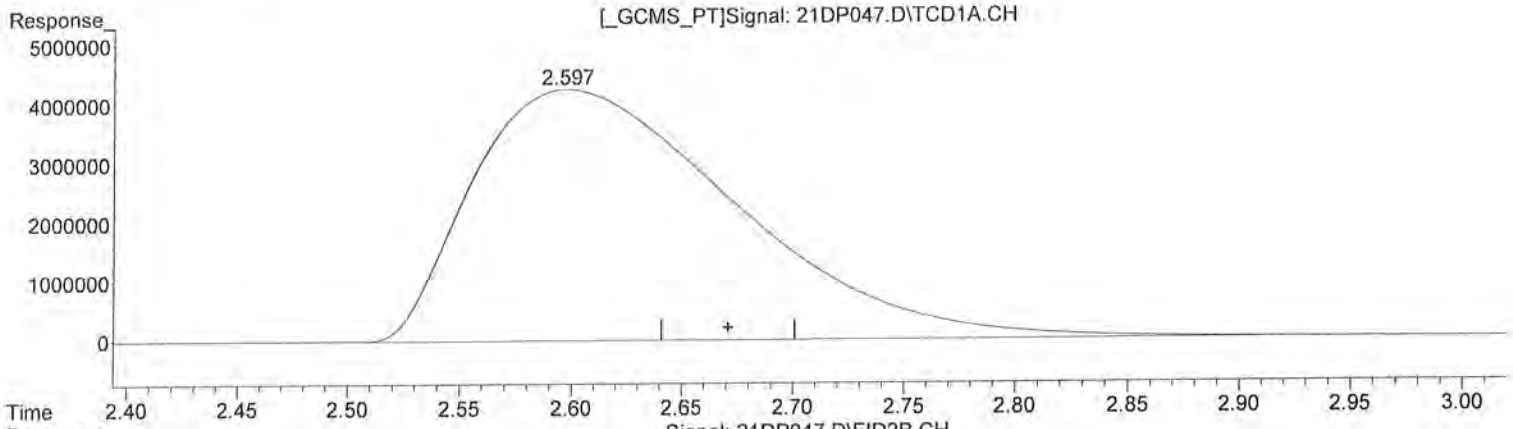
Review by/Date:

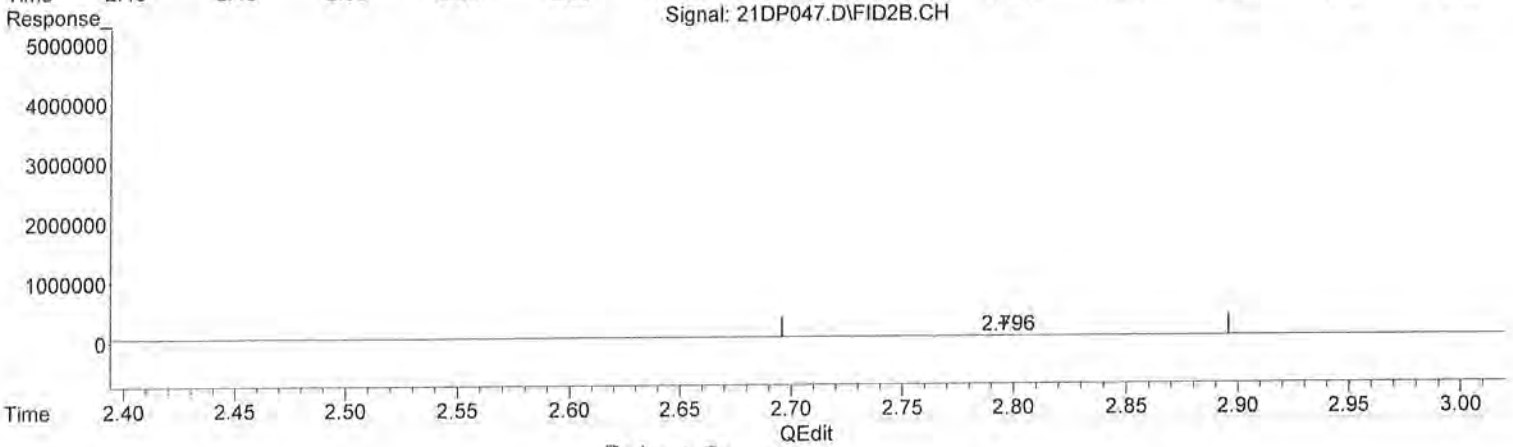
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP047.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 22 Apr 2021 7:38 am
Operator : JMW
Sample : AE03290-03RE1
Misc :
ALS Vial : 21 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 22 07:50:08 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





(1) Carbon Dioxide
2.597min 556.764 mg/L m
response 352533180

(1) Carbon Dioxide #2
2.796min 0.000 mg/L
response 12754

Select One:
[ ] Original Integration [✓] Manual Integration
Select reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[✓] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date JMW 4/22/21
Review by/Date:

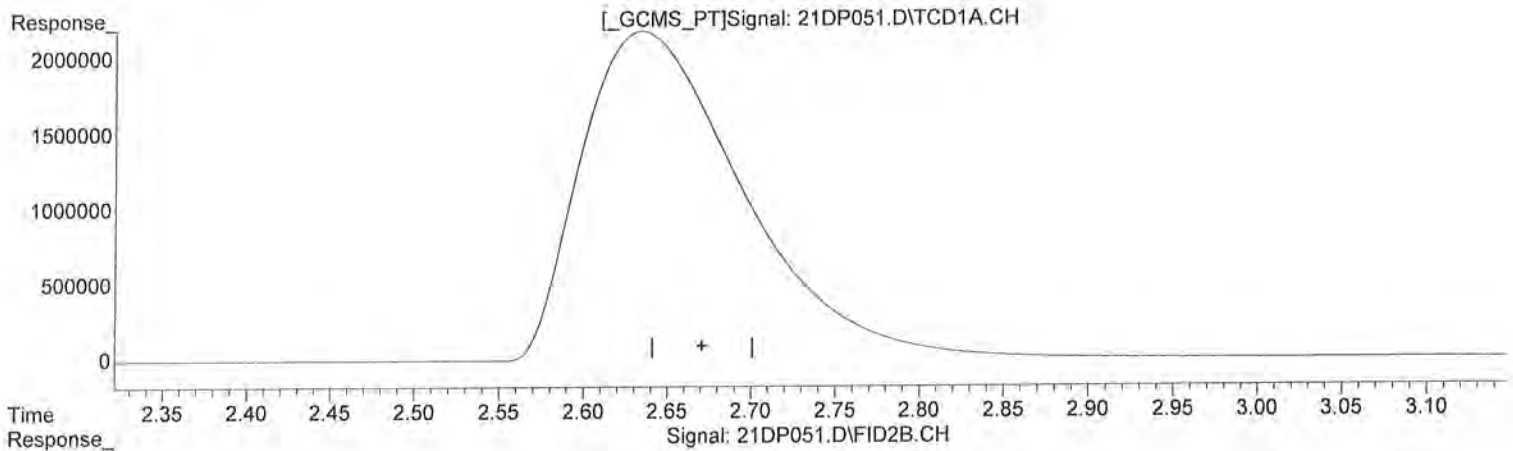
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP051.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 22 Apr 2021 9:35 am
Operator : JMW
Sample : 1D21038-DUP1
Misc :
ALS Vial : 25 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 22 09:40:40 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase :
Signal #1 Info :
Signal #2 Phase:
Signal #2 Info :



(1) Carbon Dioxide

0.000min 0.000 ppmv

response 0

(1) Carbon Dioxide #2

2.768min 0.000 ppmv

response 25592

Select One:

[✓] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[✓] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date JMW 4/22/21

(+) = Expected Retention Time

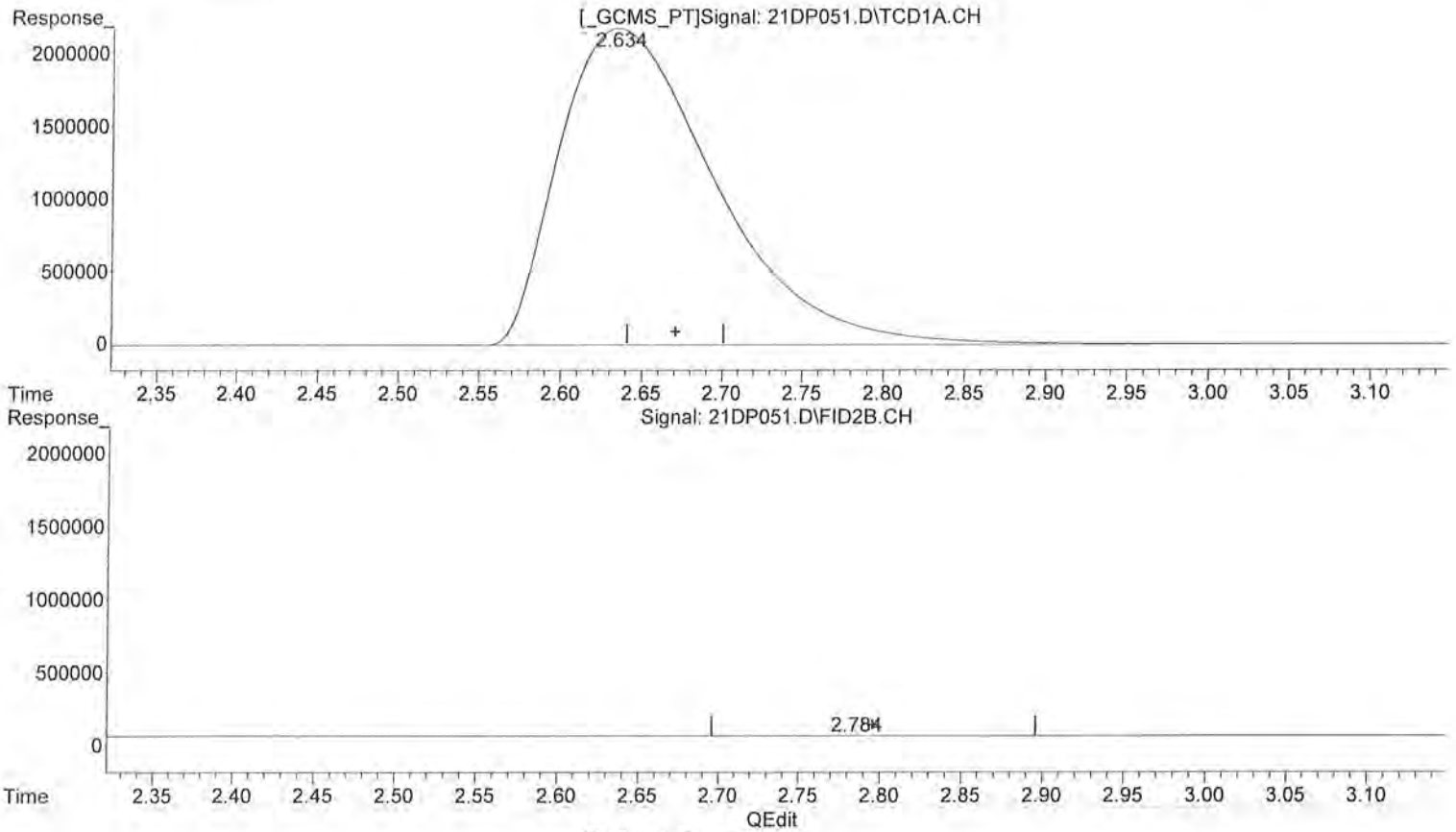
020121.M Thu Apr 22 09:40:58 2021 Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP051.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 22 Apr 2021 9:35 am
Operator : JMW
Sample : 1D21038-DUP1
Misc :
ALS Vial : 25 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 22 09:40:40 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(1) Carbon Dioxide
2.634min 232.363 mg/L m
response 147128091

(1) Carbon Dioxide #2
2.768min 0.000 mg/L
response 25592

Select One:
[ ] Original Integration [✓] Manual Integration
Select reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[✓] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date JMW 4/22/21
Review by/Date:

(+) = Expected Retention Time
020121.M Thu Apr 22 09:41:10 2021

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP026.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 21 Apr 2021 4:40 pm
Operator : JMW
Sample : AA66018-CCV2
Misc :
ALS Vial : 26 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 21 16:46:11 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.685	2.806	582652	5519	0.920196	NoCal	#
2)	Methane	0.000	1.967	0	19860634	N.D.	0.165649	#
3)	Ethene	3.713	3.741	1129248	23578184	NoCal	0.295571	#
4)	Ethyne	4.386	4.409	291059	4905958	NoCal	NoCal	
5)	Ethane	4.639f	4.667f	1961883	34973926	NoCal	0.298907	#

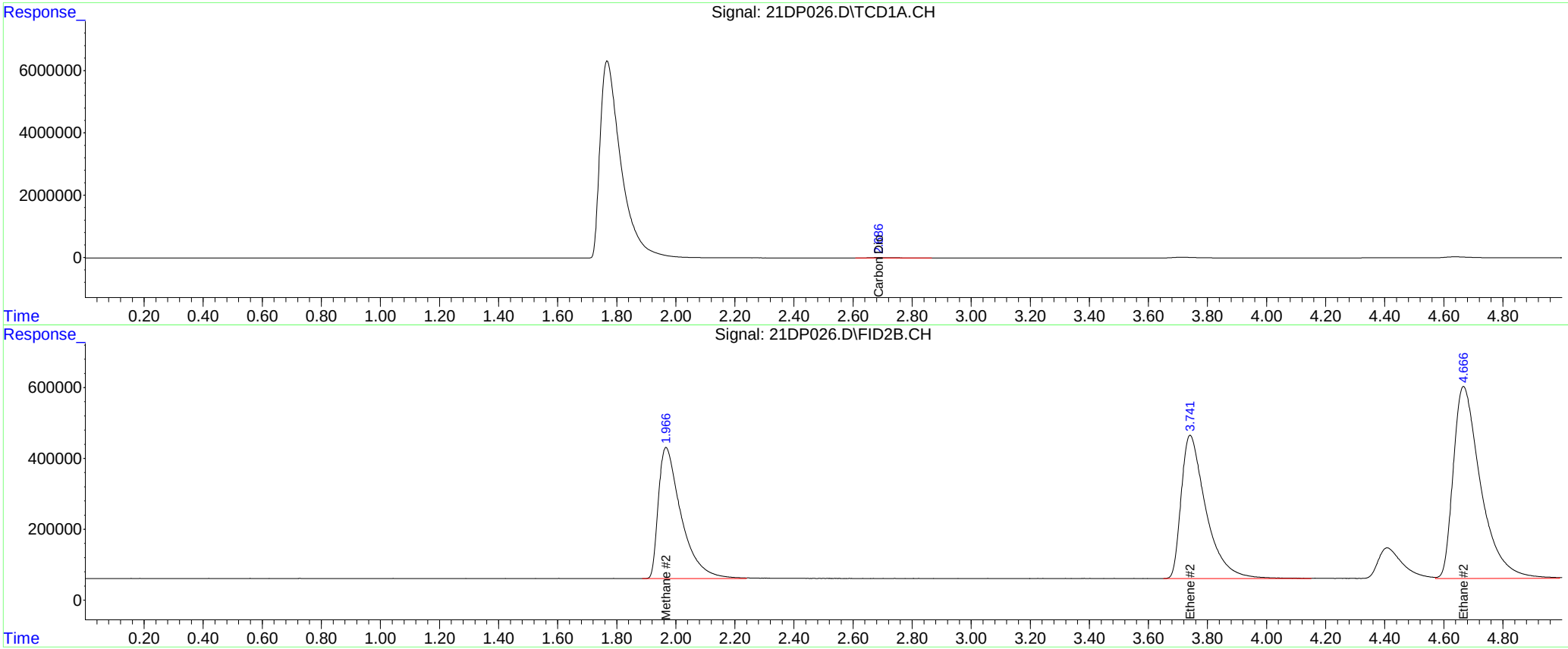
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP026.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 21 Apr 2021 4:40 pm
Operator : JMW
Sample : AA66018-CCV2
Misc :
ALS Vial : 26 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 21 16:46:11 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP027.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 21 Apr 2021 5:08 pm
Operator : JMW
Sample : AA66039-CCV2
Misc :
ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 21 17:13:38 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.670	2.799	29115324	7031	45.982558	NoCal	#
2)	Methane	0.000	1.970	0	12394	N.D.	0.000103	#
3)	Ethene	3.697f	3.751	32251	14019	NoCal	0.000176	#
4)	Ethyne	4.300f	4.447f	55675	5728	NoCal	NoCal	
5)	Ethane	4.628f	4.664f	114466	32111	NoCal	0.000274	#

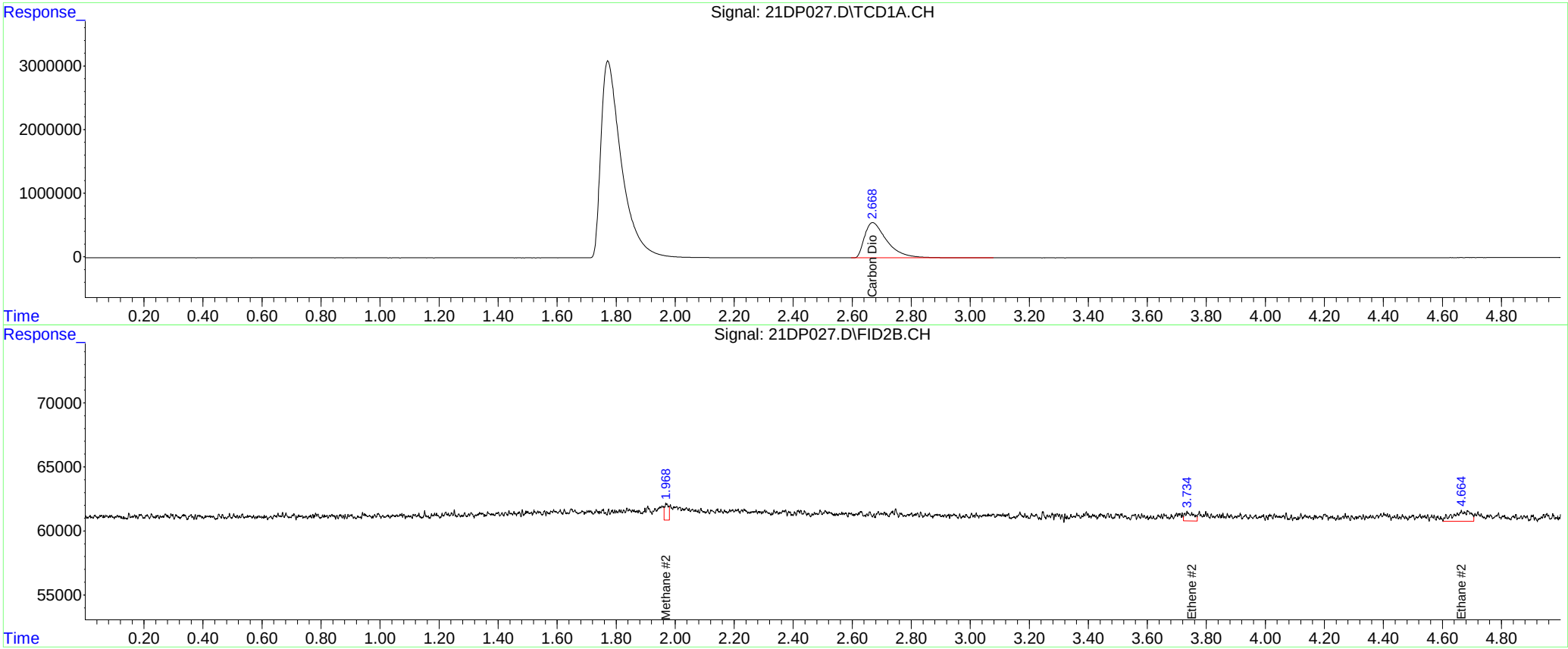
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP027.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 21 Apr 2021 5:08 pm
Operator : JMW
Sample : AA66039-CCV2
Misc :
ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 21 17:13:38 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP028.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 21 Apr 2021 5:29 pm
Operator : JMW
Sample : 1D21038-BS1
Misc :
ALS Vial : 2 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 21 17:39:19 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.670	2.780	28046388	16895	44.294361	NoCal	#
2)	Methane	0.000	1.967	0	21360785	N.D.	0.178161	#
3)	Ethene	3.712	3.741	1222115	25307808	NoCal	0.317253	#
4)	Ethyne	4.381	4.408	281093	5134408	NoCal	NoCal	
5)	Ethane	4.638f	4.666f	2122155	38075384	NoCal	0.325414	#

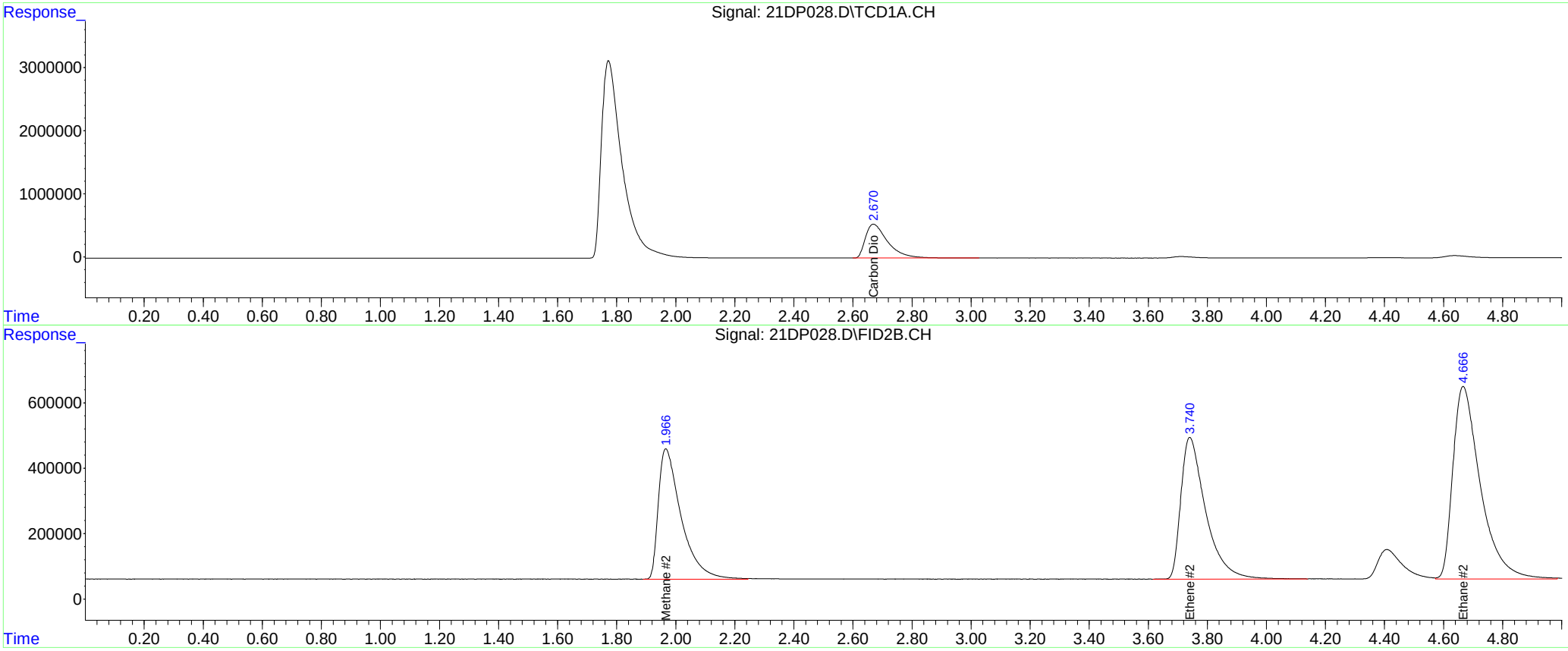
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP028.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 21 Apr 2021 5:29 pm
Operator : JMW
Sample : 1D21038-BS1
Misc :
ALS Vial : 2 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 21 17:39:19 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP029.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 21 Apr 2021 5:45 pm
Operator : JMW
Sample : 1D21038-BSD1
Misc :
ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 21 17:51:10 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.670	2.788	28396820	9740	44.847807	NoCal	#
2)	Methane	0.000	1.967	0	21320824	N.D.	0.177828	#
3)	Ethene	3.713	3.742	1243980	25619254	NoCal	0.321158	#
4)	Ethyne	4.376	4.409	264080	5190955	NoCal	NoCal	
5)	Ethane	4.639f	4.668	2145863	38060590	NoCal	0.325287	#

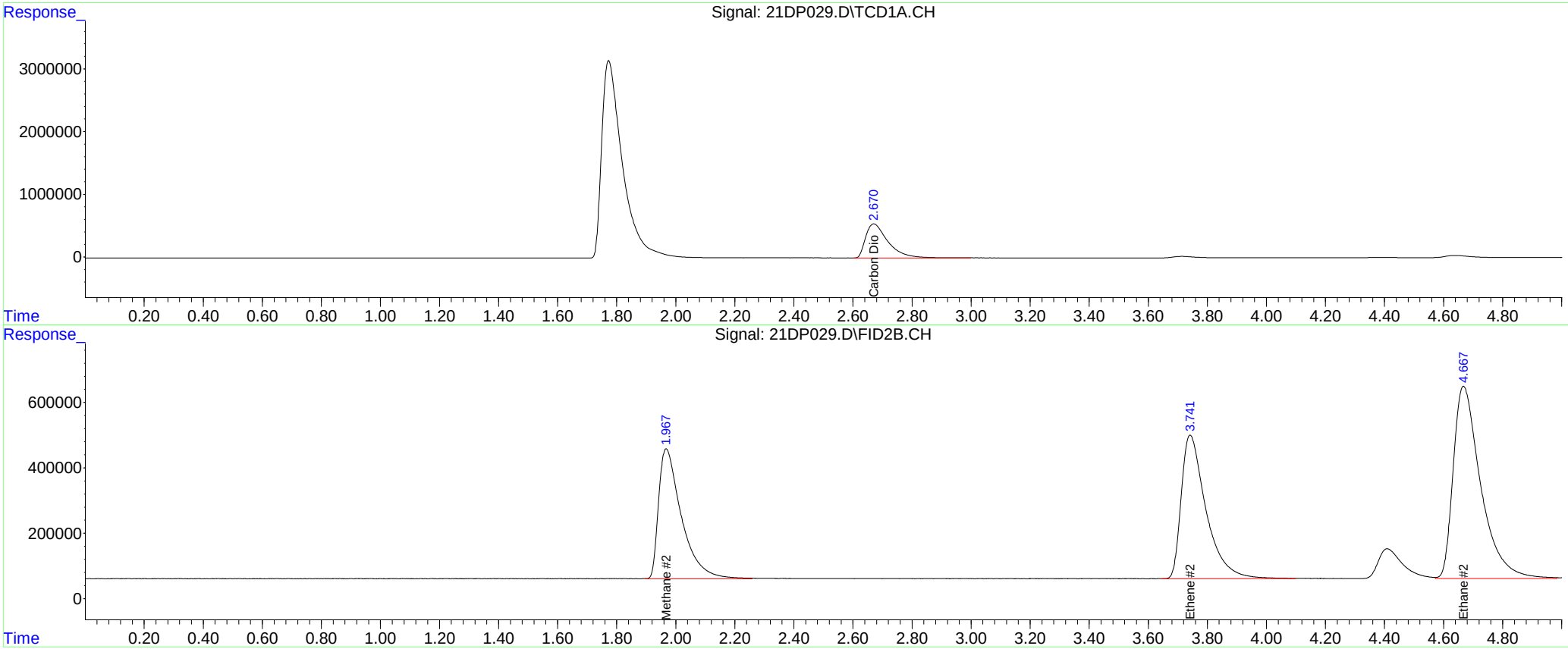
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP029.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 21 Apr 2021 5:45 pm
Operator : JMW
Sample : 1D21038-BSD1
Misc :
ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 21 17:51:10 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP030.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 21 Apr 2021 6:10 pm
Operator : JMW
Sample : 1D21038-BLK1
Misc :
ALS Vial : 4 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 21 18:16:23 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.688	2.788	202508	5653	0.319825	NoCal	#
2)	Methane	0.000	1.966	0	3980	N.D.	0.000033	#
3)	Ethene	3.687f	3.757	5500	1780	NoCal	0.000022	#
4)	Ethyne	0.000	4.432	0	5438	N.D.	NoCal	
5)	Ethane	4.667	4.688	55894	14008	NoCal	0.000120	#

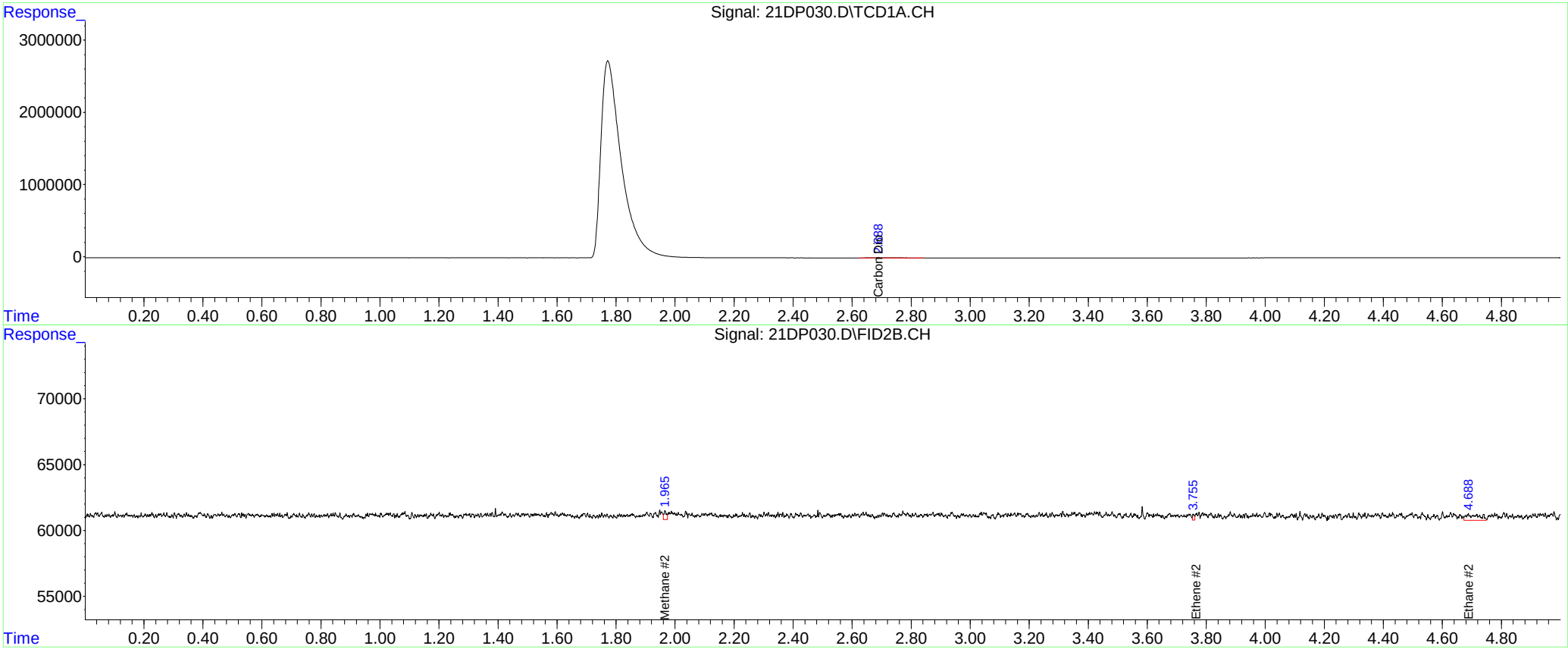
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP030.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 21 Apr 2021 6:10 pm
Operator : JMW
Sample : 1D21038-BLK1
Misc :
ALS Vial : 4 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 21 18:16:23 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP035.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 21 Apr 2021 7:30 pm
Operator : JMW
Sample : AE02765-02RE2
Misc : 15
ALS Vial : 9 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 22 07:33:37 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.687	2.808	1676804	3766	2.648219	NoCal	#
2)	Methane	0.000	1.967	0	1420470	N.D.	0.011848	#
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	0.000	4.419	0	2052	N.D.	NoCal	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

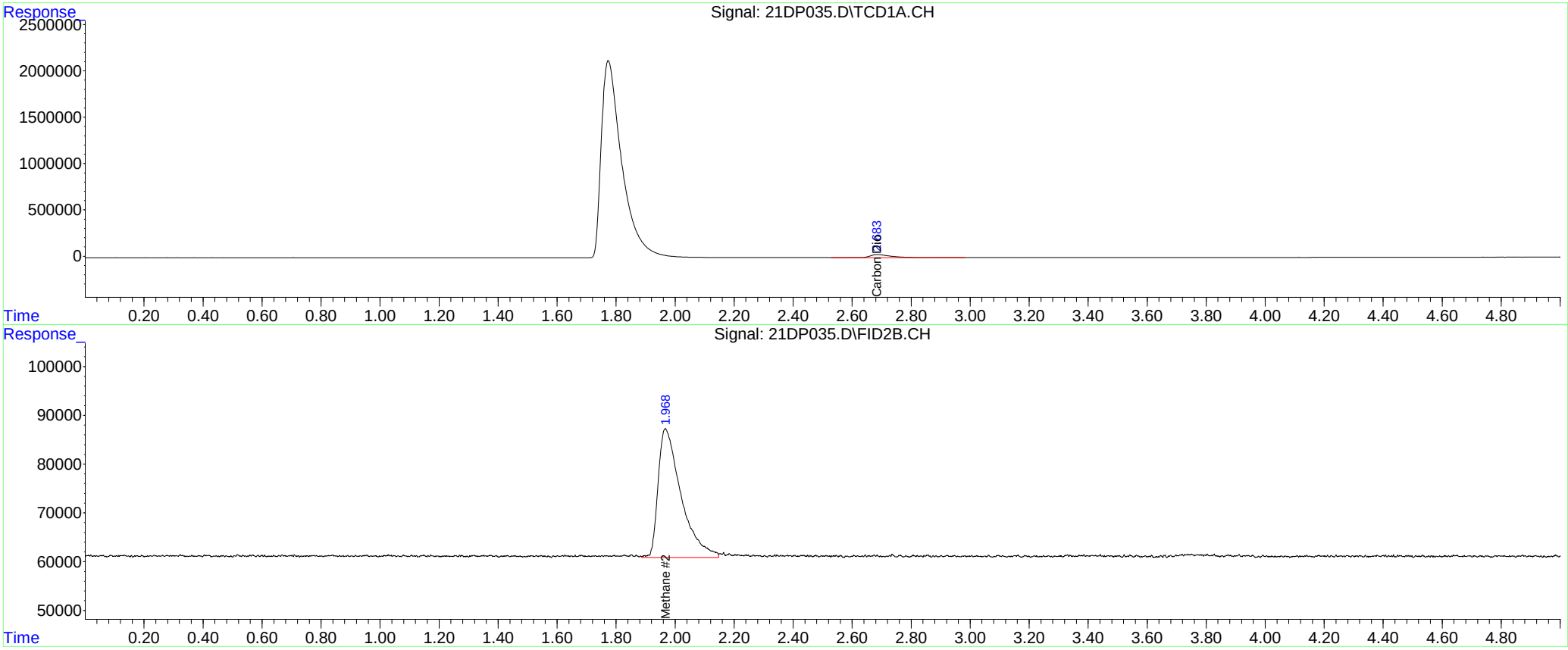
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP035.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 21 Apr 2021 7:30 pm
Operator : JMW
Sample : AE02765-02RE2
Misc : 15
ALS Vial : 9 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 22 07:33:37 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP047.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 22 Apr 2021 7:38 am
Operator : JMW
Sample : AE03290-03RE1
Misc :
ALS Vial : 21 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 22 07:50:08 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.597f	2.796	352.5E6	12754	556.764453m	NoCal	#
2)	Methane	0.000	1.970	0	4210019	N.D.	0.035114	#
3)	Ethene	3.718	3.734f	13681	116103	NoCal	0.001455	#
4)	Ethyne	0.000	4.436f	0	7785	N.D.	NoCal	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

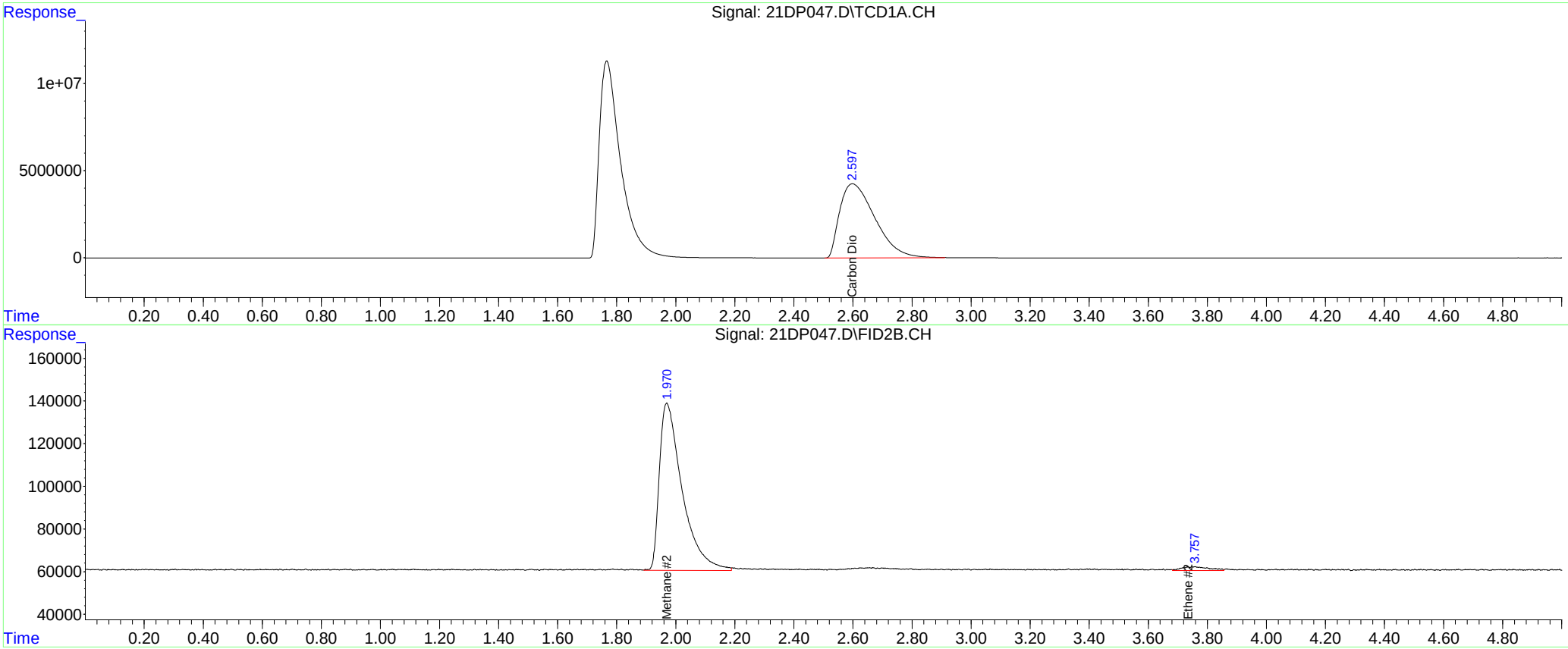
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP047.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 22 Apr 2021 7:38 am
Operator : JMW
Sample : AE03290-03RE1
Misc :
ALS Vial : 21 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 22 07:50:08 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP051.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 22 Apr 2021 9:35 am
Operator : JMW
Sample : 1D21038-DUP1
Misc :
ALS Vial : 25 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 22 09:40:40 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.634	2.768	147.1E6	25592	232.363067m	NoCal	#
2)	Methane	0.000	1.968	0	1750216	N.D.	0.014598	#
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	4.394	4.434	13748	3052	NoCal	NoCal	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

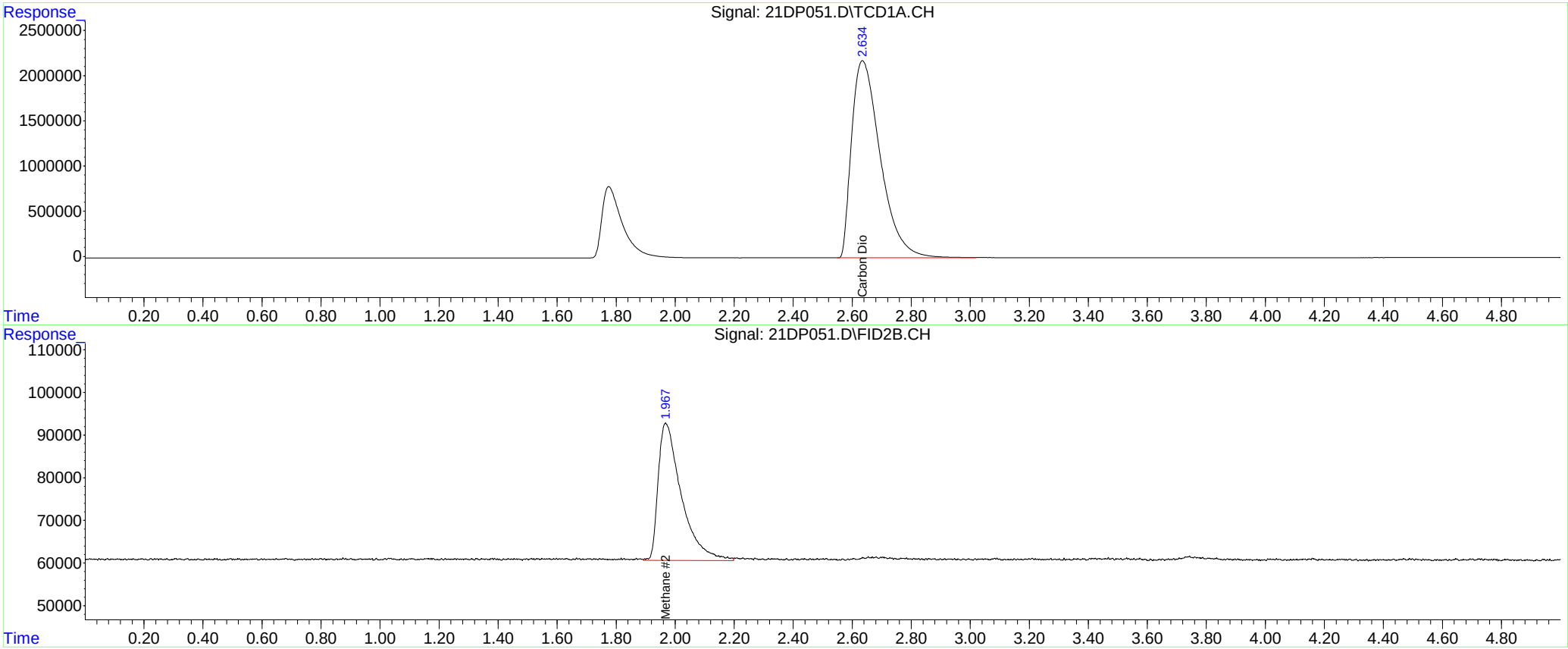
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP051.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 22 Apr 2021 9:35 am
Operator : JMW
Sample : 1D21038-DUP1
Misc :
ALS Vial : 25 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 22 09:40:40 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP052.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 22 Apr 2021 9:57 am
Operator : JMW
Sample : AA66036-CCV3
Misc :
ALS Vial : 26 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 22 10:02:13 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.688	2.786	366003	5131	0.578038	NoCal	#
2)	Methane	0.000	1.969	0	19690084	N.D.	0.164227	#
3)	Ethene	3.716	3.745	1148485	23834804	NoCal	0.298788	#
4)	Ethyne	4.384	4.413	287510	4921635	NoCal	NoCal	
5)	Ethane	4.643	4.672	1991618	35048568	NoCal	0.299545	#

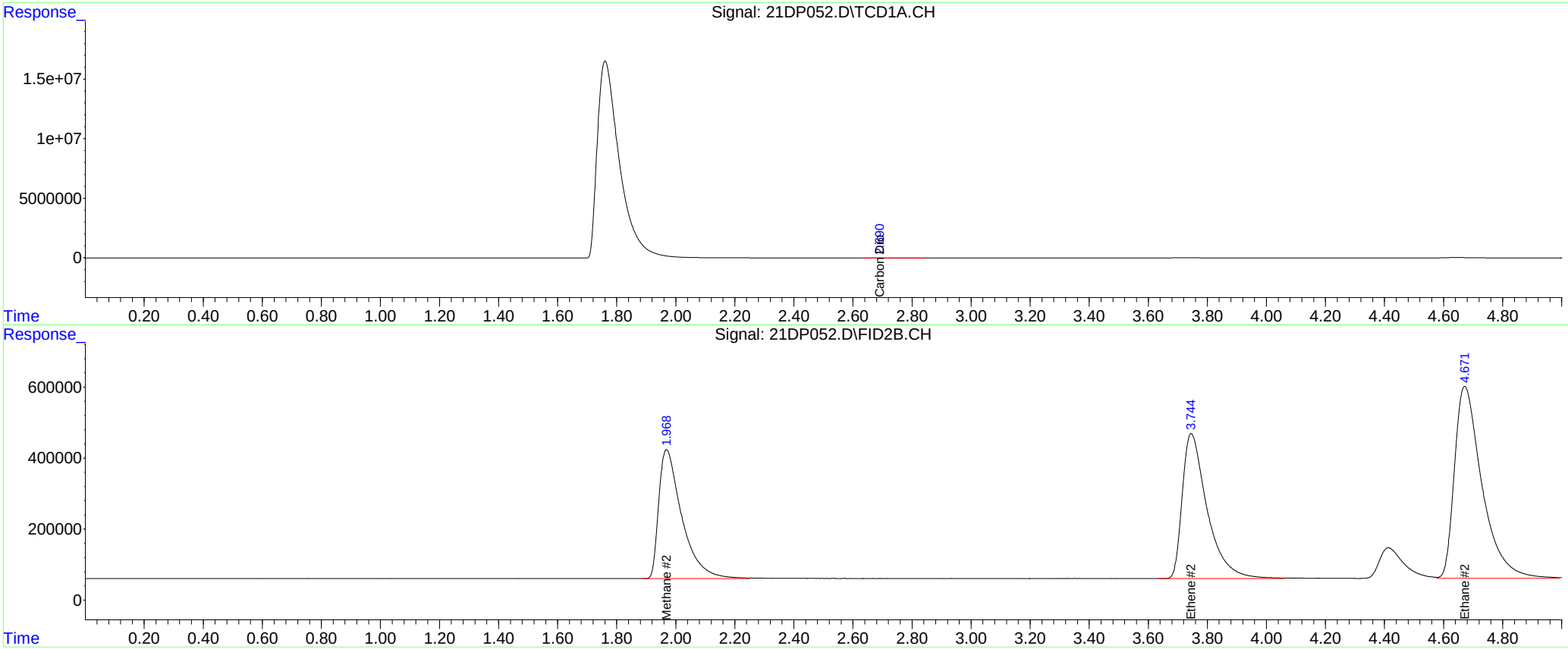
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP052.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 22 Apr 2021 9:57 am
Operator : JMW
Sample : AA66036-CCV3
Misc :
ALS Vial : 26 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 22 10:02:13 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP053.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 22 Apr 2021 10:18 am
Operator : JMW
Sample : AA66036-CCV4
Misc :
ALS Vial : 27 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 22 10:23:57 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.673	2.779	29028499	8258	45.845434	NoCal	#
2)	Methane	0.000	1.976	0	50709	N.D.	0.000423	#
3)	Ethene	0.000	3.738	0	5465	N.D.	0.000069	#
4)	Ethyne	4.380	4.395f	32831	12940	NoCal	NoCal	
5)	Ethane	4.706f	4.659f	14613	13640	NoCal	0.000117	#

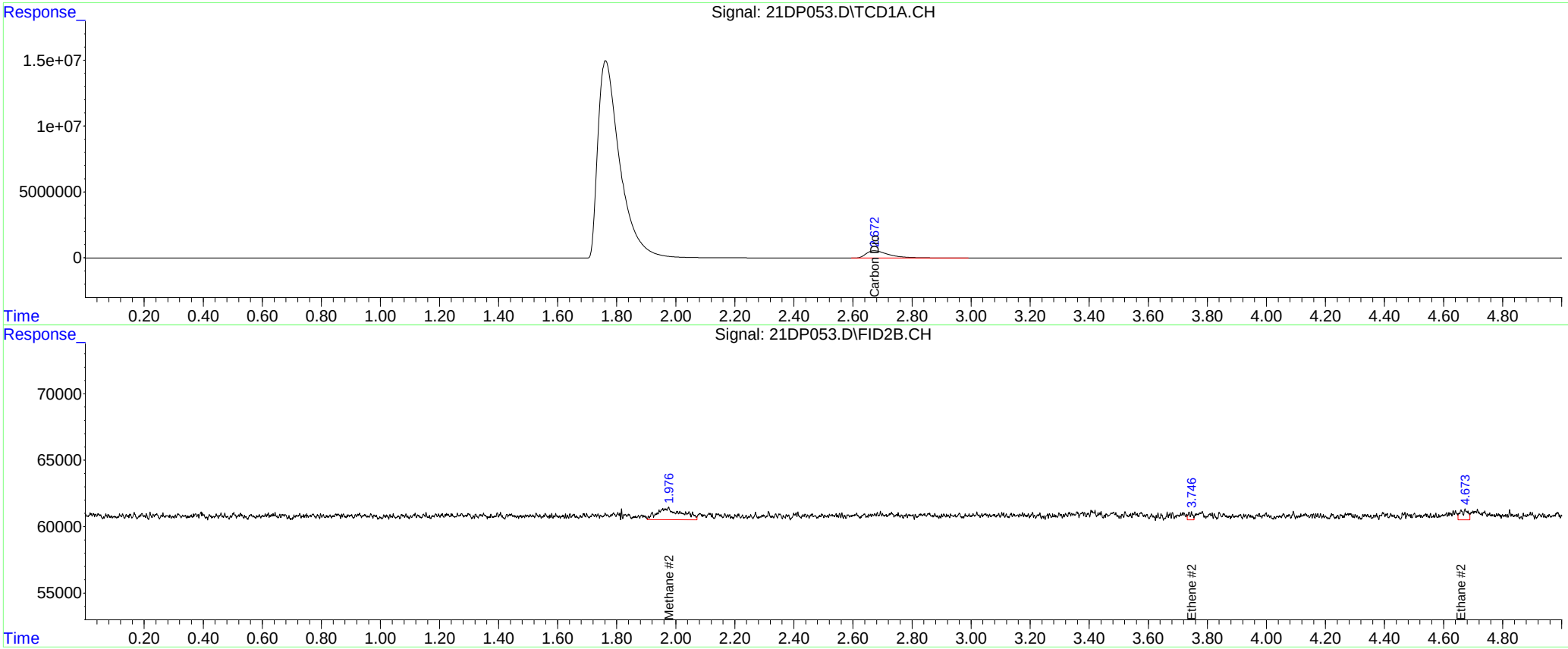
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042121\
Data File : 21DP053.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 22 Apr 2021 10:18 am
Operator : JMW
Sample : AA66036-CCV4
Misc :
ALS Vial : 27 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 22 10:23:57 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



ANALYSIS SEQUENCE

AA64746

Instrument: OVGCFID2

Calibration ID: 2102005

Printed: 2/18/2021 10:57:40AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA64746-CAL1	QC		1	6	A1B0554			
AA64746-CAL2	QC		2	7	A1B0555			
AA64746-CAL3	QC		3	20	A1B0556			
AA64746-CAL4	QC		4	9	A1B0557			
AA64746-CAL5	QC		5	10	A1B0558			
AA64746-CAL6	QC		6	11	A1B0559			
AA64746-CAL7	QC		7	12	A1B0560			
AA64746-CAL8	QC		8	13	A1B0547			
AA64746-CAL9	QC		9	14	A1B0548			
AA64746-CALA	QC		10	21	A1B0549			
AA64746-CALB	QC		11	16	A1B0550			
AA64746-CALC	QC		12	17	A1B0551			
AA64746-CALD	QC		13	18	A1B0552			
AA64746-CALE	QC		14	19	A1B0553			
AA64746-SCV1	QC		15	22	A1A0933			

JMW 2/1/2021
Samples Loaded By Date

JMW 2/2/2021
Data Processed By Date

VOLATILES GC/MS LOGBOOK (EPA Method 624.1 / SW-846 Method 8260D)

Tune Start Date: 2/1/2021
Sequence: AA647446
Batch: 1B01007
Method: R5K
Analyst: JMW
Instrument EM Voltage: N/A

Surrogate: N/A
Internal: N/A
LCS Mix 2°: N/A A1A0923
LCS Acrolein 2°: N/A
LCS Gas 2°: N/A

8260 Mix: N/A
8260 Add: N/A A0J0838
8260 Ac/Ac: N/A A0L0607
8260 Gases: N/A
Instrument #: OV6CFID2

21B1

Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)	Comments	LIMS
003	1B01007-BLK1			3			RR, CO_2 present, degas water	
004	1B01007-BLK2			4			CO_2 > MDL (2.14)	
005	1B01007-BLK2			4			CO_2 (2.96) - Degas again	
006	1B01007-BLK3			5			pass ✓	
007	AA647446-CAL1			6			✓	
008	AA647446-CAL2			7			✓	
009	AA647446-CAL3			8			Re-prep, Re-run	
010	AA647446-CAL4			9			✓	
011	AA647446-CAL5			10			✓	
012	AA647446-CAL6			11			✓	
013	AA647446-CAL7			12			✓	
014	AA647446-CAL8			13			✓	
015	AA647446-CAL9			14			✓	
016	AA647446-CALA			15			Re-prep, Re-run	
017	AA647446-CALB			16			✓	
018	AA647446-CALC			17			✓	
019	AA647446-CALD			18			✓	
020	AA647446-CALE			19			✓	
021	AA647446-CAL3			20			✓	
022	AA647446-CALA			21			✓	
023	AA647446-SCV			22			✓	

Manual Integration Review Form

ENVIRONMENTAL CONSERVATION LABORATORIES, INC. ☐ Cary ☐ Jacksonville ☑ Orlando

I hereby attest that the manual integrations contained in this package have been thoroughly reviewed and are in agreement with the associated hardcopy data.

The electronic files listed below have been reviewed for accuracy, completeness and comply with ENCO labs QA-11 Manual Integration Policy including:

- "Before" and "After" chromatograms are provided
- Manual integrations are indicated on expanded scale "after" chromatograms at a scale large enough to see the manual integration performed.
- Reintegration technique marked if available on the data system
- Technical justification for manual integration
- Appropriate flags indicating which analytes were manually integrated are included in the raw data
- Analyst's initials and date.

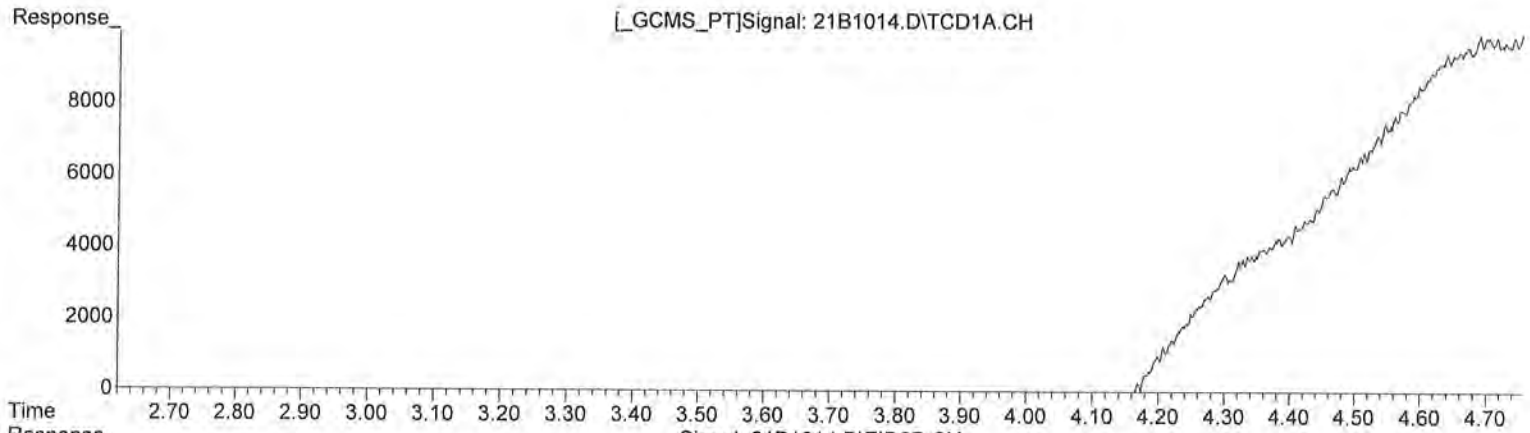
Instrument ID:	OVGCFID2
Sequence/Batch ID:	AA64746/1B01007
Data File Prefix:	21B1
Date and Time Range of MIs:	2/1/2021 14:26 - 2/2/2021 8:33
Reviewer Print Name:	Neil Christians
Reviewer Signature:	
Date of Review:	2/18/21

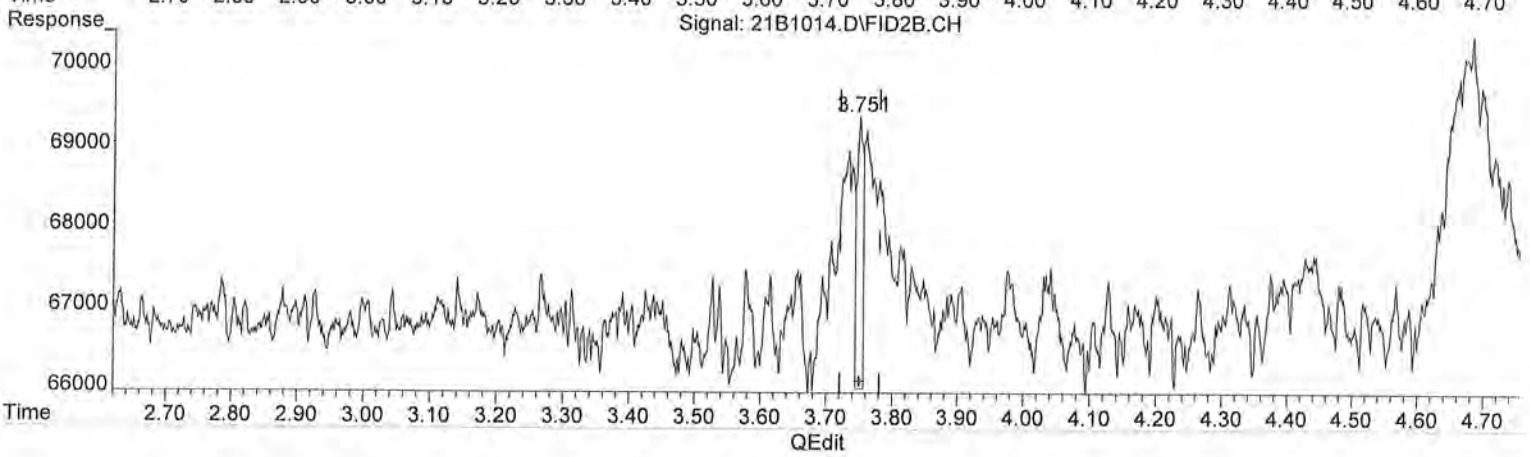
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1014.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 2:12 pm
Operator : JMW
Sample : AA64746-CAL8
Misc :
ALS Vial : 13 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 14:17:10 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





(3) Ethene
3.714min 0.000 mg/L
response 30553

(3) Ethene #2
3.751min 0.000 mg/L
response 21443

Select One:
[✓] Original Integration [ ] Manual Integration
JMW 2/2/2021
[ ] Reason for manual integration:
X [ ] Poor integration (peak tailing, baseline selection)
[ ] Missed peak selection/Peak not found
[ ] Dump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date JMW 2/2/21
Review by/Date:

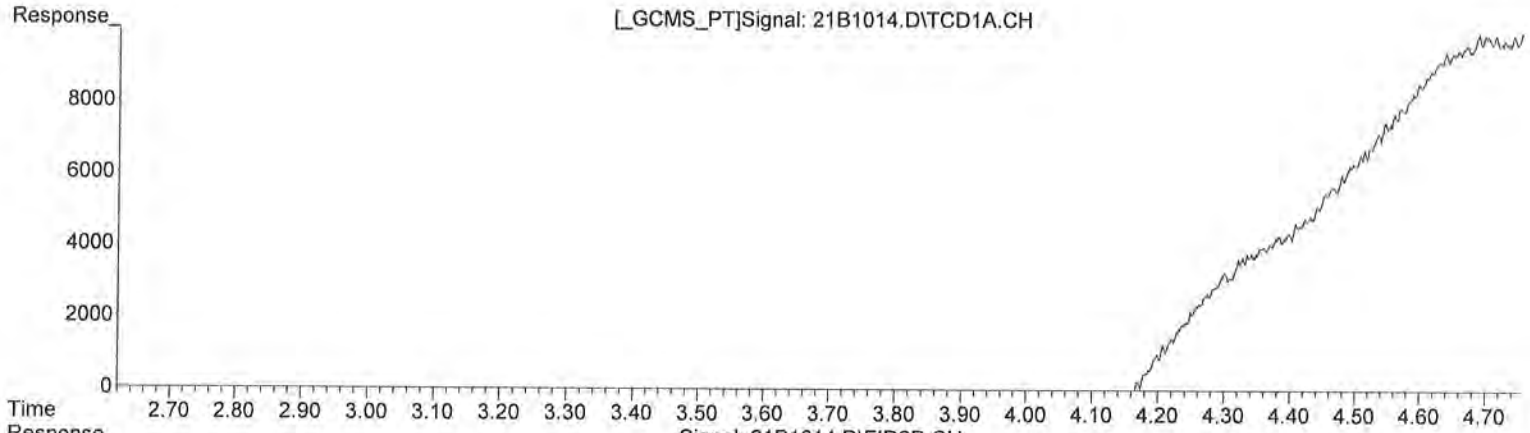
(+) = Expected Retention Time
060120.M Mon Feb 01 14:26:52 2021

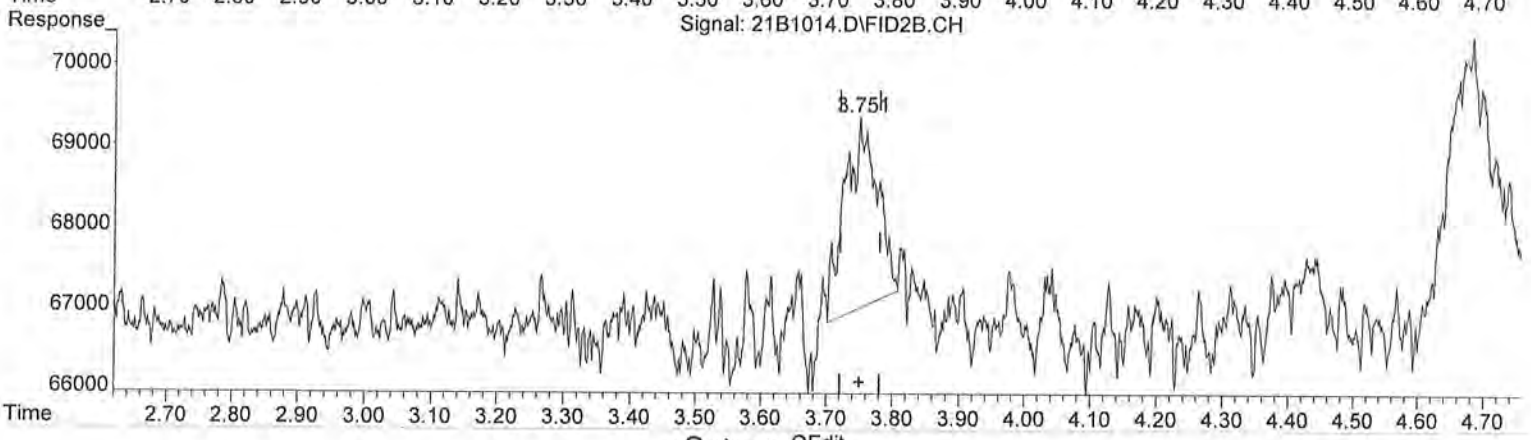
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1014.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 2:12 pm
Operator : JMW
Sample : AA64746-CAL8
Misc :
ALS Vial : 13 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 14:17:10 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





(3) Ethene
3.714min 0.000 mg/L
response 30553

(3) Ethene #2
3.751min 0.001 mg/L m
response 80262

(+) = Expected Retention Time
060120.M Mon Feb 01 14:27:10 2021

QEdit

Select One:

[ ] Original Integration [✓] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Bump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:

Review by/Date JMJ 2/2/21

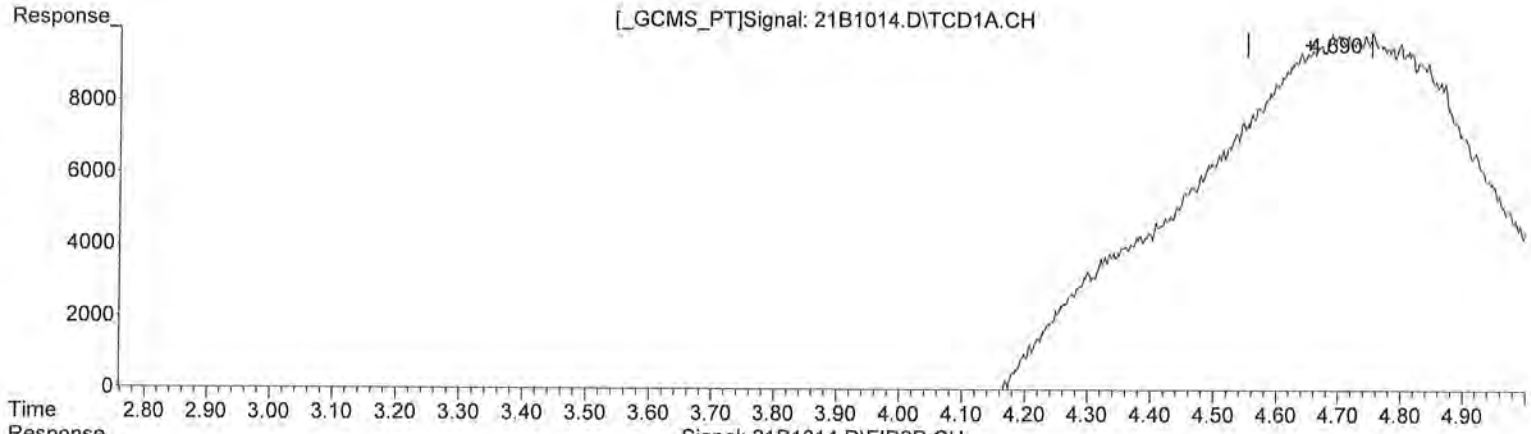
Review by/Date:

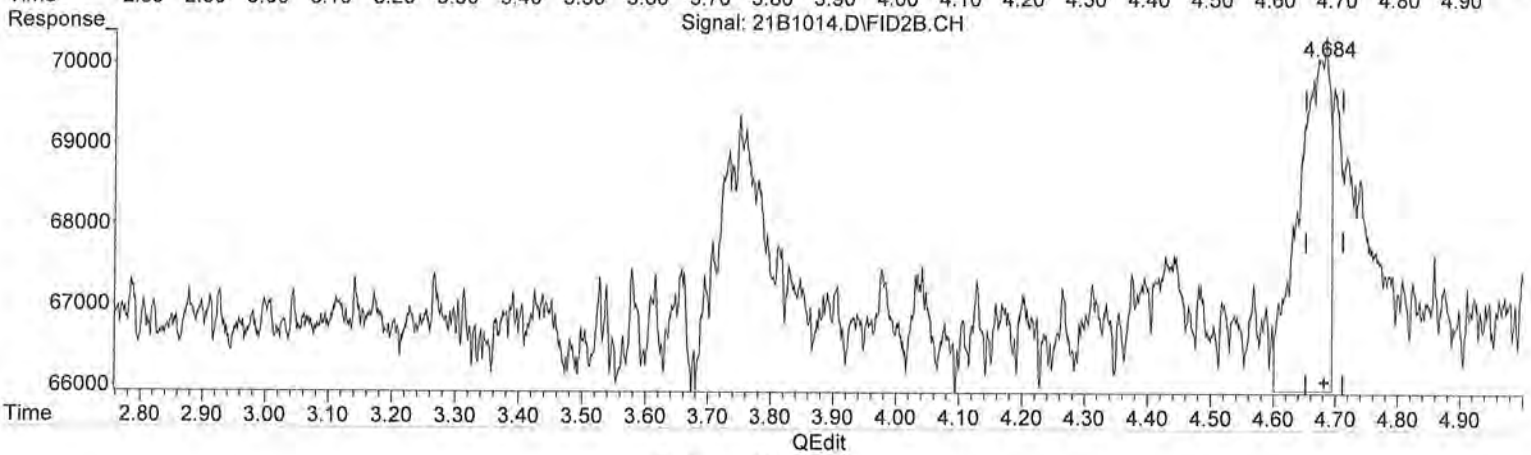
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1014.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 2:12 pm
Operator : JMW
Sample : AA64746-CAL8
Misc :
ALS Vial : 13 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 14:17:10 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





QEdit

(5) Ethane
4.703min 0.000 mg/L
response 4428569

(5) Ethane #2
4.684min 0.002 mg/L
response 149734

Select One:
[Y] Original Integration [ ] Manual Integration
Select reason for manual integration:
[Y] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date JMW 2/2/21
Review by/Date:

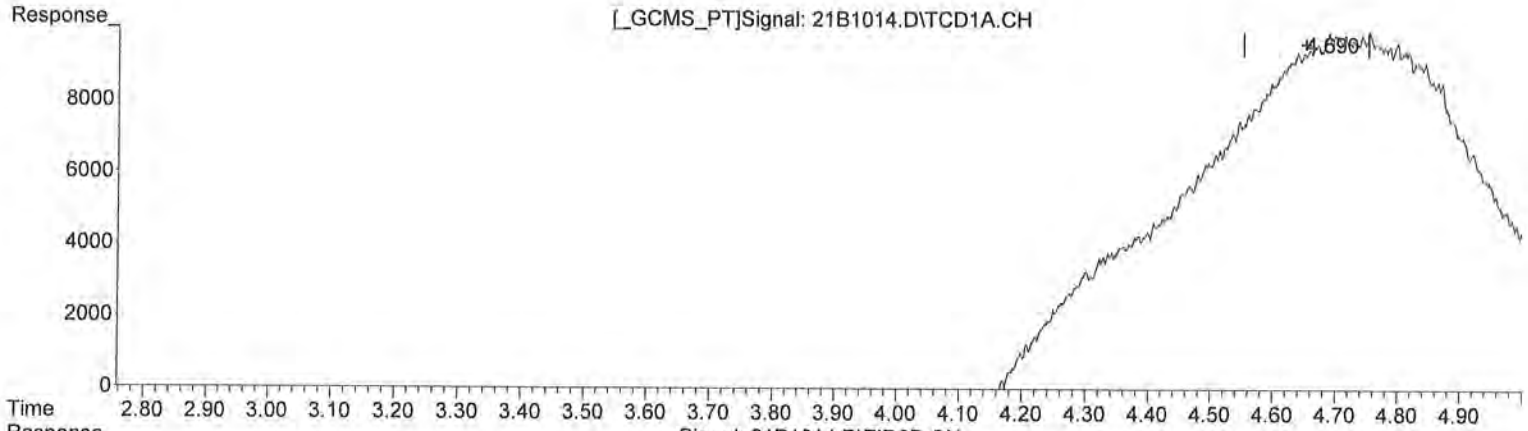
(+) = Expected Retention Time
060120.M Mon Feb 01 14:27:17 2021

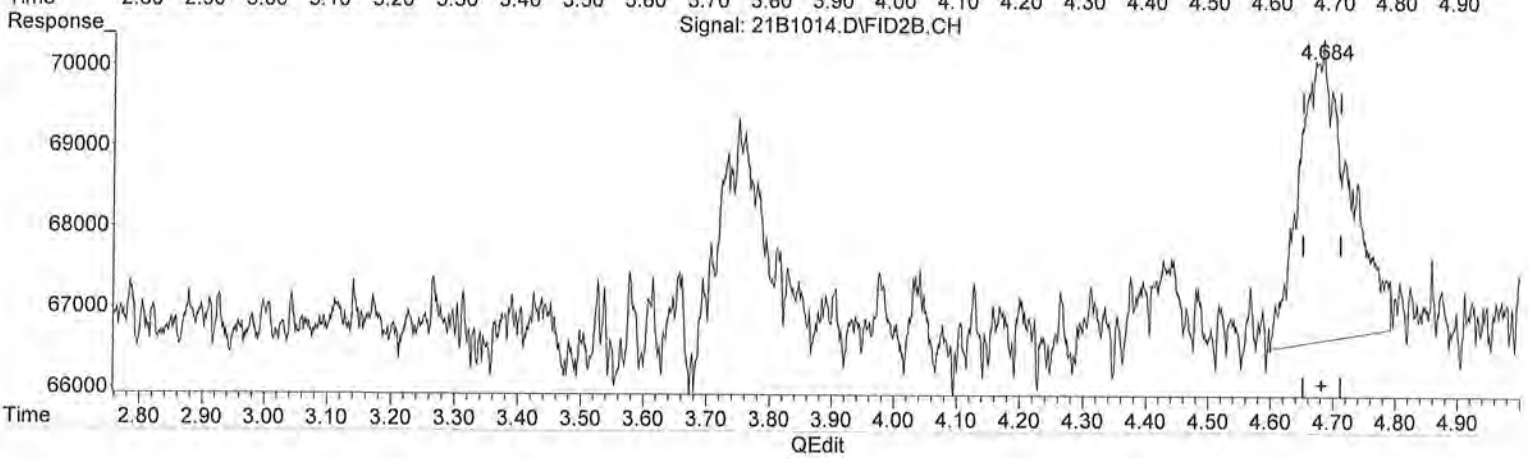
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1014.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 2:12 pm
Operator : JMW
Sample : AA64746-CAL8
Misc :
ALS Vial : 13 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 14:17:10 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





(5) Ethane
4.703min 0.000 mg/L
response 4428569

(5) Ethane #2
4.684min 0.002 mg/L m
response 203399

Select One:
[ ] Original Integration [X] Manual Integration
Select reason for manual integration:
[X] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date JMW 2/2/21
Review by/Date:

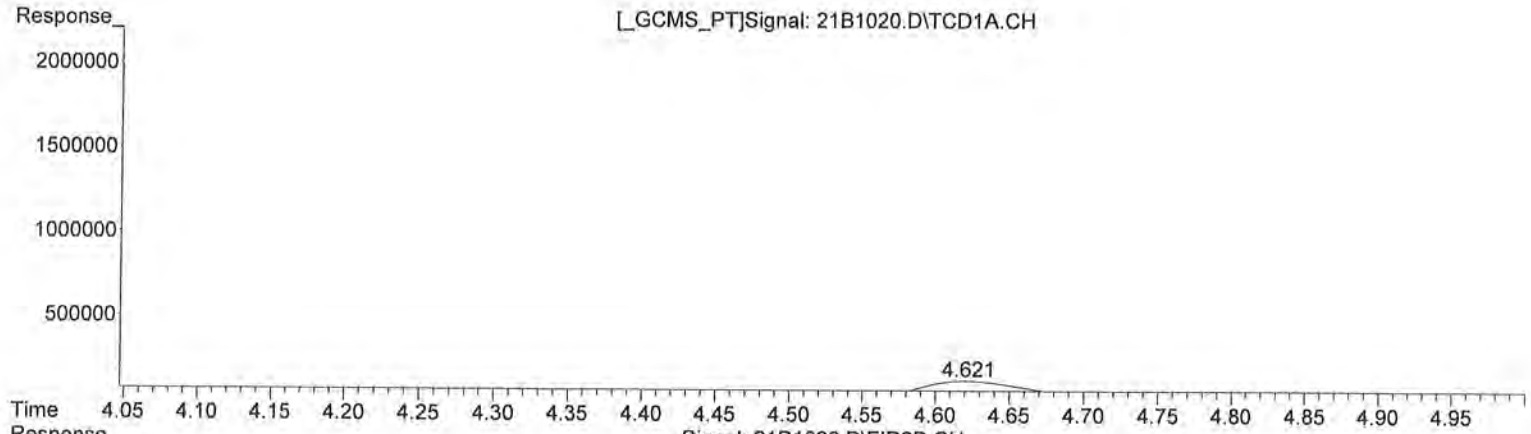
(+) = Expected Retention Time
060120.M Mon Feb 01 14:27:31 2021

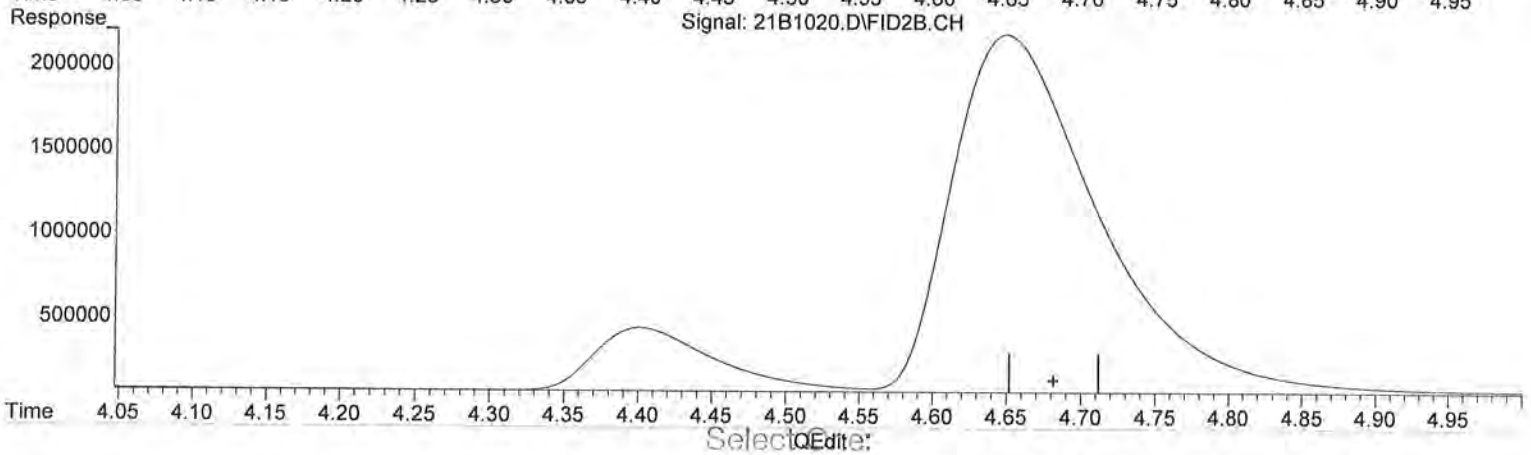
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1020.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 3:47 pm
Operator : JMW
Sample : AA64746-CALE
Misc :
ALS Vial : 19 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 15:52:21 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





(5) Ethane
4.621min 0.000 mg/L
response 8808275

(5) Ethane #2
0.000min 0.000 mg/L
response 0

Select QEdit:
[+] Original Integration [ ] Manual Integration
Select reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[+] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] [illegible] reintegration
[ ] [illegible]
[illegible] JMW 2/2/21

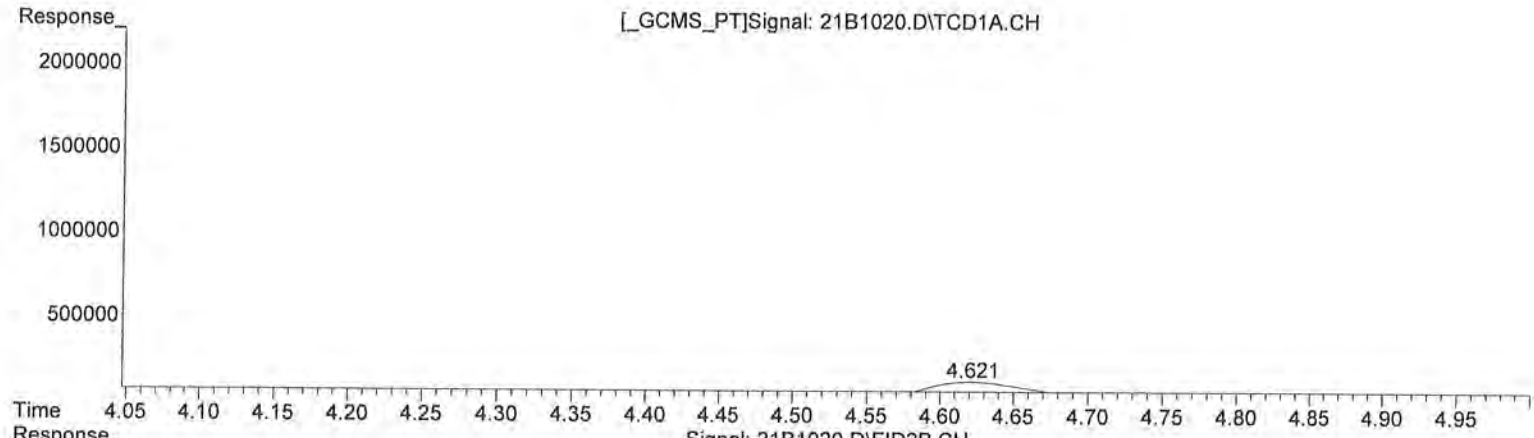
(+) = Expected Retention Time
060120.M Mon Feb 01 15:53:50 2021

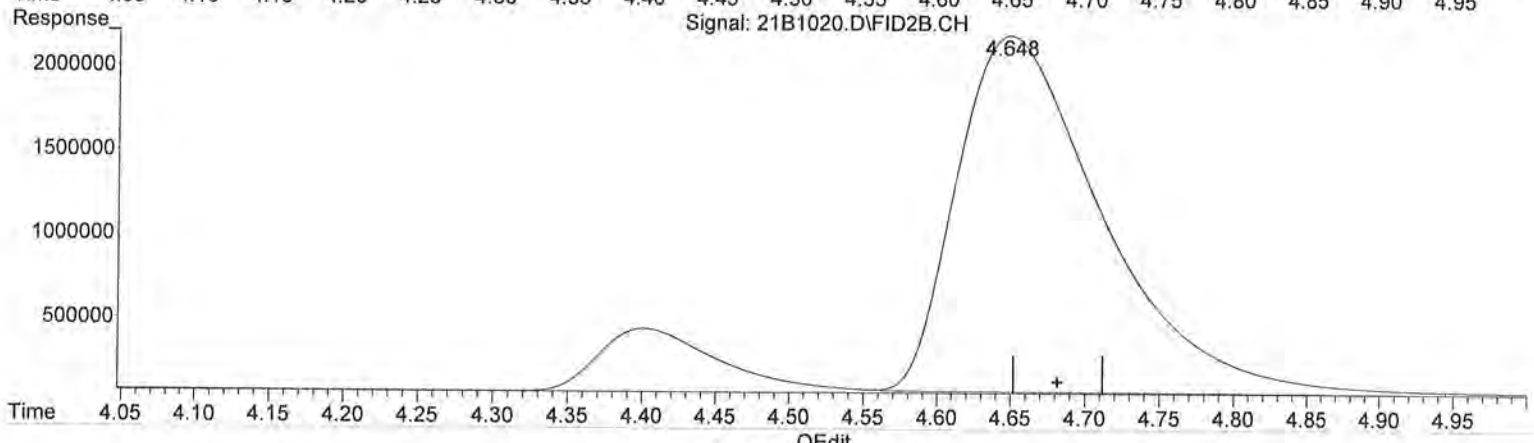
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1020.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 3:47 pm
Operator : JMW
Sample : AA64746-CALE
Misc :
ALS Vial : 19 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 15:52:21 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





QEdit

(5) Ethane
4.621min 0.000 mg/L
response 8808275

(5) Ethane #2
4.648min 1.511 mg/L m
response 145431677

Select One:
[ ] Original Integration [✓] Manual Integration
Select reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[✓] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date: JMW 2/2/21
Review by/Date:

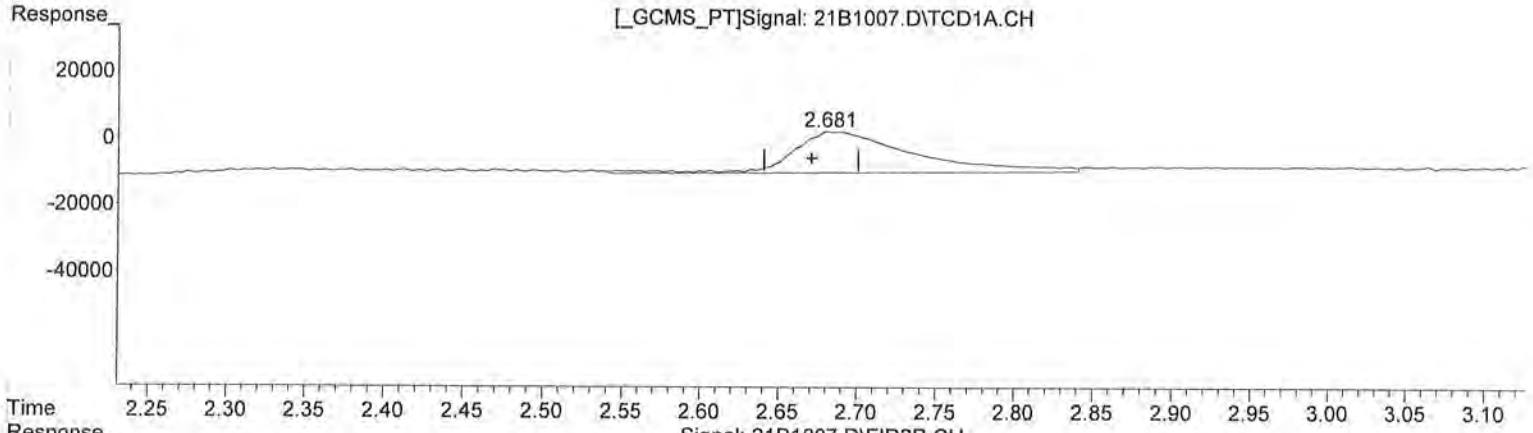
(+) = Expected Retention Time
060120.M Mon Feb 01 15:54:12 2021

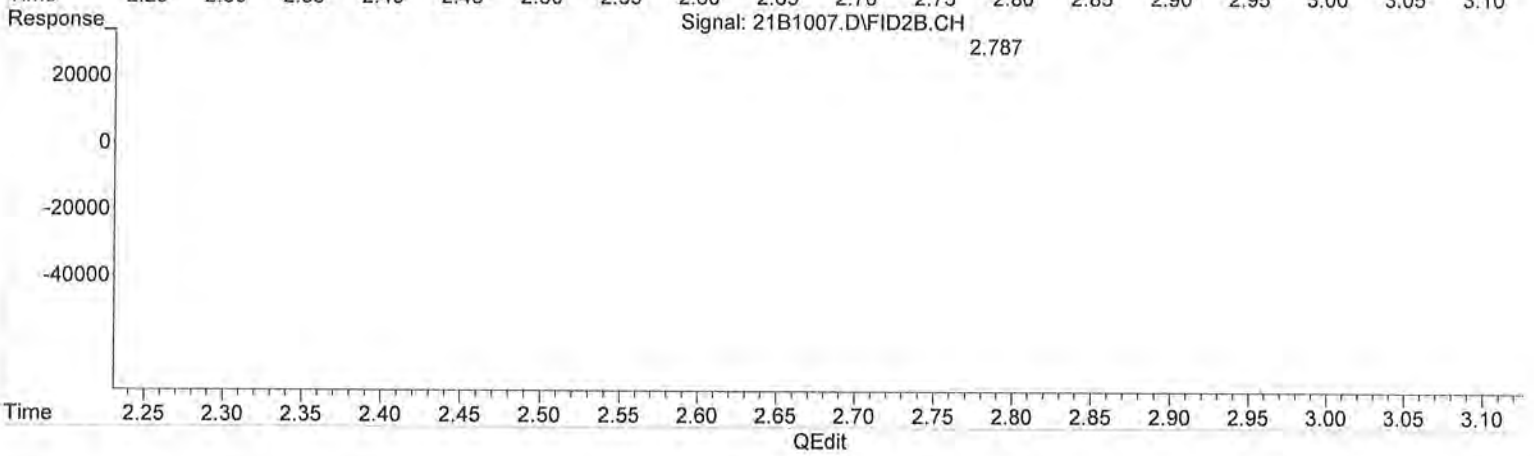
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1007.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 12:04 pm
Operator : JMW
Sample : AA64746-CAL1
Misc :
ALS Vial : 6 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 12:10:02 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





(1) Carbon Dioxide
2.684min 1.390 ppmv
response 682006

(1) Carbon Dioxide #2
2.788min 0.000 ppmv
response 10633

Select One:
[✓] Original Integration [ ] Manual Integration
Select reason for manual integration:
[✓] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date: JMW 2/2/21
Review by/Date:

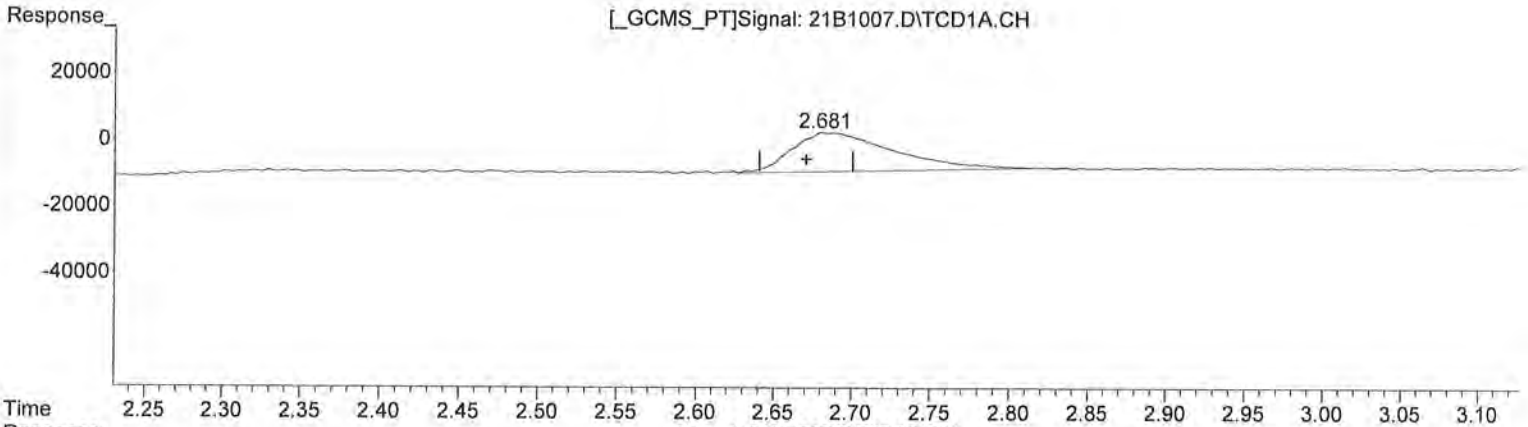
(+) = Expected Retention Time
020121.M Tue Feb 02 08:22:10 2021

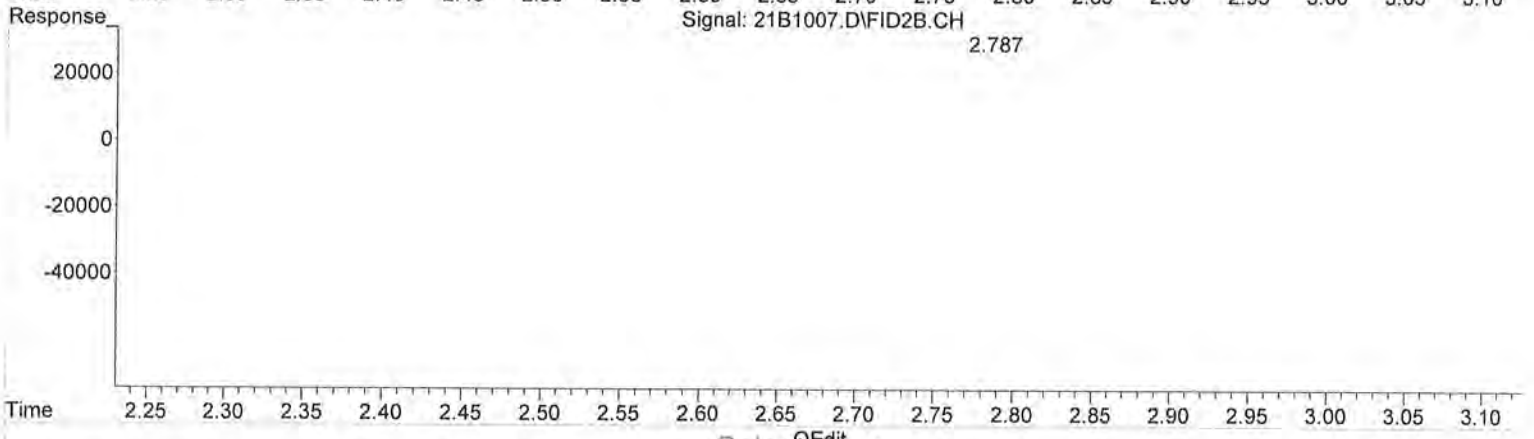
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1007.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 12:04 pm
Operator : JMW
Sample : AA64746-CAL1
Misc :
ALS Vial : 6 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 12:10:02 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





QEdit

(1) Carbon Dioxide
2.681min 1.086 mg/L m
response 532714

(1) Carbon Dioxide #2
2.788min 0.000 mg/L
response 10633

Select One:
[ ] Original Integration [✓] Manual Integration
Select reason for manual integration:
[✓] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] RT reintegration
[ ] Other

JMW 2/2/21

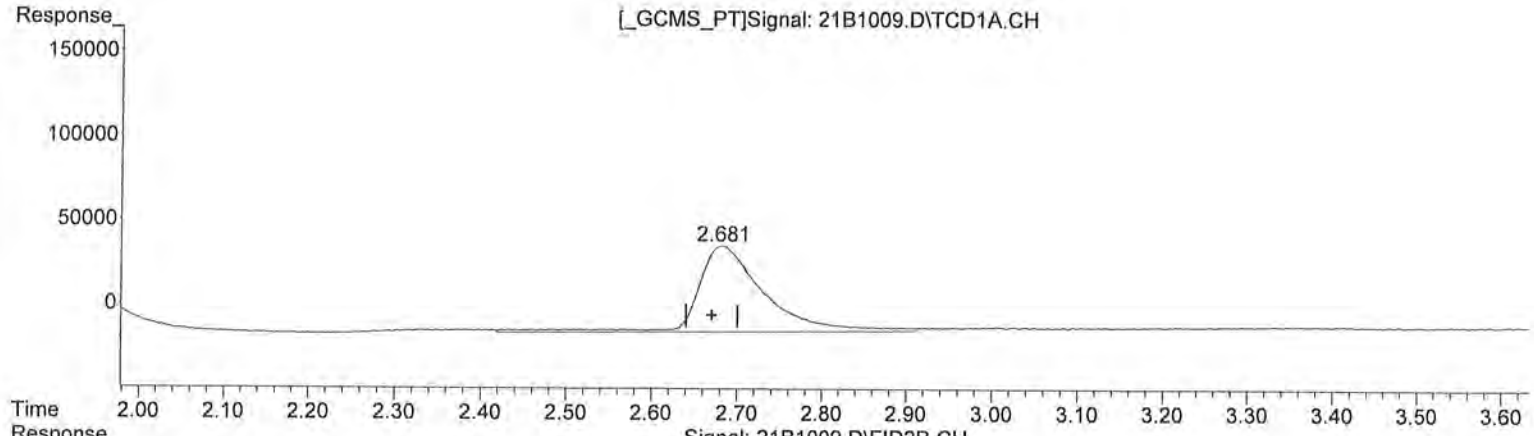
(+) = Expected Retention Time
020121.M Tue Feb 02 08:22:20 2021

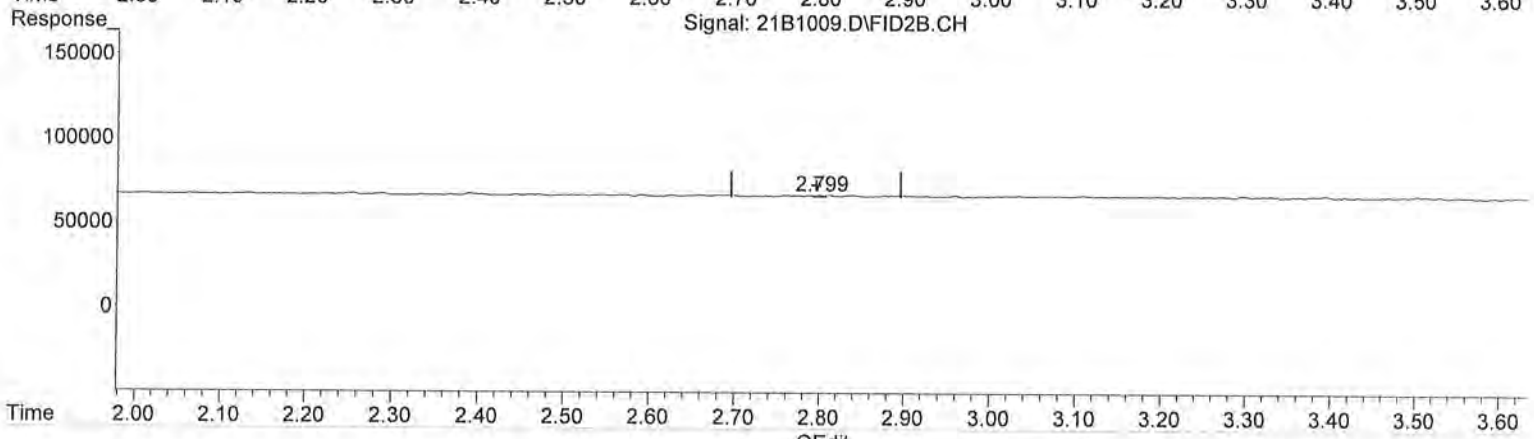
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1009.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 12:41 pm
Operator : JMW
Sample : AA64746-CAL3
Misc :
ALS Vial : 8 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 12:46:17 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





QEdit

(1) Carbon Dioxide
2.683min 5.718 ppmv
response 2805924

(1) Carbon Dioxide #2
2.800min 0.000 ppmv
response 6337

Select One: JMW 2/2/21
[✓] Original Integration [ ] Manual Integration
Select reason for manual integration:
[✓] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] Misintegration

JMW 2/2/21

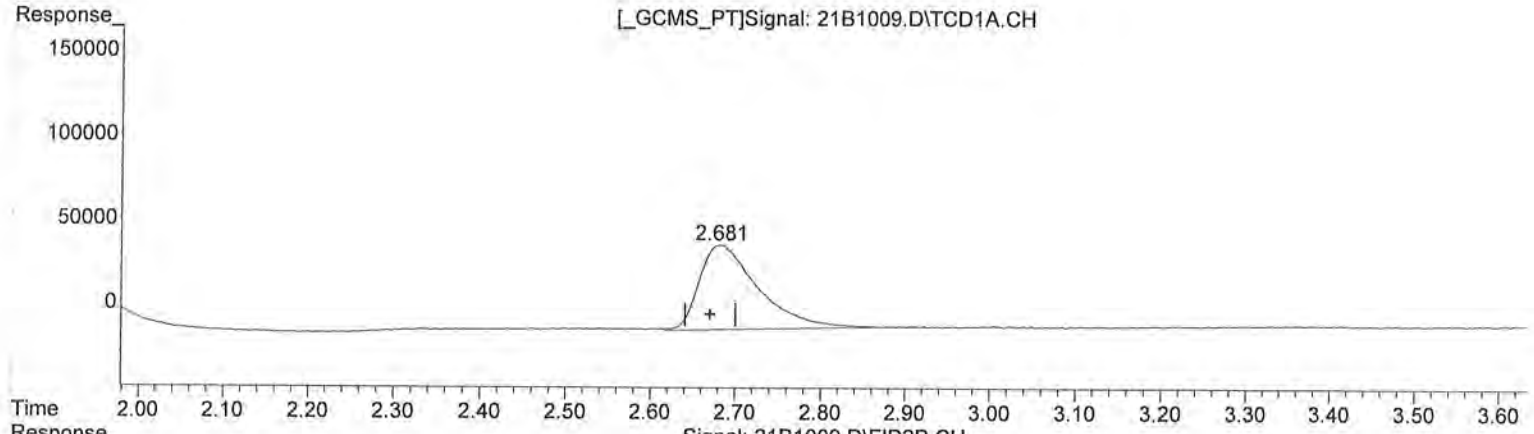
(+) = Expected Retention Time
020121.M Tue Feb 02 08:23:31 2021

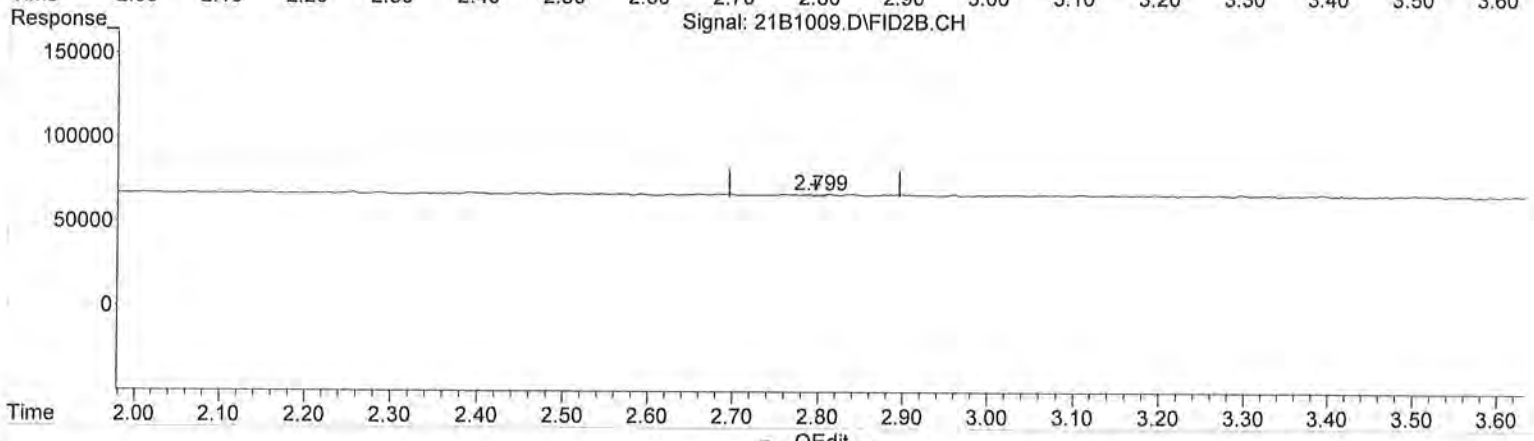
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1009.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 12:41 pm
Operator : JMW
Sample : AA64746-CAL3
Misc :
ALS Vial : 8 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 12:46:17 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





QEdit

(1) Carbon Dioxide

2.681min 4.913 mg/L m

response 2410843

(1) Carbon Dioxide #2

2.800min 0.000 mg/L

response 6337

Select One:

[ ] Original Integration [✓] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] RRT integration

[ ] Other

JMW 2/2/21

(+) = Expected Retention Time

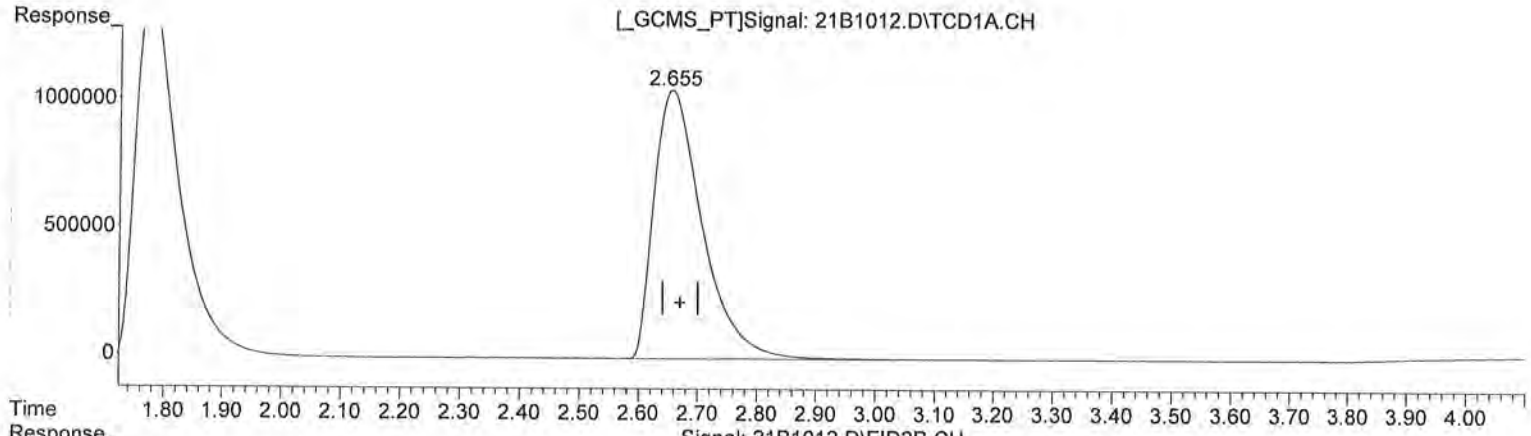
020121.M Tue Feb 02 08:23:46 2021

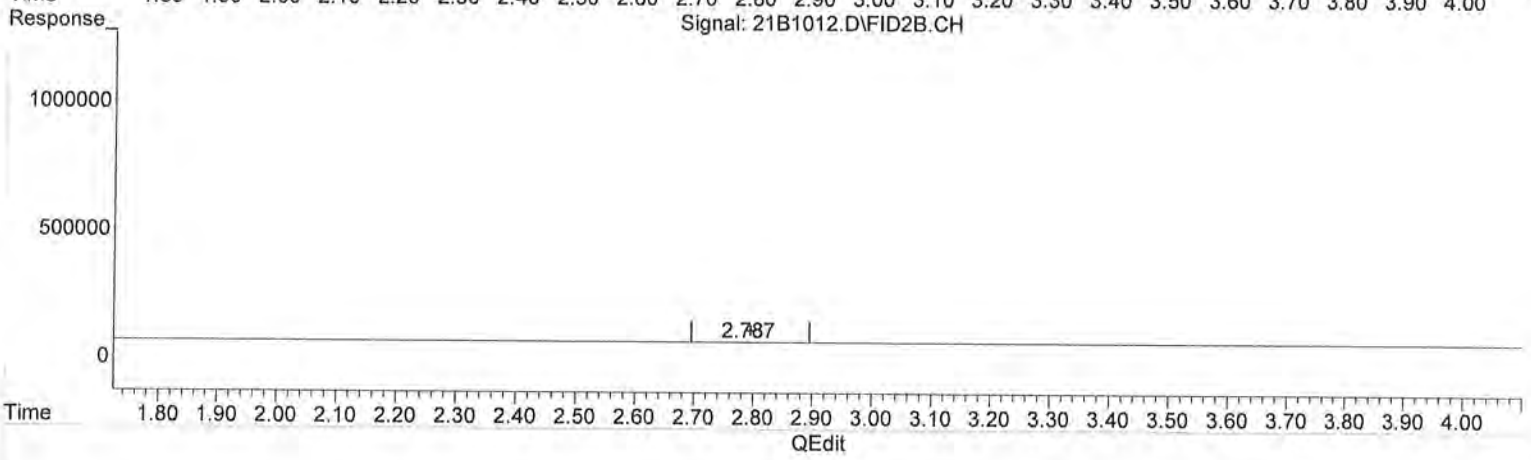
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1012.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 1:28 pm
Operator : JMW
Sample : AA64746-CAL6
Misc :
ALS Vial : 11 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 13:33:51 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





(1) Carbon Dioxide

2.656min 122.005 ppmv

response 59873024

(1) Carbon Dioxide #2

2.787min 0.000 ppmv

response 15408

Select One:

[✓] Original Integration [ ] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] Reintegration

JMW 2/2/21

(+) = Expected Retention Time

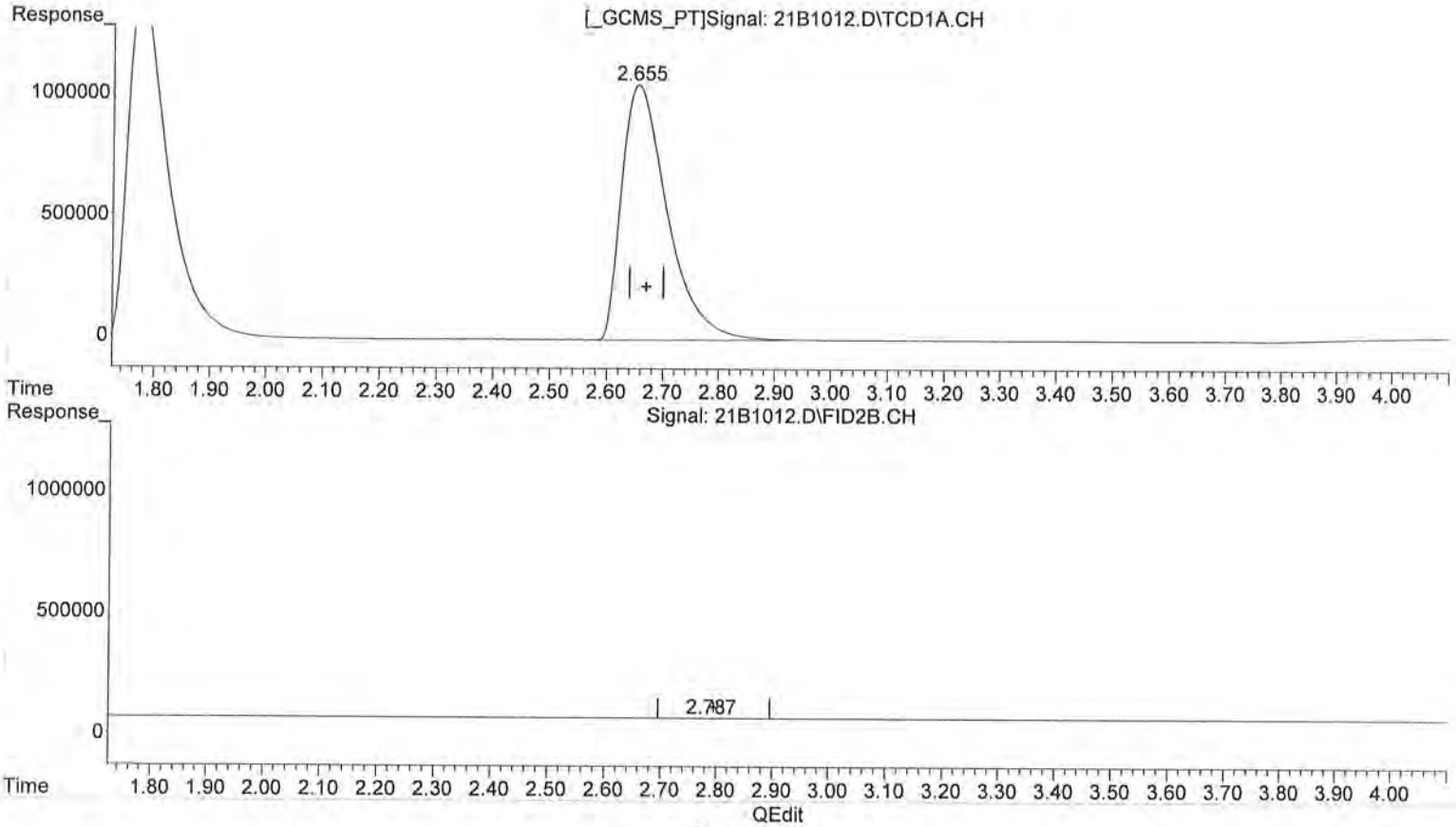
020121.M Tue Feb 02 08:26:28 2021

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1012.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 1:28 pm
Operator : JMW
Sample : AA64746-CAL6
Misc :
ALS Vial : 11 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 13:33:51 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(1) Carbon Dioxide

2.655min 121.763 mg/L m

response 59754008

(1) Carbon Dioxide #2

2.787min 0.000 mg/L

response 15408

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date JMW 2/2/21

Review by/Date -

(+) = Expected Retention Time

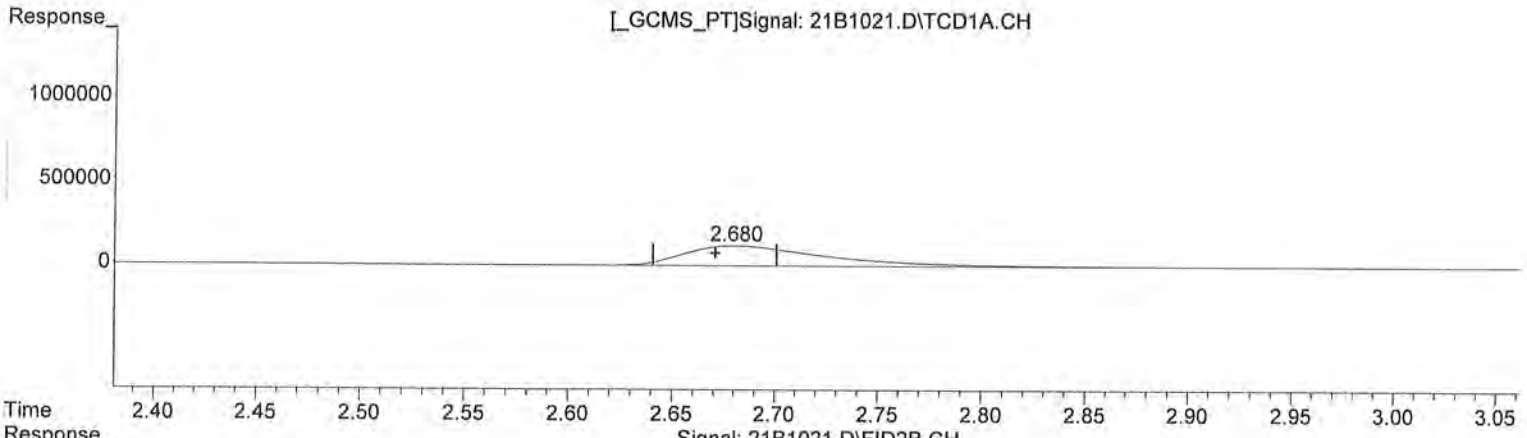
020121.M Tue Feb 02 08:26:45 2021

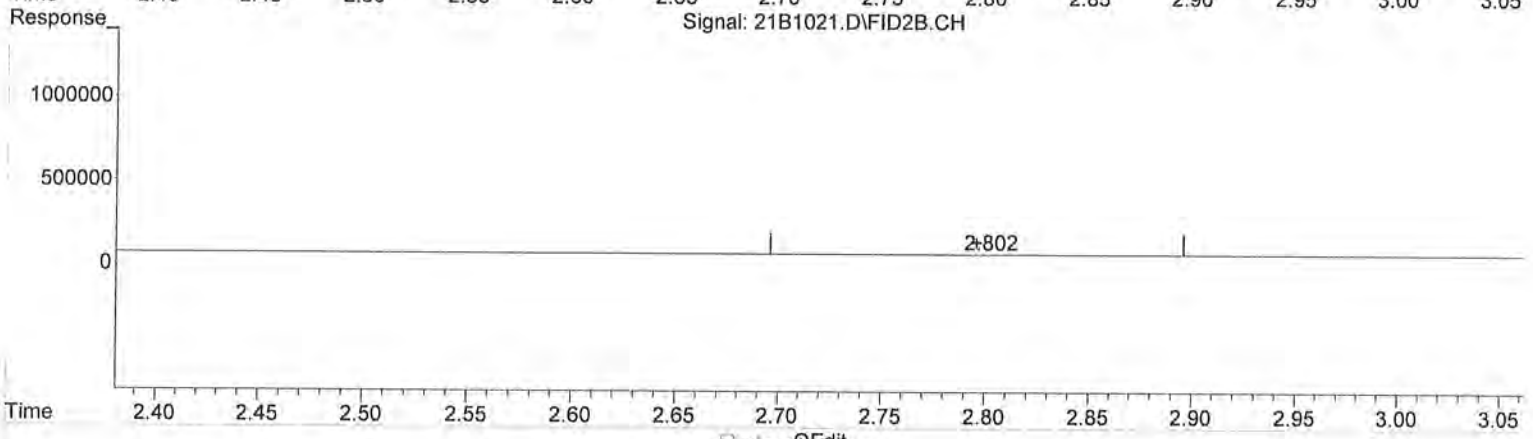
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1021.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 4:03 pm
Operator : JMW
Sample : AA64746-CAL3
Misc :
ALS Vial : 20 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 16:08:13 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





QEdit

(1) Carbon Dioxide
2.680min 12.150 ppmv
response 5962401

(1) Carbon Dioxide #2
2.802min 0.000 ppmv
response 12122

Select One:
[✓] Original Integration [ ] Manual Integration
Select reason for manual integration:
[✓] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date: JMW 2/2/21
Review by/Date:

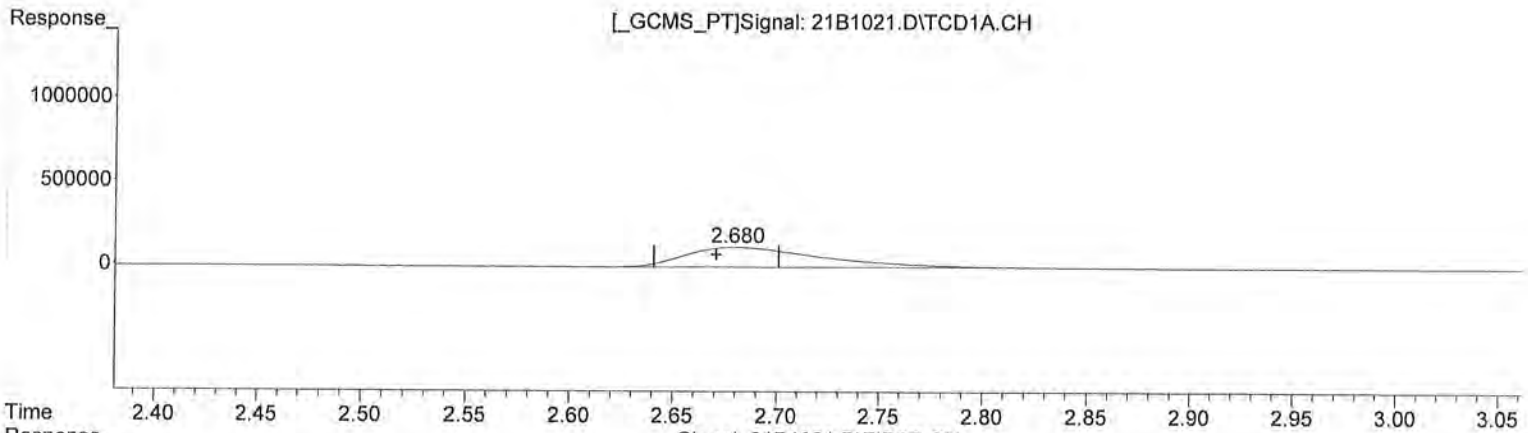
(+) = Expected Retention Time
020121.M Tue Feb 02 08:33:24 2021

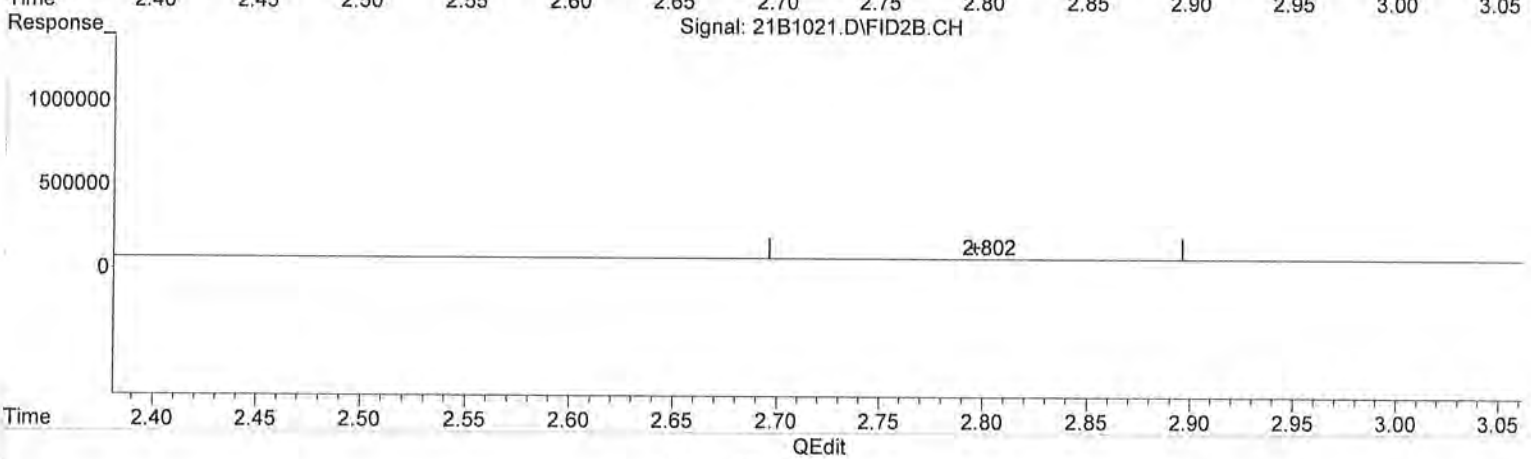
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1021.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 4:03 pm
Operator : JMW
Sample : AA64746-CAL3
Misc :
ALS Vial : 20 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 16:08:13 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





QEdit

(1) Carbon Dioxide

2.680min 11.040 mg/L m

response 5417580

(1) Carbon Dioxide #2

2.802min 0.000 mg/L

response 12122

Select One:

[ ] Original Integration [✓] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] RSTD reintegration

[ ] Other:

Review by/Date: JMW 2/2/21

(+) = Expected Retention Time

020121.M Tue Feb 02 08:33:41 2021

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1006.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 11:33 am
Operator : JMW
Sample : 1B01007-BLK3
Misc :
ALS Vial : 5 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 11:38:22 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.682	2.767	134681	20978	0.274444m	NoCal	#
2)	Methane	0.000	0.000	0	0	N.D.	N.D.	
3)	Ethene	3.715	3.751	76171	10746	NoCal	0.000145	#
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d	
5)	Ethane	4.726f	4.671	15760632	18597	NoCal	0.000193	#

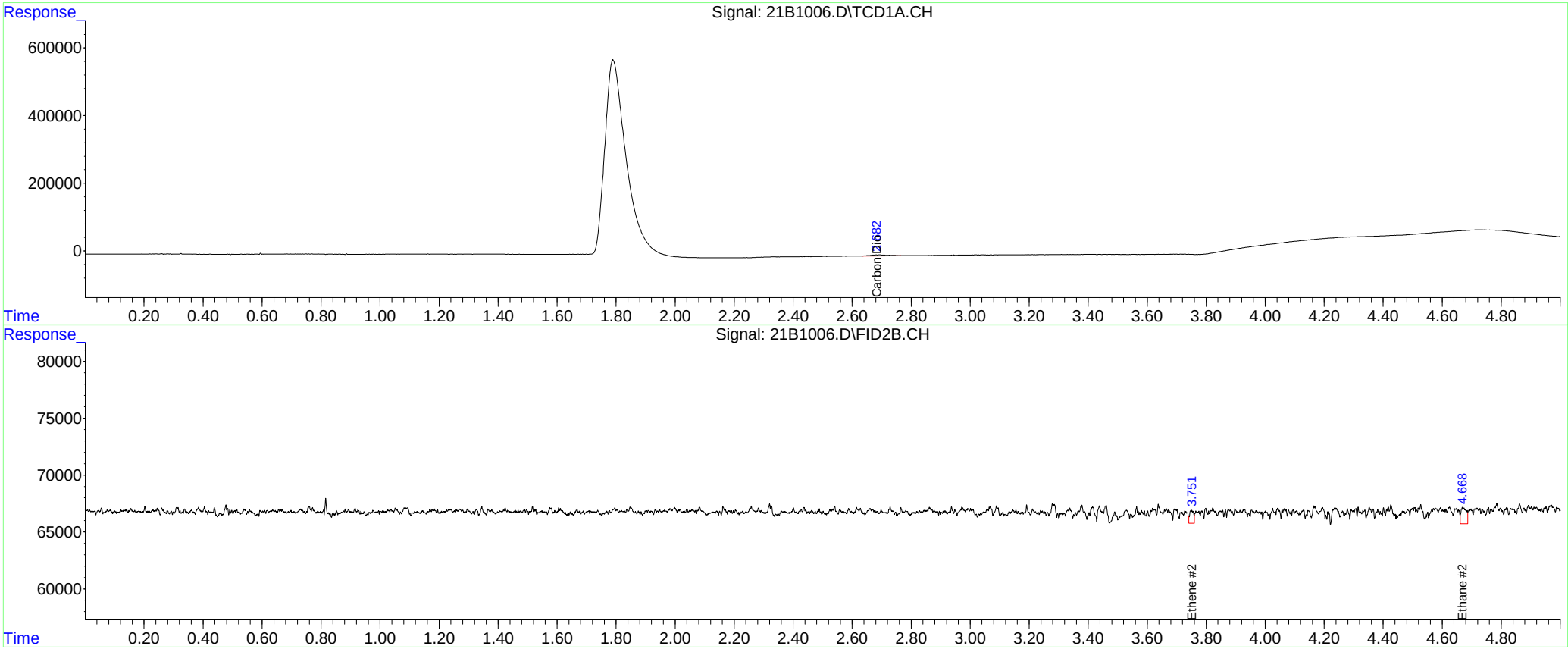
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1006.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 11:33 am
Operator : JMW
Sample : 1B01007-BLK3
Misc :
ALS Vial : 5 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 11:38:22 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1007.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 12:04 pm
Operator : JMW
Sample : AA64746-CAL1
Misc :
ALS Vial : 6 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 12:10:02 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.681	2.788	532714	10633	1.085528m	NoCal	#
2)	Methane	0.000	0.000	0	0	N.D. d	N.D. d	
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

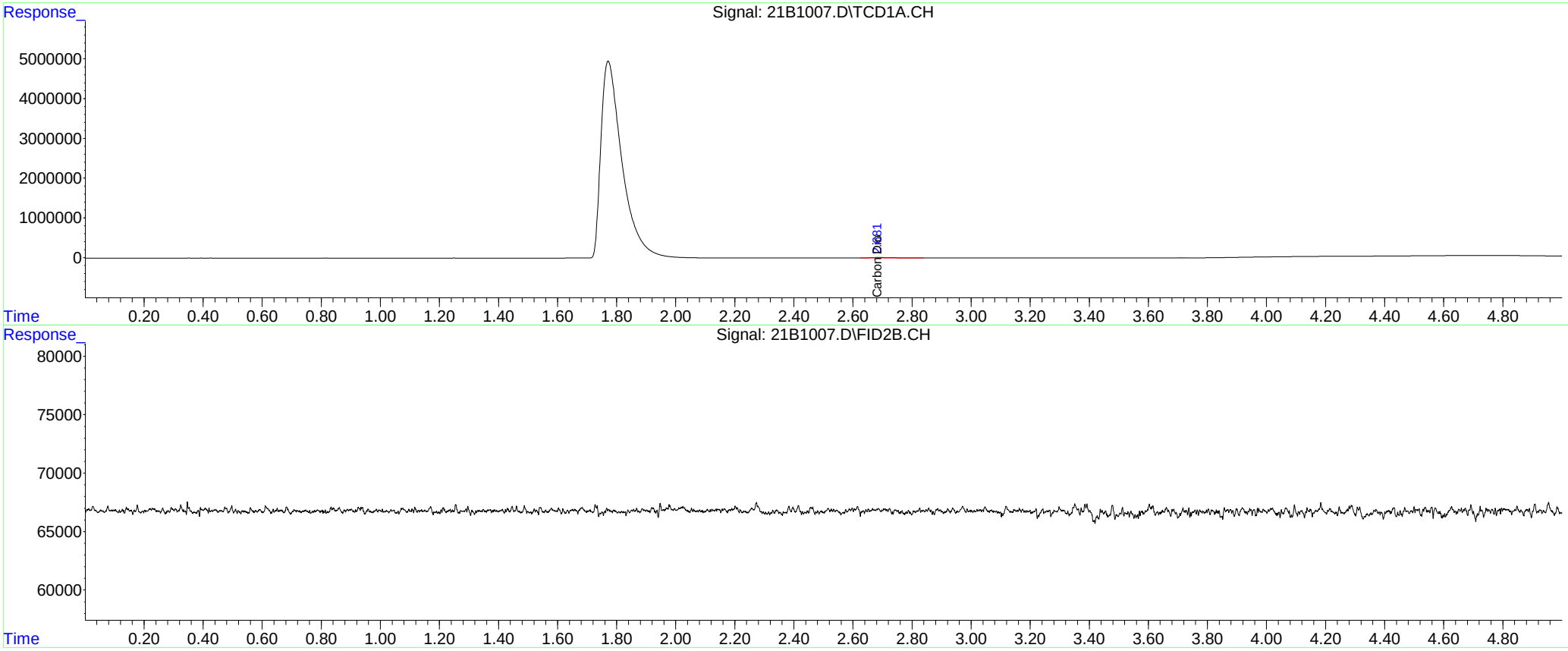
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1007.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 12:04 pm
Operator : JMW
Sample : AA64746-CAL1
Misc :
ALS Vial : 6 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 12:10:02 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1008.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 12:25 pm
Operator : JMW
Sample : AA64746-CAL2
Misc :
ALS Vial : 7 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 12:30:24 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.686	2.788	1427557	4761	2.908978m	NoCal	#
2)	Methane	0.000	0.000	0	0	N.D. d	N.D. d	
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

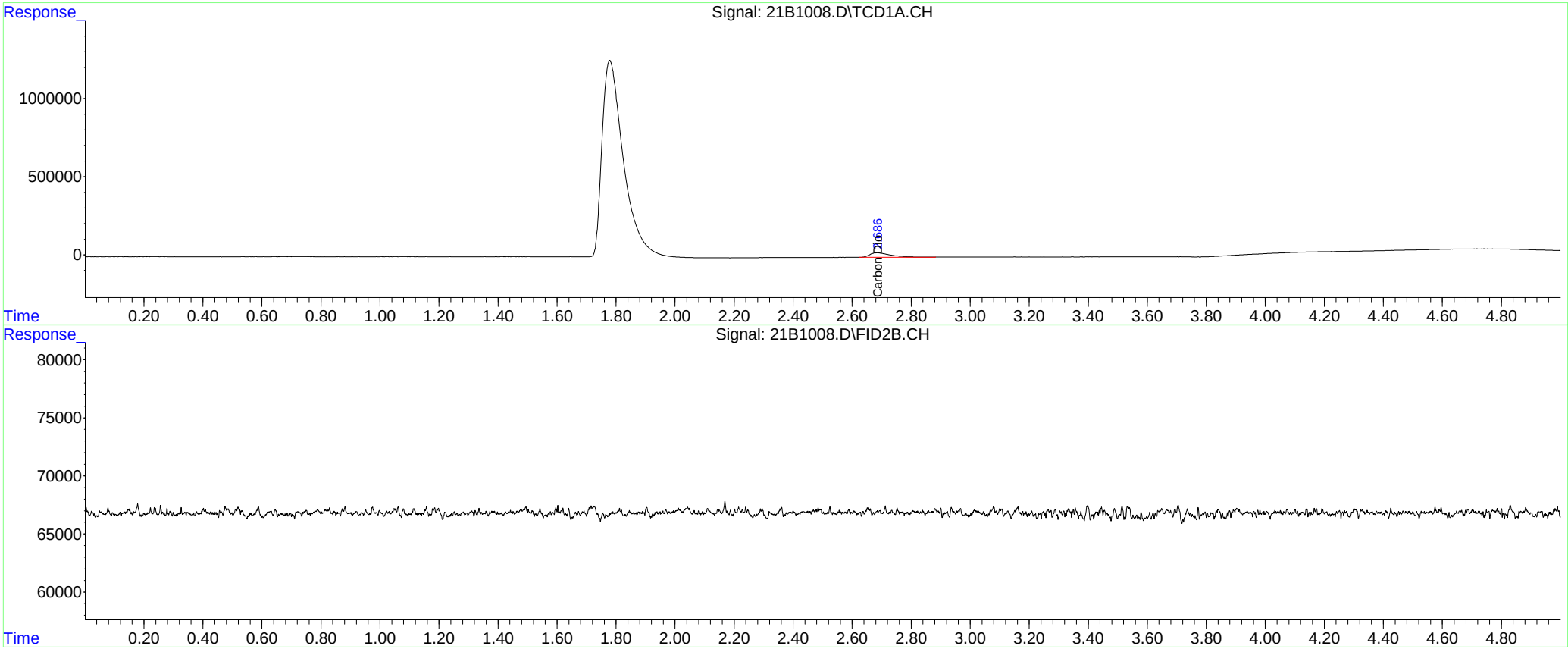
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1008.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 12:25 pm
Operator : JMW
Sample : AA64746-CAL2
Misc :
ALS Vial : 7 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 12:30:24 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1010.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 12:57 pm
Operator : JMW
Sample : AA64746-CAL4
Misc :
ALS Vial : 9 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 13:02:09 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.676	2.807	14250710	10383	29.039121	NoCal	#
2)	Methane	0.000	0.000	0	0	N.D. d	N.D. d	
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

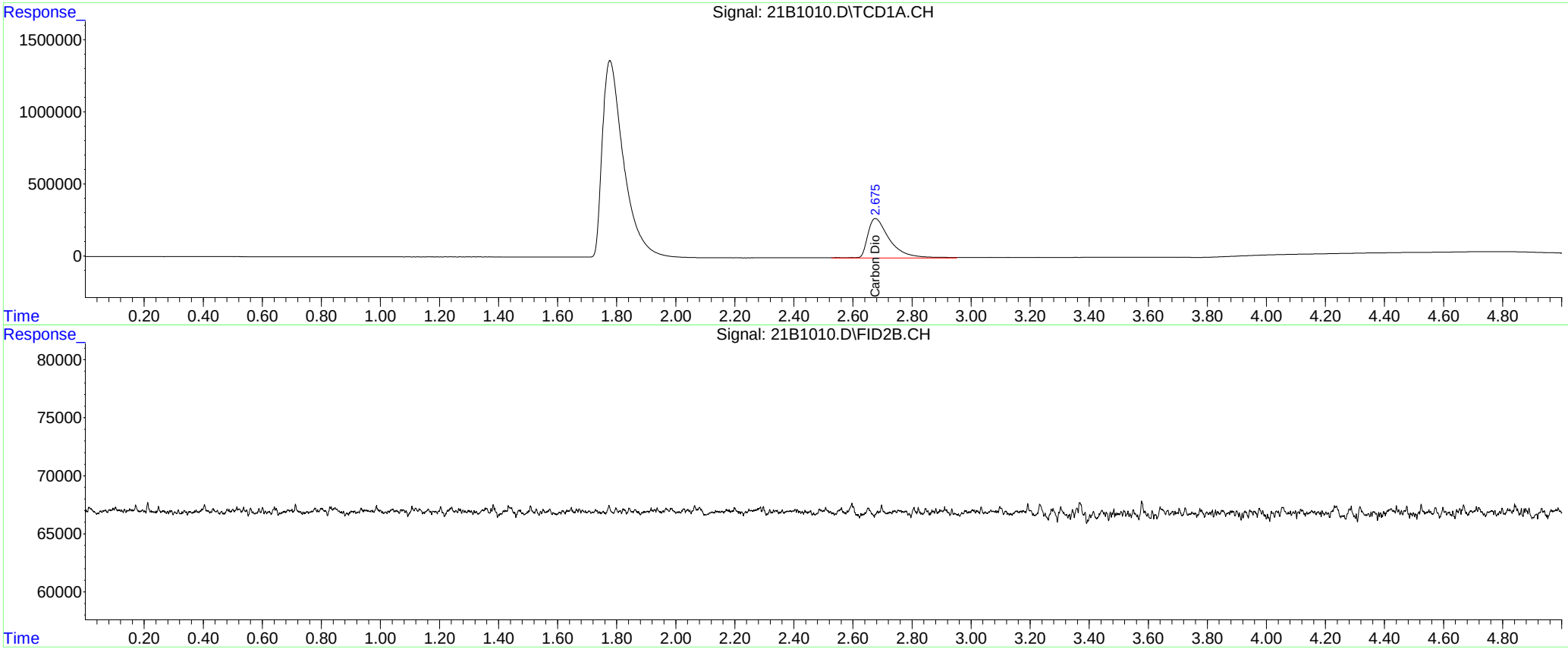
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1010.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 12:57 pm
Operator : JMW
Sample : AA64746-CAL4
Misc :
ALS Vial : 9 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 13:02:09 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1011.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 1:12 pm
Operator : JMW
Sample : AA64746-CAL5
Misc :
ALS Vial : 10 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 13:18:01 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.667	2.797	30307016	4590	61.757560	NoCal	#
2)	Methane	0.000	0.000	0	0	N.D. d	N.D. d	
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

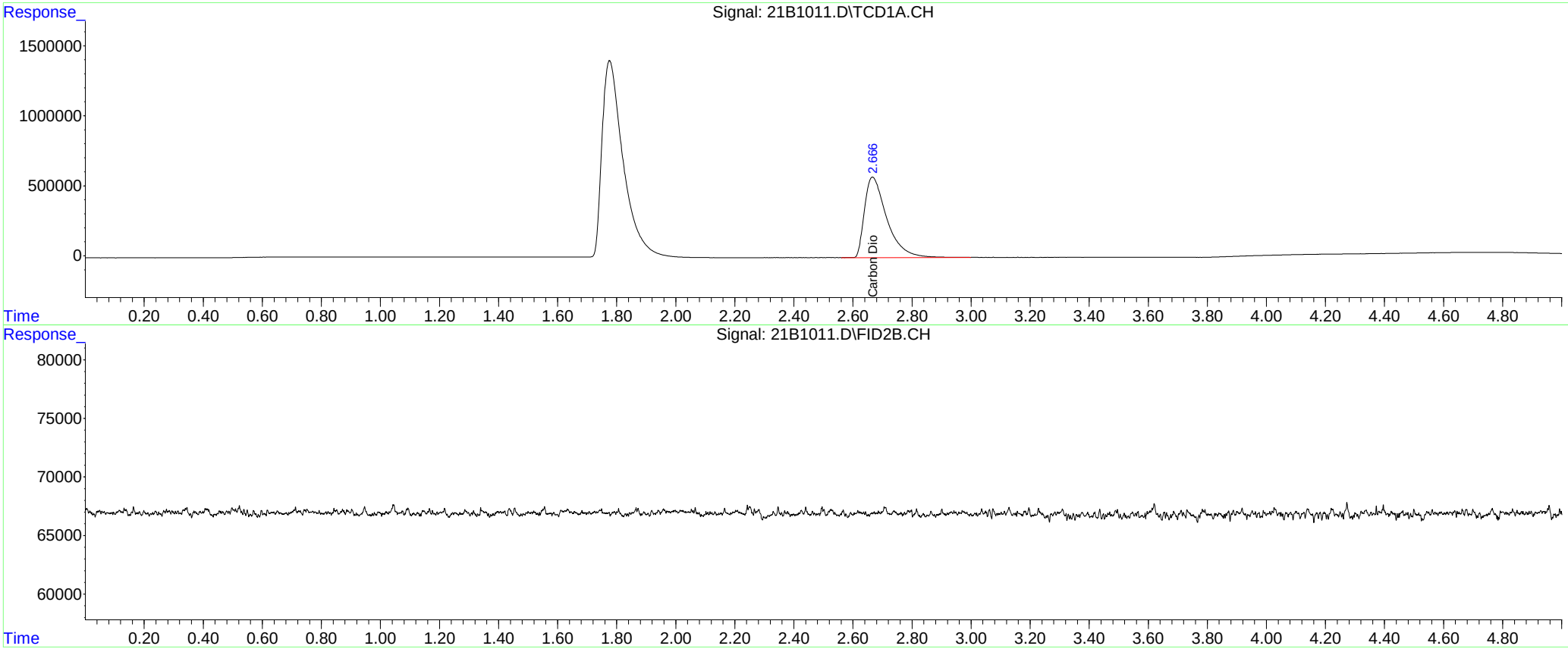
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1011.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 1:12 pm
Operator : JMW
Sample : AA64746-CAL5
Misc :
ALS Vial : 10 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 13:18:01 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1012.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 1:28 pm
Operator : JMW
Sample : AA64746-CAL6
Misc :
ALS Vial : 11 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 13:33:51 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.655	2.787	59754008	15408	121.762623m	NoCal	#
2)	Methane	0.000	0.000	0	0	N.D. d	N.D. d	
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

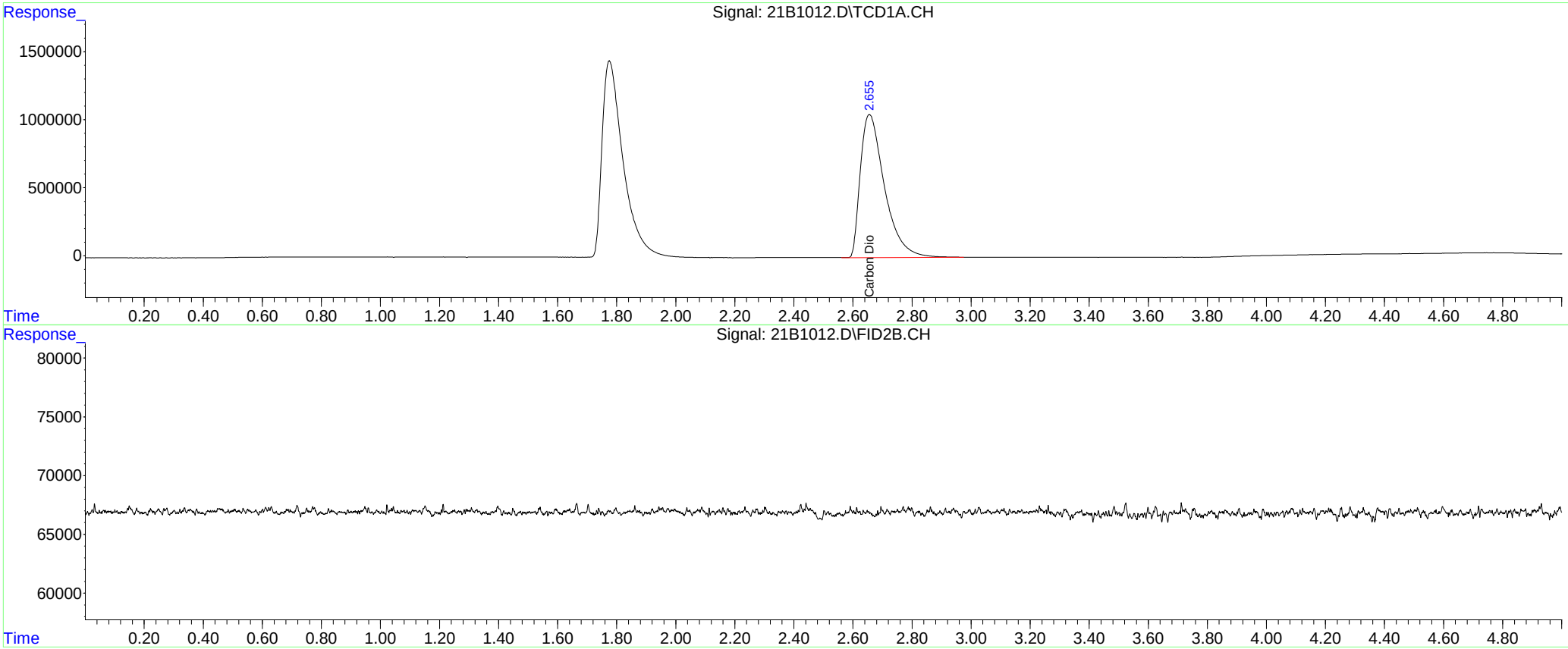
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1012.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 1:28 pm
Operator : JMW
Sample : AA64746-CAL6
Misc :
ALS Vial : 11 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 13:33:51 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1013.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 1:44 pm
Operator : JMW
Sample : AA64746-CAL7
Misc :
ALS Vial : 12 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 13:49:45 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.639	2.809	119.0E6	15003	242.529958m	NoCal	#
2)	Methane	0.000	0.000	0	0	N.D. d	N.D. d	
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

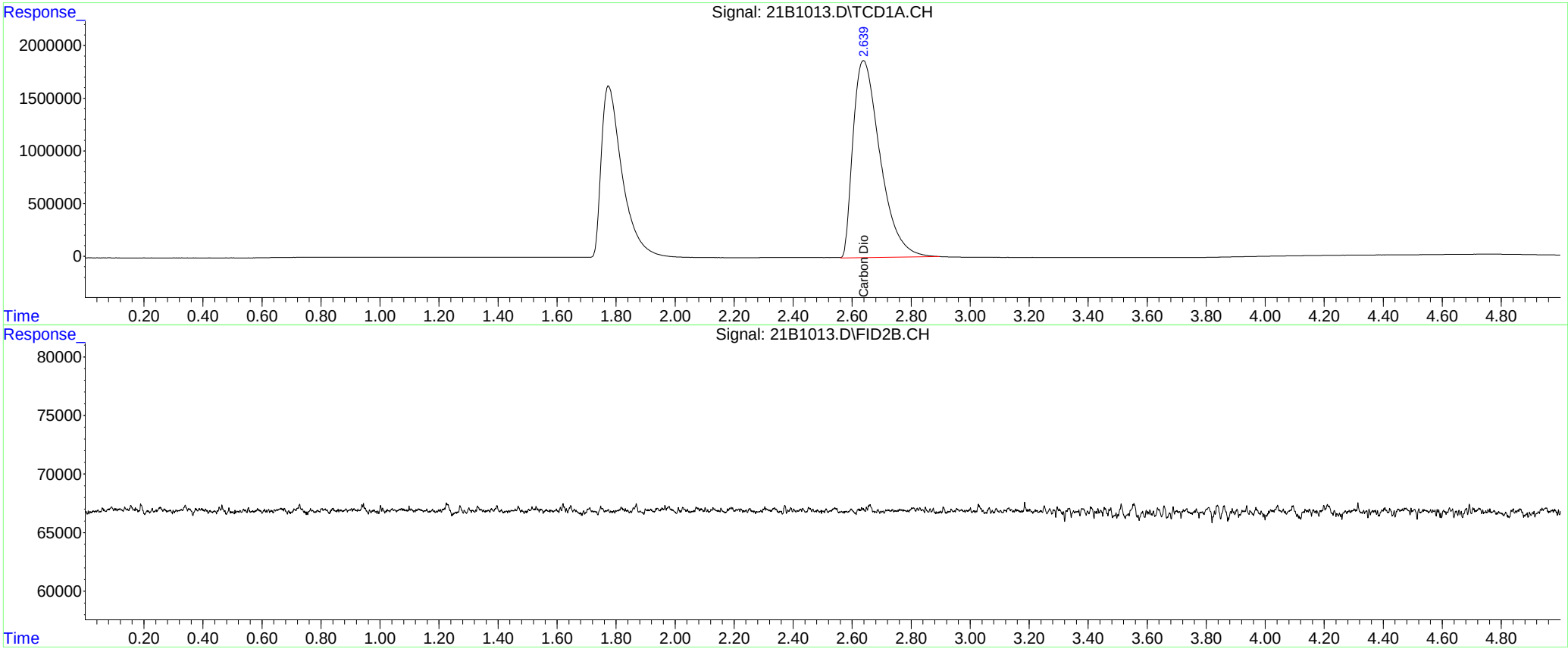
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1013.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 1:44 pm
Operator : JMW
Sample : AA64746-CAL7
Misc :
ALS Vial : 12 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 13:49:45 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1014.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 2:12 pm
Operator : JMW
Sample : AA64746-CAL8
Misc :
ALS Vial : 13 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 14:17:10 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L
	Target Compounds						
1)	Carbon Di...	0.000	0.000	0	0	N.D. d	N.D. d
2)	Methane	0.000	1.965	0	181034	N.D.	0.001606 #
3)	Ethene	3.714	3.751	30553	80262	NoCal	0.001081m#
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d
5)	Ethane	4.703f	4.684	4428569	203399	NoCal	0.002113m#

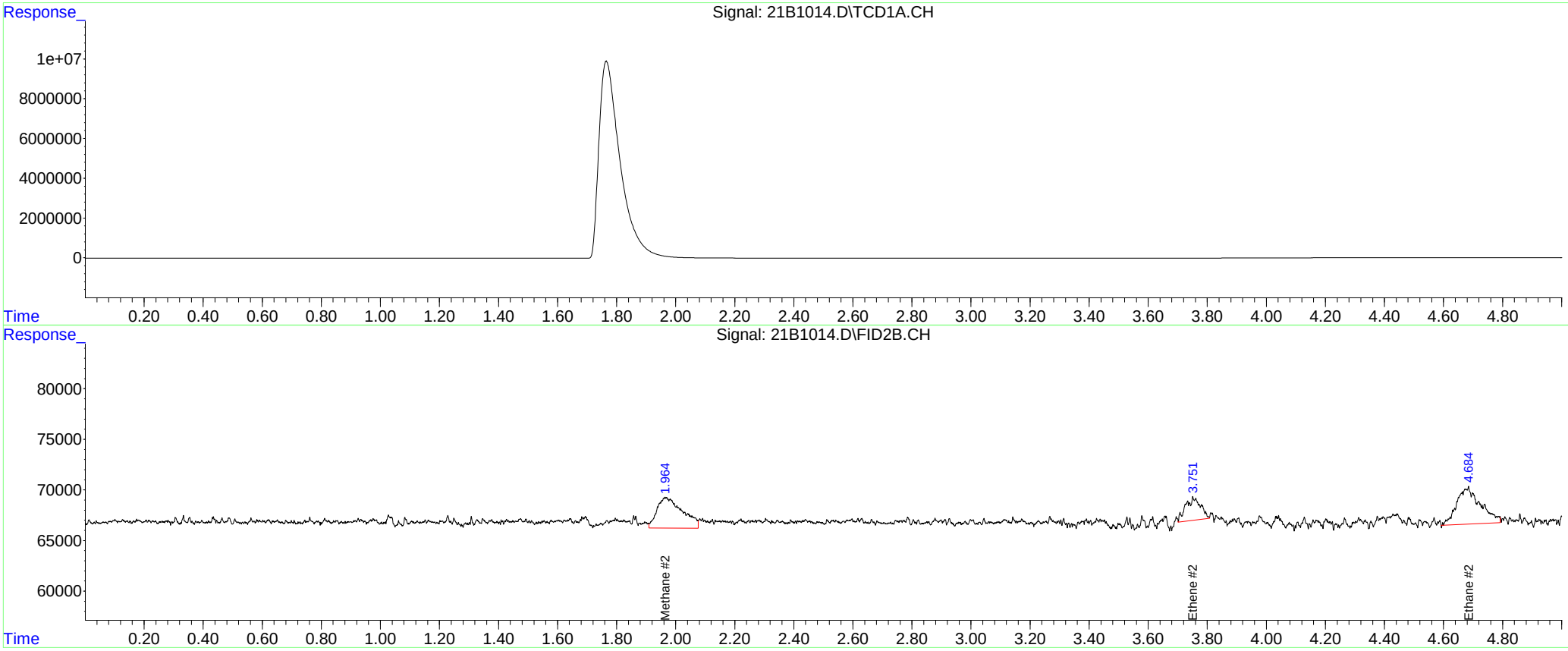
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1014.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 2:12 pm
Operator : JMW
Sample : AA64746-CAL8
Misc :
ALS Vial : 13 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 14:17:10 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1015.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 2:27 pm
Operator : JMW
Sample : AA64746-CAL9
Misc :
ALS Vial : 14 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 14:33:01 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L
	Target Compounds						
1)	Carbon Di...	0.000	0.000	0	0	N.D. d	N.D. d
2)	Methane	0.000	1.966	0	1139304	N.D.	0.010110 #
3)	Ethene	3.717	3.745	47257	1295547	NoCal	0.017453 #
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d
5)	Ethane	4.673f	4.677	1570170	1887916	NoCal	0.019615 #

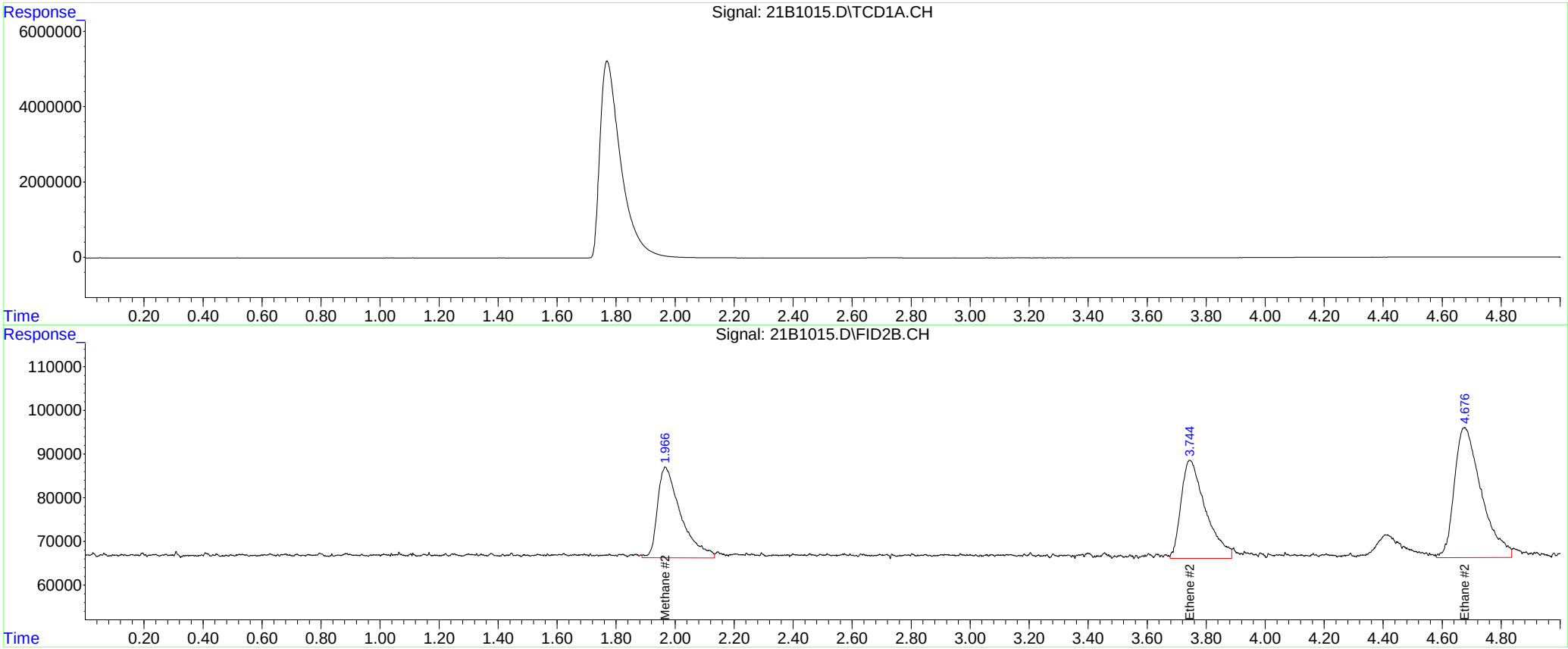
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1015.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 2:27 pm
Operator : JMW
Sample : AA64746-CAL9
Misc :
ALS Vial : 14 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 14:33:01 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1017.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 2:59 pm
Operator : JMW
Sample : AA64746-CALB
Misc :
ALS Vial : 16 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 15:04:46 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L
	Target Compounds						
1)	Carbon Di...	0.000	0.000	0	0	N.D. d	N.D. d
2)	Methane	0.000	1.966	0	11054062	N.D.	0.098092 #
3)	Ethene	3.715	3.743	419320	13215084	NoCal	0.178025 #
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d
5)	Ethane	4.644	4.672	2626416	19514566	NoCal	0.202749 #

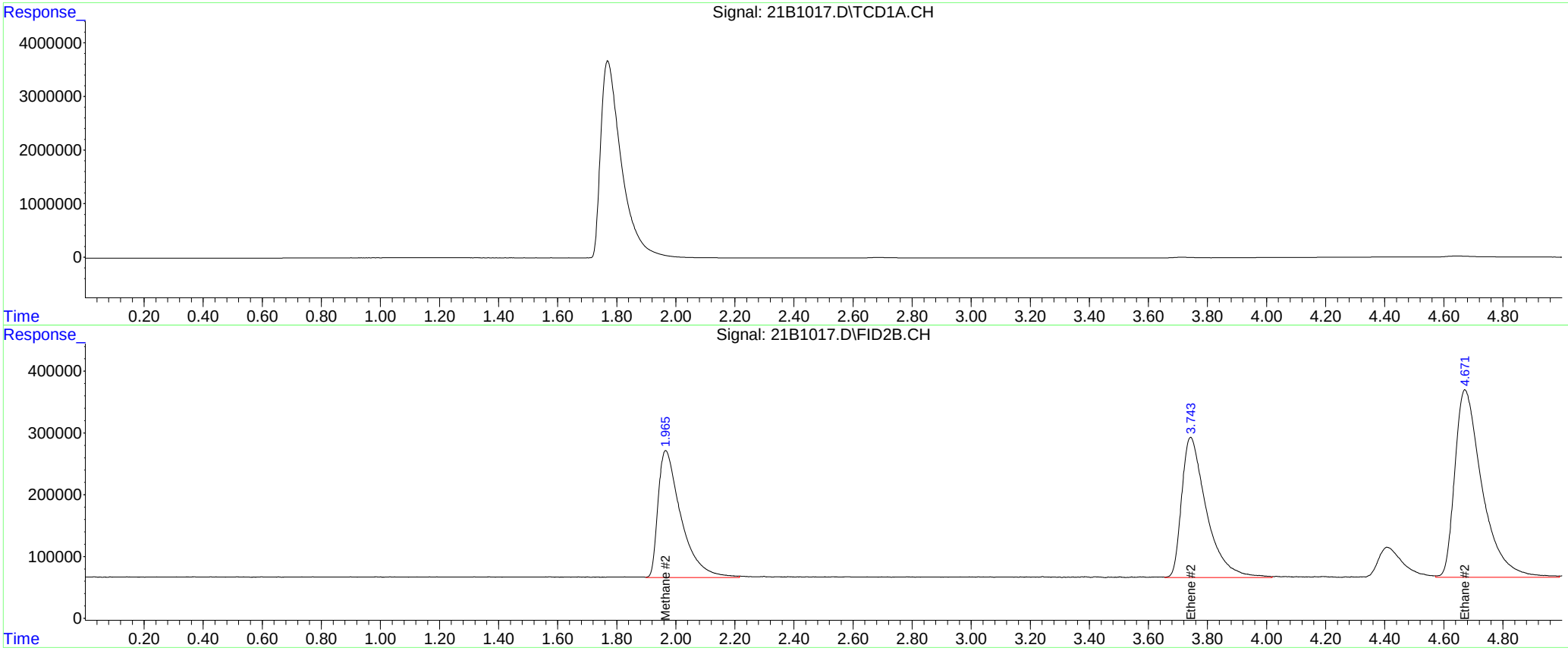
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1017.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 2:59 pm
Operator : JMW
Sample : AA64746-CALB
Misc :
ALS Vial : 16 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 15:04:46 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1018.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 3:15 pm
Operator : JMW
Sample : AA64746-CALC
Misc :
ALS Vial : 17 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 15:20:37 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L
	Target Compounds						
1)	Carbon Di...	0.000	0.000	0	0	N.D. d	N.D. d
2)	Methane	0.000	1.966	0	21984154	N.D.	0.195084 #
3)	Ethene	3.714	3.742	1110301	25639711	NoCal	0.345401 #
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d
5)	Ethane	4.642	4.669	3349236	37223535	NoCal	0.386739 #

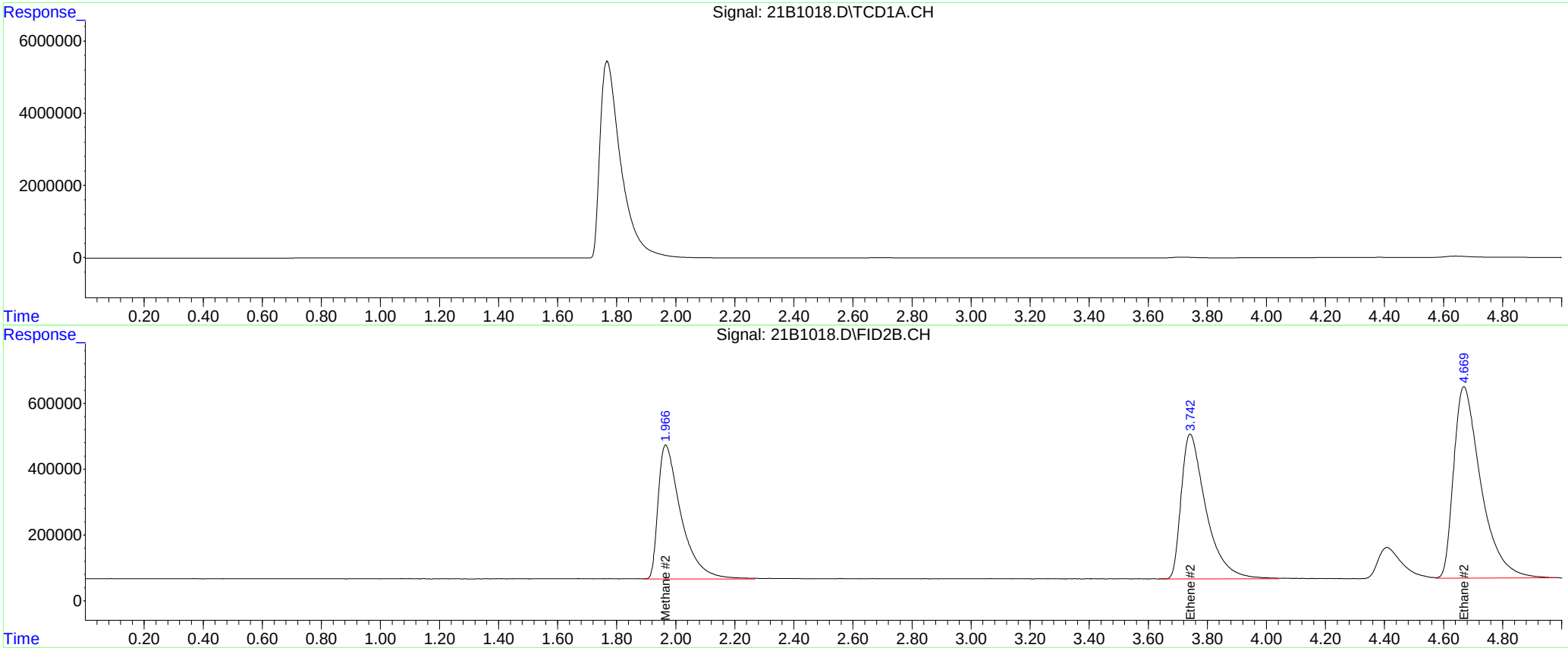
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1018.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 3:15 pm
Operator : JMW
Sample : AA64746-CALC
Misc :
ALS Vial : 17 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 15:20:37 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1019.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 3:31 pm
Operator : JMW
Sample : AA64746-CALD
Misc :
ALS Vial : 18 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 15:36:28 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L
	Target Compounds						
1)	Carbon Di...	0.000	0.000	0	0	N.D. d	N.D. d
2)	Methane	0.000	1.965	0	40635190	N.D.	0.360590 #
3)	Ethene	3.710	3.739	2107715	48394197	NoCal	0.651934 #
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d
5)	Ethane	4.635f	4.662f	4855540	70606275	NoCal	0.733574 #

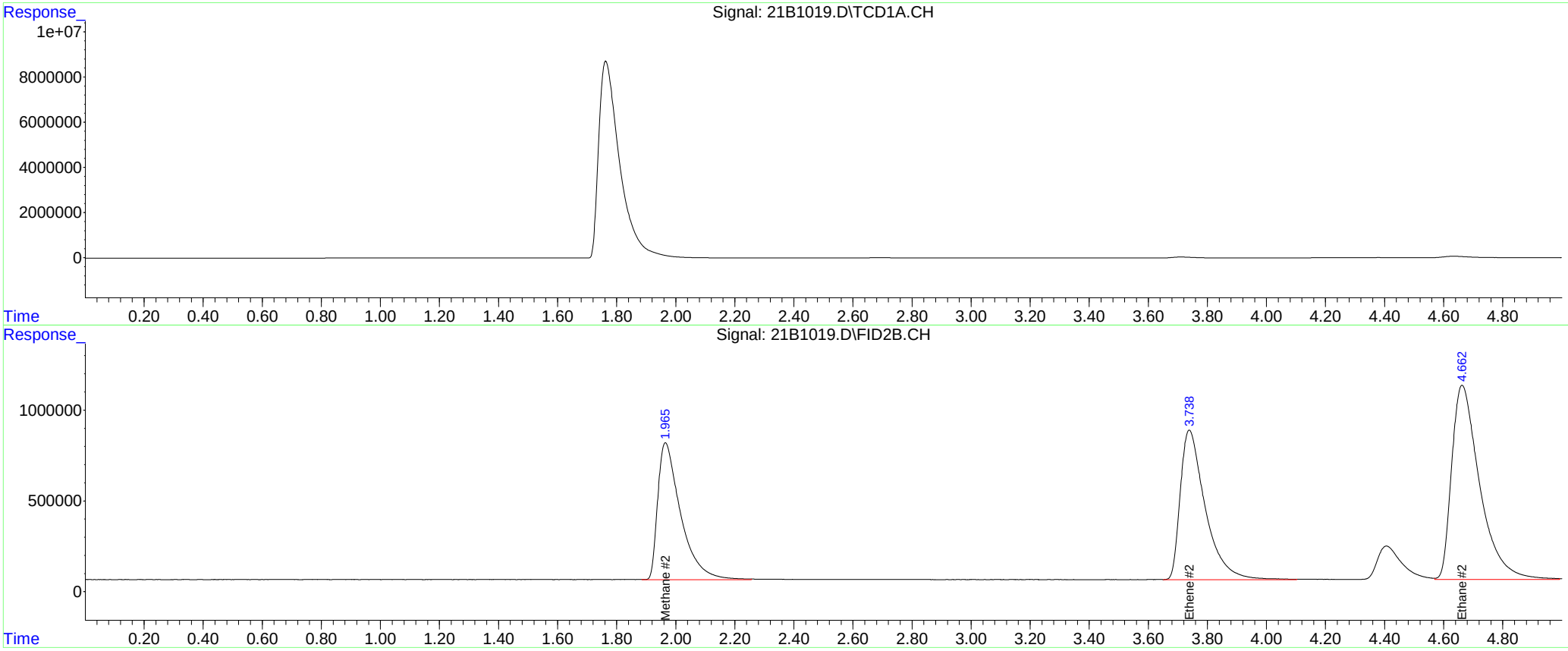
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1019.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 3:31 pm
Operator : JMW
Sample : AA64746-CALD
Misc :
ALS Vial : 18 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 15:36:28 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1020.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 3:47 pm
Operator : JMW
Sample : AA64746-CALE
Misc :
ALS Vial : 19 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 15:52:21 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L
	Target Compounds						
1)	Carbon Di...	0.000	0.000	0	0	N.D. d	N.D. d
2)	Methane	0.000	1.964	0	83504389	N.D.	0.741005 #
3)	Ethene	3.704f	3.732f	4771370	100.5E6	NoCal	1.353770 #
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d
5)	Ethane	4.621f	4.648f	8808275	145.4E6	NoCal	1.510984m#

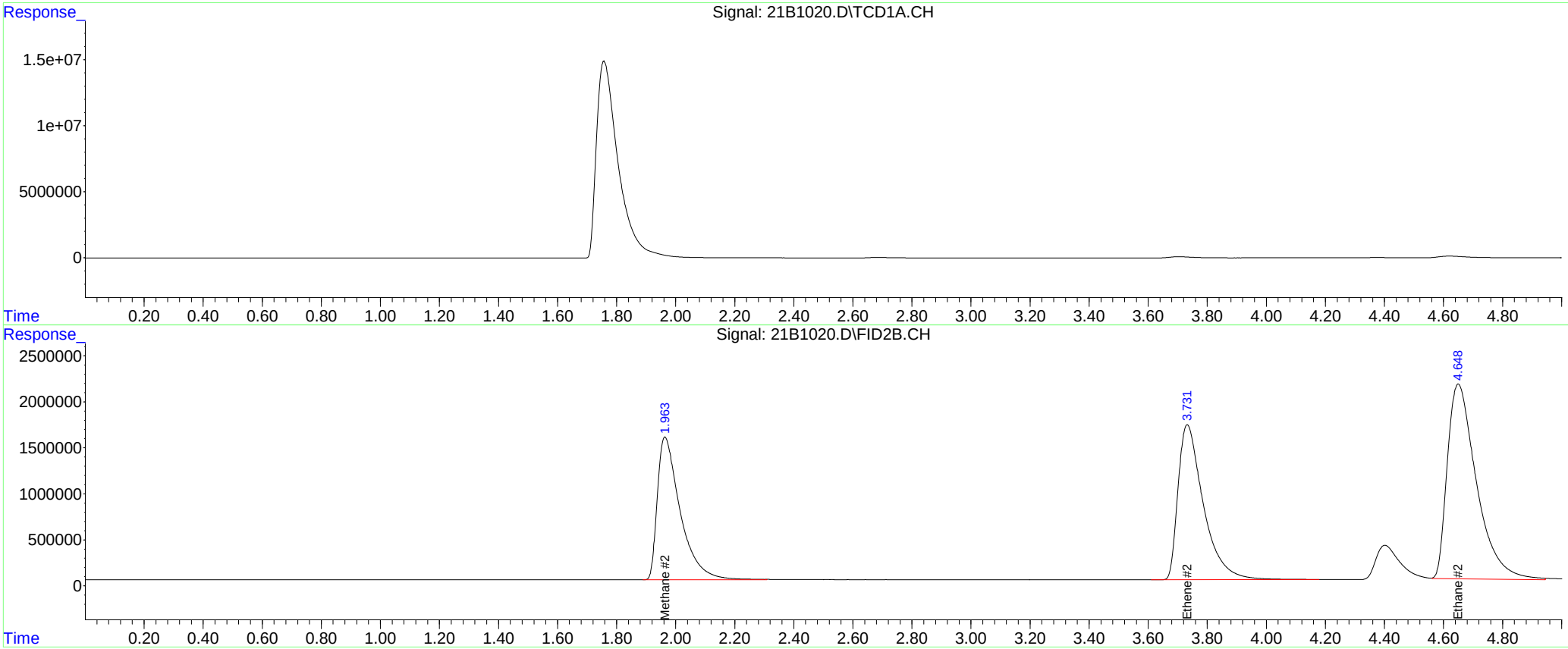
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1020.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 3:47 pm
Operator : JMW
Sample : AA64746-CALE
Misc :
ALS Vial : 19 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 15:52:21 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1021.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 4:03 pm
Operator : JMW
Sample : AA64746-CAL3
Misc :
ALS Vial : 20 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 16:08:13 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.680	2.802	5417580	12122	11.039573m	NoCal	#
2)	Methane	0.000	0.000	0	0	N.D. d	N.D. d	
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

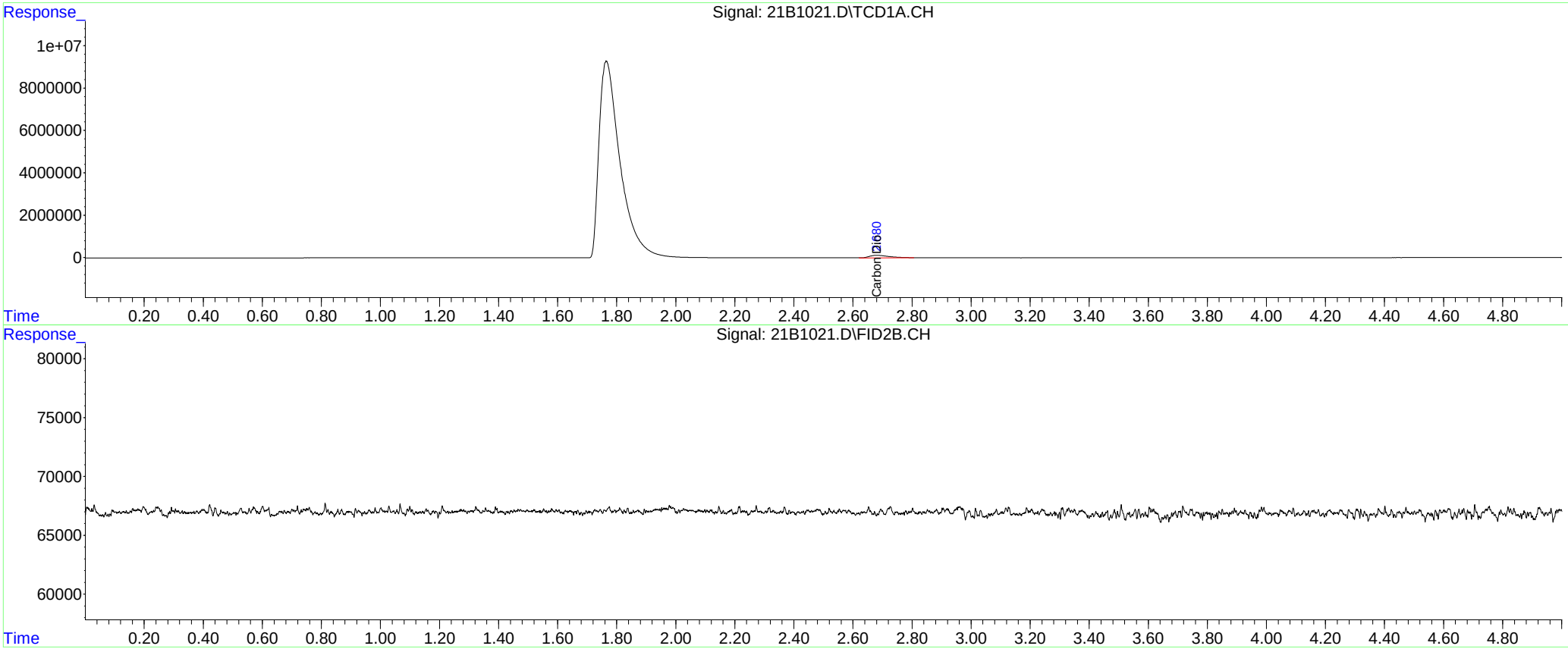
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1021.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 4:03 pm
Operator : JMW
Sample : AA64746-CAL3
Misc :
ALS Vial : 20 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 16:08:13 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1022.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 4:18 pm
Operator : JMW
Sample : AA64746-CALA
Misc :
ALS Vial : 21 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 16:24:06 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L
	Target Compounds						
1)	Carbon Di...	0.000	0.000	0	0	N.D. d	N.D. d
2)	Methane	0.000	1.966	0	4301086	N.D.	0.038167 #
3)	Ethene	3.714	3.744	193748	5048642	NoCal	0.068012 #
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d
5)	Ethane	4.651	4.675	1310372	7555534	NoCal	0.078499 #

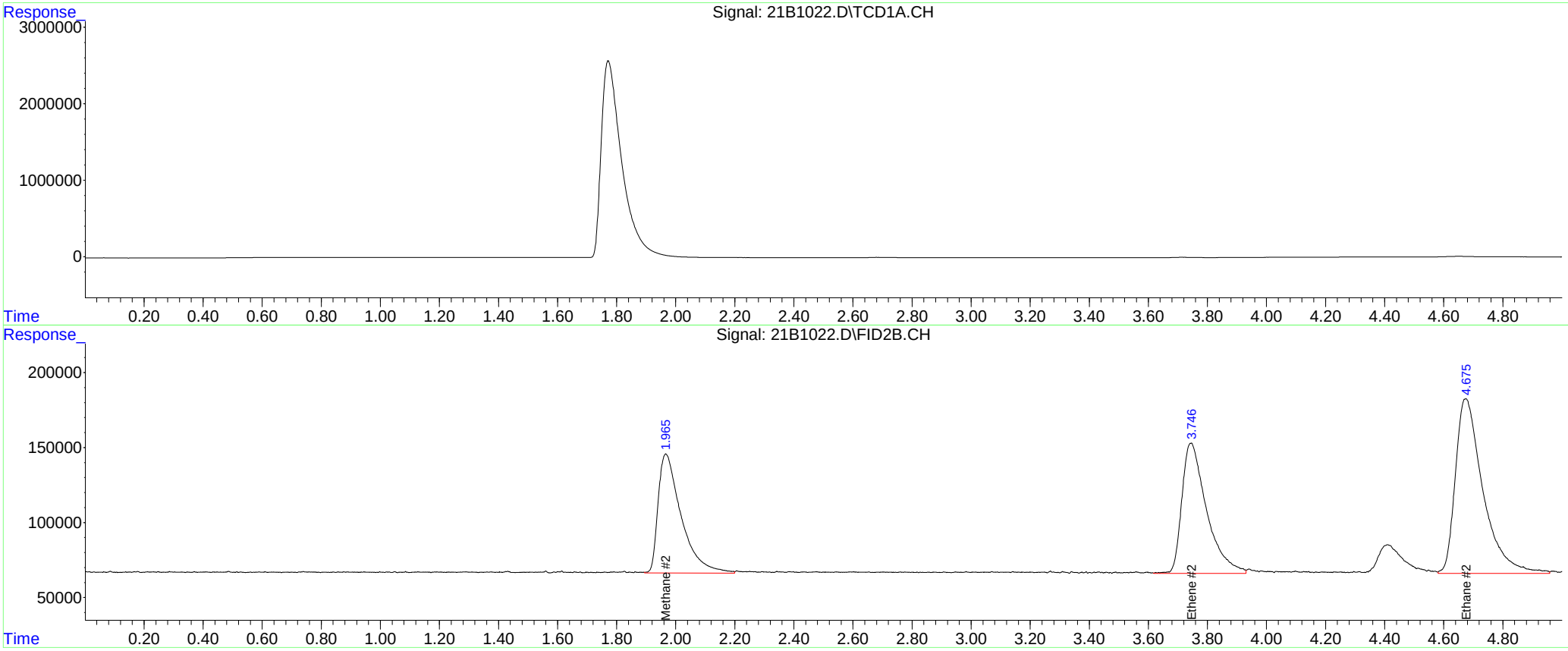
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1022.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 4:18 pm
Operator : JMW
Sample : AA64746-CALA
Misc :
ALS Vial : 21 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 16:24:06 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1023.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 5:03 pm
Operator : JMW
Sample : AA64746-SCV1
Misc :
ALS Vial : 22 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 02 09:24:15 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.669	2.787	28390945	13805	44.838529	NoCal	#
2)	Methane	0.000	1.966	0	20471112	N.D.	0.170741	#
3)	Ethene	3.713	3.741	1131291	25114717	NoCal	0.314833	#
4)	Ethyne	4.378	4.409	534141	5227695	NoCal	NoCal	
5)	Ethane	4.639	4.668	2516430	36504007	NoCal	0.311984	#

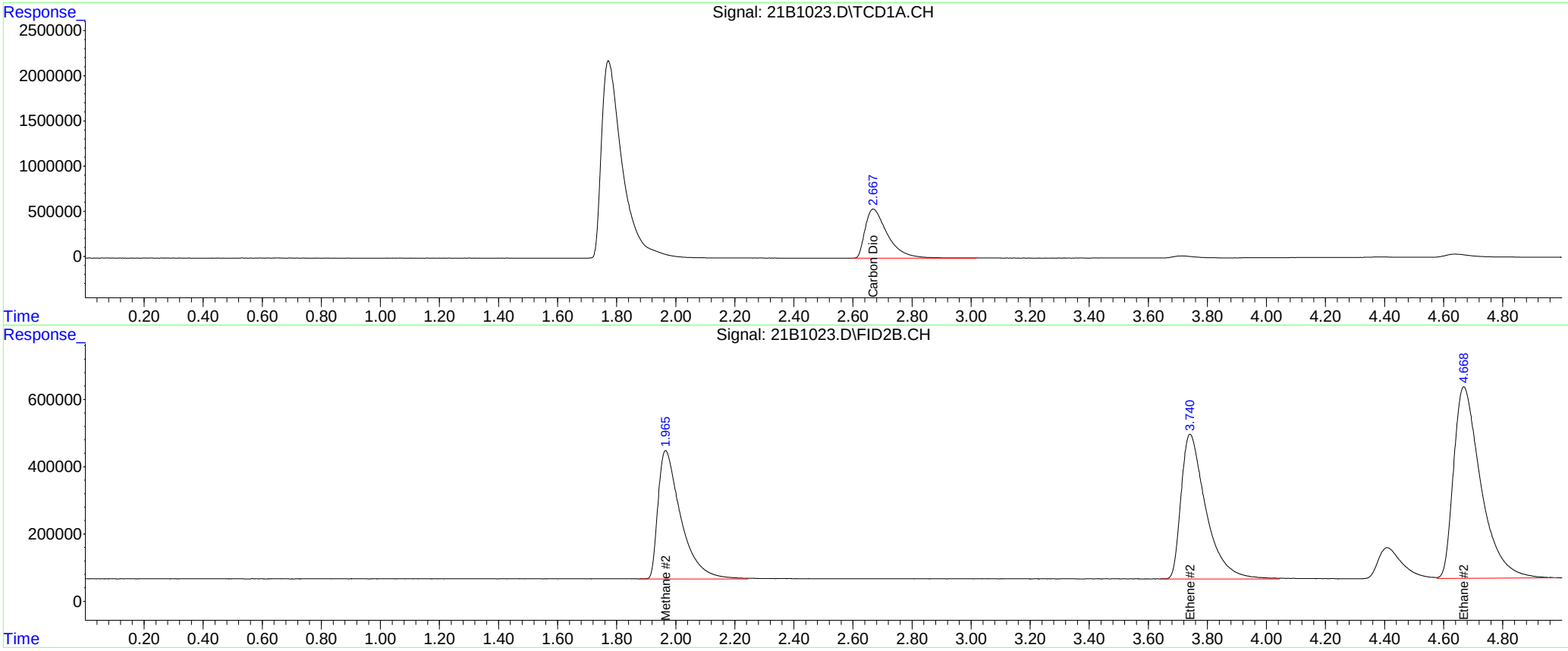
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1023.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 5:03 pm
Operator : JMW
Sample : AA64746-SCV1
Misc :
ALS Vial : 22 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 02 09:24:15 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



TETRA TECH ISG
TtEGS, Information Systems Group

Completion Ticket

On 5/12/2021 at 1:34 PM the following files were submitted to Tetra Tech by kdylnicki@encolabs.com with ENCO:

TE016AE02765A1.txt, TE016AE02765A3.txt

If you need to identify this session at a later date refer to Ticket Key:

2021512_5339968330_ledd_ENCO

You may print this page by clicking on the "Print This Page" button

Thank you for using the Data Checker, to upload more files click the "Upload/Check Files" link on navigation menu.

Print this Page Back To Upload

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I Lori S. Mangrum, as the designated Quality Assurance Officer, hereby attest that all electronic deliverables have been thoroughly reviewed and are in agreement with the associated hardcopy data. The enclosed electronic files have been reviewed for accuracy (including significant figures), completeness and format. The laboratory will be responsible for any labor time necessary to correct enclosed electronic deliverables that have been found to be in error. I can be reached at (407) 826-5314 if there are any questions or problems with the enclosed electronic deliverables.

Signature:_____ Title: Quality Assurance Manager Date: May 13, 2021

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ENCO Laboratories
Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Monday, April 26, 2021
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AE02765

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Friday, April 16, 2021.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

www.encolabs.com

Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Client PM: Alex Murphy
Project Number: 112G08970
ENCO Project ID: AE02765
SDG: AE02765-TE016

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling and processing will be discussed in the Remarks section below.

Remarks

List of instruments used:

Analytical and Preparation Method	SOP Reference Instrument
EPA 8260D / 5030B_MS	OVGCMS2
RSK-175	OVGCFID2

Analysis: EPA 8260D

Manual integrations were performed on samples associated with EPA 8260D. All data & explanations are included in the raw data section of the report.

Affected Samples: CRCA-MW0031-058.0-20210414[AE02765-01], CRCA-MW0018-058.0-20210414[AE02765-02], CRCA-MW0019-058.0-20210414[AE02765-03], CRCA-MW0032-058.0-20210415[AE02765-04], AA66012-CCV1
The associated calibration verification standard for multiple analytes exhibited high bias. Analyte(s) not detected in the sample.

Affected Samples: CRCA-MW0031-058.0-20210414[AE02765-01], 1D21003-MS1, 1D21003-MSD1
Matrix spike recovery was outside acceptance limits for benzene.

Affected Samples: AA66012-CCV1
The continuing calibration verification standard exhibited low bias for 1,2-Dibromo-3-chloropropane; the associated sample had ND (non-detect) results, but sensitivity was verified by analyzing a standard with a concentration equivalent to the reporting limit.

Affected Samples: AA65289-SCV1
Recovery for bromomethane was outside acceptance limits. Analyte was not detected in the samples.

Analysis: RSK-175

Manual integrations were performed on samples associated with RSK-175. All data & explanations are included in the raw data section of the report.

Affected Samples: CRCA-MW0018-058.0-20210414[AE02765-02], CRCA-MW0019-058.0-20210414[AE02765-03]
Samples reanalyzed due to bad injection during initial analysis.

Affected Samples: CRCA-MW0018-058.0-20210414[AE02765-02RE1], CRCA-MW0019-058.0-20210414[AE02765-03RE1]
Result for methane was above the calibration range of the instrument. Sample was reanalyzed at a dilution.

Affected Samples: 1D21038-DUP1
Precision between duplicate samples was outside acceptance limits for methane.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Kaitlin Dylnicki
Project Manager

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-MW0031-058.0-20210414 **Lab ID: AE02765-01** **Sampled: 04/14/21 11:20** **Received: 04/16/21 14:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	04/28/21	04/21/21 00:00	04/21/21 10:53
RSK 175	Same	04/28/21	04/21/21 00:00	04/21/21 13:26

Client ID: CRCA-MW0018-058.0-20210414 **Lab ID: AE02765-02** **Sampled: 04/14/21 12:30** **Received: 04/16/21 14:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	04/28/21	04/21/21 00:00	04/21/21 11:22

Client ID: CRCA-MW0018-058.0-20210414 **Lab ID: AE02765-02RE1** **Sampled: 04/14/21 12:30** **Received: 04/16/21 14:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/28/21	04/21/21 00:00	04/21/21 15:45

Client ID: CRCA-MW0018-058.0-20210414 **Lab ID: AE02765-02RE2** **Sampled: 04/14/21 12:30** **Received: 04/16/21 14:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/28/21	04/21/21 14:27	04/21/21 19:30

Client ID: CRCA-MW0019-058.0-20210414 **Lab ID: AE02765-03** **Sampled: 04/14/21 14:00** **Received: 04/16/21 14:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	04/28/21	04/21/21 00:00	04/21/21 11:50

Client ID: CRCA-MW0019-058.0-20210414 **Lab ID: AE02765-03RE1** **Sampled: 04/14/21 14:00** **Received: 04/16/21 14:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/28/21	04/21/21 00:00	04/21/21 14:45

Client ID: CRCA-MW0019-058.0-20210414 **Lab ID: AE02765-03RE2** **Sampled: 04/14/21 14:00** **Received: 04/16/21 14:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/28/21	04/21/21 00:00	04/21/21 15:13

Client ID: CRCA-MW0032-058.0-20210415 **Lab ID: AE02765-04** **Sampled: 04/15/21 16:00** **Received: 04/16/21 14:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	04/29/21	04/21/21 00:00	04/21/21 12:19

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-MW0031-058.0-20210414 **Lab ID:** AE02765-01

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	0.370		0.00400	0.00500	mg/L	RSK 175	
Vinyl chloride	13		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0018-058.0-20210414 **Lab ID:** AE02765-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	63		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0018-058.0-20210414 **Lab ID:** AE02765-02RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethene	0.0156		0.00510	0.00600	mg/L	RSK 175	

Client ID: CRCA-MW0018-058.0-20210414 **Lab ID:** AE02765-02RE2

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	0.178		0.0600	0.0750	mg/L	RSK 175	

Client ID: CRCA-MW0019-058.0-20210414 **Lab ID:** AE02765-03

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	2.8		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0019-058.0-20210414 **Lab ID:** AE02765-03RE2

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	0.386		0.0280	0.0350	mg/L	RSK 175	

Client ID: CRCA-MW0032-058.0-20210415 **Lab ID:** AE02765-04

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	6.0		0.71	2.5	ug/L	EPA 8260D	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0031-058.0-20210414 **Lab Sample ID:** AE02765-01 **Received:** 04/16/21 14:16

Matrix: Ground Water **Sampled:** 04/14/21 11:20 **Work Order:** AE02765

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1D21003	EPA 8260D	04/21/21 10:53	nmc	QV-01
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 10:53	nmc	QV-01
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 10:53	nmc	QV-01
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	QM-07, QV-01
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	QV-01
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	

ANALYTICAL RESULTS

Description: CRCA-MW0031-058.0-20210414 **Lab Sample ID:** AE02765-01 **Received:** 04/16/21 14:16
Matrix: Ground Water **Sampled:** 04/14/21 11:20 **Work Order:** AE02765
Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Vinyl chloride [75-01-4]^	**13**		ug/L	1	0.71	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1D21003	EPA 8260D	04/21/21 10:53	nmc	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*45*	*1*	*50.0*	*89 %*	*41-142*	*1D21003*	*EPA 8260D*	*04/21/21 10:53*	*nmc*	
Dibromofluoromethane	*48*	*1*	*50.0*	*96 %*	*53-146*	*1D21003*	*EPA 8260D*	*04/21/21 10:53*	*nmc*	
Toluene-d8	*55*	*1*	*50.0*	*111 %*	*41-146*	*1D21003*	*EPA 8260D*	*04/21/21 10:53*	*nmc*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1D21012	RSK 175	04/21/21 13:26	JMW	
Ethene [74-85-1]^	0.00510	U	mg/L	1	0.00510	0.00600	1D21012	RSK 175	04/21/21 13:26	JMW	
Methane [74-82-8]^	**0.370**		mg/L	1	0.00400	0.00500	1D21012	RSK 175	04/21/21 13:26	JMW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0018-058.0-20210414 **Lab Sample ID:** AE02765-02 **Received:** 04/16/21 14:16

Matrix: Ground Water **Sampled:** 04/14/21 12:30 **Work Order:** AE02765

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1D21003	EPA 8260D	04/21/21 11:22	nmc	QV-01
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 11:22	nmc	QV-01
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 11:22	nmc	QV-01
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	QV-01
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	QV-01
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0018-058.0-20210414 **Lab Sample ID:** AE02765-02 **Received:** 04/16/21 14:16
Matrix: Ground Water **Sampled:** 04/14/21 12:30 **Work Order:** AE02765
Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Vinyl chloride [75-01-4]^	**63**		ug/L	1	0.71	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1D21003	EPA 8260D	04/21/21 11:22	nmc	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*45*	*1*	*50.0*	*89 %*	*41-142*	*1D21003*	*EPA 8260D*	*04/21/21 11:22*	*nmc*	
Dibromofluoromethane	*48*	*1*	*50.0*	*95 %*	*53-146*	*1D21003*	*EPA 8260D*	*04/21/21 11:22*	*nmc*	
Toluene-d8	*54*	*1*	*50.0*	*109 %*	*41-146*	*1D21003*	*EPA 8260D*	*04/21/21 11:22*	*nmc*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1D21012	RSK 175	04/21/21 15:45	JMW	
Ethene [74-85-1]^	**0.0156**		mg/L	1	0.00510	0.00600	1D21012	RSK 175	04/21/21 15:45	JMW	
Methane [74-82-8]^	**0.178**		mg/L	15	0.0600	0.0750	1D21038	RSK 175	04/21/21 19:30	JMW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0019-058.0-20210414 **Lab Sample ID:** AE02765-03 **Received:** 04/16/21 14:16

Matrix: Ground Water **Sampled:** 04/14/21 14:00 **Work Order:** AE02765

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1D21003	EPA 8260D	04/21/21 11:50	nmc	QV-01
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 11:50	nmc	QV-01
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 11:50	nmc	QV-01
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	QV-01
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	QV-01
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	

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ANALYTICAL RESULTS

Description: CRCA-MW0019-058.0-20210414 **Lab Sample ID:** AE02765-03 **Received:** 04/16/21 14:16

Matrix: Ground Water **Sampled:** 04/14/21 14:00 **Work Order:** AE02765

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Vinyl chloride [75-01-4]^	**2.8**		ug/L	1	0.71	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1D21003	EPA 8260D	04/21/21 11:50	nmc	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*45*	*1*	*50.0*	*90 %*	*41-142*	*1D21003*	*EPA 8260D*	*04/21/21 11:50*	*nmc*	
Dibromofluoromethane	*48*	*1*	*50.0*	*96 %*	*53-146*	*1D21003*	*EPA 8260D*	*04/21/21 11:50*	*nmc*	
Toluene-d8	*55*	*1*	*50.0*	*111 %*	*41-146*	*1D21003*	*EPA 8260D*	*04/21/21 11:50*	*nmc*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1D21012	RSK 175	04/21/21 14:45	JMW	
Ethene [74-85-1]^	0.00510	U	mg/L	1	0.00510	0.00600	1D21012	RSK 175	04/21/21 14:45	JMW	
Methane [74-82-8]^	**0.386**		mg/L	7	0.0280	0.0350	1D21012	RSK 175	04/21/21 15:13	JMW	

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ANALYTICAL RESULTS

Description: CRCA-MW0032-058.0-20210415 **Lab Sample ID:** AE02765-04 **Received:** 04/16/21 14:16

Matrix: Ground Water **Sampled:** 04/15/21 16:00 **Work Order:** AE02765

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1D21003	EPA 8260D	04/21/21 12:19	nmc	QV-01
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 12:19	nmc	QV-01
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 12:19	nmc	QV-01
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	QV-01
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	QV-01
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	

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ANALYTICAL RESULTS

Description: CRCA-MW0032-058.0-20210415 **Lab Sample ID:** AE02765-04 **Received:** 04/16/21 14:16

Matrix: Ground Water **Sampled:** 04/15/21 16:00 **Work Order:** AE02765

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Vinyl chloride [75-01-4]^	**6.0**		ug/L	1	0.71	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1D21003	EPA 8260D	04/21/21 12:19	nmc	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*44*	*1*	*50.0*	*89 %*	*41-142*	*1D21003*	*EPA 8260D*	*04/21/21 12:19*	*nmc*	
Dibromofluoromethane	*48*	*1*	*50.0*	*97 %*	*53-146*	*1D21003*	*EPA 8260D*	*04/21/21 12:19*	*nmc*	
Toluene-d8	*55*	*1*	*50.0*	*110 %*	*41-146*	*1D21003*	*EPA 8260D*	*04/21/21 12:19*	*nmc*	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D21003 - EPA 5030B_MS

Blank (1D21003-BLK1) Prepared: 04/21/2021 00:00 Analyzed: 04/21/2021 09:56

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D21003 - EPA 5030B_MS - Continued

Blank (1D21003-BLK1) Continued Prepared: 04/21/2021 00:00 Analyzed: 04/21/2021 09:56

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*45*	*I*		*ug/L*	*50.0*		*90*	*41-142*			
Dibromofluoromethane	*47*	*I*		*ug/L*	*50.0*		*95*	*53-146*			
Toluene-d8	*55*			*ug/L*	*50.0*		*111*	*41-146*			

LCS (1D21003-BS1) Prepared: 04/21/2021 00:00 Analyzed: 04/21/2021 08:02

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	19		2.5	ug/L	20.0		94	57-148			
1,1,2,2-Tetrachloroethane	19		2.5	ug/L	20.0		97	60-139			
1,1,2-Trichloroethane	19		2.5	ug/L	20.0		94	57-141			
1,1-Dichloroethane	21		2.5	ug/L	20.0		104	57-142			
1,1-Dichloroethene	20		2.5	ug/L	20.0		100	47-139			
1,2,4-Trichlorobenzene	20		2.5	ug/L	20.0		99	52-159			
1,2-Dibromo-3-chloropropane	14		2.5	ug/L	20.0		71	48-150			
1,2-Dibromoethane	18		2.5	ug/L	20.0		88	57-140			
1,2-Dichlorobenzene	19		2.5	ug/L	20.0		94	63-131			
1,2-Dichloroethane	20		2.5	ug/L	20.0		99	50-156			
1,2-Dichloropropane	22		2.5	ug/L	20.0		109	61-133			
1,3-Dichlorobenzene	19		2.5	ug/L	20.0		93	66-129			
1,4-Dichlorobenzene	18		2.5	ug/L	20.0		89	65-133			
2-Butanone	160		12	ug/L	100		157	10-180			
2-Hexanone	100		12	ug/L	100		103	12-180			
4-Methyl-2-pentanone	120		12	ug/L	100		116	19-180			
Acetone	100		25	ug/L	100		103	10-180			
Benzene	26		2.5	ug/L	20.0		130	56-136			
Bromodichloromethane	23		2.5	ug/L	20.0		114	58-135			
Bromoform	22		2.5	ug/L	20.0		110	46-148			
Bromomethane	6.3		2.5	ug/L	20.0		31	10-173			
Carbon disulfide	26		12	ug/L	20.0		128	43-153			
Carbon Tetrachloride	18		2.5	ug/L	20.0		91	54-156			
Chlorobenzene	19		2.5	ug/L	20.0		95	51-139			
Chloroethane	21		2.5	ug/L	20.0		105	27-180			
Chloroform	22		2.5	ug/L	20.0		109	58-139			
Chloromethane	18		2.5	ug/L	20.0		89	33-154			
cis-1,2-Dichloroethene	23		2.5	ug/L	20.0		115	56-128			
cis-1,3-Dichloropropene	22		2.5	ug/L	20.0		109	64-128			
Cyclohexane	22		2.5	ug/L	20.0		110	70-130			
Dibromochloromethane	17		2.5	ug/L	20.0		86	50-140			
Dichlorodifluoromethane	17		2.5	ug/L	20.0		83	10-180			
Ethylbenzene	19		2.5	ug/L	20.0		93	63-133			
Freon 113	19		2.5	ug/L	20.0		97	47-173			
Isopropylbenzene	19		2.5	ug/L	20.0		93	60-132			
m,p-Xylenes	36		5.0	ug/L	40.0		91	64-133			
Methyl acetate	22		2.5	ug/L	20.0		110	70-130			
Methyl cyclohexane	21		2.5	ug/L	20.0		106	70-130			
Methylene Chloride	21		12	ug/L	20.0		106	43-142			
Methyl-tert-Butyl Ether	21		2.5	ug/L	20.0		106	51-145			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D21003 - EPA 5030B_MS - Continued

LCS (1D21003-BS1) Continued Prepared: 04/21/2021 00:00 Analyzed: 04/21/2021 08:02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
o-Xylene	19		2.5	ug/L	20.0		95	61-129			
Styrene	19		2.5	ug/L	20.0		96	59-136			
Tetrachloroethene	21		2.5	ug/L	20.0		107	60-147			
Toluene	20		2.5	ug/L	20.0		101	64-131			
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0		110	54-134			
trans-1,3-Dichloropropene	19		2.5	ug/L	20.0		96	65-149			
Trichloroethene	22		2.5	ug/L	20.0		112	62-135			
Trichlorofluoromethane	18		2.5	ug/L	20.0		92	56-155			
Vinyl chloride	20		2.5	ug/L	20.0		102	20-167			
4-Bromofluorobenzene	*45*	*I*		*ug/L*	*50.0*		*90*	*41-142*			
Dibromofluoromethane	*46*	*I*		*ug/L*	*50.0*		*92*	*53-146*			
Toluene-d8	*55*			*ug/L*	*50.0*		*110*	*41-146*			

Matrix Spike (1D21003-MS1) Prepared: 04/21/2021 00:00 Analyzed: 04/21/2021 08:30

Source: AE02765-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	21		2.5	ug/L	20.0	0.80 U	106	57-148			
1,1,2,2-Tetrachloroethane	19		2.5	ug/L	20.0	0.54 U	97	60-139			
1,1,2-Trichloroethane	18		2.5	ug/L	20.0	0.76 U	92	57-141			
1,1-Dichloroethane	22		2.5	ug/L	20.0	0.62 U	111	57-142			
1,1-Dichloroethene	22		2.5	ug/L	20.0	0.94 U	111	47-139			
1,2,4-Trichlorobenzene	20		2.5	ug/L	20.0	0.70 U	100	52-159			
1,2-Dibromo-3-chloropropane	14		2.5	ug/L	20.0	0.96 U	70	48-150			
1,2-Dibromoethane	18		2.5	ug/L	20.0	0.78 U	88	57-140			
1,2-Dichlorobenzene	19		2.5	ug/L	20.0	0.73 U	95	63-131			
1,2-Dichloroethane	20		2.5	ug/L	20.0	0.63 U	98	50-156			
1,2-Dichloropropane	22		2.5	ug/L	20.0	0.80 U	112	61-133			
1,3-Dichlorobenzene	19		2.5	ug/L	20.0	0.77 U	96	66-129			
1,4-Dichlorobenzene	18		2.5	ug/L	20.0	0.76 U	90	65-133			
2-Butanone	160		12	ug/L	100	4.5 U	155	10-180			
2-Hexanone	110		12	ug/L	100	2.5 U	107	12-180			
4-Methyl-2-pentanone	120		12	ug/L	100	2.5 U	119	19-180			
Acetone	98		25	ug/L	100	10 U	98	10-180			
Benzene	27		2.5	ug/L	20.0	0.71 U	137	56-136			QM-07
Bromodichloromethane	23		2.5	ug/L	20.0	0.52 U	115	58-135			
Bromoform	22		2.5	ug/L	20.0	0.75 U	109	46-148			
Bromomethane	8.2		2.5	ug/L	20.0	0.95 U	41	10-173			
Carbon disulfide	25		12	ug/L	20.0	2.5 U	127	43-153			
Carbon Tetrachloride	20		2.5	ug/L	20.0	0.94 U	102	54-156			
Chlorobenzene	20		2.5	ug/L	20.0	0.72 U	98	51-139			
Chloroethane	22		2.5	ug/L	20.0	0.98 U	111	27-180			
Chloroform	23		2.5	ug/L	20.0	0.80 U	114	58-139			
Chloromethane	20		2.5	ug/L	20.0	0.82 U	100	33-154			
cis-1,2-Dichloroethene	25		2.5	ug/L	20.0	0.53 U	123	56-128			
cis-1,3-Dichloropropene	22		2.5	ug/L	20.0	0.59 U	112	64-128			
Cyclohexane	24		2.5	ug/L	20.0	0.93 U	121	70-130			
Dibromochloromethane	17		2.5	ug/L	20.0	0.50 U	87	50-140			
Dichlorodifluoromethane	19		2.5	ug/L	20.0	0.74 U	93	10-180			

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D21003 - EPA 5030B_MS - Continued

Matrix Spike (1D21003-MS1) Continued Prepared: 04/21/2021 00:00 Analyzed: 04/21/2021 08:30

Source: AE02765-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	20		2.5	ug/L	20.0	0.69 U	98	63-133			
Freon 113	22		2.5	ug/L	20.0	0.73 U	109	47-173			
Isopropylbenzene	20		2.5	ug/L	20.0	0.67 U	99	60-132			
m,p-Xylenes	38		5.0	ug/L	40.0	1.3 U	95	64-133			
Methyl acetate	22		2.5	ug/L	20.0	0.95 U	112	70-130			
Methyl cyclohexane	23		2.5	ug/L	20.0	0.64 U	117	70-130			
Methylene Chloride	22		12	ug/L	20.0	2.5 U	110	43-142			
Methyl-tert-Butyl Ether	21		2.5	ug/L	20.0	0.60 U	107	51-145			
o-Xylene	20		2.5	ug/L	20.0	0.53 U	100	61-129			
Styrene	20		2.5	ug/L	20.0	0.61 U	98	59-136			
Tetrachloroethene	23		2.5	ug/L	20.0	0.76 U	117	60-147			
Toluene	21		2.5	ug/L	20.0	0.72 U	105	64-131			
trans-1,2-Dichloroethene	24		2.5	ug/L	20.0	0.73 U	122	54-134			
trans-1,3-Dichloropropene	19		2.5	ug/L	20.0	0.73 U	96	65-149			
Trichloroethene	24		2.5	ug/L	20.0	0.89 U	118	62-135			
Trichlorofluoromethane	21		2.5	ug/L	20.0	0.94 U	105	56-155			
Vinyl chloride	36		2.5	ug/L	20.0	13	114	20-167			
4-Bromofluorobenzene	*44*	*I*		*ug/L*	*50.0*		*89*	*41-142*			
Dibromofluoromethane	*46*	*I*		*ug/L*	*50.0*		*92*	*53-146*			
Toluene-d8	*54*			*ug/L*	*50.0*		*108*	*41-146*			

Matrix Spike Dup (1D21003-MSD1) Prepared: 04/21/2021 00:00 Analyzed: 04/21/2021 08:59

Source: AE02765-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	21		2.5	ug/L	20.0	0.80 U	104	57-148	2	25	
1,1,2,2-Tetrachloroethane	20		2.5	ug/L	20.0	0.54 U	100	60-139	3	17	
1,1,2-Trichloroethane	19		2.5	ug/L	20.0	0.76 U	95	57-141	3	16	
1,1-Dichloroethane	22		2.5	ug/L	20.0	0.62 U	110	57-142	0.7	24	
1,1-Dichloroethene	22		2.5	ug/L	20.0	0.94 U	111	47-139	0.05	16	
1,2,4-Trichlorobenzene	19		2.5	ug/L	20.0	0.70 U	97	52-159	3	24	
1,2-Dibromo-3-chloropropane	15		2.5	ug/L	20.0	0.96 U	75	48-150	6	21	
1,2-Dibromoethane	18		2.5	ug/L	20.0	0.78 U	90	57-140	2	16	
1,2-Dichlorobenzene	19		2.5	ug/L	20.0	0.73 U	94	63-131	0.2	25	
1,2-Dichloroethane	20		2.5	ug/L	20.0	0.63 U	100	50-156	2	18	
1,2-Dichloropropane	22		2.5	ug/L	20.0	0.80 U	110	61-133	2	26	
1,3-Dichlorobenzene	19		2.5	ug/L	20.0	0.77 U	95	66-129	1	23	
1,4-Dichlorobenzene	18		2.5	ug/L	20.0	0.76 U	91	65-133	1	23	
2-Butanone	160		12	ug/L	100	4.5 U	158	10-180	2	29	
2-Hexanone	110		12	ug/L	100	2.5 U	111	12-180	3	28	
4-Methyl-2-pentanone	130		12	ug/L	100	2.5 U	126	19-180	6	24	
Acetone	100		25	ug/L	100	10 U	101	10-180	4	19	
Benzene	28		2.5	ug/L	20.0	0.71 U	138	56-136	0.8	14	QM-07
Bromodichloromethane	23		2.5	ug/L	20.0	0.52 U	113	58-135	1	19	
Bromoform	22		2.5	ug/L	20.0	0.75 U	110	46-148	0.6	18	
Bromomethane	9.9		2.5	ug/L	20.0	0.95 U	49	10-173	19	29	
Carbon disulfide	25		12	ug/L	20.0	2.5 U	123	43-153	3	26	
Carbon Tetrachloride	20		2.5	ug/L	20.0	0.94 U	102	54-156	0.1	27	
Chlorobenzene	19		2.5	ug/L	20.0	0.72 U	96	51-139	1	13	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D21003 - EPA 5030B_MS - Continued

Matrix Spike Dup (1D21003-MSD1) Continued Prepared: 04/21/2021 00:00 Analyzed: 04/21/2021 08:59

Source: AE02765-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloroethane	24		2.5	ug/L	20.0	0.98 U	118	27-180	6	22	
Chloroform	22		2.5	ug/L	20.0	0.80 U	112	58-139	2	17	
Chloromethane	20		2.5	ug/L	20.0	0.82 U	98	33-154	2	31	
cis-1,2-Dichloroethene	24		2.5	ug/L	20.0	0.53 U	121	56-128	1	17	
cis-1,3-Dichloropropene	23		2.5	ug/L	20.0	0.59 U	114	64-128	1	20	
Cyclohexane	24		2.5	ug/L	20.0	0.93 U	122	70-130	0.5	20	
Dibromochloromethane	18		2.5	ug/L	20.0	0.50 U	88	50-140	0.8	18	
Dichlorodifluoromethane	18		2.5	ug/L	20.0	0.74 U	90	10-180	4	26	
Ethylbenzene	19		2.5	ug/L	20.0	0.69 U	97	63-133	1	18	
Freon 113	21		2.5	ug/L	20.0	0.73 U	106	47-173	3	30	
Isopropylbenzene	20		2.5	ug/L	20.0	0.67 U	98	60-132	1	23	
m,p-Xylenes	38		5.0	ug/L	40.0	1.3 U	96	64-133	0.5	18	
Methyl acetate	23		2.5	ug/L	20.0	0.95 U	115	70-130	2	20	
Methyl cyclohexane	23		2.5	ug/L	20.0	0.64 U	116	70-130	1	20	
Methylene Chloride	22		12	ug/L	20.0	2.5 U	110	43-142	0.09	23	
Methyl-tert-Butyl Ether	22		2.5	ug/L	20.0	0.60 U	110	51-145	2	22	
o-Xylene	20		2.5	ug/L	20.0	0.53 U	100	61-129	0.1	16	
Styrene	20		2.5	ug/L	20.0	0.61 U	99	59-136	0.7	32	
Tetrachloroethene	24		2.5	ug/L	20.0	0.76 U	118	60-147	1	21	
Toluene	21		2.5	ug/L	20.0	0.72 U	104	64-131	2	16	
trans-1,2-Dichloroethene	24		2.5	ug/L	20.0	0.73 U	118	54-134	3	20	
trans-1,3-Dichloropropene	19		2.5	ug/L	20.0	0.73 U	97	65-149	0.9	17	
Trichloroethene	24		2.5	ug/L	20.0	0.89 U	119	62-135	1	20	
Trichlorofluoromethane	21		2.5	ug/L	20.0	0.94 U	104	56-155	2	22	
Vinyl chloride	35		2.5	ug/L	20.0	13	112	20-167	1	24	
4-Bromofluorobenzene	*46*	*I*		*ug/L*	*50.0*		*92*	*41-142*			
Dibromofluoromethane	*47*	*I*		*ug/L*	*50.0*		*93*	*53-146*			
Toluene-d8	*56*			*ug/L*	*50.0*		*112*	*41-146*			

Dissolved Gases by GC - Quality Control

Batch 1D21012 - Same

Blank (1D21012-BLK1) Prepared: 04/21/2021 00:00 Analyzed: 04/21/2021 10:00

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.00510	U	0.00600	mg/L							
Ethene	0.00510	U	0.00600	mg/L							
Methane	0.00400	U	0.00500	mg/L							

LCS (1D21012-BS1) Prepared: 04/21/2021 00:00 Analyzed: 04/21/2021 09:22

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.326		0.00600	mg/L	0.323		101	70-130			
Ethene	0.317		0.00600	mg/L	0.302		105	70-130			
Methane	0.177		0.00500	mg/L	0.172		103	70-130			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Dissolved Gases by GC - Quality Control

Batch 1D21012 - Same - Continued

LCS Dup (1D21012-BSD1) Prepared: 04/21/2021 00:00 Analyzed: 04/21/2021 09:37

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.316		0.00600	mg/L	0.323		98	70-130	3	30	
Ethene	0.312		0.00600	mg/L	0.302		103	70-130	2	30	
Methane	0.172		0.00500	mg/L	0.172		100	70-130	3	30	

Duplicate (1D21012-DUP1) Prepared: 04/21/2021 00:00 Analyzed: 04/21/2021 16:17

Source: AE03147-01RE1

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.0357	U	0.0420	mg/L		0.0357 U				30	
Ethene	0.0357	U	0.0420	mg/L		0.0357 U				30	
Methane	0.663		0.0350	mg/L		0.586			12	30	

Batch 1D21038 - Same

Blank (1D21038-BLK1) Prepared: 04/21/2021 14:27 Analyzed: 04/21/2021 18:10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.00510	U	0.00600	mg/L							
Ethene	0.00510	U	0.00600	mg/L							
Methane	0.00400	U	0.00500	mg/L							

LCS (1D21038-BS1) Prepared: 04/21/2021 14:27 Analyzed: 04/21/2021 17:29

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.325		0.00600	mg/L	0.323		101	70-130			
Ethene	0.317		0.00600	mg/L	0.302		105	70-130			
Methane	0.178		0.00500	mg/L	0.172		104	70-130			

LCS Dup (1D21038-BSD1) Prepared: 04/21/2021 14:27 Analyzed: 04/21/2021 17:45

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.325		0.00600	mg/L	0.323		101	70-130	0.04	30	
Ethene	0.321		0.00600	mg/L	0.302		106	70-130	1	30	
Methane	0.178		0.00500	mg/L	0.172		103	70-130	0.2	30	

Duplicate (1D21038-DUP1) Prepared: 04/21/2021 14:27 Analyzed: 04/22/2021 09:35

Source: AE03290-03RE1

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.00510	U	0.00600	mg/L		0.00510 U				30	
Ethene	0.00510	U	0.00600	mg/L		0.00510 U				30	
Methane	0.0146		0.00500	mg/L		0.0351			83	30	QM-12

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-12	Precision between duplicate samples was outside acceptance limits.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported result is an estimated value.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence (85% or greater confidence) to make a “tentative identification".
Q	One or more quality control criteria failed.

AE02765

SGS North America Inc - Orlando

Chain of Custody

4405 Vineland Road, Suite C-15 Orlando, Fl 32811
TEL. 407-425-6700 FAX: 407-425-0707
www.sgs.com

SGS - ORLANDO JOB # : PAGE 1 OF 1

SGS - ORLANDO Quote # | SKIFF #

Client / Reporting Information

Company Name: Tetra Tech
Address: N Riverside Dr.
City: Cocoa State: FL Zip: 32922
Project Contact: Alex Murphy Email: alex.murphy@tetratech.com
Phone #:
Sampler(s) Name(s) (Printed)
Sampler 1: Melissa Brown Sampler 2:

Project Information

Project Name: CRCA
Street
City NASA State FL
Project # 112G08970
Fax #
Client Purchase Order #

Analytical Information

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid

SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION DATE	TIME	SAMPLED BY:	MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	HCl	NaOH	HNO3	H2SO4	NAOH+ZNAC	DI WATER	MEOH	VOC	MEE	LAB USE ONLY
	CRCA-MW0031-058.0-20210414	4-14-21	1120	MB	GW	6			✓							X	X	
	CRCA-MW0018-058.0-20210414	4-14-21	1230	MB	GW	6			✓							X	X	
	CRCA-MW0019-058.0-20210414	4-14-21	1400	MB	GW	6			✓							X	X	
	CRCA-MW0032-058.0-20210415	4-15-21	1600	MB	GW	3			✓							X		

Turnaround Time (Business days)

10 Day (Business) Approved By: / Date:
7 Day
5 Day
3 Day *RUSH*
2 Day *RUSH*
1 Day *RUSH*
Other
Rush T/A Data Available VIA Email or Lablink

Data Deliverable Information

- ☐ COMMERCIAL "A" (RESULTS ONLY)
- ☐ COMMERCIAL "B" (RESULTS PLUS QC)
- ☐ REDT1 (EPA LEVEL 3)
- ☐ FULLT1 (EPA LEVEL 4)
- ☐ EDD'S

Comments / Remarks

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler/Affiliation	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	Received By/Affiliation
1	Melissa Brown	4-15-21 1609	Tetra Tech		4-16-21	James W Gregory
5	Relinquished by/Affiliation	Date Time:	Received By/Affiliation 6	Relinquished By/Affiliation 7	Date Time:	Received By/Affiliation 8

Lab Use Only : Cooler Temperature (s) Celsius (corrected): Med-290 3.0°C

http://www.sgs.com/en/terms-and-conditions

ENCO Orlando

SDG: AE02765-TE016

CLASS: 01_VOA_MS

METHOD: EPA 8260D

ANALYSES DATA PACKAGE COVER PAGE

EPA 8260D

Laboratory: ENCO Orlando

SDG: AE02765-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-MW0031-058.0-20210414	AE02765-01
CRCA-MW0018-058.0-20210414	AE02765-02
CRCA-MW0019-058.0-20210414	AE02765-03
CRCA-MW0032-058.0-20210415	AE02765-04

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0031-058.0-20210414

Laboratory: ENCO Orlando SDG: AE02765-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE02765-01 File ID: 212DP009.D

Sampled: 04/14/21 11:20 Prepared: 04/21/21 00:00 Analyzed: 04/21/21 10:53

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1D21003 Sequence: AA66012 Calibration: 2103054 Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	13		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0031-058.0-20210414

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE02765-01
File ID: 212DP009.D
Sampled: 04/14/21 11:20
Prepared: 04/21/21 00:00
Analyzed: 04/21/21 10:53
Solids:
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Batch: 1D21003
Sequence: AA66012
Calibration: 2103054
Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	48	96	53 - 146	
Toluene-d8	50.0	55	111	41 - 146	
4-Bromofluorobenzene	50.0	45	89	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	254822	11.49	231702	11.44	
1,4-Difluorobenzene	440851	12.04	427152	11.99	
Chlorobenzene-d5	264655	14.63	207404	14.59	
1,4-Dichlorobenzene-d4	229135	17	156147	16.94	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0018-058.0-20210414

Laboratory: ENCO Orlando SDG: AE02765-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE02765-02 File ID: 212DP010.D

Sampled: 04/14/21 12:30 Prepared: 04/21/21 00:00 Analyzed: 04/21/21 11:22

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1D21003 Sequence: AA66012 Calibration: 2103054 Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	63		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0018-058.0-20210414

Laboratory: ENCO Orlando | SDG: AE02765-TE016

Client: Tetra Tech, Inc. (TE016) | Project: NASA KSC CRCA

Matrix: Ground Water | Laboratory ID: AE02765-02 | File ID: 212DP010.D

Sampled: 04/14/21 12:30 | Prepared: 04/21/21 00:00 | Analyzed: 04/21/21 11:22

Solids: | Preparation: EPA 5030B_MS | Initial/Final: 5 mL / 5 mL

Batch: 1D21003 | Sequence: AA66012 | Calibration: 2103054 | Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	48	95	53 - 146	
Toluene-d8	50.0	54	109	41 - 146	
4-Bromofluorobenzene	50.0	45	89	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	255442	11.49	231702	11.44	
1,4-Difluorobenzene	444829	12.04	427152	11.99	
Chlorobenzene-d5	266073	14.63	207404	14.59	
1,4-Dichlorobenzene-d4	232620	16.99	156147	16.94	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0019-058.0-20210414

Laboratory: ENCO Orlando SDG: AE02765-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE02765-03 File ID: 212DP011.D

Sampled: 04/14/21 14:00 Prepared: 04/21/21 00:00 Analyzed: 04/21/21 11:50

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1D21003 Sequence: AA66012 Calibration: 2103054 Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	2.8		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0019-058.0-20210414

Laboratory: ENCO Orlando SDG: AE02765-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE02765-03 File ID: 212DP011.D

Sampled: 04/14/21 14:00 Prepared: 04/21/21 00:00 Analyzed: 04/21/21 11:50

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1D21003 Sequence: AA66012 Calibration: 2103054 Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	48	96	53 - 146	
Toluene-d8	50.0	55	111	41 - 146	
4-Bromofluorobenzene	50.0	45	90	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	252709	11.49	231702	11.44	
1,4-Difluorobenzene	437760	12.04	427152	11.99	
Chlorobenzene-d5	263419	14.63	207404	14.59	
1,4-Dichlorobenzene-d4	227694	17	156147	16.94	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0032-058.0-20210415

Laboratory: ENCO Orlando SDG: AE02765-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE02765-04 File ID: 212DP012.D

Sampled: 04/15/21 16:00 Prepared: 04/21/21 00:00 Analyzed: 04/21/21 12:19

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1D21003 Sequence: AA66012 Calibration: 2103054 Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	6.0		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0032-058.0-20210415

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE02765-04
File ID: 212DP012.D
Sampled: 04/15/21 16:00
Prepared: 04/21/21 00:00
Analyzed: 04/21/21 12:19
Solids:
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Batch: 1D21003
Sequence: AA66012
Calibration: 2103054
Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	48	97	53 - 146	
Toluene-d8	50.0	55	110	41 - 146	
4-Bromofluorobenzene	50.0	44	89	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	250145	11.49	231702	11.44	
1,4-Difluorobenzene	441975	12.04	427152	11.99	
Chlorobenzene-d5	266964	14.63	207404	14.59	
1,4-Dichlorobenzene-d4	231703	16.99	156147	16.94	

* Values outside of QC limits

HOLDING TIME SUMMARY

EPA 8260D

Laboratory: ENCO Orlando

SDG: AE02765-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-MW0031-058.0-20210414	04/14/21 11:20	04/16/21 14:16	04/21/21 00:00	6.53	NA	04/21/21 10:53	7.00	14.00	
CRCA-MW0018-058.0-20210414	04/14/21 12:30	04/16/21 14:16	04/21/21 00:00	6.48	NA	04/21/21 11:22	7.00	14.00	
CRCA-MW0019-058.0-20210414	04/14/21 14:00	04/16/21 14:16	04/21/21 00:00	6.42	NA	04/21/21 11:50	7.00	14.00	
CRCA-MW0032-058.0-20210415	04/15/21 16:00	04/16/21 14:16	04/21/21 00:00	5.33	NA	04/21/21 12:19	6.00	14.00	

PREPARATION BATCH SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AE02765-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1D21003 Batch Matrix: Water Preparation: EPA 5030B_MS

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1D21003-BLK1	212DP007.D	04/21/21 00:00	
LCS	1D21003-BS1	212DP003.D	04/21/21 00:00	
CRCA-MW0031-058.0-20210414	1D21003-MS1	212DP004.D	04/21/21 00:00	
CRCA-MW0031-058.0-20210414	1D21003-MSD1	212DP005.D	04/21/21 00:00	
CRCA-MW0031-058.0-20210414	AE02765-01	212DP009.D	04/21/21 00:00	
CRCA-MW0018-058.0-20210414	AE02765-02	212DP010.D	04/21/21 00:00	
CRCA-MW0019-058.0-20210414	AE02765-03	212DP011.D	04/21/21 00:00	
CRCA-MW0032-058.0-20210415	AE02765-04	212DP012.D	04/21/21 00:00	

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1D21003-BLK1	File ID:	212DP007.D
Prepared:	04/21/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	04/21/21 09:56	Instrument:	OVGCMS2		
Batch:	1D21003	Sequence:	AA66012	Calibration:	2103054

CAS NO.	COMPOUND	CONC. (ug/L)	Q
75-71-8	Dichlorodifluoromethane	0.74	U
74-87-3	Chloromethane	0.82	U
75-01-4	Vinyl chloride	0.71	U
74-83-9	Bromomethane	0.95	U
75-00-3	Chloroethane	0.98	U
75-69-4	Trichlorofluoromethane	0.94	U
76-13-1	Freon 113	0.73	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	0.94	U
75-15-0	Carbon disulfide	2.5	U
75-09-2	Methylene Chloride	2.5	U
1634-04-4	Methyl-tert-Butyl Ether	0.60	U
156-60-5	trans-1,2-Dichloroethene	0.73	U
156-59-2	cis-1,2-Dichloroethene	0.53	U
75-34-3	1,1-Dichloroethane	0.62	U
78-93-3	2-Butanone	4.5	U
67-66-3	Chloroform	0.80	U
71-55-6	1,1,1-Trichloroethane	0.80	U
79-20-9	Methyl acetate	0.95	U
110-82-7	Cyclohexane	0.93	U
108-87-2	Methyl cyclohexane	0.64	U
56-23-5	Carbon Tetrachloride	0.94	U
107-06-2	1,2-Dichloroethane	0.63	U
71-43-2	Benzene	0.71	U
79-01-6	Trichloroethene	0.89	U
78-87-5	1,2-Dichloropropane	0.80	U
75-27-4	Bromodichloromethane	0.52	U
108-10-1	4-Methyl-2-pentanone	2.5	U
591-78-6	2-Hexanone	2.5	U
10061-01-5	cis-1,3-Dichloropropene	0.59	U

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1D21003-BLK1	File ID:	212DP007.D
Prepared:	04/21/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	04/21/21 09:56	Instrument:	OVGCMS2		
Batch:	1D21003	Sequence:	AA66012	Calibration:	2103054

CAS NO.	COMPOUND	CONC. (ug/L)	Q
108-88-3	Toluene	0.72	U
10061-02-6	trans-1,3-Dichloropropene	0.73	U
79-00-5	1,1,2-Trichloroethane	0.76	U
127-18-4	Tetrachloroethene	0.76	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.78	U
108-90-7	Chlorobenzene	0.72	U
100-41-4	Ethylbenzene	0.69	U
108-38-3/106-42-3	m,p-Xylenes	1.3	U
95-47-6	o-Xylene	0.53	U
75-25-2	Bromoform	0.75	U
100-42-5	Styrene	0.61	U
98-82-8	Isopropylbenzene	0.67	U
79-34-5	1,1,2,2-Tetrachloroethane	0.54	U
120-82-1	1,2,4-Trichlorobenzene	0.70	U
541-73-1	1,3-Dichlorobenzene	0.77	U
106-46-7	1,4-Dichlorobenzene	0.76	U
95-50-1	1,2-Dichlorobenzene	0.73	U
96-12-8	1,2-Dibromo-3-chloropropane	0.96	U
1330-20-7	Xylenes (Total)	1.3	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	47	95	53 - 146	
Toluene-d8	50.0	55	111	41 - 146	
4-Bromofluorobenzene	50.0	45	90	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	257477	11.49	231702	11.44	
1,4-Difluorobenzene	441969	12.04	427152	11.99	
Chlorobenzene-d5	264990	14.63	207404	14.59	
1,4-Dichlorobenzene-d4	231606	17	156147	16.94	

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1D21003	Laboratory ID:	1D21003-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	17	83	10 - 180
Chloromethane	20.0	18	89	33 - 154
Vinyl chloride	20.0	20	102	20 - 167
Bromomethane	20.0	6.3	31	10 - 173
Chloroethane	20.0	21	105	27 - 180
Trichlorofluoromethane	20.0	18	92	56 - 155
Freon 113	20.0	19	97	47 - 173
Acetone	100	100	103	10 - 180
1,1-Dichloroethene	20.0	20	100	47 - 139
Carbon disulfide	20.0	26	128	43 - 153
Methylene Chloride	20.0	21	106	43 - 142
Methyl-tert-Butyl Ether	20.0	21	106	51 - 145
trans-1,2-Dichloroethene	20.0	22	110	54 - 134
cis-1,2-Dichloroethene	20.0	23	115	56 - 128
1,1-Dichloroethane	20.0	21	104	57 - 142
2-Butanone	100	160	157	10 - 180
Chloroform	20.0	22	109	58 - 139
1,1,1-Trichloroethane	20.0	19	94	57 - 148
Methyl acetate	20.0	22	110	70 - 130
Cyclohexane	20.0	22	110	70 - 130
Methyl cyclohexane	20.0	21	106	70 - 130
Carbon Tetrachloride	20.0	18	91	54 - 156
1,2-Dichloroethane	20.0	20	99	50 - 156
Benzene	20.0	26	130	56 - 136
Trichloroethene	20.0	22	112	62 - 135
1,2-Dichloropropane	20.0	22	109	61 - 133
Bromodichloromethane	20.0	23	114	58 - 135
4-Methyl-2-pentanone	100	120	116	19 - 180
2-Hexanone	100	100	103	12 - 180
cis-1,3-Dichloropropene	20.0	22	109	64 - 128

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1D21003	Laboratory ID:	1D21003-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Toluene	20.0	20	101	64 - 131
trans-1,3-Dichloropropene	20.0	19	96	65 - 149
1,1,2-Trichloroethane	20.0	19	94	57 - 141
Tetrachloroethene	20.0	21	107	60 - 147
Dibromochloromethane	20.0	17	86	50 - 140
1,2-Dibromoethane	20.0	18	88	57 - 140
Chlorobenzene	20.0	19	95	51 - 139
Ethylbenzene	20.0	19	93	63 - 133
m,p-Xylenes	40.0	36	91	64 - 133
o-Xylene	20.0	19	95	61 - 129
Bromoform	20.0	22	110	46 - 148
Styrene	20.0	19	96	59 - 136
Isopropylbenzene	20.0	19	93	60 - 132
1,1,2,2-Tetrachloroethane	20.0	19	97	60 - 139
1,2,4-Trichlorobenzene	20.0	20	99	52 - 159
1,3-Dichlorobenzene	20.0	19	93	66 - 129
1,4-Dichlorobenzene	20.0	18	89	65 - 133
1,2-Dichlorobenzene	20.0	19	94	63 - 131
1,2-Dibromo-3-chloropropane	20.0	14	71	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0031-058.0-20210414

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1D21003
Laboratory ID: 1D21003-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0031-058.0-20210414

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	ND	19	93	10 - 180
Chloromethane	20.0	ND	20	100	33 - 154
Vinyl chloride	20.0	13	36	114	20 - 167
Bromomethane	20.0	ND	8.2	41	10 - 173
Chloroethane	20.0	ND	22	111	27 - 180
Trichlorofluoromethane	20.0	ND	21	105	56 - 155
Freon 113	20.0	ND	22	109	47 - 173
Acetone	100	ND	98	98	10 - 180
1,1-Dichloroethene	20.0	ND	22	111	47 - 139
Carbon disulfide	20.0	ND	25	127	43 - 153
Methylene Chloride	20.0	ND	22	110	43 - 142
Methyl-tert-Butyl Ether	20.0	ND	21	107	51 - 145
trans-1,2-Dichloroethene	20.0	ND	24	122	54 - 134
cis-1,2-Dichloroethene	20.0	ND	25	123	56 - 128
1,1-Dichloroethane	20.0	ND	22	111	57 - 142
2-Butanone	100	ND	160	155	10 - 180
Chloroform	20.0	ND	23	114	58 - 139
1,1,1-Trichloroethane	20.0	ND	21	106	57 - 148
Methyl acetate	20.0	ND	22	112	70 - 130
Cyclohexane	20.0	ND	24	121	70 - 130
Methyl cyclohexane	20.0	ND	23	117	70 - 130
Carbon Tetrachloride	20.0	ND	20	102	54 - 156
1,2-Dichloroethane	20.0	ND	20	98	50 - 156
Benzene	20.0	ND	27	137 *	56 - 136
Trichloroethene	20.0	ND	24	118	62 - 135
1,2-Dichloropropane	20.0	ND	22	112	61 - 133
Bromodichloromethane	20.0	ND	23	115	58 - 135
4-Methyl-2-pentanone	100	ND	120	119	19 - 180
2-Hexanone	100	ND	110	107	12 - 180
cis-1,3-Dichloropropene	20.0	ND	22	112	64 - 128
Toluene	20.0	ND	21	105	64 - 131

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0031-058.0-20210414

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1D21003
Laboratory ID: 1D21003-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0031-058.0-20210414

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
trans-1,3-Dichloropropene	20.0	ND	19	96	65 - 149
1,1,2-Trichloroethane	20.0	ND	18	92	57 - 141
Tetrachloroethene	20.0	ND	23	117	60 - 147
Dibromochloromethane	20.0	ND	17	87	50 - 140
1,2-Dibromoethane	20.0	ND	18	88	57 - 140
Chlorobenzene	20.0	ND	20	98	51 - 139
Ethylbenzene	20.0	ND	20	98	63 - 133
m,p-Xylenes	40.0	ND	38	95	64 - 133
o-Xylene	20.0	ND	20	100	61 - 129
Bromoform	20.0	ND	22	109	46 - 148
Styrene	20.0	ND	20	98	59 - 136
Isopropylbenzene	20.0	ND	20	99	60 - 132
1,1,2,2-Tetrachloroethane	20.0	ND	19	97	60 - 139
1,2,4-Trichlorobenzene	20.0	ND	20	100	52 - 159
1,3-Dichlorobenzene	20.0	ND	19	96	66 - 129
1,4-Dichlorobenzene	20.0	ND	18	90	65 - 133
1,2-Dichlorobenzene	20.0	ND	19	95	63 - 131
1,2-Dibromo-3-chloropropane	20.0	ND	14	70	48 - 150

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0031-058.0-20210414

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1D21003
Laboratory ID: 1D21003-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0031-058.0-20210414

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #		% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20.0	18	90		4	26	10 - 180
Chloromethane	20.0	20	98		2	31	33 - 154
Vinyl chloride	20.0	35	112		1	24	20 - 167
Bromomethane	20.0	9.9	49		19	29	10 - 173
Chloroethane	20.0	24	118		6	22	27 - 180
Trichlorofluoromethane	20.0	21	104		2	22	56 - 155
Freon 113	20.0	21	106		3	30	47 - 173
Acetone	100	100	101		4	19	10 - 180
1,1-Dichloroethene	20.0	22	111		0.05	16	47 - 139
Carbon disulfide	20.0	25	123		3	26	43 - 153
Methylene Chloride	20.0	22	110		0.09	23	43 - 142
Methyl-tert-Butyl Ether	20.0	22	110		2	22	51 - 145
trans-1,2-Dichloroethene	20.0	24	118		3	20	54 - 134
cis-1,2-Dichloroethene	20.0	24	121		1	17	56 - 128
1,1-Dichloroethane	20.0	22	110		0.7	24	57 - 142
2-Butanone	100	160	158		2	29	10 - 180
Chloroform	20.0	22	112		2	17	58 - 139
1,1,1-Trichloroethane	20.0	21	104		2	25	57 - 148
Methyl acetate	20.0	23	115		2	20	70 - 130
Cyclohexane	20.0	24	122		0.5	20	70 - 130
Methyl cyclohexane	20.0	23	116		1	20	70 - 130
Carbon Tetrachloride	20.0	20	102		0.1	27	54 - 156
1,2-Dichloroethane	20.0	20	100		2	18	50 - 156
Benzene	20.0	28	138	*	0.8	14	56 - 136
Trichloroethene	20.0	24	119		1	20	62 - 135
1,2-Dichloropropane	20.0	22	110		2	26	61 - 133
Bromodichloromethane	20.0	23	113		1	19	58 - 135
4-Methyl-2-pentanone	100	130	126		6	24	19 - 180
2-Hexanone	100	110	111		3	28	12 - 180
cis-1,3-Dichloropropene	20.0	23	114		1	20	64 - 128
Toluene	20.0	21	104		2	16	64 - 131
trans-1,3-Dichloropropene	20.0	19	97		0.9	17	65 - 149

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0031-058.0-20210414

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1D21003
Laboratory ID: 1D21003-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0031-058.0-20210414

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,2-Trichloroethane	20.0	19	95	3	16	57 - 141
Tetrachloroethene	20.0	24	118	1	21	60 - 147
Dibromochloromethane	20.0	18	88	0.8	18	50 - 140
1,2-Dibromoethane	20.0	18	90	2	16	57 - 140
Chlorobenzene	20.0	19	96	1	13	51 - 139
Ethylbenzene	20.0	19	97	1	18	63 - 133
m,p-Xylenes	40.0	38	96	0.5	18	64 - 133
o-Xylene	20.0	20	100	0.1	16	61 - 129
Bromoform	20.0	22	110	0.6	18	46 - 148
Styrene	20.0	20	99	0.7	32	59 - 136
Isopropylbenzene	20.0	20	98	1	23	60 - 132
1,1,2,2-Tetrachloroethane	20.0	20	100	3	17	60 - 139
1,2,4-Trichlorobenzene	20.0	19	97	3	24	52 - 159
1,3-Dichlorobenzene	20.0	19	95	1	23	66 - 129
1,4-Dichlorobenzene	20.0	18	91	1	23	65 - 133
1,2-Dichlorobenzene	20.0	19	94	0.2	25	63 - 131
1,2-Dibromo-3-chloropropane	20.0	15	75	6	21	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA65289
Instrument: OVGCMS2
Matrix: Water
Calibration: 2103054

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA65289-SCV1)			Lab File ID: 212CD013.D		Analyzed: 03/09/21 14:04			
Dibromofluoromethane	50.0	96	70 - 130	11.05	11.05	0.0000	+/-0.5	
Toluene-d8	50.0	101	70 - 130	13.22	13.21375	0.0063	+/-0.5	
4-Bromofluorobenzene	50.0	103	70 - 130	15.71	15.70875	0.0013	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA66012
Instrument: OVGCMS2
Matrix: Water
Calibration: 2103054

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA66012-CCV1)			Lab File ID: 212DP002.D		Analyzed: 04/21/21 07:30			
Dibromofluoromethane	50.0	96	80 - 120	11.1	11.05	0.0500	+/-0.5	
Toluene-d8	50.0	112	80 - 120	13.25	13.21375	0.0363	+/-0.5	
4-Bromofluorobenzene	50.0	93	80 - 120	15.75	15.70875	0.0412	+/-0.5	
LCS (1D21003-BS1)			Lab File ID: 212DP003.D		Analyzed: 04/21/21 08:02			
Dibromofluoromethane	50.0	92	53 - 146	11.09	11.05	0.0400	+/-0.5	
Toluene-d8	50.0	110	41 - 146	13.26	13.21375	0.0463	+/-0.5	
4-Bromofluorobenzene	50.0	90	41 - 142	15.75	15.70875	0.0412	+/-0.5	
Matrix Spike (1D21003-MS1)			Lab File ID: 212DP004.D		Analyzed: 04/21/21 08:30			
Dibromofluoromethane	50.0	92	53 - 146	11.1	11.05	0.0500	+/-0.5	
Toluene-d8	50.0	108	41 - 146	13.26	13.21375	0.0463	+/-0.5	
4-Bromofluorobenzene	50.0	89	41 - 142	15.75	15.70875	0.0412	+/-0.5	
Matrix Spike Dup (1D21003-MSD1)			Lab File ID: 212DP005.D		Analyzed: 04/21/21 08:59			
Dibromofluoromethane	50.0	93	53 - 146	11.09	11.05	0.0400	+/-0.5	
Toluene-d8	50.0	112	41 - 146	13.25	13.21375	0.0363	+/-0.5	
4-Bromofluorobenzene	50.0	92	41 - 142	15.75	15.70875	0.0412	+/-0.5	
Blank (1D21003-BLK1)			Lab File ID: 212DP007.D		Analyzed: 04/21/21 09:56			
Dibromofluoromethane	50.0	95	53 - 146	11.1	11.05	0.0500	+/-0.5	
Toluene-d8	50.0	111	41 - 146	13.25	13.21375	0.0363	+/-0.5	
4-Bromofluorobenzene	50.0	90	41 - 142	15.75	15.70875	0.0412	+/-0.5	
Instrument RL Check (AA66012-CRL1)			Lab File ID: 212DP008.D		Analyzed: 04/21/21 10:25			
Dibromofluoromethane	50.0	96	1 - 199	11.1	11.05	0.0500	+/-0.5	
Toluene-d8	50.0	111	1 - 199	13.25	13.21375	0.0363	+/-0.5	
4-Bromofluorobenzene	50.0	91	1 - 199	15.75	15.70875	0.0412	+/-0.5	
CRCA-MW0031-058.0-20210414 (AE02765-01)			Lab File ID: 212DP009.D		Analyzed: 04/21/21 10:53			
Dibromofluoromethane	50.0	96	53 - 146	11.1	11.05	0.0500	+/-0.5	
Toluene-d8	50.0	111	41 - 146	13.25	13.21375	0.0363	+/-0.5	
4-Bromofluorobenzene	50.0	89	41 - 142	15.75	15.70875	0.0412	+/-0.5	
CRCA-MW0018-058.0-20210414 (AE02765-02)			Lab File ID: 212DP010.D		Analyzed: 04/21/21 11:22			
Dibromofluoromethane	50.0	95	53 - 146	11.1	11.05	0.0500	+/-0.5	
Toluene-d8	50.0	109	41 - 146	13.25	13.21375	0.0363	+/-0.5	
4-Bromofluorobenzene	50.0	89	41 - 142	15.75	15.70875	0.0412	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA66012
Instrument: OVGCMS2
Matrix: Water
Calibration: 2103054

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
CRCA-MW0019-058.0-20210414 (AE02765-03)			Lab File ID: 212DP011.D		Analyzed: 04/21/21 11:50			
Dibromofluoromethane	50.0	96	53 - 146	11.1	11.05	0.0500	+/-0.5	
Toluene-d8	50.0	111	41 - 146	13.26	13.21375	0.0463	+/-0.5	
4-Bromofluorobenzene	50.0	90	41 - 142	15.76	15.70875	0.0512	+/-0.5	
CRCA-MW0032-058.0-20210415 (AE02765-04)			Lab File ID: 212DP012.D		Analyzed: 04/21/21 12:19			
Dibromofluoromethane	50.0	97	53 - 146	11.1	11.05	0.0500	+/-0.5	
Toluene-d8	50.0	110	41 - 146	13.25	13.21375	0.0363	+/-0.5	
4-Bromofluorobenzene	50.0	89	41 - 142	15.75	15.70875	0.0412	+/-0.5	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA65289
Instrument: OVGCMS2
Matrix: Water
Calibration: 2103054

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA65289-CAL1)			Lab File ID: 212CD002.D			Analyzed: 03/09/21 08:30			
Pentafluorobenzene	258684	11.44	231702	11.44	112	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	456563	12	427152	11.99	107	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	220295	14.59	207404	14.59	106	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	157950	16.96	156147	16.94	101	50 - 200	0.0200	+/-0.50	
Cal Standard (AA65289-CAL2)			Lab File ID: 212CD003.D			Analyzed: 03/09/21 08:59			
Pentafluorobenzene	252984	11.44	231702	11.44	109	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	447138	11.99	427152	11.99	105	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	219862	14.59	207404	14.59	106	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	160130	16.95	156147	16.94	103	50 - 200	0.0100	+/-0.50	
Cal Standard (AA65289-CAL3)			Lab File ID: 212CD004.D			Analyzed: 03/09/21 09:27			
Pentafluorobenzene	249505	11.44	231702	11.44	108	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	443522	11.99	427152	11.99	104	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	215472	14.59	207404	14.59	104	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	156777	16.95	156147	16.94	100	50 - 200	0.0100	+/-0.50	
Cal Standard (AA65289-CAL4)			Lab File ID: 212CD005.D			Analyzed: 03/09/21 09:56			
Pentafluorobenzene	244206	11.44	231702	11.44	105	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	431789	11.99	427152	11.99	101	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	212013	14.59	207404	14.59	102	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	155190	16.95	156147	16.94	99	50 - 200	0.0100	+/-0.50	
Cal Standard (AA65289-CAL5)			Lab File ID: 212CD006.D			Analyzed: 03/09/21 10:25			
Pentafluorobenzene	236992	11.44	231702	11.44	102	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	433407	11.99	427152	11.99	101	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	209656	14.59	207404	14.59	101	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	155955	16.95	156147	16.94	100	50 - 200	0.0100	+/-0.50	
Cal Standard (AA65289-CAL6)			Lab File ID: 212CD007.D			Analyzed: 03/09/21 10:53			
Pentafluorobenzene	231702	11.44	231702	11.44	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	427152	11.99	427152	11.99	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	207404	14.59	207404	14.59	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	156147	16.94	156147	16.94	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA65289-CAL7)			Lab File ID: 212CD008.D			Analyzed: 03/09/21 11:22			
Pentafluorobenzene	226247	11.44	231702	11.44	98	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	427385	11.99	427152	11.99	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	206954	14.58	207404	14.59	100	50 - 200	-0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	158337	16.95	156147	16.94	101	50 - 200	0.0100	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA65289
Instrument: OVGCMS2
Matrix: Water
Calibration: 2103054

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA65289-CAL8)			Lab File ID: 212CD009.D			Analyzed: 03/09/21 11:50			
Pentafluorobenzene	228850	11.44	231702	11.44	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	429679	11.99	427152	11.99	101	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	211567	14.59	207404	14.59	102	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	163882	16.95	156147	16.94	105	50 - 200	0.0100	+/-0.50	
Secondary Cal Check (AA65289-SCV1)			Lab File ID: 212CD013.D			Analyzed: 03/09/21 14:04			
Pentafluorobenzene	241526	11.45	231702	11.44	104	50 - 200	0.0100	+/-0.50	
1,4-Difluorobenzene	436002	12	427152	11.99	102	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	211494	14.6	207404	14.59	102	50 - 200	0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	162014	16.95	156147	16.94	104	50 - 200	0.0100	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA66012
Instrument: OVGCMS2
Matrix: Water
Calibration: 2103054

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA66012-CCV1)			Lab File ID: 212DP002.D			Analyzed: 04/21/21 07:30			
Pentafluorobenzene	232489	11.49	231702	11.44	100	50 - 200	0.0500	+/-0.50	
1,4-Difluorobenzene	416501	12.04	427152	11.99	98	50 - 200	0.0500	+/-0.50	
Chlorobenzene-d5	252025	14.63	207404	14.59	122	50 - 200	0.0400	+/-0.50	
1,4-Dichlorobenzene-d4	224868	17	156147	16.94	144	50 - 200	0.0600	+/-0.50	
LCS (1D21003-BS1)			Lab File ID: 212DP003.D			Analyzed: 04/21/21 08:02			
Pentafluorobenzene	255057	11.49	231702	11.44	110	50 - 200	0.0500	+/-0.50	
1,4-Difluorobenzene	441136	12.04	427152	11.99	103	50 - 200	0.0500	+/-0.50	
Chlorobenzene-d5	262953	14.63	207404	14.59	127	50 - 200	0.0400	+/-0.50	
1,4-Dichlorobenzene-d4	231899	17	156147	16.94	149	50 - 200	0.0600	+/-0.50	
Matrix Spike (1D21003-MS1)			Lab File ID: 212DP004.D			Analyzed: 04/21/21 08:30			
Pentafluorobenzene	250304	11.49	231702	11.44	108	50 - 200	0.0500	+/-0.50	
1,4-Difluorobenzene	441194	12.04	427152	11.99	103	50 - 200	0.0500	+/-0.50	
Chlorobenzene-d5	261355	14.64	207404	14.59	126	50 - 200	0.0500	+/-0.50	
1,4-Dichlorobenzene-d4	228054	17	156147	16.94	146	50 - 200	0.0600	+/-0.50	
Matrix Spike Dup (1D21003-MSD1)			Lab File ID: 212DP005.D			Analyzed: 04/21/21 08:59			
Pentafluorobenzene	247415	11.49	231702	11.44	107	50 - 200	0.0500	+/-0.50	
1,4-Difluorobenzene	430586	12.04	427152	11.99	101	50 - 200	0.0500	+/-0.50	
Chlorobenzene-d5	256802	14.63	207404	14.59	124	50 - 200	0.0400	+/-0.50	
1,4-Dichlorobenzene-d4	225554	17	156147	16.94	144	50 - 200	0.0600	+/-0.50	
Blank (1D21003-BLK1)			Lab File ID: 212DP007.D			Analyzed: 04/21/21 09:56			
Pentafluorobenzene	257477	11.49	231702	11.44	111	50 - 200	0.0500	+/-0.50	
1,4-Difluorobenzene	441969	12.04	427152	11.99	103	50 - 200	0.0500	+/-0.50	
Chlorobenzene-d5	264990	14.63	207404	14.59	128	50 - 200	0.0400	+/-0.50	
1,4-Dichlorobenzene-d4	231606	17	156147	16.94	148	50 - 200	0.0600	+/-0.50	
Instrument RL Check (AA66012-CRL1)			Lab File ID: 212DP008.D			Analyzed: 04/21/21 10:25			
Pentafluorobenzene	256652	11.49	231702	11.44	111	50 - 200	0.0500	+/-0.50	
1,4-Difluorobenzene	443568	12.04	427152	11.99	104	50 - 200	0.0500	+/-0.50	
Chlorobenzene-d5	265324	14.63	207404	14.59	128	50 - 200	0.0400	+/-0.50	
1,4-Dichlorobenzene-d4	230689	17	156147	16.94	148	50 - 200	0.0600	+/-0.50	
CRCA-MW0031-058.0-20210414 (AE02765-01)			Lab File ID: 212DP009.D			Analyzed: 04/21/21 10:53			
Pentafluorobenzene	254822	11.49	231702	11.44	110	50 - 200	0.0500	+/-0.50	
1,4-Difluorobenzene	440851	12.04	427152	11.99	103	50 - 200	0.0500	+/-0.50	
Chlorobenzene-d5	264655	14.63	207404	14.59	128	50 - 200	0.0400	+/-0.50	
1,4-Dichlorobenzene-d4	229135	17	156147	16.94	147	50 - 200	0.0600	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA66012
Instrument: OVGCMS2
Matrix: Water
Calibration: 2103054

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
CRCA-MW0018-058.0-20210414 (AE02765-02)			Lab File ID: 212DP010.D			Analyzed: 04/21/21 11:22			
Pentafluorobenzene	255442	11.49	231702	11.44	110	50 - 200	0.0500	+/-0.50	
1,4-Difluorobenzene	444829	12.04	427152	11.99	104	50 - 200	0.0500	+/-0.50	
Chlorobenzene-d5	266073	14.63	207404	14.59	128	50 - 200	0.0400	+/-0.50	
1,4-Dichlorobenzene-d4	232620	16.99	156147	16.94	149	50 - 200	0.0500	+/-0.50	
CRCA-MW0019-058.0-20210414 (AE02765-03)			Lab File ID: 212DP011.D			Analyzed: 04/21/21 11:50			
Pentafluorobenzene	252709	11.49	231702	11.44	109	50 - 200	0.0500	+/-0.50	
1,4-Difluorobenzene	437760	12.04	427152	11.99	102	50 - 200	0.0500	+/-0.50	
Chlorobenzene-d5	263419	14.63	207404	14.59	127	50 - 200	0.0400	+/-0.50	
1,4-Dichlorobenzene-d4	227694	17	156147	16.94	146	50 - 200	0.0600	+/-0.50	
CRCA-MW0032-058.0-20210415 (AE02765-04)			Lab File ID: 212DP012.D			Analyzed: 04/21/21 12:19			
Pentafluorobenzene	250145	11.49	231702	11.44	108	50 - 200	0.0500	+/-0.50	
1,4-Difluorobenzene	441975	12.04	427152	11.99	103	50 - 200	0.0500	+/-0.50	
Chlorobenzene-d5	266964	14.63	207404	14.59	129	50 - 200	0.0400	+/-0.50	
1,4-Dichlorobenzene-d4	231703	16.99	156147	16.94	148	50 - 200	0.0500	+/-0.50	

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA65289		
Calibration:	2103054	Instrument:	OVGCMS2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA65289-TUN1	212CD001.D	03/09/21 07:55
Cal Standard	AA65289-CAL1	212CD002.D	03/09/21 08:30
Cal Standard	AA65289-CAL2	212CD003.D	03/09/21 08:59
Cal Standard	AA65289-CAL3	212CD004.D	03/09/21 09:27
Cal Standard	AA65289-CAL4	212CD005.D	03/09/21 09:56
Cal Standard	AA65289-CAL5	212CD006.D	03/09/21 10:25
Cal Standard	AA65289-CAL6	212CD007.D	03/09/21 10:53
Cal Standard	AA65289-CAL7	212CD008.D	03/09/21 11:22
Cal Standard	AA65289-CAL8	212CD009.D	03/09/21 11:50
Secondary Cal Check	AA65289-SCV1	212CD013.D	03/09/21 14:04

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA66012		
Calibration:	2103054	Instrument:	OVGCMS2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA66012-TUN1	212DP001.D	04/21/21 06:59
Calibration Check	AA66012-CCV1	212DP002.D	04/21/21 07:30
LCS	1D21003-BS1	212DP003.D	04/21/21 08:02
CRCA-MW0031-058.0-20210414	1D21003-MS1	212DP004.D	04/21/21 08:30
CRCA-MW0031-058.0-20210414	1D21003-MSD1	212DP005.D	04/21/21 08:59
Blank	1D21003-BLK1	212DP007.D	04/21/21 09:56
Instrument RL Check	AA66012-CRL1	212DP008.D	04/21/21 10:25
CRCA-MW0031-058.0-20210414	AE02765-01	212DP009.D	04/21/21 10:53
CRCA-MW0018-058.0-20210414	AE02765-02	212DP010.D	04/21/21 11:22
CRCA-MW0019-058.0-20210414	AE02765-03	212DP011.D	04/21/21 11:50
CRCA-MW0032-058.0-20210415	AE02765-04	212DP012.D	04/21/21 12:19

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	212CD001.D	Injection Date:	03/09/21
Instrument ID:	OVGCMS2	Injection Time:	07:55
Sequence:	AA65289	Lab Sample ID:	AA65289-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	146	PASS
96	5 - 9% of 95	6.75	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	68.3	PASS
175	5 - 9% of 174	7.6	PASS
176	95 - 105% of 174	99.7	PASS
177	5 - 10% of 176	6.62	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	212DP001.D	Injection Date:	04/21/21
Instrument ID:	OVGCMS2	Injection Time:	06:59
Sequence:	AA66012	Lab Sample ID:	AA66012-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	125	PASS
96	5 - 9% of 95	6.68	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	79.9	PASS
175	5 - 9% of 174	7.63	PASS
176	95 - 105% of 174	96.1	PASS
177	5 - 10% of 176	6.62	PASS

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS2	Calibration:	2103054
Lab File ID:	212DP002.D	Calibration Date:	03/10/21 08:57
Sequence:	AA66012	Injection Date:	04/21/21
Lab Sample ID:	AA66012-CCV1	Injection Time:	07:30

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Dichlorodifluoromethane	A	20.0	21	1.0726	1.111784		3.6	20	
Chloromethane	A	20.0	21	1.125442	1.194078		6.1	20	
Vinyl chloride	A	20.0	23	0.871695	1.021607		17	20	
Bromomethane	A	20.0	25	0.4216486	0.5230678		25	20	*
Chloroethane	A	20.0	23	0.4594287	0.5210139		13	20	
Trichlorofluoromethane	A	20.0	20	0.8444659	0.8295661		-1.8	20	
Freon 113	A	50.0	49	0.5353971	0.5240635		-2.1	20	
Acetone	A	250	270	0.2098613	0.210539		9.8	20	
1,1-Dichloroethene	A	50.0	47	0.492039	0.4671963		-5	20	
Carbon disulfide	A	250	290	1.675395	1.971496		18	20	
Methylene Chloride	A	50.0	53	0.6372904	0.6770686		6.2	20	
Methyl-tert-Butyl Ether	A	50.0	56	1.629343	1.8321		12	20	
trans-1,2-Dichloroethene	A	50.0	56	0.5294924	0.5958518		13	20	
cis-1,2-Dichloroethene	A	50.0	60	0.5730141	0.6844453		19	20	
1,1-Dichloroethane	A	50.0	52	1.11993	1.1567		3.3	20	
2-Butanone	A	250	320	6.656362E-02	7.775594E-02		28	20	*
Chloroform	A	50.0	56	1.034125	1.158752		12	20	
1,1,1-Trichloroethane	A	50.0	51	0.8170626	0.8253896		1.0	20	
Methyl acetate	A	50.0	56	0.1098139	0.1231026		12	20	
Cyclohexane	A	50.0	50	0.9572176	0.9483502		-0.9	20	
Methyl cyclohexane	A	50.0	51	0.4112075	0.4172331		1.5	20	
Carbon Tetrachloride	A	50.0	48	0.4638802	0.4455908		-3.9	20	
1,2-Dichloroethane	A	50.0	50	0.4782864	0.4798452		0.30	20	
Benzene	A	50.0	62	1.177328	1.317277		23	20	*
Trichloroethene	A	50.0	59	0.3209742	0.3804601		19	20	
1,2-Dichloropropane	A	50.0	56	0.3667572	0.412424		13	20	
Bromodichloromethane	A	50.0	58	0.4279118	0.4974202		16	20	
4-Methyl-2-pentanone	A	250	340	4.721789E-02	5.958017E-02		35	20	*
2-Hexanone	A	250	310	0.2679157	0.3300079		23	20	*

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS2	Calibration:	2103054
Lab File ID:	212DP002.D	Calibration Date:	03/10/21 08:57
Sequence:	AA66012	Injection Date:	04/21/21
Lab Sample ID:	AA66012-CCV1	Injection Time:	07:30

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
cis-1,3-Dichloropropene	A	50.0	62	0.5858308	0.7273188		24	20	*
Toluene	A	50.0	51	1.382929	1.402524		1.4	20	
trans-1,3-Dichloropropene	A	50.0	49	0.9949631	0.9746255		-2	20	
1,1,2-Trichloroethane	A	50.0	49	0.5380963	0.5260351		-2.2	20	
Tetrachloroethene	A	50.0	56	0.4198975	0.4667235		11	20	
Dibromochloromethane	A	50.0	45	0.7405405	0.660859		-11	20	
1,2-Dibromoethane	A	50.0	47	0.6605201	0.6242793		-5.5	20	
Chlorobenzene	A	50.0	47	1.550303	1.471886		-5.1	20	
Ethylbenzene	A	50.0	48	0.7935253	0.7606745		-4.1	20	
m,p-Xylenes	A	100	96	0.9705429	0.9315663		-4	20	
o-Xylene	A	50.0	49	0.9559986	0.9459419		-1.1	20	
Bromoform	A	50.0	55	0.3849412	0.4255451		11	20	
Styrene	A	50.0	49	1.637021	1.61926		-1.1	20	
Isopropylbenzene	A	50.0	48	2.395216	2.280571		-4.8	20	
1,1,2,2-Tetrachloroethane	A	50.0	53	0.6920671	0.7274596		5.1	20	
1,2,4-Trichlorobenzene	A	50.0	47	0.6933419	0.6460057		-6.8	20	
1,3-Dichlorobenzene	A	50.0	47	1.398388	1.304125		-6.7	20	
1,4-Dichlorobenzene	A	50.0	45	1.454236	1.299909		-11	20	
1,2-Dichlorobenzene	A	50.0	47	1.33251	1.239456		-7	20	
1,2-Dibromo-3-chloropropane	A	50.0	35	0.1676609	0.1140313		-31	20	*

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA65289	Instrument:	OVGCMS2
Calibration:	2103054		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A0I0903	MS Tune	AA65289-TUN1	212CD001.D	03/09/21 07:55
A1C0778	8260 Calibration 1.0 PPB	AA65289-CAL1	212CD002.D	03/09/21 08:30
A1C0779	8260 Calibration 2.0 PPB	AA65289-CAL2	212CD003.D	03/09/21 08:59
A1C0780	8260 Calibration 5.0 PPB	AA65289-CAL3	212CD004.D	03/09/21 09:27
A1C0781	8260 Calibration 10 PPB	AA65289-CAL4	212CD005.D	03/09/21 09:56
A1C0782	8260 Calibration 20 PPB	AA65289-CAL5	212CD006.D	03/09/21 10:25
A1C0783	8260 Calibration 50 PPB	AA65289-CAL6	212CD007.D	03/09/21 10:53
A1C0784	8260 Calibration 80 PPB	AA65289-CAL7	212CD008.D	03/09/21 11:22
A1C0785	8260 Calibration 100 PPB	AA65289-CAL8	212CD009.D	03/09/21 11:50
A1C0786	8260 SCV 50 PPB/20 Gases	AA65289-SCV1	212CD013.D	03/09/21 14:04

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2103054
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 03/10/21 08:57

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	1	0.9629509	2	1.00115	5	0.9130478	10	0.9351326	20	1.143952	50	1.135256
Chloromethane	1	1.218475	2	1.166378	5	1.020541	10	0.977044	20	1.141262	50	1.093927
Vinyl chloride	1	0.7831949	2	0.8310802	5	0.7680407	10	0.7799153	20	0.924546	50	0.9082744
Bromomethane	1	0.4855345	2	0.5247368	5	0.4775856	10	0.4689483	20	0.4404474	50	0.329613
Chloroethane	1	0.528444	2	0.4736466	5	0.4094507	10	0.4309886	20	0.464119	50	0.4424994
Trichlorofluoromethane	1	0.7571013	2	0.7682304	5	0.7569387	10	0.773343	20	0.9107586	50	0.8884645
Freon 113	1	0.5095019	2	0.5238474	5	0.4960221	10	0.4951967	20	0.5375287	50	0.5569136
Acetone	5	0.2865658	10	0.2420706	25	0.2098635	50	0.1748565	100	0.1906963	250	0.1898775
1,1-Dichloroethene	1	0.5052496	2	0.5066526	5	0.4470051	10	0.4257881	20	0.4741616	50	0.5130383
Carbon disulfide	5	1.604545	10	1.478097	25	1.434809	50	1.684823	100	1.766817	250	1.783578
Methylene Chloride	1	0.7313943	2	0.6639748	5	0.5697681	10	0.6298371	20	0.6457918	50	0.6253248
Methyl-tert-Butyl Ether	1	1.692219	2	1.743589	5	1.519288	10	1.4515	20	1.605888	50	1.652303
trans-1,2-Dichloroethene	1	0.5549242	2	0.5545805	5	0.4825955	10	0.4601443	20	0.5098801	50	0.5331158
cis-1,2-Dichloroethene	1	0.5491256	2	0.5892665	5	0.5344983	10	0.5027518	20	0.5582572	50	0.5942978
1,1-Dichloroethane	1	1.280713	2	1.21816	5	1.08567	10	0.9896563	20	1.077779	50	1.087997
2-Butanone	5	7.661858E-02	10	9.215998E-02	25	6.869602E-02	50	5.517473E-02	100	5.833319E-02	250	5.888253E-02
Chloroform	1	1.055342	2	1.133669	5	0.9757319	10	0.918794	20	1.014148	50	1.017747
1,1,1-Trichloroethane	1	0.8206924	2	0.8531172	5	0.7725697	10	0.7257193	20	0.7969784	50	0.828478
Methyl acetate	1	0.1266023	2	0.1356805	5	0.1047674	10	9.784772E-02	20	9.921221E-02	50	0.102088
Cyclohexane	1	0.9718421	2	0.9865248	5	0.9136089	10	0.8608306	20	0.9439559	50	0.9671388
Methyl cyclohexane	1	0.4186717	2	0.3889739	5	0.4548591	10	0.3709682	20	0.4003569	50	0.4160229
Carbon Tetrachloride	1	0.4693766	2	0.4823455	5	0.4463815	10	0.4293764	20	0.4484988	50	0.4707247
1,2-Dichloroethane	1	0.49566	2	0.544351	5	0.4632916	10	0.4320281	20	0.460018	50	0.4697415
Benzene	1	1.574153	2	1.399847	5	1.148849	10	1.023984	20	1.057862	50	1.064724
Trichloroethene	1	0.3158381	2	0.3365851	5	0.3050131	10	0.2902344	20	0.3088552	50	0.327305
1,2-Dichloropropane	1	0.4654341	2	0.3979197	5	0.3542553	10	0.3214417	20	0.3365832	50	0.3523757
Bromodichloromethane	1	0.4583157	2	0.446786	5	0.4029338	10	0.3869483	20	0.4193806	50	0.4279179
4-Methyl-2-pentanone	5	6.124018E-02	10	5.602297E-02	25	0.045292	50	0.0415087	100	4.095342E-02	250	4.409484E-02
2-Hexanone	5	0.2715288	10	0.3137622	25	0.2659034	50	0.2507961	100	0.2534477	250	0.2628961
cis-1,3-Dichloropropene	1	0.6047358	2	0.6238566	5	0.5429268	10	0.5238322	20	0.5713625	50	0.6005754
Toluene	1	1.402892	2	1.460348	5	1.337111	10	1.220114	20	1.333804	50	1.417909

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2103054
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 03/10/21 08:57

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	1	0.9725595	2	1.063622	5	0.9537202	10	0.8917849	20	0.9930434	50	1.017975
1,1,2-Trichloroethane	1	0.5631086	2	0.5902566	5	0.504149	10	0.4915265	20	0.5228565	50	0.5465517
Tetrachloroethene	1	0.3992374	2	0.4373198	5	0.3966177	10	0.3935136	20	0.4211542	50	0.4276677
Dibromochloromethane	1	0.6797703	2	0.7931111	5	0.7216715	10	0.6373902	20	0.7296715	50	0.7748404
1,2-Dibromoethane	1	0.660705	2	0.7008942	5	0.6155324	10	0.5821577	20	0.6495998	50	0.6778992
Chlorobenzene	1	1.636896	2	1.693107	5	1.465991	10	1.383689	20	1.511416	50	1.544965
Ethylbenzene	1	0.7800903	2	0.8283605	5	0.7558291	10	0.707268	20	0.7802424	50	0.8101387
m,p-Xylenes	2	0.9854967	4	1.008019	10	0.9411896	20	0.8773283	40	0.9404274	100	0.9805163
o-Xylene	1	0.8624799	2	0.9894843	5	0.9094917	10	0.8640508	20	0.950414	50	0.9956992
Bromoform	1	0.3665539	2	0.376941	5	0.3603716	10	0.3450732	20	0.3851428	50	0.4018968
Styrene	1	1.65528	2	1.688787	5	1.520012	10	1.433898	20	1.618377	50	1.683169
Isopropylbenzene	1	2.361833	2	2.459042	5	2.266234	10	2.135364	20	2.351638	50	2.476129
1,1,2,2-Tetrachloroethane	1	0.7374203	2	0.7504707	5	0.6396191	10	0.6174857	20	0.6664488	50	0.7033133
1,2,4-Trichlorobenzene	1	0.6755302	2	0.64151	5	0.6263674	10	0.6048392	20	0.683242	50	0.7261299
1,3-Dichlorobenzene	1	1.413105	2	1.435084	5	1.271424	10	1.261615	20	1.355599	50	1.435628
1,4-Dichlorobenzene	1	1.567901	2	1.517829	5	1.405755	10	1.288807	20	1.371389	50	1.446464
1,2-Dichlorobenzene	1	1.303261	2	1.371542	5	1.211721	10	1.177105	20	1.299253	50	1.387116
1,2-Dibromo-3-chloropropane	1	0.212409	2	0.2065509	5	0.154168	10	0.1373155	20	0.1453144	50	0.1527023
Dibromofluoromethane	50	0.548855	55	0.5608799	60	0.5543643	50	0.5496016	65	0.5539103	50	0.5533358
Toluene-d8	50	0.9346092	55	0.9465188	60	0.9424974	50	0.9553555	65	0.934185	50	0.9392933
4-Bromofluorobenzene	50	0.8534919	55	0.85705	60	0.8490276	50	0.8645696	65	0.8573421	50	0.8856145

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2103054
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 03/10/21 08:57

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	80	1.232381	100	1.256932								
Chloromethane	80	1.163767	100	1.222139								
Vinyl chloride	80	0.9791373	100	0.9993708								
Bromomethane	80	0.2246743	100	~~0.1871663~~								
Chloroethane	80	0.4667161	100	0.4595652								
Trichlorofluoromethane	80	0.9518414	100	0.9490496								
Freon 113	80	0.5854884	100	0.5786782								
Acetone	400	0.1939092	500	0.1910513								
1,1-Dichloroethene	80	0.535717	100	0.5287								
Carbon disulfide	400	1.852588	500	1.797904								
Methylene Chloride	80	0.6246768	100	0.6075552								
Methyl-tert-Butyl Ether	80	1.705031	100	1.664927								
trans-1,2-Dichloroethene	80	0.5679302	100	0.5727682								
cis-1,2-Dichloroethene	80	0.6332128	100	0.6227026								
1,1-Dichloroethane	80	1.123556	100	1.095906								
2-Butanone	400	6.190635E-02	500	0.0607376								
Chloroform	80	1.08207	100	1.075495								
1,1,1-Trichloroethane	80	0.874716	100	0.8642298								
Methyl acetate	80	0.1070014	100	0.1053113								
Cyclohexane	80	1.021414	100	0.9924252								
Methyl cyclohexane	80	0.4241667	100	0.4156405								
Carbon Tetrachloride	80	0.4847605	100	0.4795778								
1,2-Dichloroethane	80	0.4831183	100	0.4780825								
Benzene	80	1.085549	100	1.063654								
Trichloroethene	80	0.3415202	100	0.3424428								
1,2-Dichloropropane	80	0.3541874	100	0.3518603								
Bromodichloromethane	80	0.4406068	100	0.4404055								
4-Methyl-2-pentanone	400	0.0443242	500	0.0443068								
2-Hexanone	400	0.2636715	500	0.26132								
cis-1,3-Dichloropropene	80	0.6136402	100	0.6057173								
Toluene	80	1.458214	100	1.433042								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2103054
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 03/10/21 08:57

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	80	1.039968	100	1.027032								
1,1,2-Trichloroethane	80	0.5449611	100	0.5413604								
Tetrachloroethene	80	0.4422631	100	0.4414063								
Dibromochloromethane	80	0.7952009	100	0.7926685								
1,2-Dibromoethane	80	0.7030185	100	0.6943545								
Chlorobenzene	80	1.597327	100	1.569035								
Ethylbenzene	80	0.8495578	100	0.836716								
m,p-Xylenes	160	1.0277	200	1.003666								
o-Xylene	80	1.04198	100	1.034389								
Bromoform	80	0.4259642	100	0.4175864								
Styrene	80	1.754819	100	1.741829								
Isopropylbenzene	80	2.570765	100	2.54072								
1,1,2,2-Tetrachloroethane	80	0.7186047	100	0.7031744								
1,2,4-Trichlorobenzene	80	0.7855318	100	0.8035843								
1,3-Dichlorobenzene	80	1.512372	100	1.502279								
1,4-Dichlorobenzene	80	1.521959	100	1.513784								
1,2-Dichlorobenzene	80	1.455057	100	1.455029								
1,2-Dibromo-3-chloropropane	80	0.1656948	100	0.1671324								
Dibromofluoromethane	70	0.5717455	75	0.5773826								
Toluene-d8	70	0.9384964	75	0.9464445								
4-Bromofluorobenzene	70	0.8628971	75	0.8715379								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2103054
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 03/10/21 08:57

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	1.0726	12.70566	5.88125	6.074623E-02	0.9973265		0.99	
Chloromethane	1.125442	7.90604	6.3475	7.247758E-02			20	
Vinyl chloride	0.871695	10.67617	6.545	0.0823081			20	
Bromomethane	0.4216486	25.19187	7.194286	0.2101729		0.999951	0.99	
Chloroethane	0.4594287	7.644151	7.41625	0.160176	0.9994555		0.99	
Trichlorofluoromethane	0.8444659	10.49299	7.68375	0.1189745			20	
Freon 113	0.5353971	6.630047	8.50875	4.331832E-02			20	
Acetone	0.2098613	17.57383	9.22375	5.911442E-02	0.9997398		0.99	
1,1-Dichloroethene	0.492039	7.989483	8.47	9.018307E-02			20	
Carbon disulfide	1.675395	9.257298	8.58625	6.056953E-02			20	
Methylene Chloride	0.6372904	7.369772	9.18375	5.802199E-02			20	
Methyl-tert-Butyl Ether	1.629343	6.085416	9.50625	7.749071E-02			20	
trans-1,2-Dichloroethene	0.5294924	7.8302	9.415	7.998514E-02			20	
cis-1,2-Dichloroethene	0.5730141	7.809786	10.65	1.055785E-02			20	
1,1-Dichloroethane	1.11993	8.059711	10.08875	6.528508E-02			20	
2-Butanone	6.656362E-02	18.59918	11.155	6.816518E-02	0.9992668		0.99	
Chloroform	1.034125	6.512295	10.86625	4.746036E-02			20	
1,1,1-Trichloroethane	0.8170626	6.157609	11.16375	4.279369E-02			20	
Methyl acetate	0.1098139	12.50422	9.36875	9.042621E-02			20	
Cyclohexane	0.9572176	5.282833	10.9325	4.156259E-02			20	
Methyl cyclohexane	0.4112075	6.099235	12.05375	3.732049E-02			20	
Carbon Tetrachloride	0.4638802	4.337352	11.1275	3.876405E-02			20	
1,2-Dichloroethane	0.4782864	6.826013	11.6475	6.000561E-02			20	
Benzene	1.177328	16.97569	11.505	4.517505E-02	0.9997383		0.99	
Trichloroethene	0.3209742	5.934409	12.01875	2.655112E-02			20	
1,2-Dichloropropane	0.3667572	12.37323	12.46625	3.825721E-02			20	
Bromodichloromethane	0.4279118	5.567148	12.48625	5.670444E-02			20	
4-Methyl-2-pentanone	4.721789E-02	15.52791	13.48875	4.481918E-02	0.9997048		0.99	
2-Hexanone	0.2679157	7.341542	14.19125	7.085091E-02			20	
cis-1,3-Dichloropropene	0.5858308	6.149003	13.03	4.463944E-02			20	

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2103054
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 03/10/21 08:57

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Toluene	1.382929	5.913577	13.26125	2.659049E-02			20	
trans-1,3-Dichloropropene	0.9949631	5.524546	13.55125	2.941279E-02			20	
1,1,2-Trichloroethane	0.5380963	5.888949	13.70375	3.200149E-02			20	
Tetrachloroethene	0.4198975	4.924694	13.6375	3.135631E-02			20	
Dibromochloromethane	0.7405405	7.981106	13.9025	3.514839E-02			20	
1,2-Dibromoethane	0.6605201	6.566072	14.15875	4.622794E-02			20	
Chlorobenzene	1.550303	6.30415	14.6075	2.830057E-02			20	
Ethylbenzene	0.7935253	5.970608	14.565	3.673003E-02			20	
m,p-Xylenes	0.9705429	5.009833	14.68	1.011355E-02			20	
o-Xylene	0.9559986	7.462735	15.09875	4.087533E-02			20	
Bromoform	0.3849412	7.36823	15.23125	5.294235E-02			20	
Styrene	1.637021	6.743335	15.13875	1.643833E-02			20	
Isopropylbenzene	2.395216	6.107116	15.365	3.572018E-02			20	
1,1,2,2-Tetrachloroethane	0.6920671	6.775523	15.805	3.237499E-02			20	
1,2,4-Trichlorobenzene	0.6933419	10.50731	19.93125	5.589857E-02			20	
1,3-Dichlorobenzene	1.398388	6.805273	16.87875	0.0307369			20	
1,4-Dichlorobenzene	1.454236	6.457885	16.97375	2.211872E-02			20	
1,2-Dichlorobenzene	1.33251	7.780255	17.54125	2.676335E-02			20	
1,2-Dibromo-3-chloropropane	0.1676609	16.48136	18.65125	5.267157E-02	0.9977345		0.99	
Dibromofluoromethane	0.5587594	1.882086	11.05	1.757405E-02			20	
Toluene-d8	0.942175	0.7546022	13.21375	3.949602E-02			20	
4-Bromofluorobenzene	0.8626913	1.34262	15.70875	2.732772E-02			20	

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE02765-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2103054 **Laboratory ID:** AA65289-SCV1

Sequence: AA65289 **Standard ID:** A1C0786

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Cyclohexane	50.0	54	7.3	30.00
Ethylbenzene	50.0	55	9.8	30.00
Carbon Tetrachloride	50.0	52	4.1	30.00
1,3-Dichlorobenzene	50.0	56	11.1	30.00
4-Bromofluorobenzene	50.0	51	2.7	30.00
Toluene-d8	50.0	50	0.9	30.00
Dibromofluoromethane	50.0	48	-3.9	30.00
Methyl-tert-Butyl Ether	50.0	52	4.8	30.00
trans-1,2-Dichloroethene	50.0	52	3.3	30.00
cis-1,2-Dichloroethene	50.0	54	8.4	30.00
Tetrachloroethene	50.0	54	7.8	30.00
Acetone	250	280	12.8	30.00
1,2,4-Trichlorobenzene	50.0	58	16.6	30.00
Chloroform	50.0	51	2.3	30.00
Chlorobenzene	50.0	53	6.7	30.00
Toluene	50.0	55	9.5	30.00
Methyl cyclohexane	50.0	53	6.1	30.00
m,p-Xylenes	100	100	5.0	30.00
4-Methyl-2-pentanone	250	260	2.9	30.00
1,2-Dichloroethane	50.0	52	3.8	30.00
1,2-Dibromoethane	50.0	53	6.0	30.00
1,4-Dichlorobenzene	50.0	52	4.4	30.00
trans-1,3-Dichloropropene	50.0	55	10.2	30.00
cis-1,3-Dichloropropene	50.0	50	-0.4	30.00
Styrene	50.0	55	9.6	30.00
Dibromochloromethane	50.0	56	11.5	30.00
1,1-Dichloroethene	50.0	50	-0.2	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE02765-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2103054 **Laboratory ID:** AA65289-SCV1

Sequence: AA65289 **Standard ID:** A1C0786

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
1,2-Dibromo-3-chloropropane	50.0	51	1.5	30.00
1,2-Dichlorobenzene	50.0	56	11.0	30.00
o-Xylene	50.0	56	12.5	30.00
1,1,2,2-Tetrachloroethane	50.0	52	3.4	30.00
Methyl acetate	50.0	48	-4.6	30.00
Trichloroethene	50.0	54	8.1	30.00
1,1,2-Trichloroethane	50.0	52	3.7	30.00
2-Butanone	250	270	8.6	30.00
1,2-Dichloropropane	50.0	50	-0.6	30.00
Freon 113	50.0	52	3.1	30.00
2-Hexanone	250	240	-3.3	30.00
Trichlorofluoromethane	20.0	21	4.4	30.00
Isopropylbenzene	50.0	55	10.8	30.00
1,1-Dichloroethane	50.0	51	2.8	30.00
Bromodichloromethane	50.0	53	5.9	30.00
Bromoform	50.0	59	17.2	30.00
Carbon disulfide	50.0	56	12.2	30.00
Methylene Chloride	50.0	48	-3.6	30.00
Vinyl chloride	20.0	20	1.8	30.00
Chloroethane	20.0	19	-3.8	30.00
Chloromethane	20.0	20	1.4	30.00
Bromomethane	20.0	13	-37.0 *	30.00
1,1,1-Trichloroethane	50.0	52	4.1	30.00
Benzene	50.0	56	13.0	30.00
Dichlorodifluoromethane	20.0	20	-2.1	30.00

* Values outside of QC limits

ENCO Orlando

SDG: AE02765-TE016

CLASS: 06_VOA_AIR_RSK

METHOD: RSK 175

ANALYSES DATA PACKAGE COVER PAGE

RSK 175

Laboratory: ENCO Orlando

SDG: AE02765-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-MW0031-058.0-20210414	AE02765-01
CRCA-MW0018-058.0-20210414	AE02765-02
CRCA-MW0018-058.0-20210414	AE02765-02RE1
CRCA-MW0018-058.0-20210414	AE02765-02RE2
CRCA-MW0019-058.0-20210414	AE02765-03
CRCA-MW0019-058.0-20210414	AE02765-03RE1
CRCA-MW0019-058.0-20210414	AE02765-03RE2

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0031-058.0-20210414

Laboratory: ENCO Orlando SDG: AE02765-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE02765-01 File ID: 21DP016.D

Sampled: 04/14/21 11:20 Prepared: 04/21/21 00:00 Analyzed: 04/21/21 13:26

Solids: Preparation: Same Initial/Final: 1 mL / 1 mL

Batch: 1D21012 Sequence: AA66018 Calibration: 2102005 Instrument: OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-82-8	Methane	1	0.370		0.00400	0.00500
74-85-1	Ethene	1	0.00510	U	0.00510	0.00600
74-84-0	Ethane	1	0.00510	U	0.00510	0.00600

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0018-058.0-20210414

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE02765-02RE1
File ID: 21DP024.D
Sampled: 04/14/21 12:30
Prepared: 04/21/21 00:00
Analyzed: 04/21/21 15:45
Solids:
Preparation: Same
Initial/Final: 1 mL / 1 mL
Batch: 1D21012
Sequence: AA66018
Calibration: 2102005
Instrument: OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-85-1	Ethene	1	0.0156		0.00510	0.00600
74-84-0	Ethane	1	0.00510	U	0.00510	0.00600

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0018-058.0-20210414

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Ground Water	Laboratory ID:	AE02765-02RE2	File ID:	21DP035.D
Sampled:	04/14/21 12:30	Prepared:	04/21/21 14:27	Analyzed:	04/21/21 19:30
Solids:		Preparation:	Same	Initial/Final:	1 mL / 1 mL

Batch:	1D21038	Sequence:	AA66036	Calibration:	2102005	Instrument:	OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-82-8	Methane	15	0.178	D	0.0600	0.0750

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0019-058.0-20210414

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE02765-03RE1
File ID: 21DP021.D
Sampled: 04/14/21 14:00
Prepared: 04/21/21 00:00
Analyzed: 04/21/21 14:45
Solids:
Preparation: Same
Initial/Final: 1 mL / 1 mL
Batch: 1D21012
Sequence: AA66018
Calibration: 2102005
Instrument: OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-85-1	Ethene	1	0.00510	U	0.00510	0.00600
74-84-0	Ethane	1	0.00510	U	0.00510	0.00600

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0019-058.0-20210414

Laboratory: ENCO Orlando SDG: AE02765-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE02765-03RE2 File ID: 21DP022.D

Sampled: 04/14/21 14:00 Prepared: 04/21/21 00:00 Analyzed: 04/21/21 15:13

Solids: Preparation: Same Initial/Final: 1 mL / 1 mL

Batch: 1D21012 Sequence: AA66018 Calibration: 2102005 Instrument: OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-82-8	Methane	7	0.386	D	0.0280	0.0350

* Values outside of QC limits

HOLDING TIME SUMMARY

RSK 175

Laboratory: ENCO Orlando

SDG: AE02765-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-MW0031-058.0-20210414	04/14/21 11:20	04/16/21 14:16	04/21/21 00:00	6.53	NA	04/21/21 13:26	7.00	14.00	
CRCA-MW0018-058.0-20210414	04/14/21 12:30	04/16/21 14:16	04/21/21 00:00	6.48	NA	04/21/21 15:45	7.00	14.00	
CRCA-MW0018-058.0-20210414	04/14/21 12:30	04/16/21 14:16	04/21/21 14:27	7.08	NA	04/21/21 19:30	7.00	14.00	
CRCA-MW0019-058.0-20210414	04/14/21 14:00	04/16/21 14:16	04/21/21 00:00	6.42	NA	04/21/21 14:45	7.00	14.00	
CRCA-MW0019-058.0-20210414	04/14/21 14:00	04/16/21 14:16	04/21/21 00:00	6.42	NA	04/21/21 15:13	7.00	14.00	

PREPARATION BATCH SUMMARY

RSK 175

Laboratory: ENCO Orlando SDG: AE02765-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1D21012 Batch Matrix: Water Preparation: Same

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1D21012-BLK1	21DP003.D	04/21/21 00:00	
LCS	1D21012-BS1	21DP001.D	04/21/21 00:00	
LCS Dup	1D21012-BSD1	21DP002.D	04/21/21 00:00	
CE04807-01 (GW-12S)	1D21012-DUP1	21DP025.D	04/21/21 00:00	
CRCA-MW0031-058.0-20210414	AE02765-01	21DP016.D	04/21/21 00:00	
CRCA-MW0018-058.0-20210414	AE02765-02RE1	21DP024.D	04/21/21 00:00	
CRCA-MW0019-058.0-20210414	AE02765-03RE1	21DP021.D	04/21/21 00:00	
CRCA-MW0019-058.0-20210414	AE02765-03RE2	21DP022.D	04/21/21 00:00	

PREPARATION BATCH SUMMARY

RSK 175

Laboratory: ENCO Orlando SDG: AE02765-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1D21038 Batch Matrix: Water Preparation: Same

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1D21038-BLK1	21DP030.D	04/21/21 14:27	
LCS	1D21038-BS1	21DP028.D	04/21/21 14:27	
LCS Dup	1D21038-BSD1	21DP029.D	04/21/21 14:27	
CE05720-03 (GW-14I (MS/MSD))	1D21038-DUP1	21DP051.D	04/21/21 14:27	
CRCA-MW0018-058.0-20210414	AE02765-02RE2	21DP035.D	04/21/21 14:27	

METHOD BLANK DATA SHEET
RSK 175

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1D21012-BLK1	File ID:	21DP003.D
Prepared:	04/21/21 00:00	Preparation:	Same	Initial/Final:	1 mL / 1 mL
Analyzed:	04/21/21 10:00	Instrument:	OVGCFID2		
Batch:	1D21012	Sequence:	AA66018	Calibration:	2102005

CAS NO.	COMPOUND	CONC. (mg/L)	Q
74-82-8	Methane	0.00400	U
74-85-1	Ethene	0.00510	U
74-84-0	Ethane	0.00510	U

METHOD BLANK DATA SHEET
RSK 175

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1D21038-BLK1	File ID:	21DP030.D
Prepared:	04/21/21 14:27	Preparation:	Same	Initial/Final:	1 mL / 1 mL
Analyzed:	04/21/21 18:10	Instrument:	OVGCFID2		
Batch:	1D21038	Sequence:	AA66036	Calibration:	2102005

CAS NO.	COMPOUND	CONC. (mg/L)	Q
74-82-8	Methane	0.00400	U
74-85-1	Ethene	0.00510	U
74-84-0	Ethane	0.00510	U

LCS / LCS DUPLICATE RECOVERY

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1D21012	Laboratory ID:	1D21012-BS1
Preparation:	Same	Initial/Final:	1 mL / 1 mL

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC. #	QC LIMITS REC.
Methane	0.172	0.177	103	70 - 130
Ethene	0.302	0.317	105	70 - 130
Ethane	0.323	0.326	101	70 - 130

COMPOUND	SPIKE ADDED (mg/L)	LCSD CONCENTRATION (mg/L)	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Methane	0.172	0.172	100	3	30	70 - 130
Ethene	0.302	0.312	103	2	30	70 - 130
Ethane	0.323	0.316	98	3	30	70 - 130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

LCS / LCS DUPLICATE RECOVERY

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1D21038	Laboratory ID:	1D21038-BS1
Preparation:	Same	Initial/Final:	1 mL / 1 mL

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC. #	QC LIMITS REC.
Methane	0.172	0.178	104	70 - 130
Ethene	0.302	0.317	105	70 - 130
Ethane	0.323	0.325	101	70 - 130

COMPOUND	SPIKE ADDED (mg/L)	LCSD CONCENTRATION (mg/L)	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Methane	0.172	0.178	103	0.2	30	70 - 130
Ethene	0.302	0.321	106	1	30	70 - 130
Ethane	0.323	0.325	101	0.04	30	70 - 130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

DUPLICATES

RSK 175

CE04807-01 (GW-12S)

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Water
Laboratory ID: 1D21012-DUP1
Batch: 1D21012
Lab Source ID: AE03147-01RE1
Preparation: Same
Initial/Final: 1 mL / 1 mL
Source Sample Name: CE04807-01 (GW-12S)
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/L)	C	DUPLICATE CONCENTRATION (mg/L)	C	RPD %	Q	METHOD
Methane	30	0.586		0.663		12		RSK 175
Ethene	30	0.00		ND				RSK 175
Ethane	30	0.00		ND				RSK 175

* Values outside of QC limits

DUPLICATES

RSK 175

CE05720-03 (GW-14I (MS/MSD))

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Water
Laboratory ID: 1D21038-DUP1
Batch: 1D21038
Lab Source ID: AE03290-03RE1
Preparation: Same
Initial/Final: 1 mL / 1 mL
Source Sample Name: CE05720-03 (GW-14I (MS/MSD))
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/L)	C	DUPLICATE CONCENTRATION (mg/L)	C	RPD %	Q	METHOD
Methane	30	0.0351		0.0146		83	*	RSK 175
Ethene	30	0.00146		ND				RSK 175
Ethane	30	0.00		ND				RSK 175

* Values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64746		
Calibration:	2102005	Instrument:	OVGCFID2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	AA64746-CAL8	21B1014.D	02/01/21 14:12
Cal Standard	AA64746-CAL9	21B1015.D	02/01/21 14:27
Cal Standard	AA64746-CALB	21B1017.D	02/01/21 14:59
Cal Standard	AA64746-CALC	21B1018.D	02/01/21 15:15
Cal Standard	AA64746-CALD	21B1019.D	02/01/21 15:31
Cal Standard	AA64746-CALE	21B1020.D	02/01/21 15:47
Cal Standard	AA64746-CALA	21B1022.D	02/01/21 16:18
Secondary Cal Check	AA64746-SCV1	21B1023.D	02/01/21 17:03

ANALYSIS BATCH (SEQUENCE) SUMMARY

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA66018		
Calibration:	2102005	Instrument:	OVGCFID2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA66018-CCV1	21DO053.D	04/21/21 08:54
LCS	1D21012-BS1	21DP001.D	04/21/21 09:22
LCS Dup	1D21012-BSD1	21DP002.D	04/21/21 09:37
Blank	1D21012-BLK1	21DP003.D	04/21/21 10:00
CRCA-MW0031-058.0-20210414	AE02765-01	21DP016.D	04/21/21 13:26
CRCA-MW0019-058.0-20210414	AE02765-03RE1	21DP021.D	04/21/21 14:45
CRCA-MW0019-058.0-20210414	AE02765-03RE2	21DP022.D	04/21/21 15:13
CRCA-MW0018-058.0-20210414	AE02765-02RE1	21DP024.D	04/21/21 15:45
CE04807-01 (GW-12S)	1D21012-DUP1	21DP025.D	04/21/21 16:17
Calibration Check	AA66018-CCV2	21DP026.D	04/21/21 16:40

ANALYSIS BATCH (SEQUENCE) SUMMARY

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA66036		
Calibration:	2102005	Instrument:	OVGCFID2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA66036-CCV1	21DP026.D	04/21/21 16:40
LCS	1D21038-BS1	21DP028.D	04/21/21 17:29
LCS Dup	1D21038-BSD1	21DP029.D	04/21/21 17:45
Blank	1D21038-BLK1	21DP030.D	04/21/21 18:10
CRCA-MW0018-058.0-20210414	AE02765-02RE2	21DP035.D	04/21/21 19:30
CE05720-03 (GW-14I (MS/MSD))	1D21038-DUP1	21DP051.D	04/22/21 09:35
Calibration Check	AA66036-CCV3	21DP052.D	04/22/21 09:57

CONTINUING CALIBRATION CHECK

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCFID2	Calibration:	2102005
Lab File ID:	21DO053.D	Calibration Date:	02/01/21 15:19
Sequence:	AA66018	Injection Date:	04/21/21
Lab Sample ID:	AA66018-CCV1	Injection Time:	08:54

		CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Methane	A	0.174	0.170	1.362132E+08	1.170426E+08		-2.4	20
Ethene	A	0.302	0.305	7.977246E+07	8.051781E+07		0.90	20
Ethane	A	0.323	0.310	1.170026E+08	1.121379E+08		-4.2	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

CONTINUING CALIBRATION CHECK

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCFID2	Calibration:	2102005
Lab File ID:	21DP026.D	Calibration Date:	02/01/21 15:19
Sequence:	AA66018	Injection Date:	04/21/21
Lab Sample ID:	AA66018-CCV2	Injection Time:	16:40

		CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Methane	A	0.174	0.166	1.362132E+08	1.141416E+08		-4.8	20
Ethene	A	0.302	0.296	7.977246E+07	7.807344E+07		-2.1	20
Ethane	A	0.323	0.299	1.170026E+08	1.082784E+08		-7.5	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

CONTINUING CALIBRATION CHECK

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCFID2	Calibration:	2102005
Lab File ID:	21DP026.D	Calibration Date:	02/01/21 15:19
Sequence:	AA66036	Injection Date:	04/21/21
Lab Sample ID:	AA66036-CCV1	Injection Time:	16:40

		CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Methane	A	0.174	0.166	1.362132E+08	1.141416E+08		-4.8	20
Ethene	A	0.302	0.296	7.977246E+07	7.807344E+07		-2.1	20
Ethane	A	0.323	0.299	1.170026E+08	1.082784E+08		-7.5	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

CONTINUING CALIBRATION CHECK

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE02765-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCFID2	Calibration:	2102005
Lab File ID:	21DP052.D	Calibration Date:	02/01/21 15:19
Sequence:	AA66036	Injection Date:	04/22/21
Lab Sample ID:	AA66036-CCV3	Injection Time:	09:57

		CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Methane	A	0.174	0.164	1.362132E+08	1.131614E+08		-5.6	20
Ethene	A	0.302	0.299	7.977246E+07	7.892318E+07		-1.1	20
Ethane	A	0.323	0.300	1.170026E+08	1.085095E+08		-7.3	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

RSK 175

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA64746
Instrument: OVGCFID2
Calibration: 2102005

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A1B0547	RSK175-Cal 1 02/01/2021	AA64746-CAL8	21B1014.D	02/01/21 14:12
A1B0548	RSK175-Cal 2 02/01/2021	AA64746-CAL9	21B1015.D	02/01/21 14:27
A1B0550	RSK175-Cal 4 02/01/2021	AA64746-CALB	21B1017.D	02/01/21 14:59
A1B0551	RSK175-Cal 5 02/01/2021	AA64746-CALC	21B1018.D	02/01/21 15:15
A1B0552	RSK175-Cal 6 02/01/2021	AA64746-CALD	21B1019.D	02/01/21 15:31
A1B0553	RSK175-Cal 7 02/01/2021	AA64746-CALE	21B1020.D	02/01/21 15:47
A1B0549	RSK175-Cal 3 02/01/2021	AA64746-CALA	21B1022.D	02/01/21 16:18
A1A0933	RSK175- SCV/BS water CO2 and MEE	AA64746-SCV1	21B1023.D	02/01/21 17:03

INITIAL CALIBRATION DATA

RSK 175

Laboratory: ENCO Orlando

SDG: AE02765-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Calibration: 2102005

Instrument: OVGCFID2

Matrix: Water

Calibration Date: 02/01/21 15:19

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Methane												
Ethene												
Ethane												

INITIAL CALIBRATION DATA (Continued)

RSK 175

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2102005
Instrument: OVGCFID2
Matrix: Water
Calibration Date: 02/01/21 15:19

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Methane			0.000869	2.083245E+08	0.00869	1.311052E+08	0.0348	1.235944E+08	0.0869	1.272044E+08	0.174	1.263457E+08
Ethene			0.00151	5.315364E+07	0.0151	8.579782E+07	0.0603	8.372541E+07	0.151	8.751709E+07	0.302	8.48997E+07
Ethane			0.00161	1.263348E+08	0.0161	1.172619E+08	0.0646	1.169587E+08	0.161	1.212085E+08	0.323	1.152432E+08

INITIAL CALIBRATION DATA

RSK 175

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2102005
Instrument: OVGCFID2
Matrix: Water
Calibration Date: 02/01/21 15:19

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Methane	0.348	1.167678E+08	0.695	1.201502E+08								
Ethene	0.603	8.025572E+07	1.21	8.305785E+07								
Ethane	0.646	1.092976E+08	1.29	1.127132E+08								

INITIAL CALIBRATION DATA (Continued)

RSK 175

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2102005
Instrument: OVGCFID2
Matrix: Water
Calibration Date: 02/01/21 15:19

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Methane	1.362132E+08	23.59947	1.965429	4.209304E-02	0.9994672		0.99	
Ethene	7.977246E+07	14.9886	3.742286	0.1553695			20	
Ethane	1.170026E+08	4.754952	4.669571	0.2502584			20	

SECOND-SOURCE CALIBRATION VERIFICATION

RSK 175

Laboratory: ENCO Orlando
SDG: AE02765-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2102005
Laboratory ID: AA64746-SCV1
Sequence: AA64746
Standard ID: A1A0933

ANALYTE	EXPECTED (mg/L)	FOUND (mg/L)	% DRIFT	QC LIMIT
Ethene	0.302	0.315	4.2	25.00
Ethane	0.323	0.312	-3.4	25.00
Methane	0.172	0.171	-0.7	25.00

* Values outside of QC limits

TETRA TECH ISG
TtEGS, Information Systems Group

Completion Ticket

On 5/12/2021 at 1:34 PM the following files were submitted to Tetra Tech by kdylnicki@encolabs.com with ENCO:

TE016AE02765A1.txt, TE016AE02765A3.txt

If you need to identify this session at a later date refer to Ticket Key:

2021512_5339968330_ledd_ENCO

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I Lori S. Mangrum, as the designated Quality Assurance Officer, hereby attest that all electronic deliverables have been thoroughly reviewed and are in agreement with the associated hardcopy data. The enclosed electronic files have been reviewed for accuracy (including significant figures), completeness and format. The laboratory will be responsible for any labor time necessary to correct enclosed electronic deliverables that have been found to be in error. I can be reached at (407) 826-5314 if there are any questions or problems with the enclosed electronic deliverables.

Signature:_____ Title: Quality Assurance Manager Date: May 13, 2021

ENCO Laboratories

Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Monday, April 26, 2021
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AE02765

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Friday, April 16, 2021.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

www.encolabs.com

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-MW0031-058.0-20210414 **Lab ID: AE02765-01** **Sampled: 04/14/21 11:20** **Received: 04/16/21 14:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	04/28/21	04/21/21 00:00	04/21/21 10:53
RSK 175	Same	04/28/21	04/21/21 00:00	04/21/21 13:26

Client ID: CRCA-MW0018-058.0-20210414 **Lab ID: AE02765-02** **Sampled: 04/14/21 12:30** **Received: 04/16/21 14:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	04/28/21	04/21/21 00:00	04/21/21 11:22

Client ID: CRCA-MW0018-058.0-20210414 **Lab ID: AE02765-02RE1** **Sampled: 04/14/21 12:30** **Received: 04/16/21 14:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/28/21	04/21/21 00:00	04/21/21 15:45

Client ID: CRCA-MW0018-058.0-20210414 **Lab ID: AE02765-02RE2** **Sampled: 04/14/21 12:30** **Received: 04/16/21 14:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/28/21	04/21/21 14:27	04/21/21 19:30

Client ID: CRCA-MW0019-058.0-20210414 **Lab ID: AE02765-03** **Sampled: 04/14/21 14:00** **Received: 04/16/21 14:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	04/28/21	04/21/21 00:00	04/21/21 11:50

Client ID: CRCA-MW0019-058.0-20210414 **Lab ID: AE02765-03RE1** **Sampled: 04/14/21 14:00** **Received: 04/16/21 14:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/28/21	04/21/21 00:00	04/21/21 14:45

Client ID: CRCA-MW0019-058.0-20210414 **Lab ID: AE02765-03RE2** **Sampled: 04/14/21 14:00** **Received: 04/16/21 14:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/28/21	04/21/21 00:00	04/21/21 15:13

Client ID: CRCA-MW0032-058.0-20210415 **Lab ID: AE02765-04** **Sampled: 04/15/21 16:00** **Received: 04/16/21 14:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	04/29/21	04/21/21 00:00	04/21/21 12:19

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-MW0031-058.0-20210414 **Lab ID:** AE02765-01

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	0.370		0.00400	0.00500	mg/L	RSK 175	
Vinyl chloride	13		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0018-058.0-20210414 **Lab ID:** AE02765-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	63		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0018-058.0-20210414 **Lab ID:** AE02765-02RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethene	0.0156		0.00510	0.00600	mg/L	RSK 175	

Client ID: CRCA-MW0018-058.0-20210414 **Lab ID:** AE02765-02RE2

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	0.178		0.0600	0.0750	mg/L	RSK 175	

Client ID: CRCA-MW0019-058.0-20210414 **Lab ID:** AE02765-03

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	2.8		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0019-058.0-20210414 **Lab ID:** AE02765-03RE2

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	0.386		0.0280	0.0350	mg/L	RSK 175	

Client ID: CRCA-MW0032-058.0-20210415 **Lab ID:** AE02765-04

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	6.0		0.71	2.5	ug/L	EPA 8260D	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0031-058.0-20210414 **Lab Sample ID:** AE02765-01 **Received:** 04/16/21 14:16

Matrix: Ground Water **Sampled:** 04/14/21 11:20 **Work Order:** AE02765

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1D21003	EPA 8260D	04/21/21 10:53	nmc	QV-01
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 10:53	nmc	QV-01
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 10:53	nmc	QV-01
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	QM-07, QV-01
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	QV-01
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0031-058.0-20210414 **Lab Sample ID:** AE02765-01 **Received:** 04/16/21 14:16

Matrix: Ground Water **Sampled:** 04/14/21 11:20 **Work Order:** AE02765

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Vinyl chloride [75-01-4]^	**13**		ug/L	1	0.71	2.5	1D21003	EPA 8260D	04/21/21 10:53	nmc	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1D21003	EPA 8260D	04/21/21 10:53	nmc	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*45*	*1*	*50.0*	*89 %*	*41-142*	*1D21003*	*EPA 8260D*	*04/21/21 10:53*	*nmc*	
Dibromofluoromethane	*48*	*1*	*50.0*	*96 %*	*53-146*	*1D21003*	*EPA 8260D*	*04/21/21 10:53*	*nmc*	
Toluene-d8	*55*	*1*	*50.0*	*111 %*	*41-146*	*1D21003*	*EPA 8260D*	*04/21/21 10:53*	*nmc*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1D21012	RSK 175	04/21/21 13:26	JMW	
Ethene [74-85-1]^	0.00510	U	mg/L	1	0.00510	0.00600	1D21012	RSK 175	04/21/21 13:26	JMW	
Methane [74-82-8]^	**0.370**		mg/L	1	0.00400	0.00500	1D21012	RSK 175	04/21/21 13:26	JMW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0018-058.0-20210414 **Lab Sample ID:** AE02765-02 **Received:** 04/16/21 14:16

Matrix: Ground Water **Sampled:** 04/14/21 12:30 **Work Order:** AE02765

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1D21003	EPA 8260D	04/21/21 11:22	nmc	QV-01
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 11:22	nmc	QV-01
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 11:22	nmc	QV-01
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	QV-01
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	QV-01
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	

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ANALYTICAL RESULTS

Description: CRCA-MW0018-058.0-20210414 **Lab Sample ID:** AE02765-02 **Received:** 04/16/21 14:16

Matrix: Ground Water **Sampled:** 04/14/21 12:30 **Work Order:** AE02765

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Vinyl chloride [75-01-4]^	**63**		ug/L	1	0.71	2.5	1D21003	EPA 8260D	04/21/21 11:22	nmc	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1D21003	EPA 8260D	04/21/21 11:22	nmc	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*45*	*1*	*50.0*	*89 %*	*41-142*	*1D21003*	*EPA 8260D*	*04/21/21 11:22*	*nmc*	
Dibromofluoromethane	*48*	*1*	*50.0*	*95 %*	*53-146*	*1D21003*	*EPA 8260D*	*04/21/21 11:22*	*nmc*	
Toluene-d8	*54*	*1*	*50.0*	*109 %*	*41-146*	*1D21003*	*EPA 8260D*	*04/21/21 11:22*	*nmc*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1D21012	RSK 175	04/21/21 15:45	JMW	
Ethene [74-85-1]^	**0.0156**		mg/L	1	0.00510	0.00600	1D21012	RSK 175	04/21/21 15:45	JMW	
Methane [74-82-8]^	**0.178**		mg/L	15	0.0600	0.0750	1D21038	RSK 175	04/21/21 19:30	JMW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0019-058.0-20210414 **Lab Sample ID:** AE02765-03 **Received:** 04/16/21 14:16

Matrix: Ground Water **Sampled:** 04/14/21 14:00 **Work Order:** AE02765

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1D21003	EPA 8260D	04/21/21 11:50	nmc	QV-01
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 11:50	nmc	QV-01
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 11:50	nmc	QV-01
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	QV-01
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	QV-01
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0019-058.0-20210414 **Lab Sample ID:** AE02765-03 **Received:** 04/16/21 14:16

Matrix: Ground Water **Sampled:** 04/14/21 14:00 **Work Order:** AE02765

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Vinyl chloride [75-01-4]^	**2.8**		ug/L	1	0.71	2.5	1D21003	EPA 8260D	04/21/21 11:50	nmc	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1D21003	EPA 8260D	04/21/21 11:50	nmc	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*45*	*1*	*50.0*	*90 %*	*41-142*	*1D21003*	*EPA 8260D*	*04/21/21 11:50*	*nmc*	
Dibromofluoromethane	*48*	*1*	*50.0*	*96 %*	*53-146*	*1D21003*	*EPA 8260D*	*04/21/21 11:50*	*nmc*	
Toluene-d8	*55*	*1*	*50.0*	*111 %*	*41-146*	*1D21003*	*EPA 8260D*	*04/21/21 11:50*	*nmc*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1D21012	RSK 175	04/21/21 14:45	JMW	
Ethene [74-85-1]^	0.00510	U	mg/L	1	0.00510	0.00600	1D21012	RSK 175	04/21/21 14:45	JMW	
Methane [74-82-8]^	**0.386**		mg/L	7	0.0280	0.0350	1D21012	RSK 175	04/21/21 15:13	JMW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0032-058.0-20210415 **Lab Sample ID:** AE02765-04 **Received:** 04/16/21 14:16

Matrix: Ground Water **Sampled:** 04/15/21 16:00 **Work Order:** AE02765

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1D21003	EPA 8260D	04/21/21 12:19	nmc	QV-01
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 12:19	nmc	QV-01
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 12:19	nmc	QV-01
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	QV-01
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	QV-01
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	

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ANALYTICAL RESULTS

Description: CRCA-MW0032-058.0-20210415 **Lab Sample ID:** AE02765-04 **Received:** 04/16/21 14:16

Matrix: Ground Water **Sampled:** 04/15/21 16:00 **Work Order:** AE02765

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Vinyl chloride [75-01-4]^	**6.0**		ug/L	1	0.71	2.5	1D21003	EPA 8260D	04/21/21 12:19	nmc	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1D21003	EPA 8260D	04/21/21 12:19	nmc	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*44*	*1*	*50.0*	*89 %*	*41-142*	*1D21003*	*EPA 8260D*	*04/21/21 12:19*	*nmc*	
Dibromofluoromethane	*48*	*1*	*50.0*	*97 %*	*53-146*	*1D21003*	*EPA 8260D*	*04/21/21 12:19*	*nmc*	
Toluene-d8	*55*	*1*	*50.0*	*110 %*	*41-146*	*1D21003*	*EPA 8260D*	*04/21/21 12:19*	*nmc*	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D21003 - EPA 5030B_MS

Blank (1D21003-BLK1) Prepared: 04/21/2021 00:00 Analyzed: 04/21/2021 09:56

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D21003 - EPA 5030B_MS - Continued

Blank (1D21003-BLK1) Continued Prepared: 04/21/2021 00:00 Analyzed: 04/21/2021 09:56

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*45*	*I*		*ug/L*	*50.0*		*90*	*41-142*			
Dibromofluoromethane	*47*	*I*		*ug/L*	*50.0*		*95*	*53-146*			
Toluene-d8	*55*			*ug/L*	*50.0*		*111*	*41-146*			

LCS (1D21003-BS1) Prepared: 04/21/2021 00:00 Analyzed: 04/21/2021 08:02

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	19		2.5	ug/L	20.0		94	57-148			
1,1,2,2-Tetrachloroethane	19		2.5	ug/L	20.0		97	60-139			
1,1,2-Trichloroethane	19		2.5	ug/L	20.0		94	57-141			
1,1-Dichloroethane	21		2.5	ug/L	20.0		104	57-142			
1,1-Dichloroethene	20		2.5	ug/L	20.0		100	47-139			
1,2,4-Trichlorobenzene	20		2.5	ug/L	20.0		99	52-159			
1,2-Dibromo-3-chloropropane	14		2.5	ug/L	20.0		71	48-150			
1,2-Dibromoethane	18		2.5	ug/L	20.0		88	57-140			
1,2-Dichlorobenzene	19		2.5	ug/L	20.0		94	63-131			
1,2-Dichloroethane	20		2.5	ug/L	20.0		99	50-156			
1,2-Dichloropropane	22		2.5	ug/L	20.0		109	61-133			
1,3-Dichlorobenzene	19		2.5	ug/L	20.0		93	66-129			
1,4-Dichlorobenzene	18		2.5	ug/L	20.0		89	65-133			
2-Butanone	160		12	ug/L	100		157	10-180			
2-Hexanone	100		12	ug/L	100		103	12-180			
4-Methyl-2-pentanone	120		12	ug/L	100		116	19-180			
Acetone	100		25	ug/L	100		103	10-180			
Benzene	26		2.5	ug/L	20.0		130	56-136			
Bromodichloromethane	23		2.5	ug/L	20.0		114	58-135			
Bromoform	22		2.5	ug/L	20.0		110	46-148			
Bromomethane	6.3		2.5	ug/L	20.0		31	10-173			
Carbon disulfide	26		12	ug/L	20.0		128	43-153			
Carbon Tetrachloride	18		2.5	ug/L	20.0		91	54-156			
Chlorobenzene	19		2.5	ug/L	20.0		95	51-139			
Chloroethane	21		2.5	ug/L	20.0		105	27-180			
Chloroform	22		2.5	ug/L	20.0		109	58-139			
Chloromethane	18		2.5	ug/L	20.0		89	33-154			
cis-1,2-Dichloroethene	23		2.5	ug/L	20.0		115	56-128			
cis-1,3-Dichloropropene	22		2.5	ug/L	20.0		109	64-128			
Cyclohexane	22		2.5	ug/L	20.0		110	70-130			
Dibromochloromethane	17		2.5	ug/L	20.0		86	50-140			
Dichlorodifluoromethane	17		2.5	ug/L	20.0		83	10-180			
Ethylbenzene	19		2.5	ug/L	20.0		93	63-133			
Freon 113	19		2.5	ug/L	20.0		97	47-173			
Isopropylbenzene	19		2.5	ug/L	20.0		93	60-132			
m,p-Xylenes	36		5.0	ug/L	40.0		91	64-133			
Methyl acetate	22		2.5	ug/L	20.0		110	70-130			
Methyl cyclohexane	21		2.5	ug/L	20.0		106	70-130			
Methylene Chloride	21		12	ug/L	20.0		106	43-142			
Methyl-tert-Butyl Ether	21		2.5	ug/L	20.0		106	51-145			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D21003 - EPA 5030B_MS - Continued

LCS (1D21003-BS1) Continued Prepared: 04/21/2021 00:00 Analyzed: 04/21/2021 08:02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
o-Xylene	19		2.5	ug/L	20.0		95	61-129			
Styrene	19		2.5	ug/L	20.0		96	59-136			
Tetrachloroethene	21		2.5	ug/L	20.0		107	60-147			
Toluene	20		2.5	ug/L	20.0		101	64-131			
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0		110	54-134			
trans-1,3-Dichloropropene	19		2.5	ug/L	20.0		96	65-149			
Trichloroethene	22		2.5	ug/L	20.0		112	62-135			
Trichlorofluoromethane	18		2.5	ug/L	20.0		92	56-155			
Vinyl chloride	20		2.5	ug/L	20.0		102	20-167			
4-Bromofluorobenzene	*45*	*I*		*ug/L*	*50.0*		*90*	*41-142*			
Dibromofluoromethane	*46*	*I*		*ug/L*	*50.0*		*92*	*53-146*			
Toluene-d8	*55*			*ug/L*	*50.0*		*110*	*41-146*			

Matrix Spike (1D21003-MS1) Prepared: 04/21/2021 00:00 Analyzed: 04/21/2021 08:30

Source: AE02765-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	21		2.5	ug/L	20.0	0.80 U	106	57-148			
1,1,2,2-Tetrachloroethane	19		2.5	ug/L	20.0	0.54 U	97	60-139			
1,1,2-Trichloroethane	18		2.5	ug/L	20.0	0.76 U	92	57-141			
1,1-Dichloroethane	22		2.5	ug/L	20.0	0.62 U	111	57-142			
1,1-Dichloroethene	22		2.5	ug/L	20.0	0.94 U	111	47-139			
1,2,4-Trichlorobenzene	20		2.5	ug/L	20.0	0.70 U	100	52-159			
1,2-Dibromo-3-chloropropane	14		2.5	ug/L	20.0	0.96 U	70	48-150			
1,2-Dibromoethane	18		2.5	ug/L	20.0	0.78 U	88	57-140			
1,2-Dichlorobenzene	19		2.5	ug/L	20.0	0.73 U	95	63-131			
1,2-Dichloroethane	20		2.5	ug/L	20.0	0.63 U	98	50-156			
1,2-Dichloropropane	22		2.5	ug/L	20.0	0.80 U	112	61-133			
1,3-Dichlorobenzene	19		2.5	ug/L	20.0	0.77 U	96	66-129			
1,4-Dichlorobenzene	18		2.5	ug/L	20.0	0.76 U	90	65-133			
2-Butanone	160		12	ug/L	100	4.5 U	155	10-180			
2-Hexanone	110		12	ug/L	100	2.5 U	107	12-180			
4-Methyl-2-pentanone	120		12	ug/L	100	2.5 U	119	19-180			
Acetone	98		25	ug/L	100	10 U	98	10-180			
Benzene	27		2.5	ug/L	20.0	0.71 U	137	56-136			QM-07
Bromodichloromethane	23		2.5	ug/L	20.0	0.52 U	115	58-135			
Bromoform	22		2.5	ug/L	20.0	0.75 U	109	46-148			
Bromomethane	8.2		2.5	ug/L	20.0	0.95 U	41	10-173			
Carbon disulfide	25		12	ug/L	20.0	2.5 U	127	43-153			
Carbon Tetrachloride	20		2.5	ug/L	20.0	0.94 U	102	54-156			
Chlorobenzene	20		2.5	ug/L	20.0	0.72 U	98	51-139			
Chloroethane	22		2.5	ug/L	20.0	0.98 U	111	27-180			
Chloroform	23		2.5	ug/L	20.0	0.80 U	114	58-139			
Chloromethane	20		2.5	ug/L	20.0	0.82 U	100	33-154			
cis-1,2-Dichloroethene	25		2.5	ug/L	20.0	0.53 U	123	56-128			
cis-1,3-Dichloropropene	22		2.5	ug/L	20.0	0.59 U	112	64-128			
Cyclohexane	24		2.5	ug/L	20.0	0.93 U	121	70-130			
Dibromochloromethane	17		2.5	ug/L	20.0	0.50 U	87	50-140			
Dichlorodifluoromethane	19		2.5	ug/L	20.0	0.74 U	93	10-180			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D21003 - EPA 5030B_MS - Continued

Matrix Spike (1D21003-MS1) Continued Prepared: 04/21/2021 00:00 Analyzed: 04/21/2021 08:30

Source: AE02765-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	20		2.5	ug/L	20.0	0.69 U	98	63-133			
Freon 113	22		2.5	ug/L	20.0	0.73 U	109	47-173			
Isopropylbenzene	20		2.5	ug/L	20.0	0.67 U	99	60-132			
m,p-Xylenes	38		5.0	ug/L	40.0	1.3 U	95	64-133			
Methyl acetate	22		2.5	ug/L	20.0	0.95 U	112	70-130			
Methyl cyclohexane	23		2.5	ug/L	20.0	0.64 U	117	70-130			
Methylene Chloride	22		12	ug/L	20.0	2.5 U	110	43-142			
Methyl-tert-Butyl Ether	21		2.5	ug/L	20.0	0.60 U	107	51-145			
o-Xylene	20		2.5	ug/L	20.0	0.53 U	100	61-129			
Styrene	20		2.5	ug/L	20.0	0.61 U	98	59-136			
Tetrachloroethene	23		2.5	ug/L	20.0	0.76 U	117	60-147			
Toluene	21		2.5	ug/L	20.0	0.72 U	105	64-131			
trans-1,2-Dichloroethene	24		2.5	ug/L	20.0	0.73 U	122	54-134			
trans-1,3-Dichloropropene	19		2.5	ug/L	20.0	0.73 U	96	65-149			
Trichloroethene	24		2.5	ug/L	20.0	0.89 U	118	62-135			
Trichlorofluoromethane	21		2.5	ug/L	20.0	0.94 U	105	56-155			
Vinyl chloride	36		2.5	ug/L	20.0	13	114	20-167			
4-Bromofluorobenzene	*44*	*I*		*ug/L*	*50.0*		*89*	*41-142*			
Dibromofluoromethane	*46*	*I*		*ug/L*	*50.0*		*92*	*53-146*			
Toluene-d8	*54*			*ug/L*	*50.0*		*108*	*41-146*			

Matrix Spike Dup (1D21003-MSD1) Prepared: 04/21/2021 00:00 Analyzed: 04/21/2021 08:59

Source: AE02765-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	21		2.5	ug/L	20.0	0.80 U	104	57-148	2	25	
1,1,2,2-Tetrachloroethane	20		2.5	ug/L	20.0	0.54 U	100	60-139	3	17	
1,1,2-Trichloroethane	19		2.5	ug/L	20.0	0.76 U	95	57-141	3	16	
1,1-Dichloroethane	22		2.5	ug/L	20.0	0.62 U	110	57-142	0.7	24	
1,1-Dichloroethene	22		2.5	ug/L	20.0	0.94 U	111	47-139	0.05	16	
1,2,4-Trichlorobenzene	19		2.5	ug/L	20.0	0.70 U	97	52-159	3	24	
1,2-Dibromo-3-chloropropane	15		2.5	ug/L	20.0	0.96 U	75	48-150	6	21	
1,2-Dibromoethane	18		2.5	ug/L	20.0	0.78 U	90	57-140	2	16	
1,2-Dichlorobenzene	19		2.5	ug/L	20.0	0.73 U	94	63-131	0.2	25	
1,2-Dichloroethane	20		2.5	ug/L	20.0	0.63 U	100	50-156	2	18	
1,2-Dichloropropane	22		2.5	ug/L	20.0	0.80 U	110	61-133	2	26	
1,3-Dichlorobenzene	19		2.5	ug/L	20.0	0.77 U	95	66-129	1	23	
1,4-Dichlorobenzene	18		2.5	ug/L	20.0	0.76 U	91	65-133	1	23	
2-Butanone	160		12	ug/L	100	4.5 U	158	10-180	2	29	
2-Hexanone	110		12	ug/L	100	2.5 U	111	12-180	3	28	
4-Methyl-2-pentanone	130		12	ug/L	100	2.5 U	126	19-180	6	24	
Acetone	100		25	ug/L	100	10 U	101	10-180	4	19	
Benzene	28		2.5	ug/L	20.0	0.71 U	138	56-136	0.8	14	QM-07
Bromodichloromethane	23		2.5	ug/L	20.0	0.52 U	113	58-135	1	19	
Bromoform	22		2.5	ug/L	20.0	0.75 U	110	46-148	0.6	18	
Bromomethane	9.9		2.5	ug/L	20.0	0.95 U	49	10-173	19	29	
Carbon disulfide	25		12	ug/L	20.0	2.5 U	123	43-153	3	26	
Carbon Tetrachloride	20		2.5	ug/L	20.0	0.94 U	102	54-156	0.1	27	
Chlorobenzene	19		2.5	ug/L	20.0	0.72 U	96	51-139	1	13	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D21003 - EPA 5030B_MS - Continued

Matrix Spike Dup (1D21003-MSD1) Continued Prepared: 04/21/2021 00:00 Analyzed: 04/21/2021 08:59

Source: AE02765-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloroethane	24		2.5	ug/L	20.0	0.98 U	118	27-180	6	22	
Chloroform	22		2.5	ug/L	20.0	0.80 U	112	58-139	2	17	
Chloromethane	20		2.5	ug/L	20.0	0.82 U	98	33-154	2	31	
cis-1,2-Dichloroethene	24		2.5	ug/L	20.0	0.53 U	121	56-128	1	17	
cis-1,3-Dichloropropene	23		2.5	ug/L	20.0	0.59 U	114	64-128	1	20	
Cyclohexane	24		2.5	ug/L	20.0	0.93 U	122	70-130	0.5	20	
Dibromochloromethane	18		2.5	ug/L	20.0	0.50 U	88	50-140	0.8	18	
Dichlorodifluoromethane	18		2.5	ug/L	20.0	0.74 U	90	10-180	4	26	
Ethylbenzene	19		2.5	ug/L	20.0	0.69 U	97	63-133	1	18	
Freon 113	21		2.5	ug/L	20.0	0.73 U	106	47-173	3	30	
Isopropylbenzene	20		2.5	ug/L	20.0	0.67 U	98	60-132	1	23	
m,p-Xylenes	38		5.0	ug/L	40.0	1.3 U	96	64-133	0.5	18	
Methyl acetate	23		2.5	ug/L	20.0	0.95 U	115	70-130	2	20	
Methyl cyclohexane	23		2.5	ug/L	20.0	0.64 U	116	70-130	1	20	
Methylene Chloride	22		12	ug/L	20.0	2.5 U	110	43-142	0.09	23	
Methyl-tert-Butyl Ether	22		2.5	ug/L	20.0	0.60 U	110	51-145	2	22	
o-Xylene	20		2.5	ug/L	20.0	0.53 U	100	61-129	0.1	16	
Styrene	20		2.5	ug/L	20.0	0.61 U	99	59-136	0.7	32	
Tetrachloroethene	24		2.5	ug/L	20.0	0.76 U	118	60-147	1	21	
Toluene	21		2.5	ug/L	20.0	0.72 U	104	64-131	2	16	
trans-1,2-Dichloroethene	24		2.5	ug/L	20.0	0.73 U	118	54-134	3	20	
trans-1,3-Dichloropropene	19		2.5	ug/L	20.0	0.73 U	97	65-149	0.9	17	
Trichloroethene	24		2.5	ug/L	20.0	0.89 U	119	62-135	1	20	
Trichlorofluoromethane	21		2.5	ug/L	20.0	0.94 U	104	56-155	2	22	
Vinyl chloride	35		2.5	ug/L	20.0	13	112	20-167	1	24	
4-Bromofluorobenzene	*46*	*I*		*ug/L*	*50.0*		*92*	*41-142*			
Dibromofluoromethane	*47*	*I*		*ug/L*	*50.0*		*93*	*53-146*			
Toluene-d8	*56*			*ug/L*	*50.0*		*112*	*41-146*			

Dissolved Gases by GC - Quality Control

Batch 1D21012 - Same

Blank (1D21012-BLK1) Prepared: 04/21/2021 00:00 Analyzed: 04/21/2021 10:00

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.00510	U	0.00600	mg/L							
Ethene	0.00510	U	0.00600	mg/L							
Methane	0.00400	U	0.00500	mg/L							

LCS (1D21012-BS1) Prepared: 04/21/2021 00:00 Analyzed: 04/21/2021 09:22

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.326		0.00600	mg/L	0.323		101	70-130			
Ethene	0.317		0.00600	mg/L	0.302		105	70-130			
Methane	0.177		0.00500	mg/L	0.172		103	70-130			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Dissolved Gases by GC - Quality Control

Batch 1D21012 - Same - Continued

LCS Dup (1D21012-BSD1) Prepared: 04/21/2021 00:00 Analyzed: 04/21/2021 09:37

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.316		0.00600	mg/L	0.323		98	70-130	3	30	
Ethene	0.312		0.00600	mg/L	0.302		103	70-130	2	30	
Methane	0.172		0.00500	mg/L	0.172		100	70-130	3	30	

Duplicate (1D21012-DUP1) Prepared: 04/21/2021 00:00 Analyzed: 04/21/2021 16:17

Source: AE03147-01RE1

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.0357	U	0.0420	mg/L		0.0357 U				30	
Ethene	0.0357	U	0.0420	mg/L		0.0357 U				30	
Methane	0.663		0.0350	mg/L		0.586			12	30	

Batch 1D21038 - Same

Blank (1D21038-BLK1) Prepared: 04/21/2021 14:27 Analyzed: 04/21/2021 18:10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.00510	U	0.00600	mg/L							
Ethene	0.00510	U	0.00600	mg/L							
Methane	0.00400	U	0.00500	mg/L							

LCS (1D21038-BS1) Prepared: 04/21/2021 14:27 Analyzed: 04/21/2021 17:29

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.325		0.00600	mg/L	0.323		101	70-130			
Ethene	0.317		0.00600	mg/L	0.302		105	70-130			
Methane	0.178		0.00500	mg/L	0.172		104	70-130			

LCS Dup (1D21038-BSD1) Prepared: 04/21/2021 14:27 Analyzed: 04/21/2021 17:45

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.325		0.00600	mg/L	0.323		101	70-130	0.04	30	
Ethene	0.321		0.00600	mg/L	0.302		106	70-130	1	30	
Methane	0.178		0.00500	mg/L	0.172		103	70-130	0.2	30	

Duplicate (1D21038-DUP1) Prepared: 04/21/2021 14:27 Analyzed: 04/22/2021 09:35

Source: AE03290-03RE1

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.00510	U	0.00600	mg/L		0.00510 U				30	
Ethene	0.00510	U	0.00600	mg/L		0.00510 U				30	
Methane	0.0146		0.00500	mg/L		0.0351			83	30	QM-12

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-12	Precision between duplicate samples was outside acceptance limits.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

AE02765

SGS North America Inc - Orlando

Chain of Custody

4405 Vineland Road, Suite C-15 Orlando, Fl 32811
TEL. 407-425-6700 FAX: 407-425-0707
www.sgs.com

SGS - ORLANDO JOB # : PAGE 1 OF 1

SGS - ORLANDO Quote # | SKIFF #

Client / Reporting Information

Company Name: Tetra Tech
Address: N Riverside Dr.
City: Cocoa State: FL Zip: 32922
Project Contact: Alex Murphy Email: alex.murphy@tetratech.com
Phone #:
Sampler(s) Name(s) (Printed)
Sampler 1: Melissa Brant Sampler 2:

Project Information

Project Name: CRCA
Street
City NASA State FL
Project # 112G08970
Fax #
Client Purchase Order #

Analytical Information

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid

SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION DATE	TIME	SAMPLED BY:	MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	HCl	NaOH	HNO3	H2SO4	NAOH+ZNAC	DI WATER	MEOH	VOC	MEE	LAB USE ONLY
	CRCA-MW0031-058.0-20210414	4-14-21	1120	MB	GW	6			✓							X	X	
	CRCA-MW0018-058.0-20210414	4-14-21	1230	MB	GW	6			✓							X	X	
	CRCA-MW0019-058.0-20210414	4-14-21	1400	MB	GW	6			✓							X	X	
	CRCA-MW0032-058.0-20210415	4-15-21	1600	MB	GW	3			✓							X		

Turnaround Time (Business days)

10 Day (Business) Approved By: / Date:
7 Day
5 Day
3 Day *RUSH*
2 Day *RUSH*
1 Day *RUSH*
Other
Rush T/A Data Available VIA Email or Lablink

Data Deliverable Information

- ☐ COMMERCIAL "A" (RESULTS ONLY)
- ☐ COMMERCIAL "B" (RESULTS PLUS QC)
- ☐ REDT1 (EPA LEVEL 3)
- ☐ FULLT1 (EPA LEVEL 4)
- ☐ EDD'S

Comments / Remarks

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler/Affiliation	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	Received By/Affiliation
1	Melissa Brant	4-15-21 1092	Tetra Tech		4-16-21	James W Gregory
5	Relinquished by/Affiliation	Date Time:	Received By/Affiliation 6	Relinquished By/Affiliation 7	Date Time:	Received By/Affiliation 8

Lab Use Only : Cooler Temperature (s) Celsius (corrected): Med-290 3.0°C

http://www.sgs.com/en/terms-and-conditions

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ENCO Laboratories

Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Tuesday, August 3, 2021
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AE05483

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Tuesday, July 27, 2021.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

www.encolabs.com

Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Client PM: Alex Murphy
Project Number: 112G08970
ENCO Project ID: AE05483
SDG: AE05483-TE016

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling and processing will be discussed in the Remarks section below.

Remarks

List of instruments used:

Analytical Method / Preparation Method	SOP Reference Instrument
EPA 8260D / EPA_5030B_MS	OVGCMS5
RSK 175	OVGCFID2

Analysis: EPA 8260D

Manual integrations were performed on samples associated with EPA 8260D. All data & explanations are included in the raw data section of the report

Affected Samples: AA67540-CCV1, RCA-MW0002-032.5-20210726 [AE05483-01], CRCA-MW0018-058.0-20210726 [AE05483-02], CRCA-MW0013-027.5-20210726 [AE05483-03], CRCA-MW0012-027.5-20210726 [AE05483-04], CRCA-MW0015-027.5-20210726 [AE05483-05], CRCA-MW0031-058.0-20210726 [AE05483-06], CRCA-MW0019-058.0-20210726 [AE05483-07]
The associated calibration verification standard for bromomethane and dichlorodifluoromethane exhibited high bias. Analytes not detected in the sample.

Affected Batch: 1G28012
Due to instrument error the matrix spike duplicate was not analyzed.

Affected Samples: AA67540-CCV1
The continuing calibration verification standard exhibited low bias for chloroethane; the associated sample had ND (non-detect) results, but sensitivity was verified by analyzing a standard with a concentration equivalent to the reporting limit.

Affected Samples: AA66932-SCV1
Recovery for carbon disulfide and dichlorodifluoromethane was outside acceptance limits. Analyte was not detected in the samples.

Analysis: RSK 175

Manual integrations were performed on samples associated with RSK 175. All data & explanations are included in the raw data section of the report

Affected Samples: CCRCA-MW0018-058.0-20210726 [AE05483-02]
Result for methane was above the calibration range of the instrument. Sample was reanalyzed at a dilution.

Affected Samples: CRCA-MW0019-058.0-20210726 [AE05483-07], 1G28011-DUP1
Precision between duplicate samples was outside acceptance limits for methane.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Kaitlin Dylnicki
Project Manager

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-MW0002-032.5-20210726 **Lab ID: AE05483-01** **Sampled: 07/26/21 09:25** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	08/09/21	07/28/21 08:53	07/28/21 10:16

Client ID: CRCA-MW0018-058.0-20210726 **Lab ID: AE05483-02** **Sampled: 07/26/21 10:00** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	08/09/21	07/28/21 08:53	07/28/21 10:44
RSK 175	Same	08/09/21	07/28/21 00:00	07/28/21 11:22

Client ID: CRCA-MW0018-058.0-20210726 **Lab ID: AE05483-02RE1** **Sampled: 07/26/21 10:00** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	08/09/21	07/28/21 00:00	07/28/21 13:15

Client ID: CRCA-MW0013-027.5-20210726 **Lab ID: AE05483-03** **Sampled: 07/26/21 10:40** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	08/09/21	07/28/21 08:53	07/28/21 11:12

Client ID: CRCA-MW0012-027.5-20210726 **Lab ID: AE05483-04** **Sampled: 07/26/21 11:15** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	08/09/21	07/28/21 08:53	07/28/21 11:40

Client ID: CRCA-MW0015-027.5-20210726 **Lab ID: AE05483-05** **Sampled: 07/26/21 12:25** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	08/09/21	07/28/21 08:53	07/28/21 12:08

Client ID: CRCA-MW0031-058.0-20210726 **Lab ID: AE05483-06** **Sampled: 07/26/21 13:15** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	08/09/21	07/28/21 08:53	07/28/21 12:37
RSK 175	Same	08/09/21	07/28/21 00:00	07/28/21 11:38

Client ID: CRCA-MW0019-058.0-20210726 **Lab ID: AE05483-07** **Sampled: 07/26/21 14:00** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	08/09/21	07/28/21 08:53	07/28/21 13:05
RSK 175	Same	08/09/21	07/28/21 00:00	07/28/21 12:14

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-MW0002-032.5-20210726 **Lab ID:** AE05483-01

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
trans-1,2-Dichloroethene	0.73	I	0.73	2.5	ug/L	EPA 8260D	
Vinyl chloride	7.4		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0018-058.0-20210726 **Lab ID:** AE05483-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethene	0.00842		0.00510	0.00600	mg/L	RSK 175	
Vinyl chloride	55		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0018-058.0-20210726 **Lab ID:** AE05483-02RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	1.41		0.0600	0.0750	mg/L	RSK 175	

Client ID: CRCA-MW0013-027.5-20210726 **Lab ID:** AE05483-03

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	1.4	I	0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0031-058.0-20210726 **Lab ID:** AE05483-06

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	0.582		0.00400	0.00500	mg/L	RSK 175	
Vinyl chloride	18		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0019-058.0-20210726 **Lab ID:** AE05483-07

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	0.203		0.00400	0.00500	mg/L	RSK 175	QM-12
Vinyl chloride	1.4	I	0.71	2.5	ug/L	EPA 8260D	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0002-032.5-20210726 **Lab Sample ID:** AE05483-01 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 09:25 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1G28012	EPA 8260D	07/28/21 10:16	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 10:16	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
trans-1,2-Dichloroethene [156-60-5]^	**0.73**	I	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	

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ANALYTICAL RESULTS

Description: CRCA-MW0002-032.5-20210726 **Lab Sample ID:** AE05483-01 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 09:25 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Vinyl chloride [75-01-4]^	**7.4**		ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 10:16	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*50*	*1*	*50.0*	*100 %*	*41-142*	*1G28012*	*EPA 8260D*	*07/28/21 10:16*	*kkw*	
Dibromofluoromethane	*51*	*1*	*50.0*	*102 %*	*53-146*	*1G28012*	*EPA 8260D*	*07/28/21 10:16*	*kkw*	
Toluene-d8	*52*	*1*	*50.0*	*104 %*	*41-146*	*1G28012*	*EPA 8260D*	*07/28/21 10:16*	*kkw*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0018-058.0-20210726 **Lab Sample ID:** AE05483-02 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 10:00 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1G28012	EPA 8260D	07/28/21 10:44	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 10:44	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0018-058.0-20210726 **Lab Sample ID:** AE05483-02 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 10:00 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Vinyl chloride [75-01-4]^	**55**		ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 10:44	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*51*	*1*	*50.0*	*102 %*	*41-142*	*1G28012*	*EPA 8260D*	*07/28/21 10:44*	*kkw*	
Dibromofluoromethane	*53*	*1*	*50.0*	*106 %*	*53-146*	*1G28012*	*EPA 8260D*	*07/28/21 10:44*	*kkw*	
Toluene-d8	*51*	*1*	*50.0*	*102 %*	*41-146*	*1G28012*	*EPA 8260D*	*07/28/21 10:44*	*kkw*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1G28011	RSK 175	07/28/21 11:22	jmw	
Ethene [74-85-1]^	**0.00842**		mg/L	1	0.00510	0.00600	1G28011	RSK 175	07/28/21 11:22	jmw	
Methane [74-82-8]^	**1.41**		mg/L	15	0.0600	0.0750	1G28011	RSK 175	07/28/21 13:15	jmw	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0013-027.5-20210726 **Lab Sample ID:** AE05483-03 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 10:40 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1G28012	EPA 8260D	07/28/21 11:12	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 11:12	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0013-027.5-20210726 **Lab Sample ID:** AE05483-03 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 10:40 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Vinyl chloride [75-01-4]^	**1.4**	I	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 11:12	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*50*	*1*	*50.0*	*100 %*	*41-142*	*1G28012*	*EPA 8260D*	*07/28/21 11:12*	*kkw*	
Dibromofluoromethane	*51*	*1*	*50.0*	*102 %*	*53-146*	*1G28012*	*EPA 8260D*	*07/28/21 11:12*	*kkw*	
Toluene-d8	*51*	*1*	*50.0*	*102 %*	*41-146*	*1G28012*	*EPA 8260D*	*07/28/21 11:12*	*kkw*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0012-027.5-20210726 **Lab Sample ID:** AE05483-04 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 11:15 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1G28012	EPA 8260D	07/28/21 11:40	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 11:40	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0012-027.5-20210726 **Lab Sample ID:** AE05483-04 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 11:15 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 11:40	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*50*	*1*	*50.0*	*99 %*	*41-142*	*1G28012*	*EPA 8260D*	*07/28/21 11:40*	*kkw*	
Dibromofluoromethane	*51*	*1*	*50.0*	*102 %*	*53-146*	*1G28012*	*EPA 8260D*	*07/28/21 11:40*	*kkw*	
Toluene-d8	*52*	*1*	*50.0*	*103 %*	*41-146*	*1G28012*	*EPA 8260D*	*07/28/21 11:40*	*kkw*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0015-027.5-20210726 **Lab Sample ID:** AE05483-05 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 12:25 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1G28012	EPA 8260D	07/28/21 12:08	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 12:08	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	

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ANALYTICAL RESULTS

Description: CRCA-MW0015-027.5-20210726 **Lab Sample ID:** AE05483-05 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 12:25 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 12:08	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*49*	*1*	*50.0*	*99 %*	*41-142*	*1G28012*	*EPA 8260D*	*07/28/21 12:08*	*kkw*	
Dibromofluoromethane	*51*	*1*	*50.0*	*101 %*	*53-146*	*1G28012*	*EPA 8260D*	*07/28/21 12:08*	*kkw*	
Toluene-d8	*51*	*1*	*50.0*	*102 %*	*41-146*	*1G28012*	*EPA 8260D*	*07/28/21 12:08*	*kkw*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0031-058.0-20210726 **Lab Sample ID:** AE05483-06 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 13:15 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1G28012	EPA 8260D	07/28/21 12:37	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 12:37	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	

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ANALYTICAL RESULTS

Description: CRCA-MW0031-058.0-20210726 **Lab Sample ID:** AE05483-06 **Received:** 07/27/21 15:00
Matrix: Ground Water **Sampled:** 07/26/21 13:15 **Work Order:** AE05483
Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Vinyl chloride [75-01-4]^	**18**		ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 12:37	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*51*	*1*	*50.0*	*102 %*	*41-142*	*1G28012*	*EPA 8260D*	*07/28/21 12:37*	*kkw*	
Dibromofluoromethane	*51*	*1*	*50.0*	*101 %*	*53-146*	*1G28012*	*EPA 8260D*	*07/28/21 12:37*	*kkw*	
Toluene-d8	*52*	*1*	*50.0*	*104 %*	*41-146*	*1G28012*	*EPA 8260D*	*07/28/21 12:37*	*kkw*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1G28011	RSK 175	07/28/21 11:38	jmw	
Ethene [74-85-1]^	0.00510	U	mg/L	1	0.00510	0.00600	1G28011	RSK 175	07/28/21 11:38	jmw	
Methane [74-82-8]^	**0.582**		mg/L	1	0.00400	0.00500	1G28011	RSK 175	07/28/21 11:38	jmw	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0019-058.0-20210726 **Lab Sample ID:** AE05483-07 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 14:00 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1G28012	EPA 8260D	07/28/21 13:05	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 13:05	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	

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ANALYTICAL RESULTS

Description: CRCA-MW0019-058.0-20210726 **Lab Sample ID:** AE05483-07 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 14:00 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Vinyl chloride [75-01-4]^	**1.4**	I	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 13:05	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*50*	*1*	*50.0*	*100 %*	*41-142*	*1G28012*	*EPA 8260D*	*07/28/21 13:05*	*kkw*	
Dibromofluoromethane	*51*	*1*	*50.0*	*102 %*	*53-146*	*1G28012*	*EPA 8260D*	*07/28/21 13:05*	*kkw*	
Toluene-d8	*52*	*1*	*50.0*	*104 %*	*41-146*	*1G28012*	*EPA 8260D*	*07/28/21 13:05*	*kkw*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1G28011	RSK 175	07/28/21 12:14	jmw	
Ethene [74-85-1]^	0.00510	U	mg/L	1	0.00510	0.00600	1G28011	RSK 175	07/28/21 12:14	jmw	
Methane [74-82-8]^	**0.203**		mg/L	1	0.00400	0.00500	1G28011	RSK 175	07/28/21 12:14	jmw	QM-12

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1G28012 - EPA 5030B_MS

Blank (1G28012-BLK1) Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 09:48

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1G28012 - EPA 5030B_MS - Continued

Blank (1G28012-BLK1) Continued Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 09:48

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*50*			*ug/L*	*50.0*		*99*	*41-142*			
Dibromofluoromethane	*49*	*I*		*ug/L*	*50.0*		*99*	*53-146*			
Toluene-d8	*51*			*ug/L*	*50.0*		*103*	*41-146*			

LCS (1G28012-BS1) Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 08:52

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	22		2.5	ug/L	20.0		110	57-148			
1,1,2,2-Tetrachloroethane	20		2.5	ug/L	20.0		102	60-139			
1,1,2-Trichloroethane	20		2.5	ug/L	20.0		101	57-141			
1,1-Dichloroethane	21		2.5	ug/L	20.0		107	57-142			
1,1-Dichloroethene	21		2.5	ug/L	20.0		105	47-139			
1,2,4-Trichlorobenzene	27		2.5	ug/L	20.0		133	52-159			
1,2-Dibromo-3-chloropropane	23		2.5	ug/L	20.0		114	48-150			
1,2-Dibromoethane	20		2.5	ug/L	20.0		98	57-140			
1,2-Dichlorobenzene	20		2.5	ug/L	20.0		100	63-131			
1,2-Dichloroethane	19		2.5	ug/L	20.0		93	50-156			
1,2-Dichloropropane	20		2.5	ug/L	20.0		98	61-133			
1,3-Dichlorobenzene	22		2.5	ug/L	20.0		108	66-129			
1,4-Dichlorobenzene	21		2.5	ug/L	20.0		105	65-133			
2-Butanone	60		12	ug/L	50.0		119	10-180			
2-Hexanone	52		12	ug/L	50.0		104	12-180			
4-Methyl-2-pentanone	52		12	ug/L	50.0		103	19-180			
Acetone	51		25	ug/L	50.0		102	10-180			
Benzene	20		2.5	ug/L	20.0		102	56-136			
Bromodichloromethane	21		2.5	ug/L	20.0		103	58-135			
Bromoform	18		2.5	ug/L	20.0		91	46-148			
Bromomethane	14		2.5	ug/L	20.0		68	10-173			
Carbon disulfide	23		12	ug/L	20.0		117	43-153			
Carbon Tetrachloride	18		2.5	ug/L	20.0		91	54-156			
Chlorobenzene	20		2.5	ug/L	20.0		102	51-139			
Chloroethane	18		2.5	ug/L	20.0		92	27-180			
Chloroform	21		2.5	ug/L	20.0		106	58-139			
Chloromethane	20		2.5	ug/L	20.0		98	33-154			
cis-1,2-Dichloroethene	22		2.5	ug/L	20.0		108	56-128			
cis-1,3-Dichloropropene	20		2.5	ug/L	20.0		98	64-128			
Cyclohexane	22		2.5	ug/L	20.0		109	70-130			
Dibromochloromethane	19		2.5	ug/L	20.0		93	50-140			
Dichlorodifluoromethane	18		2.5	ug/L	20.0		88	10-180			
Ethylbenzene	21		2.5	ug/L	20.0		103	63-133			
Freon 113	19		2.5	ug/L	20.0		97	47-173			
Isopropylbenzene	19		2.5	ug/L	20.0		96	60-132			
m,p-Xylenes	41		5.0	ug/L	40.0		101	64-133			
Methyl acetate	22		2.5	ug/L	20.0		108	70-130			
Methyl cyclohexane	20		2.5	ug/L	20.0		99	70-130			
Methylene Chloride	21		12	ug/L	20.0		105	43-142			
Methyl-tert-Butyl Ether	21		2.5	ug/L	20.0		106	51-145			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1G28012 - EPA 5030B_MS - Continued

LCS (1G28012-BS1) Continued Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 08:52

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
o-Xylene	20		2.5	ug/L	20.0		100	61-129			
Styrene	19		2.5	ug/L	20.0		97	59-136			
Tetrachloroethene	20		2.5	ug/L	20.0		101	60-147			
Toluene	20		2.5	ug/L	20.0		100	64-131			
trans-1,2-Dichloroethene	20		2.5	ug/L	20.0		102	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0		107	65-149			
Trichloroethene	20		2.5	ug/L	20.0		101	62-135			
Trichlorofluoromethane	20		2.5	ug/L	20.0		98	56-155			
Vinyl chloride	19		2.5	ug/L	20.0		94	20-167			
4-Bromofluorobenzene	*50*			*ug/L*	*50.0*		*100*	*41-142*			
Dibromofluoromethane	*52*			*ug/L*	*50.0*		*105*	*53-146*			
Toluene-d8	*51*			*ug/L*	*50.0*		*103*	*41-146*			

Matrix Spike (1G28012-MS1) Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 19:08

Source: AE05483-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	23		2.5	ug/L	20.0	0.80 U	113	57-148			
1,1,2,2-Tetrachloroethane	20		2.5	ug/L	20.0	0.54 U	101	60-139			
1,1,2-Trichloroethane	20		2.5	ug/L	20.0	0.76 U	102	57-141			
1,1-Dichloroethane	22		2.5	ug/L	20.0	0.62 U	112	57-142			
1,1-Dichloroethene	23		2.5	ug/L	20.0	0.94 U	113	47-139			
1,2,4-Trichlorobenzene	23		2.5	ug/L	20.0	0.70 U	116	52-159			
1,2-Dibromo-3-chloropropane	22		2.5	ug/L	20.0	0.96 U	110	48-150			
1,2-Dibromoethane	19		2.5	ug/L	20.0	0.78 U	97	57-140			
1,2-Dichlorobenzene	20		2.5	ug/L	20.0	0.73 U	99	63-131			
1,2-Dichloroethane	19		2.5	ug/L	20.0	0.63 U	93	50-156			
1,2-Dichloropropane	20		2.5	ug/L	20.0	0.80 U	101	61-133			
1,3-Dichlorobenzene	21		2.5	ug/L	20.0	0.77 U	104	66-129			
1,4-Dichlorobenzene	20		2.5	ug/L	20.0	0.76 U	102	65-133			
2-Butanone	56		12	ug/L	50.0	4.5 U	113	10-180			
2-Hexanone	47		12	ug/L	50.0	2.5 U	94	12-180			
4-Methyl-2-pentanone	54		12	ug/L	50.0	2.5 U	108	19-180			
Acetone	45		25	ug/L	50.0	10 U	90	10-180			
Benzene	22		2.5	ug/L	20.0	0.71 U	110	56-136			
Bromodichloromethane	21		2.5	ug/L	20.0	0.52 U	103	58-135			
Bromoform	15		2.5	ug/L	20.0	0.75 U	74	46-148			
Bromomethane	8.3		2.5	ug/L	20.0	0.95 U	42	10-173			
Carbon disulfide	25		12	ug/L	20.0	2.5 U	125	43-153			
Carbon Tetrachloride	21		2.5	ug/L	20.0	0.94 U	106	54-156			
Chlorobenzene	22		2.5	ug/L	20.0	0.72 U	108	51-139			
Chloroethane	18		2.5	ug/L	20.0	0.98 U	92	27-180			
Chloroform	21		2.5	ug/L	20.0	0.80 U	106	58-139			
Chloromethane	17		2.5	ug/L	20.0	0.82 U	85	33-154			
cis-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.53 U	110	56-128			
cis-1,3-Dichloropropene	18		2.5	ug/L	20.0	0.59 U	92	64-128			
Cyclohexane	22		2.5	ug/L	20.0	0.93 U	111	70-130			
Dibromochloromethane	18		2.5	ug/L	20.0	0.50 U	91	50-140			
Dichlorodifluoromethane	19		2.5	ug/L	20.0	0.74 U	93	10-180			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1G28012 - EPA 5030B_MS - Continued

Matrix Spike (1G28012-MS1) Continued Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 19:08

Source: AE05483-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	21		2.5	ug/L	20.0	0.69 U	105	63-133			
Freon 113	21		2.5	ug/L	20.0	0.73 U	107	47-173			
Isopropylbenzene	21		2.5	ug/L	20.0	0.67 U	104	60-132			
m,p-Xylenes	43		5.0	ug/L	40.0	1.3 U	107	64-133			
Methyl acetate	17		2.5	ug/L	20.0	0.95 U	87	70-130			
Methyl cyclohexane	21		2.5	ug/L	20.0	0.64 U	104	70-130			
Methylene Chloride	19		12	ug/L	20.0	2.5 U	97	43-142			
Methyl-tert-Butyl Ether	19		2.5	ug/L	20.0	0.60 U	97	51-145			
o-Xylene	22		2.5	ug/L	20.0	0.53 U	110	61-129			
Styrene	20		2.5	ug/L	20.0	0.61 U	98	59-136			
Tetrachloroethene	20		2.5	ug/L	20.0	0.76 U	102	60-147			
Toluene	22		2.5	ug/L	20.0	0.72 U	110	64-131			
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.73	107	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0	0.73 U	106	65-149			
Trichloroethene	22		2.5	ug/L	20.0	0.89 U	109	62-135			
Trichlorofluoromethane	22		2.5	ug/L	20.0	0.94 U	111	56-155			
Vinyl chloride	25		2.5	ug/L	20.0	7.4	87	20-167			
4-Bromofluorobenzene	*52*			*ug/L*	*50.0*		*104*	*41-142*			
Dibromofluoromethane	*53*			*ug/L*	*50.0*		*106*	*53-146*			
Toluene-d8	*52*			*ug/L*	*50.0*		*104*	*41-146*			

Dissolved Gases by GC - Quality Control

Batch 1G28011 - Same

Blank (1G28011-BLK1) Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 10:35

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.00510	U	0.00600	mg/L							
Ethene	0.00510	U	0.00600	mg/L							
Methane	0.00400	U	0.00500	mg/L							

LCS (1G28011-BS1) Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 10:03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.322		0.00600	mg/L	0.323		100	70-130			
Ethene	0.324		0.00600	mg/L	0.302		107	70-130			
Methane	0.179		0.00500	mg/L	0.172		104	70-130			

LCS Dup (1G28011-BSD1) Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 10:19

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.326		0.00600	mg/L	0.323		101	70-130	1	30	
Ethene	0.326		0.00600	mg/L	0.302		108	70-130	0.5	30	
Methane	0.181		0.00500	mg/L	0.172		105	70-130	1	30	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Dissolved Gases by GC - Quality Control

Batch 1G28011 - Same - Continued

Duplicate (1G28011-DUP1) Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 14:03

Source: AE05483-07

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.00510	U	0.00600	mg/L		0.00510 U				30	
Ethene	0.00510	U	0.00600	mg/L		0.00510 U				30	
Methane	0.120		0.00500	mg/L		0.203			51	30	QM-12

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-12	Precision between duplicate samples was outside acceptance limits.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported result is an estimated value.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence (85% or greater confidence) to make a “tentative identification".
Q	One or more quality control criteria failed.

AE-05483

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 2499 | PAGE 1 OF 1

PROJECT NO: 112G08570	FACILITY: KSL-CRCA	PROJECT MANAGER Alex Murphy	PHONE NUMBER (321) 292-0842	LABORATORY NAME AND CONTACT: ENCO – Kaitlin Dykiewicz
SAMPLERS (SIGNATURE) Chuck Sorden		FIELD OPERATIONS LEADER Chuck Sorden	PHONE NUMBER (321) 591-7580	ADDRESS 10775 Central Port Dr.
		CARRIER/WAYBILL NUMBER		CITY, STATE Orlando, FL

STANDARD TAT ☒
RUSH TAT ☐ ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2021	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TYPE OF ANALYSIS 8260DTLL SOMOI	RSK175 MEE	COMMENTS
									G	G			
										HCl			
										4°C			
07/26	0925	CRCA-MW0002-032.5-2021	0726	30	35	GW	G	3	X				
	1000	CRCA-MW0018-058.0-2021	0726	53	63			6		X			
	1040	CRCA-MW0013-027.5-2021	0726	25	30			3					
	1115	CRCA-MW0012-027.5-2021	0726	25	30			3					
	1225	CRCA-MW0015-027.5-2021	0726	25	30			3					
	1315	CRCA-MW0031-058.0-2021	0726	53	63			6		X			
07/26	1400	CRCA-MW0019-058.0-2021	0726	53	63	GW	G	6	X	X			

1. RELINQUISHED BY	DATE	TIME	1. RECEIVED BY	DATE 7/27/21	TIME 1500
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS MDL-3331 0.3°C

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

7/27/2021

Environmental Conservation Labs, Inc.

Alex Murphy
Tetra Tech, Inc. (TE016)
11 Riverside Drive, Suite 204
Cocoa, FL 32922
Phone: (321) 636-6470
Fax: (321) 636-6473

Reference : **Sample Receipt Confirmation - *Please Review***
Project Name / Number : NASA KSC CRCA / 112G08970
Purchase Order # : 1165883

Lab Reference # : AE05483 Lab Receipt Date: 27-Jul-21 15:00
Anticipated ***(Estimated)*** Completion Date: 03-Aug-21 19:00

This is an automated notification from our laboratory information management system (LIMS), indicating the samples we have recently received and their associated analyses. Should any of the following information be in error, please contact us immediately.

Thank you for choosing Environmental Conservation Laboratories. Should any events occur that delay the processing of your samples or inhibit our ability to complete the project within the projected time frame you will be contacted.

Sincerely,

Kaitlin Dylnicki

Client: Tetra Tech, Inc. (TE016) **Project Name:** NASA KSC CRCA
Requested TAT: 5 **Project Number:** 112G08970

Analysis	TAT	Expires	Status
Sample ID: CRCA-MW0002-032.5-20210726(Lab ID: AE05483-01), Matrix: Ground Water, Sampled: 26-Jul-21 09:25 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	09-Aug-21 23:59	Received
Sample ID: CRCA-MW0018-058.0-20210726(Lab ID: AE05483-02), Matrix: Ground Water, Sampled: 26-Jul-21 10:00 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	09-Aug-21 23:59	Received
RSK175	5	09-Aug-21 23:59	Received
Sample ID: CRCA-MW0013-027.5-20210726(Lab ID: AE05483-03), Matrix: Ground Water, Sampled: 26-Jul-21 10:40 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	09-Aug-21 23:59	Received
Sample ID: CRCA-MW0012-027.5-20210726(Lab ID: AE05483-04), Matrix: Ground Water, Sampled: 26-Jul-21 11:15 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	09-Aug-21 23:59	Received
Sample ID: CRCA-MW0015-027.5-20210726(Lab ID: AE05483-05), Matrix: Ground Water, Sampled: 26-Jul-21 12:25 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	09-Aug-21 23:59	Received
Sample ID: CRCA-MW0031-058.0-20210726(Lab ID: AE05483-06), Matrix: Ground Water, Sampled: 26-Jul-21 13:15 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	09-Aug-21 23:59	Received
RSK175	5	09-Aug-21 23:59	Received
Sample ID: CRCA-MW0019-058.0-20210726(Lab ID: AE05483-07), Matrix: Ground Water, Sampled: 26-Jul-21 14:00 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	09-Aug-21 23:59	Received
RSK175	5	09-Aug-21 23:59	Received

Client: Tetra Tech, Inc. (TE016)	**Project Name:** NASA KSC CRCA
Requested TAT: 5	**Project Number:** 112G08970

Analysis Groups included in this work order

ENCO Orlando

SDG: AE05483-TE016

CLASS: 01_VOA_MS

METHOD: EPA 8260D

ANALYSES DATA PACKAGE COVER PAGE

EPA 8260D

Laboratory: ENCO Orlando

SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-MW0002-032.5-20210726	AE05483-01
CRCA-MW0018-058.0-20210726	AE05483-02
CRCA-MW0013-027.5-20210726	AE05483-03
CRCA-MW0012-027.5-20210726	AE05483-04
CRCA-MW0015-027.5-20210726	AE05483-05
CRCA-MW0031-058.0-20210726	AE05483-06
CRCA-MW0019-058.0-20210726	AE05483-07

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0002-032.5-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-01 File ID: 215GW007.D

Sampled: 07/26/21 09:25 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 10:16

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	7.4		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	J	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0002-032.5-20210726

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE05483-01
File ID: 215GW007.D
Sampled: 07/26/21 09:25
Prepared: 07/28/21 08:53
Analyzed: 07/28/21 10:16
Solids:
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Batch: 1G28012
Sequence: AA67540
Calibration: 2106098
Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	51	102	53 - 146	
Toluene-d8	50.0	52	104	41 - 146	
4-Bromofluorobenzene	50.0	50	100	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1040767	9.857	1101889	9.851	
1,4-Difluorobenzene	2434148	10.45	2525815	10.444	
Chlorobenzene-d5	1534041	13.229	1610233	13.223	
1,4-Dichlorobenzene-d4	1160628	15.491	1271242	15.485	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0018-058.0-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-02 File ID: 215GW008.D

Sampled: 07/26/21 10:00 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 10:44

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	55		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0018-058.0-20210726

Laboratory: ENCO Orlando | SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) | Project: NASA KSC CRCA

Matrix: Ground Water | Laboratory ID: AE05483-02 | File ID: 215GW008.D

Sampled: 07/26/21 10:00 | Prepared: 07/28/21 08:53 | Analyzed: 07/28/21 10:44

Solids: | Preparation: EPA 5030B_MS | Initial/Final: 5 mL / 5 mL

Batch: 1G28012 | Sequence: AA67540 | Calibration: 2106098 | Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	53	106	53 - 146	
Toluene-d8	50.0	51	102	41 - 146	
4-Bromofluorobenzene	50.0	51	102	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1010974	9.857	1101889	9.851	
1,4-Difluorobenzene	2428360	10.45	2525815	10.444	
Chlorobenzene-d5	1504622	13.229	1610233	13.223	
1,4-Dichlorobenzene-d4	1151894	15.491	1271242	15.485	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0013-027.5-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-03 File ID: 215GW009.D

Sampled: 07/26/21 10:40 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 11:12

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	1.4	J	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0013-027.5-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-03 File ID: 215GW009.D

Sampled: 07/26/21 10:40 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 11:12

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	51	102	53 - 146	
Toluene-d8	50.0	51	102	41 - 146	
4-Bromofluorobenzene	50.0	50	100	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1022104	9.857	1101889	9.851	
1,4-Difluorobenzene	2402398	10.45	2525815	10.444	
Chlorobenzene-d5	1514817	13.229	1610233	13.223	
1,4-Dichlorobenzene-d4	1127294	15.485	1271242	15.485	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0012-027.5-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-04 File ID: 215GW010.D

Sampled: 07/26/21 11:15 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 11:40

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0012-027.5-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-04 File ID: 215GW010.D

Sampled: 07/26/21 11:15 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 11:40

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	51	102	53 - 146	
Toluene-d8	50.0	52	103	41 - 146	
4-Bromofluorobenzene	50.0	50	99	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	990018	9.857	1101889	9.851	
1,4-Difluorobenzene	2368009	10.45	2525815	10.444	
Chlorobenzene-d5	1506429	13.229	1610233	13.223	
1,4-Dichlorobenzene-d4	1129481	15.486	1271242	15.485	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0015-027.5-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-05 File ID: 215GW011.D

Sampled: 07/26/21 12:25 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 12:08

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0015-027.5-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-05 File ID: 215GW011.D

Sampled: 07/26/21 12:25 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 12:08

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	51	101	53 - 146	
Toluene-d8	50.0	51	102	41 - 146	
4-Bromofluorobenzene	50.0	49	99	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	979486	9.857	1101889	9.851	
1,4-Difluorobenzene	2357320	10.45	2525815	10.444	
Chlorobenzene-d5	1479523	13.229	1610233	13.223	
1,4-Dichlorobenzene-d4	1121546	15.485	1271242	15.485	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0031-058.0-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-06 File ID: 215GW012.D

Sampled: 07/26/21 13:15 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 12:37

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	18		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0031-058.0-20210726

Laboratory: ENCO Orlando | SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) | Project: NASA KSC CRCA

Matrix: Ground Water | Laboratory ID: AE05483-06 | File ID: 215GW012.D

Sampled: 07/26/21 13:15 | Prepared: 07/28/21 08:53 | Analyzed: 07/28/21 12:37

Solids: | Preparation: EPA 5030B_MS | Initial/Final: 5 mL / 5 mL

Batch: 1G28012 | Sequence: AA67540 | Calibration: 2106098 | Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	51	101	53 - 146	
Toluene-d8	50.0	52	104	41 - 146	
4-Bromofluorobenzene	50.0	51	102	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	975384	9.857	1101889	9.851	
1,4-Difluorobenzene	2333021	10.45	2525815	10.444	
Chlorobenzene-d5	1444445	13.229	1610233	13.223	
1,4-Dichlorobenzene-d4	1110125	15.491	1271242	15.485	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0019-058.0-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-07 File ID: 215GW013.D

Sampled: 07/26/21 14:00 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 13:05

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	1.4	J	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0019-058.0-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-07 File ID: 215GW013.D

Sampled: 07/26/21 14:00 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 13:05

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	51	102	53 - 146	
Toluene-d8	50.0	52	104	41 - 146	
4-Bromofluorobenzene	50.0	50	100	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	971946	9.857	1101889	9.851	
1,4-Difluorobenzene	2288770	10.45	2525815	10.444	
Chlorobenzene-d5	1447392	13.229	1610233	13.223	
1,4-Dichlorobenzene-d4	1103226	15.491	1271242	15.485	

* Values outside of QC limits

HOLDING TIME SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-MW0002-032.5-20210726	07/26/21 09:25	07/27/21 15:00	07/28/21 08:53	1.98	NA	07/28/21 10:16	2.00	14.00	
CRCA-MW0018-058.0-20210726	07/26/21 10:00	07/27/21 15:00	07/28/21 08:53	1.95	NA	07/28/21 10:44	2.00	14.00	
CRCA-MW0013-027.5-20210726	07/26/21 10:40	07/27/21 15:00	07/28/21 08:53	1.93	NA	07/28/21 11:12	2.00	14.00	
CRCA-MW0012-027.5-20210726	07/26/21 11:15	07/27/21 15:00	07/28/21 08:53	1.90	NA	07/28/21 11:40	2.00	14.00	
CRCA-MW0015-027.5-20210726	07/26/21 12:25	07/27/21 15:00	07/28/21 08:53	1.85	NA	07/28/21 12:08	2.00	14.00	
CRCA-MW0031-058.0-20210726	07/26/21 13:15	07/27/21 15:00	07/28/21 08:53	1.82	NA	07/28/21 12:37	2.00	14.00	
CRCA-MW0019-058.0-20210726	07/26/21 14:00	07/27/21 15:00	07/28/21 08:53	1.79	NA	07/28/21 13:05	2.00	14.00	

PREPARATION BATCH SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1G28012 Batch Matrix: Water Preparation: EPA 5030B_MS

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1G28012-BLK1	215GW006.D	07/28/21 00:00	
LCS	1G28012-BS1	215GW004.D	07/28/21 00:00	
CRCA-MW0002-032.5-20210726	1G28012-MS1	215GW026.D	07/28/21 00:00	
CRCA-MW0002-032.5-20210726	AE05483-01	215GW007.D	07/28/21 08:53	
CRCA-MW0018-058.0-20210726	AE05483-02	215GW008.D	07/28/21 08:53	
CRCA-MW0013-027.5-20210726	AE05483-03	215GW009.D	07/28/21 08:53	
CRCA-MW0012-027.5-20210726	AE05483-04	215GW010.D	07/28/21 08:53	
CRCA-MW0015-027.5-20210726	AE05483-05	215GW011.D	07/28/21 08:53	
CRCA-MW0031-058.0-20210726	AE05483-06	215GW012.D	07/28/21 08:53	
CRCA-MW0019-058.0-20210726	AE05483-07	215GW013.D	07/28/21 08:53	

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1G28012-BLK1	File ID:	215GW006.D
Prepared:	07/28/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	07/28/21 09:48	Instrument:	OVGCMS5		
Batch:	1G28012	Sequence:	AA67540	Calibration:	2106098

CAS NO.	COMPOUND	CONC. (ug/L)	Q
75-71-8	Dichlorodifluoromethane	0.74	U
74-87-3	Chloromethane	0.82	U
75-01-4	Vinyl chloride	0.71	U
74-83-9	Bromomethane	0.95	U
75-00-3	Chloroethane	0.98	U
75-69-4	Trichlorofluoromethane	0.94	U
76-13-1	Freon 113	0.73	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	0.94	U
75-15-0	Carbon disulfide	2.5	U
75-09-2	Methylene Chloride	2.5	U
1634-04-4	Methyl-tert-Butyl Ether	0.60	U
156-60-5	trans-1,2-Dichloroethene	0.73	U
156-59-2	cis-1,2-Dichloroethene	0.53	U
75-34-3	1,1-Dichloroethane	0.62	U
78-93-3	2-Butanone	4.5	U
67-66-3	Chloroform	0.80	U
71-55-6	1,1,1-Trichloroethane	0.80	U
79-20-9	Methyl acetate	0.95	U
110-82-7	Cyclohexane	0.93	U
108-87-2	Methyl cyclohexane	0.64	U
56-23-5	Carbon Tetrachloride	0.94	U
107-06-2	1,2-Dichloroethane	0.63	U
71-43-2	Benzene	0.71	U
79-01-6	Trichloroethene	0.89	U
78-87-5	1,2-Dichloropropane	0.80	U
75-27-4	Bromodichloromethane	0.52	U
108-10-1	4-Methyl-2-pentanone	2.5	U
591-78-6	2-Hexanone	2.5	U
10061-01-5	cis-1,3-Dichloropropene	0.59	U

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1G28012-BLK1	File ID:	215GW006.D
Prepared:	07/28/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	07/28/21 09:48	Instrument:	OVGCMS5		
Batch:	1G28012	Sequence:	AA67540	Calibration:	2106098

CAS NO.	COMPOUND	CONC. (ug/L)	Q
108-88-3	Toluene	0.72	U
10061-02-6	trans-1,3-Dichloropropene	0.73	U
79-00-5	1,1,2-Trichloroethane	0.76	U
127-18-4	Tetrachloroethene	0.76	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.78	U
108-90-7	Chlorobenzene	0.72	U
100-41-4	Ethylbenzene	0.69	U
108-38-3/106-42-3	m,p-Xylenes	1.3	U
95-47-6	o-Xylene	0.53	U
75-25-2	Bromoform	0.75	U
100-42-5	Styrene	0.61	U
98-82-8	Isopropylbenzene	0.67	U
79-34-5	1,1,2,2-Tetrachloroethane	0.54	U
120-82-1	1,2,4-Trichlorobenzene	0.70	U
541-73-1	1,3-Dichlorobenzene	0.77	U
106-46-7	1,4-Dichlorobenzene	0.76	U
95-50-1	1,2-Dichlorobenzene	0.73	U
96-12-8	1,2-Dibromo-3-chloropropane	0.96	U
1330-20-7	Xylenes (Total)	1.3	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	49	99	53 - 146	
Toluene-d8	50.0	51	103	41 - 146	
4-Bromofluorobenzene	50.0	50	99	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1058005	9.857	1101889	9.851	
1,4-Difluorobenzene	2459389	10.45	2525815	10.444	
Chlorobenzene-d5	1530623	13.229	1610233	13.223	
1,4-Dichlorobenzene-d4	1152122	15.485	1271242	15.485	

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1G28012	Laboratory ID:	1G28012-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	18	88	10 - 180
Chloromethane	20.0	20	98	33 - 154
Vinyl chloride	20.0	19	94	20 - 167
Bromomethane	20.0	14	68	10 - 173
Chloroethane	20.0	18	92	27 - 180
Trichlorofluoromethane	20.0	20	98	56 - 155
Freon 113	20.0	19	97	47 - 173
Acetone	50.0	51	102	10 - 180
1,1-Dichloroethene	20.0	21	105	47 - 139
Carbon disulfide	20.0	23	117	43 - 153
Methylene Chloride	20.0	21	105	43 - 142
Methyl-tert-Butyl Ether	20.0	21	106	51 - 145
trans-1,2-Dichloroethene	20.0	20	102	54 - 134
cis-1,2-Dichloroethene	20.0	22	108	56 - 128
1,1-Dichloroethane	20.0	21	107	57 - 142
2-Butanone	50.0	60	119	10 - 180
Chloroform	20.0	21	106	58 - 139
1,1,1-Trichloroethane	20.0	22	110	57 - 148
Methyl acetate	20.0	22	108	70 - 130
Cyclohexane	20.0	22	109	70 - 130
Methyl cyclohexane	20.0	20	99	70 - 130
Carbon Tetrachloride	20.0	18	91	54 - 156
1,2-Dichloroethane	20.0	19	93	50 - 156
Benzene	20.0	20	102	56 - 136
Trichloroethene	20.0	20	101	62 - 135
1,2-Dichloropropane	20.0	20	98	61 - 133
Bromodichloromethane	20.0	21	103	58 - 135
4-Methyl-2-pentanone	50.0	52	103	19 - 180
2-Hexanone	50.0	52	104	12 - 180
cis-1,3-Dichloropropene	20.0	20	98	64 - 128

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1G28012	Laboratory ID:	1G28012-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Toluene	20.0	20	100	64 - 131
trans-1,3-Dichloropropene	20.0	21	107	65 - 149
1,1,2-Trichloroethane	20.0	20	101	57 - 141
Tetrachloroethene	20.0	20	101	60 - 147
Dibromochloromethane	20.0	19	93	50 - 140
1,2-Dibromoethane	20.0	20	98	57 - 140
Chlorobenzene	20.0	20	102	51 - 139
Ethylbenzene	20.0	21	103	63 - 133
m,p-Xylenes	40.0	41	101	64 - 133
o-Xylene	20.0	20	100	61 - 129
Bromoform	20.0	18	91	46 - 148
Styrene	20.0	19	97	59 - 136
Isopropylbenzene	20.0	19	96	60 - 132
1,1,2,2-Tetrachloroethane	20.0	20	102	60 - 139
1,2,4-Trichlorobenzene	20.0	27	133	52 - 159
1,3-Dichlorobenzene	20.0	22	108	66 - 129
1,4-Dichlorobenzene	20.0	21	105	65 - 133
1,2-Dichlorobenzene	20.0	20	100	63 - 131
1,2-Dibromo-3-chloropropane	20.0	23	114	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0002-032.5-20210726

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1G28012
Laboratory ID: 1G28012-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0002-032.5-20210726

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	ND	19	93	10 - 180
Chloromethane	20.0	ND	17	85	33 - 154
Vinyl chloride	20.0	7.4	25	87	20 - 167
Bromomethane	20.0	ND	8.3	42	10 - 173
Chloroethane	20.0	ND	18	92	27 - 180
Trichlorofluoromethane	20.0	ND	22	111	56 - 155
Freon 113	20.0	ND	21	107	47 - 173
Acetone	50.0	ND	45	90	10 - 180
1,1-Dichloroethene	20.0	ND	23	113	47 - 139
Carbon disulfide	20.0	ND	25	125	43 - 153
Methylene Chloride	20.0	ND	19	97	43 - 142
Methyl-tert-Butyl Ether	20.0	ND	19	97	51 - 145
trans-1,2-Dichloroethene	20.0	0.73	22	107	54 - 134
cis-1,2-Dichloroethene	20.0	ND	22	110	56 - 128
1,1-Dichloroethane	20.0	ND	22	112	57 - 142
2-Butanone	50.0	ND	56	113	10 - 180
Chloroform	20.0	ND	21	106	58 - 139
1,1,1-Trichloroethane	20.0	ND	23	113	57 - 148
Methyl acetate	20.0	ND	17	87	70 - 130
Cyclohexane	20.0	ND	22	111	70 - 130
Methyl cyclohexane	20.0	ND	21	104	70 - 130
Carbon Tetrachloride	20.0	ND	21	106	54 - 156
1,2-Dichloroethane	20.0	ND	19	93	50 - 156
Benzene	20.0	ND	22	110	56 - 136
Trichloroethene	20.0	ND	22	109	62 - 135
1,2-Dichloropropane	20.0	ND	20	101	61 - 133
Bromodichloromethane	20.0	ND	21	103	58 - 135
4-Methyl-2-pentanone	50.0	ND	54	108	19 - 180
2-Hexanone	50.0	ND	47	94	12 - 180
cis-1,3-Dichloropropene	20.0	ND	18	92	64 - 128
Toluene	20.0	ND	22	110	64 - 131

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0002-032.5-20210726

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1G28012
Laboratory ID: 1G28012-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0002-032.5-20210726

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
trans-1,3-Dichloropropene	20.0	ND	21	106	65 - 149
1,1,2-Trichloroethane	20.0	ND	20	102	57 - 141
Tetrachloroethene	20.0	ND	20	102	60 - 147
Dibromochloromethane	20.0	ND	18	91	50 - 140
1,2-Dibromoethane	20.0	ND	19	97	57 - 140
Chlorobenzene	20.0	ND	22	108	51 - 139
Ethylbenzene	20.0	ND	21	105	63 - 133
m,p-Xylenes	40.0	ND	43	107	64 - 133
o-Xylene	20.0	ND	22	110	61 - 129
Bromoform	20.0	ND	15	74	46 - 148
Styrene	20.0	ND	20	98	59 - 136
Isopropylbenzene	20.0	ND	21	104	60 - 132
1,1,2,2-Tetrachloroethane	20.0	ND	20	101	60 - 139
1,2,4-Trichlorobenzene	20.0	ND	23	116	52 - 159
1,3-Dichlorobenzene	20.0	ND	21	104	66 - 129
1,4-Dichlorobenzene	20.0	ND	20	102	65 - 133
1,2-Dichlorobenzene	20.0	ND	20	99	63 - 131
1,2-Dibromo-3-chloropropane	20.0	ND	22	110	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA66932
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA66932-SCV1)			Lab File ID: 215FM013.D		Analyzed: 06/18/21 12:15			
Dibromofluoromethane	50.0	100	70 - 130	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	110	70 - 130	11.778	11.7795	-0.0015	+/-0.5	
4-Bromofluorobenzene	50.0	109	70 - 130	14.328	14.32875	-0.0008	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA67540
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA67540-CCV1)				Lab File ID: 215GW003.D		Analyzed: 07/28/21 08:24		
Dibromofluoromethane	50.0	104	80 - 120	9.433	9.428	0.0050	+/-0.5	
Toluene-d8	50.0	106	80 - 120	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	104	80 - 120	14.334	14.32875	0.0053	+/-0.5	
LCS (1G28012-BS1)				Lab File ID: 215GW004.D		Analyzed: 07/28/21 08:52		
Dibromofluoromethane	50.0	105	53 - 146	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	103	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	100	41 - 142	14.328	14.32875	-0.0008	+/-0.5	
Instrument RL Check (AA67540-CRL1)				Lab File ID: 215GW005.D		Analyzed: 07/28/21 09:20		
Dibromofluoromethane	50.0	102	1 - 199	9.434	9.428	0.0060	+/-0.5	
Toluene-d8	50.0	101	1 - 199	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	100	1 - 199	14.328	14.32875	-0.0008	+/-0.5	
Blank (1G28012-BLK1)				Lab File ID: 215GW006.D		Analyzed: 07/28/21 09:48		
Dibromofluoromethane	50.0	99	53 - 146	9.434	9.428	0.0060	+/-0.5	
Toluene-d8	50.0	103	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	99	41 - 142	14.328	14.32875	-0.0008	+/-0.5	
CRCA-MW0002-032.5-20210726 (AE05483-01)				Lab File ID: 215GW007.D		Analyzed: 07/28/21 10:16		
Dibromofluoromethane	50.0	102	53 - 146	9.434	9.428	0.0060	+/-0.5	
Toluene-d8	50.0	104	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	100	41 - 142	14.334	14.32875	0.0053	+/-0.5	
CRCA-MW0018-058.0-20210726 (AE05483-02)				Lab File ID: 215GW008.D		Analyzed: 07/28/21 10:44		
Dibromofluoromethane	50.0	106	53 - 146	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	102	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	102	41 - 142	14.328	14.32875	-0.0008	+/-0.5	
CRCA-MW0013-027.5-20210726 (AE05483-03)				Lab File ID: 215GW009.D		Analyzed: 07/28/21 11:12		
Dibromofluoromethane	50.0	102	53 - 146	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	102	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	100	41 - 142	14.328	14.32875	-0.0008	+/-0.5	
CRCA-MW0012-027.5-20210726 (AE05483-04)				Lab File ID: 215GW010.D		Analyzed: 07/28/21 11:40		
Dibromofluoromethane	50.0	102	53 - 146	9.434	9.428	0.0060	+/-0.5	
Toluene-d8	50.0	103	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	99	41 - 142	14.334	14.32875	0.0053	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA67540
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
CRCA-MW0015-027.5-20210726 (AE05483-05)			Lab File ID: 215GW011.D		Analyzed: 07/28/21 12:08			
Dibromofluoromethane	50.0	101	53 - 146	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	102	41 - 146	11.778	11.7795	-0.0015	+/-0.5	
4-Bromofluorobenzene	50.0	99	41 - 142	14.328	14.32875	-0.0008	+/-0.5	
CRCA-MW0031-058.0-20210726 (AE05483-06)			Lab File ID: 215GW012.D		Analyzed: 07/28/21 12:37			
Dibromofluoromethane	50.0	101	53 - 146	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	104	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	102	41 - 142	14.334	14.32875	0.0053	+/-0.5	
CRCA-MW0019-058.0-20210726 (AE05483-07)			Lab File ID: 215GW013.D		Analyzed: 07/28/21 13:05			
Dibromofluoromethane	50.0	102	53 - 146	9.434	9.428	0.0060	+/-0.5	
Toluene-d8	50.0	104	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	100	41 - 142	14.334	14.32875	0.0053	+/-0.5	
Matrix Spike (1G28012-MS1)			Lab File ID: 215GW026.D		Analyzed: 07/28/21 19:08			
Dibromofluoromethane	50.0	106	53 - 146	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	104	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	104	41 - 142	14.334	14.32875	0.0053	+/-0.5	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA66932
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA66932-CAL1)			Lab File ID: 215FM004.D			Analyzed: 06/18/21 08:05			
Pentafluorobenzene	1201889	9.857	1101889	9.851	109	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2686237	10.45	2525815	10.444	106	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1505146	13.229	1610233	13.223	93	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1176558	15.491	1271242	15.485	93	50 - 200	0.0060	+/-0.50	
Cal Standard (AA66932-CAL2)			Lab File ID: 215FM005.D			Analyzed: 06/18/21 08:32			
Pentafluorobenzene	1226065	9.857	1101889	9.851	111	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2753498	10.45	2525815	10.444	109	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1619681	13.229	1610233	13.223	101	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1248669	15.491	1271242	15.485	98	50 - 200	0.0060	+/-0.50	
Cal Standard (AA66932-CAL3)			Lab File ID: 215FM006.D			Analyzed: 06/18/21 09:00			
Pentafluorobenzene	1047198	9.857	1101889	9.851	95	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2419754	10.45	2525815	10.444	96	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1545028	13.229	1610233	13.223	96	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1320874	15.486	1271242	15.485	104	50 - 200	0.0010	+/-0.50	
Cal Standard (AA66932-CAL4)			Lab File ID: 215FM007.D			Analyzed: 06/18/21 09:28			
Pentafluorobenzene	1235637	9.857	1101889	9.851	112	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2720919	10.45	2525815	10.444	108	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1709586	13.229	1610233	13.223	106	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1365508	15.485	1271242	15.485	107	50 - 200	0.0000	+/-0.50	
Cal Standard (AA66932-CAL5)			Lab File ID: 215FM008.D			Analyzed: 06/18/21 09:56			
Pentafluorobenzene	1048667	9.857	1101889	9.851	95	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2471790	10.444	2525815	10.444	98	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1553840	13.229	1610233	13.223	96	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1230662	15.485	1271242	15.485	97	50 - 200	0.0000	+/-0.50	
Cal Standard (AA66932-CAL6)			Lab File ID: 215FM009.D			Analyzed: 06/18/21 10:24			
Pentafluorobenzene	1101889	9.851	1101889	9.851	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2525815	10.444	2525815	10.444	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1610233	13.223	1610233	13.223	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1271242	15.485	1271242	15.485	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA66932-CAL7)			Lab File ID: 215FM010.D			Analyzed: 06/18/21 10:52			
Pentafluorobenzene	1123435	9.851	1101889	9.851	102	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2544231	10.444	2525815	10.444	101	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1714182	13.229	1610233	13.223	106	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1273276	15.485	1271242	15.485	100	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA66932
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA66932-CAL8)			Lab File ID: 215FM011.D			Analyzed: 06/18/21 11:20			
Pentafluorobenzene	1129487	9.851	1101889	9.851	103	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2502919	10.444	2525815	10.444	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1697989	13.223	1610233	13.223	105	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1266610	15.485	1271242	15.485	100	50 - 200	0.0000	+/-0.50	
Secondary Cal Check (AA66932-SCV1)			Lab File ID: 215FM013.D			Analyzed: 06/18/21 12:15			
Pentafluorobenzene	1128318	9.857	1101889	9.851	102	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2499257	10.444	2525815	10.444	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1604968	13.229	1610233	13.223	100	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1259307	15.485	1271242	15.485	99	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA67540
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA67540-CCV1)			Lab File ID: 215GW003.D			Analyzed: 07/28/21 08:24			
Pentafluorobenzene	1146370	9.857	1101889	9.851	104	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2613862	10.45	2525815	10.444	103	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1696790	13.229	1610233	13.223	105	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1272980	15.491	1271242	15.485	100	50 - 200	0.0060	+/-0.50	
LCS (1G28012-BS1)			Lab File ID: 215GW004.D			Analyzed: 07/28/21 08:52			
Pentafluorobenzene	1095048	9.857	1101889	9.851	99	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2655898	10.45	2525815	10.444	105	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1705509	13.229	1610233	13.223	106	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1278565	15.485	1271242	15.485	101	50 - 200	0.0000	+/-0.50	
Instrument RL Check (AA67540-CRL1)			Lab File ID: 215GW005.D			Analyzed: 07/28/21 09:20			
Pentafluorobenzene	1105421	9.857	1101889	9.851	100	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2599785	10.45	2525815	10.444	103	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1608323	13.229	1610233	13.223	100	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1192315	15.491	1271242	15.485	94	50 - 200	0.0060	+/-0.50	
Blank (1G28012-BLK1)			Lab File ID: 215GW006.D			Analyzed: 07/28/21 09:48			
Pentafluorobenzene	1058005	9.857	1101889	9.851	96	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2459389	10.45	2525815	10.444	97	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1530623	13.229	1610233	13.223	95	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1152122	15.485	1271242	15.485	91	50 - 200	0.0000	+/-0.50	
CRCA-MW0002-032.5-20210726 (AE05483-01)			Lab File ID: 215GW007.D			Analyzed: 07/28/21 10:16			
Pentafluorobenzene	1040767	9.857	1101889	9.851	94	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2434148	10.45	2525815	10.444	96	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1534041	13.229	1610233	13.223	95	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1160628	15.491	1271242	15.485	91	50 - 200	0.0060	+/-0.50	
CRCA-MW0018-058.0-20210726 (AE05483-02)			Lab File ID: 215GW008.D			Analyzed: 07/28/21 10:44			
Pentafluorobenzene	1010974	9.857	1101889	9.851	92	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2428360	10.45	2525815	10.444	96	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1504622	13.229	1610233	13.223	93	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1151894	15.491	1271242	15.485	91	50 - 200	0.0060	+/-0.50	
CRCA-MW0013-027.5-20210726 (AE05483-03)			Lab File ID: 215GW009.D			Analyzed: 07/28/21 11:12			
Pentafluorobenzene	1022104	9.857	1101889	9.851	93	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2402398	10.45	2525815	10.444	95	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1514817	13.229	1610233	13.223	94	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1127294	15.485	1271242	15.485	89	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA67540
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
CRCA-MW0012-027.5-20210726 (AE05483-04)			Lab File ID: 215GW010.D			Analyzed: 07/28/21 11:40			
Pentafluorobenzene	990018	9.857	1101889	9.851	90	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2368009	10.45	2525815	10.444	94	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1506429	13.229	1610233	13.223	94	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1129481	15.486	1271242	15.485	89	50 - 200	0.0010	+/-0.50	
CRCA-MW0015-027.5-20210726 (AE05483-05)			Lab File ID: 215GW011.D			Analyzed: 07/28/21 12:08			
Pentafluorobenzene	979486	9.857	1101889	9.851	89	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2357320	10.45	2525815	10.444	93	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1479523	13.229	1610233	13.223	92	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1121546	15.485	1271242	15.485	88	50 - 200	0.0000	+/-0.50	
CRCA-MW0031-058.0-20210726 (AE05483-06)			Lab File ID: 215GW012.D			Analyzed: 07/28/21 12:37			
Pentafluorobenzene	975384	9.857	1101889	9.851	89	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2333021	10.45	2525815	10.444	92	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1444445	13.229	1610233	13.223	90	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1110125	15.491	1271242	15.485	87	50 - 200	0.0060	+/-0.50	
CRCA-MW0019-058.0-20210726 (AE05483-07)			Lab File ID: 215GW013.D			Analyzed: 07/28/21 13:05			
Pentafluorobenzene	971946	9.857	1101889	9.851	88	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2288770	10.45	2525815	10.444	91	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1447392	13.229	1610233	13.223	90	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1103226	15.491	1271242	15.485	87	50 - 200	0.0060	+/-0.50	
Matrix Spike (1G28012-MS1)			Lab File ID: 215GW026.D			Analyzed: 07/28/21 19:08			
Pentafluorobenzene	997249	9.856	1101889	9.851	91	50 - 200	0.0050	+/-0.50	
1,4-Difluorobenzene	2338476	10.45	2525815	10.444	93	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1494708	13.229	1610233	13.223	93	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1150265	15.491	1271242	15.485	90	50 - 200	0.0060	+/-0.50	

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA66932		
Calibration:	2106098	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA66932-TUN1	215FM003.D	06/18/21 07:34
Cal Standard	AA66932-CAL1	215FM004.D	06/18/21 08:05
Cal Standard	AA66932-CAL2	215FM005.D	06/18/21 08:32
Cal Standard	AA66932-CAL3	215FM006.D	06/18/21 09:00
Cal Standard	AA66932-CAL4	215FM007.D	06/18/21 09:28
Cal Standard	AA66932-CAL5	215FM008.D	06/18/21 09:56
Cal Standard	AA66932-CAL6	215FM009.D	06/18/21 10:24
Cal Standard	AA66932-CAL7	215FM010.D	06/18/21 10:52
Cal Standard	AA66932-CAL8	215FM011.D	06/18/21 11:20
Secondary Cal Check	AA66932-SCV1	215FM013.D	06/18/21 12:15

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA67540		
Calibration:	2106098	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA67540-CCV1	215GW003.D	07/28/21 08:24
LCS	1G28012-BS1	215GW004.D	07/28/21 08:52
Instrument RL Check	AA67540-CRL1	215GW005.D	07/28/21 09:20
Blank	1G28012-BLK1	215GW006.D	07/28/21 09:48
CRCA-MW0002-032.5-20210726	AE05483-01	215GW007.D	07/28/21 10:16
CRCA-MW0018-058.0-20210726	AE05483-02	215GW008.D	07/28/21 10:44
CRCA-MW0013-027.5-20210726	AE05483-03	215GW009.D	07/28/21 11:12
CRCA-MW0012-027.5-20210726	AE05483-04	215GW010.D	07/28/21 11:40
CRCA-MW0015-027.5-20210726	AE05483-05	215GW011.D	07/28/21 12:08
CRCA-MW0031-058.0-20210726	AE05483-06	215GW012.D	07/28/21 12:37
CRCA-MW0019-058.0-20210726	AE05483-07	215GW013.D	07/28/21 13:05
CRCA-MW0002-032.5-20210726	1G28012-MS1	215GW026.D	07/28/21 19:08

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	215FM003.D	Injection Date:	06/18/21
Instrument ID:	OVGCMS5	Injection Time:	07:34
Sequence:	AA66932	Lab Sample ID:	AA66932-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	191	PASS
96	5 - 9% of 95	7.06	PASS
173	Less than 2% of 174	0.214	PASS
174	50 - 200% of 95	52.3	PASS
175	5 - 9% of 174	5.23	PASS
176	95 - 105% of 174	95.8	PASS
177	5 - 10% of 176	6.95	PASS

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2106098
Lab File ID:	215GW003.D	Calibration Date:	06/18/21 08:08
Sequence:	AA67540	Injection Date:	07/28/21
Lab Sample ID:	AA67540-CCV1	Injection Time:	08:24

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Dichlorodifluoromethane	A	20.0	25	0.5094763	0.6361602		24	20	*
Chloromethane	A	20.0	22	0.7825336	0.8585012		12	20	
Vinyl chloride	A	20.0	21	0.6650027	0.6942239		4.4	20	
Bromomethane	A	20.0	33	0.2460614	0.2897756		63	20	*
Chloroethane	A	20.0	13	0.3880182	0.2387689		-37	20	*
Trichlorofluoromethane	A	20.0	19	0.7609833	0.7073349		-7	20	
Freon 113	A	50.0	41	0.3222191	0.2611024		-19	20	
Acetone	A	250	240	0.1924489	0.2016049		-5	20	
1,1-Dichloroethene	A	50.0	41	0.5314554	0.4331734		-19	20	
Carbon disulfide	A	250	250	1.455719	1.528085		0.90	20	
Methylene Chloride	A	50.0	45	0.6815178	0.609387		-11	20	
Methyl-tert-Butyl Ether	A	50.0	51	1.537398	1.565024		1.8	20	
trans-1,2-Dichloroethene	A	50.0	47	0.6064423	0.570055		-6	20	
cis-1,2-Dichloroethene	A	50.0	52	0.6549615	0.6817677		4.1	20	
1,1-Dichloroethane	A	50.0	49	1.152866	1.134178		-1.6	20	
2-Butanone	A	250	260	9.841208E-02	0.1039277		5.6	20	
Chloroform	A	50.0	50	1.100938	1.099845		-0.1	20	
1,1,1-Trichloroethane	A	50.0	50	0.8164118	0.8233476		0.80	20	
Methyl acetate	A	50.0	51	0.573727	0.5725726		2.7	20	
Cyclohexane	A	50.0	48	1.148895	1.110131		-3.4	20	
Methyl cyclohexane	A	50.0	49	0.6594789	0.5222361		-2.2	20	
Carbon Tetrachloride	A	50.0	56	0.285844	0.3209668		12	20	
1,2-Dichloroethane	A	50.0	47	0.3513194	0.3335628		-5.1	20	
Benzene	A	50.0	49	1.184952	1.151618		-2.8	20	
Trichloroethene	A	50.0	49	0.2450156	0.2385757		-2.6	20	
1,2-Dichloropropane	A	50.0	50	0.3371891	0.3378927		0.20	20	
Bromodichloromethane	A	50.0	53	0.3308186	0.3537612		6.9	20	
4-Methyl-2-pentanone	A	250	280	4.594368E-02	5.137142E-02		12	20	
2-Hexanone	A	250	260	0.3312611	0.3997522		5.2	20	

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2106098
Lab File ID:	215GW003.D	Calibration Date:	06/18/21 08:08
Sequence:	AA67540	Injection Date:	07/28/21
Lab Sample ID:	AA67540-CCV1	Injection Time:	08:24

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
cis-1,3-Dichloropropene	A	50.0	54	0.4967443	0.5404076		8.8	20
Toluene	A	50.0	50	1.222815	1.216614		-0.5	20
trans-1,3-Dichloropropene	A	50.0	54	0.6187986	0.6736721		8.9	20
1,1,2-Trichloroethane	A	50.0	49	0.420744	0.416312		-1.1	20
Tetrachloroethene	A	50.0	47	0.2798147	0.2630314		-6	20
Dibromochloromethane	A	50.0	49	0.3204024	0.365146		-2.5	20
1,2-Dibromoethane	A	50.0	50	0.4215299	0.4232227		0.40	20
Chlorobenzene	A	50.0	50	1.214708	1.207261		-0.6	20
Ethylbenzene	A	50.0	51	0.6898253	0.709607		2.9	20
m,p-Xylenes	A	100	99	0.8851906	0.8778579		-0.8	20
o-Xylene	A	50.0	52	0.8732591	0.9056418		3.7	20
Bromoform	A	50.0	49	0.175043	0.2084601		-2.4	20
Styrene	A	50.0	50	1.378538	1.541095		-0.3	20
Isopropylbenzene	A	50.0	50	2.223963	2.313458		-0.3	20
1,1,2,2-Tetrachloroethane	A	50.0	53	0.7197231	0.7629312		6.0	20
1,2,4-Trichlorobenzene	A	50.0	58	0.2087952	0.2989646		16	20
1,3-Dichlorobenzene	A	50.0	52	1.132817	1.185287		4.6	20
1,4-Dichlorobenzene	A	50.0	51	1.174038	1.20361		2.5	20
1,2-Dichlorobenzene	A	50.0	51	1.038218	1.111954		1.7	20
1,2-Dibromo-3-chloropropane	A	50.0	58	0.1005424	0.1301403		16	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA66932	Instrument:	OVGCMS5
Calibration:	2106098		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A1B1159	MS Tune (lower conc.)	AA66932-TUN1	215FM003.D	06/18/21 07:34
A1F0975	8260 1.0 PPB ms5	AA66932-CAL1	215FM004.D	06/18/21 08:05
A1F0976	8260 2.0 PPB ms5	AA66932-CAL2	215FM005.D	06/18/21 08:32
A1F0977	8260 5.0 PPB ms5	AA66932-CAL3	215FM006.D	06/18/21 09:00
A1F0978	8260 10 PPB ms5	AA66932-CAL4	215FM007.D	06/18/21 09:28
A1F0979	8260 20 PPB ms5	AA66932-CAL5	215FM008.D	06/18/21 09:56
A1F0980	8260 50 PPB ms5	AA66932-CAL6	215FM009.D	06/18/21 10:24
A1F0981	8260 80 PPB ms5	AA66932-CAL7	215FM010.D	06/18/21 10:52
A1F0982	8260 100 PPB ms5	AA66932-CAL8	215FM011.D	06/18/21 11:20
A1F0991	8260 SCV 50 PPB/20 gases (surr. lower conc.)	AA66932-SCV1	215FM013.D	06/18/21 12:15

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	1	0.5444762	2	0.4223063	5	0.5914354	10	0.4929725	20	0.4782643	50	0.5144729
Chloromethane	1	1.059332	2	0.6707638	5	0.8644306	10	0.7204098	20	0.7205409	50	0.6904153
Vinyl chloride	1	0.775862	2	0.5365335	5	0.6922473	10	0.650021	20	0.6440319	50	0.6499421
Bromomethane	1	0.3234076	2	0.3255129	5	0.3281328	10	0.219142	20	0.182968	50	0.1756765
Chloroethane	1	0.5053711	2	0.3404387	5	0.4826976	10	0.340112	20	0.3719102	50	0.2875798
Trichlorofluoromethane	1	0.7781085	2	0.6195022	5	0.8260138	10	0.7531864	20	0.7735416	50	0.7678532
Freon 113	1	0.2607978	2	0.3637858	5	0.3770729	10	0.3089054	20	0.3269222	50	0.3197173
Acetone	5	0.1268337	10	0.1831306	25	0.2239481	50	0.1920774	100	0.1898639	250	0.1957422
1,1-Dichloroethene	1	0.4355227	2	0.5684854	5	0.5852284	10	0.4930696	20	0.527627	50	0.5515247
Carbon disulfide	5	1.120095	10	1.355324	25	1.710983	50	1.475901	100	1.585499	250	1.52274
Methylene Chloride	1	0.5906119	2	0.7214544	5	0.7546519	10	0.6982431	20	0.6824497	50	0.6582142
Methyl-tert-Butyl Ether	1	1.228691	2	1.467826	5	1.698991	10	1.494367	20	1.514682	50	1.584127
trans-1,2-Dichloroethene	1	0.4844873	2	0.6339387	5	0.7476141	10	0.5671123	20	0.6072805	50	0.6066591
cis-1,2-Dichloroethene	1	0.5911944	2	0.6827126	5	0.6306257	10	0.6005607	20	0.6701389	50	0.6974786
1,1-Dichloroethane	1	0.9991355	2	1.197143	5	1.248112	10	1.143127	20	1.182508	50	1.151263
2-Butanone	5	8.611444E-02	10	9.231158E-02	25	0.1019234	50	0.0921379	100	0.0990753	250	9.898384E-02
Chloroform	1	0.9484237	2	1.219878	5	1.187922	10	1.043696	20	1.126225	50	1.095959
1,1,1-Trichloroethane	1	0.6124942	2	0.8466313	5	0.8294324	10	0.8444389	20	0.8295007	50	0.8605141
Methyl acetate	1	0.8340204	2	0.5208941	5	0.6154519	10	0.4900873	20	0.5014533	50	0.5008726
Cyclohexane	1	0.9308264	2	1.158299	5	1.12907	10	1.075644	20	1.216363	50	1.25072
Methyl cyclohexane	1	1.035333	2	0.8960511	5	0.6276093	10	0.5654248	20	0.5513575	50	0.5359486
Carbon Tetrachloride	1	0.2938125	2	0.272744	5	0.2453059	10	0.2456946	20	0.3170405	50	0.2849243
1,2-Dichloroethane	1	0.3728822	2	0.3760035	5	0.354193	10	0.3600144	20	0.3324898	50	0.3267591
Benzene	1	1.020889	2	1.335683	5	1.280419	10	1.205074	20	1.205519	50	1.154164
Trichloroethene	1	0.1995915	2	0.2675143	5	0.2457729	10	0.2576097	20	0.2522099	50	0.247163
1,2-Dichloropropane	1	0.3317094	2	0.3444437	5	0.3345588	10	0.3309305	20	0.32462	50	0.3363809
Bromodichloromethane	1	0.2784006	2	0.3158437	5	0.3279466	10	0.3133996	20	0.3348848	50	0.3464648
4-Methyl-2-pentanone	5	3.874193E-02	10	4.347198E-02	25	4.604022E-02	50	4.379807E-02	100	4.563434E-02	250	0.0479853
2-Hexanone	5	0.1920212	10	0.2973425	25	0.328939	50	0.3560921	100	0.3508167	250	0.3654472
cis-1,3-Dichloropropene	1	0.3791549	2	0.4859364	5	0.4863015	10	0.482609	20	0.5082976	50	0.531607
Toluene	1	1.215098	2	1.389193	5	1.235324	10	1.133236	20	1.24708	50	1.245802

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	1	0.5121762	2	0.6622446	5	0.6454576	10	0.5523355	20	0.6458741	50	0.6536197
1,1,2-Trichloroethane	1	0.3809597	2	0.4742446	5	0.4274421	10	0.3892404	20	0.4263599	50	0.4245764
Tetrachloroethene	1	0.2623334	2	0.3509024	5	0.3066935	10	0.246393	20	0.2806483	50	0.273779
Dibromochloromethane	1	0.1954628	2	0.3058781	5	0.2995091	10	0.3067263	20	0.3443887	50	0.3599448
1,2-Dibromoethane	1	0.387205	2	0.4152207	5	0.4139148	10	0.4117751	20	0.4205098	50	0.439896
Chlorobenzene	1	1.141484	2	1.300256	5	1.22289	10	1.222196	20	1.268013	50	1.234034
Ethylbenzene	1	0.5916037	2	0.6971589	5	0.6987964	10	0.7353856	20	0.7037018	50	0.7166845
m,p-Xylenes	2	0.8130441	4	0.9200809	10	0.9356853	20	0.9204158	40	0.9535119	100	0.8998223
o-Xylene	1	0.7031544	2	0.8522975	5	0.928378	10	0.8650837	20	0.9465502	50	0.9192626
Bromoform	1	0.129921	2	0.1507396	5	0.1403793	10	0.1654611	20	0.1852009	50	0.1967156
Styrene	1	0.7825155	2	1.203015	5	1.465928	10	1.317717	20	1.612473	50	1.562396
Isopropylbenzene	1	1.704453	2	2.252172	5	2.4154	10	2.193867	20	2.416191	50	2.372754
1,1,2,2-Tetrachloroethane	1	0.5720375	2	0.7488666	5	0.7870861	10	0.7104761	20	0.7506403	50	0.7288423
1,2,4-Trichlorobenzene	1	6.982231E-02	2	0.148378	5	0.2032745	10	0.2020054	20	0.2092492	50	0.2466564
1,3-Dichlorobenzene	1	0.948657	2	1.182099	5	1.105942	10	1.139155	20	1.151222	50	1.175941
1,4-Dichlorobenzene	1	1.112015	2	1.169665	5	1.232994	10	1.151103	20	1.196167	50	1.17052
1,2-Dichlorobenzene	1	0.834553	2	1.111243	5	1.040463	10	1.00277	20	1.046587	50	1.081676
1,2-Dibromo-3-chloropropane	1	3.782219E-02	2	0.1234915	5	9.587591E-02	10	8.741802E-02	20	9.065852E-02	50	0.1109498
Dibromofluoromethane	50	0.5913957	55	0.5857742	60	0.6050241	50	0.6090502	65	0.599548	50	0.6278028
Toluene-d8	50	1.156133	55	1.20606	60	1.22483	50	1.244223	65	1.198461	50	1.336655
4-Bromofluorobenzene	50	0.8721141	55	0.8442948	60	0.860972	50	0.8437756	65	0.8369979	50	0.9245401

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	80	0.5188117	100	0.513071								
Chloromethane	80	0.7237385	100	0.8106379								
Vinyl chloride	80	0.6784366	100	0.6929469								
Bromomethane	80	0.2018831	100	0.2117683								
Chloroethane	80	~~0.2324829~~	100	~~0.1721268~~								
Trichlorofluoromethane	80	0.7833297	100	0.7863313								
Freon 113	80	0.307747	100	0.3128048								
Acetone	400	0.2070738	500	0.2209217								
1,1-Dichloroethene	80	0.5362744	100	0.5539112								
Carbon disulfide	400	1.455013	500	1.4202								
Methylene Chloride	80	0.6765417	100	0.6699758								
Methyl-tert-Butyl Ether	80	1.611962	100	1.698542								
trans-1,2-Dichloroethene	80	0.5978528	100	0.6065935								
cis-1,2-Dichloroethene	80	0.6769028	100	0.6900783								
1,1-Dichloroethane	80	1.149155	100	1.152482								
2-Butanone	400	0.1060309	500	0.1107193								
Chloroform	80	1.088278	100	1.097122								
1,1,1-Trichloroethane	80	0.8538667	100	0.8544162								
Methyl acetate	80	0.543619	100	0.5834171								
Cyclohexane	80	1.217302	100	1.212934								
Methyl cyclohexane	80	0.5283242	100	0.5357824								
Carbon Tetrachloride	80	0.3354238	100	0.2918061								
1,2-Dichloroethane	80	0.3378516	100	0.3503619								
Benzene	80	1.128018	100	1.149851								
Trichloroethene	80	0.2419864	100	0.2482773								
1,2-Dichloropropane	80	0.3393545	100	0.3555149								
Bromodichloromethane	80	0.3580559	100	0.3715528								
4-Methyl-2-pentanone	400	4.872666E-02	500	0.0531509								
2-Hexanone	400	0.3642195	500	0.3952106								
cis-1,3-Dichloropropene	80	0.5418855	100	0.5581627								
Toluene	80	1.157336	100	1.159454								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	80	0.6300793	100	0.648602								
1,1,2-Trichloroethane	80	0.4164825	100	0.4266462								
Tetrachloroethene	80	0.2557776	100	0.2619908								
Dibromochloromethane	80	0.3640785	100	0.3872307								
1,2-Dibromoethane	80	0.4359692	100	0.4477482								
Chlorobenzene	80	1.162731	100	1.166059								
Ethylbenzene	80	0.6822879	100	0.6929839								
m,p-Xylenes	160	0.8278378	200	0.8111269								
o-Xylene	80	0.8813923	100	0.8899545								
Bromoform	80	0.209795	100	0.2221316								
Styrene	80	1.533573	100	1.550684								
Isopropylbenzene	80	2.211864	100	2.225002								
1,1,2,2-Tetrachloroethane	80	0.7238183	100	0.7360177								
1,2,4-Trichlorobenzene	80	0.2835707	100	0.3074052								
1,3-Dichlorobenzene	80	1.171958	100	1.187558								
1,4-Dichlorobenzene	80	1.186322	100	1.17352								
1,2-Dichlorobenzene	80	1.084059	100	1.10439								
1,2-Dibromo-3-chloropropane	80	0.1211319	100	0.1369917								
Dibromofluoromethane	70	0.5842909	75	0.5832016								
Toluene-d8	70	1.244561	75	1.260871								
4-Bromofluorobenzene	70	0.8334529	75	0.8539871								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	0.5094763	9.647847	3.98025	5.556263E-02	0.9996769		0.99	
Chloromethane	0.7825336	16.46827	4.40925	0.135073	0.9923367		0.99	
Vinyl chloride	0.6650027	10.06966	4.5845	5.710391E-02			20	
Bromomethane	0.2460614	27.39954	5.228375	4.862762E-02		0.9963293	0.99	
Chloroethane	0.3880182	22.36143	5.459	0.1512648		0.9973848	0.99	
Trichlorofluoromethane	0.7609833	8.000491	5.701125	0.1864209			20	
Freon 113	0.3222191	11.13614	6.55825	9.342257E-02			20	
Acetone	0.1924489	15.74444	7.4	0.1278971	0.9960612		0.99	
1,1-Dichloroethene	0.5314554	8.963278	6.53325	4.564842E-02			20	
Carbon disulfide	1.455719	11.92334	6.625	6.868896E-02		0.9998954	0.99	
Methylene Chloride	0.6815178	7.056421	7.34125	0.0518812			20	
Methyl-tert-Butyl Ether	1.537398	9.90525	7.63075	2.123095E-02			20	
trans-1,2-Dichloroethene	0.6064423	12.01755	7.5505	0.1224101			20	
cis-1,2-Dichloroethene	0.6549615	6.358542	8.9505	6.797787E-02			20	
1,1-Dichloroethane	1.152866	6.19063	8.31475	5.035179E-02			20	
2-Butanone	9.841208E-02	8.151038	9.550125	0.1662186			20	
Chloroform	1.100938	7.606441	9.222	3.620673E-02			20	
1,1,1-Trichloroethane	0.8164118	10.18657	9.485375	5.345546E-02			20	
Methyl acetate	0.573727	19.85262	7.511375	0.5213447	0.9945246		0.99	
Cyclohexane	1.148895	9.134873	9.19225	5.174988E-02			20	
Methyl cyclohexane	0.6594789	29.58945	10.45075	3.931351E-02	0.9995099		0.99	
Carbon Tetrachloride	0.285844	11.02986	9.4145	6.564497E-02			20	
1,2-Dichloroethane	0.3513194	5.157523	10.08825	2.752186E-02			20	
Benzene	1.184952	8.132168	9.87925	4.856943E-02			20	
Trichloroethene	0.2450156	8.169892	10.453	4.611096E-02			20	
1,2-Dichloropropane	0.3371891	2.808828	10.98725	3.084346E-02			20	
Bromodichloromethane	0.3308186	8.809988	11.01775	4.062078E-02			20	
4-Methyl-2-pentanone	4.594368E-02	9.254212	12.13475	6.688867E-02			20	
2-Hexanone	0.3312611	19.05383	12.88125	4.379245E-02	0.9967168		0.99	
cis-1,3-Dichloropropene	0.4967443	11.13382	11.6105	4.251153E-02			20	

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Toluene	1.222815	6.581686	11.83175	2.131752E-03			20	
trans-1,3-Dichloropropene	0.6187986	8.92381	12.19875	3.889151E-02			20	
1,1,2-Trichloroethane	0.420744	6.711427	12.36275	0.0322457			20	
Tetrachloroethene	0.2798147	12.18024	12.21	0.0317417			20	
Dibromochloromethane	0.3204024	18.63594	12.55363	2.959019E-02	0.9973738		0.99	
1,2-Dibromoethane	0.4215299	4.576784	12.81575	3.543673E-02			20	
Chlorobenzene	1.214708	4.518369	13.2455	1.871819E-02			20	
Ethylbenzene	0.6898253	6.208191	13.21175	3.216336E-02			20	
m,p-Xylenes	0.8851906	6.596866	13.329	4.748539E-02			20	
o-Xylene	0.8732591	8.690183	13.736	3.869105E-02			20	
Bromoform	0.175043	19.21377	13.87912	4.188187E-02	0.9953063		0.99	
Styrene	1.378538	20.14016	13.78075	3.574971E-02	0.9995972		0.99	
Isopropylbenzene	2.223963	10.30242	13.999	3.611421E-02		0.9994846	0.99	
1,1,2,2-Tetrachloroethane	0.7197231	8.881911	14.47125	2.257241E-02			20	
1,2,4-Trichlorobenzene	0.2087952	36.10883	18.155	0.111192		0.9993635	0.99	
1,3-Dichlorobenzene	1.132817	6.985412	15.41725	1.644861E-02			20	
1,4-Dichlorobenzene	1.174038	2.971778	15.50525	1.679585E-02			20	
1,2-Dichlorobenzene	1.038218	8.654341	16.02525	3.415201E-02	0.9996843		0.99	
1,2-Dibromo-3-chloropropane	0.1005424	30.57038	17.0955	0.1851555		0.9994421	0.99	
Dibromofluoromethane	0.5982609	2.57523	9.428	9.589849E-03			20	
Toluene-d8	1.233974	4.295517	11.7795	2.799324E-02			20	
4-Bromofluorobenzene	0.8587668	3.43207	14.32875	7.284017E-03			20	

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE05483-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2106098 **Laboratory ID:** AA66932-SCV1

Sequence: AA66932 **Standard ID:** A1F0991

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Cyclohexane	50.0	60	20.5	30.00
Ethylbenzene	50.0	60	19.7	30.00
Carbon Tetrachloride	50.0	55	10.0	30.00
1,3-Dichlorobenzene	50.0	60	19.3	30.00
4-Bromofluorobenzene	50.0	55	9.4	30.00
Toluene-d8	50.0	55	9.6	30.00
Dibromofluoromethane	50.0	50	0.06	30.00
Methyl-tert-Butyl Ether	50.0	56	12.6	30.00
trans-1,2-Dichloroethene	50.0	55	10.3	30.00
cis-1,2-Dichloroethene	50.0	56	12.7	30.00
Tetrachloroethene	50.0	56	11.2	30.00
Acetone	250	260	3.8	30.00
1,2,4-Trichlorobenzene	50.0	60	19.1	30.00
Chloroform	50.0	54	8.2	30.00
Chlorobenzene	50.0	57	14.7	30.00
Toluene	50.0	56	12.6	30.00
Methyl cyclohexane	50.0	57	14.2	30.00
m,p-Xylenes	100	110	11.2	30.00
4-Methyl-2-pentanone	250	300	20.0	30.00
1,2-Dichloroethane	50.0	53	5.4	30.00
1,2-Dibromoethane	50.0	58	15.2	30.00
1,4-Dichlorobenzene	50.0	57	13.3	30.00
trans-1,3-Dichloropropene	50.0	61	21.5	30.00
cis-1,3-Dichloropropene	50.0	57	13.0	30.00
Styrene	50.0	59	18.6	30.00
Dibromochloromethane	50.0	55	9.5	30.00
1,1-Dichloroethene	50.0	57	13.1	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE05483-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2106098 **Laboratory ID:** AA66932-SCV1

Sequence: AA66932 **Standard ID:** A1F0991

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
1,2-Dibromo-3-chloropropane	50.0	59	17.5	30.00
1,2-Dichlorobenzene	50.0	57	14.1	30.00
o-Xylene	50.0	60	19.9	30.00
1,1,2,2-Tetrachloroethane	50.0	56	12.7	30.00
Methyl acetate	50.0	58	16.7	30.00
Trichloroethene	50.0	56	11.0	30.00
1,1,2-Trichloroethane	50.0	56	12.3	30.00
2-Butanone	250	280	13.7	30.00
1,2-Dichloropropane	50.0	55	11.0	30.00
Freon 113	50.0	57	13.2	30.00
2-Hexanone	250	280	12.6	30.00
Trichlorofluoromethane	20.0	20	1.2	30.00
Isopropylbenzene	50.0	58	16.4	30.00
1,1-Dichloroethane	50.0	56	12.5	30.00
Bromodichloromethane	50.0	60	19.7	30.00
Bromoform	50.0	55	10.2	30.00
Carbon disulfide	50.0	66	31.2 *	30.00
Methylene Chloride	50.0	51	2.5	30.00
Vinyl chloride	20.0	20	2.4	30.00
Chloroethane	20.0	16	-21.2	30.00
Chloromethane	20.0	23	14.0	30.00
Bromomethane	20.0	22	7.7	30.00
1,1,1-Trichloroethane	50.0	58	15.3	30.00
Benzene	50.0	57	13.8	30.00
Dichlorodifluoromethane	20.0	27	36.8 *	30.00

* Values outside of QC limits

ANALYSIS SEQUENCE

AA67540

Instrument: OVGCMS5

Calibration ID: 2106098

Printed: 7/28/2021 8:56:57AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA67540-CCV1	QC		1		A1G0800	A1D0593		
1G28012-BS1	QC		2			A1D0593		
AA67540-CRL1	QC		3		A1G0802	A1D0593		
1G28012-BLK1	QC		4			A1D0593		
AE05483-01	60D TCL SOM01.2 CLP-LIK	B	5			A1D0593	Tetra Tech, Inc. (TE016)	hist1x nc7/28/21 custom
AE05483-01	8260D Halo	B	6			A1D0593	Tetra Tech, Inc. (TE016)	BatchQC
AE05483-02	60D TCL SOM01.2 CLP-LIK	D	7			A1D0593	Tetra Tech, Inc. (TE016)	hist1x nc7/28/21 custom
AE05483-03	60D TCL SOM01.2 CLP-LIK	A	8			A1D0593	Tetra Tech, Inc. (TE016)	hist1x nc7/28/21 custom
AE05483-04	60D TCL SOM01.2 CLP-LIK	A	9			A1D0593	Tetra Tech, Inc. (TE016)	hist1x nc7/28/21 custom
AE05483-05	60D TCL SOM01.2 CLP-LIK	A	10			A1D0593	Tetra Tech, Inc. (TE016)	hist1x nc7/28/21 custom
AE05483-06	60D TCL SOM01.2 CLP-LIK	D	11			A1D0593	Tetra Tech, Inc. (TE016)	hist1x nc7/28/21 custom
AE05483-07	60D TCL SOM01.2 CLP-LIK	D	12			A1D0593	Tetra Tech, Inc. (TE016)	hist1x nc7/28/21 custom
AE05878-23RE1	60D TCL SOM01.2 CLP-LIK	B	13			A1D0593		
AE05878-27RE1	60D TCL SOM01.2 CLP-LIK	B	14			A1D0593		
AE06241-11	8260D Halo	B	15			A1D0593		
AE06241-12	8260D Halo	B	16			A1D0593		
AE06241-13	8260D Halo	B	17			A1D0593		
AE06241-14	8260D Halo	B	18			A1D0593		
AE06241-15	8260D Halo	B	19			A1D0593		
AE06241-16	8260D Halo	B	20			A1D0593		
AE06241-17	8260D Halo	B	21			A1D0593		
AE06241-18	8260D Halo	B	22			A1D0593		
AE06241-19	8260D Halo	B	23			A1D0593		

Samples Loaded By 07/28/21 Date

Data Processed By 07/29/21 Date

ANALYSIS SEQUENCE

AA67540

Instrument: OVGCMS5

Calibration ID: 2106098

Printed: 7/28/2021 8:56:57AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AE06241-20	8260D Halo	B	24			A1D0593		
1G28012-MS1	QC		25			A1D0593		
1G28012-MSD1	QC		26			A1D0593		

Samples Loaded By — Date: 07/20/21

Data Processed By — Date: 07/29/21

PREPARATION BENCH SHEET

Printed: 7/28/2021 8:55:28AM

1G28012

ENCO Orlando

Analysis
8260D Halo [EPA 8260D]
8260D TCL SOM01.2 CLP-LIKE [EPA 8260D]

Surrogate Solution
___ A1B1158 8260 surr working (lower conc.)

Prepared using: EPA 5030B_MS

Spiking Solution
A1G0849 8260 2nd source Mega Mix
A1G0888 8260 2nd source Gases/Acrolein virtual

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
1G28012-BLK1		Blank		QC			5	5			5	
1G28012-BS1		LCS		QC			5	5	A1G0888 A1G0849	2 2	5	
1G28012-MS1		Matrix Spike [AE05483-01]		QC	≤2	N	5	5	A1G0888 A1G0849	2 2	5	
1G28012-MSD1		Matrix Spike Dup [AE05483-01]		QC	≤2	N	5	5	A1G0888 A1G0849	2 2	5	
AE05483-01	C	CRCA-MW0002-032.5-20210726 B[MS46		8260D Halo	≤2	N	5	5			5	Added for BatchQC in: 1G28012
AE05483-01	C	CRCA-MW0002-032.5-20210726 B[MS46	03-Aug-21	8260D TCL SOM01.2 CLP-LIKE	≤2	N	5	5			5	hist1x nc7/28/21 custom
AE05483-02	C	CRCA-MW0018-058.0-20210726 B[MS46	03-Aug-21	8260D TCL SOM01.2 CLP-LIKE	≤2	N	5	5			5	hist1x nc7/28/21 custom
AE05483-03	C	CRCA-MW0013-027.5-20210726 B[MS46	03-Aug-21	8260D TCL SOM01.2 CLP-LIKE	≤2	N	5	5			5	hist1x nc7/28/21 custom
AE05483-04	C	CRCA-MW0012-027.5-20210726 B[MS46	03-Aug-21	8260D TCL SOM01.2 CLP-LIKE	≤2	N	5	5			5	hist1x nc7/28/21 custom
AE05483-05	C	CRCA-MW0015-027.5-20210726 B[MS46	03-Aug-21	8260D TCL SOM01.2 CLP-LIKE	≤2	N	5	5			5	hist1x nc7/28/21 custom
AE05483-06	C	CRCA-MW0031-058.0-20210726 B[MS46	03-Aug-21	8260D TCL SOM01.2 CLP-LIKE	≤2	N	5	5			5	hist1x nc7/28/21 custom
AE05483-07	C	CRCA-MW0019-058.0-20210726 B[MS46	03-Aug-21	8260D TCL SOM01.2 CLP-LIKE	≤2	N	5	5			5	hist1x nc7/28/21 custom
AE05878-23RE1	C	HMPN-MW0032-042.5-20210729 B[MS45	29-Jul-21	8260D TCL SOM01.2 CLP-LIKE	≤2	N	5	5			5	rr@50x overdilute Re-extract added 7/28/2021 by KKW
AE05878-27RE1	C	HMPN-MW0002-035.0-20210729 B[MS45	29-Jul-21	8260D TCL SOM01.2 CLP-LIKE	≤2	N	5	5			5	rr@5x overdilute Re-extract added 7/28/2021 by KKW
AE06241-11		BE01903-11 (MW-18DR) B[MS15	04-Aug-21	8260D Halo	≤2	N	5	5			5	run1x high ketones nc7/28/21 only 2 vials received
AE06241-12		BE01903-12 (I-18D) B[MS15	04-Aug-21	8260D Halo	≤2	N	5	5			5	run1x high ketones nc7/28/21 only 2 vials received
AE06241-13		BE01903-13 (MW-19R) B[MS15	04-Aug-21	8260D Halo	≤2	N	5	5			5	run1x nc7/28/21 only 2 vials received

PREPARATION BENCH SHEET

Printed: 7/28/2021 8:55:28AM

1G28012

ENCO Orlando

Prepared using: EPA 5030B_MS

Surrogate Solution

__ A1B1158 8260 surr working (lower conc.)

Spiking Solution

A1G0849 8260 2nd source Mega Mix

A1G0888 8260 2nd source Gases/Acrolein virtual

Matrix: Water

Lab Number Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
AE06241-14	BE01903-14 (MW-19DR) B[MS15	04-Aug-21	8260D Halo	<2	N	5	5			5	run1x nc7/28/21 only 2 vials received
AE06241-15	BE01903-15 (MW-20) B[MS15	04-Aug-21	8260D Halo	<2	N	5	5			5	run1x nc7/28/21 only 2 vials received
AE06241-16	BE01903-16 (MW-20D) B[MS15	04-Aug-21	8260D Halo	<2	N	5	5			5	run1x nc7/28/21 only 2 vials received
AE06241-17	BE01903-17 (MW-23R) B[MS15	04-Aug-21	8260D Halo	<2	N	5	5			5	run1x nc7/28/21 only 2 vials received
AE06241-18	BE01903-18 (MW-23D) B[MS15	04-Aug-21	8260D Halo	<2	N	5	5			5	run1x nc7/28/21 only 2 vials received
AE06241-19	BE01903-19 (MW-24) B[MS15	04-Aug-21	8260D Halo	<2	N	5	5			5	run1x nc7/28/21 only 2 vials received
AE06241-20	BE01903-20 (MW-24D) B[MS15	04-Aug-21	8260D Halo	<2	N	5	5			5	run1x nc7/28/21 only 2 vials received

(1) Before solvent extraction proceeds, verify that there is no residual chlorine above 0.5 mg/L. Any sample above this must be treated to remove excess chlorine before extraction, and this documented as a comment.

Instrument 5

EST Centurian autosampler manufacturer reccommends adding 5 uL of IS/SS.

Start Date 07/28/21

StopDate 07/28/21

Instrument ID GCMS-5

Standard ID#	Description	Manufacture Lot#
A0A1401	pH Test Papers (1.0 to 12.0)	231018
A1B0955	Residual Chlorine Strips (Potassium Iodide S	102916
A1G0592	P&T Anti-Foam working solution	N/A

Samples Prepared By 07/29/21 Date

Samples Prepared By Date

Sequence Name: C:\msdchem\1\sequence\215GW.s
Comment:
Operator: kkw
Data Path: C:\msdchem\1\DATA\072821\
Instrument Control Pre-Seq Cmd:
Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:
Data Analysis Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

Sequence Barcode Options
(X) On Mismatch, Inject Anyway
( ) On Mismatch, Don't Inject
( ) Barcode Disabled

Line			Sample Name/Misc Info	
1)	Sample	1	215GW001 8260S	rinse
2)	Sample	2	215GW002 8260S	CCV1
3)	Sample	3	215GW003 8260S	CCV1
4)	Sample	4	215GW004 8260S	BS1
5)	Sample	5	215GW005 8260S	CRL1
6)	Sample	6	215GW006 8260S	BLK1
7)	Sample	6	215GW007 8260S	AE05483-01
8)	Sample	7	215GW008 8260S	AE05483-02
9)	Sample	8	215GW009 8260S	AE05483-03
10)	Sample	9	215GW010 8260S	AE05483-04
11)	Sample	10	215GW011 8260S	AE05483-05
12)	Sample	11	215GW012 8260S	AE05483-06
13)	Sample	12	215GW013 8260S	AE05483-07
14)	Sample	13	215GW014 8260S	AE05878-23RE1@50X
15)	Sample	14	215GW015 8260S	AE05878-27RE1@5X
16)	Sample	15	215GW016 8260S	AE06241-11
17)	Sample	16	215GW017 8260S	AE06241-12
18)	Sample	17	215GW018 8260S	AE06241-13
19)	Sample	18	215GW019 8260S	AE06241-14
20)	Sample	19	215GW020 8260S	AE06241-15
21)	Sample	20	215GW021 8260S	AE06241-16
22)	Sample	21	215GW022 8260S	AE06241-17
23)	Sample	22	215GW023 8260S	AE06241-18
24)	Sample	23	215GW024 8260S	AE06241-19
25)	Sample	24	215GW025 8260S	AE06241-20
26)	Sample	25	215GW026 8260S	1G28012-MS1
27)	Sample	25	215GW027 8260S	1G28012-MSD1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW003.D
Acq On : 28 Jul 2021 8:24 am
Operator : kkw
Sample : CCV1
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 28 08:53:20 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1146370	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2613862	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1696790	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1272980	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.433	113	711938	51.90	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 103.80%				
52) D8-Toluene	11.784	98	3401508	52.77	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 105.54%				
73) Bromofluorobenzene	14.334	95	1515075	51.98	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 103.96%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.987	85	291710	24.73	ug/L		99
3) Chloromethane	4.416	50	393664	22.47	ug/L		98
4) Vinyl Chloride	4.586	62	318335	20.88	ug/L	#	76
5) Bromomethane	5.238	94	132876	32.53	ug/L		93
6) Chloroethane	5.438	64	109487	12.51	ug/L		96
7) Trichlorofluoromethane	5.691	101	324347	18.59	ug/L		99
8) Diethyl ether	6.184	59	539882	45.57	ug/L		98
9) 1,1-Dichloroethene	6.537	96	496577	40.75	ug/L		98
10) Trichlorotrifluoroethane	6.560	151	299320	40.52	ug/L		98
11) Acrolein	7.019	56	1936777	629.30	ug/L		100
12) Iodomethane	6.784	142	2687828	253.23	ug/L		99
13) Carbon Disulfide	6.625	76	8758755	252.22	ug/L		99
14) 3-chloropropene	7.201	41	1059289	52.00	ug/L		99
15) Acetone	7.401	43	1155569	237.38	ug/L		100
16) Methylene Chloride	7.348	84	698583	44.71	ug/L		96
17) Methyl Acetate	7.524	43	656380	51.35	ug/L		97
18) t-1,2-Dichloroethene	7.553	96	653494	47.00	ug/L		99
19) Methyl tert-butyl ether	7.636	73	1794097	50.90	ug/L		97
20) Acetonitrile	8.017	41	1781857	550.71	ug/L		99
21) Isopropyl ether	8.053	45	2352829	53.19	ug/L		98
22) Chloroprene	8.276	88	632924	47.63	ug/L		98
23) 1,1-Dichloroethane	8.317	63	1300188	49.19	ug/L		100
24) Acrylonitrile	8.388	53	3715076	609.85	ug/L		99
25) Vinyl Acetate	8.540	43	8303438	264.65	ug/L		100
26) c-1,2-Dichloroethene	8.958	96	781558	52.05	ug/L		97
27) 2,2-Dichloropropane	9.081	77	979208	51.55	ug/L		98
28) Bromochloromethane	9.187	128	245887	44.33	ug/L		100
29) Cyclohexane	9.193	56	1272621	48.31	ug/L		98
30) Chloroform	9.228	83	1260829	49.95	ug/L		99
32) Dibromofluoromethane	9.433	113	711938	51.90	ug/L	#	90
33) 2-Butanone	9.551	72	595698	264.01	ug/L		98
34) 1,1,1-Trichloroethane	9.492	97	943861	50.42	ug/L		99
35) 1,1-Dichloropropene	9.610	75	1005562	48.31	ug/L		98
36) Propionitrile	9.898	54	1534072	564.32	ug/L		92
37) Methacrylonitrile	9.915	41	5990988	562.55	ug/L		98
38) Isobutyl Alcohol	9.956	43	1483626	1140.46	ug/L	#	51
40) Carbon Tetrachloride	9.416	117	838963	56.14	ug/L	#	84
41) Benzene	9.880	78	3010171	48.59	ug/L		100
42) 1,2-Dichloroethane	10.092	62	871887	47.47	ug/L		99
43) Trichloroethene	10.456	130	623604	48.69	ug/L		96
44) Methyl cyclohexane	10.456	83	1365053	48.89	ug/L		96
45) Dibromomethane	10.908	93	448582	49.24	ug/L		98
46) 1,2-Dichloropropane	10.991	63	883205	50.10	ug/L		98
47) Bromodichloromethane	11.020	83	924683	53.47	ug/L		100
48) Methyl Methacrylate	11.085	69	660844	47.40	ug/L		98
49) 1,4-Dioxane	11.196	88	226726	1441.90	ug/L		96
50) 2-Chloroethyl vinyl ether	11.490	63	2268127	229.77	ug/L		98
51) C-1,3-Dichloropropene	11.613	75	1412551	54.39	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW003.D
Acq On : 28 Jul 2021 8:24 am
Operator : kkw
Sample : CCV1
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 28 08:53:20 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

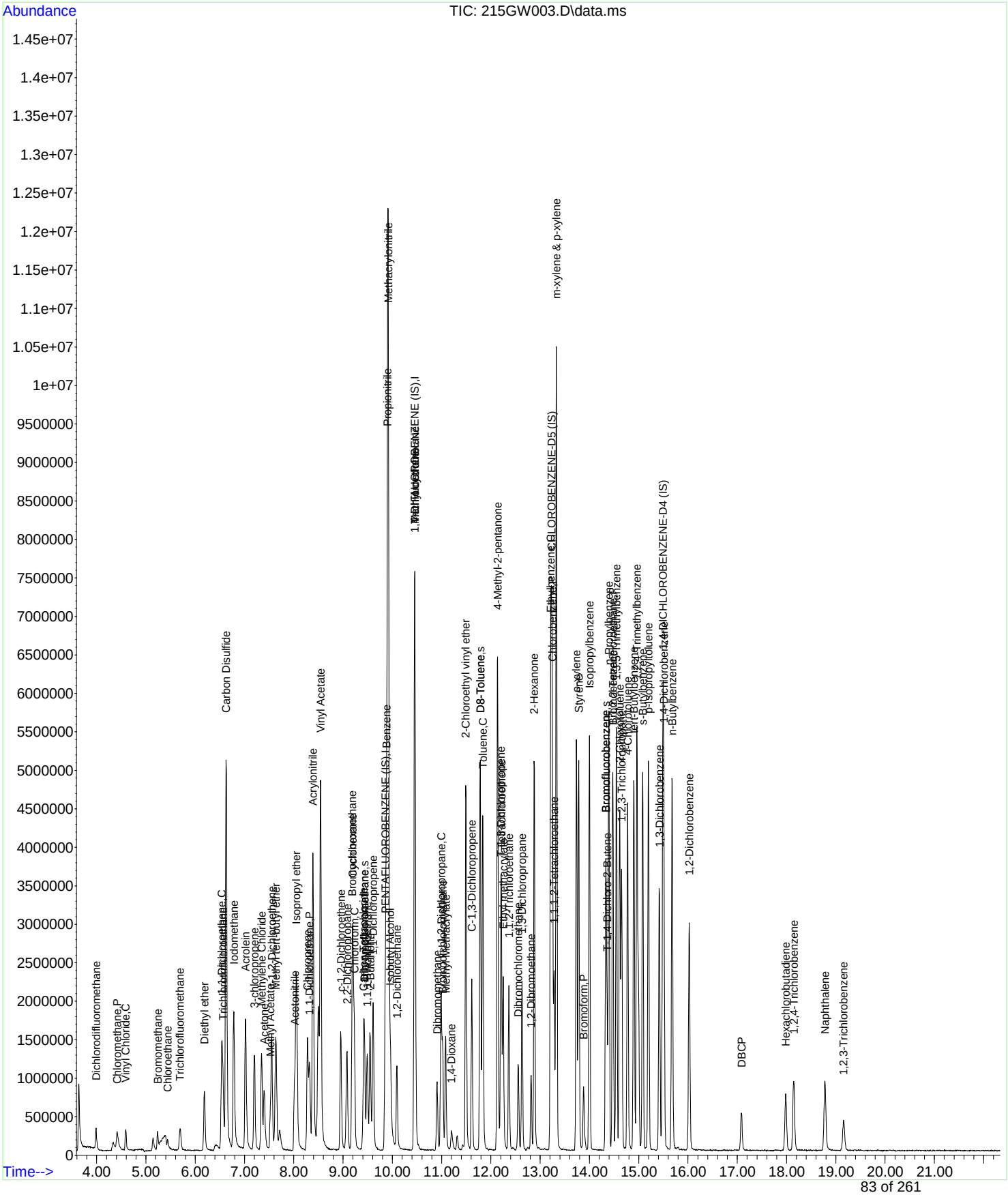
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.784	98	3401508	52.77	ug/L		95
54) 4-Methyl-2-pentanone	12.136	100	671389	279.53	ug/L		97
56) Toluene	11.837	92	2064338	49.75	ug/L		100
57) T-1,3-Dichloropropene	12.201	75	1143080	54.43	ug/L		99
58) Tetrachloroethene	12.213	164	446309	47.00	ug/L		98
59) Ethyl methacrylate	12.248	69	1226695	50.35	ug/L		97
60) 1,1,2-Trichloroethane	12.365	97	706394	49.47	ug/L		99
61) Dibromochloromethane	12.553	129	619576	48.73	ug/L		98
62) 1,3-Dichloropropane	12.630	76	1351146	51.66	ug/L		97
63) 1,2-Dibromoethane	12.818	107	718120	50.20	ug/L		95
64) 2-Hexanone	12.877	43	3391478	263.04	ug/L		100
65) Ethylbenzene	13.211	106	1204054	51.43	ug/L		97
66) Chlorobenzene	13.247	112	2048469	49.69	ug/L		99
67) 1,1,1,2-Tetrachloroethane	13.282	131	635035	53.37	ug/L		99
68) m-xylene & p-xylene	13.329	106	2979081	99.17	ug/L		99
69) o-xylene	13.734	106	1536684	51.85	ug/L		98
70) Styrene	13.781	104	2614915	49.83	ug/L		99
71) Bromoform	13.881	173	353713	48.79	ug/L		98
72) Isopropylbenzene	13.999	105	3925453	49.84	ug/L		99
74) Bromofluorobenzene	14.334	95	1515075	51.98	ug/L	#	75
75) n-Propylbenzene	14.392	91	5085585	49.24	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.475	83	1294534	53.00	ug/L		100
77) 1,2,3-Trichloropropane	14.651	61	291358	51.54	ug/L		96
78) T-1,4-Dichloro-2-Butene	14.357	53	401536	56.15	ug/L		98
80) Bromobenzene	14.475	156	719918	52.22	ug/L		98
81) 1,2,4-Trimethylbenzene	14.962	105	3429047	50.98	ug/L		100
82) 2-Chlorotoluene	14.616	91	3064472	54.37	ug/L		99
83) 4-Chlorotoluene	14.774	91	3164306	51.17	ug/L		98
84) tert-Butylbenzene	14.898	119	2690916	50.74	ug/L		98
85) 1,3,5-Trimethylbenzene	14.545	105	3436734	51.16	ug/L		99
86) p-Isopropyltoluene	15.197	119	3335883	51.40	ug/L		100
87) s-Butylbenzene	15.080	105	4146212	51.41	ug/L		99
88) 1,3-Dichlorobenzene	15.421	146	1508847	52.32	ug/L		98
89) 1,4-Dichlorobenzene	15.509	146	1532171	51.26	ug/L		99
90) n-Butylbenzene	15.679	91	3522995	52.60	ug/L		99
91) 1,2-Dichlorobenzene	16.026	146	1415495	50.87	ug/L		98
92) DBCP	17.089	157	165666	57.96	ug/L		96
93) Hexachlorobutadiene	17.982	225	162218	52.05	ug/L		94
94) 1,2,4-Trichlorobenzene	18.147	180	380576	58.20	ug/L		95
95) Naphthalene	18.782	128	1189080	61.76	ug/L		98
96) 1,2,3-Trichlorobenzene	19.152	180	176308	60.06	ug/L		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW003.D
Acq On : 28 Jul 2021 8:24 am
Operator : kkw
Sample : CCV1
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 28 08:53:20 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW004.D
Acq On : 28 Jul 2021 8:52 am
Operator : kkw
Sample : BS1
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 28 09:19:31 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1095048	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2655898	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1705509	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1278565	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	684973	52.28	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 104.56%				
52) D8-Toluene	11.784	98	3363288	51.35	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 102.70%				
73) Bromofluorobenzene	14.328	95	1462746	49.93	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 99.86%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.987	85	198047	17.58	ug/L		97
3) Chloromethane	4.416	50	329366	19.68	ug/L		97
4) Vinyl Chloride	4.586	62	275119	18.89	ug/L	#	74
5) Bromomethane	5.238	94	50701	13.70	ug/L	#	85
6) Chloroethane	5.450	64	148124	18.43	ug/L		98
7) Trichlorofluoromethane	5.703	101	328040	19.68	ug/L		98
8) Diethyl ether	6.190	59	240335	21.24	ug/L		99
9) 1,1-Dichloroethene	6.537	96	244773	21.03	ug/L		99
10) Trichlorotrifluoroethane	6.554	151	136457	19.34	ug/L		99
11) Acrolein	7.036	56	103911	35.35	ug/L		97
12) Iodomethane	6.784	142	330180	33.80	ug/L		96
13) Carbon Disulfide	6.631	76	819854	23.36	ug/L		99
14) 3-chloropropene	7.201	41	453280	22.51	ug/L		98
15) Acetone	7.401	43	237611	51.10	ug/L		97
16) Methylene Chloride	7.348	84	312179	20.92	ug/L		96
17) Methyl Acetate	7.530	43	264486	21.66	ug/L		98
18) t-1,2-Dichloroethene	7.553	96	271546	20.45	ug/L		94
19) Methyl tert-butyl ether	7.636	73	715061	21.24	ug/L		96
20) Acetonitrile	8.047	41	422521	136.71	ug/L		95
21) Isopropyl ether	8.053	45	928861	21.98	ug/L		98
22) Chloroprene	8.282	88	262164	20.66	ug/L		98
23) 1,1-Dichloroethane	8.317	63	541179	21.43	ug/L		99
24) Acrylonitrile	8.394	53	169903	29.20	ug/L		99
25) Vinyl Acetate	8.552	43	600114	20.02	ug/L		99
26) c-1,2-Dichloroethene	8.952	96	309412	21.57	ug/L		96
27) 2,2-Dichloropropane	9.081	77	391549	21.58	ug/L		98
28) Bromochloromethane	9.187	128	112283	21.19	ug/L		91
29) Cyclohexane	9.193	56	550683	21.89	ug/L		98
30) Chloroform	9.228	83	512953	21.27	ug/L		99
32) Dibromofluoromethane	9.428	113	684973	52.28	ug/L	#	89
33) 2-Butanone	9.551	72	128612	59.67	ug/L		94
34) 1,1,1-Trichloroethane	9.492	97	392922	21.98	ug/L		98
35) 1,1-Dichloropropene	9.610	75	415399	20.89	ug/L		98
36) Propionitrile	9.904	54	74393	28.65	ug/L	#	1
37) Methacrylonitrile	9.909	41	336632	33.09	ug/L	#	83
38) Isobutyl Alcohol	9.909	43	266453	214.42	ug/L	#	56
40) Carbon Tetrachloride	9.416	117	276464	18.21	ug/L		90
41) Benzene	9.880	78	1280954	20.35	ug/L		98
42) 1,2-Dichloroethane	10.092	62	345779	18.53	ug/L		99
43) Trichloroethene	10.450	130	261895	20.12	ug/L		88
44) Methyl cyclohexane	10.450	83	561569	19.80	ug/L		97
45) Dibromomethane	10.908	93	177177	19.14	ug/L		98
46) 1,2-Dichloropropane	10.985	63	351437	19.62	ug/L		98
47) Bromodichloromethane	11.020	83	361965	20.60	ug/L		99
48) Methyl Methacrylate	11.079	69	256816	18.13	ug/L		98
49) 1,4-Dioxane	11.196	88	87205	642.78	ug/L		100
50) 2-Chloroethyl vinyl ether	11.490	63	951401	94.86	ug/L		99
51) C-1,3-Dichloropropene	11.613	75	515980	19.56	ug/L		97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW004.D
Acq On : 28 Jul 2021 8:52 am
Operator : kkw
Sample : BS1
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 28 09:19:31 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

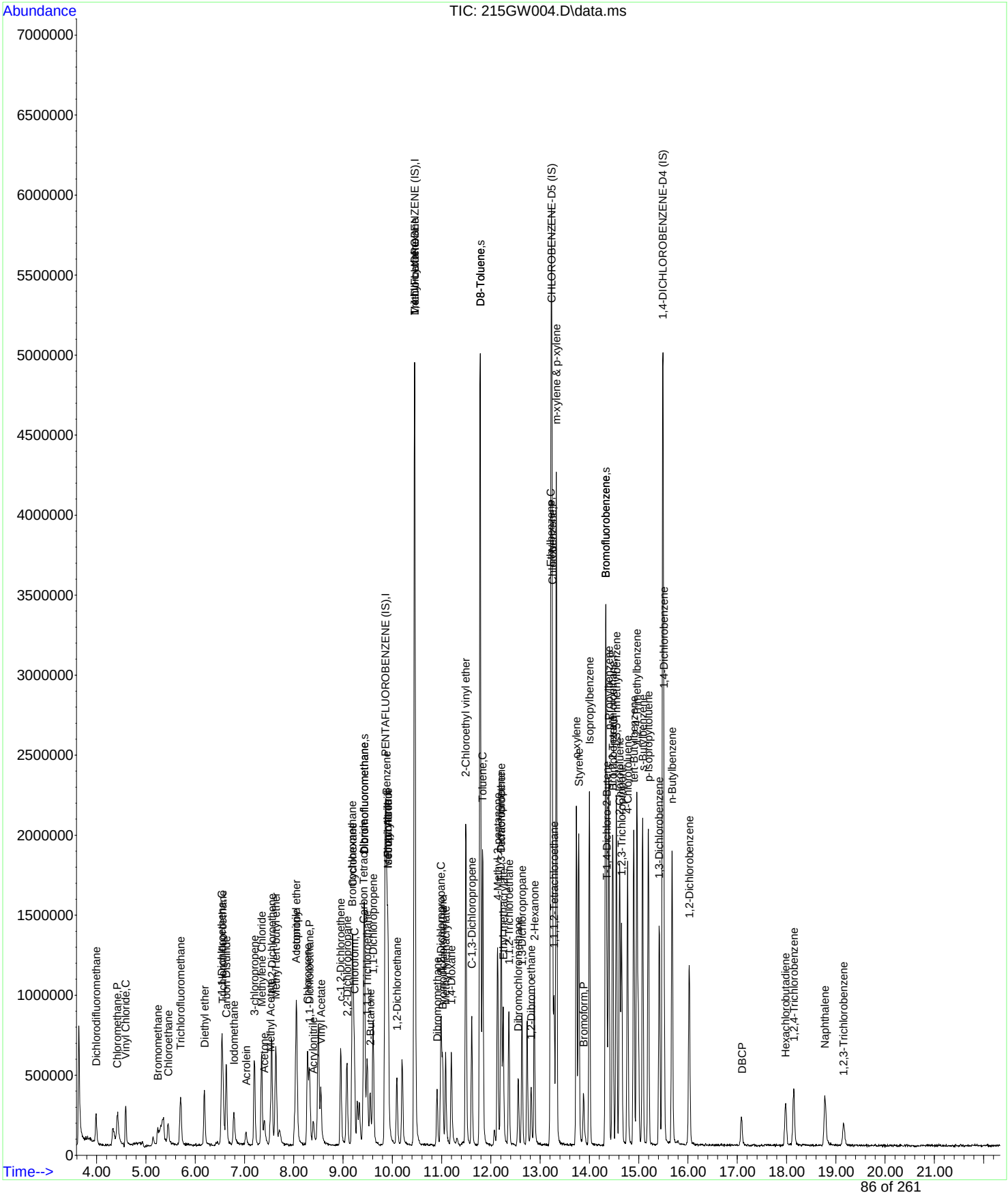
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.784	98	3363288	51.35	ug/L		95
54) 4-Methyl-2-pentanone	12.136	100	126186	51.71	ug/L		91
56) Toluene	11.831	92	831107	19.93	ug/L		97
57) T-1,3-Dichloropropene	12.201	75	451764	21.40	ug/L		98
58) Tetrachloroethene	12.207	164	192938	20.21	ug/L		99
59) Ethyl methacrylate	12.248	69	491119	20.05	ug/L		97
60) 1,1,2-Trichloroethane	12.365	97	289131	20.15	ug/L		98
61) Dibromochloromethane	12.553	129	236727	18.52	ug/L		99
62) 1,3-Dichloropropane	12.630	76	517920	19.70	ug/L		98
63) 1,2-Dibromoethane	12.818	107	280731	19.52	ug/L		99
64) 2-Hexanone	12.882	43	675109	52.09	ug/L		100
65) Ethylbenzene	13.212	106	482574	20.51	ug/L		99
66) Chlorobenzene	13.247	112	844214	20.37	ug/L		99
67) 1,1,1,2-Tetrachloroethane	13.282	131	243109	20.33	ug/L		98
68) m-xylene & p-xylene	13.329	106	1225437	40.59	ug/L		99
69) o-xylene	13.734	106	593183	19.91	ug/L		97
70) Styrene	13.781	104	1022273	19.38	ug/L		99
71) Bromoform	13.881	173	132644	18.20	ug/L		99
72) Isopropylbenzene	13.999	105	1567762	19.24	ug/L		99
74) Bromofluorobenzene	14.328	95	1462746	49.93	ug/L	#	75
75) n-Propylbenzene	14.393	91	2069147	19.29	ug/L		98
76) 1,1,2,2-Tetrachloroethane	14.469	83	499657	20.35	ug/L		99
77) 1,2,3-Trichloropropane	14.651	61	105540	18.58	ug/L		95
78) T-1,4-Dichloro-2-Butene	14.351	53	154186	21.45	ug/L	#	77
80) Bromobenzene	14.475	156	295906	21.37	ug/L		97
81) 1,2,4-Trimethylbenzene	14.962	105	1400824	20.65	ug/L		99
82) 2-Chlorotoluene	14.610	91	1244938	21.99	ug/L		99
83) 4-Chlorotoluene	14.774	91	1248275	20.10	ug/L		99
84) tert-Butylbenzene	14.898	119	1060092	19.90	ug/L		99
85) 1,3,5-Trimethylbenzene	14.545	105	1354196	20.07	ug/L		99
86) p-Isopropyltoluene	15.197	119	1340288	20.56	ug/L		99
87) s-Butylbenzene	15.080	105	1670136	20.62	ug/L		98
88) 1,3-Dichlorobenzene	15.415	146	627265	21.65	ug/L		97
89) 1,4-Dichlorobenzene	15.509	146	629001	20.95	ug/L	#	84
90) n-Butylbenzene	15.673	91	1381001	20.53	ug/L		98
91) 1,2-Dichlorobenzene	16.026	146	558451	19.98	ug/L		96
92) DBCP	17.095	157	54287	22.89	ug/L		92
93) Hexachlorobutadiene	17.977	225	65442	20.91	ug/L		92
94) 1,2,4-Trichlorobenzene	18.147	180	149046	26.66	ug/L		98
95) Naphthalene	18.776	128	445192	29.62	ug/L		97
96) 1,2,3-Trichlorobenzene	19.152	180	62162	26.73	ug/L		95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW004.D
Acq On : 28 Jul 2021 8:52 am
Operator : kkw
Sample : BS1
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 28 09:19:31 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW005.D
Acq On : 28 Jul 2021 9:20 am
Operator : kkw
Sample : CRL1
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 28 10:33:26 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1105421	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2599785	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1608323	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1192315	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.434	113	671572	50.77	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 101.54%				
52) D8-Toluene	11.784	98	3231309	50.40	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 100.80%				
73) Bromofluorobenzene	14.328	95	1388391	50.25	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 100.50%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.987	85	14607	1.28	ug/L	#	93
3) Chloromethane	4.422	50	26269	1.55	ug/L	#	82
4) Vinyl Chloride	4.592	62	15781	1.07	ug/L	#	44
5) Bromomethane	5.244	94	6156	1.71	ug/L	#	10
6) Chloroethane	5.474	64	9748	1.07	ug/L	#	44
7) Trichlorofluoromethane	5.709	101	16917	1.01	ug/L	#	73
8) Diethyl ether	0.000		0	N.D.			
9) 1,1-Dichloroethene	0.000		0	N.D.			
10) Trichlorotrifluoroethane	0.000		0	N.D.			
11) Acrolein	0.000		0	N.D.			
12) Iodomethane	6.801	142	21624	2.21	ug/L	#	81
13) Carbon Disulfide	0.000		0	N.D.	d		
14) 3-chloropropene	0.000		0	N.D.	d		
15) Acetone	0.000		0	N.D.			
16) Methylene Chloride	0.000		0	N.D.			
17) Methyl Acetate	0.000		0	N.D.			
18) t-1,2-Dichloroethene	0.000		0	N.D.			
19) Methyl tert-butyl ether	0.000		0	N.D.			
20) Acetonitrile	0.000		0	N.D.			
21) Isopropyl ether	0.000		0	N.D.			
22) Chloroprene	0.000		0	N.D.			
23) 1,1-Dichloroethane	0.000		0	N.D.			
24) Acrylonitrile	0.000		0	N.D.			
25) Vinyl Acetate	0.000		0	N.D.			
26) c-1,2-Dichloroethene	0.000		0	N.D.			
27) 2,2-Dichloropropane	0.000		0	N.D.			
28) Bromochloromethane	0.000		0	N.D.			
29) Cyclohexane	0.000		0	N.D.			
30) Chloroform	0.000		0	N.D.			
32) Dibromofluoromethane	9.434	113	671781	50.79	ug/L	#	88
33) 2-Butanone	0.000		0	N.D.			
34) 1,1,1-Trichloroethane	0.000		0	N.D.			
35) 1,1-Dichloropropene	0.000		0	N.D.			
36) Propionitrile	0.000		0	N.D.			
37) Methacrylonitrile	0.000		0	N.D.			
38) Isobutyl Alcohol	0.000		0	N.D.	d		
40) Carbon Tetrachloride	0.000		0	N.D.			
41) Benzene	9.892	78	9499	N.D.			
42) 1,2-Dichloroethane	0.000		0	N.D.			
43) Trichloroethene	0.000		0	N.D.			
44) Methyl cyclohexane	0.000		0	N.D.	d		
45) Dibromomethane	0.000		0	N.D.	d		
46) 1,2-Dichloropropane	0.000		0	N.D.			
47) Bromodichloromethane	0.000		0	N.D.			
48) Methyl Methacrylate	0.000		0	N.D.			
49) 1,4-Dioxane	0.000		0	N.D.			
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.			
51) C-1,3-Dichloropropene	0.000		0	N.D.			

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW005.D
Acq On : 28 Jul 2021 9:20 am
Operator : kkw
Sample : CRL1
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 28 10:33:26 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

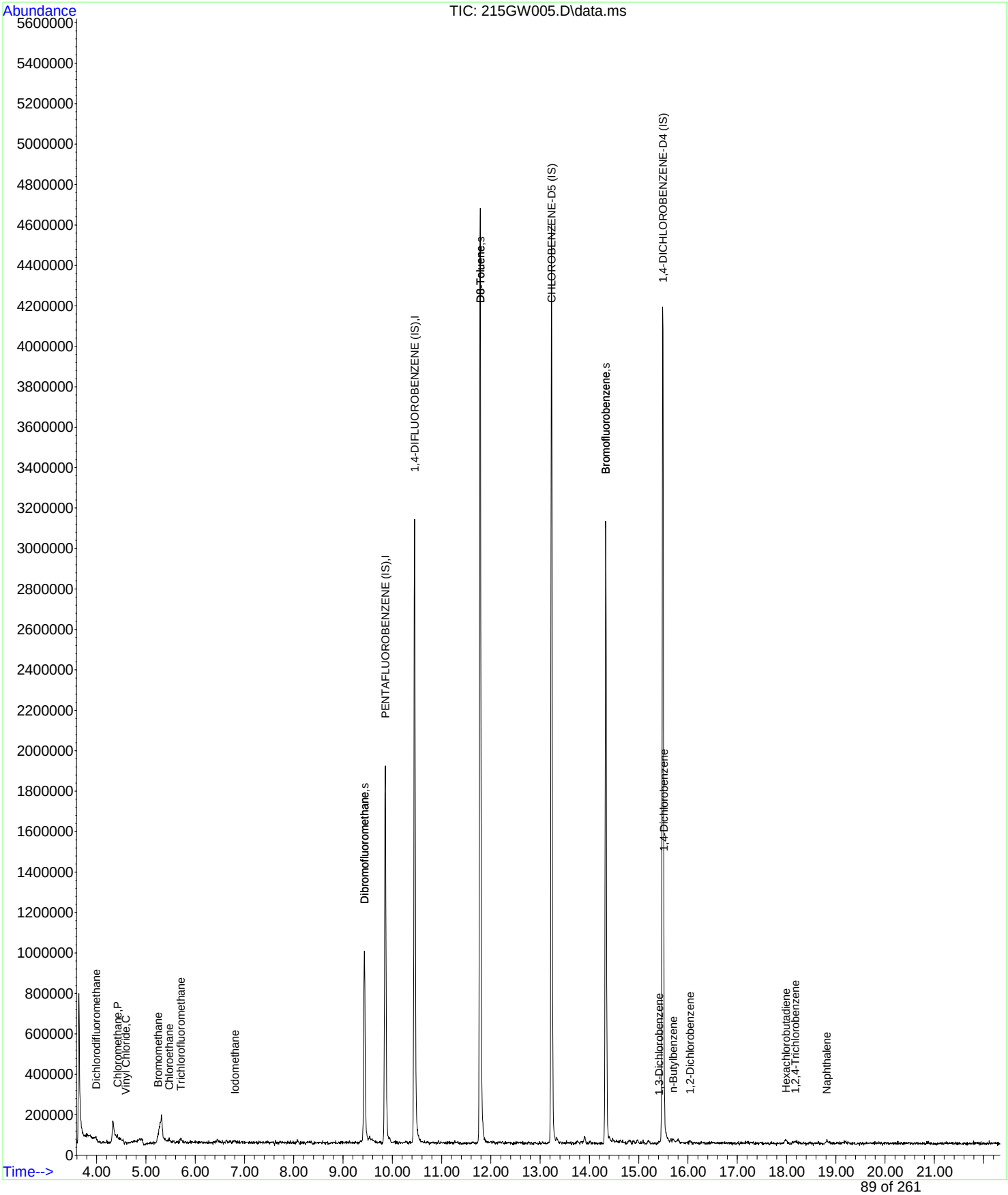
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.784	98	3228293	50.35 ug/L	95
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	11.831	92	4295	N.D.	
57) T-1,3-Dichloropropene	0.000		0	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	0.000		0	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	0.000		0	N.D. d	
65) Ethylbenzene	0.000		0	N.D. d	
66) Chlorobenzene	13.241	112	6713	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	13.335	106	5573	N.D.	
69) o-xylene	13.746	106	4580	N.D.	
70) Styrene	13.811	104	4486	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	14.011	105	8804	N.D.	
74) Bromofluorobenzene	14.328	95	1390411	50.33 ug/L #	77
75) n-Propylbenzene	14.404	91	16386	N.D.	
76) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D.	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D.	
80) Bromobenzene	0.000		0	N.D.	
81) 1,2,4-Trimethylbenzene	14.980	105	7894	N.D.	
82) 2-Chlorotoluene	14.622	91	10440	N.D.	
83) 4-Chlorotoluene	14.798	91	11540	N.D.	
84) tert-Butylbenzene	14.910	119	6094	N.D.	
85) 1,3,5-Trimethylbenzene	14.545	105	7987	N.D.	
86) p-Isopropyltoluene	15.209	119	8062	N.D.	
87) s-Butylbenzene	15.092	105	12365	N.D.	
88) 1,3-Dichlorobenzene	15.415	146	7307	0.27 ug/L #	55
89) 1,4-Dichlorobenzene	15.509	146	6978	0.25 ug/L #	1
90) n-Butylbenzene	15.697	91	14888	0.24 ug/L #	59
91) 1,2-Dichlorobenzene	16.038	146	5794	0.22 ug/L #	51
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	17.989	225	4463	1.53 ug/L #	29
94) 1,2,4-Trichlorobenzene	18.177	180	4339	0.97 ug/L #	36
95) Naphthalene	18.811	128	22208	2.10 ug/L #	69
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW005.D
Acq On : 28 Jul 2021 9:20 am
Operator : kkw
Sample : CRL1
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 28 10:33:26 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW006.D
Acq On : 28 Jul 2021 9:48 am
Operator : kkw
Sample : BLK1
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 28 10:35:52 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1058005	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2459389	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1530623	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1152122	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.434	113	623925	49.28	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 98.56%				
52) D8-Toluene	11.784	98	3112050	51.31	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 102.62%				
73) Bromofluorobenzene	14.328	95	1306869	49.70	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 99.40%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.			
3) Chloromethane	0.000		0	N.D. d			
4) Vinyl Chloride	0.000		0	N.D.			
5) Bromomethane	0.000		0	N.D.			
6) Chloroethane	0.000		0	N.D.			
7) Trichlorofluoromethane	0.000		0	N.D.			
8) Diethyl ether	0.000		0	N.D.			
9) 1,1-Dichloroethene	0.000		0	N.D.			
10) Trichlorotrifluoroethane	0.000		0	N.D.			
11) Acrolein	0.000		0	N.D.			
12) Iodomethane	0.000		0	N.D. d			
13) Carbon Disulfide	0.000		0	N.D. d			
14) 3-chloropropene	0.000		0	N.D.			
15) Acetone	0.000		0	N.D.			
16) Methylene Chloride	0.000		0	N.D.			
17) Methyl Acetate	0.000		0	N.D.			
18) t-1,2-Dichloroethene	0.000		0	N.D.			
19) Methyl tert-butyl ether	0.000		0	N.D.			
20) Acetonitrile	0.000		0	N.D.			
21) Isopropyl ether	0.000		0	N.D.			
22) Chloroprene	0.000		0	N.D.			
23) 1,1-Dichloroethane	0.000		0	N.D.			
24) Acrylonitrile	0.000		0	N.D.			
25) Vinyl Acetate	0.000		0	N.D.			
26) c-1,2-Dichloroethene	0.000		0	N.D.			
27) 2,2-Dichloropropane	0.000		0	N.D.			
28) Bromochloromethane	0.000		0	N.D.			
29) Cyclohexane	0.000		0	N.D.			
30) Chloroform	0.000		0	N.D.			
32) Dibromofluoromethane	9.434	113	624108	49.30	ug/L	#	87
33) 2-Butanone	0.000		0	N.D. d			
34) 1,1,1-Trichloroethane	0.000		0	N.D.			
35) 1,1-Dichloropropene	0.000		0	N.D.			
36) Propionitrile	0.000		0	N.D.			
37) Methacrylonitrile	0.000		0	N.D.			
38) Isobutyl Alcohol	0.000		0	N.D.			
40) Carbon Tetrachloride	0.000		0	N.D. d			
41) Benzene	9.892	78	6481	N.D.			
42) 1,2-Dichloroethane	0.000		0	N.D.			
43) Trichloroethene	0.000		0	N.D.			
44) Methyl cyclohexane	0.000		0	N.D. d			
45) Dibromomethane	0.000		0	N.D.			
46) 1,2-Dichloropropane	0.000		0	N.D.			
47) Bromodichloromethane	0.000		0	N.D.			
48) Methyl Methacrylate	0.000		0	N.D.			
49) 1,4-Dioxane	0.000		0	N.D.			
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.			
51) C-1,3-Dichloropropene	0.000		0	N.D.			

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW006.D
Acq On : 28 Jul 2021 9:48 am
Operator : kkw
Sample : BLK1
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 28 10:35:52 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

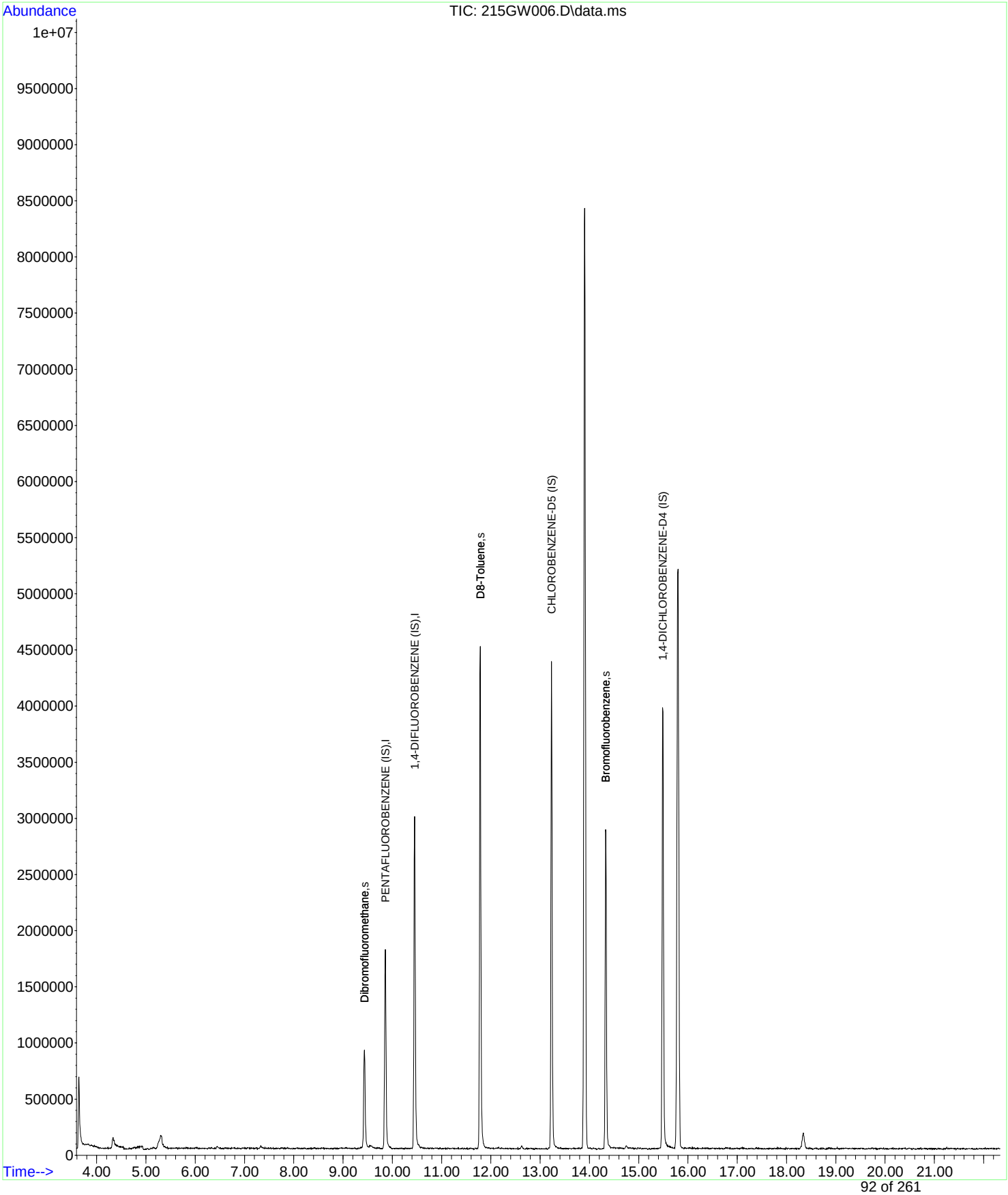
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.784	98	3111985	51.31 ug/L	95
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	0.000		0	N.D.	
57) T-1,3-Dichloropropene	0.000		0	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	0.000		0	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	0.000		0	N.D.	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	0.000		0	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	0.000		0	N.D.	
70) Styrene	0.000		0	N.D. d	
71) Bromoform	0.000		0	N.D. d	
72) Isopropylbenzene	0.000		0	N.D. d	
74) Bromofluorobenzene	14.328	95	1308375	49.76 ug/L #	76
75) n-Propylbenzene	14.334	91	4370	N.D.	
76) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D.	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D.	
80) Bromobenzene	0.000		0	N.D.	
81) 1,2,4-Trimethylbenzene	0.000		0	N.D.	
82) 2-Chlorotoluene	0.000		0	N.D.	
83) 4-Chlorotoluene	0.000		0	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	0.000		0	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	0.000		0	N.D.	
88) 1,3-Dichlorobenzene	0.000		0	N.D.	
89) 1,4-Dichlorobenzene	0.000		0	N.D.	
90) n-Butylbenzene	0.000		0	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	0.000		0	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW006.D
Acq On : 28 Jul 2021 9:48 am
Operator : kkw
Sample : BLK1
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 28 10:35:52 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW007.D
Acq On : 28 Jul 2021 10:16 am
Operator : kkw
Sample : AE05483-01
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 28 10:39:01 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1040767	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2434148	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1534041	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1160628	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.434	113	636175	51.08	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 102.16%				
52) D8-Toluene	11.784	98	3125049	52.06	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 104.12%				
73) Bromofluorobenzene	14.334	95	1324088	50.25	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 100.50%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.			
3) Chloromethane	0.000		0	N.D. d			
4) Vinyl Chloride	4.586	62	102299	7.39	ug/L	#	1
5) Bromomethane	0.000		0	N.D.			
6) Chloroethane	0.000		0	N.D.			
7) Trichlorofluoromethane	0.000		0	N.D. d			
8) Diethyl ether	0.000		0	N.D.			
9) 1,1-Dichloroethene	0.000		0	N.D.			
10) Trichlorotrifluoroethane	0.000		0	N.D.			
11) Acrolein	0.000		0	N.D.			
12) Iodomethane	0.000		0	N.D. d			
13) Carbon Disulfide	0.000		0	N.D. d			
14) 3-chloropropene	0.000		0	N.D.			
15) Acetone	0.000		0	N.D. d			
16) Methylene Chloride	0.000		0	N.D.			
17) Methyl Acetate	0.000		0	N.D. d			
18) t-1,2-Dichloroethene	7.559	96	9216	0.73	ug/L		93
19) Methyl tert-butyl ether	0.000		0	N.D.			
20) Acetonitrile	0.000		0	N.D.			
21) Isopropyl ether	0.000		0	N.D.			
22) Chloroprene	0.000		0	N.D.			
23) 1,1-Dichloroethane	0.000		0	N.D.			
24) Acrylonitrile	0.000		0	N.D.			
25) Vinyl Acetate	0.000		0	N.D.			
26) c-1,2-Dichloroethene	0.000		0	N.D.			
27) 2,2-Dichloropropane	0.000		0	N.D.			
28) Bromochloromethane	0.000		0	N.D.			
29) Cyclohexane	0.000		0	N.D.			
30) Chloroform	0.000		0	N.D.			
32) Dibromofluoromethane	9.434	113	636402	51.10	ug/L	#	90
33) 2-Butanone	0.000		0	N.D.			
34) 1,1,1-Trichloroethane	0.000		0	N.D.			
35) 1,1-Dichloropropene	0.000		0	N.D.			
36) Propionitrile	0.000		0	N.D.			
37) Methacrylonitrile	0.000		0	N.D.			
38) Isobutyl Alcohol	0.000		0	N.D. d			
40) Carbon Tetrachloride	0.000		0	N.D.			
41) Benzene	0.000		0	N.D. d			
42) 1,2-Dichloroethane	0.000		0	N.D.			
43) Trichloroethene	0.000		0	N.D.			
44) Methyl cyclohexane	0.000		0	N.D. d			
45) Dibromomethane	0.000		0	N.D.			
46) 1,2-Dichloropropane	0.000		0	N.D.			
47) Bromodichloromethane	0.000		0	N.D.			
48) Methyl Methacrylate	0.000		0	N.D.			
49) 1,4-Dioxane	0.000		0	N.D.			
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.			
51) C-1,3-Dichloropropene	11.778	75	4815	N.D.			

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW007.D
Acq On : 28 Jul 2021 10:16 am
Operator : kkw
Sample : AE05483-01
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 28 10:39:01 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

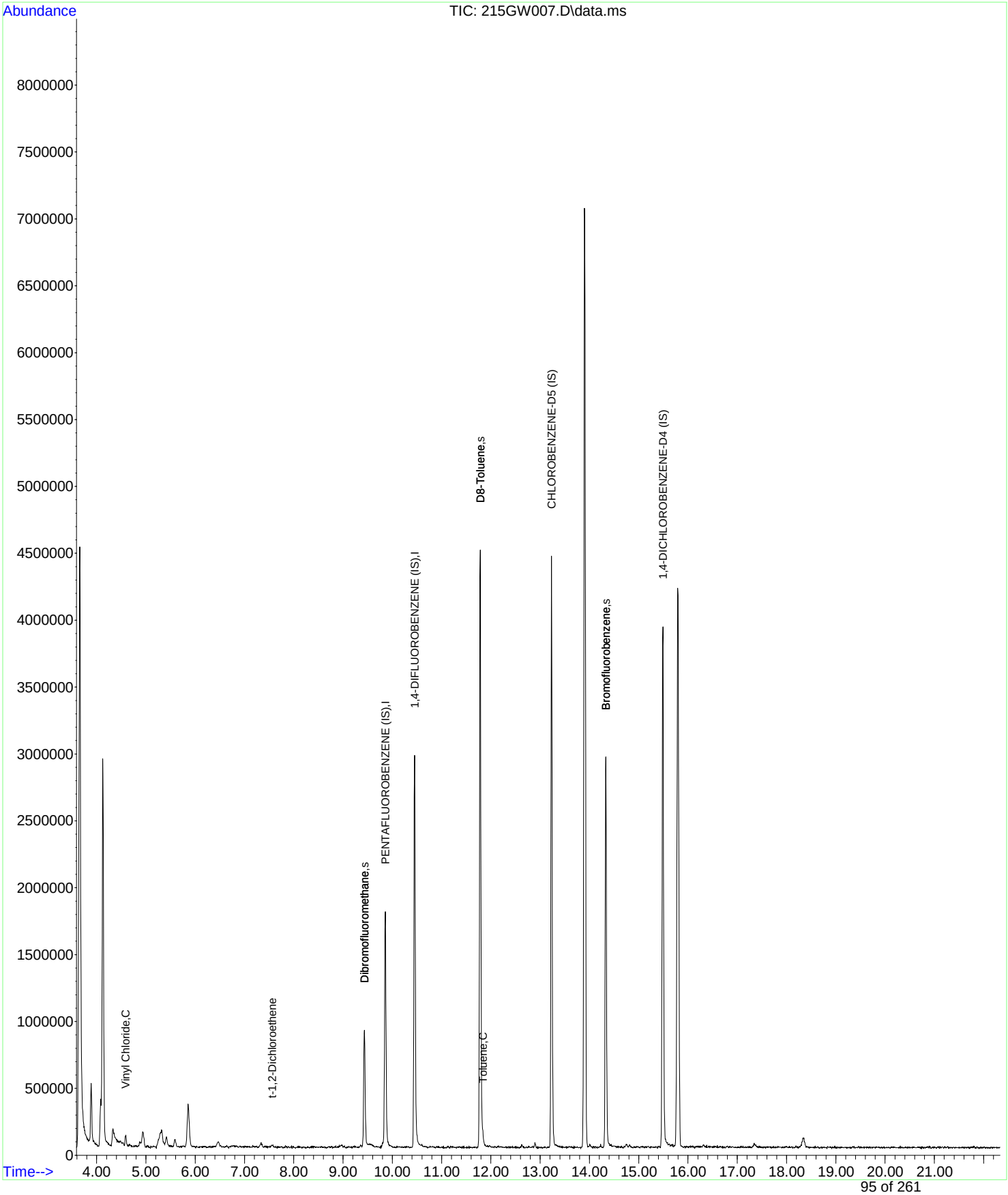
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.784	98	3125049	52.06 ug/L	96
54) 4-Methyl-2-pentanone	0.000		0	N.D.	
56) Toluene	11.837	92	17239	0.46 ug/L #	84
57) T-1,3-Dichloropropene	0.000		0	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	0.000		0	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D. d	
64) 2-Hexanone	0.000		0	N.D.	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	0.000		0	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	0.000		0	N.D.	
70) Styrene	0.000		0	N.D. d	
71) Bromoform	0.000		0	N.D. d	
72) Isopropylbenzene	14.005	105	10456	N.D.	
74) Bromofluorobenzene	14.334	95	1324636	50.27 ug/L #	76
75) n-Propylbenzene	14.404	91	7470	N.D.	
76) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D.	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D.	
80) Bromobenzene	0.000		0	N.D.	
81) 1,2,4-Trimethylbenzene	14.998	105	5019	N.D.	
82) 2-Chlorotoluene	0.000		0	N.D.	
83) 4-Chlorotoluene	0.000		0	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	0.000		0	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	15.086	105	5706	N.D.	
88) 1,3-Dichlorobenzene	0.000		0	N.D.	
89) 1,4-Dichlorobenzene	0.000		0	N.D.	
90) n-Butylbenzene	0.000		0	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	0.000		0	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW007.D
Acq On : 28 Jul 2021 10:16 am
Operator : kkw
Sample : AE05483-01
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 28 10:39:01 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW008.D
Acq On : 28 Jul 2021 10:44 am
Operator : kkw
Sample : AE05483-02
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 28 11:49:15 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1010974	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2428360	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1504622	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1151894	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	639945	52.90	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 105.80%				
52) D8-Toluene	11.784	98	3065721	51.19	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 102.38%				
73) Bromofluorobenzene	14.328	95	1314987	50.88	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 101.76%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.			
3) Chloromethane	0.000		0	N.D.	d		
4) Vinyl Chloride	4.586	62	742314	55.21	ug/L	#	72
5) Bromomethane	0.000		0	N.D.			
6) Chloroethane	0.000		0	N.D.			
7) Trichlorofluoromethane	0.000		0	N.D.			
8) Diethyl ether	0.000		0	N.D.			
9) 1,1-Dichloroethene	0.000		0	N.D.			
10) Trichlorotrifluoroethane	0.000		0	N.D.			
11) Acrolein	0.000		0	N.D.			
12) Iodomethane	6.784	142	7315	0.82	ug/L	#	48
13) Carbon Disulfide	0.000		0	N.D.	d		
14) 3-chloropropene	0.000		0	N.D.			
15) Acetone	0.000		0	N.D.	d		
16) Methylene Chloride	0.000		0	N.D.			
17) Methyl Acetate	0.000		0	N.D.	d		
18) t-1,2-Dichloroethene	0.000		0	N.D.			
19) Methyl tert-butyl ether	0.000		0	N.D.			
20) Acetonitrile	0.000		0	N.D.			
21) Isopropyl ether	0.000		0	N.D.			
22) Chloroprene	0.000		0	N.D.			
23) 1,1-Dichloroethane	0.000		0	N.D.			
24) Acrylonitrile	0.000		0	N.D.			
25) Vinyl Acetate	0.000		0	N.D.			
26) c-1,2-Dichloroethene	0.000		0	N.D.			
27) 2,2-Dichloropropane	0.000		0	N.D.			
28) Bromochloromethane	0.000		0	N.D.			
29) Cyclohexane	0.000		0	N.D.			
30) Chloroform	0.000		0	N.D.			
32) Dibromofluoromethane	9.428	113	639945	52.90	ug/L	#	90
33) 2-Butanone	0.000		0	N.D.			
34) 1,1,1-Trichloroethane	0.000		0	N.D.			
35) 1,1-Dichloropropene	0.000		0	N.D.			
36) Propionitrile	0.000		0	N.D.			
37) Methacrylonitrile	0.000		0	N.D.	d		
38) Isobutyl Alcohol	0.000		0	N.D.			
40) Carbon Tetrachloride	0.000		0	N.D.			
41) Benzene	9.892	78	5965	N.D.			
42) 1,2-Dichloroethane	0.000		0	N.D.			
43) Trichloroethene	0.000		0	N.D.			
44) Methyl cyclohexane	0.000		0	N.D.	d		
45) Dibromomethane	0.000		0	N.D.			
46) 1,2-Dichloropropane	0.000		0	N.D.			
47) Bromodichloromethane	0.000		0	N.D.			
48) Methyl Methacrylate	0.000		0	N.D.			
49) 1,4-Dioxane	0.000		0	N.D.			
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.			
51) C-1,3-Dichloropropene	0.000		0	N.D.			

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW008.D
Acq On : 28 Jul 2021 10:44 am
Operator : kkw
Sample : AE05483-02
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 28 11:49:15 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

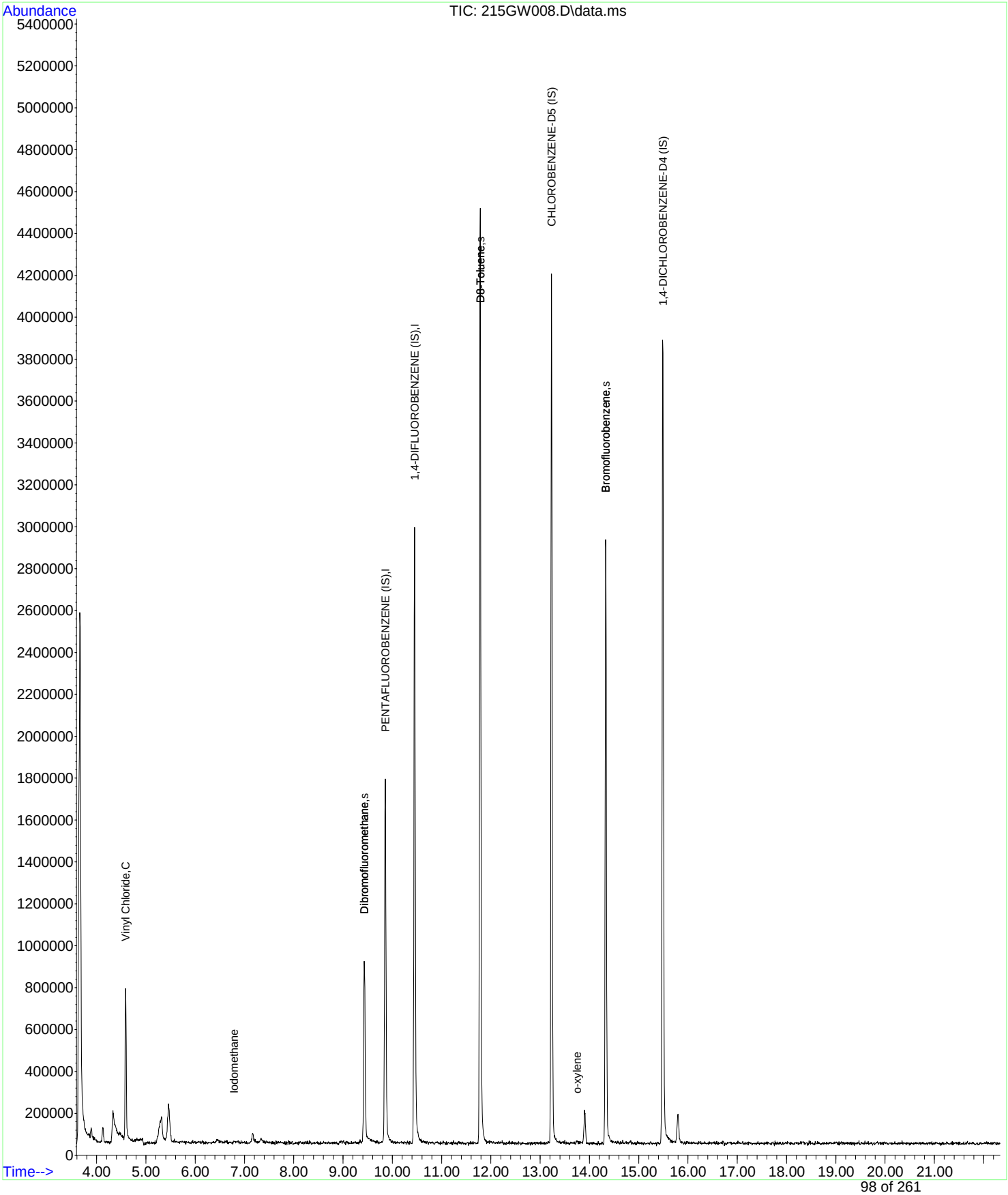
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.784	98	3063054	51.15 ug/L	95
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	0.000		0	N.D.	
57) T-1,3-Dichloropropene	0.000		0	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	0.000		0	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	0.000		0	N.D.	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	0.000		0	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	13.746	106	7074	0.27 ug/L #	55
70) Styrene	0.000		0	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	0.000		0	N.D.	
74) Bromofluorobenzene	14.328	95	1314987	50.88 ug/L #	76
75) n-Propylbenzene	0.000		0	N.D.	
76) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D.	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D.	
80) Bromobenzene	0.000		0	N.D.	
81) 1,2,4-Trimethylbenzene	0.000		0	N.D.	
82) 2-Chlorotoluene	0.000		0	N.D.	
83) 4-Chlorotoluene	0.000		0	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	0.000		0	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	0.000		0	N.D.	
88) 1,3-Dichlorobenzene	0.000		0	N.D.	
89) 1,4-Dichlorobenzene	0.000		0	N.D.	
90) n-Butylbenzene	0.000		0	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	0.000		0	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW008.D
Acq On : 28 Jul 2021 10:44 am
Operator : kkw
Sample : AE05483-02
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 28 11:49:15 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW009.D
Acq On : 28 Jul 2021 11:12 am
Operator : kkw
Sample : AE05483-03
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 28 11:50:06 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1022104	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2402398	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1514817	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1127294	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	623119	50.95	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 101.90%				
52) D8-Toluene	11.784	98	3027397	51.10	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 102.20%				
73) Bromofluorobenzene	14.328	95	1299782	49.95	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 99.90%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.			
3) Chloromethane	0.000		0	N.D. d			
4) Vinyl Chloride	4.592	62	19208	1.41	ug/L	#	1
5) Bromomethane	0.000		0	N.D.			
6) Chloroethane	0.000		0	N.D.			
7) Trichlorofluoromethane	0.000		0	N.D.			
8) Diethyl ether	0.000		0	N.D.			
9) 1,1-Dichloroethene	0.000		0	N.D.			
10) Trichlorotrifluoroethane	0.000		0	N.D.			
11) Acrolein	0.000		0	N.D.			
12) Iodomethane	6.795	142	9061	1.00	ug/L	#	43
13) Carbon Disulfide	6.637	76	5431	N.D.			
14) 3-chloropropene	0.000		0	N.D. d			
15) Acetone	7.418	43	10609	2.44	ug/L		96
16) Methylene Chloride	0.000		0	N.D.			
17) Methyl Acetate	0.000		0	N.D. d			
18) t-1,2-Dichloroethene	7.559	96	4127	0.33	ug/L	#	1
19) Methyl tert-butyl ether	0.000		0	N.D.			
20) Acetonitrile	0.000		0	N.D.			
21) Isopropyl ether	0.000		0	N.D.			
22) Chloroprene	0.000		0	N.D.			
23) 1,1-Dichloroethane	0.000		0	N.D.			
24) Acrylonitrile	0.000		0	N.D.			
25) Vinyl Acetate	0.000		0	N.D.			
26) c-1,2-Dichloroethene	0.000		0	N.D.			
27) 2,2-Dichloropropane	0.000		0	N.D.			
28) Bromochloromethane	0.000		0	N.D.			
29) Cyclohexane	0.000		0	N.D.			
30) Chloroform	0.000		0	N.D.			
32) Dibromofluoromethane	9.428	113	623119	50.95	ug/L	#	90
33) 2-Butanone	0.000		0	N.D.			
34) 1,1,1-Trichloroethane	0.000		0	N.D.			
35) 1,1-Dichloropropene	0.000		0	N.D.			
36) Propionitrile	0.000		0	N.D.			
37) Methacrylonitrile	0.000		0	N.D.			
38) Isobutyl Alcohol	0.000		0	N.D.			
40) Carbon Tetrachloride	0.000		0	N.D.			
41) Benzene	9.880	78	10803	N.D.			
42) 1,2-Dichloroethane	0.000		0	N.D.			
43) Trichloroethene	0.000		0	N.D.			
44) Methyl cyclohexane	0.000		0	N.D. d			
45) Dibromomethane	0.000		0	N.D.			
46) 1,2-Dichloropropane	0.000		0	N.D.			
47) Bromodichloromethane	0.000		0	N.D.			
48) Methyl Methacrylate	0.000		0	N.D.			
49) 1,4-Dioxane	0.000		0	N.D.			
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.			
51) C-1,3-Dichloropropene	0.000		0	N.D.			

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW009.D
Acq On : 28 Jul 2021 11:12 am
Operator : kkw
Sample : AE05483-03
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 28 11:50:06 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

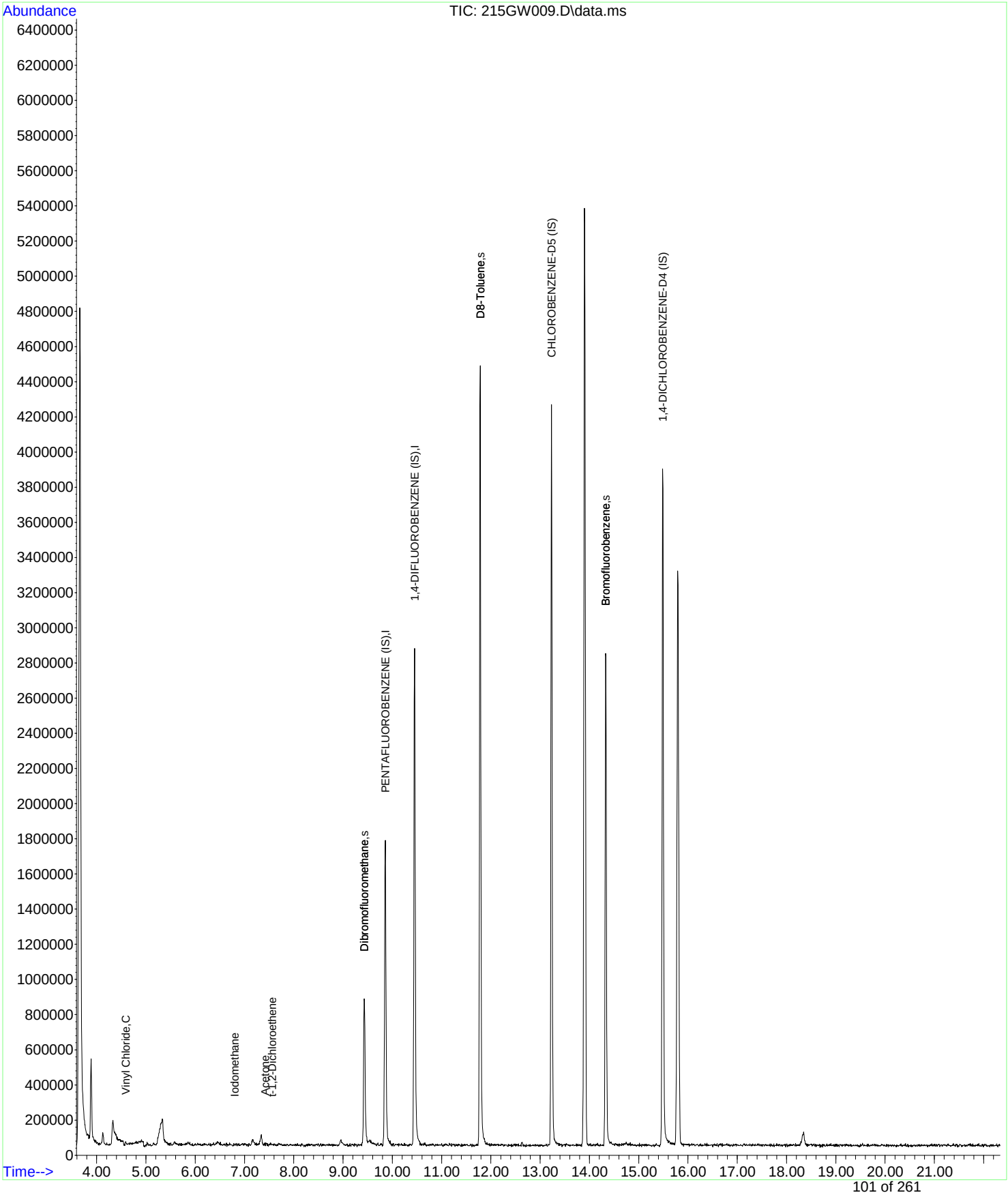
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.784	98	3027397	51.10 ug/L	95
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	0.000		0	N.D.	
57) T-1,3-Dichloropropene	0.000		0	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	0.000		0	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	0.000		0	N.D.	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	0.000		0	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	0.000		0	N.D.	
70) Styrene	0.000		0	N.D. d	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	0.000		0	N.D. d	
74) Bromofluorobenzene	14.328	95	1299782	49.95 ug/L #	75
75) n-Propylbenzene	0.000		0	N.D.	
76) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D.	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D.	
80) Bromobenzene	0.000		0	N.D.	
81) 1,2,4-Trimethylbenzene	0.000		0	N.D.	
82) 2-Chlorotoluene	0.000		0	N.D.	
83) 4-Chlorotoluene	0.000		0	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	0.000		0	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	0.000		0	N.D.	
88) 1,3-Dichlorobenzene	0.000		0	N.D.	
89) 1,4-Dichlorobenzene	0.000		0	N.D.	
90) n-Butylbenzene	0.000		0	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	0.000		0	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW009.D
Acq On : 28 Jul 2021 11:12 am
Operator : kkw
Sample : AE05483-03
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 28 11:50:06 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW010.D
Acq On : 28 Jul 2021 11:40 am
Operator : kkw
Sample : AE05483-04
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jul 28 12:57:33 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) PENTAFLUOROBENZENE (IS)	9.857	168	990018	50.00	ug/L	0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2368009	50.00	ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1506429	50.00	ug/L	# 0.00
79) 1,4-DICHLOROBENZENE-D4...	15.486	152	1129481	50.00	ug/L	0.00
System Monitoring Compounds						
31) Dibromofluoromethane	9.434	113	601911	50.81	ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 101.62%			
52) D8-Toluene	11.784	98	3021088	51.73	ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 103.46%			
73) Bromofluorobenzene	14.334	95	1285307	49.67	ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 99.34%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.		
3) Chloromethane	0.000		0	N.D.	d	
4) Vinyl Chloride	4.592	62	7655	0.58	ug/L #	44
5) Bromomethane	0.000		0	N.D.		
6) Chloroethane	0.000		0	N.D.		
7) Trichlorofluoromethane	0.000		0	N.D.		
8) Diethyl ether	0.000		0	N.D.		
9) 1,1-Dichloroethene	0.000		0	N.D.		
10) Trichlorotrifluoroethane	0.000		0	N.D.		
11) Acrolein	0.000		0	N.D.		
12) Iodomethane	0.000		0	N.D.	d	
13) Carbon Disulfide	6.625	76	4998	N.D.		
14) 3-chloropropene	0.000		0	N.D.		
15) Acetone	0.000		0	N.D.	d	
16) Methylene Chloride	0.000		0	N.D.		
17) Methyl Acetate	0.000		0	N.D.	d	
18) t-1,2-Dichloroethene	0.000		0	N.D.		
19) Methyl tert-butyl ether	0.000		0	N.D.		
20) Acetonitrile	0.000		0	N.D.		
21) Isopropyl ether	0.000		0	N.D.		
22) Chloroprene	0.000		0	N.D.		
23) 1,1-Dichloroethane	0.000		0	N.D.		
24) Acrylonitrile	0.000		0	N.D.		
25) Vinyl Acetate	0.000		0	N.D.		
26) c-1,2-Dichloroethene	0.000		0	N.D.		
27) 2,2-Dichloropropane	0.000		0	N.D.		
28) Bromochloromethane	0.000		0	N.D.		
29) Cyclohexane	0.000		0	N.D.		
30) Chloroform	0.000		0	N.D.		
32) Dibromofluoromethane	9.434	113	601911	50.81	ug/L #	86
33) 2-Butanone	0.000		0	N.D.		
34) 1,1,1-Trichloroethane	0.000		0	N.D.		
35) 1,1-Dichloropropene	0.000		0	N.D.		
36) Propionitrile	0.000		0	N.D.		
37) Methacrylonitrile	0.000		0	N.D.		
38) Isobutyl Alcohol	0.000		0	N.D.		
40) Carbon Tetrachloride	0.000		0	N.D.		
41) Benzene	9.886	78	9423	N.D.		
42) 1,2-Dichloroethane	0.000		0	N.D.		
43) Trichloroethene	0.000		0	N.D.		
44) Methyl cyclohexane	0.000		0	N.D.	d	
45) Dibromomethane	0.000		0	N.D.		
46) 1,2-Dichloropropane	0.000		0	N.D.		
47) Bromodichloromethane	0.000		0	N.D.		
48) Methyl Methacrylate	0.000		0	N.D.		
49) 1,4-Dioxane	0.000		0	N.D.		
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.		
51) C-1,3-Dichloropropene	0.000		0	N.D.		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW010.D
Acq On : 28 Jul 2021 11:40 am
Operator : kkw
Sample : AE05483-04
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jul 28 12:57:33 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

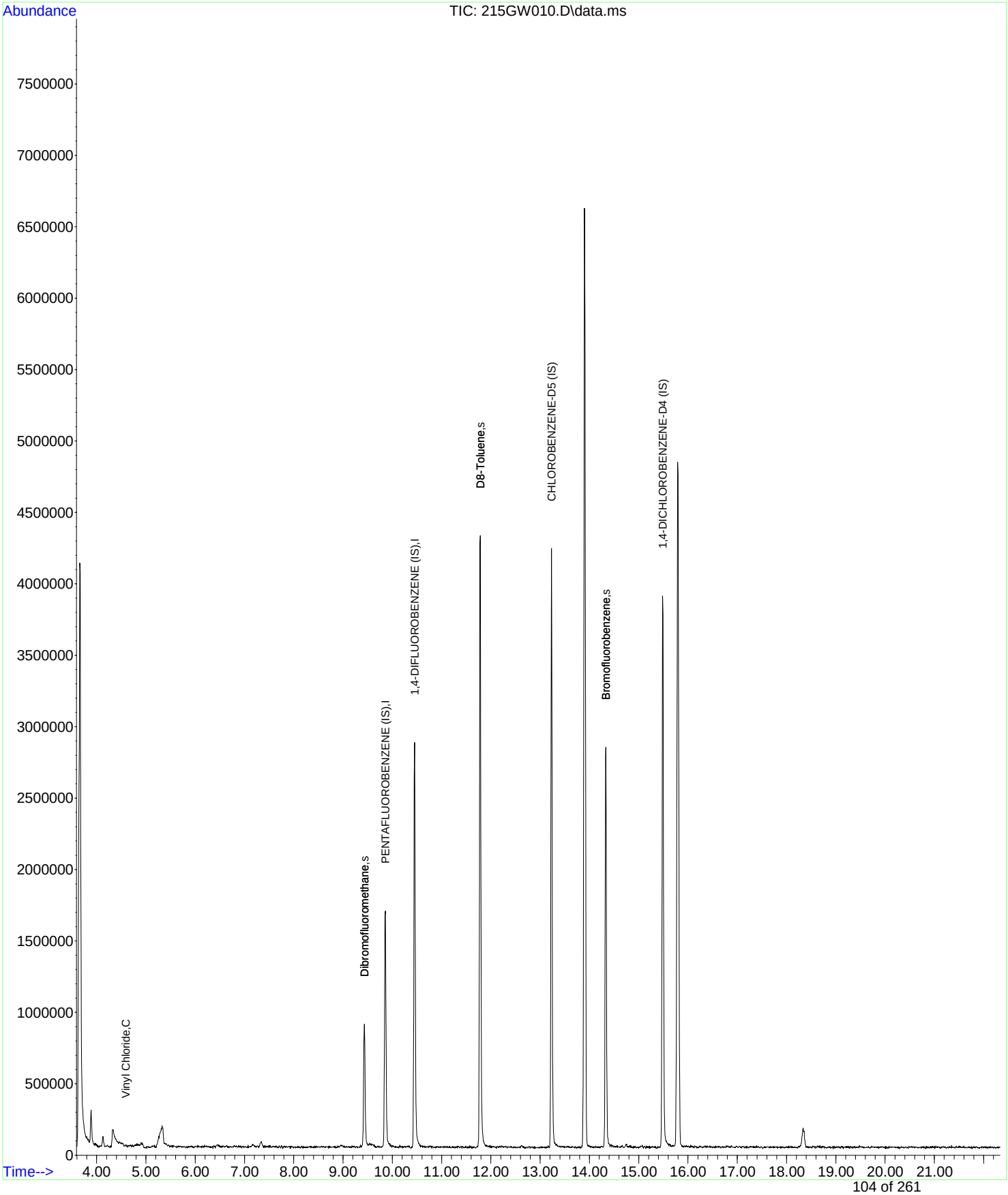
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.784	98	3021088	51.73 ug/L	95
54) 4-Methyl-2-pentanone	0.000		0	N.D.	
56) Toluene	0.000		0	N.D.	
57) T-1,3-Dichloropropene	0.000		0	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	0.000		0	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	0.000		0	N.D.	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	0.000		0	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	0.000		0	N.D.	
70) Styrene	0.000		0	N.D. d	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	0.000		0	N.D. d	
74) Bromofluorobenzene	14.334	95	1285307	49.67 ug/L #	75
75) n-Propylbenzene	0.000		0	N.D.	
76) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D.	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D.	
80) Bromobenzene	0.000		0	N.D.	
81) 1,2,4-Trimethylbenzene	0.000		0	N.D.	
82) 2-Chlorotoluene	0.000		0	N.D.	
83) 4-Chlorotoluene	0.000		0	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	0.000		0	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	0.000		0	N.D.	
88) 1,3-Dichlorobenzene	0.000		0	N.D.	
89) 1,4-Dichlorobenzene	0.000		0	N.D.	
90) n-Butylbenzene	0.000		0	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	0.000		0	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW010.D
Acq On : 28 Jul 2021 11:40 am
Operator : kkw
Sample : AE05483-04
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jul 28 12:57:33 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW011.D
Acq On : 28 Jul 2021 12:08 pm
Operator : kkw
Sample : AE05483-05
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jul 28 12:59:08 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	979486	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2357320	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1479523	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1121546	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	593870	50.67	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 101.34%				
52) D8-Toluene	11.778	98	2973094	51.14	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 102.28%				
73) Bromofluorobenzene	14.328	95	1253205	49.31	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 98.62%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.			
3) Chloromethane	0.000		0	N.D. d			
4) Vinyl Chloride	0.000		0	N.D.			
5) Bromomethane	0.000		0	N.D.			
6) Chloroethane	0.000		0	N.D.			
7) Trichlorofluoromethane	0.000		0	N.D.			
8) Diethyl ether	0.000		0	N.D.			
9) 1,1-Dichloroethene	0.000		0	N.D.			
10) Trichlorotrifluoroethane	0.000		0	N.D.			
11) Acrolein	0.000		0	N.D.			
12) Iodomethane	0.000		0	N.D. d			
13) Carbon Disulfide	6.637	76	4665	N.D.			
14) 3-chloropropene	0.000		0	N.D.			
15) Acetone	0.000		0	N.D. d			
16) Methylene Chloride	0.000		0	N.D.			
17) Methyl Acetate	0.000		0	N.D. d			
18) t-1,2-Dichloroethene	0.000		0	N.D.			
19) Methyl tert-butyl ether	0.000		0	N.D.			
20) Acetonitrile	0.000		0	N.D.			
21) Isopropyl ether	0.000		0	N.D.			
22) Chloroprene	0.000		0	N.D.			
23) 1,1-Dichloroethane	0.000		0	N.D.			
24) Acrylonitrile	0.000		0	N.D.			
25) Vinyl Acetate	0.000		0	N.D.			
26) c-1,2-Dichloroethene	0.000		0	N.D.			
27) 2,2-Dichloropropane	0.000		0	N.D.			
28) Bromochloromethane	0.000		0	N.D.			
29) Cyclohexane	0.000		0	N.D.			
30) Chloroform	0.000		0	N.D.			
32) Dibromofluoromethane	9.428	113	593870	50.67	ug/L	#	87
33) 2-Butanone	0.000		0	N.D.			
34) 1,1,1-Trichloroethane	0.000		0	N.D.			
35) 1,1-Dichloropropene	0.000		0	N.D.			
36) Propionitrile	0.000		0	N.D.			
37) Methacrylonitrile	0.000		0	N.D.			
38) Isobutyl Alcohol	0.000		0	N.D.			
40) Carbon Tetrachloride	0.000		0	N.D.			
41) Benzene	9.898	78	6882	N.D.			
42) 1,2-Dichloroethane	0.000		0	N.D.			
43) Trichloroethene	0.000		0	N.D.			
44) Methyl cyclohexane	0.000		0	N.D. d			
45) Dibromomethane	0.000		0	N.D.			
46) 1,2-Dichloropropane	0.000		0	N.D.			
47) Bromodichloromethane	0.000		0	N.D.			
48) Methyl Methacrylate	0.000		0	N.D.			
49) 1,4-Dioxane	0.000		0	N.D.			
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.			
51) C-1,3-Dichloropropene	0.000		0	N.D.			

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW011.D
Acq On : 28 Jul 2021 12:08 pm
Operator : kkw
Sample : AE05483-05
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jul 28 12:59:08 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

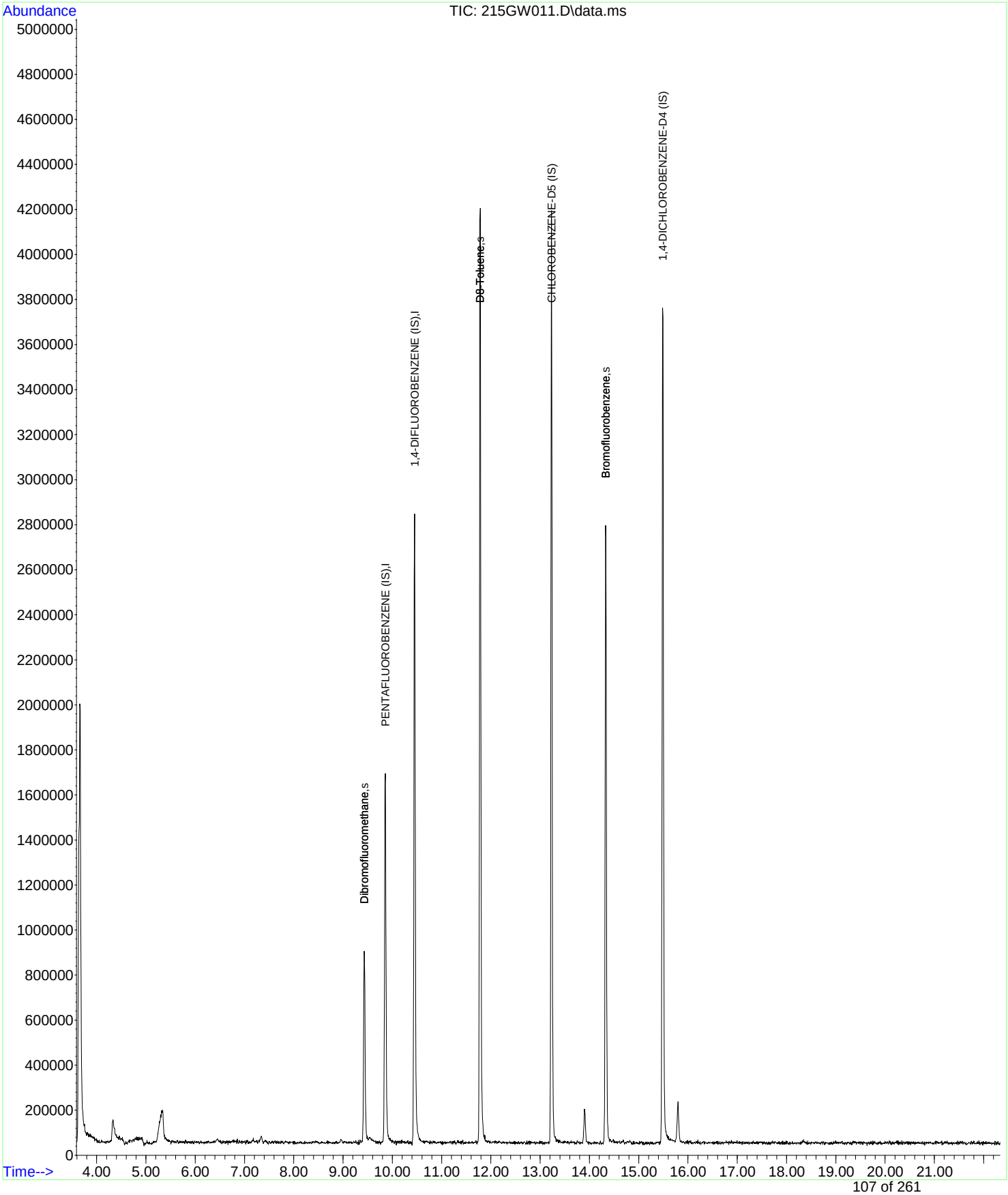
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.778	98	2968316	51.06 ug/L	95
54) 4-Methyl-2-pentanone	0.000		0	N.D.	
56) Toluene	0.000		0	N.D.	
57) T-1,3-Dichloropropene	0.000		0	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	0.000		0	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	0.000		0	N.D.	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	0.000		0	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	0.000		0	N.D.	
70) Styrene	0.000		0	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	0.000		0	N.D.	
74) Bromofluorobenzene	14.328	95	1254601	49.36 ug/L #	77
75) n-Propylbenzene	14.340	91	4507	N.D.	
76) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D.	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D.	
80) Bromobenzene	0.000		0	N.D.	
81) 1,2,4-Trimethylbenzene	0.000		0	N.D.	
82) 2-Chlorotoluene	0.000		0	N.D.	
83) 4-Chlorotoluene	0.000		0	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	0.000		0	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	0.000		0	N.D.	
88) 1,3-Dichlorobenzene	0.000		0	N.D.	
89) 1,4-Dichlorobenzene	0.000		0	N.D.	
90) n-Butylbenzene	0.000		0	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	0.000		0	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW011.D
Acq On : 28 Jul 2021 12:08 pm
Operator : kkw
Sample : AE05483-05
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jul 28 12:59:08 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW012.D
Acq On : 28 Jul 2021 12:37 pm
Operator : kkw
Sample : AE05483-06
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 28 14:00:29 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	975384	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2333021	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1444445	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1110125	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	591298	50.66	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 101.32%				
52) D8-Toluene	11.784	98	3002521	52.19	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 104.38%				
73) Bromofluorobenzene	14.334	95	1264763	50.97	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 101.94%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.			
3) Chloromethane	0.000		0	N.D.	d		
4) Vinyl Chloride	4.592	62	227441	17.53	ug/L	#	65
5) Bromomethane	0.000		0	N.D.			
6) Chloroethane	0.000		0	N.D.			
7) Trichlorofluoromethane	0.000		0	N.D.			
8) Diethyl ether	0.000		0	N.D.			
9) 1,1-Dichloroethene	0.000		0	N.D.			
10) Trichlorotrifluoroethane	0.000		0	N.D.			
11) Acrolein	0.000		0	N.D.			
12) Iodomethane	0.000		0	N.D.			
13) Carbon Disulfide	0.000		0	N.D.			
14) 3-chloropropene	0.000		0	N.D.			
15) Acetone	0.000		0	N.D.	d		
16) Methylene Chloride	0.000		0	N.D.			
17) Methyl Acetate	0.000		0	N.D.	d		
18) t-1,2-Dichloroethene	0.000		0	N.D.			
19) Methyl tert-butyl ether	0.000		0	N.D.			
20) Acetonitrile	0.000		0	N.D.			
21) Isopropyl ether	0.000		0	N.D.			
22) Chloroprene	0.000		0	N.D.			
23) 1,1-Dichloroethane	0.000		0	N.D.			
24) Acrylonitrile	0.000		0	N.D.			
25) Vinyl Acetate	0.000		0	N.D.			
26) c-1,2-Dichloroethene	0.000		0	N.D.			
27) 2,2-Dichloropropane	0.000		0	N.D.			
28) Bromochloromethane	0.000		0	N.D.			
29) Cyclohexane	0.000		0	N.D.			
30) Chloroform	0.000		0	N.D.			
32) Dibromofluoromethane	9.428	113	591298	50.66	ug/L	#	88
33) 2-Butanone	0.000		0	N.D.			
34) 1,1,1-Trichloroethane	0.000		0	N.D.			
35) 1,1-Dichloropropene	0.000		0	N.D.			
36) Propionitrile	0.000		0	N.D.			
37) Methacrylonitrile	0.000		0	N.D.			
38) Isobutyl Alcohol	0.000		0	N.D.			
40) Carbon Tetrachloride	0.000		0	N.D.			
41) Benzene	9.892	78	5674	N.D.			
42) 1,2-Dichloroethane	0.000		0	N.D.			
43) Trichloroethene	0.000		0	N.D.			
44) Methyl cyclohexane	0.000		0	N.D.	d		
45) Dibromomethane	0.000		0	N.D.			
46) 1,2-Dichloropropane	0.000		0	N.D.			
47) Bromodichloromethane	0.000		0	N.D.			
48) Methyl Methacrylate	0.000		0	N.D.			
49) 1,4-Dioxane	0.000		0	N.D.			
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.			
51) C-1,3-Dichloropropene	0.000		0	N.D.			

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW012.D
Acq On : 28 Jul 2021 12:37 pm
Operator : kkw
Sample : AE05483-06
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 28 14:00:29 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

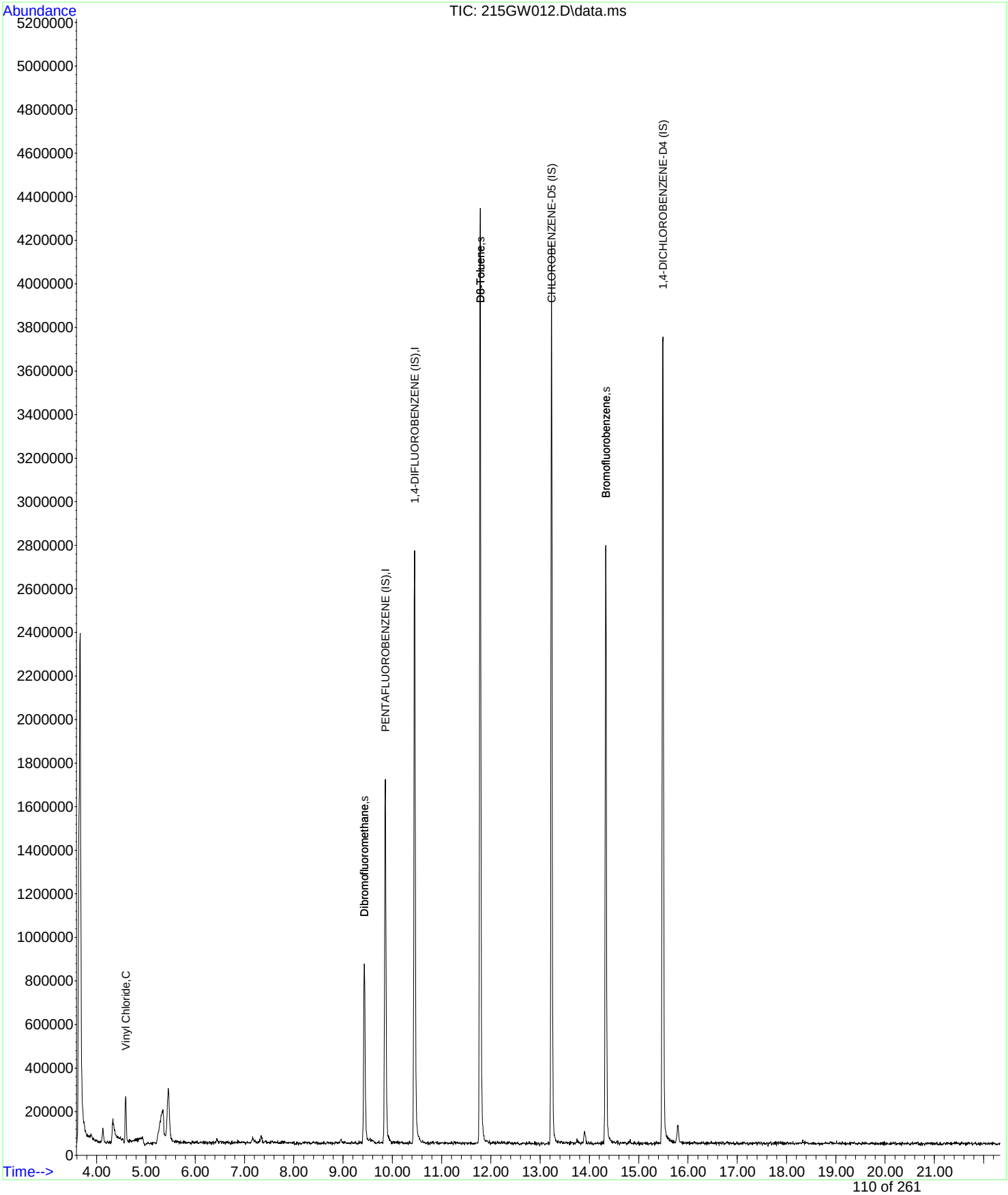
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.784	98	2997941	52.11 ug/L	95
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	0.000		0	N.D.	
57) T-1,3-Dichloropropene	0.000		0	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	0.000		0	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	0.000		0	N.D.	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	0.000		0	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	13.752	106	4601	N.D.	
70) Styrene	0.000		0	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	0.000		0	N.D.	
74) Bromofluorobenzene	14.334	95	1264763	50.97 ug/L #	76
75) n-Propylbenzene	0.000		0	N.D.	
76) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D.	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D.	
80) Bromobenzene	0.000		0	N.D.	
81) 1,2,4-Trimethylbenzene	0.000		0	N.D.	
82) 2-Chlorotoluene	0.000		0	N.D.	
83) 4-Chlorotoluene	0.000		0	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	0.000		0	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	0.000		0	N.D.	
88) 1,3-Dichlorobenzene	0.000		0	N.D.	
89) 1,4-Dichlorobenzene	0.000		0	N.D.	
90) n-Butylbenzene	0.000		0	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	0.000		0	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW012.D
Acq On : 28 Jul 2021 12:37 pm
Operator : kkw
Sample : AE05483-06
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 28 14:00:29 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW013.D
Acq On : 28 Jul 2021 1:05 pm
Operator : kkw
Sample : AE05483-07
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jul 28 14:03:46 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) PENTAFLUOROBENZENE (IS)	9.857	168	971946	50.00 ug/L	0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2288770	50.00 ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1447392	50.00 ug/L	# 0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1103226	50.00 ug/L	0.00
System Monitoring Compounds					
31) Dibromofluoromethane	9.434	113	593242	51.01 ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 102.02%		
52) D8-Toluene	11.784	98	2939381	52.08 ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 104.16%		
73) Bromofluorobenzene	14.334	95	1247793	50.19 ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 100.38%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.	
3) Chloromethane	0.000		0	N.D. d	
4) Vinyl Chloride	4.592	62	17773	1.37 ug/L #	1
5) Bromomethane	0.000		0	N.D.	
6) Chloroethane	0.000		0	N.D.	
7) Trichlorofluoromethane	0.000		0	N.D.	
8) Diethyl ether	0.000		0	N.D.	
9) 1,1-Dichloroethene	0.000		0	N.D.	
10) Trichlorotrifluoroethane	0.000		0	N.D.	
11) Acrolein	0.000		0	N.D.	
12) Iodomethane	0.000		0	N.D. d	
13) Carbon Disulfide	6.631	76	4336	N.D.	
14) 3-chloropropene	0.000		0	N.D.	
15) Acetone	0.000		0	N.D. d	
16) Methylene Chloride	0.000		0	N.D.	
17) Methyl Acetate	0.000		0	N.D. d	
18) t-1,2-Dichloroethene	0.000		0	N.D.	
19) Methyl tert-butyl ether	0.000		0	N.D.	
20) Acetonitrile	0.000		0	N.D.	
21) Isopropyl ether	0.000		0	N.D.	
22) Chloroprene	0.000		0	N.D.	
23) 1,1-Dichloroethane	0.000		0	N.D.	
24) Acrylonitrile	0.000		0	N.D.	
25) Vinyl Acetate	0.000		0	N.D.	
26) c-1,2-Dichloroethene	0.000		0	N.D.	
27) 2,2-Dichloropropane	0.000		0	N.D.	
28) Bromochloromethane	0.000		0	N.D.	
29) Cyclohexane	0.000		0	N.D.	
30) Chloroform	0.000		0	N.D.	
32) Dibromofluoromethane	9.434	113	593242	51.01 ug/L #	89
33) 2-Butanone	0.000		0	N.D.	
34) 1,1,1-Trichloroethane	0.000		0	N.D.	
35) 1,1-Dichloropropene	0.000		0	N.D.	
36) Propionitrile	0.000		0	N.D.	
37) Methacrylonitrile	0.000		0	N.D.	
38) Isobutyl Alcohol	0.000		0	N.D.	
40) Carbon Tetrachloride	0.000		0	N.D.	
41) Benzene	9.892	78	5745	N.D.	
42) 1,2-Dichloroethane	0.000		0	N.D.	
43) Trichloroethene	0.000		0	N.D.	
44) Methyl cyclohexane	0.000		0	N.D. d	
45) Dibromomethane	0.000		0	N.D.	
46) 1,2-Dichloropropane	0.000		0	N.D.	
47) Bromodichloromethane	0.000		0	N.D.	
48) Methyl Methacrylate	0.000		0	N.D.	
49) 1,4-Dioxane	0.000		0	N.D.	
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.	
51) C-1,3-Dichloropropene	0.000		0	N.D.	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW013.D
Acq On : 28 Jul 2021 1:05 pm
Operator : kkw
Sample : AE05483-07
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jul 28 14:03:46 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

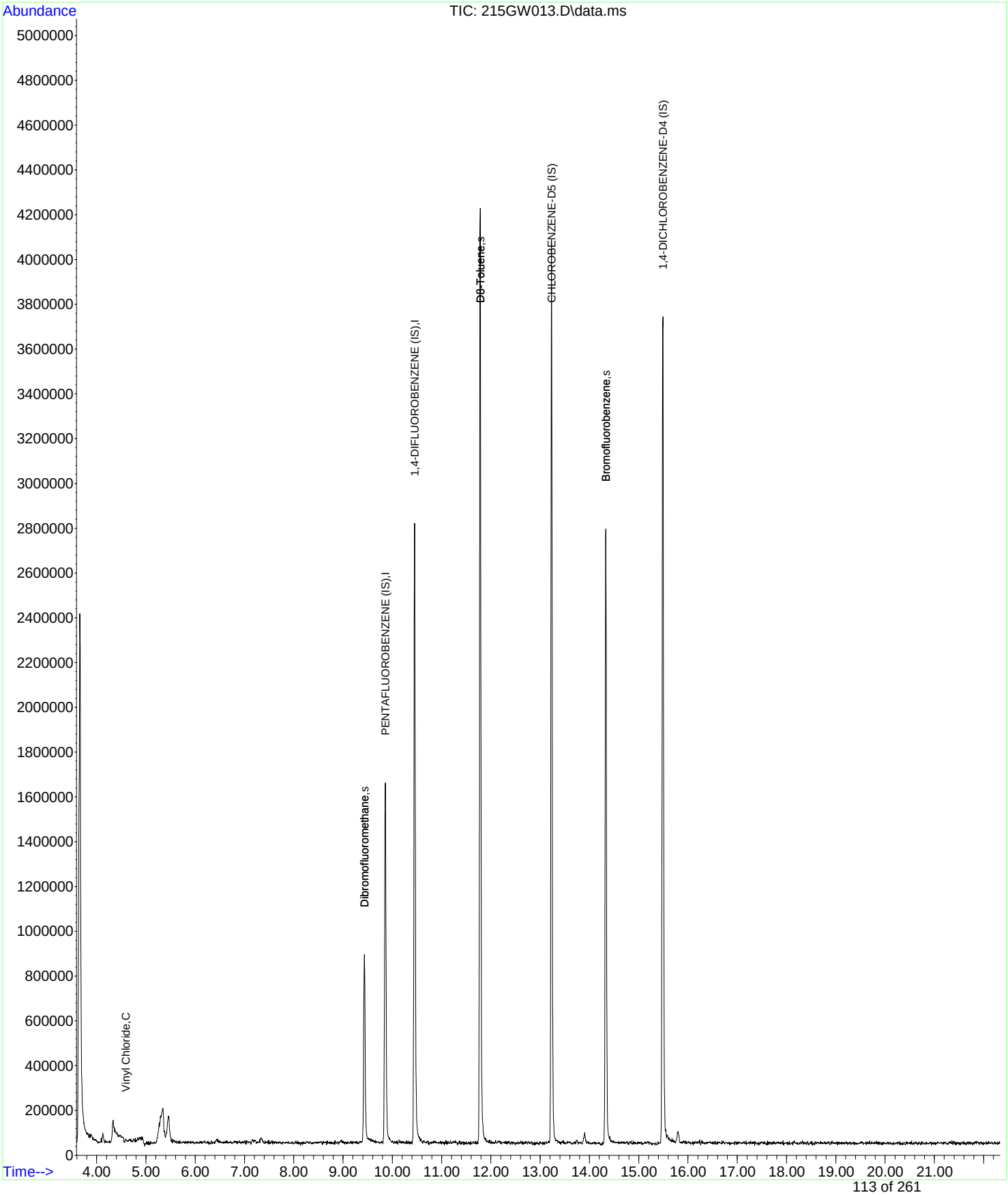
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.784	98	2936247	52.02 ug/L	95
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	0.000		0	N.D.	
57) T-1,3-Dichloropropene	0.000		0	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	0.000		0	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	0.000		0	N.D.	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	0.000		0	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	0.000		0	N.D. d	
70) Styrene	0.000		0	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	0.000		0	N.D.	
74) Bromofluorobenzene	14.334	95	1247793	50.19 ug/L #	76
75) n-Propylbenzene	14.334	91	4635	N.D.	
76) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D.	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D.	
80) Bromobenzene	0.000		0	N.D.	
81) 1,2,4-Trimethylbenzene	0.000		0	N.D.	
82) 2-Chlorotoluene	0.000		0	N.D.	
83) 4-Chlorotoluene	0.000		0	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	0.000		0	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	0.000		0	N.D.	
88) 1,3-Dichlorobenzene	0.000		0	N.D.	
89) 1,4-Dichlorobenzene	0.000		0	N.D.	
90) n-Butylbenzene	0.000		0	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	0.000		0	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW013.D
Acq On : 28 Jul 2021 1:05 pm
Operator : kkw
Sample : AE05483-07
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jul 28 14:03:46 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW026.D
Acq On : 28 Jul 2021 7:08 pm
Operator : kkw
Sample : 1G28012-MS1
Misc :
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Jul 29 07:18:15 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.856	168	997249	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2338476	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1494708	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1150265	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	630368	52.83	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 105.66%				
52) D8-Toluene	11.784	98	3005898	52.12	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 104.24%				
73) Bromofluorobenzene	14.334	95	1339848	52.18	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 104.36%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.987	85	190133	18.53	ug/L		99
3) Chloromethane	4.416	50	257923	16.92	ug/L		96
4) Vinyl Chloride	4.586	62	329091	24.81	ug/L	#	37
5) Bromomethane	5.232	94	27661	8.33	ug/L	#	88
6) Chloroethane	5.450	64	134916	18.44	ug/L		96
7) Trichlorofluoromethane	5.702	101	338068	22.27	ug/L		99
8) Diethyl ether	6.184	59	196212	19.04	ug/L		98
9) 1,1-Dichloroethene	6.537	96	238557	22.51	ug/L		99
10) Trichlorotrifluoroethane	6.572	151	137948	21.46	ug/L		96
11) Acrolein	7.030	56	65812	24.58	ug/L		98
12) Iodomethane	6.784	142	151328	17.06	ug/L		97
13) Carbon Disulfide	6.631	76	797526	24.96	ug/L		99
14) 3-chloropropene	7.201	41	396557	21.60	ug/L		98
15) Acetone	7.401	43	190103	44.89	ug/L		97
16) Methylene Chloride	7.342	84	263848	19.41	ug/L		94
17) Methyl Acetate	7.524	43	193824	17.43	ug/L		98
18) t-1,2-Dichloroethene	7.553	96	266795	22.06	ug/L		97
19) Methyl tert-butyl ether	7.636	73	596237	19.44	ug/L		95
20) Acetonitrile	8.041	41	343113	121.90	ug/L	#	91
21) Isopropyl ether	8.059	45	776639	20.18	ug/L		98
22) Chloroprene	8.276	88	239688	20.74	ug/L		95
23) 1,1-Dichloroethane	8.317	63	515401	22.41	ug/L		99
24) Acrylonitrile	8.399	53	125652	23.71	ug/L		93
25) Vinyl Acetate	8.546	43	431883	15.82	ug/L		99
26) c-1,2-Dichloroethene	8.952	96	288553	22.09	ug/L		98
27) 2,2-Dichloropropane	9.075	77	342453	20.73	ug/L		98
28) Bromochloromethane	9.187	128	103235	21.40	ug/L		91
29) Cyclohexane	9.193	56	509618	22.24	ug/L		97
30) Chloroform	9.222	83	463823	21.12	ug/L		98
32) Dibromofluoromethane	9.428	113	630368	52.83	ug/L	#	91
33) 2-Butanone	9.551	72	110813	56.46	ug/L		76
34) 1,1,1-Trichloroethane	9.486	97	368840	22.65	ug/L		98
35) 1,1-Dichloropropene	9.610	75	404927	22.36	ug/L		98
36) Propionitrile	9.909	54	54155	22.90	ug/L	#	1
37) Methacrylonitrile	9.915	41	277177	29.92	ug/L	#	78
38) Isobutyl Alcohol	9.909	43	218079	192.70	ug/L	#	45
40) Carbon Tetrachloride	9.422	117	282150	21.11	ug/L		86
41) Benzene	9.880	78	1222058	22.05	ug/L		97
42) 1,2-Dichloroethane	10.092	62	306559	18.66	ug/L		99
43) Trichloroethene	10.456	130	250591	21.87	ug/L		87
44) Methyl cyclohexane	10.456	83	518178	20.75	ug/L		97
45) Dibromomethane	10.908	93	154838	19.00	ug/L		98
46) 1,2-Dichloropropane	10.985	63	318679	20.21	ug/L		99
47) Bromodichloromethane	11.020	83	318485	20.58	ug/L		99
48) Methyl Methacrylate	11.079	69	201915	16.19	ug/L		98
49) 1,4-Dioxane	11.202	88	78881	658.11	ug/L		98
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.	d		
51) C-1,3-Dichloropropene	11.613	75	428112	18.43	ug/L		100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW026.D
Acq On : 28 Jul 2021 7:08 pm
Operator : kkw
Sample : 1G28012-MS1
Misc :
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Jul 29 07:18:15 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

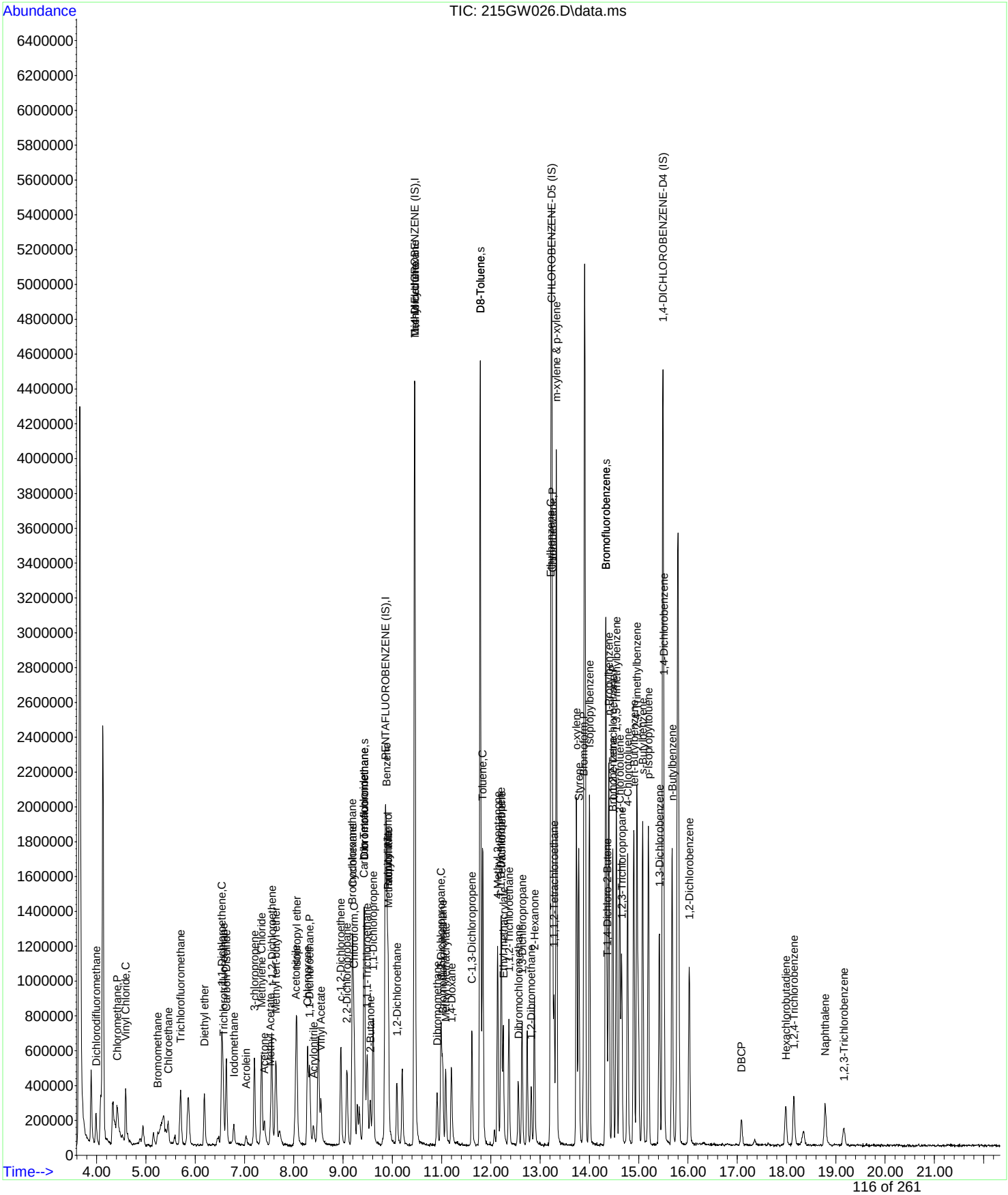
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.784	98	3005898	52.12	ug/L		94
54) 4-Methyl-2-pentanone	12.136	100	115942	53.96	ug/L		99
56) Toluene	11.831	92	805972	22.05	ug/L		98
57) T-1,3-Dichloropropene	12.201	75	392725	21.23	ug/L		99
58) Tetrachloroethene	12.213	164	171467	20.50	ug/L		99
59) Ethyl methacrylate	12.254	69	395109	18.41	ug/L		95
60) 1,1,2-Trichloroethane	12.365	97	256879	20.42	ug/L		98
61) Dibromochloromethane	12.559	129	203840	18.20	ug/L		97
62) 1,3-Dichloropropane	12.636	76	435547	18.90	ug/L		99
63) 1,2-Dibromoethane	12.818	107	243578	19.33	ug/L		95
64) 2-Hexanone	12.882	43	533695	46.99	ug/L		98
65) Ethylbenzene	13.211	106	431395	20.92	ug/L		95
66) Chlorobenzene	13.247	112	781338	21.52	ug/L		98
67) 1,1,1,2-Tetrachloroethane	13.282	131	218312	20.83	ug/L		98
68) m-xylene & p-xylene	13.329	106	1128411	42.64	ug/L		99
69) o-xylene	13.734	106	574592	22.01	ug/L		94
70) Styrene	13.781	104	909351	19.67	ug/L		99
71) Bromoform	13.881	173	94291	14.77	ug/L		99
72) Isopropylbenzene	13.999	105	1486028	20.84	ug/L		99
74) Bromofluorobenzene	14.334	95	1339848	52.18	ug/L	#	73
75) n-Propylbenzene	14.392	91	1932539	20.59	ug/L		98
76) 1,1,2,2-Tetrachloroethane	14.475	83	434281	20.18	ug/L		99
77) 1,2,3-Trichloropropane	14.657	61	89661	18.01	ug/L		94
78) T-1,4-Dichloro-2-Butene	14.357	53	118990	18.89	ug/L	#	67
80) Bromobenzene	14.469	156	260598	20.92	ug/L		97
81) 1,2,4-Trimethylbenzene	14.962	105	1303913	21.36	ug/L		99
82) 2-Chlorotoluene	14.616	91	1112509	21.85	ug/L		99
83) 4-Chlorotoluene	14.774	91	1144898	20.49	ug/L		99
84) tert-Butylbenzene	14.904	119	995229	20.77	ug/L		99
85) 1,3,5-Trimethylbenzene	14.545	105	1248360	20.57	ug/L		100
86) p-Isopropyltoluene	15.197	119	1247673	21.28	ug/L		99
87) s-Butylbenzene	15.080	105	1567774	21.51	ug/L		100
88) 1,3-Dichlorobenzene	15.421	146	544676	20.90	ug/L		98
89) 1,4-Dichlorobenzene	15.509	146	552856	20.47	ug/L	#	83
90) n-Butylbenzene	15.679	91	1230311	20.33	ug/L		99
91) 1,2-Dichlorobenzene	16.026	146	498884	19.84	ug/L		98
92) DBCP	17.083	157	46868	22.07	ug/L		88
93) Hexachlorobutadiene	17.988	225	54602	19.39	ug/L		91
94) 1,2,4-Trichlorobenzene	18.147	180	114677	23.25	ug/L		96
95) Naphthalene	18.782	128	319104	24.69	ug/L		99
96) 1,2,3-Trichlorobenzene	19.163	180	48103	23.59	ug/L		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW026.D
Acq On : 28 Jul 2021 7:08 pm
Operator : kkw
Sample : 1G28012-MS1
Misc :
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Jul 29 07:18:15 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW027.D
Acq On : 28 Jul 2021 7:36 pm
Operator : kkw
Sample : 1G28012-MSD1
Misc :
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Jul 29 07:18:19 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1150116	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2743352	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1660336	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1091251	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.434	113	686432	49.88	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 99.76%				
52) D8-Toluene	11.784	98	3405828	50.34	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 100.68%				
73) Bromofluorobenzene	14.334	95	1376717	48.27	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 96.54%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.			
3) Chloromethane	4.387	50	4363	0.25	ug/L	#	41
4) Vinyl Chloride	0.000		0	N.D.			
5) Bromomethane	0.000		0	N.D.			
6) Chloroethane	0.000		0	N.D.			
7) Trichlorofluoromethane	0.000		0	N.D.			
8) Diethyl ether	0.000		0	N.D.			
9) 1,1-Dichloroethene	0.000		0	N.D.			
10) Trichlorotrifluoroethane	0.000		0	N.D.			
11) Acrolein	0.000		0	N.D.			
12) Iodomethane	0.000		0	N.D.			
13) Carbon Disulfide	6.643	76	14633	0.39	ug/L	#	9
14) 3-chloropropene	0.000		0	N.D.			
15) Acetone	0.000		0	N.D.			
16) Methylene Chloride	0.000		0	N.D.			
17) Methyl Acetate	0.000		0	N.D.			
18) t-1,2-Dichloroethene	0.000		0	N.D.			
19) Methyl tert-butyl ether	0.000		0	N.D.			
20) Acetonitrile	0.000		0	N.D.			
21) Isopropyl ether	0.000		0	N.D.			
22) Chloroprene	0.000		0	N.D.			
23) 1,1-Dichloroethane	0.000		0	N.D.			
24) Acrylonitrile	0.000		0	N.D.			
25) Vinyl Acetate	0.000		0	N.D.			
26) c-1,2-Dichloroethene	0.000		0	N.D.			
27) 2,2-Dichloropropane	0.000		0	N.D.			
28) Bromochloromethane	0.000		0	N.D.			
29) Cyclohexane	0.000		0	N.D.			
30) Chloroform	0.000		0	N.D.			
32) Dibromofluoromethane	9.434	113	686432	49.88	ug/L	#	87
33) 2-Butanone	0.000		0	N.D.			
34) 1,1,1-Trichloroethane	0.000		0	N.D.			
35) 1,1-Dichloropropene	0.000		0	N.D.			
36) Propionitrile	0.000		0	N.D.			
37) Methacrylonitrile	0.000		0	N.D.			
38) Isobutyl Alcohol	0.000		0	N.D.			
40) Carbon Tetrachloride	9.357	117	4278	0.27	ug/L	#	1
41) Benzene	9.880	78	5254	N.D.			
42) 1,2-Dichloroethane	0.000		0	N.D.			
43) Trichloroethene	0.000		0	N.D.			
44) Methyl cyclohexane	10.456	83	33836	1.15	ug/L	#	44
45) Dibromomethane	0.000		0	N.D.			
46) 1,2-Dichloropropane	0.000		0	N.D.			
47) Bromodichloromethane	0.000		0	N.D.			
48) Methyl Methacrylate	0.000		0	N.D.			
49) 1,4-Dioxane	0.000		0	N.D.			
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.			
51) C-1,3-Dichloropropene	0.000		0	N.D.			

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW027.D
Acq On : 28 Jul 2021 7:36 pm
Operator : kkw
Sample : 1G28012-MSD1
Misc :
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Jul 29 07:18:19 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

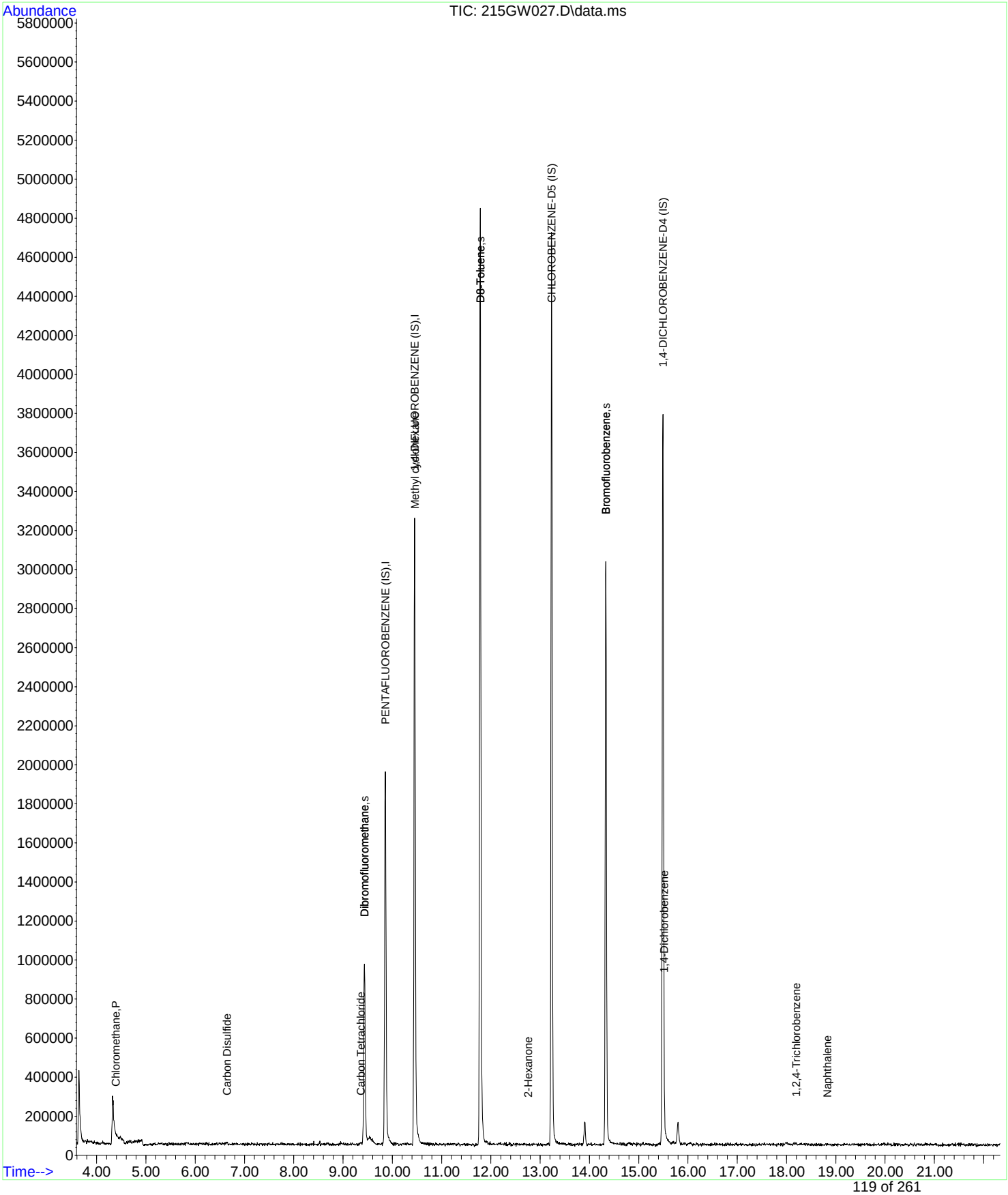
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.784	98	3405828	50.34 ug/L	95
54) 4-Methyl-2-pentanone	0.000		0	N.D.	
56) Toluene	0.000		0	N.D.	
57) T-1,3-Dichloropropene	0.000		0	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	0.000		0	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	12.753	43	4250	0.34 ug/L #	28
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	0.000		0	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	0.000		0	N.D.	
70) Styrene	0.000		0	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	0.000		0	N.D.	
74) Bromofluorobenzene	14.334	95	1376717	48.27 ug/L #	75
75) n-Propylbenzene	14.410	91	4175	N.D.	
76) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D.	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D.	
80) Bromobenzene	0.000		0	N.D.	
81) 1,2,4-Trimethylbenzene	15.092	105	7096	N.D.	
82) 2-Chlorotoluene	0.000		0	N.D.	
83) 4-Chlorotoluene	14.798	91	4655	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	0.000		0	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	15.092	105	7096	N.D.	
88) 1,3-Dichlorobenzene	15.415	146	4196	N.D.	
89) 1,4-Dichlorobenzene	15.515	146	5158	0.20 ug/L #	1
90) n-Butylbenzene	15.721	91	7499	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	18.194	180	4169	1.02 ug/L #	36
95) Naphthalene	18.829	128	10459	1.09 ug/L #	69
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW027.D
Acq On : 28 Jul 2021 7:36 pm
Operator : kkw
Sample : 1G28012-MSD1
Misc :
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Jul 29 07:18:19 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration



ANALYSIS SEQUENCE

AA66932

Instrument: OVGCMS5

Calibration ID: 2105058

Printed: 6/18/2021 10:00:04AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA66932-TUN1	QC		1		A1B1159			
AA66932-CAL1	QC		2		A1F0975	A1D0593		
AA66932-CAL2	QC		3		A1F0976	A1D0593		
AA66932-CAL3	QC		4		A1F0977	A1D0593		
AA66932-CAL4	QC		5		A1F0978	A1D0593		
AA66932-CAL5	QC		6		A1F0979	A1D0593		
AA66932-CAL6	QC		7		A1F0980	A1D0593		
AA66932-CAL7	QC		8		A1F0981	A1D0593		
AA66932-CAL8	QC		9		A1F0982	A1D0593		
AA66932-SCV1	QC		10		A1F0991	A1D0593		

Samples Loaded By 6/18/21 Date

Data Processed By 6/18/21 Date Rec'd 6/21/21

Sequence Name: C:\msdchem\1\sequence\215FM.s
Comment:
Operator: kkw
Data Path: C:\msdchem\1\DATA\061821\
Instrument Control Pre-Seq Cmd:
Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:
Data Analysis Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

Sequence Barcode Options
(X) On Mismatch, Inject Anyway
( ) On Mismatch, Don't Inject
( ) Barcode Disabled

Line		Sample Name/Misc Info		
1)	Sample	1	215FM001 8260S	tun1
2)	Sample	1	215FM002 8260S	tun1
3)	Sample	1	215FM003 8260S	tun1
4)	Sample	2	215FM004 8260S	aa66932-cal1
5)	Sample	3	215FM005 8260S	aa66932-cal2
6)	Sample	4	215FM006 8260S	aa66932-cal3
7)	Sample	5	215FM007 8260S	aa66932-cal4
8)	Sample	6	215FM008 8260S	aa66932-cal5
9)	Sample	7	215FM009 8260S	aa66932-cal6
10)	Sample	8	215FM010 8260S	aa66932-cal7
11)	Sample	9	215FM011 8260S	aa66932-cal8
12)	Sample	10	215FM012 8260S	rinse
13)	Sample	11	215FM013 8260S	aa66932-scv1
14)	Sample	12	215FM014 8260S	1F18027-bs1
15)	Sample	13	215FM015 8260S	1F18027-blk1
16)	Sample	14	215FM016 8260S	AE05123-07
17)	Sample	15	215FM017 8260S	AE04936-21RE1@2
18)	Sample	16	215FM018 8260S	AE04936-22RE1@2
19)	Sample	17	215FM019 8260S	AE04936-23RE1
20)	Sample	18	215FM020 8260S	AE04966-06RE1@2
21)	Sample	19	215FM021 8260S	AE04966-07RE1@2
22)	Sample	20	215FM022 8260S	AE04966-08RE1@20
23)	Sample	21	215FM023 8260S	1F18027-MS1
24)	Sample	21	215FM024 8260S	1F18027-MSD1
25)	Sample	22	215FM025 8260S	AA66946-LCV1
26)	Sample	23	215FM026 8260S	1F18022-BS1
27)	Sample	24	215FM027 8260S	1F18022-MS1
28)	Sample	24	215FM028 8260S	1F18022-MSD1
29)	Sample	25	215FM029 8260S	1F18022-BLK1
30)	Sample	26	215FM030 8260S	AA66949-CRL1
31)	Sample	27	215FM031 8260S	AE03776-01
32)	Sample	28	215FM032 8260S	AE03776-02
33)	Sample	29	215FM033 8260S	AE03776-03
34)	Sample	30	215FM034 8260S	AE05210-01
35)	Sample	31	215FM035 8260S	AE05210-02
36)	Sample	32	215FM036 8260S	AE05210-03
37)	Sample	33	215FM037 8260S	AE05210-04
38)	Sample	34	215FM038 8260S	AE05210-05
39)	Sample	35	215FM039 8260S	AE05190-01
40)	Sample	36	215FM040 8260S	AE05190-02
41)	Sample	37	215FM041 8260S	AE05190-03
42)	Sample	38	215FM042 8260S	AE05190-04
43)	Sample	39	215FM043 8260S	AE05190-05

Sequence Name: C:\msdchem\1\sequence\215FM.s

	Line	Type	Vial	DataFile	Method	Sample Name
44)		Sample	40	215FM044	8260S	AE05162-01
45)		Sample	41	215FM045	8260S	AE05162-02
46)		Sample	42	215FM046	8260S	AE05162-03
47)		Sample	43	215FM047	8260S	AE05162-04
48)		Sample	44	215FM048	8260S	AE05162-05

Manual Integration Review Form

ENVIRONMENTAL CONSERVATION LABORATORIES, INC. ☐ Cary ☐ Jacksonville ☒ Orlando

I hereby attest that the manual integrations contained in this package have been thoroughly reviewed and are in agreement with the associated hardcopy data.

The electronic files listed below have been reviewed for accuracy, completeness and comply with ENCO labs QA-11 Manual Integration Policy including:

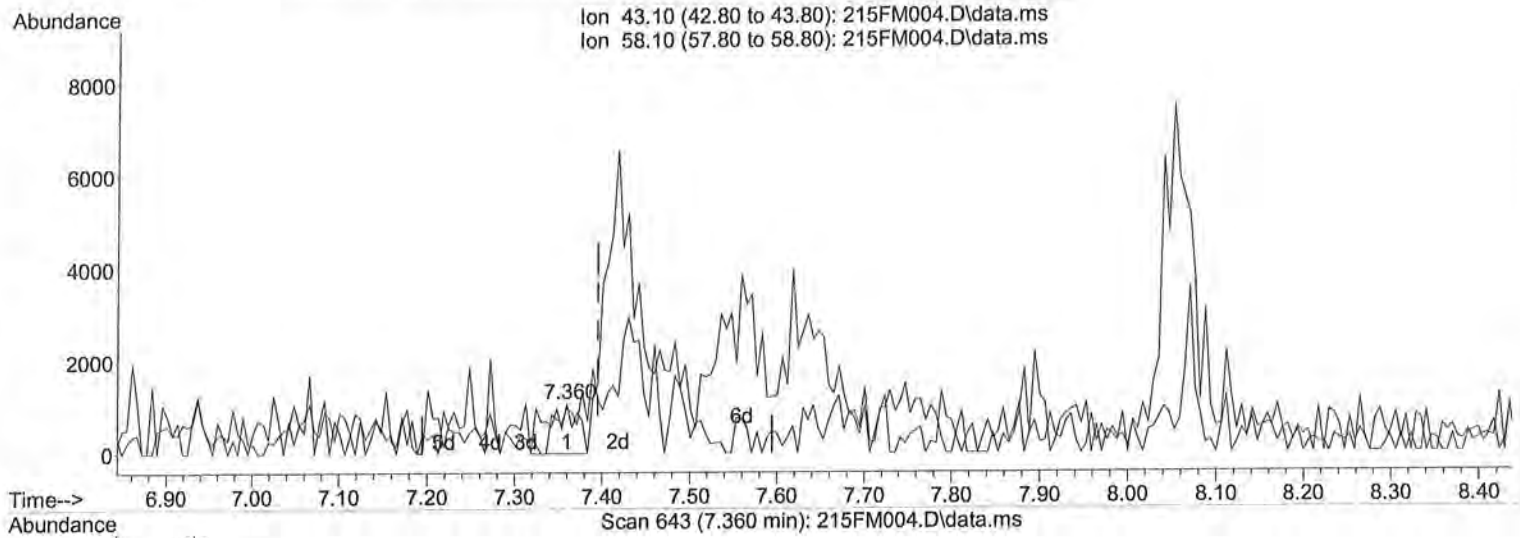
- "Before" and "After" chromatograms are provided
- Manual integrations are indicated on expanded scale "after" chromatograms at a scale large enough to see the manual integration performed.
- Reintegration technique marked if available on the data system
- Technical justification for manual integration
- Appropriate flags indicating which analytes were manually integrated are included in the raw data
- Analyst's initials and date.

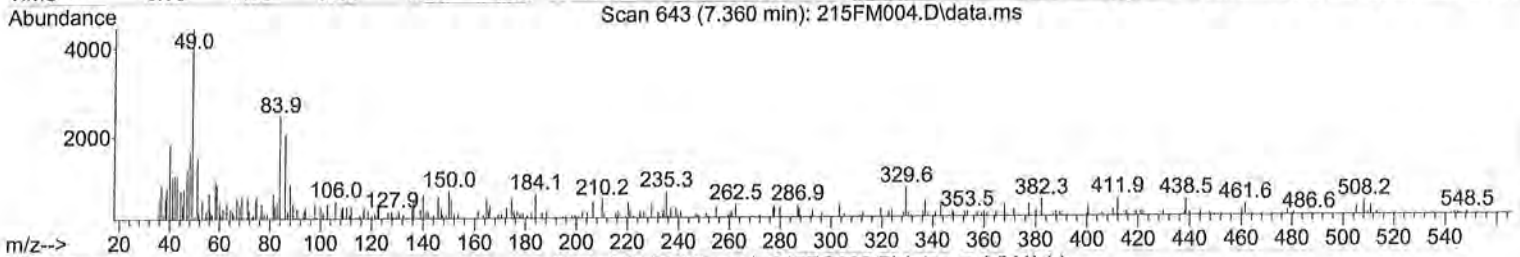
Instrument ID:	OVGCMS5
Sequence/Batch ID:	AA66932
Data File Prefix:	215FM
Date and Time Range of MIs:	06/18/21 0948-0950 06/21/21 0758
Reviewer Print Name:	Karie Gonzalez
Reviewer Signature:	Karie Gonzalez
Date of Review:	6/21/21

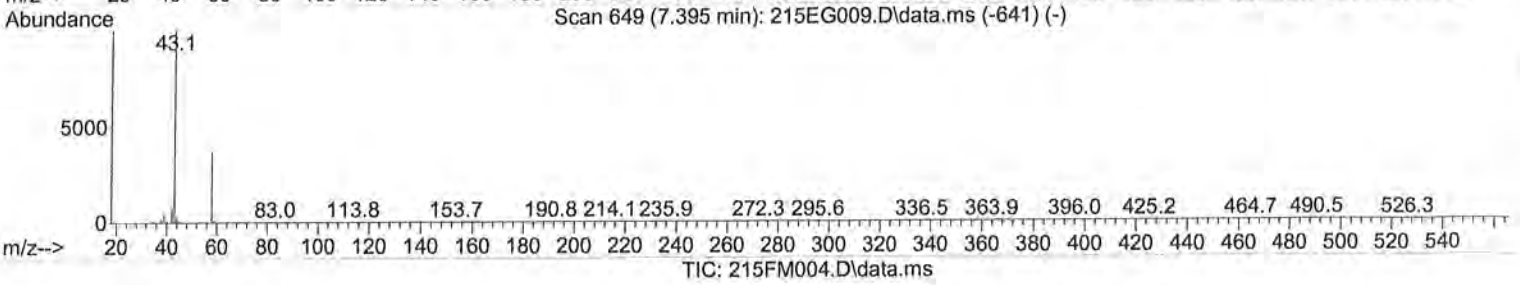
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM004.D
Acq On : 18 Jun 2021 8:05 am
Operator : kkw
Sample : aa66932-cal1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 18 08:40:28 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration







TIC: 215FM004.D\data.ms

(15) Acetone

7.360min (-0.035) 0.68 ug/L

response 2727

Ion	Exp%	Act%
43.10	100.00	100.00
58.10	36.90	191.53#
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

X Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

X Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

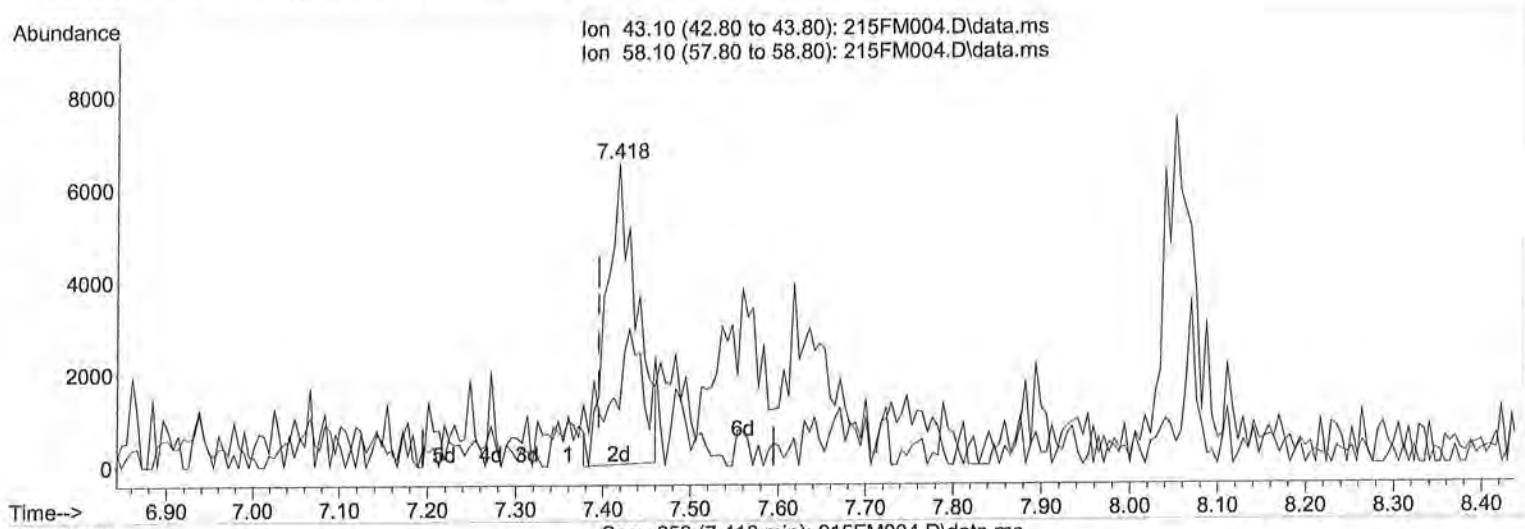
Review by/Date KJ 06/21/21

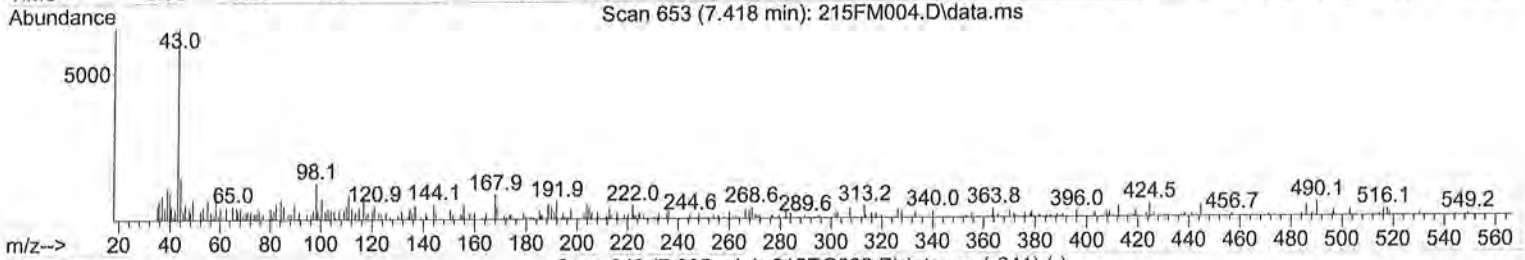
Review by/Date:

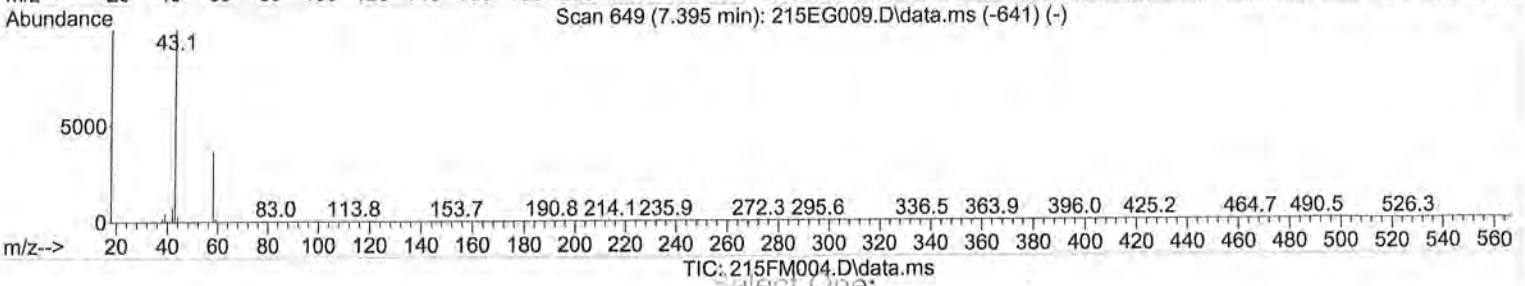
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM004.D
Acq On : 18 Jun 2021 8:05 am
Operator : kkw
Sample : aa66932-cal1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 18 08:40:28 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration







TIC: 215FM004.D\data.ms

(15) Acetone

7.418min (+ 0.024) 3.79 ug/L m

response 15244

Ion	Exp%	Act%
43.10	100.00	100.00
58.10	36.90	34.26
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

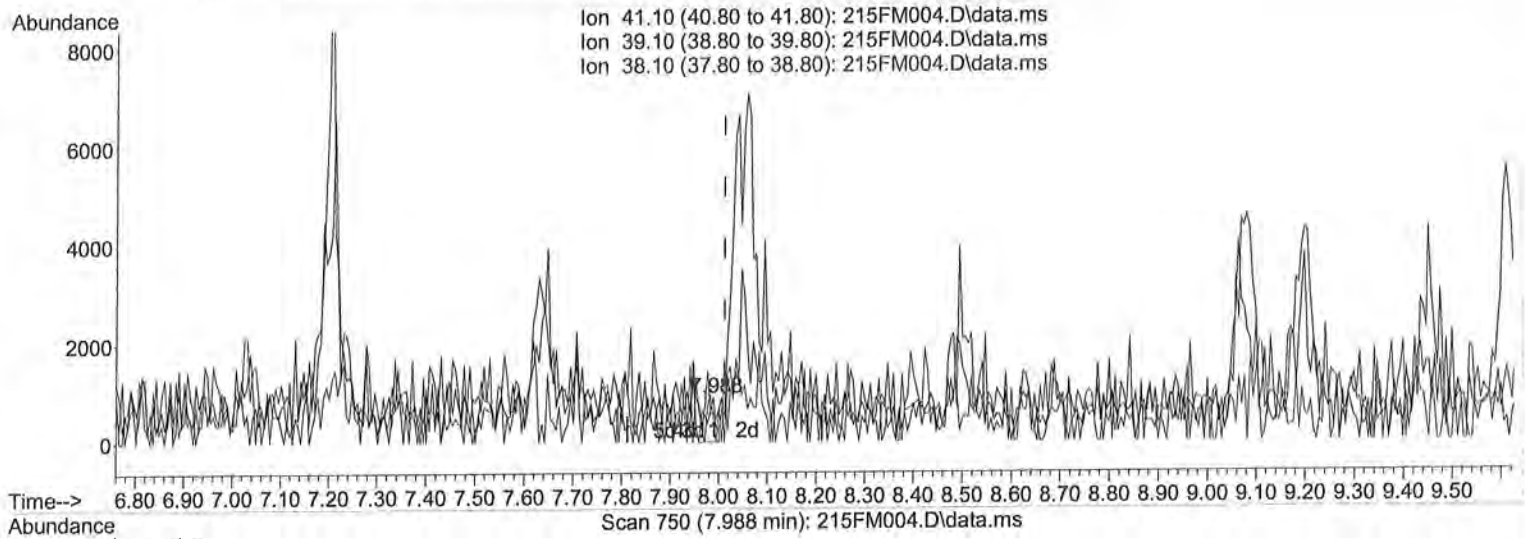
Review by/Date W 06/21/21

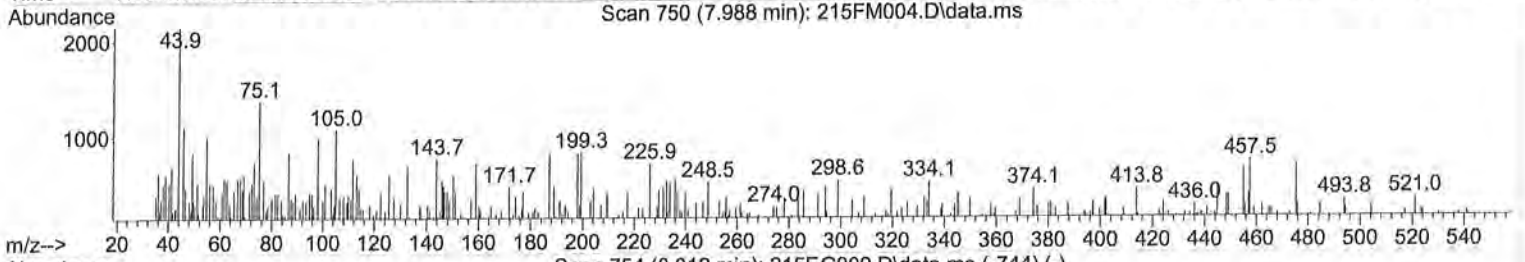
Review by/Date:

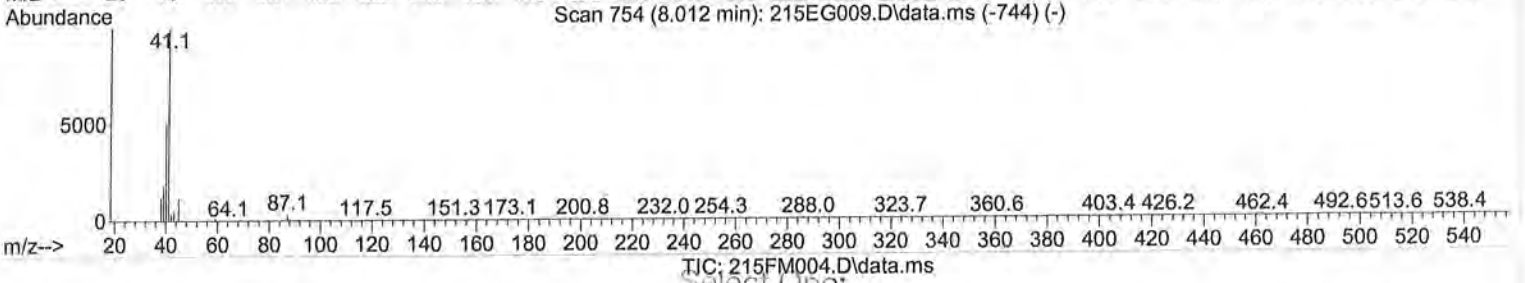
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM004.D
Acq On : 18 Jun 2021 8:05 am
Operator : kkw
Sample : aa66932-cal1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 18 08:40:28 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration







TIC: 215FM004.D\data.ms

(20) Acetonitrile

7.988min (-0.024) 0.44 ug/L

response 1281

Ion	Exp%	Act%
41.10	100.00	100.00
39.10	24.40	147.85#
38.10	10.00	60.42#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

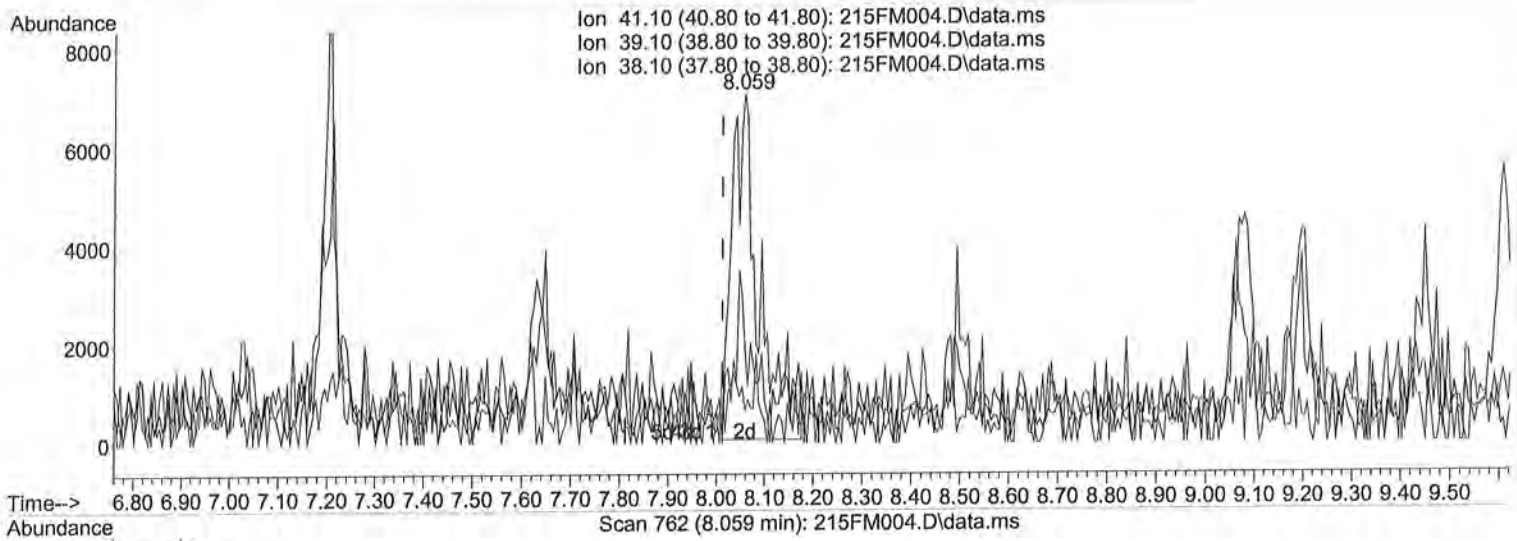
Review by/Date KKW 06/18/21 KKW 06/18/21

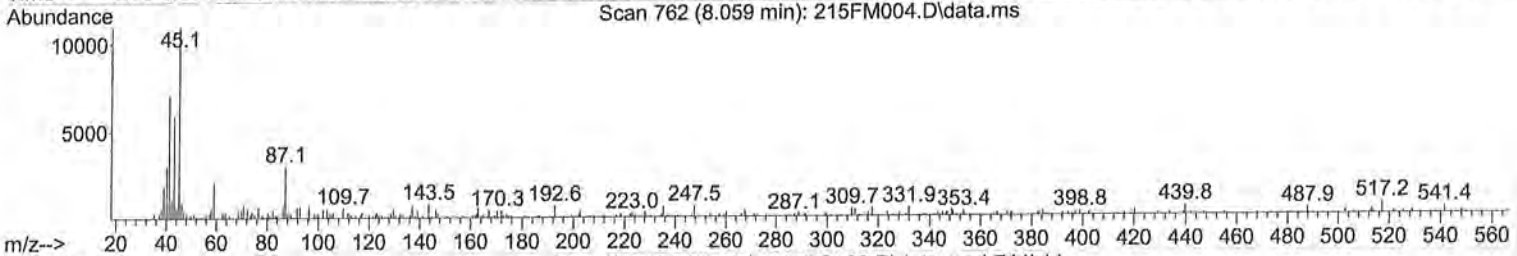
Review by/Date:

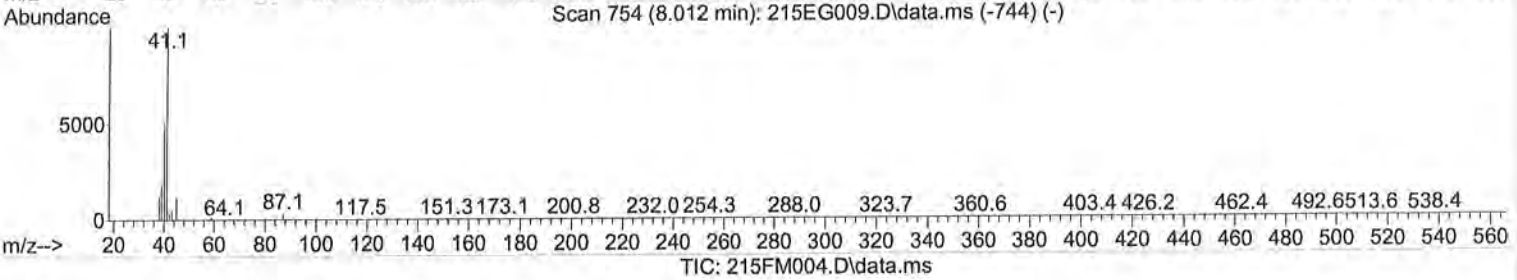
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM004.D
Acq On : 18 Jun 2021 8:05 am
Operator : kkw
Sample : aa66932-cal1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 18 08:40:28 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration







TIC: 215FM004.D\data.ms

(20) Acetonitrile

8.059min (+ 0.047) 9.55 ug/L m

response 27963

Ion	Exp%	Act%
41.10	100.00	100.00
39.10	24.40	6.77#
38.10	10.00	2.77#
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Uncorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

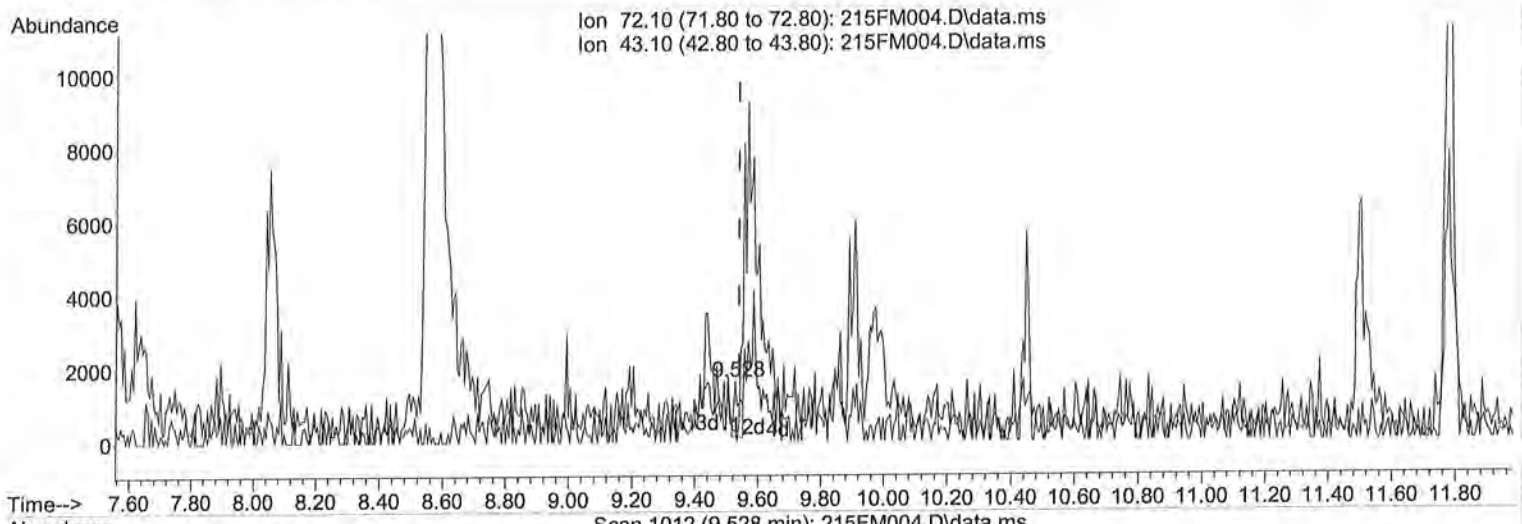
Review by/Date KJ 06/21/21

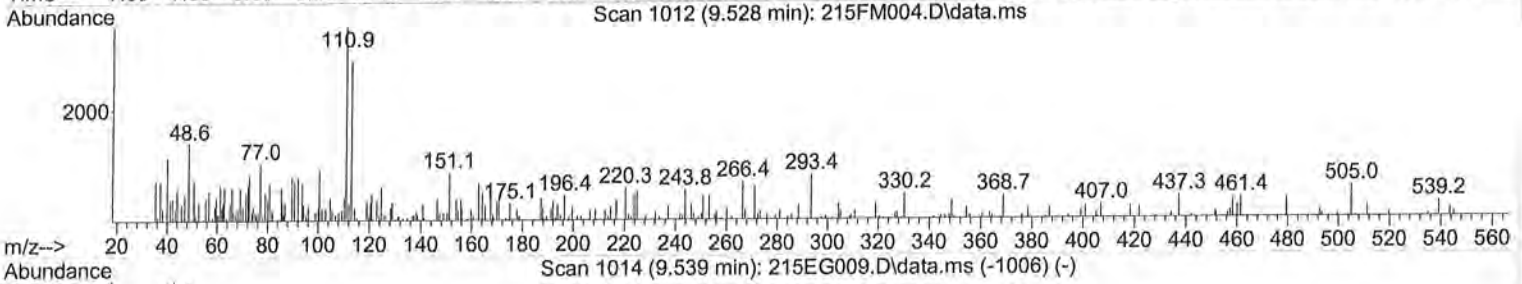
Review by/Date:

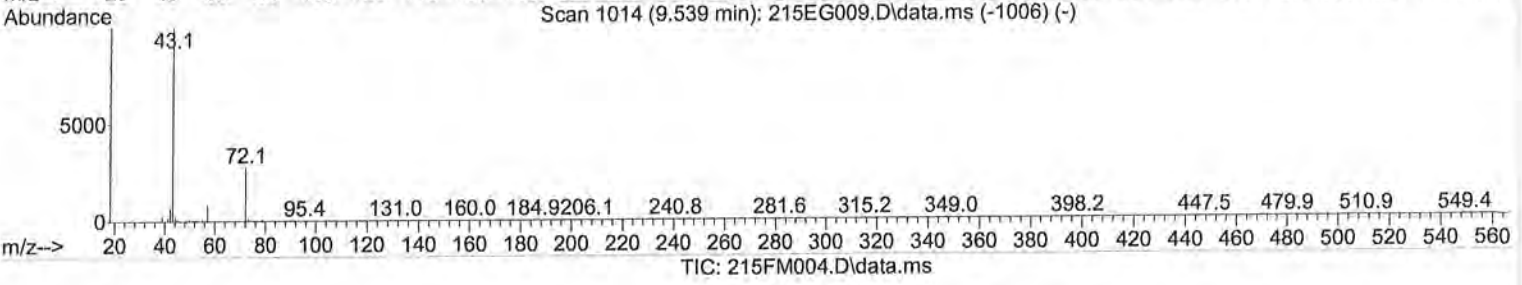
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM004.D
Acq On : 18 Jun 2021 8:05 am
Operator : kkw
Sample : aa66932-cal1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 18 08:40:28 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration







TIC: 215FM004.D\data.ms

(33) 2-Butanone

9.528min (-0.012) 0.95 ug/L

response 2013

Ion	Exp%	Act%
72.10	100.00	100.00
43.10	347.70	63.09#
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

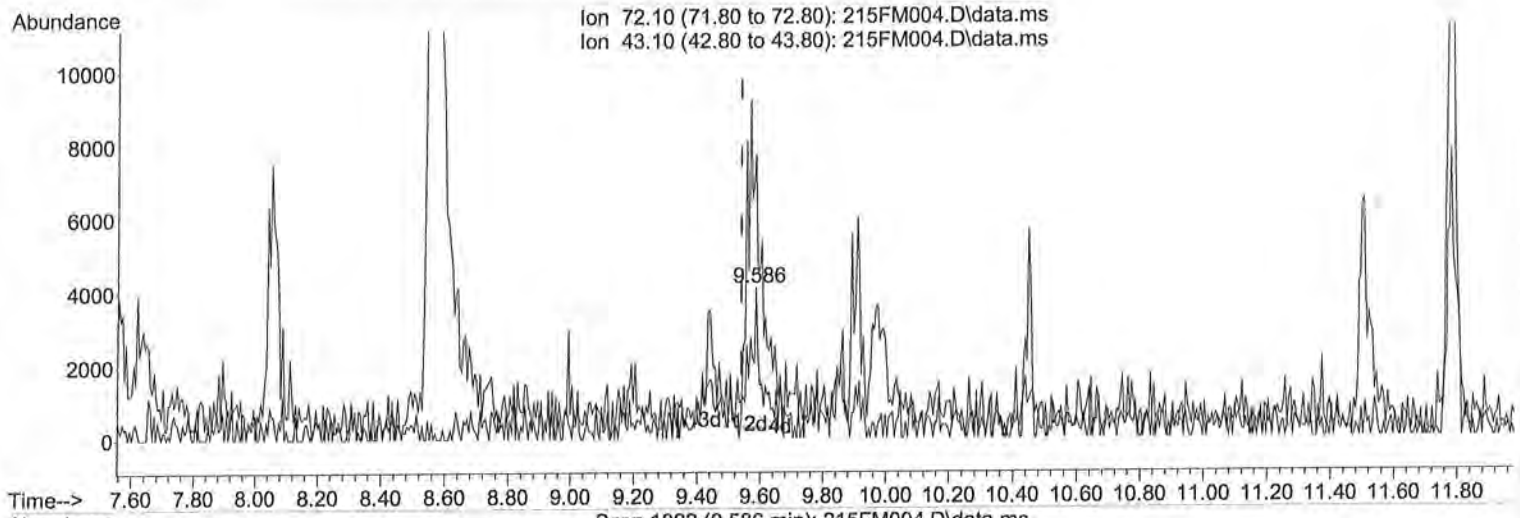
Review by/Date W 6/21/21

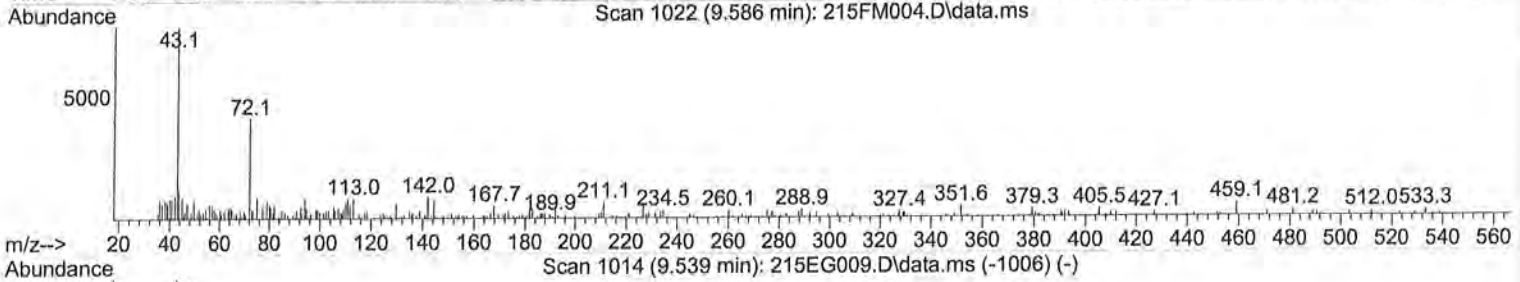
Review by/Date:

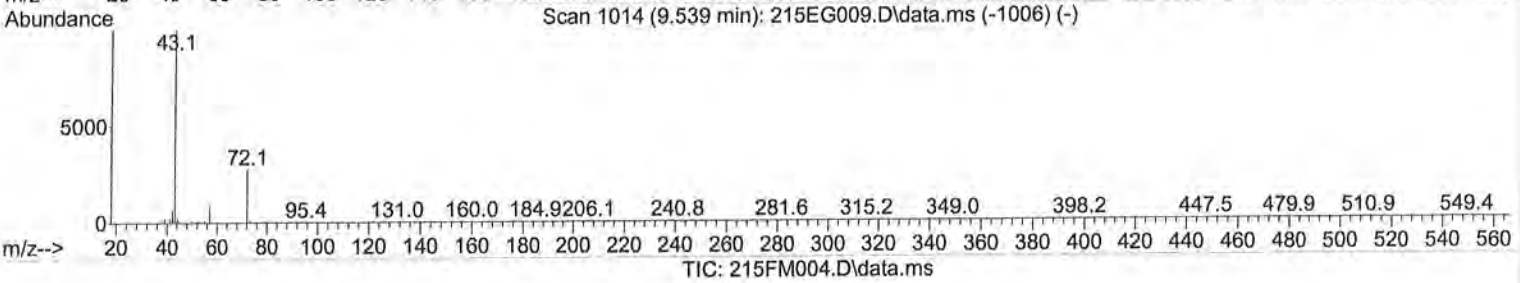
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM004.D
Acq On : 18 Jun 2021 8:05 am
Operator : kkw
Sample : aa66932-cal1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 18 08:40:28 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration







TIC: 215FM004.D\data.ms

(33) 2-Butanone

9.586min (+ 0.047) 4.88 ug/L m

response 10350

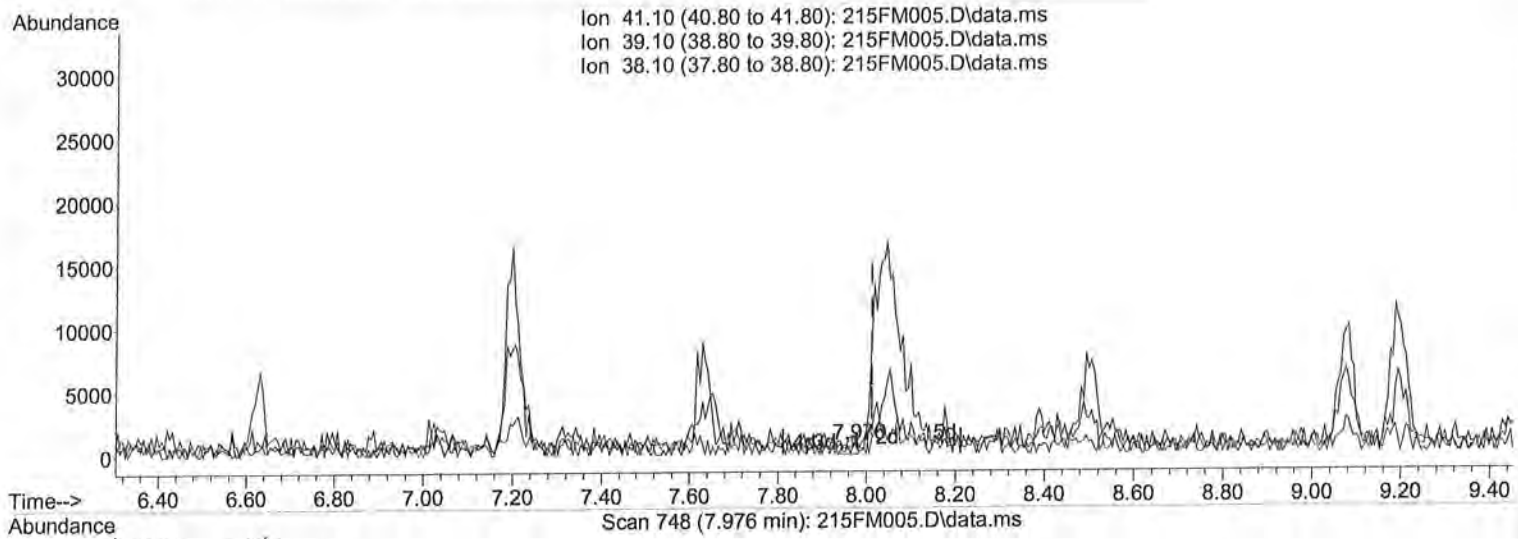
Ion	Exp%	Act%
72.10	100.00	100.00
43.10	347.70	12.27#
0.00	0.00	0.00
0.00	0.00	0.00

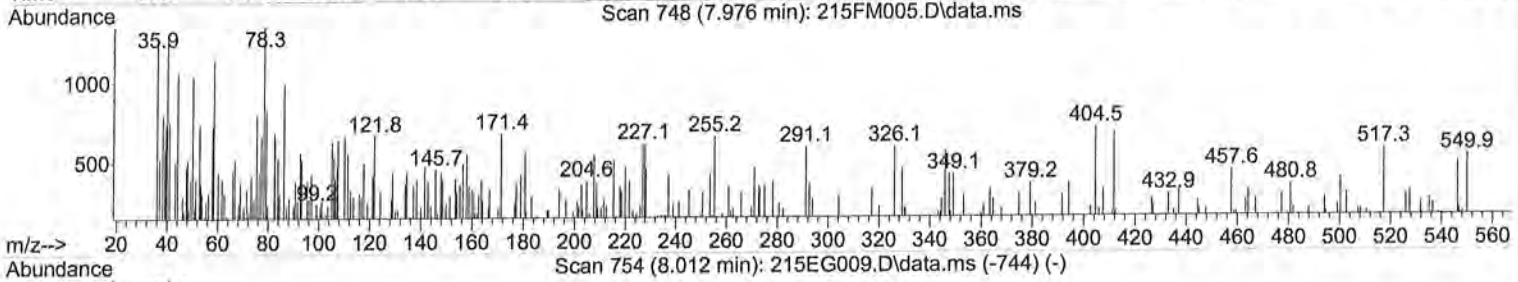
Select One:
[ ] Original Integration [X] Manual Integration
Select reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[X] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date: W 6/18/21
Review by/Date:

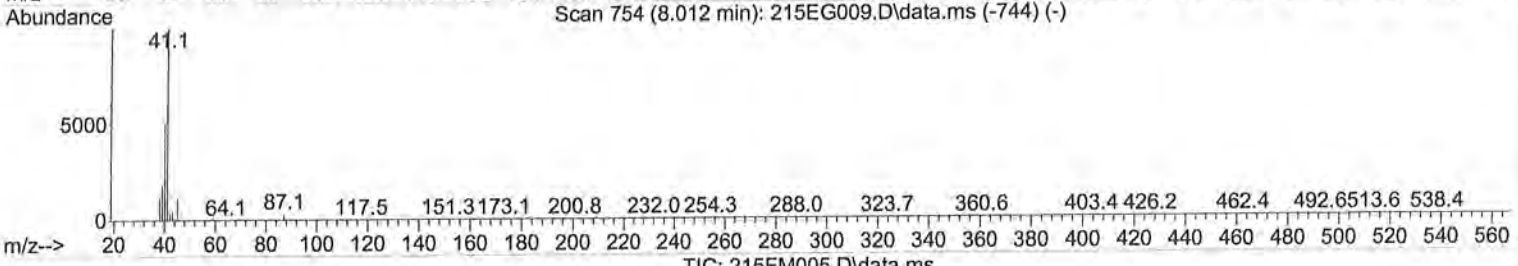
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM005.D
Acq On : 18 Jun 2021 8:32 am
Operator : kkw
Sample : aa66932-cal2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 18 09:50:22 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration







TIC: 215FM005.D\data.ms

(20) Acetonitrile

7.976min (-0.036) 0.51 ug/L

response 1524

Ion	Exp%	Act%
41.10	100.00	100.00
39.10	24.40	142.52#
38.10	10.00	44.29#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

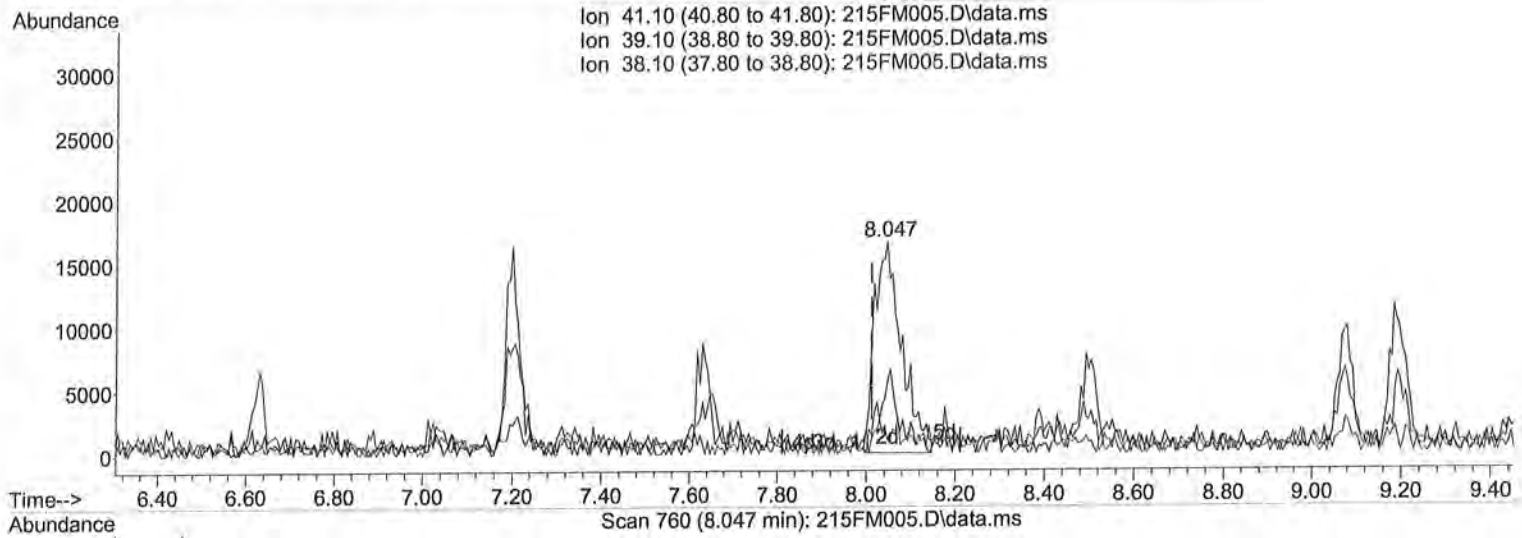
Review by/Date Woshi

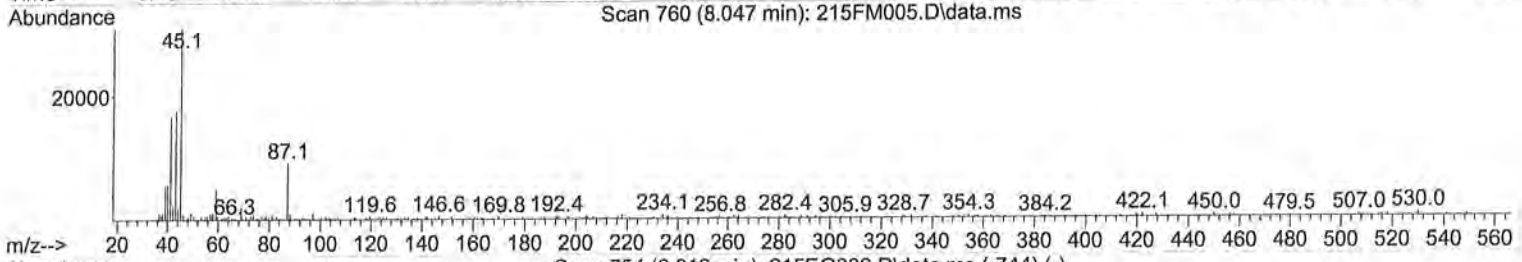
Review by/Date:

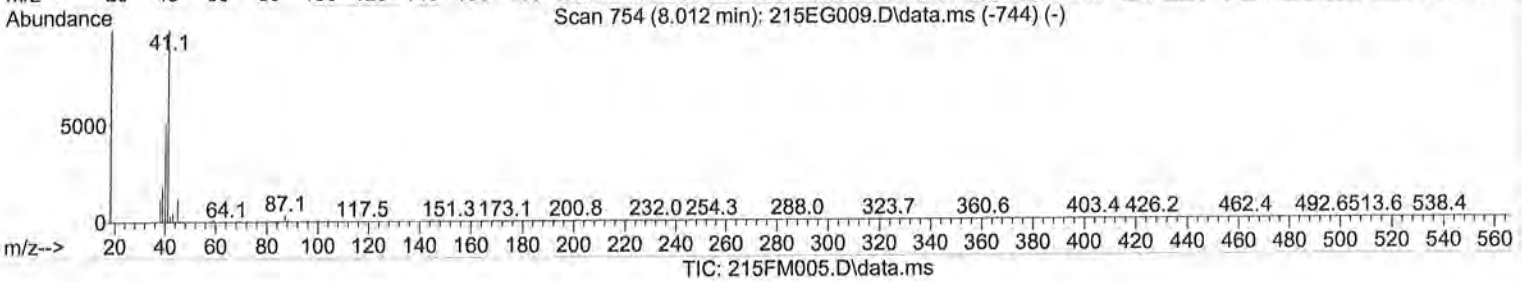
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM005.D
Acq On : 18 Jun 2021 8:32 am
Operator : kkw
Sample : aa66932-cal2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 18 09:50:22 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration







TIC: 215FM005.D\data.ms

(20) Acetonitrile

8.047min (+ 0.035) 23.44 ug/L m

response 69992

Ion	Exp%	Act%
41.10	100.00	100.00
39.10	24.40	3.10#
38.10	10.00	0.96#
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

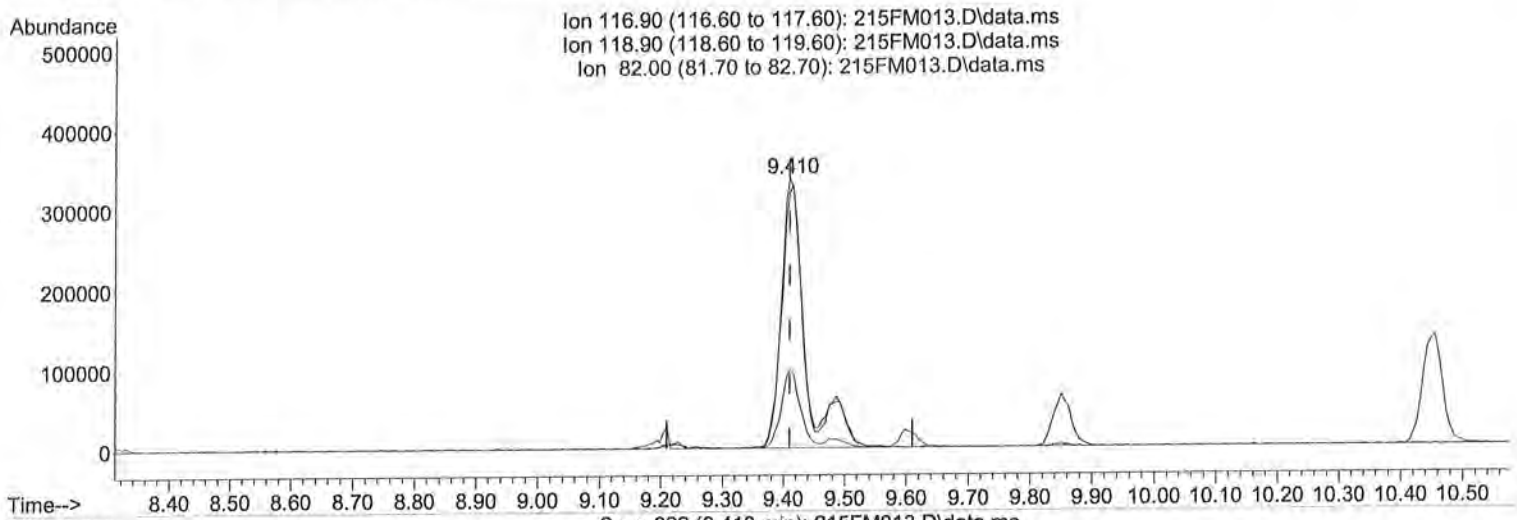
Review by/Date W 06/21/21

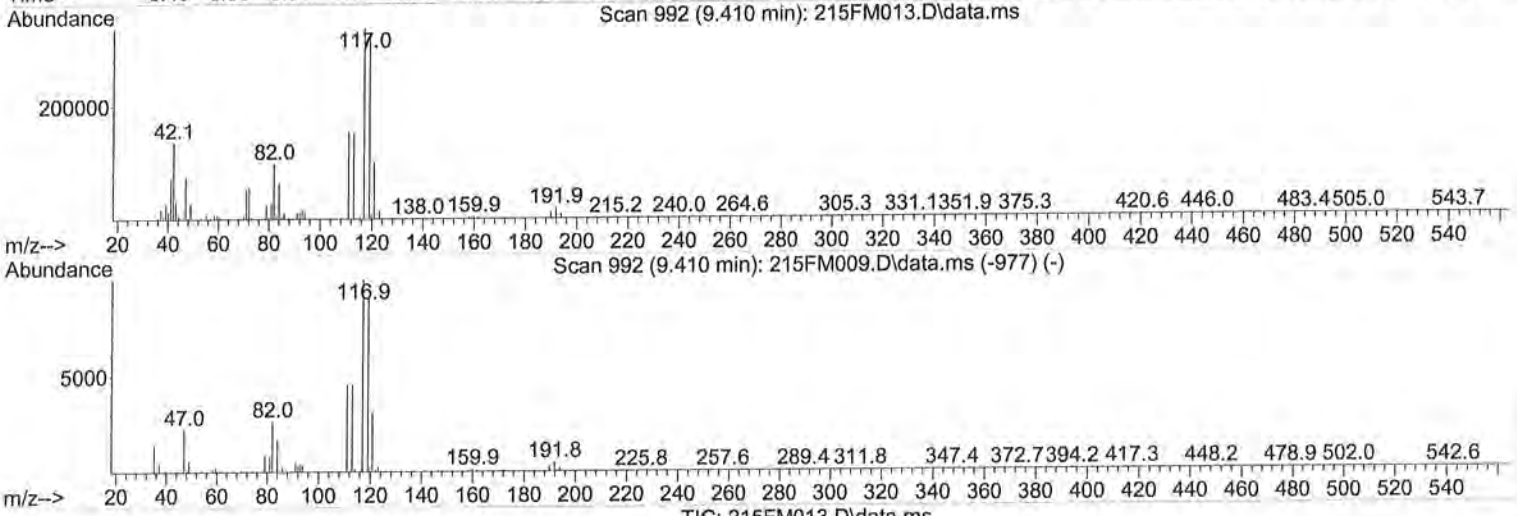
Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM013.D
Acq On : 18 Jun 2021 12:15 pm
Operator : kkw
Sample : aa66932-scv1
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jun 21 07:55:38 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Mon Jun 21 07:54:29 2021
Response via : Initial Calibration





TIC: 215FM013.D\data.ms

(40) Carbon Tetrachloride

9.410min (+ 0.000) 65.73 ug/L

response 939082

Ion	Exp%	Act%
116.90	100.00	100.00
118.90	111.60	94.19
82.00	32.10	26.21
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

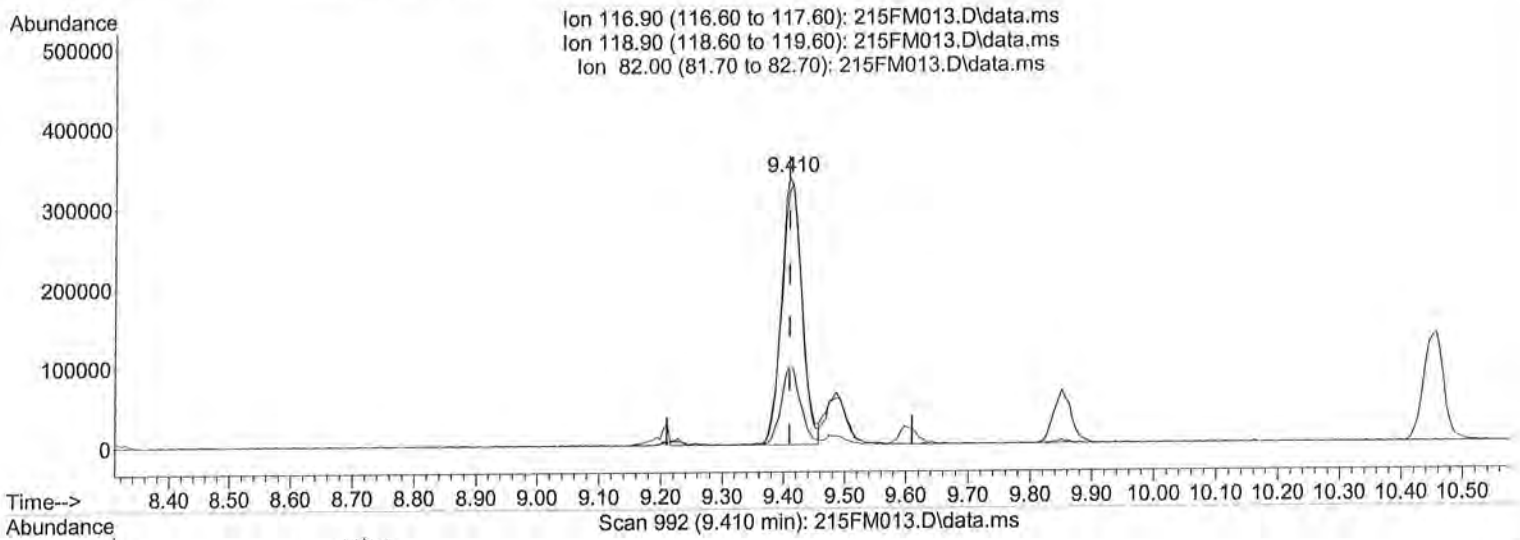
Review by/Date W 06/21/21

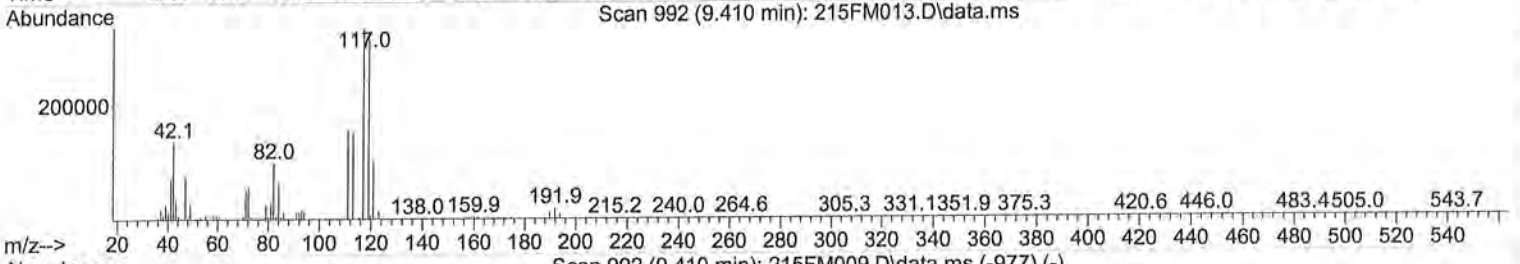
Review by/Date:

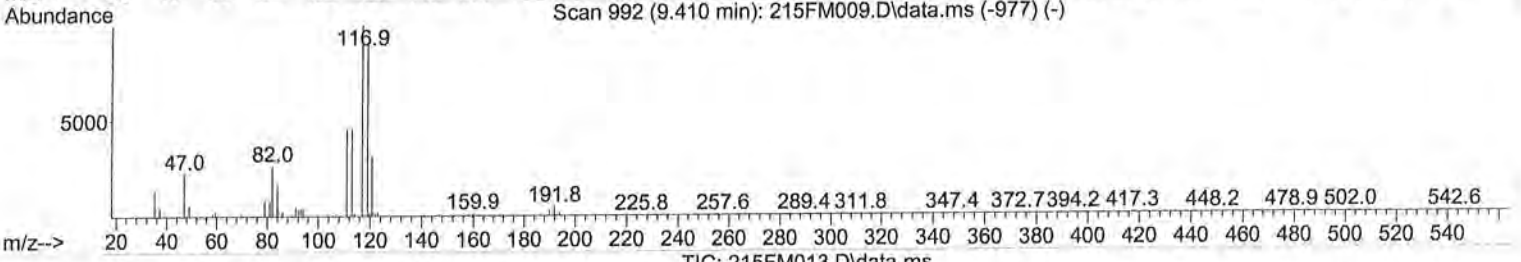
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM013.D
Acq On : 18 Jun 2021 12:15 pm
Operator : kkw
Sample : aa66932-scv1
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jun 21 07:55:38 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Mon Jun 21 07:54:29 2021
Response via : Initial Calibration







TIC: 215FM013.D\data.ms

(40) Carbon Tetrachloride

9.410min (+ 0.000) 54.98 ug/L m

response 785492

Ion	Exp%	Act%
116.90	100.00	100.00
118.90	111.60	112.60
82.00	32.10	31.33
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date WJ 6/21/21

Review by/Date:

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM004.D
Acq On : 18 Jun 2021 8:05 am
Operator : kkw
Sample : aa66932-cal1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 18 08:40:28 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1201889	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2686237	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1505146	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1176558	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	710792	56.11	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 112.22%				
52) D8-Toluene	11.784	98	3105646	47.11	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 94.22%				
73) Bromofluorobenzene	14.334	95	1312659	50.45	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 100.90%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.975	85	13088	0.91	ug/L	#	78
3) Chloromethane	4.422	50	25464	1.40	ug/L		98
4) Vinyl Chloride	4.586	62	18650	1.28	ug/L	#	37
5) Bromomethane	5.227	94	7774	2.03	ug/L	#	92
6) Chloroethane	5.468	64	12148	2.08	ug/L	#	87
7) Trichlorofluoromethane	5.720	101	18704	1.17	ug/L	#	32
8) Diethyl ether	6.190	59	9025	0.92	ug/L	#	75
9) 1,1-Dichloroethene	6.531	96	10469	1.09	ug/L	#	80
10) Trichlorotrifluoroethane	6.561	151	6269	0.96	ug/L	#	63
11) Acrolein	7.025	56	26803	8.51	ug/L		88
12) Iodomethane	6.784	142	25695	2.11	ug/L	#	87
13) Carbon Disulfide	6.631	76	134623	3.56	ug/L	#	90
14) 3-chloropropene	7.207	41	16650	0.95	ug/L	#	75
15) Acetone	7.418	43	15244m	3.79	ug/L		
16) Methylene Chloride	7.348	84	14197	1.12	ug/L		86
17) Methyl Acetate	7.418	43	20048	1.99	ug/L	#	71
18) t-1,2-Dichloroethene	7.571	96	11646	0.99	ug/L		97
19) Methyl tert-butyl ether	7.630	73	29535	1.00	ug/L	#	83
20) Acetonitrile	8.059	41	27963m	9.55	ug/L		
21) Isopropyl ether	8.053	45	34223	0.91	ug/L		92
22) Chloroprene	8.282	88	7485	0.68	ug/L	#	94
23) 1,1-Dichloroethane	8.323	63	24017	1.16	ug/L	#	86
24) Acrylonitrile	8.405	53	56665	8.93	ug/L	#	95
25) Vinyl Acetate	8.558	43	85554	3.24	ug/L		99
26) c-1,2-Dichloroethene	8.964	96	14211	1.08	ug/L	#	79
27) 2,2-Dichloropropane	9.081	77	17235	1.12	ug/L		94
28) Bromochloromethane	9.205	128	5671	1.34	ug/L		85
29) Cyclohexane	9.199	56	22375	1.00	ug/L		95
30) Chloroform	9.228	83	22798	1.08	ug/L		96
32) Dibromofluoromethane	9.428	113	711007	56.12	ug/L	#	90
33) 2-Butanone	9.586	72	10350m	4.88	ug/L		
34) 1,1,1-Trichloroethane	9.492	97	14723	0.94	ug/L	#	66
35) 1,1-Dichloropropene	9.610	75	20902	1.25	ug/L		91
36) Propionitrile	9.910	54	24811	9.55	ug/L	#	51
37) Methacrylonitrile	9.915	41	86360	8.48	ug/L		96
38) Isobutyl Alcohol	9.974	43	15505	12.64	ug/L	#	53
40) Carbon Tetrachloride	9.428	117	15785	1.27	ug/L	#	60
41) Benzene	9.886	78	54847	0.97	ug/L		98
42) 1,2-Dichloroethane	10.092	62	20033	1.22	ug/L	#	87
43) Trichloroethene	10.462	130	10723	0.83	ug/L	#	1
44) Methyl cyclohexane	10.450	83	55623	2.01	ug/L	#	70
45) Dibromomethane	10.908	93	10260	1.17	ug/L	#	81
46) 1,2-Dichloropropane	10.991	63	17821	1.10	ug/L	#	89
47) Bromodichloromethane	11.020	83	14957	0.93	ug/L	#	88
48) Methyl Methacrylate	11.114	69	8962	0.71	ug/L		85
49) 1,4-Dioxane	11.208	88	1959	11.48	ug/L	#	18
50) 2-Chloroethyl vinyl ether	11.502	63	24607	2.51	ug/L	#	90
51) C-1,3-Dichloropropene	11.614	75	20370	0.84	ug/L	#	89

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM004.D
Acq On : 18 Jun 2021 8:05 am
Operator : kkw
Sample : aa66932-cal1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 18 08:40:28 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

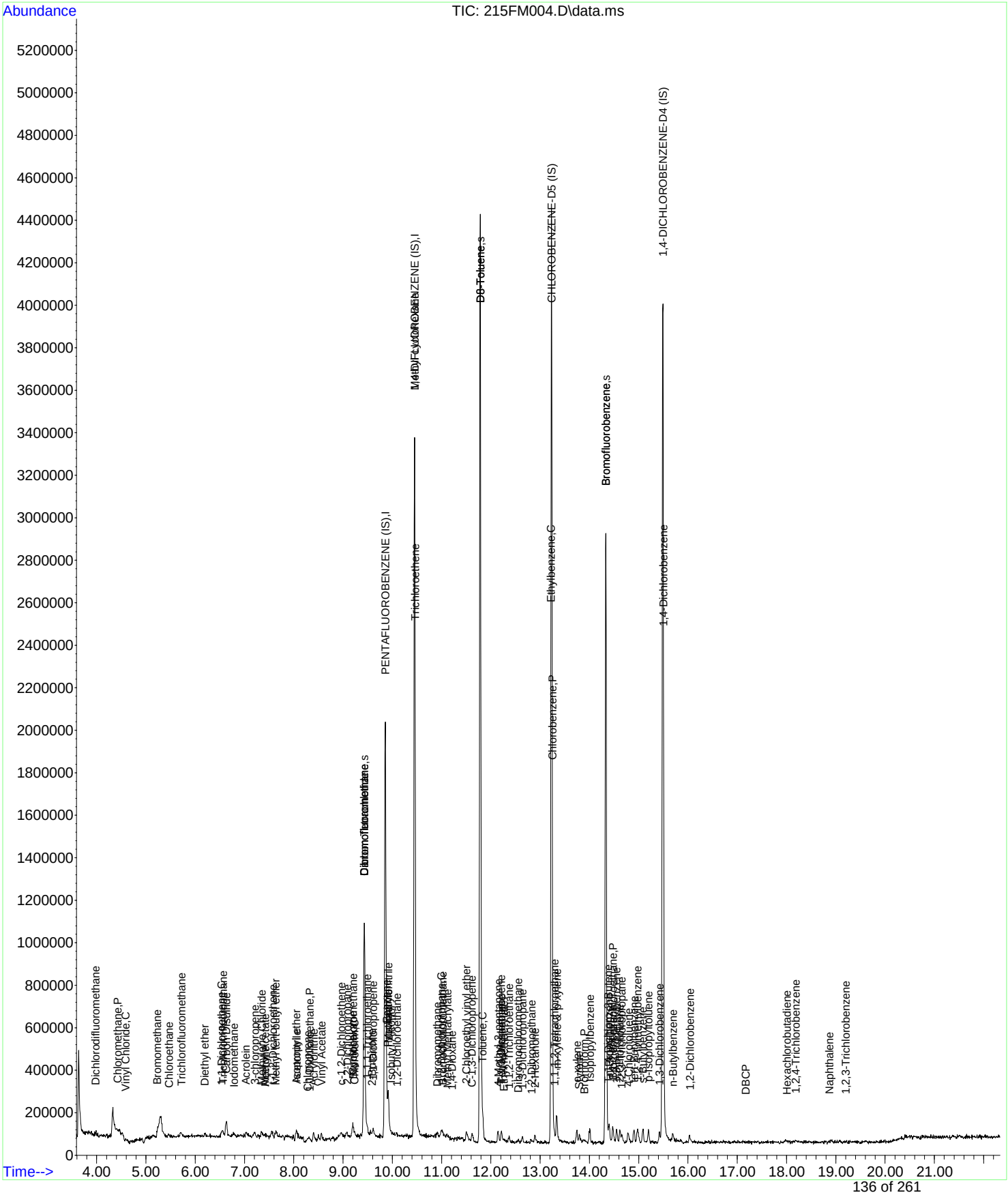
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.784	98	3098200	47.00	ug/L		96
54) 4-Methyl-2-pentanone	12.154	100	10407	3.66	ug/L	#	65
56) Toluene	11.831	92	36578	1.07	ug/L		86
57) T-1,3-Dichloropropene	12.207	75	15418	0.86	ug/L		95
58) Tetrachloroethene	12.213	164	7897	0.84	ug/L	#	81
59) Ethyl methacrylate	12.266	69	9442	0.45	ug/L	#	94
60) 1,1,2-Trichloroethane	12.371	97	11468	0.93	ug/L	#	72
61) Dibromochloromethane	12.554	129	5884	0.59	ug/L	#	77
62) 1,3-Dichloropropane	12.642	76	19550	0.85	ug/L	#	92
63) 1,2-Dibromoethane	12.824	107	11656	0.92	ug/L	#	72
64) 2-Hexanone	12.894	43	28902	2.63	ug/L	#	88
65) Ethylbenzene	13.218	106	17809	0.86	ug/L	#	83
66) Chlorobenzene	13.247	112	34362	0.94	ug/L	#	85
67) 1,1,1,2-Tetrachloroethane	13.294	131	8869	0.83	ug/L	#	87
68) m-xylene & p-xylene	13.341	106	48950	1.91	ug/L		85
69) o-xylene	13.746	106	21167	0.81	ug/L		94
70) Styrene	13.787	104	23556	0.56	ug/L	#	83
71) Bromoform	13.893	173	3911	0.72	ug/L	#	73
72) Isopropylbenzene	14.011	105	51309	0.78	ug/L	#	95
74) Bromofluorobenzene	14.334	95	1313882	50.49	ug/L	#	76
75) n-Propylbenzene	14.399	91	68531	0.82	ug/L		94
76) 1,1,2,2-Tetrachloroethane	14.475	83	17220	0.81	ug/L	#	89
77) 1,2,3-Trichloropropane	14.651	61	4423	0.82	ug/L	#	80
78) T-1,4-Dichloro-2-Butene	14.381	53	5458m	0.78	ug/L		
80) Bromobenzene	14.475	156	9545	0.80	ug/L	#	59
81) 1,2,4-Trimethylbenzene	14.974	105	41636	0.84	ug/L	#	91
82) 2-Chlorotoluene	14.616	91	40735	0.92	ug/L		94
83) 4-Chlorotoluene	14.792	91	40333	0.91	ug/L		98
84) tert-Butylbenzene	14.904	119	35468	0.85	ug/L		99
85) 1,3,5-Trimethylbenzene	14.545	105	41886	0.84	ug/L	#	95
86) p-Isopropyltoluene	15.198	119	37494	0.66	ug/L	#	92
87) s-Butylbenzene	15.080	105	54823	0.92	ug/L		95
88) 1,3-Dichlorobenzene	15.421	146	22323	0.89	ug/L		99
89) 1,4-Dichlorobenzene	15.503	146	26167	1.01	ug/L	#	1
90) n-Butylbenzene	15.691	91	39375	0.71	ug/L	#	85
91) 1,2-Dichlorobenzene	16.038	146	19638	0.85	ug/L		98
92) DBCP	17.172	157	890	0.33	ug/L		90
93) Hexachlorobutadiene	18.006	225	663	0.20	ug/L	#	1
94) 1,2,4-Trichlorobenzene	18.188	180	1643	0.25	ug/L	#	33
95) Naphthalene	18.870	128	7080	0.40	ug/L	#	92
96) 1,2,3-Trichlorobenzene	19.199	180	1743	0.57	ug/L	#	42

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM004.D
Acq On : 18 Jun 2021 8:05 am
Operator : kkw
Sample : aa66932-cal1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 18 08:40:28 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM005.D
Acq On : 18 Jun 2021 8:32 am
Operator : kkw
Sample : aa66932-cal2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 18 09:50:22 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1226065	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2753498	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1619681	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1248669	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	790017	61.13	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 122.26%				
52) D8-Toluene	11.784	98	3652972	54.06	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 108.12%				
73) Bromofluorobenzene	14.328	95	1504237	53.72	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 107.44%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	20711	1.41	ug/L	#	93
3) Chloromethane	4.410	50	32896	1.77	ug/L		97
4) Vinyl Chloride	4.586	62	26313	1.78	ug/L	#	1
5) Bromomethane	5.227	94	15964	4.06	ug/L	#	92
6) Chloroethane	5.462	64	16696	2.80	ug/L		96
7) Trichlorofluoromethane	5.708	101	30382	1.86	ug/L	#	95
8) Diethyl ether	6.178	59	28917	2.88	ug/L		96
9) 1,1-Dichloroethene	6.537	96	27880	2.84	ug/L		98
10) Trichlorotrifluoroethane	6.572	151	17841	2.67	ug/L		94
11) Acrolein	7.030	56	63840	19.88	ug/L		93
12) Iodomethane	6.778	142	59716	4.80	ug/L	#	96
13) Carbon Disulfide	6.631	76	332343	8.62	ug/L		99
14) 3-chloropropene	7.201	41	37310	2.08	ug/L		92
15) Acetone	7.406	43	44906	10.96	ug/L		90
16) Methylene Chloride	7.342	84	35382	2.74	ug/L		98
17) Methyl Acetate	7.547	43	25546	2.48	ug/L	#	81
18) t-1,2-Dichloroethene	7.553	96	31090	2.58	ug/L		98
19) Methyl tert-butyl ether	7.636	73	71986	2.38	ug/L		96
20) Acetonitrile	8.047	41	69992m	23.44	ug/L		
21) Isopropyl ether	8.053	45	88770	2.32	ug/L		96
22) Chloroprene	8.276	88	20632	1.83	ug/L		97
23) 1,1-Dichloroethane	8.317	63	58711	2.78	ug/L		93
24) Acrylonitrile	8.394	53	128785	19.89	ug/L	#	97
25) Vinyl Acetate	8.558	43	269446	10.00	ug/L		96
26) c-1,2-Dichloroethene	8.946	96	33482	2.51	ug/L		93
27) 2,2-Dichloropropane	9.075	77	40179	2.55	ug/L	#	95
28) Bromochloromethane	9.181	128	14081	3.27	ug/L		86
29) Cyclohexane	9.193	56	56806	2.48	ug/L		99
30) Chloroform	9.222	83	59826	2.79	ug/L		91
32) Dibromofluoromethane	9.428	113	790017	61.13	ug/L	#	89
33) 2-Butanone	9.557	72	22636	10.45	ug/L		93
34) 1,1,1-Trichloroethane	9.486	97	41521	2.59	ug/L		96
35) 1,1-Dichloropropene	9.604	75	44111	2.58	ug/L	#	84
36) Propionitrile	9.909	54	59592	22.49	ug/L	#	81
37) Methacrylonitrile	9.915	41	238410	22.96	ug/L		96
38) Isobutyl Alcohol	9.909	43	42490	33.96	ug/L	#	54
40) Carbon Tetrachloride	9.416	117	30040	2.35	ug/L	#	84
41) Benzene	9.886	78	147112	2.54	ug/L		97
42) 1,2-Dichloroethane	10.092	62	41413	2.47	ug/L		98
43) Trichloroethene	10.456	130	29464	2.23	ug/L	#	1
44) Methyl cyclohexane	10.456	83	98691	3.48	ug/L	#	75
45) Dibromomethane	10.902	93	18756	2.09	ug/L		94
46) 1,2-Dichloropropane	10.991	63	37937	2.28	ug/L		92
47) Bromodichloromethane	11.014	83	34787	2.11	ug/L	#	89
48) Methyl Methacrylate	11.090	69	19813	1.53	ug/L		85
49) 1,4-Dioxane	11.231	88	7880	45.03	ug/L		92
50) 2-Chloroethyl vinyl ether	11.502	63	73114	7.27	ug/L	#	92
51) C-1,3-Dichloropropene	11.619	75	53521	2.14	ug/L	#	88

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM005.D
Acq On : 18 Jun 2021 8:32 am
Operator : kkw
Sample : aa66932-cal2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 18 09:50:22 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

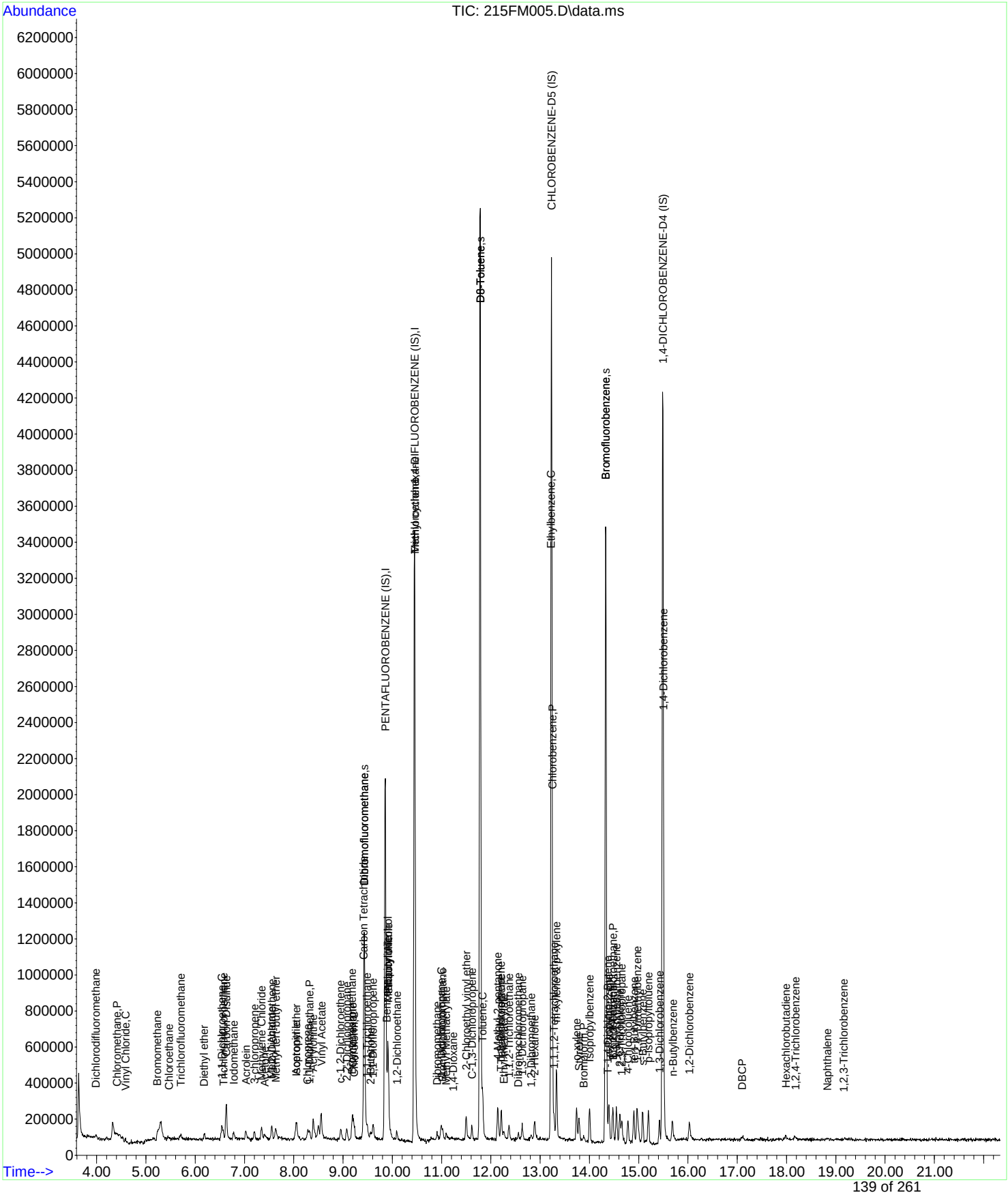
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.784	98	3650908	54.03	ug/L		95
54) 4-Methyl-2-pentanone	12.136	100	23940	8.22	ug/L		96
56) Toluene	11.831	92	90002	2.45	ug/L		90
57) T-1,3-Dichloropropene	12.201	75	42905	2.22	ug/L	#	82
58) Tetrachloroethene	12.207	164	22734	2.26	ug/L		94
59) Ethyl methacrylate	12.266	69	36140	1.59	ug/L		98
60) 1,1,2-Trichloroethane	12.365	97	30725	2.32	ug/L		93
61) Dibromochloromethane	12.553	129	19817	1.84	ug/L	#	87
62) 1,3-Dichloropropane	12.636	76	52835	2.14	ug/L	#	95
63) 1,2-Dibromoethane	12.818	107	26901	1.97	ug/L	#	92
64) 2-Hexanone	12.883	43	96320	8.15	ug/L		91
65) Ethylbenzene	13.217	106	45167	2.04	ug/L	#	85
66) Chlorobenzene	13.247	112	84240	2.15	ug/L		93
67) 1,1,1,2-Tetrachloroethane	13.282	131	24035	2.10	ug/L	#	86
68) m-xylene & p-xylene	13.329	106	119219	4.33	ug/L		99
69) o-xylene	13.740	106	55218	1.96	ug/L		97
70) Styrene	13.787	104	77940	1.71	ug/L	#	91
71) Bromoform	13.881	173	9766	1.66	ug/L	#	72
72) Isopropylbenzene	13.999	105	145912	2.06	ug/L		98
74) Bromofluorobenzene	14.328	95	1504564	53.73	ug/L	#	80
75) n-Propylbenzene	14.393	91	195277	2.16	ug/L		97
76) 1,1,2,2-Tetrachloroethane	14.475	83	48517	2.11	ug/L	#	97
77) 1,2,3-Trichloropropane	14.651	61	10589	1.81	ug/L	#	59
78) T-1,4-Dichloro-2-Butene	14.369	53	12126	1.61	ug/L	#	27
80) Bromobenzene	14.475	156	28658	2.26	ug/L	#	82
81) 1,2,4-Trimethylbenzene	14.968	105	117439	2.24	ug/L		96
82) 2-Chlorotoluene	14.616	91	118998	2.54	ug/L		93
83) 4-Chlorotoluene	14.780	91	104463	2.23	ug/L		96
84) tert-Butylbenzene	14.904	119	101030	2.27	ug/L		96
85) 1,3,5-Trimethylbenzene	14.545	105	121842	2.31	ug/L		96
86) p-Isopropyltoluene	15.197	119	113438	1.89	ug/L	#	91
87) s-Butylbenzene	15.080	105	145770	2.30	ug/L		99
88) 1,3-Dichlorobenzene	15.421	146	59042	2.22	ug/L		98
89) 1,4-Dichlorobenzene	15.503	146	58421	2.13	ug/L	#	1
90) n-Butylbenzene	15.691	91	113515	1.93	ug/L		97
91) 1,2-Dichlorobenzene	16.026	146	55503	2.26	ug/L	#	90
92) DBCP	17.095	157	6168	2.13	ug/L		96
93) Hexachlorobutadiene	17.988	225	6852	1.98	ug/L	#	68
94) 1,2,4-Trichlorobenzene	18.182	180	7411	1.06	ug/L	#	55
95) Naphthalene	18.829	128	18402	0.99	ug/L	#	84
96) 1,2,3-Trichlorobenzene	19.158	180	1698	0.53	ug/L	#	1

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM005.D
Acq On : 18 Jun 2021 8:32 am
Operator : kkw
Sample : aa66932-cal2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 18 09:50:22 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM006.D
Acq On : 18 Jun 2021 9:00 am
Operator : kkw
Sample : aa66932-cal3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 18 09:51:46 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1047198	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2419754	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1545028	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.486	152	1320874	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	760296	68.88	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 137.76%#				
52) D8-Toluene	11.778	98	3556545	59.90	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 119.80%				
73) Bromofluorobenzene	14.328	95	1596271	59.76	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 119.52%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	61935	4.93	ug/L	#	93
3) Chloromethane	4.410	50	90523	5.67	ug/L		94
4) Vinyl Chloride	4.586	62	72492	5.73	ug/L	#	66
5) Bromomethane	5.233	94	34362	10.02	ug/L		99
6) Chloroethane	5.456	64	50548	9.92	ug/L		96
7) Trichlorofluoromethane	5.703	101	86500	6.21	ug/L	#	98
8) Diethyl ether	6.179	59	65817	7.68	ug/L		92
9) 1,1-Dichloroethene	6.537	96	61285	7.30	ug/L		86
10) Trichlorotrifluoroethane	6.555	151	39487	6.92	ug/L		92
11) Acrolein	7.025	56	163918	59.76	ug/L		99
12) Iodomethane	6.784	142	175341	16.50	ug/L		98
13) Carbon Disulfide	6.625	76	895869	27.31	ug/L		98
14) 3-chloropropene	7.195	41	101509	6.63	ug/L		94
15) Acetone	7.407	43	117259	33.50	ug/L		98
16) Methylene Chloride	7.342	84	79027	7.17	ug/L		90
17) Methyl Acetate	7.530	43	64450	7.26	ug/L	#	95
18) t-1,2-Dichloroethene	7.548	96	78290	7.62	ug/L		96
19) Methyl tert-butyl ether	7.630	73	177918	6.90	ug/L	#	91
20) Acetonitrile	8.024	41	163006	63.90	ug/L		98
21) Isopropyl ether	8.053	45	228181	7.00	ug/L		96
22) Chloroprene	8.282	88	57674	5.98	ug/L		94
23) 1,1-Dichloroethane	8.317	63	130702	7.25	ug/L		95
24) Acrylonitrile	8.388	53	290245	52.47	ug/L		100
25) Vinyl Acetate	8.547	43	642675	27.94	ug/L		100
26) c-1,2-Dichloroethene	8.952	96	66039	5.78	ug/L		92
27) 2,2-Dichloropropane	9.075	77	81316	6.05	ug/L	#	91
28) Bromochloromethane	9.187	128	27460	7.46	ug/L		94
29) Cyclohexane	9.199	56	118236	6.05	ug/L		95
30) Chloroform	9.222	83	124399	6.78	ug/L		94
32) Dibromofluoromethane	9.428	113	760296	68.88	ug/L	#	90
33) 2-Butanone	9.551	72	53367	28.85	ug/L		92
34) 1,1,1-Trichloroethane	9.492	97	86858	6.35	ug/L		94
35) 1,1-Dichloropropene	9.610	75	96357	6.59	ug/L		99
36) Propionitrile	9.904	54	134736	59.53	ug/L		90
37) Methacrylonitrile	9.910	41	520530	58.69	ug/L		100
38) Isobutyl Alcohol	9.963	43	48521	45.40	ug/L	#	54
40) Carbon Tetrachloride	9.416	117	59358	5.25	ug/L	#	84
41) Benzene	9.880	78	309830	6.10	ug/L		96
42) 1,2-Dichloroethane	10.092	62	85706	5.82	ug/L		95
43) Trichloroethene	10.450	130	59471	5.13	ug/L	#	9
44) Methyl cyclohexane	10.444	83	151866	6.09	ug/L		90
45) Dibromomethane	10.903	93	37804	4.78	ug/L		88
46) 1,2-Dichloropropane	10.991	63	80955	5.54	ug/L		99
47) Bromodichloromethane	11.026	83	79355	5.44	ug/L		95
48) Methyl Methacrylate	11.085	69	50080	4.40	ug/L		92
49) 1,4-Dioxane	11.191	88	12290	79.92	ug/L	#	53
50) 2-Chloroethyl vinyl ether	11.490	63	204286	23.11	ug/L	#	97
51) C-1,3-Dichloropropene	11.608	75	117673	5.30	ug/L		92

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM006.D
Acq On : 18 Jun 2021 9:00 am
Operator : kkw
Sample : aa66932-cal3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 18 09:51:46 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

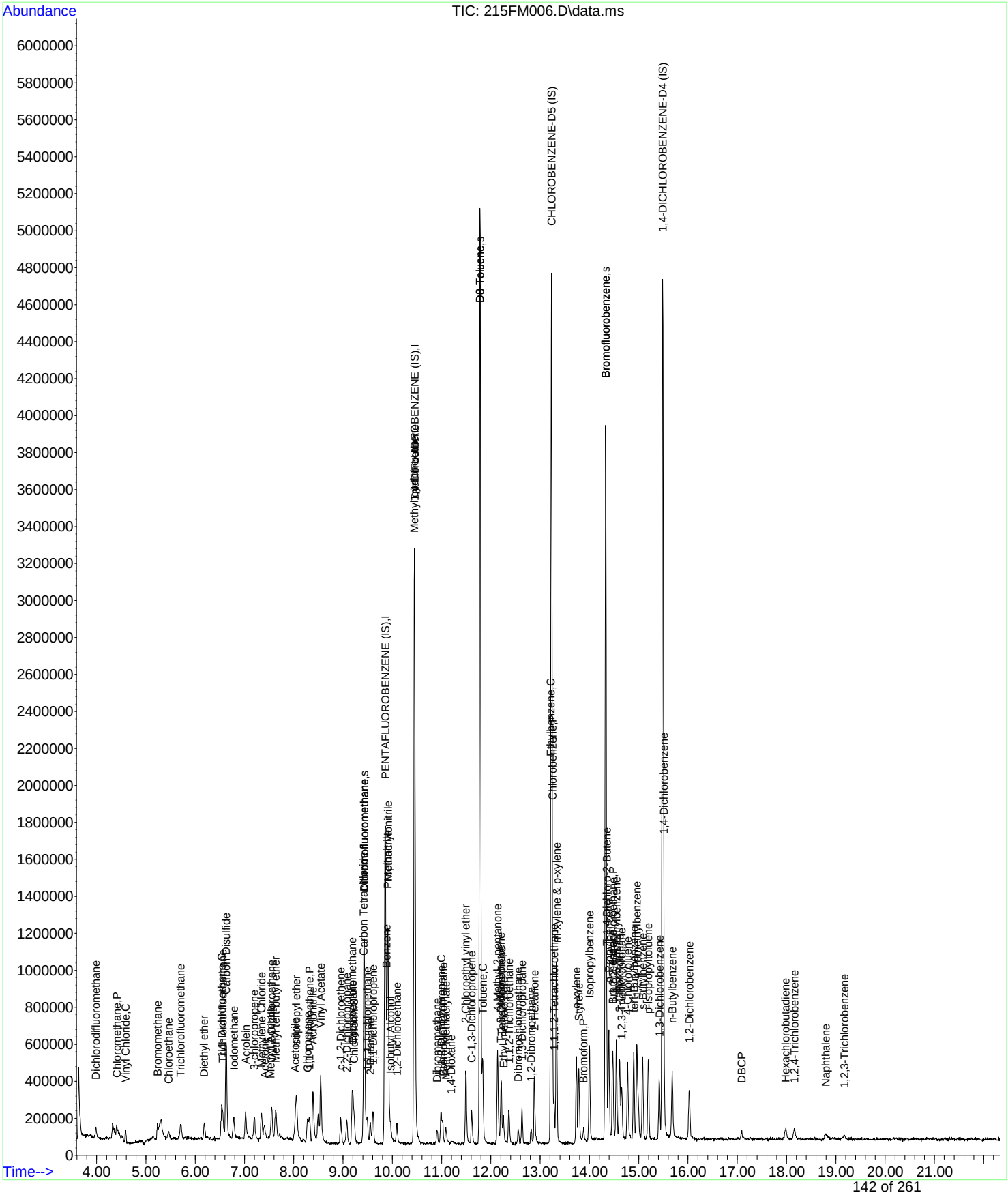
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	3550703	59.80	ug/L		95
54) 4-Methyl-2-pentanone	12.131	100	55703	21.72	ug/L		91
56) Toluene	11.837	92	190861	5.44	ug/L		99
57) T-1,3-Dichloropropene	12.201	75	99725	5.40	ug/L		95
58) Tetrachloroethene	12.213	164	47385	4.94	ug/L		92
59) Ethyl methacrylate	12.254	69	84587	3.91	ug/L		96
60) 1,1,2-Trichloroethane	12.366	97	66041	5.22	ug/L		91
61) Dibromochloromethane	12.554	129	46275	4.48	ug/L	#	96
62) 1,3-Dichloropropane	12.630	76	118485	5.02	ug/L		95
63) 1,2-Dibromoethane	12.818	107	63951	4.90	ug/L	#	97
64) 2-Hexanone	12.883	43	254110	22.53	ug/L		100
65) Ethylbenzene	13.212	106	107966	5.10	ug/L	#	92
66) Chlorobenzene	13.247	112	188940	5.06	ug/L		93
67) 1,1,1,2-Tetrachloroethane	13.282	131	51398	4.68	ug/L		92
68) m-xylene & p-xylene	13.335	106	289132	11.00	ug/L		97
69) o-xylene	13.735	106	143437	5.34	ug/L		99
70) Styrene	13.782	104	226490	5.21	ug/L		97
71) Bromoform	13.876	173	21689	3.82	ug/L	#	67
72) Isopropylbenzene	13.999	105	373186	5.52	ug/L		97
74) Bromofluorobenzene	14.328	95	1596271	59.76	ug/L	#	82
75) n-Propylbenzene	14.393	91	481924	5.60	ug/L		97
76) 1,1,2,2-Tetrachloroethane	14.475	83	121607	5.56	ug/L		98
77) 1,2,3-Trichloropropane	14.651	61	35191	6.26	ug/L	#	90
78) T-1,4-Dichloro-2-Butene	14.352	53	33578	4.68	ug/L	#	1
80) Bromobenzene	14.469	156	73468	5.47	ug/L		87
81) 1,2,4-Trimethylbenzene	14.963	105	315484	5.69	ug/L		99
82) 2-Chlorotoluene	14.610	91	277788	5.60	ug/L	#	97
83) 4-Chlorotoluene	14.775	91	285041	5.75	ug/L		99
84) tert-Butylbenzene	14.904	119	249895	5.31	ug/L		97
85) 1,3,5-Trimethylbenzene	14.545	105	309597	5.56	ug/L		99
86) p-Isopropyltoluene	15.192	119	301672	4.75	ug/L		99
87) s-Butylbenzene	15.080	105	362754	5.42	ug/L		99
88) 1,3-Dichlorobenzene	15.421	146	146081	5.19	ug/L		96
89) 1,4-Dichlorobenzene	15.509	146	162863	5.61	ug/L	#	1
90) n-Butylbenzene	15.679	91	279037	4.49	ug/L		99
91) 1,2-Dichlorobenzene	16.026	146	137432	5.28	ug/L		98
92) DBCP	17.090	157	12664	4.12	ug/L		98
93) Hexachlorobutadiene	17.977	225	12997	3.54	ug/L	#	72
94) 1,2,4-Trichlorobenzene	18.159	180	26850	3.62	ug/L	#	84
95) Naphthalene	18.794	128	57797	2.91	ug/L	#	79
96) 1,2,3-Trichlorobenzene	19.175	180	14302	4.17	ug/L	#	62

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM006.D
Acq On : 18 Jun 2021 9:00 am
Operator : kkw
Sample : aa66932-cal3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 18 09:51:46 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM007.D
Acq On : 18 Jun 2021 9:28 am
Operator : kkw
Sample : aa66932-cal4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 18 09:52:17 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1235637	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2720919	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1709586	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1365508	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	752565	57.78	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 115.56%				
52) D8-Toluene	11.778	98	3385429	50.70	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 101.40%				
73) Bromofluorobenzene	14.328	95	1442507	48.81	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 97.62%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	121827	8.21	ug/L		98
3) Chloromethane	4.410	50	178033	9.38	ug/L		97
4) Vinyl Chloride	4.586	62	160638	10.77	ug/L		93
5) Bromomethane	5.227	94	54156	13.24	ug/L		94
6) Chloroethane	5.462	64	84051	13.98	ug/L		97
7) Trichlorofluoromethane	5.702	101	186133	11.32	ug/L		97
8) Diethyl ether	6.184	59	116071	11.49	ug/L		96
9) 1,1-Dichloroethene	6.531	96	121851	12.30	ug/L		86
10) Trichlorotrifluoroethane	6.560	151	76339	11.34	ug/L		93
11) Acrolein	7.019	56	301887	93.27	ug/L		97
12) Iodomethane	6.778	142	432218	34.46	ug/L		98
13) Carbon Disulfide	6.625	76	1823678	47.29	ug/L		98
14) 3-chloropropene	7.201	41	199304	11.03	ug/L		92
15) Acetone	7.395	43	237338	57.47	ug/L		100
16) Methylene Chloride	7.342	84	172555	13.27	ug/L		91
17) Methyl Acetate	7.524	43	121114	11.45	ug/L	#	91
18) t-1,2-Dichloroethene	7.553	96	140149	11.56	ug/L		92
19) Methyl tert-butyl ether	7.630	73	369299	12.14	ug/L		97
20) Acetonitrile	8.023	41	338616	112.50	ug/L		98
21) Isopropyl ether	8.053	45	461755	12.00	ug/L		98
22) Chloroprene	8.276	88	117678	10.34	ug/L		90
23) 1,1-Dichloroethane	8.311	63	282498	13.28	ug/L		99
24) Acrylonitrile	8.388	53	591099	90.57	ug/L		99
25) Vinyl Acetate	8.540	43	1551165	57.14	ug/L		99
26) c-1,2-Dichloroethene	8.952	96	148415	11.02	ug/L		90
27) 2,2-Dichloropropane	9.075	77	198257	12.51	ug/L		98
28) Bromochloromethane	9.187	128	64168	14.78	ug/L		98
29) Cyclohexane	9.193	56	265821	11.53	ug/L		98
30) Chloroform	9.222	83	257926	11.91	ug/L	#	93
32) Dibromofluoromethane	9.428	113	752565	57.78	ug/L	#	91
33) 2-Butanone	9.545	72	113849	52.16	ug/L		97
34) 1,1,1-Trichloroethane	9.480	97	208684	12.93	ug/L		96
35) 1,1-Dichloropropene	9.610	75	215540	12.49	ug/L		96
36) Propionitrile	9.898	54	301294	112.83	ug/L		94
37) Methacrylonitrile	9.909	41	1228878	117.42	ug/L		98
38) Isobutyl Alcohol	9.904	43	263215	208.72	ug/L	#	67
40) Carbon Tetrachloride	9.416	117	133703	10.38	ug/L	#	85
41) Benzene	9.880	78	655782	11.48	ug/L		100
42) 1,2-Dichloroethane	10.086	62	195914	11.82	ug/L		99
43) Trichloroethene	10.456	130	140187	10.75	ug/L	#	62
44) Methyl cyclohexane	10.456	83	307695	10.97	ug/L		95
45) Dibromomethane	10.902	93	98012	11.03	ug/L	#	85
46) 1,2-Dichloropropane	10.985	63	180087	10.96	ug/L		93
47) Bromodichloromethane	11.020	83	170547	10.28	ug/L		95
48) Methyl Methacrylate	11.085	69	108165	8.45	ug/L		99
49) 1,4-Dioxane	11.196	88	26438	152.89	ug/L	#	65
50) 2-Chloroethyl vinyl ether	11.490	63	468112	47.10	ug/L	#	93
51) C-1,3-Dichloropropene	11.613	75	262628	10.40	ug/L		93

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM007.D
Acq On : 18 Jun 2021 9:28 am
Operator : kkw
Sample : aa66932-cal4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 18 09:52:17 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

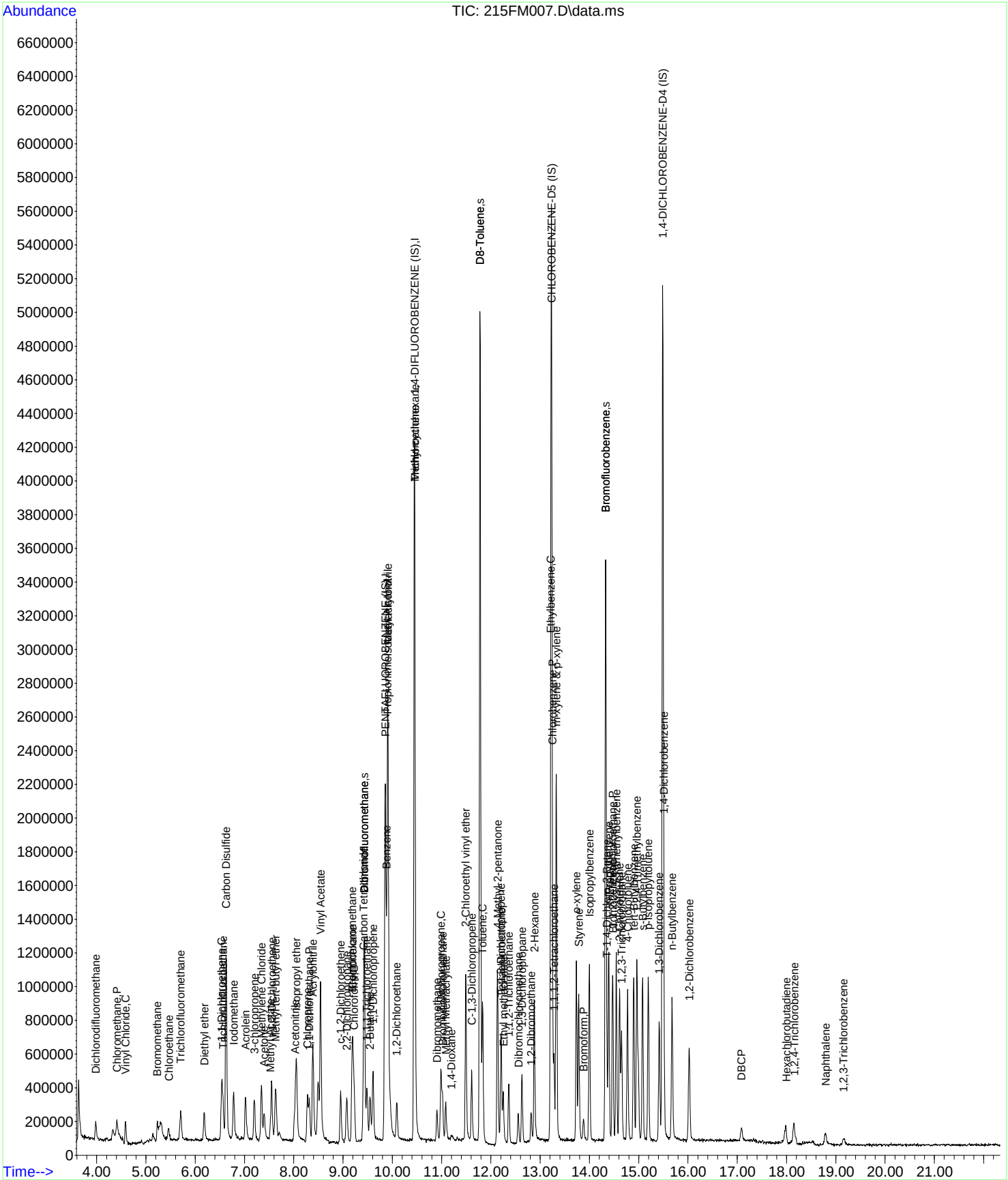
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	3385429	50.70	ug/L		96
54) 4-Methyl-2-pentanone	12.136	100	119171	41.26	ug/L		98
56) Toluene	11.831	92	387473	9.97	ug/L		97
57) T-1,3-Dichloropropene	12.201	75	188853	9.24	ug/L	#	94
58) Tetrachloroethene	12.213	164	84246	7.93	ug/L		86
59) Ethyl methacrylate	12.254	69	185862	7.76	ug/L		98
60) 1,1,2-Trichloroethane	12.360	97	133088	9.51	ug/L		95
61) Dibromochloromethane	12.559	129	104875	9.05	ug/L		97
62) 1,3-Dichloropropane	12.630	76	263488	10.09	ug/L		97
63) 1,2-Dibromoethane	12.818	107	140793	9.75	ug/L	#	93
64) 2-Hexanone	12.882	43	608770	48.78	ug/L		95
65) Ethylbenzene	13.211	106	251441	10.74	ug/L		94
66) Chlorobenzene	13.247	112	417890	10.11	ug/L		96
67) 1,1,1,2-Tetrachloroethane	13.282	131	118240	9.64	ug/L		95
68) m-xylene & p-xylene	13.329	106	629412	21.65	ug/L		94
69) o-xylene	13.734	106	295787	9.95	ug/L		94
70) Styrene	13.781	104	450550	9.37	ug/L		94
71) Bromoform	13.881	173	56574	8.82	ug/L	#	88
72) Isopropylbenzene	13.999	105	750121	10.03	ug/L		97
74) Bromofluorobenzene	14.328	95	1442507	48.81	ug/L	#	81
75) n-Propylbenzene	14.392	91	1000959	10.51	ug/L		98
76) 1,1,2,2-Tetrachloroethane	14.469	83	242924	10.03	ug/L		97
77) 1,2,3-Trichloropropane	14.651	61	73846	11.72	ug/L		94
78) T-1,4-Dichloro-2-Butene	14.351	53	71229	8.97	ug/L	#	1
80) Bromobenzene	14.475	156	149248	10.74	ug/L		84
81) 1,2,4-Trimethylbenzene	14.962	105	648191	11.32	ug/L		99
82) 2-Chlorotoluene	14.610	91	586883	11.44	ug/L		96
83) 4-Chlorotoluene	14.774	91	596106	11.64	ug/L		96
84) tert-Butylbenzene	14.898	119	524494	10.77	ug/L		99
85) 1,3,5-Trimethylbenzene	14.545	105	674843	11.72	ug/L		97
86) p-Isopropyltoluene	15.192	119	663916	10.11	ug/L		98
87) s-Butylbenzene	15.080	105	799657	11.56	ug/L		98
88) 1,3-Dichlorobenzene	15.415	146	311105	10.69	ug/L		98
89) 1,4-Dichlorobenzene	15.509	146	314368	10.48	ug/L	#	45
90) n-Butylbenzene	15.673	91	633951	9.86	ug/L		97
91) 1,2-Dichlorobenzene	16.026	146	273858	10.19	ug/L		93
92) DBCP	17.083	157	23874	7.46	ug/L		92
93) Hexachlorobutadiene	17.994	225	23531	6.19	ug/L	#	87
94) 1,2,4-Trichlorobenzene	18.153	180	55168	7.13	ug/L	#	91
95) Naphthalene	18.793	128	113841	5.51	ug/L	#	91
96) 1,2,3-Trichlorobenzene	19.152	180	19431	5.46	ug/L		89

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM007.D
Acq On : 18 Jun 2021 9:28 am
Operator : kkw
Sample : aa66932-cal4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 18 09:52:17 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM008.D
Acq On : 18 Jun 2021 9:56 am
Operator : kkw
Sample : aa66932-cal5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 18 10:34:37 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1048667	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2471790	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1553840	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1230662	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	817344	73.95	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 147.90%#				
52) D8-Toluene	11.778	98	3851047	63.49	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 126.98%#				
73) Bromofluorobenzene	14.328	95	1690729	62.94	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 125.88%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	200616	15.93	ug/L		94
3) Chloromethane	4.410	50	302243	18.48	ug/L		100
4) Vinyl Chloride	4.586	62	270150	21.33	ug/L		96
5) Bromomethane	5.227	94	76749	21.51	ug/L	#	96
6) Chloroethane	5.462	64	156004	30.58	ug/L		99
7) Trichlorofluoromethane	5.703	101	324475	23.25	ug/L		99
8) Diethyl ether	6.184	59	214890	25.05	ug/L		99
9) 1,1-Dichloroethene	6.537	96	221322	26.33	ug/L		91
10) Trichlorotrifluoroethane	6.555	151	137133	24.00	ug/L		94
11) Acrolein	7.013	56	561975	204.58	ug/L		100
12) Iodomethane	6.778	142	915747	86.03	ug/L		97
13) Carbon Disulfide	6.625	76	3325322	102.69	ug/L		100
14) 3-chloropropene	7.195	41	352274	22.97	ug/L		97
15) Acetone	7.395	43	398208	113.61	ug/L		96
16) Methylene Chloride	7.342	84	286265	25.93	ug/L		93
17) Methyl Acetate	7.524	43	210343	22.85	ug/L	#	97
18) t-1,2-Dichloroethene	7.548	96	254734	24.75	ug/L		94
19) Methyl tert-butyl ether	7.630	73	635359	24.60	ug/L		94
20) Acetonitrile	8.012	41	573594	224.54	ug/L		97
21) Isopropyl ether	8.053	45	835803	25.59	ug/L		100
22) Chloroprene	8.276	88	239238	24.76	ug/L		99
23) 1,1-Dichloroethane	8.317	63	496023	27.47	ug/L		98
24) Acrylonitrile	8.382	53	1142636	206.28	ug/L		100
25) Vinyl Acetate	8.541	43	2933507	127.34	ug/L		98
26) c-1,2-Dichloroethene	8.952	96	281101	24.59	ug/L		95
27) 2,2-Dichloropropane	9.075	77	361450	26.86	ug/L		99
28) Bromochloromethane	9.181	128	109839	29.80	ug/L		97
29) Cyclohexane	9.187	56	510224	26.07	ug/L		97
30) Chloroform	9.222	83	472414	25.71	ug/L		95
32) Dibromofluoromethane	9.428	113	817344	73.95	ug/L	#	90
33) 2-Butanone	9.545	72	207794	112.18	ug/L		98
34) 1,1,1-Trichloroethane	9.486	97	347948	25.39	ug/L		93
35) 1,1-Dichloropropene	9.604	75	389732	26.62	ug/L		97
36) Propionitrile	9.892	54	522201	230.42	ug/L		94
37) Methacrylonitrile	9.910	41	2068765	232.92	ug/L		99
38) Isobutyl Alcohol	9.910	43	433436	404.99	ug/L	#	83
40) Carbon Tetrachloride	9.410	117	313463	25.77	ug/L	#	71
41) Benzene	9.880	78	1191916	22.97	ug/L		99
42) 1,2-Dichloroethane	10.086	62	328738	21.84	ug/L		99
43) Trichloroethene	10.450	130	249364	21.05	ug/L	#	78
44) Methyl cyclohexane	10.450	83	545136	21.39	ug/L		97
45) Dibromomethane	10.903	93	165729	20.52	ug/L		91
46) 1,2-Dichloropropane	10.985	63	320957	21.51	ug/L		98
47) Bromodichloromethane	11.020	83	331106	21.40	ug/L		98
48) Methyl Methacrylate	11.079	69	213806	18.40	ug/L		97
49) 1,4-Dioxane	11.196	88	51801	329.76	ug/L		91
50) 2-Chloroethyl vinyl ether	11.490	63	862819	95.57	ug/L		97
51) C-1,3-Dichloropropene	11.608	75	502562	21.35	ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM008.D
Acq On : 18 Jun 2021 9:56 am
Operator : kkw
Sample : aa66932-cal5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 18 10:34:37 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

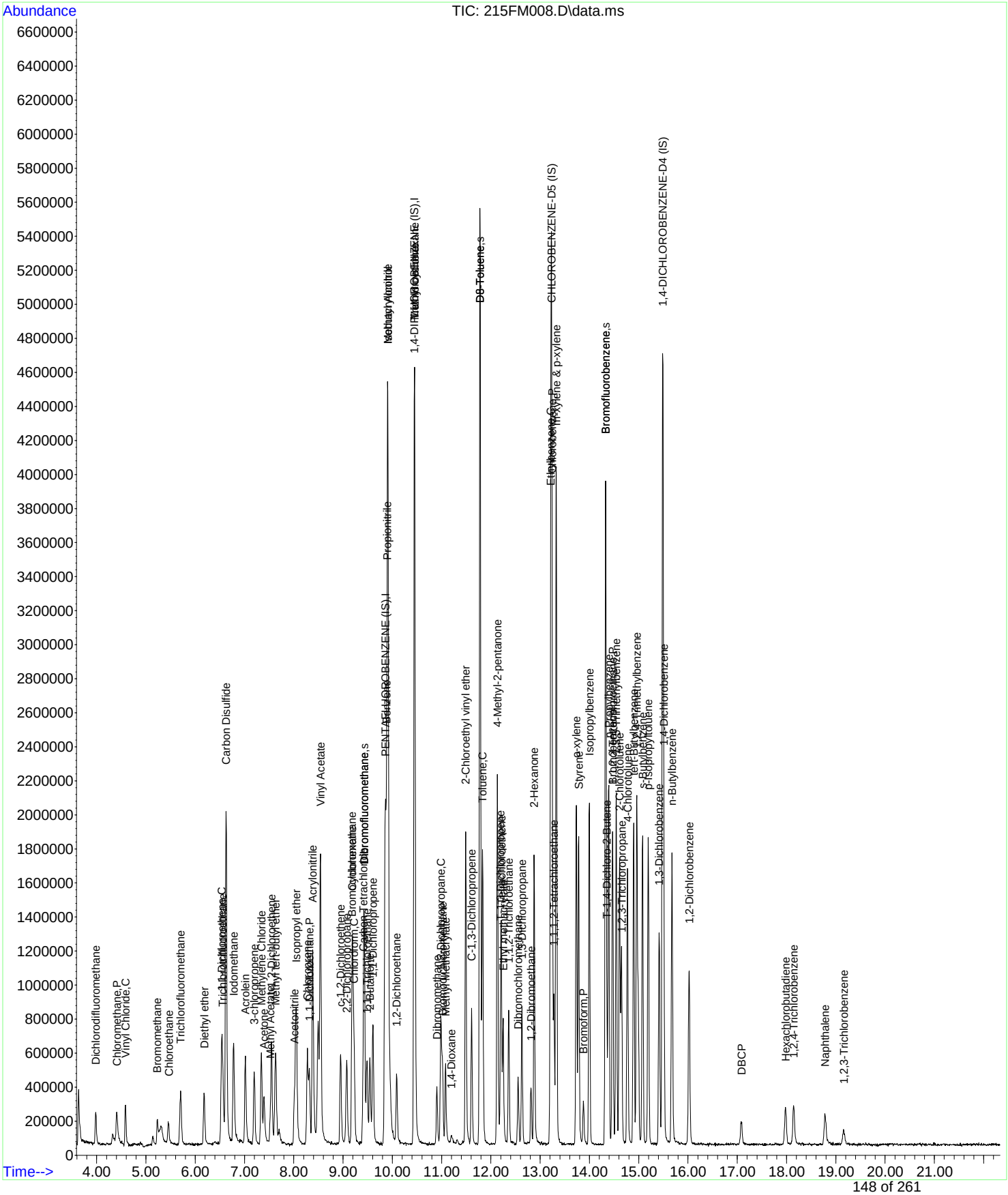
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.778	98	3846540	63.42 ug/L	95
54) 4-Methyl-2-pentanone	12.131	100	225597	85.61 ug/L	87
56) Toluene	11.831	92	775105	21.95 ug/L	100
57) T-1,3-Dichloropropene	12.195	75	401434	21.61 ug/L	97
58) Tetrachloroethene	12.213	164	174433	18.07 ug/L	94
59) Ethyl methacrylate	12.248	69	404512	18.58 ug/L	98
60) 1,1,2-Trichloroethane	12.360	97	264998	20.82 ug/L	99
61) Dibromochloromethane	12.554	129	214050	19.68 ug/L	96
62) 1,3-Dichloropropane	12.630	76	478862	20.18 ug/L	98
63) 1,2-Dibromoethane	12.812	107	261362	19.92 ug/L	100
64) 2-Hexanone	12.877	43	1090226	96.12 ug/L	98
65) Ethylbenzene	13.212	106	437376	20.55 ug/L	90
66) Chlorobenzene	13.241	112	788116	20.97 ug/L	98
67) 1,1,1,2-Tetrachloroethane	13.276	131	220728	19.47 ug/L	98
68) m-xylene & p-xylene	13.329	106	1185284	44.85 ug/L	95
69) o-xylene	13.735	106	588315	21.78 ug/L	100
70) Styrene	13.782	104	1002210	22.92 ug/L	98
71) Bromoform	13.876	173	115109	18.90 ug/L	97
72) Isopropylbenzene	13.999	105	1501750	22.09 ug/L	98
74) Bromofluorobenzene	14.328	95	1690729	62.94 ug/L #	75
75) n-Propylbenzene	14.393	91	1936701	22.38 ug/L	97
76) 1,1,2,2-Tetrachloroethane	14.469	83	466550	21.19 ug/L	97
77) 1,2,3-Trichloropropane	14.657	61	97684	16.87 ug/L #	79
78) T-1,4-Dichloro-2-Butene	14.351	53	132350	18.34 ug/L #	52
80) Bromobenzene	14.469	156	275454	21.99 ug/L	84
81) 1,2,4-Trimethylbenzene	14.963	105	1290180	24.99 ug/L	99
82) 2-Chlorotoluene	14.610	91	1123138	24.30 ug/L	98
83) 4-Chlorotoluene	14.775	91	1182452	25.62 ug/L	96
84) tert-Butylbenzene	14.898	119	1017327	23.19 ug/L	97
85) 1,3,5-Trimethylbenzene	14.540	105	1306656	25.17 ug/L	96
86) p-Isopropyltoluene	15.192	119	1250358	21.13 ug/L	97
87) s-Butylbenzene	15.080	105	1534533	24.60 ug/L	98
88) 1,3-Dichlorobenzene	15.415	146	566706	21.60 ug/L	93
89) 1,4-Dichlorobenzene	15.509	146	588831	21.79 ug/L #	76
90) n-Butylbenzene	15.673	91	1239760	21.40 ug/L	96
91) 1,2-Dichlorobenzene	16.026	146	515198	21.26 ug/L	93
92) DBCP	17.090	157	44628	15.22 ug/L	86
93) Hexachlorobutadiene	17.983	225	49921	14.50 ug/L	93
94) 1,2,4-Trichlorobenzene	18.141	180	103006	14.53 ug/L	95
95) Naphthalene	18.782	128	267664	14.07 ug/L	97
96) 1,2,3-Trichlorobenzene	19.164	180	39009	11.98 ug/L #	92

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM008.D
Acq On : 18 Jun 2021 9:56 am
Operator : kkw
Sample : aa66932-cal5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 18 10:34:37 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM009.D
Acq On : 18 Jun 2021 10:24 am
Operator : kkw
Sample : aa66932-cal6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jun 18 11:10:05 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Fri Jun 18 11:10:02 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.851	168	1101889	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2525815	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.223	82	1610233	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1271242	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	691769	52.47	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 104.94%				
52) D8-Toluene	11.778	98	3376143	55.48	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 110.96%				
73) Bromofluorobenzene	14.328	95	1488725	54.27	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 108.54%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	566892	50.85	ug/L		99
3) Chloromethane	4.404	50	760761	47.45	ug/L		98
4) Vinyl Chloride	4.586	62	716164	49.26	ug/L		88
5) Bromomethane	5.227	94	193576	31.84	ug/L		99
6) Chloroethane	5.444	64	316881	35.23	ug/L		95
7) Trichlorofluoromethane	5.697	101	846089	51.19	ug/L		100
8) Diethyl ether	6.178	59	555943	48.97	ug/L		98
9) 1,1-Dichloroethene	6.531	96	607719	52.83	ug/L		96
10) Trichlorotrifluoroethane	6.554	151	352293	48.81	ug/L		90
11) Acrolein	7.013	56	1477050	512.15	ug/L		100
12) Iodomethane	6.778	142	2614644	375.79	ug/L		97
13) Carbon Disulfide	6.625	76	8389451	262.62	ug/L		99
14) 3-chloropropene	7.195	41	986635	55.01	ug/L		99
15) Acetone	7.395	43	1078431	267.16	ug/L		100
16) Methylene Chloride	7.342	84	725279	47.73	ug/L		100
17) Methyl Acetate	7.518	43	551906	42.28	ug/L	#	95
18) t-1,2-Dichloroethene	7.547	96	668471	49.88	ug/L		97
19) Methyl tert-butyl ether	7.630	73	1745532	53.48	ug/L		99
20) Acetonitrile	8.006	41	1530457	504.36	ug/L		100
21) Isopropyl ether	8.047	45	2233077	54.63	ug/L		99
22) Chloroprene	8.270	88	624635	60.84	ug/L		96
23) 1,1-Dichloroethane	8.311	63	1268564	49.88	ug/L		100
24) Acrylonitrile	8.382	53	2947243	519.53	ug/L		99
25) Vinyl Acetate	8.534	43	7542136	300.62	ug/L		98
26) c-1,2-Dichloroethene	8.946	96	768544	54.92	ug/L		97
27) 2,2-Dichloropropane	9.075	77	961942	54.88	ug/L		98
28) Bromochloromethane	9.187	128	241159	41.87	ug/L		96
29) Cyclohexane	9.187	56	1378155	56.75	ug/L		96
30) Chloroform	9.222	83	1207625	49.58	ug/L		99
32) Dibromofluoromethane	9.428	113	691769	52.47	ug/L	#	90
33) 2-Butanone	9.539	72	545346	262.38	ug/L		99
34) 1,1,1-Trichloroethane	9.480	97	948191	54.29	ug/L		98
35) 1,1-Dichloropropene	9.604	75	1020890	51.58	ug/L		98
36) Propionitrile	9.892	54	1278807	483.73	ug/L		92
37) Methacrylonitrile	9.909	41	5156465	501.48	ug/L		100
38) Isobutyl Alcohol	9.950	43	1181083	1315.77	ug/L		97
40) Carbon Tetrachloride	9.410	117	719666	51.82	ug/L	#	94
41) Benzene	9.874	78	2915205	47.71	ug/L		99
42) 1,2-Dichloroethane	10.086	62	825333	45.49	ug/L		99
43) Trichloroethene	10.450	130	624288	50.54	ug/L		92
44) Methyl cyclohexane	10.450	83	1353707	36.45	ug/L		96
45) Dibromomethane	10.902	93	434739	49.73	ug/L		92
46) 1,2-Dichloropropane	10.985	63	849636	50.47	ug/L		99
47) Bromodichloromethane	11.014	83	875106	55.15	ug/L		99
48) Methyl Methacrylate	11.079	69	618545	63.20	ug/L		97
49) 1,4-Dioxane	11.202	88	139925	1066.27	ug/L		97
50) 2-Chloroethyl vinyl ether	11.484	63	2289741	306.35	ug/L		96
51) C-1,3-Dichloropropene	11.607	75	1342741	56.74	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM009.D
Acq On : 18 Jun 2021 10:24 am
Operator : kkw
Sample : aa66932-cal6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jun 18 11:10:05 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Fri Jun 18 11:10:02 2021
Response via : Initial Calibration

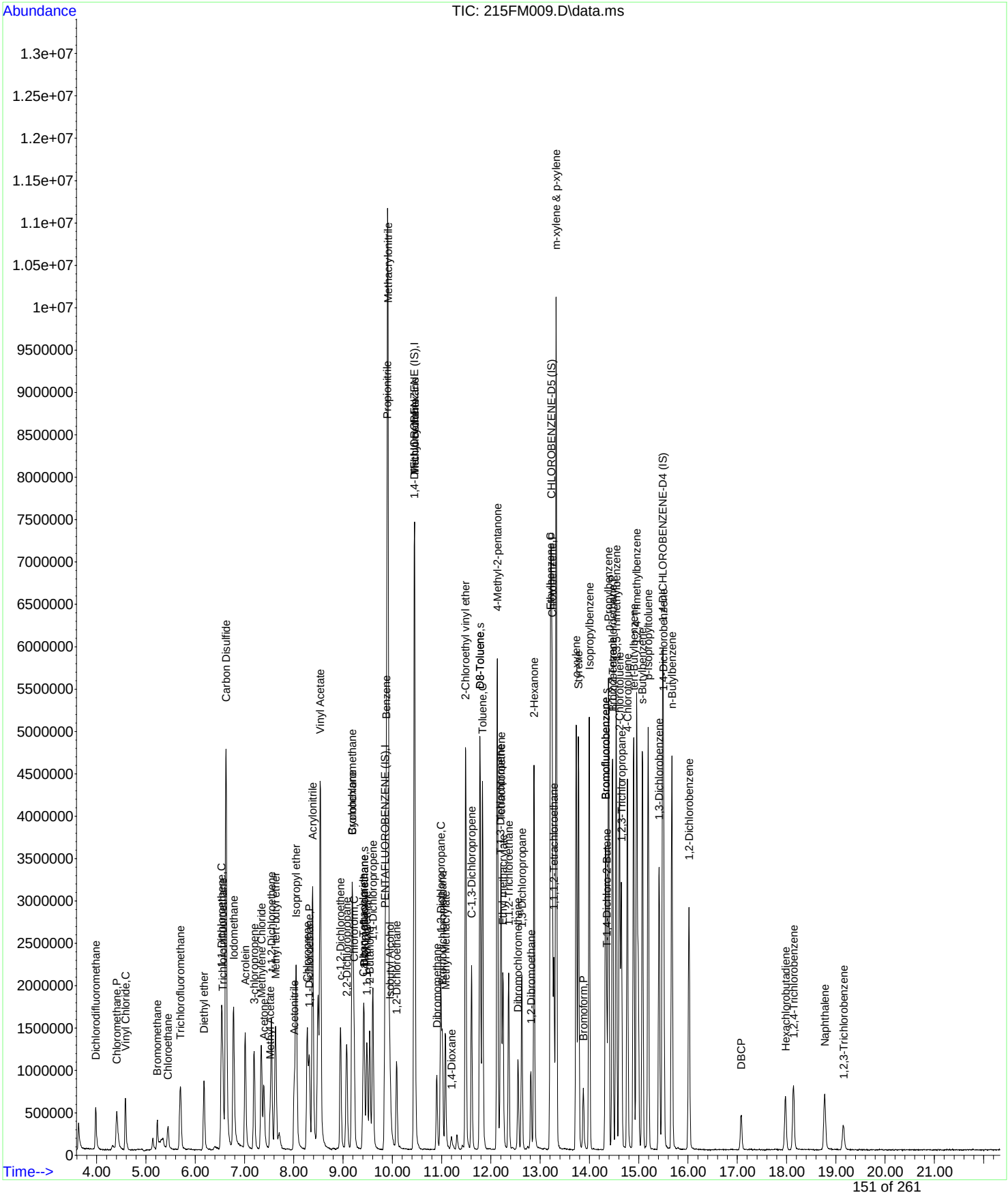
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	3376143	55.48	ug/L		96
54) 4-Methyl-2-pentanone	12.130	100	606010	275.54	ug/L		91
56) Toluene	11.831	92	2006031	50.07	ug/L		97
57) T-1,3-Dichloropropene	12.195	75	1052480	54.14	ug/L		99
58) Tetrachloroethene	12.207	164	440848	47.30	ug/L		94
59) Ethyl methacrylate	12.242	69	1112969	66.12	ug/L		100
60) 1,1,2-Trichloroethane	12.360	97	683667	50.59	ug/L		98
61) Dibromochloromethane	12.548	129	579595	61.98	ug/L		99
62) 1,3-Dichloropropane	12.630	76	1280096	52.68	ug/L		98
63) 1,2-Dibromoethane	12.812	107	708335	53.68	ug/L	#	98
64) 2-Hexanone	12.877	43	2942276	299.51	ug/L		99
65) Ethylbenzene	13.206	106	1154029	52.29	ug/L		93
66) Chlorobenzene	13.241	112	1987083	50.12	ug/L		98
67) 1,1,1,2-Tetrachloroethane	13.276	131	588973	53.81	ug/L		98
68) m-xylene & p-xylene	13.323	106	2897847	99.04	ug/L		95
69) o-xylene	13.729	106	1480227	53.50	ug/L		94
70) Styrene	13.775	104	2515821	61.21	ug/L		98
71) Bromoform	13.875	173	316758	63.73	ug/L		90
72) Isopropylbenzene	13.999	105	3820687	54.01	ug/L		97
74) Bromofluorobenzene	14.328	95	1488725	54.27	ug/L	#	75
75) n-Propylbenzene	14.387	91	4988753	53.59	ug/L		98
76) 1,1,2,2-Tetrachloroethane	14.469	83	1173606	51.05	ug/L		98
77) 1,2,3-Trichloropropane	14.651	61	258789	44.09	ug/L		84
78) T-1,4-Dichloro-2-Butene	14.351	53	339718	52.37	ug/L		89
80) Bromobenzene	14.469	156	704271	52.43	ug/L		80
81) 1,2,4-Trimethylbenzene	14.957	105	3383669	57.85	ug/L		98
82) 2-Chlorotoluene	14.610	91	2945298	54.40	ug/L		97
83) 4-Chlorotoluene	14.768	91	3058188	57.02	ug/L		97
84) tert-Butylbenzene	14.898	119	2702281	56.48	ug/L		96
85) 1,3,5-Trimethylbenzene	14.545	105	3401507	57.23	ug/L		97
86) p-Isopropyltoluene	15.192	119	3319147	58.70	ug/L		97
87) s-Butylbenzene	15.074	105	4096072	57.37	ug/L		99
88) 1,3-Dichlorobenzene	15.415	146	1494905	53.19	ug/L		93
89) 1,4-Dichlorobenzene	15.503	146	1488014	49.92	ug/L		91
90) n-Butylbenzene	15.673	91	3375228	60.91	ug/L		97
91) 1,2-Dichlorobenzene	16.020	146	1375072	53.70	ug/L		95
92) DBCP	17.078	157	141044	63.73	ug/L		98
93) Hexachlorobutadiene	17.982	225	142097	61.92	ug/L	#	90
94) 1,2,4-Trichlorobenzene	18.141	180	313560	74.05	ug/L		92
95) Naphthalene	18.776	128	896222	85.25	ug/L		100
96) 1,2,3-Trichlorobenzene	19.158	180	138934	74.50	ug/L	#	92

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM009.D
Acq On : 18 Jun 2021 10:24 am
Operator : kkw
Sample : aa66932-cal6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jun 18 11:10:05 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Fri Jun 18 11:10:02 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM010.D
Acq On : 18 Jun 2021 10:52 am
Operator : kkw
Sample : aa66932-cal7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 18 11:43:10 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Fri Jun 18 11:11:17 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.851	168	1123435	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2544231	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1714182	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1273276	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	918978	67.81	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 135.62%#				
52) D8-Toluene	11.778	98	4433031	71.03	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 142.06%#				
73) Bromofluorobenzene	14.328	95	2000166	67.53	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 135.06%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	932562	81.81	ug/L		98
3) Chloromethane	4.404	50	1300917	83.08	ug/L		100
4) Vinyl Chloride	4.580	62	1219487	82.47	ug/L		96
5) Bromomethane	5.232	94	362884	62.32	ug/L		96
6) Chloroethane	5.432	64	417887	47.93	ug/L		96
7) Trichlorofluoromethane	5.691	101	1408032	83.22	ug/L		100
8) Diethyl ether	6.178	59	932975	80.89	ug/L		99
9) 1,1-Dichloroethene	6.531	96	963951	81.42	ug/L		99
10) Trichlorotrifluoroethane	6.554	151	553174	75.47	ug/L		99
11) Acrolein	7.013	56	2505933	848.80	ug/L		99
12) Iodomethane	6.778	142	4278069	556.41	ug/L		99
13) Carbon Disulfide	6.619	76	13076901	398.15	ug/L		99
14) 3-chloropropene	7.195	41	1588991	85.47	ug/L		97
15) Acetone	7.389	43	1861072	447.08	ug/L		99
16) Methylene Chloride	7.336	84	1216081	79.10	ug/L		97
17) Methyl Acetate	7.512	43	977153	75.35	ug/L	#	96
18) t-1,2-Dichloroethene	7.542	96	1074638	78.68	ug/L		97
19) Methyl tert-butyl ether	7.630	73	2897495	86.08	ug/L		99
20) Acetonitrile	8.006	41	2616075	844.36	ug/L		99
21) Isopropyl ether	8.047	45	3676890	86.89	ug/L		99
22) Chloroprene	8.270	88	1026205	94.62	ug/L		99
23) 1,1-Dichloroethane	8.311	63	2065602	79.70	ug/L		99
24) Acrylonitrile	8.382	53	5029725	863.99	ug/L		98
25) Vinyl Acetate	8.535	43	12211820	461.83	ug/L		99
26) c-1,2-Dichloroethene	8.946	96	1216730	83.90	ug/L		97
27) 2,2-Dichloropropane	9.069	77	1594058	87.77	ug/L		100
28) Bromochloromethane	9.181	128	379875	66.49	ug/L		99
29) Cyclohexane	9.193	56	2188095	86.42	ug/L		98
30) Chloroform	9.222	83	1956175	78.88	ug/L		98
32) Dibromofluoromethane	9.428	113	918978	67.81	ug/L	#	88
33) 2-Butanone	9.539	72	952951	446.02	ug/L		95
34) 1,1,1-Trichloroethane	9.481	97	1534822	84.98	ug/L		99
35) 1,1-Dichloropropene	9.604	75	1668352	82.24	ug/L		99
36) Propionitrile	9.898	54	2058819	768.01	ug/L		97
37) Methacrylonitrile	9.909	41	8187682	780.62	ug/L		98
38) Isobutyl Alcohol	9.951	43	1979594	2054.90	ug/L		96
40) Carbon Tetrachloride	9.410	117	1365433	97.02	ug/L		86
41) Benzene	9.874	78	4591902	75.18	ug/L		99
42) 1,2-Dichloroethane	10.086	62	1375316	76.41	ug/L		98
43) Trichloroethene	10.450	130	985071	79.02	ug/L		99
44) Methyl cyclohexane	10.450	83	2150686	60.21	ug/L		98
45) Dibromomethane	10.897	93	718501	81.67	ug/L		99
46) 1,2-Dichloropropane	10.985	63	1381434	81.34	ug/L		98
47) Bromodichloromethane	11.014	83	1457563	89.66	ug/L		100
48) Methyl Methacrylate	11.073	69	1042641	101.31	ug/L		100
49) 1,4-Dioxane	11.202	88	245538	1837.24	ug/L		99
50) 2-Chloroethyl vinyl ether	11.490	63	3769965	482.61	ug/L		99
51) C-1,3-Dichloropropene	11.607	75	2205891	90.51	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM010.D
Acq On : 18 Jun 2021 10:52 am
Operator : kkw
Sample : aa66932-cal7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 18 11:43:10 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Fri Jun 18 11:11:17 2021
Response via : Initial Calibration

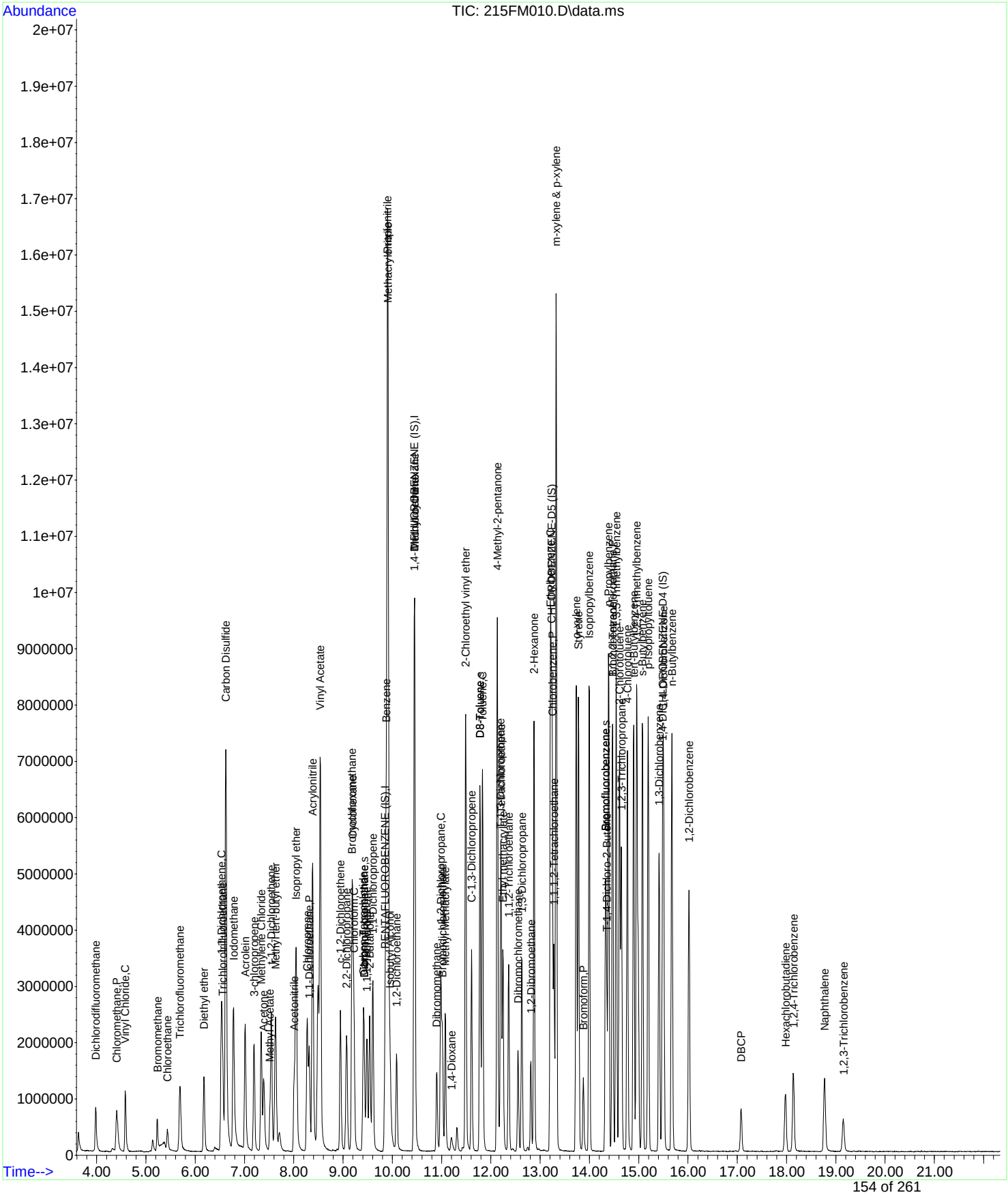
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	4433031	71.03	ug/L		95
54) 4-Methyl-2-pentanone	12.130	100	991775	440.18	ug/L		96
56) Toluene	11.831	92	3174215	74.41	ug/L		100
57) T-1,3-Dichloropropene	12.195	75	1728113	82.37	ug/L		99
58) Tetrachloroethene	12.207	164	701519	71.35	ug/L		98
59) Ethyl methacrylate	12.242	69	1898301	100.53	ug/L		99
60) 1,1,2-Trichloroethane	12.360	97	1142283	79.24	ug/L		98
61) Dibromochloromethane	12.553	129	998555	96.45	ug/L		99
62) 1,3-Dichloropropane	12.630	76	2158658	82.71	ug/L		100
63) 1,2-Dibromoethane	12.812	107	1195729	84.09	ug/L		99
64) 2-Hexanone	12.877	43	4994708	462.34	ug/L		99
65) Ethylbenzene	13.206	106	1871305	79.04	ug/L		96
66) Chlorobenzene	13.247	112	3189012	75.53	ug/L		100
67) 1,1,1,2-Tetrachloroethane	13.282	131	1009037	85.52	ug/L		97
68) m-xylene & p-xylene	13.323	106	4541007	146.02	ug/L		97
69) o-xylene	13.734	106	2417387	81.13	ug/L		99
70) Styrene	13.776	104	4206117	92.66	ug/L		99
71) Bromoform	13.875	173	575403	103.99	ug/L		98
72) Isopropylbenzene	13.993	105	6066459	79.50	ug/L		98
74) Bromofluorobenzene	14.328	95	2000166	67.53	ug/L	#	75
75) n-Propylbenzene	14.387	91	7982408	79.59	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.469	83	1985210	80.84	ug/L		98
77) 1,2,3-Trichloropropane	14.651	61	457507	74.69	ug/L		94
78) T-1,4-Dichloro-2-Butene	14.351	53	625157	89.82	ug/L		90
80) Bromobenzene	14.469	156	1148624	84.69	ug/L		100
81) 1,2,4-Trimethylbenzene	14.957	105	5391829	89.68	ug/L		99
82) 2-Chlorotoluene	14.610	91	4808303	87.39	ug/L		99
83) 4-Chlorotoluene	14.769	91	4948469	90.01	ug/L		100
84) tert-Butylbenzene	14.898	119	4242901	86.67	ug/L		98
85) 1,3,5-Trimethylbenzene	14.545	105	5336569	87.53	ug/L		98
86) p-Isopropyltoluene	15.192	119	5201226	89.25	ug/L		99
87) s-Butylbenzene	15.074	105	6457795	88.14	ug/L		100
88) 1,3-Dichlorobenzene	15.415	146	2387561	83.92	ug/L		99
89) 1,4-Dichlorobenzene	15.503	146	2416825	80.97	ug/L		96
90) n-Butylbenzene	15.673	91	5350880	93.02	ug/L		99
91) 1,2-Dichlorobenzene	16.020	146	2208490	85.06	ug/L		97
92) DBCP	17.078	157	246775	106.45	ug/L		95
93) Hexachlorobutadiene	17.982	225	250885	104.97	ug/L		96
94) 1,2,4-Trichlorobenzene	18.141	180	577702	126.10	ug/L		97
95) Naphthalene	18.770	128	1722375	146.37	ug/L		100
96) 1,2,3-Trichlorobenzene	19.158	180	265407	131.36	ug/L		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM010.D
Acq On : 18 Jun 2021 10:52 am
Operator : kkw
Sample : aa66932-cal7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 18 11:43:10 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Fri Jun 18 11:11:17 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM011.D
Acq On : 18 Jun 2021 11:20 am
Operator : kkw
Sample : aa66932-cal8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jun 18 11:43:26 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Fri Jun 18 11:11:17 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.851	168	1129487	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2502919	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.223	82	1697989	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1266610	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	988078	72.52	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 145.04%#				
52) D8-Toluene	11.778	98	4733786	77.10	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 154.20%#				
73) Bromofluorobenzene	14.328	95	2175091	74.14	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 148.28%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	1159014	101.13	ug/L		99
3) Chloromethane	4.404	50	1831210	116.32	ug/L		100
4) Vinyl Chloride	4.580	62	1565349	105.29	ug/L		96
5) Bromomethane	5.227	94	478379	81.72	ug/L		98
6) Chloroethane	5.432	64	388830	44.36	ug/L		97
7) Trichlorofluoromethane	5.685	101	1776302	104.42	ug/L		99
8) Diethyl ether	6.179	59	1207374	104.12	ug/L		99
9) 1,1-Dichloroethene	6.531	96	1251271	105.12	ug/L		99
10) Trichlorotrifluoroethane	6.555	151	706618	95.89	ug/L		98
11) Acrolein	7.013	56	3300114	1111.81	ug/L		100
12) Iodomethane	6.772	142	5419952	701.14	ug/L		99
13) Carbon Disulfide	6.619	76	16040976	485.79	ug/L		99
14) 3-chloropropene	7.189	41	1865214	99.79	ug/L		99
15) Acetone	7.395	43	2495282	596.23	ug/L		100
16) Methylene Chloride	7.336	84	1513458	97.91	ug/L		95
17) Methyl Acetate	7.518	43	1317924	101.09	ug/L		96
18) t-1,2-Dichloroethene	7.542	96	1370279	99.79	ug/L		99
19) Methyl tert-butyl ether	7.630	73	3836963	113.38	ug/L		99
20) Acetonitrile	8.012	41	3525661	1131.84	ug/L		99
21) Isopropyl ether	8.047	45	4718235	110.90	ug/L		99
22) Chloroprene	8.270	88	1332291	122.18	ug/L		99
23) 1,1-Dichloroethane	8.311	63	2603426	99.91	ug/L		100
24) Acrylonitrile	8.382	53	6578133	1123.92	ug/L		100
25) Vinyl Acetate	8.535	43	15529950	584.17	ug/L		98
26) c-1,2-Dichloroethene	8.946	96	1558869	106.91	ug/L		98
27) 2,2-Dichloropropane	9.069	77	2012990	110.25	ug/L		99
28) Bromochloromethane	9.181	128	448159	78.02	ug/L		100
29) Cyclohexane	9.187	56	2739986	107.64	ug/L		98
30) Chloroform	9.216	83	2478369	99.41	ug/L		99
32) Dibromofluoromethane	9.428	113	988078	72.52	ug/L	#	89
33) 2-Butanone	9.539	72	1250560	582.17	ug/L		99
34) 1,1,1-Trichloroethane	9.486	97	1930104	106.29	ug/L		99
35) 1,1-Dichloropropene	9.604	75	2074189	101.70	ug/L		99
36) Propionitrile	9.898	54	2668820	990.22	ug/L		96
37) Methacrylonitrile	9.909	41	10381958	984.52	ug/L		97
38) Isobutyl Alcohol	9.951	43	2662337	2748.81	ug/L		94
40) Carbon Tetrachloride	9.410	117	1460734	105.50	ug/L		88
41) Benzene	9.874	78	5755966	95.80	ug/L		99
42) 1,2-Dichloroethane	10.086	62	1753855	99.05	ug/L		99
43) Trichloroethene	10.450	130	1242836	101.35	ug/L		97
44) Methyl cyclohexane	10.450	83	2682040	76.33	ug/L		99
45) Dibromomethane	10.902	93	902694	104.30	ug/L		100
46) 1,2-Dichloropropane	10.985	63	1779650	106.51	ug/L		99
47) Bromodichloromethane	11.014	83	1859933	116.30	ug/L		100
48) Methyl Methacrylate	11.073	69	1410763	139.34	ug/L		97
49) 1,4-Dioxane	11.196	88	336711	2561.02	ug/L		97
50) 2-Chloroethyl vinyl ether	11.490	63	4851460	631.31	ug/L		99
51) C-1,3-Dichloropropene	11.608	75	2794072	116.53	ug/L		98

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM011.D
Acq On : 18 Jun 2021 11:20 am
Operator : kkw
Sample : aa66932-cal8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jun 18 11:43:26 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Fri Jun 18 11:11:17 2021
Response via : Initial Calibration

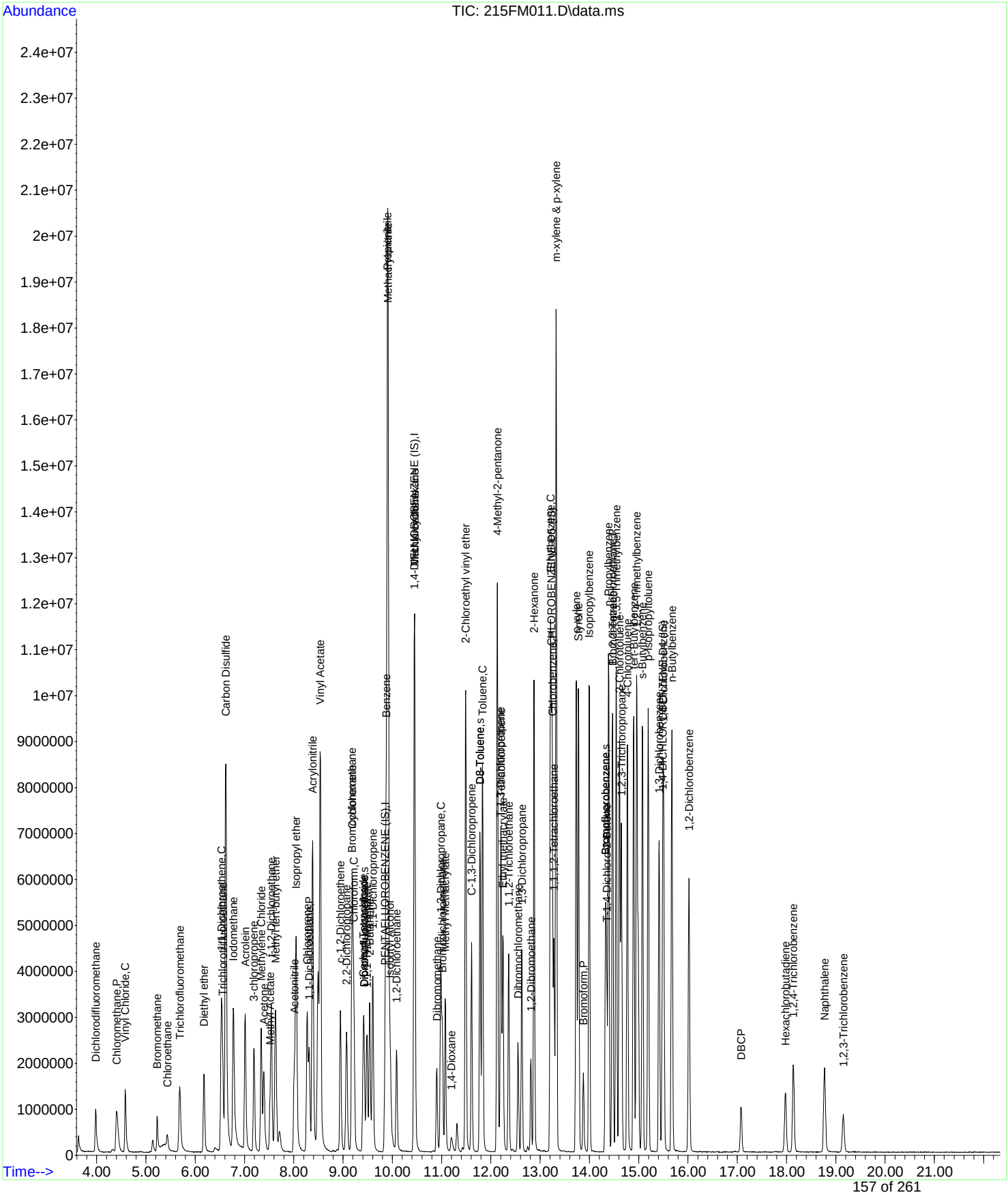
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	4731800	77.06	ug/L		97
54) 4-Methyl-2-pentanone	12.130	100	1330324	600.19	ug/L		99
56) Toluene	11.831	92	3937479	93.18	ug/L		98
57) T-1,3-Dichloropropene	12.195	75	2202638	105.99	ug/L		99
58) Tetrachloroethene	12.207	164	889715	91.35	ug/L		99
59) Ethyl methacrylate	12.242	69	2533929	135.48	ug/L		99
60) 1,1,2-Trichloroethane	12.360	97	1448881	101.47	ug/L		98
61) Dibromochloromethane	12.554	129	1315027	128.23	ug/L		99
62) 1,3-Dichloropropane	12.630	76	2753469	106.50	ug/L		99
63) 1,2-Dibromoethane	12.812	107	1520543	107.96	ug/L		98
64) 2-Hexanone	12.877	43	6710633	627.10	ug/L		100
65) Ethylbenzene	13.212	106	2353358	100.35	ug/L		94
66) Chlorobenzene	13.247	112	3959910	94.69	ug/L		98
67) 1,1,1,2-Tetrachloroethane	13.276	131	1264489	108.19	ug/L		98
68) m-xylene & p-xylene	13.323	106	5509138	178.84	ug/L		95
69) o-xylene	13.735	106	3022266	102.40	ug/L		98
70) Styrene	13.776	104	5266090	117.12	ug/L		98
71) Bromoform	13.876	173	754354	137.63	ug/L		97
72) Isopropylbenzene	13.993	105	7556057	99.96	ug/L		99
74) Bromofluorobenzene	14.328	95	2175091	74.14	ug/L	#	75
75) n-Propylbenzene	14.387	91	9784340	98.49	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.469	83	2499500	102.75	ug/L		98
77) 1,2,3-Trichloropropane	14.651	61	569211	93.81	ug/L		98
78) T-1,4-Dichloro-2-Butene	14.351	53	814740	118.18	ug/L		89
80) Bromobenzene	14.469	156	1450425	107.50	ug/L		100
81) 1,2,4-Trimethylbenzene	14.957	105	6619787	110.69	ug/L		100
82) 2-Chlorotoluene	14.610	91	6041910	110.39	ug/L		99
83) 4-Chlorotoluene	14.769	91	6177797	112.96	ug/L		99
84) tert-Butylbenzene	14.898	119	5257735	107.96	ug/L		97
85) 1,3,5-Trimethylbenzene	14.545	105	6695668	110.40	ug/L		99
86) p-Isopropyltoluene	15.192	119	6418293	110.72	ug/L		99
87) s-Butylbenzene	15.074	105	8000918	109.78	ug/L		99
88) 1,3-Dichlorobenzene	15.415	146	3008346	106.30	ug/L		98
89) 1,4-Dichlorobenzene	15.503	146	2972784	100.12	ug/L		96
90) n-Butylbenzene	15.673	91	6678774	116.72	ug/L		99
91) 1,2-Dichlorobenzene	16.020	146	2797662	108.32	ug/L		97
92) DBCP	17.078	157	347030	150.48	ug/L		96
93) Hexachlorobutadiene	17.977	225	318853	134.11	ug/L		95
94) 1,2,4-Trichlorobenzene	18.135	180	778725	170.88	ug/L		95
95) Naphthalene	18.770	128	2428103	207.43	ug/L		99
96) 1,2,3-Trichlorobenzene	19.152	180	365181	181.70	ug/L		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM011.D
Acq On : 18 Jun 2021 11:20 am
Operator : kkw
Sample : aa66932-cal8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jun 18 11:43:26 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Fri Jun 18 11:11:17 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM013.D
Acq On : 18 Jun 2021 12:15 pm
Operator : kkw
Sample : aa66932-scv1
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jun 21 07:55:38 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Mon Jun 21 07:54:29 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1128318	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2499257	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1604968	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1259307	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	675508	50.03	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 100.06%				
52) D8-Toluene	11.778	98	3378392	54.81	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 109.62%				
73) Bromofluorobenzene	14.328	95	1508083	54.70	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 109.40%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	317681	27.37	ug/L		100
3) Chloromethane	4.410	50	382583	22.81	ug/L		98
4) Vinyl Chloride	4.586	62	307174	20.47	ug/L		93
5) Bromomethane	5.232	94	84016	21.54	ug/L	#	96
6) Chloroethane	5.450	64	132898	15.76	ug/L		96
7) Trichlorofluoromethane	5.703	101	347490	20.24	ug/L		99
8) Diethyl ether	6.178	59	634347	54.40	ug/L		100
9) 1,1-Dichloroethene	6.531	96	677949	56.53	ug/L		99
10) Trichlorotrifluoroethane	6.554	151	411529	56.60	ug/L		94
11) Acrolein	7.013	56	629146	207.69	ug/L		99
12) Iodomethane	6.778	142	503465	49.88	ug/L		98
13) Carbon Disulfide	6.625	76	2348205	65.60	ug/L		99
14) 3-chloropropene	7.195	41	1236698	62.45	ug/L		98
15) Acetone	7.389	43	1243457	259.52	ug/L		99
16) Methylene Chloride	7.342	84	787950	51.23	ug/L		94
17) Methyl Acetate	7.518	43	734153	58.35	ug/L		96
18) t-1,2-Dichloroethene	7.547	96	754914	55.16	ug/L		98
19) Methyl tert-butyl ether	7.630	73	1953142	56.30	ug/L		95
20) Acetonitrile	8.018	41	1104090	346.70	ug/L		92
21) Isopropyl ether	8.047	45	2555237	58.69	ug/L		97
22) Chloroprene	8.276	88	718883	54.97	ug/L		98
23) 1,1-Dichloroethane	8.311	63	1463462	56.25	ug/L		99
24) Acrylonitrile	8.388	53	417621	69.65	ug/L		94
25) Vinyl Acetate	8.540	43	1576358	51.05	ug/L		100
26) c-1,2-Dichloroethene	8.946	96	833017	56.36	ug/L		99
27) 2,2-Dichloropropane	9.069	77	1104018	59.05	ug/L		98
28) Bromochloromethane	9.181	128	266462	48.81	ug/L		94
29) Cyclohexane	9.193	56	1561550	60.23	ug/L		99
30) Chloroform	9.222	83	1344676	54.12	ug/L		99
32) Dibromofluoromethane	9.428	113	675508	50.03	ug/L	#	86
33) 2-Butanone	9.539	72	631495	284.35	ug/L		97
34) 1,1,1-Trichloroethane	9.486	97	1061984	57.64	ug/L		99
35) 1,1-Dichloropropene	9.604	75	1126769	55.00	ug/L		100
36) Propionitrile	9.898	54	180773	67.56	ug/L	#	1
37) Methacrylonitrile	9.909	41	863237	82.35	ug/L	#	79
38) Isobutyl Alcohol	9.904	43	695681	543.32	ug/L	#	77
40) Carbon Tetrachloride	9.410	117	785492m	54.98	ug/L		
41) Benzene	9.874	78	3370646	56.91	ug/L		98
42) 1,2-Dichloroethane	10.086	62	925481	52.70	ug/L		100
43) Trichloroethene	10.450	130	679710	55.50	ug/L		97
44) Methyl cyclohexane	10.450	83	1523625	57.08	ug/L		99
45) Dibromomethane	10.902	93	463343	53.19	ug/L		98
46) 1,2-Dichloropropane	10.985	63	935139	55.48	ug/L		99
47) Bromodichloromethane	11.014	83	989499	59.84	ug/L		99
48) Methyl Methacrylate	11.073	69	699733	52.49	ug/L		97
49) 1,4-Dioxane	11.196	88	169592	1185.40	ug/L		94
50) 2-Chloroethyl vinyl ether	11.490	63	2580815	273.44	ug/L		100
51) C-1,3-Dichloropropene	11.607	75	1403408	56.52	ug/L		97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM013.D
Acq On : 18 Jun 2021 12:15 pm
Operator : kkw
Sample : aa66932-scv1
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jun 21 07:55:38 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Mon Jun 21 07:54:29 2021
Response via : Initial Calibration

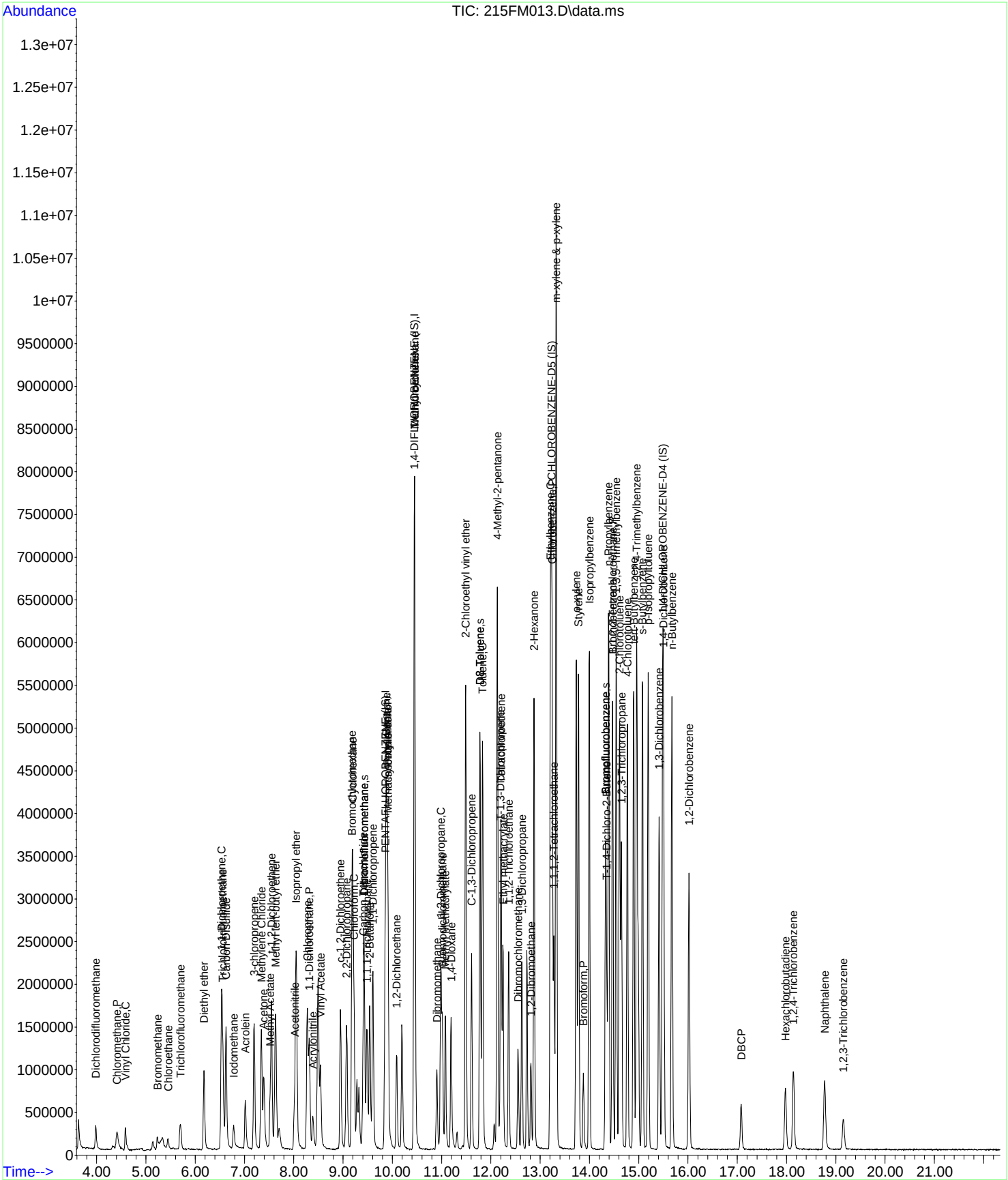
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	3378392	54.81	ug/L		97
54) 4-Methyl-2-pentanone	12.130	100	688870	299.97	ug/L		97
56) Toluene	11.831	92	2210166	56.31	ug/L		97
57) T-1,3-Dichloropropene	12.195	75	1206284	60.73	ug/L		99
58) Tetrachloroethene	12.207	164	499288	55.59	ug/L		97
59) Ethyl methacrylate	12.248	69	1298219	56.33	ug/L		98
60) 1,1,2-Trichloroethane	12.360	97	758031	56.13	ug/L		98
61) Dibromochloromethane	12.553	129	658705	54.77	ug/L		99
62) 1,3-Dichloropropane	12.630	76	1377135	55.67	ug/L		98
63) 1,2-Dibromoethane	12.812	107	779275	57.59	ug/L		99
64) 2-Hexanone	12.877	43	3434594	281.62	ug/L		100
65) Ethylbenzene	13.206	106	1325600	59.87	ug/L		94
66) Chlorobenzene	13.241	112	2236687	57.36	ug/L		99
67) 1,1,1,2-Tetrachloroethane	13.276	131	673028	59.79	ug/L		97
68) m-xylene & p-xylene	13.323	106	3160551	111.23	ug/L		99
69) o-xylene	13.734	106	1680946	59.97	ug/L		99
70) Styrene	13.776	104	2944712	59.32	ug/L		98
71) Bromoform	13.875	173	377979	55.12	ug/L		99
72) Isopropylbenzene	13.999	105	4302693	58.22	ug/L		100
74) Bromofluorobenzene	14.328	95	1508083	54.70	ug/L	#	75
75) n-Propylbenzene	14.387	91	5648912	58.42	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.469	83	1301910	56.35	ug/L		100
77) 1,2,3-Trichloropropane	14.651	61	278456	52.08	ug/L		97
78) T-1,4-Dichloro-2-Butene	14.345	53	414145	61.22	ug/L		97
80) Bromobenzene	14.469	156	792623	58.12	ug/L		98
81) 1,2,4-Trimethylbenzene	14.957	105	3805773	57.25	ug/L		100
82) 2-Chlorotoluene	14.610	91	3324563	59.63	ug/L		99
83) 4-Chlorotoluene	14.769	91	3457410	56.52	ug/L		99
84) tert-Butylbenzene	14.898	119	3023903	57.64	ug/L		99
85) 1,3,5-Trimethylbenzene	14.539	105	3786947	56.99	ug/L		99
86) p-Isopropyltoluene	15.192	119	3793402	59.08	ug/L		100
87) s-Butylbenzene	15.074	105	4663834	58.46	ug/L		99
88) 1,3-Dichlorobenzene	15.415	146	1701572	59.64	ug/L		99
89) 1,4-Dichlorobenzene	15.503	146	1674850	56.64	ug/L		99
90) n-Butylbenzene	15.673	91	3858101	58.23	ug/L		99
91) 1,2-Dichlorobenzene	16.020	146	1570468	57.05	ug/L		99
92) DBCP	17.084	157	166845	58.77	ug/L		92
93) Hexachlorobutadiene	17.977	225	175248	56.84	ug/L		92
94) 1,2,4-Trichlorobenzene	18.135	180	387780	59.56	ug/L		99
95) Naphthalene	18.776	128	1102665	59.02	ug/L		98
96) 1,2,3-Trichlorobenzene	19.146	180	163143	57.21	ug/L		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM013.D
Acq On : 18 Jun 2021 12:15 pm
Operator : kkw
Sample : aa66932-scv1
Misc :
ALS Vial : 11 Sample Multiplier: 1

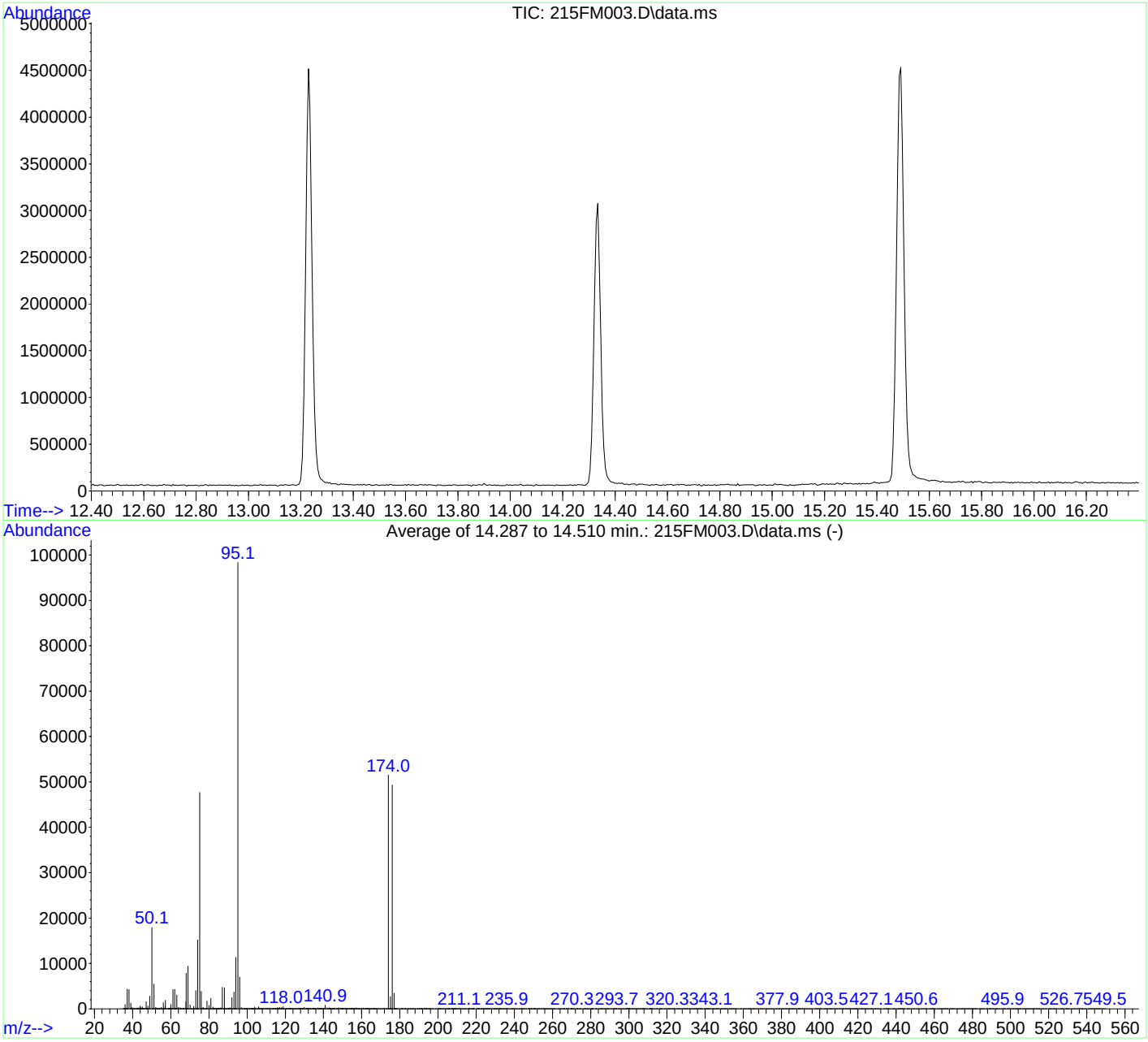
Quant Time: Jun 21 07:55:38 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Mon Jun 21 07:54:29 2021
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\061821\
Data File : 215FM003.D
Acq On : 18 Jun 2021 7:34 am
Operator : kkw
Sample : tun1
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\methods\061821W.M
Title : ENCO SOP VGCMS05; Element Cal 2106098
Last Update : Mon Jun 21 08:16:13 2021



Spectrum Information: Average of 14.287 to 14.510 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
95	174	50	200	191.0	98343	PASS
96	95	5	9	7.1	6939	PASS
173	174	0.00	2	0.2	110	PASS
174	95	50	200	52.3	51480	PASS
175	174	5	9	5.2	2692	PASS
176	174	95	105	95.8	49319	PASS
177	176	5	10	7.0	3428	PASS

ENCO Orlando

SDG: AE05483-TE016

CLASS: 06_VOA_AIR_RSK

METHOD: RSK 175

ANALYSES DATA PACKAGE COVER PAGE

RSK 175

Laboratory: ENCO Orlando

SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-MW0018-058.0-20210726	AE05483-02
CRCA-MW0018-058.0-20210726	AE05483-02RE1
CRCA-MW0031-058.0-20210726	AE05483-06
CRCA-MW0019-058.0-20210726	AE05483-07

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0018-058.0-20210726

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE05483-02
File ID: 21GW008.D
Sampled: 07/26/21 10:00
Prepared: 07/28/21 00:00
Analyzed: 07/28/21 11:22
Solids:
Preparation: Same
Initial/Final: 1 mL / 1 mL
Batch: 1G28011
Sequence: AA67536
Calibration: 2102005
Instrument: OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-85-1	Ethene	1	0.00842		0.00510	0.00600
74-84-0	Ethane	1	0.00510	U	0.00510	0.00600

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0018-058.0-20210726

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE05483-02RE1
File ID: 21GW014.D
Sampled: 07/26/21 10:00
Prepared: 07/28/21 00:00
Analyzed: 07/28/21 13:15
Solids:
Preparation: Same
Initial/Final: 1 mL / 1 mL
Batch: 1G28011
Sequence: AA67536
Calibration: 2102005
Instrument: OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-82-8	Methane	15	1.41	D	0.0600	0.0750

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0031-058.0-20210726

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE05483-06
File ID: 21GW009.D
Sampled: 07/26/21 13:15
Prepared: 07/28/21 00:00
Analyzed: 07/28/21 11:38
Solids:
Preparation: Same
Initial/Final: 1 mL / 1 mL
Batch: 1G28011
Sequence: AA67536
Calibration: 2102005
Instrument: OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-82-8	Methane	1	0.582		0.00400	0.00500
74-85-1	Ethene	1	0.00510	U	0.00510	0.00600
74-84-0	Ethane	1	0.00510	U	0.00510	0.00600

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0019-058.0-20210726

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE05483-07
File ID: 21GW010.D
Sampled: 07/26/21 14:00
Prepared: 07/28/21 00:00
Analyzed: 07/28/21 12:14
Solids:
Preparation: Same
Initial/Final: 1 mL / 1 mL
Batch: 1G28011
Sequence: AA67536
Calibration: 2102005
Instrument: OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-82-8	Methane	1	0.203		0.00400	0.00500
74-85-1	Ethene	1	0.00510	U	0.00510	0.00600
74-84-0	Ethane	1	0.00510	U	0.00510	0.00600

* Values outside of QC limits

HOLDING TIME SUMMARY

RSK 175

Laboratory: ENCO Orlando

SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-MW0018-058.0-20210726	07/26/21 10:00	07/27/21 15:00	07/28/21 00:00	1.58	NA	07/28/21 11:22	2.00	14.00	
CRCA-MW0018-058.0-20210726	07/26/21 10:00	07/27/21 15:00	07/28/21 00:00	1.58	NA	07/28/21 13:15	2.00	14.00	
CRCA-MW0031-058.0-20210726	07/26/21 13:15	07/27/21 15:00	07/28/21 00:00	1.45	NA	07/28/21 11:38	2.00	14.00	
CRCA-MW0019-058.0-20210726	07/26/21 14:00	07/27/21 15:00	07/28/21 00:00	1.42	NA	07/28/21 12:14	2.00	14.00	

PREPARATION BATCH SUMMARY

RSK 175

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1G28011 Batch Matrix: Water Preparation: Same

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1G28011-BLK1	21GW005.D	07/28/21 00:00	
LCS	1G28011-BS1	21GW003.D	07/28/21 00:00	
LCS Dup	1G28011-BSD1	21GW004.D	07/28/21 00:00	
CRCA-MW0019-058.0-20210726	1G28011-DUP1	21GW017.D	07/28/21 00:00	
CRCA-MW0018-058.0-20210726	AE05483-02	21GW008.D	07/28/21 00:00	
CRCA-MW0018-058.0-20210726	AE05483-02RE1	21GW014.D	07/28/21 00:00	
CRCA-MW0031-058.0-20210726	AE05483-06	21GW009.D	07/28/21 00:00	
CRCA-MW0019-058.0-20210726	AE05483-07	21GW010.D	07/28/21 00:00	

METHOD BLANK DATA SHEET
RSK 175

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1G28011-BLK1	File ID:	21GW005.D
Prepared:	07/28/21 00:00	Preparation:	Same	Initial/Final:	1 mL / 1 mL
Analyzed:	07/28/21 10:35	Instrument:	OVGCFID2		
Batch:	1G28011	Sequence:	AA67536	Calibration:	2102005

CAS NO.	COMPOUND	CONC. (mg/L)	Q
74-82-8	Methane	0.00400	U
74-85-1	Ethene	0.00510	U
74-84-0	Ethane	0.00510	U

LCS / LCS DUPLICATE RECOVERY

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1G28011	Laboratory ID:	1G28011-BS1
Preparation:	Same	Initial/Final:	1 mL / 1 mL

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC. #	QC LIMITS REC.
Methane	0.172	0.179	104	70 - 130
Ethene	0.302	0.324	107	70 - 130
Ethane	0.323	0.322	100	70 - 130

COMPOUND	SPIKE ADDED (mg/L)	LCSD CONCENTRATION (mg/L)	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Methane	0.172	0.181	105	1	30	70 - 130
Ethene	0.302	0.326	108	0.5	30	70 - 130
Ethane	0.323	0.326	101	1	30	70 - 130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

DUPLICATES

RSK 175

CRCA-MW0019-058.0-20210726

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Water
Laboratory ID: 1G28011-DUP1
Batch: 1G28011
Lab Source ID: AE05483-07
Preparation: Same
Initial/Final: 1 mL / 1 mL
Source Sample Name: CRCA-MW0019-058.0-20210726
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/L)	C	DUPLICATE CONCENTRATION (mg/L)	C	RPD %	Q	METHOD
Methane	30	0.203		0.120		51	*	RSK 175
Ethene	30	0.00		ND				RSK 175
Ethane	30	0.00		ND				RSK 175

* Values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64746		
Calibration:	2102005	Instrument:	OVGCFID2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	AA64746-CAL8	21B1014.D	02/01/21 14:12
Cal Standard	AA64746-CAL9	21B1015.D	02/01/21 14:27
Cal Standard	AA64746-CALB	21B1017.D	02/01/21 14:59
Cal Standard	AA64746-CALC	21B1018.D	02/01/21 15:15
Cal Standard	AA64746-CALD	21B1019.D	02/01/21 15:31
Cal Standard	AA64746-CALE	21B1020.D	02/01/21 15:47
Cal Standard	AA64746-CALA	21B1022.D	02/01/21 16:18
Secondary Cal Check	AA64746-SCV1	21B1023.D	02/01/21 17:03

ANALYSIS BATCH (SEQUENCE) SUMMARY

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA67536		
Calibration:	2102005	Instrument:	OVGCFID2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA67536-CCV1	21GW001.D	07/28/21 09:31
LCS	1G28011-BS1	21GW003.D	07/28/21 10:03
LCS Dup	1G28011-BSD1	21GW004.D	07/28/21 10:19
Blank	1G28011-BLK1	21GW005.D	07/28/21 10:35
CRCA-MW0018-058.0-20210726	AE05483-02	21GW008.D	07/28/21 11:22
CRCA-MW0031-058.0-20210726	AE05483-06	21GW009.D	07/28/21 11:38
CRCA-MW0019-058.0-20210726	AE05483-07	21GW010.D	07/28/21 12:14
CRCA-MW0018-058.0-20210726	AE05483-02RE1	21GW014.D	07/28/21 13:15
CRCA-MW0019-058.0-20210726	1G28011-DUP1	21GW017.D	07/28/21 14:03
Calibration Check	AA67536-CCV3	21GW021.D	07/28/21 15:07

CONTINUING CALIBRATION CHECK

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCFID2	Calibration:	2102005
Lab File ID:	21GW001.D	Calibration Date:	02/01/21 15:19
Sequence:	AA67536	Injection Date:	07/28/21
Lab Sample ID:	AA67536-CCV1	Injection Time:	09:31

		CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Methane	A	0.174	0.180	1.362132E+08	1.242828E+08		3.7	20
Ethene	A	0.302	0.327	7.977246E+07	8.627546E+07		8.2	20
Ethane	A	0.323	0.326	1.170026E+08	1.18272E+08		1.1	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

CONTINUING CALIBRATION CHECK

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCFID2	Calibration:	2102005
Lab File ID:	21GW021.D	Calibration Date:	02/01/21 15:19
Sequence:	AA67536	Injection Date:	07/28/21
Lab Sample ID:	AA67536-CCV3	Injection Time:	15:07

		CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Methane	A	0.174	0.156	1.362132E+08	1.072014E+08		-11	20
Ethene	A	0.302	0.282	7.977246E+07	7.459017E+07		-6.5	20
Ethane	A	0.323	0.280	1.170026E+08	1.015725E+08		-13	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64746	Instrument:	OVGCFID2
Calibration:	2102005		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A1B0547	RSK175-Cal 1 02/01/2021	AA64746-CAL8	21B1014.D	02/01/21 14:12
A1B0548	RSK175-Cal 2 02/01/2021	AA64746-CAL9	21B1015.D	02/01/21 14:27
A1B0550	RSK175-Cal 4 02/01/2021	AA64746-CALB	21B1017.D	02/01/21 14:59
A1B0551	RSK175-Cal 5 02/01/2021	AA64746-CALC	21B1018.D	02/01/21 15:15
A1B0552	RSK175-Cal 6 02/01/2021	AA64746-CALD	21B1019.D	02/01/21 15:31
A1B0553	RSK175-Cal 7 02/01/2021	AA64746-CALE	21B1020.D	02/01/21 15:47
A1B0549	RSK175-Cal 3 02/01/2021	AA64746-CALA	21B1022.D	02/01/21 16:18
A1A0933	RSK175- SCV/BS water CO2 and MEE	AA64746-SCV1	21B1023.D	02/01/21 17:03

INITIAL CALIBRATION DATA

RSK 175

Laboratory: ENCO Orlando

SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Calibration: 2102005

Instrument: OVGCFID2

Matrix: Water

Calibration Date: 02/01/21 15:19

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Methane												
Ethene												
Ethane												

INITIAL CALIBRATION DATA (Continued)

RSK 175

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2102005
Instrument: OVGCFID2
Matrix: Water
Calibration Date: 02/01/21 15:19

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Methane			0.000869	2.083245E+08	0.00869	1.311052E+08	0.0348	1.235944E+08	0.0869	1.272044E+08	0.174	1.263457E+08
Ethene			0.00151	5.315364E+07	0.0151	8.579782E+07	0.0603	8.372541E+07	0.151	8.751709E+07	0.302	8.48997E+07
Ethane			0.00161	1.263348E+08	0.0161	1.172619E+08	0.0646	1.169587E+08	0.161	1.212085E+08	0.323	1.152432E+08

INITIAL CALIBRATION DATA

RSK 175

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2102005
Instrument: OVGCFID2
Matrix: Water
Calibration Date: 02/01/21 15:19

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Methane	0.348	1.167678E+08	0.695	1.201502E+08								
Ethene	0.603	8.025572E+07	1.21	8.305785E+07								
Ethane	0.646	1.092976E+08	1.29	1.127132E+08								

INITIAL CALIBRATION DATA (Continued)

RSK 175

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2102005
Instrument: OVGCFID2
Matrix: Water
Calibration Date: 02/01/21 15:19

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Methane	1.362132E+08	23.59947	1.965429	4.209304E-02	0.9994672		0.99	
Ethene	7.977246E+07	14.9886	3.742286	0.1553695			20	
Ethane	1.170026E+08	4.754952	4.669571	0.2502584			20	

SECOND-SOURCE CALIBRATION VERIFICATION

RSK 175

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2102005
Laboratory ID: AA64746-SCV1
Sequence: AA64746
Standard ID: A1A0933

ANALYTE	EXPECTED (mg/L)	FOUND (mg/L)	% DRIFT	QC LIMIT
Ethene	0.302	0.315	4.2	25.00
Ethane	0.323	0.312	-3.4	25.00
Methane	0.172	0.171	-0.7	25.00

* Values outside of QC limits

ANALYSIS SEQUENCE

AA67536

Instrument: OVGCFID2

Calibration ID: 2102005

Printed: 7/28/2021 3:30:12PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA67536-CCV1	QC		1	1	A0L0956			
AA67536-CCV2	QC		2	2	A0J0840			
1G28011-BS1	QC		3	3				
1G28011-BSD1	QC		4	4				
1G28011-BLK1	QC		5	5				
AE05667-01	RSK 175 + CO2	A	6	6				
AE05667-02	RSK 175 + CO2	A	7	7				
AE05483-02	RSK175	A	8	8			Tetra Tech, Inc. (TE016)	CLP like need raw data
AE05483-06	RSK175	A	9	9			Tetra Tech, Inc. (TE016)	CLP like need raw data
AE05483-07	RSK175	A	10	10			Tetra Tech, Inc. (TE016)	CLP like need raw data
AE05483-07	RSK 175 + CO2	A	11	10			Tetra Tech, Inc. (TE016)	BatchQC
AE06241-31	RSK175	E	12	11				
AE06241-32	RSK175	E	13	12				
AE06241-33	RSK175	E	14	13				
AE05483-02RE1	RSK175	B	15	14			Tetra Tech, Inc. (TE016)	rr @15x Methane jmw 7/28/21
AE06241-32RE1	RSK175	F	16	15				
AE06241-33RE1	RSK175	F	17	16				
1G28011-DUP1	QC		18	17				
AE06241-33RE2	RSK175	G	19	20				
AA67536-CCV3	QC		20	21	A0L0956			
AA67536-CCV4	QC		21	22	A0J0840			

JMW 7/28/2021
Samples Loaded By Date

JMW 7/28/2021
Data Processed By Date

PREPARATION BENCH SHEET

Printed: 7/28/2021 2:33:03PM

1G28011

ENCO Orlando

Analysis
RSK 175 + CO2 [RSK 175]
RSK175 [RSK 175]

Prepared using: Same

Surrogate Solution
—

Spiking Solution
A1G0536 RSK175- SCV/BS water CO2 and MEE

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
1G28011-BLK1		Blank		QC			1	1				
1G28011-BS1		LCS		QC			1	1	A1G0536	1000		
1G28011-BSD1		LCS Dup		QC			1	1	A1G0536	1000		
1G28011-DUP1		Duplicate [AE05483-07]		QC			1	1				
AE05483-02	C	CRCA-MW0018-058.0-20210726[R21]	03-Aug-21	RSK175			1	1				CLP like need raw data
AE05483-02RE1	C	CRCA-MW0018-058.0-20210726[R21]	03-Aug-21	RSK175			1	1				rr @15x Methane jmw 7/28/21
AE05483-06	C	CRCA-MW0031-058.0-20210726[R21]	03-Aug-21	RSK175			1	1				CLP like need raw data
AE05483-07	C	CRCA-MW0019-058.0-20210726[R21]	03-Aug-21	RSK175			1	1				CLP like need raw data
AE05483-07	C	CRCA-MW0019-058.0-20210726[R21]		RSK 175 + CO2			1	1				Added for BatchQC in: 1G28011
AE05667-01		RSK STORAGE BLANK A[MS2]	26-Jul-21	RSK 175 + CO2			1	1				
AE05667-02		RSK WALK-IN COOLER BLANK[MS2]	26-Jul-21	RSK 175 + CO2			1	1				
AE06241-31		BE01903-31 (MW-9D) E[R19]	04-Aug-21	RSK175			1	1				
AE06241-32		BE01903-32 (I-19D) E[R19]	04-Aug-21	RSK175			1	1				
AE06241-32RE1		BE01903-32 (I-19D) F[R19]	04-Aug-21	RSK175			1	1				rr @70x Methane jmw 7/28/21
AE06241-33		BE01903-33 (MW-34D) E[R19]	04-Aug-21	RSK175			1	1				
AE06241-33RE1		BE01903-33 (MW-34D) F[R19]	04-Aug-21	RSK175			1	1				rr 1x bad injection jmw 7/28/21
AE06241-33RE2		BE01903-33 (MW-34D) G[R19]	04-Aug-21	RSK175			1	1				rr @1x bad injection jmw 7/28/21

(1) Before solvent extraction proceeds, verify that there is no residual chlorine above 0.5 mg/L. Any sample above this must be treated to remove excess chlorine before extraction, and this documented as a comment.

PREPARATION BENCH SHEET

Printed: 7/28/2021 2:33:03PM

1G28011

ENCO Orlando

Prepared using: Same

Surrogate Solution

—

Spiking Solution

A1G0536 **RSK175- SCV/BS water CO2 and MEE**

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments

Start Date 7/28/2021

StopDate 7/28/2021

Instrument ID OVGCFID2

Standard ID#	Description	Manufacture Lot#

JMW 7/28/2021

Samples Prepared By Date

Samples Prepared By Date

VOLATILES GC/MS LOGBOOK (EPA Method 624.1 / SW-846 Method 8260D)

Tune Start Date: 7/28/2021
Sequence: AA67536 / AA67547
Batch: # 1628011 / 1628028
Method: BSK
Analyst: JMW
Instrument EM Voltage: N/A

Surrogate: N/A
Internal: N/A
LCS Mix 2°: N/A A160533
LCS Acrolein 2°: N/A
LCS Gas 2°: N/A

8260 Mix: N/A
8260 Add: N/A A0L0912
8260 Ac/Ac: N/A A0K0739
8260 Gases: N/A
Instrument #: OVOCFID2

JMW 7/28/21

21GW Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)	Comments	LIMS
001	AA67536-CCV1			1			MEE ✓	✓
002	AA67536-CCV2			2			CO_2 ✓	✓
003	1628011-BS1			3			✓	✓
004	1628011-BSD1		JMW 7/28/21	4			✓	✓
005	1628011-BLK1			5			✓	✓
006	AE05667-01	A	1	6			✓	✓
007	AE05667-02	A	1	7			✓ RR@15x Methane	✓
008	AE05483-02	A	1	8			✓	✓
009	AE05483-06	A	1	9			✓ Dup1	✓
JMW 7/28/21 010	AE05483-07	A	1	10			✓	✓
011	AE06241-31	E	1	11			✓ RR@70x Methane	✓
012	AE06241-32	E	1	12			✓ RR@1x Bad injection	✓
013	AE06241-33	E	1	13			✓	✓
014	AE05483-02RE1	B	15	14			✓	✓
015	AE06241-32RE1	F	70	15			✓ RR@1x Bad injection;	✓
016	AE06241-33RE1	F	1	16			✓	✓
017	1628011-Dup1	B	1	17			✓ MDL MEE	✓
018	AE05536-02	A	1	18			✓ MDL CO_2	✓
019	AE05536-02RE1	B	1	19	JMW 7/28/21		✓ Matrix	✓
020	AE06241-33RE2	G	1	20			MEE ✓	✓
021	AA67536-CCV3	JMW 7/28/21		21				

Tune Start Date:
Sequence:
Batch:
Method:
Analyst:
Instrument EM Voltage: See page 185 JMW 7/28/21

Surrogate:
Internal:
LCS Mix 2⁰:
LCS Acrolein 2⁰:
LCS Gas 2⁰:

8260 Mix:
8260 Add:
8260 Ac/Ac:
8260 Gases:
Instrument #: OVGCFID2

21GW Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)	Comments	LIMS
022	AA67536-CCV4	JMW	7/28/21	22	JMW 7/28/21		CO_2 ✓	✓

JMW 7/28/21

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW001.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 9:31 am
Operator : jmw
Sample : AA67536-CCV1
Misc :
ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 09:39:11 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue May 11 08:11:20 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.680	2.797	1160228	9504	1.832376	NoCal	#
2)	Methane	0.000	1.963	0	21625207	N.D.	0.180367	#
3)	Ethene	3.707f	3.735	902180	26055191	NoCal	0.326622	#
4)	Ethyne	0.000	4.400	0	5418696	N.D.	NoCal	
5)	Ethane	4.634f	4.660	50769591	38201871	NoCal	0.326495	#

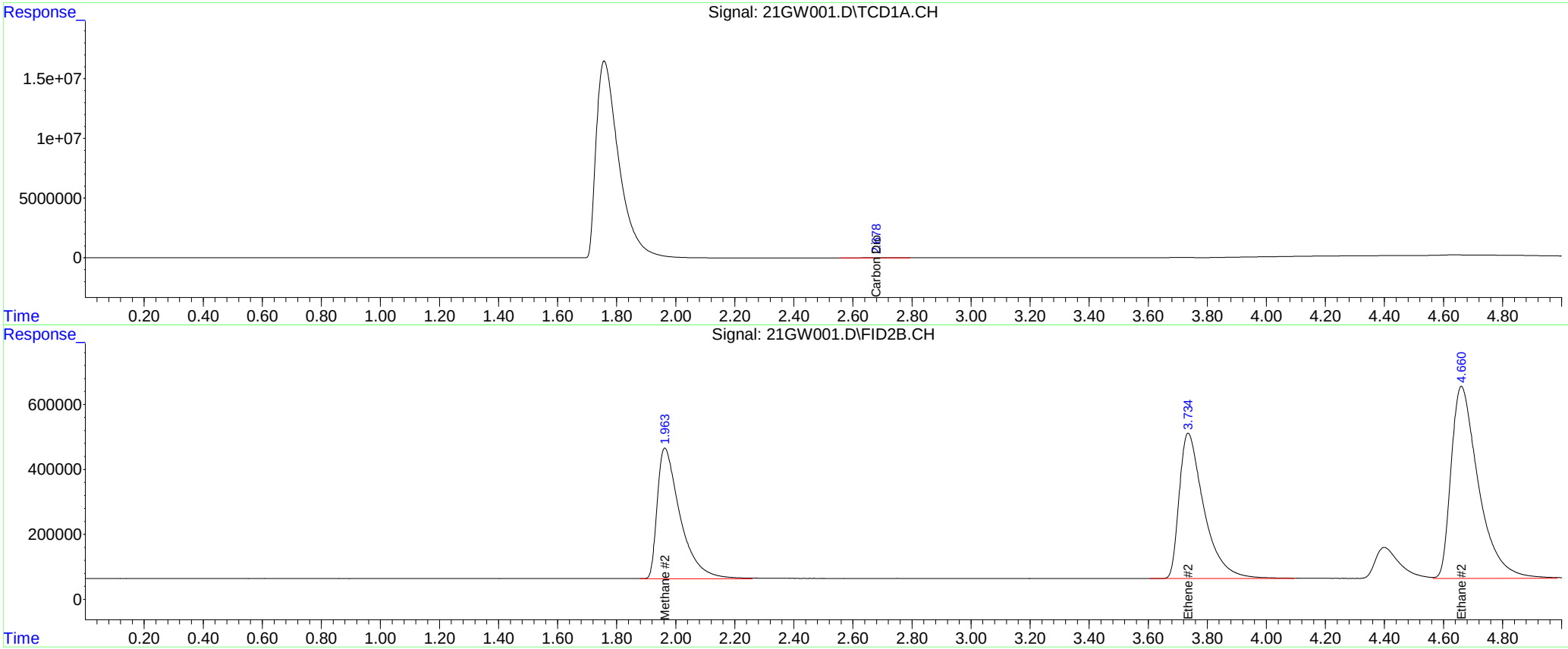
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW001.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 9:31 am
Operator : jmw
Sample : AA67536-CCV1
Misc :
ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 09:39:11 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue May 11 08:11:20 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW002.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 9:47 am
Operator : jmw
Sample : AA67536-CCV2
Misc :
ALS Vial : 2 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 09:55:30 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.666	2.779	32466001	6653	51.274367	NoCal	#
2)	Methane	0.000	0.000	0	0	N.D. d	N.D. d	
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	0.000	4.393	0	4619	N.D.	NoCal	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

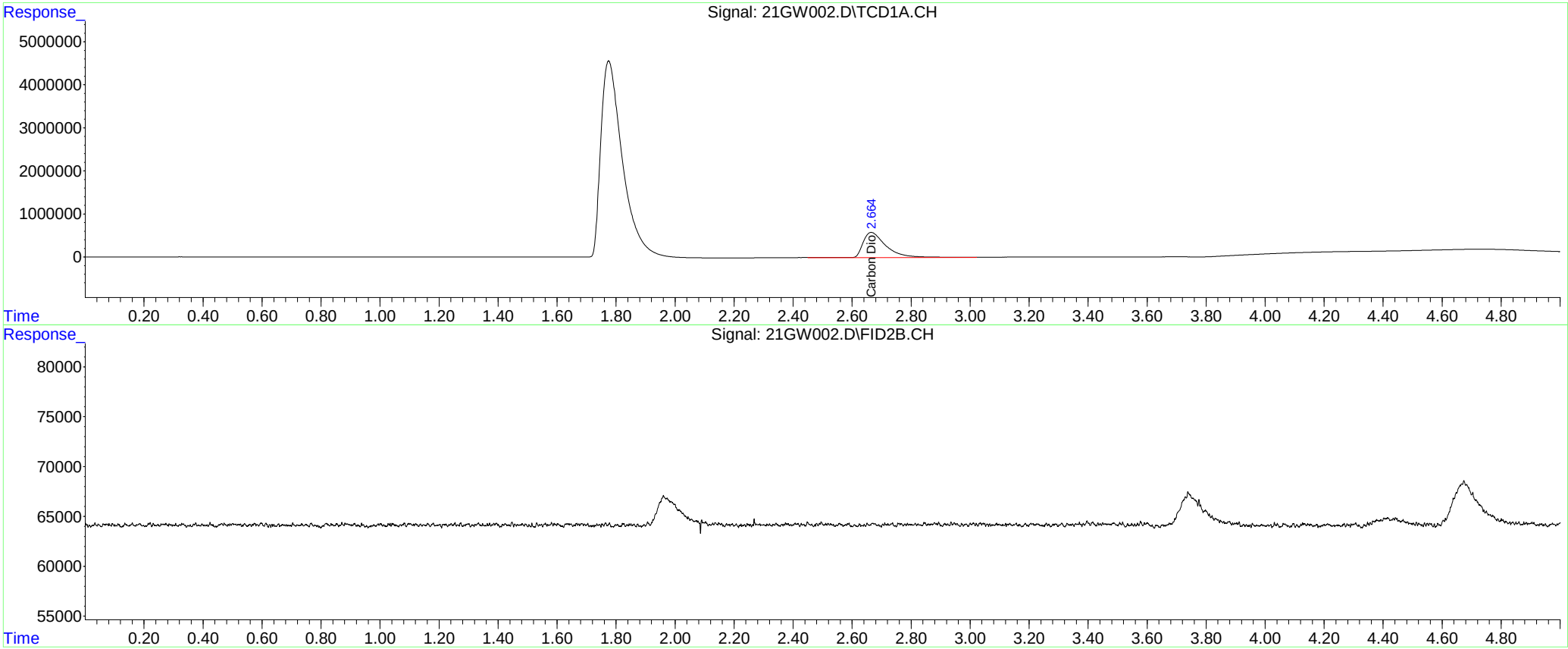
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW002.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 9:47 am
Operator : jmw
Sample : AA67536-CCV2
Misc :
ALS Vial : 2 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 09:55:30 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW003.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 10:03 am
Operator : jmw
Sample : 1G28011-BS1
Misc :
ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 10:08:45 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.667	2.799	31087481	7484	49.097235	NoCal	#
2)	Methane	0.000	1.967	0	21508093	N.D.	0.179390	#
3)	Ethene	3.712	3.740f	892025	25874040	NoCal	0.324352	#
4)	Ethyne	0.000	4.405f	0	5399564	N.D.	NoCal	
5)	Ethane	4.641	4.666f	36709868	37708253	NoCal	0.322276	#

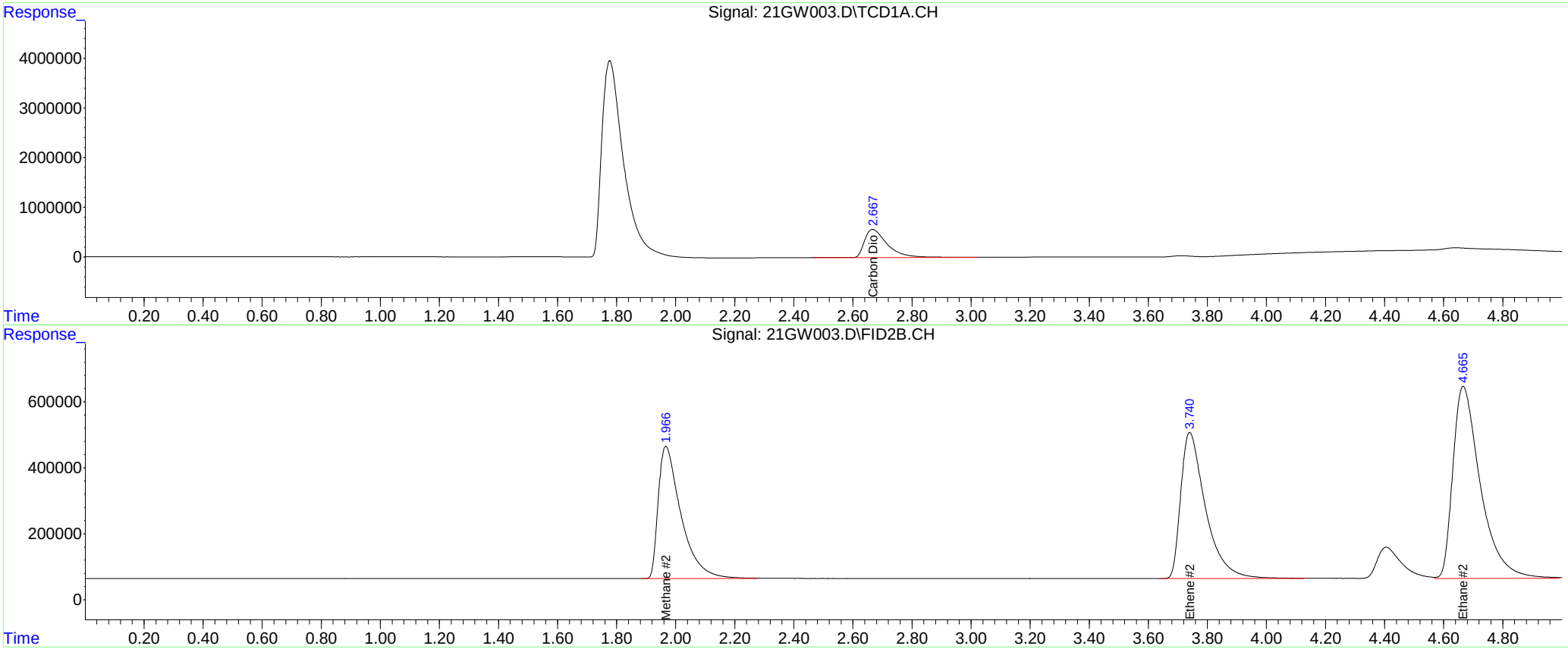
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW003.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 10:03 am
Operator : jmw
Sample : 1G28011-BS1
Misc :
ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 10:08:45 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW004.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 10:19 am
Operator : jmw
Sample : 1G28011-BSD1
Misc :
ALS Vial : 4 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 10:39:49 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.667	2.785	29771358	4768	47.018650	NoCal	#
2)	Methane	0.000	1.966	0	21727095	N.D.	0.181217	#
3)	Ethene	3.711	3.740f	692472	26001928	NoCal	0.325955	#
4)	Ethyne	0.000	4.405f	0	5373965	N.D.	NoCal	
5)	Ethane	4.640	4.666f	32596370	38125107	NoCal	0.325839	#

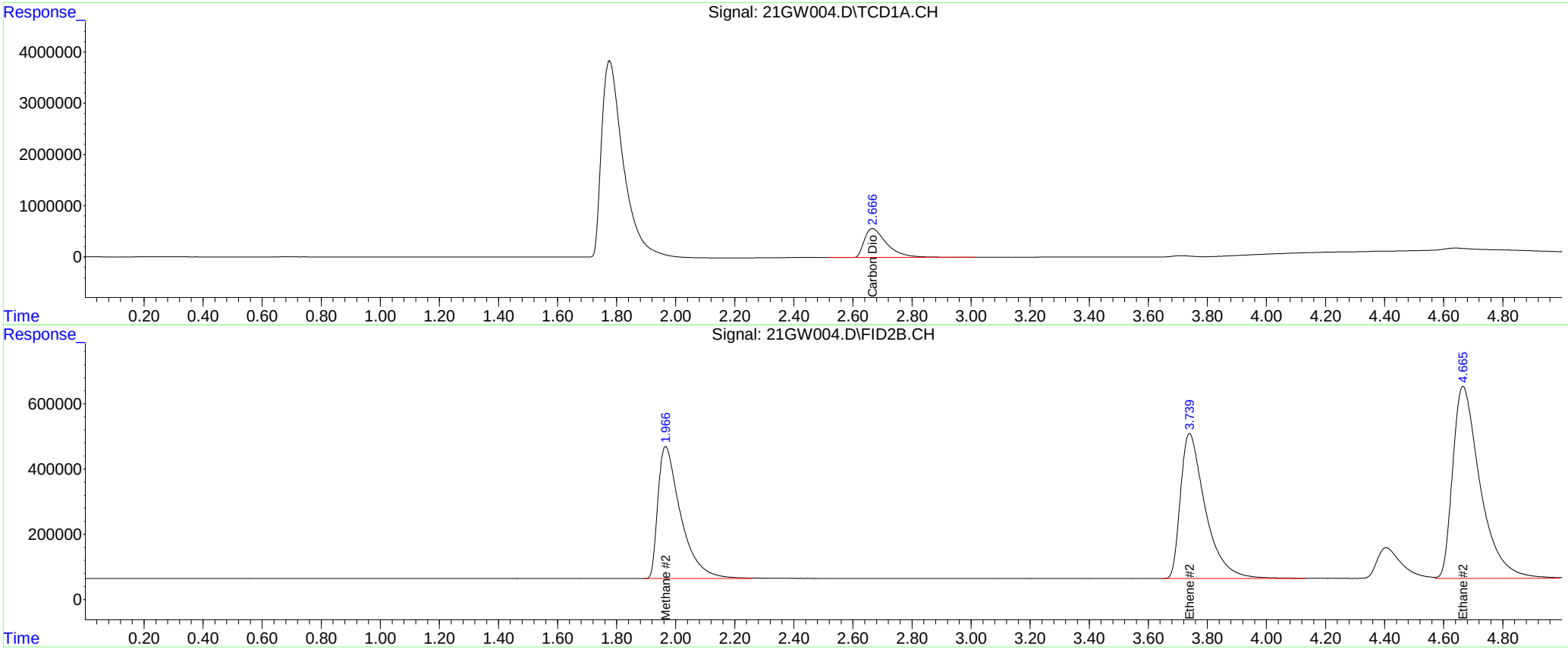
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW004.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 10:19 am
Operator : jmw
Sample : 1G28011-BSD1
Misc :
ALS Vial : 4 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 10:39:49 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW005.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 10:35 am
Operator : jmw
Sample : 1G28011-BLK1
Misc :
ALS Vial : 5 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 10:47:31 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L
	Target Compounds						
1)	Carbon Di...	0.000	2.812	0	24981	N.D.	NoCal
2)	Methane	0.000	0.000	0	0	N.D. d	N.D. d
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d
4)	Ethyne	0.000	4.387	0	7939	N.D.	NoCal
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d

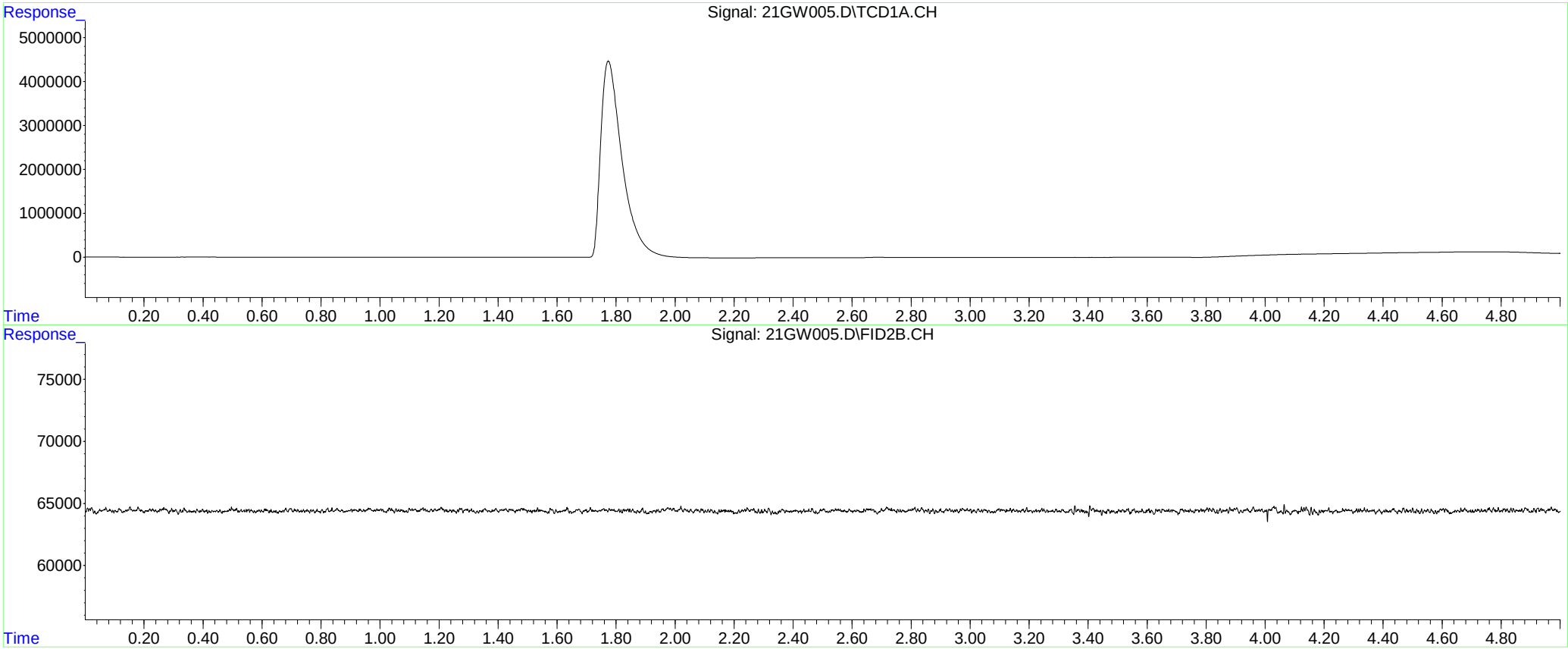
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW005.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 10:35 am
Operator : jmw
Sample : 1G28011-BLK1
Misc :
ALS Vial : 5 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 10:47:31 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW008.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 11:22 am
Operator : jmw
Sample : AE05483-02
Misc :
ALS Vial : 8 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 12:03:51 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.669	2.779	30452441	20178	48.094300	NoCal	#
2)	Methane	1.930f	1.966	11256669	137.8E6	NoCal	1.149523	#
3)	Ethene	3.697f	3.743f	168862	672037	NoCal	0.008425	#
4)	Ethyne	0.000	4.389	0	2747	N.D.	NoCal	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

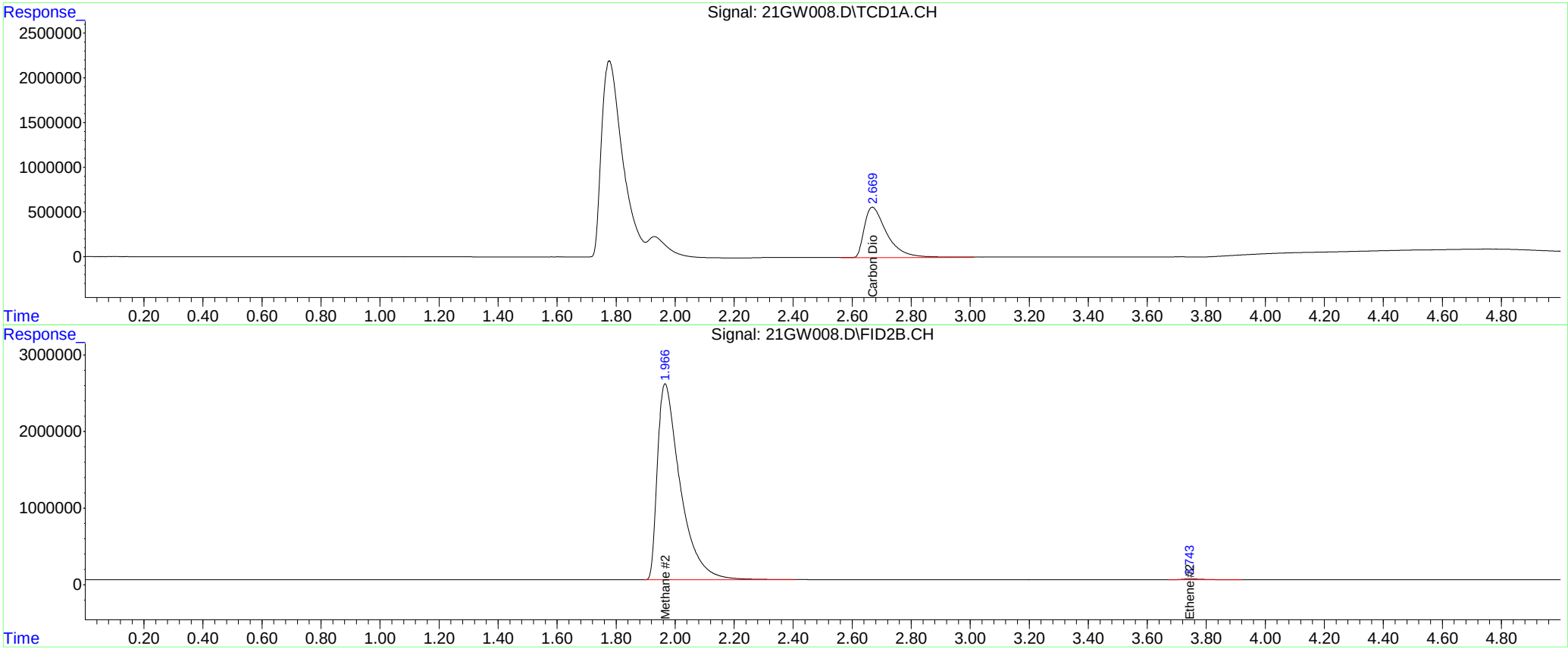
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW008.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 11:22 am
Operator : jmw
Sample : AE05483-02
Misc :
ALS Vial : 8 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 12:03:51 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW009.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 11:38 am
Operator : jmw
Sample : AE05483-06
Misc :
ALS Vial : 9 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 12:21:18 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.667	2.826	35103298	39601	55.439514	NoCal	#
2)	Methane	0.000	1.967	0	69823380	N.D.	0.582368	#
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	0.000	4.368f	0	6997	N.D.	NoCal	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

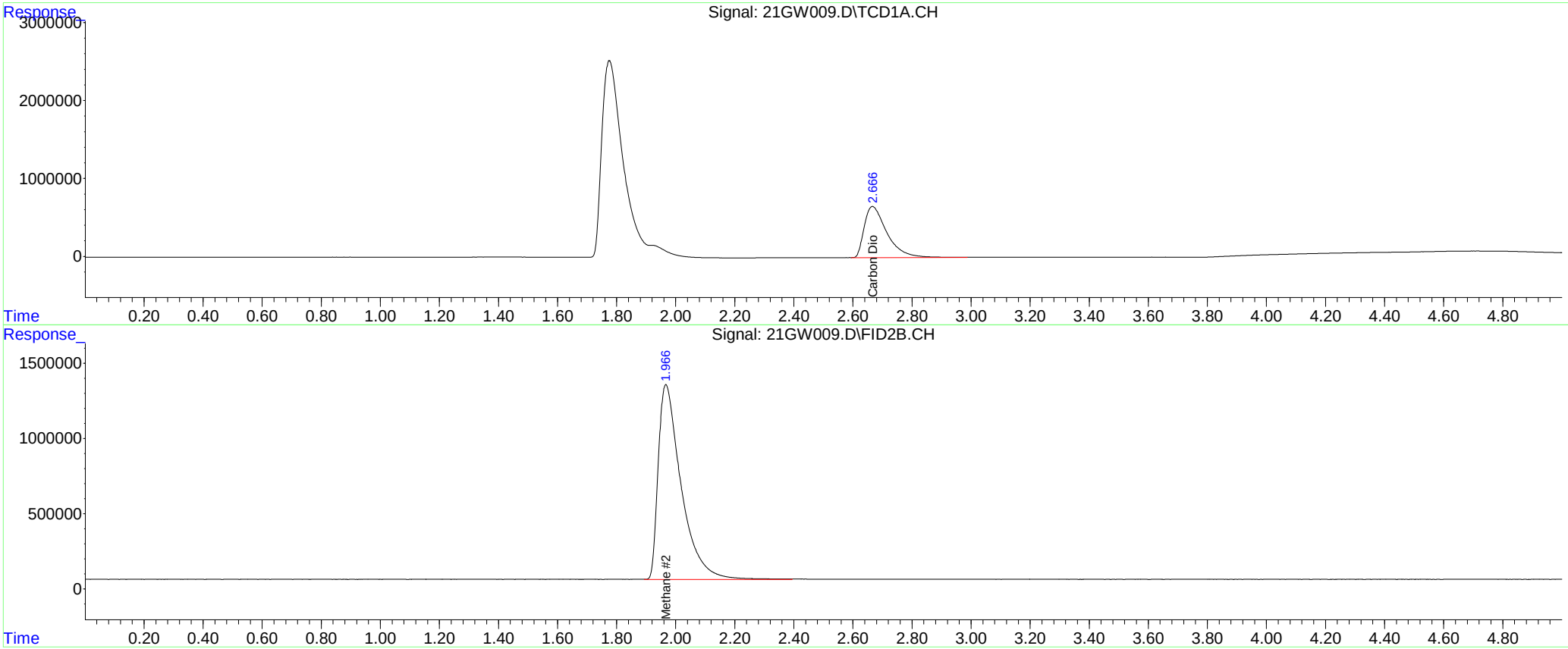
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW009.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 11:38 am
Operator : jmw
Sample : AE05483-06
Misc :
ALS Vial : 9 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 12:21:18 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW010.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 12:14 pm
Operator : jmw
Sample : AE05483-07
Misc :
ALS Vial : 10 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 12:21:46 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.673	2.795	14183423	16532	22.400235	NoCal	#
2)	Methane	0.000	1.963	0	24369268	N.D.	0.203254	#
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	0.000	4.400	0	40722	N.D.	NoCal	
5)	Ethane	4.706f	0.000	13748783	0	NoCal	N.D.	

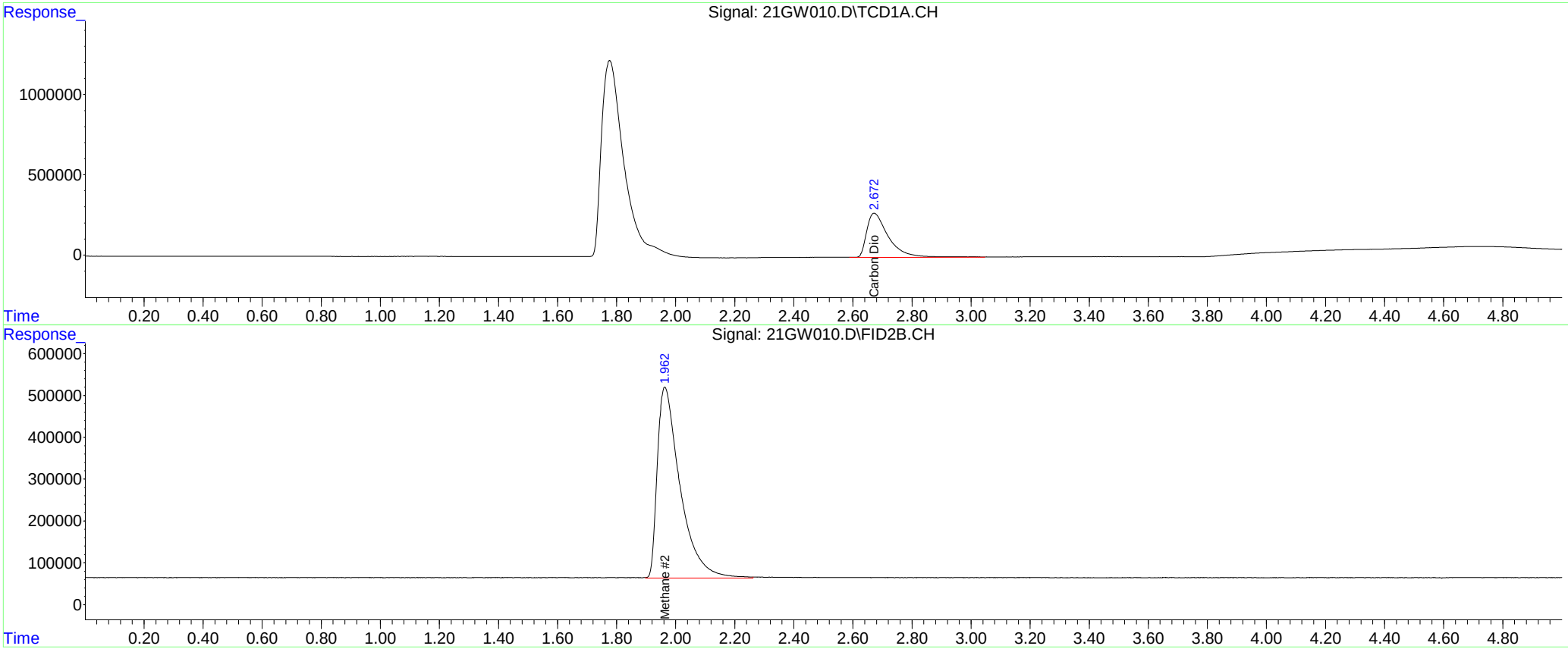
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW010.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 12:14 pm
Operator : jmw
Sample : AE05483-07
Misc :
ALS Vial : 10 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 12:21:46 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW014.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 1:15 pm
Operator : jmw
Sample : AE05483-02RE1
Misc : 15
ALS Vial : 14 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 13:21:46 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L
	Target Compounds						
1)	Carbon Di...	0.000	2.787	0	8260	N.D.	NoCal
2)	Methane	0.000	1.970	0	11279019	N.D.	0.094074 #
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d
4)	Ethyne	4.440f	4.389	4658969	6670	NoCal	NoCal
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d

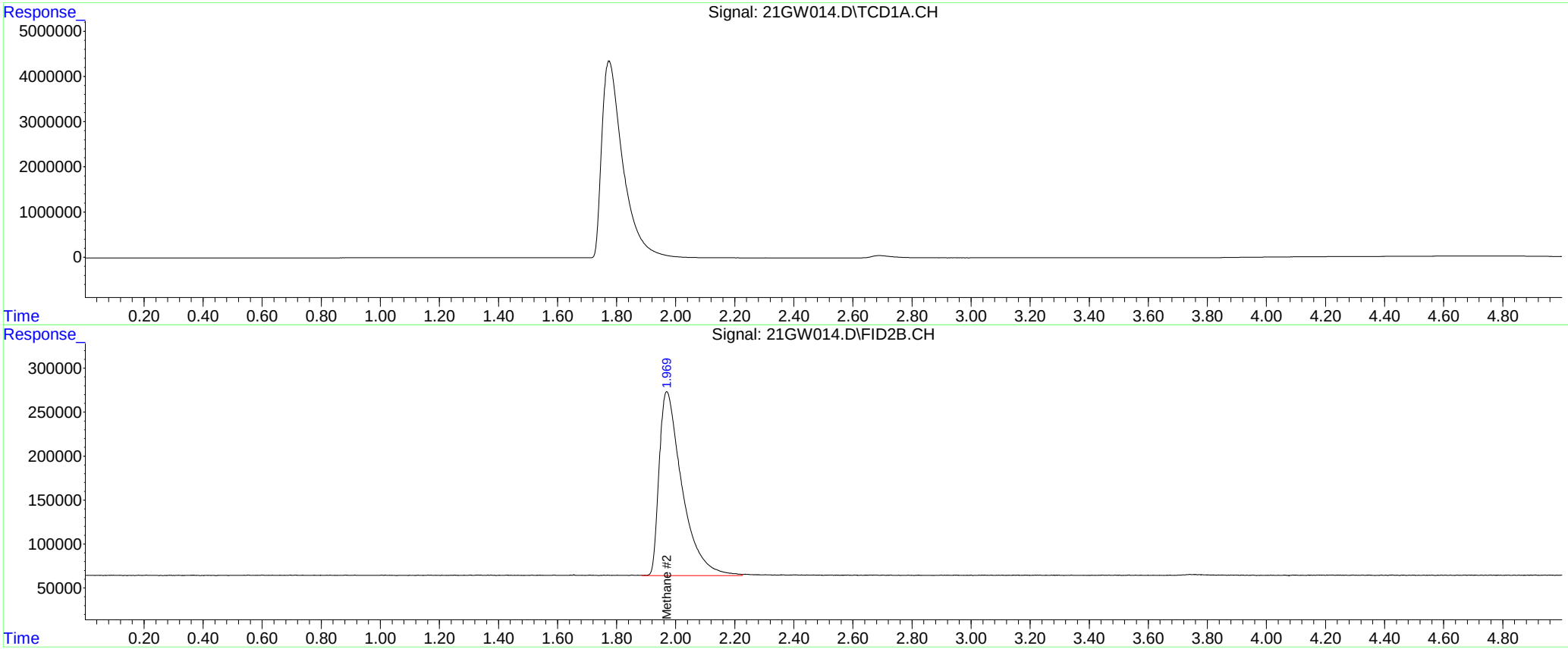
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW014.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 1:15 pm
Operator : jmw
Sample : AE05483-02RE1
Misc : 15
ALS Vial : 14 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 13:21:46 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW017.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 2:03 pm
Operator : jmw
Sample : 1G28011-DUP1
Misc :
ALS Vial : 17 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 14:17:06 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.680	2.808	8814174	7119	13.920445	NoCal	#
2)	Methane	0.000	1.966	0	14426426	N.D.	0.120325	#
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	0.000	4.389	0	4952	N.D.	NoCal	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

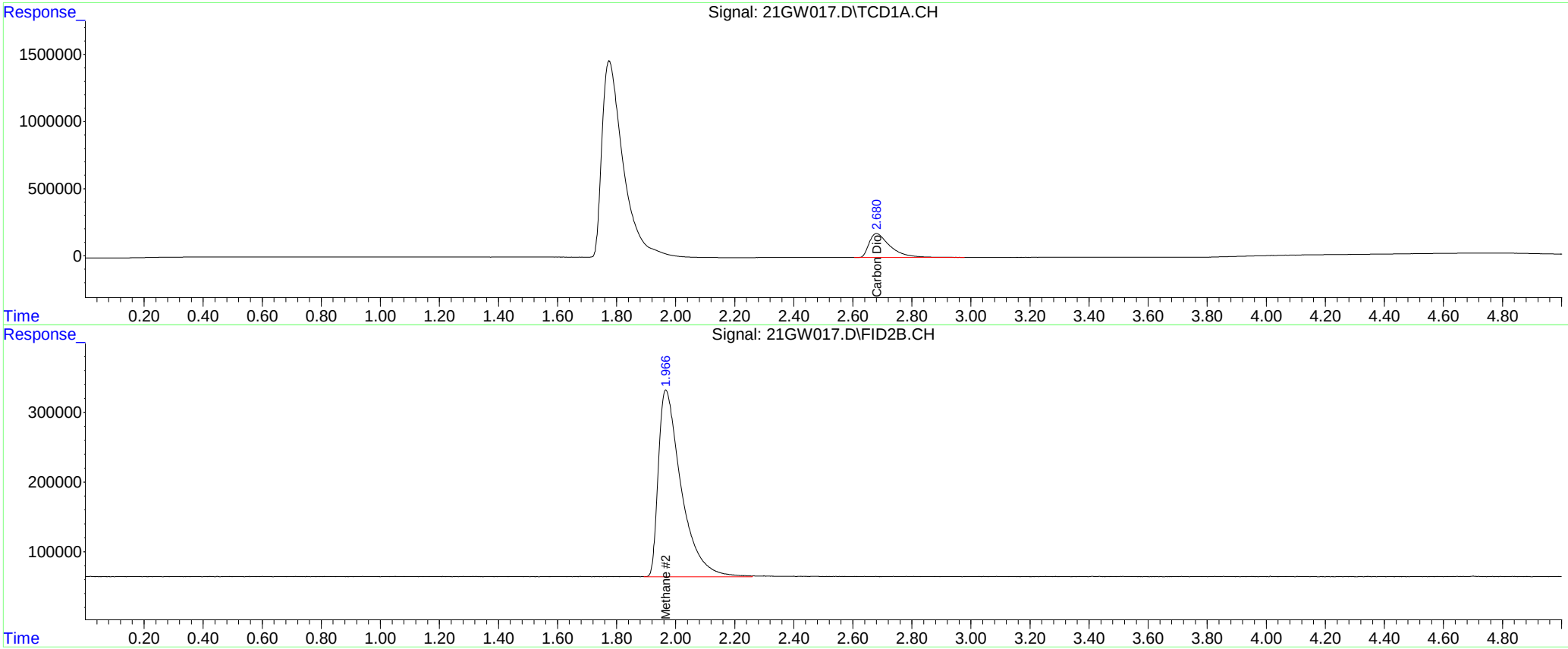
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW017.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 2:03 pm
Operator : jmw
Sample : 1G28011-DUP1
Misc :
ALS Vial : 17 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 14:17:06 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW021.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 3:07 pm
Operator : jmw
Sample : AA67536-CCV3
Misc :
ALS Vial : 21 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 15:15:51 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L
	Target Compounds						
1)	Carbon Di...	0.000	2.781	0	5133	N.D.	NoCal
2)	Methane	0.000	1.967	0	18653048	N.D.	0.155577 #
3)	Ethene	3.712	3.741f	989172	22526231	NoCal	0.282384 #
4)	Ethyne	4.381	4.409f	1003432	4785045	NoCal	NoCal
5)	Ethane	4.639	4.667f	3248462	32807921	NoCal	0.280395 #

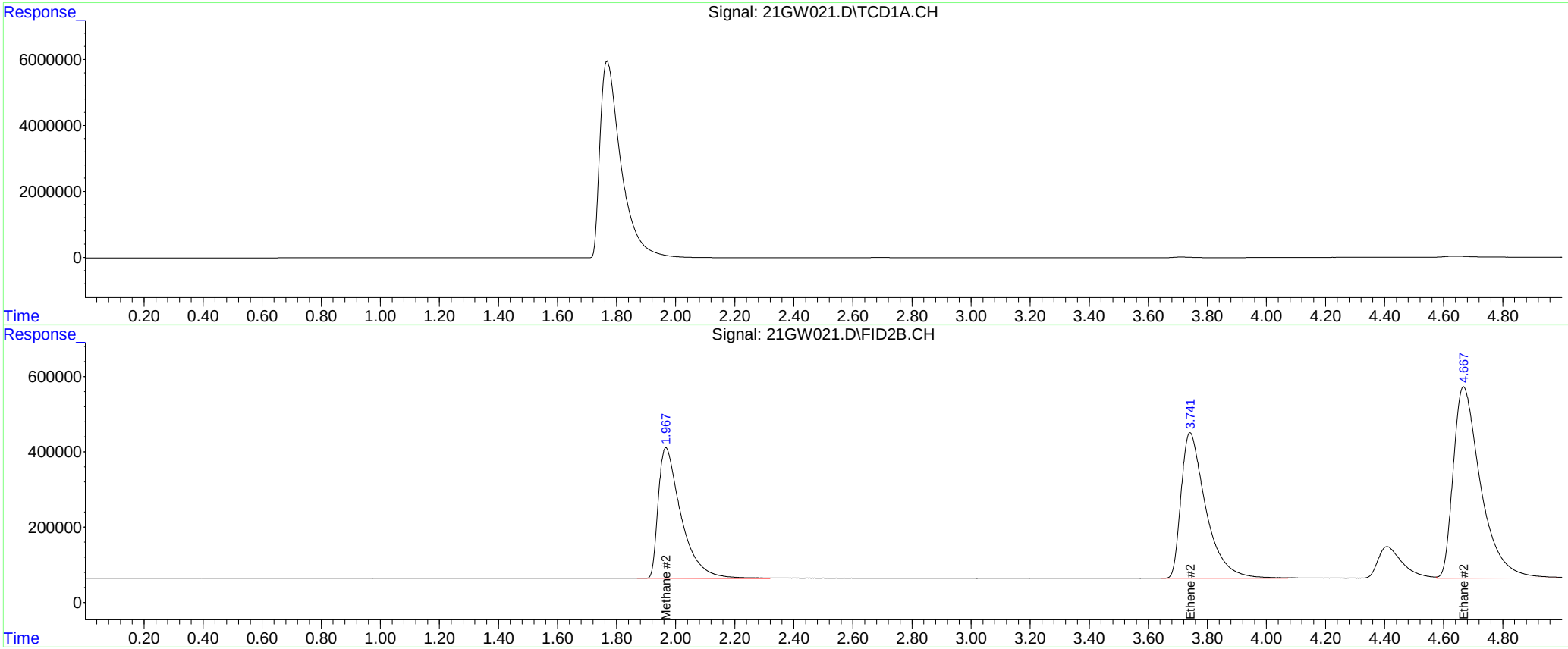
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW021.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 3:07 pm
Operator : jmw
Sample : AA67536-CCV3
Misc :
ALS Vial : 21 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 15:15:51 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW022.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 3:23 pm
Operator : jmw
Sample : AA67536-CCV4
Misc :
ALS Vial : 22 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 15:28:49 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.668	2.794	26933114	2215	42.536139	NoCal	#
2)	Methane	0.000	0.000	0	0	N.D. d	N.D. d	
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	4.445f	4.388	1268023	12614	NoCal	NoCal	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

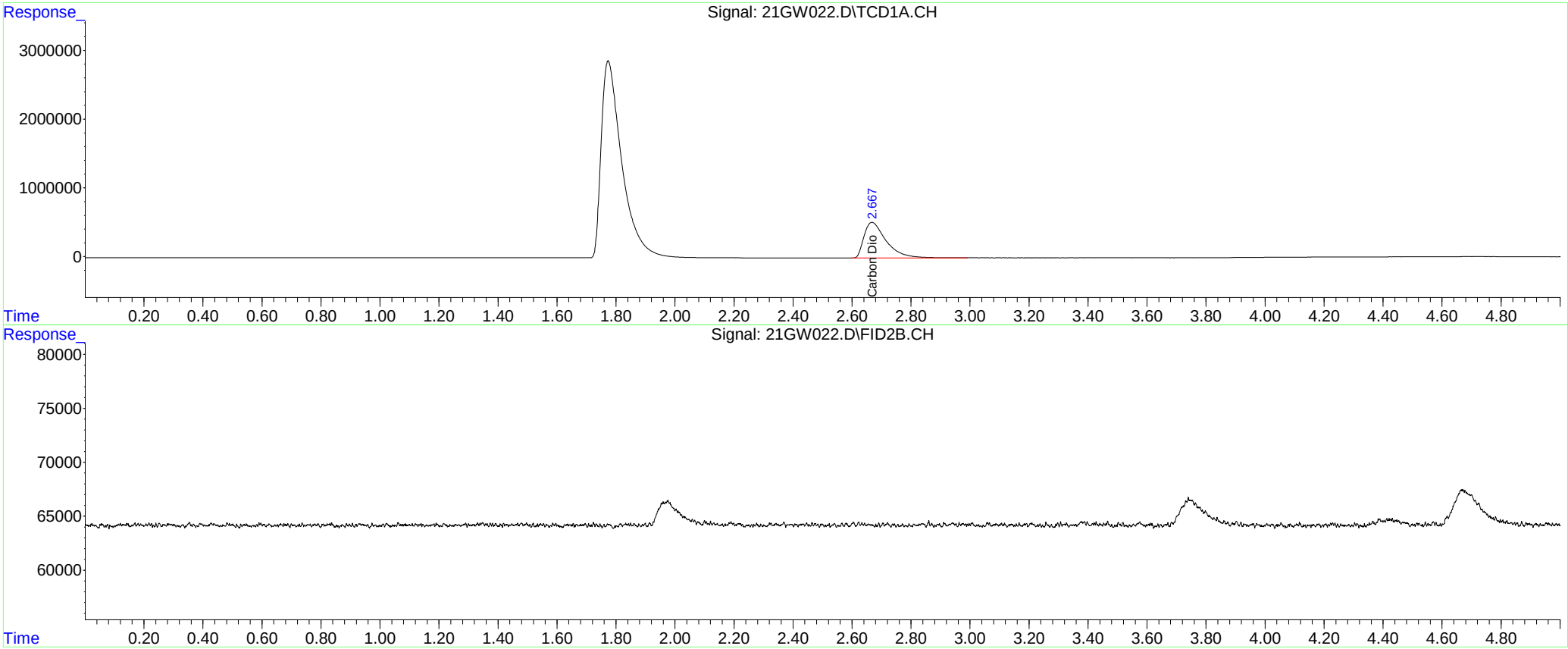
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW022.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 3:23 pm
Operator : jmw
Sample : AA67536-CCV4
Misc :
ALS Vial : 22 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 15:28:49 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



ANALYSIS SEQUENCE

AA64746

Instrument: OVGCFID2

Calibration ID: 2102005

Printed: 2/18/2021 10:57:40AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA64746-CAL1	QC		1	6	A1B0554			
AA64746-CAL2	QC		2	7	A1B0555			
AA64746-CAL3	QC		3	20	A1B0556			
AA64746-CAL4	QC		4	9	A1B0557			
AA64746-CAL5	QC		5	10	A1B0558			
AA64746-CAL6	QC		6	11	A1B0559			
AA64746-CAL7	QC		7	12	A1B0560			
AA64746-CAL8	QC		8	13	A1B0547			
AA64746-CAL9	QC		9	14	A1B0548			
AA64746-CALA	QC		10	21	A1B0549			
AA64746-CALB	QC		11	16	A1B0550			
AA64746-CALC	QC		12	17	A1B0551			
AA64746-CALD	QC		13	18	A1B0552			
AA64746-CALE	QC		14	19	A1B0553			
AA64746-SCV1	QC		15	22	A1A0933			

JMW 2/1/2021
Samples Loaded By Date

JMW 2/2/2021
Data Processed By Date

VOLATILES GC/MS LOGBOOK (EPA Method 624.1 / SW-846 Method 8260D)

Tune Start Date: 2/1/2021
Sequence: AA647446
Batch: 1B01007
Method: R5K
Analyst: JMW
Instrument EM Voltage: N/A

Surrogate: N/A
Internal: N/A
LCS Mix 2°: N/A A1A0923
LCS Acrolein 2°: N/A
LCS Gas 2°: N/A

8260 Mix: N/A
8260 Add: N/A A0J0838
8260 Ac/Ac: N/A A0L0607
8260 Gases: N/A
Instrument #: OV6CFID2

21B1

Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)	Comments	LIMS
003	1B01007-BLK1			3			RR, CO_2 present, degas water	
004	1B01007-BLK2			4			CO_2 > MDL (2.14)	
005	1B01007-BLK2			4			CO_2 (2.96) - Degas again	
006	1B01007-BLK3			5			pass ✓	
007	AA647446-CAL1			6			✓	
008	AA647446-CAL2			7			✓	
009	AA647446-CAL3			8			Re-prep, Re-run	
010	AA647446-CAL4			9			✓	
011	AA647446-CAL5			10			✓	
012	AA647446-CAL6			11			✓	
013	AA647446-CAL7			12			✓	
014	AA647446-CAL8			13			✓	
015	AA647446-CAL9			14			✓	
016	AA647446-CALA			15			Re-prep, Re-run	
017	AA647446-CALB			16			✓	
018	AA647446-CALC			17			✓	
019	AA647446-CALD			18			✓	
020	AA647446-CALE			19			✓	
021	AA647446-CAL3			20			✓	
022	AA647446-CALA			21			✓	
023	AA647446-SCV			22			✓	

Manual Integration Review Form

ENVIRONMENTAL CONSERVATION LABORATORIES, INC. ☐ Cary ☐ Jacksonville ☑ Orlando

I hereby attest that the manual integrations contained in this package have been thoroughly reviewed and are in agreement with the associated hardcopy data.

The electronic files listed below have been reviewed for accuracy, completeness and comply with ENCO labs QA-11 Manual Integration Policy including:

- "Before" and "After" chromatograms are provided
- Manual integrations are indicated on expanded scale "after" chromatograms at a scale large enough to see the manual integration performed.
- Reintegration technique marked if available on the data system
- Technical justification for manual integration
- Appropriate flags indicating which analytes were manually integrated are included in the raw data
- Analyst's initials and date.

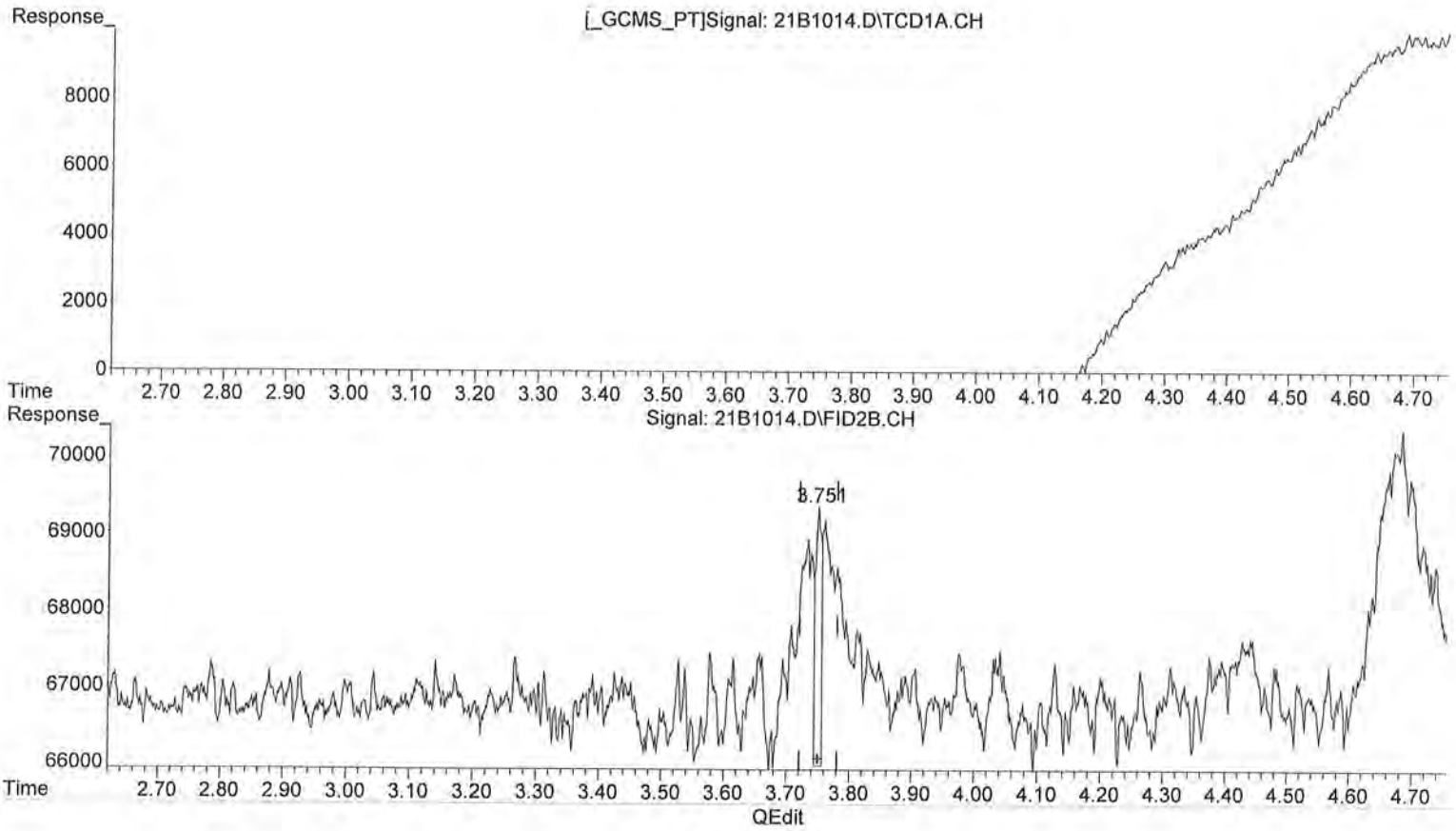
Instrument ID:	OVGCFID2
Sequence/Batch ID:	AA64746/1B01007
Data File Prefix:	21B1
Date and Time Range of MIs:	2/1/2021 14:26 - 2/2/2021 8:33
Reviewer Print Name:	Neil Christians
Reviewer Signature:	
Date of Review:	2/18/21

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1014.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 2:12 pm
Operator : JMW
Sample : AA64746-CAL8
Misc :
ALS Vial : 13 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 14:17:10 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(3) Ethene
3.714min 0.000 mg/L
response 30553

(3) Ethene #2
3.751min 0.000 mg/L
response 21443

Select One:
[✓] Original Integration [ ] Manual Integration
JMW 2/2/2021
[ ] Reason for manual integration:
X [ ] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Dump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date JMW 2/2/21
Review by/Date:

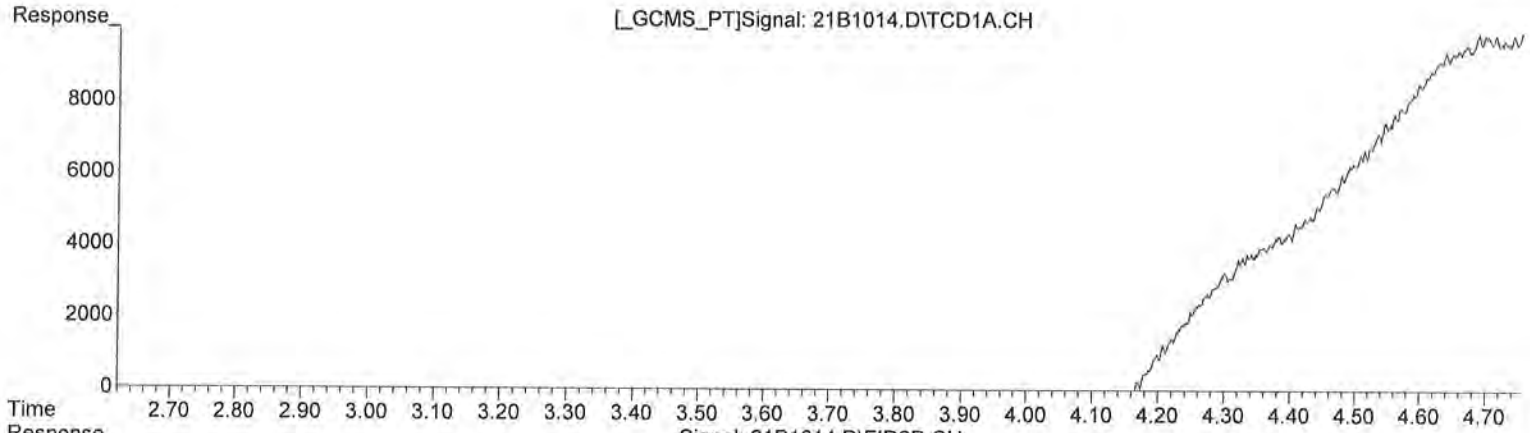
(+) = Expected Retention Time
060120.M Mon Feb 01 14:26:52 2021

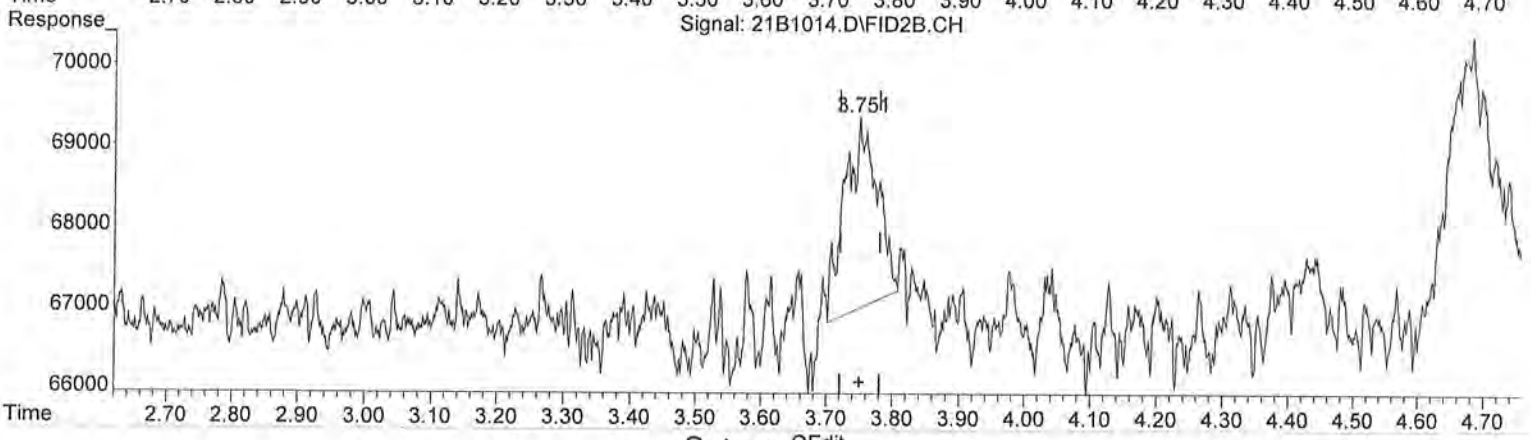
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1014.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 2:12 pm
Operator : JMW
Sample : AA64746-CAL8
Misc :
ALS Vial : 13 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 14:17:10 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





(3) Ethene
3.714min 0.000 mg/L
response 30553

(3) Ethene #2
3.751min 0.001 mg/L m
response 80262

(+) = Expected Retention Time
060120.M Mon Feb 01 14:27:10 2021

QEdit

Select One:

[ ] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Bump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date JMJ 2/2/21

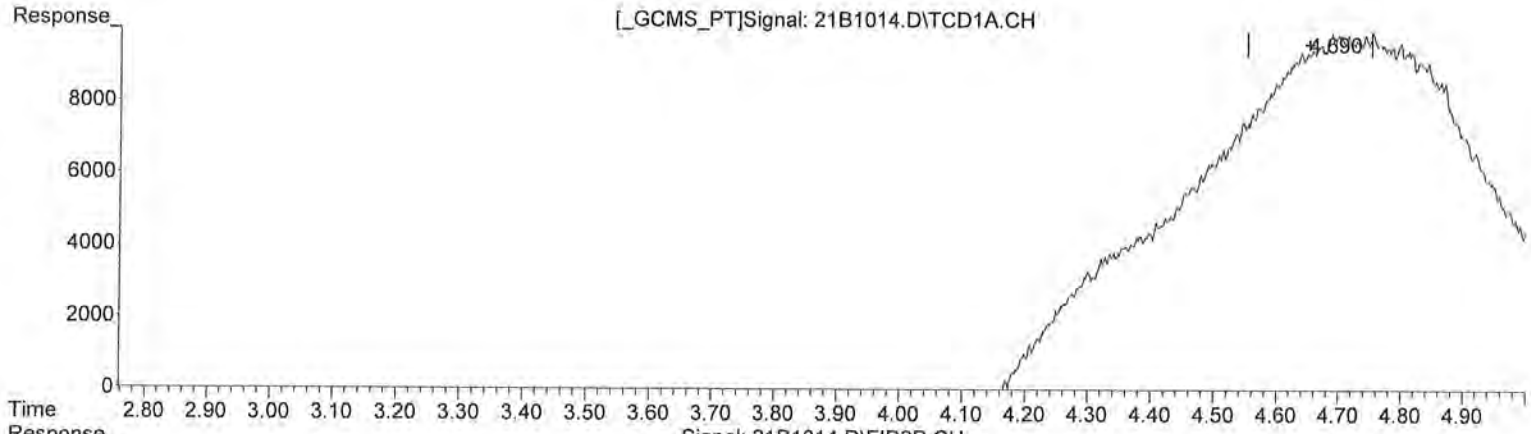
Review by/Date:

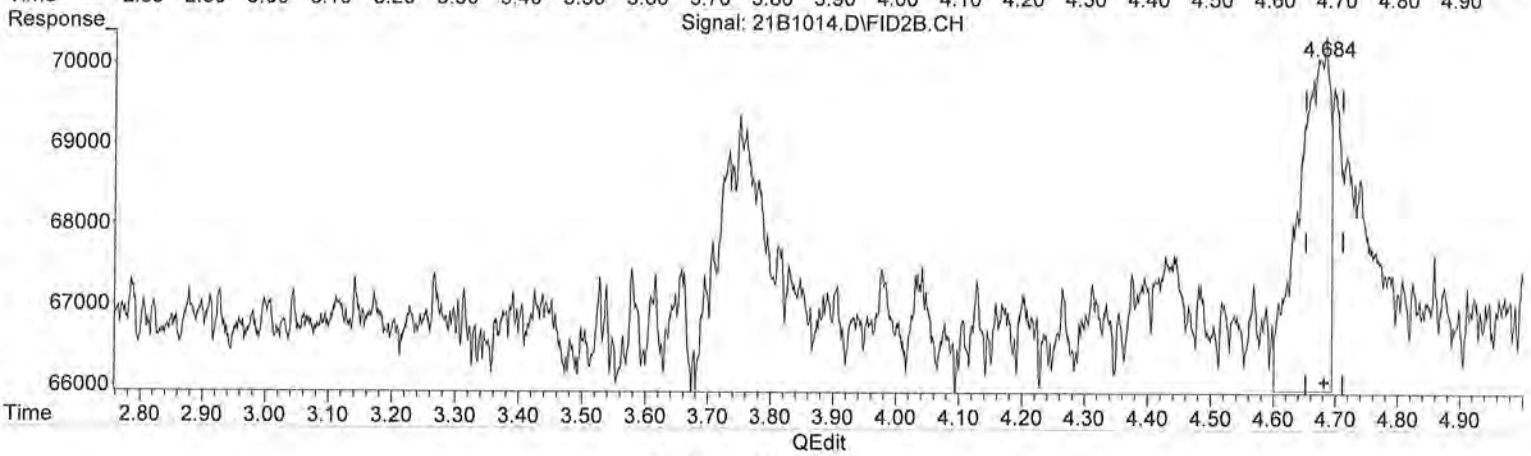
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1014.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 2:12 pm
Operator : JMW
Sample : AA64746-CAL8
Misc :
ALS Vial : 13 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 14:17:10 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





QEdit

(5) Ethane
4.703min 0.000 mg/L
response 4428569

(5) Ethane #2
4.684min 0.002 mg/L
response 149734

Select One:
[X] Original Integration [ ] Manual Integration
Select reason for manual integration:
[X] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date JMW 2/2/21
Review by/Date:

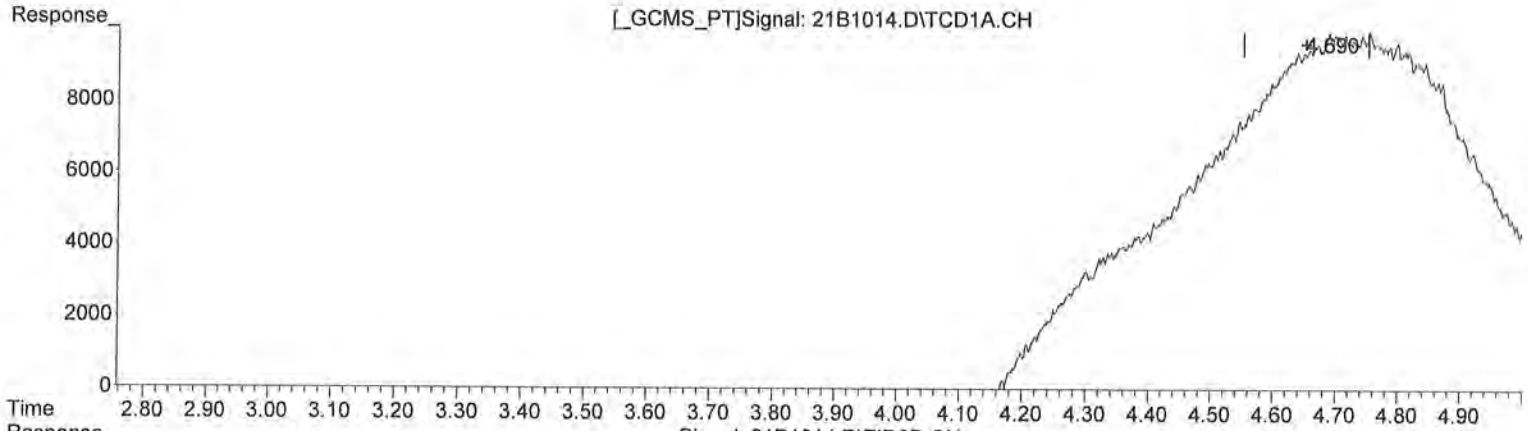
(+) = Expected Retention Time
060120.M Mon Feb 01 14:27:17 2021

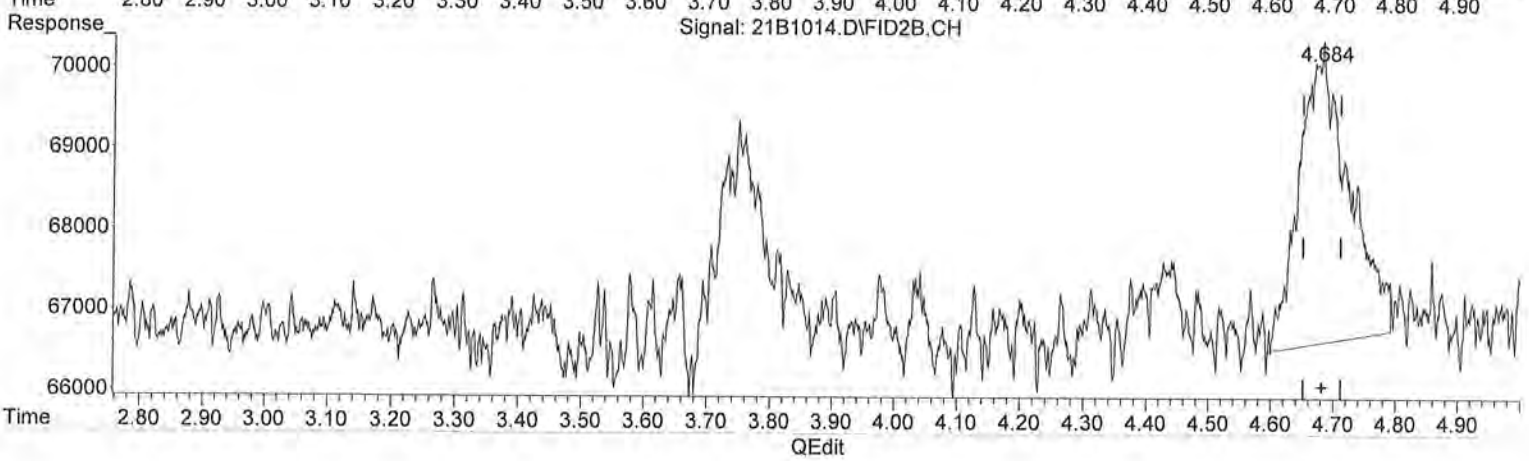
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1014.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 2:12 pm
Operator : JMW
Sample : AA64746-CAL8
Misc :
ALS Vial : 13 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 14:17:10 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





(5) Ethane
4.703min 0.000 mg/L
response 4428569

(5) Ethane #2
4.684min 0.002 mg/L m
response 203399

Select One:
[ ] Original Integration [X] Manual Integration
Select reason for manual integration:
[X] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date JMW 2/2/21
Review by/Date:

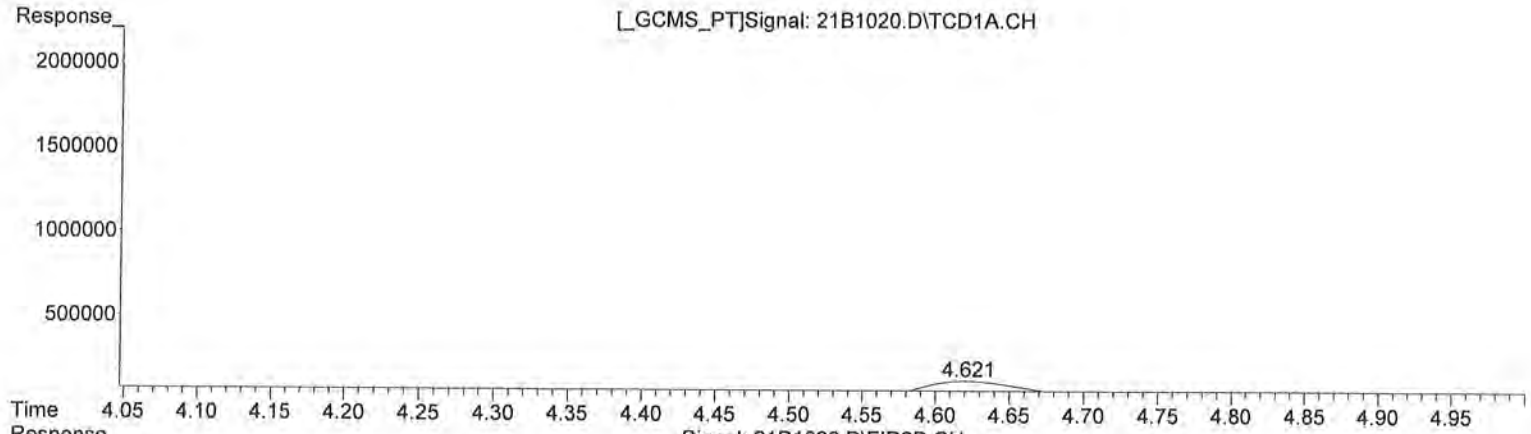
(+) = Expected Retention Time
060120.M Mon Feb 01 14:27:31 2021

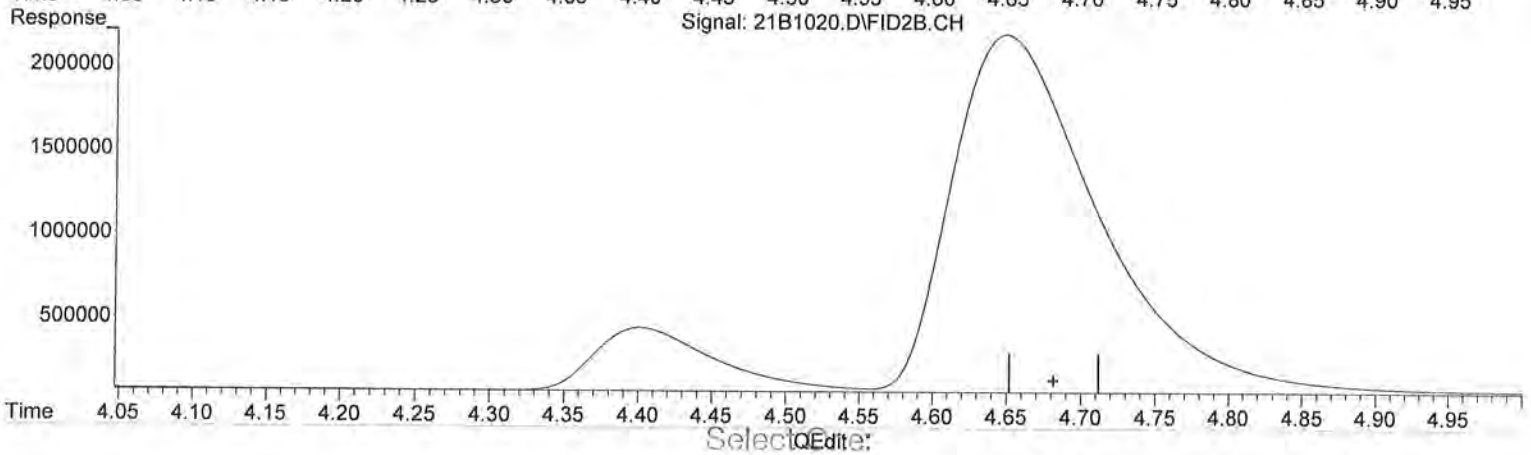
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1020.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 3:47 pm
Operator : JMW
Sample : AA64746-CALE
Misc :
ALS Vial : 19 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 15:52:21 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





(5) Ethane
4.621min 0.000 mg/L
response 8808275

(5) Ethane #2
0.000min 0.000 mg/L
response 0

Select QEdit:
[+] Original Integration [ ] Manual Integration
Select reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[+] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] [illegible] reintegration
[ ] [illegible]
[illegible] JMW 2/2/21

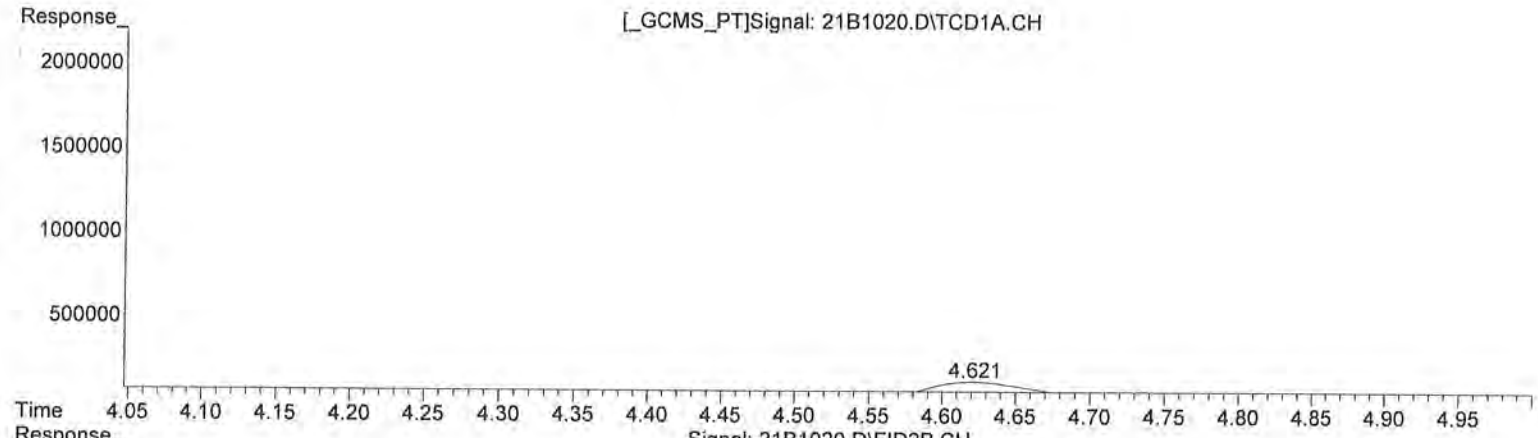
(+) = Expected Retention Time
060120.M Mon Feb 01 15:53:50 2021

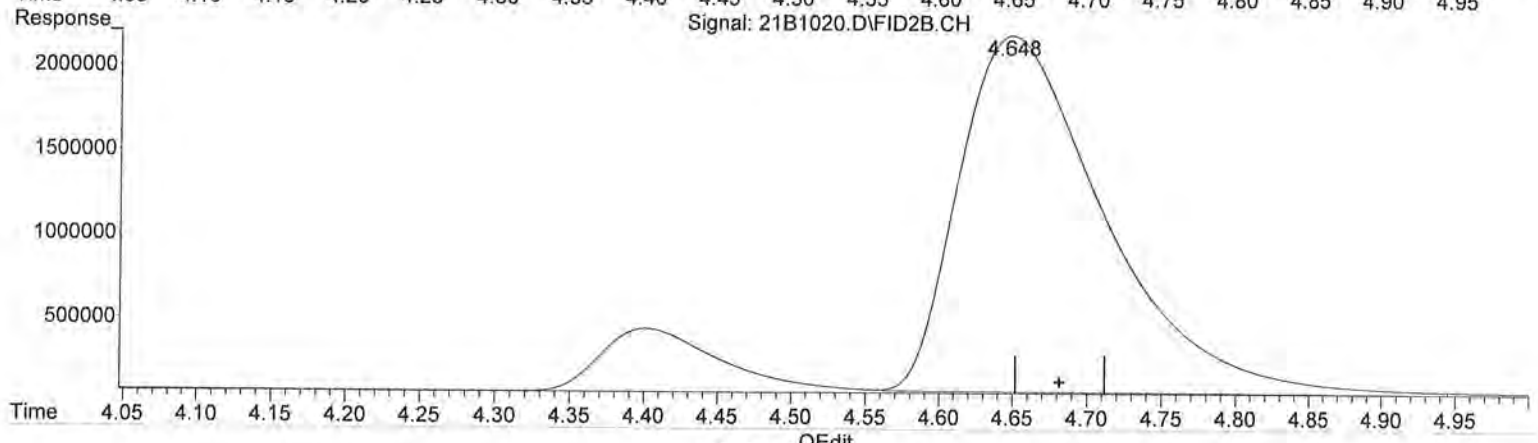
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1020.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 3:47 pm
Operator : JMW
Sample : AA64746-CALE
Misc :
ALS Vial : 19 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 15:52:21 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





QEdit

(5) Ethane
4.621min 0.000 mg/L
response 8808275

(5) Ethane #2
4.648min 1.511 mg/L m
response 145431677

Select One:
[ ] Original Integration [X] Manual Integration
Select reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[X] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date: JMW 2/2/21
Review by/Date:

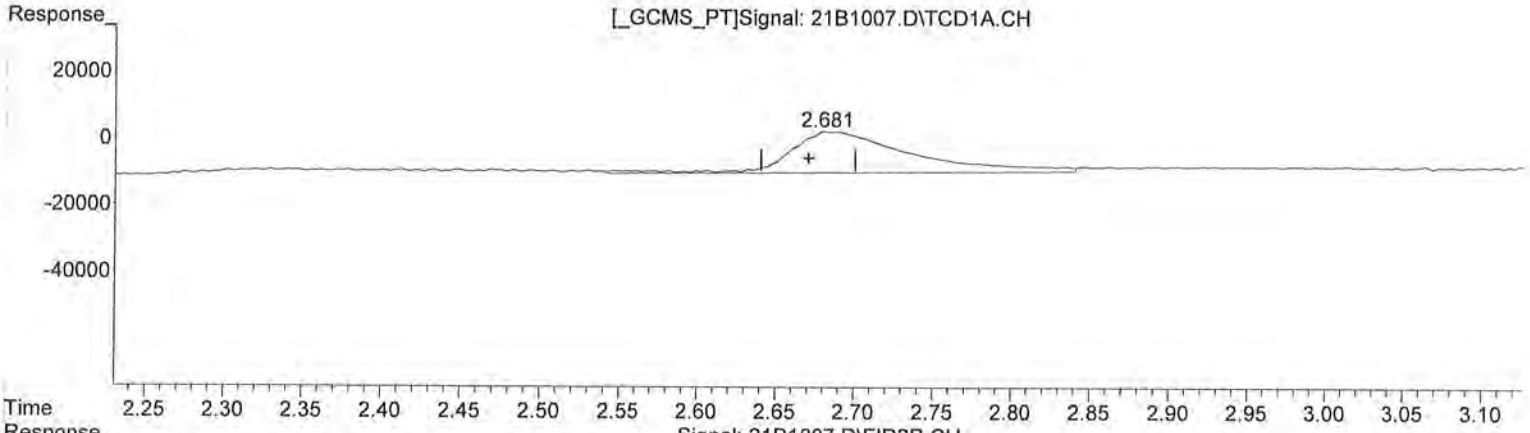
(+) = Expected Retention Time
060120.M Mon Feb 01 15:54:12 2021

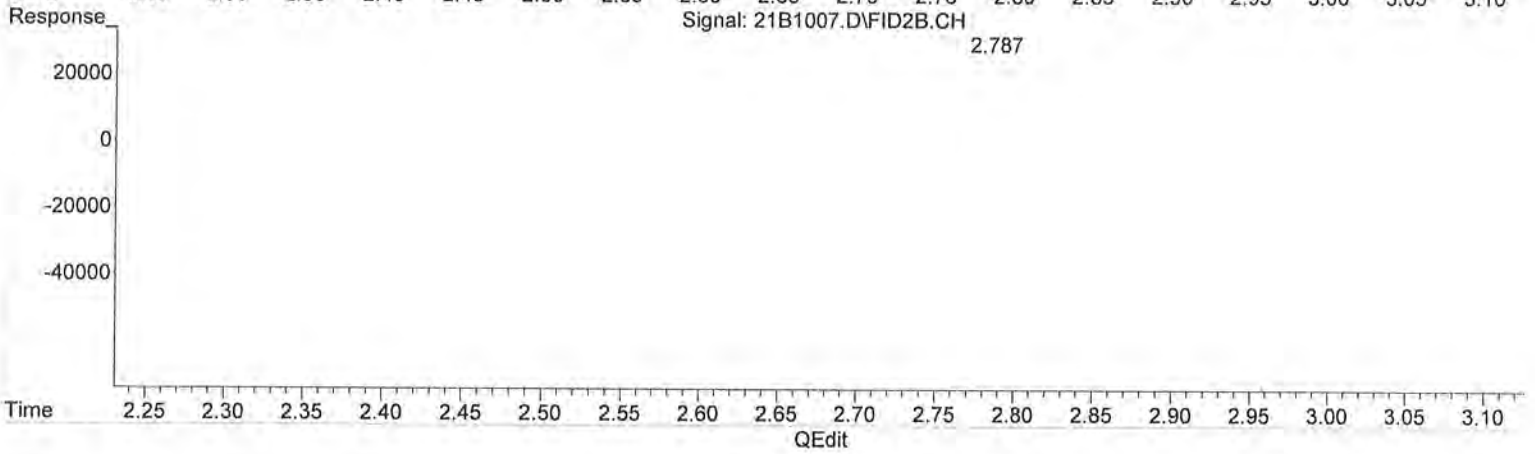
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1007.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 12:04 pm
Operator : JMW
Sample : AA64746-CAL1
Misc :
ALS Vial : 6 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 12:10:02 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





(1) Carbon Dioxide

2.684min 1.390 ppmv

response 682006

(1) Carbon Dioxide #2

2.788min 0.000 ppmv

response 10633

Select One:

[✓] Original Integration [ ] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date: JMW 2/2/21

Review by/Date:

(+) = Expected Retention Time

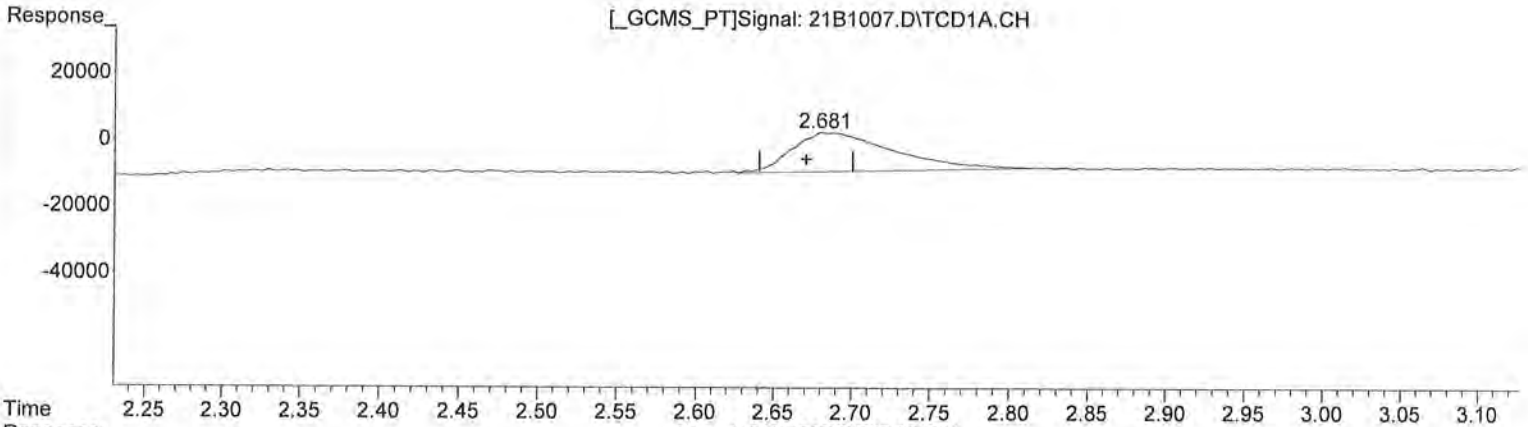
020121.M Tue Feb 02 08:22:10 2021

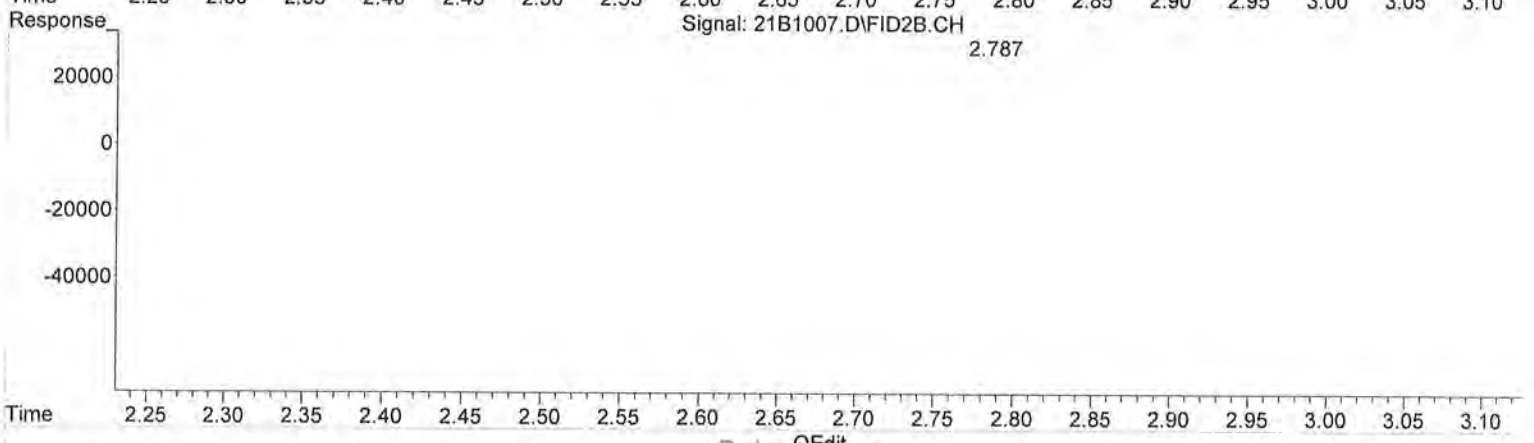
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1007.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 12:04 pm
Operator : JMW
Sample : AA64746-CAL1
Misc :
ALS Vial : 6 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 12:10:02 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





QEdit

(1) Carbon Dioxide

2.681min 1.086 mg/L m

response 532714

(1) Carbon Dioxide #2

2.788min 0.000 mg/L

response 10633

Select One:

[ ] Original Integration [✓] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] RTE reintegration

[ ] Other

JMW 2/2/21

(+) = Expected Retention Time

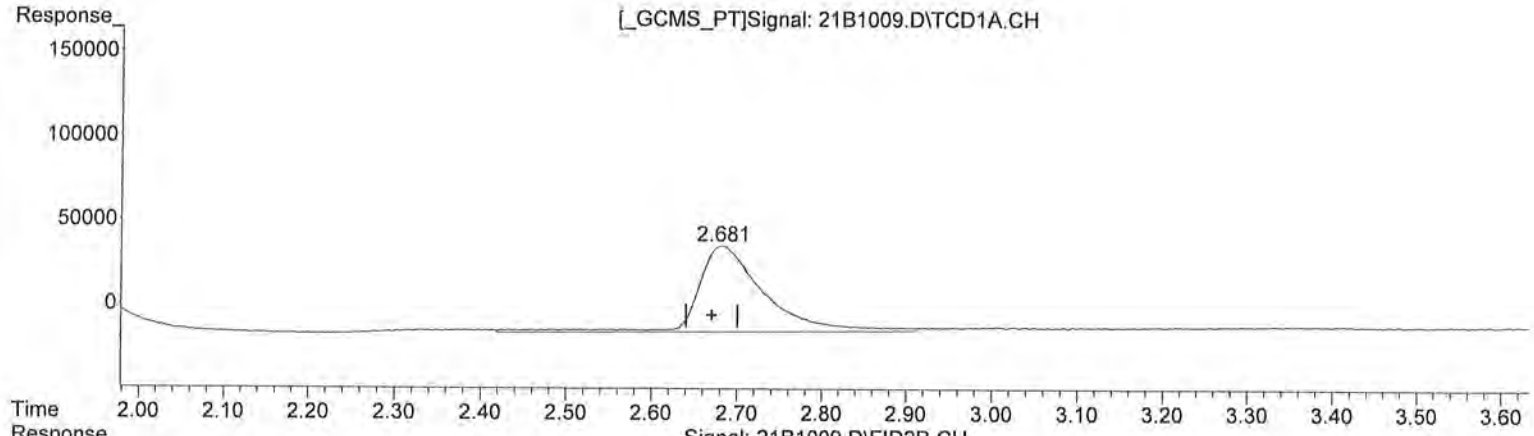
020121.M Tue Feb 02 08:22:20 2021

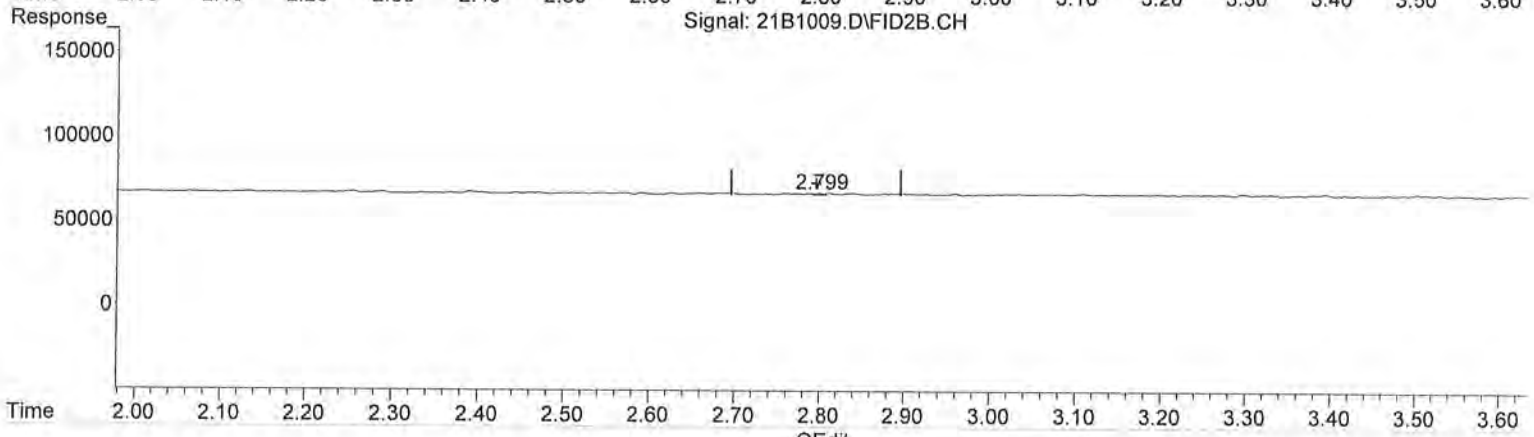
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1009.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 12:41 pm
Operator : JMW
Sample : AA64746-CAL3
Misc :
ALS Vial : 8 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 12:46:17 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





QEdit

(1) Carbon Dioxide

2.683min 5.718 ppmv

response 2805924

(1) Carbon Dioxide #2

2.800min 0.000 ppmv

response 6337

Select One: JMW 2/2/21

[✓] Original Integration [ ] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] Co-elution

JMW 2/2/21

(+) = Expected Retention Time

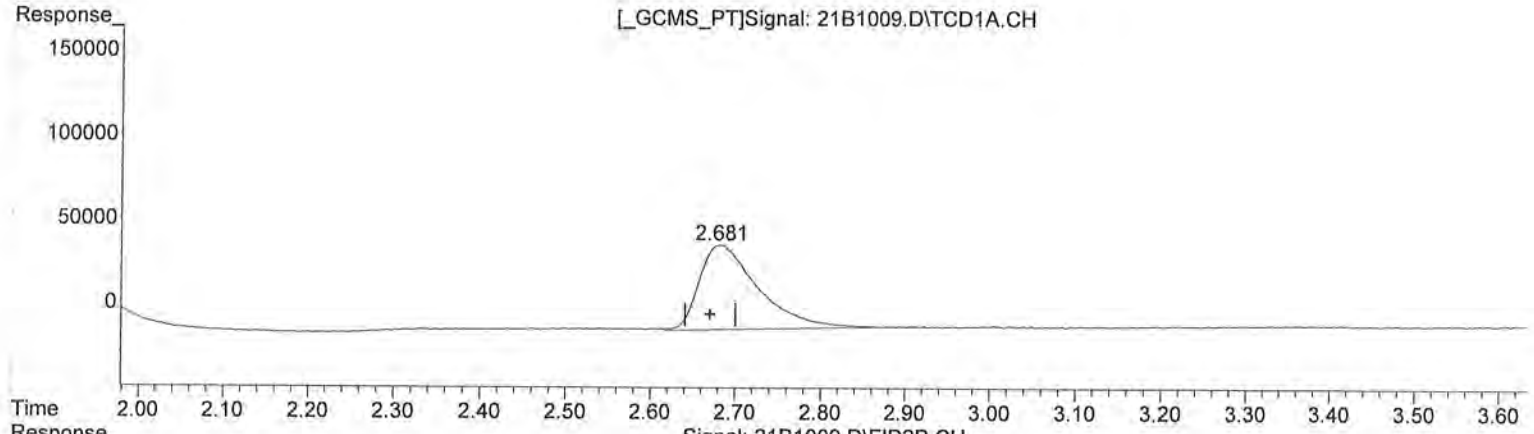
020121.M Tue Feb 02 08:23:31 2021

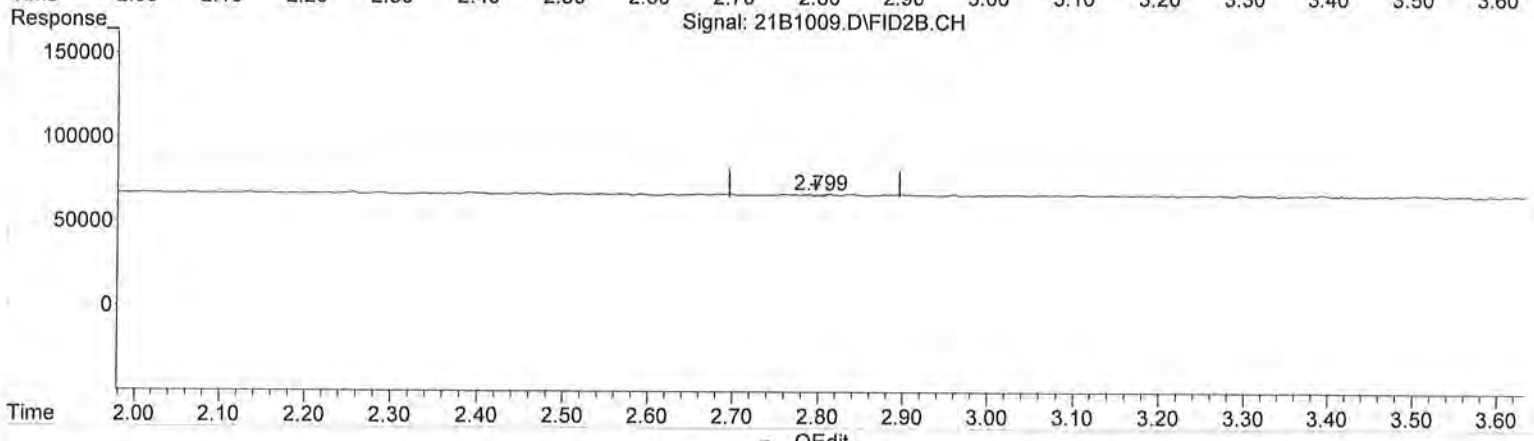
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1009.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 12:41 pm
Operator : JMW
Sample : AA64746-CAL3
Misc :
ALS Vial : 8 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 12:46:17 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





QEdit

(1) Carbon Dioxide

2.681min 4.913 mg/L m

response 2410843

(1) Carbon Dioxide #2

2.800min 0.000 mg/L

response 6337

Select One:

[] Original Integration [✓] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[] Incorrect peak selection/Peak not found

[] Hump integration

[] Baseline drop for split peaks

[] [illegible] concentration

[illegible] JMW 2/2/21

(+) = Expected Retention Time

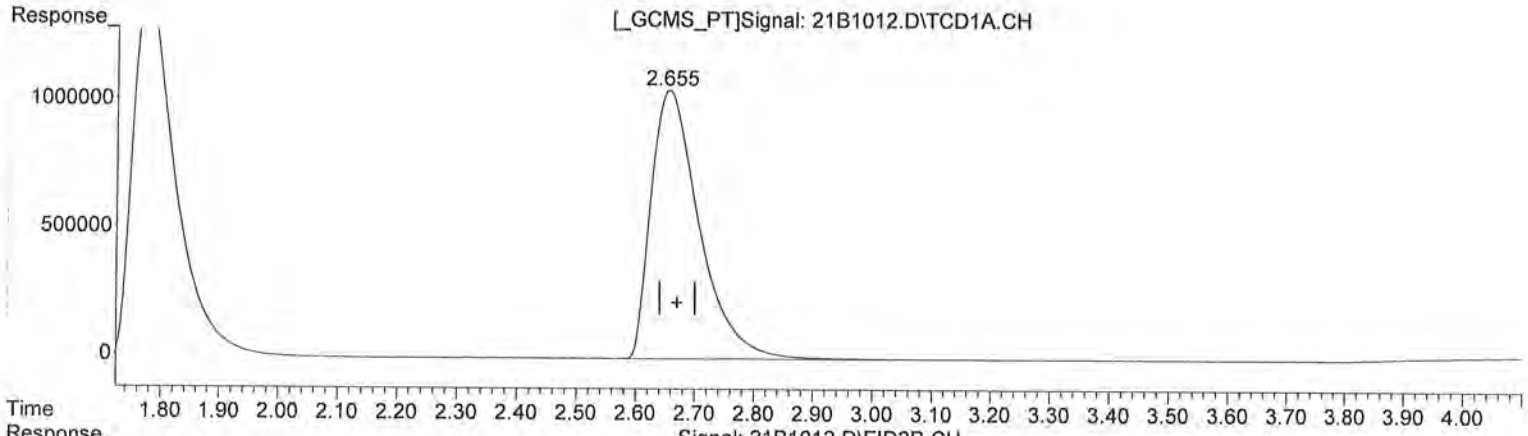
020121.M Tue Feb 02 08:23:46 2021

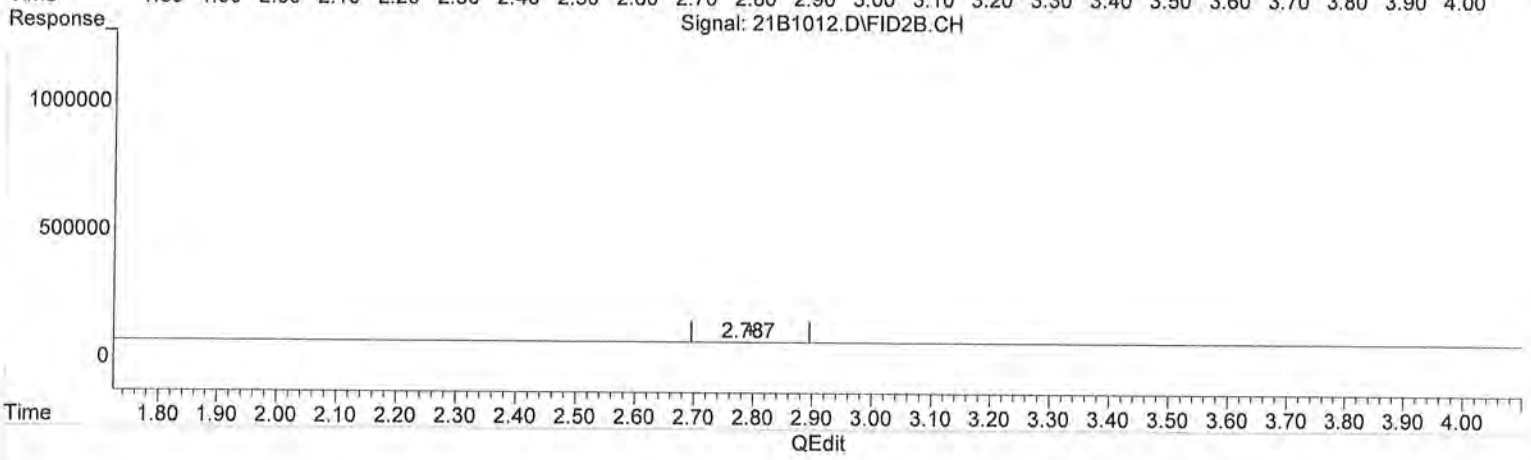
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1012.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 1:28 pm
Operator : JMW
Sample : AA64746-CAL6
Misc :
ALS Vial : 11 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 13:33:51 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





(1) Carbon Dioxide

2.656min 122.005 ppmv

response 59873024

(1) Carbon Dioxide #2

2.787min 0.000 ppmv

response 15408

Select One:

[✓] Original Integration [ ] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] Co-integration

JMW 2/2/21

(+) = Expected Retention Time

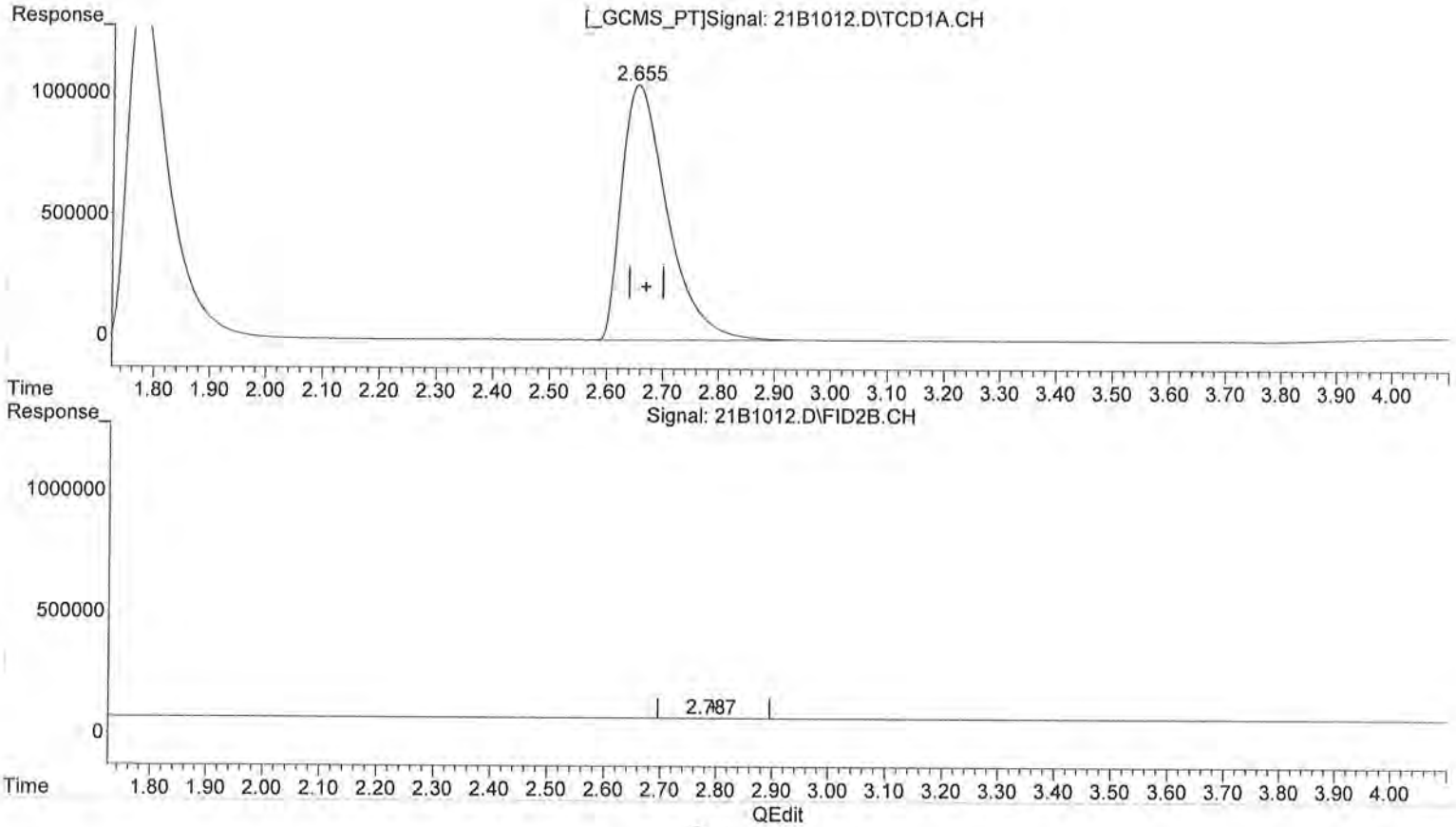
020121.M Tue Feb 02 08:26:28 2021

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1012.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 1:28 pm
Operator : JMW
Sample : AA64746-CAL6
Misc :
ALS Vial : 11 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 13:33:51 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(1) Carbon Dioxide

2.655min 121.763 mg/L m

response 59754008

(1) Carbon Dioxide #2

2.787min 0.000 mg/L

response 15408

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date JMW 2/2/21

Review by/Date:

(+) = Expected Retention Time

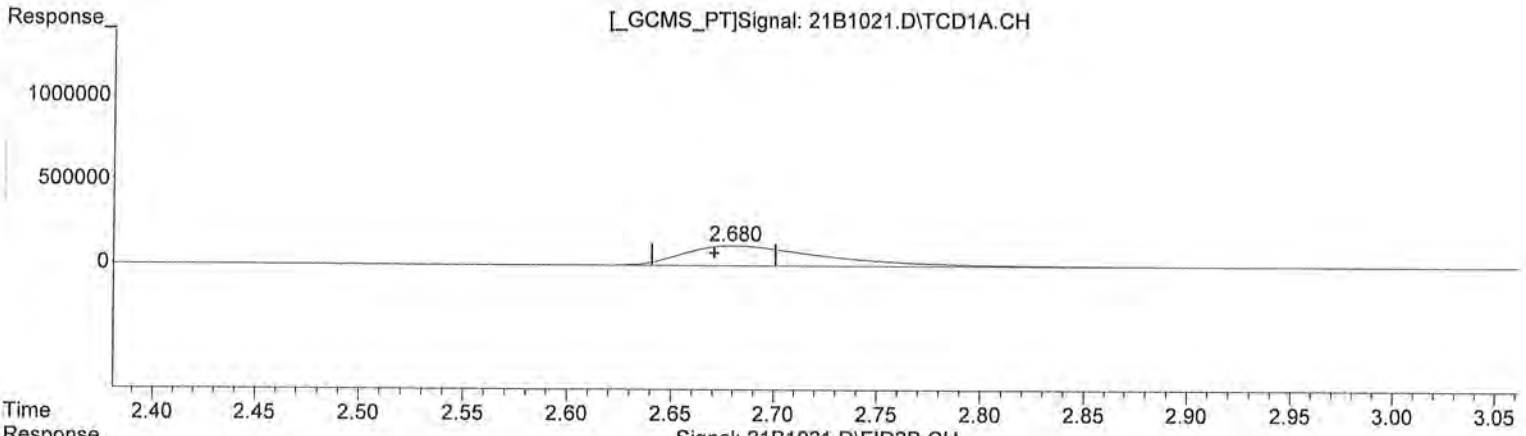
020121.M Tue Feb 02 08:26:45 2021

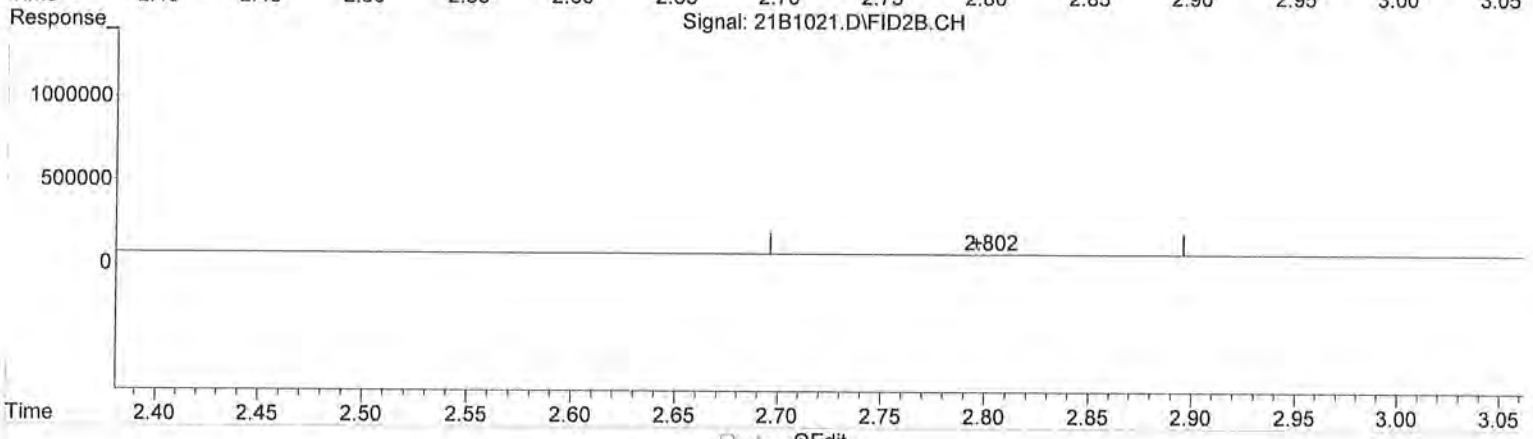
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1021.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 4:03 pm
Operator : JMW
Sample : AA64746-CAL3
Misc :
ALS Vial : 20 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 16:08:13 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





QEdit

(1) Carbon Dioxide

2.680min 12.150 ppmv

response 5962401

(1) Carbon Dioxide #2

2.802min 0.000 ppmv

response 12122

Select One:

[✓] Original Integration [ ] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date JMW 2/2/21

Review by/Date:

(+) = Expected Retention Time

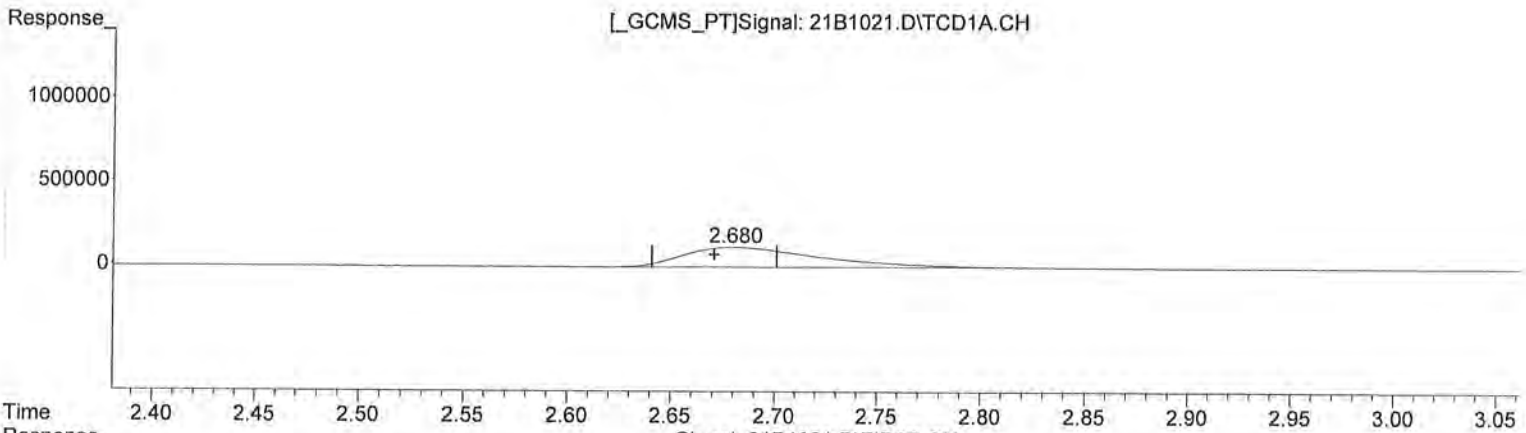
020121.M Tue Feb 02 08:33:24 2021

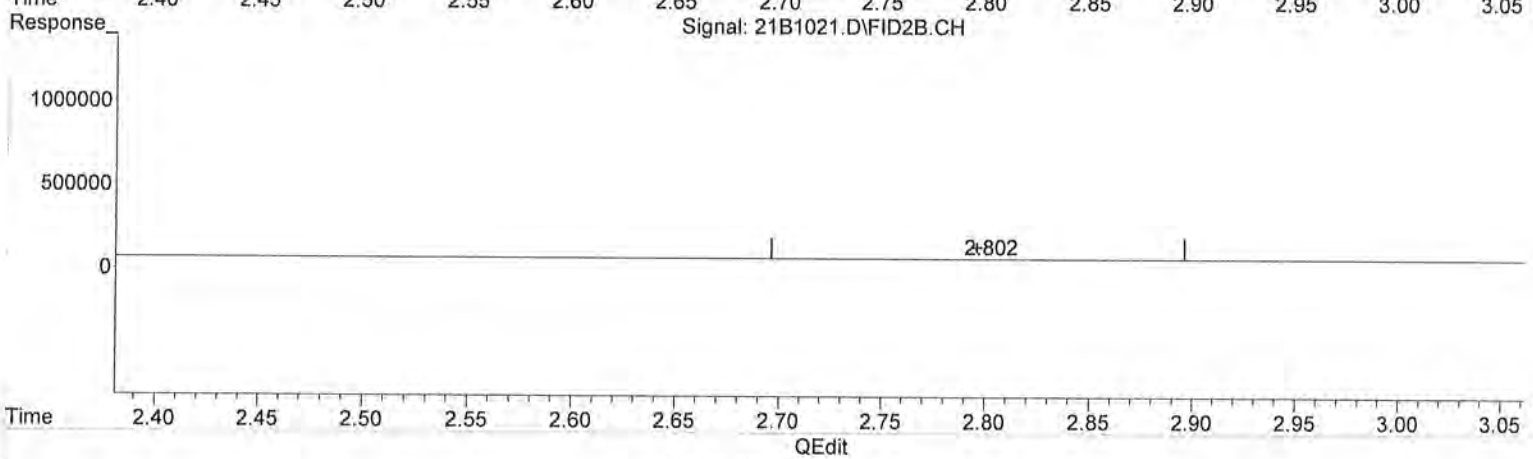
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1021.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 4:03 pm
Operator : JMW
Sample : AA64746-CAL3
Misc :
ALS Vial : 20 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 16:08:13 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





QEdit

(1) Carbon Dioxide

2.680min 11.040 mg/L m

response 5417580

(1) Carbon Dioxide #2

2.802min 0.000 mg/L

response 12122

Select One:

[ ] Original Integration [✓] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] RT reintegration

[ ] Other:

Review by/Date: JMW 2/2/21

(+) = Expected Retention Time

020121.M Tue Feb 02 08:33:41 2021

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1006.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 11:33 am
Operator : JMW
Sample : 1B01007-BLK3
Misc :
ALS Vial : 5 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 11:38:22 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.682	2.767	134681	20978	0.274444m	NoCal	#
2)	Methane	0.000	0.000	0	0	N.D.	N.D.	
3)	Ethene	3.715	3.751	76171	10746	NoCal	0.000145	#
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d	
5)	Ethane	4.726f	4.671	15760632	18597	NoCal	0.000193	#

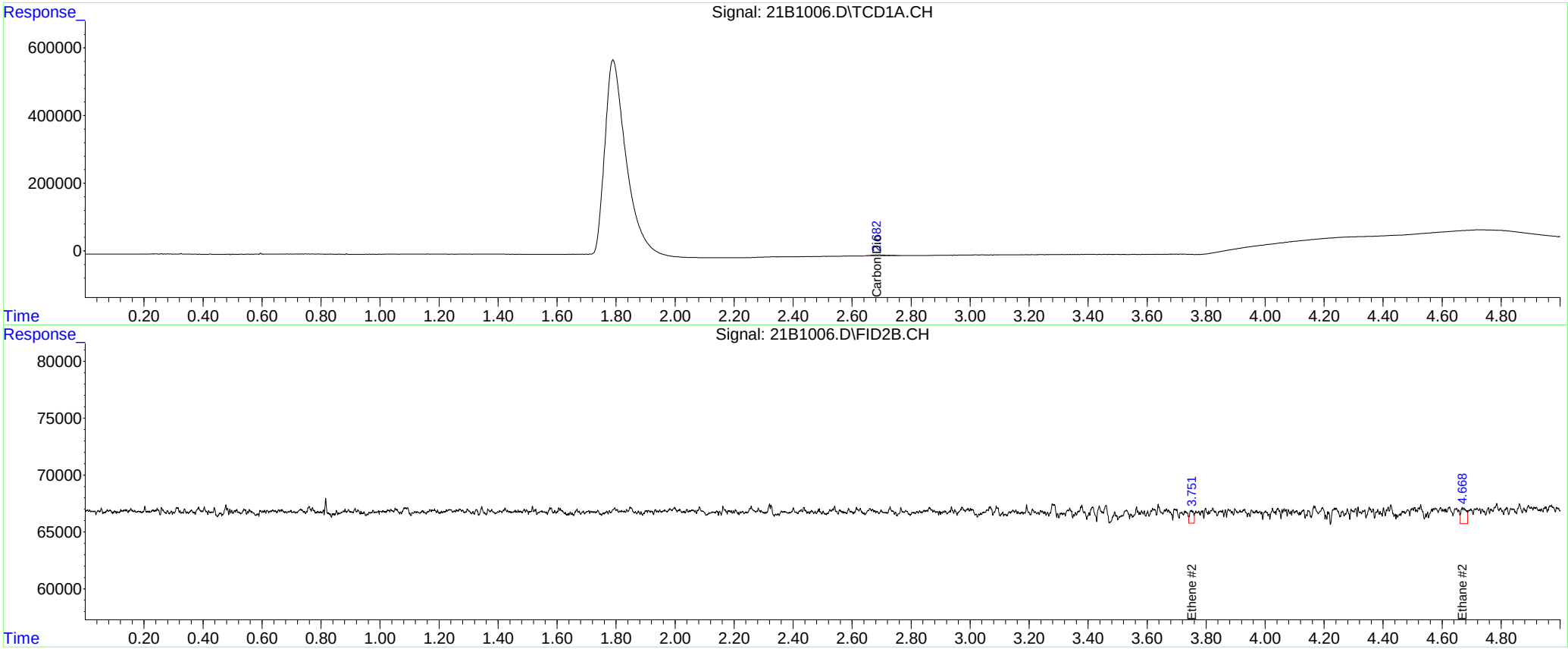
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1006.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 11:33 am
Operator : JMW
Sample : 1B01007-BLK3
Misc :
ALS Vial : 5 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 11:38:22 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1007.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 12:04 pm
Operator : JMW
Sample : AA64746-CAL1
Misc :
ALS Vial : 6 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 12:10:02 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.681	2.788	532714	10633	1.085528m	NoCal	#
2)	Methane	0.000	0.000	0	0	N.D. d	N.D. d	
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

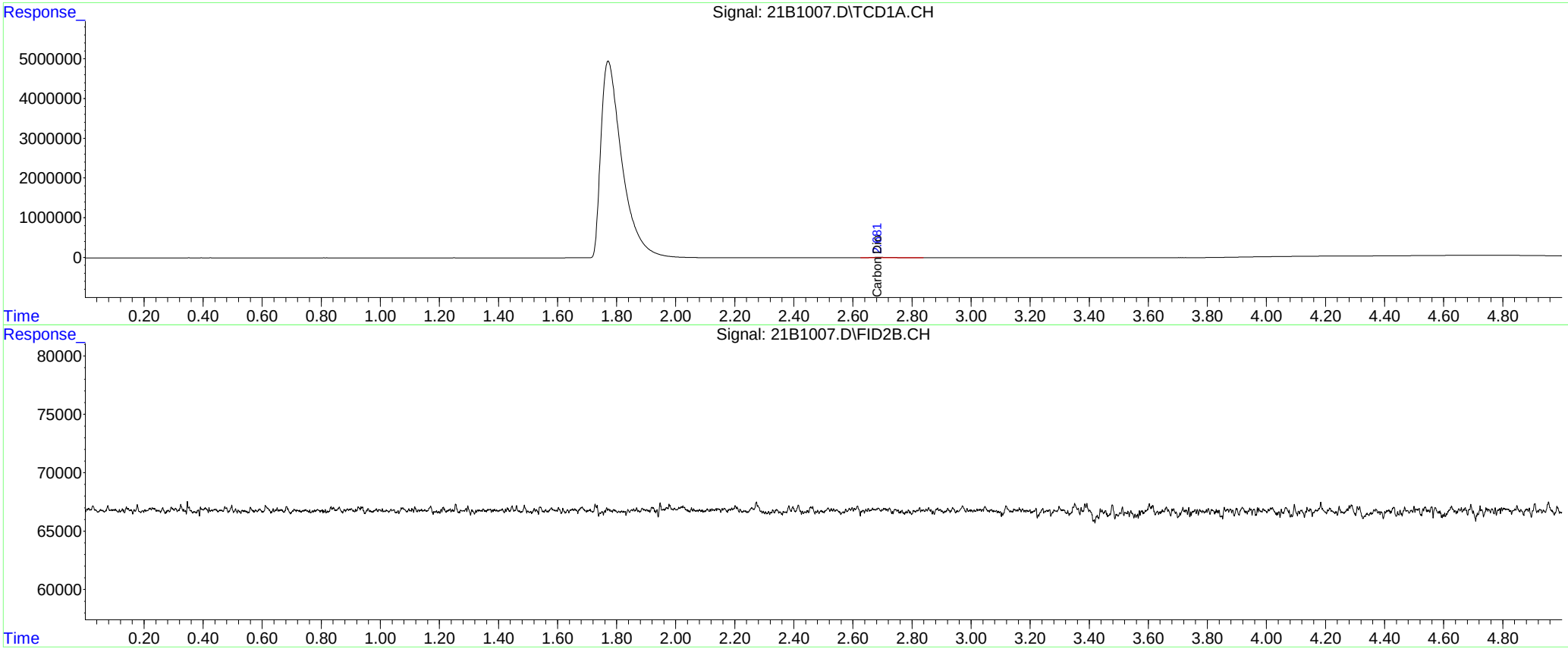
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1007.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 12:04 pm
Operator : JMW
Sample : AA64746-CAL1
Misc :
ALS Vial : 6 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 12:10:02 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1008.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 12:25 pm
Operator : JMW
Sample : AA64746-CAL2
Misc :
ALS Vial : 7 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 12:30:24 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.686	2.788	1427557	4761	2.908978m	NoCal	#
2)	Methane	0.000	0.000	0	0	N.D. d	N.D. d	
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

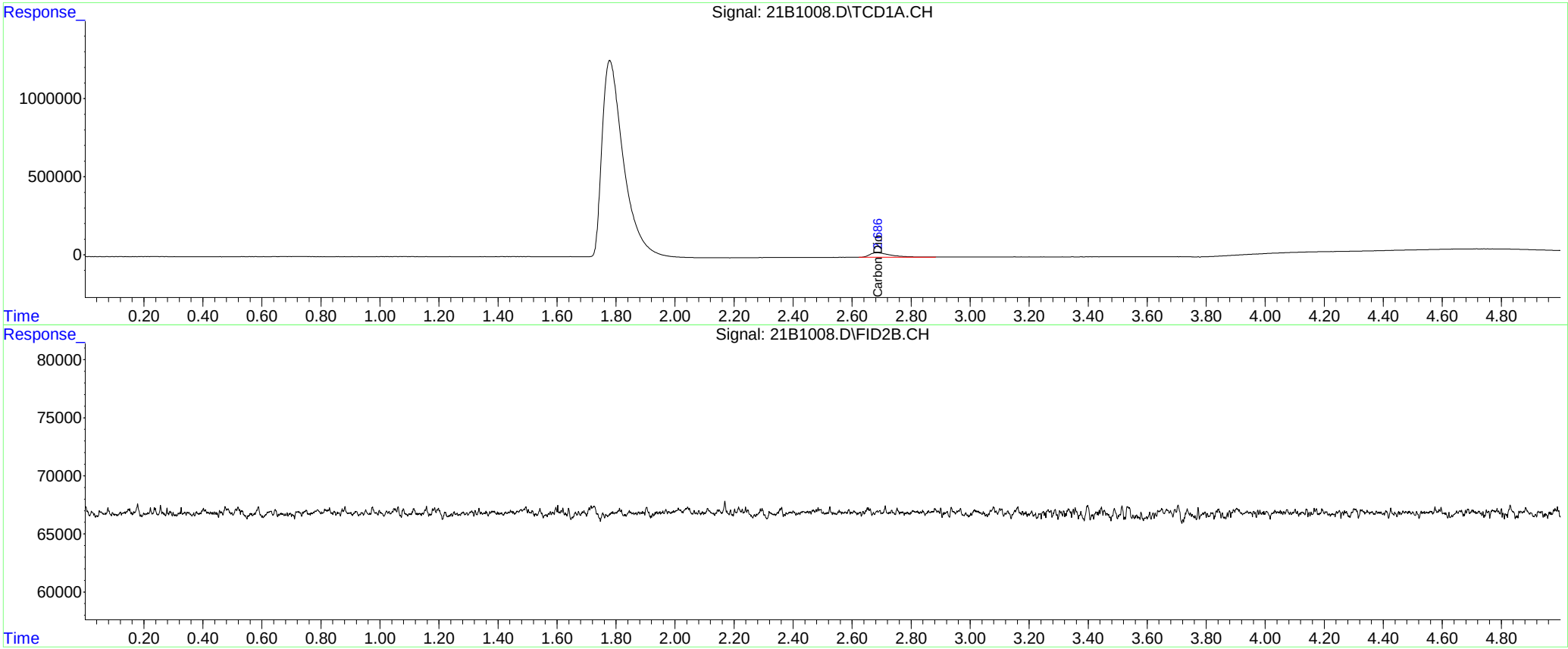
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1008.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 12:25 pm
Operator : JMW
Sample : AA64746-CAL2
Misc :
ALS Vial : 7 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 12:30:24 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1010.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 12:57 pm
Operator : JMW
Sample : AA64746-CAL4
Misc :
ALS Vial : 9 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 13:02:09 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.676	2.807	14250710	10383	29.039121	NoCal	#
2)	Methane	0.000	0.000	0	0	N.D. d	N.D. d	
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

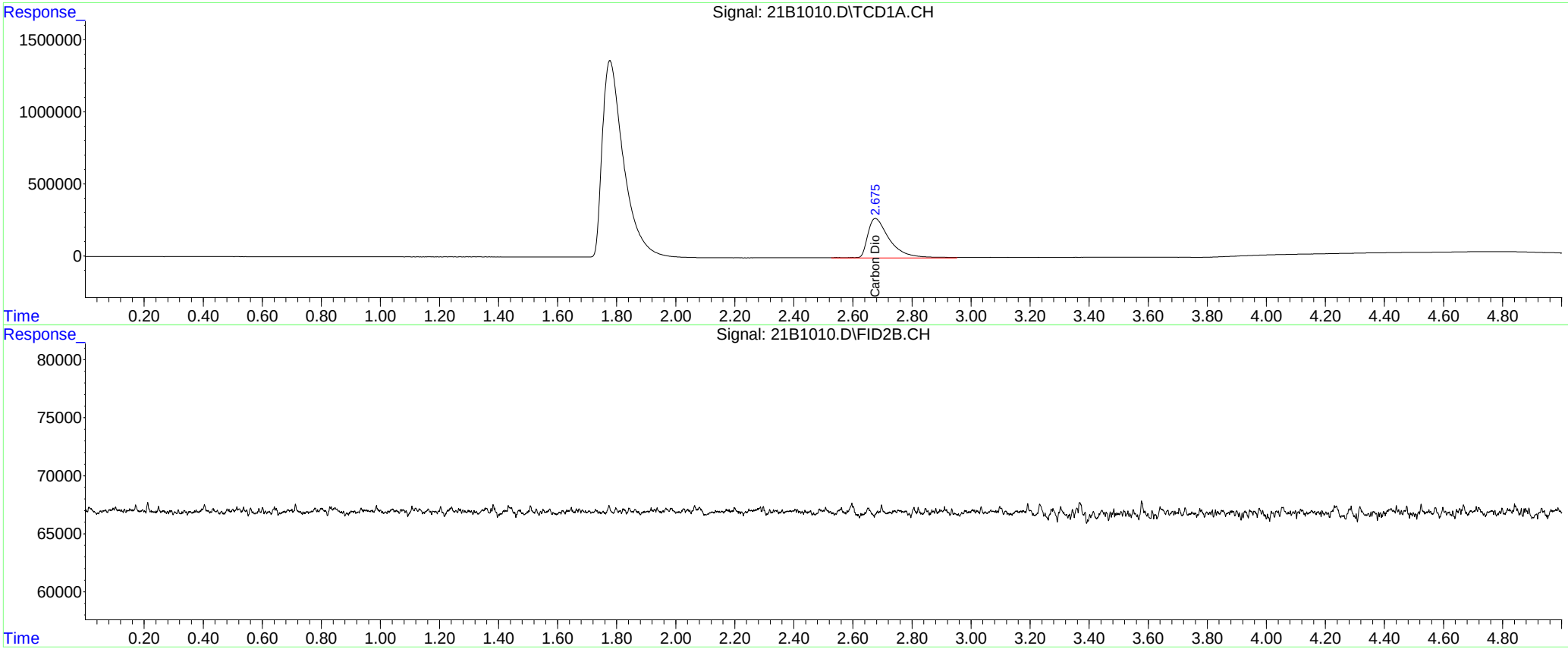
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1010.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 12:57 pm
Operator : JMW
Sample : AA64746-CAL4
Misc :
ALS Vial : 9 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 13:02:09 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1011.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 1:12 pm
Operator : JMW
Sample : AA64746-CAL5
Misc :
ALS Vial : 10 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 13:18:01 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.667	2.797	30307016	4590	61.757560	NoCal	#
2)	Methane	0.000	0.000	0	0	N.D. d	N.D. d	
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

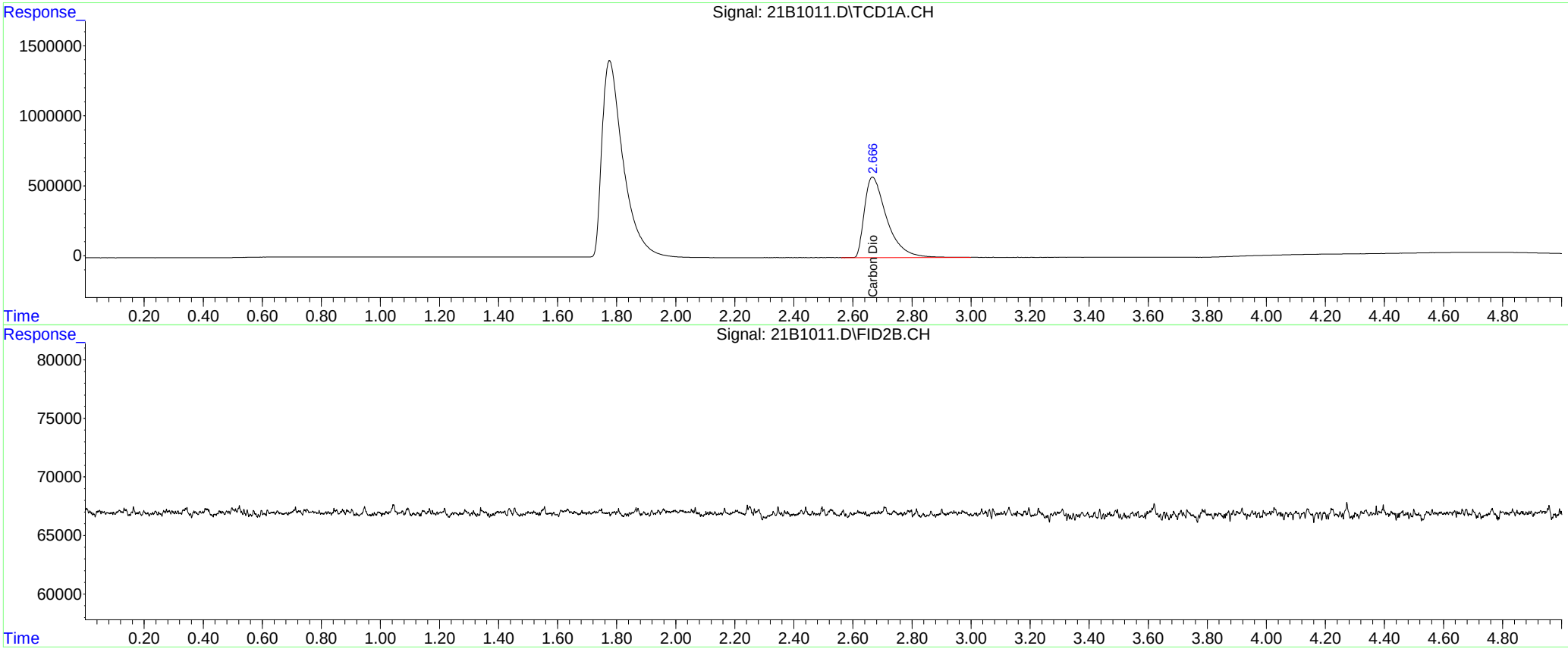
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1011.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 1:12 pm
Operator : JMW
Sample : AA64746-CAL5
Misc :
ALS Vial : 10 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 13:18:01 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1012.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 1:28 pm
Operator : JMW
Sample : AA64746-CAL6
Misc :
ALS Vial : 11 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 13:33:51 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.655	2.787	59754008	15408	121.762623m	NoCal	#
2)	Methane	0.000	0.000	0	0	N.D. d	N.D. d	
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

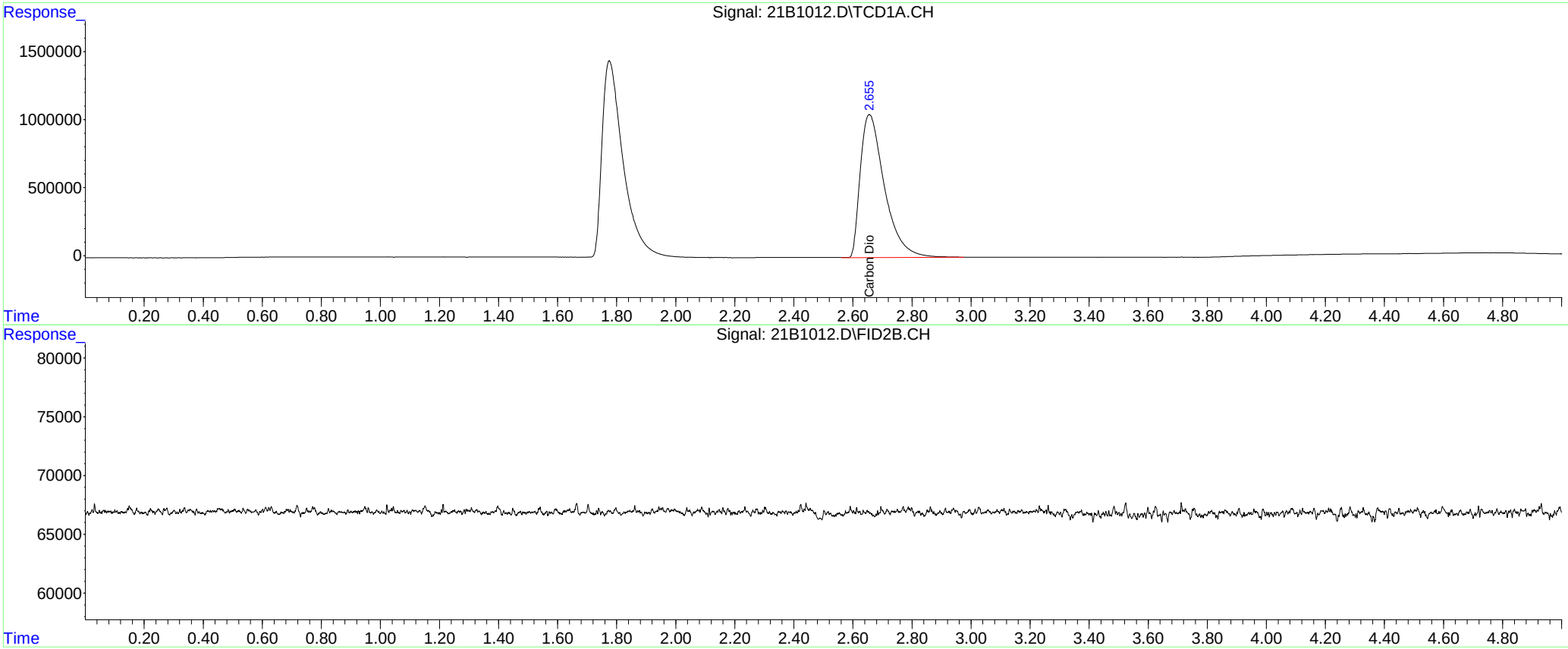
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1012.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 1:28 pm
Operator : JMW
Sample : AA64746-CAL6
Misc :
ALS Vial : 11 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 13:33:51 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1013.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 1:44 pm
Operator : JMW
Sample : AA64746-CAL7
Misc :
ALS Vial : 12 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 13:49:45 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.639	2.809	119.0E6	15003	242.529958m	NoCal	#
2)	Methane	0.000	0.000	0	0	N.D. d	N.D. d	
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

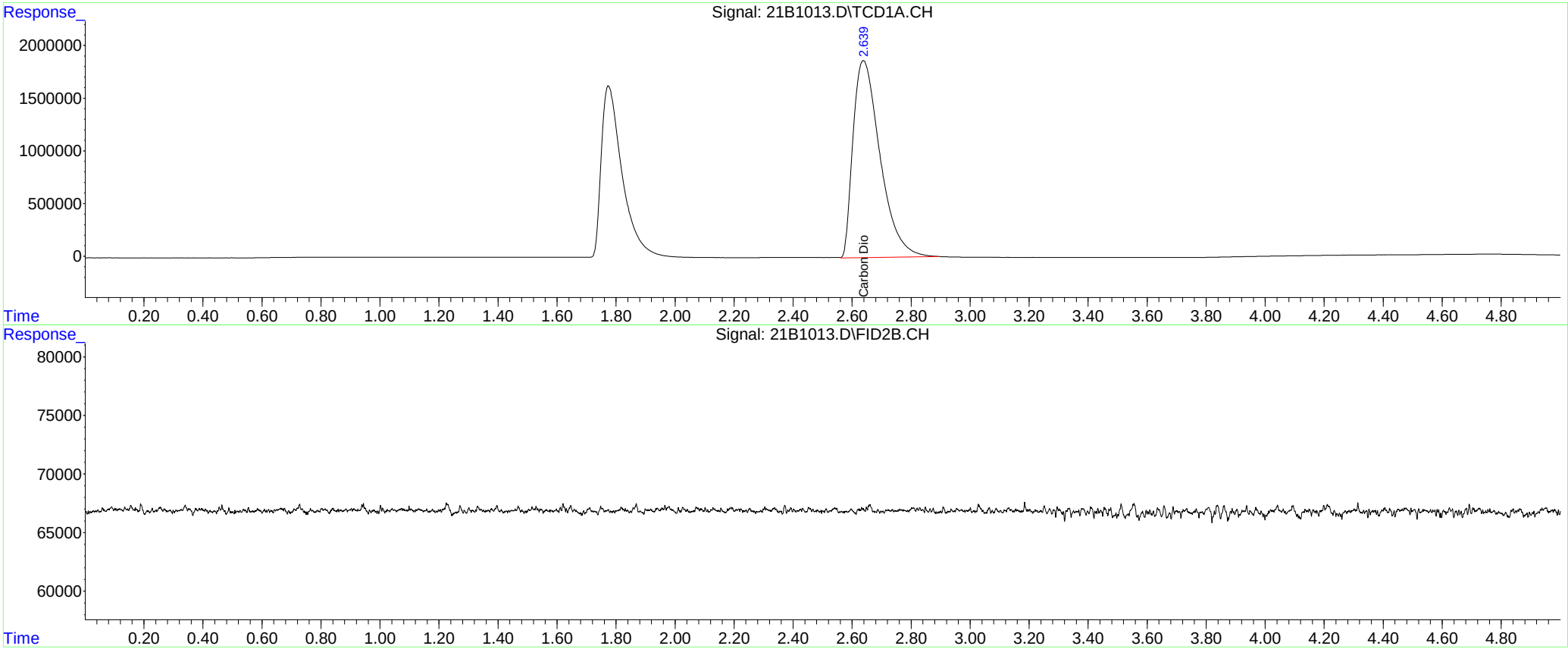
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1013.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 1:44 pm
Operator : JMW
Sample : AA64746-CAL7
Misc :
ALS Vial : 12 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 13:49:45 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1014.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 2:12 pm
Operator : JMW
Sample : AA64746-CAL8
Misc :
ALS Vial : 13 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 14:17:10 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L
	Target Compounds						
1)	Carbon Di...	0.000	0.000	0	0	N.D. d	N.D. d
2)	Methane	0.000	1.965	0	181034	N.D.	0.001606 #
3)	Ethene	3.714	3.751	30553	80262	NoCal	0.001081m#
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d
5)	Ethane	4.703f	4.684	4428569	203399	NoCal	0.002113m#

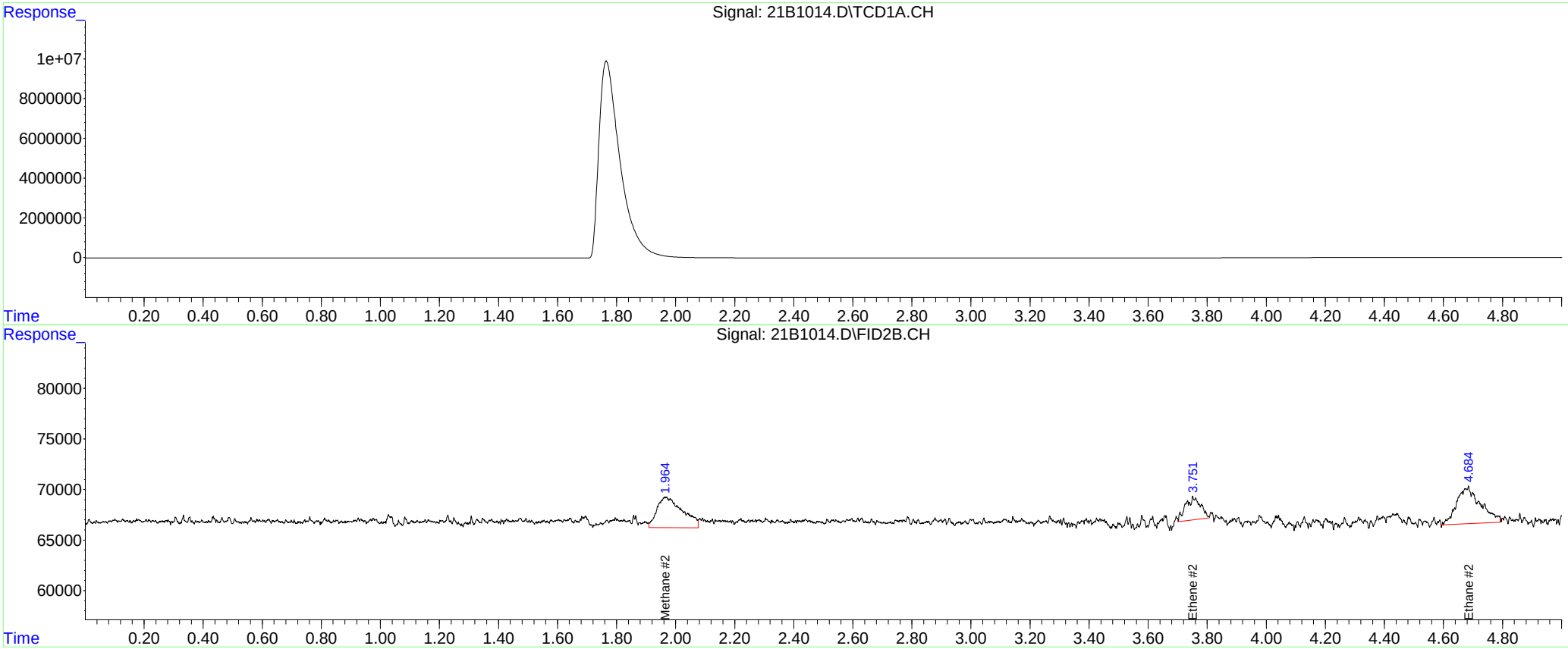
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1014.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 2:12 pm
Operator : JMW
Sample : AA64746-CAL8
Misc :
ALS Vial : 13 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 14:17:10 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1015.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 2:27 pm
Operator : JMW
Sample : AA64746-CAL9
Misc :
ALS Vial : 14 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 14:33:01 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L
	Target Compounds						
1)	Carbon Di...	0.000	0.000	0	0	N.D. d	N.D. d
2)	Methane	0.000	1.966	0	1139304	N.D.	0.010110 #
3)	Ethene	3.717	3.745	47257	1295547	NoCal	0.017453 #
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d
5)	Ethane	4.673f	4.677	1570170	1887916	NoCal	0.019615 #

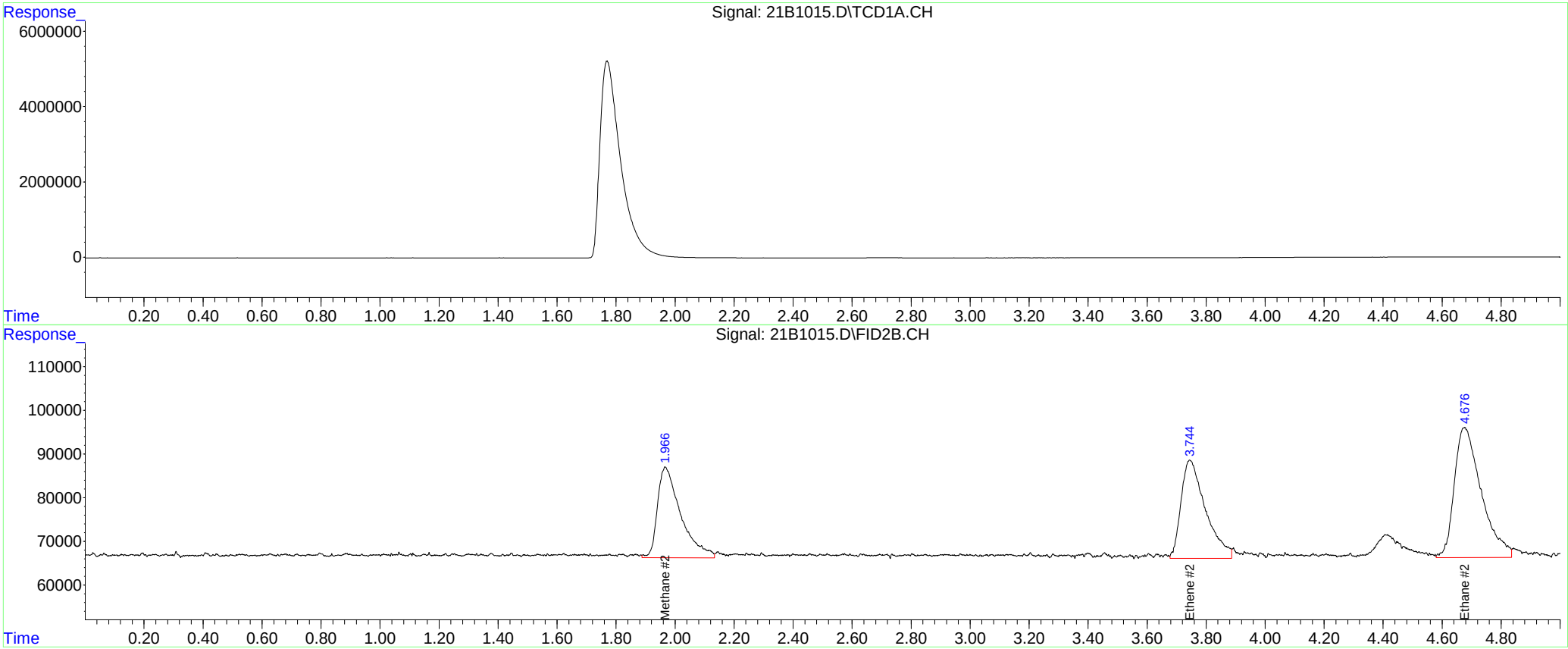
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1015.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 2:27 pm
Operator : JMW
Sample : AA64746-CAL9
Misc :
ALS Vial : 14 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 14:33:01 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1017.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 2:59 pm
Operator : JMW
Sample : AA64746-CALB
Misc :
ALS Vial : 16 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 15:04:46 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L
	Target Compounds						
1)	Carbon Di...	0.000	0.000	0	0	N.D. d	N.D. d
2)	Methane	0.000	1.966	0	11054062	N.D.	0.098092 #
3)	Ethene	3.715	3.743	419320	13215084	NoCal	0.178025 #
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d
5)	Ethane	4.644	4.672	2626416	19514566	NoCal	0.202749 #

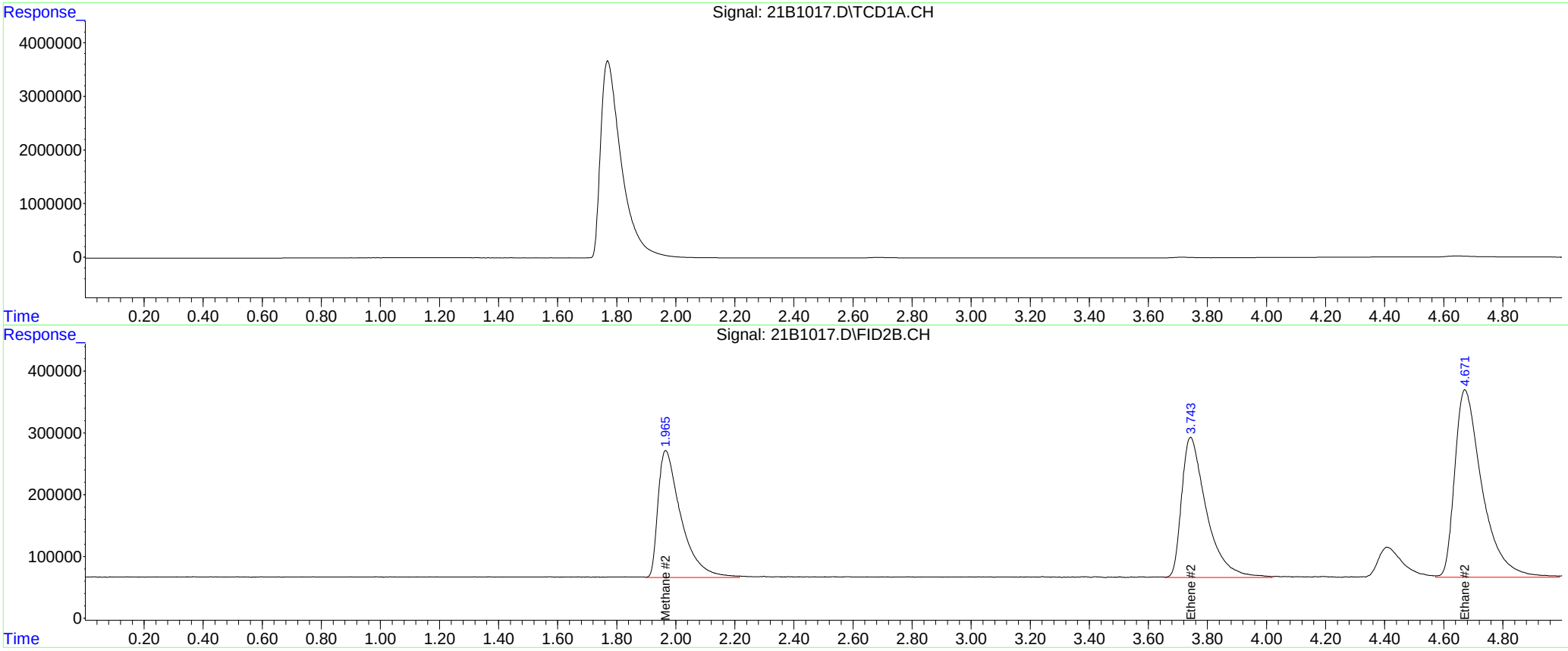
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1017.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 2:59 pm
Operator : JMW
Sample : AA64746-CALB
Misc :
ALS Vial : 16 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 15:04:46 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1018.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 3:15 pm
Operator : JMW
Sample : AA64746-CALC
Misc :
ALS Vial : 17 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 15:20:37 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L
	Target Compounds						
1)	Carbon Di...	0.000	0.000	0	0	N.D. d	N.D. d
2)	Methane	0.000	1.966	0	21984154	N.D.	0.195084 #
3)	Ethene	3.714	3.742	1110301	25639711	NoCal	0.345401 #
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d
5)	Ethane	4.642	4.669	3349236	37223535	NoCal	0.386739 #

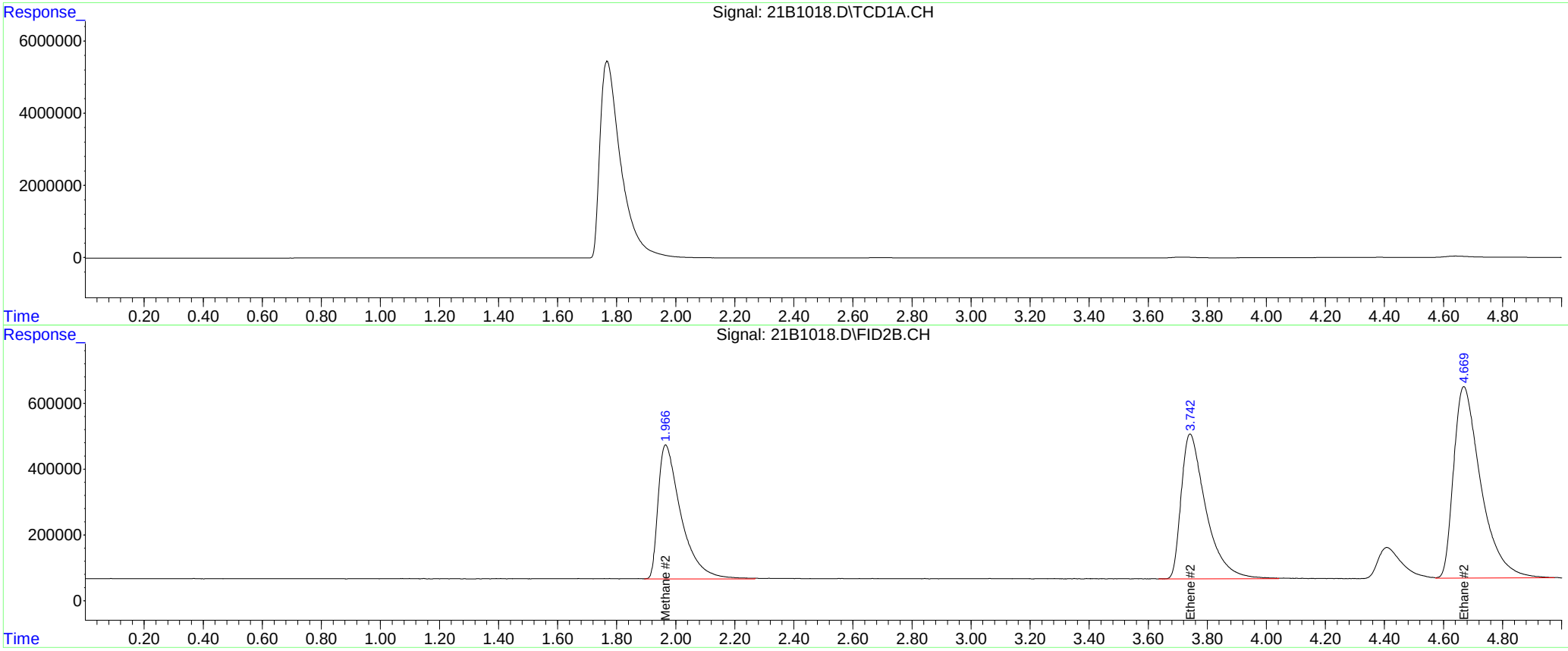
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1018.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 3:15 pm
Operator : JMW
Sample : AA64746-CALC
Misc :
ALS Vial : 17 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 15:20:37 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1019.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 3:31 pm
Operator : JMW
Sample : AA64746-CALD
Misc :
ALS Vial : 18 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 15:36:28 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L
	Target Compounds						
1)	Carbon Di...	0.000	0.000	0	0	N.D. d	N.D. d
2)	Methane	0.000	1.965	0	40635190	N.D.	0.360590 #
3)	Ethene	3.710	3.739	2107715	48394197	NoCal	0.651934 #
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d
5)	Ethane	4.635f	4.662f	4855540	70606275	NoCal	0.733574 #

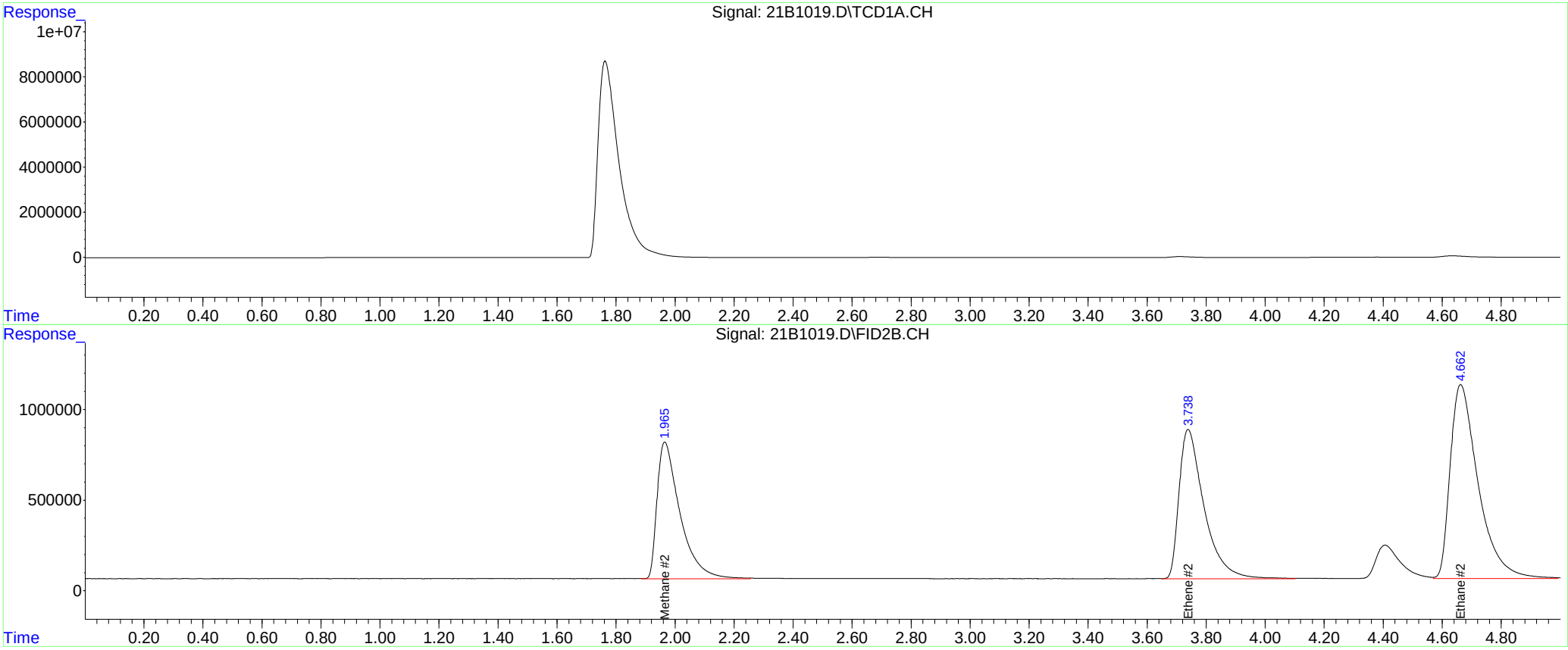
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1019.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 3:31 pm
Operator : JMW
Sample : AA64746-CALD
Misc :
ALS Vial : 18 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 15:36:28 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1020.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 3:47 pm
Operator : JMW
Sample : AA64746-CALE
Misc :
ALS Vial : 19 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 15:52:21 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L
	Target Compounds						
1)	Carbon Di...	0.000	0.000	0	0	N.D. d	N.D. d
2)	Methane	0.000	1.964	0	83504389	N.D.	0.741005 #
3)	Ethene	3.704f	3.732f	4771370	100.5E6	NoCal	1.353770 #
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d
5)	Ethane	4.621f	4.648f	8808275	145.4E6	NoCal	1.510984m#

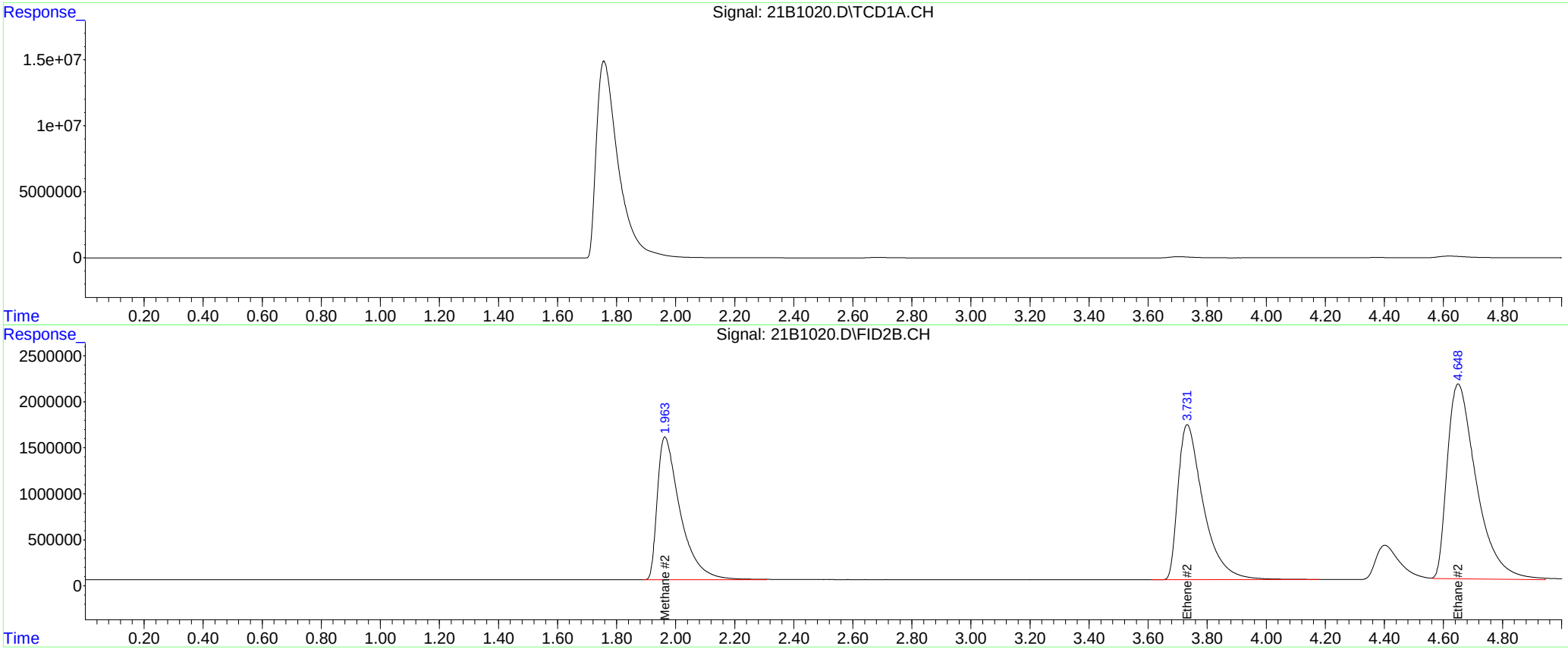
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1020.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 3:47 pm
Operator : JMW
Sample : AA64746-CALE
Misc :
ALS Vial : 19 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 15:52:21 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1021.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 4:03 pm
Operator : JMW
Sample : AA64746-CAL3
Misc :
ALS Vial : 20 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 16:08:13 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.680	2.802	5417580	12122	11.039573m	NoCal	#
2)	Methane	0.000	0.000	0	0	N.D. d	N.D. d	
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

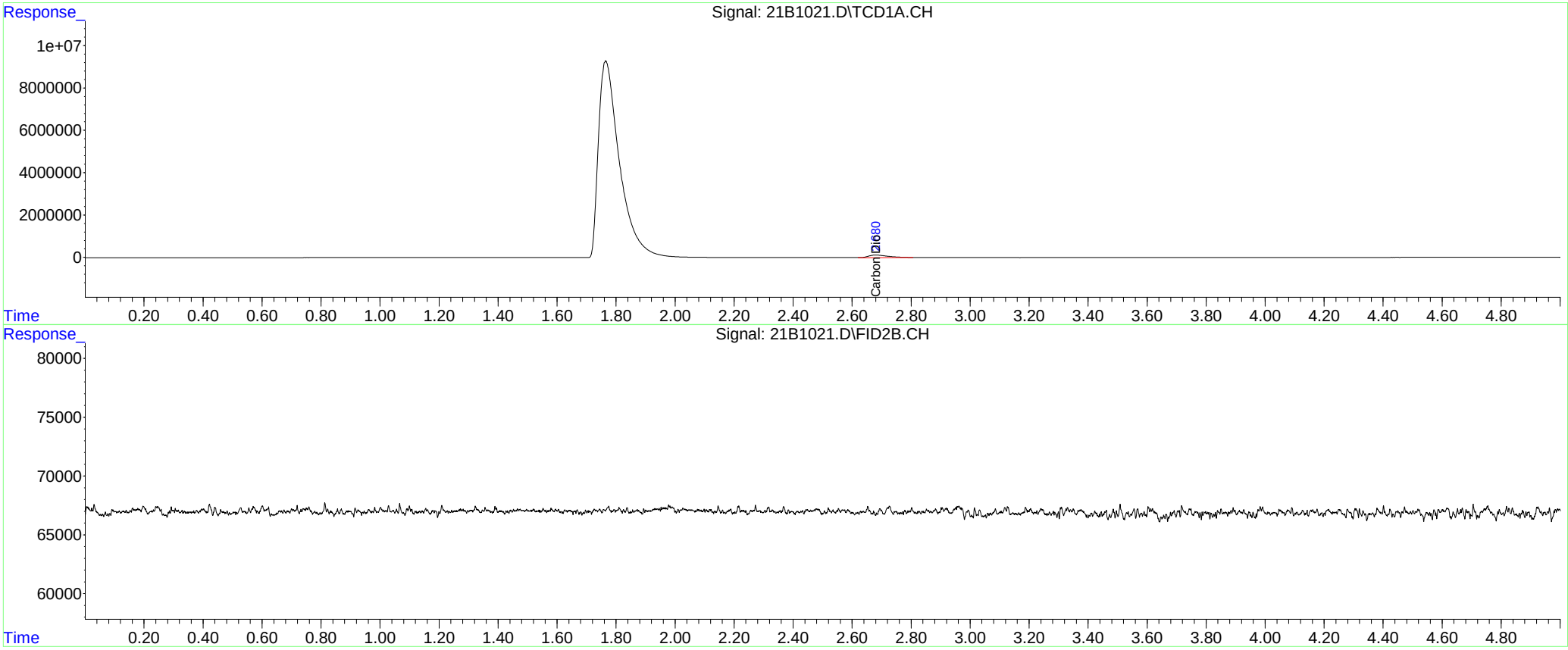
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1021.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 4:03 pm
Operator : JMW
Sample : AA64746-CAL3
Misc :
ALS Vial : 20 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 16:08:13 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1022.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 4:18 pm
Operator : JMW
Sample : AA64746-CALA
Misc :
ALS Vial : 21 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 16:24:06 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L
	Target Compounds						
1)	Carbon Di...	0.000	0.000	0	0	N.D. d	N.D. d
2)	Methane	0.000	1.966	0	4301086	N.D.	0.038167 #
3)	Ethene	3.714	3.744	193748	5048642	NoCal	0.068012 #
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d
5)	Ethane	4.651	4.675	1310372	7555534	NoCal	0.078499 #

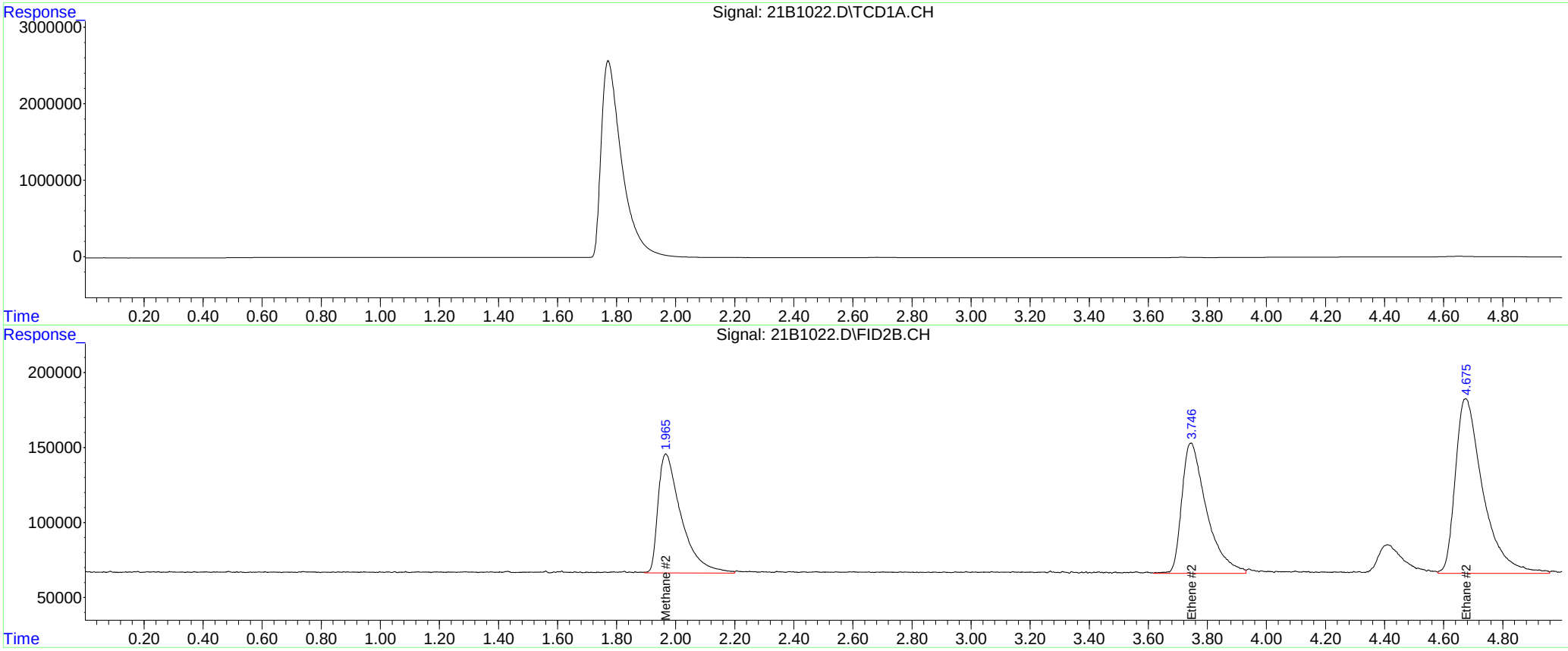
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1022.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 4:18 pm
Operator : JMW
Sample : AA64746-CALA
Misc :
ALS Vial : 21 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 16:24:06 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1023.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 5:03 pm
Operator : JMW
Sample : AA64746-SCV1
Misc :
ALS Vial : 22 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 02 09:24:15 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.669	2.787	28390945	13805	44.838529	NoCal	#
2)	Methane	0.000	1.966	0	20471112	N.D.	0.170741	#
3)	Ethene	3.713	3.741	1131291	25114717	NoCal	0.314833	#
4)	Ethyne	4.378	4.409	534141	5227695	NoCal	NoCal	
5)	Ethane	4.639	4.668	2516430	36504007	NoCal	0.311984	#

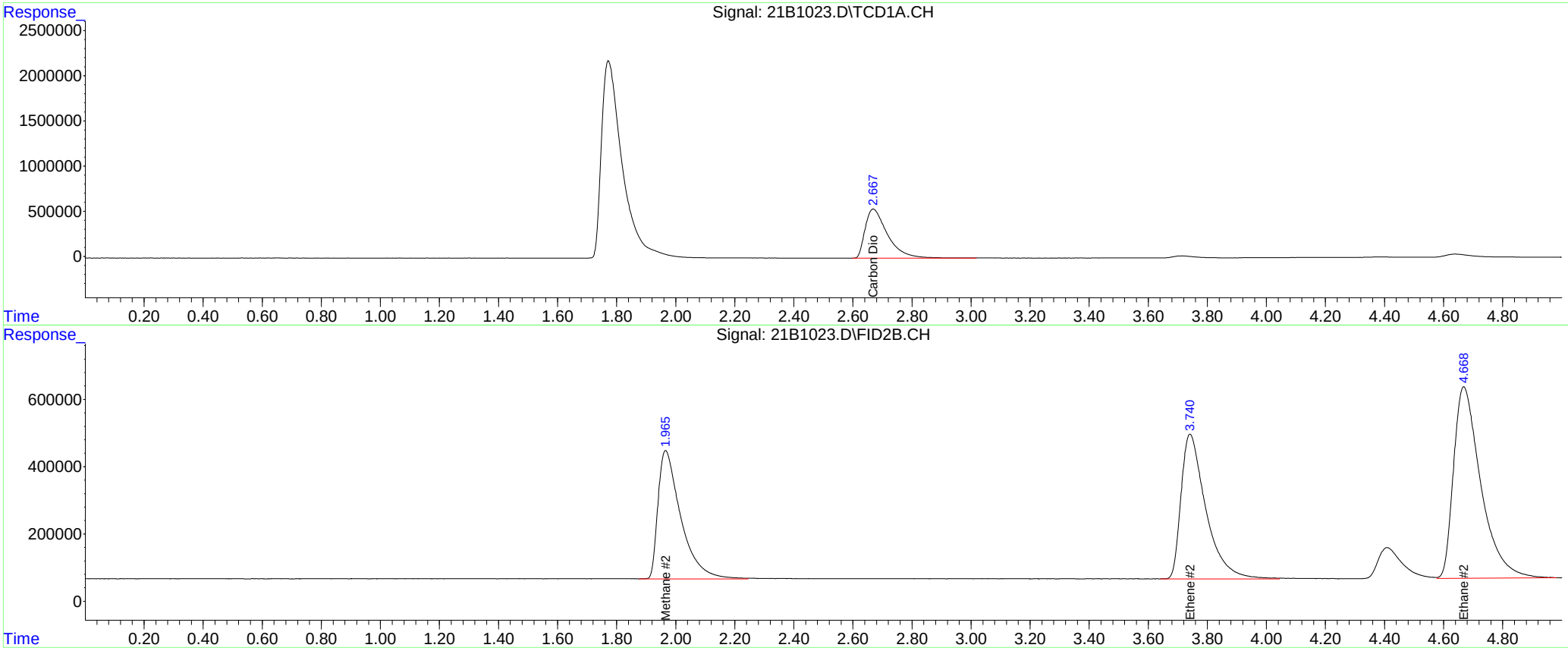
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1023.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 5:03 pm
Operator : JMW
Sample : AA64746-SCV1
Misc :
ALS Vial : 22 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 02 09:24:15 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



TETRA TECH ISG
TtEGS, Information Systems Group

Completion Ticket

On 8/20/2021 at 1:13 PM the following files were submitted to Tetra Tech by kdylnicki@encolabs.com with ENCO:

TE016AE05483A1.txt, TE016AE05483A3.txt

If you need to identify this session at a later date refer to Ticket Key:

2021820_624587146_ledd_ENCO

You may print this page by clicking on the "Print This Page" button

Thank you for using the Data Checker, to upload more files click the "Upload/Check Files" link on navigation menu.

Print this Page Back To Upload

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I Lori S. Mangrum, as the designated Quality Assurance Officer, hereby attest that all electronic deliverables have been thoroughly reviewed and are in agreement with the associated hardcopy data. The enclosed electronic files have been reviewed for accuracy (including significant figures), completeness and format. The laboratory will be responsible for any labor time necessary to correct enclosed electronic deliverables that have been found to be in error. I can be reached at (407) 826-5314 if there are any questions or problems with the enclosed electronic deliverables.

Signature:_____ Title: Quality Assurance Manager Date: August 25, 2021

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ENCO Laboratories

Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Tuesday, August 3, 2021
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AE05483

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Tuesday, July 27, 2021.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

www.encolabs.com

Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Client PM: Alex Murphy
Project Number: 112G08970
ENCO Project ID: AE05483
SDG: AE05483-TE016

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling and processing will be discussed in the Remarks section below.

Remarks

List of instruments used:

Analytical Method / Preparation Method	SOP Reference Instrument
EPA 8260D / EPA_5030B_MS	OVGCMS5
RSK 175	OVGCFID2

Analysis: EPA 8260D

Manual integrations were performed on samples associated with EPA 8260D. All data & explanations are included in the raw data section of the report

Affected Samples: AA67540-CCV1, RCA-MW0002-032.5-20210726 [AE05483-01], CRCA-MW0018-058.0-20210726 [AE05483-02], CRCA-MW0013-027.5-20210726 [AE05483-03], CRCA-MW0012-027.5-20210726 [AE05483-04], CRCA-MW0015-027.5-20210726 [AE05483-05], CRCA-MW0031-058.0-20210726 [AE05483-06], CRCA-MW0019-058.0-20210726 [AE05483-07]
The associated calibration verification standard for bromomethane and dichlorodifluoromethane exhibited high bias. Analytes not detected in the sample.

Affected Batch: 1G28012
Due to instrument error the matrix spike duplicate was not analyzed.

Affected Samples: AA67540-CCV1
The continuing calibration verification standard exhibited low bias for chloroethane; the associated sample had ND (non-detect) results, but sensitivity was verified by analyzing a standard with a concentration equivalent to the reporting limit.

Affected Samples: AA66932-SCV1
Recovery for carbon disulfide and dichlorodifluoromethane was outside acceptance limits. Analyte was not detected in the samples.

Analysis: RSK 175

Manual integrations were performed on samples associated with RSK 175. All data & explanations are included in the raw data section of the report

Affected Samples: CCRCA-MW0018-058.0-20210726 [AE05483-02]
Result for methane was above the calibration range of the instrument. Sample was reanalyzed at a dilution.

Affected Samples: CRCA-MW0019-058.0-20210726 [AE05483-07], 1G28011-DUP1
Precision between duplicate samples was outside acceptance limits for methane.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Kaitlin Dylnicki
Project Manager

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-MW0002-032.5-20210726 **Lab ID: AE05483-01** **Sampled: 07/26/21 09:25** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	08/09/21	07/28/21 08:53	07/28/21 10:16

Client ID: CRCA-MW0018-058.0-20210726 **Lab ID: AE05483-02** **Sampled: 07/26/21 10:00** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	08/09/21	07/28/21 08:53	07/28/21 10:44
RSK 175	Same	08/09/21	07/28/21 00:00	07/28/21 11:22

Client ID: CRCA-MW0018-058.0-20210726 **Lab ID: AE05483-02RE1** **Sampled: 07/26/21 10:00** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	08/09/21	07/28/21 00:00	07/28/21 13:15

Client ID: CRCA-MW0013-027.5-20210726 **Lab ID: AE05483-03** **Sampled: 07/26/21 10:40** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	08/09/21	07/28/21 08:53	07/28/21 11:12

Client ID: CRCA-MW0012-027.5-20210726 **Lab ID: AE05483-04** **Sampled: 07/26/21 11:15** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	08/09/21	07/28/21 08:53	07/28/21 11:40

Client ID: CRCA-MW0015-027.5-20210726 **Lab ID: AE05483-05** **Sampled: 07/26/21 12:25** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	08/09/21	07/28/21 08:53	07/28/21 12:08

Client ID: CRCA-MW0031-058.0-20210726 **Lab ID: AE05483-06** **Sampled: 07/26/21 13:15** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	08/09/21	07/28/21 08:53	07/28/21 12:37
RSK 175	Same	08/09/21	07/28/21 00:00	07/28/21 11:38

Client ID: CRCA-MW0019-058.0-20210726 **Lab ID: AE05483-07** **Sampled: 07/26/21 14:00** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	08/09/21	07/28/21 08:53	07/28/21 13:05
RSK 175	Same	08/09/21	07/28/21 00:00	07/28/21 12:14

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-MW0002-032.5-20210726 **Lab ID:** AE05483-01

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
trans-1,2-Dichloroethene	0.73	I	0.73	2.5	ug/L	EPA 8260D	
Vinyl chloride	7.4		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0018-058.0-20210726 **Lab ID:** AE05483-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethene	0.00842		0.00510	0.00600	mg/L	RSK 175	
Vinyl chloride	55		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0018-058.0-20210726 **Lab ID:** AE05483-02RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	1.41		0.0600	0.0750	mg/L	RSK 175	

Client ID: CRCA-MW0013-027.5-20210726 **Lab ID:** AE05483-03

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	1.4	I	0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0031-058.0-20210726 **Lab ID:** AE05483-06

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	0.582		0.00400	0.00500	mg/L	RSK 175	
Vinyl chloride	18		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0019-058.0-20210726 **Lab ID:** AE05483-07

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	0.203		0.00400	0.00500	mg/L	RSK 175	QM-12
Vinyl chloride	1.4	I	0.71	2.5	ug/L	EPA 8260D	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0002-032.5-20210726 **Lab Sample ID:** AE05483-01 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 09:25 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1G28012	EPA 8260D	07/28/21 10:16	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 10:16	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
trans-1,2-Dichloroethene [156-60-5]^	**0.73**	I	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0002-032.5-20210726 **Lab Sample ID:** AE05483-01 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 09:25 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Vinyl chloride [75-01-4]^	**7.4**		ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 10:16	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*50*	*1*	*50.0*	*100 %*	*41-142*	*1G28012*	*EPA 8260D*	*07/28/21 10:16*	*kkw*	
Dibromofluoromethane	*51*	*1*	*50.0*	*102 %*	*53-146*	*1G28012*	*EPA 8260D*	*07/28/21 10:16*	*kkw*	
Toluene-d8	*52*	*1*	*50.0*	*104 %*	*41-146*	*1G28012*	*EPA 8260D*	*07/28/21 10:16*	*kkw*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0018-058.0-20210726 **Lab Sample ID:** AE05483-02 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 10:00 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1G28012	EPA 8260D	07/28/21 10:44	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 10:44	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0018-058.0-20210726 **Lab Sample ID:** AE05483-02 **Received:** 07/27/21 15:00
Matrix: Ground Water **Sampled:** 07/26/21 10:00 **Work Order:** AE05483
Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Vinyl chloride [75-01-4]^	**55**		ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 10:44	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*51*	*1*	*50.0*	*102 %*	*41-142*	*1G28012*	*EPA 8260D*	*07/28/21 10:44*	*kkw*	
Dibromofluoromethane	*53*	*1*	*50.0*	*106 %*	*53-146*	*1G28012*	*EPA 8260D*	*07/28/21 10:44*	*kkw*	
Toluene-d8	*51*	*1*	*50.0*	*102 %*	*41-146*	*1G28012*	*EPA 8260D*	*07/28/21 10:44*	*kkw*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1G28011	RSK 175	07/28/21 11:22	jmw	
Ethene [74-85-1]^	**0.00842**		mg/L	1	0.00510	0.00600	1G28011	RSK 175	07/28/21 11:22	jmw	
Methane [74-82-8]^	**1.41**		mg/L	15	0.0600	0.0750	1G28011	RSK 175	07/28/21 13:15	jmw	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0013-027.5-20210726 **Lab Sample ID:** AE05483-03 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 10:40 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1G28012	EPA 8260D	07/28/21 11:12	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 11:12	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0013-027.5-20210726 **Lab Sample ID:** AE05483-03 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 10:40 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Vinyl chloride [75-01-4]^	**1.4**	I	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 11:12	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*50*	*1*	*50.0*	*100 %*	*41-142*	*1G28012*	*EPA 8260D*	*07/28/21 11:12*	*kkw*	
Dibromofluoromethane	*51*	*1*	*50.0*	*102 %*	*53-146*	*1G28012*	*EPA 8260D*	*07/28/21 11:12*	*kkw*	
Toluene-d8	*51*	*1*	*50.0*	*102 %*	*41-146*	*1G28012*	*EPA 8260D*	*07/28/21 11:12*	*kkw*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0012-027.5-20210726 **Lab Sample ID:** AE05483-04 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 11:15 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1G28012	EPA 8260D	07/28/21 11:40	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 11:40	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0012-027.5-20210726 **Lab Sample ID:** AE05483-04 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 11:15 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 11:40	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*50*	*1*	*50.0*	*99 %*	*41-142*	*1G28012*	*EPA 8260D*	*07/28/21 11:40*	*kkw*	
Dibromofluoromethane	*51*	*1*	*50.0*	*102 %*	*53-146*	*1G28012*	*EPA 8260D*	*07/28/21 11:40*	*kkw*	
Toluene-d8	*52*	*1*	*50.0*	*103 %*	*41-146*	*1G28012*	*EPA 8260D*	*07/28/21 11:40*	*kkw*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0015-027.5-20210726 **Lab Sample ID:** AE05483-05 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 12:25 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1G28012	EPA 8260D	07/28/21 12:08	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 12:08	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0015-027.5-20210726 **Lab Sample ID:** AE05483-05 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 12:25 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 12:08	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*49*	*1*	*50.0*	*99 %*	*41-142*	*1G28012*	*EPA 8260D*	*07/28/21 12:08*	*kkw*	
Dibromofluoromethane	*51*	*1*	*50.0*	*101 %*	*53-146*	*1G28012*	*EPA 8260D*	*07/28/21 12:08*	*kkw*	
Toluene-d8	*51*	*1*	*50.0*	*102 %*	*41-146*	*1G28012*	*EPA 8260D*	*07/28/21 12:08*	*kkw*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0031-058.0-20210726 **Lab Sample ID:** AE05483-06 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 13:15 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1G28012	EPA 8260D	07/28/21 12:37	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 12:37	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	

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ANALYTICAL RESULTS

Description: CRCA-MW0031-058.0-20210726 **Lab Sample ID:** AE05483-06 **Received:** 07/27/21 15:00
Matrix: Ground Water **Sampled:** 07/26/21 13:15 **Work Order:** AE05483
Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Vinyl chloride [75-01-4]^	**18**		ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 12:37	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*51*	*1*	*50.0*	*102 %*	*41-142*	*1G28012*	*EPA 8260D*	*07/28/21 12:37*	*kkw*	
Dibromofluoromethane	*51*	*1*	*50.0*	*101 %*	*53-146*	*1G28012*	*EPA 8260D*	*07/28/21 12:37*	*kkw*	
Toluene-d8	*52*	*1*	*50.0*	*104 %*	*41-146*	*1G28012*	*EPA 8260D*	*07/28/21 12:37*	*kkw*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1G28011	RSK 175	07/28/21 11:38	jmw	
Ethene [74-85-1]^	0.00510	U	mg/L	1	0.00510	0.00600	1G28011	RSK 175	07/28/21 11:38	jmw	
Methane [74-82-8]^	**0.582**		mg/L	1	0.00400	0.00500	1G28011	RSK 175	07/28/21 11:38	jmw	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0019-058.0-20210726 **Lab Sample ID:** AE05483-07 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 14:00 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1G28012	EPA 8260D	07/28/21 13:05	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 13:05	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	

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ANALYTICAL RESULTS

Description: CRCA-MW0019-058.0-20210726 **Lab Sample ID:** AE05483-07 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 14:00 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Vinyl chloride [75-01-4]^	**1.4**	I	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 13:05	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*50*	*1*	*50.0*	*100 %*	*41-142*	*1G28012*	*EPA 8260D*	*07/28/21 13:05*	*kkw*	
Dibromofluoromethane	*51*	*1*	*50.0*	*102 %*	*53-146*	*1G28012*	*EPA 8260D*	*07/28/21 13:05*	*kkw*	
Toluene-d8	*52*	*1*	*50.0*	*104 %*	*41-146*	*1G28012*	*EPA 8260D*	*07/28/21 13:05*	*kkw*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1G28011	RSK 175	07/28/21 12:14	jmw	
Ethene [74-85-1]^	0.00510	U	mg/L	1	0.00510	0.00600	1G28011	RSK 175	07/28/21 12:14	jmw	
Methane [74-82-8]^	**0.203**		mg/L	1	0.00400	0.00500	1G28011	RSK 175	07/28/21 12:14	jmw	QM-12

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1G28012 - EPA 5030B_MS

Blank (1G28012-BLK1) Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 09:48

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1G28012 - EPA 5030B_MS - Continued

Blank (1G28012-BLK1) Continued Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 09:48

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*50*			*ug/L*	*50.0*		*99*	*41-142*			
Dibromofluoromethane	*49*	*I*		*ug/L*	*50.0*		*99*	*53-146*			
Toluene-d8	*51*			*ug/L*	*50.0*		*103*	*41-146*			

LCS (1G28012-BS1) Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 08:52

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	22		2.5	ug/L	20.0		110	57-148			
1,1,2,2-Tetrachloroethane	20		2.5	ug/L	20.0		102	60-139			
1,1,2-Trichloroethane	20		2.5	ug/L	20.0		101	57-141			
1,1-Dichloroethane	21		2.5	ug/L	20.0		107	57-142			
1,1-Dichloroethene	21		2.5	ug/L	20.0		105	47-139			
1,2,4-Trichlorobenzene	27		2.5	ug/L	20.0		133	52-159			
1,2-Dibromo-3-chloropropane	23		2.5	ug/L	20.0		114	48-150			
1,2-Dibromoethane	20		2.5	ug/L	20.0		98	57-140			
1,2-Dichlorobenzene	20		2.5	ug/L	20.0		100	63-131			
1,2-Dichloroethane	19		2.5	ug/L	20.0		93	50-156			
1,2-Dichloropropane	20		2.5	ug/L	20.0		98	61-133			
1,3-Dichlorobenzene	22		2.5	ug/L	20.0		108	66-129			
1,4-Dichlorobenzene	21		2.5	ug/L	20.0		105	65-133			
2-Butanone	60		12	ug/L	50.0		119	10-180			
2-Hexanone	52		12	ug/L	50.0		104	12-180			
4-Methyl-2-pentanone	52		12	ug/L	50.0		103	19-180			
Acetone	51		25	ug/L	50.0		102	10-180			
Benzene	20		2.5	ug/L	20.0		102	56-136			
Bromodichloromethane	21		2.5	ug/L	20.0		103	58-135			
Bromoform	18		2.5	ug/L	20.0		91	46-148			
Bromomethane	14		2.5	ug/L	20.0		68	10-173			
Carbon disulfide	23		12	ug/L	20.0		117	43-153			
Carbon Tetrachloride	18		2.5	ug/L	20.0		91	54-156			
Chlorobenzene	20		2.5	ug/L	20.0		102	51-139			
Chloroethane	18		2.5	ug/L	20.0		92	27-180			
Chloroform	21		2.5	ug/L	20.0		106	58-139			
Chloromethane	20		2.5	ug/L	20.0		98	33-154			
cis-1,2-Dichloroethene	22		2.5	ug/L	20.0		108	56-128			
cis-1,3-Dichloropropene	20		2.5	ug/L	20.0		98	64-128			
Cyclohexane	22		2.5	ug/L	20.0		109	70-130			
Dibromochloromethane	19		2.5	ug/L	20.0		93	50-140			
Dichlorodifluoromethane	18		2.5	ug/L	20.0		88	10-180			
Ethylbenzene	21		2.5	ug/L	20.0		103	63-133			
Freon 113	19		2.5	ug/L	20.0		97	47-173			
Isopropylbenzene	19		2.5	ug/L	20.0		96	60-132			
m,p-Xylenes	41		5.0	ug/L	40.0		101	64-133			
Methyl acetate	22		2.5	ug/L	20.0		108	70-130			
Methyl cyclohexane	20		2.5	ug/L	20.0		99	70-130			
Methylene Chloride	21		12	ug/L	20.0		105	43-142			
Methyl-tert-Butyl Ether	21		2.5	ug/L	20.0		106	51-145			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1G28012 - EPA 5030B_MS - Continued

LCS (1G28012-BS1) Continued Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 08:52

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
o-Xylene	20		2.5	ug/L	20.0		100	61-129			
Styrene	19		2.5	ug/L	20.0		97	59-136			
Tetrachloroethene	20		2.5	ug/L	20.0		101	60-147			
Toluene	20		2.5	ug/L	20.0		100	64-131			
trans-1,2-Dichloroethene	20		2.5	ug/L	20.0		102	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0		107	65-149			
Trichloroethene	20		2.5	ug/L	20.0		101	62-135			
Trichlorofluoromethane	20		2.5	ug/L	20.0		98	56-155			
Vinyl chloride	19		2.5	ug/L	20.0		94	20-167			
4-Bromofluorobenzene	*50*			*ug/L*	*50.0*		*100*	*41-142*			
Dibromofluoromethane	*52*			*ug/L*	*50.0*		*105*	*53-146*			
Toluene-d8	*51*			*ug/L*	*50.0*		*103*	*41-146*			

Matrix Spike (1G28012-MS1) Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 19:08

Source: AE05483-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	23		2.5	ug/L	20.0	0.80 U	113	57-148			
1,1,2,2-Tetrachloroethane	20		2.5	ug/L	20.0	0.54 U	101	60-139			
1,1,2-Trichloroethane	20		2.5	ug/L	20.0	0.76 U	102	57-141			
1,1-Dichloroethane	22		2.5	ug/L	20.0	0.62 U	112	57-142			
1,1-Dichloroethene	23		2.5	ug/L	20.0	0.94 U	113	47-139			
1,2,4-Trichlorobenzene	23		2.5	ug/L	20.0	0.70 U	116	52-159			
1,2-Dibromo-3-chloropropane	22		2.5	ug/L	20.0	0.96 U	110	48-150			
1,2-Dibromoethane	19		2.5	ug/L	20.0	0.78 U	97	57-140			
1,2-Dichlorobenzene	20		2.5	ug/L	20.0	0.73 U	99	63-131			
1,2-Dichloroethane	19		2.5	ug/L	20.0	0.63 U	93	50-156			
1,2-Dichloropropane	20		2.5	ug/L	20.0	0.80 U	101	61-133			
1,3-Dichlorobenzene	21		2.5	ug/L	20.0	0.77 U	104	66-129			
1,4-Dichlorobenzene	20		2.5	ug/L	20.0	0.76 U	102	65-133			
2-Butanone	56		12	ug/L	50.0	4.5 U	113	10-180			
2-Hexanone	47		12	ug/L	50.0	2.5 U	94	12-180			
4-Methyl-2-pentanone	54		12	ug/L	50.0	2.5 U	108	19-180			
Acetone	45		25	ug/L	50.0	10 U	90	10-180			
Benzene	22		2.5	ug/L	20.0	0.71 U	110	56-136			
Bromodichloromethane	21		2.5	ug/L	20.0	0.52 U	103	58-135			
Bromoform	15		2.5	ug/L	20.0	0.75 U	74	46-148			
Bromomethane	8.3		2.5	ug/L	20.0	0.95 U	42	10-173			
Carbon disulfide	25		12	ug/L	20.0	2.5 U	125	43-153			
Carbon Tetrachloride	21		2.5	ug/L	20.0	0.94 U	106	54-156			
Chlorobenzene	22		2.5	ug/L	20.0	0.72 U	108	51-139			
Chloroethane	18		2.5	ug/L	20.0	0.98 U	92	27-180			
Chloroform	21		2.5	ug/L	20.0	0.80 U	106	58-139			
Chloromethane	17		2.5	ug/L	20.0	0.82 U	85	33-154			
cis-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.53 U	110	56-128			
cis-1,3-Dichloropropene	18		2.5	ug/L	20.0	0.59 U	92	64-128			
Cyclohexane	22		2.5	ug/L	20.0	0.93 U	111	70-130			
Dibromochloromethane	18		2.5	ug/L	20.0	0.50 U	91	50-140			
Dichlorodifluoromethane	19		2.5	ug/L	20.0	0.74 U	93	10-180			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1G28012 - EPA 5030B_MS - Continued

Matrix Spike (1G28012-MS1) Continued Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 19:08

Source: AE05483-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	21		2.5	ug/L	20.0	0.69 U	105	63-133			
Freon 113	21		2.5	ug/L	20.0	0.73 U	107	47-173			
Isopropylbenzene	21		2.5	ug/L	20.0	0.67 U	104	60-132			
m,p-Xylenes	43		5.0	ug/L	40.0	1.3 U	107	64-133			
Methyl acetate	17		2.5	ug/L	20.0	0.95 U	87	70-130			
Methyl cyclohexane	21		2.5	ug/L	20.0	0.64 U	104	70-130			
Methylene Chloride	19		12	ug/L	20.0	2.5 U	97	43-142			
Methyl-tert-Butyl Ether	19		2.5	ug/L	20.0	0.60 U	97	51-145			
o-Xylene	22		2.5	ug/L	20.0	0.53 U	110	61-129			
Styrene	20		2.5	ug/L	20.0	0.61 U	98	59-136			
Tetrachloroethene	20		2.5	ug/L	20.0	0.76 U	102	60-147			
Toluene	22		2.5	ug/L	20.0	0.72 U	110	64-131			
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.73	107	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0	0.73 U	106	65-149			
Trichloroethene	22		2.5	ug/L	20.0	0.89 U	109	62-135			
Trichlorofluoromethane	22		2.5	ug/L	20.0	0.94 U	111	56-155			
Vinyl chloride	25		2.5	ug/L	20.0	7.4	87	20-167			
4-Bromofluorobenzene	*52*			*ug/L*	*50.0*		*104*	*41-142*			
Dibromofluoromethane	*53*			*ug/L*	*50.0*		*106*	*53-146*			
Toluene-d8	*52*			*ug/L*	*50.0*		*104*	*41-146*			

Dissolved Gases by GC - Quality Control

Batch 1G28011 - Same

Blank (1G28011-BLK1) Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 10:35

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.00510	U	0.00600	mg/L							
Ethene	0.00510	U	0.00600	mg/L							
Methane	0.00400	U	0.00500	mg/L							

LCS (1G28011-BS1) Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 10:03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.322		0.00600	mg/L	0.323		100	70-130			
Ethene	0.324		0.00600	mg/L	0.302		107	70-130			
Methane	0.179		0.00500	mg/L	0.172		104	70-130			

LCS Dup (1G28011-BSD1) Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 10:19

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.326		0.00600	mg/L	0.323		101	70-130	1	30	
Ethene	0.326		0.00600	mg/L	0.302		108	70-130	0.5	30	
Methane	0.181		0.00500	mg/L	0.172		105	70-130	1	30	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Dissolved Gases by GC - Quality Control

Batch 1G28011 - Same - Continued

Duplicate (1G28011-DUP1) Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 14:03

Source: AE05483-07

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.00510	U	0.00600	mg/L		0.00510 U				30	
Ethene	0.00510	U	0.00600	mg/L		0.00510 U				30	
Methane	0.120		0.00500	mg/L		0.203			51	30	QM-12

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-12	Precision between duplicate samples was outside acceptance limits.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.

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B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported result is an estimated value.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence (85% or greater confidence) to make a “tentative identification".
Q	One or more quality control criteria failed.

AE-05483

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 2499 | PAGE 1 OF 1

PROJECT NO: 112G08570	FACILITY: KSL-CRCA	PROJECT MANAGER Alex Murphy	PHONE NUMBER (321) 292-0842	LABORATORY NAME AND CONTACT: ENCO – Kaitlin Dykiewicz
SAMPLERS (SIGNATURE) Chuck Sorden		FIELD OPERATIONS LEADER Chuck Sorden	PHONE NUMBER (321) 591-7580	ADDRESS 10775 Central Port Dr.
		CARRIER/WAYBILL NUMBER		CITY, STATE Orlando, FL

STANDARD TAT ☒
RUSH TAT ☐ ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2021	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TYPE OF ANALYSIS 8260DTLL SOM01	RSK175 MEE	COMMENTS
									G	G			
										HCl			
										4°C			
07/26	0925	CRCA-MW0002-032.5-2021	0726	30	35	GW	G	3	X				
	1000	CRCA-MW0018-058.0-2021	0726	53	63			6		X			
	1040	CRCA-MW0013-027.5-2021	0726	25	30			3					
	1115	CRCA-MW0012-027.5-2021	0726	25	30			3					
	1225	CRCA-MW0015-027.5-2021	0726	25	30			3					
	1315	CRCA-MW0031-058.0-2021	0726	53	63			6		X			
07/26	1400	CRCA-MW0019-058.0-2021	0726	53	63	GW	G	6	X	X			

1. RELINQUISHED BY	DATE	TIME	1. RECEIVED BY	DATE 7/27/21	TIME 1500
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS MDL-3331 0.3°C

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

7/27/2021

Environmental Conservation Labs, Inc.

Alex Murphy
Tetra Tech, Inc. (TE016)
11 Riverside Drive, Suite 204
Cocoa, FL 32922

Phone: (321) 636-6470
Fax: (321) 636-6473

Reference : **Sample Receipt Confirmation - *Please Review***
Project Name / Number : NASA KSC CRCA / 112G08970
Purchase Order # : 1165883

Lab Reference # : AE05483 Lab Receipt Date: 27-Jul-21 15:00
Anticipated ***(Estimated)*** Completion Date: 03-Aug-21 19:00

This is an automated notification from our laboratory information management system (LIMS), indicating the samples we have recently received and their associated analyses. Should any of the following information be in error, please contact us immediately.

Thank you for choosing Environmental Conservation Laboratories. Should any events occur that delay the processing of your samples or inhibit our ability to complete the project within the projected time frame you will be contacted.

Sincerely,

Kaitlin Dylnicki

Client: Tetra Tech, Inc. (TE016) **Project Name:** NASA KSC CRCA
Requested TAT: 5 **Project Number:** 112G08970

Analysis	TAT	Expires	Status
Sample ID: CRCA-MW0002-032.5-20210726(Lab ID: AE05483-01), Matrix: Ground Water, Sampled: 26-Jul-21 09:25 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	09-Aug-21 23:59	Received
Sample ID: CRCA-MW0018-058.0-20210726(Lab ID: AE05483-02), Matrix: Ground Water, Sampled: 26-Jul-21 10:00 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	09-Aug-21 23:59	Received
RSK175	5	09-Aug-21 23:59	Received
Sample ID: CRCA-MW0013-027.5-20210726(Lab ID: AE05483-03), Matrix: Ground Water, Sampled: 26-Jul-21 10:40 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	09-Aug-21 23:59	Received
Sample ID: CRCA-MW0012-027.5-20210726(Lab ID: AE05483-04), Matrix: Ground Water, Sampled: 26-Jul-21 11:15 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	09-Aug-21 23:59	Received
Sample ID: CRCA-MW0015-027.5-20210726(Lab ID: AE05483-05), Matrix: Ground Water, Sampled: 26-Jul-21 12:25 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	09-Aug-21 23:59	Received
Sample ID: CRCA-MW0031-058.0-20210726(Lab ID: AE05483-06), Matrix: Ground Water, Sampled: 26-Jul-21 13:15 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	09-Aug-21 23:59	Received
RSK175	5	09-Aug-21 23:59	Received
Sample ID: CRCA-MW0019-058.0-20210726(Lab ID: AE05483-07), Matrix: Ground Water, Sampled: 26-Jul-21 14:00 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	09-Aug-21 23:59	Received
RSK175	5	09-Aug-21 23:59	Received

Client: Tetra Tech, Inc. (TE016)	**Project Name:** NASA KSC CRCA
Requested TAT: 5	**Project Number:** 112G08970

Analysis Groups included in this work order

ENCO Orlando

SDG: AE05483-TE016

CLASS: 01_VOA_MS

METHOD: EPA 8260D

ANALYSES DATA PACKAGE COVER PAGE

EPA 8260D

Laboratory: ENCO Orlando

SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-MW0002-032.5-20210726	AE05483-01
CRCA-MW0018-058.0-20210726	AE05483-02
CRCA-MW0013-027.5-20210726	AE05483-03
CRCA-MW0012-027.5-20210726	AE05483-04
CRCA-MW0015-027.5-20210726	AE05483-05
CRCA-MW0031-058.0-20210726	AE05483-06
CRCA-MW0019-058.0-20210726	AE05483-07

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0002-032.5-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-01 File ID: 215GW007.D

Sampled: 07/26/21 09:25 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 10:16

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	7.4		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	J	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0002-032.5-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-01 File ID: 215GW007.D

Sampled: 07/26/21 09:25 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 10:16

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	51	102	53 - 146	
Toluene-d8	50.0	52	104	41 - 146	
4-Bromofluorobenzene	50.0	50	100	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1040767	9.857	1101889	9.851	
1,4-Difluorobenzene	2434148	10.45	2525815	10.444	
Chlorobenzene-d5	1534041	13.229	1610233	13.223	
1,4-Dichlorobenzene-d4	1160628	15.491	1271242	15.485	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0018-058.0-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-02 File ID: 215GW008.D

Sampled: 07/26/21 10:00 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 10:44

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	55		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0018-058.0-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-02 File ID: 215GW008.D

Sampled: 07/26/21 10:00 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 10:44

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	53	106	53 - 146	
Toluene-d8	50.0	51	102	41 - 146	
4-Bromofluorobenzene	50.0	51	102	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1010974	9.857	1101889	9.851	
1,4-Difluorobenzene	2428360	10.45	2525815	10.444	
Chlorobenzene-d5	1504622	13.229	1610233	13.223	
1,4-Dichlorobenzene-d4	1151894	15.491	1271242	15.485	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0013-027.5-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-03 File ID: 215GW009.D

Sampled: 07/26/21 10:40 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 11:12

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	1.4	J	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0013-027.5-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-03 File ID: 215GW009.D

Sampled: 07/26/21 10:40 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 11:12

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	51	102	53 - 146	
Toluene-d8	50.0	51	102	41 - 146	
4-Bromofluorobenzene	50.0	50	100	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1022104	9.857	1101889	9.851	
1,4-Difluorobenzene	2402398	10.45	2525815	10.444	
Chlorobenzene-d5	1514817	13.229	1610233	13.223	
1,4-Dichlorobenzene-d4	1127294	15.485	1271242	15.485	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0012-027.5-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-04 File ID: 215GW010.D

Sampled: 07/26/21 11:15 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 11:40

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0012-027.5-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-04 File ID: 215GW010.D

Sampled: 07/26/21 11:15 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 11:40

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	51	102	53 - 146	
Toluene-d8	50.0	52	103	41 - 146	
4-Bromofluorobenzene	50.0	50	99	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	990018	9.857	1101889	9.851	
1,4-Difluorobenzene	2368009	10.45	2525815	10.444	
Chlorobenzene-d5	1506429	13.229	1610233	13.223	
1,4-Dichlorobenzene-d4	1129481	15.486	1271242	15.485	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0015-027.5-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-05 File ID: 215GW011.D

Sampled: 07/26/21 12:25 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 12:08

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0015-027.5-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-05 File ID: 215GW011.D

Sampled: 07/26/21 12:25 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 12:08

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	51	101	53 - 146	
Toluene-d8	50.0	51	102	41 - 146	
4-Bromofluorobenzene	50.0	49	99	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	979486	9.857	1101889	9.851	
1,4-Difluorobenzene	2357320	10.45	2525815	10.444	
Chlorobenzene-d5	1479523	13.229	1610233	13.223	
1,4-Dichlorobenzene-d4	1121546	15.485	1271242	15.485	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0031-058.0-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-06 File ID: 215GW012.D

Sampled: 07/26/21 13:15 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 12:37

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	18		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0031-058.0-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-06 File ID: 215GW012.D

Sampled: 07/26/21 13:15 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 12:37

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	51	101	53 - 146	
Toluene-d8	50.0	52	104	41 - 146	
4-Bromofluorobenzene	50.0	51	102	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	975384	9.857	1101889	9.851	
1,4-Difluorobenzene	2333021	10.45	2525815	10.444	
Chlorobenzene-d5	1444445	13.229	1610233	13.223	
1,4-Dichlorobenzene-d4	1110125	15.491	1271242	15.485	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0019-058.0-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-07 File ID: 215GW013.D

Sampled: 07/26/21 14:00 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 13:05

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	1.4	J	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0019-058.0-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-07 File ID: 215GW013.D

Sampled: 07/26/21 14:00 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 13:05

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	51	102	53 - 146	
Toluene-d8	50.0	52	104	41 - 146	
4-Bromofluorobenzene	50.0	50	100	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	971946	9.857	1101889	9.851	
1,4-Difluorobenzene	2288770	10.45	2525815	10.444	
Chlorobenzene-d5	1447392	13.229	1610233	13.223	
1,4-Dichlorobenzene-d4	1103226	15.491	1271242	15.485	

* Values outside of QC limits

HOLDING TIME SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-MW0002-032.5-20210726	07/26/21 09:25	07/27/21 15:00	07/28/21 08:53	1.98	NA	07/28/21 10:16	2.00	14.00	
CRCA-MW0018-058.0-20210726	07/26/21 10:00	07/27/21 15:00	07/28/21 08:53	1.95	NA	07/28/21 10:44	2.00	14.00	
CRCA-MW0013-027.5-20210726	07/26/21 10:40	07/27/21 15:00	07/28/21 08:53	1.93	NA	07/28/21 11:12	2.00	14.00	
CRCA-MW0012-027.5-20210726	07/26/21 11:15	07/27/21 15:00	07/28/21 08:53	1.90	NA	07/28/21 11:40	2.00	14.00	
CRCA-MW0015-027.5-20210726	07/26/21 12:25	07/27/21 15:00	07/28/21 08:53	1.85	NA	07/28/21 12:08	2.00	14.00	
CRCA-MW0031-058.0-20210726	07/26/21 13:15	07/27/21 15:00	07/28/21 08:53	1.82	NA	07/28/21 12:37	2.00	14.00	
CRCA-MW0019-058.0-20210726	07/26/21 14:00	07/27/21 15:00	07/28/21 08:53	1.79	NA	07/28/21 13:05	2.00	14.00	

PREPARATION BATCH SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1G28012 Batch Matrix: Water Preparation: EPA 5030B_MS

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1G28012-BLK1	215GW006.D	07/28/21 00:00	
LCS	1G28012-BS1	215GW004.D	07/28/21 00:00	
CRCA-MW0002-032.5-20210726	1G28012-MS1	215GW026.D	07/28/21 00:00	
CRCA-MW0002-032.5-20210726	AE05483-01	215GW007.D	07/28/21 08:53	
CRCA-MW0018-058.0-20210726	AE05483-02	215GW008.D	07/28/21 08:53	
CRCA-MW0013-027.5-20210726	AE05483-03	215GW009.D	07/28/21 08:53	
CRCA-MW0012-027.5-20210726	AE05483-04	215GW010.D	07/28/21 08:53	
CRCA-MW0015-027.5-20210726	AE05483-05	215GW011.D	07/28/21 08:53	
CRCA-MW0031-058.0-20210726	AE05483-06	215GW012.D	07/28/21 08:53	
CRCA-MW0019-058.0-20210726	AE05483-07	215GW013.D	07/28/21 08:53	

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1G28012-BLK1	File ID:	215GW006.D
Prepared:	07/28/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	07/28/21 09:48	Instrument:	OVGCMS5		
Batch:	1G28012	Sequence:	AA67540	Calibration:	2106098

CAS NO.	COMPOUND	CONC. (ug/L)	Q
75-71-8	Dichlorodifluoromethane	0.74	U
74-87-3	Chloromethane	0.82	U
75-01-4	Vinyl chloride	0.71	U
74-83-9	Bromomethane	0.95	U
75-00-3	Chloroethane	0.98	U
75-69-4	Trichlorofluoromethane	0.94	U
76-13-1	Freon 113	0.73	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	0.94	U
75-15-0	Carbon disulfide	2.5	U
75-09-2	Methylene Chloride	2.5	U
1634-04-4	Methyl-tert-Butyl Ether	0.60	U
156-60-5	trans-1,2-Dichloroethene	0.73	U
156-59-2	cis-1,2-Dichloroethene	0.53	U
75-34-3	1,1-Dichloroethane	0.62	U
78-93-3	2-Butanone	4.5	U
67-66-3	Chloroform	0.80	U
71-55-6	1,1,1-Trichloroethane	0.80	U
79-20-9	Methyl acetate	0.95	U
110-82-7	Cyclohexane	0.93	U
108-87-2	Methyl cyclohexane	0.64	U
56-23-5	Carbon Tetrachloride	0.94	U
107-06-2	1,2-Dichloroethane	0.63	U
71-43-2	Benzene	0.71	U
79-01-6	Trichloroethene	0.89	U
78-87-5	1,2-Dichloropropane	0.80	U
75-27-4	Bromodichloromethane	0.52	U
108-10-1	4-Methyl-2-pentanone	2.5	U
591-78-6	2-Hexanone	2.5	U
10061-01-5	cis-1,3-Dichloropropene	0.59	U

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1G28012-BLK1	File ID:	215GW006.D
Prepared:	07/28/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	07/28/21 09:48	Instrument:	OVGCMS5		
Batch:	1G28012	Sequence:	AA67540	Calibration:	2106098

CAS NO.	COMPOUND	CONC. (ug/L)	Q
108-88-3	Toluene	0.72	U
10061-02-6	trans-1,3-Dichloropropene	0.73	U
79-00-5	1,1,2-Trichloroethane	0.76	U
127-18-4	Tetrachloroethene	0.76	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.78	U
108-90-7	Chlorobenzene	0.72	U
100-41-4	Ethylbenzene	0.69	U
108-38-3/106-42-3	m,p-Xylenes	1.3	U
95-47-6	o-Xylene	0.53	U
75-25-2	Bromoform	0.75	U
100-42-5	Styrene	0.61	U
98-82-8	Isopropylbenzene	0.67	U
79-34-5	1,1,2,2-Tetrachloroethane	0.54	U
120-82-1	1,2,4-Trichlorobenzene	0.70	U
541-73-1	1,3-Dichlorobenzene	0.77	U
106-46-7	1,4-Dichlorobenzene	0.76	U
95-50-1	1,2-Dichlorobenzene	0.73	U
96-12-8	1,2-Dibromo-3-chloropropane	0.96	U
1330-20-7	Xylenes (Total)	1.3	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	49	99	53 - 146	
Toluene-d8	50.0	51	103	41 - 146	
4-Bromofluorobenzene	50.0	50	99	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1058005	9.857	1101889	9.851	
1,4-Difluorobenzene	2459389	10.45	2525815	10.444	
Chlorobenzene-d5	1530623	13.229	1610233	13.223	
1,4-Dichlorobenzene-d4	1152122	15.485	1271242	15.485	

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1G28012	Laboratory ID:	1G28012-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	18	88	10 - 180
Chloromethane	20.0	20	98	33 - 154
Vinyl chloride	20.0	19	94	20 - 167
Bromomethane	20.0	14	68	10 - 173
Chloroethane	20.0	18	92	27 - 180
Trichlorofluoromethane	20.0	20	98	56 - 155
Freon 113	20.0	19	97	47 - 173
Acetone	50.0	51	102	10 - 180
1,1-Dichloroethene	20.0	21	105	47 - 139
Carbon disulfide	20.0	23	117	43 - 153
Methylene Chloride	20.0	21	105	43 - 142
Methyl-tert-Butyl Ether	20.0	21	106	51 - 145
trans-1,2-Dichloroethene	20.0	20	102	54 - 134
cis-1,2-Dichloroethene	20.0	22	108	56 - 128
1,1-Dichloroethane	20.0	21	107	57 - 142
2-Butanone	50.0	60	119	10 - 180
Chloroform	20.0	21	106	58 - 139
1,1,1-Trichloroethane	20.0	22	110	57 - 148
Methyl acetate	20.0	22	108	70 - 130
Cyclohexane	20.0	22	109	70 - 130
Methyl cyclohexane	20.0	20	99	70 - 130
Carbon Tetrachloride	20.0	18	91	54 - 156
1,2-Dichloroethane	20.0	19	93	50 - 156
Benzene	20.0	20	102	56 - 136
Trichloroethene	20.0	20	101	62 - 135
1,2-Dichloropropane	20.0	20	98	61 - 133
Bromodichloromethane	20.0	21	103	58 - 135
4-Methyl-2-pentanone	50.0	52	103	19 - 180
2-Hexanone	50.0	52	104	12 - 180
cis-1,3-Dichloropropene	20.0	20	98	64 - 128

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1G28012	Laboratory ID:	1G28012-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Toluene	20.0	20	100	64 - 131
trans-1,3-Dichloropropene	20.0	21	107	65 - 149
1,1,2-Trichloroethane	20.0	20	101	57 - 141
Tetrachloroethene	20.0	20	101	60 - 147
Dibromochloromethane	20.0	19	93	50 - 140
1,2-Dibromoethane	20.0	20	98	57 - 140
Chlorobenzene	20.0	20	102	51 - 139
Ethylbenzene	20.0	21	103	63 - 133
m,p-Xylenes	40.0	41	101	64 - 133
o-Xylene	20.0	20	100	61 - 129
Bromoform	20.0	18	91	46 - 148
Styrene	20.0	19	97	59 - 136
Isopropylbenzene	20.0	19	96	60 - 132
1,1,2,2-Tetrachloroethane	20.0	20	102	60 - 139
1,2,4-Trichlorobenzene	20.0	27	133	52 - 159
1,3-Dichlorobenzene	20.0	22	108	66 - 129
1,4-Dichlorobenzene	20.0	21	105	65 - 133
1,2-Dichlorobenzene	20.0	20	100	63 - 131
1,2-Dibromo-3-chloropropane	20.0	23	114	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0002-032.5-20210726

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1G28012
Laboratory ID: 1G28012-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0002-032.5-20210726

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	ND	19	93	10 - 180
Chloromethane	20.0	ND	17	85	33 - 154
Vinyl chloride	20.0	7.4	25	87	20 - 167
Bromomethane	20.0	ND	8.3	42	10 - 173
Chloroethane	20.0	ND	18	92	27 - 180
Trichlorofluoromethane	20.0	ND	22	111	56 - 155
Freon 113	20.0	ND	21	107	47 - 173
Acetone	50.0	ND	45	90	10 - 180
1,1-Dichloroethene	20.0	ND	23	113	47 - 139
Carbon disulfide	20.0	ND	25	125	43 - 153
Methylene Chloride	20.0	ND	19	97	43 - 142
Methyl-tert-Butyl Ether	20.0	ND	19	97	51 - 145
trans-1,2-Dichloroethene	20.0	0.73	22	107	54 - 134
cis-1,2-Dichloroethene	20.0	ND	22	110	56 - 128
1,1-Dichloroethane	20.0	ND	22	112	57 - 142
2-Butanone	50.0	ND	56	113	10 - 180
Chloroform	20.0	ND	21	106	58 - 139
1,1,1-Trichloroethane	20.0	ND	23	113	57 - 148
Methyl acetate	20.0	ND	17	87	70 - 130
Cyclohexane	20.0	ND	22	111	70 - 130
Methyl cyclohexane	20.0	ND	21	104	70 - 130
Carbon Tetrachloride	20.0	ND	21	106	54 - 156
1,2-Dichloroethane	20.0	ND	19	93	50 - 156
Benzene	20.0	ND	22	110	56 - 136
Trichloroethene	20.0	ND	22	109	62 - 135
1,2-Dichloropropane	20.0	ND	20	101	61 - 133
Bromodichloromethane	20.0	ND	21	103	58 - 135
4-Methyl-2-pentanone	50.0	ND	54	108	19 - 180
2-Hexanone	50.0	ND	47	94	12 - 180
cis-1,3-Dichloropropene	20.0	ND	18	92	64 - 128
Toluene	20.0	ND	22	110	64 - 131

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0002-032.5-20210726

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1G28012	Laboratory ID:	1G28012-MS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

Source Sample Name: CRCA-MW0002-032.5-20210726

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
trans-1,3-Dichloropropene	20.0	ND	21	106	65 - 149
1,1,2-Trichloroethane	20.0	ND	20	102	57 - 141
Tetrachloroethene	20.0	ND	20	102	60 - 147
Dibromochloromethane	20.0	ND	18	91	50 - 140
1,2-Dibromoethane	20.0	ND	19	97	57 - 140
Chlorobenzene	20.0	ND	22	108	51 - 139
Ethylbenzene	20.0	ND	21	105	63 - 133
m,p-Xylenes	40.0	ND	43	107	64 - 133
o-Xylene	20.0	ND	22	110	61 - 129
Bromoform	20.0	ND	15	74	46 - 148
Styrene	20.0	ND	20	98	59 - 136
Isopropylbenzene	20.0	ND	21	104	60 - 132
1,1,2,2-Tetrachloroethane	20.0	ND	20	101	60 - 139
1,2,4-Trichlorobenzene	20.0	ND	23	116	52 - 159
1,3-Dichlorobenzene	20.0	ND	21	104	66 - 129
1,4-Dichlorobenzene	20.0	ND	20	102	65 - 133
1,2-Dichlorobenzene	20.0	ND	20	99	63 - 131
1,2-Dibromo-3-chloropropane	20.0	ND	22	110	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA66932
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA66932-SCV1)			Lab File ID: 215FM013.D		Analyzed: 06/18/21 12:15			
Dibromofluoromethane	50.0	100	70 - 130	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	110	70 - 130	11.778	11.7795	-0.0015	+/-0.5	
4-Bromofluorobenzene	50.0	109	70 - 130	14.328	14.32875	-0.0008	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA67540
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA67540-CCV1)				Lab File ID: 215GW003.D		Analyzed: 07/28/21 08:24		
Dibromofluoromethane	50.0	104	80 - 120	9.433	9.428	0.0050	+/-0.5	
Toluene-d8	50.0	106	80 - 120	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	104	80 - 120	14.334	14.32875	0.0053	+/-0.5	
LCS (1G28012-BS1)				Lab File ID: 215GW004.D		Analyzed: 07/28/21 08:52		
Dibromofluoromethane	50.0	105	53 - 146	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	103	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	100	41 - 142	14.328	14.32875	-0.0008	+/-0.5	
Instrument RL Check (AA67540-CRL1)				Lab File ID: 215GW005.D		Analyzed: 07/28/21 09:20		
Dibromofluoromethane	50.0	102	1 - 199	9.434	9.428	0.0060	+/-0.5	
Toluene-d8	50.0	101	1 - 199	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	100	1 - 199	14.328	14.32875	-0.0008	+/-0.5	
Blank (1G28012-BLK1)				Lab File ID: 215GW006.D		Analyzed: 07/28/21 09:48		
Dibromofluoromethane	50.0	99	53 - 146	9.434	9.428	0.0060	+/-0.5	
Toluene-d8	50.0	103	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	99	41 - 142	14.328	14.32875	-0.0008	+/-0.5	
CRCA-MW0002-032.5-20210726 (AE05483-01)				Lab File ID: 215GW007.D		Analyzed: 07/28/21 10:16		
Dibromofluoromethane	50.0	102	53 - 146	9.434	9.428	0.0060	+/-0.5	
Toluene-d8	50.0	104	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	100	41 - 142	14.334	14.32875	0.0053	+/-0.5	
CRCA-MW0018-058.0-20210726 (AE05483-02)				Lab File ID: 215GW008.D		Analyzed: 07/28/21 10:44		
Dibromofluoromethane	50.0	106	53 - 146	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	102	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	102	41 - 142	14.328	14.32875	-0.0008	+/-0.5	
CRCA-MW0013-027.5-20210726 (AE05483-03)				Lab File ID: 215GW009.D		Analyzed: 07/28/21 11:12		
Dibromofluoromethane	50.0	102	53 - 146	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	102	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	100	41 - 142	14.328	14.32875	-0.0008	+/-0.5	
CRCA-MW0012-027.5-20210726 (AE05483-04)				Lab File ID: 215GW010.D		Analyzed: 07/28/21 11:40		
Dibromofluoromethane	50.0	102	53 - 146	9.434	9.428	0.0060	+/-0.5	
Toluene-d8	50.0	103	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	99	41 - 142	14.334	14.32875	0.0053	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA67540
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
CRCA-MW0015-027.5-20210726 (AE05483-05)			Lab File ID: 215GW011.D		Analyzed: 07/28/21 12:08			
Dibromofluoromethane	50.0	101	53 - 146	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	102	41 - 146	11.778	11.7795	-0.0015	+/-0.5	
4-Bromofluorobenzene	50.0	99	41 - 142	14.328	14.32875	-0.0008	+/-0.5	
CRCA-MW0031-058.0-20210726 (AE05483-06)			Lab File ID: 215GW012.D		Analyzed: 07/28/21 12:37			
Dibromofluoromethane	50.0	101	53 - 146	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	104	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	102	41 - 142	14.334	14.32875	0.0053	+/-0.5	
CRCA-MW0019-058.0-20210726 (AE05483-07)			Lab File ID: 215GW013.D		Analyzed: 07/28/21 13:05			
Dibromofluoromethane	50.0	102	53 - 146	9.434	9.428	0.0060	+/-0.5	
Toluene-d8	50.0	104	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	100	41 - 142	14.334	14.32875	0.0053	+/-0.5	
Matrix Spike (1G28012-MS1)			Lab File ID: 215GW026.D		Analyzed: 07/28/21 19:08			
Dibromofluoromethane	50.0	106	53 - 146	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	104	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	104	41 - 142	14.334	14.32875	0.0053	+/-0.5	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA66932
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA66932-CAL1)			Lab File ID: 215FM004.D			Analyzed: 06/18/21 08:05			
Pentafluorobenzene	1201889	9.857	1101889	9.851	109	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2686237	10.45	2525815	10.444	106	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1505146	13.229	1610233	13.223	93	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1176558	15.491	1271242	15.485	93	50 - 200	0.0060	+/-0.50	
Cal Standard (AA66932-CAL2)			Lab File ID: 215FM005.D			Analyzed: 06/18/21 08:32			
Pentafluorobenzene	1226065	9.857	1101889	9.851	111	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2753498	10.45	2525815	10.444	109	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1619681	13.229	1610233	13.223	101	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1248669	15.491	1271242	15.485	98	50 - 200	0.0060	+/-0.50	
Cal Standard (AA66932-CAL3)			Lab File ID: 215FM006.D			Analyzed: 06/18/21 09:00			
Pentafluorobenzene	1047198	9.857	1101889	9.851	95	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2419754	10.45	2525815	10.444	96	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1545028	13.229	1610233	13.223	96	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1320874	15.486	1271242	15.485	104	50 - 200	0.0010	+/-0.50	
Cal Standard (AA66932-CAL4)			Lab File ID: 215FM007.D			Analyzed: 06/18/21 09:28			
Pentafluorobenzene	1235637	9.857	1101889	9.851	112	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2720919	10.45	2525815	10.444	108	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1709586	13.229	1610233	13.223	106	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1365508	15.485	1271242	15.485	107	50 - 200	0.0000	+/-0.50	
Cal Standard (AA66932-CAL5)			Lab File ID: 215FM008.D			Analyzed: 06/18/21 09:56			
Pentafluorobenzene	1048667	9.857	1101889	9.851	95	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2471790	10.444	2525815	10.444	98	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1553840	13.229	1610233	13.223	96	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1230662	15.485	1271242	15.485	97	50 - 200	0.0000	+/-0.50	
Cal Standard (AA66932-CAL6)			Lab File ID: 215FM009.D			Analyzed: 06/18/21 10:24			
Pentafluorobenzene	1101889	9.851	1101889	9.851	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2525815	10.444	2525815	10.444	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1610233	13.223	1610233	13.223	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1271242	15.485	1271242	15.485	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA66932-CAL7)			Lab File ID: 215FM010.D			Analyzed: 06/18/21 10:52			
Pentafluorobenzene	1123435	9.851	1101889	9.851	102	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2544231	10.444	2525815	10.444	101	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1714182	13.229	1610233	13.223	106	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1273276	15.485	1271242	15.485	100	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA66932
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA66932-CAL8)			Lab File ID: 215FM011.D			Analyzed: 06/18/21 11:20			
Pentafluorobenzene	1129487	9.851	1101889	9.851	103	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2502919	10.444	2525815	10.444	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1697989	13.223	1610233	13.223	105	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1266610	15.485	1271242	15.485	100	50 - 200	0.0000	+/-0.50	
Secondary Cal Check (AA66932-SCV1)			Lab File ID: 215FM013.D			Analyzed: 06/18/21 12:15			
Pentafluorobenzene	1128318	9.857	1101889	9.851	102	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2499257	10.444	2525815	10.444	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1604968	13.229	1610233	13.223	100	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1259307	15.485	1271242	15.485	99	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA67540
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA67540-CCV1)			Lab File ID: 215GW003.D			Analyzed: 07/28/21 08:24			
Pentafluorobenzene	1146370	9.857	1101889	9.851	104	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2613862	10.45	2525815	10.444	103	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1696790	13.229	1610233	13.223	105	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1272980	15.491	1271242	15.485	100	50 - 200	0.0060	+/-0.50	
LCS (1G28012-BS1)			Lab File ID: 215GW004.D			Analyzed: 07/28/21 08:52			
Pentafluorobenzene	1095048	9.857	1101889	9.851	99	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2655898	10.45	2525815	10.444	105	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1705509	13.229	1610233	13.223	106	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1278565	15.485	1271242	15.485	101	50 - 200	0.0000	+/-0.50	
Instrument RL Check (AA67540-CRL1)			Lab File ID: 215GW005.D			Analyzed: 07/28/21 09:20			
Pentafluorobenzene	1105421	9.857	1101889	9.851	100	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2599785	10.45	2525815	10.444	103	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1608323	13.229	1610233	13.223	100	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1192315	15.491	1271242	15.485	94	50 - 200	0.0060	+/-0.50	
Blank (1G28012-BLK1)			Lab File ID: 215GW006.D			Analyzed: 07/28/21 09:48			
Pentafluorobenzene	1058005	9.857	1101889	9.851	96	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2459389	10.45	2525815	10.444	97	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1530623	13.229	1610233	13.223	95	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1152122	15.485	1271242	15.485	91	50 - 200	0.0000	+/-0.50	
CRCA-MW0002-032.5-20210726 (AE05483-01)			Lab File ID: 215GW007.D			Analyzed: 07/28/21 10:16			
Pentafluorobenzene	1040767	9.857	1101889	9.851	94	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2434148	10.45	2525815	10.444	96	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1534041	13.229	1610233	13.223	95	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1160628	15.491	1271242	15.485	91	50 - 200	0.0060	+/-0.50	
CRCA-MW0018-058.0-20210726 (AE05483-02)			Lab File ID: 215GW008.D			Analyzed: 07/28/21 10:44			
Pentafluorobenzene	1010974	9.857	1101889	9.851	92	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2428360	10.45	2525815	10.444	96	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1504622	13.229	1610233	13.223	93	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1151894	15.491	1271242	15.485	91	50 - 200	0.0060	+/-0.50	
CRCA-MW0013-027.5-20210726 (AE05483-03)			Lab File ID: 215GW009.D			Analyzed: 07/28/21 11:12			
Pentafluorobenzene	1022104	9.857	1101889	9.851	93	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2402398	10.45	2525815	10.444	95	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1514817	13.229	1610233	13.223	94	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1127294	15.485	1271242	15.485	89	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA67540
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
CRCA-MW0012-027.5-20210726 (AE05483-04)			Lab File ID: 215GW010.D			Analyzed: 07/28/21 11:40			
Pentafluorobenzene	990018	9.857	1101889	9.851	90	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2368009	10.45	2525815	10.444	94	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1506429	13.229	1610233	13.223	94	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1129481	15.486	1271242	15.485	89	50 - 200	0.0010	+/-0.50	
CRCA-MW0015-027.5-20210726 (AE05483-05)			Lab File ID: 215GW011.D			Analyzed: 07/28/21 12:08			
Pentafluorobenzene	979486	9.857	1101889	9.851	89	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2357320	10.45	2525815	10.444	93	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1479523	13.229	1610233	13.223	92	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1121546	15.485	1271242	15.485	88	50 - 200	0.0000	+/-0.50	
CRCA-MW0031-058.0-20210726 (AE05483-06)			Lab File ID: 215GW012.D			Analyzed: 07/28/21 12:37			
Pentafluorobenzene	975384	9.857	1101889	9.851	89	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2333021	10.45	2525815	10.444	92	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1444445	13.229	1610233	13.223	90	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1110125	15.491	1271242	15.485	87	50 - 200	0.0060	+/-0.50	
CRCA-MW0019-058.0-20210726 (AE05483-07)			Lab File ID: 215GW013.D			Analyzed: 07/28/21 13:05			
Pentafluorobenzene	971946	9.857	1101889	9.851	88	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2288770	10.45	2525815	10.444	91	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1447392	13.229	1610233	13.223	90	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1103226	15.491	1271242	15.485	87	50 - 200	0.0060	+/-0.50	
Matrix Spike (1G28012-MS1)			Lab File ID: 215GW026.D			Analyzed: 07/28/21 19:08			
Pentafluorobenzene	997249	9.856	1101889	9.851	91	50 - 200	0.0050	+/-0.50	
1,4-Difluorobenzene	2338476	10.45	2525815	10.444	93	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1494708	13.229	1610233	13.223	93	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1150265	15.491	1271242	15.485	90	50 - 200	0.0060	+/-0.50	

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA66932		
Calibration:	2106098	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA66932-TUN1	215FM003.D	06/18/21 07:34
Cal Standard	AA66932-CAL1	215FM004.D	06/18/21 08:05
Cal Standard	AA66932-CAL2	215FM005.D	06/18/21 08:32
Cal Standard	AA66932-CAL3	215FM006.D	06/18/21 09:00
Cal Standard	AA66932-CAL4	215FM007.D	06/18/21 09:28
Cal Standard	AA66932-CAL5	215FM008.D	06/18/21 09:56
Cal Standard	AA66932-CAL6	215FM009.D	06/18/21 10:24
Cal Standard	AA66932-CAL7	215FM010.D	06/18/21 10:52
Cal Standard	AA66932-CAL8	215FM011.D	06/18/21 11:20
Secondary Cal Check	AA66932-SCV1	215FM013.D	06/18/21 12:15

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA67540		
Calibration:	2106098	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA67540-CCV1	215GW003.D	07/28/21 08:24
LCS	1G28012-BS1	215GW004.D	07/28/21 08:52
Instrument RL Check	AA67540-CRL1	215GW005.D	07/28/21 09:20
Blank	1G28012-BLK1	215GW006.D	07/28/21 09:48
CRCA-MW0002-032.5-20210726	AE05483-01	215GW007.D	07/28/21 10:16
CRCA-MW0018-058.0-20210726	AE05483-02	215GW008.D	07/28/21 10:44
CRCA-MW0013-027.5-20210726	AE05483-03	215GW009.D	07/28/21 11:12
CRCA-MW0012-027.5-20210726	AE05483-04	215GW010.D	07/28/21 11:40
CRCA-MW0015-027.5-20210726	AE05483-05	215GW011.D	07/28/21 12:08
CRCA-MW0031-058.0-20210726	AE05483-06	215GW012.D	07/28/21 12:37
CRCA-MW0019-058.0-20210726	AE05483-07	215GW013.D	07/28/21 13:05
CRCA-MW0002-032.5-20210726	1G28012-MS1	215GW026.D	07/28/21 19:08

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	215FM003.D	Injection Date:	06/18/21
Instrument ID:	OVGCMS5	Injection Time:	07:34
Sequence:	AA66932	Lab Sample ID:	AA66932-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	191	PASS
96	5 - 9% of 95	7.06	PASS
173	Less than 2% of 174	0.214	PASS
174	50 - 200% of 95	52.3	PASS
175	5 - 9% of 174	5.23	PASS
176	95 - 105% of 174	95.8	PASS
177	5 - 10% of 176	6.95	PASS

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2106098
Lab File ID:	215GW003.D	Calibration Date:	06/18/21 08:08
Sequence:	AA67540	Injection Date:	07/28/21
Lab Sample ID:	AA67540-CCV1	Injection Time:	08:24

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Dichlorodifluoromethane	A	20.0	25	0.5094763	0.6361602		24	20	*
Chloromethane	A	20.0	22	0.7825336	0.8585012		12	20	
Vinyl chloride	A	20.0	21	0.6650027	0.6942239		4.4	20	
Bromomethane	A	20.0	33	0.2460614	0.2897756		63	20	*
Chloroethane	A	20.0	13	0.3880182	0.2387689		-37	20	*
Trichlorofluoromethane	A	20.0	19	0.7609833	0.7073349		-7	20	
Freon 113	A	50.0	41	0.3222191	0.2611024		-19	20	
Acetone	A	250	240	0.1924489	0.2016049		-5	20	
1,1-Dichloroethene	A	50.0	41	0.5314554	0.4331734		-19	20	
Carbon disulfide	A	250	250	1.455719	1.528085		0.90	20	
Methylene Chloride	A	50.0	45	0.6815178	0.609387		-11	20	
Methyl-tert-Butyl Ether	A	50.0	51	1.537398	1.565024		1.8	20	
trans-1,2-Dichloroethene	A	50.0	47	0.6064423	0.570055		-6	20	
cis-1,2-Dichloroethene	A	50.0	52	0.6549615	0.6817677		4.1	20	
1,1-Dichloroethane	A	50.0	49	1.152866	1.134178		-1.6	20	
2-Butanone	A	250	260	9.841208E-02	0.1039277		5.6	20	
Chloroform	A	50.0	50	1.100938	1.099845		-0.1	20	
1,1,1-Trichloroethane	A	50.0	50	0.8164118	0.8233476		0.80	20	
Methyl acetate	A	50.0	51	0.573727	0.5725726		2.7	20	
Cyclohexane	A	50.0	48	1.148895	1.110131		-3.4	20	
Methyl cyclohexane	A	50.0	49	0.6594789	0.5222361		-2.2	20	
Carbon Tetrachloride	A	50.0	56	0.285844	0.3209668		12	20	
1,2-Dichloroethane	A	50.0	47	0.3513194	0.3335628		-5.1	20	
Benzene	A	50.0	49	1.184952	1.151618		-2.8	20	
Trichloroethene	A	50.0	49	0.2450156	0.2385757		-2.6	20	
1,2-Dichloropropane	A	50.0	50	0.3371891	0.3378927		0.20	20	
Bromodichloromethane	A	50.0	53	0.3308186	0.3537612		6.9	20	
4-Methyl-2-pentanone	A	250	280	4.594368E-02	5.137142E-02		12	20	
2-Hexanone	A	250	260	0.3312611	0.3997522		5.2	20	

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2106098
Lab File ID:	215GW003.D	Calibration Date:	06/18/21 08:08
Sequence:	AA67540	Injection Date:	07/28/21
Lab Sample ID:	AA67540-CCV1	Injection Time:	08:24

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
cis-1,3-Dichloropropene	A	50.0	54	0.4967443	0.5404076		8.8	20
Toluene	A	50.0	50	1.222815	1.216614		-0.5	20
trans-1,3-Dichloropropene	A	50.0	54	0.6187986	0.6736721		8.9	20
1,1,2-Trichloroethane	A	50.0	49	0.420744	0.416312		-1.1	20
Tetrachloroethene	A	50.0	47	0.2798147	0.2630314		-6	20
Dibromochloromethane	A	50.0	49	0.3204024	0.365146		-2.5	20
1,2-Dibromoethane	A	50.0	50	0.4215299	0.4232227		0.40	20
Chlorobenzene	A	50.0	50	1.214708	1.207261		-0.6	20
Ethylbenzene	A	50.0	51	0.6898253	0.709607		2.9	20
m,p-Xylenes	A	100	99	0.8851906	0.8778579		-0.8	20
o-Xylene	A	50.0	52	0.8732591	0.9056418		3.7	20
Bromoform	A	50.0	49	0.175043	0.2084601		-2.4	20
Styrene	A	50.0	50	1.378538	1.541095		-0.3	20
Isopropylbenzene	A	50.0	50	2.223963	2.313458		-0.3	20
1,1,2,2-Tetrachloroethane	A	50.0	53	0.7197231	0.7629312		6.0	20
1,2,4-Trichlorobenzene	A	50.0	58	0.2087952	0.2989646		16	20
1,3-Dichlorobenzene	A	50.0	52	1.132817	1.185287		4.6	20
1,4-Dichlorobenzene	A	50.0	51	1.174038	1.20361		2.5	20
1,2-Dichlorobenzene	A	50.0	51	1.038218	1.111954		1.7	20
1,2-Dibromo-3-chloropropane	A	50.0	58	0.1005424	0.1301403		16	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA66932	Instrument:	OVGCMS5
Calibration:	2106098		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A1B1159	MS Tune (lower conc.)	AA66932-TUN1	215FM003.D	06/18/21 07:34
A1F0975	8260 1.0 PPB ms5	AA66932-CAL1	215FM004.D	06/18/21 08:05
A1F0976	8260 2.0 PPB ms5	AA66932-CAL2	215FM005.D	06/18/21 08:32
A1F0977	8260 5.0 PPB ms5	AA66932-CAL3	215FM006.D	06/18/21 09:00
A1F0978	8260 10 PPB ms5	AA66932-CAL4	215FM007.D	06/18/21 09:28
A1F0979	8260 20 PPB ms5	AA66932-CAL5	215FM008.D	06/18/21 09:56
A1F0980	8260 50 PPB ms5	AA66932-CAL6	215FM009.D	06/18/21 10:24
A1F0981	8260 80 PPB ms5	AA66932-CAL7	215FM010.D	06/18/21 10:52
A1F0982	8260 100 PPB ms5	AA66932-CAL8	215FM011.D	06/18/21 11:20
A1F0991	8260 SCV 50 PPB/20 gases (surr. lower conc.)	AA66932-SCV1	215FM013.D	06/18/21 12:15

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	1	0.5444762	2	0.4223063	5	0.5914354	10	0.4929725	20	0.4782643	50	0.5144729
Chloromethane	1	1.059332	2	0.6707638	5	0.8644306	10	0.7204098	20	0.7205409	50	0.6904153
Vinyl chloride	1	0.775862	2	0.5365335	5	0.6922473	10	0.650021	20	0.6440319	50	0.6499421
Bromomethane	1	0.3234076	2	0.3255129	5	0.3281328	10	0.219142	20	0.182968	50	0.1756765
Chloroethane	1	0.5053711	2	0.3404387	5	0.4826976	10	0.340112	20	0.3719102	50	0.2875798
Trichlorofluoromethane	1	0.7781085	2	0.6195022	5	0.8260138	10	0.7531864	20	0.7735416	50	0.7678532
Freon 113	1	0.2607978	2	0.3637858	5	0.3770729	10	0.3089054	20	0.3269222	50	0.3197173
Acetone	5	0.1268337	10	0.1831306	25	0.2239481	50	0.1920774	100	0.1898639	250	0.1957422
1,1-Dichloroethene	1	0.4355227	2	0.5684854	5	0.5852284	10	0.4930696	20	0.527627	50	0.5515247
Carbon disulfide	5	1.120095	10	1.355324	25	1.710983	50	1.475901	100	1.585499	250	1.52274
Methylene Chloride	1	0.5906119	2	0.7214544	5	0.7546519	10	0.6982431	20	0.6824497	50	0.6582142
Methyl-tert-Butyl Ether	1	1.228691	2	1.467826	5	1.698991	10	1.494367	20	1.514682	50	1.584127
trans-1,2-Dichloroethene	1	0.4844873	2	0.6339387	5	0.7476141	10	0.5671123	20	0.6072805	50	0.6066591
cis-1,2-Dichloroethene	1	0.5911944	2	0.6827126	5	0.6306257	10	0.6005607	20	0.6701389	50	0.6974786
1,1-Dichloroethane	1	0.9991355	2	1.197143	5	1.248112	10	1.143127	20	1.182508	50	1.151263
2-Butanone	5	8.611444E-02	10	9.231158E-02	25	0.1019234	50	0.0921379	100	0.0990753	250	9.898384E-02
Chloroform	1	0.9484237	2	1.219878	5	1.187922	10	1.043696	20	1.126225	50	1.095959
1,1,1-Trichloroethane	1	0.6124942	2	0.8466313	5	0.8294324	10	0.8444389	20	0.8295007	50	0.8605141
Methyl acetate	1	0.8340204	2	0.5208941	5	0.6154519	10	0.4900873	20	0.5014533	50	0.5008726
Cyclohexane	1	0.9308264	2	1.158299	5	1.12907	10	1.075644	20	1.216363	50	1.25072
Methyl cyclohexane	1	1.035333	2	0.8960511	5	0.6276093	10	0.5654248	20	0.5513575	50	0.5359486
Carbon Tetrachloride	1	0.2938125	2	0.272744	5	0.2453059	10	0.2456946	20	0.3170405	50	0.2849243
1,2-Dichloroethane	1	0.3728822	2	0.3760035	5	0.354193	10	0.3600144	20	0.3324898	50	0.3267591
Benzene	1	1.020889	2	1.335683	5	1.280419	10	1.205074	20	1.205519	50	1.154164
Trichloroethene	1	0.1995915	2	0.2675143	5	0.2457729	10	0.2576097	20	0.2522099	50	0.247163
1,2-Dichloropropane	1	0.3317094	2	0.3444437	5	0.3345588	10	0.3309305	20	0.32462	50	0.3363809
Bromodichloromethane	1	0.2784006	2	0.3158437	5	0.3279466	10	0.3133996	20	0.3348848	50	0.3464648
4-Methyl-2-pentanone	5	3.874193E-02	10	4.347198E-02	25	4.604022E-02	50	4.379807E-02	100	4.563434E-02	250	0.0479853
2-Hexanone	5	0.1920212	10	0.2973425	25	0.328939	50	0.3560921	100	0.3508167	250	0.3654472
cis-1,3-Dichloropropene	1	0.3791549	2	0.4859364	5	0.4863015	10	0.482609	20	0.5082976	50	0.531607
Toluene	1	1.215098	2	1.389193	5	1.235324	10	1.133236	20	1.24708	50	1.245802

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	1	0.5121762	2	0.6622446	5	0.6454576	10	0.5523355	20	0.6458741	50	0.6536197
1,1,2-Trichloroethane	1	0.3809597	2	0.4742446	5	0.4274421	10	0.3892404	20	0.4263599	50	0.4245764
Tetrachloroethene	1	0.2623334	2	0.3509024	5	0.3066935	10	0.246393	20	0.2806483	50	0.273779
Dibromochloromethane	1	0.1954628	2	0.3058781	5	0.2995091	10	0.3067263	20	0.3443887	50	0.3599448
1,2-Dibromoethane	1	0.387205	2	0.4152207	5	0.4139148	10	0.4117751	20	0.4205098	50	0.439896
Chlorobenzene	1	1.141484	2	1.300256	5	1.22289	10	1.222196	20	1.268013	50	1.234034
Ethylbenzene	1	0.5916037	2	0.6971589	5	0.6987964	10	0.7353856	20	0.7037018	50	0.7166845
m,p-Xylenes	2	0.8130441	4	0.9200809	10	0.9356853	20	0.9204158	40	0.9535119	100	0.8998223
o-Xylene	1	0.7031544	2	0.8522975	5	0.928378	10	0.8650837	20	0.9465502	50	0.9192626
Bromoform	1	0.129921	2	0.1507396	5	0.1403793	10	0.1654611	20	0.1852009	50	0.1967156
Styrene	1	0.7825155	2	1.203015	5	1.465928	10	1.317717	20	1.612473	50	1.562396
Isopropylbenzene	1	1.704453	2	2.252172	5	2.4154	10	2.193867	20	2.416191	50	2.372754
1,1,2,2-Tetrachloroethane	1	0.5720375	2	0.7488666	5	0.7870861	10	0.7104761	20	0.7506403	50	0.7288423
1,2,4-Trichlorobenzene	1	6.982231E-02	2	0.148378	5	0.2032745	10	0.2020054	20	0.2092492	50	0.2466564
1,3-Dichlorobenzene	1	0.948657	2	1.182099	5	1.105942	10	1.139155	20	1.151222	50	1.175941
1,4-Dichlorobenzene	1	1.112015	2	1.169665	5	1.232994	10	1.151103	20	1.196167	50	1.17052
1,2-Dichlorobenzene	1	0.834553	2	1.111243	5	1.040463	10	1.00277	20	1.046587	50	1.081676
1,2-Dibromo-3-chloropropane	1	3.782219E-02	2	0.1234915	5	9.587591E-02	10	8.741802E-02	20	9.065852E-02	50	0.1109498
Dibromofluoromethane	50	0.5913957	55	0.5857742	60	0.6050241	50	0.6090502	65	0.599548	50	0.6278028
Toluene-d8	50	1.156133	55	1.20606	60	1.22483	50	1.244223	65	1.198461	50	1.336655
4-Bromofluorobenzene	50	0.8721141	55	0.8442948	60	0.860972	50	0.8437756	65	0.8369979	50	0.9245401

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	80	0.5188117	100	0.513071								
Chloromethane	80	0.7237385	100	0.8106379								
Vinyl chloride	80	0.6784366	100	0.6929469								
Bromomethane	80	0.2018831	100	0.2117683								
Chloroethane	80	~~0.2324829~~	100	~~0.1721268~~								
Trichlorofluoromethane	80	0.7833297	100	0.7863313								
Freon 113	80	0.307747	100	0.3128048								
Acetone	400	0.2070738	500	0.2209217								
1,1-Dichloroethene	80	0.5362744	100	0.5539112								
Carbon disulfide	400	1.455013	500	1.4202								
Methylene Chloride	80	0.6765417	100	0.6699758								
Methyl-tert-Butyl Ether	80	1.611962	100	1.698542								
trans-1,2-Dichloroethene	80	0.5978528	100	0.6065935								
cis-1,2-Dichloroethene	80	0.6769028	100	0.6900783								
1,1-Dichloroethane	80	1.149155	100	1.152482								
2-Butanone	400	0.1060309	500	0.1107193								
Chloroform	80	1.088278	100	1.097122								
1,1,1-Trichloroethane	80	0.8538667	100	0.8544162								
Methyl acetate	80	0.543619	100	0.5834171								
Cyclohexane	80	1.217302	100	1.212934								
Methyl cyclohexane	80	0.5283242	100	0.5357824								
Carbon Tetrachloride	80	0.3354238	100	0.2918061								
1,2-Dichloroethane	80	0.3378516	100	0.3503619								
Benzene	80	1.128018	100	1.149851								
Trichloroethene	80	0.2419864	100	0.2482773								
1,2-Dichloropropane	80	0.3393545	100	0.3555149								
Bromodichloromethane	80	0.3580559	100	0.3715528								
4-Methyl-2-pentanone	400	4.872666E-02	500	0.0531509								
2-Hexanone	400	0.3642195	500	0.3952106								
cis-1,3-Dichloropropene	80	0.5418855	100	0.5581627								
Toluene	80	1.157336	100	1.159454								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	80	0.6300793	100	0.648602								
1,1,2-Trichloroethane	80	0.4164825	100	0.4266462								
Tetrachloroethene	80	0.2557776	100	0.2619908								
Dibromochloromethane	80	0.3640785	100	0.3872307								
1,2-Dibromoethane	80	0.4359692	100	0.4477482								
Chlorobenzene	80	1.162731	100	1.166059								
Ethylbenzene	80	0.6822879	100	0.6929839								
m,p-Xylenes	160	0.8278378	200	0.8111269								
o-Xylene	80	0.8813923	100	0.8899545								
Bromoform	80	0.209795	100	0.2221316								
Styrene	80	1.533573	100	1.550684								
Isopropylbenzene	80	2.211864	100	2.225002								
1,1,2,2-Tetrachloroethane	80	0.7238183	100	0.7360177								
1,2,4-Trichlorobenzene	80	0.2835707	100	0.3074052								
1,3-Dichlorobenzene	80	1.171958	100	1.187558								
1,4-Dichlorobenzene	80	1.186322	100	1.17352								
1,2-Dichlorobenzene	80	1.084059	100	1.10439								
1,2-Dibromo-3-chloropropane	80	0.1211319	100	0.1369917								
Dibromofluoromethane	70	0.5842909	75	0.5832016								
Toluene-d8	70	1.244561	75	1.260871								
4-Bromofluorobenzene	70	0.8334529	75	0.8539871								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	0.5094763	9.647847	3.98025	5.556263E-02	0.9996769		0.99	
Chloromethane	0.7825336	16.46827	4.40925	0.135073	0.9923367		0.99	
Vinyl chloride	0.6650027	10.06966	4.5845	5.710391E-02			20	
Bromomethane	0.2460614	27.39954	5.228375	4.862762E-02		0.9963293	0.99	
Chloroethane	0.3880182	22.36143	5.459	0.1512648		0.9973848	0.99	
Trichlorofluoromethane	0.7609833	8.000491	5.701125	0.1864209			20	
Freon 113	0.3222191	11.13614	6.55825	9.342257E-02			20	
Acetone	0.1924489	15.74444	7.4	0.1278971	0.9960612		0.99	
1,1-Dichloroethene	0.5314554	8.963278	6.53325	4.564842E-02			20	
Carbon disulfide	1.455719	11.92334	6.625	6.868896E-02		0.9998954	0.99	
Methylene Chloride	0.6815178	7.056421	7.34125	0.0518812			20	
Methyl-tert-Butyl Ether	1.537398	9.90525	7.63075	2.123095E-02			20	
trans-1,2-Dichloroethene	0.6064423	12.01755	7.5505	0.1224101			20	
cis-1,2-Dichloroethene	0.6549615	6.358542	8.9505	6.797787E-02			20	
1,1-Dichloroethane	1.152866	6.19063	8.31475	5.035179E-02			20	
2-Butanone	9.841208E-02	8.151038	9.550125	0.1662186			20	
Chloroform	1.100938	7.606441	9.222	3.620673E-02			20	
1,1,1-Trichloroethane	0.8164118	10.18657	9.485375	5.345546E-02			20	
Methyl acetate	0.573727	19.85262	7.511375	0.5213447	0.9945246		0.99	
Cyclohexane	1.148895	9.134873	9.19225	5.174988E-02			20	
Methyl cyclohexane	0.6594789	29.58945	10.45075	3.931351E-02	0.9995099		0.99	
Carbon Tetrachloride	0.285844	11.02986	9.4145	6.564497E-02			20	
1,2-Dichloroethane	0.3513194	5.157523	10.08825	2.752186E-02			20	
Benzene	1.184952	8.132168	9.87925	4.856943E-02			20	
Trichloroethene	0.2450156	8.169892	10.453	4.611096E-02			20	
1,2-Dichloropropane	0.3371891	2.808828	10.98725	3.084346E-02			20	
Bromodichloromethane	0.3308186	8.809988	11.01775	4.062078E-02			20	
4-Methyl-2-pentanone	4.594368E-02	9.254212	12.13475	6.688867E-02			20	
2-Hexanone	0.3312611	19.05383	12.88125	4.379245E-02	0.9967168		0.99	
cis-1,3-Dichloropropene	0.4967443	11.13382	11.6105	4.251153E-02			20	

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Toluene	1.222815	6.581686	11.83175	2.131752E-03			20	
trans-1,3-Dichloropropene	0.6187986	8.92381	12.19875	3.889151E-02			20	
1,1,2-Trichloroethane	0.420744	6.711427	12.36275	0.0322457			20	
Tetrachloroethene	0.2798147	12.18024	12.21	0.0317417			20	
Dibromochloromethane	0.3204024	18.63594	12.55363	2.959019E-02	0.9973738		0.99	
1,2-Dibromoethane	0.4215299	4.576784	12.81575	3.543673E-02			20	
Chlorobenzene	1.214708	4.518369	13.2455	1.871819E-02			20	
Ethylbenzene	0.6898253	6.208191	13.21175	3.216336E-02			20	
m,p-Xylenes	0.8851906	6.596866	13.329	4.748539E-02			20	
o-Xylene	0.8732591	8.690183	13.736	3.869105E-02			20	
Bromoform	0.175043	19.21377	13.87912	4.188187E-02	0.9953063		0.99	
Styrene	1.378538	20.14016	13.78075	3.574971E-02	0.9995972		0.99	
Isopropylbenzene	2.223963	10.30242	13.999	3.611421E-02		0.9994846	0.99	
1,1,2,2-Tetrachloroethane	0.7197231	8.881911	14.47125	2.257241E-02			20	
1,2,4-Trichlorobenzene	0.2087952	36.10883	18.155	0.111192		0.9993635	0.99	
1,3-Dichlorobenzene	1.132817	6.985412	15.41725	1.644861E-02			20	
1,4-Dichlorobenzene	1.174038	2.971778	15.50525	1.679585E-02			20	
1,2-Dichlorobenzene	1.038218	8.654341	16.02525	3.415201E-02	0.9996843		0.99	
1,2-Dibromo-3-chloropropane	0.1005424	30.57038	17.0955	0.1851555		0.9994421	0.99	
Dibromofluoromethane	0.5982609	2.57523	9.428	9.589849E-03			20	
Toluene-d8	1.233974	4.295517	11.7795	2.799324E-02			20	
4-Bromofluorobenzene	0.8587668	3.43207	14.32875	7.284017E-03			20	

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE05483-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2106098 **Laboratory ID:** AA66932-SCV1

Sequence: AA66932 **Standard ID:** A1F0991

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Cyclohexane	50.0	60	20.5	30.00
Ethylbenzene	50.0	60	19.7	30.00
Carbon Tetrachloride	50.0	55	10.0	30.00
1,3-Dichlorobenzene	50.0	60	19.3	30.00
4-Bromofluorobenzene	50.0	55	9.4	30.00
Toluene-d8	50.0	55	9.6	30.00
Dibromofluoromethane	50.0	50	0.06	30.00
Methyl-tert-Butyl Ether	50.0	56	12.6	30.00
trans-1,2-Dichloroethene	50.0	55	10.3	30.00
cis-1,2-Dichloroethene	50.0	56	12.7	30.00
Tetrachloroethene	50.0	56	11.2	30.00
Acetone	250	260	3.8	30.00
1,2,4-Trichlorobenzene	50.0	60	19.1	30.00
Chloroform	50.0	54	8.2	30.00
Chlorobenzene	50.0	57	14.7	30.00
Toluene	50.0	56	12.6	30.00
Methyl cyclohexane	50.0	57	14.2	30.00
m,p-Xylenes	100	110	11.2	30.00
4-Methyl-2-pentanone	250	300	20.0	30.00
1,2-Dichloroethane	50.0	53	5.4	30.00
1,2-Dibromoethane	50.0	58	15.2	30.00
1,4-Dichlorobenzene	50.0	57	13.3	30.00
trans-1,3-Dichloropropene	50.0	61	21.5	30.00
cis-1,3-Dichloropropene	50.0	57	13.0	30.00
Styrene	50.0	59	18.6	30.00
Dibromochloromethane	50.0	55	9.5	30.00
1,1-Dichloroethene	50.0	57	13.1	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE05483-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2106098 **Laboratory ID:** AA66932-SCV1

Sequence: AA66932 **Standard ID:** A1F0991

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
1,2-Dibromo-3-chloropropane	50.0	59	17.5	30.00
1,2-Dichlorobenzene	50.0	57	14.1	30.00
o-Xylene	50.0	60	19.9	30.00
1,1,2,2-Tetrachloroethane	50.0	56	12.7	30.00
Methyl acetate	50.0	58	16.7	30.00
Trichloroethene	50.0	56	11.0	30.00
1,1,2-Trichloroethane	50.0	56	12.3	30.00
2-Butanone	250	280	13.7	30.00
1,2-Dichloropropane	50.0	55	11.0	30.00
Freon 113	50.0	57	13.2	30.00
2-Hexanone	250	280	12.6	30.00
Trichlorofluoromethane	20.0	20	1.2	30.00
Isopropylbenzene	50.0	58	16.4	30.00
1,1-Dichloroethane	50.0	56	12.5	30.00
Bromodichloromethane	50.0	60	19.7	30.00
Bromoform	50.0	55	10.2	30.00
Carbon disulfide	50.0	66	31.2 *	30.00
Methylene Chloride	50.0	51	2.5	30.00
Vinyl chloride	20.0	20	2.4	30.00
Chloroethane	20.0	16	-21.2	30.00
Chloromethane	20.0	23	14.0	30.00
Bromomethane	20.0	22	7.7	30.00
1,1,1-Trichloroethane	50.0	58	15.3	30.00
Benzene	50.0	57	13.8	30.00
Dichlorodifluoromethane	20.0	27	36.8 *	30.00

* Values outside of QC limits

ENCO Orlando

SDG: AE05483-TE016

CLASS: 06_VOA_AIR_RSK

METHOD: RSK 175

ANALYSES DATA PACKAGE COVER PAGE

RSK 175

Laboratory: ENCO Orlando

SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-MW0018-058.0-20210726	AE05483-02
CRCA-MW0018-058.0-20210726	AE05483-02RE1
CRCA-MW0031-058.0-20210726	AE05483-06
CRCA-MW0019-058.0-20210726	AE05483-07

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0018-058.0-20210726

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE05483-02
File ID: 21GW008.D
Sampled: 07/26/21 10:00
Prepared: 07/28/21 00:00
Analyzed: 07/28/21 11:22
Solids:
Preparation: Same
Initial/Final: 1 mL / 1 mL
Batch: 1G28011
Sequence: AA67536
Calibration: 2102005
Instrument: OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-85-1	Ethene	1	0.00842		0.00510	0.00600
74-84-0	Ethane	1	0.00510	U	0.00510	0.00600

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0018-058.0-20210726

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Ground Water	Laboratory ID:	AE05483-02RE1	File ID:	21GW014.D
Sampled:	07/26/21 10:00	Prepared:	07/28/21 00:00	Analyzed:	07/28/21 13:15
Solids:		Preparation:	Same	Initial/Final:	1 mL / 1 mL
Batch:	1G28011	Sequence:	AA67536	Calibration:	2102005
				Instrument:	OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-82-8	Methane	15	1.41	D	0.0600	0.0750

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0031-058.0-20210726

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE05483-06
File ID: 21GW009.D
Sampled: 07/26/21 13:15
Prepared: 07/28/21 00:00
Analyzed: 07/28/21 11:38
Solids:
Preparation: Same
Initial/Final: 1 mL / 1 mL
Batch: 1G28011
Sequence: AA67536
Calibration: 2102005
Instrument: OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-82-8	Methane	1	0.582		0.00400	0.00500
74-85-1	Ethene	1	0.00510	U	0.00510	0.00600
74-84-0	Ethane	1	0.00510	U	0.00510	0.00600

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0019-058.0-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-07 File ID: 21GW010.D

Sampled: 07/26/21 14:00 Prepared: 07/28/21 00:00 Analyzed: 07/28/21 12:14

Solids: Preparation: Same Initial/Final: 1 mL / 1 mL

Batch: 1G28011 Sequence: AA67536 Calibration: 2102005 Instrument: OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-82-8	Methane	1	0.203		0.00400	0.00500
74-85-1	Ethene	1	0.00510	U	0.00510	0.00600
74-84-0	Ethane	1	0.00510	U	0.00510	0.00600

* Values outside of QC limits

HOLDING TIME SUMMARY

RSK 175

Laboratory: ENCO Orlando

SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-MW0018-058.0-20210726	07/26/21 10:00	07/27/21 15:00	07/28/21 00:00	1.58	NA	07/28/21 11:22	2.00	14.00	
CRCA-MW0018-058.0-20210726	07/26/21 10:00	07/27/21 15:00	07/28/21 00:00	1.58	NA	07/28/21 13:15	2.00	14.00	
CRCA-MW0031-058.0-20210726	07/26/21 13:15	07/27/21 15:00	07/28/21 00:00	1.45	NA	07/28/21 11:38	2.00	14.00	
CRCA-MW0019-058.0-20210726	07/26/21 14:00	07/27/21 15:00	07/28/21 00:00	1.42	NA	07/28/21 12:14	2.00	14.00	

PREPARATION BATCH SUMMARY

RSK 175

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1G28011 Batch Matrix: Water Preparation: Same

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1G28011-BLK1	21GW005.D	07/28/21 00:00	
LCS	1G28011-BS1	21GW003.D	07/28/21 00:00	
LCS Dup	1G28011-BSD1	21GW004.D	07/28/21 00:00	
CRCA-MW0019-058.0-20210726	1G28011-DUP1	21GW017.D	07/28/21 00:00	
CRCA-MW0018-058.0-20210726	AE05483-02	21GW008.D	07/28/21 00:00	
CRCA-MW0018-058.0-20210726	AE05483-02RE1	21GW014.D	07/28/21 00:00	
CRCA-MW0031-058.0-20210726	AE05483-06	21GW009.D	07/28/21 00:00	
CRCA-MW0019-058.0-20210726	AE05483-07	21GW010.D	07/28/21 00:00	

METHOD BLANK DATA SHEET
RSK 175

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1G28011-BLK1	File ID:	21GW005.D
Prepared:	07/28/21 00:00	Preparation:	Same	Initial/Final:	1 mL / 1 mL
Analyzed:	07/28/21 10:35	Instrument:	OVGCFID2		
Batch:	1G28011	Sequence:	AA67536	Calibration:	2102005

CAS NO.	COMPOUND	CONC. (mg/L)	Q
74-82-8	Methane	0.00400	U
74-85-1	Ethene	0.00510	U
74-84-0	Ethane	0.00510	U

LCS / LCS DUPLICATE RECOVERY

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1G28011	Laboratory ID:	1G28011-BS1
Preparation:	Same	Initial/Final:	1 mL / 1 mL

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC. #	QC LIMITS REC.
Methane	0.172	0.179	104	70 - 130
Ethene	0.302	0.324	107	70 - 130
Ethane	0.323	0.322	100	70 - 130

COMPOUND	SPIKE ADDED (mg/L)	LCSD CONCENTRATION (mg/L)	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Methane	0.172	0.181	105	1	30	70 - 130
Ethene	0.302	0.326	108	0.5	30	70 - 130
Ethane	0.323	0.326	101	1	30	70 - 130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

DUPLICATES

RSK 175

CRCA-MW0019-058.0-20210726

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Water
Laboratory ID: 1G28011-DUP1
Batch: 1G28011
Lab Source ID: AE05483-07
Preparation: Same
Initial/Final: 1 mL / 1 mL
Source Sample Name: CRCA-MW0019-058.0-20210726
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/L)	C	DUPLICATE CONCENTRATION (mg/L)	C	RPD %	Q	METHOD
Methane	30	0.203		0.120		51	*	RSK 175
Ethene	30	0.00		ND				RSK 175
Ethane	30	0.00		ND				RSK 175

* Values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64746		
Calibration:	2102005	Instrument:	OVGCFID2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	AA64746-CAL8	21B1014.D	02/01/21 14:12
Cal Standard	AA64746-CAL9	21B1015.D	02/01/21 14:27
Cal Standard	AA64746-CALB	21B1017.D	02/01/21 14:59
Cal Standard	AA64746-CALC	21B1018.D	02/01/21 15:15
Cal Standard	AA64746-CALD	21B1019.D	02/01/21 15:31
Cal Standard	AA64746-CALE	21B1020.D	02/01/21 15:47
Cal Standard	AA64746-CALA	21B1022.D	02/01/21 16:18
Secondary Cal Check	AA64746-SCV1	21B1023.D	02/01/21 17:03

ANALYSIS BATCH (SEQUENCE) SUMMARY

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA67536		
Calibration:	2102005	Instrument:	OVGCFID2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA67536-CCV1	21GW001.D	07/28/21 09:31
LCS	1G28011-BS1	21GW003.D	07/28/21 10:03
LCS Dup	1G28011-BSD1	21GW004.D	07/28/21 10:19
Blank	1G28011-BLK1	21GW005.D	07/28/21 10:35
CRCA-MW0018-058.0-20210726	AE05483-02	21GW008.D	07/28/21 11:22
CRCA-MW0031-058.0-20210726	AE05483-06	21GW009.D	07/28/21 11:38
CRCA-MW0019-058.0-20210726	AE05483-07	21GW010.D	07/28/21 12:14
CRCA-MW0018-058.0-20210726	AE05483-02RE1	21GW014.D	07/28/21 13:15
CRCA-MW0019-058.0-20210726	1G28011-DUP1	21GW017.D	07/28/21 14:03
Calibration Check	AA67536-CCV3	21GW021.D	07/28/21 15:07

CONTINUING CALIBRATION CHECK

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCFID2	Calibration:	2102005
Lab File ID:	21GW001.D	Calibration Date:	02/01/21 15:19
Sequence:	AA67536	Injection Date:	07/28/21
Lab Sample ID:	AA67536-CCV1	Injection Time:	09:31

		CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Methane	A	0.174	0.180	1.362132E+08	1.242828E+08		3.7	20
Ethene	A	0.302	0.327	7.977246E+07	8.627546E+07		8.2	20
Ethane	A	0.323	0.326	1.170026E+08	1.18272E+08		1.1	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

CONTINUING CALIBRATION CHECK

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCFID2	Calibration:	2102005
Lab File ID:	21GW021.D	Calibration Date:	02/01/21 15:19
Sequence:	AA67536	Injection Date:	07/28/21
Lab Sample ID:	AA67536-CCV3	Injection Time:	15:07

		CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Methane	A	0.174	0.156	1.362132E+08	1.072014E+08		-11	20
Ethene	A	0.302	0.282	7.977246E+07	7.459017E+07		-6.5	20
Ethane	A	0.323	0.280	1.170026E+08	1.015725E+08		-13	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64746	Instrument:	OVGCFID2
Calibration:	2102005		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A1B0547	RSK175-Cal 1 02/01/2021	AA64746-CAL8	21B1014.D	02/01/21 14:12
A1B0548	RSK175-Cal 2 02/01/2021	AA64746-CAL9	21B1015.D	02/01/21 14:27
A1B0550	RSK175-Cal 4 02/01/2021	AA64746-CALB	21B1017.D	02/01/21 14:59
A1B0551	RSK175-Cal 5 02/01/2021	AA64746-CALC	21B1018.D	02/01/21 15:15
A1B0552	RSK175-Cal 6 02/01/2021	AA64746-CALD	21B1019.D	02/01/21 15:31
A1B0553	RSK175-Cal 7 02/01/2021	AA64746-CALE	21B1020.D	02/01/21 15:47
A1B0549	RSK175-Cal 3 02/01/2021	AA64746-CALA	21B1022.D	02/01/21 16:18
A1A0933	RSK175- SCV/BS water CO2 and MEE	AA64746-SCV1	21B1023.D	02/01/21 17:03

INITIAL CALIBRATION DATA

RSK 175

Laboratory: ENCO Orlando

SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Calibration: 2102005

Instrument: OVGCFID2

Matrix: Water

Calibration Date: 02/01/21 15:19

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Methane												
Ethene												
Ethane												

INITIAL CALIBRATION DATA (Continued)

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Calibration:	2102005	Instrument:	OVGCFID2
Matrix:	Water	Calibration Date:	02/01/21 15:19

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Methane			0.000869	2.083245E+08	0.00869	1.311052E+08	0.0348	1.235944E+08	0.0869	1.272044E+08	0.174	1.263457E+08
Ethene			0.00151	5.315364E+07	0.0151	8.579782E+07	0.0603	8.372541E+07	0.151	8.751709E+07	0.302	8.48997E+07
Ethane			0.00161	1.263348E+08	0.0161	1.172619E+08	0.0646	1.169587E+08	0.161	1.212085E+08	0.323	1.152432E+08

INITIAL CALIBRATION DATA

RSK 175

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2102005
Instrument: OVGCFID2
Matrix: Water
Calibration Date: 02/01/21 15:19

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Methane	0.348	1.167678E+08	0.695	1.201502E+08								
Ethene	0.603	8.025572E+07	1.21	8.305785E+07								
Ethane	0.646	1.092976E+08	1.29	1.127132E+08								

INITIAL CALIBRATION DATA (Continued)

RSK 175

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2102005
Instrument: OVGCFID2
Matrix: Water
Calibration Date: 02/01/21 15:19

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Methane	1.362132E+08	23.59947	1.965429	4.209304E-02	0.9994672		0.99	
Ethene	7.977246E+07	14.9886	3.742286	0.1553695			20	
Ethane	1.170026E+08	4.754952	4.669571	0.2502584			20	

SECOND-SOURCE CALIBRATION VERIFICATION

RSK 175

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2102005
Laboratory ID: AA64746-SCV1
Sequence: AA64746
Standard ID: A1A0933

ANALYTE	EXPECTED (mg/L)	FOUND (mg/L)	% DRIFT	QC LIMIT
Ethene	0.302	0.315	4.2	25.00
Ethane	0.323	0.312	-3.4	25.00
Methane	0.172	0.171	-0.7	25.00

* Values outside of QC limits

TETRA TECH ISG
TtEGS, Information Systems Group

Completion Ticket

On 8/20/2021 at 1:13 PM the following files were submitted to Tetra Tech by kdylnicki@encolabs.com with ENCO:

TE016AE05483A1.txt, TE016AE05483A3.txt

If you need to identify this session at a later date refer to Ticket Key:

2021820_624587146_ledd_ENCO

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I Lori S. Mangrun, as the designated Quality Assurance Officer, hereby attest that all electronic deliverables have been thoroughly reviewed and are in agreement with the associated hardcopy data. The enclosed electronic files have been reviewed for accuracy (including significant figures), completeness and format. The laboratory will be responsible for any labor time necessary to correct enclosed electronic deliverables that have been found to be in error. I can be reached at (407) 826-5314 if there are any questions or problems with the enclosed electronic deliverables.

Signature:_____ Title: Quality Assurance Manager Date: August 25, 2021

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ENCO Laboratories
Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Thursday, August 20, 2020
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AD05264

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Thursday, August 13, 2020.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

PROJECT NARRATIVE

www.encolabs.com

Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Client PM: Alex Murphy
Project Number: 112G08970
ENCO Project ID: AD05264
SDG: AD05264-TE016

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling and processing will be discussed in the Remarks section below.

Remarks

List of instruments used:

Analytical and Preparation Method	SOP Reference Instrument
EPA 8260D / 5030B_MS	OVGCMS5

Analysis: EPA 8260D

Manual integrations were performed on samples associated with EPA 8260D. All data & explanations are included in the raw data section of the report.

Affected Samples: AA62023-CCV1, CRCA-ASEFFLUENT-20200813[AD05264-01], CRCA-ASINFLUENT-20200813[AD05264-02]
The associated calibration verification standard for 1,2-dichloroethane, bromodichloromethane, and trichlorofluoromethane exhibited high bias. Analytes were not detected in the sample.

Affected Samples: 0H19031-MS1, 0H19031-MSD1
Matrix spike recovery for trichlorofluoromethane was outside acceptance limits.

Affected Sequence: AA61386
Secondary calibration verification standard recovery for carbon disulfide was outside acceptance limits. Analyte(s) was not detected in the sample.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Kaitlin Dylnicki
Project Manager

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-ASEFFLUENT-20200813	Lab ID: AD05264-01	Sampled: 08/13/20 12:15	Received: 08/13/20 14:30

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	08/27/20	08/19/20 14:43	08/19/20 22:46

Client ID: CRCA-ASINFLUENT-20200813	Lab ID: AD05264-02	Sampled: 08/13/20 12:20	Received: 08/13/20 14:30

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	08/27/20	08/19/20 14:43	08/19/20 23:17

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-ASINFLUENT-20200813 **Lab ID:** AD05264-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
trans-1,2-Dichloroethene	1.1	I	0.73	2.0	ug/L	EPA 8260D	
Vinyl chloride	26		0.71	2.0	ug/L	EPA 8260D	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20200813 **Lab Sample ID:** AD05264-01 **Received:** 08/13/20 14:30

Matrix: Ground Water **Sampled:** 08/13/20 12:15 **Work Order:** AD05264

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	10	0H19031	EPA 8260D	08/19/20 22:46	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	QV-01
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	25	0H19031	EPA 8260D	08/19/20 22:46	KKW	
2-Hexanone [591-78-6]^	1.4	U	ug/L	1	1.4	5.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	
4-Methyl-2-pentanone [108-10-1]^	0.79	U	ug/L	1	0.79	5.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	0H19031	EPA 8260D	08/19/20 22:46	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	QV-01
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	
Carbon disulfide [75-15-0]^	2.6	U	ug/L	1	2.6	10	0H19031	EPA 8260D	08/19/20 22:46	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	
Dibromochloromethane [124-48-1]^	0.44	U	ug/L	1	0.44	2.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	4.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	
Methylene Chloride [75-09-2]^	2.0	U	ug/L	1	2.0	10	0H19031	EPA 8260D	08/19/20 22:46	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	

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ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20200813 **Lab Sample ID:** AD05264-01 **Received:** 08/13/20 14:30

Matrix: Ground Water **Sampled:** 08/13/20 12:15 **Work Order:** AD05264

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	QV-01
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	4.0	0H19031	EPA 8260D	08/19/20 22:46	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*48*	*1*	*50.0*	*96 %*	*41-142*	*0H19031*	*EPA 8260D*	*08/19/20 22:46*	*KKW*	
Dibromofluoromethane	*54*	*1*	*50.0*	*107 %*	*53-146*	*0H19031*	*EPA 8260D*	*08/19/20 22:46*	*KKW*	
Toluene-d8	*48*	*1*	*50.0*	*97 %*	*41-146*	*0H19031*	*EPA 8260D*	*08/19/20 22:46*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20200813 **Lab Sample ID:** AD05264-02 **Received:** 08/13/20 14:30

Matrix: Ground Water **Sampled:** 08/13/20 12:20 **Work Order:** AD05264

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	10	0H19031	EPA 8260D	08/19/20 23:17	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	QV-01
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	25	0H19031	EPA 8260D	08/19/20 23:17	KKW	
2-Hexanone [591-78-6]^	1.4	U	ug/L	1	1.4	5.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	
4-Methyl-2-pentanone [108-10-1]^	0.79	U	ug/L	1	0.79	5.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	0H19031	EPA 8260D	08/19/20 23:17	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	QV-01
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	
Carbon disulfide [75-15-0]^	2.6	U	ug/L	1	2.6	10	0H19031	EPA 8260D	08/19/20 23:17	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	
Dibromochloromethane [124-48-1]^	0.44	U	ug/L	1	0.44	2.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	4.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	
Methylene Chloride [75-09-2]^	2.0	U	ug/L	1	2.0	10	0H19031	EPA 8260D	08/19/20 23:17	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	
trans-1,2-Dichloroethene [156-60-5]^	**1.1**	I	ug/L	1	0.73	2.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	

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ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20200813 **Lab Sample ID:** AD05264-02 **Received:** 08/13/20 14:30

Matrix: Ground Water **Sampled:** 08/13/20 12:20 **Work Order:** AD05264

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	QV-01
Vinyl chloride [75-01-4]^	**26**		ug/L	1	0.71	2.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	4.0	0H19031	EPA 8260D	08/19/20 23:17	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*50*	*1*	*50.0*	*101 %*	*41-142*	*0H19031*	*EPA 8260D*	*08/19/20 23:17*	*KKW*	
Dibromofluoromethane	*56*	*1*	*50.0*	*111 %*	*53-146*	*0H19031*	*EPA 8260D*	*08/19/20 23:17*	*KKW*	
Toluene-d8	*55*	*1*	*50.0*	*110 %*	*41-146*	*0H19031*	*EPA 8260D*	*08/19/20 23:17*	*KKW*	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0H19031 - EPA 5030B_MS

Blank (0H19031-BLK1) Prepared: 08/19/2020 14:43 Analyzed: 08/19/2020 21:13

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.0	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.0	ug/L							
1,1,2-Trichloroethane	0.76	U	2.0	ug/L							
1,1-Dichloroethane	0.62	U	2.0	ug/L							
1,1-Dichloroethene	0.94	U	2.0	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.0	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	10	ug/L							
1,2-Dibromoethane	0.78	U	2.0	ug/L							
1,2-Dichlorobenzene	0.73	U	2.0	ug/L							
1,2-Dichloroethane	0.63	U	2.0	ug/L							
1,2-Dichloropropane	0.80	U	2.0	ug/L							
1,3-Dichlorobenzene	0.77	U	2.0	ug/L							
1,4-Dichlorobenzene	0.76	U	2.0	ug/L							
2-Butanone	4.5	U	25	ug/L							
2-Hexanone	1.4	U	5.0	ug/L							
4-Methyl-2-pentanone	0.79	U	5.0	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.0	ug/L							
Bromodichloromethane	0.52	U	2.0	ug/L							
Bromoform	0.75	U	2.0	ug/L							
Bromomethane	0.95	U	2.0	ug/L							
Carbon disulfide	2.6	U	10	ug/L							
Carbon Tetrachloride	0.94	U	2.0	ug/L							
Chlorobenzene	0.72	U	2.0	ug/L							
Chloroethane	0.98	U	2.0	ug/L							
Chloroform	0.80	U	2.0	ug/L							
Chloromethane	0.82	U	2.0	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.0	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.0	ug/L							
Cyclohexane	0.93	U	2.0	ug/L							
Dibromochloromethane	0.44	U	2.0	ug/L							
Dichlorodifluoromethane	0.74	U	2.0	ug/L							
Ethylbenzene	0.69	U	2.0	ug/L							
Freon 113	0.73	U	2.0	ug/L							
Isopropylbenzene	0.67	U	2.0	ug/L							
m,p-Xylenes	1.3	U	4.0	ug/L							
Methyl acetate	0.95	U	2.0	ug/L							
Methyl cyclohexane	0.64	U	2.0	ug/L							
Methylene Chloride	2.0	U	10	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.0	ug/L							
o-Xylene	0.53	U	2.0	ug/L							
Styrene	0.61	U	2.0	ug/L							
Tetrachloroethene	0.76	U	2.0	ug/L							
Toluene	0.72	U	2.0	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.0	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.0	ug/L							
Trichloroethene	0.89	U	2.0	ug/L							
Trichlorofluoromethane	0.94	U	2.0	ug/L							
Vinyl chloride	0.71	U	2.0	ug/L							

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0H19031 - EPA 5030B_MS - Continued

Blank (0H19031-BLK1) Continued Prepared: 08/19/2020 14:43 Analyzed: 08/19/2020 21:13

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Xylenes (Total)	1.3	U	4.0	ug/L							
4-Bromofluorobenzene	*53*			*ug/L*	*50.0*		*106*	*41-142*			
Dibromofluoromethane	*50*			*ug/L*	*50.0*		*100*	*53-146*			
Toluene-d8	*48*	*I*		*ug/L*	*50.0*		*96*	*41-146*			

LCS (0H19031-BS1) Prepared: 08/19/2020 14:43 Analyzed: 08/19/2020 19:09

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	24		2.0	ug/L	20.0		119	57-148			
1,1,2,2-Tetrachloroethane	18		2.0	ug/L	20.0		92	60-139			
1,1,2-Trichloroethane	18		2.0	ug/L	20.0		92	57-141			
1,1-Dichloroethane	21		2.0	ug/L	20.0		104	57-142			
1,1-Dichloroethene	13		2.0	ug/L	20.0		65	47-139			
1,2,4-Trichlorobenzene	19		2.0	ug/L	20.0		95	52-159			
1,2-Dibromo-3-chloropropane	23		10	ug/L	20.0		116	48-150			
1,2-Dibromoethane	16		2.0	ug/L	20.0		78	57-140			
1,2-Dichlorobenzene	18		2.0	ug/L	20.0		92	63-131			
1,2-Dichloroethane	24		2.0	ug/L	20.0		120	50-156			
1,2-Dichloropropane	21		2.0	ug/L	20.0		106	61-133			
1,3-Dichlorobenzene	19		2.0	ug/L	20.0		96	66-129			
1,4-Dichlorobenzene	20		2.0	ug/L	20.0		100	65-133			
2-Butanone	68		25	ug/L	100		68	10-180			
2-Hexanone	97		5.0	ug/L	100		97	12-180			
4-Methyl-2-pentanone	83		5.0	ug/L	100		83	19-180			
Acetone	100		25	ug/L	100		105	10-180			
Benzene	20		2.0	ug/L	20.0		98	56-136			
Bromodichloromethane	24		2.0	ug/L	20.0		122	58-135			
Bromoform	19		2.0	ug/L	20.0		96	46-148			
Bromomethane	12		2.0	ug/L	20.0		62	10-173			
Carbon disulfide	9.5	I	10	ug/L	20.0		47	43-153			
Carbon Tetrachloride	22		2.0	ug/L	20.0		109	54-156			
Chlorobenzene	18		2.0	ug/L	20.0		91	51-139			
Chloroethane	18		2.0	ug/L	20.0		92	27-180			
Chloroform	24		2.0	ug/L	20.0		121	58-139			
Chloromethane	14		2.0	ug/L	20.0		69	33-154			
cis-1,2-Dichloroethene	17		2.0	ug/L	20.0		84	56-128			
cis-1,3-Dichloropropene	20		2.0	ug/L	20.0		98	64-128			
Cyclohexane	19		2.0	ug/L	20.0		93	70-130			
Dibromochloromethane	18		2.0	ug/L	20.0		92	50-140			
Dichlorodifluoromethane	16		2.0	ug/L	20.0		81	10-180			
Ethylbenzene	18		2.0	ug/L	20.0		92	63-133			
Freon 113	15		2.0	ug/L	20.0		76	47-173			
Isopropylbenzene	18		2.0	ug/L	20.0		89	60-132			
m,p-Xylenes	37		4.0	ug/L	40.0		93	64-133			
Methyl acetate	18		2.0	ug/L	20.0		91	70-130			
Methyl cyclohexane	20		2.0	ug/L	20.0		99	70-130			
Methylene Chloride	18		10	ug/L	20.0		92	43-142			
Methyl-tert-Butyl Ether	20		2.0	ug/L	20.0		99	51-145			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0H19031 - EPA 5030B_MS - Continued

LCS (0H19031-BS1) Continued Prepared: 08/19/2020 14:43 Analyzed: 08/19/2020 19:09

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
o-Xylene	19		2.0	ug/L	20.0		96	61-129			
Styrene	19		2.0	ug/L	20.0		93	59-136			
Tetrachloroethene	15		2.0	ug/L	20.0		74	60-147			
Toluene	18		2.0	ug/L	20.0		88	64-131			
trans-1,2-Dichloroethene	19		2.0	ug/L	20.0		93	54-134			
trans-1,3-Dichloropropene	18		2.0	ug/L	20.0		92	65-149			
Trichloroethene	20		2.0	ug/L	20.0		98	62-135			
Trichlorofluoromethane	24		2.0	ug/L	20.0		118	56-155			
Vinyl chloride	18		2.0	ug/L	20.0		91	20-167			
4-Bromofluorobenzene	*50*			*ug/L*	*50.0*		*100*	*41-142*			
Dibromofluoromethane	*52*			*ug/L*	*50.0*		*104*	*53-146*			
Toluene-d8	*52*			*ug/L*	*50.0*		*103*	*41-146*			

Matrix Spike (0H19031-MS1) Prepared: 08/19/2020 14:43 Analyzed: 08/19/2020 19:40

Source: AD05147-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	27		2.0	ug/L	20.0	0.80 U	134	57-148			
1,1,2,2-Tetrachloroethane	22		2.0	ug/L	20.0	0.54 U	108	60-139			
1,1,2-Trichloroethane	21		2.0	ug/L	20.0	0.76 U	106	57-141			
1,1-Dichloroethane	24		2.0	ug/L	20.0	0.62 U	119	57-142			
1,1-Dichloroethene	19		2.0	ug/L	20.0	0.94 U	96	47-139			
1,2,4-Trichlorobenzene	24		2.0	ug/L	20.0	0.70 U	118	52-159			
1,2-Dibromo-3-chloropropane	22		10	ug/L	20.0	0.96 U	110	48-150			
1,2-Dibromoethane	20		2.0	ug/L	20.0	0.78 U	98	57-140			
1,2-Dichlorobenzene	22		2.0	ug/L	20.0	0.73 U	109	63-131			
1,2-Dichloroethane	26		2.0	ug/L	20.0	0.63 U	132	50-156			
1,2-Dichloropropane	23		2.0	ug/L	20.0	0.80 U	115	61-133			
1,3-Dichlorobenzene	21		2.0	ug/L	20.0	0.77 U	104	66-129			
1,4-Dichlorobenzene	21		2.0	ug/L	20.0	0.76 U	107	65-133			
2-Butanone	91		25	ug/L	100	4.5 U	91	10-180			
2-Hexanone	100		5.0	ug/L	100	1.4 U	104	12-180			
4-Methyl-2-pentanone	100		5.0	ug/L	100	0.79 U	101	19-180			
Acetone	120		25	ug/L	100	10 U	119	10-180			
Benzene	23		2.0	ug/L	20.0	0.71 U	114	56-136			
Bromodichloromethane	26		2.0	ug/L	20.0	0.52 U	132	58-135			
Bromoform	21		2.0	ug/L	20.0	0.75 U	104	46-148			
Bromomethane	21		2.0	ug/L	20.0	0.95 U	104	10-173			
Carbon disulfide	12		10	ug/L	20.0	2.6 U	62	43-153			
Carbon Tetrachloride	27		2.0	ug/L	20.0	0.94 U	135	54-156			
Chlorobenzene	21		2.0	ug/L	20.0	0.72 U	107	51-139			
Chloroethane	25		2.0	ug/L	20.0	0.98 U	126	27-180			
Chloroform	27		2.0	ug/L	20.0	0.80 U	133	58-139			
Chloromethane	17		2.0	ug/L	20.0	0.82 U	86	33-154			
cis-1,2-Dichloroethene	23		2.0	ug/L	20.0	0.53 U	114	56-128			
cis-1,3-Dichloropropene	23		2.0	ug/L	20.0	0.59 U	114	64-128			
Cyclohexane	22		2.0	ug/L	20.0	0.93 U	110	70-130			
Dibromochloromethane	24		2.0	ug/L	20.0	0.44 U	118	50-140			
Dichlorodifluoromethane	20		2.0	ug/L	20.0	0.74 U	100	10-180			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0H19031 - EPA 5030B_MS - Continued

Matrix Spike (0H19031-MS1) Continued Prepared: 08/19/2020 14:43 Analyzed: 08/19/2020 19:40

Source: AD05147-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	23		2.0	ug/L	20.0	0.69 U	113	63-133			
Freon 113	19		2.0	ug/L	20.0	0.73 U	97	47-173			
Isopropylbenzene	23		2.0	ug/L	20.0	0.67 U	113	60-132			
m,p-Xylenes	47		4.0	ug/L	40.0	1.3 U	117	64-133			
Methyl acetate	19		2.0	ug/L	20.0	0.95 U	96	70-130			
Methyl cyclohexane	24		2.0	ug/L	20.0	0.64 U	118	70-130			
Methylene Chloride	23		10	ug/L	20.0	2.0 U	116	43-142			
Methyl-tert-Butyl Ether	23		2.0	ug/L	20.0	0.60 U	113	51-145			
o-Xylene	23		2.0	ug/L	20.0	0.53 U	117	61-129			
Styrene	23		2.0	ug/L	20.0	0.61 U	115	59-136			
Tetrachloroethene	20		2.0	ug/L	20.0	0.76 U	101	60-147			
Toluene	21		2.0	ug/L	20.0	0.72 U	107	64-131			
trans-1,2-Dichloroethene	23		2.0	ug/L	20.0	0.73 U	113	54-134			
trans-1,3-Dichloropropene	22		2.0	ug/L	20.0	0.73 U	108	65-149			
Trichloroethene	21		2.0	ug/L	20.0	0.89 U	106	62-135			
Trichlorofluoromethane	31		2.0	ug/L	20.0	0.94 U	157	56-155			QM-07
Vinyl chloride	20		2.0	ug/L	20.0	0.71 U	102	20-167			
4-Bromofluorobenzene	*49*	*I*		*ug/L*	*50.0*		*98*	*41-142*			
Dibromofluoromethane	*57*			*ug/L*	*50.0*		*113*	*53-146*			
Toluene-d8	*51*			*ug/L*	*50.0*		*102*	*41-146*			

Matrix Spike Dup (0H19031-MSD1) Prepared: 08/19/2020 14:43 Analyzed: 08/19/2020 20:11

Source: AD05147-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	27		2.0	ug/L	20.0	0.80 U	134	57-148	0.07	25	
1,1,2,2-Tetrachloroethane	21		2.0	ug/L	20.0	0.54 U	107	60-139	1	17	
1,1,2-Trichloroethane	20		2.0	ug/L	20.0	0.76 U	102	57-141	4	16	
1,1-Dichloroethane	23		2.0	ug/L	20.0	0.62 U	116	57-142	2	24	
1,1-Dichloroethene	18		2.0	ug/L	20.0	0.94 U	89	47-139	8	16	
1,2,4-Trichlorobenzene	26		2.0	ug/L	20.0	0.70 U	128	52-159	9	24	
1,2-Dibromo-3-chloropropane	21		10	ug/L	20.0	0.96 U	104	48-150	6	21	
1,2-Dibromoethane	19		2.0	ug/L	20.0	0.78 U	97	57-140	0.7	16	
1,2-Dichlorobenzene	22		2.0	ug/L	20.0	0.73 U	112	63-131	4	25	
1,2-Dichloroethane	25		2.0	ug/L	20.0	0.63 U	124	50-156	6	18	
1,2-Dichloropropane	23		2.0	ug/L	20.0	0.80 U	116	61-133	0.7	26	
1,3-Dichlorobenzene	21		2.0	ug/L	20.0	0.77 U	104	66-129	0.5	23	
1,4-Dichlorobenzene	21		2.0	ug/L	20.0	0.76 U	104	65-133	4	23	
2-Butanone	83		25	ug/L	100	4.5 U	83	10-180	9	29	
2-Hexanone	110		5.0	ug/L	100	1.4 U	108	12-180	4	28	
4-Methyl-2-pentanone	94		5.0	ug/L	100	0.79 U	94	19-180	7	24	
Acetone	110		25	ug/L	100	10 U	110	10-180	7	19	
Benzene	21		2.0	ug/L	20.0	0.71 U	107	56-136	6	14	
Bromodichloromethane	25		2.0	ug/L	20.0	0.52 U	125	58-135	6	19	
Bromoform	19		2.0	ug/L	20.0	0.75 U	94	46-148	10	18	
Bromomethane	23		2.0	ug/L	20.0	0.95 U	117	10-173	11	29	
Carbon disulfide	11		10	ug/L	20.0	2.6 U	57	43-153	9	26	
Carbon Tetrachloride	24		2.0	ug/L	20.0	0.94 U	119	54-156	13	27	
Chlorobenzene	20		2.0	ug/L	20.0	0.72 U	100	51-139	6	13	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0H19031 - EPA 5030B_MS - Continued

Matrix Spike Dup (0H19031-MSD1) Continued Prepared: 08/19/2020 14:43 Analyzed: 08/19/2020 20:11

Source: AD05147-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloroethane	23		2.0	ug/L	20.0	0.98 U	115	27-180	9	22	
Chloroform	25		2.0	ug/L	20.0	0.80 U	123	58-139	8	17	
Chloromethane	15		2.0	ug/L	20.0	0.82 U	77	33-154	11	31	
cis-1,2-Dichloroethene	22		2.0	ug/L	20.0	0.53 U	109	56-128	4	17	
cis-1,3-Dichloropropene	22		2.0	ug/L	20.0	0.59 U	108	64-128	5	20	
Cyclohexane	21		2.0	ug/L	20.0	0.93 U	107	70-130	2	20	
Dibromochloromethane	23		2.0	ug/L	20.0	0.44 U	115	50-140	3	18	
Dichlorodifluoromethane	19		2.0	ug/L	20.0	0.74 U	96	10-180	4	26	
Ethylbenzene	22		2.0	ug/L	20.0	0.69 U	109	63-133	4	18	
Freon 113	19		2.0	ug/L	20.0	0.73 U	95	47-173	1	30	
Isopropylbenzene	22		2.0	ug/L	20.0	0.67 U	111	60-132	2	23	
m,p-Xylenes	42		4.0	ug/L	40.0	1.3 U	104	64-133	12	18	
Methyl acetate	22		2.0	ug/L	20.0	0.95 U	110	70-130	14	20	
Methyl cyclohexane	22		2.0	ug/L	20.0	0.64 U	110	70-130	7	20	
Methylene Chloride	21		10	ug/L	20.0	2.0 U	104	43-142	11	23	
Methyl-tert-Butyl Ether	23		2.0	ug/L	20.0	0.60 U	116	51-145	2	22	
o-Xylene	21		2.0	ug/L	20.0	0.53 U	106	61-129	10	16	
Styrene	21		2.0	ug/L	20.0	0.61 U	104	59-136	10	32	
Tetrachloroethene	21		2.0	ug/L	20.0	0.76 U	103	60-147	2	21	
Toluene	21		2.0	ug/L	20.0	0.72 U	106	64-131	1	16	
trans-1,2-Dichloroethene	22		2.0	ug/L	20.0	0.73 U	111	54-134	2	20	
trans-1,3-Dichloropropene	22		2.0	ug/L	20.0	0.73 U	110	65-149	2	17	
Trichloroethene	23		2.0	ug/L	20.0	0.89 U	117	62-135	10	20	
Trichlorofluoromethane	32		2.0	ug/L	20.0	0.94 U	158	56-155	1	22	QM-07
Vinyl chloride	20		2.0	ug/L	20.0	0.71 U	101	20-167	0.5	24	
4-Bromofluorobenzene	*47*	*I*		*ug/L*	*50.0*		*95*	*41-142*			
Dibromofluoromethane	*57*			*ug/L*	*50.0*		*114*	*53-146*			
Toluene-d8	*50*			*ug/L*	*50.0*		*100*	*41-146*			

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FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.

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B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported result is an estimated value.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence (85% or greater confidence) to make a “tentative identification".
Q	One or more quality control criteria failed.

AD05864

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 1425 | PAGE 1 OF 1

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G08970	CICA	ALEX MURPHY	321-636-647	ENCO
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER: DAN FORESTER	PHONE NUMBER: 304-790-1426	ADDRESS: O'
		CARRIER/WAYBILL NUMBER: COURIER		CITY, STATE: ORLANDO, FL

STANDARD TAT ☒
RUSH TAT ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE (YEAR 2020)	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G): G	PRESERVATIVE USED: HCL	TYPE OF ANALYSIS: 8260D TCL 3BND T.C CLP-like Custom List	COMMENTS
13 AUG	1215	CICA-ASEFFLUENT-20200813	CICA			GW	G	3			X	
13 AUG	1290	CICA-ASINFLUENT-20200813	CICA			GW	G	3			X	

Cooled on ice

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	13AUG20	1430	1. RECEIVED BY	13Aug20	1430
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS: Sm-474 0.6°C

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

8/13/2020

Environmental Conservation Labs, Inc.

Alex Murphy
Tetra Tech, Inc. (TE016)
11 Riverside Drive, Suite 204
Cocoa, FL 32922
Phone: (321) 636-6470
Fax: (321) 636-6473

Reference : **Sample Receipt Confirmation - *Please Review***
Project Name / Number : NASA KSC CRCA / 112G08970
Purchase Order # : 1165883

Lab Reference # : AD05264 Lab Receipt Date: 13-Aug-20 14:30
Anticipated ***(Estimated)*** Completion Date: 20-Aug-20 19:00

This is an automated notification from our laboratory information management system (LIMS), indicating the samples we have recently received and their associated analyses. Should any of the following information be in error, please contact us immediately.

Thank you for choosing Environmental Conservation Laboratories. Should any events occur that delay the processing of your samples or inhibit our ability to complete the project within the projected time frame you will be contacted.

Sincerely,

Kaitlin Dylnicki

Client: Tetra Tech, Inc. (TE016) **Project Name:** NASA KSC CRCA
Requested TAT: 5 **Project Number:** 112G08970

Analysis	TAT	Expires	Status
Sample ID: CRCA-ASEFFLUENT-20200813(Lab ID: AD05264-01), Matrix: Ground Water, Sampled: 13-Aug-20 12:15 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	27-Aug-20 23:59	Received
Sample ID: CRCA-ASINFLUENT-20200813(Lab ID: AD05264-02), Matrix: Ground Water, Sampled: 13-Aug-20 12:20 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	27-Aug-20 23:59	Received

Analysis Groups included in this work order

ENCO Orlando

SDG: AD05264-TE016

CLASS: 01_VOA_MS

METHOD: EPA 8260D

ANALYSES DATA PACKAGE COVER PAGE

EPA 8260D

Laboratory: ENCO Orlando

SDG: AD05264-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-ASEFFLUENT-20200813	AD05264-01
CRCA-ASINFLUENT-20200813	AD05264-02

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLUENT-20200813

Laboratory: ENCO Orlando SDG: AD05264-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AD05264-01 File ID: 205HN030.D

Sampled: 08/13/20 12:15 Prepared: 08/19/20 14:43 Analyzed: 08/19/20 22:46

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 0H19031 Sequence: AA62023 Calibration: 2007048 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.0
74-87-3	Chloromethane	1	0.82	U	0.82	2.0
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.0
74-83-9	Bromomethane	1	0.95	U	0.95	2.0
75-00-3	Chloroethane	1	0.98	U	0.98	2.0
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.0
76-13-1	Freon 113	1	0.73	U	0.73	2.0
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.0
75-15-0	Carbon disulfide	1	2.6	U	2.6	10
75-09-2	Methylene Chloride	1	2.0	U	2.0	10
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.0
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.0
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.0
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.0
78-93-3	2-Butanone	1	4.5	U	4.5	25
67-66-3	Chloroform	1	0.80	U	0.80	2.0
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.0
79-20-9	Methyl acetate	1	0.95	U	0.95	2.0
110-82-7	Cyclohexane	1	0.93	U	0.93	2.0
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.0
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.0
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.0
71-43-2	Benzene	1	0.71	U	0.71	2.0
79-01-6	Trichloroethene	1	0.89	U	0.89	2.0
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.0
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.0
108-10-1	4-Methyl-2-pentanone	1	0.79	U	0.79	5.0
591-78-6	2-Hexanone	1	1.4	U	1.4	5.0
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.0
108-88-3	Toluene	1	0.72	U	0.72	2.0
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.0
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.0
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.0
124-48-1	Dibromochloromethane	1	0.44	U	0.44	2.0
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.0
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.0
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.0
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	4.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.0
75-25-2	Bromoform	1	0.75	U	0.75	2.0

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLUENT-20200813

Laboratory: ENCO Orlando SDG: AD05264-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AD05264-01 File ID: 205HN030.D

Sampled: 08/13/20 12:15 Prepared: 08/19/20 14:43 Analyzed: 08/19/20 22:46

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 0H19031 Sequence: AA62023 Calibration: 2007048 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.0
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.0
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.0
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.0
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.0
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.0
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.0
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	10
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	4.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	54	107	53 - 146	
Toluene-d8	50.0	48	97	41 - 146	
4-Bromofluorobenzene	50.0	48	96	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	865807	10.174	1127360	10.174	
1,4-Difluorobenzene	1687333	10.755	2203623	10.756	
Chlorobenzene-d5	1034928	13.476	1269834	13.476	
1,4-Dichlorobenzene-d4	793766	15.744	1125795	15.744	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLUENT-20200813

Laboratory: ENCO Orlando SDG: AD05264-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AD05264-02 File ID: 205HN031.D

Sampled: 08/13/20 12:20 Prepared: 08/19/20 14:43 Analyzed: 08/19/20 23:17

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 0H19031 Sequence: AA62023 Calibration: 2007048 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.0
74-87-3	Chloromethane	1	0.82	U	0.82	2.0
75-01-4	Vinyl chloride	1	26		0.71	2.0
74-83-9	Bromomethane	1	0.95	U	0.95	2.0
75-00-3	Chloroethane	1	0.98	U	0.98	2.0
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.0
76-13-1	Freon 113	1	0.73	U	0.73	2.0
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.0
75-15-0	Carbon disulfide	1	2.6	U	2.6	10
75-09-2	Methylene Chloride	1	2.0	U	2.0	10
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.0
156-60-5	trans-1,2-Dichloroethene	1	1.1	J	0.73	2.0
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.0
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.0
78-93-3	2-Butanone	1	4.5	U	4.5	25
67-66-3	Chloroform	1	0.80	U	0.80	2.0
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.0
79-20-9	Methyl acetate	1	0.95	U	0.95	2.0
110-82-7	Cyclohexane	1	0.93	U	0.93	2.0
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.0
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.0
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.0
71-43-2	Benzene	1	0.71	U	0.71	2.0
79-01-6	Trichloroethene	1	0.89	U	0.89	2.0
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.0
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.0
108-10-1	4-Methyl-2-pentanone	1	0.79	U	0.79	5.0
591-78-6	2-Hexanone	1	1.4	U	1.4	5.0
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.0
108-88-3	Toluene	1	0.72	U	0.72	2.0
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.0
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.0
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.0
124-48-1	Dibromochloromethane	1	0.44	U	0.44	2.0
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.0
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.0
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.0
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	4.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.0
75-25-2	Bromoform	1	0.75	U	0.75	2.0

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLUENT-20200813

Laboratory: ENCO Orlando SDG: AD05264-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AD05264-02 File ID: 205HN031.D

Sampled: 08/13/20 12:20 Prepared: 08/19/20 14:43 Analyzed: 08/19/20 23:17

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 0H19031 Sequence: AA62023 Calibration: 2007048 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.0
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.0
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.0
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.0
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.0
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.0
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.0
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	10
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	4.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	56	111	53 - 146	
Toluene-d8	50.0	55	110	41 - 146	
4-Bromofluorobenzene	50.0	50	101	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	772653	10.174	1127360	10.174	
1,4-Difluorobenzene	1496004	10.756	2203623	10.756	
Chlorobenzene-d5	909187	13.476	1269834	13.476	
1,4-Dichlorobenzene-d4	770615	15.75	1125795	15.744	

* Values outside of QC limits

HOLDING TIME SUMMARY

EPA 8260D

Laboratory: ENCO Orlando

SDG: AD05264-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-ASEFFLUENT-20200813	08/13/20 12:15	08/13/20 14:30	08/19/20 14:43	6.10	NA	08/19/20 22:46	6.00	14.00	
CRCA-ASINFLUENT-20200813	08/13/20 12:20	08/13/20 14:30	08/19/20 14:43	6.10	NA	08/19/20 23:17	6.00	14.00	

PREPARATION BATCH SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AD05264-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 0H19031 Batch Matrix: Water Preparation: EPA 5030B_MS

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	0H19031-BLK1	205HN027.D	08/19/20 14:43	
LCS	0H19031-BS1	205HN023.D	08/19/20 14:43	
MW-5	0H19031-MS1	205HN024.D	08/19/20 14:43	
MW-5	0H19031-MSD1	205HN025.D	08/19/20 14:43	
CRCA-ASEFFLUENT-20200813	AD05264-01	205HN030.D	08/19/20 14:43	
CRCA-ASINFLUENT-20200813	AD05264-02	205HN031.D	08/19/20 14:43	

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD05264-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	0H19031-BLK1	File ID:	205HN027.D
Prepared:	08/19/20 14:43	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	08/19/20 21:13	Instrument:	OVGCMS5		
Batch:	0H19031	Sequence:	AA62023	Calibration:	2007048

CAS NO.	COMPOUND	CONC. (ug/L)	Q
75-71-8	Dichlorodifluoromethane	0.74	U
74-87-3	Chloromethane	0.82	U
75-01-4	Vinyl chloride	0.71	U
74-83-9	Bromomethane	0.95	U
75-00-3	Chloroethane	0.98	U
75-69-4	Trichlorofluoromethane	0.94	U
76-13-1	Freon 113	0.73	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	0.94	U
75-15-0	Carbon disulfide	2.6	U
75-09-2	Methylene Chloride	2.0	U
1634-04-4	Methyl-tert-Butyl Ether	0.60	U
156-60-5	trans-1,2-Dichloroethene	0.73	U
156-59-2	cis-1,2-Dichloroethene	0.53	U
75-34-3	1,1-Dichloroethane	0.62	U
78-93-3	2-Butanone	4.5	U
67-66-3	Chloroform	0.80	U
71-55-6	1,1,1-Trichloroethane	0.80	U
79-20-9	Methyl acetate	0.95	U
110-82-7	Cyclohexane	0.93	U
108-87-2	Methyl cyclohexane	0.64	U
56-23-5	Carbon Tetrachloride	0.94	U
107-06-2	1,2-Dichloroethane	0.63	U
71-43-2	Benzene	0.71	U
79-01-6	Trichloroethene	0.89	U
78-87-5	1,2-Dichloropropane	0.80	U
75-27-4	Bromodichloromethane	0.52	U
108-10-1	4-Methyl-2-pentanone	0.79	U
591-78-6	2-Hexanone	1.4	U
10061-01-5	cis-1,3-Dichloropropene	0.59	U

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD05264-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	0H19031-BLK1	File ID:	205HN027.D
Prepared:	08/19/20 14:43	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	08/19/20 21:13	Instrument:	OVGCMS5		
Batch:	0H19031	Sequence:	AA62023	Calibration:	2007048

CAS NO.	COMPOUND	CONC. (ug/L)	Q
108-88-3	Toluene	0.72	U
10061-02-6	trans-1,3-Dichloropropene	0.73	U
79-00-5	1,1,2-Trichloroethane	0.76	U
127-18-4	Tetrachloroethene	0.76	U
124-48-1	Dibromochloromethane	0.44	U
106-93-4	1,2-Dibromoethane	0.78	U
108-90-7	Chlorobenzene	0.72	U
100-41-4	Ethylbenzene	0.69	U
108-38-3/106-42-3	m,p-Xylenes	1.3	U
95-47-6	o-Xylene	0.53	U
75-25-2	Bromoform	0.75	U
100-42-5	Styrene	0.61	U
98-82-8	Isopropylbenzene	0.67	U
79-34-5	1,1,2,2-Tetrachloroethane	0.54	U
120-82-1	1,2,4-Trichlorobenzene	0.70	U
541-73-1	1,3-Dichlorobenzene	0.77	U
106-46-7	1,4-Dichlorobenzene	0.76	U
95-50-1	1,2-Dichlorobenzene	0.73	U
96-12-8	1,2-Dibromo-3-chloropropane	0.96	U
1330-20-7	Xylenes (Total)	1.3	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	50	100	53 - 146	
Toluene-d8	50.0	48	96	41 - 146	
4-Bromofluorobenzene	50.0	53	106	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	903585	10.174	1127360	10.174	
1,4-Difluorobenzene	1741438	10.762	2203623	10.756	
Chlorobenzene-d5	1012028	13.476	1269834	13.476	
1,4-Dichlorobenzene-d4	824134	15.75	1125795	15.744	

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD05264-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	0H19031	Laboratory ID:	0H19031-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	16	81	10 - 180
Chloromethane	20.0	14	69	33 - 154
Vinyl chloride	20.0	18	91	20 - 167
Bromomethane	20.0	12	62	10 - 173
Chloroethane	20.0	18	92	27 - 180
Trichlorofluoromethane	20.0	24	118	56 - 155
Freon 113	20.0	15	76	47 - 173
Acetone	100	100	105	10 - 180
1,1-Dichloroethene	20.0	13	65	47 - 139
Carbon disulfide	20.0	9.5	47	43 - 153
Methylene Chloride	20.0	18	92	43 - 142
Methyl-tert-Butyl Ether	20.0	20	99	51 - 145
trans-1,2-Dichloroethene	20.0	19	93	54 - 134
cis-1,2-Dichloroethene	20.0	17	84	56 - 128
1,1-Dichloroethane	20.0	21	104	57 - 142
2-Butanone	100	68	68	10 - 180
Chloroform	20.0	24	121	58 - 139
1,1,1-Trichloroethane	20.0	24	119	57 - 148
Methyl acetate	20.0	18	91	70 - 130
Cyclohexane	20.0	19	93	70 - 130
Methyl cyclohexane	20.0	20	99	70 - 130
Carbon Tetrachloride	20.0	22	109	54 - 156
1,2-Dichloroethane	20.0	24	120	50 - 156
Benzene	20.0	20	98	56 - 136
Trichloroethene	20.0	20	98	62 - 135
1,2-Dichloropropane	20.0	21	106	61 - 133
Bromodichloromethane	20.0	24	122	58 - 135
4-Methyl-2-pentanone	100	83	83	19 - 180
2-Hexanone	100	97	97	12 - 180
cis-1,3-Dichloropropene	20.0	20	98	64 - 128

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD05264-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	0H19031	Laboratory ID:	0H19031-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Toluene	20.0	18	88	64 - 131
trans-1,3-Dichloropropene	20.0	18	92	65 - 149
1,1,2-Trichloroethane	20.0	18	92	57 - 141
Tetrachloroethene	20.0	15	74	60 - 147
Dibromochloromethane	20.0	18	92	50 - 140
1,2-Dibromoethane	20.0	16	78	57 - 140
Chlorobenzene	20.0	18	91	51 - 139
Ethylbenzene	20.0	18	92	63 - 133
m,p-Xylenes	40.0	37	93	64 - 133
o-Xylene	20.0	19	96	61 - 129
Bromoform	20.0	19	96	46 - 148
Styrene	20.0	19	93	59 - 136
Isopropylbenzene	20.0	18	89	60 - 132
1,1,2,2-Tetrachloroethane	20.0	18	92	60 - 139
1,2,4-Trichlorobenzene	20.0	19	95	52 - 159
1,3-Dichlorobenzene	20.0	19	96	66 - 129
1,4-Dichlorobenzene	20.0	20	100	65 - 133
1,2-Dichlorobenzene	20.0	18	92	63 - 131
1,2-Dibromo-3-chloropropane	20.0	23	116	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-5

Laboratory: ENCO Orlando
SDG: AD05264-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 0H19031
Laboratory ID: 0H19031-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-5

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	ND	20	100	10 - 180
Chloromethane	20.0	ND	17	86	33 - 154
Vinyl chloride	20.0	ND	20	102	20 - 167
Bromomethane	20.0	ND	21	104	10 - 173
Chloroethane	20.0	ND	25	126	27 - 180
Trichlorofluoromethane	20.0	ND	31	157 *	56 - 155
Freon 113	20.0	ND	19	97	47 - 173
Acetone	100	ND	120	119	10 - 180
1,1-Dichloroethene	20.0	ND	19	96	47 - 139
Carbon disulfide	20.0	ND	12	62	43 - 153
Methylene Chloride	20.0	ND	23	116	43 - 142
Methyl-tert-Butyl Ether	20.0	ND	23	113	51 - 145
trans-1,2-Dichloroethene	20.0	ND	23	113	54 - 134
cis-1,2-Dichloroethene	20.0	ND	23	114	56 - 128
1,1-Dichloroethane	20.0	ND	24	119	57 - 142
2-Butanone	100	ND	91	91	10 - 180
Chloroform	20.0	ND	27	133	58 - 139
1,1,1-Trichloroethane	20.0	ND	27	134	57 - 148
Methyl acetate	20.0	ND	19	96	70 - 130
Cyclohexane	20.0	ND	22	110	70 - 130
Methyl cyclohexane	20.0	ND	24	118	70 - 130
Carbon Tetrachloride	20.0	ND	27	135	54 - 156
1,2-Dichloroethane	20.0	ND	26	132	50 - 156
Benzene	20.0	ND	23	114	56 - 136
Trichloroethene	20.0	ND	21	106	62 - 135
1,2-Dichloropropane	20.0	ND	23	115	61 - 133
Bromodichloromethane	20.0	ND	26	132	58 - 135
4-Methyl-2-pentanone	100	ND	100	101	19 - 180
2-Hexanone	100	ND	100	104	12 - 180
cis-1,3-Dichloropropene	20.0	ND	23	114	64 - 128
Toluene	20.0	ND	21	107	64 - 131

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-5

Laboratory: ENCO Orlando
SDG: AD05264-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 0H19031
Laboratory ID: 0H19031-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-5

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
trans-1,3-Dichloropropene	20.0	ND	22	108	65 - 149
1,1,2-Trichloroethane	20.0	ND	21	106	57 - 141
Tetrachloroethene	20.0	ND	20	101	60 - 147
Dibromochloromethane	20.0	ND	24	118	50 - 140
1,2-Dibromoethane	20.0	ND	20	98	57 - 140
Chlorobenzene	20.0	ND	21	107	51 - 139
Ethylbenzene	20.0	ND	23	113	63 - 133
m,p-Xylenes	40.0	ND	47	117	64 - 133
o-Xylene	20.0	ND	23	117	61 - 129
Bromoform	20.0	ND	21	104	46 - 148
Styrene	20.0	ND	23	115	59 - 136
Isopropylbenzene	20.0	ND	23	113	60 - 132
1,1,2,2-Tetrachloroethane	20.0	ND	22	108	60 - 139
1,2,4-Trichlorobenzene	20.0	ND	24	118	52 - 159
1,3-Dichlorobenzene	20.0	ND	21	104	66 - 129
1,4-Dichlorobenzene	20.0	ND	21	107	65 - 133
1,2-Dichlorobenzene	20.0	ND	22	109	63 - 131
1,2-Dibromo-3-chloropropane	20.0	ND	22	110	48 - 150

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-5

Laboratory: ENCO Orlando
SDG: AD05264-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 0H19031
Laboratory ID: 0H19031-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-5

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20.0	19	96	4	26	10 - 180
Chloromethane	20.0	15	77	11	31	33 - 154
Vinyl chloride	20.0	20	101	0.5	24	20 - 167
Bromomethane	20.0	23	117	11	29	10 - 173
Chloroethane	20.0	23	115	9	22	27 - 180
Trichlorofluoromethane	20.0	32	158 *	1	22	56 - 155
Freon 113	20.0	19	95	1	30	47 - 173
Acetone	100	110	110	7	19	10 - 180
1,1-Dichloroethene	20.0	18	89	8	16	47 - 139
Carbon disulfide	20.0	11	57	9	26	43 - 153
Methylene Chloride	20.0	21	104	11	23	43 - 142
Methyl-tert-Butyl Ether	20.0	23	116	2	22	51 - 145
trans-1,2-Dichloroethene	20.0	22	111	2	20	54 - 134
cis-1,2-Dichloroethene	20.0	22	109	4	17	56 - 128
1,1-Dichloroethane	20.0	23	116	2	24	57 - 142
2-Butanone	100	83	83	9	29	10 - 180
Chloroform	20.0	25	123	8	17	58 - 139
1,1,1-Trichloroethane	20.0	27	134	0.07	25	57 - 148
Methyl acetate	20.0	22	110	14	20	70 - 130
Cyclohexane	20.0	21	107	2	20	70 - 130
Methyl cyclohexane	20.0	22	110	7	20	70 - 130
Carbon Tetrachloride	20.0	24	119	13	27	54 - 156
1,2-Dichloroethane	20.0	25	124	6	18	50 - 156
Benzene	20.0	21	107	6	14	56 - 136
Trichloroethene	20.0	23	117	10	20	62 - 135
1,2-Dichloropropane	20.0	23	116	0.7	26	61 - 133
Bromodichloromethane	20.0	25	125	6	19	58 - 135
4-Methyl-2-pentanone	100	94	94	7	24	19 - 180
2-Hexanone	100	110	108	4	28	12 - 180
cis-1,3-Dichloropropene	20.0	22	108	5	20	64 - 128
Toluene	20.0	21	106	1	16	64 - 131
trans-1,3-Dichloropropene	20.0	22	110	2	17	65 - 149

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-5

Laboratory: ENCO Orlando
SDG: AD05264-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 0H19031
Laboratory ID: 0H19031-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-5

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,2-Trichloroethane	20.0	20	102	4	16	57 - 141
Tetrachloroethene	20.0	21	103	2	21	60 - 147
Dibromochloromethane	20.0	23	115	3	18	50 - 140
1,2-Dibromoethane	20.0	19	97	0.7	16	57 - 140
Chlorobenzene	20.0	20	100	6	13	51 - 139
Ethylbenzene	20.0	22	109	4	18	63 - 133
m,p-Xylenes	40.0	42	104	12	18	64 - 133
o-Xylene	20.0	21	106	10	16	61 - 129
Bromoform	20.0	19	94	10	18	46 - 148
Styrene	20.0	21	104	10	32	59 - 136
Isopropylbenzene	20.0	22	111	2	23	60 - 132
1,1,2,2-Tetrachloroethane	20.0	21	107	1	17	60 - 139
1,2,4-Trichlorobenzene	20.0	26	128	9	24	52 - 159
1,3-Dichlorobenzene	20.0	21	104	0.5	23	66 - 129
1,4-Dichlorobenzene	20.0	21	104	4	23	65 - 133
1,2-Dichlorobenzene	20.0	22	112	4	25	63 - 131
1,2-Dibromo-3-chloropropane	20.0	21	104	6	21	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD05264-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA61386
Instrument: OVGCMS5
Matrix: Water
Calibration: 2007048

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA61386-SCV1)			Lab File ID: 205GD011.D		Analyzed: 07/09/20 14:47			
Dibromofluoromethane	50.0	110	70 - 130	9.768	9.7675	0.0005	+/-0.5	
Toluene-d8	50.0	104	70 - 130	12.06	12.06	0.0000	+/-0.5	
4-Bromofluorobenzene	50.0	106	70 - 130	14.575	14.576	-0.0010	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD05264-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA62023
Instrument: OVGCMS5
Matrix: Water
Calibration: 2007048

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA62023-CCV1)				Lab File ID: 205HN022.D		Analyzed: 08/19/20 18:38		
Dibromofluoromethane	50.0	112	80 - 120	9.763	9.7675	-0.0045	+/-0.5	
Toluene-d8	50.0	104	80 - 120	12.06	12.06	0.0000	+/-0.5	
4-Bromofluorobenzene	50.0	97	80 - 120	14.575	14.576	-0.0010	+/-0.5	
LCS (0H19031-BS1)				Lab File ID: 205HN023.D		Analyzed: 08/19/20 19:09		
Dibromofluoromethane	50.0	104	53 - 146	9.763	9.7675	-0.0045	+/-0.5	
Toluene-d8	50.0	103	41 - 146	12.054	12.06	-0.0060	+/-0.5	
4-Bromofluorobenzene	50.0	100	41 - 142	14.575	14.576	-0.0010	+/-0.5	
Matrix Spike (0H19031-MS1)				Lab File ID: 205HN024.D		Analyzed: 08/19/20 19:40		
Dibromofluoromethane	50.0	113	53 - 146	9.763	9.7675	-0.0045	+/-0.5	
Toluene-d8	50.0	102	41 - 146	12.054	12.06	-0.0060	+/-0.5	
4-Bromofluorobenzene	50.0	98	41 - 142	14.569	14.576	-0.0070	+/-0.5	
Matrix Spike Dup (0H19031-MSD1)				Lab File ID: 205HN025.D		Analyzed: 08/19/20 20:11		
Dibromofluoromethane	50.0	114	53 - 146	9.763	9.7675	-0.0045	+/-0.5	
Toluene-d8	50.0	100	41 - 146	12.054	12.06	-0.0060	+/-0.5	
4-Bromofluorobenzene	50.0	95	41 - 142	14.575	14.576	-0.0010	+/-0.5	
Blank (0H19031-BLK1)				Lab File ID: 205HN027.D		Analyzed: 08/19/20 21:13		
Dibromofluoromethane	50.0	100	53 - 146	9.763	9.7675	-0.0045	+/-0.5	
Toluene-d8	50.0	96	41 - 146	12.06	12.06	0.0000	+/-0.5	
4-Bromofluorobenzene	50.0	106	41 - 142	14.569	14.576	-0.0070	+/-0.5	
Instrument RL Check (AA62023-CRL1)				Lab File ID: 205HN028.D		Analyzed: 08/19/20 21:44		
Dibromofluoromethane	50.0	115	1 - 199	9.768	9.7675	0.0005	+/-0.5	
Toluene-d8	50.0	102	1 - 199	12.054	12.06	-0.0060	+/-0.5	
4-Bromofluorobenzene	50.0	98	1 - 199	14.575	14.576	-0.0010	+/-0.5	
CRCA-ASEFFLUENT-20200813 (AD05264-01)				Lab File ID: 205HN030.D		Analyzed: 08/19/20 22:46		
Dibromofluoromethane	50.0	107	53 - 146	9.762	9.7675	-0.0055	+/-0.5	
Toluene-d8	50.0	97	41 - 146	12.054	12.06	-0.0060	+/-0.5	
4-Bromofluorobenzene	50.0	96	41 - 142	14.575	14.576	-0.0010	+/-0.5	
CRCA-ASINFLUENT-20200813 (AD05264-02)				Lab File ID: 205HN031.D		Analyzed: 08/19/20 23:17		
Dibromofluoromethane	50.0	111	53 - 146	9.768	9.7675	0.0005	+/-0.5	
Toluene-d8	50.0	110	41 - 146	12.06	12.06	0.0000	+/-0.5	
4-Bromofluorobenzene	50.0	101	41 - 142	14.581	14.576	0.0050	+/-0.5	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AD05264-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA61386
Instrument: OVGCMS5
Matrix: Water
Calibration: 2007048

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA61386-CAL1)			Lab File ID: 205GD002.D			Analyzed: 07/09/20 10:04			
Pentafluorobenzene	1152506	10.174	1127360	10.174	102	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2189346	10.762	2203623	10.756	99	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1269105	13.476	1269834	13.476	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1114284	15.75	1125795	15.744	99	50 - 200	0.0060	+/-0.50	
Cal Standard (AA61386-CAL2)			Lab File ID: 205GD003.D			Analyzed: 07/09/20 10:35			
Pentafluorobenzene	1119375	10.174	1127360	10.174	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2185370	10.756	2203623	10.756	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1250270	13.476	1269834	13.476	98	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1108095	15.744	1125795	15.744	98	50 - 200	0.0000	+/-0.50	
Cal Standard (AA61386-CAL3)			Lab File ID: 205GD004.D			Analyzed: 07/09/20 11:07			
Pentafluorobenzene	1128299	10.174	1127360	10.174	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2162334	10.756	2203623	10.756	98	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1204139	13.476	1269834	13.476	95	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1046324	15.744	1125795	15.744	93	50 - 200	0.0000	+/-0.50	
Cal Standard (AA61386-CAL4)			Lab File ID: 205GD005.D			Analyzed: 07/09/20 11:38			
Pentafluorobenzene	1131162	10.174	1127360	10.174	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2172641	10.755	2203623	10.756	99	50 - 200	-0.0010	+/-0.50	
Chlorobenzene-d5	1231826	13.476	1269834	13.476	97	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1035372	15.75	1125795	15.744	92	50 - 200	0.0060	+/-0.50	
Cal Standard (AA61386-CAL5)			Lab File ID: 205GD006.D			Analyzed: 07/09/20 12:09			
Pentafluorobenzene	1127360	10.174	1127360	10.174	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2203623	10.756	2203623	10.756	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1269834	13.476	1269834	13.476	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1125795	15.744	1125795	15.744	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA61386-CAL6)			Lab File ID: 205GD007.D			Analyzed: 07/09/20 12:41			
Pentafluorobenzene	1200475	10.174	1127360	10.174	106	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2343000	10.756	2203623	10.756	106	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1754508	13.476	1269834	13.476	138	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1413715	15.75	1125795	15.744	126	50 - 200	0.0060	+/-0.50	
Cal Standard (AA61386-CAL7)			Lab File ID: 205GD008.D			Analyzed: 07/09/20 13:12			
Pentafluorobenzene	1208809	10.174	1127360	10.174	107	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2246408	10.755	2203623	10.756	102	50 - 200	-0.0010	+/-0.50	
Chlorobenzene-d5	1548841	13.476	1269834	13.476	122	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1557541	15.744	1125795	15.744	138	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AD05264-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA61386
Instrument: OVGCMS5
Matrix: Water
Calibration: 2007048

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA61386-SCV1)			Lab File ID: 205GD011.D			Analyzed: 07/09/20 14:47			
Pentafluorobenzene	1573576	10.174	1127360	10.174	140	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	3068781	10.761	2203623	10.756	139	50 - 200	0.0050	+/-0.50	
Chlorobenzene-d5	1742355	13.476	1269834	13.476	137	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1532116	15.744	1125795	15.744	136	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AD05264-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA62023
Instrument: OVGCMS5
Matrix: Water
Calibration: 2007048

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA62023-CCV1)			Lab File ID: 205HN022.D			Analyzed: 08/19/20 18:38			
Pentafluorobenzene	916904	10.174	1127360	10.174	81	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	1739594	10.756	2203623	10.756	79	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1115298	13.476	1269834	13.476	88	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	925646	15.744	1125795	15.744	82	50 - 200	0.0000	+/-0.50	
LCS (0H19031-BS1)			Lab File ID: 205HN023.D			Analyzed: 08/19/20 19:09			
Pentafluorobenzene	901333	10.168	1127360	10.174	80	50 - 200	-0.0060	+/-0.50	
1,4-Difluorobenzene	1724669	10.761	2203623	10.756	78	50 - 200	0.0050	+/-0.50	
Chlorobenzene-d5	1115349	13.476	1269834	13.476	88	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	907644	15.75	1125795	15.744	81	50 - 200	0.0060	+/-0.50	
Matrix Spike (0H19031-MS1)			Lab File ID: 205HN024.D			Analyzed: 08/19/20 19:40			
Pentafluorobenzene	912724	10.174	1127360	10.174	81	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	1808125	10.761	2203623	10.756	82	50 - 200	0.0050	+/-0.50	
Chlorobenzene-d5	1118109	13.47	1269834	13.476	88	50 - 200	-0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	942774	15.75	1125795	15.744	84	50 - 200	0.0060	+/-0.50	
Matrix Spike Dup (0H19031-MSD1)			Lab File ID: 205HN025.D			Analyzed: 08/19/20 20:11			
Pentafluorobenzene	916848	10.168	1127360	10.174	81	50 - 200	-0.0060	+/-0.50	
1,4-Difluorobenzene	1830081	10.756	2203623	10.756	83	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1137228	13.47	1269834	13.476	90	50 - 200	-0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	933638	15.744	1125795	15.744	83	50 - 200	0.0000	+/-0.50	
Blank (0H19031-BLK1)			Lab File ID: 205HN027.D			Analyzed: 08/19/20 21:13			
Pentafluorobenzene	903585	10.174	1127360	10.174	80	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	1741438	10.762	2203623	10.756	79	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1012028	13.476	1269834	13.476	80	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	824134	15.75	1125795	15.744	73	50 - 200	0.0060	+/-0.50	
Instrument RL Check (AA62023-CRL1)			Lab File ID: 205HN028.D			Analyzed: 08/19/20 21:44			
Pentafluorobenzene	867499	10.174	1127360	10.174	77	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	1733366	10.756	2203623	10.756	79	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1096677	13.476	1269834	13.476	86	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	869324	15.744	1125795	15.744	77	50 - 200	0.0000	+/-0.50	
CRCA-ASEFFLUENT-20200813 (AD05264-01)			Lab File ID: 205HN030.D			Analyzed: 08/19/20 22:46			
Pentafluorobenzene	865807	10.174	1127360	10.174	77	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	1687333	10.755	2203623	10.756	77	50 - 200	-0.0010	+/-0.50	
Chlorobenzene-d5	1034928	13.476	1269834	13.476	82	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	793766	15.744	1125795	15.744	71	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AD05264-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA62023
Instrument: OVGCMS5
Matrix: Water
Calibration: 2007048

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
CRCA-ASINFLUENT-20200813 (AD05264-02)			Lab File ID: 205HN031.D			Analyzed: 08/19/20 23:17			
Pentafluorobenzene	772653	10.174	1127360	10.174	69	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	1496004	10.756	2203623	10.756	68	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	909187	13.476	1269834	13.476	72	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	770615	15.75	1125795	15.744	68	50 - 200	0.0060	+/-0.50	

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD05264-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA61386		
Calibration:	2007048	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA61386-TUN1	205GD001.D	07/09/20 09:28
Cal Standard	AA61386-CAL1	205GD002.D	07/09/20 10:04
Cal Standard	AA61386-CAL2	205GD003.D	07/09/20 10:35
Cal Standard	AA61386-CAL3	205GD004.D	07/09/20 11:07
Cal Standard	AA61386-CAL4	205GD005.D	07/09/20 11:38
Cal Standard	AA61386-CAL5	205GD006.D	07/09/20 12:09
Cal Standard	AA61386-CAL6	205GD007.D	07/09/20 12:41
Cal Standard	AA61386-CAL7	205GD008.D	07/09/20 13:12
Secondary Cal Check	AA61386-SCV1	205GD011.D	07/09/20 14:47

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD05264-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA62023		
Calibration:	2007048	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA62023-CCV1	205HN022.D	08/19/20 18:38
LCS	0H19031-BS1	205HN023.D	08/19/20 19:09
MW-5	0H19031-MS1	205HN024.D	08/19/20 19:40
MW-5	0H19031-MSD1	205HN025.D	08/19/20 20:11
Blank	0H19031-BLK1	205HN027.D	08/19/20 21:13
Instrument RL Check	AA62023-CRL1	205HN028.D	08/19/20 21:44
CRCA-ASEFFLUENT-20200813	AD05264-01	205HN030.D	08/19/20 22:46
CRCA-ASINFLUENT-20200813	AD05264-02	205HN031.D	08/19/20 23:17

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD05264-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	205GD001.D	Injection Date:	07/09/20
Instrument ID:	OVGCMS5	Injection Time:	09:28
Sequence:	AA61386	Lab Sample ID:	AA61386-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	168	PASS
96	5 - 9% of 95	6.3	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	59.5	PASS
175	5 - 9% of 174	8.76	PASS
176	95 - 105% of 174	96.6	PASS
177	5 - 10% of 176	7.35	PASS

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD05264-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2007048
Lab File ID:	205HN022.D	Calibration Date:	07/09/20 08:24
Sequence:	AA62023	Injection Date:	08/19/20
Lab Sample ID:	AA62023-CCV1	Injection Time:	18:38

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Dichlorodifluoromethane	A	20.0	20	0.7002951	0.7164491		2.3	20	
Chloromethane	A	20.0	16	0.8718785	0.6401134		-20	20	
Vinyl chloride	A	20.0	19	0.7607313	0.7288577		-4.2	20	
Bromomethane	A	20.0	23	0.1841557	0.1873642		17	20	
Chloroethane	A	20.0	21	0.448756	0.4041672		4.8	20	
Trichlorofluoromethane	A	20.0	25	0.6738428	0.8067993		24	20	*
Freon 113	A	50.0	52	0.2704437	0.2964563		4.1	20	
Acetone	A	250	220	0.1147152	8.391217E-02		-10	20	
1,1-Dichloroethene	A	50.0	52	0.4126869	0.4184048		3.8	20	
Carbon disulfide	A	250	280	1.257171	1.388476		10	20	
Methylene Chloride	A	50.0	58	0.5232112	0.5400947		16	20	
Methyl-tert-Butyl Ether	A	50.0	53	1.166187	1.24179		6.5	20	
trans-1,2-Dichloroethene	A	50.0	51	0.48927	0.4569431		1.1	20	
cis-1,2-Dichloroethene	A	50.0	52	0.5419778	0.5624362		3.8	20	
1,1-Dichloroethane	A	50.0	57	0.9375499	1.075432		15	20	
2-Butanone	A	250	210	5.272231E-02	4.261864E-02		-17	20	
Chloroform	A	50.0	60	0.8713262	1.016967		20	20	
1,1,1-Trichloroethane	A	50.0	58	0.6989067	0.8052806		15	20	
Methyl acetate	A	50.0	47	0.4497971	0.2910414		-5.1	20	
Cyclohexane	A	50.0	53	0.9900575	1.048521		5.9	20	
Methyl cyclohexane	A	50.0	50	0.6345564	0.523621		-0.7	20	
Carbon Tetrachloride	A	50.0	59	0.2850189	0.3357318		18	20	
1,2-Dichloroethane	A	50.0	60	0.3117444	0.3651795		21	20	*
Benzene	A	50.0	54	1.143411	1.241457		8.6	20	
Trichloroethene	A	50.0	52	0.2496954	0.2556217		4.4	20	
1,2-Dichloropropane	A	50.0	55	0.2920672	0.3220579		10	20	
Bromodichloromethane	A	50.0	61	0.2979376	0.3656922		23	20	*
4-Methyl-2-pentanone	A	250	200	2.886127E-02	2.408367E-02		-20	20	
2-Hexanone	A	250	220	0.1387504	0.1335874		-13	20	

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD05264-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2007048
Lab File ID:	205HN022.D	Calibration Date:	07/09/20 08:24
Sequence:	AA62023	Injection Date:	08/19/20
Lab Sample ID:	AA62023-CCV1	Injection Time:	18:38

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
cis-1,3-Dichloropropene	A	50.0	54	0.4015974	0.432306		7.6	20
Toluene	A	50.0	43	1.244399	1.081049		-13	20
trans-1,3-Dichloropropene	A	50.0	51	0.5804293	0.5906717		1.8	20
1,1,2-Trichloroethane	A	50.0	47	0.4005465	0.3412837		-6.2	20
Tetrachloroethene	A	50.0	41	0.3590686	0.2719031		-18	20
Dibromochloromethane	A	50.0	48	0.3118066	0.3180746		-4.8	20
1,2-Dibromoethane	A	50.0	47	0.3459792	0.3222475		-6.9	20
Chlorobenzene	A	50.0	46	1.195037	1.109358		-7.2	20
Ethylbenzene	A	50.0	47	0.6572842	0.6191081		-5.8	20
m,p-Xylenes	A	100	97	0.8577147	0.8341681		-2.7	20
o-Xylene	A	50.0	48	0.7949865	0.7636363		-3.9	20
Bromoform	A	50.0	48	0.1742456	0.1659314		-4.8	20
Styrene	A	50.0	49	1.349058	1.325332		-1.8	20
Isopropylbenzene	A	50.0	47	2.173146	2.042489		-6	20
1,1,2,2-Tetrachloroethane	A	50.0	43	0.5137789	0.4190163		-14	20
1,2,4-Trichlorobenzene	A	50.0	46	0.3835533	0.3774931		-7.9	20
1,3-Dichlorobenzene	A	50.0	47	1.132501	1.074034		-5.2	20
1,4-Dichlorobenzene	A	50.0	49	1.173968	1.153158		-1.8	20
1,2-Dichlorobenzene	A	50.0	49	1.011431	0.9899		-2.1	20
1,2-Dibromo-3-chloropropane	A	50.0	49	6.909762E-02	6.688734E-02		-1.1	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD05264-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA61386	Instrument:	OVGCMS5
Calibration:	2007048		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A0F0994	MS Tune (lower conc.)	AA61386-TUN1	205GD001.D	07/09/20 09:28
A0G0652	8260 Cal 1PPB	AA61386-CAL1	205GD002.D	07/09/20 10:04
A0G0653	8260 Cal 2 PPB	AA61386-CAL2	205GD003.D	07/09/20 10:35
A0G0654	8260 Cal 5 PPB	AA61386-CAL3	205GD004.D	07/09/20 11:07
A0G0655	8260 Cal 20 PPB	AA61386-CAL4	205GD005.D	07/09/20 11:38
A0G0656	8260 Cal 50 PPB	AA61386-CAL5	205GD006.D	07/09/20 12:09
A0G0657	8260 Cal 80 PPB	AA61386-CAL6	205GD007.D	07/09/20 12:41
A0G0658	8260 Cal 100 PPB	AA61386-CAL7	205GD008.D	07/09/20 13:12
A0G0662	8260 SCV 50 ppb/20 Gases	AA61386-SCV1	205GD011.D	07/09/20 14:47

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD05264-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2007048
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 07/09/20 08:24

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	1	0.6058971	2	0.7156672	5	0.6764608	20	0.7120863	50	0.7383471	80	~~0.7274412~~
Chloromethane	1	0.89826	2	0.8624679	5	1.126457	20	0.7296479	50	0.8212763	80	~~0.7307805~~
Vinyl chloride	1	0.6624694	2	0.6627582	5	0.8321642	20	0.7149285	50	0.8436826	80	~~0.7712421~~
Bromomethane	1	0.1444678	2	0.2601228	5	0.1461492	20	0.1631331	50	0.1767803	80	~~0.1964863~~
Chloroethane	1	0.3953992	2	0.4824344	5	0.543021	20	0.4489543	50	0.373971	80	~~0.3514421~~
Trichlorofluoromethane	1	0.4806483	2	0.627895	5	0.8481528	20	0.7978521	50	0.6432275	80	~~0.7373946~~
Freon 113	1	0.1582204	2	0.3075377	5	0.3003991	20	0.2766469	50	0.284202	80	~~0.2925061~~
Acetone	5	0.1703332	10	0.1317834	25	0.1057326	100	8.865883E-02	250	9.432923E-02	400	~~8.893875E-02~~
1,1-Dichloroethene	1	0.342341	2	0.5008822	5	0.4429411	20	0.3682076	50	0.40815	80	~~0.417214~~
Carbon disulfide	5	1.032437	10	1.322443	25	1.271734	100	1.337166	250	1.341454	400	~~1.264655~~
Methylene Chloride	1	0.5437282	2	0.587828	5	0.6321374	20	0.4206073	50	0.4952571	80	~~0.4619343~~
Methyl-tert-Butyl Ether	1	1.031969	2	1.29416	5	1.311301	20	1.019195	50	1.186724	80	~~1.130221~~
trans-1,2-Dichloroethene	1	0.6129686	2	0.5233054	5	0.4628738	20	0.4178557	50	0.4697107	80	~~0.4626601~~
cis-1,2-Dichloroethene	1	0.5133596	2	0.5879844	5	0.6226364	20	0.4874943	50	0.5269275	80	~~0.5459152~~
1,1-Dichloroethane	1	0.9638995	2	1.081764	5	0.9887361	20	0.7850799	50	0.912296	80	~~0.9323986~~
2-Butanone	5	6.777405E-02	10	6.102959E-02	25	4.466369E-02	100	3.808164E-02	250	5.311897E-02	400	~~5.226921E-02~~
Chloroform	1	0.6825995	2	0.961005	5	1.075956	20	0.7864324	50	0.877418	80	~~0.9057696~~
1,1,1-Trichloroethane	1	0.6320574	2	0.7766387	5	0.7362587	20	0.6797722	50	0.6816554	80	~~0.718792~~
Methyl acetate	1	0.8025989	2	0.5827359	5	0.4150496	20	0.2733362	50	0.3210643	80	~~0.2867896~~
Cyclohexane	1	1.084289	2	0.9721943	5	1.012994	20	0.9374055	50	0.9583602	80	~~1.0457~~
Methyl cyclohexane	1	0.8711962	2	0.7704874	5	0.6411035	20	0.4946802	50	0.4927853	80	~~0.5202238~~
Carbon Tetrachloride	1	0.261585	2	0.320472	5	0.2795082	20	0.2632487	50	0.2815885	80	~~0.2982125~~
1,2-Dichloroethane	1	0.2914569	2	0.3729117	5	0.3506998	20	0.2579338	50	0.2894152	80	~~0.2955271~~
Benzene	1	1.009114	2	1.339716	5	1.264587	20	1.034764	50	1.057728	80	~~1.0942~~
Trichloroethene	1	0.2001054	2	0.3226685	5	0.2802481	20	0.2112395	50	0.2354214	80	~~0.2485222~~
1,2-Dichloropropane	1	0.2668377	2	0.3530066	5	0.2893309	20	0.2630267	50	0.2701002	80	~~0.3012553~~
Bromodichloromethane	1	0.2628639	2	0.3194425	5	0.3100307	20	0.2520136	50	0.2978808	80	~~0.3256845~~
4-Methyl-2-pentanone	5	2.522214E-02	10	1.943149E-02	25	3.444704E-02	100	2.635249E-02	250	3.159479E-02	400	~~3.728249E-02~~
2-Hexanone	5	9.022329E-02	10	0.1227367	25	0.1549058	100	0.1226774	250	0.1415726	400	~~0.1897439~~
cis-1,3-Dichloropropene	1	0.3519316	2	0.3912381	5	0.4245505	20	0.3652847	50	0.4100847	80	~~0.466361~~
Toluene	1	1.187806	2	1.417874	5	1.435665	20	1.132583	50	1.17893	80	~~1.076145~~

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD05264-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2007048
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 07/09/20 08:24

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	1	0.5263552	2	0.5863733	5	0.6419857	20	0.5459436	50	0.6053437	80	~~0.5360025~~
1,1,2-Trichloroethane	1	0.4058766	2	0.5222872	5	0.4149272	20	0.3273758	50	0.3689703	80	~~0.3186178~~
Tetrachloroethene	1	0.3504438	2	0.4671391	5	0.3937004	20	0.2886853	50	0.3179935	80	~~0.2684228~~
Dibromochloromethane	1	0.1568822	2	0.3784982	5	0.3855618	20	0.2817098	50	0.3314496	80	~~0.3279933~~
1,2-Dibromoethane	1	0.3278689	2	0.3366273	5	0.3672001	20	0.3077545	50	0.3339358	80	~~0.3542207~~
Chlorobenzene	1	1.044397	2	1.372444	5	1.389474	20	1.090513	50	1.135882	80	~~1.182817~~
Ethylbenzene	1	0.5173725	2	0.6773737	5	0.7334203	20	0.6303325	50	0.6589625	80	~~0.7056483~~
m,p-Xylenes	2	0.8247939	4	0.9407668	10	0.9635972	40	0.7996036	100	0.8070019	160	~~0.8298883~~
o-Xylene	1	0.6218162	2	0.8371992	5	0.9177429	20	0.7602859	50	0.8072512	80	~~0.8432239~~
Bromoform	1	0.142699	2	0.2021763	5	0.1613269	20	0.1537798	50	0.1827609	80	~~0.1957764~~
Styrene	1	1.049677	2	1.419653	5	1.413716	20	1.290702	50	1.444269	80	~~1.491173~~
Isopropylbenzene	1	1.755647	2	2.307002	5	2.330603	20	2.058109	50	2.096931	80	~~2.182328~~
1,1,2,2-Tetrachloroethane	1	0.3654544	2	0.5854136	5	0.5778818	20	0.4464064	50	0.494467	80	~~0.4636984~~
1,2,4-Trichlorobenzene	1	0.2846671	2	0.3979578	5	0.375314	20	0.359564	50	0.4197123	80	~~0.3927683~~
1,3-Dichlorobenzene	1	0.959854	2	1.266949	5	1.313666	20	1.024236	50	1.10373	80	~~1.078488~~
1,4-Dichlorobenzene	1	1.137681	2	1.348711	5	1.279002	20	1.052441	50	1.106279	80	~~1.154569~~
1,2-Dichlorobenzene	1	0.9231489	2	1.110532	5	1.097595	20	0.8898662	50	1.017276	80	~~1.050511~~
1,2-Dibromo-3-chloropropane	1	4.594879E-02	2	8.880105E-02	5	0.0671207	20	6.441646E-02	50	0.0661044	80	~~6.901983E-02~~
Dibromofluoromethane	50	0.5077813	55	0.5278368	60	0.5031837	65	0.4903208	50	0.529758	70	~~0.4774146~~
Toluene-d8	50	1.291576	55	1.26413	60	1.225495	65	1.182852	50	1.269339	70	~~1.229431~~
4-Bromofluorobenzene	50	0.8830183	55	0.8556668	60	0.8892094	65	0.8613098	50	0.8902526	70	~~0.79638~~

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD05264-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2007048
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 07/09/20 08:24

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	100	0.7533121										
Chloromethane	100	0.7931621										
Vinyl chloride	100	0.8483851										
Bromomethane	100	0.2142808										
Chloroethane	100	~~0.1458539~~										
Trichlorofluoromethane	100	0.645281										
Freon 113	100	0.2956559										
Acetone	500	9.745369E-02										
1,1-Dichloroethene	100	0.4135997										
Carbon disulfide	500	1.237791										
Methylene Chloride	100	0.4597095										
Methyl-tert-Butyl Ether	100	1.153776										
trans-1,2-Dichloroethene	100	0.4489059										
cis-1,2-Dichloroethene	100	0.5134649										
1,1-Dichloroethane	100	0.8935241										
2-Butanone	500	0.0516659										
Chloroform	100	0.8445466										
1,1,1-Trichloroethane	100	0.6870577										
Methyl acetate	100	0.3039976										
Cyclohexane	100	0.9751019										
Methyl cyclohexane	100	0.5370859										
Carbon Tetrachloride	100	0.3037109										
1,2-Dichloroethane	100	0.3080491										
Benzene	100	1.154554										
Trichloroethene	100	0.2484894										
1,2-Dichloropropane	100	0.3101013										
Bromodichloromethane	100	0.3453941										
4-Methyl-2-pentanone	500	3.611966E-02										
2-Hexanone	500	0.2003864										
cis-1,3-Dichloropropene	100	0.466495										
Toluene	100	1.113534										

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD05264-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Calibration:	2007048	Instrument:	OVGCMS5
Matrix:	Water	Calibration Date:	07/09/20 08:24

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	100	0.5765744										
1,1,2-Trichloroethane	100	0.3638417										
Tetrachloroethene	100	0.3364493										
Dibromochloromethane	100	0.3367382										
1,2-Dibromoethane	100	0.4024884										
Chlorobenzene	100	1.13751										
Ethylbenzene	100	0.7262434										
m,p-Xylenes	200	0.8105249										
o-Xylene	100	0.8256238										
Bromoform	100	0.2027309										
Styrene	100	1.476333										
Isopropylbenzene	100	2.490587										
1,1,2,2-Tetrachloroethane	100	0.6130503										
1,2,4-Trichlorobenzene	100	0.4641043										
1,3-Dichlorobenzene	100	1.126572										
1,4-Dichlorobenzene	100	1.119692										
1,2-Dichlorobenzene	100	1.030165										
1,2-Dibromo-3-chloropropane	100	0.0821943										
Dibromofluoromethane	75	0.4489846										
Toluene-d8	75	1.238432										
4-Bromofluorobenzene	75	0.9888573										

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD05264-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2007048
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 07/09/20 08:24

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	0.7002951	7.586582	4.294167	7.144504E-02			20	
Chloromethane	0.8718785	15.77469	4.739	8.202086E-02	0.9987154		0.99	
Vinyl chloride	0.7607313	11.90626	4.93	6.683706E-02			20	
Bromomethane	0.1841557	24.51955	5.595	8.638697E-02		0.9997809	0.99	
Chloroethane	0.448756	15.13821	5.8224	0.1727513	0.993		0.99	
Trichlorofluoromethane	0.6738428	19.57009	6.074667	0.2773693	0.9967725		0.99	
Freon 113	0.2704437	20.74022	6.937333	0.1806856		0.9999468	0.99	
Acetone	0.1147152	27.17167	7.773833	0.1245235		0.9996759	0.99	
1,1-Dichloroethene	0.4126869	13.5532	6.915	8.895072E-02		0.9996203	0.99	
Carbon disulfide	1.257171	9.334522	7.007	5.565065E-02			20	
Methylene Chloride	0.5232112	15.24297	7.711	2.936948E-02	0.9974792		0.99	
Methyl-tert-Butyl Ether	1.166187	10.68483	8.002	6.242901E-02			20	
trans-1,2-Dichloroethene	0.48927	14.23923	7.918	6.807218E-02	0.9991042		0.99	
cis-1,2-Dichloroethene	0.5419778	9.569395	9.301167	5.469225E-02			20	
1,1-Dichloroethane	0.9375499	10.65919	8.694	5.111859E-02			20	
2-Butanone	5.272231E-02	20.36014	9.888833	0.1272229	0.9961425		0.99	
Chloroform	0.8713262	15.69377	9.564	2.971603E-02	0.9990621		0.99	
1,1,1-Trichloroethane	0.6989067	7.213981	9.829	3.052159E-02			20	
Methyl acetate	0.4497971	45.81324	7.890167	8.785247E-02	0.9973015		0.99	
Cyclohexane	0.9900575	5.291944	9.543167	4.545967E-02			20	
Methyl cyclohexane	0.6345564	24.78566	10.76517	2.340118E-02	0.9976393		0.99	
Carbon Tetrachloride	0.2850189	8.110033	9.757	5.656922E-02			20	
1,2-Dichloroethane	0.3117444	13.66848	10.412	2.970803E-02	0.9977597		0.99	
Benzene	1.143411	11.76783	10.208	0.0187547			20	
Trichloroethene	0.2496954	18.26661	10.76517	2.340118E-02	0.998149		0.99	
1,2-Dichloropropane	0.2920672	11.86928	11.28617	5.391151E-02			20	
Bromodichloromethane	0.2979376	11.81913	11.318	0.0254339			20	
4-Methyl-2-pentanone	2.886127E-02	21.90351	12.403	2.893834E-02		0.9996492	0.99	
2-Hexanone	0.1387504	26.84639	13.12817	4.390212E-02		0.9994429	0.99	
cis-1,3-Dichloropropene	0.4015974	10.38875	11.89417	7.801936E-02			20	

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD05264-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2007048
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 07/09/20 08:24

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Toluene	1.244399	11.5782	12.11	3.833249E-02			20	
trans-1,3-Dichloropropene	0.5804293	7.134132	12.46617	3.903239E-02			20	
1,1,2-Trichloroethane	0.4005465	16.84199	12.628	3.071577E-02	0.9992428		0.99	
Tetrachloroethene	0.3590686	17.66022	12.482	3.826065E-02	0.9981146		0.99	
Dibromochloromethane	0.3118066	27.1385	12.817	6.392567E-02	0.9985165		0.99	
1,2-Dibromoethane	0.3459792	9.729116	13.07333	3.598163E-02			20	
Chlorobenzene	1.195037	12.39504	13.49467	9.187018E-03			20	
Ethylbenzene	0.6572842	12.02977	13.45617	3.552345E-02			20	
m,p-Xylenes	0.8577147	8.625706	13.571	2.593852E-02			20	
o-Xylene	0.7949865	12.4692	13.982	4.733068E-02			20	
Bromoform	0.1742456	14.62039	14.127	3.169079E-02			20	
Styrene	1.349058	11.83521	14.02517	3.038022E-02			20	
Isopropylbenzene	2.173146	11.94343	14.243	3.189642E-02			20	
1,1,2,2-Tetrachloroethane	0.5137789	18.67041	14.716	1.807467E-02		0.9996083	0.99	
1,2,4-Trichlorobenzene	0.3835533	15.82691	18.481	4.192638E-02		0.9998013	0.99	
1,3-Dichlorobenzene	1.132501	12.06118	15.67433	1.934304E-02			20	
1,4-Dichlorobenzene	1.173968	9.725625	15.76433	1.661552E-02			20	
1,2-Dichlorobenzene	1.011431	8.865507	16.298	2.376709E-02			20	
1,2-Dibromo-3-chloropropane	6.909762E-02	21.76043	17.38417	6.884058E-02		0.9994726	0.99	
Dibromofluoromethane	0.5013109	5.928917	9.7675	0.0320121			20	
Toluene-d8	1.245304	3.092	12.06	2.334517E-02			20	
4-Bromofluorobenzene	0.894719	5.404353	14.576	1.658788E-02			20	

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AD05264-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2007048 **Laboratory ID:** AA61386-SCV1

Sequence: AA61386 **Standard ID:** A0G0662

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Cyclohexane	50.0	46	-8.9	30.00
Ethylbenzene	50.0	53	6.4	30.00
Carbon Tetrachloride	50.0	46	-8.9	30.00
1,3-Dichlorobenzene	50.0	53	5.9	30.00
4-Bromofluorobenzene	50.0	53	6.2	30.00
Toluene-d8	50.0	52	3.9	30.00
Dibromofluoromethane	50.0	55	9.8	30.00
Methyl-tert-Butyl Ether	50.0	51	1.8	30.00
trans-1,2-Dichloroethene	50.0	51	1.2	30.00
cis-1,2-Dichloroethene	50.0	49	-2.3	30.00
Tetrachloroethene	50.0	49	-2.5	30.00
Acetone	250	280	13.8	30.00
1,2,4-Trichlorobenzene	50.0	56	11.1	30.00
Chloroform	50.0	50	-0.1	30.00
Chlorobenzene	50.0	51	2.6	30.00
Toluene	50.0	50	-0.6	30.00
Methyl cyclohexane	50.0	47	-6.2	30.00
m,p-Xylenes	100	100	0.3	30.00
4-Methyl-2-pentanone	250	270	8.1	30.00
1,2-Dichloroethane	50.0	46	-7.2	30.00
1,2-Dibromoethane	50.0	53	6.6	30.00
1,4-Dichlorobenzene	50.0	50	0.5	30.00
trans-1,3-Dichloropropene	50.0	54	7.0	30.00
cis-1,3-Dichloropropene	50.0	51	1.8	30.00
Styrene	50.0	57	14.5	30.00
Dibromochloromethane	50.0	54	8.8	30.00
1,1-Dichloroethene	50.0	42	-16.1	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AD05264-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2007048 **Laboratory ID:** AA61386-SCV1

Sequence: AA61386 **Standard ID:** A0G0662

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
1,2-Dibromo-3-chloropropane	50.0	62	23.9	30.00
1,2-Dichlorobenzene	50.0	56	11.7	30.00
o-Xylene	50.0	53	6.9	30.00
1,1,2,2-Tetrachloroethane	50.0	56	11.7	30.00
Methyl acetate	50.0	48	-4.4	30.00
Trichloroethene	50.0	47	-6.5	30.00
1,1,2-Trichloroethane	50.0	53	5.9	30.00
2-Butanone	250	280	10.7	30.00
1,2-Dichloropropane	50.0	48	-4.1	30.00
Freon 113	50.0	42	-15.7	30.00
2-Hexanone	250	260	3.4	30.00
Trichlorofluoromethane	20.0	21	4.1	30.00
Isopropylbenzene	50.0	53	5.5	30.00
1,1-Dichloroethane	50.0	46	-7.5	30.00
Bromodichloromethane	50.0	52	4.0	30.00
Bromoform	50.0	60	20.7	30.00
Carbon disulfide	50.0	33	-33.8 *	30.00
Methylene Chloride	50.0	52	3.6	30.00
Vinyl chloride	20.0	17	-14.4	30.00
Chloroethane	20.0	17	-13.3	30.00
Chloromethane	20.0	16	-19.4	30.00
Bromomethane	20.0	21	3.2	30.00
1,1,1-Trichloroethane	50.0	48	-4.3	30.00
Benzene	50.0	48	-4.6	30.00
Dichlorodifluoromethane	20.0	15	-24.4	30.00

* Values outside of QC limits

ANALYSIS SEQUENCE

AA62023

Instrument: OVGCMS5

Calibration ID: 2007048

Printed: 8/19/2020 2:46:59PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA62023-CCV1	QC		1		A0H0923	A0H0536		
0H19031-BS1	QC		2			A0H0536		
0H19031-MS1	QC		3			A0H0536		
0H19031-MSD1	QC		4			A0H0536		
0H19031-BLK1	QC		5			A0H0536		
AA62023-CRL1	QC		6		A0H0924	A0H0536		
AD05147-01	60D TCL SOM01.2 CLP-LIK	C	7			A0H0536		BatchQC
AD05147-01	8260D Arom	C	8			A0H0536		history 1x kkw081820 Btex / Mtbe
AD05264-01	60D TCL SOM01.2 CLP-LIK	B	9			A0H0536	Tetra Tech, Inc. (TE016)	history 1x kkw081720 custom
AD05264-02	60D TCL SOM01.2 CLP-LIK	A	10			A0H0536	Tetra Tech, Inc. (TE016)	history 1x kkw081720 custom
AD04958-01	8260D Arom	G	11			A0H0536		hist1x nd nc8/18/20
AD04958-02	8260D Arom	G	12			A0H0536		hist1x nd nc8/18/20
AD04958-03	8260D Arom	G	13			A0H0536		hist1x nd nc8/18/20
AD04958-04	8260D Arom	G	14			A0H0536		hist1x nd nc8/18/20
AD04958-05	8260D Arom	A	15			A0H0536		tb
AD05147-02	8260D Arom	F	16			A0H0536		history 1x kkw081820 Btex / Mtbe
AD05147-03	8260D Arom	B	17			A0H0536		history 1x kkw081820 Btex / Mtbe
AD05147-04	8260D Arom	A	18			A0H0536		history 1x kkw081820 Btex / Mtbe
AD05147-05	8260D Arom	A	19			A0H0536		history 1x kkw081820 Btex / Mtbe
AD05147-06	8260D Arom	A	20			A0H0536		history 1x kkw081820 Btex / Mtbe
AD05147-07	8260D Arom	D	21			A0H0536		history 1x kkw081820 Btex / Mtbe
AD05147-08	8260D Arom	B	22			A0H0536		history 1x kkw081820 Btex / Mtbe

Samples Loaded By _____ Date _____

Data Processed By _____ Date _____

ANALYSIS SEQUENCE

AA62023

Instrument: OVGCMS5

Calibration ID: 2007048

Printed: 8/19/2020 2:46:59PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments

Samples Loaded By _____ Date _____

Data Processed By _____ Date _____

VOLATILES GC/MS LOGBOOK (EPA Method 624.1 / SW-846 Method 8260D)

Tune Start Date: 08/19/20 | Surrogate: A0f0982 | 8260 Mix: A040680
Sequence: AA60023 | Internal: A0 H0535 | 8260 Add: A040687
Batch: OH19031 | LCS Mix 2⁰: A0G1021 | 8260 Ac/Ac: A0G.150
Method: 8260 | LCS Acrolein 2⁰: A040683 | 8260 Gases: A040543
Analyst: CJ | LCS Gas 2⁰: A040648 | Instrument #: MS-5
Instrument EM Voltage: 1804

205HN

Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)	Comments	LIMS
021	mse			21				
022	CCV1		N 08/20/20	22		N 08/20/20	✓	
023	BS1			23			✓	
024	MS1	D	1	24	✓	N	✓	
025	MSD1	D	1	24	✓	N	✓	
026	mse			25				
027	BLK1		N 08/20/20	26		N 08/20/20	✓	
028	CCL			27			✓	
029	A005147-01	C	1	28	✓	N	✓	MS/MSD
030	A005264-01	B	1	29	✓	N	✓	
031	A005264-02	A	1	30	✓	N	✓	
032	A004958-01	G	1	31	✓	N	✓	
033	A004958-02	G	1	32	✓	N	✓	
034	A004958-03	G	1	33	✓	N	✓	
035	A004958-04	G	1	34	✓	N	✓	
036	A004958-05	A	1	35	✓	N	✓	
037	A005147-02	F	1	36	✓	N	✓	
038	A005147-03	B	1	37	✓	N	✓	
039	A005147-04	A	1	38	✓	N	✓	
040	A005147-05	A	1	39	✓	N	✓	
041	A005147-06	A	1	40	✓	N	✓	

VOLATILES GC/MS LOGBOOK (EPA Method 624.1 / SW-846 Method 8260D)

Tune Start Date:	Surrogate:	8260 Mix:
Sequence:	Internal:	8260 Add:
Batch:	LCS Mix 2⁰: Surr BS 195	8260 Ac/Ac:
Method:	LCS Acrolein 2⁰: MD 08/19/20	8260 Gases:
Analyst:	LCS Gas 2⁰:	Instrument #: MS-5
Instrument EM Voltage:		

205HN

Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)	Comments	LIMS
042	A005147-07	D	1	41	✓	N	✓	
043	A005147-08	B	1	42	✓	N	✓	

MD 08/20/20

PREPARATION BENCH SHEET

Printed: 8/19/2020 2:45:47PM

0H19031

ENCO Orlando

Analysis
8260D Arom [EPA 8260D]
8260D TCL SOM01.2 CLP-LIKE [EPA 8260D]

Surrogate Solution
__ A0F0992 8260 surr working (lower conc.)

Prepared using: EPA 5030B_MS

Spiking Solution
A0G1021 8260 2nd source Mega Mix
A0H0698 8260 2nd source Gases/Acrolein virtual

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
0H19031-BLK1		Blank		QC			5	5			5	
0H19031-BS1		LCS		QC			5	5	A0H0698 A0G1021	2 2	5	
0H19031-MS1		Matrix Spike [AD05147-01]		QC			5	5	A0H0698 A0G1021	2 2	5	
0H19031-MSD1		Matrix Spike Dup [AD05147-01]		QC			5	5	A0H0698 A0G1021	2 2	5	
AD04958-01		MW-14 G[MS24	21-Aug-20	8260D Arom			5	5			5	hist1x nd nc8/18/20
AD04958-02		MW-19 G[MS24	21-Aug-20	8260D Arom			5	5			5	hist1x nd nc8/18/20
AD04958-03		MW-21 G[MS24	21-Aug-20	8260D Arom			5	5			5	hist1x nd nc8/18/20
AD04958-04		MW-23 G[MS24	21-Aug-20	8260D Arom			5	5			5	hist1x nd nc8/18/20
AD04958-05		TRIP BLANK A[MS24	21-Aug-20	8260D Arom			5	5			5	tb
AD05147-01		MW-5 C[MS25		8260D TCL SOM01.2 CLP-LIKE			5	5			5	Added for BatchQC in: 0H19031
AD05147-01		MW-5 C[MS25	21-Aug-20	8260D Arom			5	5			5	history 1x kkw081820 Btex / Mtbe
AD05147-02		MW-7R F[MS25	21-Aug-20	8260D Arom			5	5			5	history 1x kkw081820 Btex / Mtbe
AD05147-03		MW-13 B[MS25	21-Aug-20	8260D Arom			5	5			5	history 1x kkw081820 Btex / Mtbe
AD05147-04		MW-14 A[MS25	21-Aug-20	8260D Arom			5	5			5	history 1x kkw081820 Btex / Mtbe
AD05147-05		MW-15 A[MS25	21-Aug-20	8260D Arom			5	5			5	history 1x kkw081820 Btex / Mtbe
AD05147-06		MW-16 A[MS25	21-Aug-20	8260D Arom			5	5			5	history 1x kkw081820 Btex / Mtbe
AD05147-07		MW-17 D[MS25	21-Aug-20	8260D Arom			5	5			5	history 1x kkw081820 Btex / Mtbe
AD05147-08		DW-1 B[MS25	21-Aug-20	8260D Arom			5	5			5	history 1x kkw081820 Btex / Mtbe
AD05264-01	C	CRCA-ASEFFLUENT-2020081B[MS44	20-Aug-20	8260D TCL SOM01.2 CLP-LIKE			5	5			5	history 1x kkw081720 custom

PREPARATION BENCH SHEET

Printed: 8/19/2020 2:45:47PM

0H19031

ENCO Orlando

Prepared using: EPA 5030B_MS

Surrogate Solution

___ A0F0992 8260 surr working (lower conc.)

Spiking Solution

A0G1021 8260 2nd source Mega Mix
A0H0698 8260 2nd source Gases/Acrolein virtual

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
AD05264-02	C	CRCA-ASINFLUENT-20200813A[MS44	20-Aug-20	8260D TCL SOM01.2 CLP-LIKE			5	5			5	history 1x kkw081720 custom

(1) Before solvent extraction proceeds, verify that there is no residual chlorine above 0.5 mg/L. Any sample above this must be treated to remove excess chlorine before extraction, and this documented as a comment.

Instrument 5
EST Centurian autosampler manufacturer reccommends adding 5 uL of IS/SS.

Start Date _____

StopDate _____

Instrument ID _____

Standard ID#	Description	Manufacture Lot#
A0A1401	pH Test Papers (1.0 to 12.0)	231018
A0B1371	Residual Chlorine Strips (Potassium Iodide S	102916
A0G0489	P&T Anti-Foam working solution	N/A

_____ _____
Samples Prepared By Date

_____ _____
Samples Prepared By Date

Manual Integration Review Form

ENVIRONMENTAL CONSERVATION LABORATORIES, INC. ☐ Cary ☐ Jacksonville ☐ Orlando

I hereby attest that the manual integrations contained in this package have been thoroughly reviewed and are in agreement with the associated hardcopy data.

The electronic files listed below have been reviewed for accuracy, completeness and comply with ENCO labs QA-11 Manual Integration Policy including:

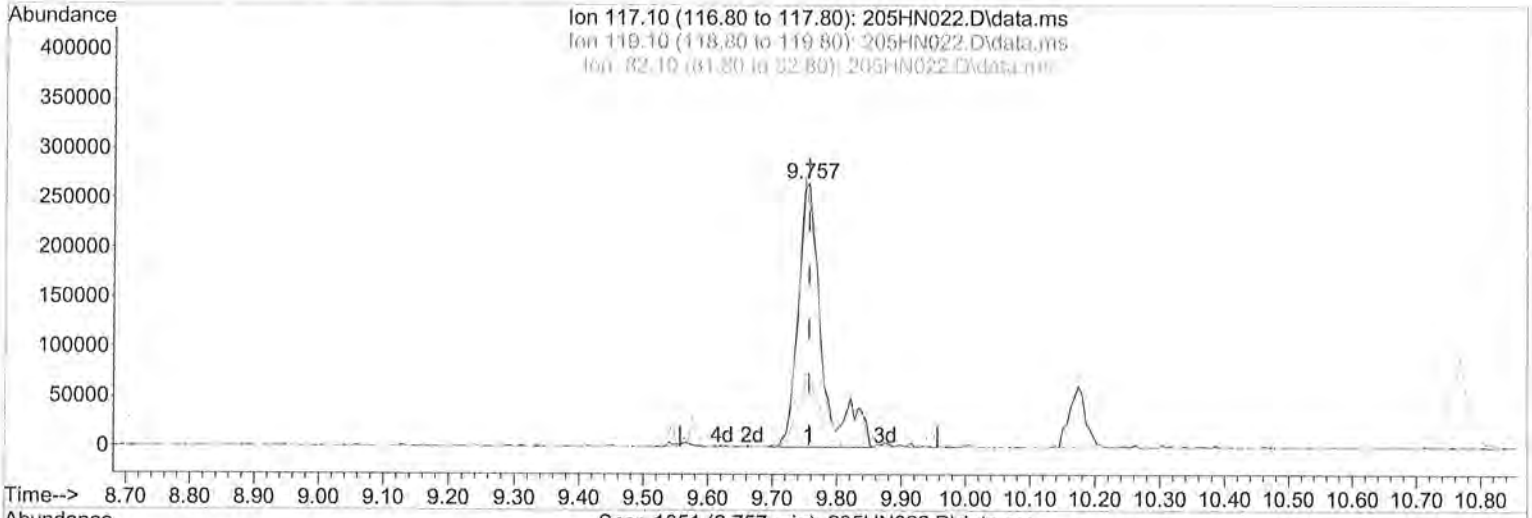
- "Before" and "After" chromatograms are provided
- Manual integrations are indicated on expanded scale "after" chromatograms at a scale large enough to see the manual integration performed.
- Reintegration technique marked if available on the data system
- Technical justification for manual integration
- Appropriate flags indicating which analytes were manually integrated are included in the raw data
- Analyst's initials and date.

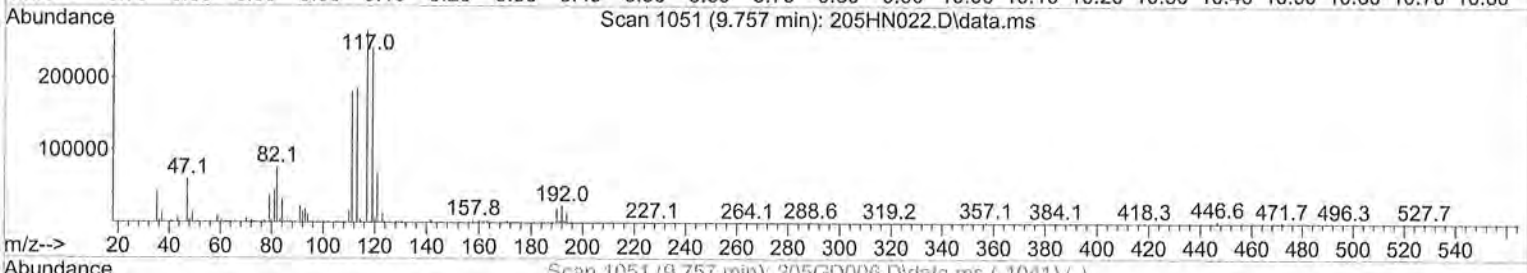
Instrument ID:	NGCMS-5
Sequence/Batch ID:	AAC2023/OH1903
Data File Prefix:	205HN
Date and Time Range of MIs:	08/20/20 08:39 ~~Off~~ IW 08h04 - 1036
Reviewer Print Name:	Neil Christiana
Reviewer Signature:	
Date of Review:	08/20/20

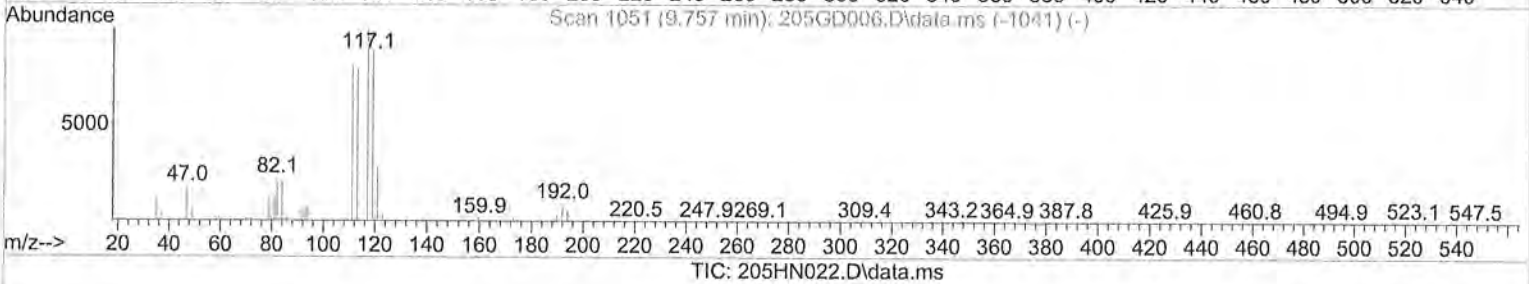
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN022.D
Acq On : 19 Aug 2020 6:38 pm
Operator : KKW
InstName : OVGCMS5
Sample : AA62023-CCV1
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Aug 20 08:16:36 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration







TIC: 205HN022.D\data.ms

(40) Carbon Tetrachloride

9.757min (0.000) 68.28 ug/L

response 677107

Ion	Exp%	Act%
117.10	100.00	100.00
119.10	107.10	101.93
82.10	28.40	24.15
0.00	0.00	0.00

Select One:

[X] Original integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date 8/20/20

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN022.D
Acq On : 19 Aug 2020 6:38 pm
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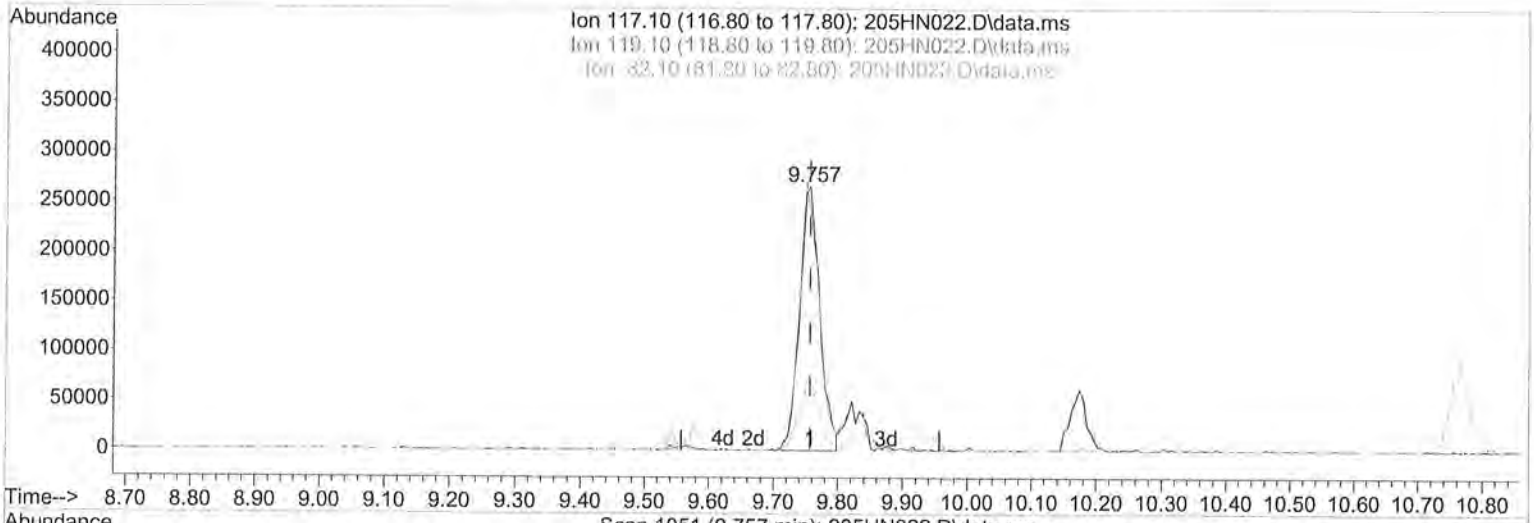
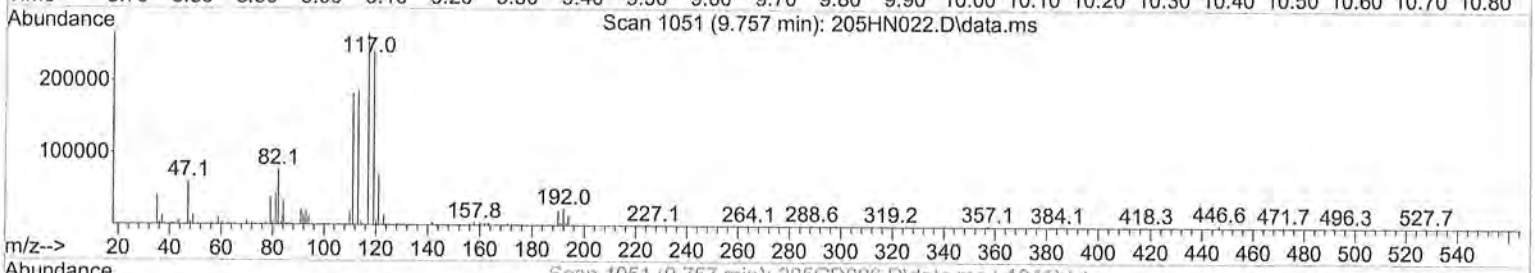
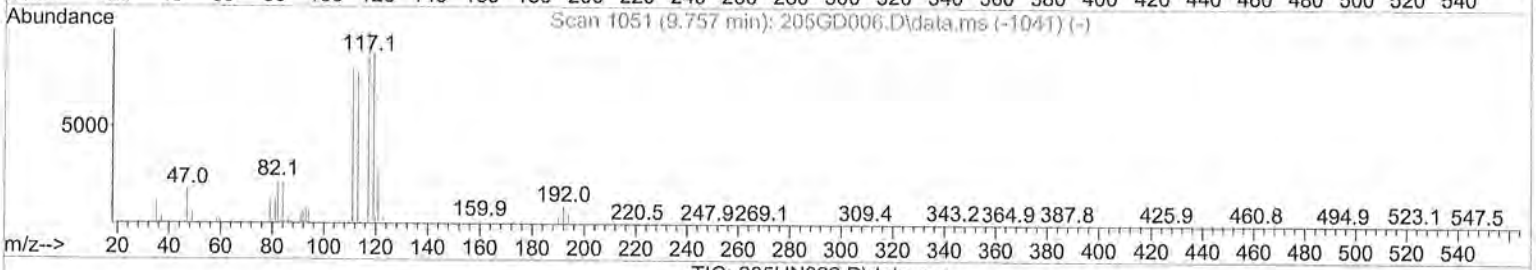
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration







TIC: 205HN022.D\data.ms

(40) Carbon Tetrachloride

9.757min (0.000) 58.90 ug/L m

response 584037

Ion	Exp%	Act%
117.10	100.00	100.00
119.10	107.10	118.18
82.10	28.40	28.00
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date: KJ 08/20/20

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN022.D
Acq On : 19 Aug 2020 6:38 pm
Operator : KKW
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Sample : AA62023-CCV1
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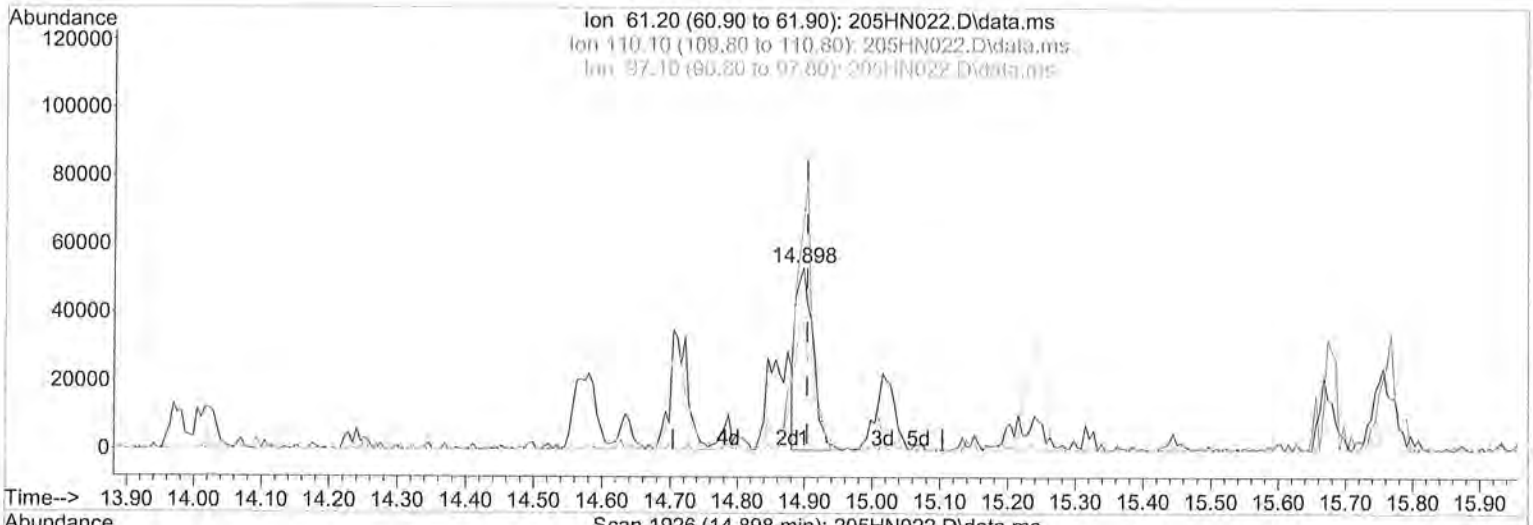
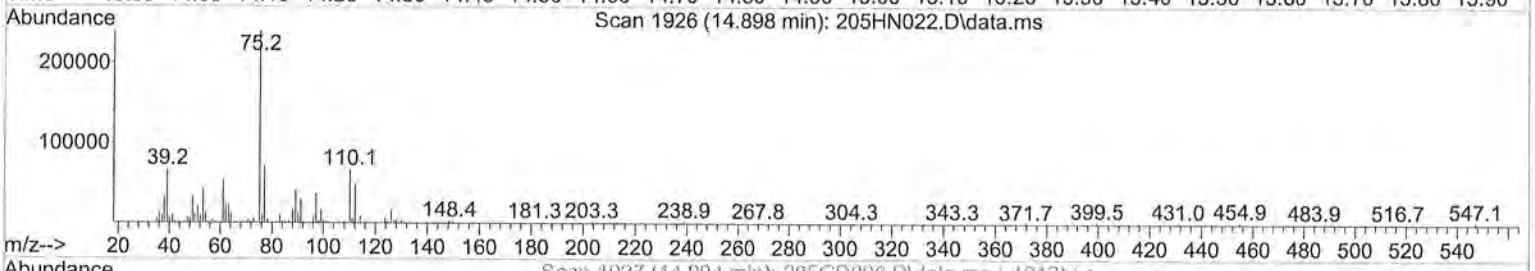
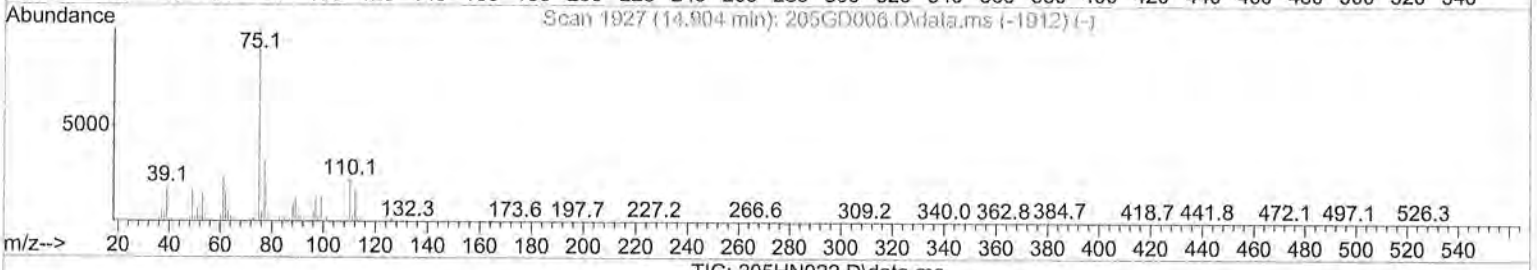
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Aug 20 08:16:36 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration







TIC: 205HN022.D\data.ms

(77) 1,2,3-Trichloropropane

14.898min (-0.006) 32.85 ug/L

response 97191

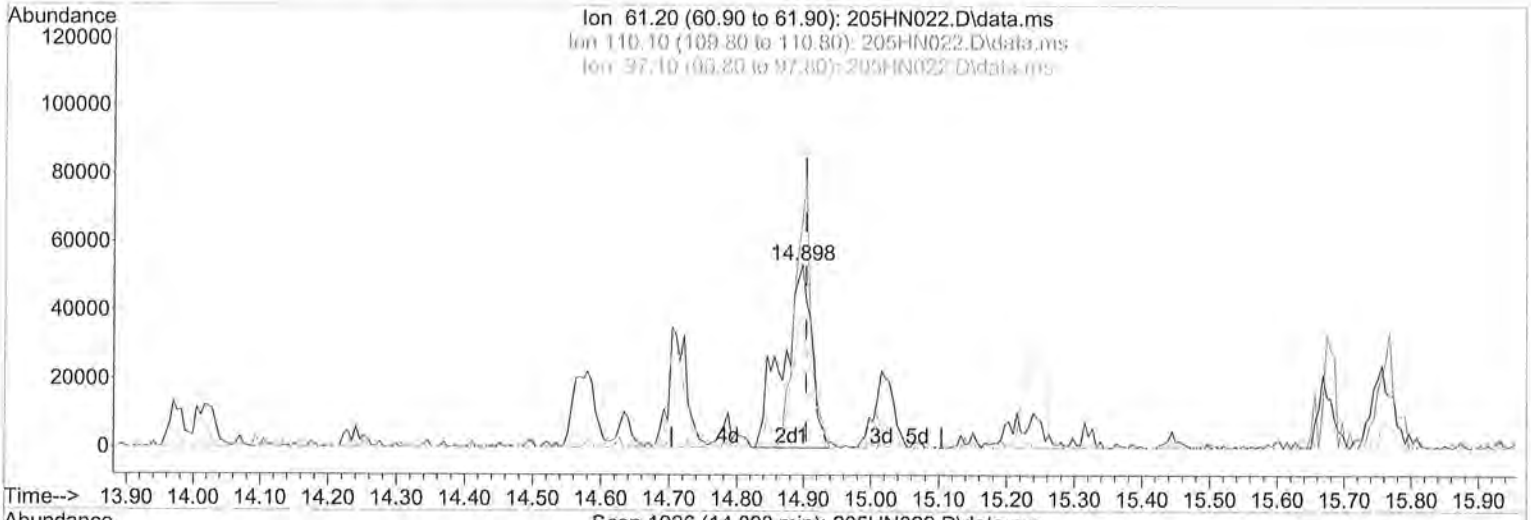
Ion	Exp%	Act%
61.20	100.00	100.00
110.10	84.40	136.58#
97.10	55.90	83.16#
0.00	0.00	0.00

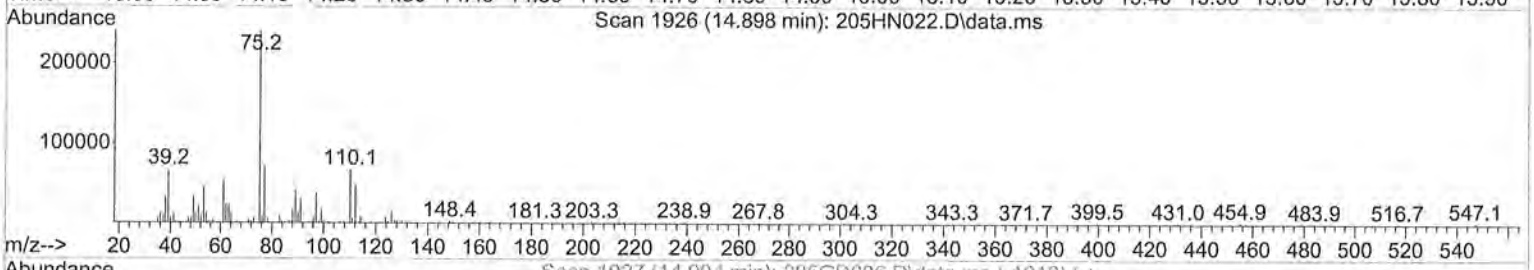
[X] Manual integration [ ] Manual integration
[ ] Ramp integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date 8/20/20
Review by/Date:

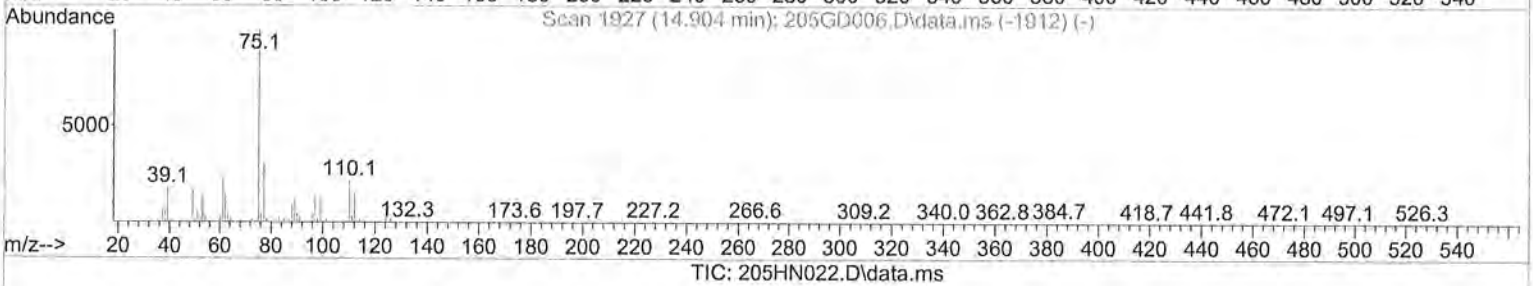
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN022.D
Acq On : 19 Aug 2020 6:38 pm
Operator : KKW
InstName : OVGCMS5
Sample : AA62023-CCV1
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Aug 20 08:16:36 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration







TIC: 205HN022.D\data.ms

(77) 1,2,3-Trichloropropane

14.898min (-0.006) 49.95 ug/L m

response 161854

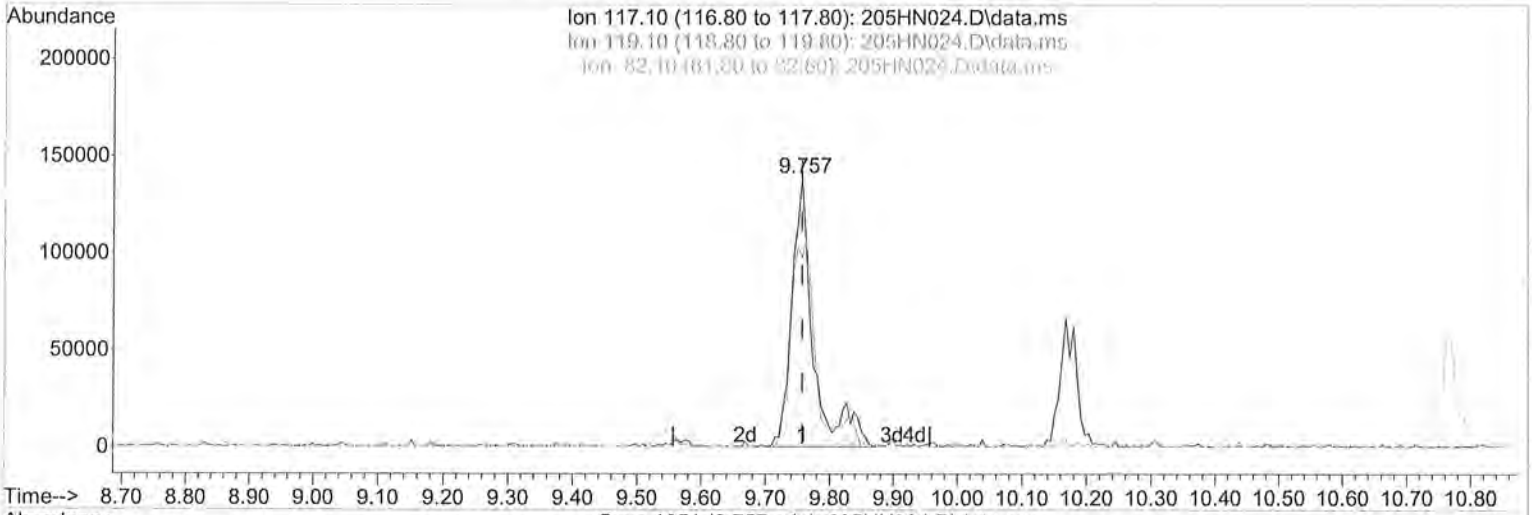
Ion	Exp%	Act%
61.20	100.00	100.00
110.10	84.40	82.01
97.10	55.90	49.94
0.00	0.00	0.00

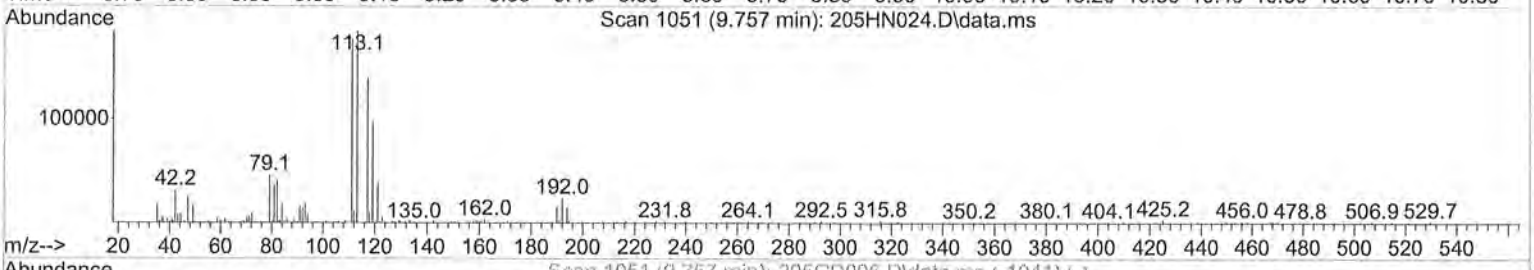
Select one:
[ ] Integration OK / Manual Integration
Select reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date
Review by/Date:

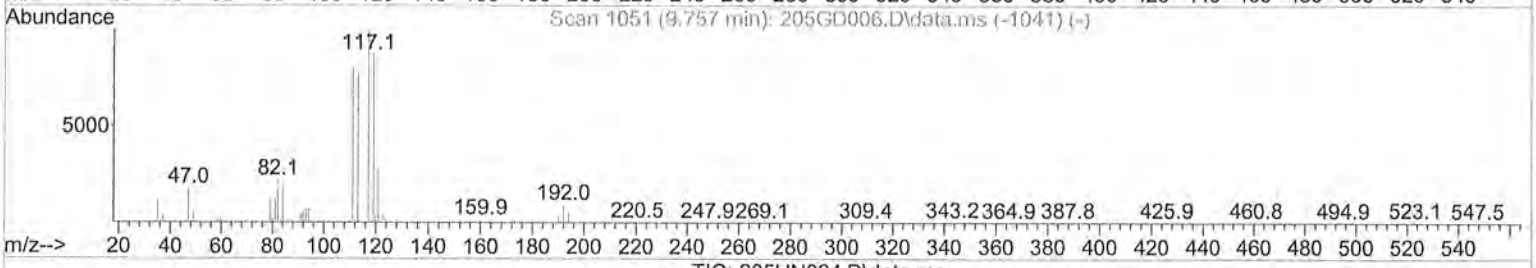
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN024.D
Acq On : 19 Aug 2020 7:40 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0H19031-MS1
Misc :
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Aug 20 08:16:45 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration







TIC: 205HN024.D\data.ms

(40) Carbon Tetrachloride

9.757min (-0.000) 31.57 ug/L

response 325426

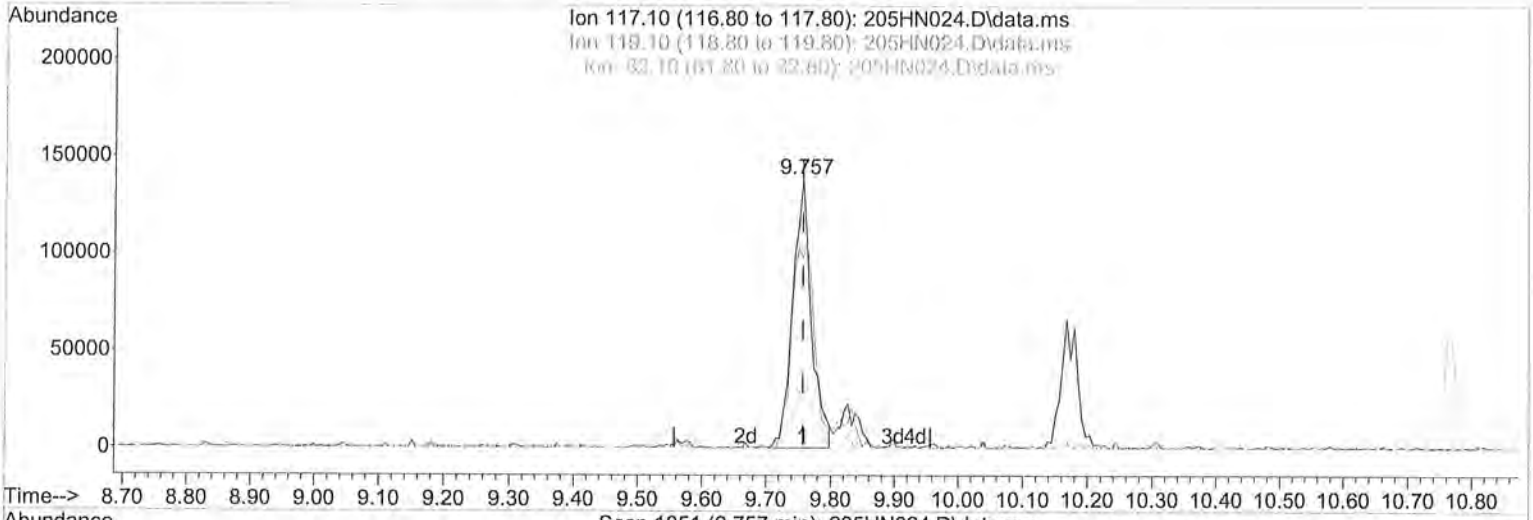
Ion	Exp%	Act%
117.10	100.00	100.00
119.10	107.10	91.46
82.10	28.40	24.32
0.00	0.00	0.00

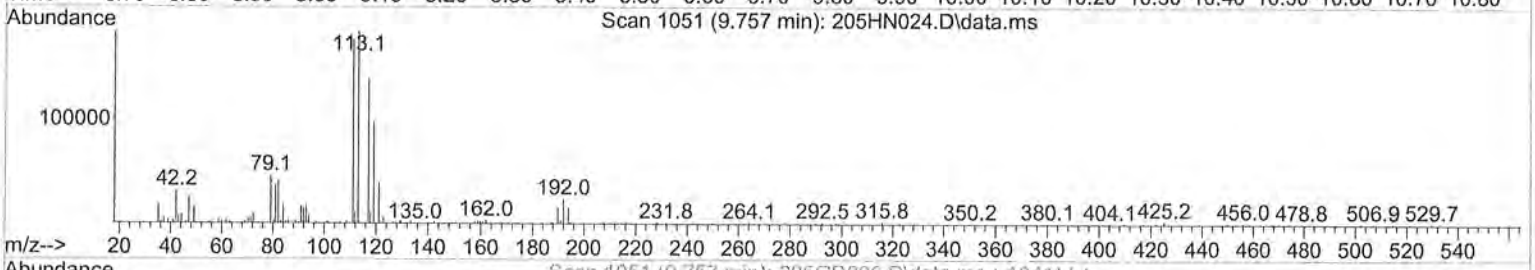
Select One:
[ ] Manual Integration
[ ] Manual Integration (see calling, baseline selection)
[ ] Incorrect peak selected/peak not found
[ ] Unresolved peak
[ ] Detailing any co-eluting peaks
[ ] RT/ID reintegration
[ ] Other:
Review by/Date NJ 08/20/20

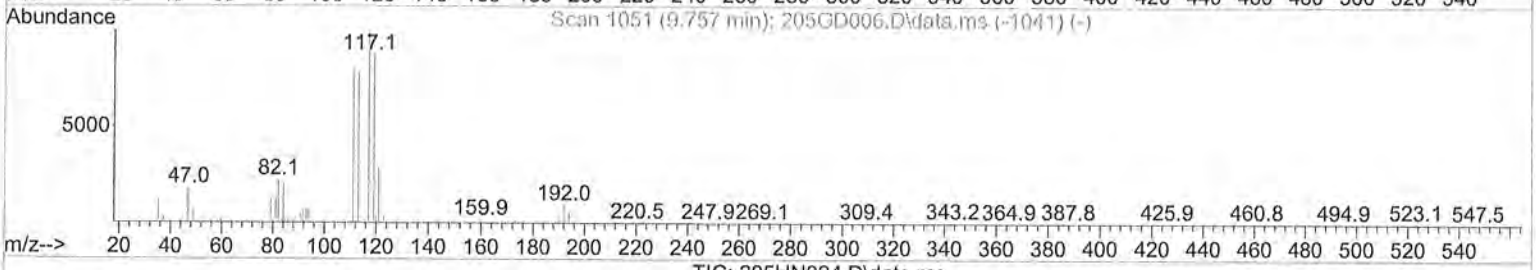
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN024.D
Acq On : 19 Aug 2020 7:40 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0H19031-MS1
Misc :
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Aug 20 08:16:45 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration







TIC: 205HN024.D\data.ms

(40) Carbon Tetrachloride

9.757min (-0.000) 27.05 ug/L m

response 278784

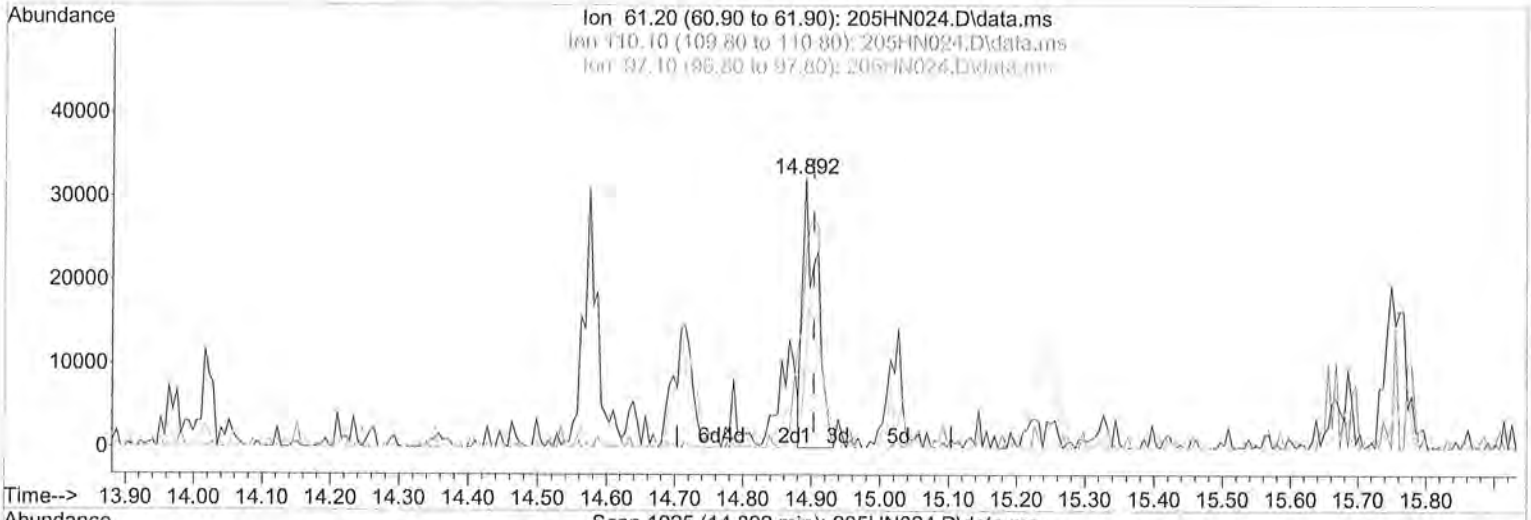
Ion	Exp%	Act%
117.10	100.00	100.00
119.10	107.10	106.76
82.10	28.40	28.39
0.00	0.00	0.00

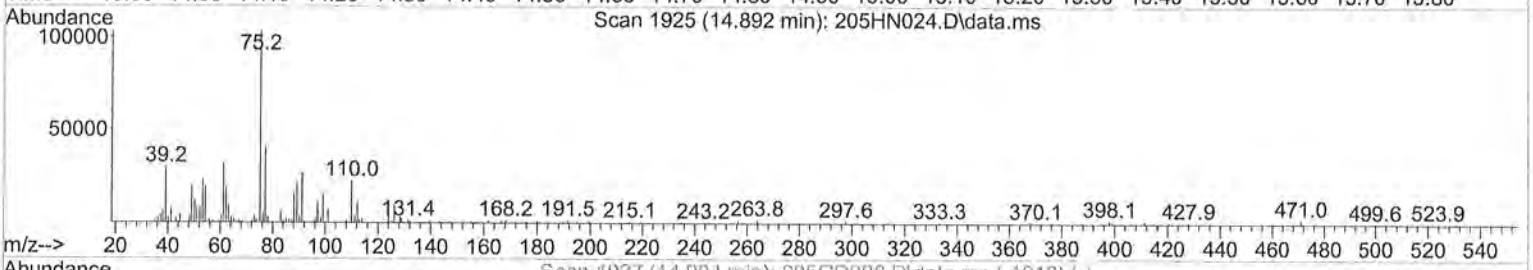
[ ] Manual Integration
[ ] Manual Integration
[ ] Other compounds peak/RT only, baseline selection)
[ ] Incorrect peak selected/peak not found
[ ] Poor integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] other:
Review by/Date: 10/26/20
Review by/Date:

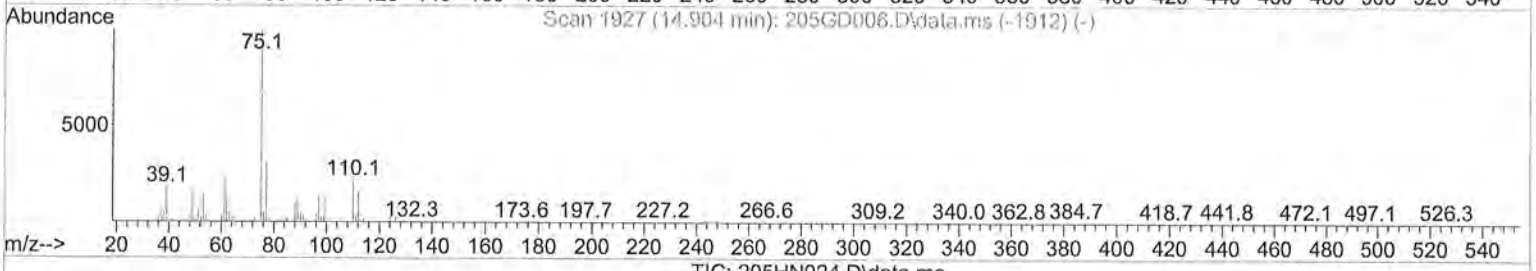
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN024.D
Acq On : 19 Aug 2020 7:40 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0H19031-MS1
Misc :
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Aug 20 08:16:45 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration







TIC: 205HN024.D\data.ms

(77) 1,2,3-Trichloropropane

14.892min (-0.012) 17.25 ug/L

response 46743

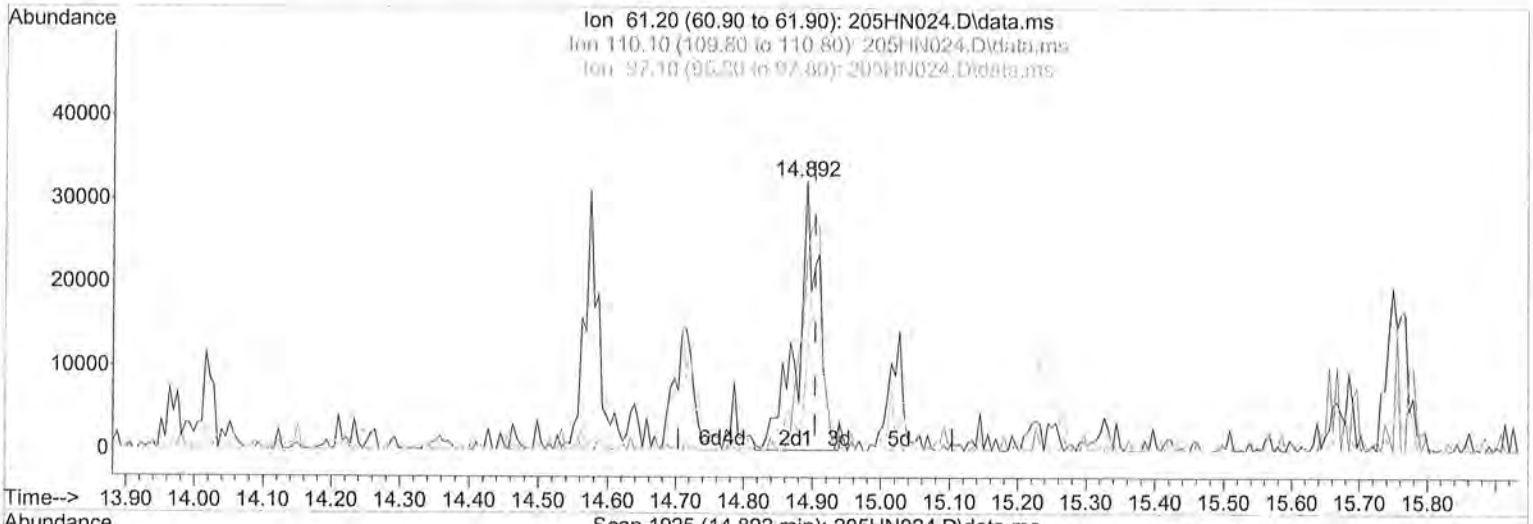
Ion	Exp%	Act%
61.20	100.00	100.00
110.10	84.40	119.00#
97.10	55.90	60.22
0.00	0.00	0.00

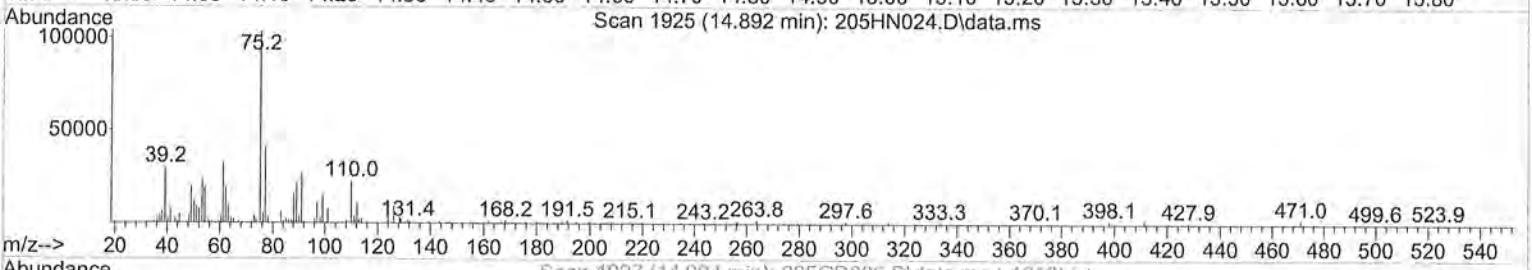
Select Case:
[X] Orchid Integration [ ] Manual Integration
Select reason for manual integration
[ ] Poor chromatography affecting baseline selection)
[ ] Internal standard(s)/surrogate not found
[ ] Poor peak shape
[ ] Baseline drop for split peaks
[ ] EICP construction
[ ] Other:
Review by/Date
Review by/Date:

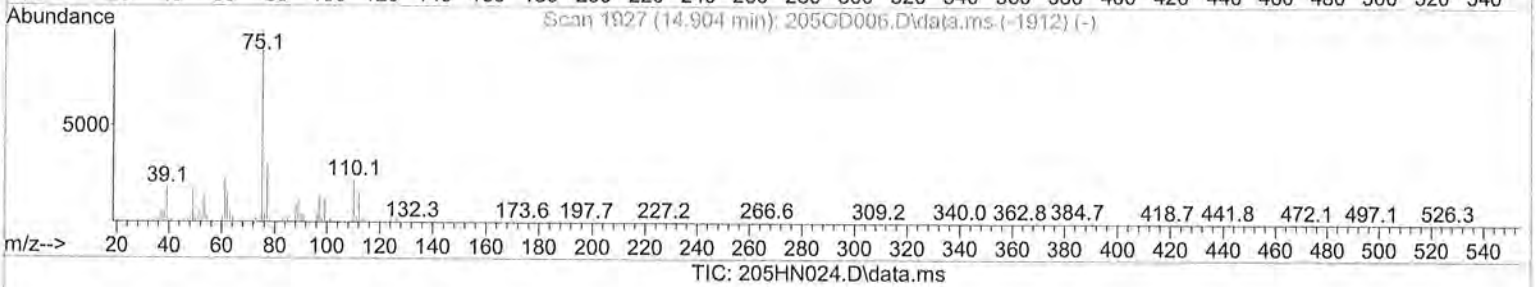
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN024.D
Acq On : 19 Aug 2020 7:40 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0H19031-MS1
Misc :
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Aug 20 08:16:45 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration







TIC: 205HN024.D\data.ms

(77) 1,2,3-Trichloropropane

14.892min (-0.012) 24.50 ug/L m

response 69305

Ion	Exp%	Act%
61.20	100.00	100.00
110.10	84.40	80.26
97.10	55.90	40.62#
0.00	0.00	0.00

[ ] Manual Integration

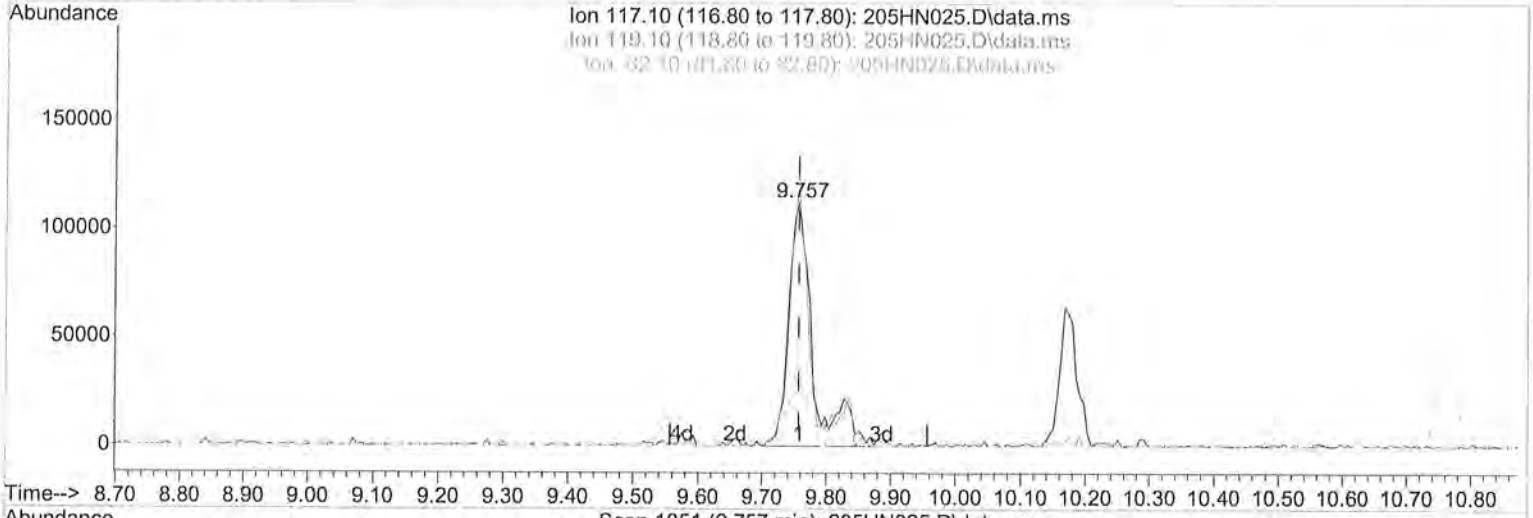
[ ] Other:

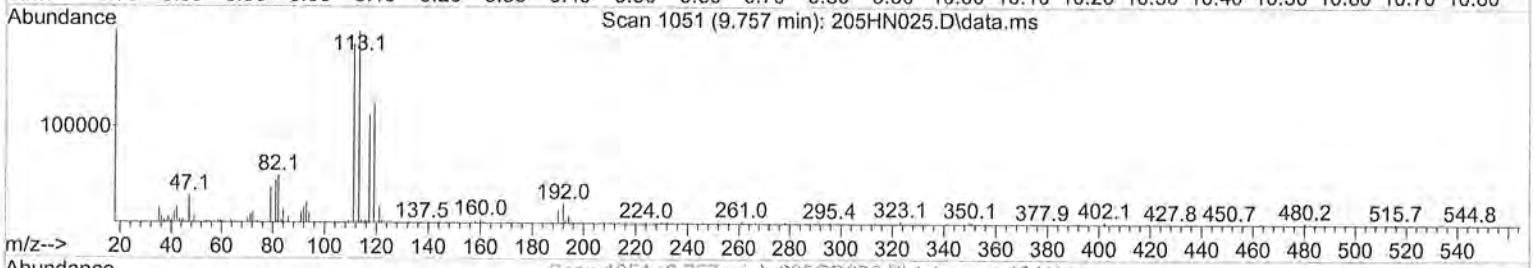
Review by/Date

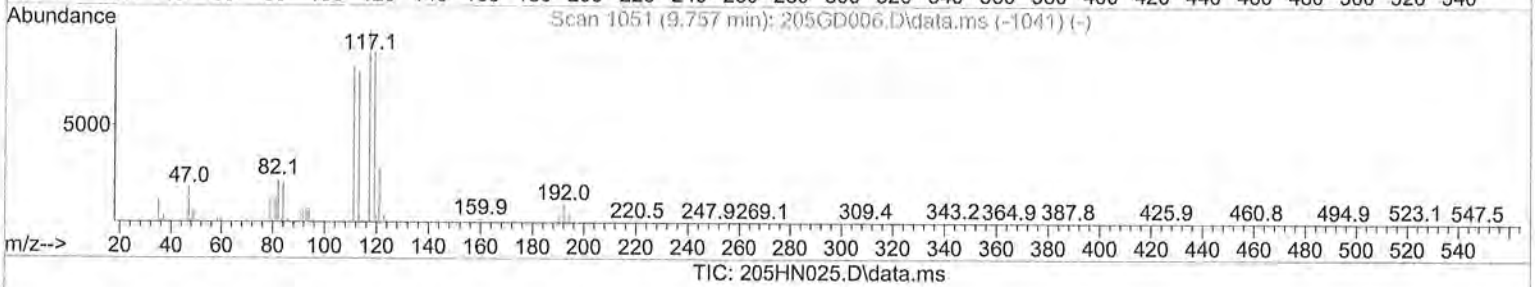
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN025.D
Acq On : 19 Aug 2020 8:11 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0H19031-MSD1
Misc :
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Aug 20 08:16:50 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration







TIC: 205HN025.D\data.ms

(40) Carbon Tetrachloride

9.757min (0.000) 28.21 ug/L

response 294280

Ion	Exp%	Act%
117.10	100.00	100.00
119.10	107.10	96.84
82.10	28.40	25.25
0.00	0.00	0.00

Select One:

[X] Original integration [ ] Manual Integration

Select reason for manual integration

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

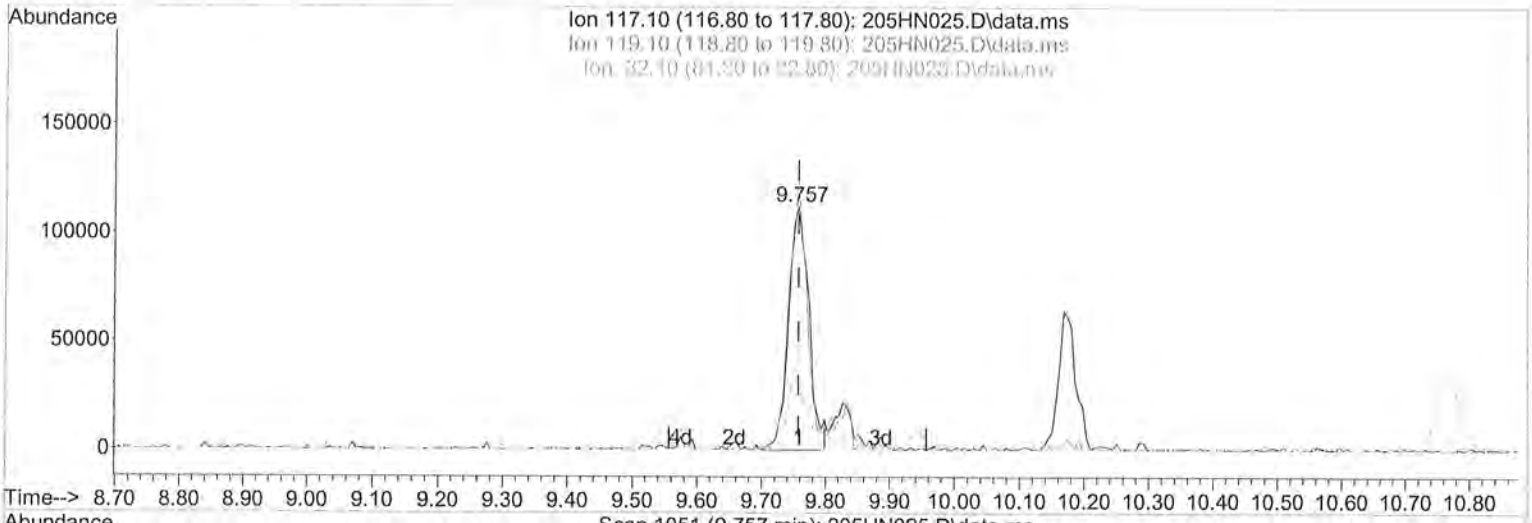
Review by/Date KJ 08/20/20

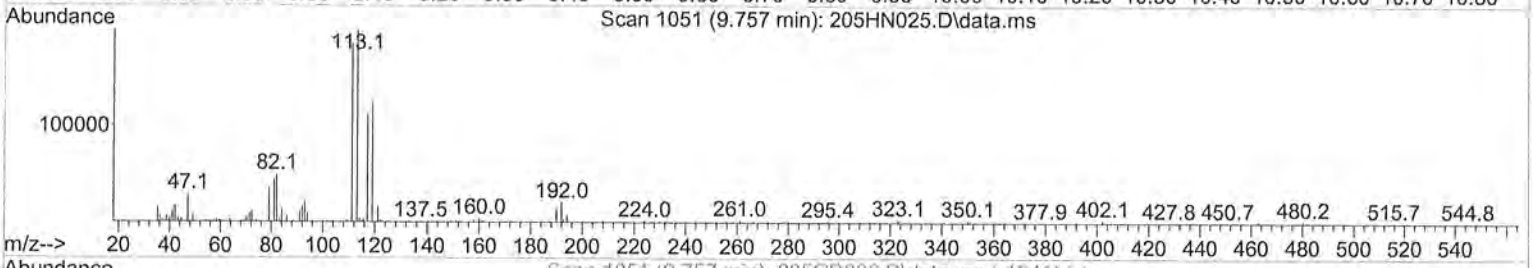
Review by/Date:

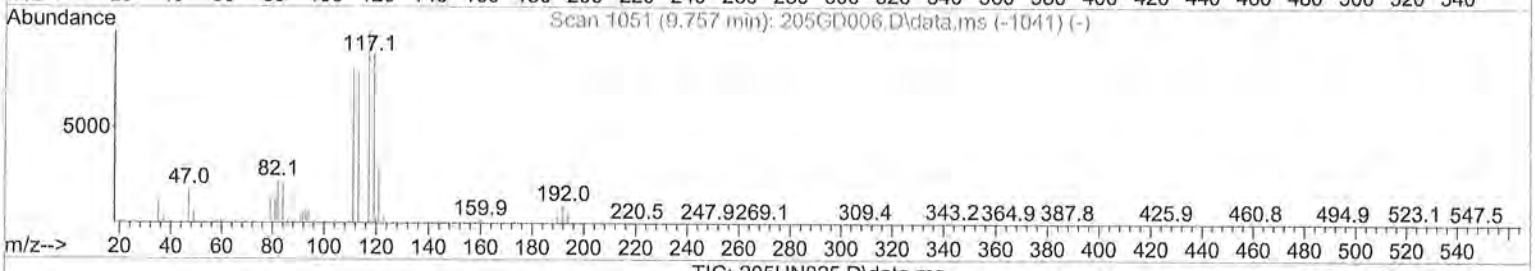
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN025.D
Acq On : 19 Aug 2020 8:11 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0H19031-MSD1
Misc :
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Aug 20 08:16:50 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration







TIC: 205HN025.D\data.ms

(40) Carbon Tetrachloride

9.757min (0.000) 23.79 ug/L m

response 248198

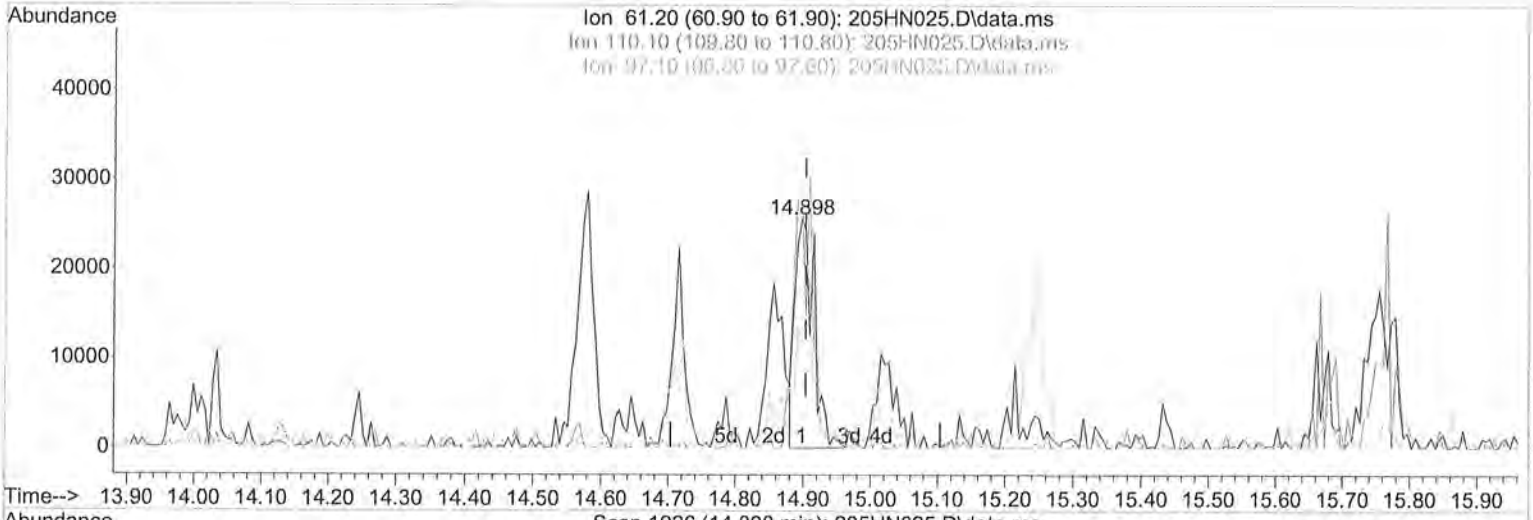
Ion	Exp%	Act%
117.10	100.00	100.00
119.10	107.10	114.82
82.10	28.40	29.94
0.00	0.00	0.00

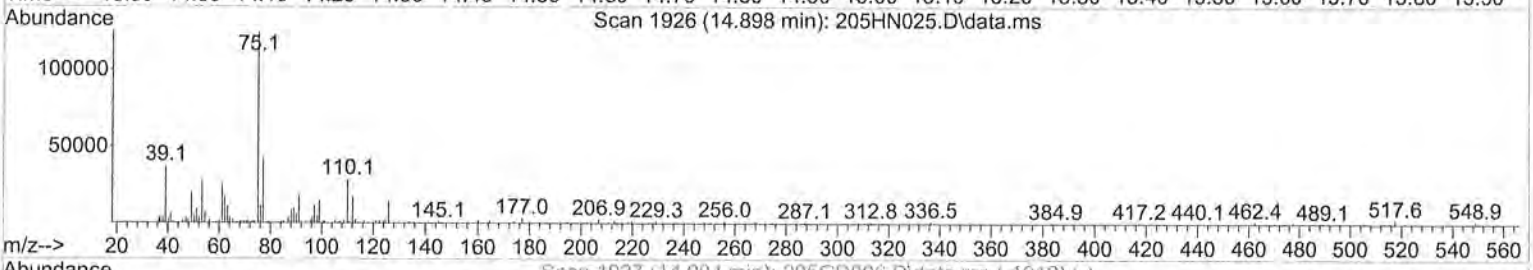
[ ] Manual integration
[ ] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date KW 08/20/20

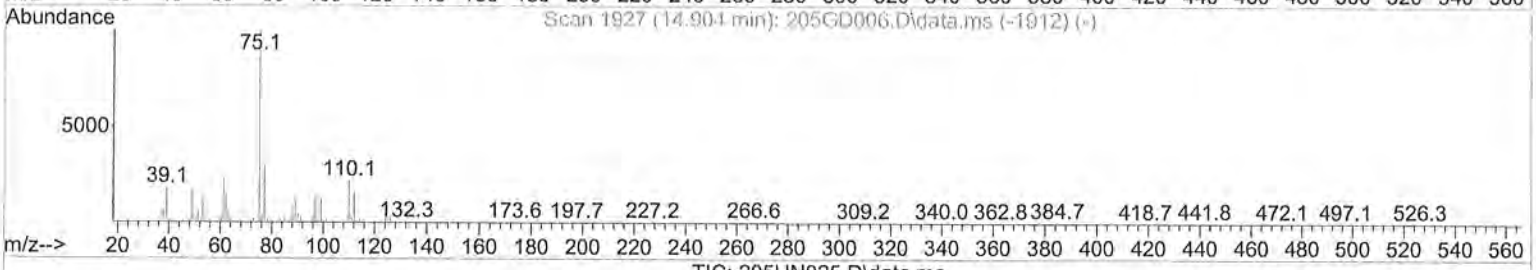
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN025.D
Acq On : 19 Aug 2020 8:11 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0H19031-MSD1
Misc :
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Aug 20 08:16:50 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration







TIC: 205HN025.D\data.ms

(77) 1,2,3-Trichloropropane

14.898min (-0.006) 17.96 ug/L

response 49692

Ion	Exp%	Act%
61.20	100.00	100.00
110.10	84.40	114.50#
97.10	55.90	64.56
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

[ ] Re-integration (peak calling, baseline selection)

[ ] Manual integration

[ ] Baseline drawn to split peaks

[ ] Other

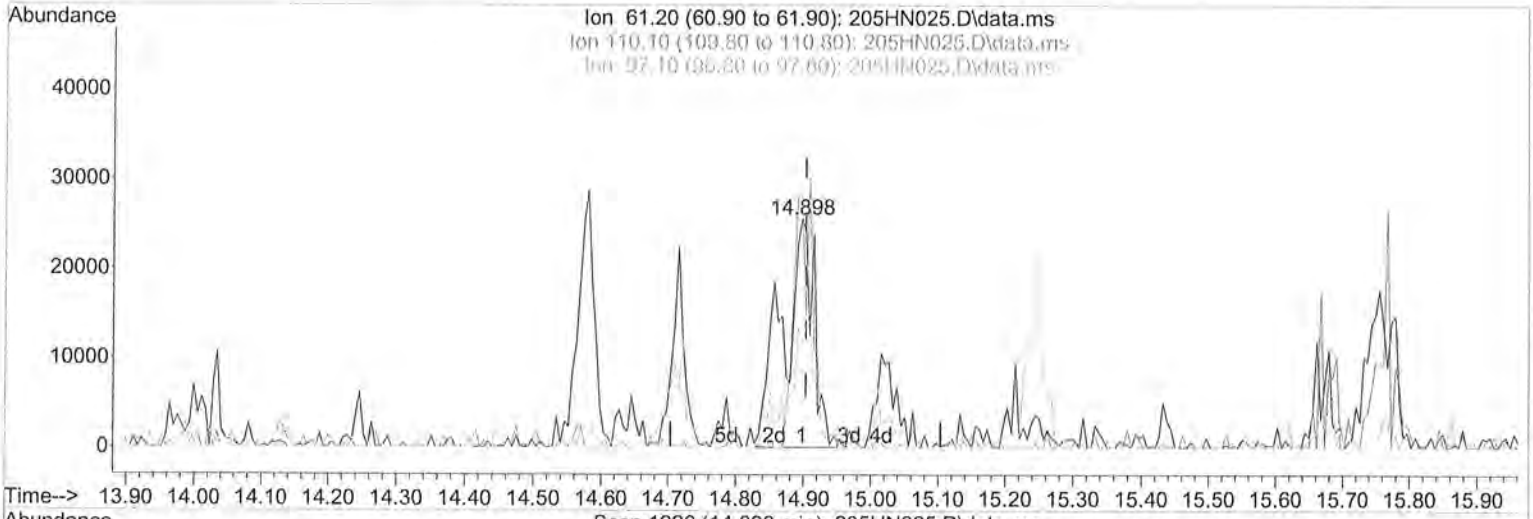
Reviewed by/date: W 08/20/20

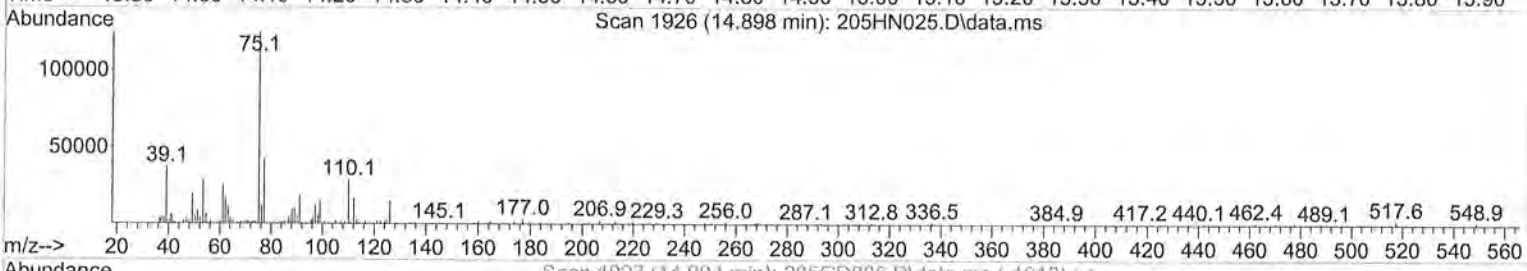
Reviewed by/date:

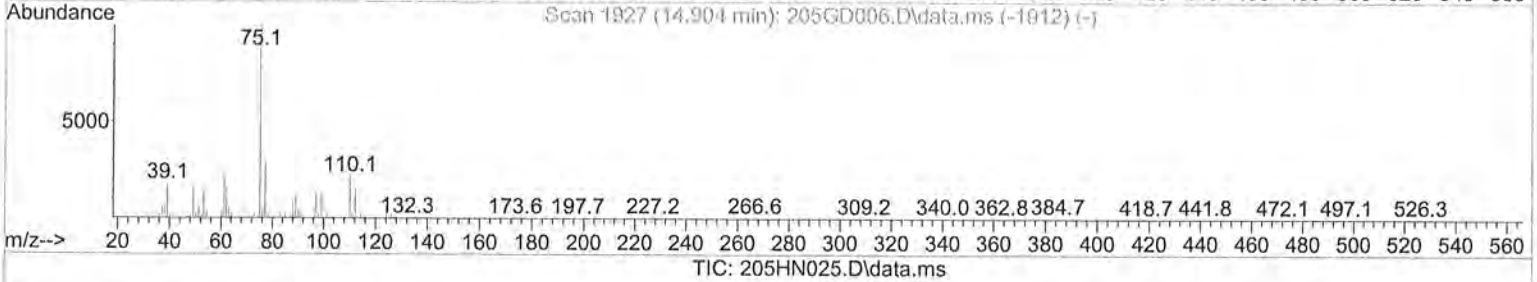
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN025.D
Acq On : 19 Aug 2020 8:11 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0H19031-MSD1
Misc :
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Aug 20 08:16:50 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration







TIC: 205HN025.D\data.ms

(77) 1,2,3-Trichloropropane

14.898min (-0.006) 28.01 ug/L m

response 82237

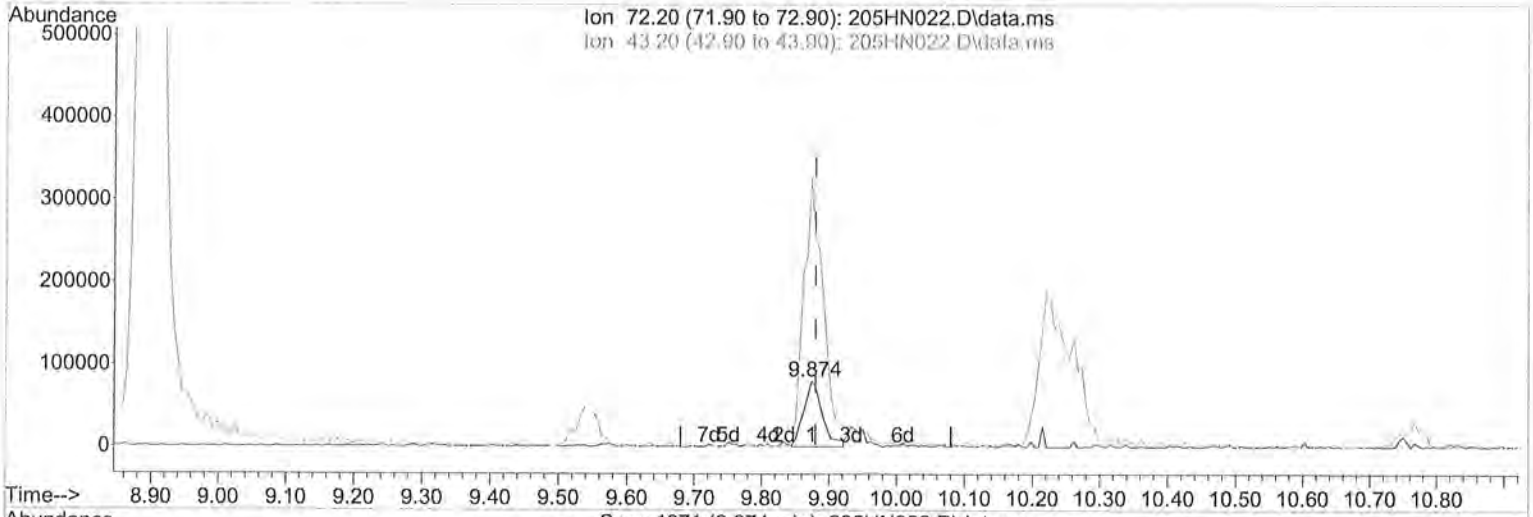
Ion	Exp%	Act%
61.20	100.00	100.00
110.10	84.40	69.19
97.10	55.90	39.01#
0.00	0.00	0.00

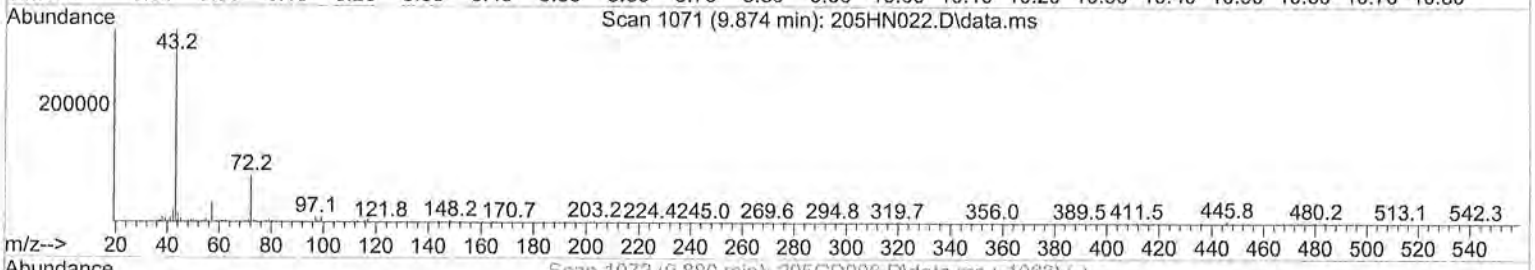
[ ] Manual Integration
[ ] Incorrect peak selection/Peak not found
[ ] Humn integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date W 08/20/20
Review by/Date:

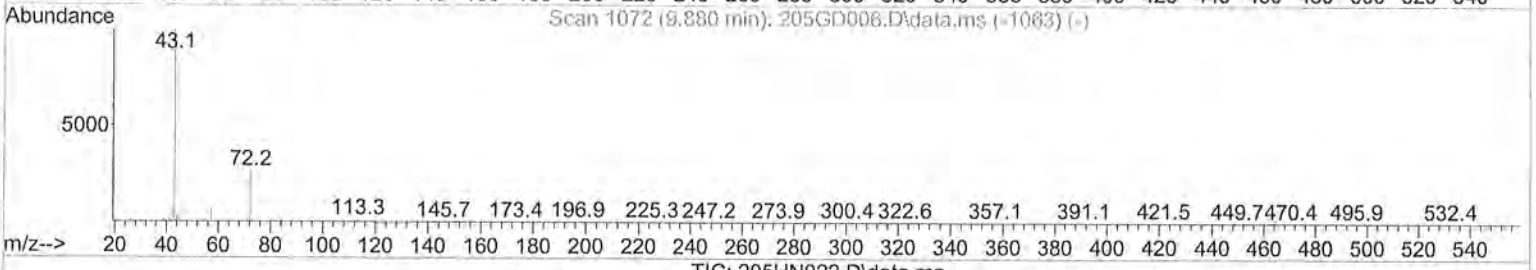
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN022.D
Acq On : 19 Aug 2020 6:38 pm
Operator : KKW
InstName : OVGCMS5
Sample : AA62023-CCV1
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Aug 20 08:16:36 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration







TIC: 205HN022.D\data.ms

(33) 2-Butanone

9.874min (-0.006) 161.63 ug/L

response 152698

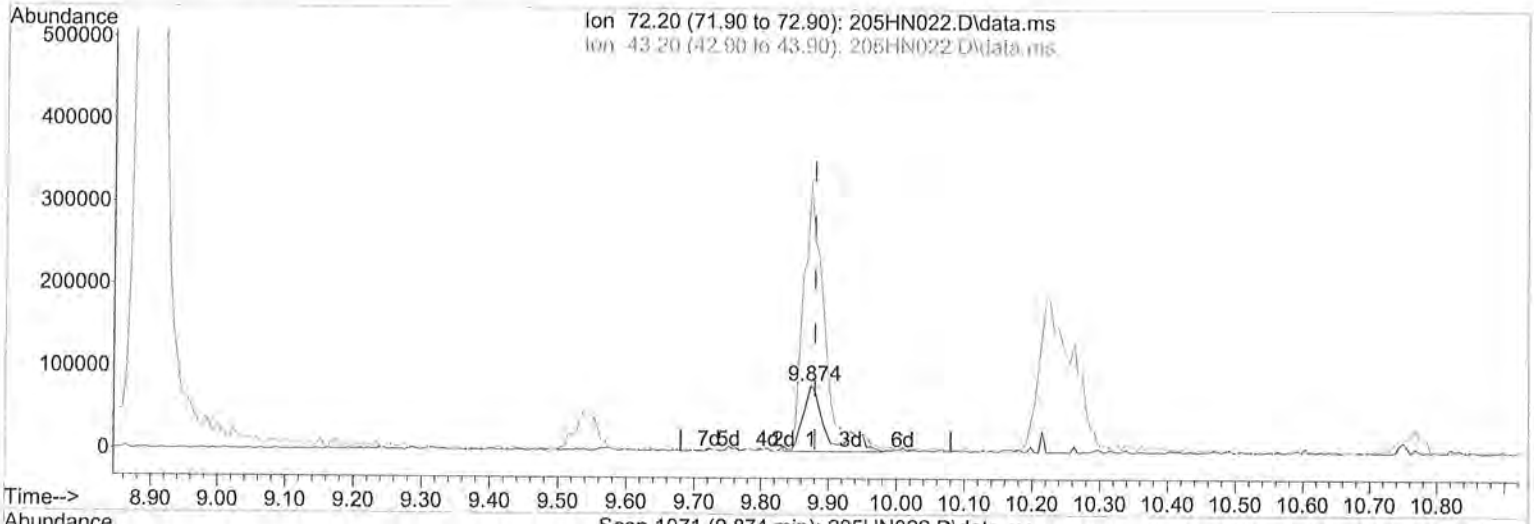
Ion	Exp%	Act%
72.20	100.00	100.00
43.20	336.90	465.98#
0.00	0.00	0.00
0.00	0.00	0.00

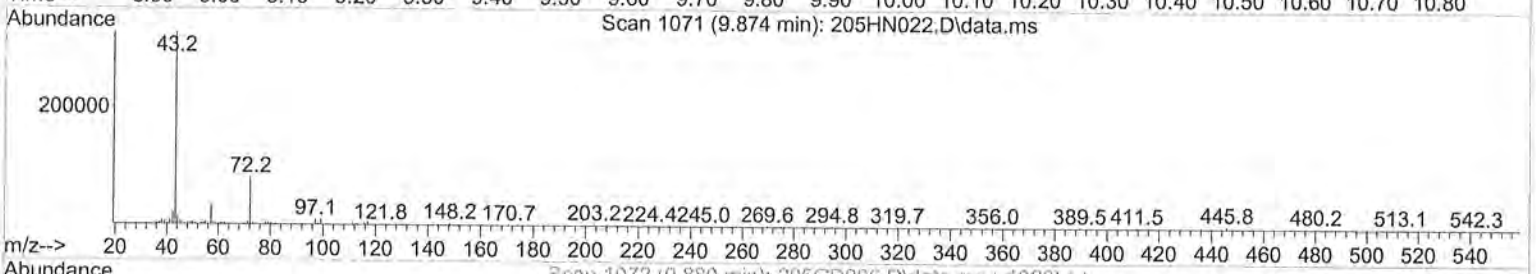
Select One:
[ ] Original Integration [ ] Manual Integration
Select reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak notation/Peak not found
[ ] Long integration
[ ] Baseline drop/or split peaks
[ ] IS / D reintegration
[ ] Other:
Review by/Date W 08/20/20
Review by/Date:

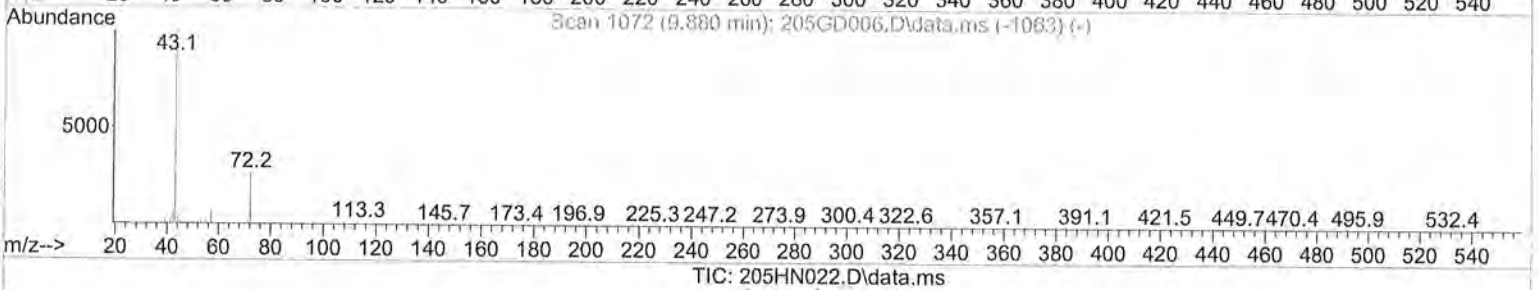
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN022.D
Acq On : 19 Aug 2020 6:38 pm
Operator : KKW
InstName : OVGCMS5
Sample : AA62023-CCV1
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Aug 20 08:16:36 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration







TIC: 205HN022.D\data.ms

(33) 2-Butanone

9.874min (-0.006) 206.82 ug/L m

response 195386

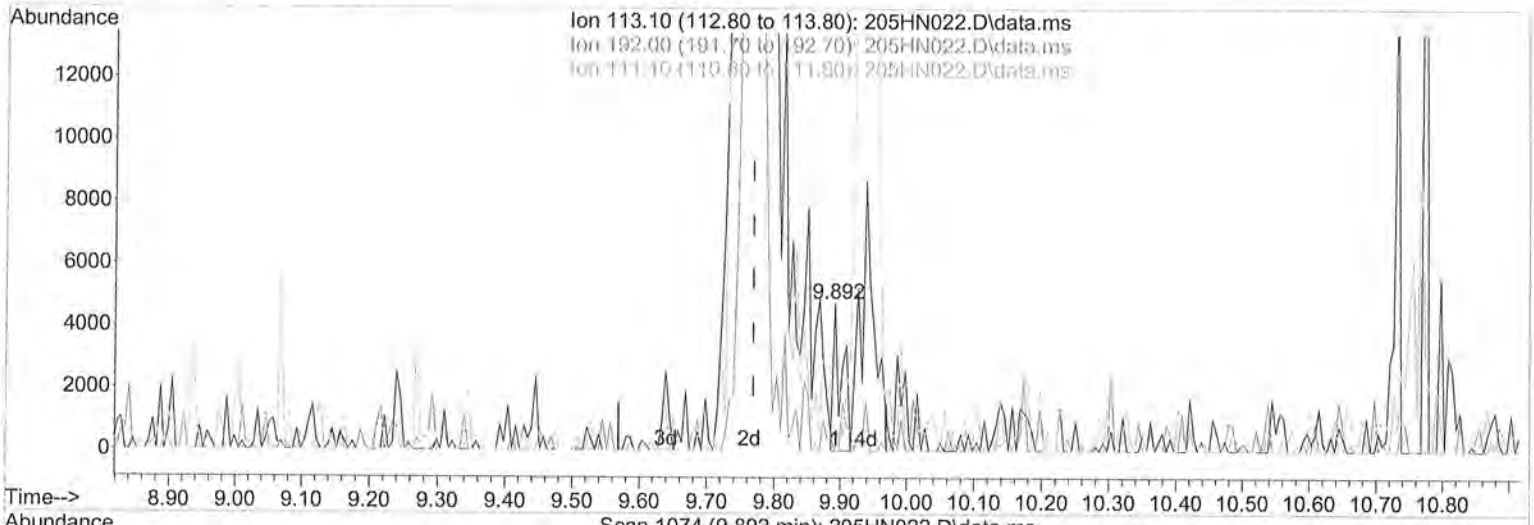
Ion	Exp%	Act%
72.20	100.00	100.00
43.20	336.90	364.18
0.00	0.00	0.00
0.00	0.00	0.00

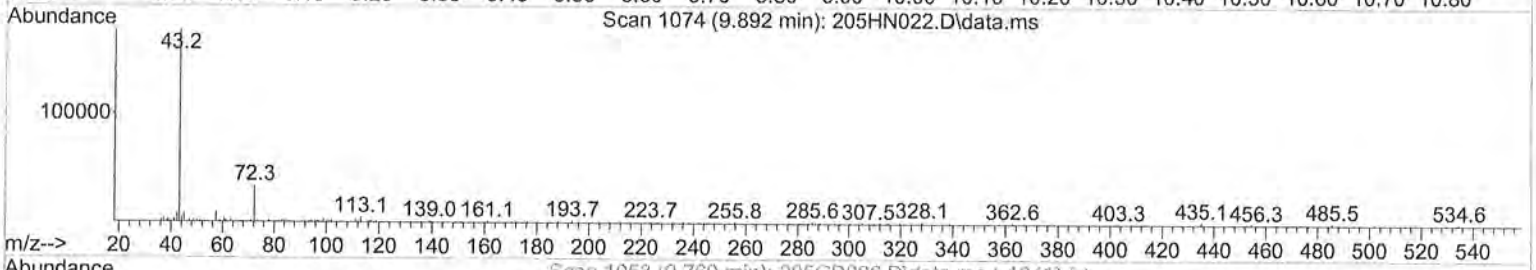
Select One:
[ ] Original Integration [ ] Manual Integration
Select reason for manual integration
[ ] Poor integ. (ion peak splitting, baseline selection)
[ ] Incorrect peak selected/peak not found
[ ] Low S/N ratio
[ ] Coelution from co-spike mass
[ ] ISTD contamination
[ ] Other
Reviewed by/Date: W 08/20/20
Reviewed by/Date:

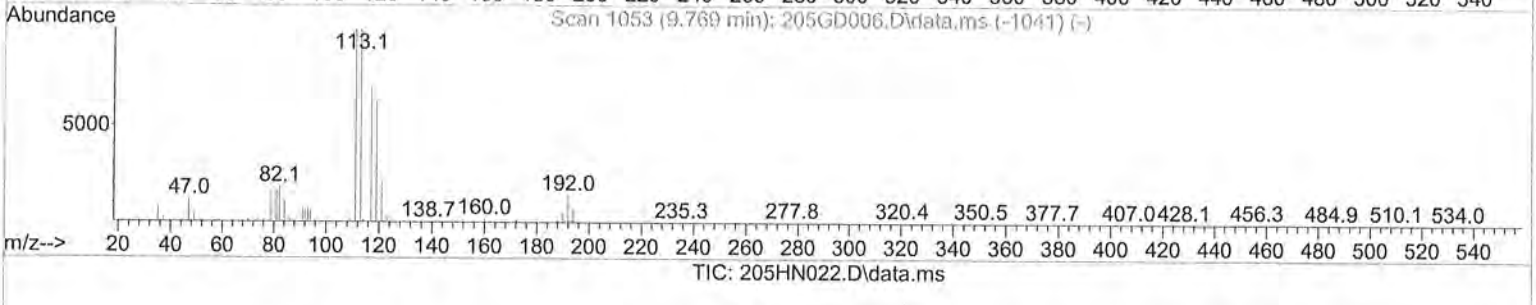
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN022.D
Acq On : 19 Aug 2020 6:38 pm
Operator : KKW
InstName : OVGCMS5
Sample : AA62023-CCV1
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Aug 20 08:16:36 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration







TIC: 205HN022.D\data.ms

(32) Dibromofluoromethane

9.892min (+ 0.123) 0.46 ug/L

response 4221

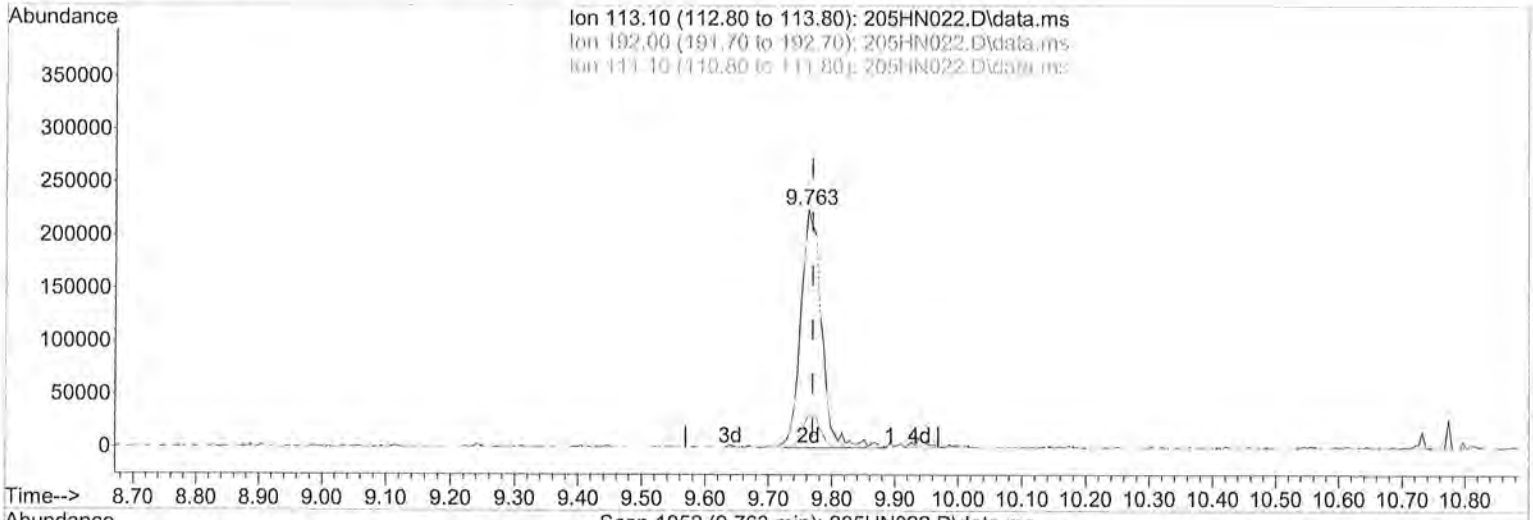
Ion	Exp%	Act%
113.10	100.00	100.00
192.00	24.40	24.78
111.10	96.10	83.82
0.00	0.00	0.00

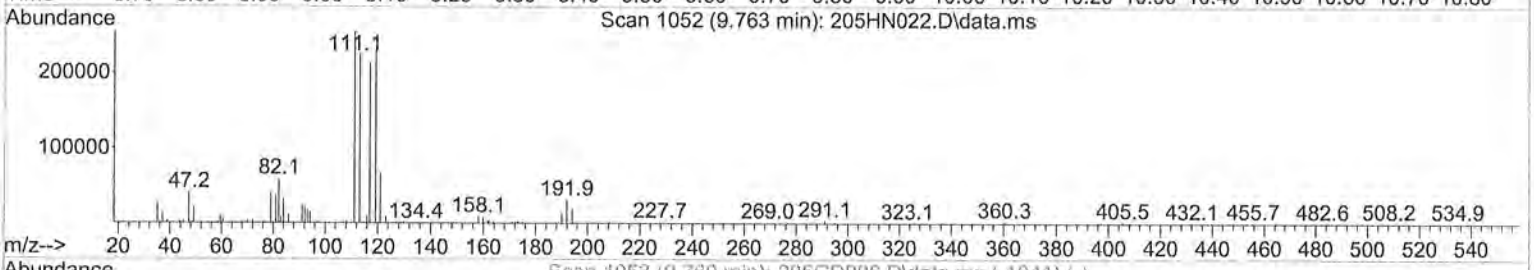
[ ] Manual Integration
[ ] Incorrect integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Poor integration
[ ] Baseline drop for split peaks
[ ] GC/FID noninteg ration
[ ] Other:
Review by/Date W 08/20/20
Review by/Date

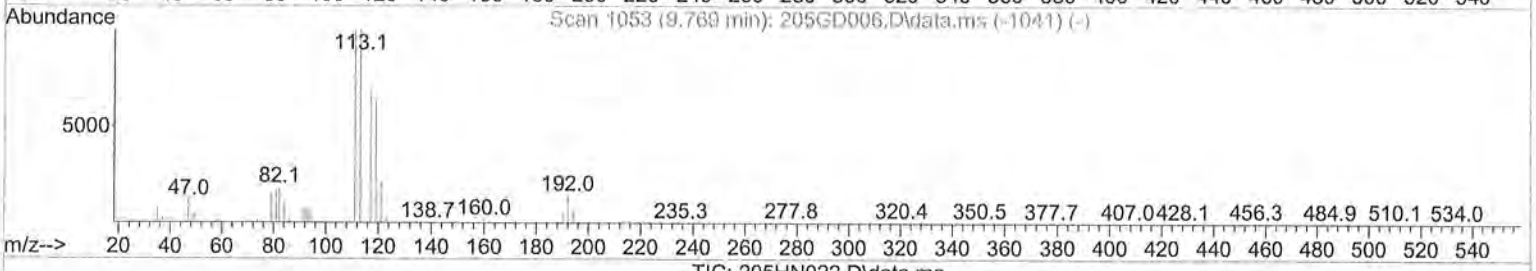
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN022.D
Acq On : 19 Aug 2020 6:38 pm
Operator : KKW
InstName : OVGCMS5
Sample : AA62023-CCV1
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Aug 20 08:16:36 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration







TIC: 205HN022.D\data.ms

(32) Dibromofluoromethane

9.763min (-0.006) 56.21 ug/L m

response 516772

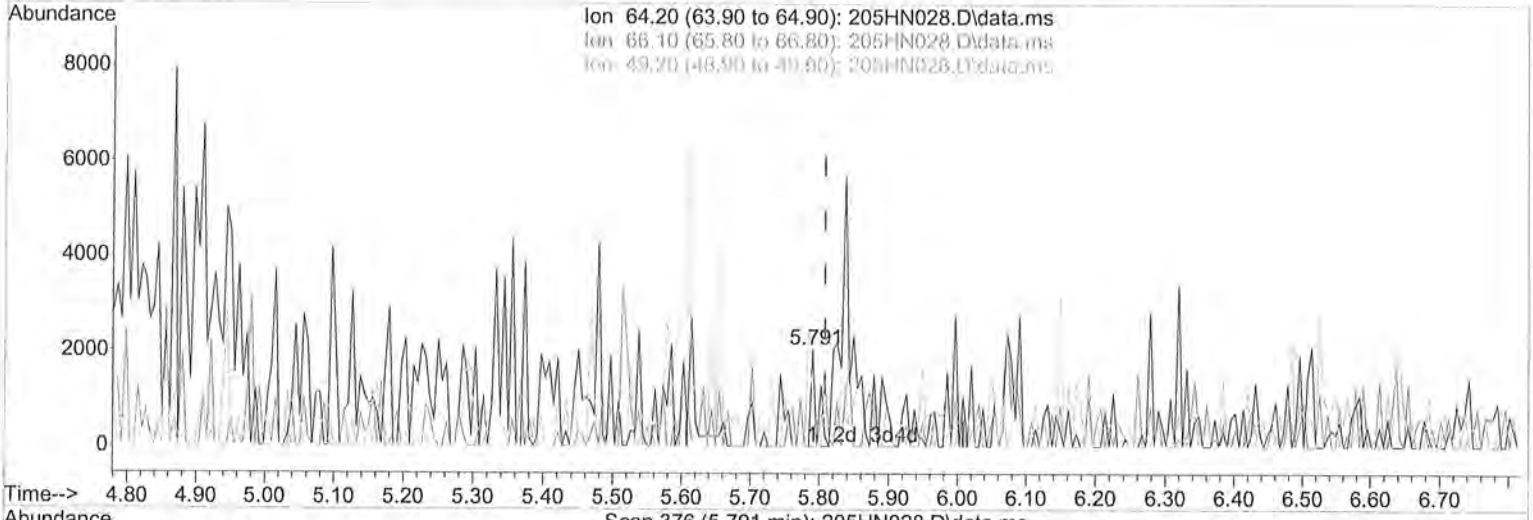
Ion	Exp%	Act%
113.10	100.00	100.00
192.00	24.40	0.20#
111.10	96.10	0.68#
0.00	0.00	0.00

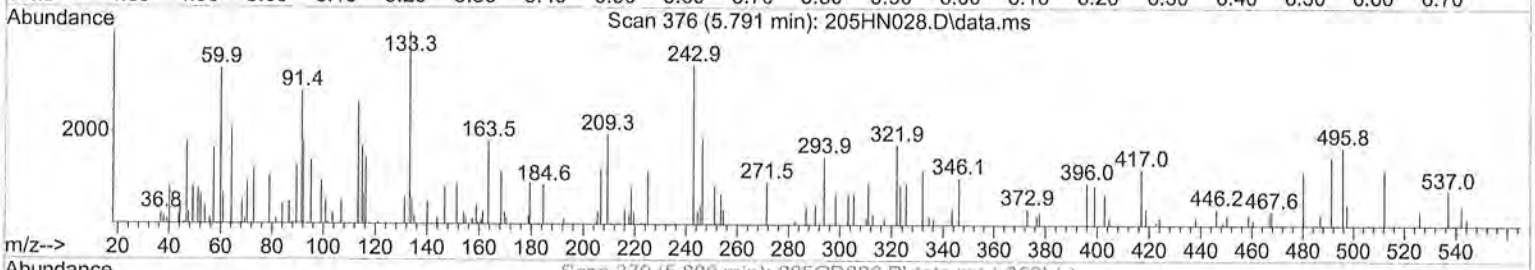
( ) Original integration [X] Manual Integration
Reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[X] Incorrect peak selection/Peak not found
[ ] Compound integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date W 08/20/20
Review by/Date:

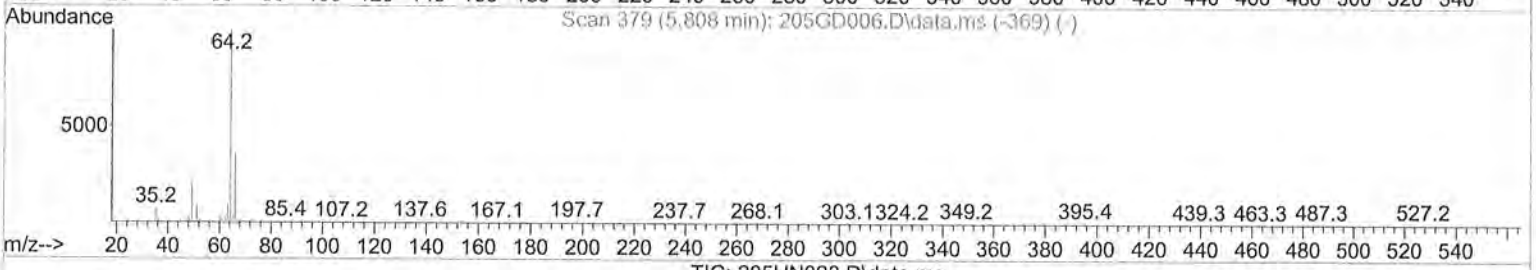
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN028.D
Acq On : 19 Aug 2020 9:44 pm
Operator : KKW
InstName : OVGCMS5
Sample : AA62023-CRL1
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Aug 20 08:17:00 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration







TIC: 205HN028.D\data.ms

(6) Chloroethane

5.791min (-0.017) 0.19 ug/L

response 1249

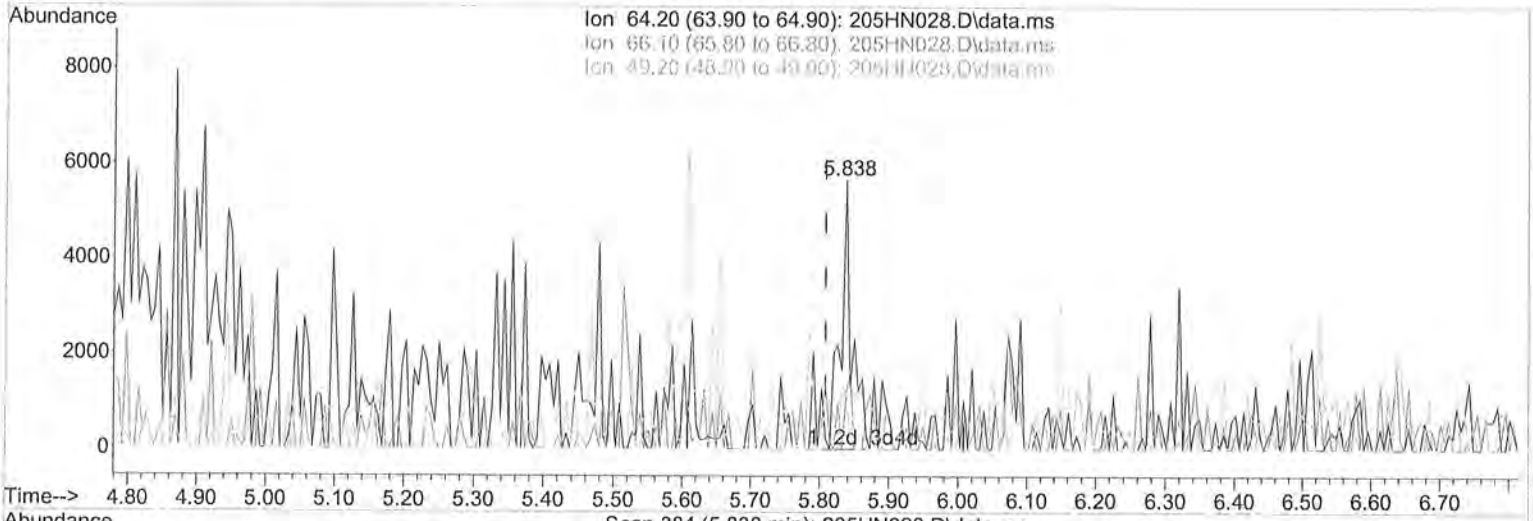
Ion	Exp%	Act%
64.20	100.00	100.00
66.10	31.00	0.00#
49.20	24.70	96.64#
0.00	0.00	0.00

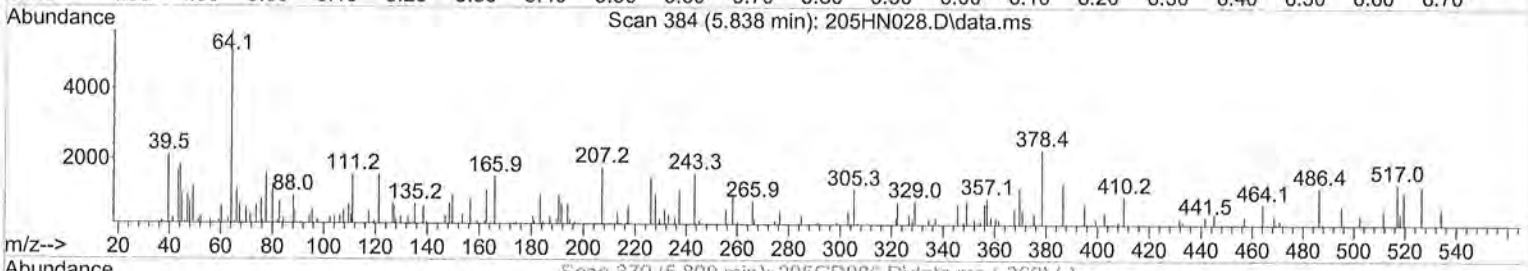
[ ] Manual Integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date 8/20/20

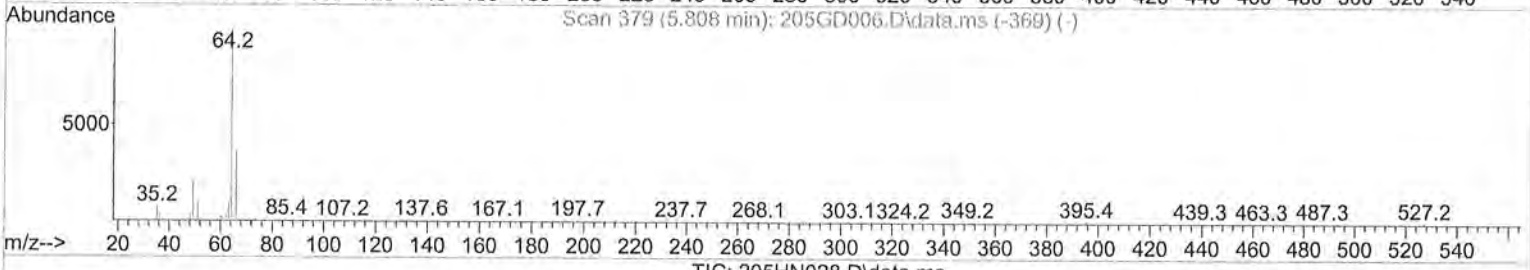
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN028.D
Acq On : 19 Aug 2020 9:44 pm
Operator : KKW
InstName : OVGCMS5
Sample : AA62023-CRL1
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Aug 20 08:17:00 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration







TIC: 205HN028.D\data.ms

(6) Chloroethane

5.838min (+ 0.030) 1.04 ug/L m

response 6943

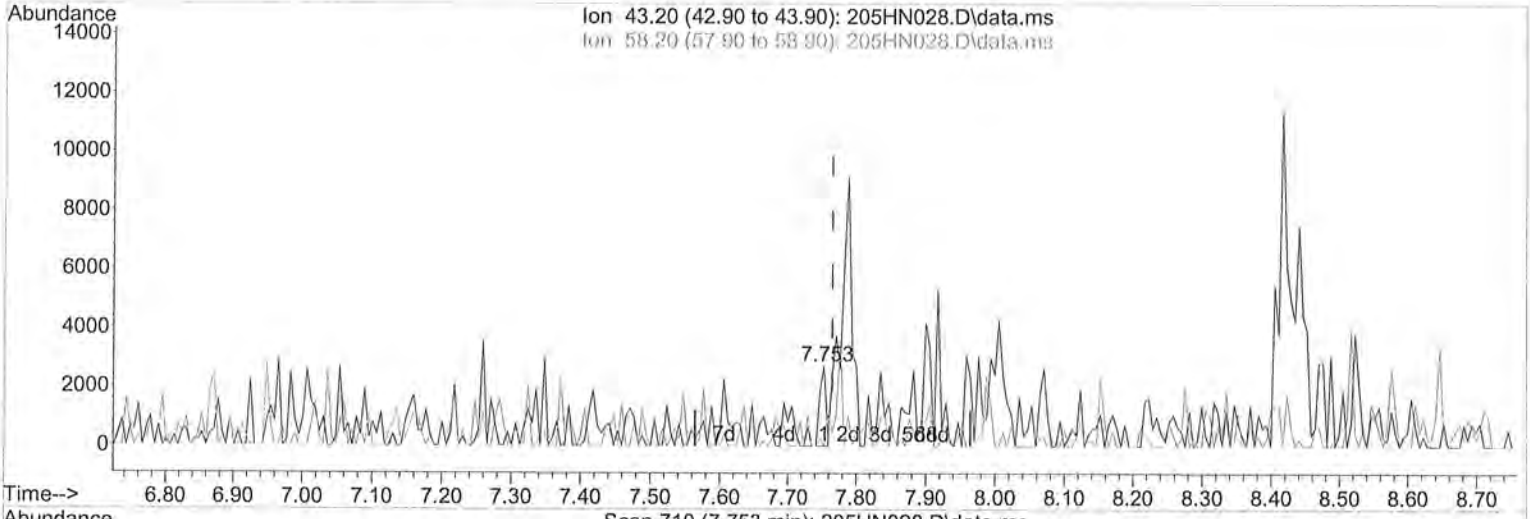
Ion	Exp%	Act%
64.20	100.00	100.00
66.10	31.00	0.00#
49.20	24.70	17.38#
0.00	0.00	0.00

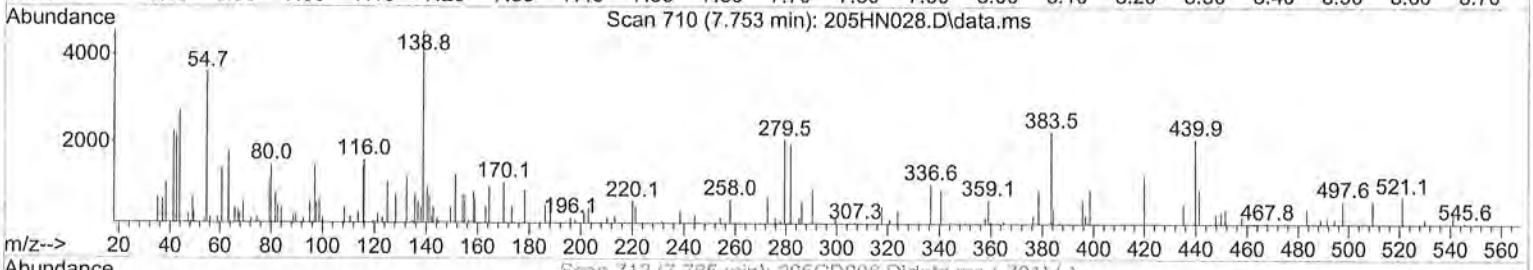
[ ] Manual Integration
[ ] Incorrect peak selection/Peak not found
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date 8/20/20

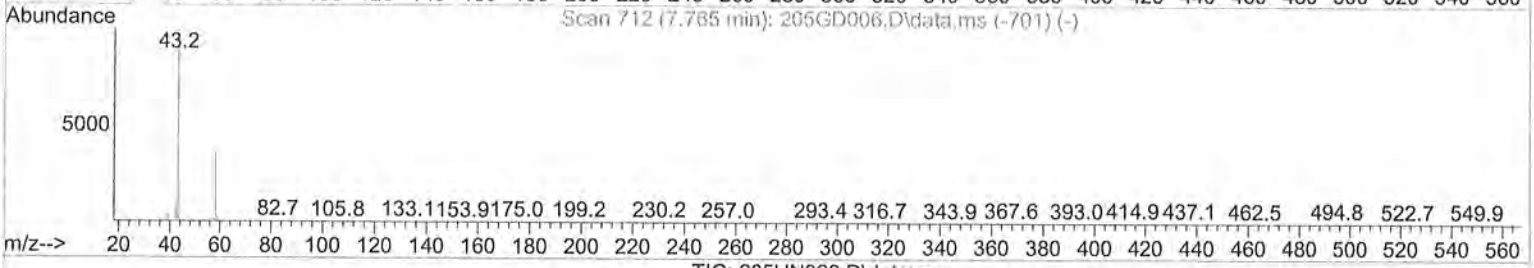
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN028.D
Acq On : 19 Aug 2020 9:44 pm
Operator : KKW
InstName : OVGCMS5
Sample : AA62023-CRL1
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Aug 20 08:17:00 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration







TIC: 205HN028.D\data.ms

(15) Acetone

7.753min (-0.012) 1.25 ug/L

response 1963

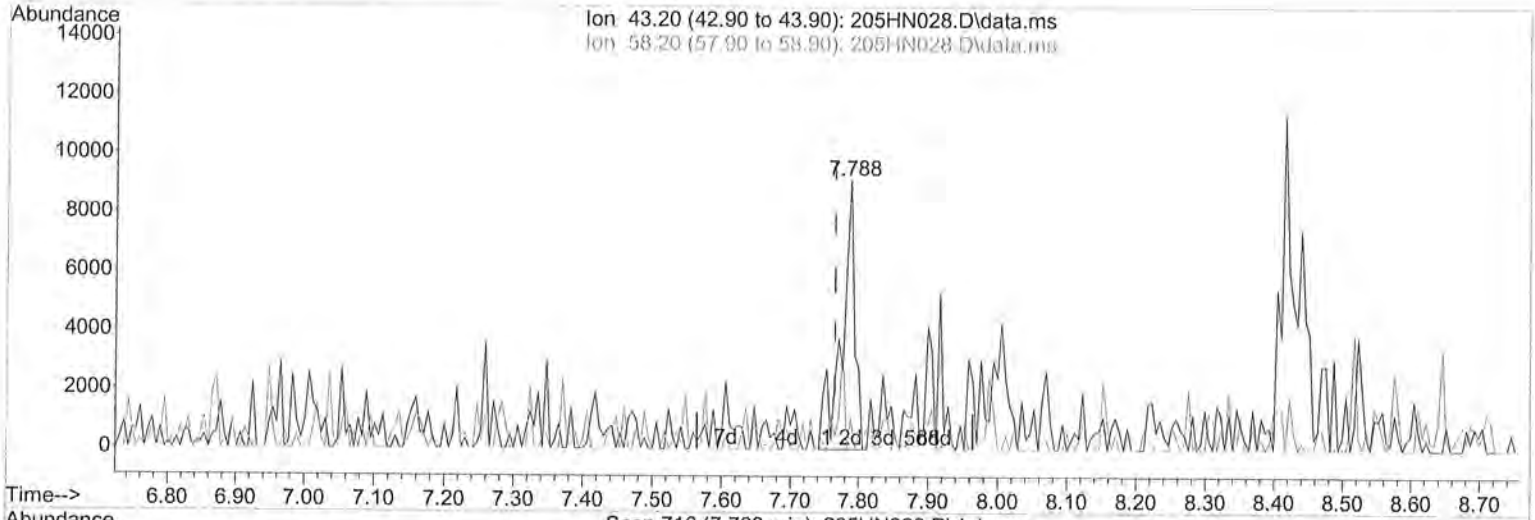
Ion	Exp%	Act%
43.20	100.00	100.00
58.20	36.80	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

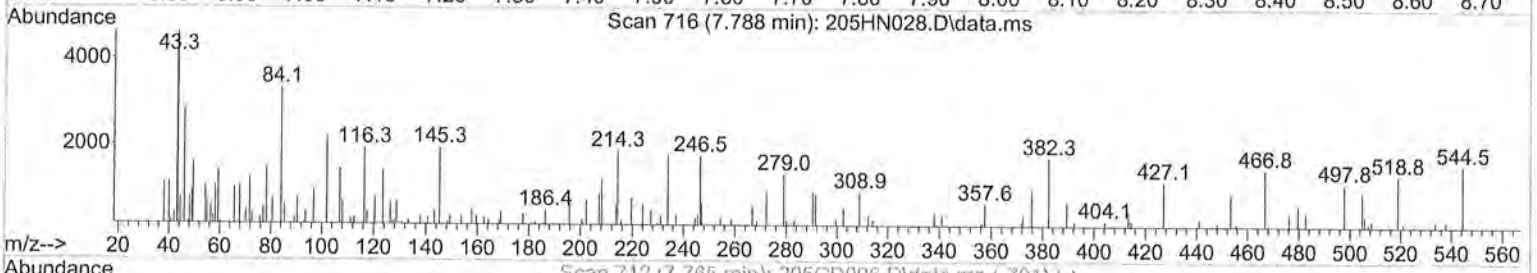
[ ] Manual Integration
[ ] Peak not found
[ ] Other:
Review by/Date 8/26/20

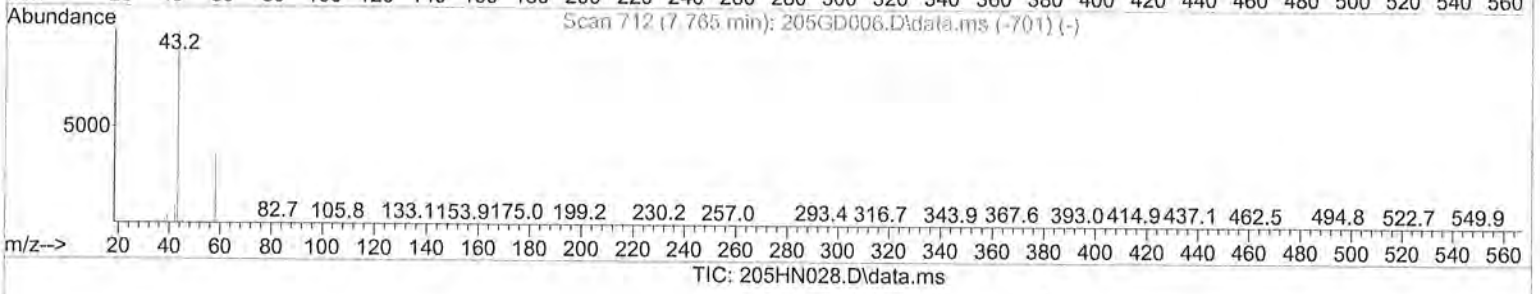
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN028.D
Acq On : 19 Aug 2020 9:44 pm
Operator : KKW
InstName : OVGCMS5
Sample : AA62023-CRL1
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Aug 20 08:17:00 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration







TIC: 205HN028.D\data.ms

(15) Acetone

7.788min (+ 0.023) 7.87 ug/L m

response 12376

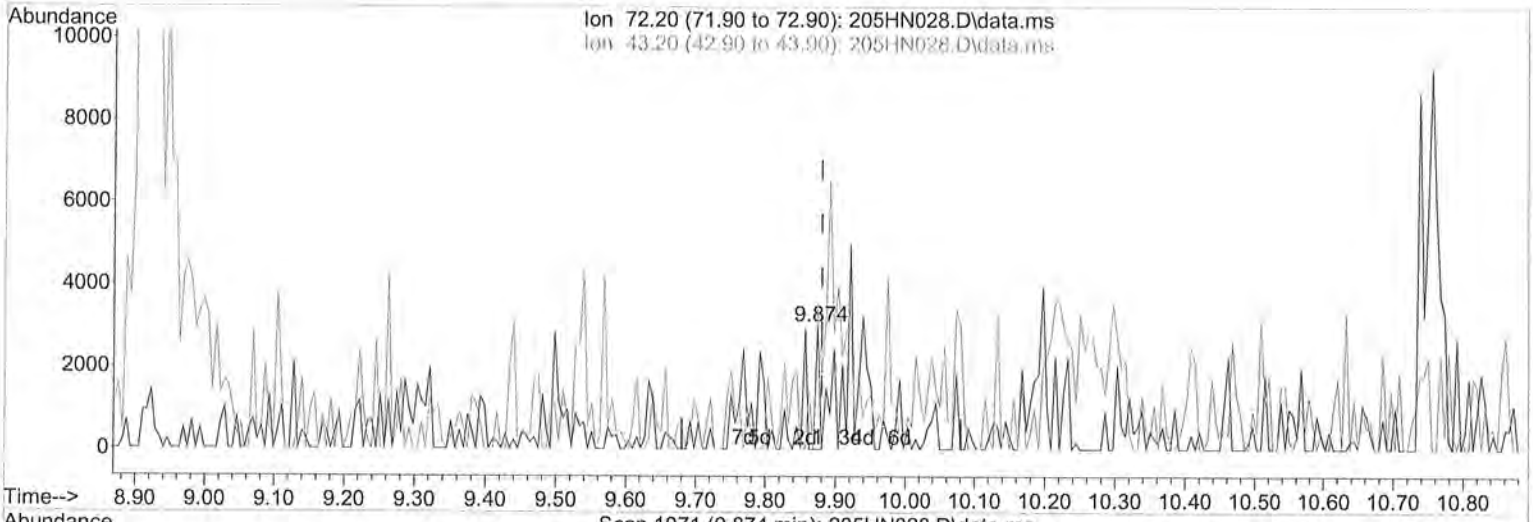
Ion	Exp%	Act%
43.20	100.00	100.00
58.20	36.80	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

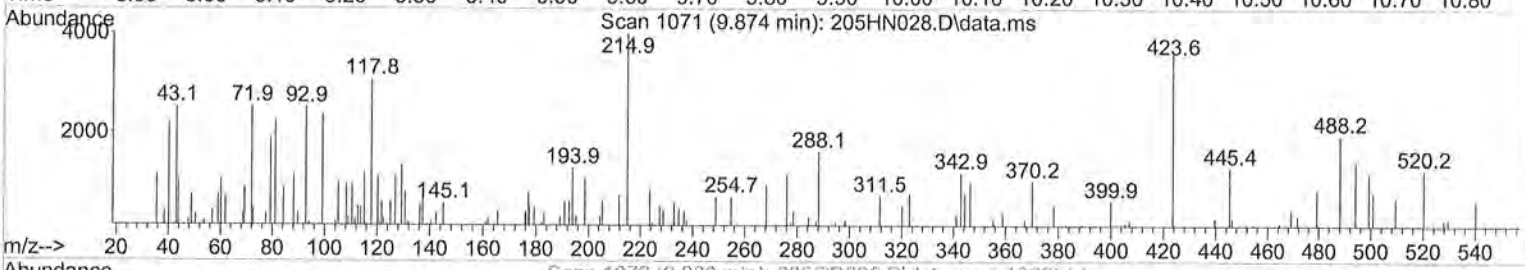
[] Baseline drop for split peaks
[] ISTD reintegration
[] Other:
Review by/Date KW 08/20/20

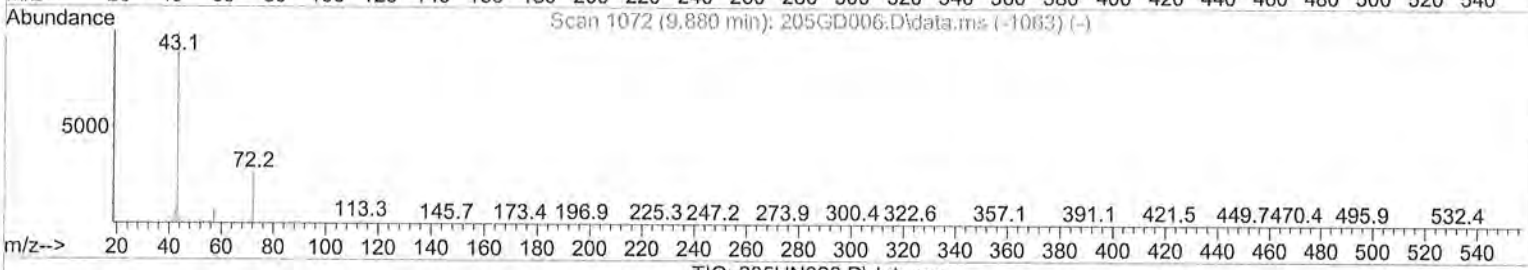
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN028.D
Acq On : 19 Aug 2020 9:44 pm
Operator : KKW
InstName : OVGCMS5
Sample : AA62023-CRL1
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Aug 20 08:17:00 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration







TIC: 205HN028.D\data.ms

(33) 2-Butanone

9.874min (-0.006) 1.18 ug/L

response 1055

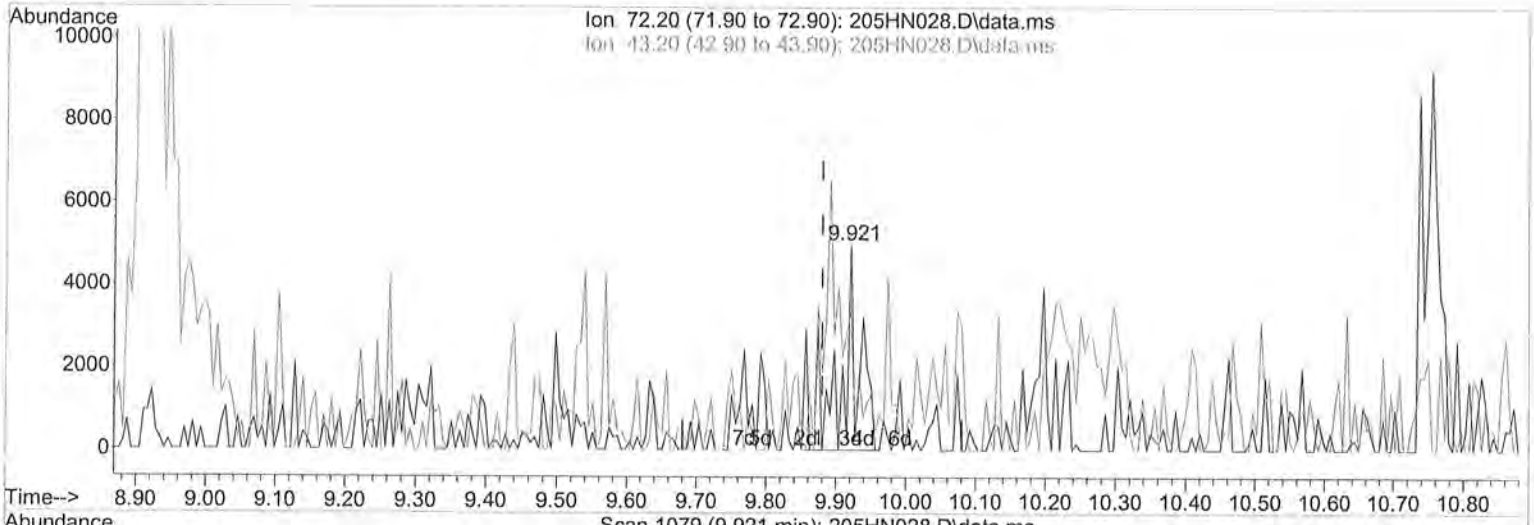
Ion	Exp%	Act%
72.20	100.00	100.00
43.20	336.90	1274.31#
0.00	0.00	0.00
0.00	0.00	0.00

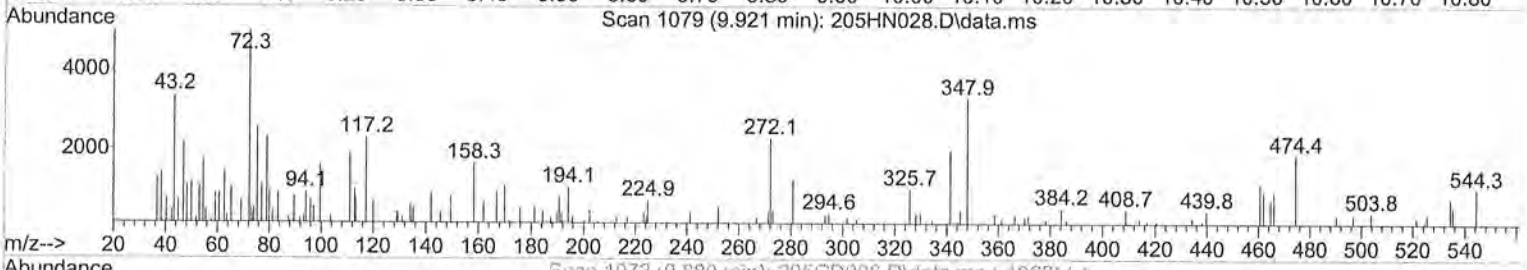
[] Manual Integration
[] Incorrect peak selection/Peak not found
[] Baseline drop for split peaks
[] ISTD reintegration
[] Other:
Review by/Date
Review by/Date:

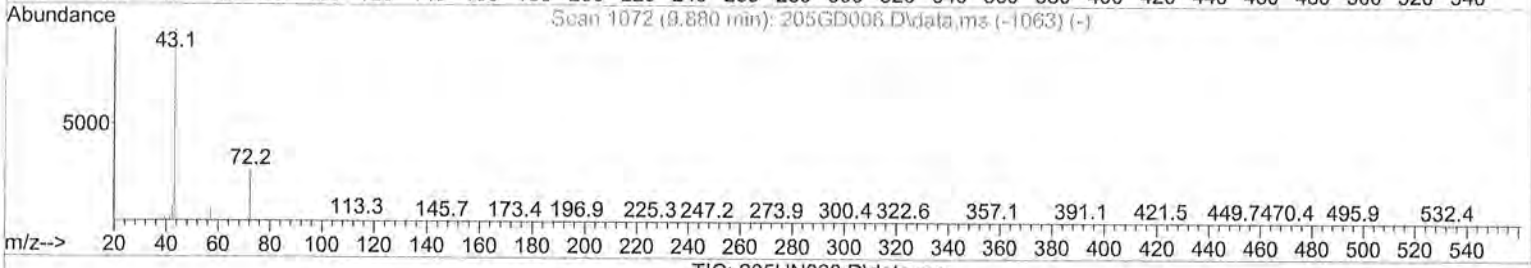
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN028.D
Acq On : 19 Aug 2020 9:44 pm
Operator : KKW
InstName : OVGCMS5
Sample : AA62023-CRL1
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Aug 20 08:17:00 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration







TIC: 205HN028.D\data.ms

(33) 2-Butanone

9.921min (+ 0.041) 10.48 ug/L m

response 9367

Ion	Exp%	Act%
72.20	100.00	100.00
43.20	336.90	143.53#
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

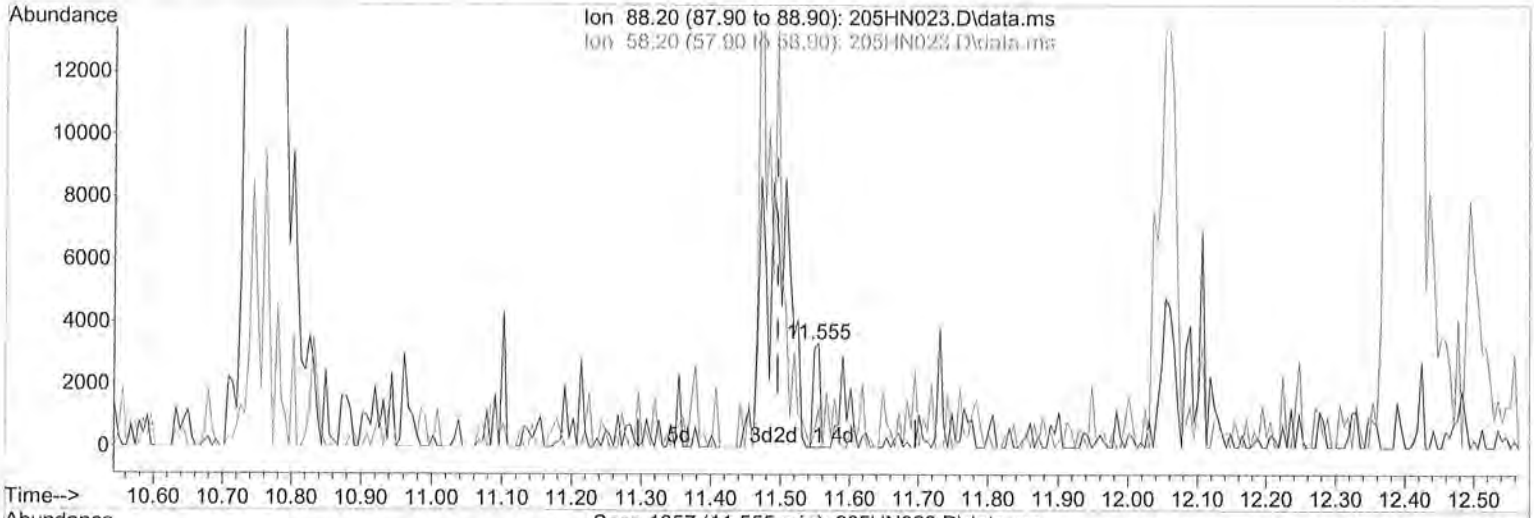
Review by/Date: 8/20/20

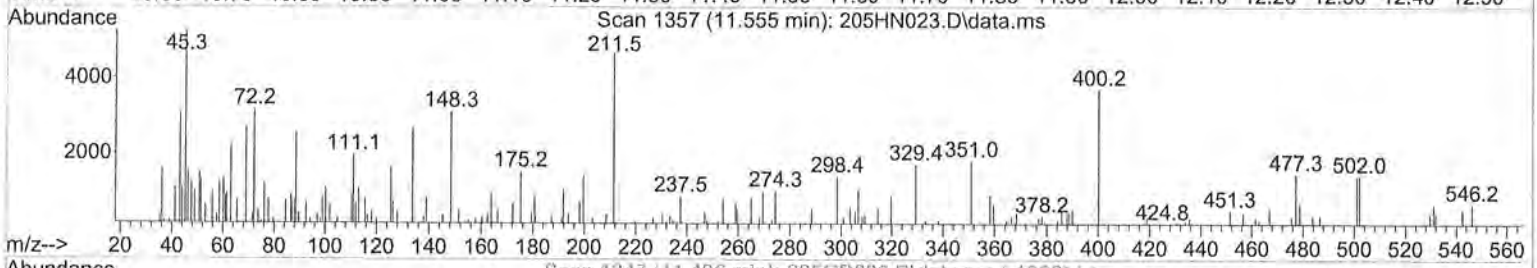
Review by/Date:

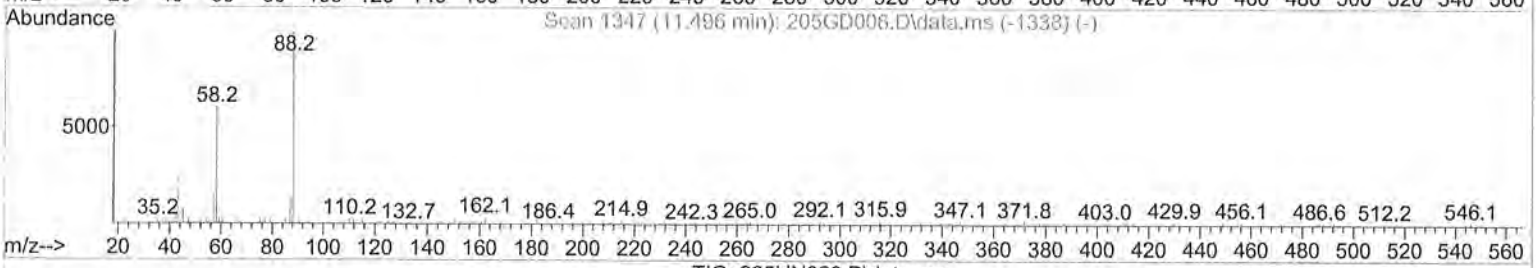
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN023.D
Acq On : 19 Aug 2020 7:09 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0H19031-BS1
Misc :
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Aug 20 08:16:40 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration







TIC: 205HN023.D\data.ms

(49) 1,4-Dioxane

11.555min (+ 0.059) 39.40 ug/L

response 2292

Ion	Exp%	Act%
88.20	100.00	100.00
58.20	68.20	59.55
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

[N] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

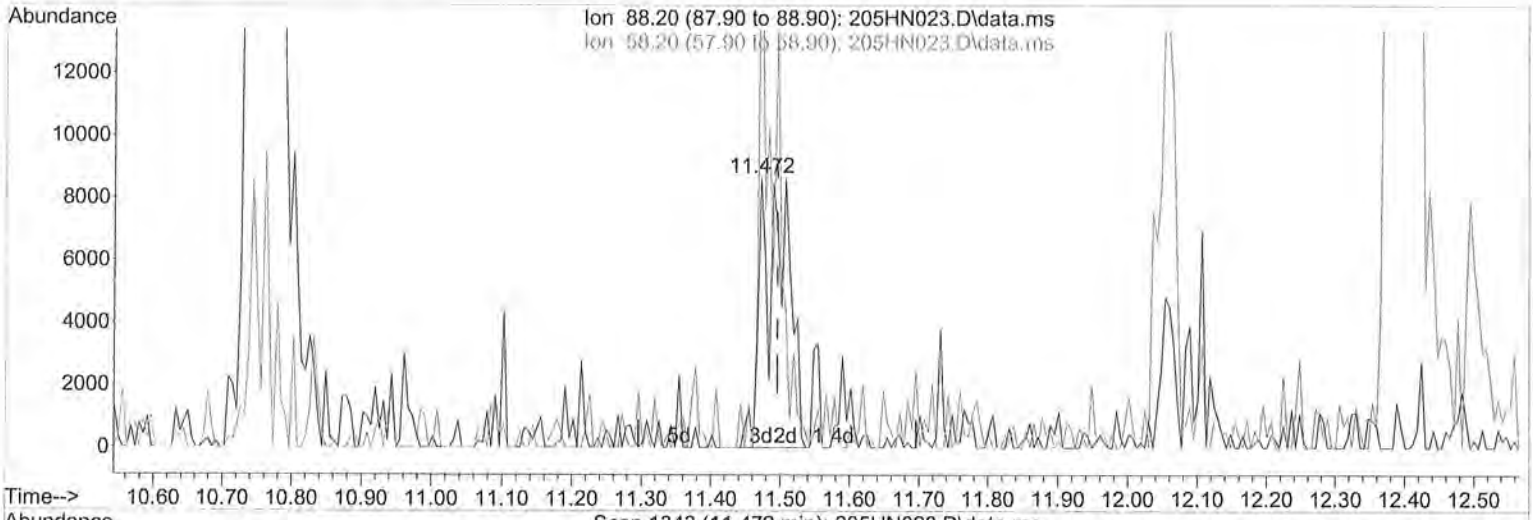
Review by/Date KW 08/20/20

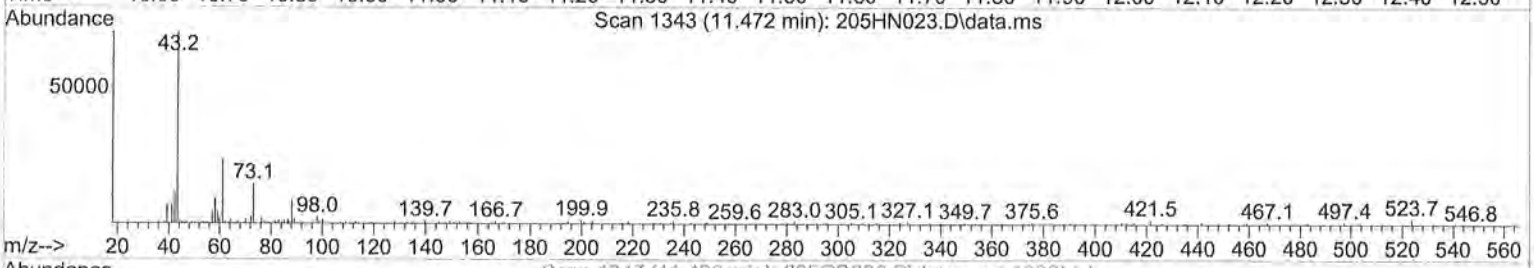
Review by/Date:

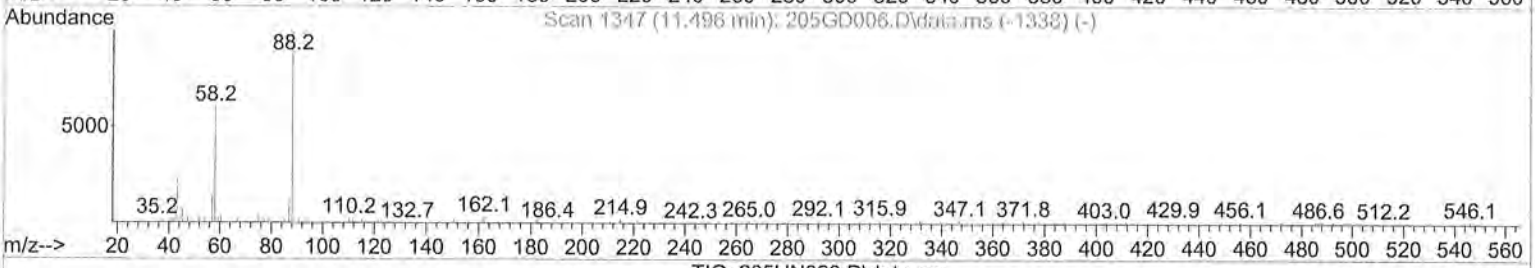
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN023.D
Acq On : 19 Aug 2020 7:09 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0H19031-BS1
Misc :
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Aug 20 08:16:40 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration







TIC: 205HN023.D\data.ms

(49) 1,4-Dioxane

11.472min (-0.024) 347.72 ug/L m

response 22650

Ion	Exp%	Act%
88.20	100.00	100.00
58.20	68.20	6.03#
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

[ ] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

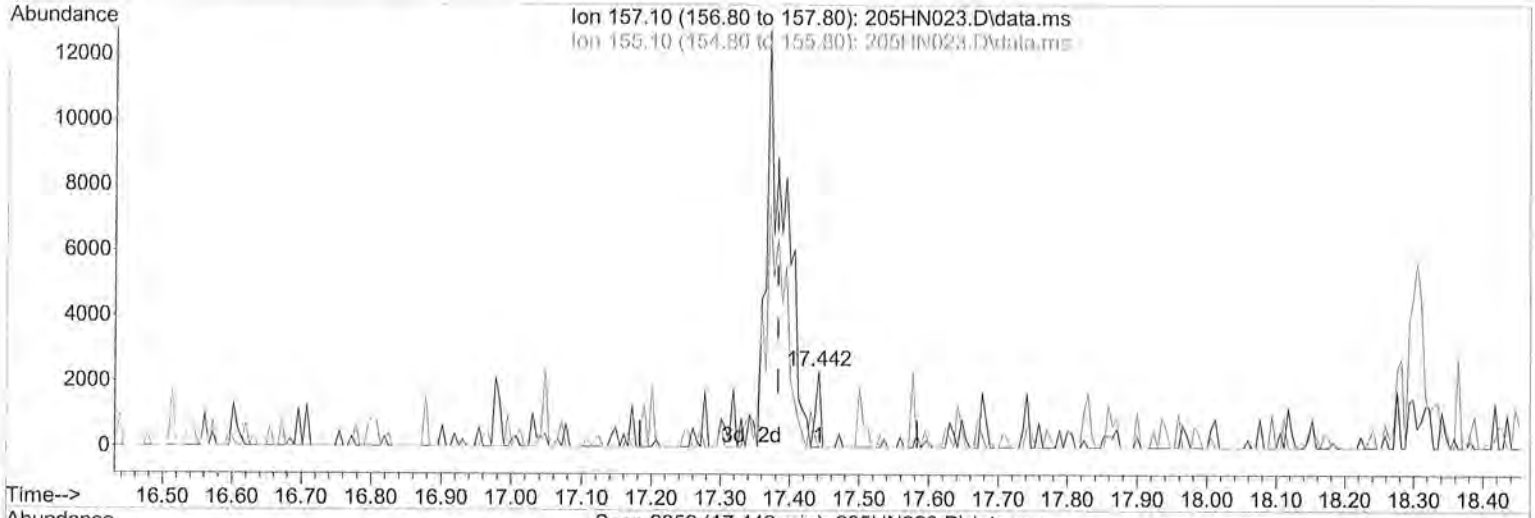
Review by/Date

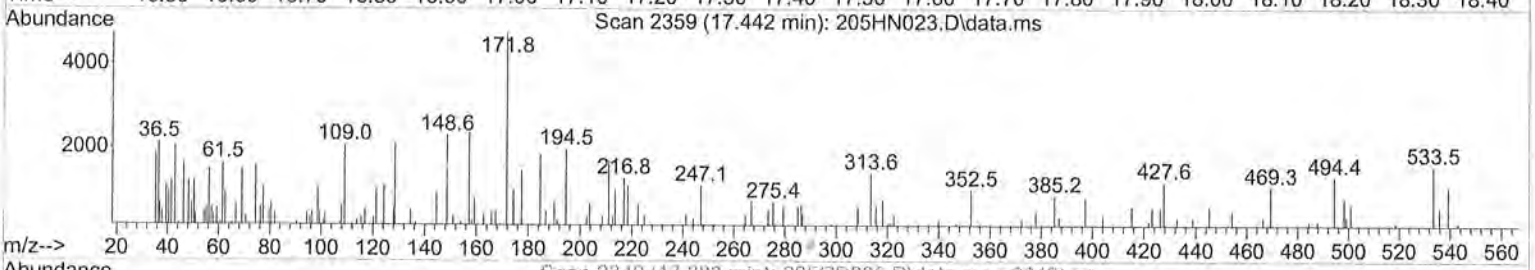
Review by/Date:

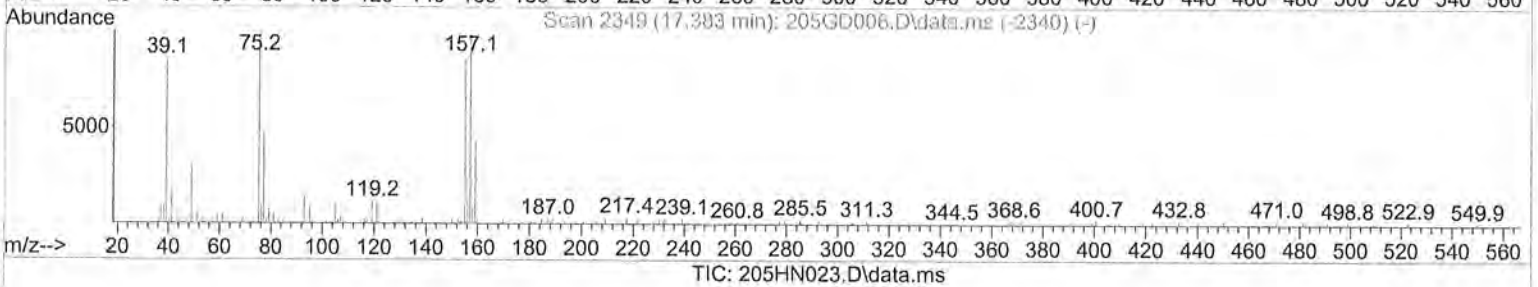
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN023.D
Acq On : 19 Aug 2020 7:09 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0H19031-BS1
Misc :
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Aug 20 08:16:40 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration







TIC: 205HN023.D\data.ms

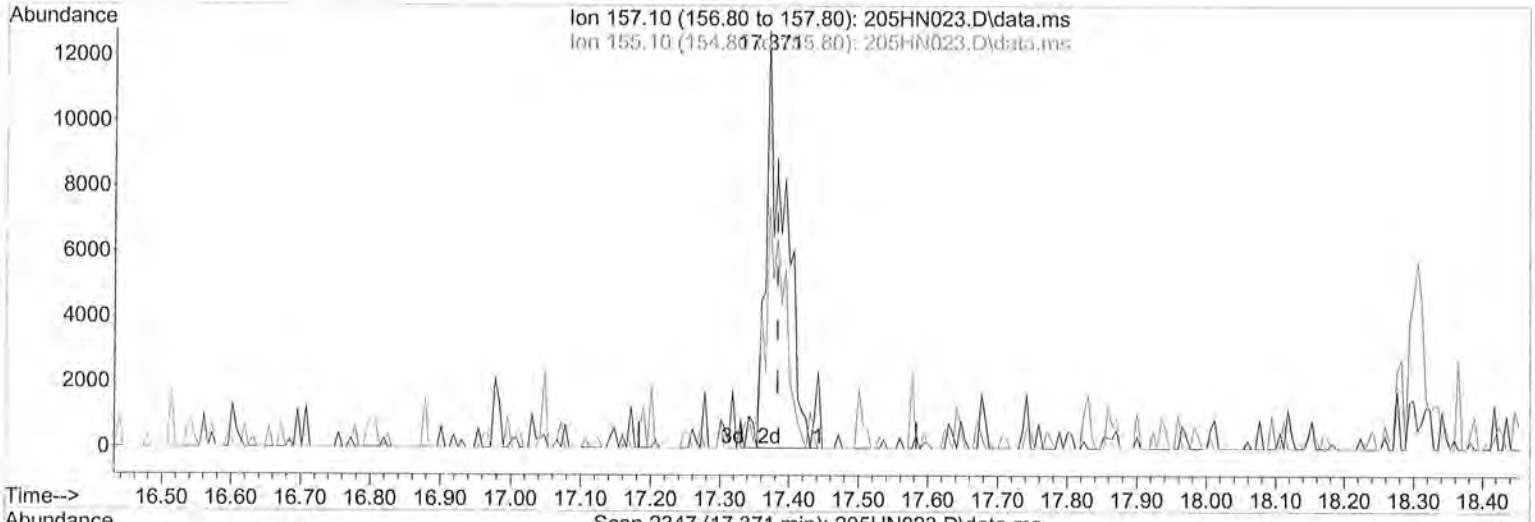
(92) DBCP		
17.442min (+ 0.059)	1.17 ug/L	
response	1140	
Ion	Exp%	Act%
157.10	100.00	100.00
155.10	85.80	96.58
0.00	0.00	0.00
0.00	0.00	0.00

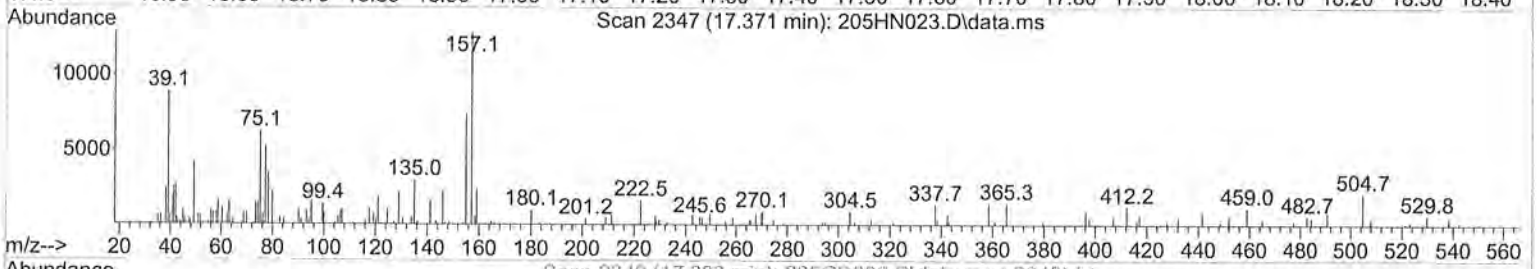
Select One:
[X] Original Integration [ ] Manual Integration
Select reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[X] Uncorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date KK 08/20/20
Review by/Date:

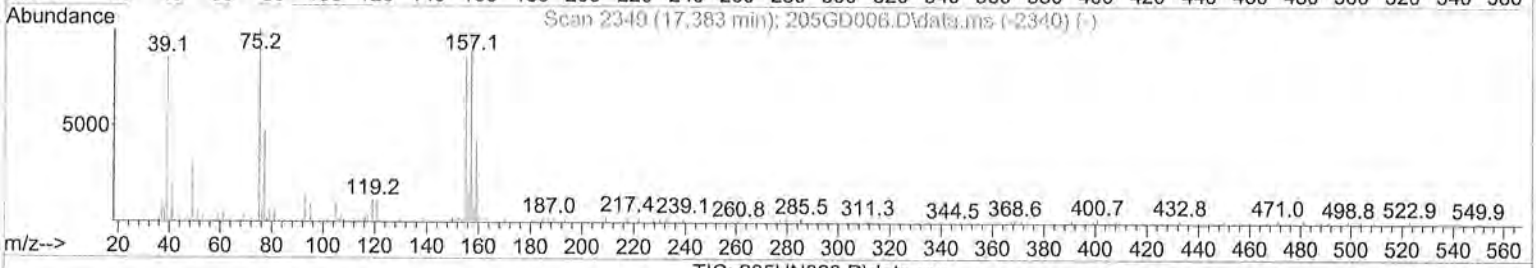
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN023.D
Acq On : 19 Aug 2020 7:09 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0H19031-BS1
Misc :
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Aug 20 08:16:40 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration







TIC: 205HN023.D\data.ms

(92) DBCP

17.371min (-0.012) 23.24 ug/L m

response 25375

Ion	Exp%	Act%
157.10	100.00	100.00
155.10	85.80	4.34#
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date KKH 8/20/20

Review by/Date:

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN022.D
Acq On : 19 Aug 2020 6:38 pm
Operator : KKW
InstName : OVGCMS5
Sample : AA62023-CCV1
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Aug 20 08:16:36 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) PENTAFLUOROBENZENE (IS)	10.174	168	916904	50.00	ug/L	0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.756	114	1739594	50.00	ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.476	82	1115298	50.00	ug/L	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.744	152	925646	50.00	ug/L	0.00
System Monitoring Compounds						
31) Dibromofluoromethane	9.763	113	515894	56.12	ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 112.24%			
52) D8-Toluene	12.060	98	2261549	52.20	ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 104.40%			
73) Bromofluorobenzene	14.575	95	966705	48.44	ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 96.88%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.293	85	262766	20.46	ug/L	98
3) Chloromethane	4.739	50	234769	16.06	ug/L	96
4) Vinyl Chloride	4.927	62	267317	19.16	ug/L	99
5) Bromomethane	5.591	94	68718	23.45	ug/L #	96
6) Chloroethane	5.820	64	148233	20.95	ug/L	97
7) Trichlorofluoromethane	6.079	101	295903	24.83	ug/L	98
8) Diethyl ether	6.555	59	355375	53.17	ug/L	93
9) 1,1-Dichloroethene	6.907	96	383637	51.92	ug/L	84
10) Trichlorotrifluoroethane	6.931	151	271822	52.03	ug/L	96
11) Acrolein	7.389	56	648051	469.47	ug/L	93
12) Iodomethane	7.154	142	1861303	195.57	ug/L	98
13) Carbon Disulfide	7.007	76	6365494	276.11	ug/L	97
14) 3-chloropropene	7.565	41	827756	62.95	ug/L	91
15) Acetone	7.759	43	384697	224.08	ug/L	93
16) Methylene Chloride	7.712	84	495215	57.98	ug/L	98
17) Methyl Acetate	7.883	43	266857	47.45	ug/L #	89
18) t-1,2-Dichloroethene	7.918	96	418973	50.54	ug/L #	76
19) Methyl tert-butyl ether	7.994	73	1138602	53.24	ug/L	94
20) Acetonitrile	8.405	41	771101	539.65	ug/L	95
21) Isopropyl ether	8.417	45	1733957	59.18	ug/L	95
22) Chloroprene	8.646	88	406033	53.35	ug/L #	73
23) 1,1-Dichloroethane	8.682	63	986068	57.35	ug/L	99
24) Acrylonitrile	8.752	53	1312847	486.22	ug/L	95
25) Vinyl Acetate	8.893	43	4355083	265.60	ug/L	96
26) c-1,2-Dichloroethene	9.304	96	515700	51.89	ug/L	96
27) 2,2-Dichloropropane	9.428	77	699414	54.75	ug/L	99
28) Bromochloromethane	9.534	128	210569	62.53	ug/L	96
29) Cyclohexane	9.534	56	961393	52.95	ug/L	95
30) Chloroform	9.563	83	932461	59.85	ug/L	100
32) Dibromofluoromethane	9.763	113	516772m	56.21	ug/L	
33) 2-Butanone	9.874	72	195386m	206.82	ug/L	
34) 1,1,1-Trichloroethane	9.827	97	738365	57.61	ug/L	95
35) 1,1-Dichloropropene	9.945	75	685618	54.89	ug/L #	89
36) Propionitrile	10.227	54	515433	492.69	ug/L	87
37) Methacrylonitrile	10.239	41	2740140	551.63	ug/L	96
38) Isobutyl Alcohol	10.221	43	661337	1032.01	ug/L	98
40) Carbon Tetrachloride	9.757	117	584037m	58.90	ug/L	
41) Benzene	10.203	78	2159632	54.29	ug/L	98
42) 1,2-Dichloroethane	10.415	62	635264	60.26	ug/L #	97
43) Trichloroethene	10.767	130	444678	52.19	ug/L	94
44) Methyl cyclohexane	10.762	83	910888	49.63	ug/L	94
45) Dibromomethane	11.202	93	267271	57.80	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN022.D
Acq On : 19 Aug 2020 6:38 pm
Operator : KKW
InstName : OVGCMS5
Sample : AA62023-CCV1
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Aug 20 08:16:36 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration

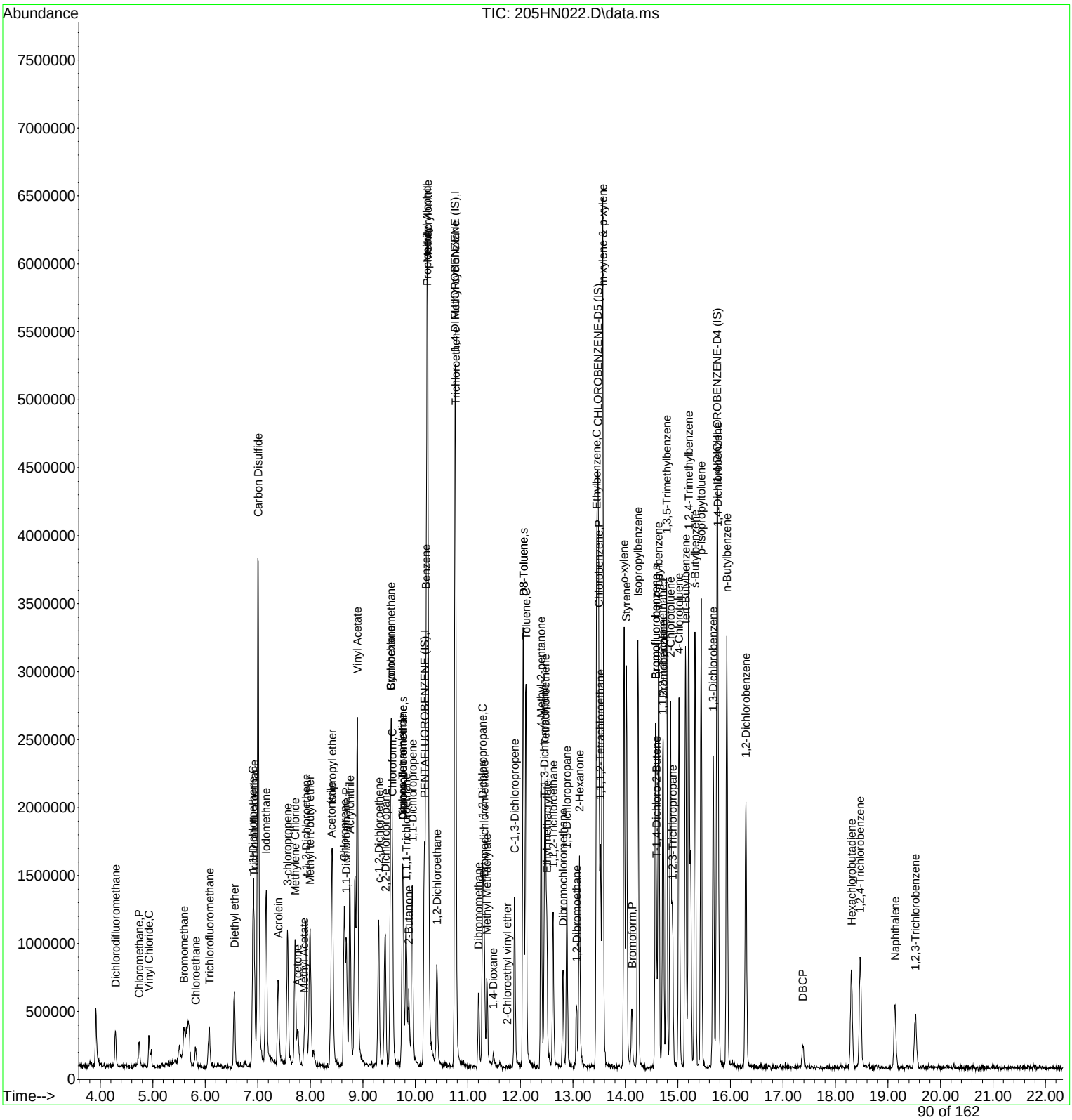
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
46) 1,2-Dichloropropane	11.285	63	560250	55.13	ug/L		100
47) Bromodichloromethane	11.314	83	636156	61.37	ug/L		99
48) Methyl Methacrylate	11.361	69	256604	43.43	ug/L	#	80
49) 1,4-Dioxane	11.484	88	64536	839.16	ug/L		84
50) 2-Chloroethyl vinyl ether	11.749	63	1161	0.24	ug/L	#	1
51) C-1,3-Dichloropropene	11.890	75	752037	53.82	ug/L		92
53) D8-Toluene	12.060	98	2261549	52.20	ug/L		99
54) 4-Methyl-2-pentanone	12.395	100	209479	199.20	ug/L		81
56) Toluene	12.107	92	1205692	43.44	ug/L		90
57) T-1,3-Dichloropropene	12.460	75	658775	50.88	ug/L		97
58) Tetrachloroethene	12.477	164	303253	41.00	ug/L		93
59) Ethyl methacrylate	12.507	69	514354	44.75	ug/L		99
60) 1,1,2-Trichloroethane	12.624	97	380633	46.90	ug/L		95
61) Dibromochloromethane	12.812	129	354748	47.60	ug/L	#	91
62) 1,3-Dichloropropane	12.889	76	729741	49.89	ug/L	#	93
63) 1,2-Dibromoethane	13.071	107	359402	46.57	ug/L	#	89
64) 2-Hexanone	13.124	43	1161939	216.76	ug/L		89
65) Ethylbenzene	13.453	106	690490	47.10	ug/L	#	88
66) Chlorobenzene	13.494	112	1237265	46.42	ug/L		99
67) 1,1,1,2-Tetrachloroethane	13.523	131	425118	52.35	ug/L		98
68) m-xylene & p-xylene	13.570	106	1860692	97.25	ug/L		95
69) o-xylene	13.976	106	851682	48.03	ug/L		91
70) Styrene	14.017	104	1478140	49.12	ug/L	#	90
71) Bromoform	14.128	173	185063	47.61	ug/L		99
72) Isopropylbenzene	14.240	105	2277984	46.99	ug/L		98
74) Bromofluorobenzene	14.575	95	966705	48.44	ug/L		85
75) n-Propylbenzene	14.628	91	2872424	46.47	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.710	83	467328	43.10	ug/L		98
77) 1,2,3-Trichloropropane	14.898	61	161854m	49.95	ug/L		
78) T-1,4-Dichloro-2-Butene	14.592	53	130440	42.05	ug/L	#	72
80) Bromobenzene	14.722	156	501613	49.05	ug/L		96
81) 1,2,4-Trimethylbenzene	15.204	105	2311880	51.62	ug/L		99
82) 2-Chlorotoluene	14.857	91	1822684	52.38	ug/L		98
83) 4-Chlorotoluene	15.021	91	1931736	54.30	ug/L		98
84) tert-Butylbenzene	15.151	119	1685489	54.10	ug/L		93
85) 1,3,5-Trimethylbenzene	14.786	105	2246634	55.71	ug/L		97
86) p-Isopropyltoluene	15.444	119	2189356	51.98	ug/L		96
87) s-Butylbenzene	15.327	105	2457762	49.18	ug/L		97
88) 1,3-Dichlorobenzene	15.674	146	994175	47.42	ug/L		95
89) 1,4-Dichlorobenzene	15.762	146	1067416	49.11	ug/L		95
90) n-Butylbenzene	15.932	91	2162642	50.44	ug/L	#	98
91) 1,2-Dichlorobenzene	16.296	146	916297	48.94	ug/L		96
92) DBCP	17.377	157	61914	49.46	ug/L	#	73
93) Hexachlorobutadiene	18.306	225	179967	50.52	ug/L		95
94) 1,2,4-Trichlorobenzene	18.470	180	349425	46.06	ug/L		96
95) Naphthalene	19.134	128	556871	35.69	ug/L	#	90
96) 1,2,3-Trichlorobenzene	19.522	180	195855	42.97	ug/L		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN022.D
Acq On : 19 Aug 2020 6:38 pm
Operator : KKW
InstName : OVGCMS5
Sample : AA62023-CCV1
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Aug 20 08:16:36 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN023.D
Acq On : 19 Aug 2020 7:09 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0H19031-BS1
Misc :
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Aug 20 08:16:40 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	10.168	168	901333	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.761	114	1724669	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.476	82	1115349	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.750	152	907644	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.763	113	471770	52.20	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 104.40%				
52) D8-Toluene	12.054	98	2215186	51.57	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 103.14%				
73) Bromofluorobenzene	14.575	95	999403	50.07	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 100.14%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.292	85	205293	16.26	ug/L		93
3) Chloromethane	4.733	50	199309	13.87	ug/L		98
4) Vinyl Chloride	4.933	62	249922	18.22	ug/L		94
5) Bromomethane	5.597	94	33810	12.35	ug/L	#	96
6) Chloroethane	5.820	64	128604	18.49	ug/L	#	84
7) Trichlorofluoromethane	6.079	101	277367	23.67	ug/L	#	96
8) Diethyl ether	6.555	59	110147	16.76	ug/L	#	82
9) 1,1-Dichloroethene	6.907	96	92243	12.99	ug/L	#	75
10) Trichlorotrifluoroethane	6.936	151	75921	15.22	ug/L	#	79
11) Acrolein	7.389	56	139109	102.52	ug/L		100
12) Iodomethane	7.160	142	112687	12.04	ug/L		98
13) Carbon Disulfide	7.013	76	214494	9.46	ug/L	#	96
14) 3-chloropropene	7.571	41	292332	22.62	ug/L	#	94
15) Acetone	7.765	43	173479	104.66	ug/L	#	86
16) Methylene Chloride	7.712	84	154579	18.41	ug/L		80
17) Methyl Acetate	7.894	43	100745	18.22	ug/L		96
18) t-1,2-Dichloroethene	7.918	96	151552	18.60	ug/L	#	79
19) Methyl tert-butyl ether	8.000	73	414796	19.73	ug/L	#	92
20) Acetonitrile	8.417	41	197594	140.68	ug/L	#	84
21) Isopropyl ether	8.417	45	644900	22.39	ug/L		98
22) Chloroprene	8.652	88	145595	19.46	ug/L	#	77
23) 1,1-Dichloroethane	8.687	63	352787	20.87	ug/L		99
24) Acrylonitrile	8.775	53	58717	22.12	ug/L	#	90
25) Vinyl Acetate	8.899	43	268815	16.68	ug/L		98
26) c-1,2-Dichloroethene	9.304	96	163323	16.72	ug/L		84
27) 2,2-Dichloropropane	9.428	77	270316	21.53	ug/L		99
28) Bromochloromethane	9.533	128	74017	22.36	ug/L		94
29) Cyclohexane	9.539	56	333528	18.69	ug/L		94
30) Chloroform	9.557	83	370123	24.17	ug/L		93
32) Dibromofluoromethane	9.763	113	471770	52.20	ug/L	#	80
33) 2-Butanone	9.880	72	63574	68.46	ug/L	#	45
34) 1,1,1-Trichloroethane	9.821	97	298963	23.73	ug/L		97
35) 1,1-Dichloropropene	9.945	75	257265	20.95	ug/L		90
36) Propionitrile	10.215	54	25258	24.56	ug/L	#	1
37) Methacrylonitrile	10.239	41	200975	41.16	ug/L	#	61
38) Isobutyl Alcohol	10.221	43	160723	291.89	ug/L	#	48
40) Carbon Tetrachloride	9.757	117	214703	21.84	ug/L	#	93
41) Benzene	10.209	78	772607	19.59	ug/L		99
42) 1,2-Dichloroethane	10.409	62	250755	23.99	ug/L	#	92
43) Trichloroethene	10.767	130	164857	19.52	ug/L	#	74
44) Methyl cyclohexane	10.773	83	359320	19.75	ug/L		87
45) Dibromomethane	11.202	93	98254	21.43	ug/L		92

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN023.D
Acq On : 19 Aug 2020 7:09 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0H19031-BS1
Misc :
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Aug 20 08:16:40 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration

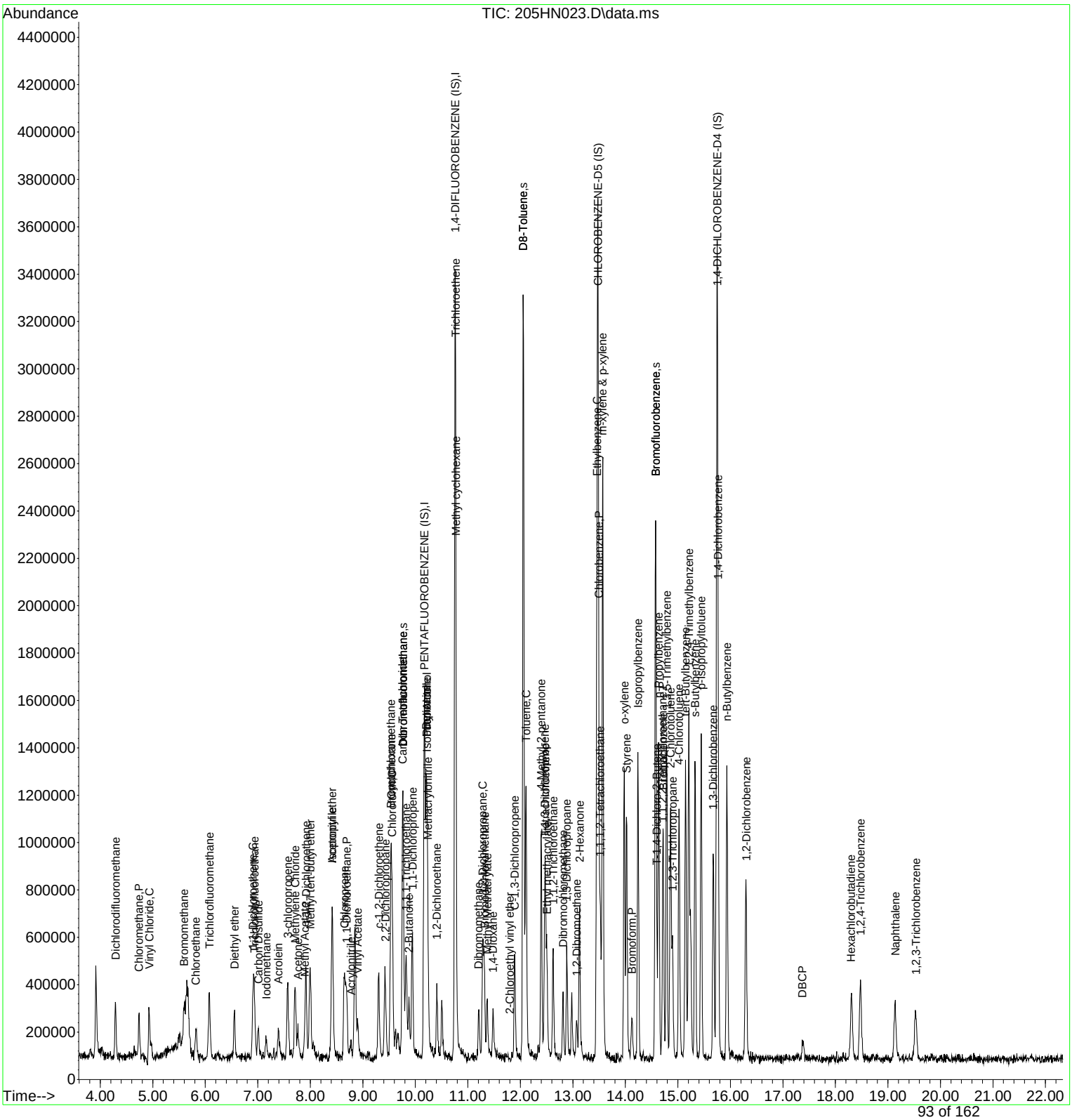
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
46) 1,2-Dichloropropane	11.284	63	213536	21.20 ug/L	94
47) Bromodichloromethane	11.320	83	250657	24.39 ug/L #	96
48) Methyl Methacrylate	11.373	69	94917	16.20 ug/L #	76
49) 1,4-Dioxane	11.472	88	22650m	347.72 ug/L	
50) 2-Chloroethyl vinyl ether	11.801	63	1000	0.21 ug/L #	38
51) C-1,3-Dichloropropene	11.890	75	271657	19.61 ug/L	97
53) D8-Toluene	12.054	98	2215186	51.57 ug/L	96
54) 4-Methyl-2-pentanone	12.395	100	79868	82.89 ug/L #	78
56) Toluene	12.107	92	486104	17.51 ug/L	95
57) T-1,3-Dichloropropene	12.465	75	239499	18.50 ug/L #	91
58) Tetrachloroethene	12.477	164	109897	14.86 ug/L	95
59) Ethyl methacrylate	12.507	69	201804	17.56 ug/L	97
60) 1,1,2-Trichloroethane	12.624	97	148697	18.32 ug/L	97
61) Dibromochloromethane	12.812	129	137229	18.41 ug/L #	87
62) 1,3-Dichloropropane	12.883	76	296036	20.24 ug/L	100
63) 1,2-Dibromoethane	13.071	107	120581	15.62 ug/L #	90
64) 2-Hexanone	13.129	43	471989	96.61 ug/L #	96
65) Ethylbenzene	13.458	106	270478	18.45 ug/L #	93
66) Chlorobenzene	13.494	112	486450	18.25 ug/L	100
67) 1,1,1,2-Tetrachloroethane	13.517	131	145085	17.87 ug/L	89
68) m-xylene & p-xylene	13.564	106	715380	37.39 ug/L	99
69) o-xylene	13.981	106	340132	19.18 ug/L	90
70) Styrene	14.022	104	560854	18.64 ug/L	92
71) Bromoform	14.122	173	74789	19.24 ug/L #	80
72) Isopropylbenzene	14.240	105	867182	17.89 ug/L	96
74) Bromofluorobenzene	14.575	95	999403	50.07 ug/L #	82
75) n-Propylbenzene	14.633	91	1200958	19.43 ug/L	99
76) 1,1,2,2-Tetrachloroethane	14.710	83	176320	18.33 ug/L	97
77) 1,2,3-Trichloropropane	14.898	61	68221	24.22 ug/L	93
78) T-1,4-Dichloro-2-Butene	14.598	53	52551	19.63 ug/L #	34
80) Bromobenzene	14.722	156	189121	18.86 ug/L	92
81) 1,2,4-Trimethylbenzene	15.209	105	919544	20.94 ug/L	97
82) 2-Chlorotoluene	14.857	91	737828	21.62 ug/L	96
83) 4-Chlorotoluene	15.021	91	752168	21.56 ug/L	98
84) tert-Butylbenzene	15.145	119	673297	22.04 ug/L	95
85) 1,3,5-Trimethylbenzene	14.786	105	854418	21.61 ug/L	94
86) p-Isopropyltoluene	15.444	119	845097	20.46 ug/L	97
87) s-Butylbenzene	15.327	105	1054227	21.52 ug/L	98
88) 1,3-Dichlorobenzene	15.673	146	392704	19.10 ug/L	98
89) 1,4-Dichlorobenzene	15.767	146	425803	19.98 ug/L #	86
90) n-Butylbenzene	15.932	91	856424	20.37 ug/L #	92
91) 1,2-Dichlorobenzene	16.302	146	336592	18.33 ug/L #	91
92) DBCP	17.371	157	25375m	23.24 ug/L	
93) Hexachlorobutadiene	18.294	225	61671	17.66 ug/L	97
94) 1,2,4-Trichlorobenzene	18.476	180	132261	19.06 ug/L	93
95) Naphthalene	19.140	128	310303	21.53 ug/L #	85
96) 1,2,3-Trichlorobenzene	19.534	180	93856	22.85 ug/L	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN023.D
Acq On : 19 Aug 2020 7:09 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0H19031-BS1
Misc :
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Aug 20 08:16:40 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN024.D
Acq On : 19 Aug 2020 7:40 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0H19031-MS1
Misc :
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Aug 20 08:16:45 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) PENTAFLUOROBENZENE (IS)	10.174	168	912724	50.00	ug/L	# 0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.761	114	1808125	50.00	ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.470	82	1118109	50.00	ug/L	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.750	152	942774	50.00	ug/L	0.00
System Monitoring Compounds						
31) Dibromofluoromethane	9.763	113	518828	56.70	ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 113.40%			
52) D8-Toluene	12.054	98	2306662	51.23	ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 102.46%			
73) Bromofluorobenzene	14.569	95	981756	49.07	ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 98.14%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.287	85	254767	19.93	ug/L	99
3) Chloromethane	4.739	50	250705	17.23	ug/L	93
4) Vinyl Chloride	4.927	62	282904	20.37	ug/L #	84
5) Bromomethane	5.591	94	60185	20.87	ug/L #	91
6) Chloroethane	5.826	64	177271	25.17	ug/L	96
7) Trichlorofluoromethane	6.073	101	371657	31.32	ug/L	99
8) Diethyl ether	6.555	59	133434	20.05	ug/L	96
9) 1,1-Dichloroethene	6.919	96	138924	19.25	ug/L	90
10) Trichlorotrifluoroethane	6.931	151	97943	19.33	ug/L	93
11) Acrolein	7.389	56	143643	104.54	ug/L	95
12) Iodomethane	7.166	142	104005	10.98	ug/L #	90
13) Carbon Disulfide	7.007	76	283794	12.37	ug/L #	93
14) 3-chloropropene	7.565	41	366003	27.96	ug/L	95
15) Acetone	7.753	43	199607	118.67	ug/L #	87
16) Methylene Chloride	7.718	84	197684	23.25	ug/L	87
17) Methyl Acetate	7.877	43	107060	19.12	ug/L #	93
18) t-1,2-Dichloroethene	7.912	96	186853	22.64	ug/L	88
19) Methyl tert-butyl ether	8.000	73	481990	22.64	ug/L #	91
20) Acetonitrile	8.417	41	229493	161.35	ug/L #	91
21) Isopropyl ether	8.423	45	742292	25.45	ug/L	97
22) Chloroprene	8.646	88	161344	21.30	ug/L #	65
23) 1,1-Dichloroethane	8.693	63	405809	23.71	ug/L #	97
24) Acrylonitrile	8.764	53	62430	23.23	ug/L #	82
25) Vinyl Acetate	8.899	43	292799	17.94	ug/L #	90
26) c-1,2-Dichloroethene	9.304	96	225349	22.78	ug/L	88
27) 2,2-Dichloropropane	9.422	77	307486	24.18	ug/L #	92
28) Bromochloromethane	9.528	128	89241	26.62	ug/L	100
29) Cyclohexane	9.545	56	396457	21.94	ug/L	98
30) Chloroform	9.569	83	412849	26.62	ug/L	97
32) Dibromofluoromethane	9.763	113	518828	56.70	ug/L #	90
33) 2-Butanone	9.874	72	85253	90.65	ug/L	71
34) 1,1,1-Trichloroethane	9.827	97	341714	26.78	ug/L	94
35) 1,1-Dichloropropene	9.945	75	346240	27.85	ug/L #	95
36) Propionitrile	10.221	54	20123	19.32	ug/L #	1
37) Methacrylonitrile	10.233	41	203244	41.10	ug/L #	70
38) Isobutyl Alcohol	10.233	43	190071	337.86	ug/L #	88
40) Carbon Tetrachloride	9.757	117	278784m	27.05	ug/L	
41) Benzene	10.203	78	941067	22.76	ug/L	97
42) 1,2-Dichloroethane	10.415	62	288649	26.34	ug/L #	92
43) Trichloroethene	10.767	130	186952	21.11	ug/L #	79
44) Methyl cyclohexane	10.767	83	449559	23.57	ug/L	94
45) Dibromomethane	11.208	93	105277	21.91	ug/L	97

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN024.D
Acq On : 19 Aug 2020 7:40 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0H19031-MS1
Misc :
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Aug 20 08:16:45 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration

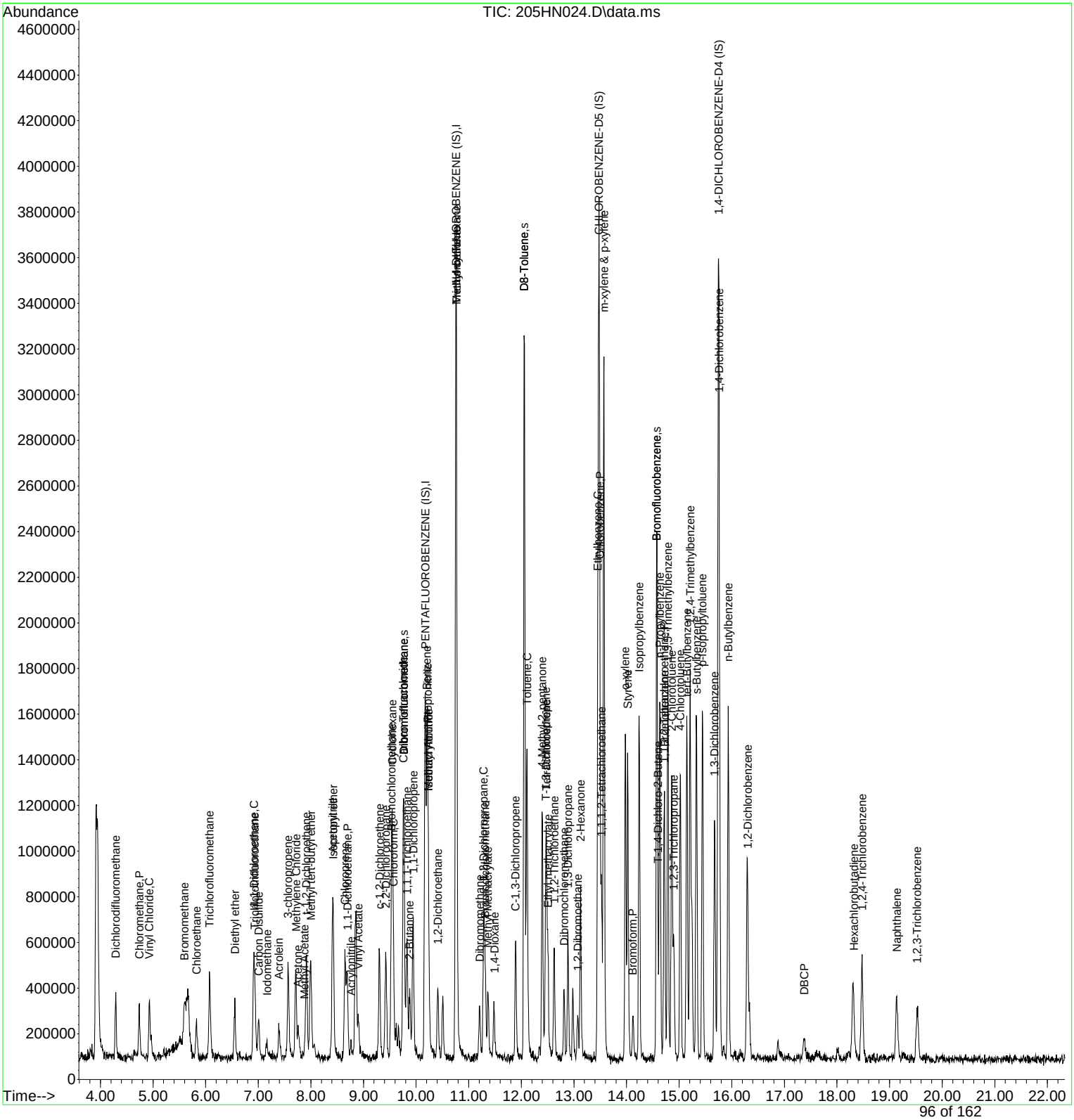
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
46) 1,2-Dichloropropane	11.284	63	242642	22.97 ug/L	97
47) Bromodichloromethane	11.314	83	283870	26.35 ug/L	97
48) Methyl Methacrylate	11.361	69	114056	18.57 ug/L	85
49) 1,4-Dioxane	11.490	88	38541	530.68 ug/L #	64
50) 2-Chloroethyl vinyl ether	0.000		0	N.D. d	
51) C-1,3-Dichloropropene	11.884	75	330340	22.75 ug/L	92
53) D8-Toluene	12.054	98	2306662	51.23 ug/L	99
54) 4-Methyl-2-pentanone	12.395	100	103107	100.80 ug/L	91
56) Toluene	12.107	92	595748	21.41 ug/L #	97
57) T-1,3-Dichloropropene	12.465	75	279073	21.50 ug/L #	92
58) Tetrachloroethene	12.477	164	150102	20.24 ug/L	99
59) Ethyl methacrylate	12.506	69	219706	19.07 ug/L	95
60) 1,1,2-Trichloroethane	12.624	97	171982	21.14 ug/L	90
61) Dibromochloromethane	12.812	129	176922	23.68 ug/L	98
62) 1,3-Dichloropropane	12.888	76	318325	21.71 ug/L	89
63) 1,2-Dibromoethane	13.071	107	151803	19.62 ug/L	96
64) 2-Hexanone	13.123	43	511795	103.89 ug/L	96
65) Ethylbenzene	13.452	106	332712	22.64 ug/L	96
66) Chlorobenzene	13.494	112	571156	21.37 ug/L	94
67) 1,1,1,2-Tetrachloroethane	13.523	131	185030	22.73 ug/L	90
68) m-xylene & p-xylene	13.570	106	895474	46.69 ug/L	96
69) o-xylene	13.975	106	417186	23.47 ug/L	96
70) Styrene	14.022	104	693180	22.98 ug/L #	93
71) Bromoform	14.116	173	80751	20.72 ug/L	97
72) Isopropylbenzene	14.240	105	1096625	22.57 ug/L #	95
74) Bromofluorobenzene	14.569	95	981756	49.07 ug/L	87
75) n-Propylbenzene	14.633	91	1422299	22.95 ug/L	99
76) 1,1,2,2-Tetrachloroethane	14.716	83	211850	21.61 ug/L #	95
77) 1,2,3-Trichloropropane	14.892	61	69305m	24.50 ug/L	
78) T-1,4-Dichloro-2-Butene	14.598	53	53749	19.98 ug/L #	68
80) Bromobenzene	14.722	156	235721	22.63 ug/L	96
81) 1,2,4-Trimethylbenzene	15.209	105	1038895	22.77 ug/L	98
82) 2-Chlorotoluene	14.857	91	834868	23.55 ug/L	99
83) 4-Chlorotoluene	15.021	91	931187	25.70 ug/L	95
84) tert-Butylbenzene	15.150	119	766560	24.16 ug/L	91
85) 1,3,5-Trimethylbenzene	14.780	105	1022504	24.89 ug/L	99
86) p-Isopropyltoluene	15.438	119	1022476	23.83 ug/L	95
87) s-Butylbenzene	15.333	105	1229030	24.15 ug/L	97
88) 1,3-Dichlorobenzene	15.673	146	444329	20.81 ug/L #	94
89) 1,4-Dichlorobenzene	15.762	146	475674	21.49 ug/L #	83
90) n-Butylbenzene	15.932	91	1058075	24.23 ug/L	96
91) 1,2-Dichlorobenzene	16.302	146	414027	21.71 ug/L #	91
92) DBCP	17.377	157	24854	22.04 ug/L #	78
93) Hexachlorobutadiene	18.317	225	85640	23.61 ug/L #	83
94) 1,2,4-Trichlorobenzene	18.476	180	171772	23.55 ug/L	95
95) Naphthalene	19.134	128	338252	22.50 ug/L #	81
96) 1,2,3-Trichlorobenzene	19.522	180	99554	23.29 ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN024.D
Acq On : 19 Aug 2020 7:40 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0H19031-MS1
Misc :
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Aug 20 08:16:45 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN025.D
Acq On : 19 Aug 2020 8:11 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0H19031-MSD1
Misc :
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Aug 20 08:16:50 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) PENTAFLUOROBENZENE (IS)	10.168	168	916848	50.00	ug/L	# 0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.756	114	1830081	50.00	ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.470	82	1137228	50.00	ug/L	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.744	152	933638	50.00	ug/L	0.00
System Monitoring Compounds						
31) Dibromofluoromethane	9.763	113	521759	56.76	ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 113.52%			
52) D8-Toluene	12.054	98	2274448	49.90	ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 99.80%			
73) Bromofluorobenzene	14.575	95	965584	47.45	ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 94.90%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.287	85	246574	19.20	ug/L	99
3) Chloromethane	4.733	50	225647	15.43	ug/L	97
4) Vinyl Chloride	4.933	62	282649	20.26	ug/L	96
5) Bromomethane	5.591	94	68456	23.37	ug/L #	79
6) Chloroethane	5.832	64	162084	22.91	ug/L #	86
7) Trichlorofluoromethane	6.079	101	377591	31.68	ug/L	94
8) Diethyl ether	6.561	59	145963	21.84	ug/L	95
9) 1,1-Dichloroethene	6.919	96	128969	17.81	ug/L	88
10) Trichlorotrifluoroethane	6.931	151	97033	19.07	ug/L	92
11) Acrolein	7.389	56	137947	99.94	ug/L	90
12) Iodomethane	7.160	142	82057	8.62	ug/L #	92
13) Carbon Disulfide	7.007	76	261965	11.36	ug/L #	92
14) 3-chloropropene	7.565	41	319533	24.30	ug/L	96
15) Acetone	7.765	43	186256	110.37	ug/L #	84
16) Methylene Chloride	7.712	84	178294	20.88	ug/L	81
17) Methyl Acetate	7.883	43	123505	21.96	ug/L #	67
18) t-1,2-Dichloroethene	7.906	96	184684	22.28	ug/L #	81
19) Methyl tert-butyl ether	7.994	73	494664	23.13	ug/L	98
20) Acetonitrile	8.405	41	223710	156.57	ug/L #	86
21) Isopropyl ether	8.423	45	770489	26.30	ug/L	95
22) Chloroprene	8.652	88	174359	22.91	ug/L #	77
23) 1,1-Dichloroethane	8.688	63	400524	23.30	ug/L	97
24) Acrylonitrile	8.758	53	62897	23.30	ug/L #	79
25) Vinyl Acetate	8.905	43	305452	18.63	ug/L	95
26) c-1,2-Dichloroethene	9.299	96	216501	21.78	ug/L	96
27) 2,2-Dichloropropane	9.428	77	300079	23.49	ug/L #	88
28) Bromochloromethane	9.528	128	94279	28.00	ug/L	99
29) Cyclohexane	9.539	56	389603	21.46	ug/L	92
30) Chloroform	9.557	83	384335	24.67	ug/L #	94
32) Dibromofluoromethane	9.763	113	521759	56.76	ug/L #	84
33) 2-Butanone	9.874	72	78090	82.66	ug/L #	45
34) 1,1,1-Trichloroethane	9.827	97	343508	26.80	ug/L	97
35) 1,1-Dichloropropene	9.945	75	324215	25.96	ug/L #	90
36) Propionitrile	10.221	54	26061	24.91	ug/L #	1
37) Methacrylonitrile	10.233	41	212707	42.82	ug/L #	67
38) Isobutyl Alcohol	10.227	43	200875	354.33	ug/L #	49
40) Carbon Tetrachloride	9.757	117	248198m	23.79	ug/L	
41) Benzene	10.209	78	895352	21.39	ug/L	97
42) 1,2-Dichloroethane	10.409	62	274202	24.72	ug/L #	94
43) Trichloroethene	10.762	130	209472	23.37	ug/L #	89
44) Methyl cyclohexane	10.767	83	423994	21.96	ug/L	89
45) Dibromomethane	11.202	93	102864	21.15	ug/L	87

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN025.D
Acq On : 19 Aug 2020 8:11 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0H19031-MSD1
Misc :
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Aug 20 08:16:50 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration

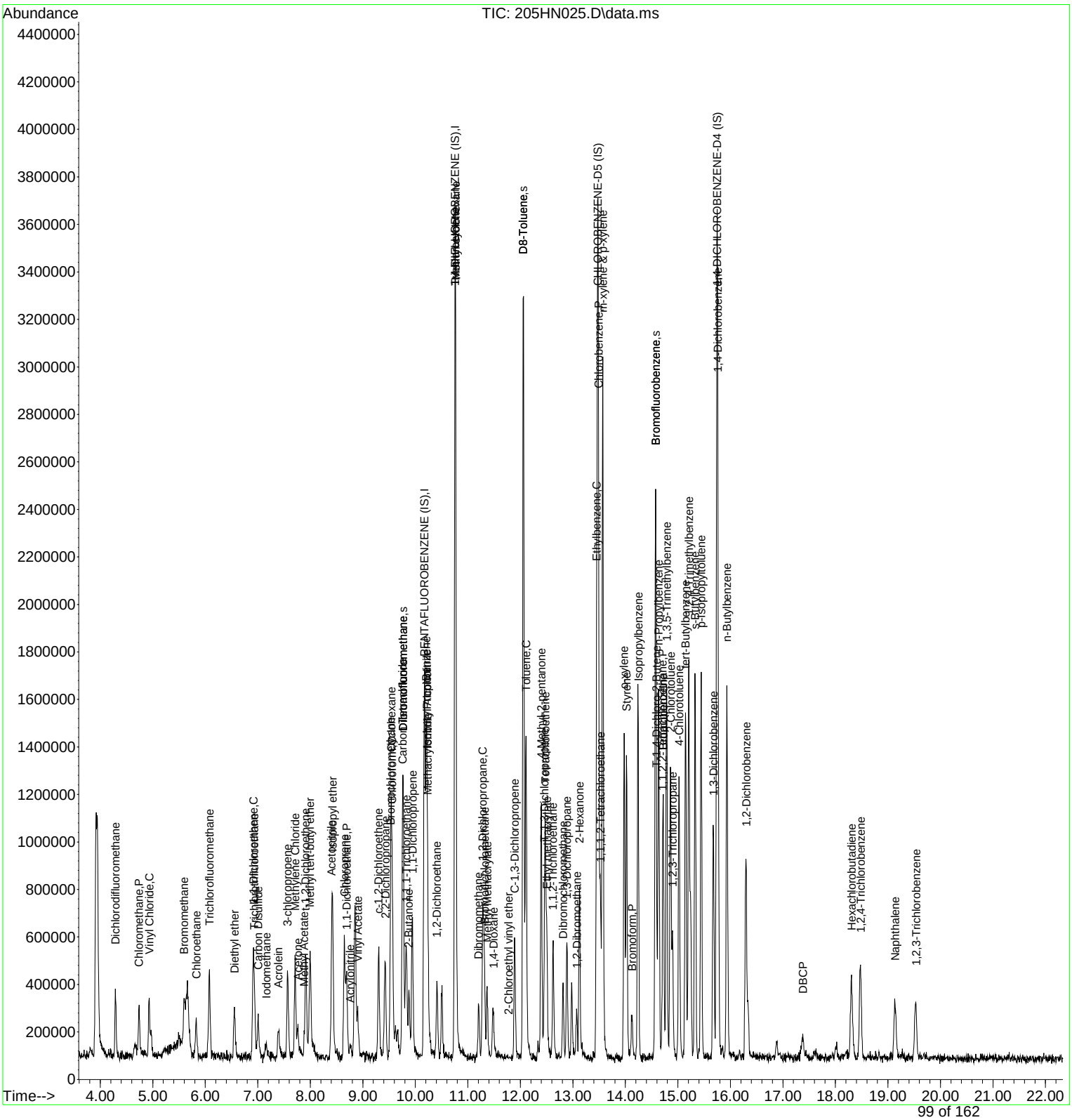
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
46) 1,2-Dichloropropane	11.285	63	247266	23.13 ug/L	96
47) Bromodichloromethane	11.320	83	271850	24.93 ug/L	98
48) Methyl Methacrylate	11.367	69	123789	19.91 ug/L #	76
49) 1,4-Dioxane	11.490	88	36360	499.69 ug/L	95
50) 2-Chloroethyl vinyl ether	11.772	63	1383	0.27 ug/L #	15
51) C-1,3-Dichloropropene	11.890	75	317263	21.58 ug/L	97
53) D8-Toluene	12.054	98	2273145	49.88 ug/L	98
54) 4-Methyl-2-pentanone	12.401	100	96446	93.62 ug/L	77
56) Toluene	12.107	92	597147	21.10 ug/L	96
57) T-1,3-Dichloropropene	12.460	75	290498	22.00 ug/L	96
58) Tetrachloroethene	12.477	164	155771	20.66 ug/L	96
59) Ethyl methacrylate	12.507	69	239053	20.40 ug/L	92
60) 1,1,2-Trichloroethane	12.618	97	168532	20.36 ug/L	96
61) Dibromochloromethane	12.812	129	175033	23.03 ug/L #	97
62) 1,3-Dichloropropane	12.889	76	319716	21.44 ug/L	99
63) 1,2-Dibromoethane	13.077	107	153320	19.48 ug/L #	99
64) 2-Hexanone	13.124	43	544195	108.23 ug/L	91
65) Ethylbenzene	13.453	106	325942	21.80 ug/L #	97
66) Chlorobenzene	13.488	112	545615	20.07 ug/L	98
67) 1,1,1,2-Tetrachloroethane	13.529	131	181781	21.95 ug/L	96
68) m-xylene & p-xylene	13.570	106	811799	41.61 ug/L	97
69) o-xylene	13.976	106	384345	21.26 ug/L	89
70) Styrene	14.023	104	636032	20.73 ug/L	90
71) Bromoform	14.128	173	74236	18.73 ug/L	93
72) Isopropylbenzene	14.246	105	1097344	22.20 ug/L	96
74) Bromofluorobenzene	14.575	95	965584	47.45 ug/L	86
75) n-Propylbenzene	14.634	91	1373976	21.80 ug/L	98
76) 1,1,2,2-Tetrachloroethane	14.710	83	212388	21.33 ug/L #	99
77) 1,2,3-Trichloropropane	14.898	61	82237m	28.01 ug/L	
78) T-1,4-Dichloro-2-Butene	14.592	53	48028	17.82 ug/L #	7
80) Bromobenzene	14.722	156	218236	21.16 ug/L #	95
81) 1,2,4-Trimethylbenzene	15.209	105	1095052	24.24 ug/L	93
82) 2-Chlorotoluene	14.863	91	831865	23.70 ug/L #	95
83) 4-Chlorotoluene	15.027	91	856908	23.88 ug/L	96
84) tert-Butylbenzene	15.145	119	776866	24.72 ug/L	90
85) 1,3,5-Trimethylbenzene	14.786	105	1059964	26.06 ug/L	96
86) p-Isopropyltoluene	15.444	119	1029315	24.23 ug/L	97
87) s-Butylbenzene	15.327	105	1231606	24.44 ug/L	97
88) 1,3-Dichlorobenzene	15.679	146	437777	20.70 ug/L	97
89) 1,4-Dichlorobenzene	15.762	146	453967	20.71 ug/L #	88
90) n-Butylbenzene	15.932	91	1051755	24.32 ug/L	95
91) 1,2-Dichlorobenzene	16.302	146	424752	22.49 ug/L	97
92) DBCP	17.383	157	23159	20.86 ug/L #	71
93) Hexachlorobutadiene	18.306	225	90098	25.08 ug/L #	92
94) 1,2,4-Trichlorobenzene	18.482	180	186568	25.68 ug/L	96
95) Naphthalene	19.134	128	309917	20.95 ug/L #	85
96) 1,2,3-Trichlorobenzene	19.540	180	108411	25.38 ug/L	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN025.D
Acq On : 19 Aug 2020 8:11 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0H19031-MSD1
Misc :
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Aug 20 08:16:50 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN027.D
Acq On : 19 Aug 2020 9:13 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0H19031-BLK1
Misc :
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Aug 20 08:16:55 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) PENTAFLUOROBENZENE (IS)	10.174	168	903585	50.00	ug/L	0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.762	114	1741438	50.00	ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.476	82	1012028	50.00	ug/L	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.750	152	824134	50.00	ug/L	0.00
System Monitoring Compounds						
31) Dibromofluoromethane	9.763	113	454250	50.14	ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 100.28%			
52) D8-Toluene	12.060	98	2075316	47.85	ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 95.70%			
73) Bromofluorobenzene	14.569	95	964047	53.23	ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 106.46%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.293	85	2008	N.D.		
3) Chloromethane	4.727	50	2411	N.D.		
4) Vinyl Chloride	4.810	62	1323	N.D.		
5) Bromomethane	0.000		0	N.D.	d	
6) Chloroethane	0.000		0	N.D.	d	
7) Trichlorofluoromethane	0.000		0	N.D.		
8) Diethyl ether	0.000		0	N.D.	d	
9) 1,1-Dichloroethene	0.000		0	N.D.	d	
10) Trichlorotrifluoroethane	0.000		0	N.D.		
11) Acrolein	0.000		0	N.D.	d	
12) Iodomethane	0.000		0	N.D.	d	
13) Carbon Disulfide	0.000		0	N.D.	d	
14) 3-chloropropene	0.000		0	N.D.	d	
15) Acetone	0.000		0	N.D.	d	
16) Methylene Chloride	0.000		0	N.D.	d	
17) Methyl Acetate	0.000		0	N.D.	d	
18) t-1,2-Dichloroethene	0.000		0	N.D.	d	
19) Methyl tert-butyl ether	0.000		0	N.D.	d	
20) Acetonitrile	0.000		0	N.D.	d	
21) Isopropyl ether	0.000		0	N.D.	d	
22) Chloroprene	0.000		0	N.D.	d	
23) 1,1-Dichloroethane	0.000		0	N.D.	d	
24) Acrylonitrile	0.000		0	N.D.	d	
25) Vinyl Acetate	0.000		0	N.D.	d	
26) c-1,2-Dichloroethene	0.000		0	N.D.	d	
27) 2,2-Dichloropropane	0.000		0	N.D.	d	
28) Bromochloromethane	0.000		0	N.D.	d	
29) Cyclohexane	9.633	56	1527	N.D.		
30) Chloroform	0.000		0	N.D.		
32) Dibromofluoromethane	9.763	113	454250	50.14	ug/L #	87
33) 2-Butanone	0.000		0	N.D.	d	
34) 1,1,1-Trichloroethane	0.000		0	N.D.	d	
35) 1,1-Dichloropropene	0.000		0	N.D.	d	
36) Propionitrile	0.000		0	N.D.	d	
37) Methacrylonitrile	0.000		0	N.D.	d	
38) Isobutyl Alcohol	0.000		0	N.D.	d	
40) Carbon Tetrachloride	9.698	117	1244	N.D.		
41) Benzene	10.215	78	1081	N.D.		
42) 1,2-Dichloroethane	10.462	62	1331	N.D.		
43) Trichloroethene	10.767	130	1369	N.D.		
44) Methyl cyclohexane	0.000		0	N.D.	d	
45) Dibromomethane	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN027.D
Acq On : 19 Aug 2020 9:13 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0H19031-BLK1
Misc :
ALS Vial : 26 Sample Multiplier: 1

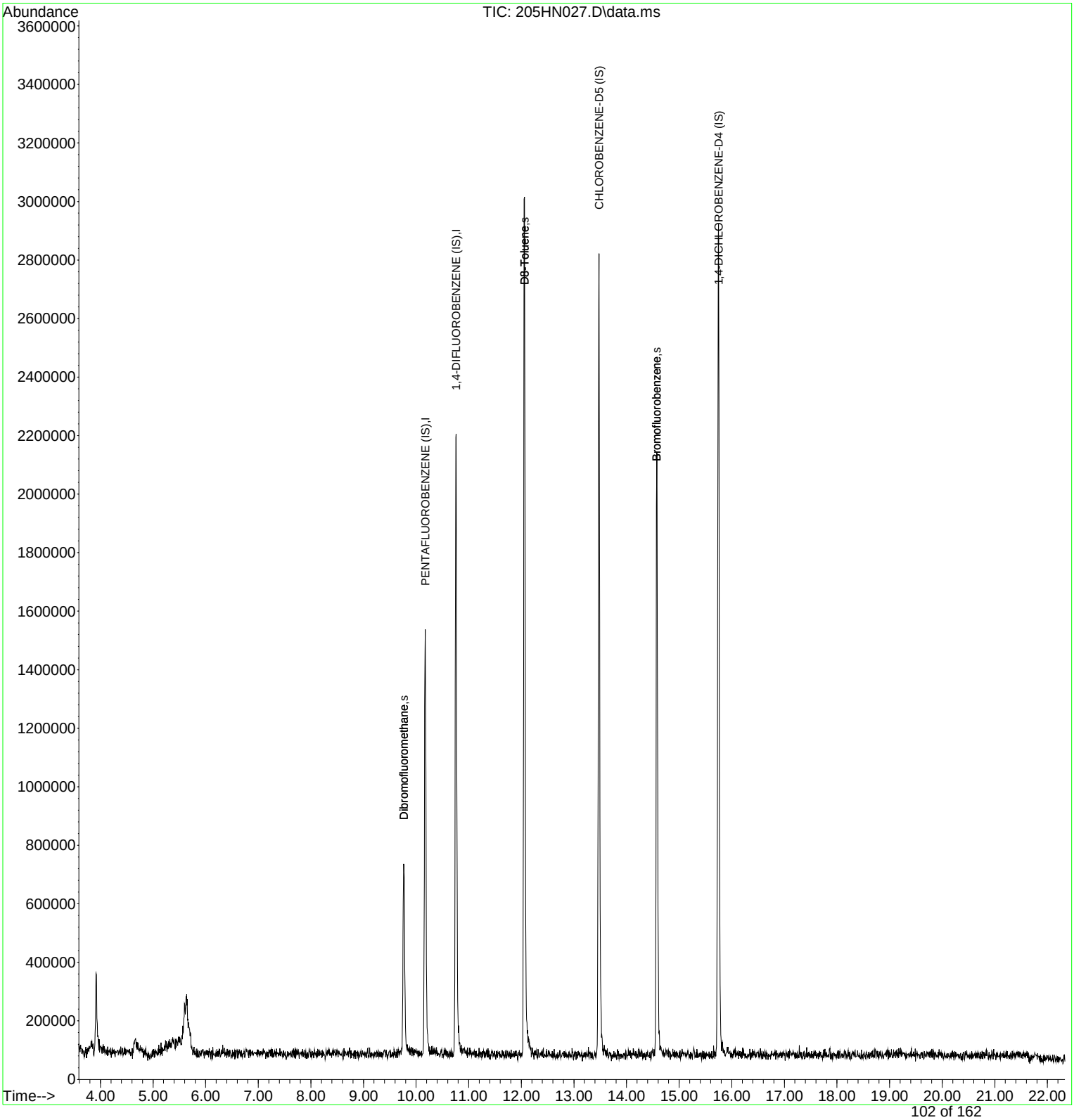
Quant Time: Aug 20 08:16:55 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
46) 1,2-Dichloropropane	0.000		0	N.D. d	
47) Bromodichloromethane	0.000		0	N.D. d	
48) Methyl Methacrylate	0.000		0	N.D. d	
49) 1,4-Dioxane	0.000		0	N.D. d	
50) 2-Chloroethyl vinyl ether	0.000		0	N.D. d	
51) C-1,3-Dichloropropene	11.901	75	2073	N.D.	
53) D8-Toluene	12.060	98	2075316	47.85 ug/L	95
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	12.107	92	1089	N.D.	
57) T-1,3-Dichloropropene	12.483	75	1331	N.D.	
58) Tetrachloroethene	12.389	164	1116	N.D.	
59) Ethyl methacrylate	12.489	69	1039	N.D.	
60) 1,1,2-Trichloroethane	12.653	97	1028	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	12.906	76	2536	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	0.000		0	N.D. d	
65) Ethylbenzene	0.000		0	N.D. d	
66) Chlorobenzene	0.000		0	N.D. d	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D. d	
68) m-xylene & p-xylene	0.000		0	N.D. d	
69) o-xylene	13.940	106	1054	N.D.	
70) Styrene	14.064	104	1070	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	14.263	105	1295	N.D.	
74) Bromofluorobenzene	14.569	95	964047	53.23 ug/L #	81
75) n-Propylbenzene	14.639	91	1148	N.D.	
76) 1,1,2,2-Tetrachloroethane	0.000		0	N.D. d	
77) 1,2,3-Trichloropropane	0.000		0	N.D. d	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D. d	
80) Bromobenzene	14.628	156	1082	N.D.	
81) 1,2,4-Trimethylbenzene	15.215	105	1000	N.D.	
82) 2-Chlorotoluene	14.874	91	1393	N.D.	
83) 4-Chlorotoluene	15.051	91	1631	N.D.	
84) tert-Butylbenzene	15.151	119	1565	N.D.	
85) 1,3,5-Trimethylbenzene	14.798	105	1478	N.D.	
86) p-Isopropyltoluene	15.450	119	1194	N.D.	
87) s-Butylbenzene	15.345	105	1028	N.D.	
88) 1,3-Dichlorobenzene	15.674	146	1084	N.D.	
89) 1,4-Dichlorobenzene	15.773	146	2429	N.D.	
90) n-Butylbenzene	0.000		0	N.D. d	
91) 1,2-Dichlorobenzene	0.000		0	N.D. d	
92) DBCP	0.000		0	N.D. d	
93) Hexachlorobutadiene	0.000		0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D. d	
95) Naphthalene	0.000		0	N.D. d	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN027.D
Acq On : 19 Aug 2020 9:13 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0H19031-BLK1
Misc :
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Aug 20 08:16:55 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN028.D
Acq On : 19 Aug 2020 9:44 pm
Operator : KKW
InstName : OVGCMS5
Sample : AA62023-CRL1
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Aug 20 08:17:00 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	10.174	168	867499	50.00	ug/L	#	0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.756	114	1733366	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.476	82	1096677	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.744	152	869324	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.768	113	499547	57.43	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 114.86%				
52) D8-Toluene	12.054	98	2194080	50.83	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 101.66%				
73) Bromofluorobenzene	14.575	95	963641	49.10	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 98.20%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.292	85	12249	1.01	ug/L	#	50
3) Chloromethane	4.745	50	12506	0.90	ug/L		98
4) Vinyl Chloride	4.945	62	14016	1.06	ug/L	#	50
5) Bromomethane	5.597	94	7015	2.79	ug/L	#	63
6) Chloroethane	5.838	64	6943m	1.04	ug/L		
7) Trichlorofluoromethane	6.079	101	13948	1.24	ug/L	#	96
8) Diethyl ether	6.560	59	8241	1.30	ug/L	#	78
9) 1,1-Dichloroethene	6.913	96	8635	1.27	ug/L	#	88
10) Trichlorotrifluoroethane	6.931	151	6541	1.38	ug/L	#	56
11) Acrolein	7.406	56	7821	5.99	ug/L		84
12) Iodomethane	7.166	142	6572	0.73	ug/L	#	68
13) Carbon Disulfide	7.013	76	124792	5.72	ug/L		97
14) 3-chloropropene	7.571	41	22419	1.80	ug/L	#	72
15) Acetone	7.788	43	12376m	7.87	ug/L		
16) Methylene Chloride	7.706	84	15177	1.88	ug/L		93
17) Methyl Acetate	7.882	43	2300	0.43	ug/L	#	1
18) t-1,2-Dichloroethene	7.912	96	14770	1.88	ug/L		93
19) Methyl tert-butyl ether	8.006	73	16755	0.83	ug/L		92
20) Acetonitrile	8.417	41	6473	4.79	ug/L	#	93
21) Isopropyl ether	8.429	45	33692	1.22	ug/L	#	73
22) Chloroprene	8.664	88	6634	0.92	ug/L	#	74
23) 1,1-Dichloroethane	8.681	63	21887	1.35	ug/L	#	89
24) Acrylonitrile	8.770	53	12289	4.81	ug/L	#	94
25) Vinyl Acetate	8.905	43	69454	4.48	ug/L	#	87
26) c-1,2-Dichloroethene	9.292	96	15950	1.70	ug/L	#	72
27) 2,2-Dichloropropane	9.428	77	20081	1.66	ug/L	#	85
28) Bromochloromethane	9.527	128	8172	2.56	ug/L	#	46
29) Cyclohexane	9.539	56	18366	1.07	ug/L	#	61
30) Chloroform	9.557	83	21967	1.49	ug/L		87
32) Dibromofluoromethane	9.768	113	499547	57.43	ug/L	#	95
33) 2-Butanone	9.921	72	9367m	10.48	ug/L		
34) 1,1,1-Trichloroethane	9.821	97	18228	1.50	ug/L	#	76
35) 1,1-Dichloropropene	9.945	75	14619	1.24	ug/L	#	73
36) Propionitrile	10.209	54	5228	5.28	ug/L	#	1
37) Methacrylonitrile	10.238	41	65700	13.98	ug/L	#	80
38) Isobutyl Alcohol	10.250	43	5873	11.72	ug/L	#	92
40) Carbon Tetrachloride	9.757	117	16942	1.71	ug/L	#	53
41) Benzene	10.215	78	48960	1.24	ug/L		90
42) 1,2-Dichloroethane	10.415	62	13907	1.32	ug/L	#	75
43) Trichloroethene	10.773	130	11867	1.40	ug/L	#	1
44) Methyl cyclohexane	10.767	83	46470	2.54	ug/L	#	64
45) Dibromomethane	11.220	93	3799	0.82	ug/L	#	72

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN028.D
Acq On : 19 Aug 2020 9:44 pm
Operator : KKW
InstName : OVGCMS5
Sample : AA62023-CRL1
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Aug 20 08:17:00 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration

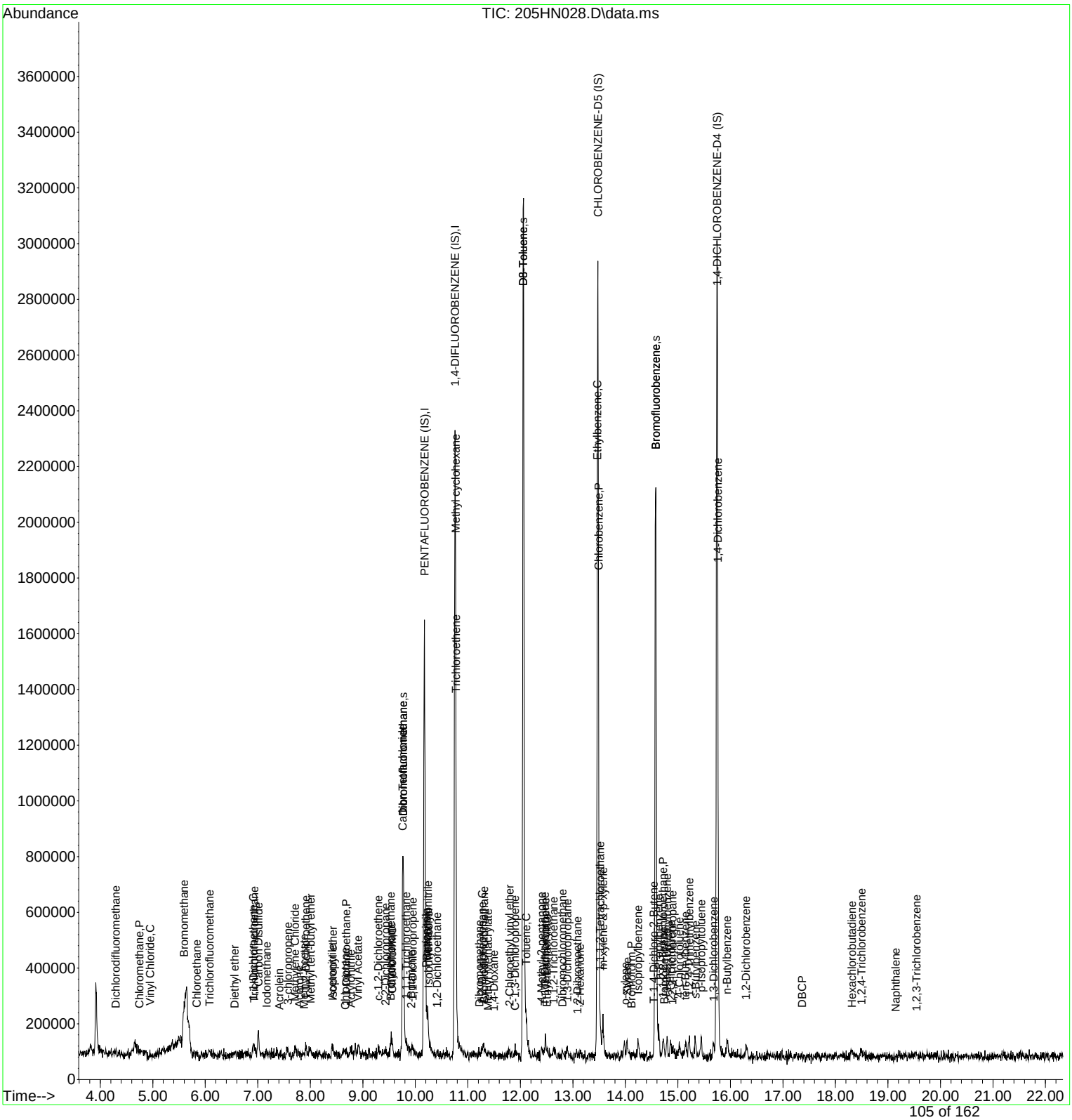
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
46) 1,2-Dichloropropane	11.273	63	16738	1.65 ug/L #	55
47) Bromodichloromethane	11.308	83	12487	1.21 ug/L #	67
48) Methyl Methacrylate	11.384	69	3491	0.59 ug/L #	40
49) 1,4-Dioxane	11.496	88	1157	19.94 ug/L #	16
50) 2-Chloroethyl vinyl ether	11.790	63	8236	1.71 ug/L #	96
51) C-1,3-Dichloropropene	11.895	75	10334	0.74 ug/L #	44
53) D8-Toluene	12.054	98	2194080	50.83 ug/L	99
54) 4-Methyl-2-pentanone	12.401	100	2529	2.77 ug/L #	14
56) Toluene	12.107	92	26410	0.97 ug/L #	70
57) T-1,3-Dichloropropene	12.465	75	8932	0.70 ug/L #	75
58) Tetrachloroethene	12.477	164	12964	1.78 ug/L	97
59) Ethyl methacrylate	12.501	69	2939	0.26 ug/L #	59
60) 1,1,2-Trichloroethane	12.630	97	5161	0.65 ug/L #	34
61) Dibromochloromethane	12.800	129	4379	0.60 ug/L #	1
62) 1,3-Dichloropropane	12.894	76	15699	1.09 ug/L #	69
63) 1,2-Dibromoethane	13.088	107	5538	0.73 ug/L #	66
64) 2-Hexanone	13.135	43	17114	3.85 ug/L #	84
65) Ethylbenzene	13.464	106	13272	0.92 ug/L #	82
66) Chlorobenzene	13.488	112	31036	1.18 ug/L #	49
67) 1,1,1,2-Tetrachloroethane	13.517	131	9925	1.24 ug/L #	81
68) m-xylene & p-xylene	13.576	106	31481	1.67 ug/L	75
69) o-xylene	13.993	106	16011	0.92 ug/L	93
70) Styrene	14.034	104	28808	0.97 ug/L #	78
71) Bromoform	14.116	173	2966	0.78 ug/L #	46
72) Isopropylbenzene	14.240	105	42507	0.89 ug/L #	93
74) Bromofluorobenzene	14.575	95	963641	49.10 ug/L #	82
75) n-Propylbenzene	14.633	91	70877	1.17 ug/L	93
76) 1,1,2,2-Tetrachloroethane	14.716	83	10905	1.26 ug/L #	90
77) 1,2,3-Trichloropropane	14.892	61	3493	1.45 ug/L	86
78) T-1,4-Dichloro-2-Butene	14.539	53	1115	0.49 ug/L #	1
80) Bromobenzene	14.739	156	10131	1.05 ug/L #	63
81) 1,2,4-Trimethylbenzene	15.215	105	44038	1.05 ug/L	94
82) 2-Chlorotoluene	14.868	91	39959	1.22 ug/L #	92
83) 4-Chlorotoluene	15.027	91	37701	1.13 ug/L #	92
84) tert-Butylbenzene	15.139	119	23080	0.79 ug/L #	62
85) 1,3,5-Trimethylbenzene	14.792	105	38910	1.03 ug/L #	63
86) p-Isopropyltoluene	15.444	119	45267	1.14 ug/L #	92
87) s-Butylbenzene	15.338	105	56925	1.21 ug/L #	88
88) 1,3-Dichlorobenzene	15.679	146	22680	1.15 ug/L #	92
89) 1,4-Dichlorobenzene	15.762	146	32726	1.60 ug/L #	1
90) n-Butylbenzene	15.932	91	40512	1.01 ug/L #	94
91) 1,2-Dichlorobenzene	16.296	146	14809	0.84 ug/L #	80
92) DBCP	17.366	157	1118	1.19 ug/L #	74
93) Hexachlorobutadiene	18.311	225	3526	1.05 ug/L #	84
94) 1,2,4-Trichlorobenzene	18.494	180	4903	0.78 ug/L #	53
95) Naphthalene	19.146	128	9650	0.77 ug/L #	92
96) 1,2,3-Trichlorobenzene	19.545	180	2861	0.81 ug/L #	93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN028.D
Acq On : 19 Aug 2020 9:44 pm
Operator : KKW
InstName : OVGCMS5
Sample : AA62023-CRL1
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Aug 20 08:17:00 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN029.D
Acq On : 19 Aug 2020 10:15 pm
Operator : KKW
InstName : OVGCMS5
Sample : AD05147-01
Misc :
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Aug 20 08:17:05 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) PENTAFLUOROBENZENE (IS)	10.174	168	879124	50.00	ug/L	0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.756	114	1729258	50.00	ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.476	82	1000791	50.00	ug/L	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.750	152	840504	50.00	ug/L	0.00
System Monitoring Compounds						
31) Dibromofluoromethane	9.768	113	458015	51.96	ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 103.92%			
52) D8-Toluene	12.054	98	2110548	49.01	ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 98.02%			
73) Bromofluorobenzene	14.581	95	896963	50.09	ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 100.18%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.216	85	1828	N.D.		
3) Chloromethane	4.733	50	1936	N.D.		
4) Vinyl Chloride	5.027	62	1320	N.D.		
5) Bromomethane	0.000		0	N.D.	d	
6) Chloroethane	5.838	64	1039	N.D.		
7) Trichlorofluoromethane	6.155	101	1064	N.D.		
8) Diethyl ether	6.584	59	1218	N.D.		
9) 1,1-Dichloroethene	6.872	96	1045	N.D.		
10) Trichlorotrifluoroethane	0.000		0	N.D.	d	
11) Acrolein	0.000		0	N.D.	d	
12) Iodomethane	0.000		0	N.D.	d	
13) Carbon Disulfide	7.025	76	2788	N.D.		
14) 3-chloropropene	7.542	41	2223	N.D.		
15) Acetone	0.000		0	N.D.	d	
16) Methylene Chloride	7.647	84	1009	N.D.		
17) Methyl Acetate	0.000		0	N.D.	d	
18) t-1,2-Dichloroethene	0.000		0	N.D.	d	
19) Methyl tert-butyl ether	8.059	73	1602	N.D.		
20) Acetonitrile	0.000		0	N.D.	d	
21) Isopropyl ether	8.417	45	1737	N.D.		
22) Chloroprene	0.000		0	N.D.	d	
23) 1,1-Dichloroethane	0.000		0	N.D.		
24) Acrylonitrile	0.000		0	N.D.	d	
25) Vinyl Acetate	8.922	43	1783	N.D.		
26) c-1,2-Dichloroethene	0.000		0	N.D.		
27) 2,2-Dichloropropane	9.439	77	1359	N.D.		
28) Bromochloromethane	0.000		0	N.D.	d	
29) Cyclohexane	9.592	56	1377	N.D.		
30) Chloroform	9.498	83	1169	N.D.		
32) Dibromofluoromethane	9.768	113	458015	51.96	ug/L #	89
33) 2-Butanone	0.000		0	N.D.	d	
34) 1,1,1-Trichloroethane	9.915	97	1326	N.D.		
35) 1,1-Dichloropropene	9.833	75	1193	N.D.		
36) Propionitrile	0.000		0	N.D.	d	
37) Methacrylonitrile	0.000		0	N.D.	d	
38) Isobutyl Alcohol	0.000		0	N.D.	d	
40) Carbon Tetrachloride	9.733	117	1583	N.D.		
41) Benzene	10.203	78	1739	N.D.		
42) 1,2-Dichloroethane	10.415	62	1170	N.D.		
43) Trichloroethene	10.808	130	1313	N.D.		
44) Methyl cyclohexane	0.000		0	N.D.	d	
45) Dibromomethane	0.000		0	N.D.	d	

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN029.D
Acq On : 19 Aug 2020 10:15 pm
Operator : KKW
InstName : OVGCMS5
Sample : AD05147-01
Misc :
ALS Vial : 28 Sample Multiplier: 1

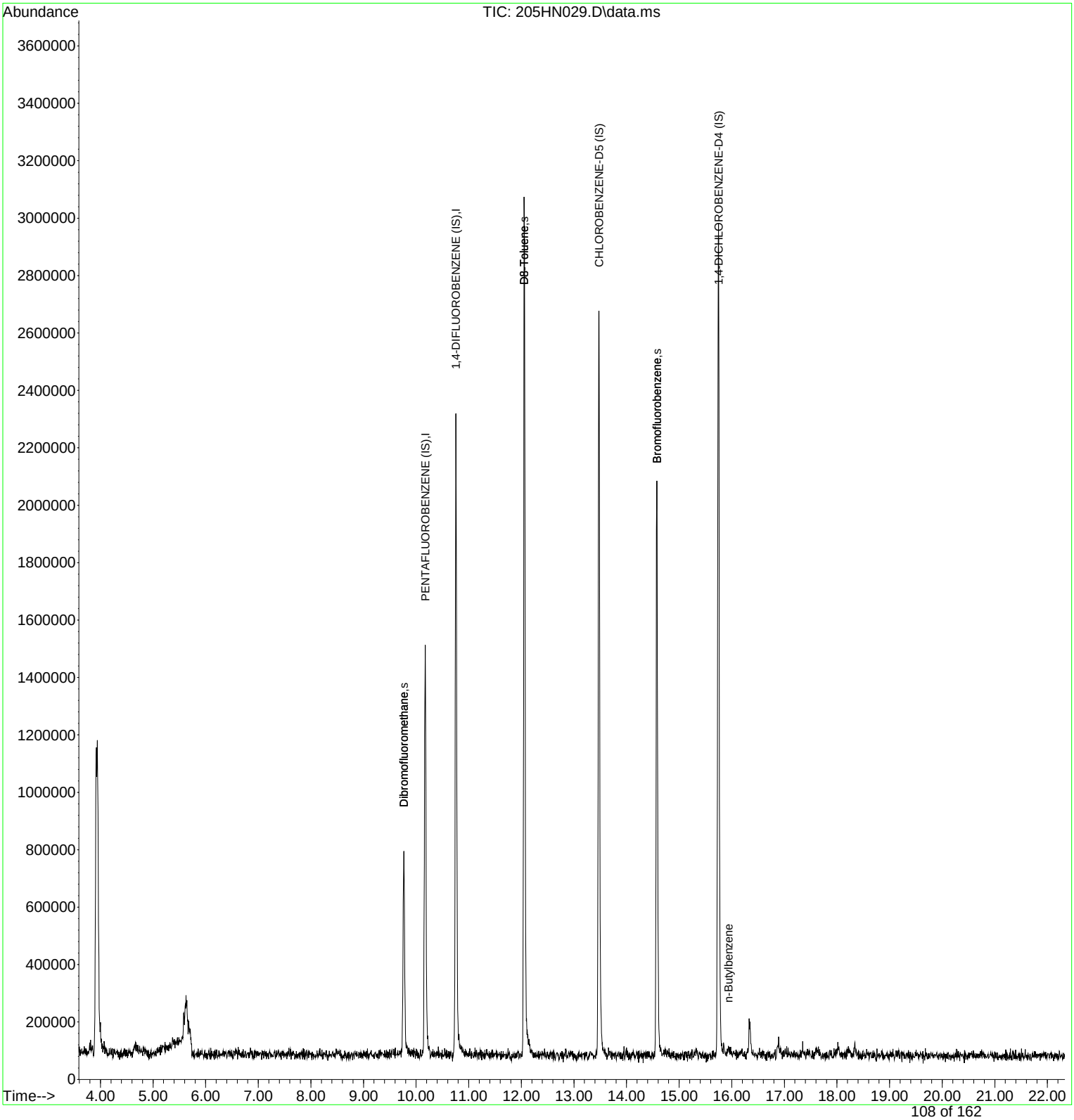
Quant Time: Aug 20 08:17:05 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
46) 1,2-Dichloropropane	11.367	63	1366	N.D.	
47) Bromodichloromethane	11.408	83	1820	N.D.	
48) Methyl Methacrylate	11.390	69	1025	N.D.	
49) 1,4-Dioxane	0.000		0	N.D. d	
50) 2-Chloroethyl vinyl ether	0.000		0	N.D. d	
51) C-1,3-Dichloropropene	11.854	75	1984	N.D.	
53) D8-Toluene	12.054	98	2110548	49.01 ug/L	99
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	12.113	92	2787	N.D.	
57) T-1,3-Dichloropropene	0.000		0	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	12.554	69	1049	N.D.	
60) 1,1,2-Trichloroethane	12.595	97	1305	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	12.906	76	1390	N.D.	
63) 1,2-Dibromoethane	13.047	107	1047	N.D.	
64) 2-Hexanone	0.000		0	N.D. d	
65) Ethylbenzene	13.458	106	1414	N.D.	
66) Chlorobenzene	13.452	112	2178	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D. d	
68) m-xylene & p-xylene	13.552	106	1896	N.D.	
69) o-xylene	13.999	106	2504	N.D.	
70) Styrene	14.134	104	2501	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	14.257	105	1120	N.D.	
74) Bromofluorobenzene	14.581	95	896963	50.09 ug/L #	81
75) n-Propylbenzene	14.657	91	6599	N.D.	
76) 1,1,2,2-Tetrachloroethane	14.757	83	1145	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D. d	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D. d	
80) Bromobenzene	14.651	156	1238	N.D.	
81) 1,2,4-Trimethylbenzene	15.209	105	2413	N.D.	
82) 2-Chlorotoluene	14.857	91	1471	N.D.	
83) 4-Chlorotoluene	15.027	91	1314	N.D.	
84) tert-Butylbenzene	15.151	119	1326	N.D.	
85) 1,3,5-Trimethylbenzene	14.798	105	2045	N.D.	
86) p-Isopropyltoluene	15.444	119	2336	N.D.	
87) s-Butylbenzene	15.339	105	7033	N.D.	
88) 1,3-Dichlorobenzene	15.738	146	2026	N.D.	
89) 1,4-Dichlorobenzene	0.000		0	N.D. d	
90) n-Butylbenzene	15.938	91	22893	0.59 ug/L #	83
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D. d	
93) Hexachlorobutadiene	0.000		0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	19.093	128	1114	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN029.D
Acq On : 19 Aug 2020 10:15 pm
Operator : KKW
InstName : OVGCMS5
Sample : AD05147-01
Misc :
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Aug 20 08:17:05 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN030.D
Acq On : 19 Aug 2020 10:46 pm
Operator : KKW
InstName : OVGCMS5
Sample : AD05264-01
Misc :
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Aug 20 08:17:10 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	10.174	168	865807	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.755	114	1687333	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.476	82	1034928	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.744	152	793766	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.762	113	464817	53.55	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 107.10%				
52) D8-Toluene	12.054	98	2034044	48.40	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 96.80%				
73) Bromofluorobenzene	14.575	95	886712	47.88	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 95.76%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.			
3) Chloromethane	4.751	50	1216	N.D.			
4) Vinyl Chloride	4.939	62	1256	N.D.			
5) Bromomethane	0.000		0	N.D.	d		
6) Chloroethane	5.802	64	1062	N.D.			
7) Trichlorofluoromethane	6.049	101	1252	N.D.			
8) Diethyl ether	0.000		0	N.D.	d		
9) 1,1-Dichloroethene	0.000		0	N.D.	d		
10) Trichlorotrifluoroethane	0.000		0	N.D.	d		
11) Acrolein	0.000		0	N.D.	d		
12) Iodomethane	7.148	142	1438	N.D.			
13) Carbon Disulfide	7.007	76	3318	N.D.			
14) 3-chloropropene	7.565	41	1501	N.D.			
15) Acetone	0.000		0	N.D.	d		
16) Methylene Chloride	0.000		0	N.D.	d		
17) Methyl Acetate	0.000		0	N.D.	d		
18) t-1,2-Dichloroethene	0.000		0	N.D.	d		
19) Methyl tert-butyl ether	8.029	73	1160	N.D.			
20) Acetonitrile	0.000		0	N.D.	d		
21) Isopropyl ether	8.358	45	1424	N.D.			
22) Chloroprene	8.605	88	1331	N.D.			
23) 1,1-Dichloroethane	8.687	63	1146	N.D.			
24) Acrylonitrile	0.000		0	N.D.	d		
25) Vinyl Acetate	8.928	43	1129	N.D.			
26) c-1,2-Dichloroethene	0.000		0	N.D.	d		
27) 2,2-Dichloropropane	9.416	77	1660	N.D.			
28) Bromochloromethane	0.000		0	N.D.	d		
29) Cyclohexane	9.663	56	1697	N.D.			
30) Chloroform	9.522	83	2522	N.D.			
32) Dibromofluoromethane	9.762	113	464817	53.55	ug/L	#	88
33) 2-Butanone	0.000		0	N.D.	d		
34) 1,1,1-Trichloroethane	9.839	97	1558	N.D.			
35) 1,1-Dichloropropene	9.956	75	2064	N.D.			
36) Propionitrile	0.000		0	N.D.	d		
37) Methacrylonitrile	0.000		0	N.D.	d		
38) Isobutyl Alcohol	0.000		0	N.D.	d		
40) Carbon Tetrachloride	9.780	117	1411	N.D.			
41) Benzene	0.000		0	N.D.	d		
42) 1,2-Dichloroethane	10.421	62	1430	N.D.			
43) Trichloroethene	0.000		0	N.D.			
44) Methyl cyclohexane	0.000		0	N.D.	d		
45) Dibromomethane	0.000		0	N.D.	d		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN030.D
Acq On : 19 Aug 2020 10:46 pm
Operator : KKW
InstName : OVGCMS5
Sample : AD05264-01
Misc :
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Aug 20 08:17:10 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration

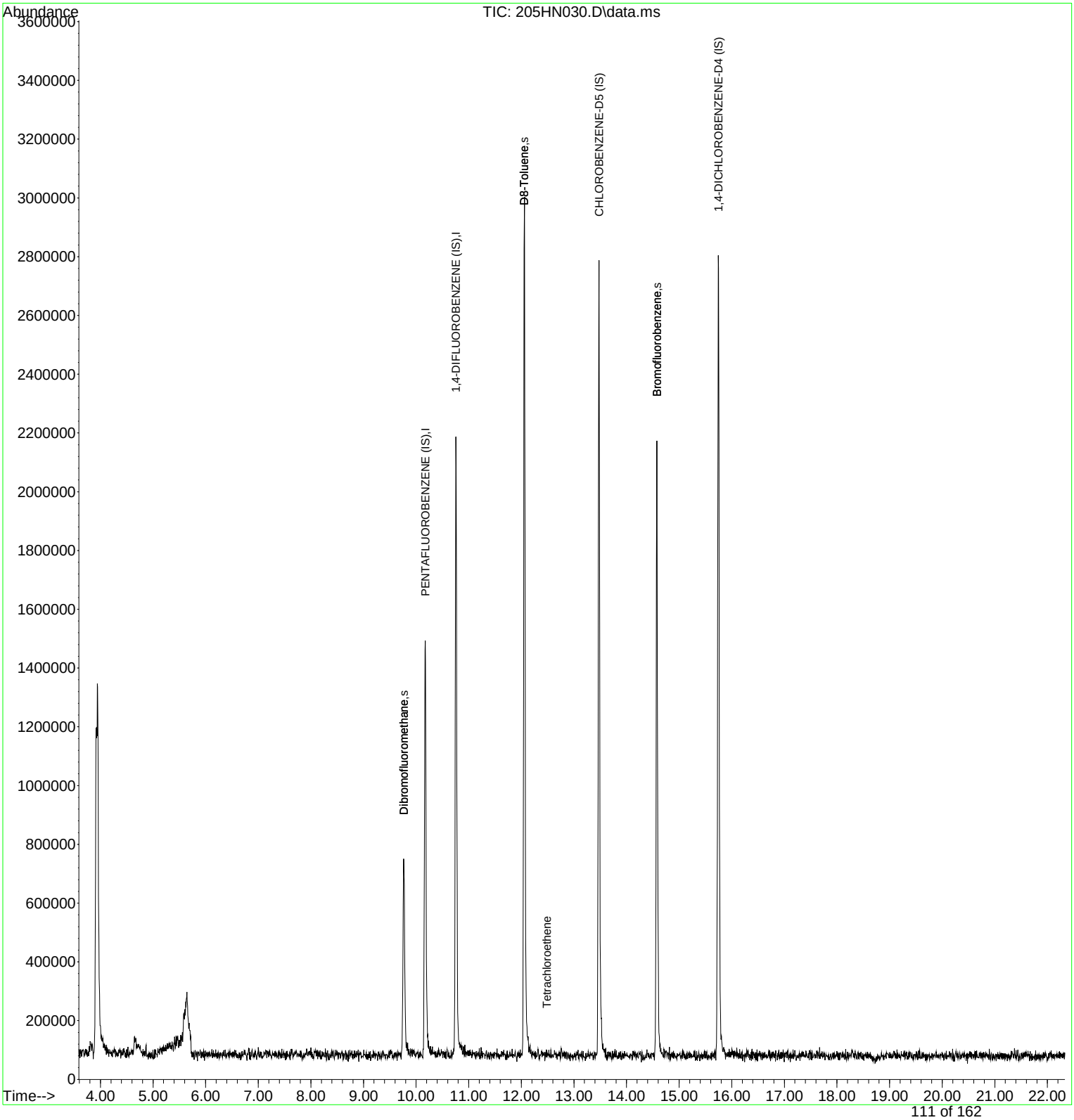
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
46) 1,2-Dichloropropane	11.273	63	1077	N.D.	
47) Bromodichloromethane	11.325	83	1042	N.D.	
48) Methyl Methacrylate	0.000		0	N.D. d	
49) 1,4-Dioxane	0.000		0	N.D. d	
50) 2-Chloroethyl vinyl ether	0.000		0	N.D. d	
51) C-1,3-Dichloropropene	11.913	75	2275	N.D.	
53) D8-Toluene	12.054	98	2034044	48.40 ug/L	97
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	12.183	92	1434	N.D.	
57) T-1,3-Dichloropropene	12.407	75	1012	N.D.	
58) Tetrachloroethene	12.483	164	1697	0.25 ug/L #	45
59) Ethyl methacrylate	12.600	69	1554	N.D.	
60) 1,1,2-Trichloroethane	12.618	97	1020	N.D.	
61) Dibromochloromethane	12.835	129	1114	N.D.	
62) 1,3-Dichloropropane	12.982	76	2681	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	0.000		0	N.D. d	
65) Ethylbenzene	13.499	106	1380	N.D.	
66) Chlorobenzene	13.476	112	1744	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	13.576	106	2744	N.D.	
69) o-xylene	14.028	106	1978	N.D.	
70) Styrene	14.146	104	1900	N.D.	
71) Bromoform	0.000		0	N.D. d	
72) Isopropylbenzene	14.240	105	1594	N.D.	
74) Bromofluorobenzene	14.575	95	886712	47.88 ug/L #	81
75) n-Propylbenzene	14.651	91	2359	N.D.	
76) 1,1,2,2-Tetrachloroethane	14.633	83	1144	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D. d	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D. d	
80) Bromobenzene	0.000		0	N.D.	
81) 1,2,4-Trimethylbenzene	15.186	105	1101	N.D.	
82) 2-Chlorotoluene	14.698	91	1103	N.D.	
83) 4-Chlorotoluene	0.000		0	N.D.	
84) tert-Butylbenzene	15.168	119	1053	N.D.	
85) 1,3,5-Trimethylbenzene	0.000		0	N.D.	
86) p-Isopropyltoluene	15.450	119	1106	N.D.	
87) s-Butylbenzene	15.186	105	1101	N.D.	
88) 1,3-Dichlorobenzene	15.732	146	2236	N.D.	
89) 1,4-Dichlorobenzene	15.761	146	3714	N.D.	
90) n-Butylbenzene	15.973	91	1717	N.D.	
91) 1,2-Dichlorobenzene	16.284	146	1313	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D. d	
95) Naphthalene	19.152	128	1776	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN030.D
Acq On : 19 Aug 2020 10:46 pm
Operator : KKW
InstName : OVGCMS5
Sample : AD05264-01
Misc :
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Aug 20 08:17:10 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN031.D
Acq On : 19 Aug 2020 11:17 pm
Operator : KKW
InstName : OVGCMS5
Sample : AD05264-02
Misc :
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Aug 20 08:17:15 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) PENTAFLUOROBENZENE (IS)	10.174	168	772653	50.00	ug/L	0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.756	114	1496004	50.00	ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.476	82	909187	50.00	ug/L	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.750	152	770615	50.00	ug/L	0.00
System Monitoring Compounds						
31) Dibromofluoromethane	9.768	113	431372	55.68	ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 111.36%			
52) D8-Toluene	12.060	98	2050957	55.05	ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 110.10%			
73) Bromofluorobenzene	14.581	95	818520	50.31	ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 100.62%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.275	85	1194	N.D.		
3) Chloromethane	4.751	50	1553	N.D.		
4) Vinyl Chloride	4.933	62	311090	26.46	ug/L	99
5) Bromomethane	0.000		0	N.D. d		
6) Chloroethane	5.879	64	1078	N.D.		
7) Trichlorofluoromethane	6.061	101	1311	N.D.		
8) Diethyl ether	0.000		0	N.D. d		
9) 1,1-Dichloroethene	0.000		0	N.D. d		
10) Trichlorotrifluoroethane	0.000		0	N.D. d		
11) Acrolein	0.000		0	N.D. d		
12) Iodomethane	0.000		0	N.D. d		
13) Carbon Disulfide	7.025	76	3282	N.D.		
14) 3-chloropropene	7.577	41	1229	N.D.		
15) Acetone	0.000		0	N.D. d		
16) Methylene Chloride	7.730	84	1163	N.D.		
17) Methyl Acetate	0.000		0	N.D. d		
18) t-1,2-Dichloroethene	7.918	96	7569	1.08	ug/L #	2
19) Methyl tert-butyl ether	8.065	73	1074	N.D.		
20) Acetonitrile	0.000		0	N.D. d		
21) Isopropyl ether	8.452	45	1323	N.D.		
22) Chloroprene	0.000		0	N.D. d		
23) 1,1-Dichloroethane	8.764	63	1082	N.D.		
24) Acrylonitrile	0.000		0	N.D. d		
25) Vinyl Acetate	8.922	43	1809	N.D.		
26) c-1,2-Dichloroethene	9.322	96	3595	0.43	ug/L	96
27) 2,2-Dichloropropane	9.439	77	1594	N.D.		
28) Bromochloromethane	0.000		0	N.D. d		
29) Cyclohexane	9.580	56	1498	N.D.		
30) Chloroform	9.522	83	1442	N.D.		
32) Dibromofluoromethane	9.768	113	431372	55.68	ug/L #	88
33) 2-Butanone	0.000		0	N.D. d		
34) 1,1,1-Trichloroethane	9.839	97	1132	N.D.		
35) 1,1-Dichloropropene	9.904	75	1016	N.D.		
36) Propionitrile	0.000		0	N.D. d		
37) Methacrylonitrile	0.000		0	N.D. d		
38) Isobutyl Alcohol	0.000		0	N.D. d		
40) Carbon Tetrachloride	9.680	117	1241	N.D.		
41) Benzene	10.215	78	4548	N.D.		
42) 1,2-Dichloroethane	10.427	62	1349	N.D.		
43) Trichloroethene	0.000		0	N.D.		
44) Methyl cyclohexane	0.000		0	N.D. d		
45) Dibromomethane	0.000		0	N.D. d		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN031.D
Acq On : 19 Aug 2020 11:17 pm
Operator : KKW
InstName : OVGCMS5
Sample : AD05264-02
Misc :
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Aug 20 08:17:15 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration

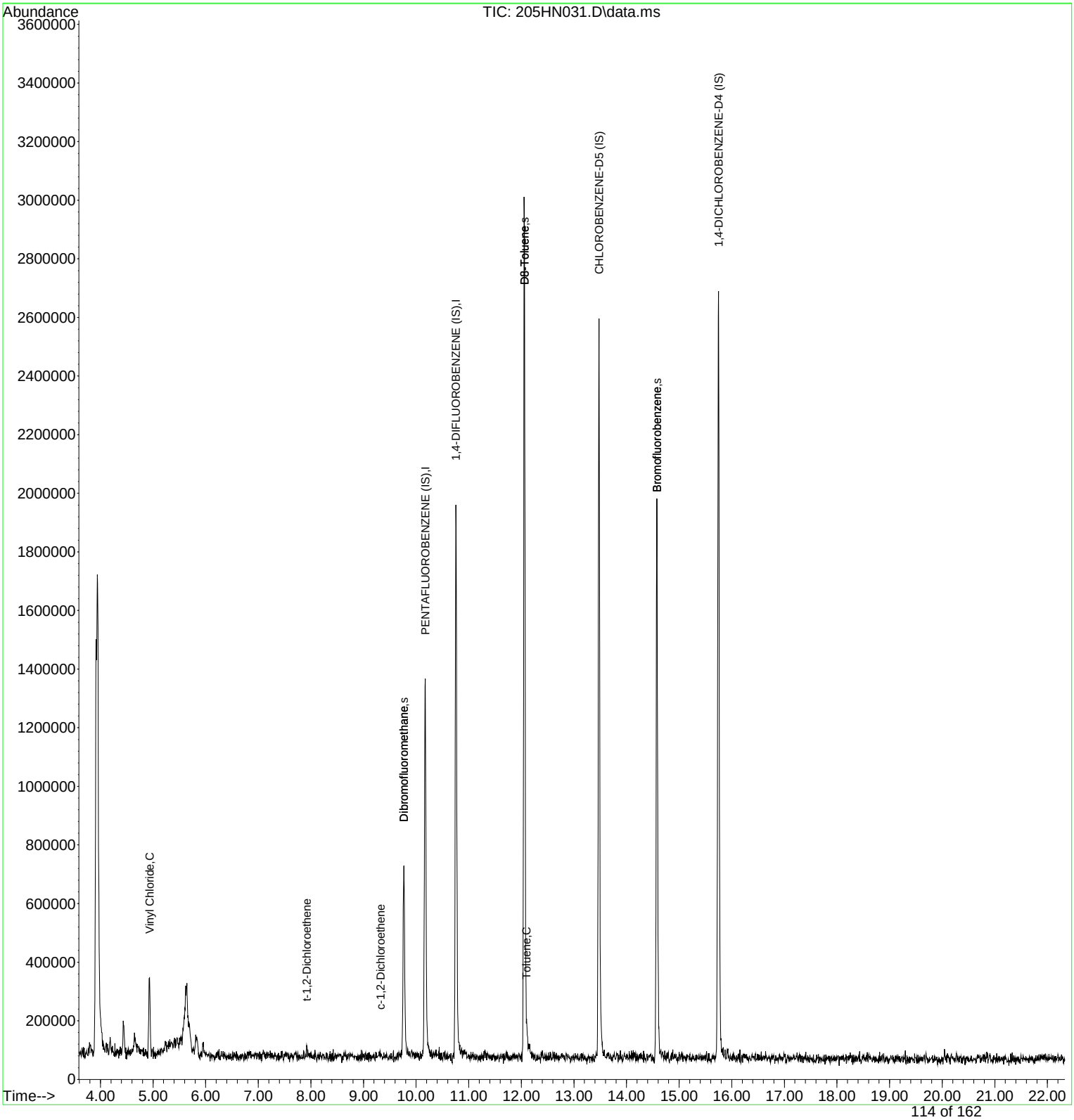
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
46) 1,2-Dichloropropane	11.296	63	1021	N.D.	
47) Bromodichloromethane	11.155	83	1046	N.D.	
48) Methyl Methacrylate	0.000		0	N.D. d	
49) 1,4-Dioxane	0.000		0	N.D. d	
50) 2-Chloroethyl vinyl ether	0.000		0	N.D. d	
51) C-1,3-Dichloropropene	12.001	75	1675	N.D.	
53) D8-Toluene	12.060	98	2050957	55.05 ug/L	99
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	12.095	92	7264	0.32 ug/L	85
57) T-1,3-Dichloropropene	12.360	75	1040	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	12.336	69	1282	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D. d	
61) Dibromochloromethane	12.847	129	1056	N.D.	
62) 1,3-Dichloropropane	12.947	76	1070	N.D.	
63) 1,2-Dibromoethane	13.170	107	1251	N.D.	
64) 2-Hexanone	0.000		0	N.D. d	
65) Ethylbenzene	0.000		0	N.D. d	
66) Chlorobenzene	13.494	112	1520	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	13.576	106	2503	N.D.	
69) o-xylene	0.000		0	N.D. d	
70) Styrene	14.193	104	3366	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	14.234	105	1892	N.D.	
74) Bromofluorobenzene	14.581	95	818520	50.31 ug/L #	83
75) n-Propylbenzene	14.604	91	1506	N.D.	
76) 1,1,2,2-Tetrachloroethane	14.710	83	1418	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D. d	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D. d	
80) Bromobenzene	0.000		0	N.D. d	
81) 1,2,4-Trimethylbenzene	15.256	105	1024	N.D.	
82) 2-Chlorotoluene	0.000		0	N.D.	
83) 4-Chlorotoluene	0.000		0	N.D.	
84) tert-Butylbenzene	15.221	119	1739	N.D.	
85) 1,3,5-Trimethylbenzene	14.810	105	1009	N.D.	
86) p-Isopropyltoluene	15.303	119	1420	N.D.	
87) s-Butylbenzene	15.256	105	1024	N.D.	
88) 1,3-Dichlorobenzene	0.000		0	N.D. d	
89) 1,4-Dichlorobenzene	0.000		0	N.D. d	
90) n-Butylbenzene	15.955	91	1008	N.D.	
91) 1,2-Dichlorobenzene	16.185	146	1237	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D. d	
95) Naphthalene	0.000		0	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\081920\
Data File : 205HN031.D
Acq On : 19 Aug 2020 11:17 pm
Operator : KKW
InstName : OVGCMS5
Sample : AD05264-02
Misc :
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Aug 20 08:17:15 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2007048
QLast Update : Fri Jul 10 08:22:01 2020
Response via : Initial Calibration



ANALYSIS SEQUENCE

AA61386

Instrument: OVGCMS5

Calibration ID: 2007048

Printed: 7/10/2020 8:43:04AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA61386-TUN1	QC		1		A0F0994			
AA61386-CAL1	QC		2		A0G0652	A0C0849		
AA61386-CAL2	QC		3		A0G0653	A0C0849		
AA61386-CAL3	QC		4		A0G0654	A0C0849		
AA61386-CAL4	QC		5		A0G0655	A0C0849		
AA61386-CAL5	QC		6		A0G0656	A0C0849		
AA61386-CAL6	QC		7		A0G0657	A0C0849		
AA61386-CAL7	QC		8		A0G0658	A0C0849		
AA61386-SCV1	QC		9		A0G0662	A0C0849		

Samples Loaded By Date

Data Processed By Date

VOLATILES GC/MS LOGBOOK (EPA Method 624.1 / SW-846 Method 8260D)

Tune Start Date: 07/08/20
Sequence: AA61386 / AA61391
Batch: OG08045
Method: 8240
Analyst: KJ
Instrument EM Voltage: 1774

Surrogate: AOF0382 / AOF0381
Internal: AOF0348
LCS Mix 2°: AOF1228
LCS Acrolein 2° AOG0G34
LCS Gas 2°: AOG0G61

8260 Mix: AOG0G38
8260 Add: AOG0G36
8260 Ac/Ac: AOF1382
8260 Gases: AOG0G37
Instrument #: ms. 5

205GD

Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)	Comments	LIMS
001	Tune			1				
002	CAL1 1ppb			2			✓	
003	CAL2 2ppb			3			✓	
004	CAL3 5ppb			4			✓	
005	CAL4 20ppb			5			✓	
006	CAL5 50ppb			6			✓	
007	CAL6 80ppb			7			✓	
008	CAL7 100ppb			8			✓	
009	rinse			9				
010	rinse			10				
011	SCV1		10 07/08/20	11			✓	
012	BS1			12	07/08/20		✓	
013	BLK1			13			✓	
014	AD03984-02RE1	G	1	14	✓	N	✓	
015	AD03984-11	F	1	15	✓	N	✓	MS/MSD
016	AD03984-12	F	1	16	✓	N	✓	
017	AD03984-13	F	1	17	✓	N	✓	
018	AD03984-15	F	2.5	18	✓	N	✓	
019	AD03984-07 RE1	G	1	19	✓	N	✓	
020	AD03984-08RE1	C	1	20	✓	N	✓	
021	MS1	G	1	21	✓	N	✓	

Compound List Report OVGCMS5

Method Path : C:\msdchem\1\methods\
Method File : 070920w.M
Title : ENCO SOP VGCMS05; Element Cal
Last Update : Thu Jul 09 15:03:48 2020
Response Via : Initial Calibration

Total Cpnds : 96

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	PENTAFLUOROBENZENE (IS)	168	10.174	1.000	A	3	A	B
2		Dichlorodifluoromethane	85	4.293	0.422	A	2	A	B
3	P	Chloromethane	50	4.739	0.466	LO	1	A	B
4	C	Vinyl Chloride	62	4.933	0.485	A	1	A	B
5		Bromomethane	94	5.591	0.550	QO	2	A	B
6		Chloroethane	64	5.808	0.571	LO	2	A	B
7		Trichlorofluoromethane	101	6.067	0.596	LO	2	A	B
8		Diethyl ether	59	6.555	0.644	LO	2	A	B
9	C	1,1-Dichloroethene	96	6.907	0.679	QO	2	A	B
10		Trichlorotrifluoroethane	151	6.931	0.681	QO	2	A	B
11		Acrolein	56	7.389	0.726	A	1	A	B
12		Iodomethane	142	7.160	0.704	LO	2	A	B
13		Carbon Disulfide	76	7.007	0.689	A	2	A	B
14		3-chloropropene	41	7.565	0.744	A	2	A	B
15		Acetone	43	7.765	0.763	QO	1	A	B
16		Methylene Chloride	84	7.712	0.758	LO	1	A	B
17		Methyl Acetate	43	7.883	0.775	LO	2	A	B
18		t-1,2-Dichloroethene	96	7.912	0.778	LO	2	A	B
19		Methyl tert-butyl ether	73	8.006	0.787	A	2	A	B
20		Acetonitrile	41	8.400	0.826	A	2	A	B
21		Isopropyl ether	45	8.417	0.827	A	2	A	B
22		Chloroprene	88	8.646	0.850	A	2	A	B
23	P	1,1-Dichloroethane	63	8.693	0.854	A	3	A	B
24		Acrylonitrile	53	8.752	0.860	A	2	A	B
25		Vinyl Acetate	43	8.899	0.875	LO	1	A	B
26		c-1,2-Dichloroethene	96	9.299	0.914	A	2	A	B
27		2,2-Dichloropropane	77	9.428	0.927	A	2	A	B
28		Bromochloromethane	128	9.528	0.937	LO	1	A	B
29		Cyclohexane	56	9.545	0.938	A	2	A	B
30	C	Chloroform	83	9.563	0.940	LO	2	A	B
31	S	Dibromofluoromethane	113	9.769	0.960	A	2	A	B
32		Dibromofluoromethane	113	9.769	0.960	A	2	A	B
33		2-Butanone	72	9.880	0.971	LO	1	A	R
34		1,1,1-Trichloroethane	97	9.827	0.966	A	2	A	B
35		1,1-Dichloropropene	75	9.939	0.977	A	2	A	B
36		Propionitrile	54	10.221	1.005	LO	2	A	B
37		Methacrylonitrile	41	10.239	1.006	A	1	A	R
38		Isobutyl Alcohol	43	10.227	1.005	QO	2	A	B
39	I	1,4-DIFLUOROBENZENE (IS)	114	10.756	1.000	A	2	A	B
40		Carbon Tetrachloride	117	9.757	0.907	A	2	A	B
41		Benzene	78	10.209	0.949	A	1	A	B
42		1,2-Dichloroethane	62	10.409	0.968	LO	2	A	B
43		Trichloroethene	130	10.767	1.001	LO	2	A	B
44		Methyl cyclohexane	83	10.767	1.001	LO	2	A	B
45		Dibromomethane	93	11.208	1.042	A	2	A	B
46	C	1,2-Dichloropropane	63	11.285	1.049	A	2	A	B
47		Bromodichloromethane	83	11.314	1.052	A	2	A	B
48		Methyl Methacrylate	69	11.367	1.057	LO	2	A	B
49		1,4-Dioxane	88	11.496	1.069	QO	1	A	B
50		2-Chloroethyl vinyl ether	63	11.766	1.094	A	2	A	B
51		C-1,3-Dichloropropene	75	11.890	1.105	A	2	A	B
52	S	D8-Toluene	98	12.060	1.121	A	2	A	B
53		D8-Toluene	98	12.060	1.121	A	2	A	B
54		4-Methyl-2-pentanone	100	12.401	1.153	QO	2	A	B

55	I	CHLOROBENZENE-D5 (IS)	82	13.476	1.000	A	2	A	B
56	C	Toluene	92	12.107	0.898	A	2	A	B
57		T-1,3-Dichloropropene	75	12.466	0.925	A	2	A	B
58		Tetrachloroethene	164	12.477	0.926	LO	2	A	B
59		Ethyl methacrylate	69	12.507	0.928	LO	2	A	B
60		1,1,2-Trichloroethane	97	12.624	0.937	LO	2	A	B
61		Dibromochloromethane	129	12.812	0.951	LO	2	A	B
62		1,3-Dichloropropane	76	12.889	0.956	A	2	A	B
63		1,2-Dibromoethane	107	13.071	0.970	A	2	A	B
64		2-Hexanone	43	13.124	0.974	QO	2	A	B
65	C	Ethylbenzene	106	13.458	0.999	A	2	A	B
66	P	Chlorobenzene	112	13.494	1.001	A	1	A	B
67		1,1,1,2-Tetrachloroethane	131	13.523	1.003	LO	2	A	B
68		m-xylene & p-xylene	106	13.570	1.007	A	1	A	B
69		o-xylene	106	13.981	1.037	A	1	A	B
70		Styrene	104	14.023	1.041	A	2	A	B
71	P	Bromoform	173	14.122	1.048	A	1	A	B
72		Isopropylbenzene	105	14.240	1.057	A	2	A	B
73	S	Bromofluorobenzene	95	14.575	1.082	A	2	A	B
74		Bromofluorobenzene	95	14.575	1.082	A	2	A	B
75		n-Propylbenzene	91	14.634	1.086	A	2	A	B
76	P	1,1,2,2-Tetrachloroethane	83	14.716	1.092	QO	3	A	B
77		1,2,3-Trichloropropane	61	14.904	1.106	QO	2	A	B
78		T-1,4-Dichloro-2-Butene	53	14.592	1.083	QO	2	A	B
79	I	1,4-DICHLOROBENZENE-D4 (IS)	152	15.744	1.000	A	3	A	B
80		Bromobenzene	156	14.722	0.935	A	2	A	B
81		1,2,4-Trimethylbenzene	105	15.209	0.966	A	2	A	B
82		2-Chlorotoluene	91	14.863	0.944	A	2	A	R
83		4-Chlorotoluene	91	15.021	0.954	A	2	A	R
84		tert-Butylbenzene	119	15.151	0.962	A	2	A	B
85		1,3,5-Trimethylbenzene	105	14.786	0.939	A	2	A	B
86		p-Isopropyltoluene	119	15.444	0.981	A	2	A	B
87		s-Butylbenzene	105	15.327	0.974	A	2	A	B
88		1,3-Dichlorobenzene	146	15.674	0.996	A	2	A	R
89		1,4-Dichlorobenzene	146	15.768	1.001	A	2	A	R
90		n-Butylbenzene	91	15.932	1.012	A	2	A	B
91		1,2-Dichlorobenzene	146	16.296	1.035	A	2	A	B
92		DBCP	157	17.383	1.104	QO	1	A	B
93		Hexachlorobutadiene	225	18.306	1.163	LO	2	A	B
94		1,2,4-Trichlorobenzene	180	18.482	1.174	QO	2	A	B
95		Naphthalene	128	19.134	1.215	QO	2	A	B
96		1,2,3-Trichlorobenzene	180	19.522	1.240	QO	2	A	B

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

Compound Name Duplication Report

Quant Method: C:\msdchem\1\methods\070920w.M
Number of Compounds: 96

31 Dibromofluoromethane = 32 Dibromofluoromethane
52 D8-Toluene = 53 D8-Toluene
73 Bromofluorobenzene = 74 Bromofluorobenzene

3 Duplicate Names Detected!!!

070920w.M Fri Jul 10 08:11:59 2020

Response Factor Report OVGCMS5

Method Path : C:\msdchem\1\methods\
Method File : 070920w.M
Title : ENCO SOP VGCMS05; Element Cal
Last Update : Thu Jul 09 15:03:48 2020
Response Via : Initial Calibration

Calibration Files
1 =205GD002.D 2 =205GD003.D 5 =205GD004.D 20 =205GD005.D 100 =205GD008.D
50 =205GD006.D

		Compound	1	2	5	20	100	50	Avg	%RSD
1)	I	PENTAFLUOROBENZENE...	----------ISTD----------							
2)		Dichlorodifluo...	0.606	0.716	0.676	0.712	0.753	0.738	0.700	7.59
3)	P	Chloromethane	0.898	0.862	1.126	0.730	0.793	0.821	0.872	15.77
4)	C	Vinyl Chloride	0.662	0.663	0.832	0.715	0.848	0.844	0.761	11.91
5)		Bromomethane	0.144	0.260	0.146	0.163	0.214	0.177	0.184	24.52
6)		Chloroethane	0.395	0.482	0.543	0.449		0.374	0.449	15.14
7)		Trichlorofluor...	0.481	0.628	0.848	0.798	0.645	0.643	0.674	19.57
8)		Diethyl ether	0.279	0.362	0.522	0.416	0.362	0.366	0.384	20.93
9)	C	1,1-Dichloroet...	0.342	0.501	0.443	0.368	0.414	0.408	0.413	13.55
10)		Trichlorotrifl...	0.158	0.308	0.300	0.277	0.296	0.284	0.270	20.74
11)		Acrolein	0.075	0.057	0.084	0.073	0.081	0.081	0.075#	13.13
12)		Iodomethane	0.296	0.505	0.502	0.519	0.513	0.543	0.480	19.04
13)		Carbon Disulfide	1.032	1.322	1.272	1.337	1.238	1.341	1.257	9.33
14)		3-chloropropene	0.671	0.710	0.744	0.688	0.744	0.745	0.717	4.52
15)		Acetone	0.170	0.132	0.106	0.089	0.097	0.094	0.115	27.17
16)		Methylene Chlo...	0.544	0.588	0.632	0.421	0.460	0.495	0.523	15.24
17)		Methyl Acetate	0.803	0.583	0.415	0.273	0.304	0.321	0.450	45.81
18)		t-1,2-Dichloro...	0.613	0.523	0.463	0.418	0.449	0.470	0.489	14.24
19)		Methyl tert-bu...	1.032	1.294	1.311	1.019	1.154	1.187	1.166	10.68
20)		Acetonitrile	0.082	0.083	0.084	0.065	0.077	0.075	0.078#	9.24
21)		Isopropyl ether	1.398	1.801	1.733	1.499	1.573	1.583	1.598	9.28
22)		Chloroprene	0.307	0.446	0.407	0.431	0.447	0.452	0.415	13.33
23)	P	1,1-Dichloroet...	0.964	1.082	0.989	0.785	0.894	0.912	0.938	10.66
24)		Acrylonitrile	0.129	0.134	0.177	0.140	0.153	0.150	0.147	11.86
25)		Vinyl Acetate	0.544	0.936	1.045	0.907	0.884	0.933	0.875	19.58
26)		c-1,2-Dichloro...	0.513	0.588	0.623	0.487	0.513	0.527	0.542	9.57
27)		2,2-Dichloropr...	0.680	0.749	0.756	0.618	0.700	0.676	0.697	7.40
28)		Bromochloromet...	0.161	0.274	0.233	0.183	0.177	0.209	0.206	20.19
29)		Cyclohexane	1.084	0.972	1.013	0.937	0.975	0.958	0.990	5.29
30)	C	Chloroform	0.683	0.961	1.076	0.786	0.845	0.877	0.871	15.69
31)	s	Dibromofluorom...	0.508	0.528	0.503	0.490	0.449	0.530	0.501	5.93
32)		Dibromofluorom...	0.508	0.528	0.503	0.490	0.449	0.530	0.501	5.93
33)		2-Butanone	0.068	0.061	0.045	0.038	0.052	0.053	0.053#	20.36
34)		1,1,1-Trichlor...	0.632	0.777	0.736	0.680	0.687	0.682	0.699	7.21
35)		1,1-Dichloropr...	0.602	0.593	0.822	0.653	0.744	0.673	0.681	12.91
36)		Propionitrile	0.033	0.052	0.054	0.050	0.058	0.055	0.050#	17.61
37)		Methacrylonitrile	0.210	0.294	0.319	0.248	0.275	0.280	0.271	14.00
38)		Isobutyl Alcohol	0.004	0.035	0.033	0.031	0.041	0.035	0.030#	43.06
39)	I	1,4-DIFLUOROBENZEN...	----------ISTD----------							
40)		Carbon Tetrach...	0.262	0.320	0.280	0.263	0.304	0.282	0.285	8.11
41)		Benzene	1.009	1.340	1.265	1.035	1.155	1.058	1.143	11.77
42)		1,2-Dichloroet...	0.291	0.373	0.351	0.258	0.308	0.289	0.312	13.67
43)		Trichloroethene	0.200	0.323	0.280	0.211	0.248	0.235	0.250	18.27
44)		Methyl cyclohe...	0.871	0.770	0.641	0.495	0.537	0.493	0.635	24.79
45)		Dibromomethane	0.119	0.131	0.143	0.116	0.150	0.138	0.133	9.99
46)	C	1,2-Dichloropr...	0.267	0.353	0.289	0.263	0.310	0.270	0.292	11.87
47)		Bromodichlorom...	0.263	0.319	0.310	0.252	0.345	0.298	0.298	11.82
48)		Methyl Methacr...	0.155	0.110	0.148	0.129	0.174	0.160	0.146	15.79
49)		1,4-Dioxane	0.003	0.002	0.002	0.002	0.003	0.002	0.002#	21.80
50)		2-Chloroethyl ...	0.109	0.134	0.156	0.138	0.153	0.145	0.139	12.23
51)		C-1,3-Dichloro...	0.352	0.391	0.425	0.365	0.466	0.410	0.402	10.39
52)	s	D8-Toluene	1.292	1.264	1.225	1.183	1.238	1.269	1.245	3.10
53)		D8-Toluene	1.292	1.264	1.225	1.183	1.238	1.269	1.245	3.10
54)		4-Methyl-2-pen...	0.025	0.019	0.034	0.026	0.036	0.032	0.029#	21.90
55)		CHLOROBENZENE-D5 (IS)	----------ISTD----------							
56)	C	Toluene	1.188	1.418	1.436	1.133	1.114	1.179	1.244	11.58
57)		T-1,3-Dichloro...	0.526	0.586	0.642	0.546	0.577	0.605	0.580	7.13

Method Path : C:\msdchem\1\methods\
Method File : 070920w.M
Title : ENCO SOP VGCMS05; Element Cal

58)		Tetrachloroethene	0.350	0.467	0.394	0.289	0.336	0.318	0.359	17.66
59)		Ethyl methacry...	0.325	0.573	0.529	0.452	0.516	0.523	0.486	18.13
60)		1,1,2-Trichlor...	0.406	0.522	0.415	0.327	0.364	0.369	0.401	16.84
61)		Dibromochlorom...	0.157	0.378	0.386	0.282	0.337	0.331	0.312	27.14
62)		1,3-Dichloropr...	0.603	0.707	0.751	0.584	0.643	0.646	0.656	9.59
63)		1,2-Dibromoethane	0.328	0.337	0.367	0.308	0.402	0.334	0.346	9.73
64)		2-Hexanone	0.156	0.215	0.278	0.216	0.291	0.246	0.234	21.09
65)	C	Ethylbenzene	0.517	0.677	0.733	0.630	0.726	0.659	0.657	12.03
66)	P	Chlorobenzene	1.044	1.372	1.389	1.091	1.138	1.136	1.195	12.40
67)		1,1,1,2-Tetrac...	0.320	0.475	0.354	0.311	0.368	0.357	0.364	16.11
68)		m-xylene & p-x...	0.825	0.941	0.964	0.800	0.811	0.807	0.858	8.63
69)		o-xylene	0.622	0.837	0.918	0.760	0.826	0.807	0.795	12.47
70)		Styrene	1.050	1.420	1.414	1.291	1.476	1.444	1.349	11.84
71)	P	Bromoform	0.143	0.202	0.161	0.154	0.203	0.183	0.174	14.62
72)		Isopropylbenzene	1.756	2.307	2.331	2.058	2.491	2.097	2.173	11.94
73)	s	Bromofluoroben...	0.883	0.856	0.889	0.861	0.989	0.890	0.895	5.40
74)		Bromofluoroben...	0.883	0.856	0.889	0.861	0.989	0.890	0.895	5.40
75)		n-Propylbenzene	2.359	2.837	2.967	2.606	3.196	2.664	2.771	10.61
76)	P	1,1,2,2-Tetrac...	0.365	0.585	0.578	0.446	0.613	0.494	0.514	18.67
77)		1,2,3-Trichlor...	0.162	0.156	0.096	0.124	0.182	0.145	0.144	21.00
78)		T-1,4-Dichloro...	0.125	0.039	0.162	0.135	0.189	0.141	0.132	38.65
79)		1,4-DICHLOROBENZEN...	----------	----------	ISTD	----------	----------	----------	----------	
80)		Bromobenzene	0.557	0.614	0.603	0.485	0.544	0.512	0.552	9.05
81)		1,2,4-Trimethy...	1.877	2.709	2.671	2.402	2.403	2.454	2.419	12.30
82)		2-Chlorotoluene	1.517	2.137	2.057	1.804	1.933	1.830	1.880	11.65
83)		4-Chlorotoluene	1.498	2.060	2.052	1.916	2.046	1.958	1.922	11.22
84)		tert-Butylbenzene	1.382	1.619	1.744	1.730	1.825	1.798	1.683	9.71
85)		1,3,5-Trimethy...	1.691	2.291	2.415	2.166	2.299	2.209	2.179	11.65
86)		p-Isopropyltol...	1.706	2.290	2.592	2.280	2.401	2.381	2.275	13.20
87)		s-Butylbenzene	2.264	2.619	3.034	2.716	2.811	2.750	2.699	9.42
88)		1,3-Dichlorobe...	0.960	1.267	1.314	1.024	1.127	1.104	1.133	12.06
89)		1,4-Dichlorobe...	1.138	1.349	1.279	1.052	1.120	1.106	1.174	9.73
90)		n-Butylbenzene	2.042	2.195	2.585	2.237	2.476	2.362	2.316	8.55
91)		1,2-Dichlorobe...	0.923	1.111	1.098	0.890	1.030	1.017	1.011	8.87
92)		DBCP	0.046	0.089	0.067	0.064	0.082	0.066	0.069#	21.76
93)		Hexachlorobuta...	0.193	0.226	0.256	0.171	0.194	0.190	0.205	15.05
94)		1,2,4-Trichlor...	0.285	0.398	0.375	0.360	0.464	0.420	0.384	15.83
95)		Naphthalene	0.909	0.743	0.798	0.641	1.060	0.928	0.846	17.65
96)		1,2,3-Trichlor...	0.108	0.156	0.206	0.187	0.302	0.263	0.204	34.52

(#) = Out of Range

Manual Integration Review Form

ENVIRONMENTAL CONSERVATION LABORATORIES, INC. ☐ Cary ☐ Jacksonville ☒ Orlando

I hereby attest that the manual integrations contained in this package have been thoroughly reviewed and are in agreement with the associated hardcopy data.

The electronic files listed below have been reviewed for accuracy, completeness and comply with ENCO labs QA-11 Manual Integration Policy including:

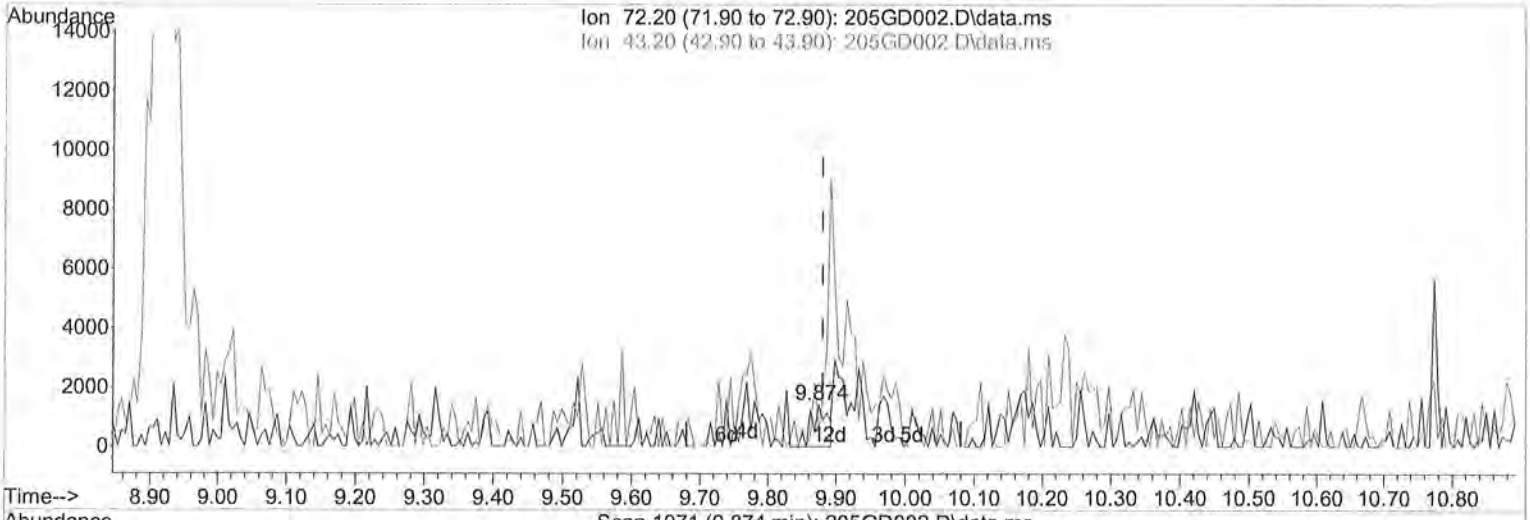
- "Before" and "After" chromatograms are provided
- Manual integrations are indicated on expanded scale "after" chromatograms at a scale large enough to see the manual integration performed.
- Reintegration technique marked if available on the data system
- Technical justification for manual integration
- Appropriate flags indicating which analytes were manually integrated are included in the raw data
- Analyst's initials and date.

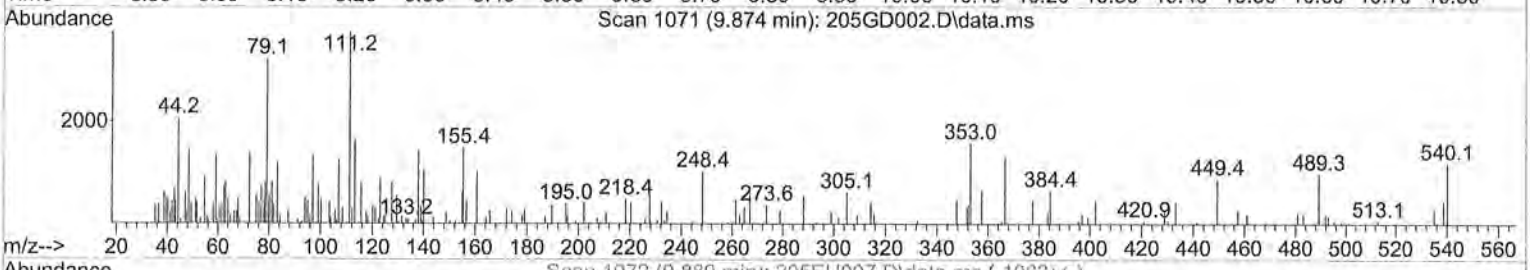
Instrument ID:	OVGCMS-5
Sequence/Batch ID:	AA61386
Data File Prefix:	205GD
Date and Time Range of MIs:	07/09/20 1155-1341
Reviewer Print Name:	Sheila Roncon
Reviewer Signature:	
Date of Review:	7/10/20

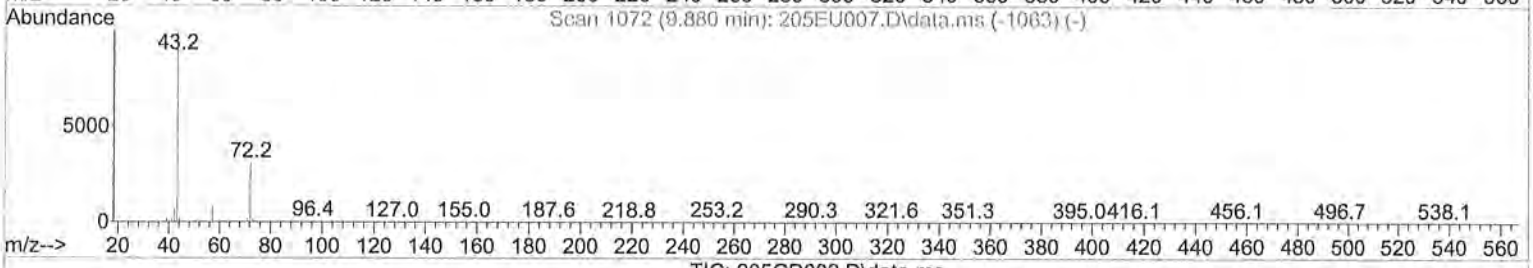
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\070920\
Data File : 205GD002.D
Acq On : 9 Jul 2020 10:04 am
Operator : KKW
InstName : OVGCMS5
Sample : CAL1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 09 10:31:46 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Jul 09 10:31:14 2020
Response via : Initial Calibration







TIC: 205GD002.D\data.ms

(33) 2-Butanone

9.874min (-0.006) 2.47 ug/L

response 2314

Ion	Exp%	Act%
72.20	100.00	100.00
43.20	341.50	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

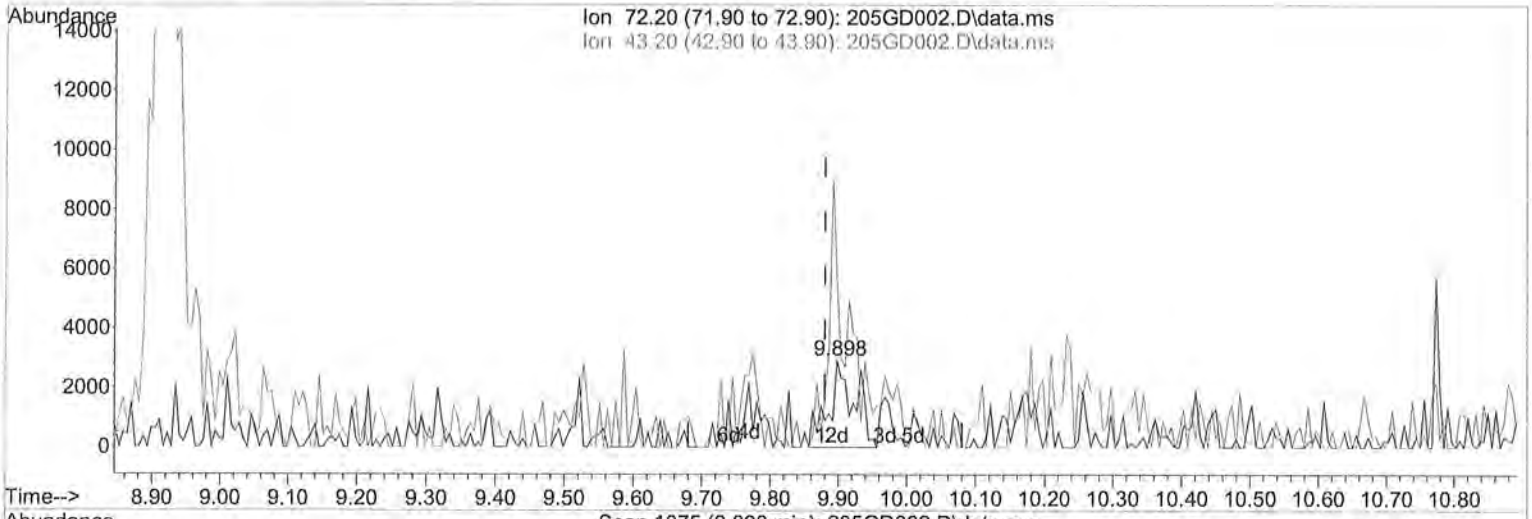
Review by/Date KJ 07/13/20

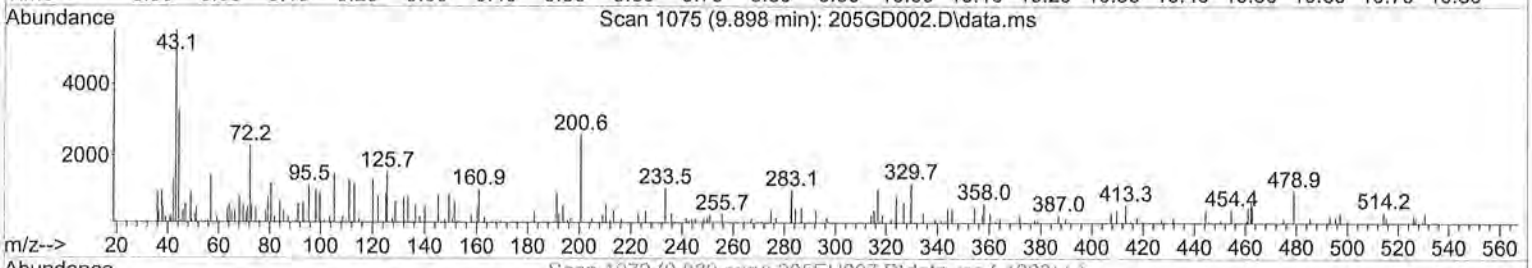
Review by/Date:

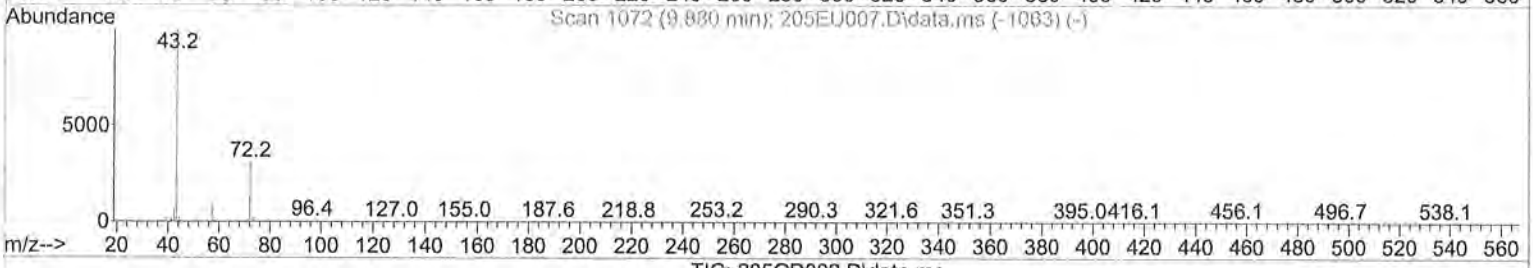
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\070920\
Data File : 205GD002.D
Acq On : 9 Jul 2020 10:04 am
Operator : KKW
InstName : OVGCMS5
Sample : CAL1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 09 10:31:46 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Jul 09 10:31:14 2020
Response via : Initial Calibration







TIC: 205GD002.D\data.ms

(33) 2-Butanone

9.898min (+ 0.018) 8.33 ug/L m

response 7811

Ion	Exp%	Act%
72.20	100.00	100.00
43.20	341.50	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Human integration

[ ] Baseline drop for split peaks

[ ] LCD reintegration

[ ] Other:

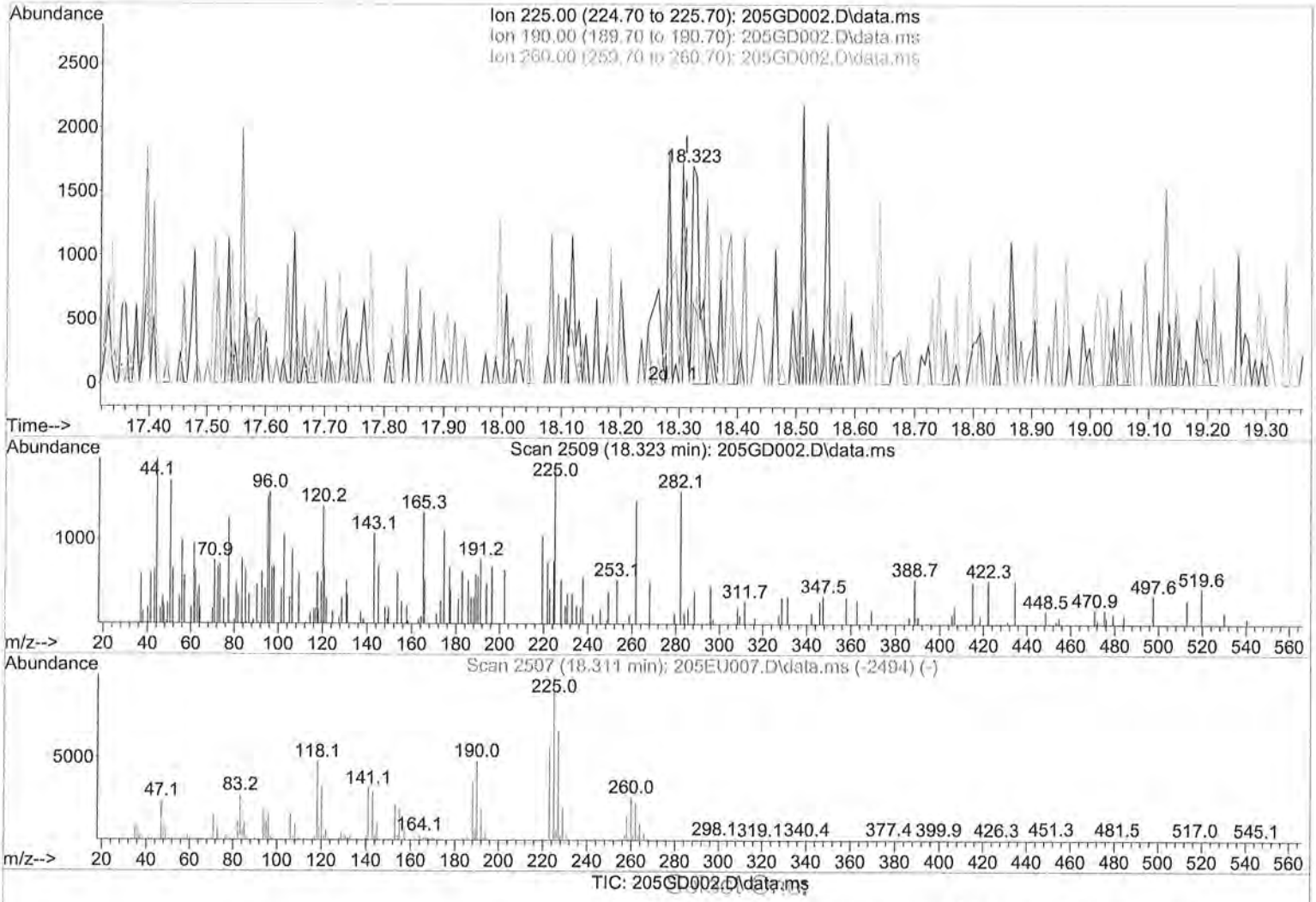
Review by/Date AJ 07/10/20

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\070920\
Data File : 205GD002.D
Acq On : 9 Jul 2020 10:04 am
Operator : KKW
InstName : OVGCMS5
Sample : CAL1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 09 10:31:46 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Jul 09 10:31:14 2020
Response via : Initial Calibration



TIC: 205GD002.D\data.ms

(93) Hexachlorobutadiene

18.323min (+ 0.012) 0.46 ug/L

response 1767

Ion	Exp%	Act%
225.00	100.00	100.00
190.00	46.90	0.00#
260.00	28.80	0.00#
0.00	0.00	0.00

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] EaTD reintegration

[ ] Other:

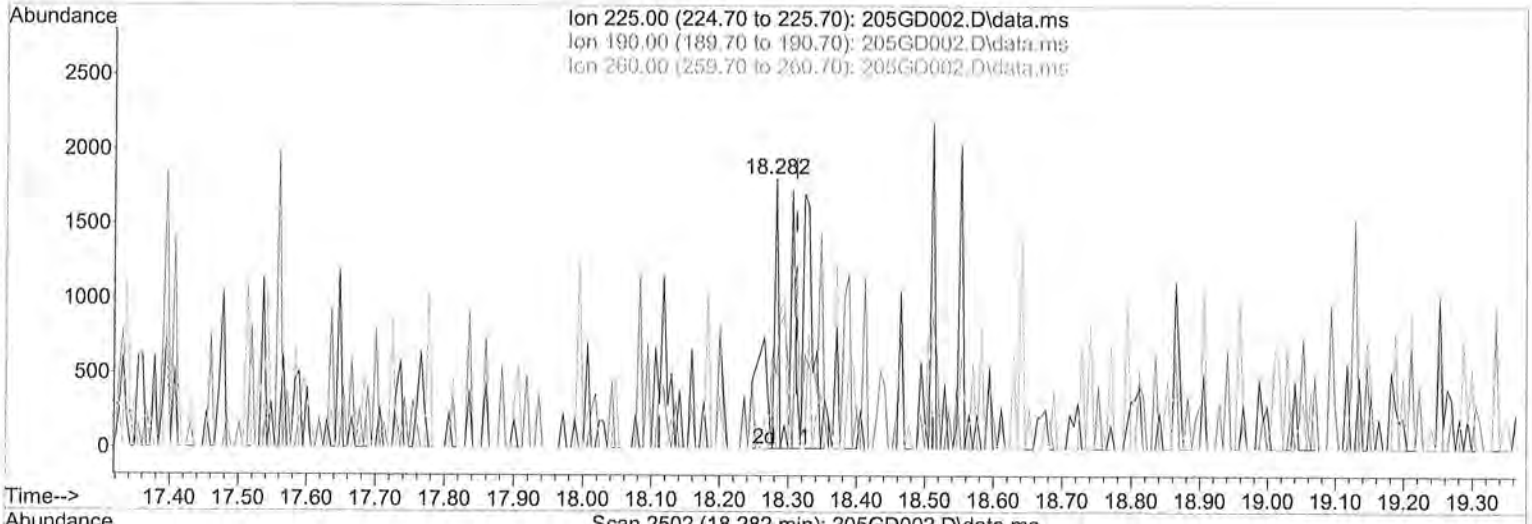
Review by/Date KW 07/10/20

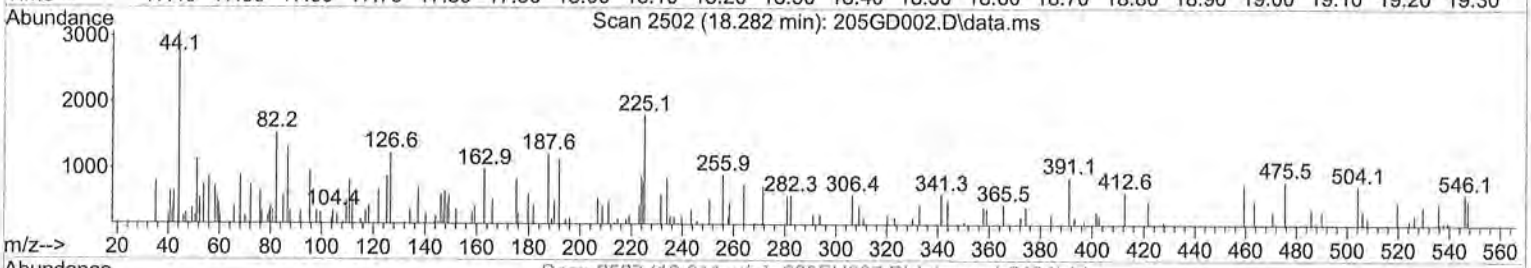
Review by/Date:

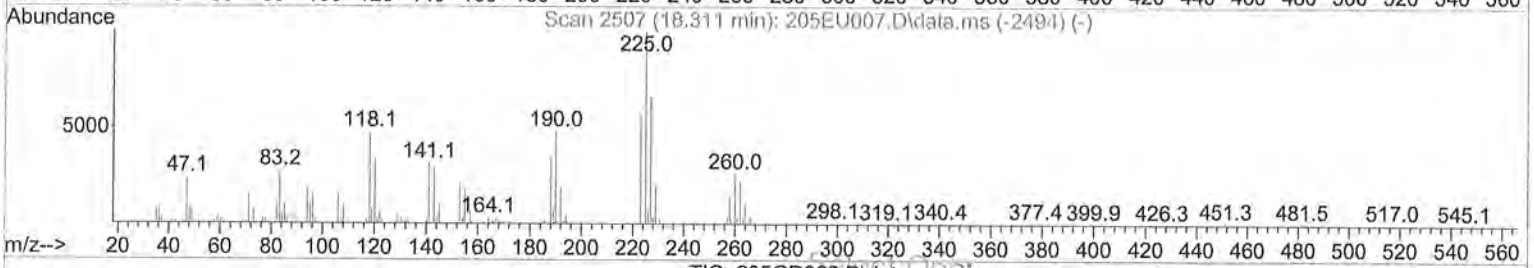
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\070920\
Data File : 205GD002.D
Acq On : 9 Jul 2020 10:04 am
Operator : KKW
InstName : OVGCMS5
Sample : CAL1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 09 10:31:46 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Jul 09 10:31:14 2020
Response via : Initial Calibration







TIC: 205GD002.D\data.ms

(93) Hexachlorobutadiene

18.282min (-0.029) 1.12 ug/L m

response 4310

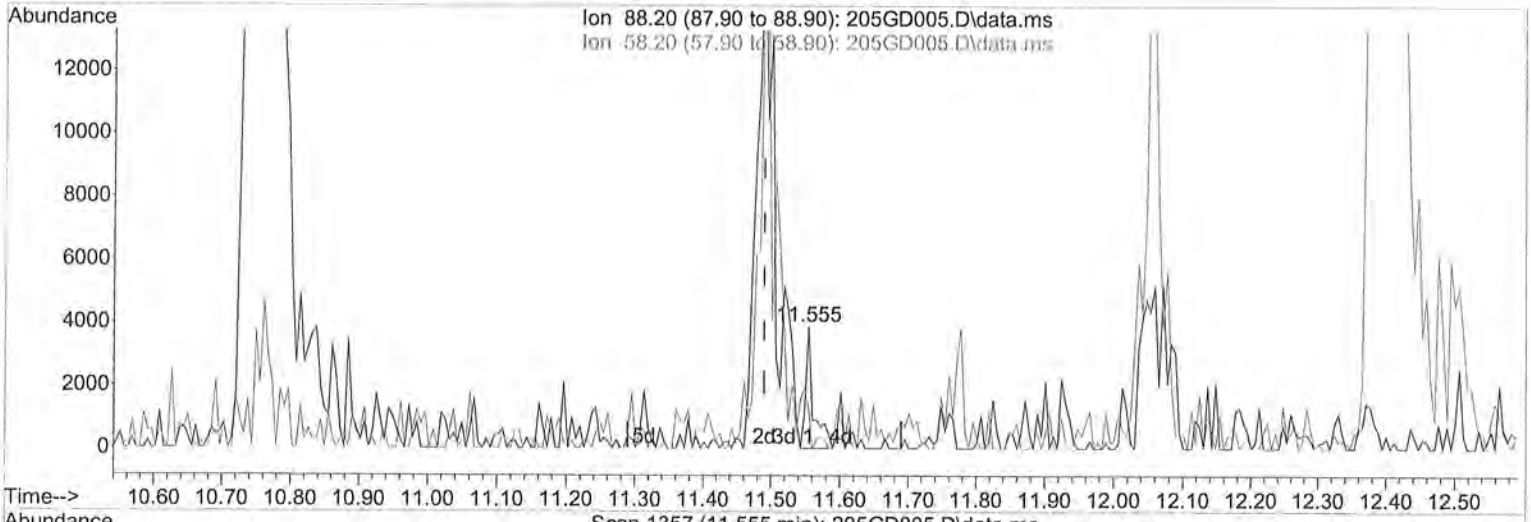
Ion	Exp%	Act%
225.00	100.00	100.00
190.00	46.90	0.00#
260.00	28.80	0.00#
0.00	0.00	0.00

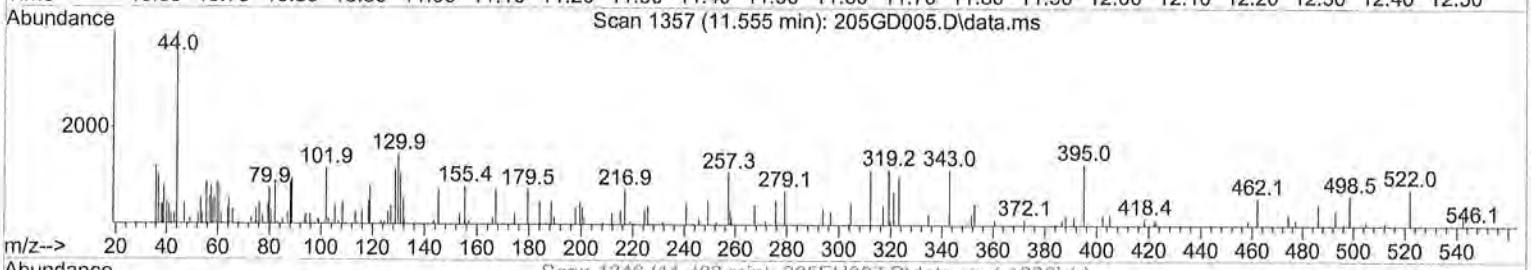
Review Type:
[] Original Integration [] Manual Integration
Select reason for manual integration:
[] Poor integration (peak tailing, baseline selection)
[] Incorrect peak selection/Peak not found
[] Hump integration
[] Baseline drop for split peaks
[] ISTD reintegration
[] Other:
Review by/Date: 07/10/20
Review by/Date:

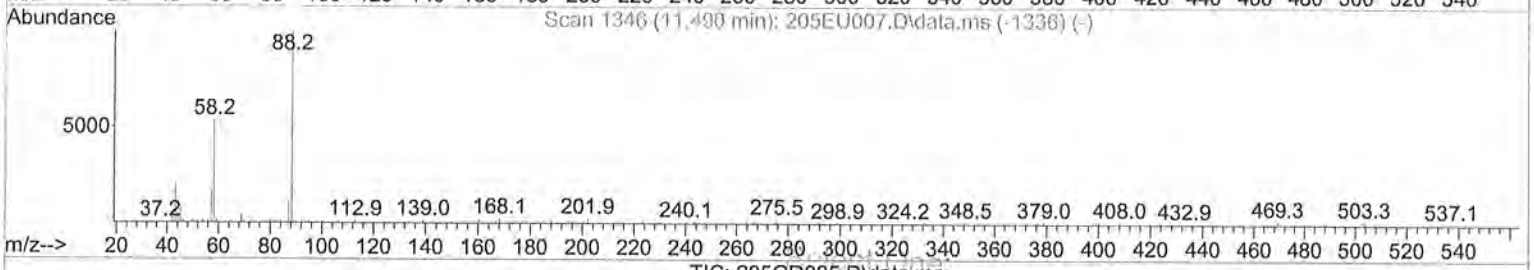
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\070920\
Data File : 205GD005.D
Acq On : 9 Jul 2020 11:38 am
Operator : KKW
InstName : OVGCMS5
Sample : CAL4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 09 12:46:40 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Jul 09 10:31:14 2020
Response via : Initial Calibration







TIC: 205GD005.D\data.ms

(49) 1,4-Dioxane

11.555min (+ 0.065) 32.57 ug/L

response 3063

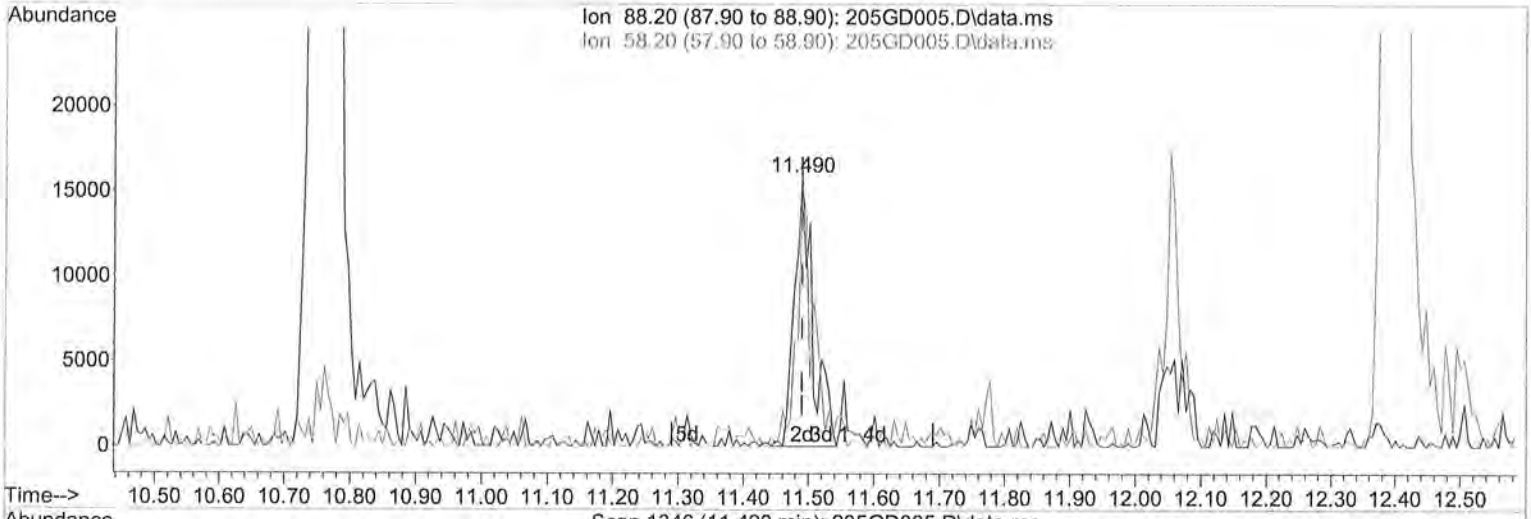
Ion	Exp%	Act%
88.20	100.00	100.00
58.20	67.60	65.52
0.00	0.00	0.00
0.00	0.00	0.00

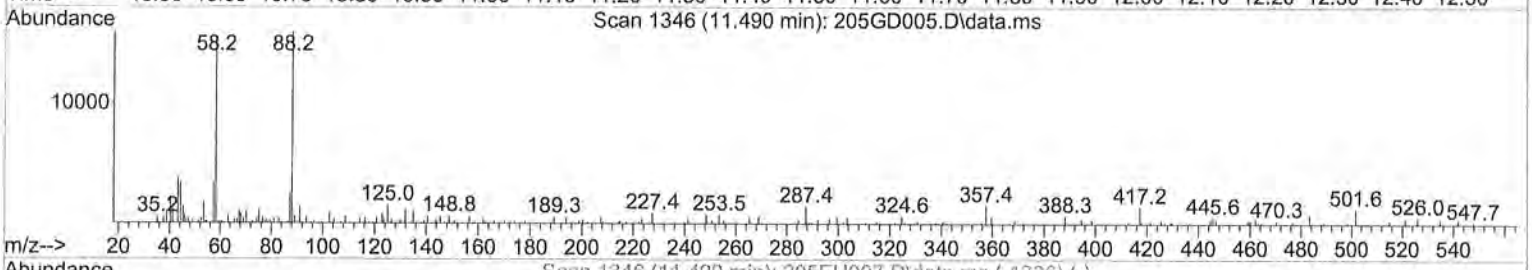
[X] Original Integration [ ] Manual Integration
Select reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[X] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date: W 8/13/20
Review by/Date:

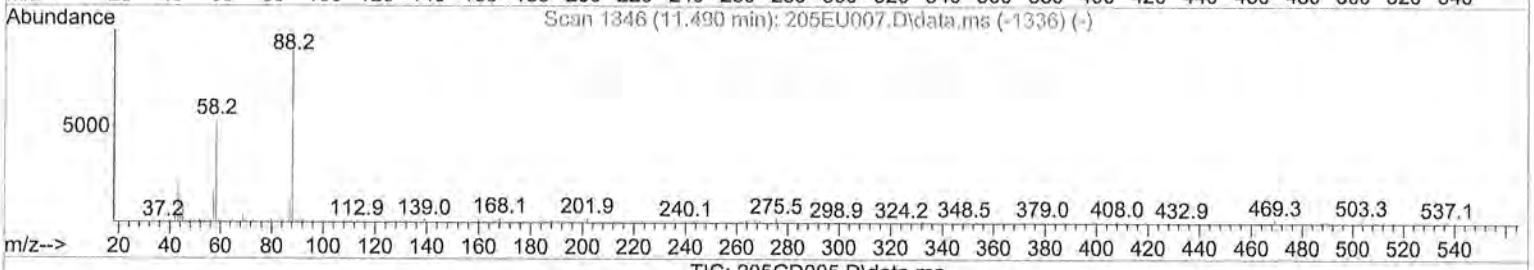
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\070920\
Data File : 205GD005.D
Acq On : 9 Jul 2020 11:38 am
Operator : KKW
InstName : OVGCMS5
Sample : CAL4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 09 12:46:40 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Jul 09 10:31:14 2020
Response via : Initial Calibration







TIC: 205GD005.D\data.ms

(49) 1,4-Dioxane

11.490min (-0.000) 326.10 ug/L m

response 30672

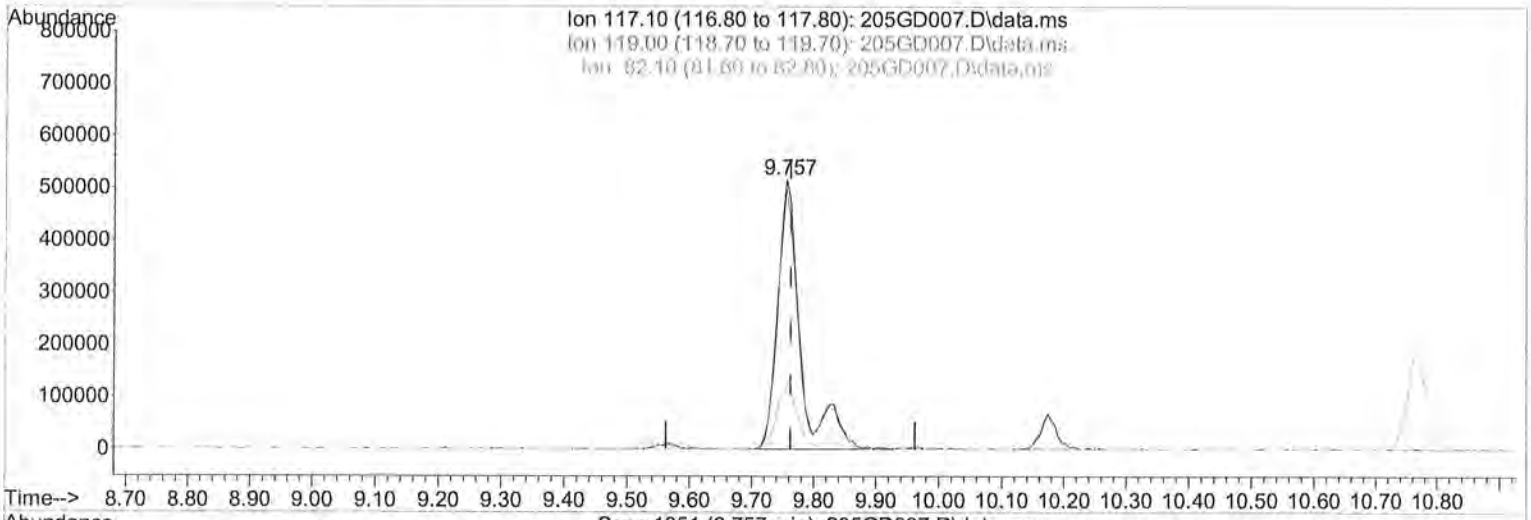
Ion	Exp%	Act%
88.20	100.00	100.00
58.20	67.60	6.54#
0.00	0.00	0.00
0.00	0.00	0.00

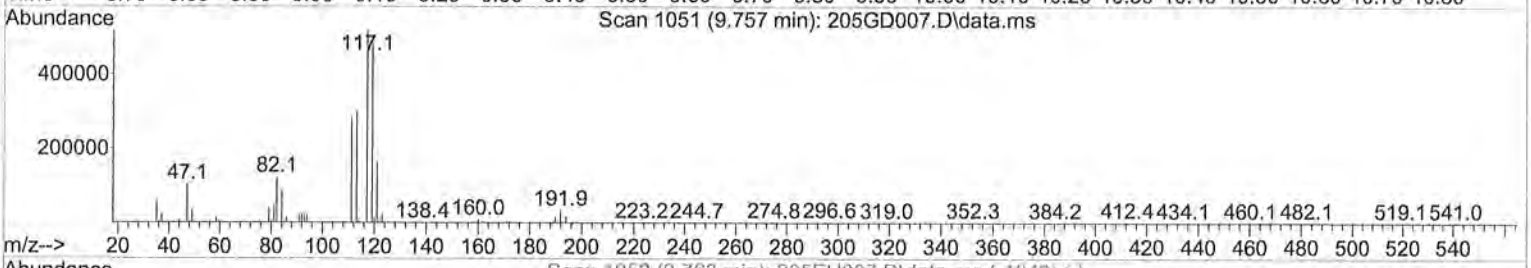
[ ] Automated Integration [X] Manual Integration
Reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[X] Incorrect peak selection/Peak not found
[ ] Poor integration
[ ] Valley drop for split peaks
[ ] Co-Elution
[ ] Other:
Review by/Date: W 07/10/20
Review by/Date:

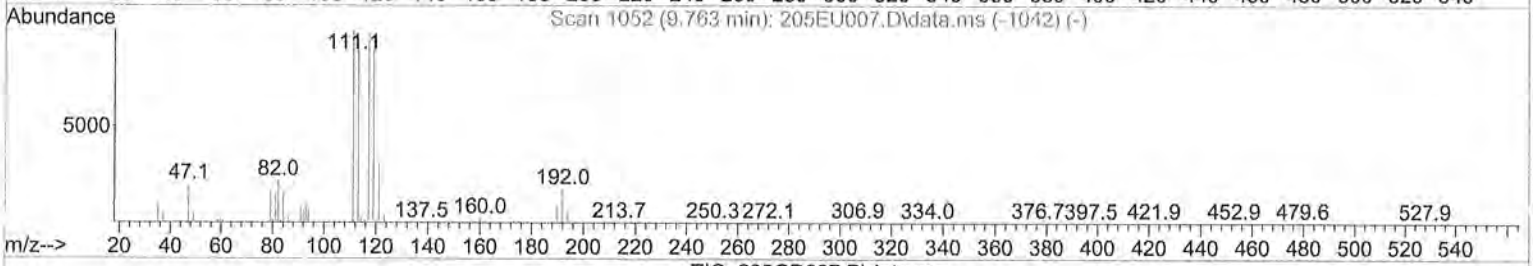
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\070920\
Data File : 205GD007.D
Acq On : 9 Jul 2020 12:41 pm
Operator : KKW
InstName : OVGCMS5
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 09 13:06:43 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Jul 09 10:31:14 2020
Response via : Initial Calibration







TIC: 205GD007.D\data.ms

(40) Carbon Tetrachloride

9.757min (-0.006) 117.24 ug/L

response 1322009

Ion	Exp%	Act%
117.10	100.00	100.00
119.00	114.00	80.54#
82.10	30.10	24.32
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

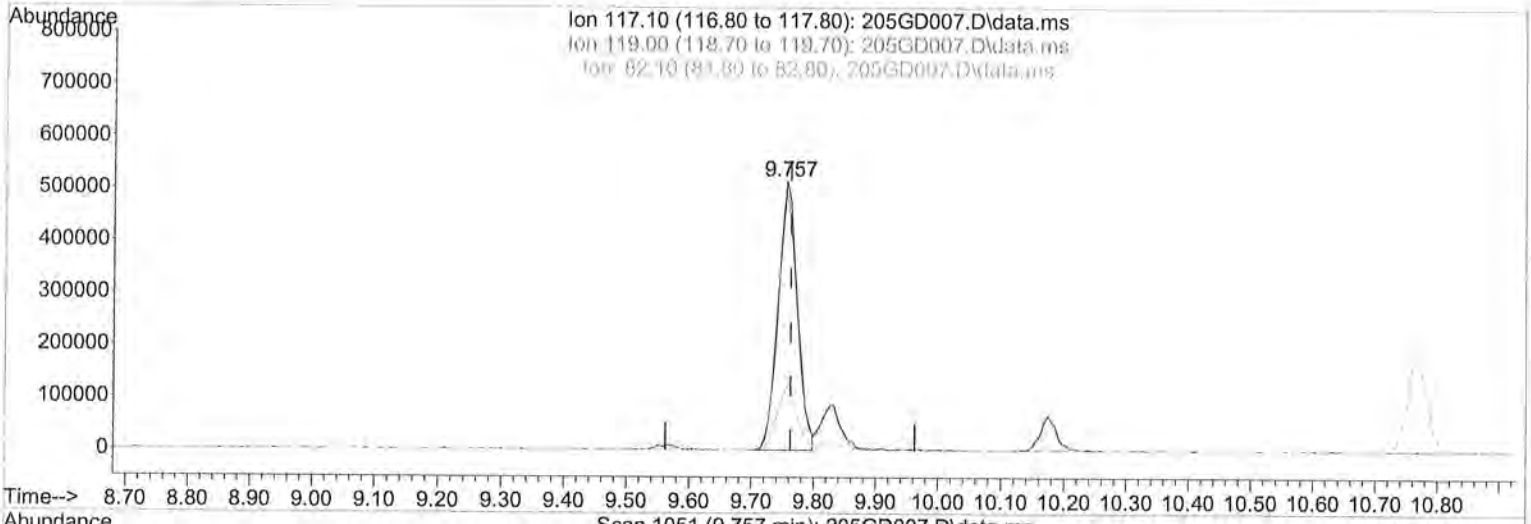
Review by/Date N 7/10/20

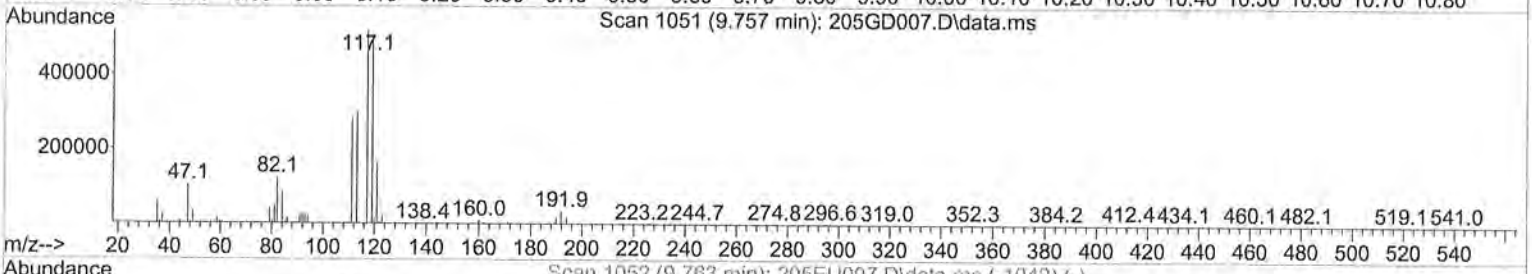
Review by/Date:

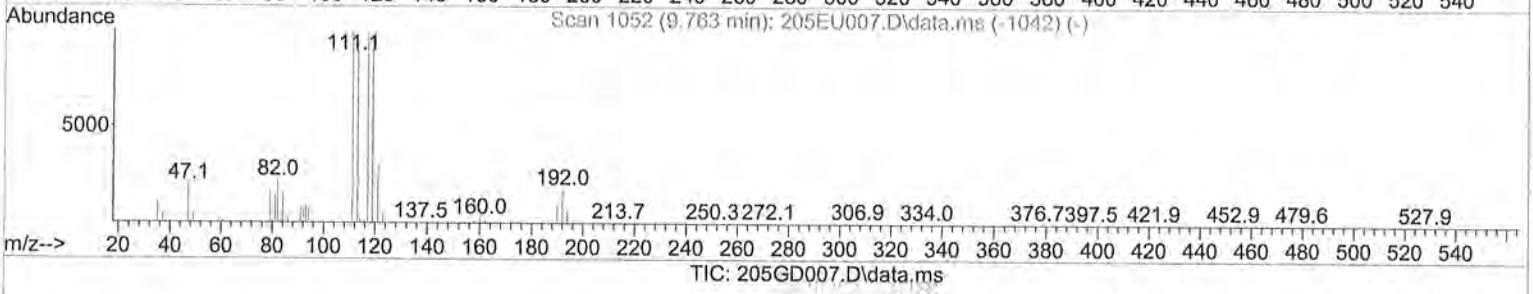
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\070920\
Data File : 205GD007.D
Acq On : 9 Jul 2020 12:41 pm
Operator : KKW
InstName : OVGCMS5
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 09 13:06:43 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Jul 09 10:31:14 2020
Response via : Initial Calibration







TIC: 205GD007.D\data.ms

(40) Carbon Tetrachloride

9.757min (-0.006) 99.14 ug/L m

response 1117939

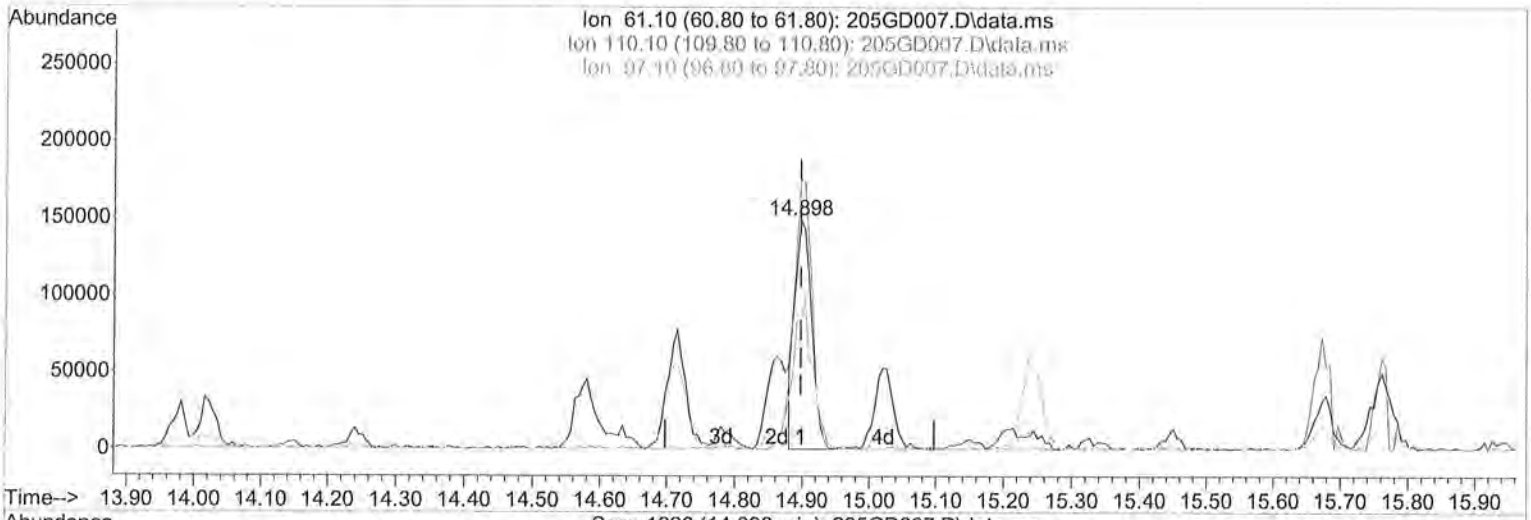
Ion	Exp%	Act%
117.10	100.00	100.00
119.00	114.00	95.24
82.10	30.10	28.76
0.00	0.00	0.00

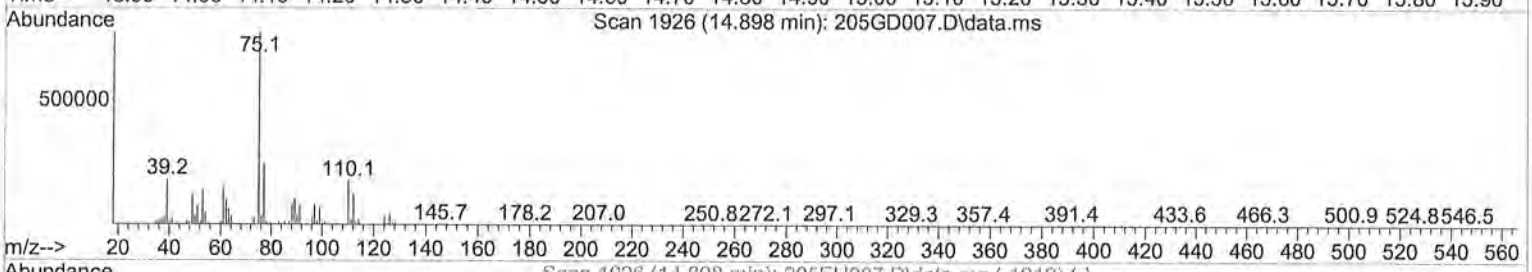
[ ] Original Integration [x] Manual Integration
Select reason for manual integration:
[x] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] RT/D reintegration
[ ] Other:
Review by/Date W 07/18/20
Review by/Date:

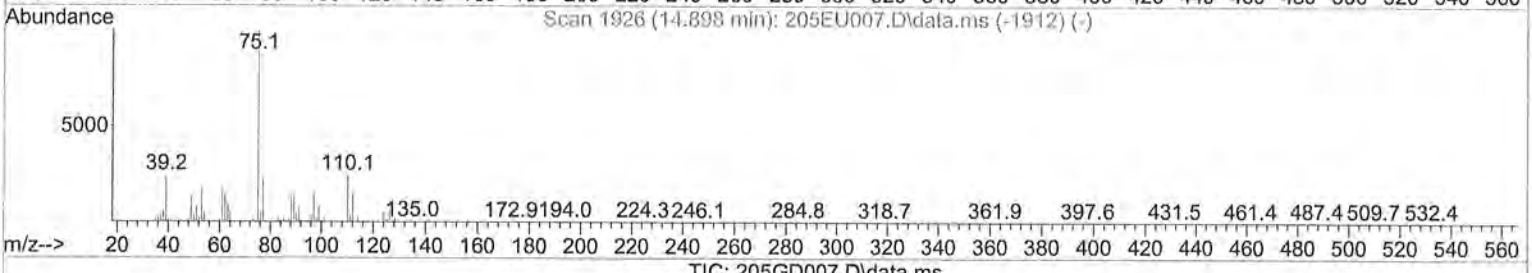
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\070920\
Data File : 205GD007.D
Acq On : 9 Jul 2020 12:41 pm
Operator : KKW
InstName : OVGCMS5
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 09 13:06:43 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Jul 09 10:31:14 2020
Response via : Initial Calibration







TIC: 205GD007.D\data.ms

(77) 1,2,3-Trichloropropane

14.898min (0.000) 58.17 ug/L

response 261155

Ion	Exp%	Act%
61.10	100.00	100.00
110.10	93.50	128.42#
97.10	56.70	80.05#
0.00	0.00	0.00

Select One:

[ ] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor Integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump Integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

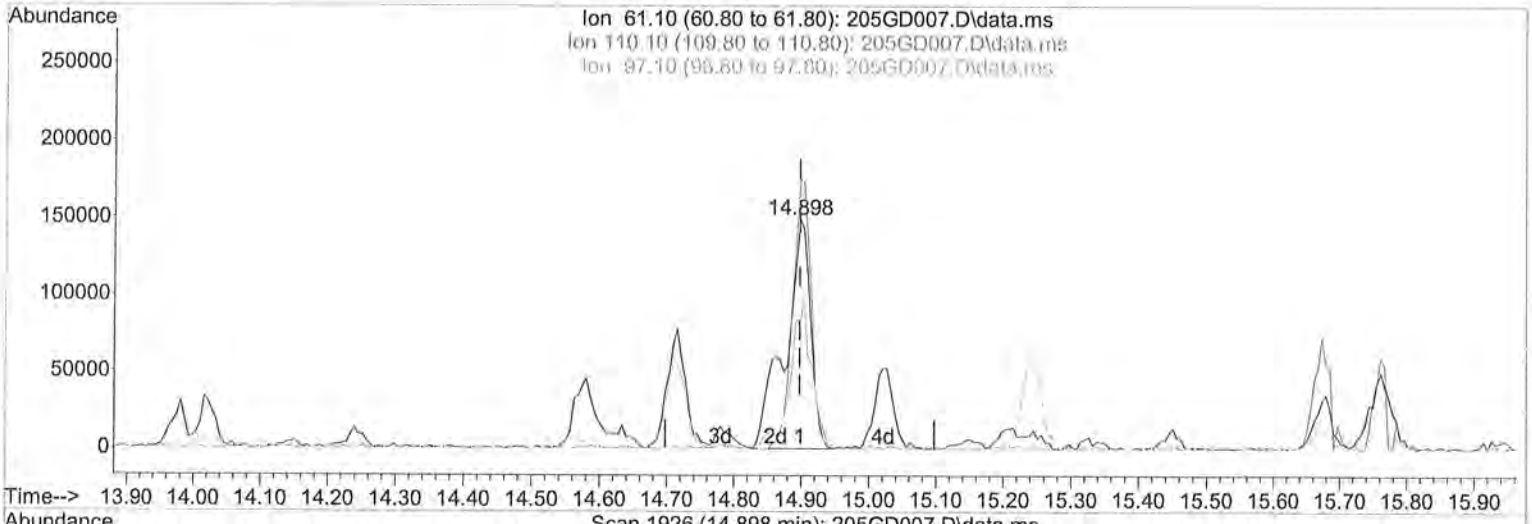
Review by/Date 07/08/20

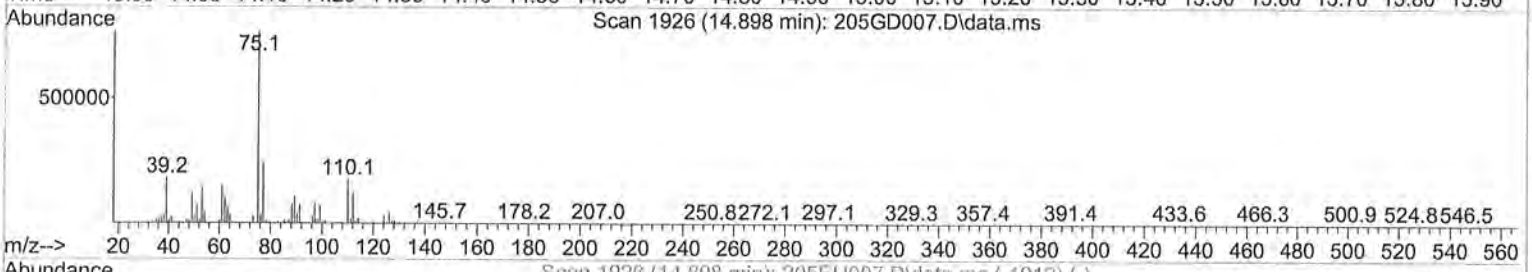
Review by/Date:

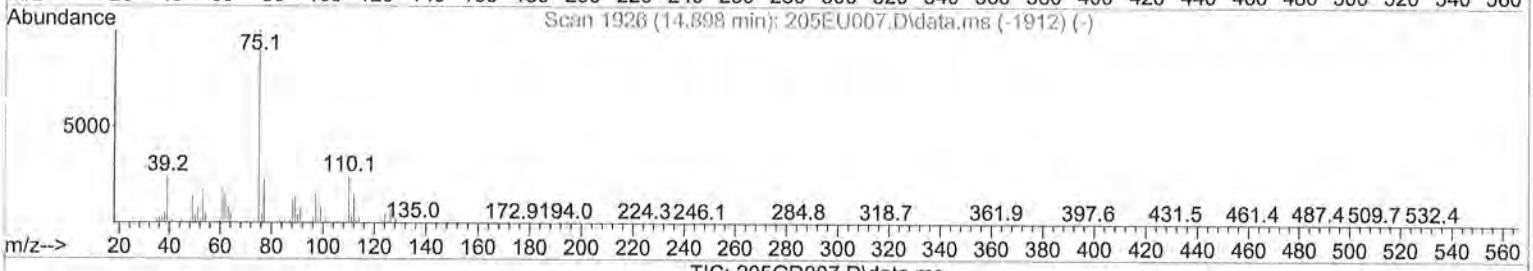
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\070920\
Data File : 205GD007.D
Acq On : 9 Jul 2020 12:41 pm
Operator : KKW
InstName : OVGCMS5
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 09 13:06:43 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Jul 09 10:31:14 2020
Response via : Initial Calibration







TIC: 205GD007.D\data.ms

(77) 1,2,3-Trichloropropane

14.898min (0.000) 86.90 ug/L m

response 390155

Ion	Exp%	Act%
61.10	100.00	100.00
110.10	93.50	85.96
97.10	56.70	53.58
0.00	0.00	0.00

Select One:

[ ] Optimal Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Missed integration

[ ] Baseline drop for split peaks

[ ] RT Shift/Integration

[ ] Other

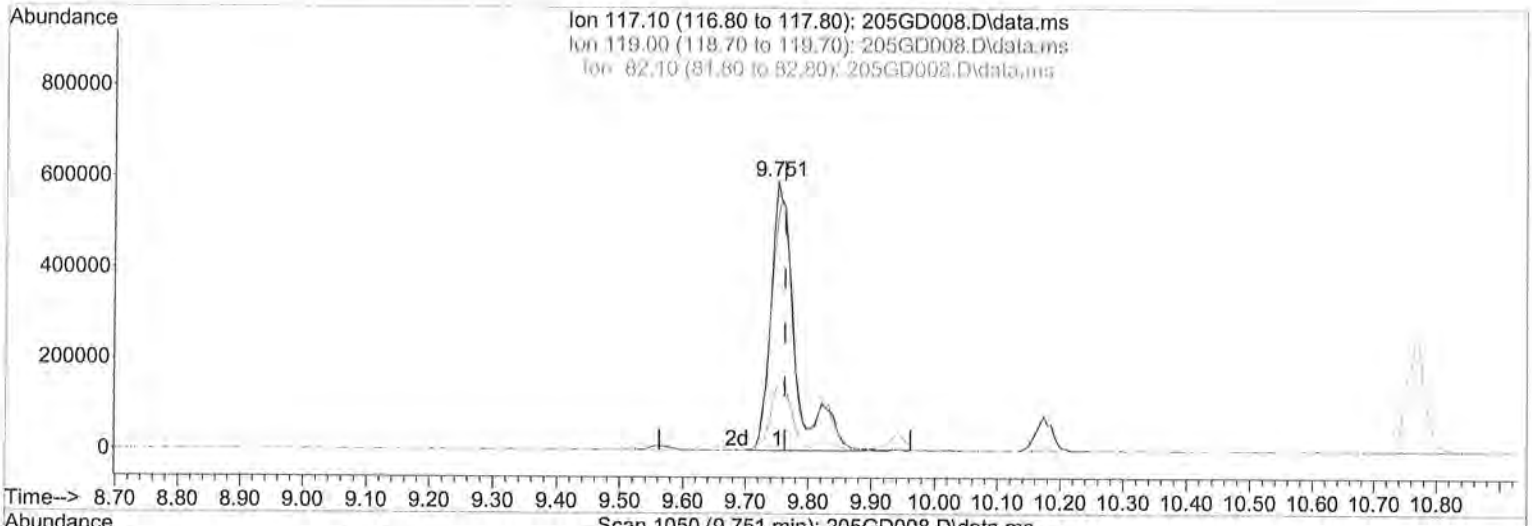
Reviewed by/Date: N 07/10/20

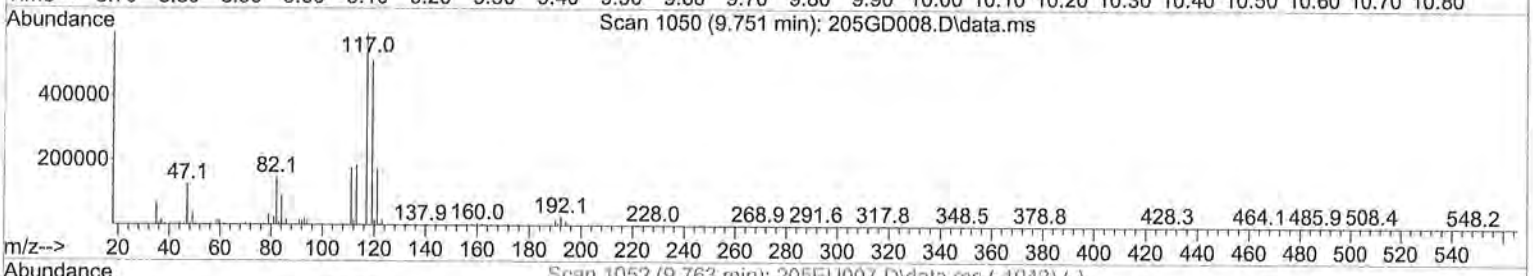
Review by/Date:

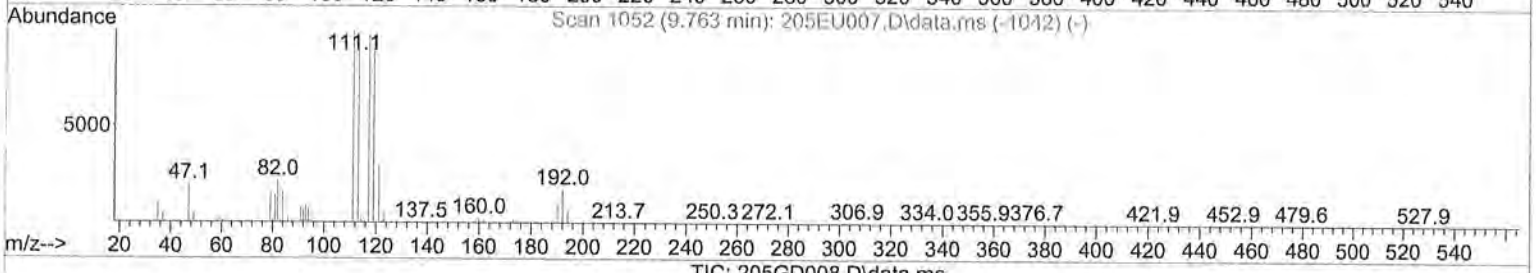
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\070920\
Data File : 205GD008.D
Acq On : 9 Jul 2020 1:12 pm
Operator : KKW
InstName : OVGCMS5
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 09 13:35:45 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Jul 09 13:11:13 2020
Response via : Initial Calibration







TIC: 205GD008.D\data.ms

(40) Carbon Tetrachloride

9.751min (-0.012) 148.71 ug/L

response 1607737

Ion	Exp%	Act%
117.10	100.00	100.00
119.00	114.00	81.81#
82.10	30.10	22.25#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] RTD reintegration

[ ] Other:

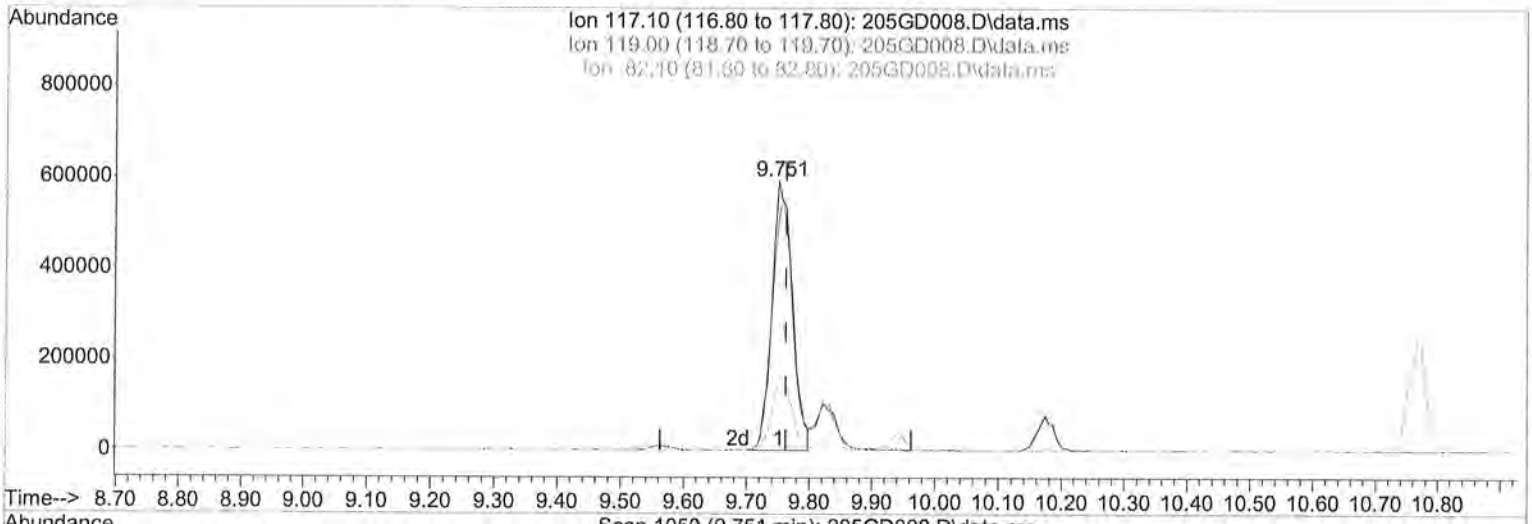
Review by/Date: W 7/15/20

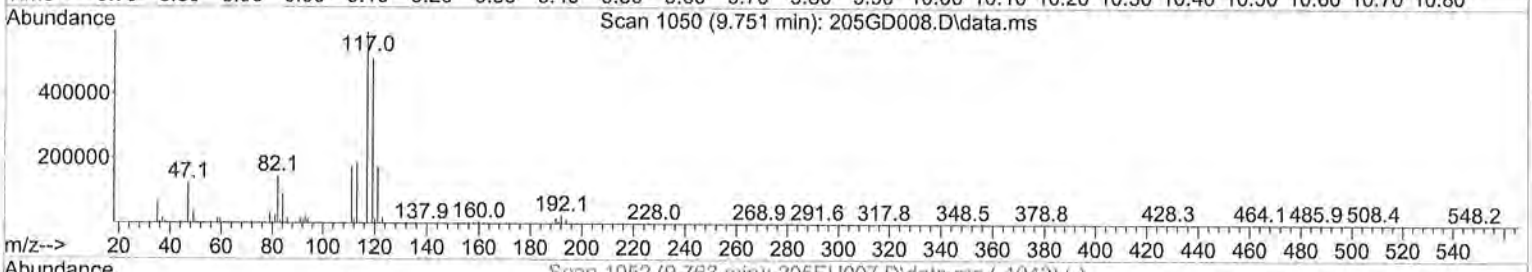
Review by/Date:

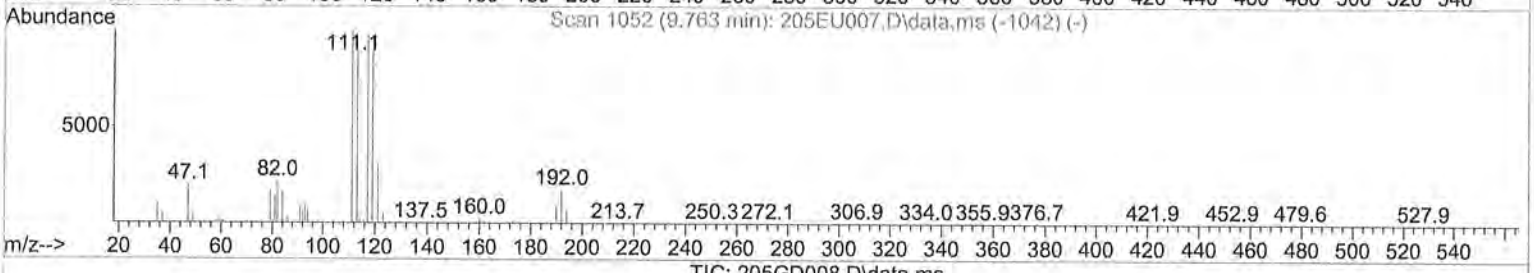
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\070920\
Data File : 205GD008.D
Acq On : 9 Jul 2020 1:12 pm
Operator : KKW
InstName : OVGCMS5
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 09 13:35:45 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Jul 09 13:11:13 2020
Response via : Initial Calibration







TIC: 205GD008.D\data.ms

(40) Carbon Tetrachloride

9.751min (-0.012) 126.21 ug/L m

response 1364517

Ion	Exp%	Act%
117.10	100.00	100.00
119.00	114.00	96.39
82.10	30.10	26.22
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Incorrect integration

[ ] Valley drop for split peaks

[ ] RT/CT compensation

[ ] Other:

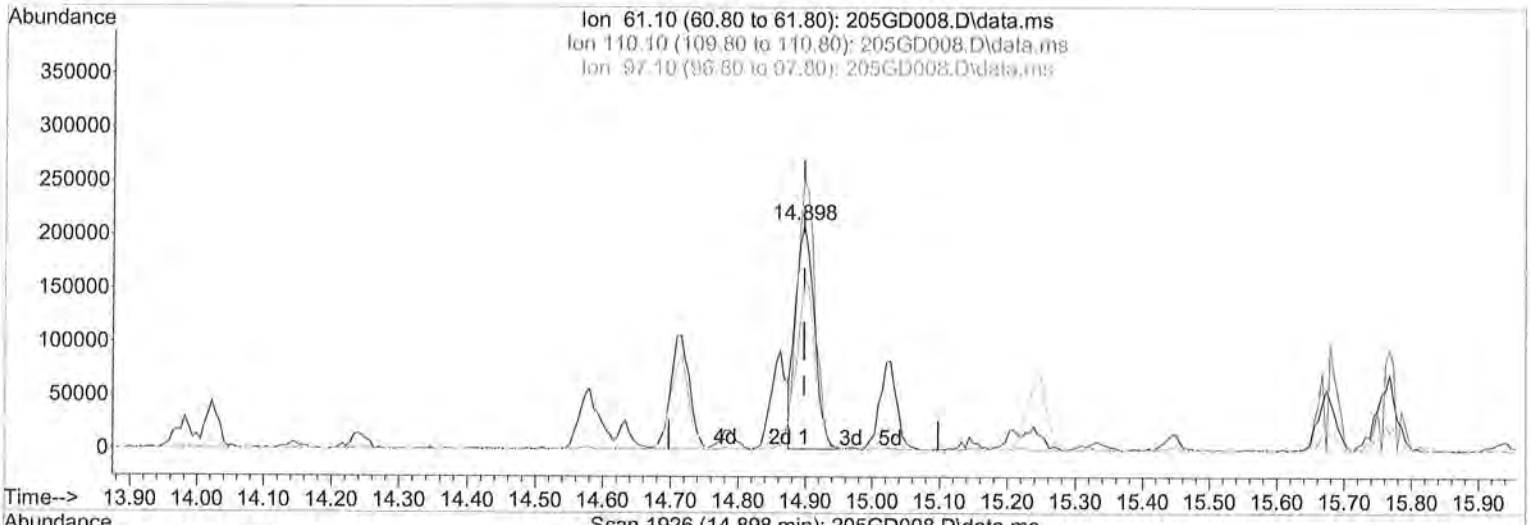
Review by/Date: AJ 5/18/20

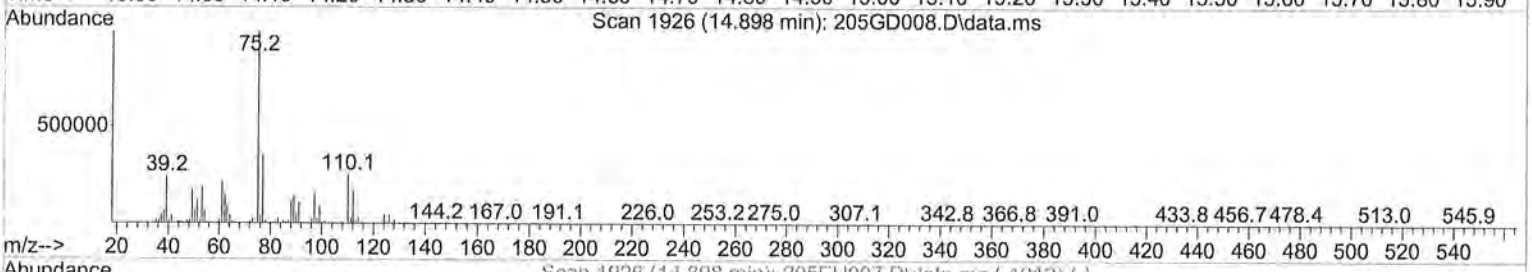
Review by/Date:

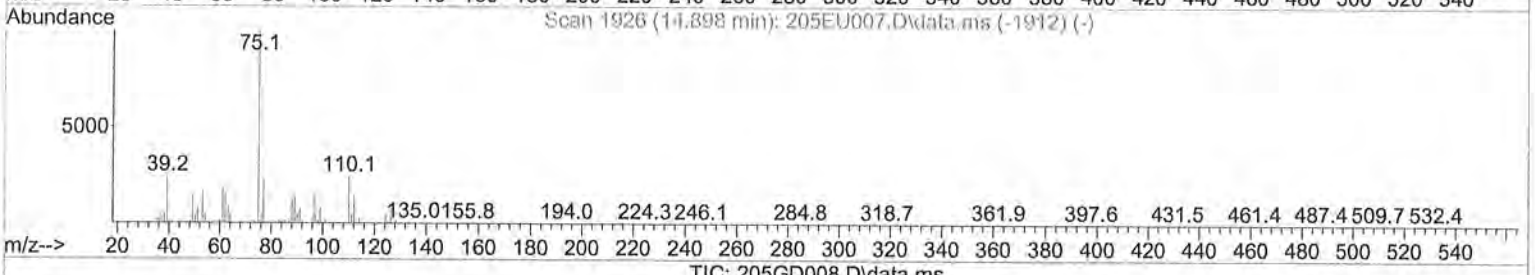
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\070920\
Data File : 205GD008.D
Acq On : 9 Jul 2020 1:12 pm
Operator : KKW
InstName : OVGCMS5
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 09 13:35:45 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Jul 09 13:11:13 2020
Response via : Initial Calibration







TIC: 205GD008.D\data.ms

(77) 1,2,3-Trichloropropane

14.898min (-0.000) 103.66 ug/L

response 410825

Ion	Exp%	Act%
61.10	100.00	100.00
110.10	93.50	119.68#
97.10	56.70	81.40#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

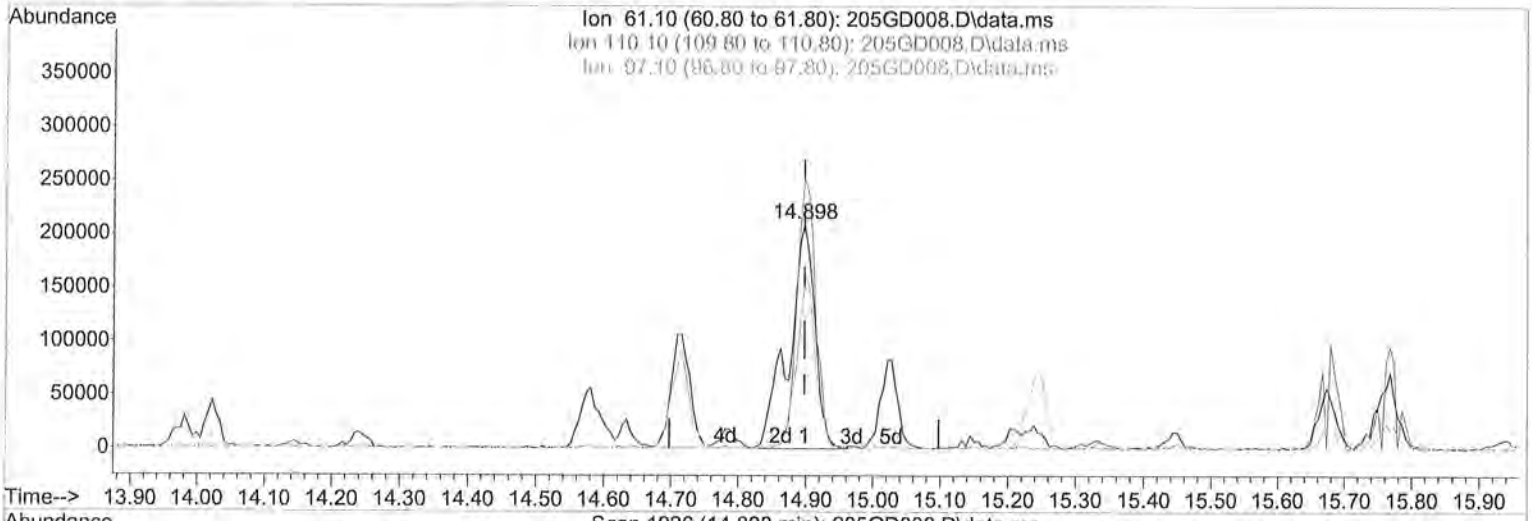
Review by/Date: KW 07/10/20

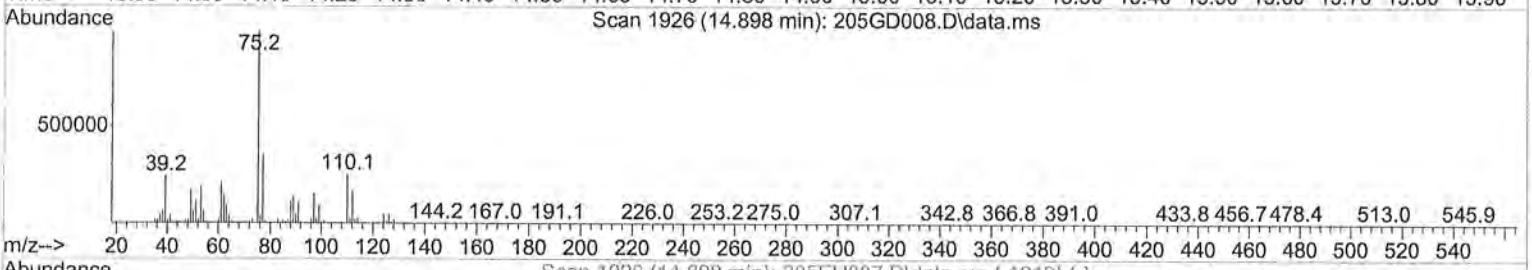
Review by/Date:

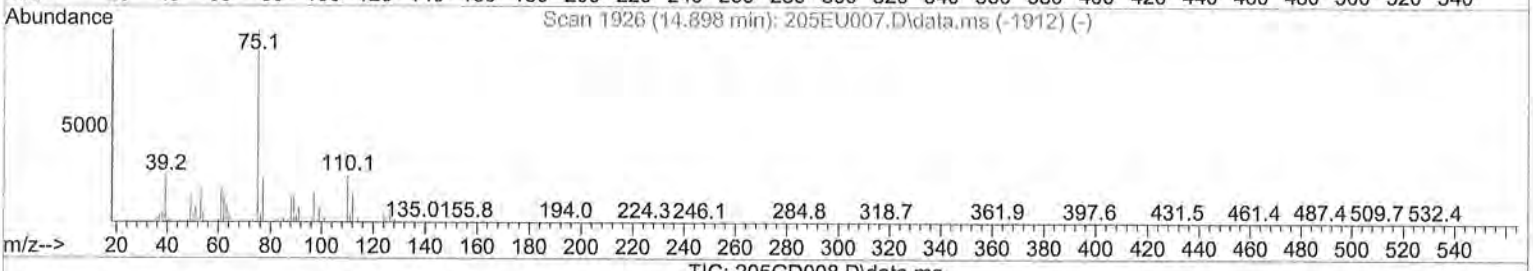
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\070920\
Data File : 205GD008.D
Acq On : 9 Jul 2020 1:12 pm
Operator : KKW
InstName : OVGCMS5
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 09 13:35:45 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Jul 09 13:11:13 2020
Response via : Initial Calibration







TIC: 205GD008.D\data.ms

(77) 1,2,3-Trichloropropane

14.898min (-0.000) 142.38 ug/L m

response 564305

Ion	Exp%	Act%
61.10	100.00	100.00
110.10	93.50	87.13
97.10	56.70	59.26
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Dumb integration

[ ] Baseline drop for split peaks

[ ] Dumb reintegration

[ ] Other:

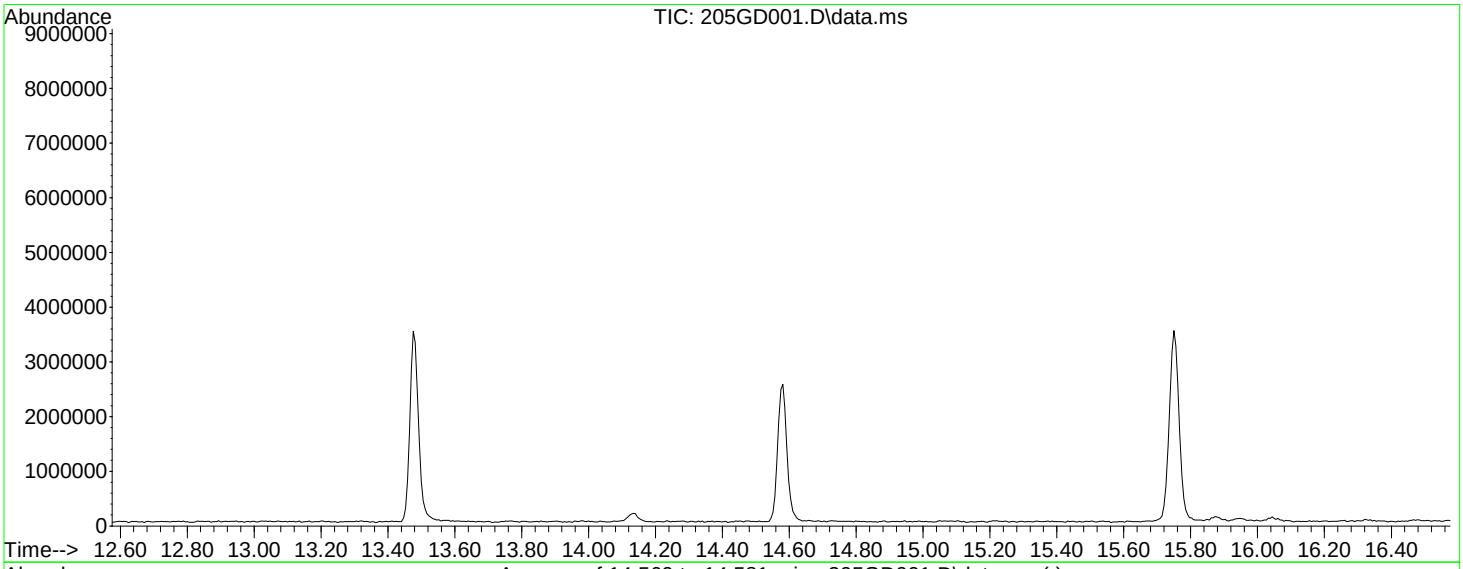
Review by/Date: W 07/10/20

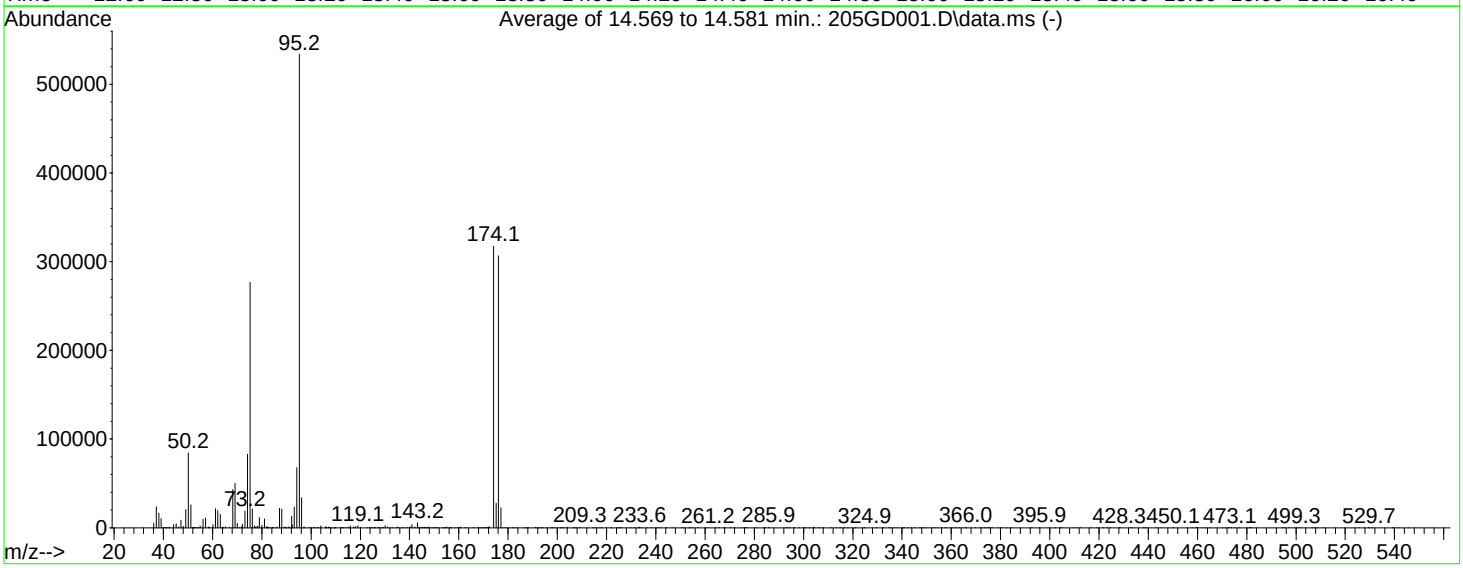
Review by/Date:

Data Path : C:\msdchem\1\data\070920\
Data File : 205GD001.D
Acq On : 9 Jul 2020 9:28 am
Operator : KKW
InstName : OVGCMS5
Sample : TUN1
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\methods\070920w.M
Title : ENCO SOP VGCMS05; Element Cal 2007048
Last Update : Fri Jul 10 08:22:01 2020





Spectrum Information: Average of 14.569 to 14.581 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
95	174	50	200	168.2	533760	PASS
96	95	5	9	6.3	33645	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	200	59.5	317355	PASS
175	174	5	9	8.8	27797	PASS
176	174	95	105	96.6	306539	PASS
177	176	5	10	7.4	22531	PASS

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\070920\
Data File : 205GD002.D
Acq On : 9 Jul 2020 10:04 am
Operator : KKW
InstName : OVGCMS5
Sample : CAL1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 09 10:31:46 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Jul 09 10:31:14 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	10.174	168	1152506	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.762	114	2189346	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.476	82	1269105	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.750	152	1114284	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.769	113	585221	51.79	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 103.58%				
52) D8-Toluene	12.060	98	2827706	55.31	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 110.62%				
73) Bromofluorobenzene	14.581	95	1120643	52.29	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 104.58%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.298	85	13966	1.80	ug/L	#	89
3) Chloromethane	4.745	50	20705	1.70	ug/L		94
4) Vinyl Chloride	4.927	62	15270	1.27	ug/L	#	84
5) Bromomethane	5.597	94	3330	0.91	ug/L	#	26
6) Chloroethane	5.832	64	9114	1.23	ug/L	#	63
7) Trichlorofluoromethane	6.085	101	11079	0.80	ug/L	#	81
8) Diethyl ether	6.555	59	6433	0.64	ug/L	#	76
9) 1,1-Dichloroethene	6.925	96	7891	0.86	ug/L	#	53
10) Trichlorotrifluoroethane	6.942	151	3647	0.57	ug/L	#	40
11) Acrolein	7.424	56	17312	11.42	ug/L		90
12) Iodomethane	7.154	142	34077	3.37	ug/L		92
13) Carbon Disulfide	7.007	76	118989	3.52	ug/L	#	90
14) 3-chloropropene	7.583	41	15478	0.81	ug/L		92
15) Acetone	7.783	43	19631	11.68	ug/L		95
16) Methylene Chloride	7.712	84	12533	1.04	ug/L		90
17) Methyl Acetate	7.900	43	18500	3.13	ug/L	#	79
18) t-1,2-Dichloroethene	7.924	96	14129	1.35	ug/L	#	53
19) Methyl tert-butyl ether	8.006	73	23787	1.04	ug/L		89
20) Acetonitrile	8.435	41	18980	11.99	ug/L	#	85
21) Isopropyl ether	8.417	45	32223	0.89	ug/L	#	60
22) Chloroprene	8.658	88	7082	0.70	ug/L		91
23) 1,1-Dichloroethane	8.699	63	22218	1.07	ug/L	#	85
24) Acrylonitrile	8.770	53	29667	10.75	ug/L	#	93
25) Vinyl Acetate	8.917	43	62686	3.50	ug/L		98
26) c-1,2-Dichloroethene	9.310	96	11833	0.96	ug/L	#	70
27) 2,2-Dichloropropane	9.428	77	15678	1.14	ug/L	#	84
28) Bromochloromethane	9.534	128	3713	0.75	ug/L	#	30
29) Cyclohexane	9.534	56	24993	1.19	ug/L	#	74
30) Chloroform	9.563	83	15734	0.79	ug/L	#	88
32) Dibromofluoromethane	9.769	113	585221	51.79	ug/L	#	90
33) 2-Butanone	9.898	72	7811m	8.33	ug/L		
34) 1,1,1-Trichloroethane	9.827	97	14569	1.01	ug/L		94
35) 1,1-Dichloropropene	9.957	75	13875	0.89	ug/L	#	69
36) Propionitrile	10.239	54	7622	7.25	ug/L	#	48
37) Methacrylonitrile	10.245	41	48363	8.71	ug/L		96
38) Isobutyl Alcohol	10.209	43	2052	3.16	ug/L	#	44
40) Carbon Tetrachloride	9.763	117	11454	1.09	ug/L	#	70
41) Benzene	10.209	78	44186	0.91	ug/L		95
42) 1,2-Dichloroethane	10.409	62	12762	1.12	ug/L	#	74
43) Trichloroethene	10.767	130	8762	0.84	ug/L	#	1
44) Methyl cyclohexane	10.767	83	38147	1.45	ug/L	#	85
45) Dibromomethane	11.202	93	5229	0.92	ug/L	#	78

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\070920\
Data File : 205GD002.D
Acq On : 9 Jul 2020 10:04 am
Operator : KKW
InstName : OVGCMS5
Sample : CAL1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 09 10:31:46 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Jul 09 10:31:14 2020
Response via : Initial Calibration

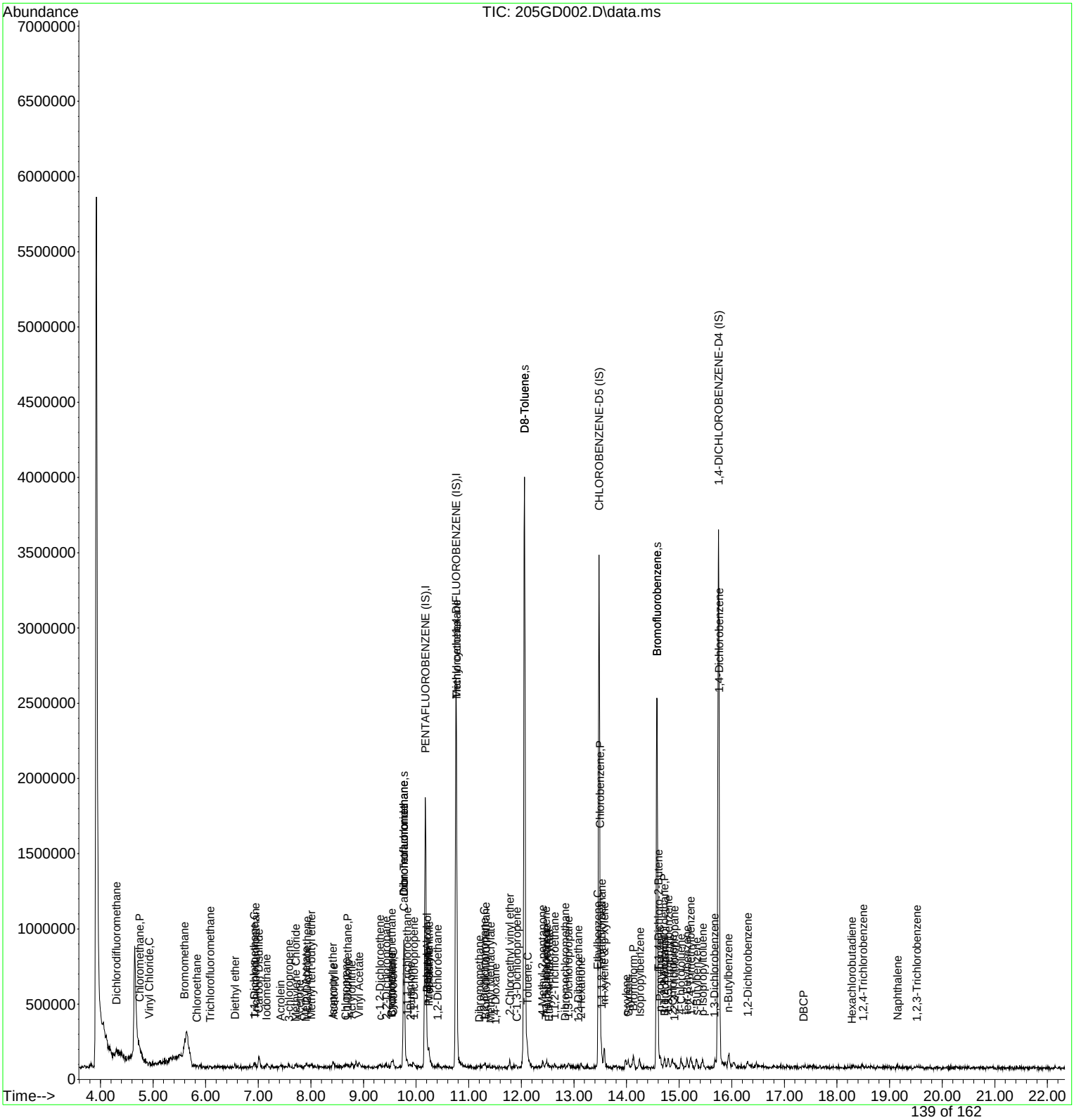
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
46) 1,2-Dichloropropane	11.296	63	11684	0.90 ug/L #	57
47) Bromodichloromethane	11.320	83	11510	0.92 ug/L #	59
48) Methyl Methacrylate	11.414	69	6782	1.34 ug/L #	14
49) 1,4-Dioxane	11.508	88	2647	27.93 ug/L #	74
50) 2-Chloroethyl vinyl ether	11.778	63	23888	5.80 ug/L #	94
51) C-1,3-Dichloropropene	11.913	75	15410	0.91 ug/L #	89
53) D8-Toluene	12.060	98	2827706	55.31 ug/L	99
54) 4-Methyl-2-pentanone	12.401	100	5522	4.93 ug/L	91
56) Toluene	12.119	92	30149	0.97 ug/L #	94
57) T-1,3-Dichloropropene	12.465	75	13360	1.03 ug/L #	94
58) Tetrachloroethene	12.483	164	8895	1.06 ug/L	97
59) Ethyl methacrylate	12.524	69	8240	0.79 ug/L #	69
60) 1,1,2-Trichloroethane	12.630	97	10302	1.20 ug/L #	73
61) Dibromochloromethane	12.830	129	3982	0.54 ug/L #	6
62) 1,3-Dichloropropane	12.894	76	15306	0.96 ug/L #	68
63) 1,2-Dibromoethane	13.082	107	8322	1.03 ug/L #	70
64) 2-Hexanone	13.135	43	19753	4.29 ug/L #	58
65) Ethylbenzene	13.453	106	13132	0.75 ug/L #	58
66) Chlorobenzene	13.494	112	26509	0.87 ug/L	97
67) 1,1,1,2-Tetrachloroethane	13.529	131	8129	0.91 ug/L	90
68) m-xylene & p-xylene	13.576	106	41870	1.98 ug/L	97
69) o-xylene	13.993	106	15783	0.74 ug/L #	69
70) Styrene	14.034	104	26643	0.77 ug/L	98
71) Bromoform	14.128	173	3622	0.93 ug/L #	56
72) Isopropylbenzene	14.252	105	44562	0.85 ug/L #	89
74) Bromofluorobenzene	14.581	95	1120643	52.29 ug/L	90
75) n-Propylbenzene	14.634	91	59865	0.87 ug/L	98
76) 1,1,2,2-Tetrachloroethane	14.716	83	9276	0.90 ug/L #	93
77) 1,2,3-Trichloropropane	14.910	61	4104	1.26 ug/L #	71
78) T-1,4-Dichloro-2-Butene	14.604	53	3181	0.98 ug/L #	1
80) Bromobenzene	14.722	156	12402	1.09 ug/L	88
81) 1,2,4-Trimethylbenzene	15.215	105	41836	0.83 ug/L #	85
82) 2-Chlorotoluene	14.874	91	33816	0.84 ug/L #	96
83) 4-Chlorotoluene	15.033	91	33386	0.80 ug/L	93
84) tert-Butylbenzene	15.151	119	30807	0.80 ug/L #	73
85) 1,3,5-Trimethylbenzene	14.792	105	37683	0.79 ug/L #	75
86) p-Isopropyltoluene	15.450	119	38029	0.80 ug/L #	90
87) s-Butylbenzene	15.333	105	50457	0.88 ug/L #	91
88) 1,3-Dichlorobenzene	15.674	146	21391	0.92 ug/L #	80
89) 1,4-Dichlorobenzene	15.762	146	25354	1.02 ug/L #	1
90) n-Butylbenzene	15.932	91	45498	0.96 ug/L	97
91) 1,2-Dichlorobenzene	16.302	146	20573	0.97 ug/L #	84
92) DBCP	17.366	157	1024	0.98 ug/L #	12
93) Hexachlorobutadiene	18.282	225	4310m	1.12 ug/L	
94) 1,2,4-Trichlorobenzene	18.494	180	6344	0.85 ug/L #	70
95) Naphthalene	19.152	128	20256	1.52 ug/L	99
96) 1,2,3-Trichlorobenzene	19.516	180	2410	0.55 ug/L #	38

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\070920\
Data File : 205GD002.D
Acq On : 9 Jul 2020 10:04 am
Operator : KKW
InstName : OVGCMS5
Sample : CAL1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 09 10:31:46 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Jul 09 10:31:14 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\070920\
Data File : 205GD003.D
Acq On : 9 Jul 2020 10:35 am
Operator : KKW
InstName : OVGCMS5
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 09 11:57:15 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Jul 09 10:31:14 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) PENTAFLUOROBENZENE (IS)	10.174	168	1119375	50.00	ug/L	0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.756	114	2185370	50.00	ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.476	82	1250270	50.00	ug/L	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.744	152	1108095	50.00	ug/L	0.00
System Monitoring Compounds						
31) Dibromofluoromethane	9.768	113	649932	59.22	ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 118.44%			
52) D8-Toluene	12.060	98	3038850	59.55	ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 119.10%			
73) Bromofluorobenzene	14.575	95	1176796	55.74	ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 111.48%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.292	85	32044	4.25	ug/L #	84
3) Chloromethane	4.733	50	38617	3.27	ug/L	98
4) Vinyl Chloride	4.927	62	29675	2.55	ug/L #	41
5) Bromomethane	5.597	94	11647	3.29	ug/L #	71
6) Chloroethane	5.820	64	21601	3.00	ug/L #	73
7) Trichlorofluoromethane	6.096	101	28114	2.08	ug/L	87
8) Diethyl ether	6.560	59	16220	1.67	ug/L #	72
9) 1,1-Dichloroethene	6.913	96	22427	2.52	ug/L #	93
10) Trichlorotrifluoroethane	6.960	151	13770	2.20	ug/L	93
11) Acrolein	7.401	56	25576	17.37	ug/L	96
12) Iodomethane	7.166	142	113097	11.53	ug/L #	91
13) Carbon Disulfide	7.013	76	296062	9.03	ug/L #	85
14) 3-chloropropene	7.571	41	31773	1.71	ug/L #	75
15) Acetone	7.782	43	29503	18.07	ug/L	96
16) Methylene Chloride	7.712	84	26320	2.25	ug/L	90
17) Methyl Acetate	7.894	43	26092	4.54	ug/L #	92
18) t-1,2-Dichloroethene	7.918	96	23431	2.30	ug/L #	82
19) Methyl tert-butyl ether	8.000	73	57946	2.60	ug/L	95
20) Acetonitrile	8.405	41	37292	24.25	ug/L #	76
21) Isopropyl ether	8.417	45	80625	2.28	ug/L #	95
22) Chloroprene	8.652	88	19967	2.02	ug/L	90
23) 1,1-Dichloroethane	8.699	63	48436	2.39	ug/L #	95
24) Acrylonitrile	8.770	53	59891	22.34	ug/L #	91
25) Vinyl Acetate	8.911	43	209572	12.04	ug/L	99
26) c-1,2-Dichloroethene	9.298	96	26327	2.19	ug/L	88
27) 2,2-Dichloropropane	9.433	77	33538	2.52	ug/L	97
28) Bromochloromethane	9.539	128	12256	2.56	ug/L	98
29) Cyclohexane	9.545	56	43530	2.13	ug/L #	93
30) Chloroform	9.569	83	43029	2.23	ug/L #	89
32) Dibromofluoromethane	9.768	113	649932	59.22	ug/L #	91
33) 2-Butanone	9.909	72	13663	15.00	ug/L	100
34) 1,1,1-Trichloroethane	9.827	97	34774	2.47	ug/L	93
35) 1,1-Dichloropropene	9.939	75	26565	1.76	ug/L #	84
36) Propionitrile	10.227	54	23200	22.73	ug/L #	30
37) Methacrylonitrile	10.238	41	131636	24.40	ug/L	94
38) Isobutyl Alcohol	10.227	43	31759	50.35	ug/L #	70
40) Carbon Tetrachloride	9.751	117	28014	2.66	ug/L #	74
41) Benzene	10.209	78	117111	2.42	ug/L	100
42) 1,2-Dichloroethane	10.415	62	32598	2.86	ug/L #	94
43) Trichloroethene	10.767	130	28206	2.70	ug/L #	1
44) Methyl cyclohexane	10.761	83	67352	2.57	ug/L #	81
45) Dibromomethane	11.208	93	11448	2.02	ug/L #	73

Data Path : C:\msdchem\1\data\070920\
Data File : 205GD003.D
Acq On : 9 Jul 2020 10:35 am
Operator : KKW
InstName : OVGCMS5
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 09 11:57:15 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Jul 09 10:31:14 2020
Response via : Initial Calibration

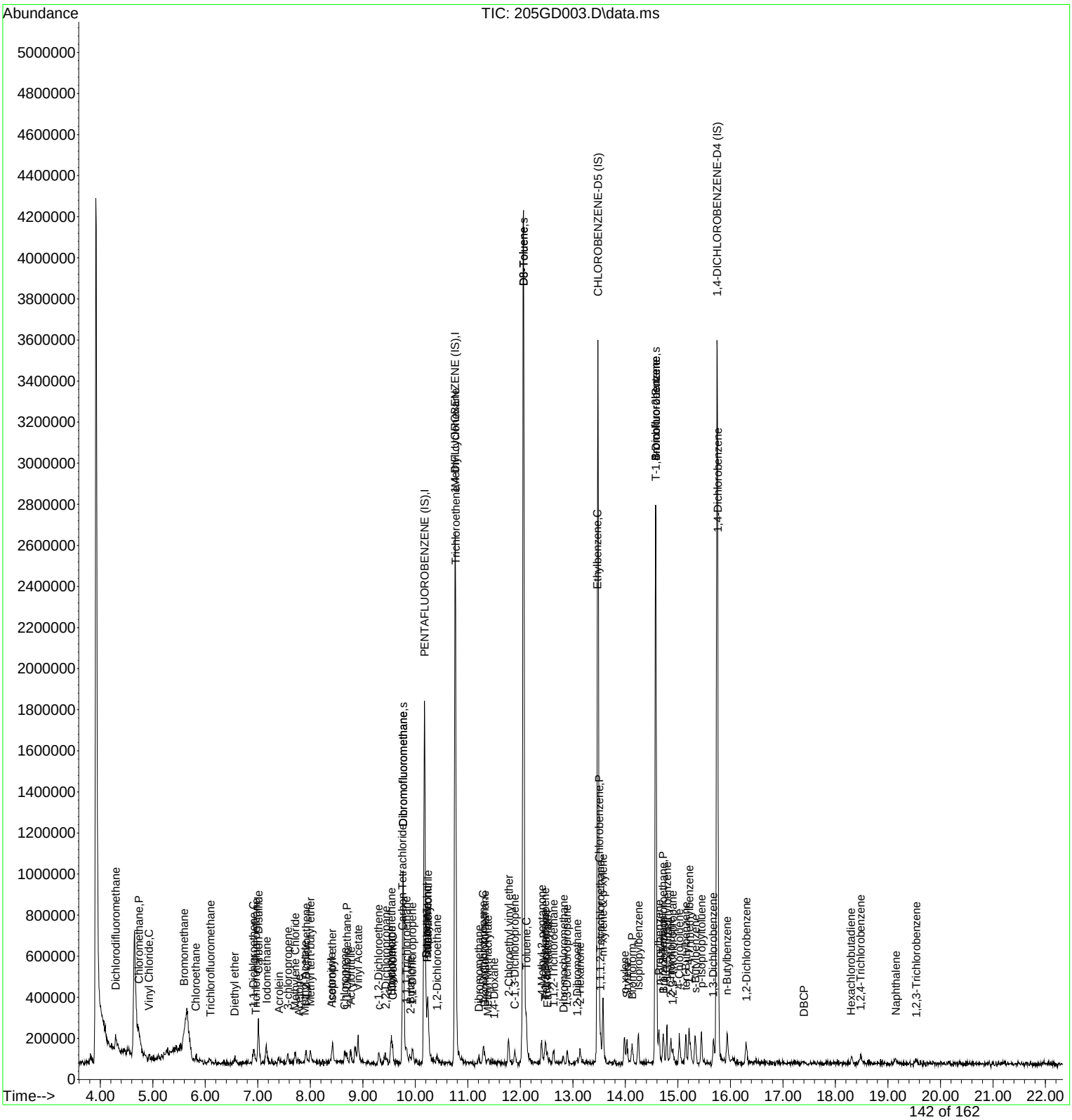
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
46) 1,2-Dichloropropane	11.290	63	30858	2.38	ug/L		96
47) Bromodichloromethane	11.320	83	27924	2.24	ug/L	#	92
48) Methyl Methacrylate	11.378	69	9602	1.91	ug/L	#	89
49) 1,4-Dioxane	11.502	88	3968	41.94	ug/L	#	81
50) 2-Chloroethyl vinyl ether	11.778	63	58405	14.21	ug/L	#	91
51) C-1,3-Dichloropropene	11.889	75	34200	2.02	ug/L	#	82
53) D8-Toluene	12.060	98	3038850	59.55	ug/L		96
54) 4-Methyl-2-pentanone	12.407	100	8493	7.60	ug/L	#	41
56) Toluene	12.113	92	70909	2.31	ug/L		98
57) T-1,3-Dichloropropene	12.471	75	29325	2.31	ug/L	#	86
58) Tetrachloroethene	12.483	164	23362	2.82	ug/L		80
59) Ethyl methacrylate	12.512	69	28644	2.78	ug/L	#	79
60) 1,1,2-Trichloroethane	12.630	97	26120	3.08	ug/L		94
61) Dibromochloromethane	12.824	129	18929	2.60	ug/L	#	95
62) 1,3-Dichloropropane	12.888	76	35348	2.25	ug/L	#	83
63) 1,2-Dibromoethane	13.076	107	16835	2.11	ug/L	#	93
64) 2-Hexanone	13.135	43	53645	11.84	ug/L		88
65) Ethylbenzene	13.464	106	33876	1.97	ug/L	#	97
66) Chlorobenzene	13.499	112	68637	2.29	ug/L	#	84
67) 1,1,1,2-Tetrachloroethane	13.523	131	23752	2.70	ug/L		88
68) m-xylene & p-xylene	13.570	106	94097	4.52	ug/L		85
69) o-xylene	13.987	106	41869	2.00	ug/L		96
70) Styrene	14.028	104	70998	2.07	ug/L		95
71) Bromoform	14.128	173	10111	2.64	ug/L		97
72) Isopropylbenzene	14.246	105	115375	2.23	ug/L		97
74) Bromofluorobenzene	14.575	95	1176796	55.74	ug/L		88
75) n-Propylbenzene	14.639	91	141873	2.10	ug/L		98
76) 1,1,2,2-Tetrachloroethane	14.716	83	29277	2.87	ug/L	#	92
77) 1,2,3-Trichloropropane	14.898	61	7818	2.44	ug/L	#	39
78) T-1,4-Dichloro-2-Butene	14.581	53	1933	0.61	ug/L	#	1
80) Bromobenzene	14.727	156	27206	2.42	ug/L		93
81) 1,2,4-Trimethylbenzene	15.215	105	120065	2.39	ug/L		91
82) 2-Chlorotoluene	14.863	91	94711	2.37	ug/L	#	89
83) 4-Chlorotoluene	15.027	91	91322	2.19	ug/L		95
84) tert-Butylbenzene	15.150	119	71769	1.87	ug/L	#	89
85) 1,3,5-Trimethylbenzene	14.792	105	101526	2.15	ug/L		92
86) p-Isopropyltoluene	15.450	119	101515	2.14	ug/L		97
87) s-Butylbenzene	15.333	105	116104	2.04	ug/L		99
88) 1,3-Dichlorobenzene	15.673	146	56156	2.44	ug/L		91
89) 1,4-Dichlorobenzene	15.761	146	59780	2.41	ug/L	#	1
90) n-Butylbenzene	15.932	91	97284	2.06	ug/L		94
91) 1,2-Dichlorobenzene	16.302	146	49223	2.33	ug/L		97
92) DBCP	17.401	157	3936	3.79	ug/L	#	52
93) Hexachlorobutadiene	18.294	225	10037	2.62	ug/L	#	74
94) 1,2,4-Trichlorobenzene	18.476	180	17639	2.38	ug/L		95
95) Naphthalene	19.152	128	32911	2.48	ug/L	#	94
96) 1,2,3-Trichlorobenzene	19.539	180	6933	1.59	ug/L	#	58

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\070920\
Data File : 205GD003.D
Acq On : 9 Jul 2020 10:35 am
Operator : KKW
InstName : OVGCMS5
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 09 11:57:15 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Jul 09 10:31:14 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\070920\
Data File : 205GD004.D
Acq On : 9 Jul 2020 11:07 am
Operator : KKW
InstName : OVGCMS5
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 09 11:59:09 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Jul 09 10:31:14 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	10.174	168	1128299	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.756	114	2162334	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.476	82	1204139	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.744	152	1046324	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.769	113	681290	61.59	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 123.18%				
52) D8-Toluene	12.060	98	3179916	62.98	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 125.96%#				
73) Bromofluorobenzene	14.575	95	1284878	63.19	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 126.38%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.298	85	76325	10.04	ug/L	#	94
3) Chloromethane	4.739	50	127098	10.68	ug/L	#	85
4) Vinyl Chloride	4.933	62	93893	8.01	ug/L	#	36
5) Bromomethane	5.591	94	16490	4.63	ug/L	#	40
6) Chloroethane	5.832	64	61269	8.43	ug/L	#	88
7) Trichlorofluoromethane	6.067	101	95697	7.03	ug/L		93
8) Diethyl ether	6.555	59	58896	6.03	ug/L		95
9) 1,1-Dichloroethene	6.913	96	49977	5.57	ug/L		89
10) Trichlorotrifluoroethane	6.936	151	33894	5.38	ug/L	#	73
11) Acrolein	7.395	56	95105	64.09	ug/L		97
12) Iodomethane	7.166	142	283303	28.65	ug/L		96
13) Carbon Disulfide	7.007	76	717448	21.70	ug/L		97
14) 3-chloropropene	7.571	41	83917	4.48	ug/L		98
15) Acetone	7.783	43	59649	36.25	ug/L	#	83
16) Methylene Chloride	7.706	84	71324	6.05	ug/L		91
17) Methyl Acetate	7.894	43	46830	8.09	ug/L	#	88
18) t-1,2-Dichloroethene	7.924	96	52226	5.08	ug/L		88
19) Methyl tert-butyl ether	8.006	73	147954	6.60	ug/L	#	90
20) Acetonitrile	8.417	41	95241	61.44	ug/L	#	95
21) Isopropyl ether	8.429	45	195522	5.50	ug/L		97
22) Chloroprene	8.646	88	45886	4.62	ug/L		91
23) 1,1-Dichloroethane	8.693	63	111559	5.47	ug/L	#	97
24) Acrylonitrile	8.758	53	200244	74.11	ug/L		95
25) Vinyl Acetate	8.905	43	589408	33.58	ug/L		100
26) c-1,2-Dichloroethene	9.298	96	70252	5.80	ug/L		95
27) 2,2-Dichloropropane	9.422	77	85354	6.36	ug/L	#	93
28) Bromochloromethane	9.539	128	26257	5.45	ug/L		89
29) Cyclohexane	9.545	56	114296	5.54	ug/L		90
30) Chloroform	9.563	83	121400	6.23	ug/L		94
32) Dibromofluoromethane	9.769	113	681290	61.59	ug/L	#	88
33) 2-Butanone	9.886	72	25197	27.44	ug/L	#	43
34) 1,1,1-Trichloroethane	9.833	97	83072	5.86	ug/L		96
35) 1,1-Dichloropropene	9.939	75	92751	6.09	ug/L		98
36) Propionitrile	10.227	54	61235	59.51	ug/L	#	73
37) Methacrylonitrile	10.239	41	359700	66.15	ug/L		97
38) Isobutyl Alcohol	10.233	43	75039	118.03	ug/L	#	46
40) Carbon Tetrachloride	9.763	117	60439	5.81	ug/L	#	87
41) Benzene	10.203	78	273446	5.70	ug/L		98
42) 1,2-Dichloroethane	10.415	62	75833	6.73	ug/L		98
43) Trichloroethene	10.762	130	60599	5.85	ug/L	#	33
44) Methyl cyclohexane	10.762	83	138628	5.35	ug/L		91
45) Dibromomethane	11.214	93	30880	5.50	ug/L		97

Data Path : C:\msdchem\1\data\070920\
Data File : 205GD004.D
Acq On : 9 Jul 2020 11:07 am
Operator : KKW
InstName : OVGCMS5
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 09 11:59:09 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Jul 09 10:31:14 2020
Response via : Initial Calibration

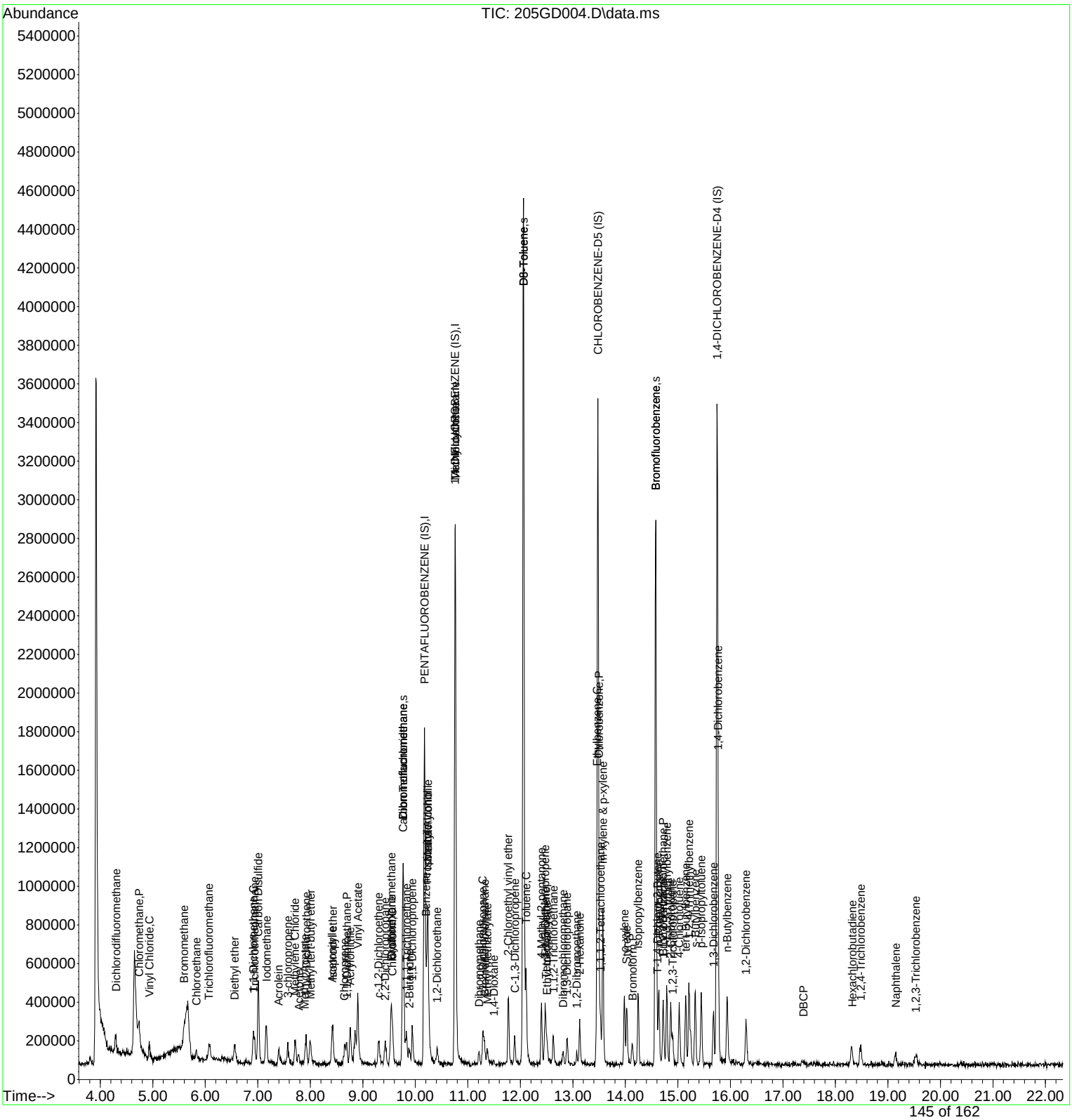
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
46) 1,2-Dichloropropane	11.284	63	62563	4.87 ug/L #	86
47) Bromodichloromethane	11.320	83	67039	5.44 ug/L #	91
48) Methyl Methacrylate	11.367	69	31907	6.41 ug/L	83
49) 1,4-Dioxane	11.496	88	8354	89.24 ug/L #	34
50) 2-Chloroethyl vinyl ether	11.766	63	169157	41.60 ug/L #	96
51) C-1,3-Dichloropropene	11.895	75	91802	5.47 ug/L	91
53) D8-Toluene	12.060	98	3178480	62.95 ug/L	97
54) 4-Methyl-2-pentanone	12.401	100	37243	33.66 ug/L #	89
56) Toluene	12.107	92	172874	5.84 ug/L	97
57) T-1,3-Dichloropropene	12.471	75	77304	6.31 ug/L	99
58) Tetrachloroethene	12.489	164	47407	5.95 ug/L	95
59) Ethyl methacrylate	12.507	69	63691	6.42 ug/L	98
60) 1,1,2-Trichloroethane	12.630	97	49963	6.12 ug/L	94
61) Dibromochloromethane	12.812	129	46427	6.61 ug/L #	78
62) 1,3-Dichloropropane	12.888	76	90400	5.98 ug/L #	94
63) 1,2-Dibromoethane	13.071	107	44216	5.74 ug/L #	94
64) 2-Hexanone	13.129	43	167479	38.38 ug/L	98
65) Ethylbenzene	13.458	106	88314	5.34 ug/L #	96
66) Chlorobenzene	13.494	112	167312	5.79 ug/L	98
67) 1,1,1,2-Tetrachloroethane	13.529	131	42587	5.03 ug/L #	83
68) m-xylene & p-xylene	13.570	106	232061	11.57 ug/L	95
69) o-xylene	13.981	106	110509	5.48 ug/L	97
70) Styrene	14.022	104	170231	5.15 ug/L	100
71) Bromoform	14.134	173	19426	5.27 ug/L #	71
72) Isopropylbenzene	14.240	105	280637	5.63 ug/L	97
74) Bromofluorobenzene	14.575	95	1284878	63.19 ug/L	86
75) n-Propylbenzene	14.639	91	357301	5.49 ug/L	98
76) 1,1,2,2-Tetrachloroethane	14.716	83	69585	7.08 ug/L #	85
77) 1,2,3-Trichloropropane	14.898	61	11582	3.76 ug/L #	54
78) T-1,4-Dichloro-2-Butene	14.610	53	19518	6.35 ug/L #	1
80) Bromobenzene	14.722	156	63065	5.93 ug/L	94
81) 1,2,4-Trimethylbenzene	15.209	105	279472	5.89 ug/L #	93
82) 2-Chlorotoluene	14.863	91	215267	5.70 ug/L	96
83) 4-Chlorotoluene	15.027	91	214663	5.46 ug/L	93
84) tert-Butylbenzene	15.151	119	182446	5.04 ug/L #	88
85) 1,3,5-Trimethylbenzene	14.786	105	252732	5.66 ug/L	98
86) p-Isopropyltoluene	15.444	119	271228	6.06 ug/L	96
87) s-Butylbenzene	15.333	105	317482	5.92 ug/L	98
88) 1,3-Dichlorobenzene	15.679	146	137452	6.33 ug/L	98
89) 1,4-Dichlorobenzene	15.767	146	133825	5.71 ug/L #	22
90) n-Butylbenzene	15.938	91	270497	6.07 ug/L	99
91) 1,2-Dichlorobenzene	16.296	146	114844	5.75 ug/L	94
92) DBCP	17.389	157	7023	7.15 ug/L #	78
93) Hexachlorobutadiene	18.323	225	26831	7.42 ug/L #	81
94) 1,2,4-Trichlorobenzene	18.482	180	39270	5.62 ug/L #	84
95) Naphthalene	19.152	128	83480	6.65 ug/L #	87
96) 1,2,3-Trichlorobenzene	19.528	180	21548	5.23 ug/L #	86

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\070920\
Data File : 205GD004.D
Acq On : 9 Jul 2020 11:07 am
Operator : KKW
InstName : OVGCMS5
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 09 11:59:09 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Jul 09 10:31:14 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\070920\
Data File : 205GD005.D
Acq On : 9 Jul 2020 11:38 am
Operator : KKW
InstName : OVGCMS5
Sample : CAL4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 09 12:46:40 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Jul 09 10:31:14 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	10.174	168	1131162	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.755	114	2172641	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.476	82	1231826	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.750	152	1035372	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.768	113	721022	65.02	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 130.04%				
52) D8-Toluene	12.060	98	3340886	65.86	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 131.72%#				
73) Bromofluorobenzene	14.575	95	1379279	66.31	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 132.62%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.292	85	322194	42.28	ug/L		98
3) Chloromethane	4.739	50	330140	27.67	ug/L		99
4) Vinyl Chloride	4.933	62	323480	27.51	ug/L	#	82
5) Bromomethane	5.603	94	73812	20.66	ug/L	#	83
6) Chloroethane	5.820	64	203136	27.87	ug/L		99
7) Trichlorofluoromethane	6.084	101	361000	26.45	ug/L		98
8) Diethyl ether	6.554	59	188225	19.22	ug/L		95
9) 1,1-Dichloroethene	6.919	96	166601	18.52	ug/L		86
10) Trichlorotrifluoroethane	6.930	151	125173	19.83	ug/L		90
11) Acrolein	7.389	56	328783	220.99	ug/L		91
12) Iodomethane	7.160	142	1173210	118.36	ug/L		97
13) Carbon Disulfide	7.007	76	3025102	91.26	ug/L		99
14) 3-chloropropene	7.571	41	311196	16.59	ug/L		93
15) Acetone	7.765	43	200575	121.59	ug/L		89
16) Methylene Chloride	7.712	84	190310	16.09	ug/L		97
17) Methyl Acetate	7.888	43	123675	21.31	ug/L		99
18) t-1,2-Dichloroethene	7.918	96	189065	18.36	ug/L		97
19) Methyl tert-butyl ether	7.994	73	461150	20.51	ug/L		99
20) Acetonitrile	8.411	41	295734	190.30	ug/L	#	60
21) Isopropyl ether	8.423	45	678161	19.01	ug/L		99
22) Chloroprene	8.658	88	195038	19.57	ug/L		99
23) 1,1-Dichloroethane	8.693	63	355221	17.36	ug/L		93
24) Acrylonitrile	8.758	53	635310	234.53	ug/L		97
25) Vinyl Acetate	8.899	43	2051998	116.61	ug/L		98
26) c-1,2-Dichloroethene	9.298	96	220574	18.16	ug/L		96
27) 2,2-Dichloropropane	9.428	77	279421	20.76	ug/L	#	94
28) Bromochloromethane	9.539	128	83018	17.19	ug/L		99
29) Cyclohexane	9.545	56	424143	20.50	ug/L		95
30) Chloroform	9.563	83	355833	18.22	ug/L		99
32) Dibromofluoromethane	9.768	113	721022	65.02	ug/L	#	87
33) 2-Butanone	9.886	72	86153	93.57	ug/L		77
34) 1,1,1-Trichloroethane	9.833	97	307573	21.64	ug/L		92
35) 1,1-Dichloropropene	9.945	75	295543	19.35	ug/L		95
36) Propionitrile	10.221	54	227300	220.35	ug/L		96
37) Methacrylonitrile	10.238	41	1120878	205.61	ug/L		94
38) Isobutyl Alcohol	10.233	43	281095	441.03	ug/L		91
40) Carbon Tetrachloride	9.757	117	228778	21.88	ug/L		95
41) Benzene	10.209	78	899268	18.67	ug/L		98
42) 1,2-Dichloroethane	10.415	62	224159	19.81	ug/L		97
43) Trichloroethene	10.767	130	183579	17.65	ug/L	#	76
44) Methyl cyclohexane	10.767	83	429905	16.50	ug/L		97
45) Dibromomethane	11.214	93	100970	17.89	ug/L		95

Data Path : C:\msdchem\1\data\070920\
Data File : 205GD005.D
Acq On : 9 Jul 2020 11:38 am
Operator : KKW
InstName : OVGCMS5
Sample : CAL4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 09 12:46:40 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Jul 09 10:31:14 2020
Response via : Initial Calibration

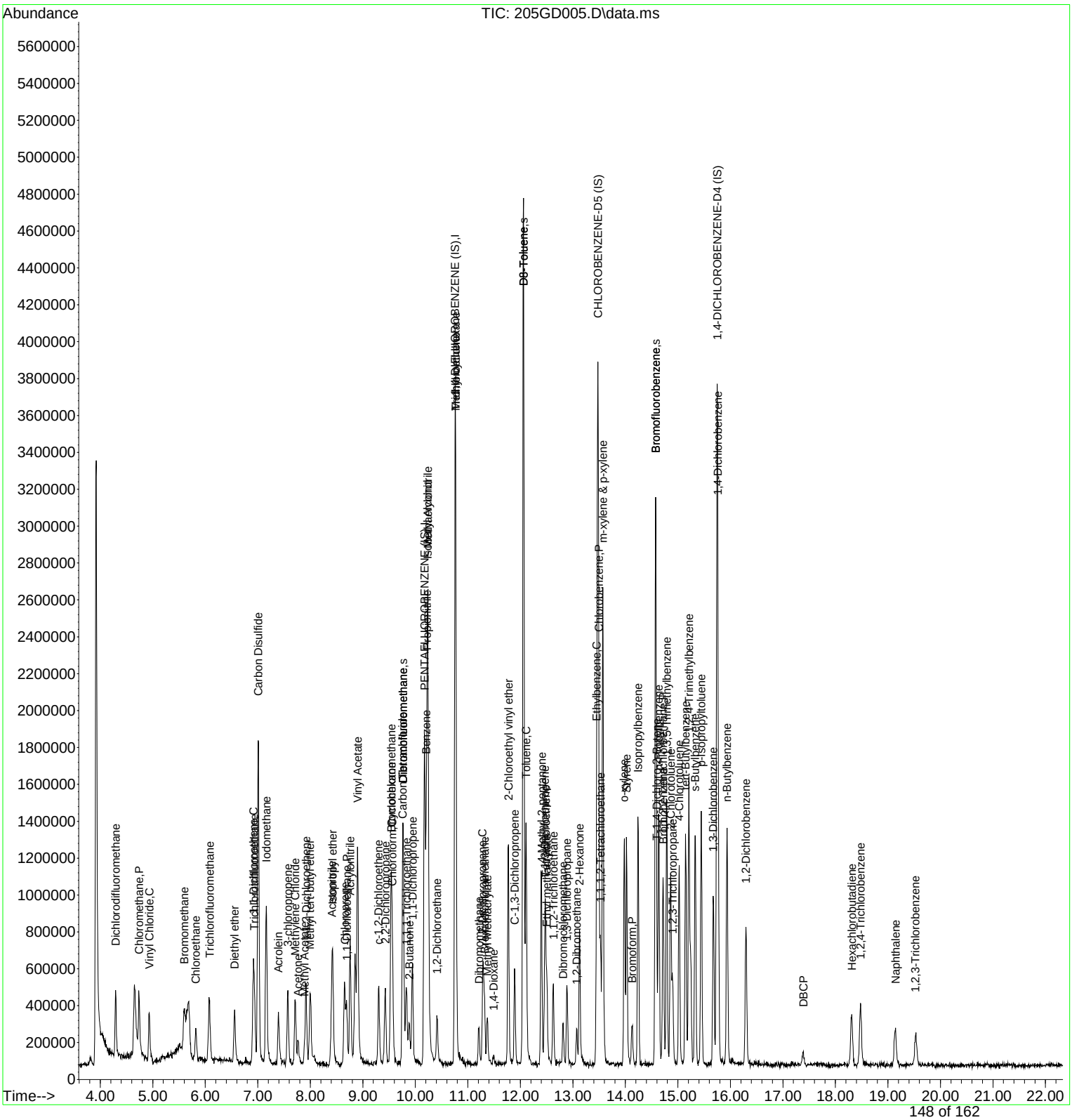
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
46) 1,2-Dichloropropane	11.278	63	228585	17.72	ug/L		95
47) Bromodichloromethane	11.320	83	219014	17.69	ug/L		94
48) Methyl Methacrylate	11.367	69	112157	22.41	ug/L		99
49) 1,4-Dioxane	11.490	88	30672m	326.10	ug/L		
50) 2-Chloroethyl vinyl ether	11.772	63	598643	146.52	ug/L	#	97
51) C-1,3-Dichloropropene	11.889	75	317453	18.83	ug/L		96
53) D8-Toluene	12.060	98	3340886	65.86	ug/L		98
54) 4-Methyl-2-pentanone	12.407	100	114509	103.01	ug/L		90
56) Toluene	12.107	92	558058	18.42	ug/L		98
57) T-1,3-Dichloropropene	12.465	75	269003	21.47	ug/L		97
58) Tetrachloroethene	12.483	164	142244	17.45	ug/L		98
59) Ethyl methacrylate	12.501	69	222515	21.92	ug/L	#	92
60) 1,1,2-Trichloroethane	12.630	97	161308	19.32	ug/L		95
61) Dibromochloromethane	12.812	129	138807	19.32	ug/L		95
62) 1,3-Dichloropropane	12.888	76	287883	18.61	ug/L		96
63) 1,2-Dibromoethane	13.070	107	151640	19.25	ug/L		97
64) 2-Hexanone	13.123	43	533068	119.41	ug/L		98
65) Ethylbenzene	13.452	106	310584	18.35	ug/L		97
66) Chlorobenzene	13.494	112	537329	18.17	ug/L		99
67) 1,1,1,2-Tetrachloroethane	13.529	131	153219	17.68	ug/L		91
68) m-xylene & p-xylene	13.570	106	787978	38.42	ug/L		97
69) o-xylene	13.975	106	374616	18.16	ug/L		96
70) Styrene	14.022	104	635968	18.82	ug/L		97
71) Bromoform	14.128	173	75772	20.10	ug/L		95
72) Isopropylbenzene	14.240	105	1014093	19.88	ug/L		99
74) Bromofluorobenzene	14.575	95	1379279	66.31	ug/L		85
75) n-Propylbenzene	14.633	91	1283994	19.29	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.716	83	219958	21.88	ug/L	#	94
77) 1,2,3-Trichloropropane	14.898	61	61320	19.45	ug/L	#	85
78) T-1,4-Dichloro-2-Butene	14.598	53	66311	21.09	ug/L	#	27
80) Bromobenzene	14.722	156	200991	19.09	ug/L		94
81) 1,2,4-Trimethylbenzene	15.209	105	994710	21.20	ug/L		97
82) 2-Chlorotoluene	14.863	91	747067	20.01	ug/L		97
83) 4-Chlorotoluene	15.027	91	793404	20.38	ug/L		100
84) tert-Butylbenzene	15.145	119	716358	19.99	ug/L		96
85) 1,3,5-Trimethylbenzene	14.786	105	897033	20.29	ug/L		99
86) p-Isopropyltoluene	15.444	119	944286	21.33	ug/L		96
87) s-Butylbenzene	15.327	105	1124745	21.20	ug/L		98
88) 1,3-Dichlorobenzene	15.673	146	424186	19.73	ug/L		93
89) 1,4-Dichlorobenzene	15.761	146	435867	18.79	ug/L	#	77
90) n-Butylbenzene	15.932	91	926482	21.00	ug/L		98
91) 1,2-Dichlorobenzene	16.296	146	368537	18.66	ug/L		94
92) DBCP	17.389	157	26678	27.46	ug/L		93
93) Hexachlorobutadiene	18.311	225	70760	19.77	ug/L	#	87
94) 1,2,4-Trichlorobenzene	18.476	180	148913	21.52	ug/L	#	90
95) Naphthalene	19.146	128	265485	21.38	ug/L		97
96) 1,2,3-Trichlorobenzene	19.522	180	77638	19.05	ug/L	#	87

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\070920\
Data File : 205GD005.D
Acq On : 9 Jul 2020 11:38 am
Operator : KKW
InstName : OVGCMS5
Sample : CAL4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 09 12:46:40 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Jul 09 10:31:14 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\070920\
Data File : 205GD006.D
Acq On : 9 Jul 2020 12:09 pm
Operator : KKW
InstName : OVGCMS5
Sample : CAL5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 09 12:49:02 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Jul 09 10:31:14 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	10.174	168	1127360	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.756	114	2203623	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.476	82	1269834	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.744	152	1125795	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.769	113	597228	54.04	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 108.08%				
52) D8-Toluene	12.060	98	2797144	54.36	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 108.72%				
73) Bromofluorobenzene	14.575	95	1130473	52.72	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 105.44%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.293	85	832383	109.60	ug/L		98
3) Chloromethane	4.739	50	925874	77.86	ug/L		99
4) Vinyl Chloride	4.933	62	951134	81.16	ug/L		99
5) Bromomethane	5.591	94	199295	55.98	ug/L	#	90
6) Chloroethane	5.808	64	421600	58.05	ug/L		97
7) Trichlorofluoromethane	6.067	101	725149	53.31	ug/L		99
8) Diethyl ether	6.555	59	412588	42.28	ug/L		96
9) 1,1-Dichloroethene	6.907	96	460132	51.32	ug/L		93
10) Trichlorotrifluoroethane	6.931	151	320398	50.93	ug/L		97
11) Acrolein	7.389	56	915047	617.12	ug/L		97
12) Iodomethane	7.160	142	3063109	310.08	ug/L		96
13) Carbon Disulfide	7.007	76	7561508	228.89	ug/L		99
14) 3-chloropropene	7.565	41	840224	44.93	ug/L		96
15) Acetone	7.765	43	531715	323.41	ug/L		97
16) Methylene Chloride	7.712	84	558333	47.36	ug/L		98
17) Methyl Acetate	7.883	43	361955	62.58	ug/L		95
18) t-1,2-Dichloroethene	7.912	96	529533	51.59	ug/L		92
19) Methyl tert-butyl ether	8.006	73	1337865	59.71	ug/L		96
20) Acetonitrile	8.400	41	841584	543.38	ug/L		99
21) Isopropyl ether	8.417	45	1784925	50.21	ug/L		99
22) Chloroprene	8.646	88	509395	51.28	ug/L		97
23) 1,1-Dichloroethane	8.693	63	1028486	50.43	ug/L		100
24) Acrylonitrile	8.752	53	1694802	627.76	ug/L		100
25) Vinyl Acetate	8.899	43	5258827	299.86	ug/L		99
26) c-1,2-Dichloroethene	9.299	96	594037	49.06	ug/L		96
27) 2,2-Dichloropropane	9.428	77	762200	56.82	ug/L		97
28) Bromochloromethane	9.528	128	235989	49.03	ug/L		92
29) Cyclohexane	9.545	56	1080417	52.40	ug/L		99
30) Chloroform	9.563	83	989166	50.83	ug/L		99
32) Dibromofluoromethane	9.769	113	597228	54.04	ug/L	#	88
33) 2-Butanone	9.880	72	299421	326.30	ug/L		98
34) 1,1,1-Trichloroethane	9.827	97	768471	54.24	ug/L		98
35) 1,1-Dichloropropene	9.939	75	758224	49.80	ug/L		96
36) Propionitrile	10.221	54	617856	600.98	ug/L		99
37) Methacrylonitrile	10.239	41	3154521	580.61	ug/L		97
38) Isobutyl Alcohol	10.227	43	782677	1232.13	ug/L		98
40) Carbon Tetrachloride	9.757	117	620515	58.51	ug/L		94
41) Benzene	10.209	78	2330833	47.70	ug/L		98
42) 1,2-Dichloroethane	10.409	62	637762	55.56	ug/L		99
43) Trichloroethene	10.767	130	518780	49.18	ug/L	#	92
44) Methyl cyclohexane	10.767	83	1085913	41.09	ug/L		98
45) Dibromomethane	11.208	93	304233	53.14	ug/L		91

Data Path : C:\msdchem\1\data\070920\
Data File : 205GD006.D
Acq On : 9 Jul 2020 12:09 pm
Operator : KKW
InstName : OVGCMS5
Sample : CAL5
Misc :
ALS Vial : 6 Sample Multiplier: 1

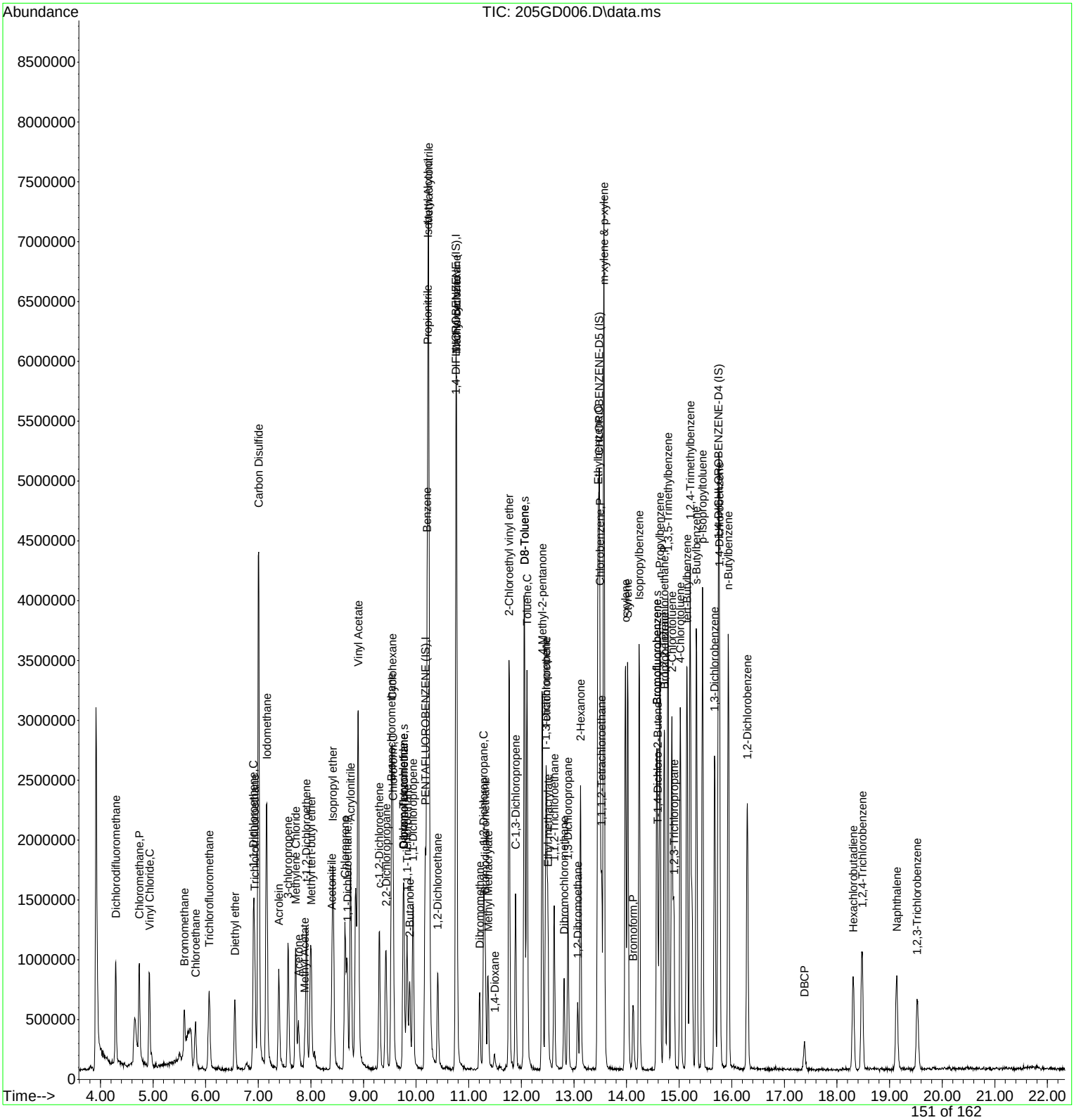
Quant Time: Jul 09 12:49:02 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Jul 09 10:31:14 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
46) 1,2-Dichloropropane	11.285	63	595199	45.48	ug/L		94
47) Bromodichloromethane	11.314	83	656417	52.27	ug/L		96
48) Methyl Methacrylate	11.367	69	352219	69.39	ug/L		92
49) 1,4-Dioxane	11.496	88	103547	1085.43	ug/L		99
50) 2-Chloroethyl vinyl ether	11.766	63	1593459	384.53	ug/L		97
51) C-1,3-Dichloropropene	11.890	75	903672	52.85	ug/L		94
53) D8-Toluene	12.060	98	2797144	54.36	ug/L		97
54) 4-Methyl-2-pentanone	12.401	100	348115	308.77	ug/L		88
56) Toluene	12.107	92	1497045	47.95	ug/L		99
57) T-1,3-Dichloropropene	12.466	75	768686	59.51	ug/L		97
58) Tetrachloroethene	12.477	164	403799	48.05	ug/L		98
59) Ethyl methacrylate	12.507	69	664229	63.48	ug/L		98
60) 1,1,2-Trichloroethane	12.624	97	468531	54.42	ug/L		99
61) Dibromochloromethane	12.812	129	420886	56.82	ug/L		99
62) 1,3-Dichloropropane	12.889	76	820244	51.43	ug/L		94
63) 1,2-Dibromoethane	13.071	107	424043	52.22	ug/L	#	89
64) 2-Hexanone	13.124	43	1559863	338.95	ug/L		98
65) Ethylbenzene	13.458	106	836773	47.95	ug/L		99
66) Chlorobenzene	13.494	112	1442382	47.31	ug/L		96
67) 1,1,1,2-Tetrachloroethane	13.523	131	453734	50.80	ug/L		97
68) m-xylene & p-xylene	13.570	106	2049517	96.94	ug/L		89
69) o-xylene	13.981	106	1025075	48.20	ug/L		95
70) Styrene	14.023	104	1833982	52.66	ug/L		96
71) Bromoform	14.122	173	232076	59.71	ug/L		95
72) Isopropylbenzene	14.240	105	2662754	50.65	ug/L		98
74) Bromofluorobenzene	14.575	95	1130473	52.72	ug/L		84
75) n-Propylbenzene	14.634	91	3382928	49.31	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.716	83	627891	60.59	ug/L		99
77) 1,2,3-Trichloropropane	14.904	61	184244	56.70	ug/L		94
78) T-1,4-Dichloro-2-Butene	14.592	53	179460	55.37	ug/L		97
80) Bromobenzene	14.722	156	576893	50.40	ug/L		97
81) 1,2,4-Trimethylbenzene	15.209	105	2762218	54.14	ug/L		95
82) 2-Chlorotoluene	14.863	91	2060730	50.76	ug/L		98
83) 4-Chlorotoluene	15.021	91	2204119	52.08	ug/L		99
84) tert-Butylbenzene	15.151	119	2024102	51.93	ug/L		97
85) 1,3,5-Trimethylbenzene	14.786	105	2487150	51.74	ug/L		100
86) p-Isopropyltoluene	15.444	119	2680592	55.69	ug/L		98
87) s-Butylbenzene	15.327	105	3096483	53.68	ug/L		99
88) 1,3-Dichlorobenzene	15.674	146	1242574	53.14	ug/L		94
89) 1,4-Dichlorobenzene	15.768	146	1245443	49.37	ug/L		94
90) n-Butylbenzene	15.932	91	2658779	55.43	ug/L		98
91) 1,2-Dichlorobenzene	16.296	146	1145244	53.32	ug/L		97
92) DBCP	17.383	157	74420	70.44	ug/L		87
93) Hexachlorobutadiene	18.306	225	213670	54.90	ug/L		91
94) 1,2,4-Trichlorobenzene	18.482	180	472510	62.80	ug/L		94
95) Naphthalene	19.134	128	1045109	77.40	ug/L		99
96) 1,2,3-Trichlorobenzene	19.522	180	295667	66.72	ug/L		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\070920\
Data File : 205GD006.D
Acq On : 9 Jul 2020 12:09 pm
Operator : KKW
InstName : OVGCMS5
Sample : CAL5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 09 12:49:02 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Jul 09 10:31:14 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\070920\
Data File : 205GD007.D
Acq On : 9 Jul 2020 12:41 pm
Operator : KKW
InstName : OVGCMS5
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 09 13:06:43 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Jul 09 10:31:14 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	10.174	168	1200475	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.756	114	2343000	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.476	82	1754508	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.750	152	1413715	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.768	113	802374	68.18	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 136.36%#				
52) D8-Toluene	12.060	98	4032778	73.71	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 147.42%#				
73) Bromofluorobenzene	14.575	95	1956157	66.03	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 132.06%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.292	85	1397240	172.77	ug/L		100
3) Chloromethane	4.739	50	1403654	110.86	ug/L		97
4) Vinyl Chloride	4.927	62	1481371	118.71	ug/L		99
5) Bromomethane	5.597	94	377403	99.55	ug/L	#	91
6) Chloroethane	5.797	64	675036	87.28	ug/L		97
7) Trichlorofluoromethane	6.061	101	1416358	97.78	ug/L		99
8) Diethyl ether	6.554	59	720698	69.35	ug/L		97
9) 1,1-Dichloroethene	6.913	96	801368	83.93	ug/L		94
10) Trichlorotrifluoroethane	6.931	151	561834	83.86	ug/L		94
11) Acrolein	7.389	56	1530995	969.64	ug/L		98
12) Iodomethane	7.160	142	4924048	468.10	ug/L		95
13) Carbon Disulfide	7.001	76	12145489	345.26	ug/L		99
14) 3-chloropropene	7.565	41	1460983	73.37	ug/L		98
15) Acetone	7.765	43	854150	487.89	ug/L		97
16) Methylene Chloride	7.706	84	887265	70.68	ug/L		96
17) Methyl Acetate	7.882	43	550854	89.43	ug/L		99
18) t-1,2-Dichloroethene	7.918	96	888659	81.30	ug/L		99
19) Methyl tert-butyl ether	7.994	73	2170884	90.99	ug/L		97
20) Acetonitrile	8.399	41	1403414	850.94	ug/L		98
21) Isopropyl ether	8.423	45	3043940	80.41	ug/L		100
22) Chloroprene	8.646	88	864327	81.71	ug/L		96
23) 1,1-Dichloroethane	8.687	63	1790914	82.46	ug/L		97
24) Acrylonitrile	8.758	53	2889168	1004.98	ug/L		98
25) Vinyl Acetate	8.899	43	8936238	478.51	ug/L		100
26) c-1,2-Dichloroethene	9.304	96	1048572	81.33	ug/L		96
27) 2,2-Dichloropropane	9.422	77	1367816	95.76	ug/L		95
28) Bromochloromethane	9.533	128	395572	77.18	ug/L		94
29) Cyclohexane	9.545	56	2008538	91.48	ug/L		99
30) Chloroform	9.563	83	1739766	83.95	ug/L		99
32) Dibromofluoromethane	9.768	113	802374	68.18	ug/L	#	90
33) 2-Butanone	9.880	72	501983	513.72	ug/L		99
34) 1,1,1-Trichloroethane	9.827	97	1380627	91.51	ug/L		96
35) 1,1-Dichloropropene	9.945	75	1434439	88.48	ug/L		95
36) Propionitrile	10.227	54	1099374	1004.22	ug/L		95
37) Methacrylonitrile	10.238	41	5194748	897.89	ug/L		96
38) Isobutyl Alcohol	10.227	43	1418974	2097.78	ug/L		90
40) Carbon Tetrachloride	9.757	117	1117939m	99.14	ug/L		
41) Benzene	10.203	78	4101937	78.95	ug/L		98
42) 1,2-Dichloroethane	10.415	62	1107872	90.78	ug/L		99
43) Trichloroethene	10.761	130	931660	83.07	ug/L		96
44) Methyl cyclohexane	10.767	83	1950215	69.41	ug/L		95
45) Dibromomethane	11.208	93	532739	87.52	ug/L		94

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\070920\
Data File : 205GD007.D
Acq On : 9 Jul 2020 12:41 pm
Operator : KKW
InstName : OVGCMS5
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 09 13:06:43 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Jul 09 10:31:14 2020
Response via : Initial Calibration

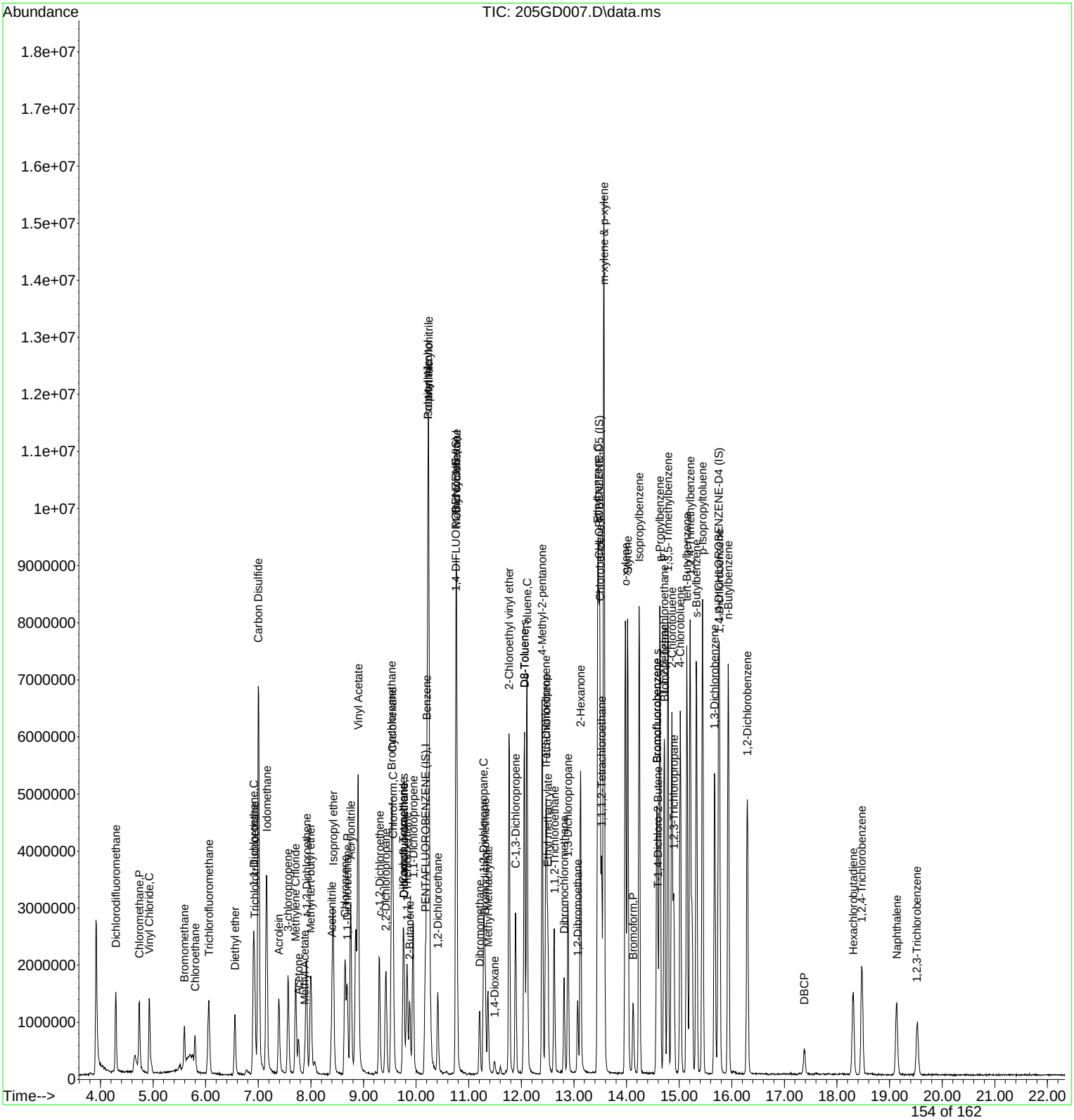
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
46) 1,2-Dichloropropane	11.284	63	1129346	81.17 ug/L	96
47) Bromodichloromethane	11.314	83	1220926	91.44 ug/L	99
48) Methyl Methacrylate	11.367	69	609113	112.86 ug/L	97
49) 1,4-Dioxane	11.490	88	192085	1893.76 ug/L	91
50) 2-Chloroethyl vinyl ether	11.766	63	2754863	625.25 ug/L #	98
51) C-1,3-Dichloropropene	11.889	75	1748294	96.16 ug/L	97
53) D8-Toluene	12.060	98	4032778	73.71 ug/L	97
54) 4-Methyl-2-pentanone	12.395	100	698823	582.97 ug/L	83
56) Toluene	12.107	92	3020969	70.03 ug/L	99
57) T-1,3-Dichloropropene	12.465	75	1504673	84.30 ug/L	98
58) Tetrachloroethene	12.477	164	753520	64.90 ug/L	96
59) Ethyl methacrylate	12.501	69	1265663	87.55 ug/L	99
60) 1,1,2-Trichloroethane	12.630	97	894428	75.19 ug/L	98
61) Dibromochloromethane	12.812	129	920747	89.96 ug/L	96
62) 1,3-Dichloropropane	12.888	76	1955546	88.73 ug/L	99
63) 1,2-Dibromoethane	13.070	107	994373	88.63 ug/L	94
64) 2-Hexanone	13.123	43	3556559	559.33 ug/L	99
65) Ethylbenzene	13.452	106	1980905	82.15 ug/L	98
66) Chlorobenzene	13.494	112	3320419	78.83 ug/L	99
67) 1,1,1,2-Tetrachloroethane	13.529	131	1016656	82.39 ug/L	98
68) m-xylene & p-xylene	13.570	106	4659346	159.50 ug/L	99
69) o-xylene	13.981	106	2367109	80.56 ug/L	96
70) Styrene	14.022	104	4186040	86.98 ug/L	96
71) Bromoform	14.122	173	549586	102.34 ug/L	95
72) Isopropylbenzene	14.240	105	6126260	84.34 ug/L	99
74) Bromofluorobenzene	14.575	95	1956157	66.03 ug/L	87
75) n-Propylbenzene	14.633	91	7616469	80.36 ug/L	98
76) 1,1,2,2-Tetrachloroethane	14.716	83	1301700	90.91 ug/L	98
77) 1,2,3-Trichloropropane	14.898	61	390155m	86.90 ug/L	
78) T-1,4-Dichloro-2-Butene	14.598	53	397563	88.78 ug/L	93
80) Bromobenzene	14.722	156	1163524	80.96 ug/L	95
81) 1,2,4-Trimethylbenzene	15.209	105	5348681	83.49 ug/L	95
82) 2-Chlorotoluene	14.863	91	4349176	85.31 ug/L	99
83) 4-Chlorotoluene	15.021	91	4642533	87.36 ug/L	99
84) tert-Butylbenzene	15.145	119	4011168	81.96 ug/L	96
85) 1,3,5-Trimethylbenzene	14.786	105	5206262	86.24 ug/L	99
86) p-Isopropyltoluene	15.444	119	5775270	95.55 ug/L	97
87) s-Butylbenzene	15.327	105	6191744	85.47 ug/L	99
88) 1,3-Dichlorobenzene	15.673	146	2439480	83.08 ug/L	95
89) 1,4-Dichlorobenzene	15.767	146	2611570	82.44 ug/L	96
90) n-Butylbenzene	15.932	91	5339747	88.65 ug/L	99
91) 1,2-Dichlorobenzene	16.296	146	2376196	88.10 ug/L	96
92) DBCP	17.377	157	156119	117.68 ug/L	99
93) Hexachlorobutadiene	18.306	225	384062	78.58 ug/L	96
94) 1,2,4-Trichlorobenzene	18.470	180	888420	94.04 ug/L	97
95) Naphthalene	19.134	128	1663737	98.13 ug/L	99
96) 1,2,3-Trichlorobenzene	19.516	180	467597	84.03 ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\070920\
Data File : 205GD007.D
Acq On : 9 Jul 2020 12:41 pm
Operator : KKW
InstName : OVGCMS5
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 09 13:06:43 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Jul 09 10:31:14 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\070920\
Data File : 205GD008.D
Acq On : 9 Jul 2020 1:12 pm
Operator : KKW
InstName : OVGCMS5
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 09 13:35:45 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Jul 09 13:11:13 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	10.174	168	1208809	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.755	114	2246408	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.476	82	1548841	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.744	152	1557541	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.762	113	814105	68.70	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 137.40%#				
52) D8-Toluene	12.060	98	4173036	79.56	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 159.12%#				
73) Bromofluorobenzene	14.575	95	2297374	87.84	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 175.68%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.292	85	1821221	223.65	ug/L		99
3) Chloromethane	4.739	50	1917563	150.40	ug/L		98
4) Vinyl Chloride	4.927	62	2051071	163.22	ug/L		99
5) Bromomethane	5.591	94	518049	135.71	ug/L	#	95
6) Chloroethane	5.802	64	352619	45.28	ug/L	#	94
7) Trichlorofluoromethane	6.049	101	1560043	106.96	ug/L		97
8) Diethyl ether	6.554	59	874372	83.56	ug/L		96
9) 1,1-Dichloroethene	6.913	96	999926	104.00	ug/L		88
10) Trichlorotrifluoroethane	6.925	151	714783	105.96	ug/L		97
11) Acrolein	7.395	56	1965516	1236.25	ug/L		100
12) Iodomethane	7.154	142	6200844	585.41	ug/L		95
13) Carbon Disulfide	7.001	76	14962527	422.41	ug/L		97
14) 3-chloropropene	7.565	41	1799614	89.76	ug/L		97
15) Acetone	7.765	43	1178029	668.25	ug/L		96
16) Methylene Chloride	7.712	84	1111402	87.93	ug/L		98
17) Methyl Acetate	7.882	43	734950	118.50	ug/L		98
18) t-1,2-Dichloroethene	7.912	96	1085283	98.61	ug/L		99
19) Methyl tert-butyl ether	8.000	73	2789390	116.10	ug/L		96
20) Acetonitrile	8.405	41	1872673	1127.64	ug/L		99
21) Isopropyl ether	8.423	45	3804111	99.79	ug/L		100
22) Chloroprene	8.652	88	1081728	101.56	ug/L		94
23) 1,1-Dichloroethane	8.687	63	2160200	98.78	ug/L		99
24) Acrylonitrile	8.758	53	3692950	1275.72	ug/L		99
25) Vinyl Acetate	8.899	43	10680864	567.99	ug/L		99
26) c-1,2-Dichloroethene	9.304	96	1241362	95.62	ug/L		93
27) 2,2-Dichloropropane	9.422	77	1692456	117.67	ug/L		97
28) Bromochloromethane	9.527	128	428103	82.95	ug/L		98
29) Cyclohexane	9.545	56	2357424	106.63	ug/L		98
30) Chloroform	9.563	83	2041791	97.85	ug/L		97
32) Dibromofluoromethane	9.762	113	814105	68.70	ug/L	#	89
33) 2-Butanone	9.874	72	624542	634.74	ug/L		97
34) 1,1,1-Trichloroethane	9.827	97	1661043	109.34	ug/L		99
35) 1,1-Dichloropropene	9.945	75	1798766	110.18	ug/L		96
36) Propionitrile	10.227	54	1399626	1269.68	ug/L		96
37) Methacrylonitrile	10.238	41	6651325	1141.73	ug/L		97
38) Isobutyl Alcohol	10.227	43	1968165	2889.63	ug/L	#	87
40) Carbon Tetrachloride	9.751	117	1364517m	126.21	ug/L		
41) Benzene	10.209	78	5187199	104.13	ug/L		99
42) 1,2-Dichloroethane	10.409	62	1384008	118.28	ug/L		98
43) Trichloroethene	10.761	130	1116417	103.82	ug/L		95
44) Methyl cyclohexane	10.767	83	2413028	89.57	ug/L		95
45) Dibromomethane	11.208	93	673783	115.45	ug/L		94

Data Path : C:\msdchem\1\data\070920\
Data File : 205GD008.D
Acq On : 9 Jul 2020 1:12 pm
Operator : KKW
InstName : OVGCMS5
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 09 13:35:45 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Jul 09 13:11:13 2020
Response via : Initial Calibration

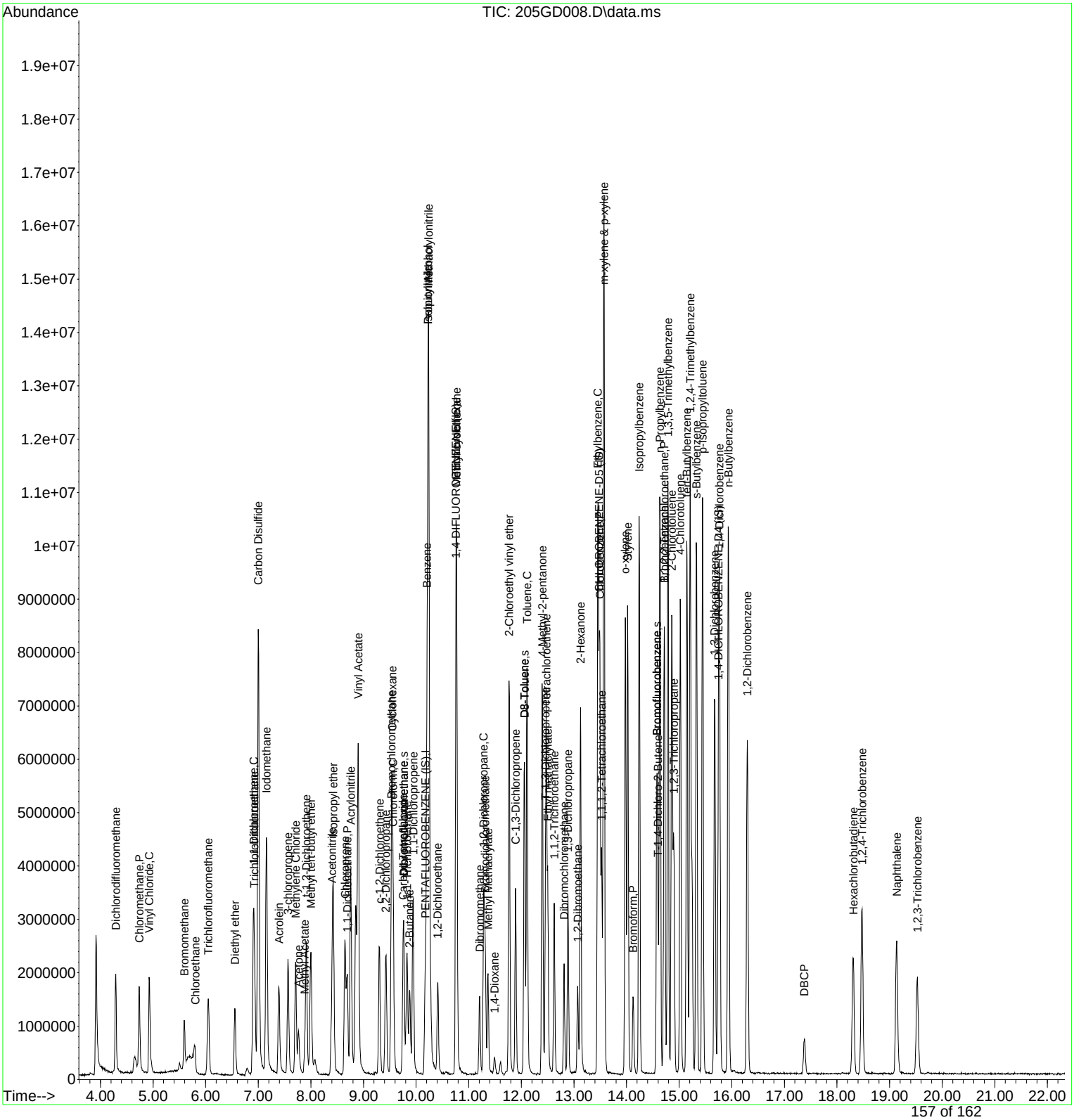
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
46) 1,2-Dichloropropane	11.284	63	1393228	104.44 ug/L	93
47) Bromodichloromethane	11.314	83	1551792	121.22 ug/L	99
48) Methyl Methacrylate	11.367	69	781922	151.11 ug/L	96
49) 1,4-Dioxane	11.490	88	266694	2742.38 ug/L	90
50) 2-Chloroethyl vinyl ether	11.766	63	3429382	811.81 ug/L	99
51) C-1,3-Dichloropropene	11.889	75	2095876	120.24 ug/L	96
53) D8-Toluene	12.060	98	4173036	79.56 ug/L	97
54) 4-Methyl-2-pentanone	12.401	100	811395	705.98 ug/L	91
56) Toluene	12.107	92	3449373	90.57 ug/L	99
57) T-1,3-Dichloropropene	12.459	75	1786044	113.36 ug/L	98
58) Tetrachloroethene	12.477	164	1042213	101.68 ug/L	98
59) Ethyl methacrylate	12.501	69	1597883	125.20 ug/L	99
60) 1,1,2-Trichloroethane	12.624	97	1127066	107.33 ug/L	97
61) Dibromochloromethane	12.812	129	1043108	115.44 ug/L	96
62) 1,3-Dichloropropane	12.888	76	1993116	102.45 ug/L	96
63) 1,2-Dibromoethane	13.070	107	1246781	125.89 ug/L	96
64) 2-Hexanone	13.123	43	4501497	801.94 ug/L	99
65) Ethylbenzene	13.452	106	2249671	105.68 ug/L	94
66) Chlorobenzene	13.493	112	3523644	94.76 ug/L	98
67) 1,1,1,2-Tetrachloroethane	13.529	131	1139484	104.60 ug/L	98
68) m-xylene & p-xylene	13.570	106	5021497	194.72 ug/L	97
69) o-xylene	13.975	106	2557520	98.60 ug/L	96
70) Styrene	14.022	104	4573209	107.65 ug/L	96
71) Bromoform	14.122	173	627996	132.47 ug/L	93
72) Isopropylbenzene	14.240	105	7715048	120.31 ug/L	100
74) Bromofluorobenzene	14.575	95	2297374	87.84 ug/L	84
75) n-Propylbenzene	14.633	91	9899315	118.31 ug/L	97
76) 1,1,2,2-Tetrachloroethane	14.716	83	1899035	150.24 ug/L	99
77) 1,2,3-Trichloropropane	14.898	61	564305m	142.38 ug/L	
78) T-1,4-Dichloro-2-Butene	14.598	53	584548	147.88 ug/L #	86
80) Bromobenzene	14.716	156	1694497	107.01 ug/L	99
81) 1,2,4-Trimethylbenzene	15.209	105	7485807	106.05 ug/L	97
82) 2-Chlorotoluene	14.857	91	6020782	107.19 ug/L	99
83) 4-Chlorotoluene	15.021	91	6373825	108.86 ug/L	99
84) tert-Butylbenzene	15.145	119	5683669	105.41 ug/L	95
85) 1,3,5-Trimethylbenzene	14.786	105	7161379	107.67 ug/L	99
86) p-Isopropyltoluene	15.444	119	7478454	112.31 ug/L	96
87) s-Butylbenzene	15.327	105	8757330	109.73 ug/L	98
88) 1,3-Dichlorobenzene	15.673	146	3509364	108.49 ug/L	97
89) 1,4-Dichlorobenzene	15.767	146	3487932	99.94 ug/L	95
90) n-Butylbenzene	15.938	91	7711854	116.21 ug/L	98
91) 1,2-Dichlorobenzene	16.296	146	3209047	107.99 ug/L	97
92) DBCP	17.377	157	256042	175.18 ug/L	97
93) Hexachlorobutadiene	18.311	225	603559	112.08 ug/L	94
94) 1,2,4-Trichlorobenzene	18.476	180	1445723	138.89 ug/L	95
95) Naphthalene	19.134	128	3301888	176.76 ug/L	97
96) 1,2,3-Trichlorobenzene	19.528	180	940214	153.36 ug/L	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\070920\
Data File : 205GD008.D
Acq On : 9 Jul 2020 1:12 pm
Operator : KKW
InstName : OVGCMS5
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 09 13:35:45 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Jul 09 13:11:13 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\070920\
Data File : 205GD011.D
Acq On : 9 Jul 2020 2:47 pm
Operator : KKW
InstName : OVGCMS5
Sample : SCV1
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 10 07:35:01 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Jul 09 15:03:48 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	10.174	168	1573576	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.761	114	3068781	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.476	82	1742355	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.744	152	1532116	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.768	113	865794	54.88	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 109.76%				
52) D8-Toluene	12.060	98	3971941	51.97	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 103.94%				
73) Bromofluorobenzene	14.575	95	1655869	53.11	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 106.22%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.292	85	333201	15.12	ug/L		94
3) Chloromethane	4.739	50	404140	16.11	ug/L		95
4) Vinyl Chloride	4.927	62	410113	17.13	ug/L		99
5) Bromomethane	5.597	94	102444	20.63	ug/L	#	88
6) Chloroethane	5.808	64	210492	17.34	ug/L		98
7) Trichlorofluoromethane	6.073	101	425967	20.82	ug/L		95
8) Diethyl ether	6.560	59	550647	48.00	ug/L		90
9) 1,1-Dichloroethene	6.913	96	528885	41.95	ug/L		98
10) Trichlorotrifluoroethane	6.930	151	375051	42.16	ug/L		93
11) Acrolein	7.389	56	393399	166.06	ug/L		96
12) Iodomethane	7.160	142	723016	44.27	ug/L		96
13) Carbon Disulfide	7.007	76	1310572	33.12	ug/L		99
14) 3-chloropropene	7.565	41	1094036	48.48	ug/L		98
15) Acetone	7.765	43	846031	284.58	ug/L		97
16) Methylene Chloride	7.712	84	759499	51.81	ug/L		92
17) Methyl Acetate	7.882	43	461490	47.81	ug/L	#	91
18) t-1,2-Dichloroethene	7.918	96	719730	50.59	ug/L		99
19) Methyl tert-butyl ether	8.000	73	1868698	50.92	ug/L		94
20) Acetonitrile	8.417	41	783439	319.48	ug/L		93
21) Isopropyl ether	8.423	45	2508005	49.87	ug/L		99
22) Chloroprene	8.652	88	696849	53.35	ug/L		90
23) 1,1-Dichloroethane	8.687	63	1365071	46.26	ug/L		99
24) Acrylonitrile	8.764	53	256599	55.37	ug/L	#	98
25) Vinyl Acetate	8.899	43	1533677	54.50	ug/L		97
26) c-1,2-Dichloroethene	9.304	96	833151	48.85	ug/L		96
27) 2,2-Dichloropropane	9.422	77	1027749	46.88	ug/L		98
28) Bromochloromethane	9.527	128	341909	59.16	ug/L		100
29) Cyclohexane	9.539	56	1419949	45.57	ug/L		99
30) Chloroform	9.563	83	1335356	49.94	ug/L		99
32) Dibromofluoromethane	9.768	113	865794	54.88	ug/L	#	93
33) 2-Butanone	9.880	72	448728	276.77	ug/L		89
34) 1,1,1-Trichloroethane	9.827	97	1053041	47.87	ug/L		97
35) 1,1-Dichloropropene	9.945	75	1034732	48.27	ug/L		98
36) Propionitrile	10.233	54	118815	66.18	ug/L	#	1
37) Methacrylonitrile	10.233	41	702186	82.37	ug/L	#	78
38) Isobutyl Alcohol	10.227	43	655467	638.74	ug/L	#	78
40) Carbon Tetrachloride	9.757	117	796580	45.54	ug/L		91
41) Benzene	10.209	78	3349053	47.72	ug/L		98
42) 1,2-Dichloroethane	10.409	62	862787	46.39	ug/L		98
43) Trichloroethene	10.767	130	702596	46.75	ug/L		96
44) Methyl cyclohexane	10.767	83	1518797	46.91	ug/L		97
45) Dibromomethane	11.208	93	415758	50.97	ug/L		96

Data Path : C:\msdchem\1\data\070920\
Data File : 205GD011.D
Acq On : 9 Jul 2020 2:47 pm
Operator : KKW
InstName : OVGCMS5
Sample : SCV1
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 10 07:35:01 2020
Quant Method : C:\msdchem\1\methods\070920w.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Jul 09 15:03:48 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
46) 1,2-Dichloropropane	11.290	63	859108	47.93	ug/L		97
47) Bromodichloromethane	11.314	83	951069	52.01	ug/L		97
48) Methyl Methacrylate	11.367	69	535971	51.42	ug/L		95
49) 1,4-Dioxane	11.490	88	159204	1091.75	ug/L		93
50) 2-Chloroethyl vinyl ether	11.772	63	2166434	253.87	ug/L	#	100
51) C-1,3-Dichloropropene	11.889	75	1254889	50.91	ug/L		99
53) D8-Toluene	12.060	98	3971941	51.97	ug/L		97
54) 4-Methyl-2-pentanone	12.395	100	524616	270.28	ug/L		95
56) Toluene	12.107	92	2155507	49.71	ug/L		99
57) T-1,3-Dichloropropene	12.459	75	1082503	53.52	ug/L		98
58) Tetrachloroethene	12.477	164	563386	48.76	ug/L		95
59) Ethyl methacrylate	12.501	69	1053532	58.67	ug/L		98
60) 1,1,2-Trichloroethane	12.624	97	671200	52.94	ug/L		97
61) Dibromochloromethane	12.812	129	633590	54.42	ug/L		94
62) 1,3-Dichloropropane	12.888	76	1204840	52.73	ug/L		92
63) 1,2-Dibromoethane	13.070	107	642362	53.28	ug/L	#	99
64) 2-Hexanone	13.123	43	2230996	258.45	ug/L		96
65) Ethylbenzene	13.452	106	1218737	53.21	ug/L		97
66) Chlorobenzene	13.493	112	2137313	51.32	ug/L		96
67) 1,1,1,2-Tetrachloroethane	13.523	131	664417	52.37	ug/L		99
68) m-xylene & p-xylene	13.570	106	2998404	100.32	ug/L		92
69) o-xylene	13.981	106	1480584	53.44	ug/L		100
70) Styrene	14.022	104	2690847	57.24	ug/L		97
71) Bromoform	14.122	173	366329	60.33	ug/L		96
72) Isopropylbenzene	14.240	105	3993804	52.74	ug/L		99
74) Bromofluorobenzene	14.575	95	1655869	53.11	ug/L		84
75) n-Propylbenzene	14.633	91	5081968	52.62	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.710	83	1000600	55.83	ug/L		97
77) 1,2,3-Trichloropropane	14.904	61	271355	52.83	ug/L		95
78) T-1,4-Dichloro-2-Butene	14.592	53	282907	54.31	ug/L		90
80) Bromobenzene	14.721	156	827359	48.87	ug/L		98
81) 1,2,4-Trimethylbenzene	15.209	105	3719917	50.18	ug/L		96
82) 2-Chlorotoluene	14.863	91	3000975	52.10	ug/L		98
83) 4-Chlorotoluene	15.021	91	3236520	54.97	ug/L		99
84) tert-Butylbenzene	15.145	119	2832773	54.93	ug/L		99
85) 1,3,5-Trimethylbenzene	14.786	105	3597788	53.90	ug/L		99
86) p-Isopropyltoluene	15.444	119	3724070	53.42	ug/L		99
87) s-Butylbenzene	15.327	105	4497365	54.37	ug/L		100
88) 1,3-Dichlorobenzene	15.673	146	1837667	52.95	ug/L		98
89) 1,4-Dichlorobenzene	15.767	146	1807877	50.26	ug/L		96
90) n-Butylbenzene	15.932	91	3777401	53.23	ug/L		99
91) 1,2-Dichlorobenzene	16.296	146	1730882	55.85	ug/L		99
92) DBCP	17.377	157	135092	61.94	ug/L		91
93) Hexachlorobutadiene	18.311	225	290428	49.26	ug/L		98
94) 1,2,4-Trichlorobenzene	18.482	180	714102	55.56	ug/L		97
95) Naphthalene	19.140	128	1538312	55.19	ug/L		100
96) 1,2,3-Trichlorobenzene	19.534	180	436571	55.16	ug/L		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\070920\
Data File : 205GD011.D
Acq On : 9 Jul 2020 2:47 pm
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Sample : SCV1
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QLast Update : Thu Jul 09 15:03:48 2020
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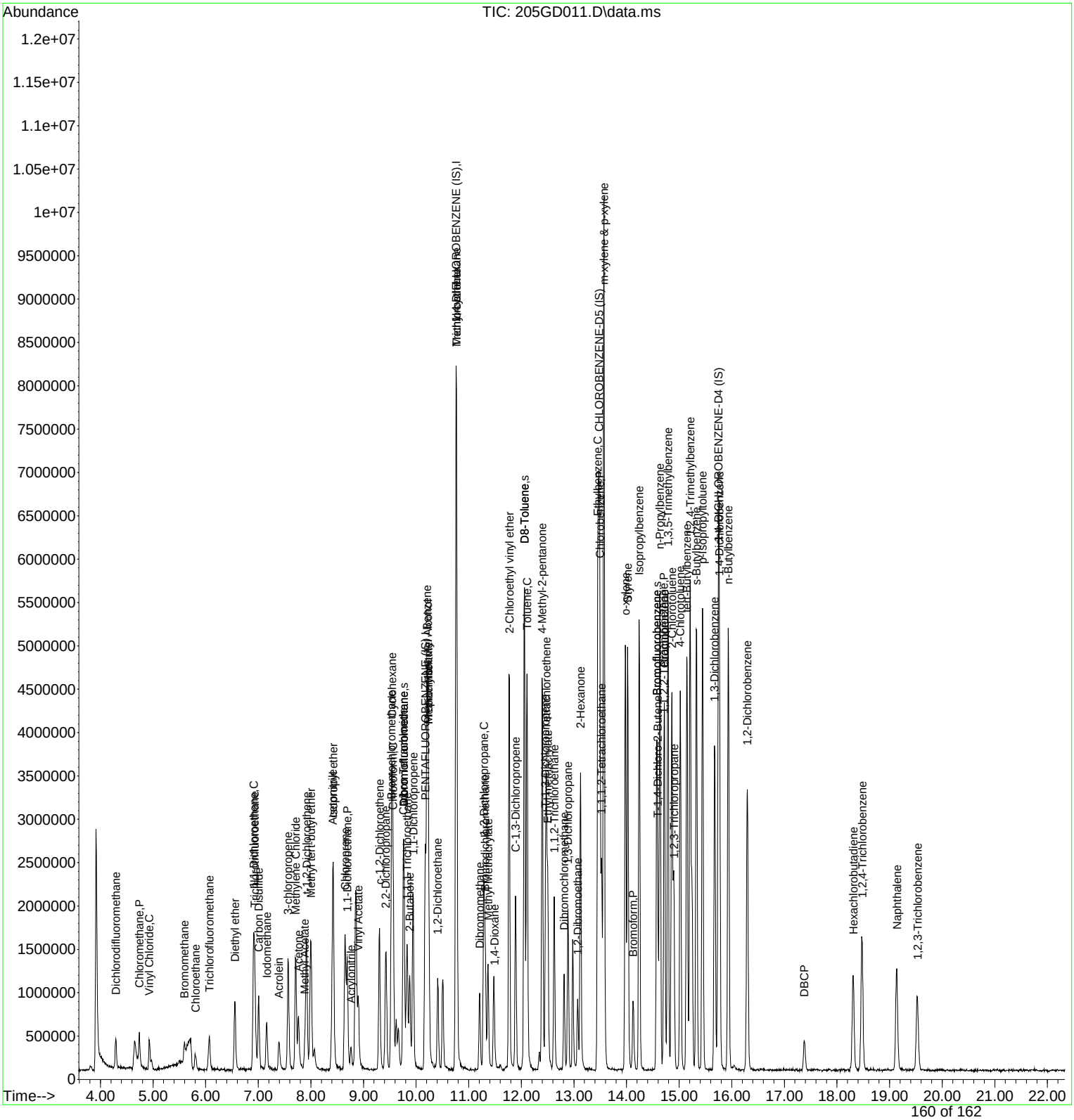

TETRA TECH ISG
TtNUS, Information Systems Group

Completion Ticket

On 9/1/2020 at 9:50 AM the following files were submitted to Tetra Tech by kdylnicki@encolabs.com with ENCO:

TE016AD05264A1.txt, TE016AD05264A3.txt

If you need to identify this session at a later date refer to Ticket Key:

202091_6050562736_ledd_ENCO

You may print this page by clicking on the "Print This Page" button

Thank you for using the Data Checker, to upload more files click the "Upload/Check Files" link on navigation menu.

Print this Page Back To Upload

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I Lori S. Mangrum, as the designated Quality Assurance Officer, hereby attest that all electronic deliverables have been thoroughly reviewed and are in agreement with the associated hardcopy data. The enclosed electronic files have been reviewed for accuracy (including significant figures), completeness and format. The laboratory will be responsible for any labor time necessary to correct enclosed electronic deliverables that have been found to be in error. I can be reached at (407) 826-5314 if there are any questions or problems with the enclosed electronic deliverables.

Signature:_____ Title: Quality Assurance Manager Date: Sept. 09, 2020

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SECTION	PAGE
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Flags/Notes and Definitions	15
Chain of Custody	17
Login Report	18
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ENCO Laboratories

Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Wednesday, September 23, 2020
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AD03698

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Thursday, September 17, 2020.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

PROJECT NARRATIVE

www.encolabs.com

Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Client PM: Alex Murphy
Project Number: 112G08970
ENCO Project ID: AD03698
SDG: AD03698-TE016

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling and processing will be discussed in the Remarks section below.

Remarks

List of instruments used:

Analytical and Preparation Method	SOP Reference Instrument
EPA 8260D / 5030B_MS	OVGCMS2

Analysis: EPA 8260D

Manual integrations were performed on samples associated with EPA 8260D. All data & explanations are included in the raw data section of the report.

Affected Samples: AA62584-CCV1
The continuing calibration verification standard exhibited low bias for multiple analytes; the associated sample had ND (non-detect) results, but sensitivity was verified by analyzing a standard with a concentration equivalent to the reporting limit.

Affected Samples: AA62441-CCV1
Recovery for multiple analytes was outside acceptance limits. Reported samples not affected.

Affected Samples: AA62441-SCV1, AA62441-SCV2
Carbon disulfide was outside acceptance limits in SCV1. SCV2 was analyzed with acceptable recoveries.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Kaitlin Dylnicki
Project Manager

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-ASInfluent20200916	Lab ID: AD03698-01	Sampled: 09/16/20 07:55	Received: 09/17/20 14:15

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	09/30/20	09/22/20 00:00	09/22/20 11:33

Client ID: CRCA-Effluent20200916	Lab ID: AD03698-02	Sampled: 09/16/20 07:50	Received: 09/17/20 14:15

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	09/30/20	09/22/20 00:00	09/22/20 12:02

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-ASInfluent20200916 **Lab ID:** AD03698-01

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
trans-1,2-Dichloroethene	1.2	I	0.73	2.5	ug/L	EPA 8260D	
Vinyl chloride	18		0.71	2.5	ug/L	EPA 8260D	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASInfluent20200916 **Lab Sample ID:** AD03698-01 **Received:** 09/17/20 14:15

Matrix: Ground Water **Sampled:** 09/16/20 07:55 **Work Order:** AD03698

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	0I22021	EPA 8260D	09/22/20 11:33	KG	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	0I22021	EPA 8260D	09/22/20 11:33	KG	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	0I22021	EPA 8260D	09/22/20 11:33	KG	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	0I22021	EPA 8260D	09/22/20 11:33	KG	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	0I22021	EPA 8260D	09/22/20 11:33	KG	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	0I22021	EPA 8260D	09/22/20 11:33	KG	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	0I22021	EPA 8260D	09/22/20 11:33	KG	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	0I22021	EPA 8260D	09/22/20 11:33	KG	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	0I22021	EPA 8260D	09/22/20 11:33	KG	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	0I22021	EPA 8260D	09/22/20 11:33	KG	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	0I22021	EPA 8260D	09/22/20 11:33	KG	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	0I22021	EPA 8260D	09/22/20 11:33	KG	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	0I22021	EPA 8260D	09/22/20 11:33	KG	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	0I22021	EPA 8260D	09/22/20 11:33	KG	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	0I22021	EPA 8260D	09/22/20 11:33	KG	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	0I22021	EPA 8260D	09/22/20 11:33	KG	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	0I22021	EPA 8260D	09/22/20 11:33	KG	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	0I22021	EPA 8260D	09/22/20 11:33	KG	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	0I22021	EPA 8260D	09/22/20 11:33	KG	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	0I22021	EPA 8260D	09/22/20 11:33	KG	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	0I22021	EPA 8260D	09/22/20 11:33	KG	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	0I22021	EPA 8260D	09/22/20 11:33	KG	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	0I22021	EPA 8260D	09/22/20 11:33	KG	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	0I22021	EPA 8260D	09/22/20 11:33	KG	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	0I22021	EPA 8260D	09/22/20 11:33	KG	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	0I22021	EPA 8260D	09/22/20 11:33	KG	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	0I22021	EPA 8260D	09/22/20 11:33	KG	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	0I22021	EPA 8260D	09/22/20 11:33	KG	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	0I22021	EPA 8260D	09/22/20 11:33	KG	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	0I22021	EPA 8260D	09/22/20 11:33	KG	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	0I22021	EPA 8260D	09/22/20 11:33	KG	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	0I22021	EPA 8260D	09/22/20 11:33	KG	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	0I22021	EPA 8260D	09/22/20 11:33	KG	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	0I22021	EPA 8260D	09/22/20 11:33	KG	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	0I22021	EPA 8260D	09/22/20 11:33	KG	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	0I22021	EPA 8260D	09/22/20 11:33	KG	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	0I22021	EPA 8260D	09/22/20 11:33	KG	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	0I22021	EPA 8260D	09/22/20 11:33	KG	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	0I22021	EPA 8260D	09/22/20 11:33	KG	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	0I22021	EPA 8260D	09/22/20 11:33	KG	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	0I22021	EPA 8260D	09/22/20 11:33	KG	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	0I22021	EPA 8260D	09/22/20 11:33	KG	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	0I22021	EPA 8260D	09/22/20 11:33	KG	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	0I22021	EPA 8260D	09/22/20 11:33	KG	
trans-1,2-Dichloroethene [156-60-5]^	**1.2**	I	ug/L	1	0.73	2.5	0I22021	EPA 8260D	09/22/20 11:33	KG	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	0I22021	EPA 8260D	09/22/20 11:33	KG	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	0I22021	EPA 8260D	09/22/20 11:33	KG	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASInfluent20200916 **Lab Sample ID:** AD03698-01 **Received:** 09/17/20 14:15

Matrix: Ground Water **Sampled:** 09/16/20 07:55 **Work Order:** AD03698

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	0I22021	EPA 8260D	09/22/20 11:33	KG	
Vinyl chloride [75-01-4]^	**18**		ug/L	1	0.71	2.5	0I22021	EPA 8260D	09/22/20 11:33	KG	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	0I22021	EPA 8260D	09/22/20 11:33	KG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*51*	*1*	*50.0*	*103 %*	*41-142*	*0I22021*	*EPA 8260D*	*09/22/20 11:33*	*KG*	
Dibromofluoromethane	*43*	*1*	*50.0*	*87 %*	*53-146*	*0I22021*	*EPA 8260D*	*09/22/20 11:33*	*KG*	
Toluene-d8	*49*	*1*	*50.0*	*98 %*	*41-146*	*0I22021*	*EPA 8260D*	*09/22/20 11:33*	*KG*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-Effluent20200916 **Lab Sample ID:** AD03698-02 **Received:** 09/17/20 14:15

Matrix: Ground Water **Sampled:** 09/16/20 07:50 **Work Order:** AD03698

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	0I22021	EPA 8260D	09/22/20 12:02	KG	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	0I22021	EPA 8260D	09/22/20 12:02	KG	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	0I22021	EPA 8260D	09/22/20 12:02	KG	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	0I22021	EPA 8260D	09/22/20 12:02	KG	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	0I22021	EPA 8260D	09/22/20 12:02	KG	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	0I22021	EPA 8260D	09/22/20 12:02	KG	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	0I22021	EPA 8260D	09/22/20 12:02	KG	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	0I22021	EPA 8260D	09/22/20 12:02	KG	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	0I22021	EPA 8260D	09/22/20 12:02	KG	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	0I22021	EPA 8260D	09/22/20 12:02	KG	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	0I22021	EPA 8260D	09/22/20 12:02	KG	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	0I22021	EPA 8260D	09/22/20 12:02	KG	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	0I22021	EPA 8260D	09/22/20 12:02	KG	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	0I22021	EPA 8260D	09/22/20 12:02	KG	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	0I22021	EPA 8260D	09/22/20 12:02	KG	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	0I22021	EPA 8260D	09/22/20 12:02	KG	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	0I22021	EPA 8260D	09/22/20 12:02	KG	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	0I22021	EPA 8260D	09/22/20 12:02	KG	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	0I22021	EPA 8260D	09/22/20 12:02	KG	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	0I22021	EPA 8260D	09/22/20 12:02	KG	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	0I22021	EPA 8260D	09/22/20 12:02	KG	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	0I22021	EPA 8260D	09/22/20 12:02	KG	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	0I22021	EPA 8260D	09/22/20 12:02	KG	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	0I22021	EPA 8260D	09/22/20 12:02	KG	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	0I22021	EPA 8260D	09/22/20 12:02	KG	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	0I22021	EPA 8260D	09/22/20 12:02	KG	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	0I22021	EPA 8260D	09/22/20 12:02	KG	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	0I22021	EPA 8260D	09/22/20 12:02	KG	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	0I22021	EPA 8260D	09/22/20 12:02	KG	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	0I22021	EPA 8260D	09/22/20 12:02	KG	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	0I22021	EPA 8260D	09/22/20 12:02	KG	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	0I22021	EPA 8260D	09/22/20 12:02	KG	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	0I22021	EPA 8260D	09/22/20 12:02	KG	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	0I22021	EPA 8260D	09/22/20 12:02	KG	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	0I22021	EPA 8260D	09/22/20 12:02	KG	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	0I22021	EPA 8260D	09/22/20 12:02	KG	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	0I22021	EPA 8260D	09/22/20 12:02	KG	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	0I22021	EPA 8260D	09/22/20 12:02	KG	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	0I22021	EPA 8260D	09/22/20 12:02	KG	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	0I22021	EPA 8260D	09/22/20 12:02	KG	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	0I22021	EPA 8260D	09/22/20 12:02	KG	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	0I22021	EPA 8260D	09/22/20 12:02	KG	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	0I22021	EPA 8260D	09/22/20 12:02	KG	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	0I22021	EPA 8260D	09/22/20 12:02	KG	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	0I22021	EPA 8260D	09/22/20 12:02	KG	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	0I22021	EPA 8260D	09/22/20 12:02	KG	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	0I22021	EPA 8260D	09/22/20 12:02	KG	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-Effluent20200916 **Lab Sample ID:** AD03698-02 **Received:** 09/17/20 14:15

Matrix: Ground Water **Sampled:** 09/16/20 07:50 **Work Order:** AD03698

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	0I22021	EPA 8260D	09/22/20 12:02	KG	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	0I22021	EPA 8260D	09/22/20 12:02	KG	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	0I22021	EPA 8260D	09/22/20 12:02	KG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*51*	*1*	*50.0*	*103 %*	*41-142*	*0I22021*	*EPA 8260D*	*09/22/20 12:02*	*KG*	
Dibromofluoromethane	*44*	*1*	*50.0*	*89 %*	*53-146*	*0I22021*	*EPA 8260D*	*09/22/20 12:02*	*KG*	
Toluene-d8	*48*	*1*	*50.0*	*95 %*	*41-146*	*0I22021*	*EPA 8260D*	*09/22/20 12:02*	*KG*	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0I22021 - EPA 5030B_MS

Blank (0I22021-BLK1) Prepared: 09/22/2020 00:00 Analyzed: 09/22/2020 09:58

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0I22021 - EPA 5030B_MS - Continued

Blank (0I22021-BLK1) Continued Prepared: 09/22/2020 00:00 Analyzed: 09/22/2020 09:58

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*50*			*ug/L*	*50.0*		*100*	*41-142*			
Dibromofluoromethane	*44*	*I*		*ug/L*	*50.0*		*88*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*97*	*41-146*			

LCS (0I22021-BS1) Prepared: 09/22/2020 00:00 Analyzed: 09/22/2020 08:32

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	18		2.5	ug/L	20.0		90	57-148			
1,1,2,2-Tetrachloroethane	19		2.5	ug/L	20.0		94	60-139			
1,1,2-Trichloroethane	19		2.5	ug/L	20.0		95	57-141			
1,1-Dichloroethane	16		2.5	ug/L	20.0		82	57-142			
1,1-Dichloroethene	18		2.5	ug/L	20.0		92	47-139			
1,2,4-Trichlorobenzene	23		2.5	ug/L	20.0		114	52-159			
1,2-Dibromo-3-chloropropane	19		2.5	ug/L	20.0		93	48-150			
1,2-Dibromoethane	19		2.5	ug/L	20.0		96	57-140			
1,2-Dichlorobenzene	19		2.5	ug/L	20.0		97	63-131			
1,2-Dichloroethane	17		2.5	ug/L	20.0		86	50-156			
1,2-Dichloropropane	17		2.5	ug/L	20.0		87	61-133			
1,3-Dichlorobenzene	19		2.5	ug/L	20.0		96	66-129			
1,4-Dichlorobenzene	18		2.5	ug/L	20.0		92	65-133			
2-Butanone	120		12	ug/L	100		117	10-180			
2-Hexanone	86		12	ug/L	100		86	12-180			
4-Methyl-2-pentanone	92		12	ug/L	100		92	19-180			
Acetone	86		25	ug/L	100		86	10-180			
Benzene	19		2.5	ug/L	20.0		93	56-136			
Bromodichloromethane	18		2.5	ug/L	20.0		92	58-135			
Bromoform	20		2.5	ug/L	20.0		101	46-148			
Bromomethane	7.1		2.5	ug/L	20.0		35	10-173			
Carbon disulfide	21		12	ug/L	20.0		106	43-153			
Carbon Tetrachloride	19		2.5	ug/L	20.0		96	54-156			
Chlorobenzene	19		2.5	ug/L	20.0		97	51-139			
Chloroethane	17		2.5	ug/L	20.0		87	27-180			
Chloroform	18		2.5	ug/L	20.0		88	58-139			
Chloromethane	11		2.5	ug/L	20.0		54	33-154			
cis-1,2-Dichloroethene	18		2.5	ug/L	20.0		90	56-128			
cis-1,3-Dichloropropene	18		2.5	ug/L	20.0		88	64-128			
Cyclohexane	20		2.5	ug/L	20.0		98	70-130			
Dibromochloromethane	19		2.5	ug/L	20.0		95	50-140			
Dichlorodifluoromethane	12		2.5	ug/L	20.0		60	10-180			
Ethylbenzene	19		2.5	ug/L	20.0		97	63-133			
Freon 113	18		2.5	ug/L	20.0		91	47-173			
Isopropylbenzene	20		2.5	ug/L	20.0		99	60-132			
m,p-Xylenes	39		5.0	ug/L	40.0		97	64-133			
Methyl acetate	16		2.5	ug/L	20.0		82	70-130			
Methyl cyclohexane	21		2.5	ug/L	20.0		104	70-130			
Methylene Chloride	18		12	ug/L	20.0		89	43-142			
Methyl-tert-Butyl Ether	18		2.5	ug/L	20.0		88	51-145			

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0I22021 - EPA 5030B_MS - Continued

LCS (0I22021-BS1) Continued Prepared: 09/22/2020 00:00 Analyzed: 09/22/2020 08:32

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
o-Xylene	19		2.5	ug/L	20.0		97	61-129			
Styrene	20		2.5	ug/L	20.0		98	59-136			
Tetrachloroethene	19		2.5	ug/L	20.0		93	60-147			
Toluene	20		2.5	ug/L	20.0		99	64-131			
trans-1,2-Dichloroethene	18		2.5	ug/L	20.0		91	54-134			
trans-1,3-Dichloropropene	19		2.5	ug/L	20.0		94	65-149			
Trichloroethene	19		2.5	ug/L	20.0		94	62-135			
Trichlorofluoromethane	16		2.5	ug/L	20.0		79	56-155			
Vinyl chloride	16		2.5	ug/L	20.0		82	20-167			
4-Bromofluorobenzene	*51*			*ug/L*	*50.0*		*102*	*41-142*			
Dibromofluoromethane	*43*	*I*		*ug/L*	*50.0*		*86*	*53-146*			
Toluene-d8	*47*	*I*		*ug/L*	*50.0*		*94*	*41-146*			

Matrix Spike (0I22021-MS1) Prepared: 09/22/2020 00:00 Analyzed: 09/22/2020 18:15

Source: AD05855-15

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	22		2.5	ug/L	20.0	0.80 U	112	57-148			
1,1,2,2-Tetrachloroethane	20		2.5	ug/L	20.0	0.54 U	99	60-139			
1,1,2-Trichloroethane	20		2.5	ug/L	20.0	0.76 U	101	57-141			
1,1-Dichloroethane	21		2.5	ug/L	20.0	0.62 U	103	57-142			
1,1-Dichloroethene	22		2.5	ug/L	20.0	0.94 U	109	47-139			
1,2,4-Trichlorobenzene	20		2.5	ug/L	20.0	0.70 U	101	52-159			
1,2-Dibromo-3-chloropropane	18		2.5	ug/L	20.0	0.96 U	91	48-150			
1,2-Dibromoethane	20		2.5	ug/L	20.0	0.78 U	102	57-140			
1,2-Dichlorobenzene	21		2.5	ug/L	20.0	0.73 U	103	63-131			
1,2-Dichloroethane	21		2.5	ug/L	20.0	0.63 U	106	50-156			
1,2-Dichloropropane	21		2.5	ug/L	20.0	0.80 U	105	61-133			
1,3-Dichlorobenzene	21		2.5	ug/L	20.0	0.77 U	103	66-129			
1,4-Dichlorobenzene	20		2.5	ug/L	20.0	0.76 U	100	65-133			
2-Butanone	130		12	ug/L	100	4.5 U	129	10-180			
2-Hexanone	100		12	ug/L	100	2.5 U	101	12-180			
4-Methyl-2-pentanone	99		12	ug/L	100	2.5 U	99	19-180			
Acetone	100		25	ug/L	100	10 U	104	10-180			
Benzene	22		2.5	ug/L	20.0	0.71 U	110	56-136			
Bromodichloromethane	22		2.5	ug/L	20.0	0.52 U	111	58-135			
Bromoform	21		2.5	ug/L	20.0	0.75 U	107	46-148			
Bromomethane	14		2.5	ug/L	20.0	0.95 U	71	10-173			
Carbon disulfide	21		12	ug/L	20.0	2.5 U	104	43-153			
Carbon Tetrachloride	23		2.5	ug/L	20.0	0.94 U	117	54-156			
Chlorobenzene	21		2.5	ug/L	20.0	0.72 U	104	51-139			
Chloroethane	20		2.5	ug/L	20.0	0.98 U	99	27-180			
Chloroform	21		2.5	ug/L	20.0	0.80 U	105	58-139			
Chloromethane	14		2.5	ug/L	20.0	0.82 U	71	33-154			
cis-1,2-Dichloroethene	21		2.5	ug/L	20.0	0.53 U	105	56-128			
cis-1,3-Dichloropropene	20		2.5	ug/L	20.0	0.59 U	100	64-128			
Cyclohexane	25		2.5	ug/L	20.0	0.93 U	123	70-130			
Dibromochloromethane	20		2.5	ug/L	20.0	0.50 U	101	50-140			
Dichlorodifluoromethane	17		2.5	ug/L	20.0	0.74 U	86	10-180			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0I22021 - EPA 5030B_MS - Continued

Matrix Spike (0I22021-MS1) Continued Prepared: 09/22/2020 00:00 Analyzed: 09/22/2020 18:15

Source: AD05855-15

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	21		2.5	ug/L	20.0	0.69 U	106	63-133			
Freon 113	22		2.5	ug/L	20.0	0.73 U	110	47-173			
Isopropylbenzene	22		2.5	ug/L	20.0	0.67 U	109	60-132			
m,p-Xylenes	43		5.0	ug/L	40.0	1.3 U	107	64-133			
Methyl acetate	17		2.5	ug/L	20.0	0.95 U	84	70-130			
Methyl cyclohexane	25		2.5	ug/L	20.0	0.64 U	126	70-130			
Methylene Chloride	20		12	ug/L	20.0	2.5 U	101	43-142			
Methyl-tert-Butyl Ether	20		2.5	ug/L	20.0	0.60 U	100	51-145			
o-Xylene	21		2.5	ug/L	20.0	0.53 U	105	61-129			
Styrene	21		2.5	ug/L	20.0	0.61 U	106	59-136			
Tetrachloroethene	20		2.5	ug/L	20.0	0.76 U	101	60-147			
Toluene	22		2.5	ug/L	20.0	0.72 U	109	64-131			
trans-1,2-Dichloroethene	20		2.5	ug/L	20.0	0.73 U	101	54-134			
trans-1,3-Dichloropropene	20		2.5	ug/L	20.0	0.73 U	101	65-149			
Trichloroethene	21		2.5	ug/L	20.0	0.89 U	103	62-135			
Trichlorofluoromethane	22		2.5	ug/L	20.0	0.94 U	108	56-155			
Vinyl chloride	20		2.5	ug/L	20.0	0.71 U	101	20-167			
4-Bromofluorobenzene	*52*			*ug/L*	*50.0*		*103*	*41-142*			
Dibromofluoromethane	*46*	*I*		*ug/L*	*50.0*		*91*	*53-146*			
Toluene-d8	*48*	*I*		*ug/L*	*50.0*		*97*	*41-146*			

Matrix Spike Dup (0I22021-MSD1) Prepared: 09/22/2020 00:00 Analyzed: 09/22/2020 18:44

Source: AD05855-15

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	23		2.5	ug/L	20.0	0.80 U	113	57-148	0.5	25	
1,1,2,2-Tetrachloroethane	20		2.5	ug/L	20.0	0.54 U	101	60-139	2	17	
1,1,2-Trichloroethane	20		2.5	ug/L	20.0	0.76 U	102	57-141	2	16	
1,1-Dichloroethane	20		2.5	ug/L	20.0	0.62 U	100	57-142	3	24	
1,1-Dichloroethene	22		2.5	ug/L	20.0	0.94 U	108	47-139	0.6	16	
1,2,4-Trichlorobenzene	22		2.5	ug/L	20.0	0.70 U	109	52-159	8	24	
1,2-Dibromo-3-chloropropane	21		2.5	ug/L	20.0	0.96 U	104	48-150	13	21	
1,2-Dibromoethane	20		2.5	ug/L	20.0	0.78 U	102	57-140	0.1	16	
1,2-Dichlorobenzene	21		2.5	ug/L	20.0	0.73 U	104	63-131	1	25	
1,2-Dichloroethane	22		2.5	ug/L	20.0	0.63 U	108	50-156	2	18	
1,2-Dichloropropane	21		2.5	ug/L	20.0	0.80 U	103	61-133	1	26	
1,3-Dichlorobenzene	21		2.5	ug/L	20.0	0.77 U	105	66-129	2	23	
1,4-Dichlorobenzene	20		2.5	ug/L	20.0	0.76 U	98	65-133	1	23	
2-Butanone	130		12	ug/L	100	4.5 U	134	10-180	3	29	
2-Hexanone	110		12	ug/L	100	2.5 U	106	12-180	5	28	
4-Methyl-2-pentanone	100		12	ug/L	100	2.5 U	102	19-180	3	24	
Acetone	110		25	ug/L	100	10 U	106	10-180	2	19	
Benzene	22		2.5	ug/L	20.0	0.71 U	110	56-136	0	14	
Bromodichloromethane	22		2.5	ug/L	20.0	0.52 U	111	58-135	0.6	19	
Bromoform	22		2.5	ug/L	20.0	0.75 U	110	46-148	3	18	
Bromomethane	16		2.5	ug/L	20.0	0.95 U	82	10-173	14	29	
Carbon disulfide	20		12	ug/L	20.0	2.5 U	102	43-153	2	26	
Carbon Tetrachloride	24		2.5	ug/L	20.0	0.94 U	118	54-156	0.9	27	
Chlorobenzene	20		2.5	ug/L	20.0	0.72 U	102	51-139	2	13	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0I22021 - EPA 5030B_MS - Continued

Matrix Spike Dup (0I22021-MSD1) Continued Prepared: 09/22/2020 00:00 Analyzed: 09/22/2020 18:44

Source: AD05855-15

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloroethane	19		2.5	ug/L	20.0	0.98 U	96	27-180	2	22	
Chloroform	21		2.5	ug/L	20.0	0.80 U	104	58-139	1	17	
Chloromethane	15		2.5	ug/L	20.0	0.82 U	73	33-154	2	31	
cis-1,2-Dichloroethene	21		2.5	ug/L	20.0	0.53 U	103	56-128	2	17	
cis-1,3-Dichloropropene	20		2.5	ug/L	20.0	0.59 U	101	64-128	1	20	
Cyclohexane	24		2.5	ug/L	20.0	0.93 U	121	70-130	1	20	
Dibromochloromethane	20		2.5	ug/L	20.0	0.50 U	101	50-140	0.7	18	
Dichlorodifluoromethane	16		2.5	ug/L	20.0	0.74 U	82	10-180	4	26	
Ethylbenzene	21		2.5	ug/L	20.0	0.69 U	104	63-133	2	18	
Freon 113	22		2.5	ug/L	20.0	0.73 U	110	47-173	0.5	30	
Isopropylbenzene	21		2.5	ug/L	20.0	0.67 U	107	60-132	2	23	
m,p-Xylenes	42		5.0	ug/L	40.0	1.3 U	105	64-133	2	18	
Methyl acetate	17		2.5	ug/L	20.0	0.95 U	83	70-130	1	20	
Methyl cyclohexane	25		2.5	ug/L	20.0	0.64 U	124	70-130	2	20	
Methylene Chloride	20		12	ug/L	20.0	2.5 U	98	43-142	3	23	
Methyl-tert-Butyl Ether	21		2.5	ug/L	20.0	0.60 U	103	51-145	3	22	
o-Xylene	21		2.5	ug/L	20.0	0.53 U	103	61-129	2	16	
Styrene	21		2.5	ug/L	20.0	0.61 U	103	59-136	2	32	
Tetrachloroethene	19		2.5	ug/L	20.0	0.76 U	97	60-147	4	21	
Toluene	21		2.5	ug/L	20.0	0.72 U	105	64-131	4	16	
trans-1,2-Dichloroethene	20		2.5	ug/L	20.0	0.73 U	102	54-134	0.9	20	
trans-1,3-Dichloropropene	20		2.5	ug/L	20.0	0.73 U	99	65-149	2	17	
Trichloroethene	21		2.5	ug/L	20.0	0.89 U	106	62-135	3	20	
Trichlorofluoromethane	22		2.5	ug/L	20.0	0.94 U	108	56-155	0.3	22	
Vinyl chloride	20		2.5	ug/L	20.0	0.71 U	101	20-167	0.4	24	
4-Bromofluorobenzene	*51*			*ug/L*	*50.0*		*103*	*41-142*			
Dibromofluoromethane	*45*	*I*		*ug/L*	*50.0*		*91*	*53-146*			
Toluene-d8	*48*	*I*		*ug/L*	*50.0*		*97*	*41-146*			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.

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B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported result is an estimated value.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence (85% or greater confidence) to make a “tentative identification".
Q	One or more quality control criteria failed.

ATD036648

Tetra Tech, Inc. 11 Riverside Dr Suite 204 Cocoa, FL 32922

CHAIN OF CUSTODY | NUMBER No. 1133 | PAGE 1 OF 1

PROJECT NO: 1120B970	FACILITY: NASA KSC CRCA	PROJECT MANAGER Alex Murphy	PHONE NUMBER 321 639 6470	LABORATORY NAME AND CONTACT: Eneo
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER	PHONE NUMBER	ADDRESS 10775 Central Port Dr
		CARRIER/WAYBILL NUMBER		CITY, STATE Orlando

STANDARD TAT ☑ 10
RUSH TAT ☐ ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2020	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TYPE OF ANALYSIS 8260	COMMENTS
9/16	755	CRCA-ASInfluent20200916	Inf	–	–	GW	G	3			X	
9/16	750	CRCA-EffluentT20200916	Eff	–	–	GW	G	3			X	

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	17SEP20	1415	1. RECEIVED BY James W Gregory	17SEP20	1415
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS C-1821 0.5°C

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R FORM NO. TtNUS-001

9/17/2020

Environmental Conservation Labs, Inc.

Alex Murphy
Tetra Tech, Inc. (TE016)
11 Riverside Drive, Suite 204
Cocoa, FL 32922
Phone: (321) 636-6470
Fax: (321) 636-6473

Reference : **Sample Receipt Confirmation - *Please Review***
Project Name / Number : NASA KSC CRCA / 112G08970
Purchase Order # : 1165883

Lab Reference # : AD03698 Lab Receipt Date: 17-Sep-20 14:15
Anticipated ***(Estimated)*** Completion Date: 24-Sep-20 19:00

This is an automated notification from our laboratory information management system (LIMS), indicating the samples we have recently received and their associated analyses. Should any of the following information be in error, please contact us immediately.

Thank you for choosing Environmental Conservation Laboratories. Should any events occur that delay the processing of your samples or inhibit our ability to complete the project within the projected time frame you will be contacted.

Sincerely,

Kaitlin Dylnicki

Client: Tetra Tech, Inc. (TE016) **Project Name:** NASA KSC CRCA
Requested TAT: 5 **Project Number:** 112G08970

Analysis	TAT	Expires	Status
Sample ID: CRCA-ASInfluent20200916(Lab ID: AD03698-01), Matrix: Ground Water, Sampled: 16-Sep-20 07:55 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	30-Sep-20 23:59	Received
Sample ID: CRCA-Effluent20200916(Lab ID: AD03698-02), Matrix: Ground Water, Sampled: 16-Sep-20 07:50 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	30-Sep-20 23:59	Received

Analysis Groups included in this work order

ENCO Orlando

SDG: AD03698-TE016

CLASS: 01_VOA_MS

METHOD: EPA 8260D

ANALYSES DATA PACKAGE COVER PAGE

EPA 8260D

Laboratory: ENCO Orlando

SDG: AD03698-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-ASInfluent20200916	AD03698-01
CRCA-Effluent20200916	AD03698-02

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASInfluent20200916

Laboratory: ENCO Orlando
SDG: AD03698-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AD03698-01
File ID: 202IQ008.D
Sampled: 09/16/20 07:55
Prepared: 09/22/20 00:00
Analyzed: 09/22/20 11:33
Solids:
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Batch: 0I22021
Sequence: AA62584
Calibration: 2009079
Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	18		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	1.2	J	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASInfluent20200916

Laboratory: ENCO Orlando SDG: AD03698-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AD03698-01 File ID: 202IQ008.D

Sampled: 09/16/20 07:55 Prepared: 09/22/20 00:00 Analyzed: 09/22/20 11:33

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 0I22021 Sequence: AA62584 Calibration: 2009079 Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	43	87	53 - 146	
Toluene-d8	50.0	49	98	41 - 146	
4-Bromofluorobenzene	50.0	51	103	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	313726	11.47	311184	11.48	
1,4-Difluorobenzene	380397	12.02	429243	12.04	
Chlorobenzene-d5	209975	14.62	238086	14.63	
1,4-Dichlorobenzene-d4	175658	16.99	211680	17	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-Effluent20200916

Laboratory: ENCO Orlando SDG: AD03698-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AD03698-02 File ID: 202IQ009.D

Sampled: 09/16/20 07:50 Prepared: 09/22/20 00:00 Analyzed: 09/22/20 12:02

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 0I22021 Sequence: AA62584 Calibration: 2009079 Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-Effluent20200916

Laboratory: ENCO Orlando
SDG: AD03698-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AD03698-02
File ID: 202IQ009.D
Sampled: 09/16/20 07:50
Prepared: 09/22/20 00:00
Analyzed: 09/22/20 12:02
Solids:
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Batch: 0I22021
Sequence: AA62584
Calibration: 2009079
Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	44	89	53 - 146	
Toluene-d8	50.0	48	95	41 - 146	
4-Bromofluorobenzene	50.0	51	103	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	316248	11.47	311184	11.48	
1,4-Difluorobenzene	396591	12.02	429243	12.04	
Chlorobenzene-d5	212402	14.62	238086	14.63	
1,4-Dichlorobenzene-d4	177422	16.99	211680	17	

* Values outside of QC limits

HOLDING TIME SUMMARY

EPA 8260D

Laboratory: ENCO Orlando

SDG: AD03698-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-ASInfluent20200916	09/16/20 07:55	09/17/20 14:15	09/22/20 00:00	5.67	NA	09/22/20 11:33	6.00	14.00	
CRCA-Effluent20200916	09/16/20 07:50	09/17/20 14:15	09/22/20 00:00	5.67	NA	09/22/20 12:02	6.00	14.00	

PREPARATION BATCH SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AD03698-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 0I22021 Batch Matrix: Water Preparation: EPA 5030B_MS

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	0I22021-BLK1	202IQ005.D	09/22/20 00:00	
LCS	0I22021-BS1	202IQ002.D	09/22/20 00:00	
PAMW24509152020	0I22021-MS1	202IQ022.D	09/22/20 00:00	
PAMW24509152020	0I22021-MSD1	202IQ023.D	09/22/20 00:00	
CRCA-ASInfluent20200916	AD03698-01	202IQ008.D	09/22/20 00:00	
CRCA-Effluent20200916	AD03698-02	202IQ009.D	09/22/20 00:00	

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD03698-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	0I22021-BLK1	File ID:	202IQ005.D
Prepared:	09/22/20 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	09/22/20 09:58	Instrument:	OVGCMS2		
Batch:	0I22021	Sequence:	AA62584	Calibration:	2009079

CAS NO.	COMPOUND	CONC. (ug/L)	Q
75-71-8	Dichlorodifluoromethane	0.74	U
74-87-3	Chloromethane	0.82	U
75-01-4	Vinyl chloride	0.71	U
74-83-9	Bromomethane	0.95	U
75-00-3	Chloroethane	0.98	U
75-69-4	Trichlorofluoromethane	0.94	U
76-13-1	Freon 113	0.73	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	0.94	U
75-15-0	Carbon disulfide	2.5	U
75-09-2	Methylene Chloride	2.5	U
1634-04-4	Methyl-tert-Butyl Ether	0.60	U
156-60-5	trans-1,2-Dichloroethene	0.73	U
156-59-2	cis-1,2-Dichloroethene	0.53	U
75-34-3	1,1-Dichloroethane	0.62	U
78-93-3	2-Butanone	4.5	U
67-66-3	Chloroform	0.80	U
71-55-6	1,1,1-Trichloroethane	0.80	U
79-20-9	Methyl acetate	0.95	U
110-82-7	Cyclohexane	0.93	U
108-87-2	Methyl cyclohexane	0.64	U
56-23-5	Carbon Tetrachloride	0.94	U
107-06-2	1,2-Dichloroethane	0.63	U
71-43-2	Benzene	0.71	U
79-01-6	Trichloroethene	0.89	U
78-87-5	1,2-Dichloropropane	0.80	U
75-27-4	Bromodichloromethane	0.52	U
108-10-1	4-Methyl-2-pentanone	2.5	U
591-78-6	2-Hexanone	2.5	U
10061-01-5	cis-1,3-Dichloropropene	0.59	U

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD03698-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	0I22021-BLK1	File ID:	202IQ005.D
Prepared:	09/22/20 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	09/22/20 09:58	Instrument:	OVGCMS2		
Batch:	0I22021	Sequence:	AA62584	Calibration:	2009079

CAS NO.	COMPOUND	CONC. (ug/L)	Q
108-88-3	Toluene	0.72	U
10061-02-6	trans-1,3-Dichloropropene	0.73	U
79-00-5	1,1,2-Trichloroethane	0.76	U
127-18-4	Tetrachloroethene	0.76	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.78	U
108-90-7	Chlorobenzene	0.72	U
100-41-4	Ethylbenzene	0.69	U
108-38-3/106-42-3	m,p-Xylenes	1.3	U
95-47-6	o-Xylene	0.53	U
75-25-2	Bromoform	0.75	U
100-42-5	Styrene	0.61	U
98-82-8	Isopropylbenzene	0.67	U
79-34-5	1,1,2,2-Tetrachloroethane	0.54	U
120-82-1	1,2,4-Trichlorobenzene	0.70	U
541-73-1	1,3-Dichlorobenzene	0.77	U
106-46-7	1,4-Dichlorobenzene	0.76	U
95-50-1	1,2-Dichlorobenzene	0.73	U
96-12-8	1,2-Dibromo-3-chloropropane	0.96	U
1330-20-7	Xylenes (Total)	1.3	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	44	88	53 - 146	
Toluene-d8	50.0	49	97	41 - 146	
4-Bromofluorobenzene	50.0	50	100	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	321608	11.47	311184	11.48	
1,4-Difluorobenzene	399216	12.02	429243	12.04	
Chlorobenzene-d5	214909	14.62	238086	14.63	
1,4-Dichlorobenzene-d4	179580	16.99	211680	17	

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD03698-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	0I22021	Laboratory ID:	0I22021-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	12	60	10 - 180
Chloromethane	20.0	11	54	33 - 154
Vinyl chloride	20.0	16	82	20 - 167
Bromomethane	20.0	7.1	35	10 - 173
Chloroethane	20.0	17	87	27 - 180
Trichlorofluoromethane	20.0	16	79	56 - 155
Freon 113	20.0	18	91	47 - 173
Acetone	100	86	86	10 - 180
1,1-Dichloroethene	20.0	18	92	47 - 139
Carbon disulfide	20.0	21	106	43 - 153
Methylene Chloride	20.0	18	89	43 - 142
Methyl-tert-Butyl Ether	20.0	18	88	51 - 145
trans-1,2-Dichloroethene	20.0	18	91	54 - 134
cis-1,2-Dichloroethene	20.0	18	90	56 - 128
1,1-Dichloroethane	20.0	16	82	57 - 142
2-Butanone	100	120	117	10 - 180
Chloroform	20.0	18	88	58 - 139
1,1,1-Trichloroethane	20.0	18	90	57 - 148
Methyl acetate	20.0	16	82	70 - 130
Cyclohexane	20.0	20	98	70 - 130
Methyl cyclohexane	20.0	21	104	70 - 130
Carbon Tetrachloride	20.0	19	96	54 - 156
1,2-Dichloroethane	20.0	17	86	50 - 156
Benzene	20.0	19	93	56 - 136
Trichloroethene	20.0	19	94	62 - 135
1,2-Dichloropropane	20.0	17	87	61 - 133
Bromodichloromethane	20.0	18	92	58 - 135
4-Methyl-2-pentanone	100	92	92	19 - 180
2-Hexanone	100	86	86	12 - 180
cis-1,3-Dichloropropene	20.0	18	88	64 - 128

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD03698-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	0I22021	Laboratory ID:	0I22021-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Toluene	20.0	20	99	64 - 131
trans-1,3-Dichloropropene	20.0	19	94	65 - 149
1,1,2-Trichloroethane	20.0	19	95	57 - 141
Tetrachloroethene	20.0	19	93	60 - 147
Dibromochloromethane	20.0	19	95	50 - 140
1,2-Dibromoethane	20.0	19	96	57 - 140
Chlorobenzene	20.0	19	97	51 - 139
Ethylbenzene	20.0	19	97	63 - 133
m,p-Xylenes	40.0	39	97	64 - 133
o-Xylene	20.0	19	97	61 - 129
Bromoform	20.0	20	101	46 - 148
Styrene	20.0	20	98	59 - 136
Isopropylbenzene	20.0	20	99	60 - 132
1,1,2,2-Tetrachloroethane	20.0	19	94	60 - 139
1,2,4-Trichlorobenzene	20.0	23	114	52 - 159
1,3-Dichlorobenzene	20.0	19	96	66 - 129
1,4-Dichlorobenzene	20.0	18	92	65 - 133
1,2-Dichlorobenzene	20.0	19	97	63 - 131
1,2-Dibromo-3-chloropropane	20.0	19	93	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

PAMW24509152020

Laboratory: ENCO Orlando
SDG: AD03698-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 0I22021
Laboratory ID: 0I22021-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: PAMW24509152020

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	ND	17	86	10 - 180
Chloromethane	20.0	ND	14	71	33 - 154
Vinyl chloride	20.0	ND	20	101	20 - 167
Bromomethane	20.0	ND	14	71	10 - 173
Chloroethane	20.0	ND	20	99	27 - 180
Trichlorofluoromethane	20.0	ND	22	108	56 - 155
Freon 113	20.0	ND	22	110	47 - 173
Acetone	100	ND	100	104	10 - 180
1,1-Dichloroethene	20.0	ND	22	109	47 - 139
Carbon disulfide	20.0	ND	21	104	43 - 153
Methylene Chloride	20.0	ND	20	101	43 - 142
Methyl-tert-Butyl Ether	20.0	ND	20	100	51 - 145
trans-1,2-Dichloroethene	20.0	ND	20	101	54 - 134
cis-1,2-Dichloroethene	20.0	ND	21	105	56 - 128
1,1-Dichloroethane	20.0	ND	21	103	57 - 142
2-Butanone	100	ND	130	129	10 - 180
Chloroform	20.0	ND	21	105	58 - 139
1,1,1-Trichloroethane	20.0	ND	22	112	57 - 148
Methyl acetate	20.0	ND	17	84	70 - 130
Cyclohexane	20.0	ND	25	123	70 - 130
Methyl cyclohexane	20.0	ND	25	126	70 - 130
Carbon Tetrachloride	20.0	ND	23	117	54 - 156
1,2-Dichloroethane	20.0	ND	21	106	50 - 156
Benzene	20.0	ND	22	110	56 - 136
Trichloroethene	20.0	ND	21	103	62 - 135
1,2-Dichloropropane	20.0	ND	21	105	61 - 133
Bromodichloromethane	20.0	ND	22	111	58 - 135
4-Methyl-2-pentanone	100	ND	99	99	19 - 180
2-Hexanone	100	ND	100	101	12 - 180
cis-1,3-Dichloropropene	20.0	ND	20	100	64 - 128
Toluene	20.0	ND	22	109	64 - 131

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

PAMW24509152020

Laboratory: ENCO Orlando
SDG: AD03698-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 0I22021
Laboratory ID: 0I22021-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: PAMW24509152020

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
trans-1,3-Dichloropropene	20.0	ND	20	101	65 - 149
1,1,2-Trichloroethane	20.0	ND	20	101	57 - 141
Tetrachloroethene	20.0	ND	20	101	60 - 147
Dibromochloromethane	20.0	ND	20	101	50 - 140
1,2-Dibromoethane	20.0	ND	20	102	57 - 140
Chlorobenzene	20.0	ND	21	104	51 - 139
Ethylbenzene	20.0	ND	21	106	63 - 133
m,p-Xylenes	40.0	ND	43	107	64 - 133
o-Xylene	20.0	ND	21	105	61 - 129
Bromoform	20.0	ND	21	107	46 - 148
Styrene	20.0	ND	21	106	59 - 136
Isopropylbenzene	20.0	ND	22	109	60 - 132
1,1,2,2-Tetrachloroethane	20.0	ND	20	99	60 - 139
1,2,4-Trichlorobenzene	20.0	ND	20	101	52 - 159
1,3-Dichlorobenzene	20.0	ND	21	103	66 - 129
1,4-Dichlorobenzene	20.0	ND	20	100	65 - 133
1,2-Dichlorobenzene	20.0	ND	21	103	63 - 131
1,2-Dibromo-3-chloropropane	20.0	ND	18	91	48 - 150

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

PAMW24509152020

Laboratory: ENCO Orlando
SDG: AD03698-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 0I22021
Laboratory ID: 0I22021-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: PAMW24509152020

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20.0	16	82	4	26	10 - 180
Chloromethane	20.0	15	73	2	31	33 - 154
Vinyl chloride	20.0	20	101	0.4	24	20 - 167
Bromomethane	20.0	16	82	14	29	10 - 173
Chloroethane	20.0	19	96	2	22	27 - 180
Trichlorofluoromethane	20.0	22	108	0.3	22	56 - 155
Freon 113	20.0	22	110	0.5	30	47 - 173
Acetone	100	110	106	2	19	10 - 180
1,1-Dichloroethene	20.0	22	108	0.6	16	47 - 139
Carbon disulfide	20.0	20	102	2	26	43 - 153
Methylene Chloride	20.0	20	98	3	23	43 - 142
Methyl-tert-Butyl Ether	20.0	21	103	3	22	51 - 145
trans-1,2-Dichloroethene	20.0	20	102	0.9	20	54 - 134
cis-1,2-Dichloroethene	20.0	21	103	2	17	56 - 128
1,1-Dichloroethane	20.0	20	100	3	24	57 - 142
2-Butanone	100	130	134	3	29	10 - 180
Chloroform	20.0	21	104	1	17	58 - 139
1,1,1-Trichloroethane	20.0	23	113	0.5	25	57 - 148
Methyl acetate	20.0	17	83	1	20	70 - 130
Cyclohexane	20.0	24	121	1	20	70 - 130
Methyl cyclohexane	20.0	25	124	2	20	70 - 130
Carbon Tetrachloride	20.0	24	118	0.9	27	54 - 156
1,2-Dichloroethane	20.0	22	108	2	18	50 - 156
Benzene	20.0	22	110	0	14	56 - 136
Trichloroethene	20.0	21	106	3	20	62 - 135
1,2-Dichloropropane	20.0	21	103	1	26	61 - 133
Bromodichloromethane	20.0	22	111	0.6	19	58 - 135
4-Methyl-2-pentanone	100	100	102	3	24	19 - 180
2-Hexanone	100	110	106	5	28	12 - 180
cis-1,3-Dichloropropene	20.0	20	101	1	20	64 - 128
Toluene	20.0	21	105	4	16	64 - 131
trans-1,3-Dichloropropene	20.0	20	99	2	17	65 - 149

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

PAMW24509152020

Laboratory: ENCO Orlando
SDG: AD03698-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 0I22021
Laboratory ID: 0I22021-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: PAMW24509152020

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,2-Trichloroethane	20.0	20	102	2	16	57 - 141
Tetrachloroethene	20.0	19	97	4	21	60 - 147
Dibromochloromethane	20.0	20	101	0.7	18	50 - 140
1,2-Dibromoethane	20.0	20	102	0.1	16	57 - 140
Chlorobenzene	20.0	20	102	2	13	51 - 139
Ethylbenzene	20.0	21	104	2	18	63 - 133
m,p-Xylenes	40.0	42	105	2	18	64 - 133
o-Xylene	20.0	21	103	2	16	61 - 129
Bromoform	20.0	22	110	3	18	46 - 148
Styrene	20.0	21	103	2	32	59 - 136
Isopropylbenzene	20.0	21	107	2	23	60 - 132
1,1,2,2-Tetrachloroethane	20.0	20	101	2	17	60 - 139
1,2,4-Trichlorobenzene	20.0	22	109	8	24	52 - 159
1,3-Dichlorobenzene	20.0	21	105	2	23	66 - 129
1,4-Dichlorobenzene	20.0	20	98	1	23	65 - 133
1,2-Dichlorobenzene	20.0	21	104	1	25	63 - 131
1,2-Dibromo-3-chloropropane	20.0	21	104	13	21	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD03698-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA62441
Instrument: OVGCMS2
Matrix: Water
Calibration: 2009079

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA62441-SCV1)			Lab File ID: 202II018.D		Analyzed: 09/14/20 18:09			
Dibromofluoromethane	50.0	100	70 - 130	11.09	11.09125	-0.0013	+/-0.5	
Toluene-d8	50.0	100	70 - 130	13.25	13.2525	-0.0025	+/-0.5	
4-Bromofluorobenzene	50.0	101	70 - 130	15.75	15.7525	-0.0025	+/-0.5	
Calibration Check (AA62441-CCV1)			Lab File ID: 202IJ002.D		Analyzed: 09/15/20 08:36			
Dibromofluoromethane	50.0	98	80 - 120	11.09	11.09125	-0.0013	+/-0.5	
Toluene-d8	50.0	98	80 - 120	13.25	13.2525	-0.0025	+/-0.5	
4-Bromofluorobenzene	50.0	99	80 - 120	15.75	15.7525	-0.0025	+/-0.5	
Secondary Cal Check (AA62441-SCV2)			Lab File ID: 202IJ004.D		Analyzed: 09/15/20 09:37			
Dibromofluoromethane	50.0	97	70 - 130	11.08	11.09125	-0.0113	+/-0.5	
Toluene-d8	50.0	100	70 - 130	13.24	13.2525	-0.0125	+/-0.5	
4-Bromofluorobenzene	50.0	99	70 - 130	15.74	15.7525	-0.0125	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD03698-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA62584
Instrument: OVGCMS2
Matrix: Water
Calibration: 2009079

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA62584-CCV1)			Lab File ID: 202IQ001.D		Analyzed: 09/22/20 08:00			
Dibromofluoromethane	50.0	87	80 - 120	11.08	11.09125	-0.0113	+/-0.5	
Toluene-d8	50.0	95	80 - 120	13.24	13.2525	-0.0125	+/-0.5	
4-Bromofluorobenzene	50.0	111	80 - 120	15.74	15.7525	-0.0125	+/-0.5	
LCS (0I22021-BS1)			Lab File ID: 202IQ002.D		Analyzed: 09/22/20 08:32			
Dibromofluoromethane	50.0	86	53 - 146	11.08	11.09125	-0.0113	+/-0.5	
Toluene-d8	50.0	94	41 - 146	13.24	13.2525	-0.0125	+/-0.5	
4-Bromofluorobenzene	50.0	102	41 - 142	15.74	15.7525	-0.0125	+/-0.5	
Blank (0I22021-BLK1)			Lab File ID: 202IQ005.D		Analyzed: 09/22/20 09:58			
Dibromofluoromethane	50.0	88	53 - 146	11.08	11.09125	-0.0113	+/-0.5	
Toluene-d8	50.0	97	41 - 146	13.24	13.2525	-0.0125	+/-0.5	
4-Bromofluorobenzene	50.0	100	41 - 142	15.74	15.7525	-0.0125	+/-0.5	
Instrument RL Check (AA62584-CRL1)			Lab File ID: 202IQ006.D		Analyzed: 09/22/20 10:35			
Dibromofluoromethane	50.0	88	1 - 199	11.08	11.09125	-0.0113	+/-0.5	
Toluene-d8	50.0	95	1 - 199	13.24	13.2525	-0.0125	+/-0.5	
4-Bromofluorobenzene	50.0	102	1 - 199	15.74	15.7525	-0.0125	+/-0.5	
CRCA-ASInfluent20200916 (AD03698-01)			Lab File ID: 202IQ008.D		Analyzed: 09/22/20 11:33			
Dibromofluoromethane	50.0	87	53 - 146	11.08	11.09125	-0.0113	+/-0.5	
Toluene-d8	50.0	98	41 - 146	13.24	13.2525	-0.0125	+/-0.5	
4-Bromofluorobenzene	50.0	103	41 - 142	15.74	15.7525	-0.0125	+/-0.5	
CRCA-Effluent20200916 (AD03698-02)			Lab File ID: 202IQ009.D		Analyzed: 09/22/20 12:02			
Dibromofluoromethane	50.0	89	53 - 146	11.08	11.09125	-0.0113	+/-0.5	
Toluene-d8	50.0	95	41 - 146	13.24	13.2525	-0.0125	+/-0.5	
4-Bromofluorobenzene	50.0	103	41 - 142	15.74	15.7525	-0.0125	+/-0.5	
Matrix Spike (0I22021-MS1)			Lab File ID: 202IQ022.D		Analyzed: 09/22/20 18:15			
Dibromofluoromethane	50.0	91	53 - 146	11.08	11.09125	-0.0113	+/-0.5	
Toluene-d8	50.0	97	41 - 146	13.24	13.2525	-0.0125	+/-0.5	
4-Bromofluorobenzene	50.0	103	41 - 142	15.74	15.7525	-0.0125	+/-0.5	
Matrix Spike Dup (0I22021-MSD1)			Lab File ID: 202IQ023.D		Analyzed: 09/22/20 18:44			
Dibromofluoromethane	50.0	91	53 - 146	11.08	11.09125	-0.0113	+/-0.5	
Toluene-d8	50.0	97	41 - 146	13.25	13.2525	-0.0025	+/-0.5	
4-Bromofluorobenzene	50.0	103	41 - 142	15.75	15.7525	-0.0025	+/-0.5	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AD03698-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA62441
Instrument: OVGCMS2
Matrix: Water
Calibration: 2009079

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA62441-CAL1)			Lab File ID: 202II008.D			Analyzed: 09/14/20 13:02			
Pentafluorobenzene	335711	11.48	311184	11.48	108	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	451324	12.04	429243	12.04	105	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	240514	14.63	238086	14.63	101	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	203028	17	211680	17	96	50 - 200	0.0000	+/-0.50	
Cal Standard (AA62441-CAL2)			Lab File ID: 202II009.D			Analyzed: 09/14/20 13:49			
Pentafluorobenzene	274399	11.49	311184	11.48	88	50 - 200	0.0100	+/-0.50	
1,4-Difluorobenzene	369289	12.04	429243	12.04	86	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	201672	14.63	238086	14.63	85	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	173637	17.01	211680	17	82	50 - 200	0.0100	+/-0.50	
Cal Standard (AA62441-CAL3)			Lab File ID: 202II010.D			Analyzed: 09/14/20 14:18			
Pentafluorobenzene	275361	11.49	311184	11.48	88	50 - 200	0.0100	+/-0.50	
1,4-Difluorobenzene	368408	12.04	429243	12.04	86	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	207037	14.63	238086	14.63	87	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	175506	17	211680	17	83	50 - 200	0.0000	+/-0.50	
Cal Standard (AA62441-CAL4)			Lab File ID: 202II011.D			Analyzed: 09/14/20 14:47			
Pentafluorobenzene	277122	11.49	311184	11.48	89	50 - 200	0.0100	+/-0.50	
1,4-Difluorobenzene	371228	12.04	429243	12.04	86	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	206805	14.63	238086	14.63	87	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	178283	17	211680	17	84	50 - 200	0.0000	+/-0.50	
Cal Standard (AA62441-CAL5)			Lab File ID: 202II012.D			Analyzed: 09/14/20 15:16			
Pentafluorobenzene	289389	11.48	311184	11.48	93	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	390999	12.03	429243	12.04	91	50 - 200	-0.0100	+/-0.50	
Chlorobenzene-d5	216784	14.63	238086	14.63	91	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	190885	17	211680	17	90	50 - 200	0.0000	+/-0.50	
Cal Standard (AA62441-CAL6)			Lab File ID: 202II013.D			Analyzed: 09/14/20 15:44			
Pentafluorobenzene	311184	11.48	311184	11.48	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	429243	12.04	429243	12.04	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	238086	14.63	238086	14.63	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	211680	17	211680	17	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA62441-CAL7)			Lab File ID: 202II014.D			Analyzed: 09/14/20 16:13			
Pentafluorobenzene	322300	11.48	311184	11.48	104	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	450141	12.03	429243	12.04	105	50 - 200	-0.0100	+/-0.50	
Chlorobenzene-d5	249783	14.63	238086	14.63	105	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	218794	17	211680	17	103	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AD03698-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA62441
Instrument: OVGCMS2
Matrix: Water
Calibration: 2009079

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA62441-CAL8)			Lab File ID: 202II015.D			Analyzed: 09/14/20 16:42			
Pentafluorobenzene	319497	11.48	311184	11.48	103	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	450704	12.03	429243	12.04	105	50 - 200	-0.0100	+/-0.50	
Chlorobenzene-d5	248607	14.63	238086	14.63	104	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	220904	17	211680	17	104	50 - 200	0.0000	+/-0.50	
Secondary Cal Check (AA62441-SCV1)			Lab File ID: 202II018.D			Analyzed: 09/14/20 18:09			
Pentafluorobenzene	327535	11.48	311184	11.48	105	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	454732	12.03	429243	12.04	106	50 - 200	-0.0100	+/-0.50	
Chlorobenzene-d5	251986	14.63	238086	14.63	106	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	221373	16.99	211680	17	105	50 - 200	-0.0100	+/-0.50	
Calibration Check (AA62441-CCV1)			Lab File ID: 202IJ002.D			Analyzed: 09/15/20 08:36			
Pentafluorobenzene	339518	11.49	311184	11.48	109	50 - 200	0.0100	+/-0.50	
1,4-Difluorobenzene	467301	12.04	429243	12.04	109	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	256964	14.63	238086	14.63	108	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	228515	17	211680	17	108	50 - 200	0.0000	+/-0.50	
Secondary Cal Check (AA62441-SCV2)			Lab File ID: 202IJ004.D			Analyzed: 09/15/20 09:37			
Pentafluorobenzene	328922	11.48	311184	11.48	106	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	449597	12.03	429243	12.04	105	50 - 200	-0.0100	+/-0.50	
Chlorobenzene-d5	252275	14.62	238086	14.63	106	50 - 200	-0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	225151	16.99	211680	17	106	50 - 200	-0.0100	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AD03698-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA62584
Instrument: OVGCMS2
Matrix: Water
Calibration: 2009079

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA62584-CCV1)			Lab File ID: 202IQ001.D			Analyzed: 09/22/20 08:00			
Pentafluorobenzene	317003	11.47	311184	11.48	102	50 - 200	-0.0100	+/-0.50	
1,4-Difluorobenzene	416978	12.02	429243	12.04	97	50 - 200	-0.0200	+/-0.50	
Chlorobenzene-d5	227950	14.62	238086	14.63	96	50 - 200	-0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	218928	16.99	211680	17	103	50 - 200	-0.0100	+/-0.50	
LCS (0I22021-BS1)			Lab File ID: 202IQ002.D			Analyzed: 09/22/20 08:32			
Pentafluorobenzene	360064	11.47	311184	11.48	116	50 - 200	-0.0100	+/-0.50	
1,4-Difluorobenzene	460018	12.02	429243	12.04	107	50 - 200	-0.0200	+/-0.50	
Chlorobenzene-d5	245771	14.62	238086	14.63	103	50 - 200	-0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	219428	16.99	211680	17	104	50 - 200	-0.0100	+/-0.50	
Blank (0I22021-BLK1)			Lab File ID: 202IQ005.D			Analyzed: 09/22/20 09:58			
Pentafluorobenzene	321608	11.47	311184	11.48	103	50 - 200	-0.0100	+/-0.50	
1,4-Difluorobenzene	399216	12.02	429243	12.04	93	50 - 200	-0.0200	+/-0.50	
Chlorobenzene-d5	214909	14.62	238086	14.63	90	50 - 200	-0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	179580	16.99	211680	17	85	50 - 200	-0.0100	+/-0.50	
Instrument RL Check (AA62584-CRL1)			Lab File ID: 202IQ006.D			Analyzed: 09/22/20 10:35			
Pentafluorobenzene	324368	11.47	311184	11.48	104	50 - 200	-0.0100	+/-0.50	
1,4-Difluorobenzene	406715	12.02	429243	12.04	95	50 - 200	-0.0200	+/-0.50	
Chlorobenzene-d5	217536	14.62	238086	14.63	91	50 - 200	-0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	184765	16.99	211680	17	87	50 - 200	-0.0100	+/-0.50	
CRCA-ASInfluent20200916 (AD03698-01)			Lab File ID: 202IQ008.D			Analyzed: 09/22/20 11:33			
Pentafluorobenzene	313726	11.47	311184	11.48	101	50 - 200	-0.0100	+/-0.50	
1,4-Difluorobenzene	380397	12.02	429243	12.04	89	50 - 200	-0.0200	+/-0.50	
Chlorobenzene-d5	209975	14.62	238086	14.63	88	50 - 200	-0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	175658	16.99	211680	17	83	50 - 200	-0.0100	+/-0.50	
CRCA-Effluent20200916 (AD03698-02)			Lab File ID: 202IQ009.D			Analyzed: 09/22/20 12:02			
Pentafluorobenzene	316248	11.47	311184	11.48	102	50 - 200	-0.0100	+/-0.50	
1,4-Difluorobenzene	396591	12.02	429243	12.04	92	50 - 200	-0.0200	+/-0.50	
Chlorobenzene-d5	212402	14.62	238086	14.63	89	50 - 200	-0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	177422	16.99	211680	17	84	50 - 200	-0.0100	+/-0.50	
Matrix Spike (0I22021-MS1)			Lab File ID: 202IQ022.D			Analyzed: 09/22/20 18:15			
Pentafluorobenzene	276475	11.48	311184	11.48	89	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	355893	12.03	429243	12.04	83	50 - 200	-0.0100	+/-0.50	
Chlorobenzene-d5	197714	14.62	238086	14.63	83	50 - 200	-0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	176542	16.99	211680	17	83	50 - 200	-0.0100	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AD03698-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA62584
Instrument: OVGCMS2
Matrix: Water
Calibration: 2009079

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Matrix Spike Dup (0I22021-MSD1)			Lab File ID: 202IQ023.D			Analyzed: 09/22/20 18:44			
Pentafluorobenzene	293387	11.48	311184	11.48	94	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	373541	12.03	429243	12.04	87	50 - 200	-0.0100	+/-0.50	
Chlorobenzene-d5	210701	14.62	238086	14.63	88	50 - 200	-0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	177010	17	211680	17	84	50 - 200	0.0000	+/-0.50	

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD03698-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA62441		
Calibration:	2009079	Instrument:	OVGCMS2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA62441-TUN1	202II007.D	09/14/20 12:21
Cal Standard	AA62441-CAL1	202II008.D	09/14/20 13:02
Cal Standard	AA62441-CAL2	202II009.D	09/14/20 13:49
Cal Standard	AA62441-CAL3	202II010.D	09/14/20 14:18
Cal Standard	AA62441-CAL4	202II011.D	09/14/20 14:47
Cal Standard	AA62441-CAL5	202II012.D	09/14/20 15:16
Cal Standard	AA62441-CAL6	202II013.D	09/14/20 15:44
Cal Standard	AA62441-CAL7	202II014.D	09/14/20 16:13
Cal Standard	AA62441-CAL8	202II015.D	09/14/20 16:42
Secondary Cal Check	AA62441-SCV1	202II018.D	09/14/20 18:09
MS Tune	AA62441-TUN2	202IJ001.D	09/15/20 07:57
Calibration Check	AA62441-CCV1	202IJ002.D	09/15/20 08:36
Secondary Cal Check	AA62441-SCV2	202IJ004.D	09/15/20 09:37

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD03698-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA62584		
Calibration:	2009079	Instrument:	OVGCMS2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA62584-CCV1	202IQ001.D	09/22/20 08:00
LCS	0I22021-BS1	202IQ002.D	09/22/20 08:32
Blank	0I22021-BLK1	202IQ005.D	09/22/20 09:58
Instrument RL Check	AA62584-CRL1	202IQ006.D	09/22/20 10:35
CRCA-ASInfluent20200916	AD03698-01	202IQ008.D	09/22/20 11:33
CRCA-Effluent20200916	AD03698-02	202IQ009.D	09/22/20 12:02
PAMW24509152020	0I22021-MS1	202IQ022.D	09/22/20 18:15
PAMW24509152020	0I22021-MSD1	202IQ023.D	09/22/20 18:44

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD03698-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	202II007.D	Injection Date:	09/14/20
Instrument ID:	OVGCMS2	Injection Time:	12:21
Sequence:	AA62441	Lab Sample ID:	AA62441-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	114	PASS
96	5 - 9% of 95	6.64	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	87.7	PASS
175	5 - 9% of 174	7.27	PASS
176	95 - 105% of 174	96.5	PASS
177	5 - 10% of 176	6.88	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD03698-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	202IJ001.D	Injection Date:	09/15/20
Instrument ID:	OVGCMS2	Injection Time:	07:57
Sequence:	AA62441	Lab Sample ID:	AA62441-TUN2

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	112	PASS
96	5 - 9% of 95	6.77	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	89.3	PASS
175	5 - 9% of 174	7.62	PASS
176	95 - 105% of 174	98.1	PASS
177	5 - 10% of 176	6.45	PASS

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD03698-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS2	Calibration:	2009079
Lab File ID:	202IJ002.D	Calibration Date:	09/14/20 10:14
Sequence:	AA62441	Injection Date:	09/15/20
Lab Sample ID:	AA62441-CCV1	Injection Time:	08:36

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Dichlorodifluoromethane	A	20.0	14	0.7167548	0.5160846		-28	20	*
Chloromethane	A	20.0	20	0.8431003	0.8246765		-2.2	20	
Vinyl chloride	A	20.0	18	0.6673814	0.6013304		-9.9	20	
Bromomethane	A	20.0	29	0.2641389	0.3837205		46	20	*
Chloroethane	A	20.0	19	0.435941	0.376335		-2.8	20	
Trichlorofluoromethane	A	20.0	20	0.6748799	0.6635657		-1.7	20	
Freon 113	A	50.0	50	0.3892606	0.3868425		-0.6	20	
Acetone	A	250	250	0.1563887	0.1423441		1.4	20	
1,1-Dichloroethene	A	50.0	50	0.3609063	0.3576983		-0.7	20	
Carbon disulfide	A	250	250	1.392729	1.347506		-0.6	20	
Methylene Chloride	A	50.0	49	0.508364	0.4657426		-2.9	20	
Methyl-tert-Butyl Ether	A	50.0	43	0.8912447	0.9340595		-14	20	
trans-1,2-Dichloroethene	A	50.0	50	0.419386	0.4176391		-0.4	20	
cis-1,2-Dichloroethene	A	50.0	52	0.4532295	0.4675275		3.2	20	
1,1-Dichloroethane	A	50.0	48	0.8639164	0.8378054		-3	20	
2-Butanone	A	250	250	5.047027E-02	4.946601E-02		-2	20	
Chloroform	A	50.0	50	0.8098342	0.8024788		-0.9	20	
1,1,1-Trichloroethane	A	50.0	50	0.5867304	0.5877627		0.20	20	
Methyl acetate	A	50.0	46	9.095246E-02	8.597482E-02		-7.5	20	
Cyclohexane	A	50.0	49	0.7015731	0.6858281		-2.2	20	
Methyl cyclohexane	A	50.0	48	0.3925525	0.3742577		-4.7	20	
Carbon Tetrachloride	A	50.0	50	0.4156626	0.4153704		-0.07	20	
1,2-Dichloroethane	A	50.0	50	0.4727676	0.469173		-0.8	20	
Benzene	A	50.0	48	1.239542	1.198927		-3.3	20	
Trichloroethene	A	50.0	49	0.3149222	0.3070847		-2.5	20	
1,2-Dichloropropane	A	50.0	49	0.3671103	0.3597103		-2	20	
Bromodichloromethane	A	50.0	51	0.4392379	0.4496417		2.4	20	
4-Methyl-2-pentanone	A	250	240	4.766559E-02	4.593827E-02		-3.6	20	
2-Hexanone	A	250	250	0.2662479	0.2674901		0.50	20	

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD03698-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS2	Calibration:	2009079
Lab File ID:	202IJ002.D	Calibration Date:	09/14/20 10:14
Sequence:	AA62441	Injection Date:	09/15/20
Lab Sample ID:	AA62441-CCV1	Injection Time:	08:36

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
cis-1,3-Dichloropropene	A	50.0	51	0.5964899	0.6114924		2.5	20
Toluene	A	50.0	51	1.339646	1.354836		1.1	20
trans-1,3-Dichloropropene	A	50.0	51	0.9429031	0.9669954		2.6	20
1,1,2-Trichloroethane	A	50.0	50	0.492684	0.4928823		0.040	20
Tetrachloroethene	A	50.0	46	0.5465122	0.5030471		-8	20
Dibromochloromethane	A	50.0	51	0.6108919	0.6231495		2.0	20
1,2-Dibromoethane	A	50.0	52	0.5586518	0.5767501		3.2	20
Chlorobenzene	A	50.0	50	1.422425	1.408972		-0.9	20
Ethylbenzene	A	50.0	51	0.7293112	0.7432909		1.9	20
m,p-Xylenes	A	100	100	0.8723982	0.8797575		0.80	20
o-Xylene	A	50.0	52	0.8879116	0.9164474		3.2	20
Bromoform	A	50.0	51	0.4406062	0.4503004		2.2	20
Styrene	A	50.0	52	1.57513	1.622593		3.0	20
Isopropylbenzene	A	50.0	51	2.180851	2.226152		2.1	20
1,1,2,2-Tetrachloroethane	A	50.0	49	0.6750048	0.6587187		-2.4	20
1,2,4-Trichlorobenzene	A	50.0	49	0.6377569	0.6226156		-2.4	20
1,3-Dichlorobenzene	A	50.0	50	1.324395	1.315699		-0.7	20
1,4-Dichlorobenzene	A	50.0	49	1.377992	1.359149		-1.4	20
1,2-Dichlorobenzene	A	50.0	50	1.242519	1.239551		-0.2	20
1,2-Dibromo-3-chloropropane	A	50.0	47	0.1351076	0.115848		-5.7	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD03698-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS2	Calibration:	2009079
Lab File ID:	202IQ001.D	Calibration Date:	09/14/20 10:14
Sequence:	AA62584	Injection Date:	09/22/20
Lab Sample ID:	AA62584-CCV1	Injection Time:	08:00

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Dichlorodifluoromethane	A	20.0	18	0.7167548	0.6417289		-11	20	
Chloromethane	A	20.0	12	0.8431003	0.5071719		-40	20	*
Vinyl chloride	A	20.0	16	0.6673814	0.5451289		-18	20	
Bromomethane	A	20.0	18	0.2641389	0.2405261		-8.2	20	
Chloroethane	A	20.0	15	0.435941	0.2967007		-23	20	*
Trichlorofluoromethane	A	20.0	15	0.6748799	0.499112		-26	20	*
Freon 113	A	50.0	47	0.3892606	0.3658451		-6	20	
Acetone	A	250	210	0.1563887	0.1166576		-17	20	
1,1-Dichloroethene	A	50.0	45	0.3609063	0.3255174		-9.4	20	
Carbon disulfide	A	250	240	1.392729	1.295048		-4.3	20	
Methylene Chloride	A	50.0	46	0.508364	0.4405447		-8.1	20	
Methyl-tert-Butyl Ether	A	50.0	47	0.8912447	1.006927		-6.8	20	
trans-1,2-Dichloroethene	A	50.0	47	0.419386	0.3941635		-6	20	
cis-1,2-Dichloroethene	A	50.0	49	0.4532295	0.4468128		-1.4	20	
1,1-Dichloroethane	A	50.0	44	0.8639164	0.7674849		-11	20	
2-Butanone	A	250	210	5.047027E-02	4.210118E-02		-17	20	
Chloroform	A	50.0	47	0.8098342	0.7571537		-6.5	20	
1,1,1-Trichloroethane	A	50.0	48	0.5867304	0.5600767		-4.5	20	
Methyl acetate	A	50.0	41	9.095246E-02	7.676268E-02		-17	20	
Cyclohexane	A	50.0	43	0.7015731	0.6008744		-14	20	
Methyl cyclohexane	A	50.0	46	0.3925525	0.3643765		-7.2	20	
Carbon Tetrachloride	A	50.0	49	0.4156626	0.4072781		-2	20	
1,2-Dichloroethane	A	50.0	47	0.4727676	0.4467526		-5.5	20	
Benzene	A	50.0	47	1.239542	1.167275		-5.8	20	
Trichloroethene	A	50.0	50	0.3149222	0.3128007		-0.7	20	
1,2-Dichloropropane	A	50.0	48	0.3671103	0.3520018		-4.1	20	
Bromodichloromethane	A	50.0	51	0.4392379	0.4482371		2.0	20	
4-Methyl-2-pentanone	A	250	230	4.766559E-02	4.411744E-02		-7.4	20	
2-Hexanone	A	250	220	0.2662479	0.2382677		-11	20	

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD03698-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS2	Calibration:	2009079
Lab File ID:	202IQ001.D	Calibration Date:	09/14/20 10:14
Sequence:	AA62584	Injection Date:	09/22/20
Lab Sample ID:	AA62584-CCV1	Injection Time:	08:00

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
cis-1,3-Dichloropropene	A	50.0	50	0.5964899	0.5924677		-0.7	20
Toluene	A	50.0	52	1.339646	1.403808		4.8	20
trans-1,3-Dichloropropene	A	50.0	49	0.9429031	0.9203422		-2.4	20
1,1,2-Trichloroethane	A	50.0	51	0.492684	0.5002237		1.5	20
Tetrachloroethene	A	50.0	47	0.5465122	0.5176486		-5.3	20
Dibromochloromethane	A	50.0	50	0.6108919	0.6157578		0.80	20
1,2-Dibromoethane	A	50.0	52	0.5586518	0.5844483		4.6	20
Chlorobenzene	A	50.0	51	1.422425	1.443615		1.5	20
Ethylbenzene	A	50.0	53	0.7293112	0.7705155		5.6	20
m,p-Xylenes	A	100	110	0.8723982	0.9183593		5.3	20
o-Xylene	A	50.0	57	0.8879116	1.006093		13	20
Bromoform	A	50.0	55	0.4406062	0.4872516		11	20
Styrene	A	50.0	56	1.57513	1.749897		11	20
Isopropylbenzene	A	50.0	56	2.180851	2.426681		11	20
1,1,2,2-Tetrachloroethane	A	50.0	52	0.6750048	0.7007809		3.8	20
1,2,4-Trichlorobenzene	A	50.0	49	0.6377569	0.6290561		-1.4	20
1,3-Dichlorobenzene	A	50.0	50	1.324395	1.328217		0.30	20
1,4-Dichlorobenzene	A	50.0	48	1.377992	1.33485		-3.1	20
1,2-Dichlorobenzene	A	50.0	51	1.242519	1.25528		1.0	20
1,2-Dibromo-3-chloropropane	A	50.0	43	0.1351076	0.1047924		-15	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD03698-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA62441	Instrument:	OVGCMS2
Calibration:	2009079		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A0F0993	MS Tune	AA62441-TUN1	202II007.D	09/14/20 12:21
A0I0906	8260 Cal 1PPB	AA62441-CAL1	202II008.D	09/14/20 13:02
A0I0907	8260 Cal 2PPB	AA62441-CAL2	202II009.D	09/14/20 13:49
A0I0908	8260 Cal 5 PPB	AA62441-CAL3	202II010.D	09/14/20 14:18
A0I0909	8260 Cal 10 PPB	AA62441-CAL4	202II011.D	09/14/20 14:47
A0I0910	8260 Cal 20 PPB	AA62441-CAL5	202II012.D	09/14/20 15:16
A0I0911	8260 Cal 50 PPB	AA62441-CAL6	202II013.D	09/14/20 15:44
A0I0912	8260 Cal 80 PPB	AA62441-CAL7	202II014.D	09/14/20 16:13
A0I0913	8260 Cal 100 PPB	AA62441-CAL8	202II015.D	09/14/20 16:42
A0I0915	8260 SCV 50 PPB/20 Gases	AA62441-SCV1	202II018.D	09/14/20 18:09
A0F0993	MS Tune	AA62441-TUN2	202IJ001.D	09/15/20 07:57
A0I0940	8260 SCV 50 PPB/20 Gases	AA62441-SCV2	202IJ004.D	09/15/20 09:37

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD03698-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2009079
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 09/14/20 10:14

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	1	0.742603	2	0.7320544	5	0.6765301	10	0.6284777	20	0.6933142	50	0.7263805
Chloromethane	1	0.8799235	2	0.9532651	5	0.8714015	10	0.7610727	20	0.8027171	50	0.7937651
Vinyl chloride	1	0.7956248	2	0.7509138	5	0.6022276	10	0.5736643	20	0.6180349	50	0.6446668
Bromomethane	1	0.3450885	2	0.2544652	5	0.2255584	10	0.2182252	20	0.2800556	50	0.2614402
Chloroethane	1	0.7287518	2	0.507746	5	0.3789934	10	0.3545189	20	0.3612698	50	0.3814142
Trichlorofluoromethane	1	0.7174326	2	0.673563	5	0.6491842	10	0.5967949	20	0.6536271	50	0.6891775
Freon 113	1	0.4001954	2	0.437866	5	0.3688612	10	0.3332648	20	0.373442	50	0.3873496
Acetone	5	0.2057127	10	0.1946618	25	0.1574152	50	0.1329739	100	0.1398256	250	0.1394789
1,1-Dichloroethene	1	0.382025	2	0.4170934	5	0.3479432	10	0.2938597	20	0.3389555	50	0.3622616
Carbon disulfide	5	1.475942	10	1.526627	25	1.38894	50	1.263718	100	1.358115	250	1.36054
Methylene Chloride	1	0.6115379	2	0.6303777	5	0.5072251	10	0.4270321	20	0.4523237	50	0.4758342
Methyl-tert-Butyl Ether	1	0.6799003	2	0.8619747	5	0.7825001	10	0.7090199	20	0.8571767	50	1.050716
trans-1,2-Dichloroethene	1	0.4509831	2	0.5002751	5	0.4036519	10	0.3432604	20	0.3857524	50	0.4153234
cis-1,2-Dichloroethene	1	0.4424937	2	0.5013684	5	0.4421105	10	0.3882586	20	0.4282817	50	0.4604511
1,1-Dichloroethane	1	0.962435	2	1.036811	5	0.8645378	10	0.7205491	20	0.7963243	50	0.8374113
2-Butanone	5	4.378766E-02	10	6.295577E-02	25	5.390015E-02	50	4.702983E-02	100	4.851256E-02	250	4.886177E-02
Chloroform	1	0.8581786	2	0.9734912	5	0.8005128	10	0.6859073	20	0.751238	50	0.790934
1,1,1-Trichloroethane	1	0.5743035	2	0.6743829	5	0.5745549	10	0.5009526	20	0.5552388	50	0.5856889
Methyl acetate	1	0.1045542	2	6.805783E-02	5	0.1102553	10	8.241857E-02	20	8.529177E-02	50	9.014924E-02
Cyclohexane	1	0.7077516	2	0.8336401	5	0.6797622	10	0.5834073	20	0.6502752	50	0.6901704
Methyl cyclohexane	1	0.4474612	2	0.4692802	5	0.3733904	10	0.3231437	20	0.3794767	50	0.3705826
Carbon Tetrachloride	1	0.3922902	2	0.4927035	5	0.4049315	10	0.3526539	20	0.399221	50	0.4187908
1,2-Dichloroethane	1	0.4972038	2	0.5401596	5	0.4843543	10	0.3988519	20	0.4422006	50	0.4721848
Benzene	1	1.261289	2	1.54459	5	1.270901	10	1.053046	20	1.176512	50	1.199174
Trichloroethene	1	0.3366761	2	0.3724725	5	0.2976863	10	0.2557054	20	0.2923153	50	0.3127552
1,2-Dichloropropane	1	0.4288493	2	0.4094354	5	0.3610399	10	0.3117761	20	0.3382042	50	0.3628434
Bromodichloromethane	1	0.4214267	2	0.5021135	5	0.4391327	10	0.3745138	20	0.4158578	50	0.4551035
4-Methyl-2-pentanone	5	4.772625E-02	10	5.597242E-02	25	5.141039E-02	50	4.439859E-02	100	4.456022E-02	250	0.0465247
2-Hexanone	5	0.2366593	10	0.2744328	25	0.2870513	50	0.2558239	100	0.2713703	250	0.2701221
cis-1,3-Dichloropropene	1	0.598683	2	0.6798876	5	0.597924	10	0.4919618	20	0.5597585	50	0.609028
Toluene	1	1.377259	2	1.539133	5	1.309476	10	1.121491	20	1.275763	50	1.35152

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD03698-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2009079
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 09/14/20 10:14

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	1	0.9966156	2	1.078236	5	0.9107551	10	0.799618	20	0.8806692	50	0.9517527
1,1,2-Trichloroethane	1	0.4843793	2	0.5927942	5	0.5047407	10	0.4177365	20	0.4642294	50	0.4856984
Tetrachloroethene	1	0.5051681	2	0.5817615	5	0.5037747	10	0.4327023	20	0.5508709	50	0.5893081
Dibromochloromethane	1	0.6226249	2	0.699279	5	0.5898463	10	0.4988758	20	0.5806471	50	0.6261477
1,2-Dibromoethane	1	0.4567302	2	0.6330824	5	0.5766602	10	0.4962888	20	0.5397654	50	0.5843141
Chlorobenzene	1	1.489934	2	1.685038	5	1.40487	10	1.208578	20	1.332836	50	1.409318
Ethylbenzene	1	0.7147193	2	0.8088629	5	0.7257157	10	0.6121951	20	0.7029924	50	0.736759
m,p-Xylenes	2	0.8541083	4	1.002308	10	0.8620681	20	0.7407945	40	0.8317669	100	0.8801
o-Xylene	1	0.8573306	2	1.002618	5	0.8479161	10	0.7275453	20	0.8529458	50	0.9095453
Bromoform	1	0.3949874	2	0.4918878	5	0.4348981	10	0.3799956	20	0.4197727	50	0.4595062
Styrene	1	1.476006	2	1.865405	5	1.473215	10	1.329683	20	1.514203	50	1.615756
Isopropylbenzene	1	1.999052	2	2.481877	5	2.112569	10	1.840768	20	2.074346	50	2.209714
1,1,2,2-Tetrachloroethane	1	0.6885254	2	0.8081191	5	0.6870753	10	0.5645173	20	0.630374	50	0.6708752
1,2,4-Trichlorobenzene	1	0.6580373	2	0.7324188	5	0.5953073	10	0.5373199	20	0.6071588	50	0.6248205
1,3-Dichlorobenzene	1	1.32297	2	1.475204	5	1.308502	10	1.098142	20	1.25108	50	1.339253
1,4-Dichlorobenzene	1	1.53107	2	1.591683	5	1.333117	10	1.153391	20	1.263182	50	1.352372
1,2-Dichlorobenzene	1	1.174469	2	1.431723	5	1.209702	10	1.026318	20	1.209328	50	1.270895
1,2-Dibromo-3-chloropropane	1	0.1640168	2	0.194803	5	0.1260926	10	0.1044687	20	0.121526	50	0.1230017
Dibromofluoromethane	50	0.418893	55	0.4095728	60	0.4095866	50	0.4049588	65	0.4013868	50	0.4046191
Toluene-d8	50	0.9703029	55	0.9854071	60	1.013347	50	1.012868	65	0.9940218	50	0.9845006
4-Bromofluorobenzene	50	0.7503139	55	0.7542716	60	0.7538105	50	0.7496869	65	0.7533234	50	0.7759423

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD03698-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2009079
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 09/14/20 10:14

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	80	0.7546463	100	0.7800324								
Chloromethane	80	0.8116526	100	0.871005								
Vinyl chloride	80	0.6654417	100	0.6884775								
Bromomethane	80	~~0.1587341~~	100	~~0.1338792~~								
Chloroethane	80	0.380932	100	0.393902								
Trichlorofluoromethane	80	0.6987066	100	0.7205529								
Freon 113	80	0.410332	100	0.4027737								
Acetone	400	0.1401482	500	0.1408937								
1,1-Dichloroethene	80	0.3737298	100	0.3713822								
Carbon disulfide	400	1.369575	500	1.398373								
Methylene Chloride	80	0.482813	100	0.4797682								
Methyl-tert-Butyl Ether	80	1.101441	100	1.087229								
trans-1,2-Dichloroethene	80	0.4299488	100	0.4258929								
cis-1,2-Dichloroethene	80	0.4837612	100	0.4791109								
1,1-Dichloroethane	80	0.8555034	100	0.837759								
2-Butanone	400	4.902536E-02	500	4.968904E-02								
Chloroform	80	0.8130022	100	0.8054098								
1,1,1-Trichloroethane	80	0.6190835	100	0.609638								
Methyl acetate	80	9.278235E-02	100	9.411043E-02								
Cyclohexane	80	0.7357838	100	0.731794								
Methyl cyclohexane	80	0.3945236	100	0.3825615								
Carbon Tetrachloride	80	0.4355566	100	0.4291531								
1,2-Dichloroethane	80	0.4800537	100	0.4671325								
Benzene	80	1.217655	100	1.193168								
Trichloroethene	80	0.3275404	100	0.3242261								
1,2-Dichloropropane	80	0.3663671	100	0.3583671								
Bromodichloromethane	80	0.4584758	100	0.4472791								
4-Methyl-2-pentanone	400	4.548075E-02	500	4.525143E-02								
2-Hexanone	400	0.2702234	500	0.2643003								
cis-1,3-Dichloropropene	80	0.6229534	100	0.611723								
Toluene	80	1.375744	100	1.366782								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD03698-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2009079
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 09/14/20 10:14

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	80	0.9723365	100	0.9532415								
1,1,2-Trichloroethane	80	0.5026613	100	0.489232								
Tetrachloroethene	80	0.5941107	100	0.6144014								
Dibromochloromethane	80	0.6407437	100	0.6289706								
1,2-Dibromoethane	80	0.5978164	100	0.5845572								
Chlorobenzene	80	1.441591	100	1.407237								
Ethylbenzene	80	0.7658673	100	0.7673778								
m,p-Xylenes	160	0.9103089	200	0.8977312								
o-Xylene	80	0.9660635	100	0.9393279								
Bromoform	80	0.4798865	100	0.4639149								
Styrene	80	1.677368	100	1.649404								
Isopropylbenzene	80	2.352762	100	2.37572								
1,1,2,2-Tetrachloroethane	80	0.6792196	100	0.6713327								
1,2,4-Trichlorobenzene	80	0.672779	100	0.6742137								
1,3-Dichlorobenzene	80	1.398376	100	1.401631								
1,4-Dichlorobenzene	80	1.407971	100	1.391152								
1,2-Dichlorobenzene	80	1.309931	100	1.307788								
1,2-Dibromo-3-chloropropane	80	0.1261346	100	0.1208172								
Dibromofluoromethane	70	0.4102123	75	0.4117848								
Toluene-d8	70	0.9749501	75	0.9856195								
4-Bromofluorobenzene	70	0.7733141	75	0.783263								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD03698-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2009079
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 09/14/20 10:14

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	0.7167548	6.752058	5.91625	8.773646E-02			20	
Chloromethane	0.8431003	7.346433	6.39625	0.1178278			20	
Vinyl chloride	0.6673814	11.30578	6.58375	7.682206E-02			20	
Bromomethane	0.2641389	17.35206	7.233333	0.1114281	0.997018		0.99	
Chloroethane	0.435941	29.28755	7.45125	0.2425937	0.9991535		0.99	
Trichlorofluoromethane	0.6748799	6.104207	7.72	0.1545158			20	
Freon 113	0.3892606	8.073879	8.55	6.048771E-02			20	
Acetone	0.1563887	17.94178	9.27125	6.778911E-02	0.9998347		0.99	
1,1-Dichloroethene	0.3609063	9.948552	8.50875	7.609595E-02		0.9995564	0.99	
Carbon disulfide	1.392729	5.712841	8.62875	3.409509E-02		0.9999144	0.99	
Methylene Chloride	0.508364	14.45851	9.23375	5.706313E-02	0.9996677		0.99	
Methyl-tert-Butyl Ether	0.8912447	18.9533	9.54875	0.0684766	0.9967635		0.99	
trans-1,2-Dichloroethene	0.419386	10.99569	9.45875	6.806814E-02			20	
cis-1,2-Dichloroethene	0.4532295	7.93513	10.695	0.0516735			20	
1,1-Dichloroethane	0.8639164	11.25486	10.1325	7.204254E-02			20	
2-Butanone	5.047027E-02	11.43771	11.1975	0.0619043			20	
Chloroform	0.8098342	10.2663	10.91375	6.902353E-02			20	
1,1,1-Trichloroethane	0.5867304	8.620501	11.2075	6.266636E-02			20	
Methyl acetate	9.095246E-02	14.39916	9.41375	0.1129964	0.999152		0.99	
Cyclohexane	0.7015731	10.32974	10.975	4.624548E-02			20	
Methyl cyclohexane	0.3925525	11.73091	12.09375	4.224897E-02			20	
Carbon Tetrachloride	0.4156626	9.719243	11.17	1.839502E-02			20	
1,2-Dichloroethane	0.4727676	8.668322	11.6875	4.541007E-02			20	
Benzene	1.239542	11.3078	11.5475	6.369587E-02			20	
Trichloroethene	0.3149222	10.96742	12.0625	3.234726E-02			20	
1,2-Dichloropropane	0.3671103	10.10476	12.51	4.347348E-02			20	
Bromodichloromethane	0.4392379	8.471853	12.5275	5.900826E-02			20	
4-Methyl-2-pentanone	4.766559E-02	8.512704	13.53	1.776113E-02			20	
2-Hexanone	0.2662479	5.57951	14.2325	3.289342E-02			20	
cis-1,3-Dichloropropene	0.5964899	9.03407	13.07125	2.446099E-02			20	

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD03698-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2009079
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 09/14/20 10:14

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Toluene	1.339646	8.740485	13.3	3.685108E-02			20	
trans-1,3-Dichloropropene	0.9429031	8.753709	13.59	5.671489E-02			20	
1,1,2-Trichloroethane	0.492684	9.950383	13.745	4.039473E-02			20	
Tetrachloroethene	0.5465122	11.249	13.675	3.762551E-02			20	
Dibromochloromethane	0.6108919	9.445387	13.94375	3.904864E-02			20	
1,2-Dibromoethane	0.5586518	10.34095	14.20125	2.949916E-02			20	
Chlorobenzene	1.422425	9.5199	14.6475	4.483397E-02			20	
Ethylbenzene	0.7293112	7.995829	14.60625	3.192559E-02			20	
m,p-Xylenes	0.8723982	8.492815	14.72375	3.374729E-02			20	
o-Xylene	0.8879116	9.6931	15.14125	1.750507E-02			20	
Bromoform	0.4406062	9.116662	15.26875	4.047115E-02			20	
Styrene	1.57513	10.35016	15.1775	4.562934E-02			20	
Isopropylbenzene	2.180851	9.860302	15.41125	2.093713E-02			20	
1,1,2,2-Tetrachloroethane	0.6750048	10.06273	15.84375	3.613794E-02			20	
1,2,4-Trichlorobenzene	0.6377569	9.355747	19.995	3.968989E-02			20	
1,3-Dichlorobenzene	1.324395	8.619567	16.92625	4.501427E-02			20	
1,4-Dichlorobenzene	1.377992	10.13249	17.02125	2.527451E-02			20	
1,2-Dichlorobenzene	1.242519	9.569241	17.5925	2.881699E-02			20	
1,2-Dibromo-3-chloropropane	0.1351076	21.73258	18.70875	4.490693E-02	0.9989343		0.99	
Dibromofluoromethane	0.4088768	1.310952	11.09125	5.835263E-02			20	
Toluene-d8	0.9901271	1.605589	13.2525	3.496136E-02			20	
4-Bromofluorobenzene	0.7617407	1.764239	15.7525	2.978381E-02			20	

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AD03698-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2009079 **Laboratory ID:** AA62441-SCV1

Sequence: AA62441 **Standard ID:** A0I0915

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Trichlorofluoromethane	20.0	22	7.6	30.00
1,2-Dibromo-3-chloropropane	50.0	49	-1.2	30.00
1,1,1-Trichloroethane	50.0	51	1.2	30.00
Bromomethane	20.0	23	14.6	30.00
Chloromethane	20.0	20	1.4	30.00
Chloroethane	20.0	21	6.5	30.00
Vinyl chloride	20.0	20	2.5	30.00
Methylene Chloride	50.0	47	-5.7	30.00
Carbon disulfide	50.0	31	-38.0 *	30.00
Bromoform	50.0	53	5.3	30.00
Bromodichloromethane	50.0	52	4.8	30.00
Chloroform	50.0	50	0.04	30.00
1,1-Dichloroethene	50.0	39	-21.0	30.00
Acetone	250	280	10.9	30.00
Dichlorodifluoromethane	20.0	20	2.2	30.00
Freon 113	50.0	43	-13.8	30.00
1,2-Dichloropropane	50.0	50	-0.4	30.00
2-Butanone	250	250	1.7	30.00
1,1,2-Trichloroethane	50.0	51	2.6	30.00
Trichloroethene	50.0	50	0.5	30.00
Methyl acetate	50.0	45	-9.3	30.00
1,1,2,2-Tetrachloroethane	50.0	47	-5.2	30.00
o-Xylene	50.0	53	5.6	30.00
1,2-Dichlorobenzene	50.0	53	5.2	30.00
Ethylbenzene	50.0	52	4.8	30.00
1,1-Dichloroethane	50.0	48	-3.5	30.00
1,2,4-Trichlorobenzene	50.0	48	-4.3	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AD03698-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2009079 **Laboratory ID:** AA62441-SCV1

Sequence: AA62441 **Standard ID:** A0I0915

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Styrene	50.0	53	5.5	30.00
cis-1,3-Dichloropropene	50.0	51	1.0	30.00
trans-1,3-Dichloropropene	50.0	52	4.9	30.00
1,4-Dichlorobenzene	50.0	50	0.2	30.00
1,2-Dibromoethane	50.0	52	3.6	30.00
1,2-Dichloroethane	50.0	50	0.2	30.00
4-Methyl-2-pentanone	250	240	-4.3	30.00
m,p-Xylenes	100	100	4.0	30.00
Methyl cyclohexane	50.0	50	1.0	30.00
Toluene	50.0	51	2.8	30.00
Benzene	50.0	50	-0.4	30.00
Cyclohexane	50.0	50	-1.0	30.00
Isopropylbenzene	50.0	53	5.9	30.00
Dibromochloromethane	50.0	52	5.0	30.00
Tetrachloroethene	50.0	62	24.0	30.00
cis-1,2-Dichloroethene	50.0	51	2.1	30.00
trans-1,2-Dichloroethene	50.0	45	-10.2	30.00
Methyl-tert-Butyl Ether	50.0	48	-4.7	30.00
Dibromofluoromethane	50.0	50	0.1	30.00
Toluene-d8	50.0	50	0.3	30.00
4-Bromofluorobenzene	50.0	50	0.9	30.00
1,3-Dichlorobenzene	50.0	53	5.2	30.00
Carbon Tetrachloride	50.0	50	-0.7	30.00
2-Hexanone	250	250	0.3	30.00
Chlorobenzene	50.0	51	1.9	30.00

* Values outside of QC limits

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AD03698-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2009079 **Laboratory ID:** AA62441-SCV2

Sequence: AA62441 **Standard ID:** A0I0940

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Trichlorofluoromethane	20.0	21	3.8	30.00
Ethylbenzene	50.0	48	-3.2	30.00
1,1,1-Trichloroethane	50.0	50	-1.0	30.00
Bromomethane	20.0	18	-12.4	30.00
Chloromethane	20.0	19	-4.8	30.00
Chloroethane	20.0	21	4.6	30.00
Vinyl chloride	20.0	20	0.9	30.00
Methylene Chloride	50.0	48	-3.7	30.00
Carbon disulfide	50.0	48	-4.0	30.00
Bromoform	50.0	51	1.6	30.00
Bromodichloromethane	50.0	49	-1.4	30.00
Chloroform	50.0	48	-3.8	30.00
1,1-Dichloroethene	50.0	48	-3.1	30.00
Acetone	250	300	18.8	30.00
Dichlorodifluoromethane	20.0	20	-0.8	30.00
Freon 113	50.0	50	-0.6	30.00
1,2-Dichloropropane	50.0	46	-7.1	30.00
2-Butanone	250	290	14.4	30.00
1,1,2-Trichloroethane	50.0	48	-4.9	30.00
Trichloroethene	50.0	49	-2.6	30.00
Methyl acetate	50.0	48	-3.5	30.00
1,1,2,2-Tetrachloroethane	50.0	49	-2.5	30.00
o-Xylene	50.0	49	-1.1	30.00
1,2-Dichlorobenzene	50.0	49	-2.1	30.00
1,2-Dibromo-3-chloropropane	50.0	49	-2.4	30.00
1,1-Dichloroethane	50.0	47	-5.2	30.00
1,2,4-Trichlorobenzene	50.0	48	-4.3	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AD03698-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2009079 **Laboratory ID:** AA62441-SCV2

Sequence: AA62441 **Standard ID:** A0I0940

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Styrene	50.0	50	-0.8	30.00
cis-1,3-Dichloropropene	50.0	48	-4.0	30.00
trans-1,3-Dichloropropene	50.0	49	-2.1	30.00
1,4-Dichlorobenzene	50.0	47	-6.6	30.00
1,2-Dibromoethane	50.0	50	-0.4	30.00
1,2-Dichloroethane	50.0	48	-4.2	30.00
4-Methyl-2-pentanone	250	250	-0.09	30.00
m,p-Xylenes	100	98	-2.2	30.00
Methyl cyclohexane	50.0	53	5.4	30.00
Toluene	50.0	48	-3.0	30.00
Benzene	50.0	50	-1.0	30.00
Cyclohexane	50.0	56	11.7	30.00
Isopropylbenzene	50.0	49	-1.1	30.00
Dibromochloromethane	50.0	50	-0.6	30.00
Tetrachloroethene	50.0	43	-13.4	30.00
cis-1,2-Dichloroethene	50.0	50	-0.1	30.00
trans-1,2-Dichloroethene	50.0	47	-5.1	30.00
Methyl-tert-Butyl Ether	50.0	45	-10.6	30.00
Dibromofluoromethane	50.0	49	-2.9	30.00
Toluene-d8	50.0	50	-0.4	30.00
4-Bromofluorobenzene	50.0	50	-0.7	30.00
1,3-Dichlorobenzene	50.0	49	-2.6	30.00
Carbon Tetrachloride	50.0	49	-1.4	30.00
2-Hexanone	250	260	3.4	30.00
Chlorobenzene	50.0	48	-4.9	30.00

* Values outside of QC limits

ANALYSIS SEQUENCE

AA62584

Instrument: OVGCMS2

Calibration ID: 2009079

Printed: 9/22/2020 12:57:58PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA62584-CCV1	QC		1		A0I1196	A0H0974		
0I22021-BS1	QC		2			A0H0974		
0I22021-BLK1	QC		3			A0H0974		
AA62584-CRL1	QC		4		A0I1203	A0H0974		
AD05893-03RE1	8260D Appendix 1 FL	F	5			A0H0974		rr1x c12dce high ccv Re-extract added
AD03698-01	60D TCL SOM01.2 CLP-LIK	B	6			A0H0974	Tetra Tech, Inc. (TE016)	hist 1x jmw 9/22/2020 custom
AD03698-02	60D TCL SOM01.2 CLP-LIK	A	7			A0H0974	Tetra Tech, Inc. (TE016)	hist 1x jmw 9/22/2020 custom
AD06163-01	8260D	C	8			A0H0974		run 5000x jmw 9/22/20 talk to Neil bef
AD05855-15	60D TCL SOM01.2 CLP-LIK	B	9			A0H0974		BatchQC
AD05855-15	8260D Appendix 1 FL	B	10			A0H0974		BatchQC
AD05855-15	8260D	B	11			A0H0974		history 1x kkw091620 Custom List.
AD05855-17	8260D	B	12			A0H0974		history 1x kkw091620 Custom List.
AD05855-18	8260D	B	13			A0H0974		run 1x jmw 9/22/2020 Custom List.
AD05855-19	8260D	B	14			A0H0974		run 1x jmw 9/22/2020 Custom List.
AD05855-01	8260D	C	15			A0H0974		history 1000x kkw091620 Custom Lis
AD05855-02	8260D	B	16			A0H0974		history 100x kkw091620 Custom List.
AD05729-01	8260D	B	17			A0H0974		hist 1x nc 9/21/20 CLP like
AD05729-02	8260D	A	18			A0H0974		hist 1x nc 9/21/20 CLP like
AD05729-03	8260D	A	19			A0H0974		hist 1x nc 9/21/20 CLP like
AD05729-04	8260D	A	20			A0H0974		hist 1x nc 9/21/20 CLP like
AD05729-05	8260D	A	21			A0H0974		hist 1x nc 9/21/20 CLP like
0I22021-MS1	QC		22			A0H0974		
0I22021-MSD1	QC		23			A0H0974		

Samples Loaded By Date

Data Processed By Date

ANALYSIS SEQUENCE

AA62584

Instrument: OVGCMS2

Calibration ID: 2009079

Printed: 9/22/2020 12:57:58PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments

Samples Loaded By _____ Date _____

Data Processed By _____ Date _____

VOLATILES GC/MS LOGBOOK (EPA Method 624.1 / SW-846 Method 8260D)

Tune Start Date: 09/22/20
Sequence: AAG0554
Batch: 202021
Method: 8260
Analyst: KJ
Instrument EM Voltage: 647

Surrogate: AOF0981
Internal: AOH0973
LCS Mix 2°: AOI0922
LCS Acrolein 2°: AOI0805
LCS Gas 2°: AOI0914

8260 Mix: AOI0780
8260 Add: AOH1324
8260 Ac/Ac: AOF0885
8260 Gases: AOI1193
Instrument #: MS-2

202IQ

Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)	Comments	LIMS
001	CCV			1			✓	
002	BS			2			✓	
003	mx			3				
004	mx			4				
005	BLK			5			✓	
006	CRI			6			✓	
007	AOO5883-03 RE1	F	1	7	✓	n	✓	
008	AOO3688-01	B	1	8	✓	n	✓	
009	AOO3698-02	A	1	9	✓	n	✓	
010	AOO6163-01 RE1 9/25/20	C	5000	10	—	—		
011	AOO5855 ~~-0715~~	B	1	11	✓	n	MS/MSD	
012	AOO5855-17	B	1	12	✓	n		
013	AOO5855-18	B	1	13	✓	n		
014	AOO5855-19	B	1	14	✓	n		
015	AOO5855-01	C	1000	15	✓	n		
016	AOO5855-02	B	100	16	✓	n	RR @500X C-1,2DCE	
017	~~AOO~~ AOO5729-01 RE1 9/25/20	B	1	17	✓	n		
018	AOO5729-02	A	1	18	✓	n		
019	AOO5729-03	A	1	19	✓	n		
020	AOO5729-04	A	1	20	✓	n		
021	AOO5729-05	A	1	21	✓	n		

VOLATILES GC/MS LOGBOOK (EPA Method 624.1 / SW-846 Method 8260D)

Tune Start Date:	Surrogate:	8260 Mix:
Sequence:	Internal:	8260 Add:
Batch:	LCS Mix 2⁰:	8260 Ac/Ac:
Method:	LCS Acrolein 2⁰:	8260 Gases:
Analyst:	LCS Gas 2⁰:	Instrument #:
Instrument EM Voltage:	See page 115 LLF 9/22/2020	

Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)	Comments	LIMS
022	MS	C	1	22	✓	n		
023	MSD	C	1	22	✓	n		

LLF 9/22/2020

PREPARATION BENCH SHEET

Printed: 9/22/2020 12:56:40PM

0I22021

ENCO Orlando

Analysis
8260D [EPA 8260D]
8260D Appendix 1 FL [EPA 8260D]
8260D TCL SOM01.2 CLP-LIKE [EPA 8260D]

Surrogate Solution
___ A0F0991 8260 surr working

Prepared using: EPA 5030B_MS

Spiking Solution
A0I0922 8260 2nd source Mega Mix
A0I0941 8260 2nd source Gases/Acrolein virtual

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location		Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
0I22021-BLK1		Blank			QC			5	5			1	
0I22021-BS1		LCS			QC			5	5	A0I0941 A0I0922	2 2	1	
0I22021-MS1		Matrix Spike [AD05855-15]			QC			5	5	A0I0941 A0I0922	2 2	1	
0I22021-MSD1		Matrix Spike Dup [AD05855-15]			QC			5	5	A0I0941 A0I0922	2 2	1	
AD03698-01	C	CRCA-ASInfluent20200916	B[MS48	24-Sep-20	8260D TCL SOM01.2 CLP-LIKE			5	5			1	hist 1x jmw 9/22/2020 custom
AD03698-02	C	CRCA-Effluent20200916	A[MS48	24-Sep-20	8260D TCL SOM01.2 CLP-LIKE			5	5			1	hist 1x jmw 9/22/2020 custom
AD05729-01	C	20Q3MS-IT-6S	B[MS13	25-Sep-20	8260D			5	5			1	hist 1x nc 9/21/20 CLP like
AD05729-02	C	20Q3MS-IT-6D	A[MS13	25-Sep-20	8260D			5	5			1	hist 1x nc 9/21/20 CLP like
AD05729-03	C	20Q3MS-IT-6I	A[MS13	25-Sep-20	8260D			5	5			1	hist 1x nc 9/21/20 CLP like
AD05729-04	C	20Q3MS-IT-3S	A[MS13	25-Sep-20	8260D			5	5			1	hist 1x nc 9/21/20 CLP like
AD05729-05	C	20Q3MS-IT-3D	A[MS13	25-Sep-20	8260D			5	5			1	hist 1x nc 9/21/20 CLP like
AD05855-01		PAMW33D09142020	C[MS8]	23-Sep-20	8260D			5	5			1	history 1000x kkw091620 Custom List.
AD05855-02		PAMW41DD09142020	B[MS8]	23-Sep-20	8260D			5	5			1	history 100x kkw091620 Custom List.
AD05855-15		PAMW24509152020	B[MS9]	23-Sep-20	8260D			5	5			1	history 1x kkw091620 Custom List.
AD05855-15		PAMW24509152020	B[MS9]		8260D TCL SOM01.2 CLP-LIKE			5	5			1	Added for BatchQC in: 0I22021
AD05855-15		PAMW24509152020	B[MS9]		8260D Appendix 1 FL			5	5			1	Added for BatchQC in: 0I22021
AD05855-17		PAMW57DD09152020	B[MS9]	23-Sep-20	8260D			5	5			1	history 1x kkw091620 Custom List.
AD05855-18		Duplicate #1	B[MS9]	23-Sep-20	8260D			5	5			1	run 1x jmw 9/22/2020 Custom List.

PREPARATION BENCH SHEET

Printed: 9/22/2020 12:56:40PM

0I22021

ENCO Orlando

Prepared using: EPA 5030B_MS

Surrogate Solution

__ A0F0991 8260 surr working

Spiking Solution

A0I0922 8260 2nd source Mega Mix
A0I0941 8260 2nd source Gases/Acrolein virtual

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location		Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
AD05855-19		Duplicate #2	B[MS9]	23-Sep-20	8260D			5	5			1	run 1x jmw 9/22/2020 Custom List.
AD05893-03RE1		MW-44B	F[MS10	24-Sep-20	8260D Appendix 1 FL			5	5			1	rr1x c12dce high ccv Re-extract added 9/22/2020 by NMC
AD06163-01		BD03092-01 (CK-74HV-120)	C[MS9]	24-Sep-20	8260D			5	5			1	run 5000x jmw 9/22/20 talk to Neil before analysis; use caution; attaching MSD Sheet

(1) Before solvent extraction proceeds, verify that there is no residual chlorine above 0.5 mg/L. Any sample above this must be treated to remove excess chlorine before extraction, and this documented as a comment.

Instrument 2

Start Date _____

StopDate _____

Instrument ID _____

Standard ID#	Description	Manufacture Lot#
A0A1401	pH Test Papers (1.0 to 12.0)	231018
A0B1371	Residual Chlorine Strips (Potassium Iodide S	102916
A0I0581	P&T Anti-Foam working solution	N/A

_____ _____

Samples Prepared By Date

_____ _____

Samples Prepared By Date

Manual Integration Review Form

ENVIRONMENTAL CONSERVATION LABORATORIES, INC. ☐ Cary ☐ Jacksonville ☑ Orlando

I hereby attest that the manual integrations contained in this package have been thoroughly reviewed and are in agreement with the associated hardcopy data.

The electronic files listed below have been reviewed for accuracy, completeness and comply with ENCO labs QA-11 Manual Integration Policy including:

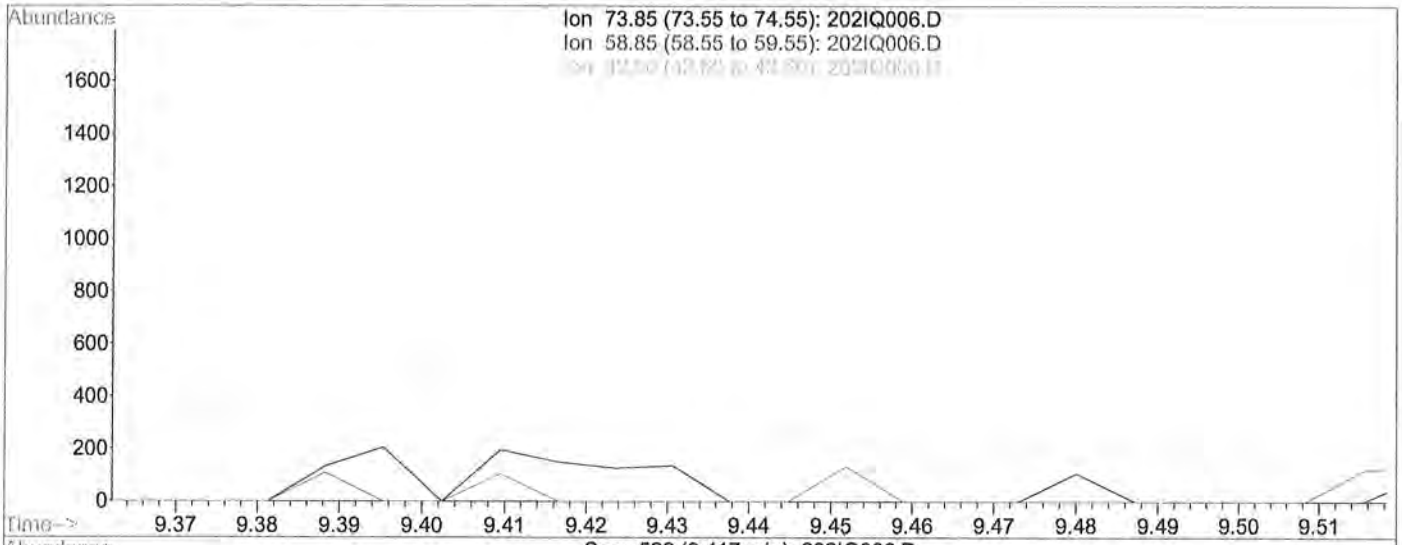
- "Before" and "After" chromatograms are provided
- Manual integrations are indicated on expanded scale "after" chromatograms at a scale large enough to see the manual integration performed.
- Reintegration technique marked if available on the data system
- Technical justification for manual integration
- Appropriate flags indicating which analytes were manually integrated are included in the raw data
- Analyst's initials and date.

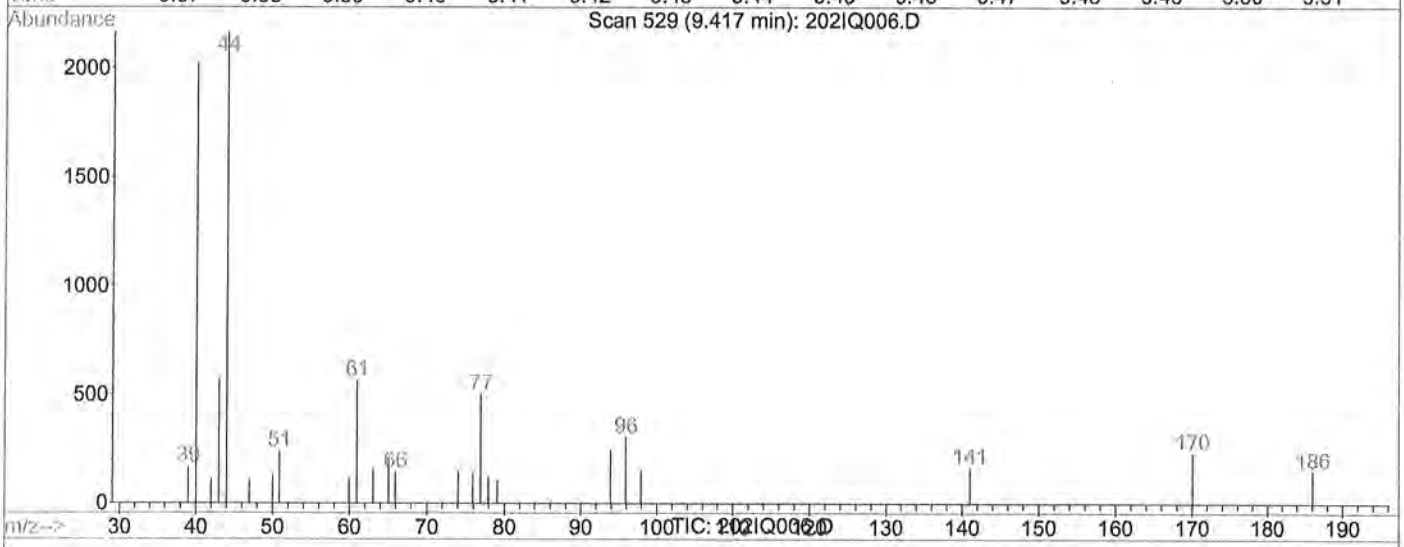
Instrument ID:	OVGCMS-2
Sequence/Batch ID:	AA62584 /OI 22021
Data File Prefix:	202I0
Date and Time Range of MIs:	9/22/2020 11:03 - 11:05
Reviewer Print Name:	Karen Watson
Reviewer Signature:	
Date of Review:	09/23/20

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\092220\202IQ006.D Vial: 6
Acq On : 22 Sep 2020 10:35 am Operator: KG
Sample : crl1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 22 10:58 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Multiple Level Calibration





(36) Methyl Acetate

9.42min 0.00ug/kg

response 0

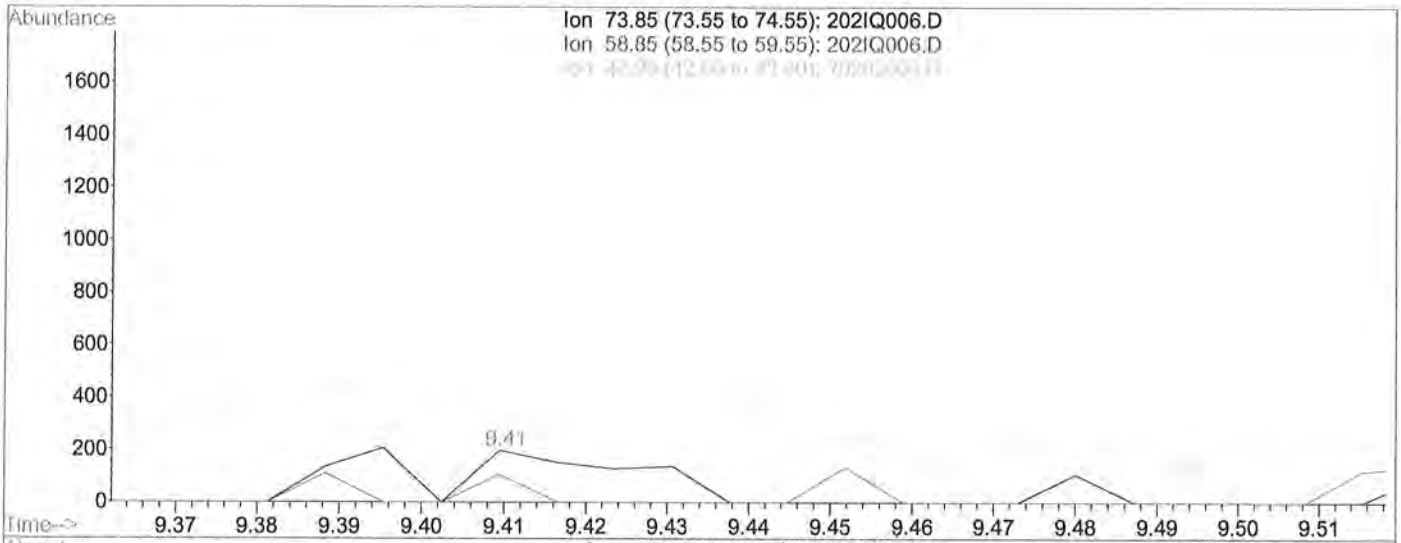
Ion	Exp%	Act%
73.85	100	0.00
58.85	61.80	0.00#
42.90	514.80	0.00#
0.00	0.00	0.00

Select One:
[Y] Original Integration [ ] Manual Integration
Select reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date KF 9/22/2020
Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\092220\202IQ006.D Vial: 6
Acq On : 22 Sep 2020 10:35 am Operator: KG
Sample : crl1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 22 11:04 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Multiple Level Calibration



(36) Methyl Acetate

9.41min 0.43ug/kg m

response 257

Ion	Exp%	Act%
73.85	100	100
58.85	61.80	0.00#
42.90	514.80	0.00#
0.00	0.00	0.00

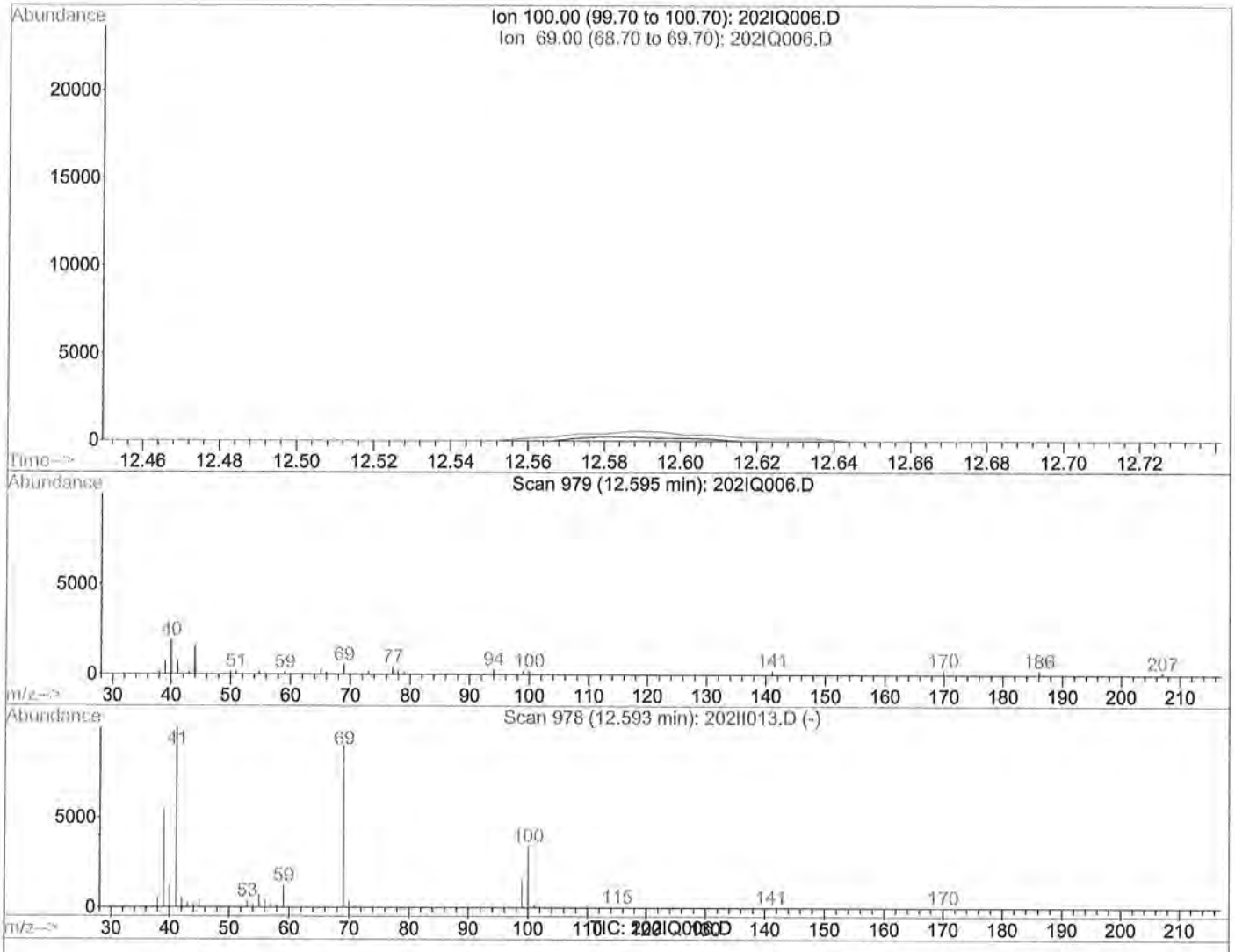
Select One:
[ ] Original Integration [✓] Manual Integration
Select reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[✓] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date LH 9/22/20
Review by/Date:

202IQ006.D 091420.M Tue Sep 22 11:04:24 2020

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\092220\202IQ006.D Vial: 6
Acq On : 22 Sep 2020 10:35 am Operator: KG
Sample : crl1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 22 11:04 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Multiple Level Calibration



(46) Methyl Methacrylate

12.59min 0.00ug/kg

response 0

Ion	Exp%	Act%
100.00	100	0.00
69.00	267.40	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

[✓] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[✓] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date LS 9/22/2020

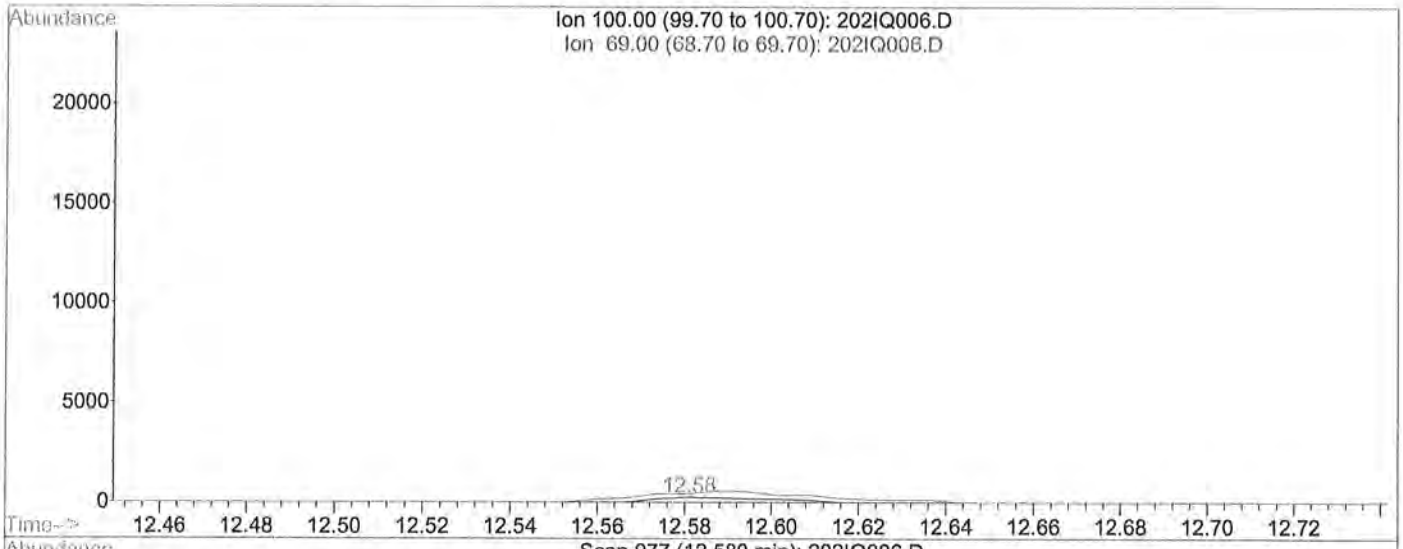
Review by/Date:

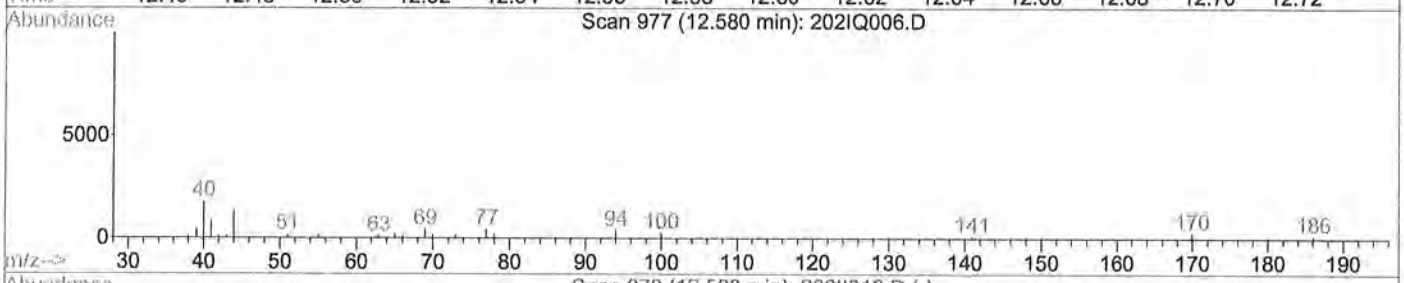
202IQ006.D 091420.M Tue Sep 22 11:04:30 2020

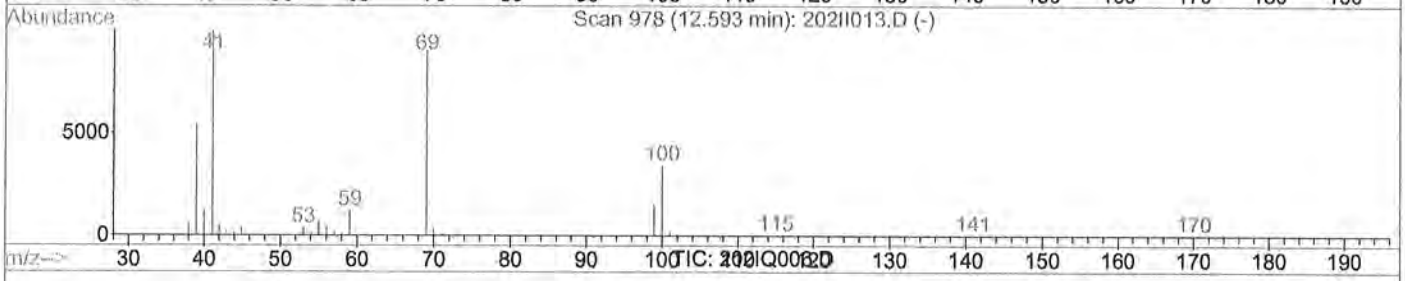
Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\092220\202IQ006.D Vial: 6
Acq On : 22 Sep 2020 10:35 am Operator: KG
Sample : crl1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 22 11:04 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Multiple Level Calibration







(46) Methyl Methacrylate

12.58min 0.64ug/kg m

response 448

Ion	Exp%	Act%
100.00	100	100
69.00	267.40	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

[ ] Original Integration [✓] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[✓] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date KF 9/22/2020

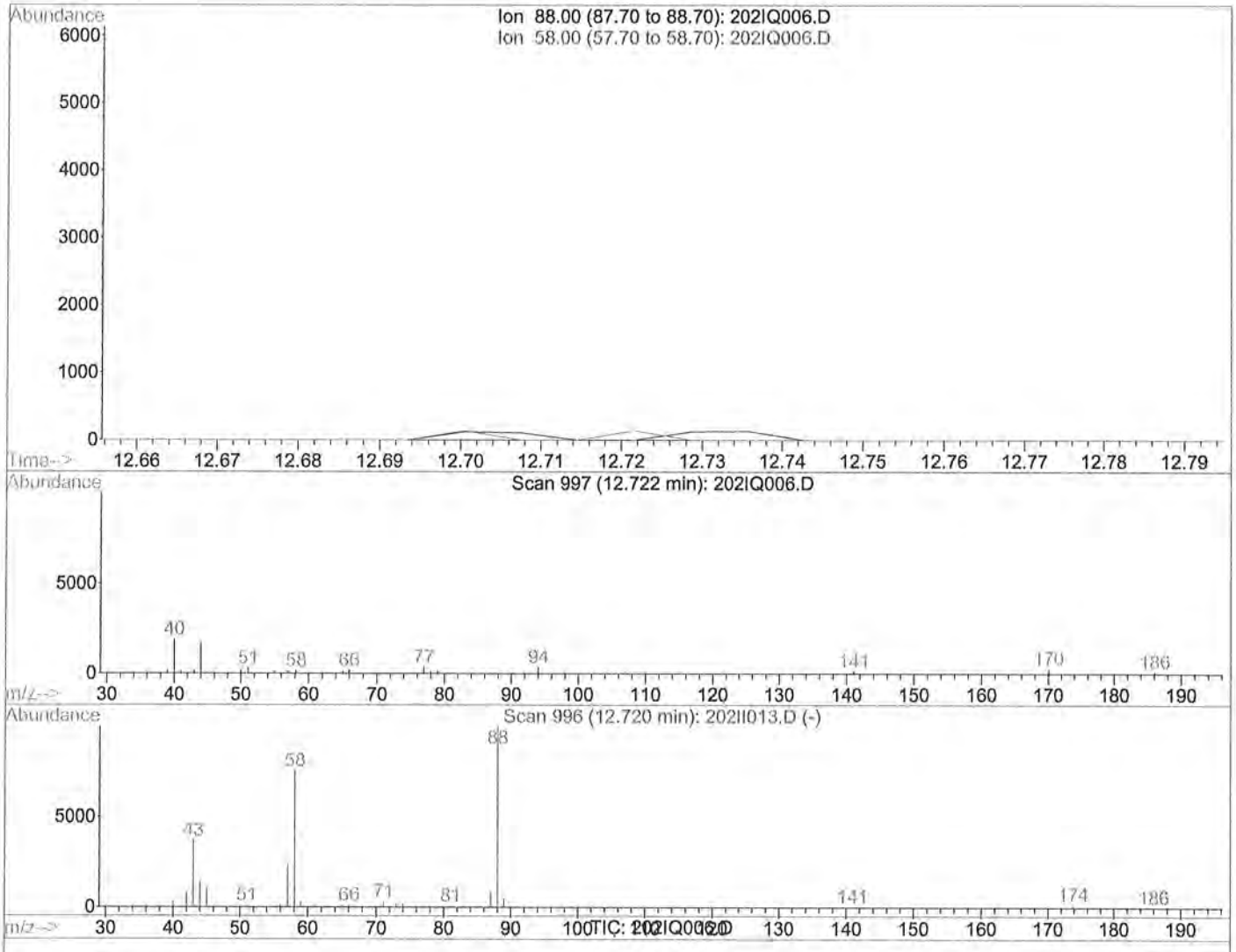
Review by/Date:

202IQ006.D 091420.M Tue Sep 22 11:04:37 2020

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\092220\202IQ006.D Vial: 6
Acq On : 22 Sep 2020 10:35 am Operator: KG
Sample : crl1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 22 11:04 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Multiple Level Calibration



(47) 1,4-Dioxane

12.72min 0.00ug/kg

response 0

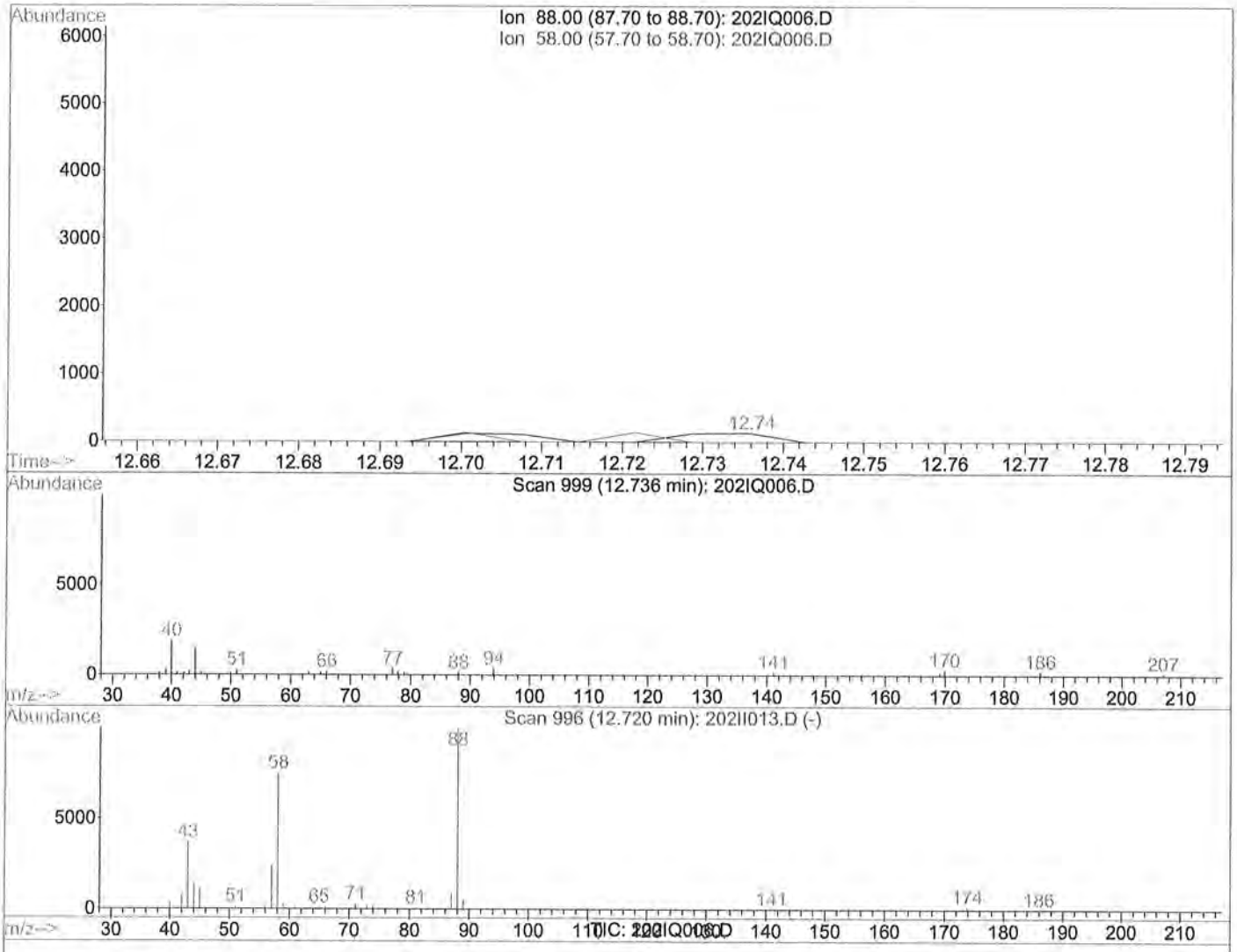
Ion	Exp%	Act%
88.00	100	0.00
58.00	77.20	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Select One:
[✓] Original Integration [ ] Manual Integration
Select reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[✓] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date ~~Review by/Date:~~ KS 9/22/2020

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\092220\202IQ006.D Vial: 6
Acq On : 22 Sep 2020 10:35 am Operator: KG
Sample : cr11 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 22 11:05 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Multiple Level Calibration



(47) 1,4-Dioxane

12.74min 4.79ug/kg m

response 107

Ion	Exp%	Act%
88.00	100	100
58.00	77.20	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

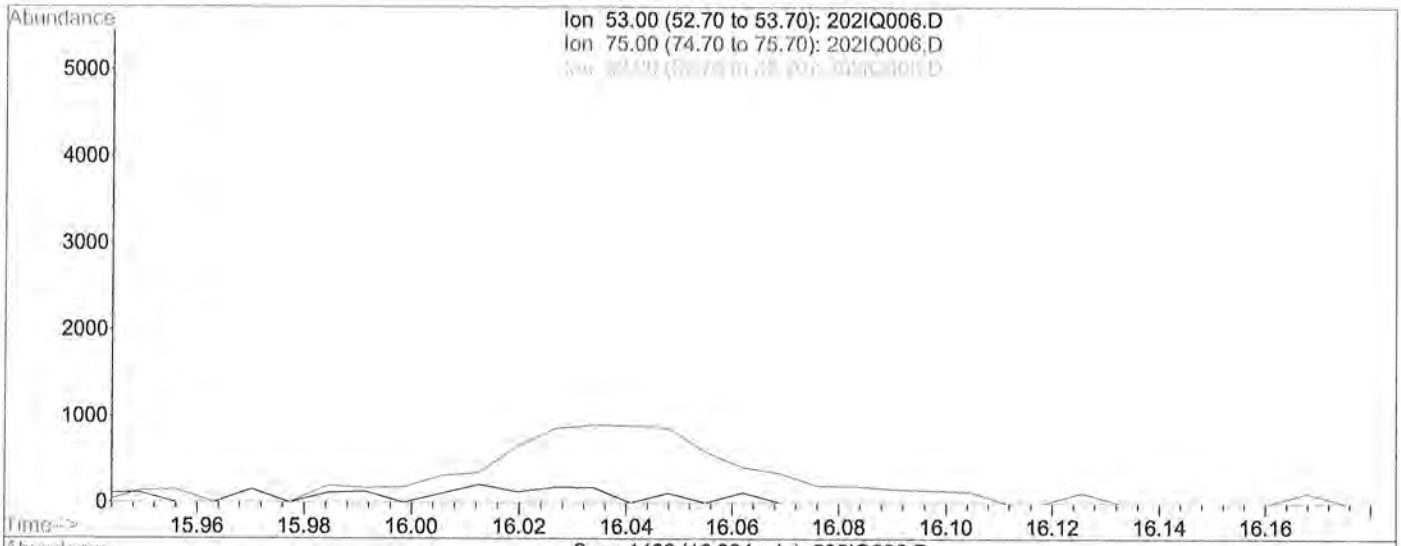
Select One:
[ ] Original Integration [✓] Manual Integration
Select reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[✓] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date KH 9/22/2020
Review by/Date:

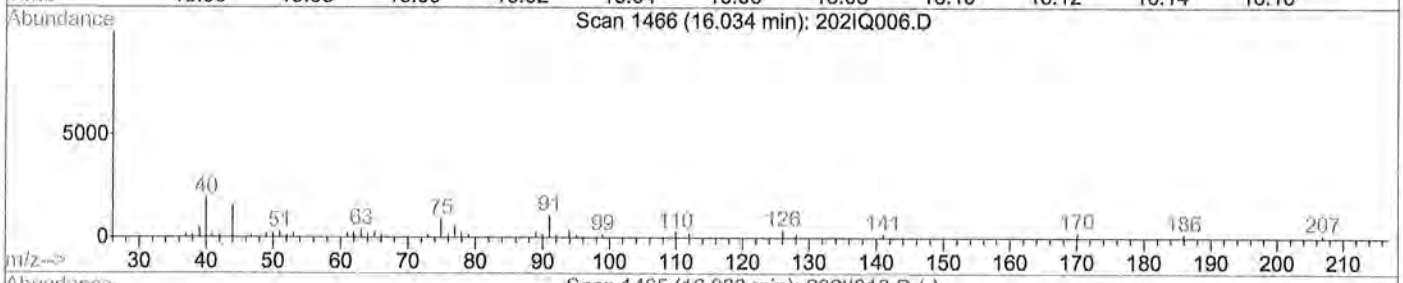
202IQ006.D 091420.M Tue Sep 22 11:05:07 2020

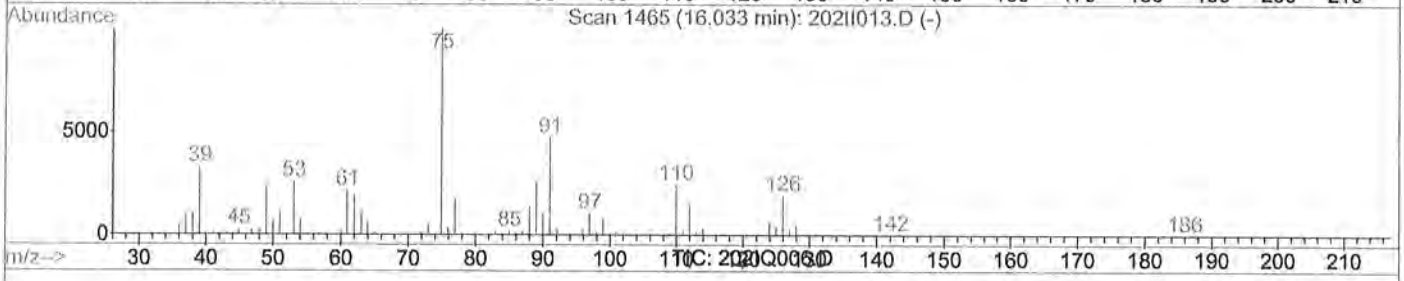
Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\092220\202IQ006.D Vial: 6
Acq On : 22 Sep 2020 10:35 am Operator: KG
Sample : crl1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 22 11:05 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Multiple Level Calibration







(77) T-1,4-dichloro-2-butene

16.03min 0.00ug/kg

response 0

Ion	Exp%	Act%
53.00	100	0.00
75.00	440.90	0.00#
88.00	49.00	0.00#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

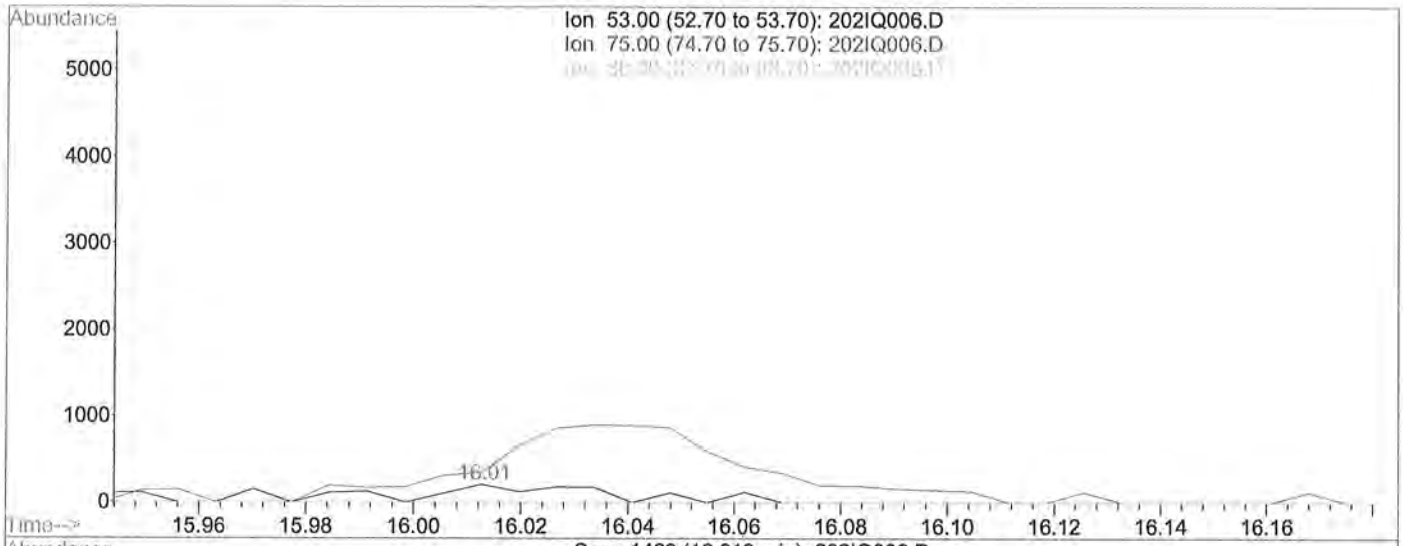
Review by/Date MF 9/22/2020

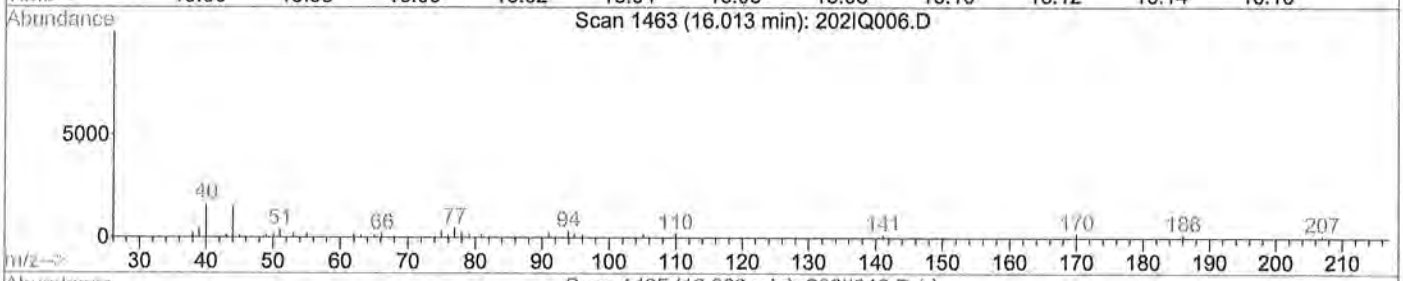
Review by/Date:

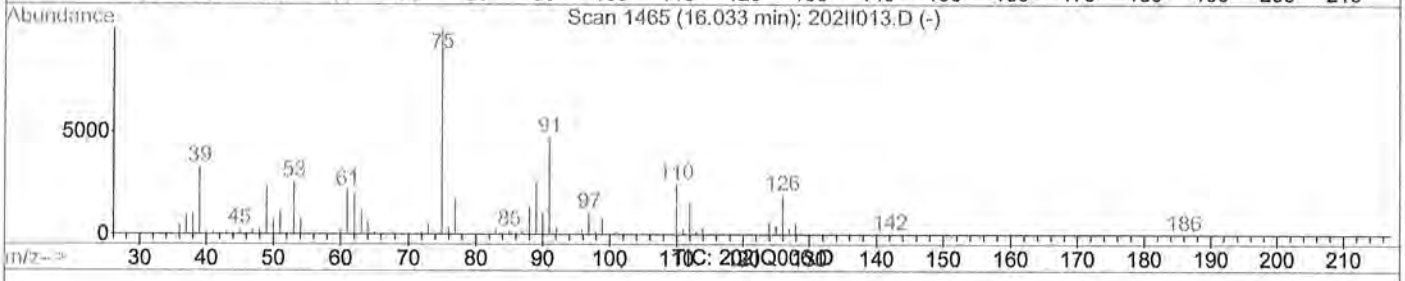
Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\092220\202IQ006.D Vial: 6
Acq On : 22 Sep 2020 10:35 am Operator: KG
Sample : crl1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 22 11:05 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Multiple Level Calibration







(77) T-1,4-dichloro-2-butene

16.01min 0.39ug/kg m

response 330

Ion	Exp%	Act%
53.00	100	100
75.00	440.90	0.00#
88.00	49.00	0.00#
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date LR 9/22/2020

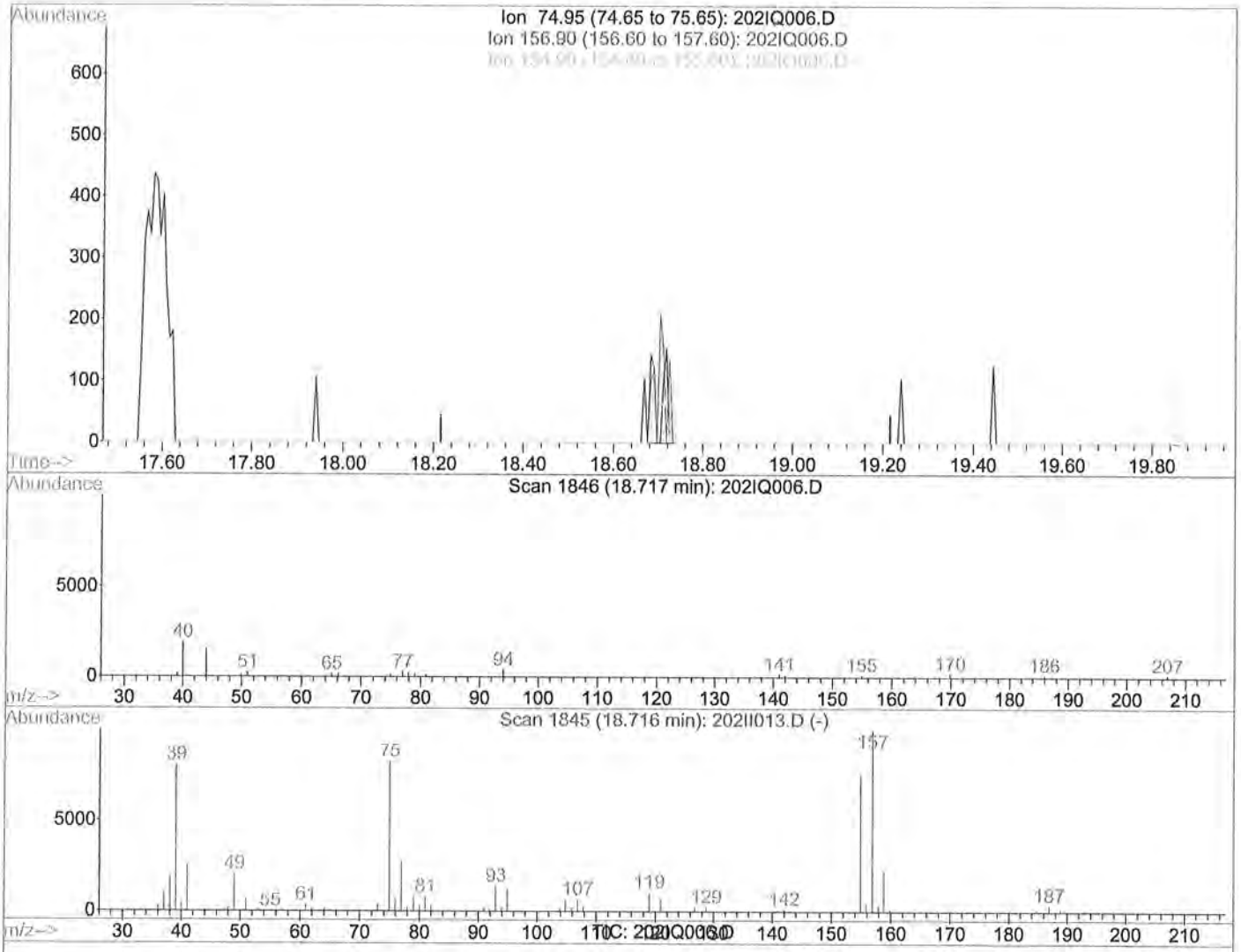
Review by/Date:

202IQ006.D 091420.M Tue Sep 22 11:05:27 2020

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\092220\202IQ006.D Vial: 6
Acq On : 22 Sep 2020 10:35 am Operator: KG
Sample : crl1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 22 11:05 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Multiple Level Calibration



(92) DBCP

18.72min 0.00ug/kg

response 0

Ion	Exp%	Act%
74.95	100	0.00
156.90	117.20	0.00#
154.90	89.00	0.00#
0.00	0.00	0.00

Select One:

[✓] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[✓] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date KG 9/22/2020

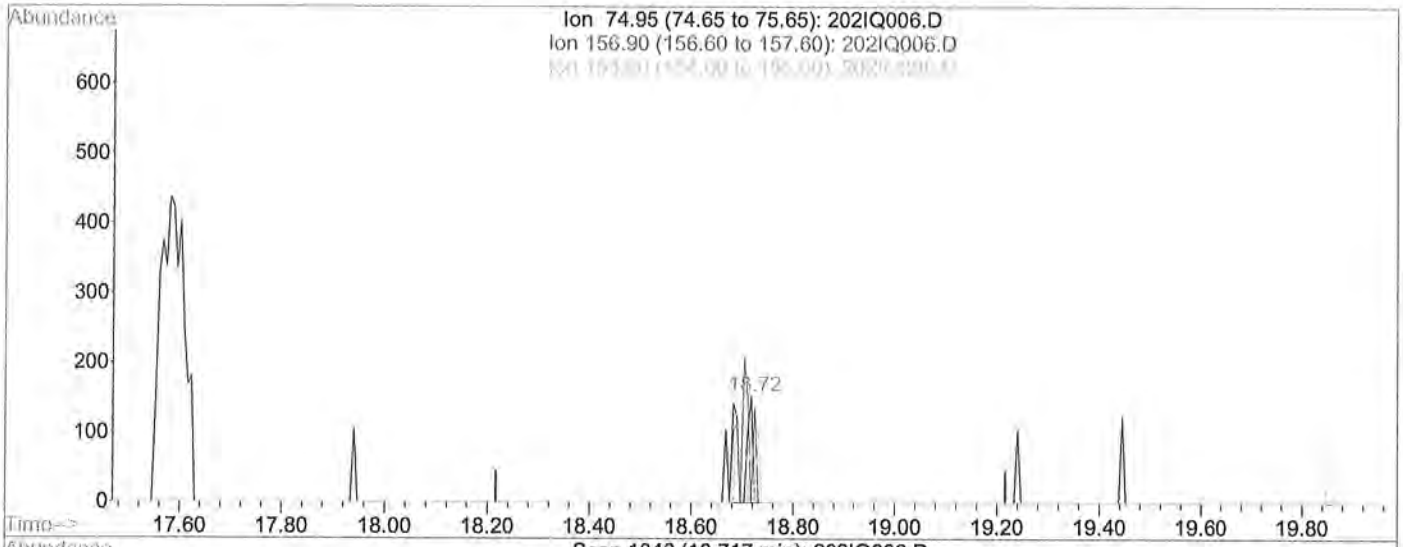
Review by/Date:

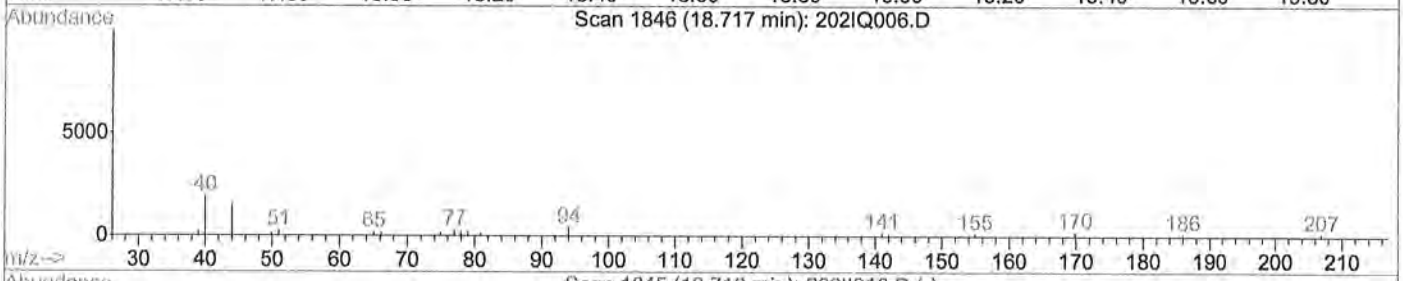
202IQ006.D 091420.M Tue Sep 22 11:05:31 2020

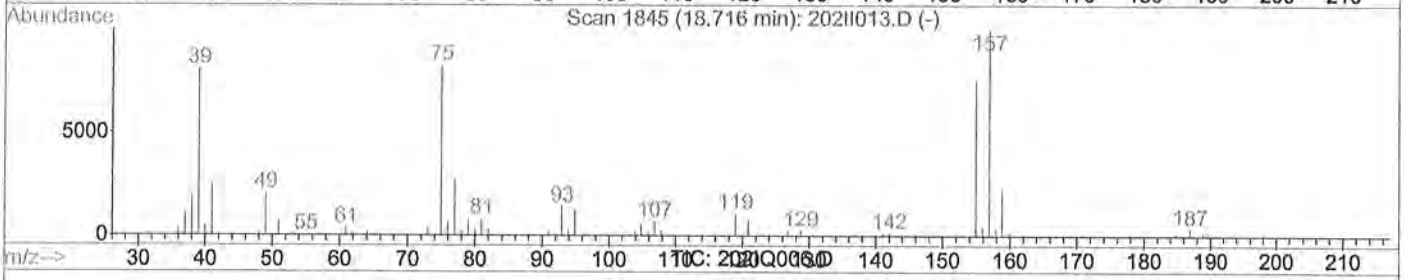
Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\092220\202IQ006.D Vial: 6
Acq On : 22 Sep 2020 10:35 am Operator: KG
Sample : crl1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 22 11:05 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Multiple Level Calibration







(92) DBCP

18.72min 0.59ug/kg m

response 266

Ion	Exp%	Act%
74.95	100	100
156.90	117.20	0.00#
154.90	89.00	0.00#
0.00	0.00	0.00

Select One:

[ ] Original Integration [✓] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[✓] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date KH 9/22/2020

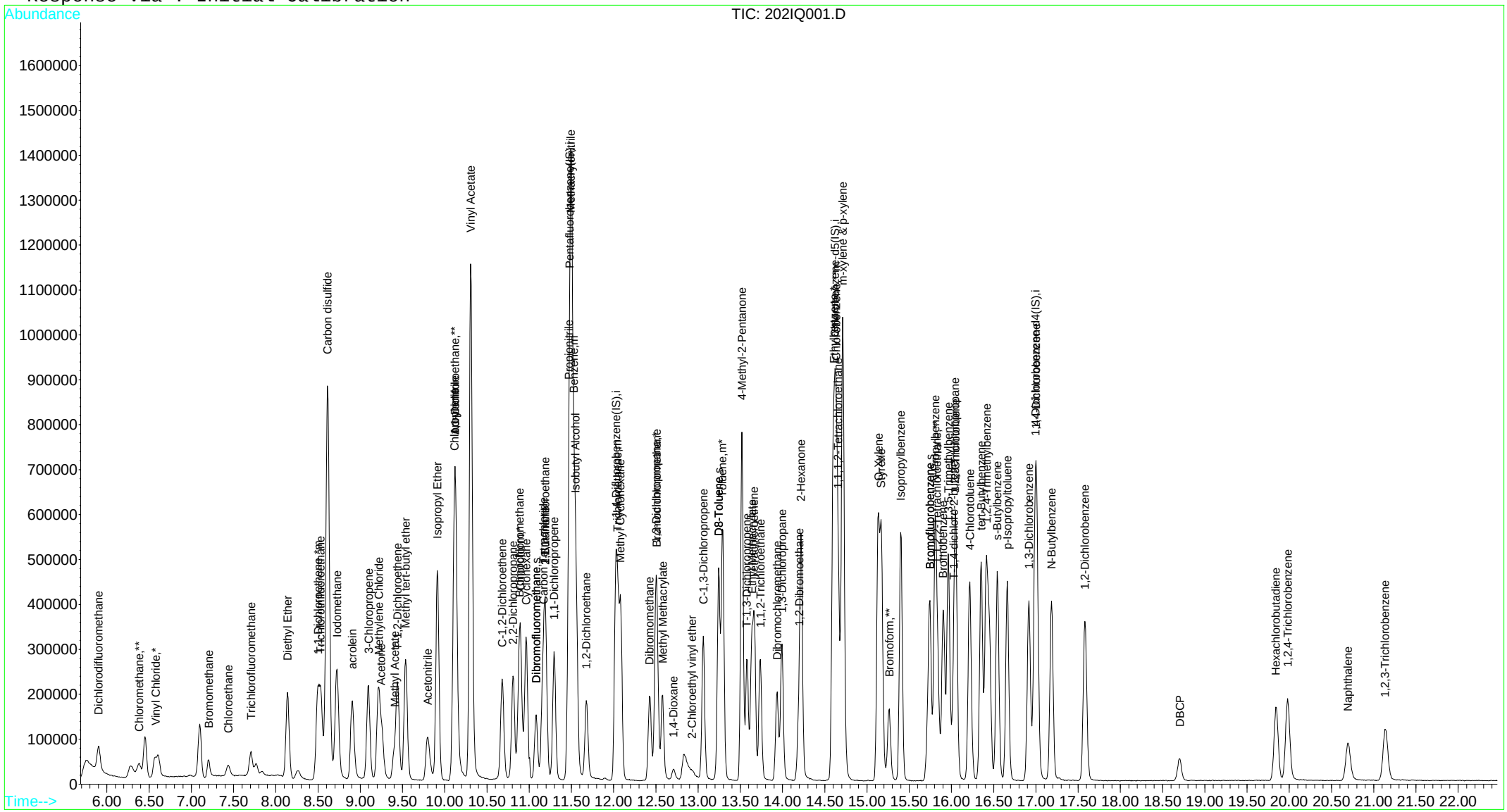
Review by/Date:

202IQ006.D 091420.M Tue Sep 22 11:05:34 2020

Quantitation Report

Data File : C:\HPCHEM\1\DATA\092220\202IQ001.D Vial: 1
Acq On : 22 Sep 2020 8:00 am Operator: KG
Sample : ccv1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 22 8:22 2020 Quant Results File: 091420.RES

Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\092220\202IQ001.D Vial: 1
Acq On : 22 Sep 2020 8:00 am Operator: KG
Sample : ccv1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 22 8:22 2020 Quant Results File: 091420.RES

Quant Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.47	168	317003	50.00	ug/kg	-0.01
38) 1,4-Difluorobenzene(IS)	12.02	114	416978	50.00	ug/kg	-0.01
56) Chlorobenzene-d5(IS)	14.62	82	227950	50.00	ug/kg	-0.01
79) 1,4-Dichlorobenzene-d4(IS)	16.99	152	218928	50.00	ug/kg	-0.01
System Monitoring Compounds						
30) Dibromofluoromethane	11.08	113	112649	43.46	ug/kg	-0.01
Spiked Amount 50.000	Range 53 - 146		Recovery = 86.92%			
54) D8-Toluene	13.24	98	390714	47.32	ug/kg	-0.01
Spiked Amount 50.000	Range 41 - 146		Recovery = 94.64%			
75) Bromofluorobenzene	15.74	95	193091	55.60	ug/kg	-0.01
Spiked Amount 50.000	Range 41 - 142		Recovery = 111.20%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.91	85	81372	17.91	ug/kg	99
3) Chloromethane	6.38	50	64310	12.03	ug/kg	98
4) Vinyl Chloride	6.57	62	69123	16.34	ug/kg	93
5) Bromomethane	7.20	96	30499	18.35	ug/kg	96
6) Chloroethane	7.44	64	37622	15.33	ug/kg	95
7) Trichlorofluoromethane	7.71	101	63288	14.79	ug/kg	100
8) Trichlorotrifluoroethane	8.53	101	115974	46.99	ug/kg	98
9) acrolein	8.91	56	255488	470.42	ug/kg	100
10) Acetone	9.25	43	184904	207.67	ug/kg	99
11) 1,1-Dichloroethene	8.50	96	103190	45.32	ug/kg	94
12) 3-Chloropropene	9.10	76	71120	46.55	ug/kg	93
13) Acetonitrile	9.80	41	179096	424.71	ug/kg	99
14) Iodomethane	8.72	142	468092	124.37	ug/kg	99
15) Carbon disulfide	8.61	76	2052670	239.16	ug/kg	100
16) Methylene Chloride	9.22	84	139654	45.94	ug/kg	94
17) Methyl tert-butyl ether	9.54	73	319199	46.61	ug/kg	97
18) Acrylonitrile	10.12	53	709804	429.12	ug/kg	99
19) T-1,2-Dichloroethene	9.44	96	124951	46.99	ug/kg	94
20) Isopropyl Ether	9.91	45	570821	46.59	ug/kg	98
21) C-1,2-Dichloroethene	10.68	96	141641	49.29	ug/kg	93
22) 1,1-Dichloroethane	10.12	63	243295	44.42	ug/kg	99
23) Vinyl Acetate	10.31	43	1876287	229.89	ug/kg	99
24) Chloroprene	10.11	88	120346	49.70	ug/kg	76
25) 2-Butanone	11.18	72	66731	208.54	ug/kg	96
26) Propionitrile	11.46	54	179508	448.41	ug/kg	100
27) 2,2-Dichloropropane	10.81	77	189702	45.16	ug/kg	98
28) Methacrylonitrile	11.50	67	528498	439.46	ug/kg	100
29) Chloroform	10.90	83	240020	46.75	ug/kg	97
31) Dibromofluoromethane	11.08	113	112649	43.46	ug/kg	100
32) Bromochloromethane	10.88	128	69131	46.04	ug/kg	96
33) 1,1,1-Trichloroethane	11.20	97	177546	47.73	ug/kg	98
34) 1,1-Dichloropropene	11.29	75	182228	45.27	ug/kg	99
35) Diethyl Ether	8.14	59	116882	45.67	ug/kg	98
36) Methyl Acetate	9.40	74	24334	41.30	ug/kg	93
37) Cyclohexane	10.96	56	190479	42.82	ug/kg	92
39) Methyl Cyclohexane	12.09	55	151937	46.41	ug/kg	99
40) Carbon Tetrachloride	11.16	117	169826	48.99	ug/kg	99
41) 1,2-Dichloroethane	11.68	62	186286	47.25	ug/kg	99
42) Benzene	11.53	78	486728	47.08	ug/kg	95
43) Isobutyl Alcohol	11.56	43	178005	1062.40	ug/kg#	68
44) Trichloroethene	12.05	130	130431	49.66	ug/kg	98
45) 1,2-Dichloropropane	12.50	63	146777	47.94	ug/kg	97
46) Methyl Methacrylate	12.58	100	38649	53.49	ug/kg	86
47) 1,4-Dioxane	12.71	88	24493	1068.48	ug/kg	96
48) Bromodichloromethane	12.52	83	186905	51.02	ug/kg	100
49) Dibromomethane	12.42	93	93852	49.02	ug/kg	95
50) 4-Methyl-2-Pentanone	13.52	100	91980	231.39	ug/kg	90
51) 2-Chloroethyl vinyl ether	12.93	63	2973	276.02	ug/kg	100
52) 2-Hexanone	14.22	43	496762	223.73	ug/kg	97

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\092220\202IQ001.D Vial: 1
Acq On : 22 Sep 2020 8:00 am Operator: KG
Sample : ccv1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 22 8:22 2020 Quant Results File: 091420.RES

Quant Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

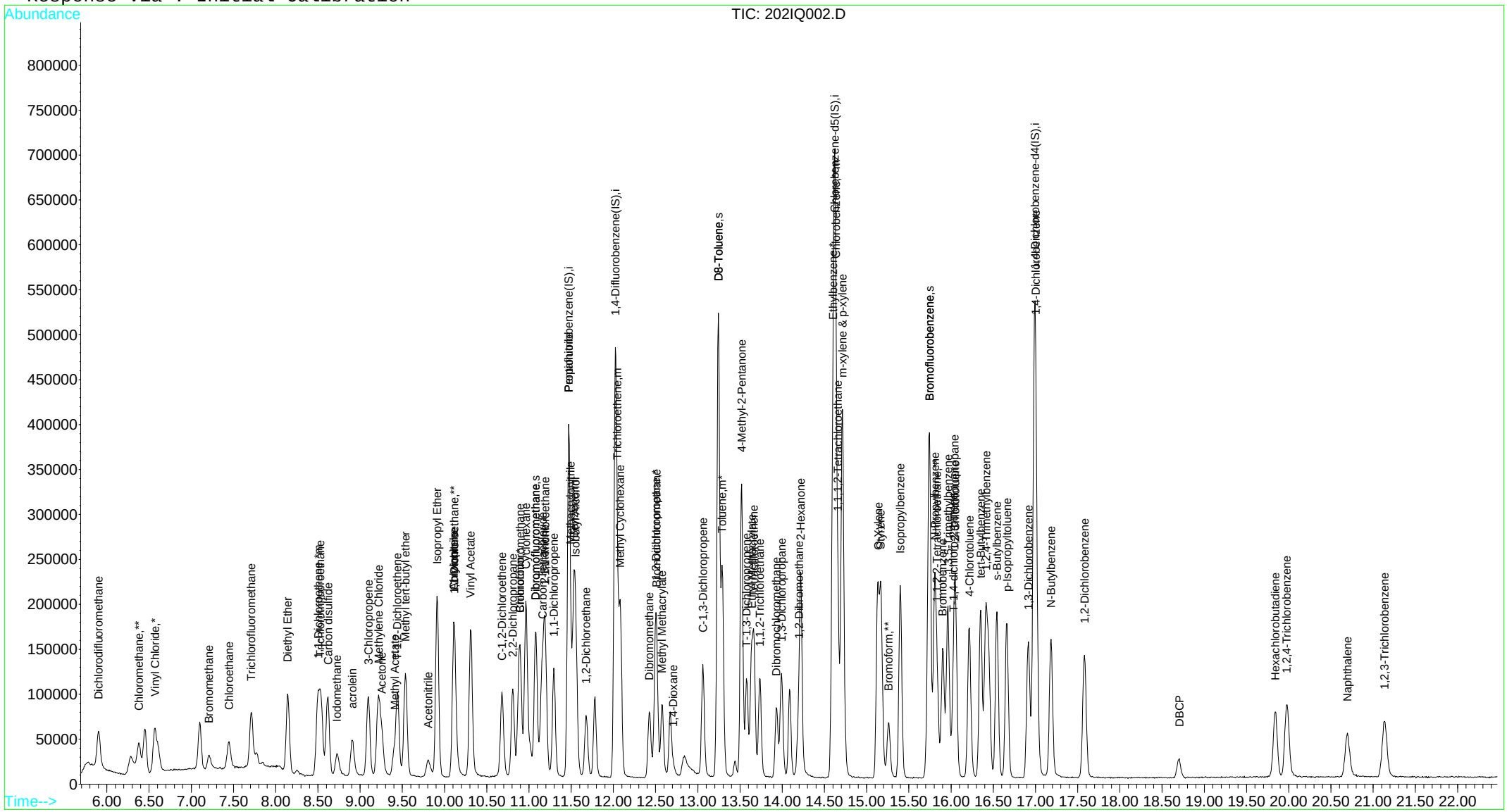
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	13.06	75	247046	49.66 ug/kg	96
55) D8-Toluene	13.24	98	390714	47.32 ug/kg	93
57) Toluene	13.29	92	319998	52.39 ug/kg	99
58) Ethyl Methacrylate	13.63	69	185214	46.41 ug/kg	98
59) T-1,3-Dichloropropene	13.58	75	209792	48.80 ug/kg	98
60) 1,1,2-Trichloroethane	13.74	97	114026	50.77 ug/kg	98
61) 1,3-Dichloropropane	13.99	76	240661	50.16 ug/kg	100
62) Tetrachloroethene	13.67	164	117998	47.36 ug/kg	96
63) Dibromochloromethane	13.94	129	140362	50.40 ug/kg	98
64) 1,2-Dibromoethane	14.19	107	133225	52.31 ug/kg	98
65) Chlorobenzene	14.64	112	329072	50.74 ug/kg	99
66) 1,1,1,2-Tetrachloroethane	14.66	131	118178	51.13 ug/kg	99
67) Ethylbenzene	14.60	106	175639	52.82 ug/kg	99
68) m-xylene & p-xylene	14.71	106	418680	105.27 ug/kg	99
69) O-Xylene	15.13	106	229339	56.66 ug/kg	98
70) Bromoform	15.26	173	111069	55.29 ug/kg	99
71) Styrene	15.17	104	398889	55.55 ug/kg	98
72) Isopropylbenzene	15.40	105	553162	55.64 ug/kg	100
73) 1,2,3-Trichloropropane	16.03	75	170573	44.72 ug/kg	100
74) 1,1,2,2-Tetrachloroethane	15.84	83	159743	51.91 ug/kg	100
76) Bromofluorobenzene	15.74	95	193091	55.60 ug/kg#	86
77) T-1,4-dichloro-2-butene	16.02	53	26395	29.92 ug/kg#	24
78) N-Propylbenzene	15.81	91	687604	56.54 ug/kg	100
80) Bromobenzene	15.91	156	179266	50.90 ug/kg	95
81) 1,3,5-Trimethylbenzene	15.96	105	432435	49.99 ug/kg	100
82) 2-Chlorotoluene	16.05	91	409803	49.60 ug/kg	98
83) 4-Chlorotoluene	16.22	91	431367	49.50 ug/kg	99
84) 1,2,4-Trimethylbenzene	16.41	105	434953	49.20 ug/kg	98
85) s-Butylbenzene	16.54	105	516321	49.95 ug/kg	99
86) tert-Butylbenzene	16.35	119	373936	51.50 ug/kg	97
87) p-Isopropyltoluene	16.66	119	427194	49.23 ug/kg	99
88) 1,3-Dichlorobenzene	16.92	146	290784	50.14 ug/kg	99
89) 1,4-Dichlorobenzene	17.01	146	292236	48.43 ug/kg	99
90) 1,2-Dichlorobenzene	17.58	146	274816	50.51 ug/kg	100
91) N-Butylbenzene	17.18	91	382827	47.44 ug/kg	99
92) DBCP	18.70	75	22942	42.67 ug/kg	90
93) Naphthalene	20.69	128	158739	38.42 ug/kg	100
94) 1,2,4-Trichlorobenzene	19.98	180	137718	49.32 ug/kg	97
95) Hexachlorobutadiene	19.85	225	73762	56.30 ug/kg	99
96) 1,2,3-Trichlorobenzene	21.13	180	97197	46.87 ug/kg	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\092220\202IQ002.D Vial: 2
Acq On : 22 Sep 2020 8:32 am Operator: KG
Sample : bs1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 22 8:55 2020 Quant Results File: 091420.RES

Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\092220\202IQ002.D Vial: 2
Acq On : 22 Sep 2020 8:32 am Operator: KG
Sample : bs1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 22 8:55 2020 Quant Results File: 091420.RES

Quant Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.47	168	360064	50.00	ug/kg	-0.01
38) 1,4-Difluorobenzene(IS)	12.02	114	460018	50.00	ug/kg	-0.01
56) Chlorobenzene-d5(IS)	14.62	82	245771	50.00	ug/kg	-0.01
79) 1,4-Dichlorobenzene-d4(IS)	16.99	152	219428	50.00	ug/kg	-0.01
System Monitoring Compounds						
30) Dibromofluoromethane	11.08	113	127323	43.24	ug/kg	-0.01
Spiked Amount 50.000	Range 53 - 146		Recovery = 86.48%			
54) D8-Toluene	13.24	98	430088	47.21	ug/kg	-0.01
Spiked Amount 50.000	Range 41 - 146		Recovery = 94.42%			
75) Bromofluorobenzene	15.74	95	191637	51.18	ug/kg	-0.01
Spiked Amount 50.000	Range 41 - 142		Recovery = 102.36%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.90	85	61788	11.97	ug/kg	99
3) Chloromethane	6.38	50	65771	10.83	ug/kg	99
4) Vinyl Chloride	6.56	62	79081	16.45	ug/kg	96
5) Bromomethane	7.21	96	13351	7.07	ug/kg	97
6) Chloroethane	7.45	64	48511	17.40	ug/kg	96
7) Trichlorofluoromethane	7.71	101	76784	15.80	ug/kg	99
8) Trichlorotrifluoroethane	8.53	101	51094	18.23	ug/kg	100
9) acrolein	8.91	56	60082	97.40	ug/kg	99
10) Acetone	9.26	43	86693	85.72	ug/kg	100
11) 1,1-Dichloroethene	8.50	96	46607	18.40	ug/kg	94
12) 3-Chloropropene	9.10	76	30905	17.81	ug/kg	93
13) Acetonitrile	9.81	41	37495	78.28	ug/kg	95
14) Iodomethane	8.72	142	55279	12.93	ug/kg	98
15) Carbon disulfide	8.62	76	201932	21.25	ug/kg	100
16) Methylene Chloride	9.22	84	61641	17.85	ug/kg	94
17) Methyl tert-butyl ether	9.54	73	136163	17.51	ug/kg	96
18) Acrylonitrile	10.11	53	110161	58.63	ug/kg#	74
19) T-1,2-Dichloroethene	9.44	96	54724	18.12	ug/kg	94
20) Isopropyl Ether	9.91	45	248426	17.85	ug/kg	98
21) C-1,2-Dichloroethene	10.68	96	58562	17.94	ug/kg	95
22) 1,1-Dichloroethane	10.12	63	102378	16.46	ug/kg	99
23) Vinyl Acetate	10.31	43	148727	16.04	ug/kg	100
24) Chloroprene	10.11	88	48738	17.72	ug/kg	1
25) 2-Butanone	11.18	72	42583	117.16	ug/kg#	48
26) Propionitrile	11.46	54	7613	16.74	ug/kg	100
27) 2,2-Dichloropropane	10.81	77	81617	17.10	ug/kg	100
28) Methacrylonitrile	11.50	67	24223	17.73	ug/kg	89
29) Chloroform	10.90	83	103123	17.68	ug/kg	96
31) Dibromofluoromethane	11.08	113	127323	43.24	ug/kg	100
32) Bromochloromethane	10.89	128	29808	17.48	ug/kg	94
33) 1,1,1-Trichloroethane	11.20	97	75913	17.97	ug/kg	98
34) 1,1-Dichloropropene	11.30	75	78078	17.08	ug/kg	99
35) Diethyl Ether	8.14	59	52439	18.04	ug/kg	96
36) Methyl Acetate	9.40	74	11039	16.49	ug/kg	88
37) Cyclohexane	10.96	56	99037	19.60	ug/kg	96
39) Methyl Cyclohexane	12.09	55	74899	20.74	ug/kg	98
40) Carbon Tetrachloride	11.15	117	73259	19.16	ug/kg	99
41) 1,2-Dichloroethane	11.68	62	74529	17.13	ug/kg	97
42) Benzene	11.54	78	212162	18.60	ug/kg#	54
43) Isobutyl Alcohol	11.56	43	35352	191.25	ug/kg#	1
44) Trichloroethene	12.05	130	54207	18.71	ug/kg	92
45) 1,2-Dichloropropane	12.50	63	59047	17.48	ug/kg	98
46) Methyl Methacrylate	12.57	100	16068	20.16	ug/kg	94
47) 1,4-Dioxane	12.71	88	11686	462.09	ug/kg	100
48) Bromodichloromethane	12.52	83	74602	18.46	ug/kg	96
49) Dibromomethane	12.43	93	37808	17.90	ug/kg	94
50) 4-Methyl-2-Pentanone	13.52	100	40376	92.07	ug/kg	84
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	14.22	43	210527	85.94	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\092220\202IQ002.D Vial: 2
Acq On : 22 Sep 2020 8:32 am Operator: KG
Sample : bs1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 22 8:55 2020 Quant Results File: 091420.RES

Quant Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	13.06	75	96252	17.54 ug/kg	94
55) D8-Toluene	13.24	98	430088	47.21 ug/kg	93
57) Toluene	13.29	92	130017	19.74 ug/kg	98
58) Ethyl Methacrylate	13.63	69	80089	18.61 ug/kg	96
59) T-1,3-Dichloropropene	13.58	75	86968	18.76 ug/kg	95
60) 1,1,2-Trichloroethane	13.74	97	45843	18.93 ug/kg	97
61) 1,3-Dichloropropane	13.99	76	95304	18.42 ug/kg	97
62) Tetrachloroethene	13.66	164	50137	18.66 ug/kg	96
63) Dibromochloromethane	13.93	129	57047	19.00 ug/kg	99
64) 1,2-Dibromoethane	14.19	107	52634	19.17 ug/kg	97
65) Chlorobenzene	14.64	112	135352	19.36 ug/kg	100
66) 1,1,1,2-Tetrachloroethane	14.66	131	48114	19.31 ug/kg#	21
67) Ethylbenzene	14.59	106	69776	19.46 ug/kg	99
68) m-xylene & p-xylene	14.71	106	167053	38.96 ug/kg	99
69) O-Xylene	15.13	106	84977	19.47 ug/kg	99
70) Bromoform	15.26	173	43758	20.20 ug/kg	98
71) Styrene	15.17	104	151096	19.52 ug/kg	97
72) Isopropylbenzene	15.40	105	212044	19.78 ug/kg	98
73) 1,2,3-Trichloropropane	16.03	75	63344	15.40 ug/kg	99
74) 1,1,2,2-Tetrachloroethane	15.84	83	62579	18.86 ug/kg	100
76) Bromofluorobenzene	15.74	95	191637	51.18 ug/kg	92
77) T-1,4-dichloro-2-butene	16.02	53	8233	8.66 ug/kg#	1
78) N-Propylbenzene	15.81	91	256878	19.59 ug/kg	100
80) Bromobenzene	15.91	156	67324	19.07 ug/kg	95
81) 1,3,5-Trimethylbenzene	15.96	105	166568	19.21 ug/kg	100
82) 2-Chlorotoluene	16.05	91	157756	19.05 ug/kg	98
83) 4-Chlorotoluene	16.22	91	164717	18.86 ug/kg	99
84) 1,2,4-Trimethylbenzene	16.41	105	168823	19.05 ug/kg	99
85) s-Butylbenzene	16.54	105	204181	19.71 ug/kg	99
86) tert-Butylbenzene	16.35	119	142403	19.57 ug/kg	97
87) p-Isopropyltoluene	16.66	119	167066	19.21 ug/kg	100
88) 1,3-Dichlorobenzene	16.92	146	111523	19.19 ug/kg	99
89) 1,4-Dichlorobenzene	17.01	146	111256	18.40 ug/kg	100
90) 1,2-Dichlorobenzene	17.58	146	105558	19.36 ug/kg	100
91) N-Butylbenzene	17.19	91	153740	19.01 ug/kg	100
92) DBCP	18.70	75	10054	18.66 ug/kg	93
93) Naphthalene	20.69	128	91767	22.16 ug/kg	100
94) 1,2,4-Trichlorobenzene	19.98	180	63660	22.75 ug/kg	98
95) Hexachlorobutadiene	19.84	225	32564	24.80 ug/kg	99
96) 1,2,3-Trichlorobenzene	21.13	180	52265	25.15 ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\092220\202IQ005.D Vial: 5
Acq On : 22 Sep 2020 9:58 am Operator: KG
Sample : blk1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 22 14:55 2020 Quant Results File: 091420.RES

Quant Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.47	168	321608	50.00	ug/kg	-0.01
38) 1,4-Difluorobenzene(IS)	12.02	114	399216	50.00	ug/kg	-0.01
56) Chlorobenzene-d5(IS)	14.62	82	214909	50.00	ug/kg	-0.01
79) 1,4-Dichlorobenzene-d4(IS)	16.99	152	179580	50.00	ug/kg	-0.01
System Monitoring Compounds						
30) Dibromofluoromethane	11.08	113	115552	43.94	ug/kg	-0.02
Spiked Amount 50.000	Range 53 - 146		Recovery = 87.88%			
54) D8-Toluene	13.24	98	384199	48.60	ug/kg	-0.01
Spiked Amount 50.000	Range 41 - 146		Recovery = 97.20%			
75) Bromofluorobenzene	15.74	95	163833	50.04	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 100.08%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.		
3) Chloromethane	0.00	50	0	N.D.		
4) Vinyl Chloride	0.00	62	0	N.D.		
5) Bromomethane	0.00	96	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Trichlorofluoromethane	0.00	101	0	N.D.		
8) Trichlorotrifluoroethane	0.00	101	0	N.D.		
9) acrolein	0.00	56	0	N.D.		
10) Acetone	0.00	43	0	N.D. d		
11) 1,1-Dichloroethene	0.00	96	0	N.D.		
12) 3-Chloropropene	0.00	76	0	N.D.		
13) Acetonitrile	0.00	41	0	N.D.		
14) Iodomethane	0.00	142	0	N.D.		
15) Carbon disulfide	0.00	76	0	N.D. d		
16) Methylene Chloride	0.00	84	0	N.D. d		
17) Methyl tert-butyl ether	0.00	73	0	N.D.		
18) Acrylonitrile	0.00	53	0	N.D.		
19) T-1,2-Dichloroethene	0.00	96	0	N.D.		
20) Isopropyl Ether	0.00	45	0	N.D.		
21) C-1,2-Dichloroethene	0.00	96	0	N.D.		
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	0.00	43	0	N.D.		
24) Chloroprene	0.00	88	0	N.D.		
25) 2-Butanone	0.00	72	0	N.D.		
26) Propionitrile	0.00	54	0	N.D.		
27) 2,2-Dichloropropane	0.00	77	0	N.D.		
28) Methacrylonitrile	0.00	67	0	N.D. d		
29) Chloroform	0.00	83	0	N.D.		
31) Dibromofluoromethane	11.08	113	115552	43.94	ug/kg	100
32) Bromochloromethane	0.00	128	0	N.D.		
33) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
34) 1,1-Dichloropropene	0.00	75	0	N.D.		
35) Diethyl Ether	0.00	59	0	N.D.		
36) Methyl Acetate	0.00	74	0	N.D.		
37) Cyclohexane	0.00	56	0	N.D.		
39) Methyl Cyclohexane	0.00	55	0	N.D. d		
40) Carbon Tetrachloride	0.00	117	0	N.D.		
41) 1,2-Dichloroethane	0.00	62	0	N.D.		
42) Benzene	0.00	78	0	N.D. d		
43) Isobutyl Alcohol	0.00	43	0	N.D.		
44) Trichloroethene	0.00	130	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Methyl Methacrylate	0.00	100	0	N.D.		
47) 1,4-Dioxane	0.00	88	0	N.D.		
48) Bromodichloromethane	0.00	83	0	N.D.		
49) Dibromomethane	0.00	93	0	N.D.		
50) 4-Methyl-2-Pentanone	0.00	100	0	N.D.		
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	0.00	43	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\092220\202IQ005.D Vial: 5
Acq On : 22 Sep 2020 9:58 am Operator: KG
Sample : blk1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 22 14:55 2020 Quant Results File: 091420.RES

Quant Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

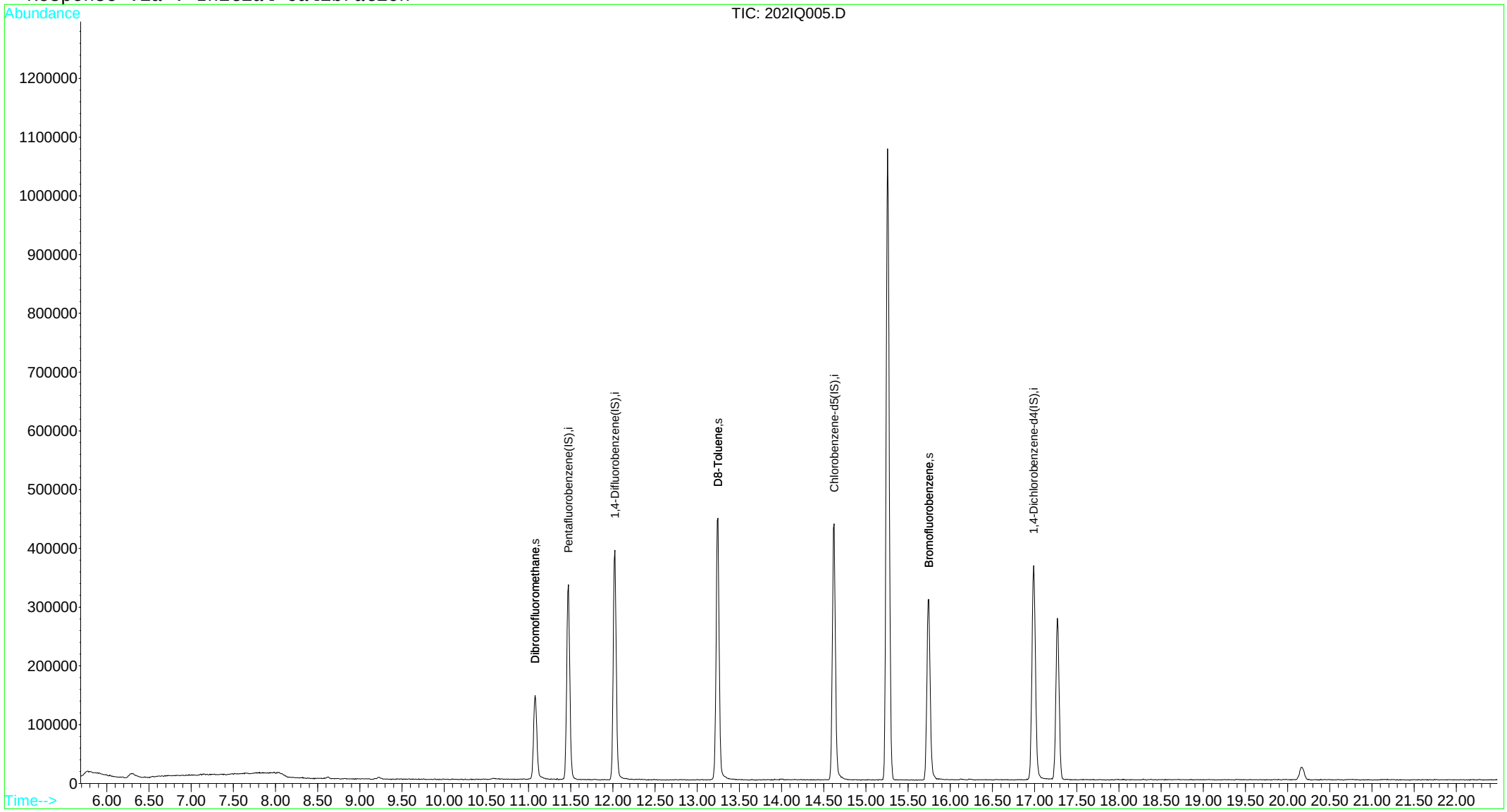
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	0.00	75	0	N.D.	
55) D8-Toluene	13.24	98	384199	48.60 ug/kg	94
57) Toluene	0.00	92	0	N.D.	
58) Ethyl Methacrylate	0.00	69	0	N.D.	
59) T-1,3-Dichloropropene	0.00	75	0	N.D.	
60) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
61) 1,3-Dichloropropane	0.00	76	0	N.D.	
62) Tetrachloroethene	0.00	164	0	N.D.	
63) Dibromochloromethane	0.00	129	0	N.D.	
64) 1,2-Dibromoethane	0.00	107	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
67) Ethylbenzene	0.00	106	0	N.D.	
68) m-xylene & p-xylene	0.00	106	0	N.D.	
69) O-Xylene	0.00	106	0	N.D.	
70) Bromoform	0.00	173	0	N.D.	
71) Styrene	0.00	104	0	N.D. d	
72) Isopropylbenzene	0.00	105	0	N.D. d	
73) 1,2,3-Trichloropropane	0.00	75	0	N.D.	
74) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
76) Bromofluorobenzene	15.74	95	163833	50.04 ug/kg	94
77) T-1,4-dichloro-2-butene	0.00	53	0	N.D.	
78) N-Propylbenzene	0.00	91	0	N.D.	
80) Bromobenzene	0.00	156	0	N.D.	
81) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
82) 2-Chlorotoluene	0.00	91	0	N.D.	
83) 4-Chlorotoluene	0.00	91	0	N.D.	
84) 1,2,4-Trimethylbenzene	0.00	105	0	N.D. d	
85) s-Butylbenzene	0.00	105	0	N.D. d	
86) tert-Butylbenzene	0.00	119	0	N.D.	
87) p-Isopropyltoluene	0.00	119	0	N.D.	
88) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
89) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) N-Butylbenzene	0.00	91	0	N.D.	
92) DBCP	0.00	75	0	N.D.	
93) Naphthalene	0.00	128	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Hexachlorobutadiene	0.00	225	0	N.D.	
96) 1,2,3-Trichlorobenzene	0.00	180	0	N.D. d	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\092220\202IQ005.D Vial: 5
Acq On : 22 Sep 2020 9:58 am Operator: KG
Sample : blk1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 22 14:55 2020 Quant Results File: 091420.RES

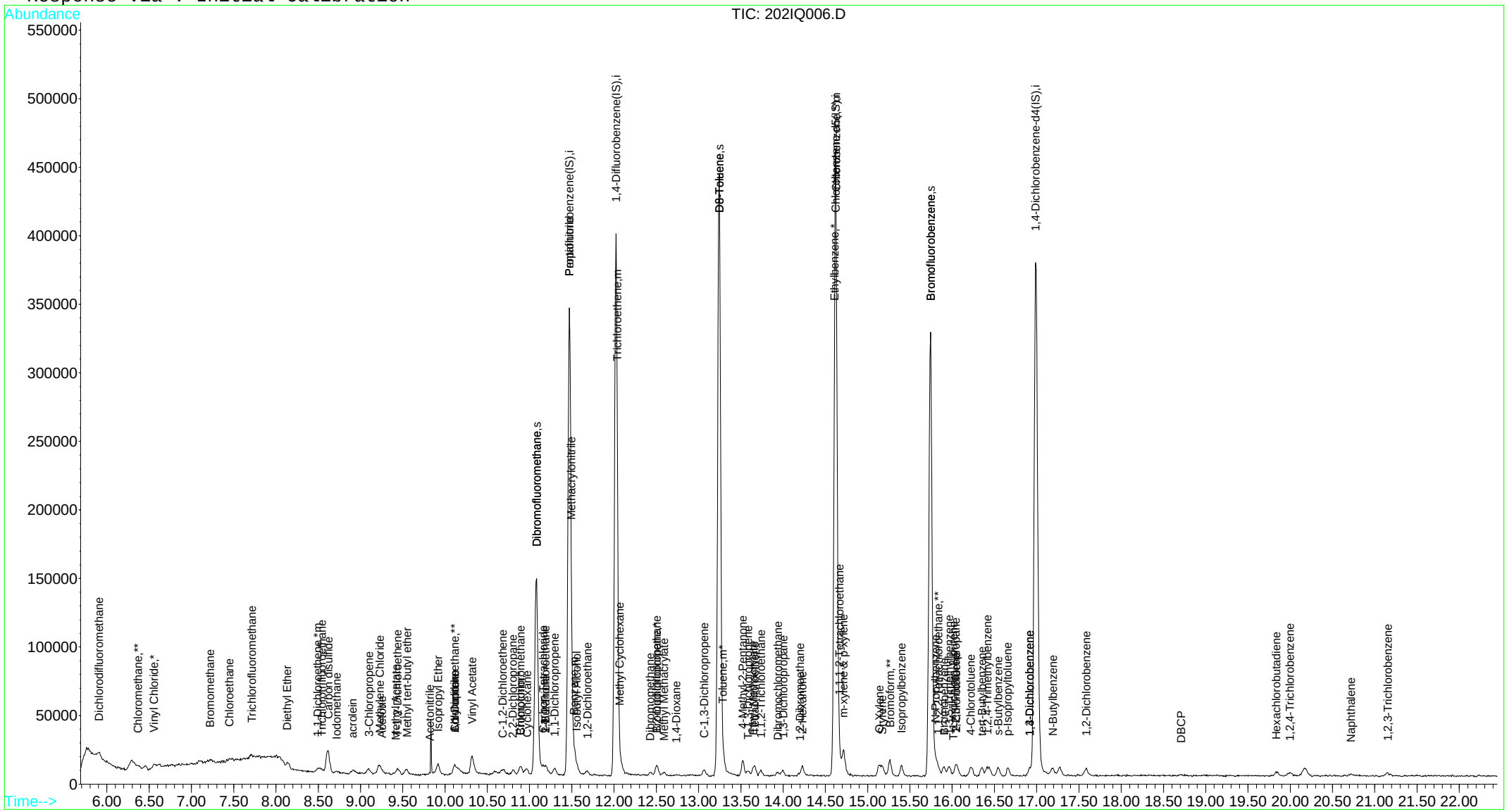
Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\092220\202IQ006.D Vial: 6
Acq On : 22 Sep 2020 10:35 am Operator: KG
Sample : crl1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 22 11:05 2020 Quant Results File: 091420.RES

Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\092220\202IQ006.D Vial: 6
Acq On : 22 Sep 2020 10:35 am Operator: KG
Sample : crl1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 22 11:05 2020 Quant Results File: 091420.RES

Quant Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.47	168	324368	50.00	ug/kg	-0.01
38) 1,4-Difluorobenzene(IS)	12.02	114	406715	50.00	ug/kg	-0.01
56) Chlorobenzene-d5(IS)	14.62	82	217536	50.00	ug/kg	-0.01
79) 1,4-Dichlorobenzene-d4(IS)	16.99	152	184765	50.00	ug/kg	0.00
System Monitoring Compounds						
30) Dibromofluoromethane	11.08	113	117272	44.21	ug/kg	-0.02
Spiked Amount 50.000	Range 53 - 146		Recovery = 88.42%			
54) D8-Toluene	13.24	98	381076	47.32	ug/kg	-0.01
Spiked Amount 50.000	Range 41 - 146		Recovery = 94.64%			
75) Bromofluorobenzene	15.74	95	168989	50.99	ug/kg	-0.01
Spiked Amount 50.000	Range 41 - 142		Recovery = 101.98%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.90	85	3807	0.82	ug/kg#	90
3) Chloromethane	6.37	50	3968	0.73	ug/kg#	92
4) Vinyl Chloride	6.56	62	3792	0.88	ug/kg#	90
5) Bromomethane	7.22	96	1731	1.02	ug/kg#	81
6) Chloroethane	7.45	64	2615	1.04	ug/kg#	78
7) Trichlorofluoromethane	7.71	101	3064	0.70	ug/kg	91
8) Trichlorotrifluoroethane	8.53	101	1343	0.53	ug/kg	95
9) acrolein	8.91	56	3897	7.01	ug/kg	77
10) Acetone	9.26	43	4608	5.06	ug/kg	85
11) 1,1-Dichloroethene	8.50	96	1668	0.74	ug/kg	91
12) 3-Chloropropene	9.10	76	1528	0.98	ug/kg	90
13) Acetonitrile	9.81	41	1290	2.99	ug/kg#	1
14) Iodomethane	8.72	142	3192	0.83	ug/kg	87
15) Carbon disulfide	8.61	76	37591	4.40	ug/kg	97
16) Methylene Chloride	9.22	84	3650	1.17	ug/kg	93
17) Methyl tert-butyl ether	9.55	73	4304	0.61	ug/kg	84
18) Acrylonitrile	10.12	53	3648	2.16	ug/kg#	42
19) T-1,2-Dichloroethene	9.44	96	2148	0.79	ug/kg	90
20) Isopropyl Ether	9.92	45	9859	0.79	ug/kg	99
21) C-1,2-Dichloroethene	10.69	96	2248	0.76	ug/kg	99
22) 1,1-Dichloroethane	10.12	63	4418	0.79	ug/kg#	86
23) Vinyl Acetate	10.32	43	27767	3.32	ug/kg	97
24) Chloroprene	10.12	88	1857	0.75	ug/kg#	1
25) 2-Butanone	11.20	72	1139	3.48	ug/kg#	71
26) Propionitrile	11.48	54	2660	6.49	ug/kg	100
27) 2,2-Dichloropropane	10.80	77	3125	0.73	ug/kg	78
28) Methacrylonitrile	11.50	67	9324	7.58	ug/kg	88
29) Chloroform	10.90	83	4166	0.79	ug/kg	91
31) Dibromofluoromethane	11.08	113	117272	44.21	ug/kg	100
32) Bromochloromethane	10.89	128	1296	0.84	ug/kg	86
33) 1,1,1-Trichloroethane	11.20	97	2597	0.68	ug/kg	98
34) 1,1-Dichloropropene	11.30	75	3046	0.74	ug/kg	98
35) Diethyl Ether	8.14	59	1842	0.70	ug/kg#	77
36) Methyl Acetate	9.41	74	257m	0.43	ug/kg	
37) Cyclohexane	10.96	56	2501	0.55	ug/kg#	89
39) Methyl Cyclohexane	12.07	55	1553	0.49	ug/kg#	56
40) Carbon Tetrachloride	11.15	117	2488	0.74	ug/kg	98
41) 1,2-Dichloroethane	11.68	62	3062	0.80	ug/kg#	80
42) Benzene	11.54	78	9617	0.95	ug/kg	85
43) Isobutyl Alcohol	11.56	43	2259	13.82	ug/kg#	90
44) Trichloroethene	12.04	130	1989	0.78	ug/kg#	1
45) 1,2-Dichloropropane	12.50	63	2717	0.91	ug/kg	89
46) Methyl Methacrylate	12.58	100	448m	0.64	ug/kg	
47) 1,4-Dioxane	12.74	88	107m	4.79	ug/kg	
48) Bromodichloromethane	12.51	83	2962	0.83	ug/kg#	92
49) Dibromomethane	12.43	93	1413	0.76	ug/kg	91
50) 4-Methyl-2-Pentanone	13.53	100	1823	4.70	ug/kg#	58
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	14.23	43	6667	3.08	ug/kg	94

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\092220\202IQ006.D Vial: 6
Acq On : 22 Sep 2020 10:35 am Operator: KG
Sample : crl1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 22 11:05 2020 Quant Results File: 091420.RES

Quant Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

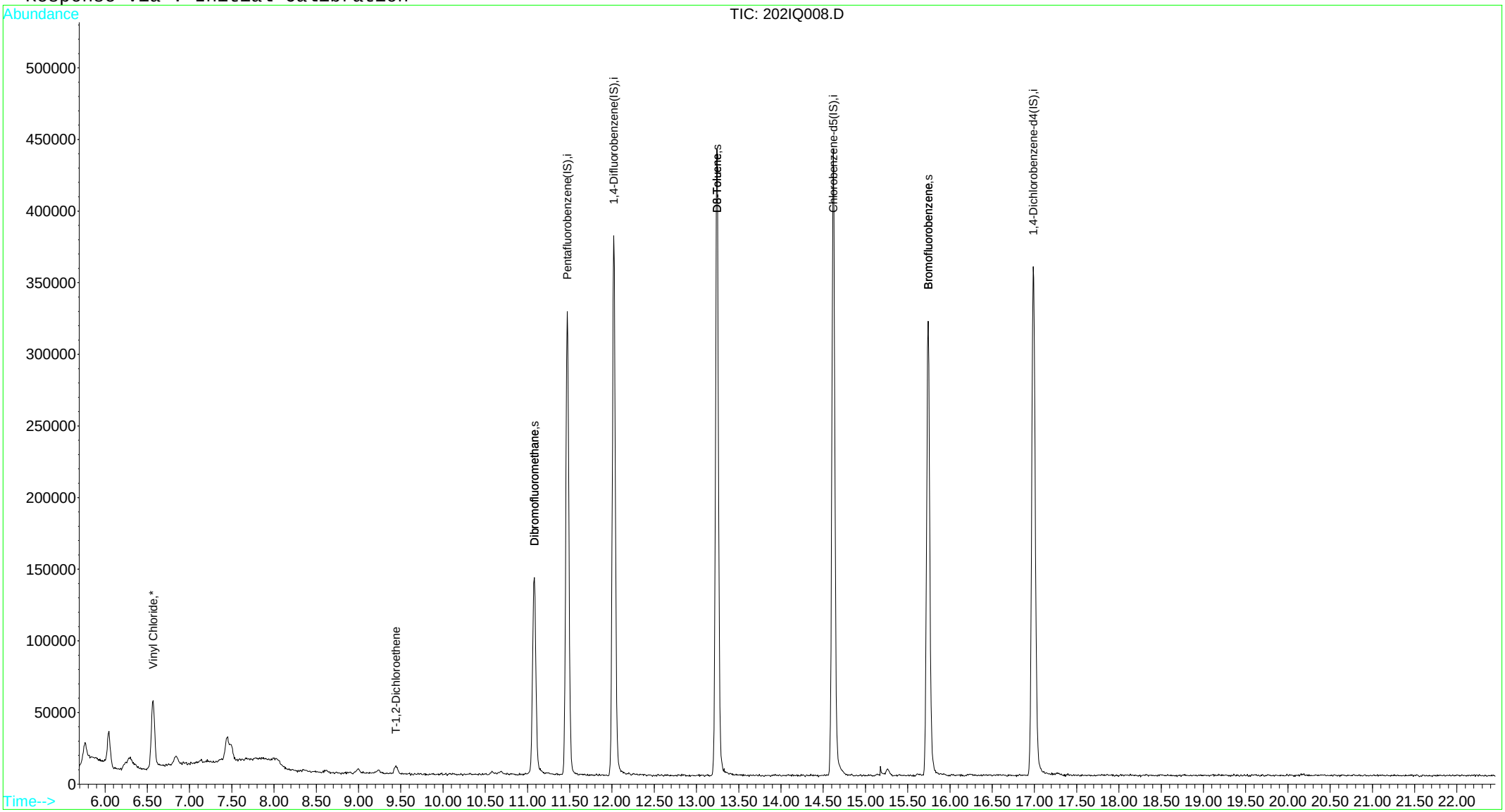
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.07	75	3840	0.79	ug/kg	95
55) D8-Toluene	13.24	98	381076	47.32	ug/kg	94
57) Toluene	13.29	92	4797	0.82	ug/kg	98
58) Ethyl Methacrylate	13.64	69	2409	0.63	ug/kg#	72
59) T-1,3-Dichloropropene	13.58	75	3132	0.76	ug/kg	83
60) 1,1,2-Trichloroethane	13.74	97	1766	0.82	ug/kg	97
61) 1,3-Dichloropropane	13.99	76	3922	0.86	ug/kg	97
62) Tetrachloroethene	13.67	164	2026	0.85	ug/kg	94
63) Dibromochloromethane	13.94	129	2216	0.83	ug/kg#	82
64) 1,2-Dibromoethane	14.19	107	1948	0.80	ug/kg#	98
65) Chlorobenzene	14.64	112	5241	0.85	ug/kg#	42
66) 1,1,1,2-Tetrachloroethane	14.67	131	1762	0.80	ug/kg#	1
67) Ethylbenzene	14.60	106	2491	0.79	ug/kg	74
68) m-xylene & p-xylene	14.71	106	6460	1.70	ug/kg	97
69) O-Xylene	15.14	106	3143	0.81	ug/kg	99
70) Bromoform	15.26	173	1727	0.90	ug/kg#	91
71) Styrene	15.18	104	5678	0.83	ug/kg	94
72) Isopropylbenzene	15.40	105	7228	0.76	ug/kg	98
73) 1,2,3-Trichloropropane	16.03	75	3182	0.87	ug/kg	88
74) 1,1,2,2-Tetrachloroethane	15.84	83	2422	0.82	ug/kg#	94
76) Bromofluorobenzene	15.74	95	168989	50.99	ug/kg	95
77) T-1,4-dichloro-2-butene	16.01	53	330m	0.39	ug/kg	
78) N-Propylbenzene	15.81	91	9032	0.78	ug/kg	99
80) Bromobenzene	15.91	156	2546	0.86	ug/kg	96
81) 1,3,5-Trimethylbenzene	15.97	105	5909	0.81	ug/kg	99
82) 2-Chlorotoluene	16.05	91	5851	0.84	ug/kg	97
83) 4-Chlorotoluene	16.22	91	6124	0.83	ug/kg	99
84) 1,2,4-Trimethylbenzene	16.42	105	5598	0.75	ug/kg	95
85) s-Butylbenzene	16.54	105	7221	0.83	ug/kg	100
86) tert-Butylbenzene	16.36	119	4809	0.78	ug/kg	92
87) p-Isopropyltoluene	16.66	119	5538	0.76	ug/kg	98
88) 1,3-Dichlorobenzene	16.91	146	4337	0.89	ug/kg	99
89) 1,4-Dichlorobenzene	16.91	146	4337	0.85	ug/kg	99
90) 1,2-Dichlorobenzene	17.59	146	3682	0.80	ug/kg	97
91) N-Butylbenzene	17.19	91	4984	0.73	ug/kg	94
92) DBCP	18.72	75	266m	0.59	ug/kg	
93) Naphthalene	20.72	128	2826	0.81	ug/kg	100
94) 1,2,4-Trichlorobenzene	20.00	180	2145	0.91	ug/kg#	85
95) Hexachlorobutadiene	19.84	225	1621	1.47	ug/kg	97
96) 1,2,3-Trichlorobenzene	21.15	180	1891	1.08	ug/kg#	84

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\092220\202IQ008.D Vial: 8
Acq On : 22 Sep 2020 11:33 am Operator: KG
Sample : ad03698-01 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 22 15:06 2020 Quant Results File: 091420.RES

Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\092220\202IQ008.D Vial: 8
Acq On : 22 Sep 2020 11:33 am Operator: KG
Sample : ad03698-01 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 22 15:06 2020 Quant Results File: 091420.RES

Quant Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.47	168	313726	50.00	ug/kg	-0.01
38) 1,4-Difluorobenzene(IS)	12.02	114	380397	50.00	ug/kg	-0.01
56) Chlorobenzene-d5(IS)	14.62	82	209975	50.00	ug/kg	-0.01
79) 1,4-Dichlorobenzene-d4(IS)	16.99	152	175658	50.00	ug/kg	0.00
System Monitoring Compounds						
30) Dibromofluoromethane	11.08	113	111535	43.47	ug/kg	-0.01
Spiked Amount 50.000	Range 53 - 146		Recovery = 86.94%			
54) D8-Toluene	13.24	98	369338	49.03	ug/kg	-0.01
Spiked Amount 50.000	Range 41 - 146		Recovery = 98.06%			
75) Bromofluorobenzene	15.74	95	164526	51.43	ug/kg	-0.01
Spiked Amount 50.000	Range 41 - 142		Recovery = 102.86%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.		
3) Chloromethane	0.00	50	0	N.D.		
4) Vinyl Chloride	6.57	62	76049	18.16	ug/kg	100
5) Bromomethane	0.00	96	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Trichlorofluoromethane	0.00	101	0	N.D.		
8) Trichlorotrifluoroethane	0.00	101	0	N.D.		
9) acrolein	0.00	56	0	N.D.		
10) Acetone	0.00	43	0	N.D. d		
11) 1,1-Dichloroethene	0.00	96	0	N.D.		
12) 3-Chloropropene	0.00	76	0	N.D.		
13) Acetonitrile	0.00	41	0	N.D.		
14) Iodomethane	0.00	142	0	N.D.		
15) Carbon disulfide	0.00	76	0	N.D. d		
16) Methylene Chloride	0.00	84	0	N.D.		
17) Methyl tert-butyl ether	0.00	73	0	N.D.		
18) Acrylonitrile	0.00	53	0	N.D.		
19) T-1,2-Dichloroethene	9.44	96	3163	1.20	ug/kg	98
20) Isopropyl Ether	0.00	45	0	N.D.		
21) C-1,2-Dichloroethene	0.00	96	0	N.D. d		
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	0.00	43	0	N.D.		
24) Chloroprene	0.00	88	0	N.D.		
25) 2-Butanone	0.00	72	0	N.D.		
26) Propionitrile	0.00	54	0	N.D.		
27) 2,2-Dichloropropane	0.00	77	0	N.D.		
28) Methacrylonitrile	0.00	67	0	N.D. d		
29) Chloroform	0.00	83	0	N.D.		
31) Dibromofluoromethane	11.08	113	111535	43.47	ug/kg	100
32) Bromochloromethane	0.00	128	0	N.D.		
33) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
34) 1,1-Dichloropropene	0.00	75	0	N.D.		
35) Diethyl Ether	0.00	59	0	N.D.		
36) Methyl Acetate	0.00	74	0	N.D.		
37) Cyclohexane	0.00	56	0	N.D.		
39) Methyl Cyclohexane	0.00	55	0	N.D. d		
40) Carbon Tetrachloride	0.00	117	0	N.D.		
41) 1,2-Dichloroethane	0.00	62	0	N.D.		
42) Benzene	0.00	78	0	N.D. d		
43) Isobutyl Alcohol	0.00	43	0	N.D. d		
44) Trichloroethene	0.00	130	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Methyl Methacrylate	0.00	100	0	N.D.		
47) 1,4-Dioxane	0.00	88	0	N.D.		
48) Bromodichloromethane	0.00	83	0	N.D.		
49) Dibromomethane	0.00	93	0	N.D.		
50) 4-Methyl-2-Pentanone	0.00	100	0	N.D. d		
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	0.00	43	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\092220\202IQ008.D Vial: 8
Acq On : 22 Sep 2020 11:33 am Operator: KG
Sample : ad03698-01 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 22 15:06 2020 Quant Results File: 091420.RES

Quant Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

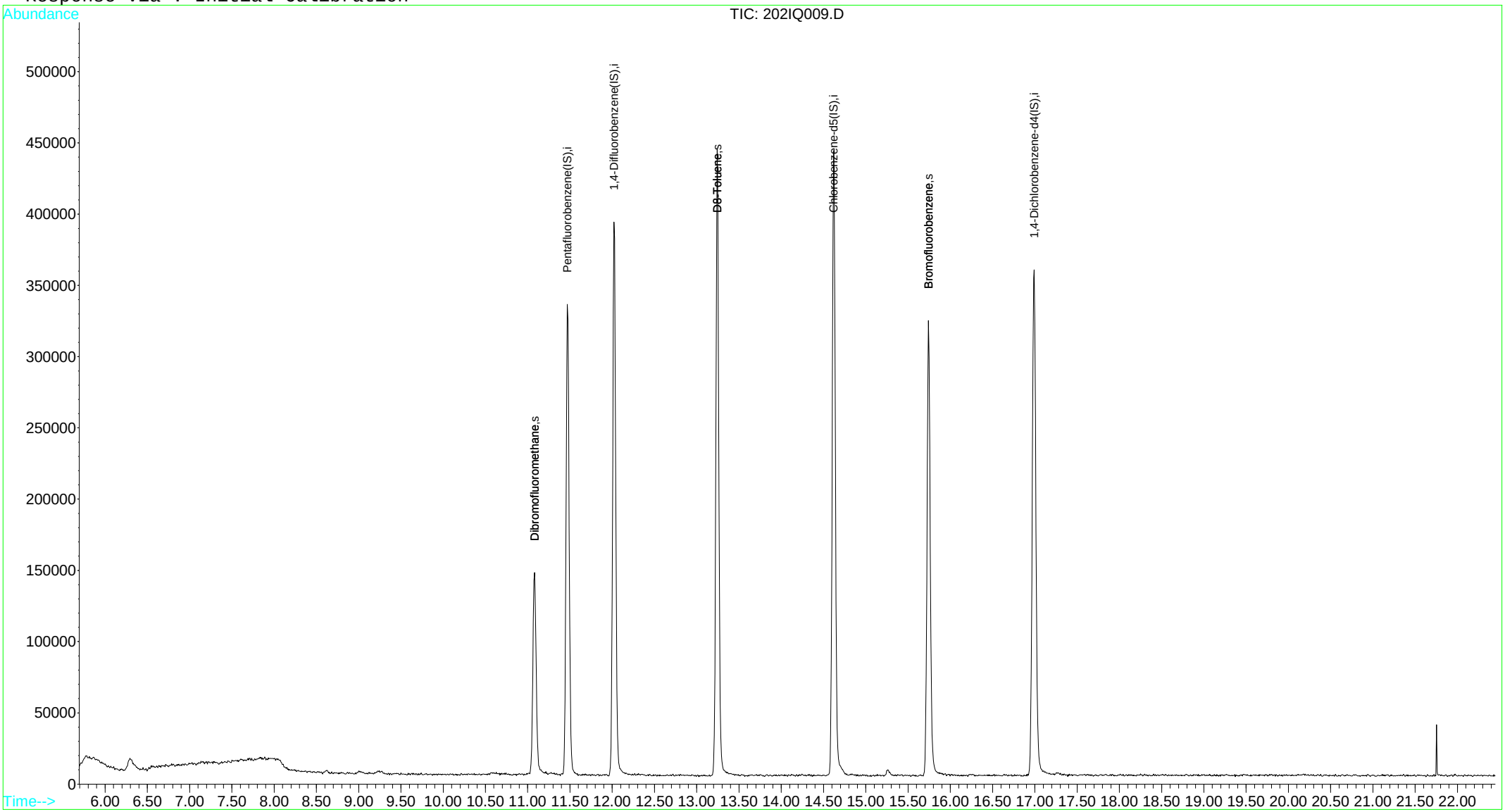
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	0.00	75	0	N.D.	
55) D8-Toluene	13.24	98	369338	49.03 ug/kg	93
57) Toluene	0.00	92	0	N.D. d	
58) Ethyl Methacrylate	0.00	69	0	N.D.	
59) T-1,3-Dichloropropene	0.00	75	0	N.D.	
60) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
61) 1,3-Dichloropropane	0.00	76	0	N.D.	
62) Tetrachloroethene	0.00	164	0	N.D.	
63) Dibromochloromethane	0.00	129	0	N.D.	
64) 1,2-Dibromoethane	0.00	107	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
67) Ethylbenzene	0.00	106	0	N.D.	
68) m-xylene & p-xylene	0.00	106	0	N.D.	
69) O-Xylene	0.00	106	0	N.D.	
70) Bromoform	0.00	173	0	N.D.	
71) Styrene	0.00	104	0	N.D.	
72) Isopropylbenzene	0.00	105	0	N.D.	
73) 1,2,3-Trichloropropane	0.00	75	0	N.D.	
74) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
76) Bromofluorobenzene	15.74	95	164526	51.43 ug/kg	94
77) T-1,4-dichloro-2-butene	0.00	53	0	N.D.	
78) N-Propylbenzene	0.00	91	0	N.D. d	
80) Bromobenzene	0.00	156	0	N.D.	
81) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
82) 2-Chlorotoluene	0.00	91	0	N.D.	
83) 4-Chlorotoluene	0.00	91	0	N.D.	
84) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.	
85) s-Butylbenzene	0.00	105	0	N.D.	
86) tert-Butylbenzene	0.00	119	0	N.D.	
87) p-Isopropyltoluene	0.00	119	0	N.D.	
88) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
89) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) N-Butylbenzene	0.00	91	0	N.D.	
92) DBCP	0.00	75	0	N.D.	
93) Naphthalene	0.00	128	0	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Hexachlorobutadiene	0.00	225	0	N.D.	
96) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\092220\202IQ009.D Vial: 9
Acq On : 22 Sep 2020 12:02 pm Operator: KG
Sample : ad03698-02 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 22 15:06 2020 Quant Results File: 091420.RES

Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\092220\202IQ009.D Vial: 9
Acq On : 22 Sep 2020 12:02 pm Operator: KG
Sample : ad03698-02 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 22 15:06 2020 Quant Results File: 091420.RES

Quant Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.47	168	316248	50.00	ug/kg	-0.02
38) 1,4-Difluorobenzene(IS)	12.02	114	396591	50.00	ug/kg	-0.02
56) Chlorobenzene-d5(IS)	14.62	82	212402	50.00	ug/kg	-0.02
79) 1,4-Dichlorobenzene-d4(IS)	16.99	152	177422	50.00	ug/kg	0.00
System Monitoring Compounds						
30) Dibromofluoromethane	11.08	113	114694	44.35	ug/kg	-0.02
Spiked Amount 50.000	Range 53 - 146		Recovery = 88.70%			
54) D8-Toluene	13.24	98	374473	47.68	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 95.36%			
75) Bromofluorobenzene	15.74	95	166057	51.32	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 102.64%			

Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.	
3) Chloromethane	0.00	50	0	N.D. d	
4) Vinyl Chloride	0.00	62	0	N.D. d	
5) Bromomethane	0.00	96	0	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Trichlorofluoromethane	0.00	101	0	N.D.	
8) Trichlorotrifluoroethane	0.00	101	0	N.D.	
9) acrolein	0.00	56	0	N.D.	
10) Acetone	0.00	43	0	N.D. d	
11) 1,1-Dichloroethene	0.00	96	0	N.D.	
12) 3-Chloropropene	0.00	76	0	N.D.	
13) Acetonitrile	0.00	41	0	N.D.	
14) Iodomethane	0.00	142	0	N.D.	
15) Carbon disulfide	0.00	76	0	N.D. d	
16) Methylene Chloride	0.00	84	0	N.D. d	
17) Methyl tert-butyl ether	0.00	73	0	N.D.	
18) Acrylonitrile	0.00	53	0	N.D.	
19) T-1,2-Dichloroethene	0.00	96	0	N.D.	
20) Isopropyl Ether	0.00	45	0	N.D.	
21) C-1,2-Dichloroethene	0.00	96	0	N.D.	
22) 1,1-Dichloroethane	0.00	63	0	N.D.	
23) Vinyl Acetate	0.00	43	0	N.D.	
24) Chloroprene	0.00	88	0	N.D.	
25) 2-Butanone	0.00	72	0	N.D.	
26) Propionitrile	0.00	54	0	N.D.	
27) 2,2-Dichloropropane	0.00	77	0	N.D.	
28) Methacrylonitrile	0.00	67	0	N.D. d	
29) Chloroform	0.00	83	0	N.D.	
31) Dibromofluoromethane	11.08	113	114694	44.35 ug/kg	100
32) Bromochloromethane	0.00	128	0	N.D.	
33) 1,1,1-Trichloroethane	0.00	97	0	N.D.	
34) 1,1-Dichloropropene	0.00	75	0	N.D.	
35) Diethyl Ether	0.00	59	0	N.D.	
36) Methyl Acetate	0.00	74	0	N.D.	
37) Cyclohexane	0.00	56	0	N.D.	
39) Methyl Cyclohexane	0.00	55	0	N.D. d	
40) Carbon Tetrachloride	0.00	117	0	N.D.	
41) 1,2-Dichloroethane	0.00	62	0	N.D.	
42) Benzene	0.00	78	0	N.D. d	
43) Isobutyl Alcohol	0.00	43	0	N.D. d	
44) Trichloroethene	0.00	130	0	N.D.	
45) 1,2-Dichloropropane	0.00	63	0	N.D.	
46) Methyl Methacrylate	0.00	100	0	N.D.	
47) 1,4-Dioxane	0.00	88	0	N.D.	
48) Bromodichloromethane	0.00	83	0	N.D.	
49) Dibromomethane	0.00	93	0	N.D.	
50) 4-Methyl-2-Pentanone	0.00	100	0	N.D. d	
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.	
52) 2-Hexanone	0.00	43	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\092220\202IQ009.D Vial: 9
Acq On : 22 Sep 2020 12:02 pm Operator: KG
Sample : ad03698-02 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 22 15:06 2020 Quant Results File: 091420.RES

Quant Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	0.00	75	0	N.D.	
55) D8-Toluene	13.24	98	374473	47.68 ug/kg	94
57) Toluene	0.00	92	0	N.D.	
58) Ethyl Methacrylate	0.00	69	0	N.D.	
59) T-1,3-Dichloropropene	0.00	75	0	N.D.	
60) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
61) 1,3-Dichloropropane	0.00	76	0	N.D.	
62) Tetrachloroethene	0.00	164	0	N.D.	
63) Dibromochloromethane	0.00	129	0	N.D.	
64) 1,2-Dibromoethane	0.00	107	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
67) Ethylbenzene	0.00	106	0	N.D.	
68) m-xylene & p-xylene	0.00	106	0	N.D.	
69) O-Xylene	0.00	106	0	N.D.	
70) Bromoform	0.00	173	0	N.D.	
71) Styrene	0.00	104	0	N.D.	
72) Isopropylbenzene	0.00	105	0	N.D.	
73) 1,2,3-Trichloropropane	0.00	75	0	N.D.	
74) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
76) Bromofluorobenzene	15.74	95	166057	51.32 ug/kg	93
77) T-1,4-dichloro-2-butene	0.00	53	0	N.D.	
78) N-Propylbenzene	0.00	91	0	N.D.	
80) Bromobenzene	0.00	156	0	N.D.	
81) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
82) 2-Chlorotoluene	0.00	91	0	N.D.	
83) 4-Chlorotoluene	0.00	91	0	N.D.	
84) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.	
85) s-Butylbenzene	0.00	105	0	N.D.	
86) tert-Butylbenzene	0.00	119	0	N.D.	
87) p-Isopropyltoluene	0.00	119	0	N.D.	
88) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
89) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) N-Butylbenzene	0.00	91	0	N.D.	
92) DBCP	0.00	75	0	N.D.	
93) Naphthalene	0.00	128	0	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Hexachlorobutadiene	0.00	225	0	N.D.	
96) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\092220\202IQ022.D Vial: 22
Acq On : 22 Sep 2020 6:15 pm Operator: KG
Sample : ms1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 22 18:38 2020 Quant Results File: 091420.RES

Quant Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.48	168	276475	50.00	ug/kg	0.00
38) 1,4-Difluorobenzene(IS)	12.03	114	355893	50.00	ug/kg	0.00
56) Chlorobenzene-d5(IS)	14.62	82	197714	50.00	ug/kg	-0.01
79) 1,4-Dichlorobenzene-d4(IS)	16.99	152	176542	50.00	ug/kg	0.00
System Monitoring Compounds						
30) Dibromofluoromethane	11.08	113	103165	45.63	ug/kg	-0.01
Spiked Amount 50.000	Range 53 - 146		Recovery = 91.26%			
54) D8-Toluene	13.24	98	340327	48.29	ug/kg	-0.01
Spiked Amount 50.000	Range 41 - 146		Recovery = 96.58%			
75) Bromofluorobenzene	15.74	95	155322	51.57	ug/kg	-0.01
Spiked Amount 50.000	Range 41 - 142		Recovery = 103.14%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.91	85	67852	17.12	ug/kg	100
3) Chloromethane	6.39	50	66315	14.22	ug/kg	99
4) Vinyl Chloride	6.57	62	74602	20.22	ug/kg	100
5) Bromomethane	7.22	96	20528	14.16	ug/kg	96
6) Chloroethane	7.45	64	42217	19.72	ug/kg	97
7) Trichlorofluoromethane	7.72	101	80973	21.70	ug/kg	99
8) Trichlorotrifluoroethane	8.54	101	47404	22.02	ug/kg	98
9) acrolein	8.91	56	51691	109.13	ug/kg	96
10) Acetone	9.26	43	80481	103.64	ug/kg	99
11) 1,1-Dichloroethene	8.51	96	42345	21.72	ug/kg	99
12) 3-Chloropropene	9.11	76	28177	21.15	ug/kg	93
13) Acetonitrile	9.81	41	31805	86.48	ug/kg	91
14) Iodomethane	8.73	142	12393	3.78	ug/kg	97
15) Carbon disulfide	8.63	76	151312	20.74	ug/kg	99
16) Methylene Chloride	9.22	84	53476	20.17	ug/kg	99
17) Methyl tert-butyl ether	9.54	73	118870	19.90	ug/kg	99
18) Acrylonitrile	10.12	53	105654	73.24	ug/kg#	73
19) T-1,2-Dichloroethene	9.45	96	46938	20.24	ug/kg	98
20) Isopropyl Ether	9.92	45	229755	21.50	ug/kg	100
21) C-1,2-Dichloroethene	10.69	96	52410	20.91	ug/kg	99
22) 1,1-Dichloroethane	10.12	63	98046	20.52	ug/kg	98
23) Vinyl Acetate	10.32	43	125516	17.63	ug/kg	97
24) Chloroprene	10.12	88	43397	20.55	ug/kg	1
25) 2-Butanone	11.19	72	36062	129.22	ug/kg	58
26) Propionitrile	11.48	54	6592	18.88	ug/kg	100
27) 2,2-Dichloropropane	10.82	77	71999	19.65	ug/kg	99
28) Methacrylonitrile	11.51	67	20995	20.02	ug/kg	81
29) Chloroform	10.90	83	94262	21.05	ug/kg	96
31) Dibromofluoromethane	11.08	113	103165	45.63	ug/kg	100
32) Bromochloromethane	10.89	128	26498	20.23	ug/kg	99
33) 1,1,1-Trichloroethane	11.20	97	72715	22.41	ug/kg	98
34) 1,1-Dichloropropene	11.30	75	73079	20.82	ug/kg	99
35) Diethyl Ether	8.15	59	47069	21.09	ug/kg	97
36) Methyl Acetate	9.40	74	8661	16.85	ug/kg#	93
37) Cyclohexane	10.97	56	95211	24.54	ug/kg	99
39) Methyl Cyclohexane	12.09	55	70419	25.20	ug/kg	98
40) Carbon Tetrachloride	11.17	117	69078	23.35	ug/kg	98
41) 1,2-Dichloroethane	11.68	62	71423	21.22	ug/kg	99
42) Benzene	11.54	78	193608	21.94	ug/kg#	55
43) Isobutyl Alcohol	11.56	43	31765	222.13	ug/kg#	1
44) Trichloroethene	12.06	130	46186	20.60	ug/kg	91
45) 1,2-Dichloropropane	12.50	63	54648	20.91	ug/kg	99
46) Methyl Methacrylate	12.58	100	13574	22.01	ug/kg	96
47) 1,4-Dioxane	12.72	88	9046	462.36	ug/kg	98
48) Bromodichloromethane	12.52	83	69242	22.15	ug/kg	100
49) Dibromomethane	12.43	93	33291	20.37	ug/kg	97
50) 4-Methyl-2-Pentanone	13.53	100	33656	99.20	ug/kg	99
51) 2-Chloroethyl vinyl ether	13.07	63	734	79.84	ug/kg#	100
52) 2-Hexanone	14.23	43	192154	101.39	ug/kg	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\092220\202IQ022.D Vial: 22
Acq On : 22 Sep 2020 6:15 pm Operator: KG
Sample : ms1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 22 18:38 2020 Quant Results File: 091420.RES

Quant Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

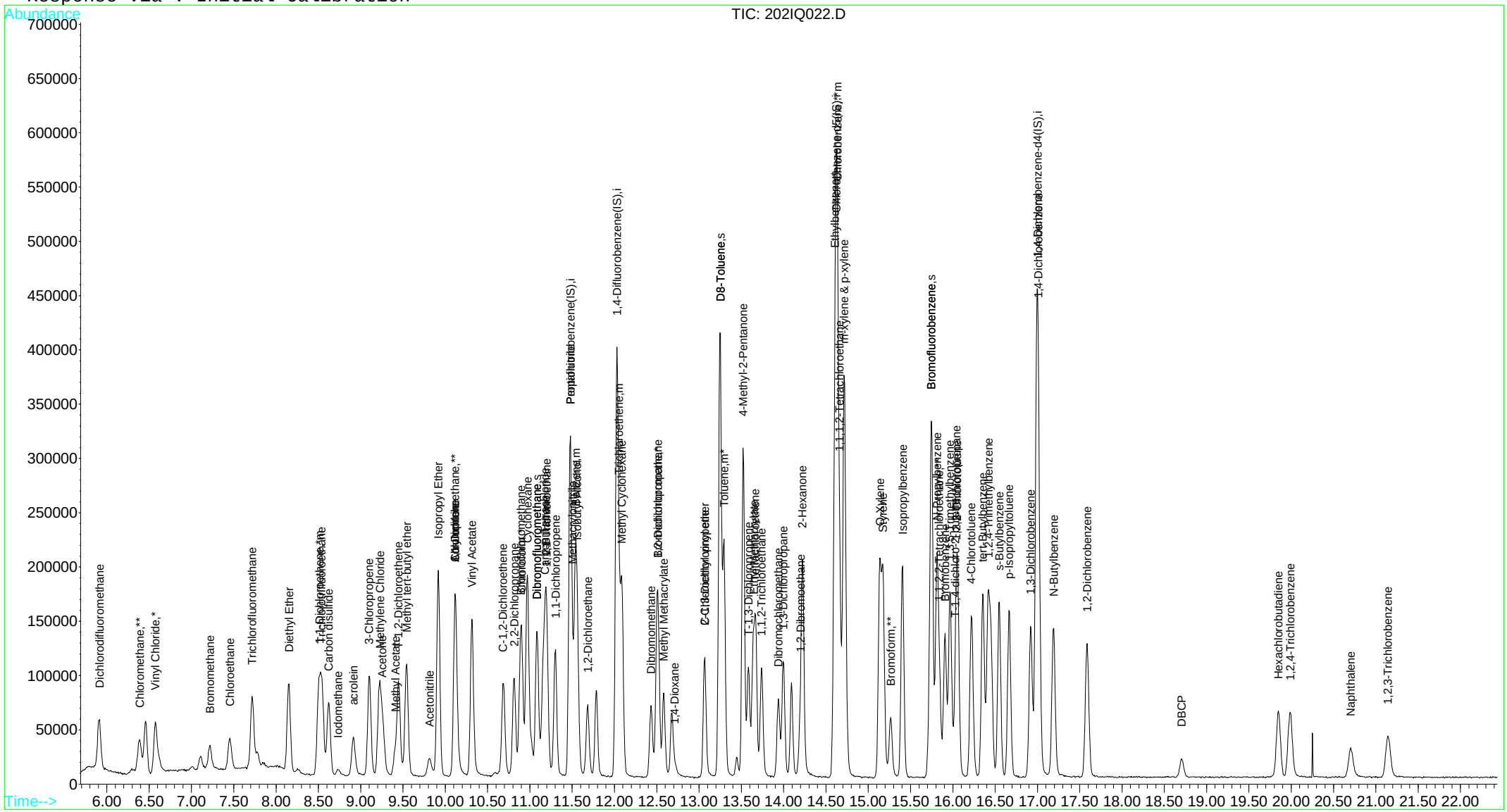
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.07	75	84548	19.91	ug/kg	95
55) D8-Toluene	13.24	98	340327	48.29	ug/kg	93
57) Toluene	13.29	92	115362	21.78	ug/kg	100
58) Ethyl Methacrylate	13.64	69	70921	20.49	ug/kg	100
59) T-1,3-Dichloropropene	13.58	75	75281	20.19	ug/kg	96
60) 1,1,2-Trichloroethane	13.74	97	39205	20.12	ug/kg	96
61) 1,3-Dichloropropane	13.99	76	82654	19.86	ug/kg	98
62) Tetrachloroethene	13.67	164	43602	20.18	ug/kg	97
63) Dibromochloromethane	13.94	129	48608	20.12	ug/kg	98
64) 1,2-Dibromoethane	14.19	107	45264	20.49	ug/kg	99
65) Chlorobenzene	14.64	112	116980	20.80	ug/kg	97
66) 1,1,1,2-Tetrachloroethane	14.66	131	42374	21.14	ug/kg#	36
67) Ethylbenzene	14.60	106	61342	21.27	ug/kg	96
68) m-xylene & p-xylene	14.71	106	148148	42.95	ug/kg	98
69) O-Xylene	15.14	106	73677	20.98	ug/kg	96
70) Bromoform	15.26	173	37444	21.49	ug/kg	99
71) Styrene	15.17	104	131871	21.17	ug/kg	99
72) Isopropylbenzene	15.41	105	188423	21.85	ug/kg	99
73) 1,2,3-Trichloropropane	16.03	75	57712	17.44	ug/kg	98
74) 1,1,2,2-Tetrachloroethane	15.84	83	52802	19.78	ug/kg	100
76) Bromofluorobenzene	15.74	95	155322	51.57	ug/kg#	88
77) T-1,4-dichloro-2-butene	16.02	53	10782	14.09	ug/kg#	63
78) N-Propylbenzene	15.81	91	229871	21.79	ug/kg	99
80) Bromobenzene	15.91	156	56965	20.06	ug/kg	98
81) 1,3,5-Trimethylbenzene	15.97	105	147093	21.08	ug/kg	98
82) 2-Chlorotoluene	16.06	91	138616	20.80	ug/kg	97
83) 4-Chlorotoluene	16.22	91	143708	20.45	ug/kg	98
84) 1,2,4-Trimethylbenzene	16.42	105	145475	20.41	ug/kg	100
85) s-Butylbenzene	16.55	105	177822	21.33	ug/kg	98
86) tert-Butylbenzene	16.36	119	123551	21.10	ug/kg	97
87) p-Isopropyltoluene	16.67	119	147311	21.05	ug/kg	98
88) 1,3-Dichlorobenzene	16.92	146	95980	20.53	ug/kg	99
89) 1,4-Dichlorobenzene	17.02	146	96831	19.90	ug/kg	97
90) 1,2-Dichlorobenzene	17.59	146	90539	20.64	ug/kg	99
91) N-Butylbenzene	17.19	91	134036	20.60	ug/kg	99
92) DBCP	18.70	75	7903	18.23	ug/kg	97
93) Naphthalene	20.70	128	48373	14.52	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.99	180	45454	20.19	ug/kg	98
95) Hexachlorobutadiene	19.85	225	26740	25.31	ug/kg	96
96) 1,2,3-Trichlorobenzene	21.14	180	31744	18.98	ug/kg	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\092220\202IQ022.D Vial: 22
Acq On : 22 Sep 2020 6:15 pm Operator: KG
Sample : ms1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 22 18:38 2020 Quant Results File: 091420.RES

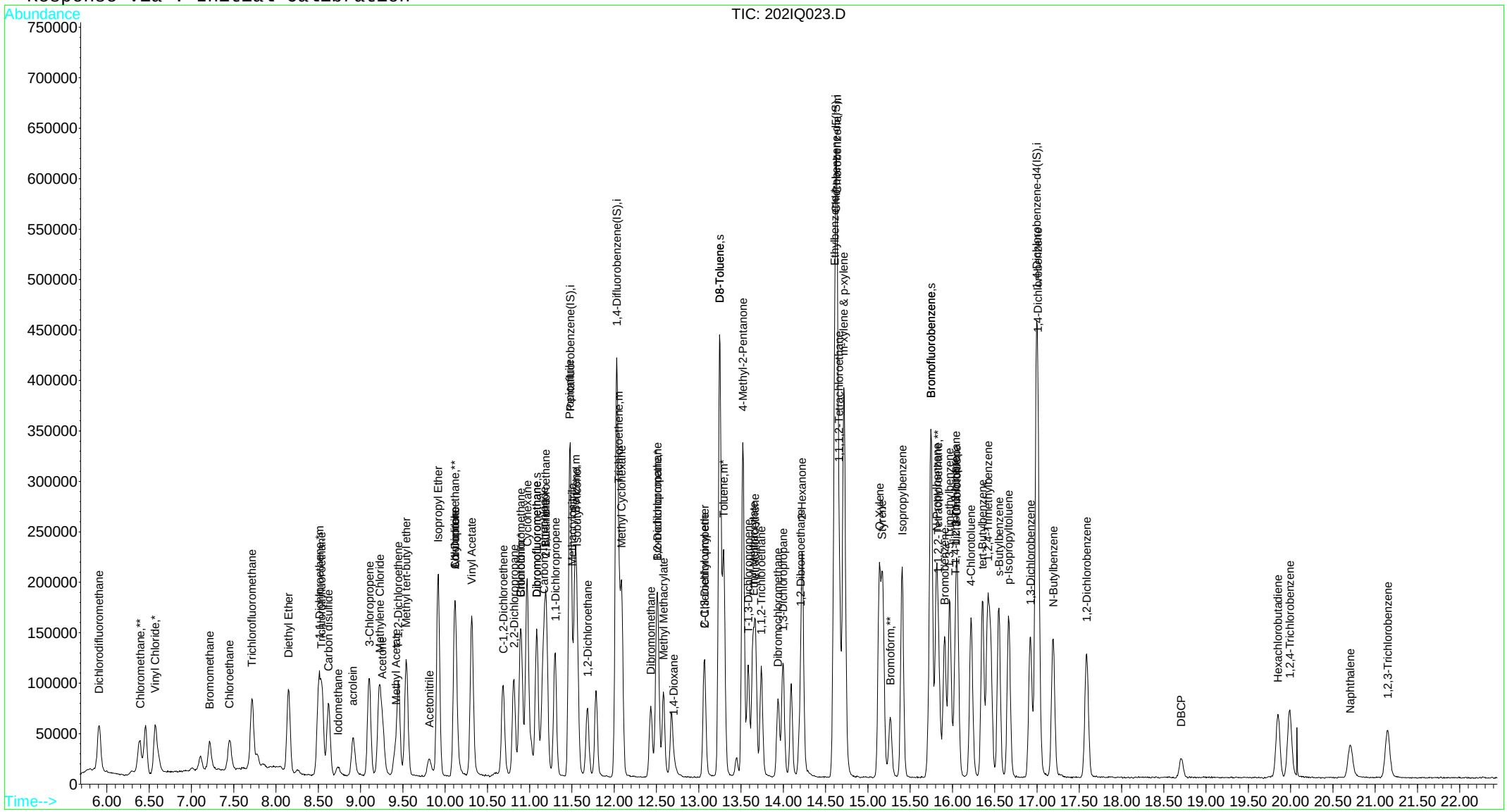
Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\092220\202IQ023.D Vial: 22
Acq On : 22 Sep 2020 6:44 pm Operator: KG
Sample : msd1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 22 19:06 2020 Quant Results File: 091420.RES

Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\092220\202IQ023.D Vial: 22
Acq On : 22 Sep 2020 6:44 pm Operator: KG
Sample : msd1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 22 19:06 2020 Quant Results File: 091420.RES

Quant Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.48	168	293387	50.00	ug/kg	0.00
38) 1,4-Difluorobenzene(IS)	12.03	114	373541	50.00	ug/kg	0.00
56) Chlorobenzene-d5(IS)	14.62	82	210701	50.00	ug/kg	-0.01
79) 1,4-Dichlorobenzene-d4(IS)	17.00	152	177010	50.00	ug/kg	0.00
System Monitoring Compounds						
30) Dibromofluoromethane	11.08	113	108806	45.35	ug/kg	-0.01
Spiked Amount 50.000	Range 53 - 146		Recovery = 90.70%			
54) D8-Toluene	13.25	98	357049	48.27	ug/kg	-0.01
Spiked Amount 50.000	Range 41 - 146		Recovery = 96.54%			
75) Bromofluorobenzene	15.75	95	164930	51.38	ug/kg	-0.01
Spiked Amount 50.000	Range 41 - 142		Recovery = 102.76%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.91	85	68827	16.37	ug/kg	99
3) Chloromethane	6.39	50	71873	14.53	ug/kg	99
4) Vinyl Chloride	6.57	62	78821	20.13	ug/kg	97
5) Bromomethane	7.21	96	25167	16.36	ug/kg	96
6) Chloroethane	7.45	64	43815	19.29	ug/kg	98
7) Trichlorofluoromethane	7.72	101	85703	21.64	ug/kg	99
8) Trichlorotrifluoroethane	8.54	101	50043	21.91	ug/kg	98
9) acrolein	8.91	56	57186	113.77	ug/kg	96
10) Acetone	9.26	43	87333	105.98	ug/kg	97
11) 1,1-Dichloroethene	8.51	96	44653	21.58	ug/kg	98
12) 3-Chloropropene	9.11	76	30354	21.47	ug/kg	97
13) Acetonitrile	9.81	41	36779	94.24	ug/kg	98
14) Iodomethane	8.73	142	19014	5.46	ug/kg	99
15) Carbon disulfide	8.62	76	158017	20.41	ug/kg	100
16) Methylene Chloride	9.22	84	55341	19.67	ug/kg	98
17) Methyl tert-butyl ether	9.54	73	130384	20.57	ug/kg	98
18) Acrylonitrile	10.11	53	114412	74.74	ug/kg#	72
19) T-1,2-Dichloroethene	9.45	96	50257	20.42	ug/kg	99
20) Isopropyl Ether	9.92	45	239899	21.16	ug/kg	100
21) C-1,2-Dichloroethene	10.69	96	54641	20.55	ug/kg	99
22) 1,1-Dichloroethane	10.12	63	101247	19.97	ug/kg	99
23) Vinyl Acetate	10.32	43	135956	18.00	ug/kg	96
24) Chloroprene	10.11	88	46721	20.85	ug/kg	1
25) 2-Butanone	11.19	72	39585	133.67	ug/kg	55
26) Propionitrile	11.47	54	7020	18.95	ug/kg	100
27) 2,2-Dichloropropane	10.82	77	77899	20.04	ug/kg	100
28) Methacrylonitrile	11.51	67	21591	19.40	ug/kg	90
29) Chloroform	10.90	83	98658	20.76	ug/kg	100
31) Dibromofluoromethane	11.08	113	108806	45.35	ug/kg	100
32) Bromochloromethane	10.89	128	27522	19.80	ug/kg	98
33) 1,1,1-Trichloroethane	11.20	97	77570	22.53	ug/kg	97
34) 1,1-Dichloropropene	11.30	75	77176	20.72	ug/kg	98
35) Diethyl Ether	8.15	59	48267	20.38	ug/kg	99
36) Methyl Acetate	9.41	74	9066	16.62	ug/kg#	88
37) Cyclohexane	10.97	56	99560	24.18	ug/kg	98
39) Methyl Cyclohexane	12.09	55	72577	24.75	ug/kg	96
40) Carbon Tetrachloride	11.16	117	73141	23.55	ug/kg	99
41) 1,2-Dichloroethane	11.68	62	76140	21.56	ug/kg	98
42) Benzene	11.54	78	203192	21.94	ug/kg#	55
43) Isobutyl Alcohol	11.56	43	36232	241.39	ug/kg#	1
44) Trichloroethene	12.06	130	49874	21.20	ug/kg	90
45) 1,2-Dichloropropane	12.50	63	56584	20.63	ug/kg	97
46) Methyl Methacrylate	12.58	100	14757	22.80	ug/kg	98
47) 1,4-Dioxane	12.71	88	9861	480.20	ug/kg	93
48) Bromodichloromethane	12.52	83	73139	22.29	ug/kg	99
49) Dibromomethane	12.43	93	34996	20.40	ug/kg	96
50) 4-Methyl-2-Pentanone	13.52	100	36447	102.35	ug/kg	98
51) 2-Chloroethyl vinyl ether	13.07	63	1150	119.18	ug/kg#	100
52) 2-Hexanone	14.23	43	211472	106.32	ug/kg	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\092220\202IQ023.D Vial: 22
Acq On : 22 Sep 2020 6:44 pm Operator: KG
Sample : msd1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 22 19:06 2020 Quant Results File: 091420.RES

Quant Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	13.07	75	89980	20.19 ug/kg	97
55) D8-Toluene	13.25	98	357049	48.27 ug/kg	93
57) Toluene	13.29	92	118173	20.93 ug/kg	97
58) Ethyl Methacrylate	13.64	69	74553	20.21 ug/kg	96
59) T-1,3-Dichloropropene	13.58	75	78920	19.86 ug/kg	98
60) 1,1,2-Trichloroethane	13.74	97	42571	20.50 ug/kg	97
61) 1,3-Dichloropropane	13.99	76	88556	19.97 ug/kg	99
62) Tetrachloroethene	13.67	164	44586	19.36 ug/kg	97
63) Dibromochloromethane	13.94	129	52155	20.26 ug/kg	99
64) 1,2-Dibromoethane	14.20	107	48199	20.47 ug/kg	99
65) Chlorobenzene	14.64	112	122133	20.38 ug/kg	97
66) 1,1,1,2-Tetrachloroethane	14.66	131	44328	20.75 ug/kg#	36
67) Ethylbenzene	14.60	106	63841	20.77 ug/kg	96
68) m-xylene & p-xylene	14.72	106	154704	42.08 ug/kg	98
69) O-Xylene	15.14	106	77259	20.65 ug/kg	97
70) Bromoform	15.27	173	40934	22.05 ug/kg	99
71) Styrene	15.17	104	137070	20.65 ug/kg	99
72) Isopropylbenzene	15.41	105	195963	21.32 ug/kg	99
73) 1,2,3-Trichloropropane	16.03	75	65463	18.57 ug/kg	97
74) 1,1,2,2-Tetrachloroethane	15.84	83	57478	20.21 ug/kg	98
76) Bromofluorobenzene	15.75	95	164930	51.38 ug/kg#	87
77) T-1,4-dichloro-2-butene	16.03	53	12526	15.36 ug/kg#	71
78) N-Propylbenzene	15.81	91	236990	21.08 ug/kg	99
80) Bromobenzene	15.91	156	61627	21.64 ug/kg	99
81) 1,3,5-Trimethylbenzene	15.96	105	151600	21.67 ug/kg	98
82) 2-Chlorotoluene	16.06	91	144185	21.58 ug/kg	97
83) 4-Chlorotoluene	16.22	91	149440	21.21 ug/kg	98
84) 1,2,4-Trimethylbenzene	16.42	105	152338	21.31 ug/kg	99
85) s-Butylbenzene	16.55	105	183751	21.99 ug/kg	99
86) tert-Butylbenzene	16.36	119	128920	21.96 ug/kg	98
87) p-Isopropyltoluene	16.66	119	149482	21.30 ug/kg	98
88) 1,3-Dichlorobenzene	16.92	146	98621	21.03 ug/kg	99
89) 1,4-Dichlorobenzene	17.02	146	95895	19.66 ug/kg	98
90) 1,2-Dichlorobenzene	17.59	146	91674	20.84 ug/kg	99
91) N-Butylbenzene	17.19	91	134416	20.60 ug/kg	99
92) DBCP	18.71	75	9071	20.86 ug/kg	100
93) Naphthalene	20.70	128	61843	18.51 ug/kg	100
94) 1,2,4-Trichlorobenzene	19.99	180	49193	21.79 ug/kg	97
95) Hexachlorobutadiene	19.85	225	26444	24.96 ug/kg	100
96) 1,2,3-Trichlorobenzene	21.15	180	38206	22.79 ug/kg	97

(#) = qualifier out of range (m) = manual integration

ANALYSIS SEQUENCE

AA62441

Instrument: OVGCMS2

Calibration ID: 2009079

Printed: 9/15/2020 10:26:04AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA62441-TUN1	QC		1		A0F0993			
AA62441-CAL1	QC		2		A0I0906	A0H0974		
AA62441-CAL2	QC		3		A0I0907	A0H0974		
AA62441-CAL3	QC		4		A0I0908	A0H0974		
AA62441-CAL4	QC		5		A0I0909	A0H0974		
AA62441-CAL5	QC		6		A0I0910	A0H0974		
AA62441-CAL6	QC		7		A0I0911	A0H0974		
AA62441-CAL7	QC		8		A0I0912	A0H0974		
AA62441-CAL8	QC		9		A0I0913	A0H0974		
AA62441-SCV1	QC		10		A0I0915	A0E1420		
AA62441-TUN2	QC		11		A0F0993	A0E1420		
AA62441-CCV1	QC		12		A0I0939	A0E1420		
AA62441-SCV2	QC		13		A0I0940	A0E1420		

Samples Loaded By _____ Date _____

Data Processed By _____ Date _____

VOLATILES GC/MS LOGBOOK (EPA Method 624.1 / SW-846 Method 8260D)

Tune Start Date: 9/14/2020
Sequence: AAG0441
Batch: NA
Method: 8260
Analyst: RW
Instrument EM Voltage: 1647

Surrogate: AOF0991
Internal: AOH0973
LCS Mix 2°: AOH1047
LCS Acrolein 2°: AOI0805
LCS Gas 2°: AOI0914

8260 Mix: ~~AOI0875~~ AOI0752
8260 Add: AOH1329 AOH1329/10
8260 Ac/Ac: AOI0895
8260 Gases: AOI0894
Instrument #: MS-2

202II Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)	Comments	LIMS
001	Rinse			1				
002	CCV			2				
003	CCV			2				
004	Rinse			3				
005	Rinse			4				
006	rinse.			5				
007	Tun			1				
008	CAL1 1ppb			2			✓	
009	CAL2 2ppb			3			✓	
010	CAL3 5ppb			4			✓	
011	CAL4 10ppb			5			✓	
012	CAL5 20ppb			6			✓	
013	CAL6 50ppb			7			✓	
014	CAL7 80ppb			8			✓	
015	CAL8 100ppb			9			✓	
016	~~CAL9~~ rinse			10				
017	rinse			11				
018	SCV1			12				
019				13			2ogases	

ENCO

VOLATILES GC/MS LOGBOOK (EPA Method 624.1 / SW-846 Method 8260D)

Tune Start Date: 9/15/2020
Sequence: AA624SS
Batch: OI15026
Method: 8260/624.1
Analyst: KG
Instrument EM Voltage: 1647

Surrogate: AOF0991
Internal: AOH0973
LCS Mix 2°: AOI0922
LCS Acrolein 2°: AOI0805
LCS Gas 2°: AOI0914

8260 Mix: AOI0796
8260 Add: AOH1324
8260 Ac/Ac: AOI0895
8260 Gases: AOI0894
Instrument #: MS-2

202I J Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)	Comments	LIMS
001	Tune			1				
002	CCV1			2				
003	Rinse			3				
004	SCV2			4				
005	BS1			5				
006	Rinse			6				
007	Rinse			7				
008	OI15026-BLK1			8			✓	
009	AA624SS-CRL1		ref 9/15/2020	9	ref 9/15/2020		✓	
010	ADO5478-01	K	1	10	✓	n	✓	
011	ADO5236-01	B	1	11	✓	n	✓	
012	ADO5940-02	B	100	12	✓	n	✓	
013	ADO5890-03	B	10	13	✓	n	✓ rr @5x C-1,2DCe rr 5x overdilute	
014	ADO5890-06	B	100	14	✓	n	✓ rr 50X overdilute	
015	ADO5890-10	B	50	15	✓	n	✓	
016	ADO5890-05	C	1	16	✓	n	✓	
017	ADO5890-09	B	1	17	✓	n	✓	
018	ADO5890-07	C	1	18	✓	n	✓ rr @5x C-1,2DCe	
019	ADO5890-01	C	1	19	✓	n	✓ w/APA	
020	ADO5890-04	B	1	20	✓	n	✓ w/APA	
021	ADO5890-08	B	1	21	✓	n	✓ w/APA	

Response Factor Report OVGCMS2

Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Sep 15 07:13:51 2020
Response via : Initial Calibration

Calibration Files
1 =202II008.D 5 =202II010.D 20 =202II012.D
50 =202II013.D 100 =202II015.D 10 =202II011.D

		Compound	1	5	20	50	100	10	Avg	%RSD
1)	i	Pentafluorobenzene(IS	ISTD							
2)		Dichlorodifluoromet	0.743	0.677	0.693	0.726	0.780	0.628	0.717	6.75
3)	**	Chloromethane	0.880	0.871	0.803	0.794	0.871	0.761	0.843	7.35
4)	*	Vinyl Chloride	0.796	0.602	0.618	0.645	0.688	0.574	0.667	11.31
5)		Bromomethane	0.345	0.226	0.280	0.261		0.218	0.264	17.35
6)		Chloroethane	0.729	0.379	0.361	0.381	0.394	0.355	0.436	29.29
7)		Trichlorofluorometh	0.717	0.649	0.654	0.689	0.721	0.597	0.675	6.10
8)		Trichlorotrifluoroe	0.400	0.369	0.373	0.387	0.403	0.333	0.389	8.07
9)		acrolein	0.076	0.088	0.081	0.090	0.097	0.077	0.086#	9.15
10)		Acetone	0.206	0.157	0.140	0.139	0.141	0.133	0.156	17.94
11)	*m	1,1-Dichloroethene	0.382	0.348	0.339	0.362	0.371	0.294	0.361	9.95
12)		3-Chloropropene	0.361	0.238	0.237	0.236	0.244	0.222	0.266	21.02
13)		Acetonitrile	0.031	0.055	0.059	0.064	0.068	0.058	0.056#	21.79
14)		Iodomethane	0.592	0.554	0.589	0.653	0.666	0.497	0.594	9.48
15)		Carbon disulfide	1.476	1.389	1.358	1.361	1.398	1.264	1.393	5.71
16)		Methylene Chloride	0.612	0.507	0.452	0.476	0.480	0.427	0.508	14.46
17)		Methyl tert-butyl e	0.680	0.783	0.857	1.051	1.087	0.709	0.891	18.95
18)		Acrylonitrile	0.126	0.273	0.254	0.264	0.260	0.239	0.241	19.80
19)		T-1,2-Dichloroethen	0.451	0.404	0.386	0.415	0.426	0.343	0.419	11.00
20)		Isopropyl Ether	1.836	1.995	1.825	1.965	1.992	1.645	1.932	8.33
21)		C-1,2-Dichloroethen	0.442	0.442	0.428	0.460	0.479	0.388	0.453	7.94
22)	**	1,1-Dichloroethane	0.962	0.865	0.796	0.837	0.838	0.721	0.864	11.25
23)		Vinyl Acetate	1.224	1.386	1.283	1.266	1.232	1.252	1.287	4.92
24)		Chloroprene	0.340	0.382	0.382	0.391	0.404	0.352	0.382	6.30
25)		2-Butanone	0.044	0.054	0.049	0.049	0.050	0.047	0.050#	11.44
26)		Propionitrile	0.047	0.066	0.064	0.066	0.067	0.059	0.063#	10.96
27)		2,2-Dichloropropane	0.753	0.635	0.604	0.643	0.659	0.546	0.663	11.99
28)		Methacrylonitrile	0.186	0.198	0.188	0.192	0.188	0.177	0.190	3.71
29)	*	Chloroform	0.858	0.801	0.751	0.791	0.805	0.686	0.810	10.27
30)	s	Dibromofluoromethan	0.419	0.410	0.401	0.405	0.412	0.405	0.409	1.31
31)		Dibromofluoromethan	0.419	0.410	0.401	0.405	0.412	0.405	0.409	1.31
32)		Bromochloromethane	0.251	0.227	0.224	0.239	0.241	0.196	0.237	9.51
33)		1,1,1-Trichloroetha	0.574	0.575	0.555	0.586	0.610	0.501	0.587	8.62
34)		1,1-Dichloropropene	0.680	0.629	0.582	0.616	0.649	0.526	0.635	10.30
35)		Diethyl Ether	0.415	0.398	0.380	0.385	0.421	0.345	0.404	8.60
36)		Methyl Acetate	0.105	0.110	0.085	0.090	0.094	0.082	0.091#	14.40
37)		Cyclohexane	0.708	0.680	0.650	0.690	0.732	0.583	0.702	10.33
38)	i	1,4-Difluorobenzene(I	ISTD							
39)		Methyl Cyclohexane	0.447	0.373	0.379	0.371	0.383	0.323	0.393	11.73
40)		Carbon Tetrachlorid	0.392	0.405	0.399	0.419	0.429	0.353	0.416	9.72
41)		1,2-Dichloroethane	0.497	0.484	0.442	0.472	0.467	0.399	0.473	8.67
42)	m	Benzene	1.261	1.271	1.177	1.199	1.193	1.053	1.240	11.31
43)		Isobutyl Alcohol	0.011	0.014	0.017	0.019	0.020	0.015	0.016#	21.99
44)	m	Trichloroethene	0.337	0.298	0.292	0.313	0.324	0.256	0.315	10.97
45)	*	1,2-Dichloropropane	0.429	0.361	0.338	0.363	0.358	0.312	0.367	10.10
46)		Methyl Methacrylate	0.069	0.086	0.087	0.092	0.092	0.086	0.087#	8.95
47)		1,4-Dioxane	0.002	0.003	0.003	0.003	0.003	0.003	0.003#	5.60
48)		Bromodichloromethan	0.421	0.439	0.416	0.455	0.447	0.375	0.439	8.47
49)		Dibromomethane	0.227	0.224	0.219	0.232	0.229	0.192	0.230	10.53
50)		4-Methyl-2-Pentanon	0.048	0.051	0.045	0.047	0.045	0.044	0.048#	8.51
51)		2-Chloroethyl vinyl				0.001	0.002		0.001#	49.14
52)		2-Hexanone	0.237	0.287	0.271	0.270	0.264	0.256	0.266	5.58
53)		C-1,3-Dichloroprope	0.599	0.598	0.560	0.609	0.612	0.492	0.596	9.03
54)	s	D8-Toluene	0.970	1.013	0.994	0.985	0.986	1.013	0.990	1.61
55)		D8-Toluene	0.970	1.013	0.994	0.985	0.986	1.013	0.990	1.61
56)	i	Chlorobenzene-d5(IS)	ISTD							

(#) = Out of Range ### Number of calibration levels exceeded format ###

Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Sep 15 07:13:51 2020
Response via : Initial Calibration

Calibration Files
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		Compound	1	5	20	50	100	10	Avg	%RSD
57)	m*	Toluene	1.377	1.309	1.276	1.352	1.367	1.121	1.340	8.74
58)		Ethyl Methacrylate	0.852	0.901	0.866	0.866	0.869	0.820	0.875	4.44
59)		T-1,3-Dichloroprope	0.997	0.911	0.881	0.952	0.953	0.800	0.943	8.75
60)		1,1,2-Trichloroetha	0.484	0.505	0.464	0.486	0.489	0.418	0.493	9.95
61)		1,3-Dichloropropane	1.099	0.992	0.997	1.051	1.031	0.903	1.052	10.64
62)		Tetrachloroethene	0.505	0.504	0.551	0.589	0.614	0.433	0.547	11.25
63)		Dibromochloromethan	0.623	0.590	0.581	0.626	0.629	0.499	0.611	9.45
64)		1,2-Dibromoethane	0.457	0.577	0.540	0.584	0.585	0.496	0.559	10.34
65)	**m	Chlorobenzene	1.490	1.405	1.333	1.409	1.407	1.209	1.422	9.52
66)		1,1,1,2-Tetrachloro	0.483	0.503	0.490	0.514	0.512	0.440	0.507	8.04
67)	*	Ethylbenzene	0.715	0.726	0.703	0.737	0.767	0.612	0.729	8.00
68)		m-xylene & p-xylene	0.854	0.862	0.832	0.880	0.898	0.741	0.872	8.49
69)		O-Xylene	0.857	0.848	0.853	0.910	0.939	0.728	0.888	9.69
70)	**	Bromoform	0.395	0.435	0.420	0.460	0.464	0.380	0.441	9.12
71)		Styrene	1.476	1.473	1.514	1.616	1.649	1.330	1.575	10.35
72)		Isopropylbenzene	1.999	2.113	2.074	2.210	2.376	1.841	2.181	9.86
73)		1,2,3-Trichloroprop	0.902	0.849	0.761	0.841	0.849	0.682	0.837	10.27
74)	**	1,1,2,2-Tetrachloro	0.689	0.687	0.630	0.671	0.671	0.565	0.675	10.06
75)	s	Bromofluorobenzene	0.750	0.754	0.753	0.776	0.783	0.750	0.762	1.76
76)		Bromofluorobenzene	0.750	0.754	0.753	0.776	0.783	0.750	0.762	1.76
77)		T-1,4-dichloro-2-bu	0.177	0.188	0.174	0.194	0.199	0.168	0.193	13.73
78)		N-Propylbenzene	2.578	2.510	2.516	2.766	2.867	2.223	2.668	9.62
79)	i	1,4-Dichlorobenzene-d	----------	ISTD	----------					
80)		Bromobenzene	0.787	0.801	0.759	0.808	0.832	0.685	0.804	8.51
81)		1,3,5-Trimethylbenz	1.943	1.948	1.863	1.994	2.065	1.648	1.976	9.13
82)		2-Chlorotoluene	1.873	1.908	1.768	1.864	1.936	1.599	1.887	8.99
83)		4-Chlorotoluene	2.016	1.979	1.846	1.952	2.050	1.645	1.990	10.20
84)		1,2,4-Trimethylbenz	1.930	2.020	1.930	2.078	2.146	1.672	2.019	8.63
85)		s-Butylbenzene	2.300	2.316	2.218	2.351	2.491	1.968	2.361	9.52
86)		tert-Butylbenzene	1.604	1.617	1.562	1.683	1.768	1.422	1.658	8.10
87)		p-Isopropyltoluene	1.931	1.961	1.853	1.986	2.111	1.663	1.982	8.90
88)		1,3-Dichlorobenzene	1.323	1.309	1.251	1.339	1.402	1.098	1.324	8.62
89)		1,4-Dichlorobenzene	1.531	1.333	1.263	1.352	1.391	1.153	1.378	10.13
90)		1,2-Dichlorobenzene	1.174	1.210	1.209	1.271	1.308	1.026	1.243	9.57
91)		N-Butylbenzene	1.695	1.760	1.740	1.872	2.012	1.561	1.843	9.97
92)		DBCP	0.164	0.126	0.122	0.123	0.121	0.104	0.135	21.73
93)		Naphthalene	1.009	0.855	0.854	0.919	1.042	0.749	0.944	12.64
94)		1,2,4-Trichlorobenz	0.658	0.595	0.607	0.625	0.674	0.537	0.638	9.36
95)		Hexachlorobutadiene	0.298	0.286	0.284	0.290	0.316	0.243	0.299	11.27
96)		1,2,3-Trichlorobenz	0.527	0.437	0.441	0.444	0.494	0.397	0.474	11.55

(#) = Out of Range ### Number of calibration levels exceeded format ###

Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Sep 15 07:13:51 2020
Response via : Initial Calibration
Total Cpnds : 96

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	Pentafluorobenzene(IS)	168	11.48	1.000	A	2	A	B
2		Dichlorodifluoromethane	85	5.91	0.515	A	3	A	B
3	**	Chloromethane	50	6.39	0.557	A	2	A	B
4	*	Vinyl Chloride	62	6.58	0.573	A	2	A	B
5		Bromomethane	96	7.21	0.628	LO	2	A	B
6		Chloroethane	64	7.43	0.647	LO	2	A	B
7		Trichlorofluoromethane	101	7.71	0.671	A	2	A	B
8		Trichlorotrifluoroethane	101	8.55	0.745	A	1	A	B
9		acrolein	56	8.91	0.777	A	1	A	B
10		Acetone	43	9.27	0.807	LO	1	A	B
11	*m	1,1-Dichloroethene	96	8.51	0.741	QO	2	A	B
12		3-Chloropropene	76	9.11	0.793	LO	1	A	B
13		Acetonitrile	41	9.80	0.854	LO	2	A	B
14		Iodomethane	142	8.74	0.761	A	2	A	B
15		Carbon disulfide	76	8.63	0.752	QO	1	A	B
16		Methylene Chloride	84	9.23	0.804	LO	3	A	B
17		Methyl tert-butyl ether	73	9.54	0.831	LO	2	A	B
18		Acrylonitrile	53	10.14	0.883	LO	2	A	B
19		T-1,2-Dichloroethene	96	9.45	0.823	A	2	A	B
20		Isopropyl Ether	45	9.92	0.865	A	1	A	B
21		C-1,2-Dichloroethene	96	10.69	0.931	A	2	A	B
22	**	1,1-Dichloroethane	63	10.13	0.882	A	3	A	B
23		Vinyl Acetate	43	10.31	0.898	A	1	A	B
24		Chloroprene	88	10.12	0.881	A	2	A	B
25		2-Butanone	72	11.19	0.975	A	2	A	B
26		Propionitrile	54	11.47	0.999	A	0	A	B
27		2,2-Dichloropropane	77	10.82	0.943	A	1	A	B
28		Methacrylonitrile	67	11.51	1.002	A	1	A	B
29	*	Chloroform	83	10.91	0.950	A	2	A	B
30	S	Dibromofluoromethane	113	11.09	0.966	A	0	A	B
31		Dibromofluoromethane	113	11.10	0.967	A	0	A	B
32		Bromochloromethane	128	10.89	0.949	A	2	A	B
33		1,1,1-Trichloroethane	97	11.20	0.976	A	2	A	B
34		1,1-Dichloropropene	75	11.30	0.985	A	2	A	B
35		Diethyl Ether	59	8.15	0.710	A	2	A	B
36		Methyl Acetate	74	9.40	0.819	LO	2	A	B
37		Cyclohexane	56	10.98	0.956	A	2	A	B
38	I	1,4-Difluorobenzene(IS)	114	12.03	1.000	A	2	A	B
39		Methyl Cyclohexane	55	12.09	1.005	A	2	A	B
40		Carbon Tetrachloride	117	11.17	0.928	A	2	A	B
41		1,2-Dichloroethane	62	11.68	0.971	A	2	A	B
42	m	Benzene	78	11.54	0.959	A	2	A	B
43		Isobutyl Alcohol	43	11.56	0.961	LO	2	A	B
44	m	Trichloroethene	130	12.06	1.002	A	3	A	B
45	*	1,2-Dichloropropane	63	12.51	1.040	A	2	A	B
46		Methyl Methacrylate	100	12.59	1.046	A	1	A	B
47		1,4-Dioxane	88	12.71	1.057	A	1	A	B
48		Bromodichloromethane	83	12.52	1.041	A	2	A	B
49		Dibromomethane	93	12.43	1.033	A	2	A	B
50		4-Methyl-2-Pentanone	100	13.53	1.124	A	3	A	B
51		2-Chloroethyl vinyl ether	63	12.94	1.076	A	2	A	B
52		2-Hexanone	43	14.23	1.183	A	3	A	B
53		C-1,3-Dichloropropene	75	13.07	1.086	A	2	A	B
54	S	D8-Toluene	98	13.25	1.102	A	2	A	B
55		D8-Toluene	98	13.27	1.103	A	2	A	B
56	I	Chlorobenzene-d5(IS)	82	14.63	1.000	A	2	A	B
57	m*	Toluene	92	13.30	0.909	A	2	A	B
58		Ethyl Methacrylate	69	13.64	0.932	A	3	A	B
59		T-1,3-Dichloropropene	75	13.58	0.929	A	2	A	B
60		1,1,2-Trichloroethane	97	13.75	0.940	A	3	A	B
61		1,3-Dichloropropane	76	14.00	0.957	A	1	A	B
62		Tetrachloroethene	164	13.67	0.935	A	3	A	B
63		Dibromochloromethane	129	13.94	0.953	A	2	A	B
64		1,2-Dibromoethane	107	14.20	0.971	A	2	A	B
65	**m	Chlorobenzene	112	14.64	1.001	A	2	A	B

66		1,1,1,2-Tetrachloroethane	131	14.67	1.003	A	2	A	B
67	*	Ethylbenzene	106	14.60	0.998	A	1	A	B
68		m-xylene & p-xylene	106	14.72	1.006	A	1	A	B
69		O-Xylene	106	15.14	1.035	A	1	A	B
70	**	Bromoform	173	15.27	1.044	A	3	A	B
71		Styrene	104	15.17	1.037	A	2	A	B
72		Isopropylbenzene	105	15.41	1.053	A	1	A	B
73		1,2,3-Trichloropropane	75	16.04	1.097	A	1	A	B
74	**	1,1,2,2-Tetrachloroethane	83	15.84	1.083	A	3	A	B
75	S	Bromofluorobenzene	95	15.75	1.077	A	2	A	B
76		Bromofluorobenzene	95	15.77	1.078	A	2	A	B
77		T-1,4-dichloro-2-butene	53	16.03	1.096	A	2	A	B
78		N-Propylbenzene	91	15.81	1.081	A	1	A	B
79	I	1,4-Dichlorobenzene-d4(IS)	152	17.00	1.000	A	2	A	B
80		Bromobenzene	156	15.91	0.936	A	2	A	B
81		1,3,5-Trimethylbenzene	105	15.97	0.939	A	1	A	B
82		2-Chlorotoluene	91	16.06	0.945	A	1	A	B
83		4-Chlorotoluene	91	16.22	0.954	A	1	A	B
84		1,2,4-Trimethylbenzene	105	16.42	0.966	A	1	A	B
85		s-Butylbenzene	105	16.55	0.973	A	1	A	B
86		tert-Butylbenzene	119	16.36	0.962	A	2	A	B
87		p-Isopropyltoluene	119	16.67	0.980	A	2	A	B
88		1,3-Dichlorobenzene	146	16.92	0.995	A	2	A	B
89		1,4-Dichlorobenzene	146	17.02	1.001	A	2	A	B
90		1,2-Dichlorobenzene	146	17.59	1.034	A	2	A	B
91		N-Butylbenzene	91	17.19	1.011	A	2	A	B
92		DBCP	75	18.71	1.101	LO	2	A	B
93		Naphthalene	128	20.70	1.218	A	0	A	B
94		1,2,4-Trichlorobenzene	180	19.99	1.176	A	2	A	B
95		Hexachlorobutadiene	225	19.85	1.168	A	2	A	B
96		1,2,3-Trichlorobenzene	180	21.15	1.244	A	2	A	B

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

091420.M Tue Sep 15 10:11:11 2020

Compound Name Duplication Report

Quant Method: C:\HPCHEM\1\METHODS\091420.M
Number of Compounds: 96

30 Dibromofluoromethane = 31 Dibromofluoromethane
54 D8-Toluene = 55 D8-Toluene
75 Bromofluorobenzene = 76 Bromofluorobenzene

3 Duplicate Names Detected!!!

Manual Integration Review Form

ENVIRONMENTAL CONSERVATION LABORATORIES, INC. ☐ Cary ☐ Jacksonville ☑ Orlando

I hereby attest that the manual integrations contained in this package have been thoroughly reviewed and are in agreement with the associated hardcopy data.

The electronic files listed below have been reviewed for accuracy, completeness and comply with ENCO labs QA-11 Manual Integration Policy including:

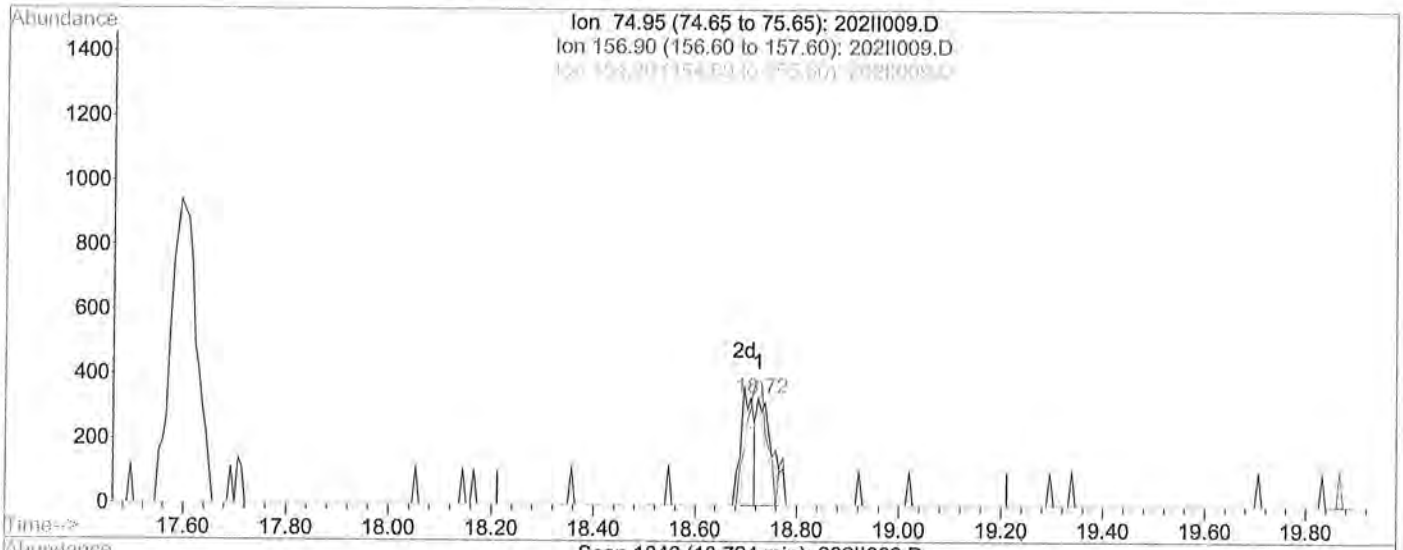
- "Before" and "After" chromatograms are provided
- Manual integrations are indicated on expanded scale "after" chromatograms at a scale large enough to see the manual integration performed.
- Reintegration technique marked if available on the data system
- Technical justification for manual integration
- Appropriate flags indicating which analytes were manually integrated are included in the raw data
- Analyst's initials and date.

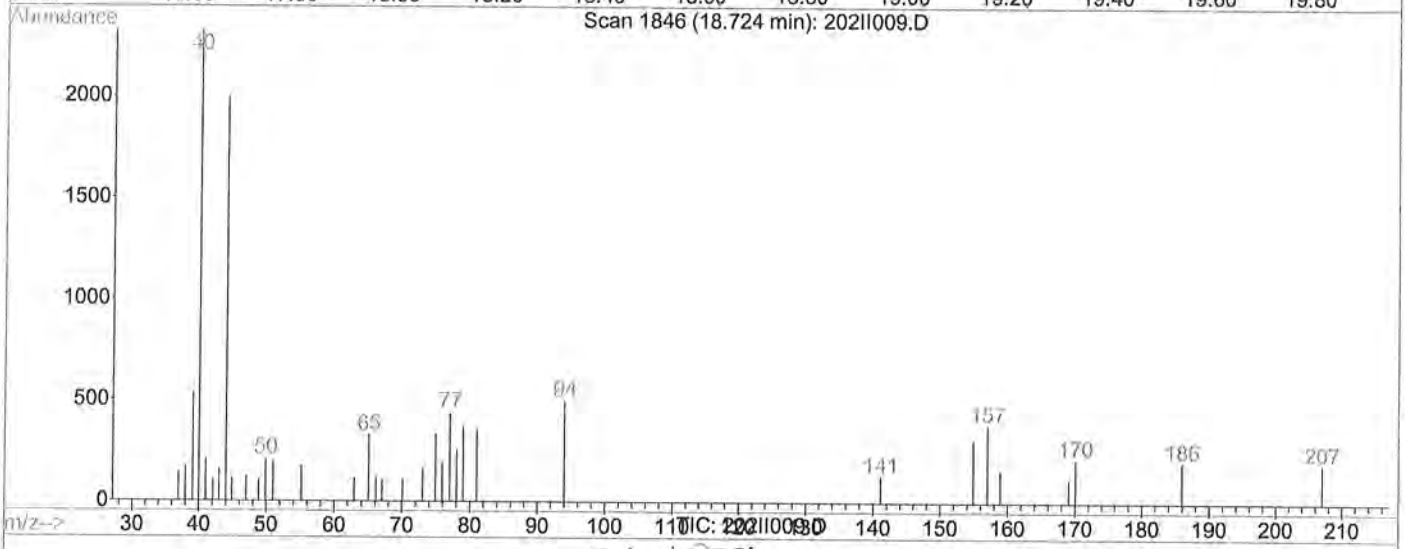
Instrument ID:	OVGCMS-2
Sequence/Batch ID:	AA62441
Data File Prefix:	202 II
Date and Time Range of MIs:	9/15/2020 6:58 - 10:06
Reviewer Print Name:	Karen Watson
Reviewer Signature:	
Date of Review:	09/15/20

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\091420\202II009.D Vial: 3
Acq On : 14 Sep 2020 1:49 pm Operator: KG
Sample : CAL2 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 15 6:57 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Mon Sep 14 13:46:53 2020
Response via : Multiple Level Calibration





(92) DBCP

18.72min 1.80ug/kg

response 720

Ion	Exp%	Act%
74.95	100	100
156.90	129.10	148.61
154.90	102.50	120.69
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

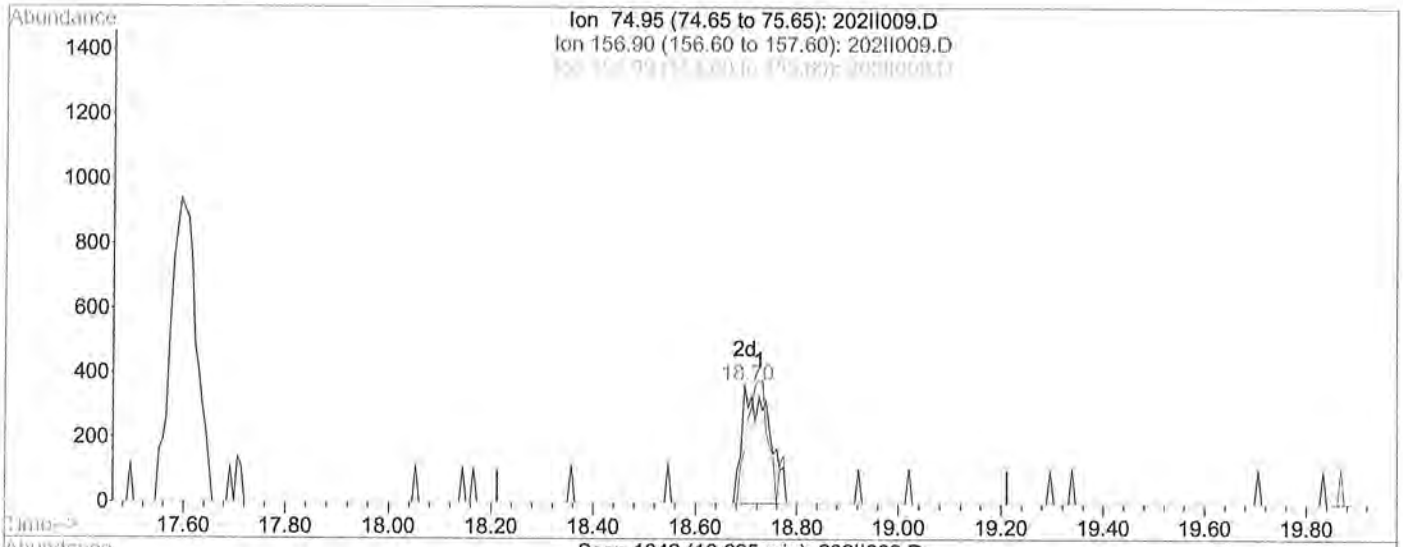
[ ] Other

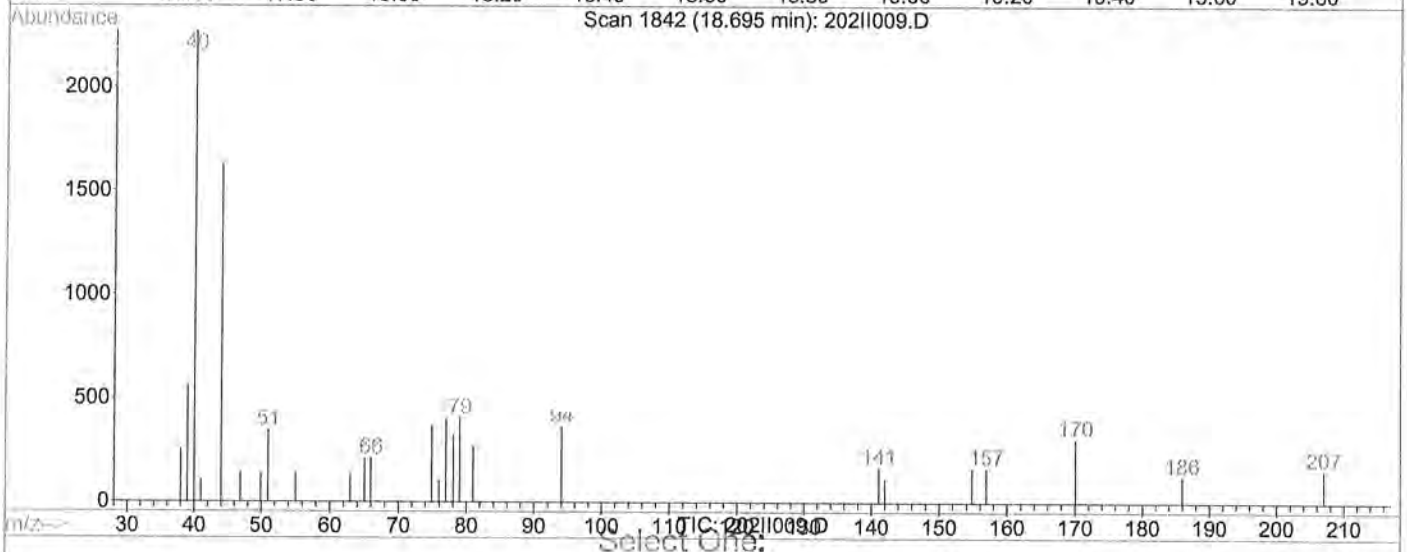
NC 9/15/20

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\091420\202II009.D Vial: 3
Acq On : 14 Sep 2020 1:49 pm Operator: KG
Sample : CAL2 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 15 6:58 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Mon Sep 14 13:46:53 2020
Response via : Multiple Level Calibration





(92) DBCP

18.70min 3.38ug/kg m

response 1353

Ion	Exp%	Act%
74.95	100	100
156.90	129.10	79.08#
154.90	102.50	64.23
0.00	0.00	0.00

Select One:

[] Original Integration [] Manual Integration

Select reason for manual integration:

[] Poor integration (peak tailing, baseline selection)

[] Incorrect peak selection/Peak not found

[] Hump integration

[] Baseline drop for split peaks

[] ISTD reintegration

[] Other:

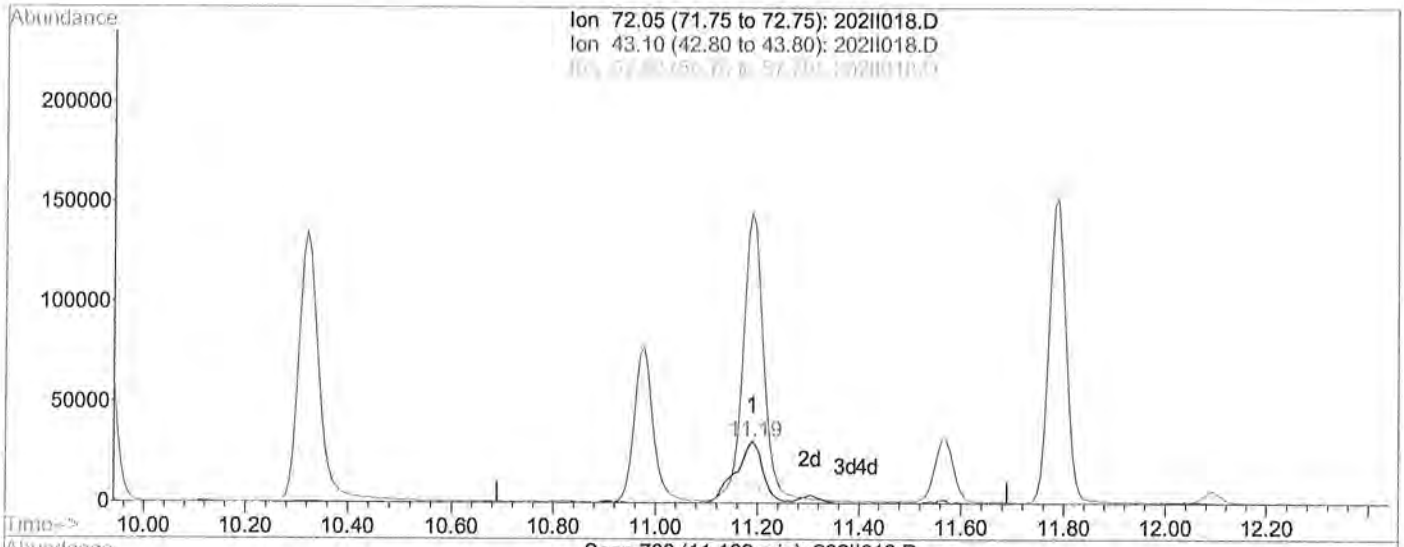
Review by: HC 9/15/20

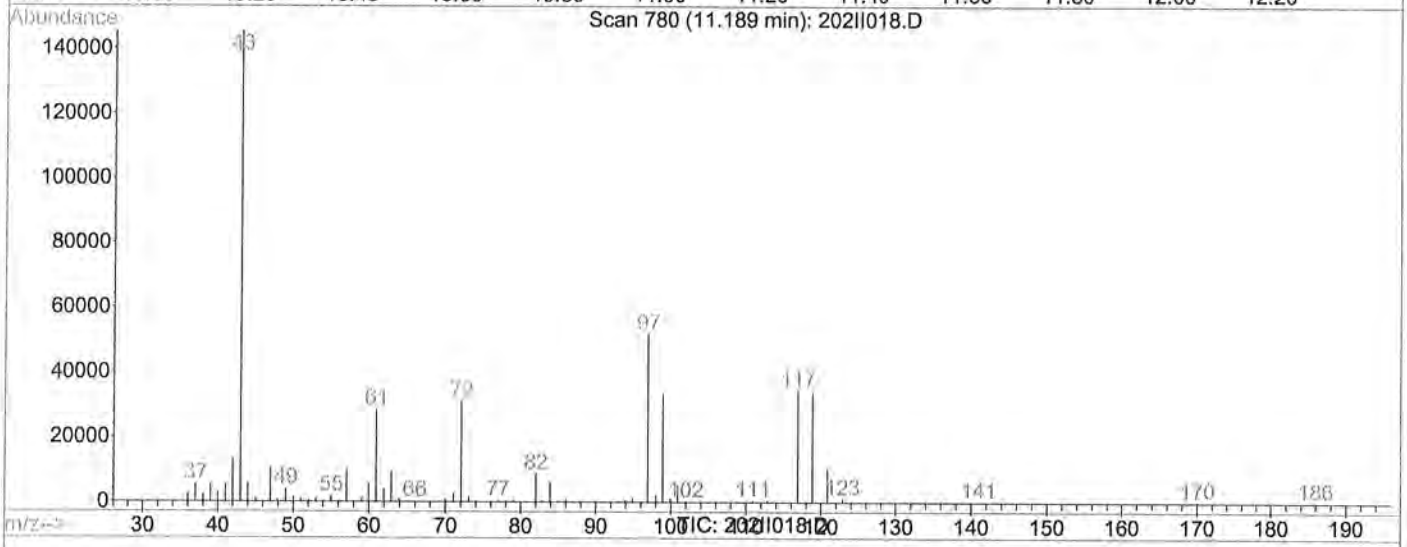
202II009.D 091420.M Tue Sep 15 06:58:10 2020

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\091420\202II018.D Vial: 12
Acq On : 14 Sep 2020 6:09 pm Operator: KG
Sample : SCV1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 15 8:19 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Sep 15 07:13:51 2020
Response via : Multiple Level Calibration





(25) 2-Butanone

11.19min 348.99ug/kg

response 115383

Ion	Exp%	Act%
72.05	100	100
43.10	487.80	360.22
57.00	32.90	22.74#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date KR 9/15/2020

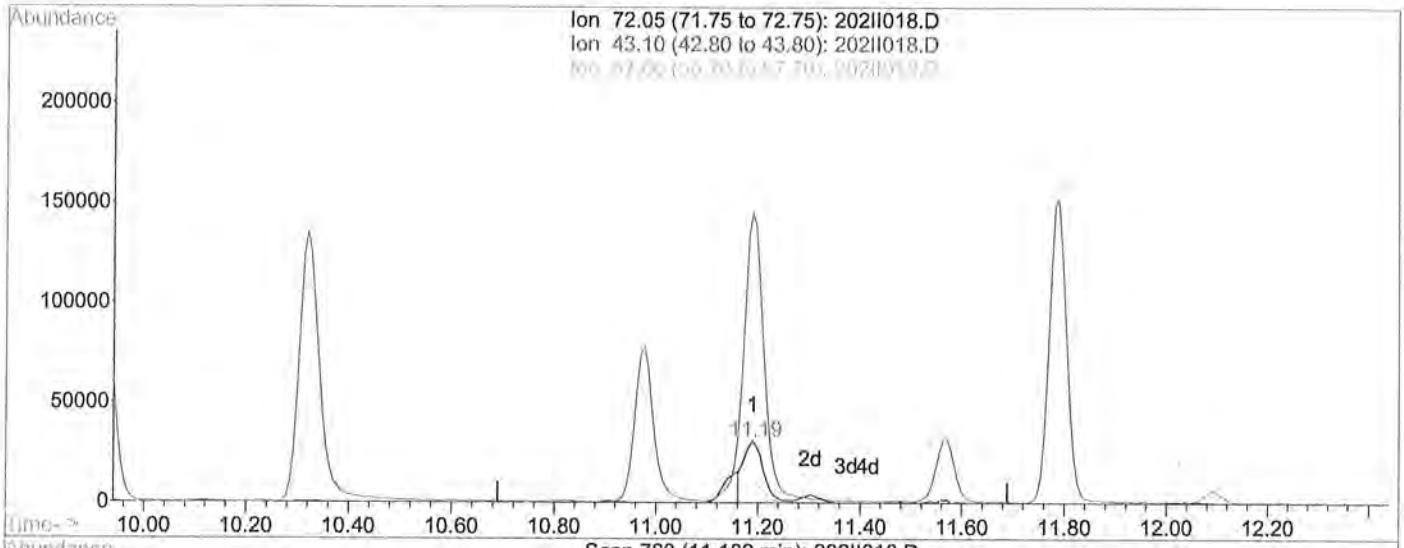
Review by/Date:

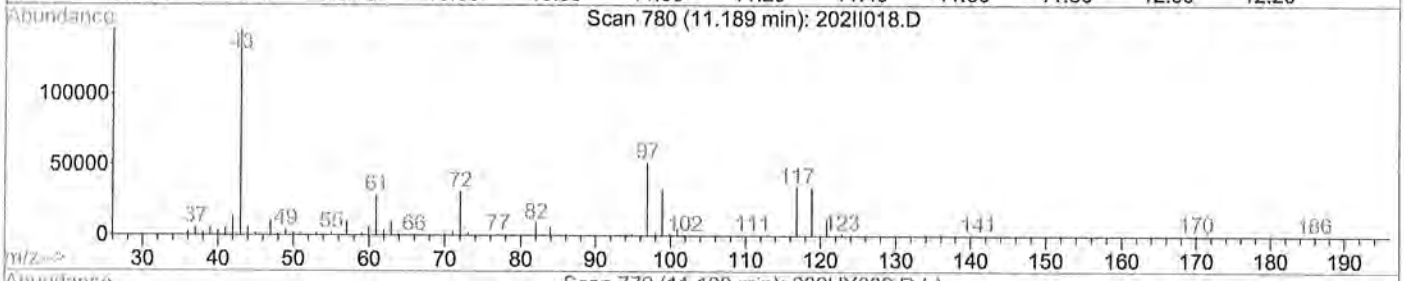
202II018.D 091420.M Tue Sep 15 09:52:18 2020

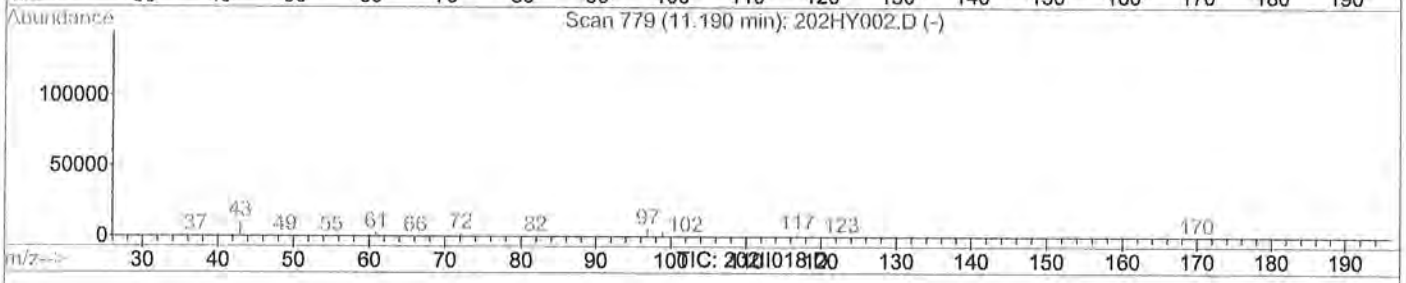
Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\091420\202II018.D Vial: 12
Acq On : 14 Sep 2020 6:09 pm Operator: KG
Sample : SCV1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 15 9:52 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Sep 15 07:13:51 2020
Response via : Multiple Level Calibration







(25) 2-Butanone

11.19min 254.29ug/kg m

response 84071

Ion	Exp%	Act%
72.05	100	100
43.10	487.80	494.39
57.00	32.90	31.21
0.00	0.00	0.00

Select One:

[ ] Original Integration [✓] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

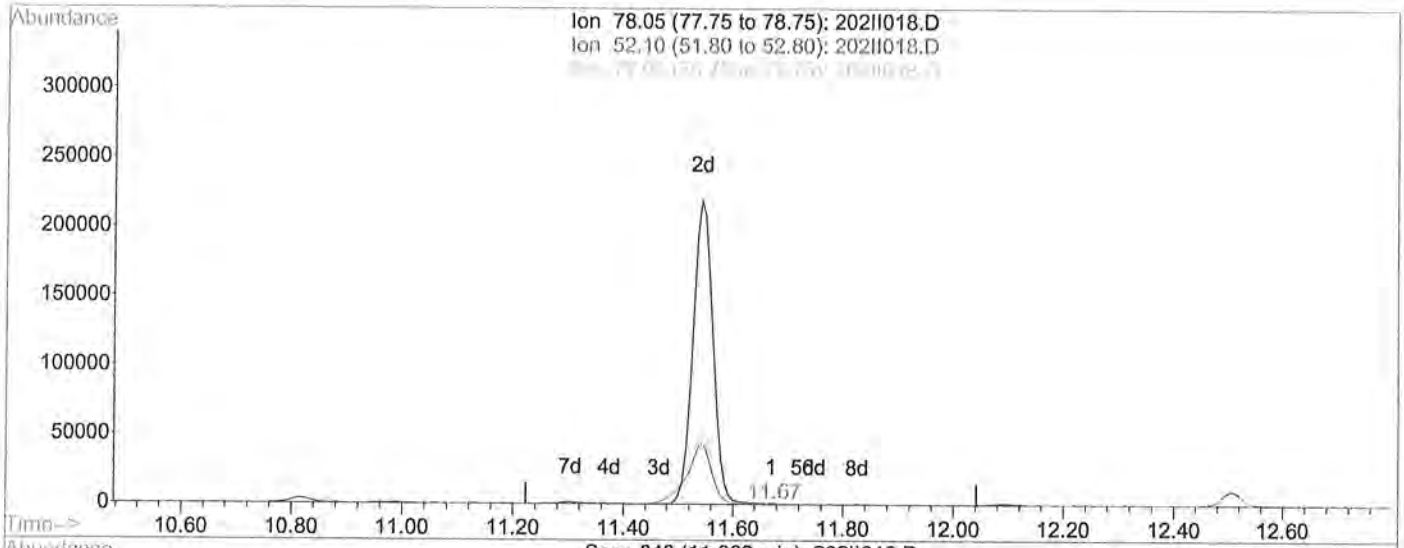
Review by/Date KF 9/15/2020

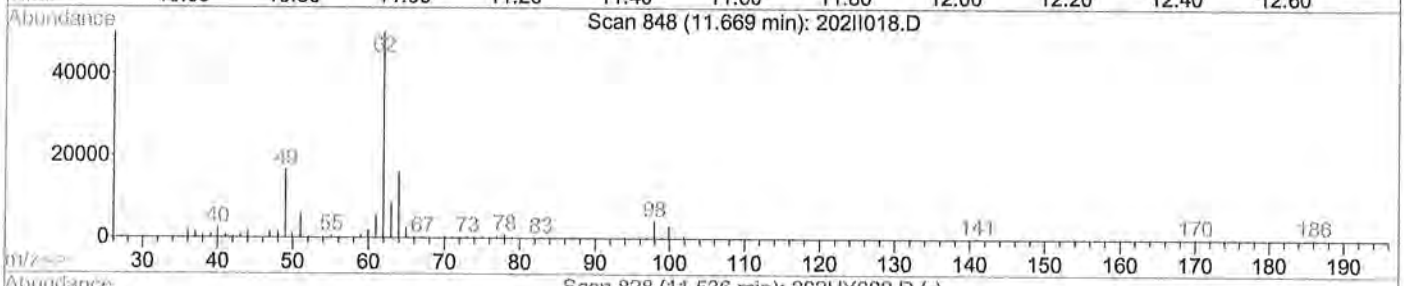
Review by/Date:

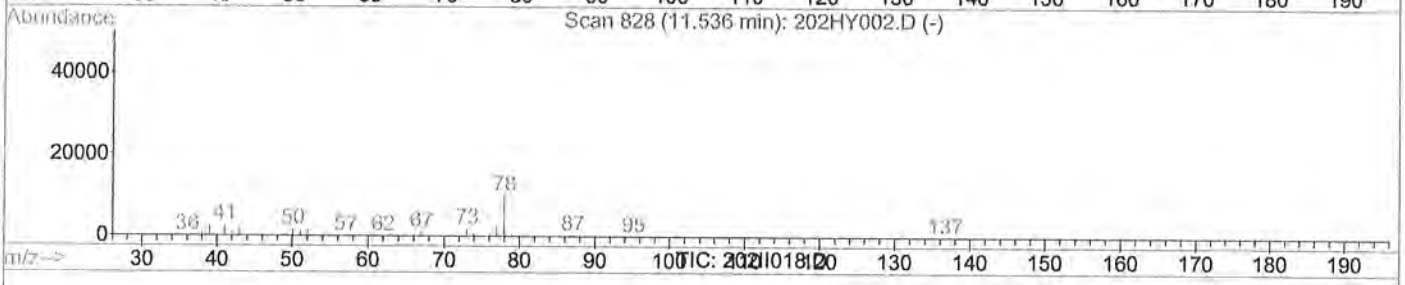
Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\091420\202II018.D Vial: 12
Acq On : 14 Sep 2020 6:09 pm Operator: KG
Sample : SCV1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 15 9:52 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Sep 15 07:13:51 2020
Response via : Multiple Level Calibration







(42) Benzene (m)

11.67min 0.12ug/kg

response 1405

Ion	Exp%	Act%
78.05	100	100
52.10	75.00	77.65
77.05	24.20	14.52
0.00	0.00	0.00

Select One:

[✓] Original Integration [ ] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

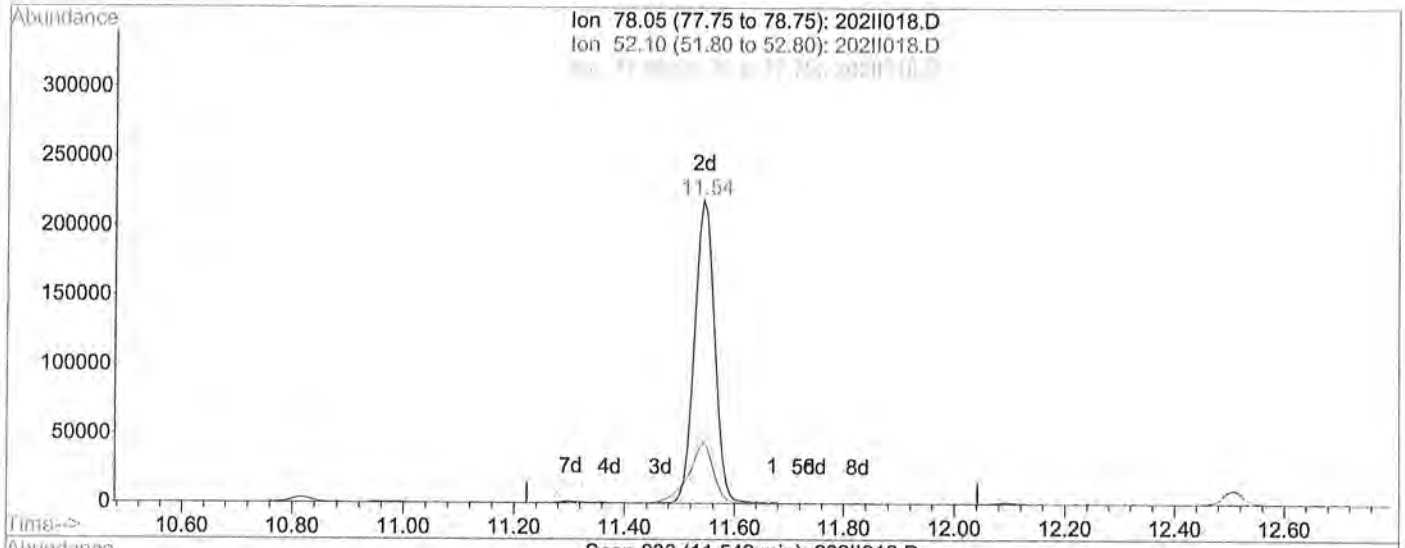
Review by/Date KR 9/15/2020

Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\091420\202II018.D Vial: 12
Acq On : 14 Sep 2020 6:09 pm Operator: KG
Sample : SCV1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 15 9:52 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Sep 15 07:13:51 2020
Response via : Multiple Level Calibration



(42) Benzene (m)

11.54min 49.78ug/kg m

response 561135

Ion	Exp%	Act%
78.05	100	100
52.10	75.00	0.19#
77.05	24.20	0.04
0.00	0.00	0.00

Select One:

[] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[] Incorrect peak selection/Peak not found

[] Hump integration

[] Baseline drop for split peaks

[] ISTD reintegration

[] Other:

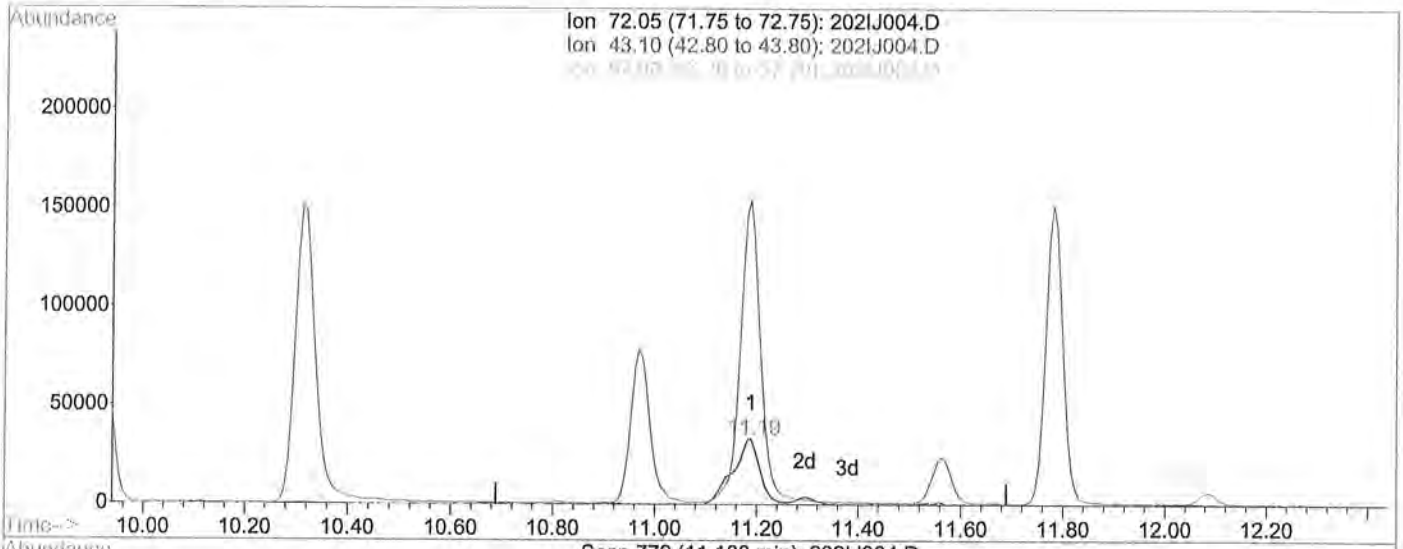
Review by/Date LR 9/15/2020

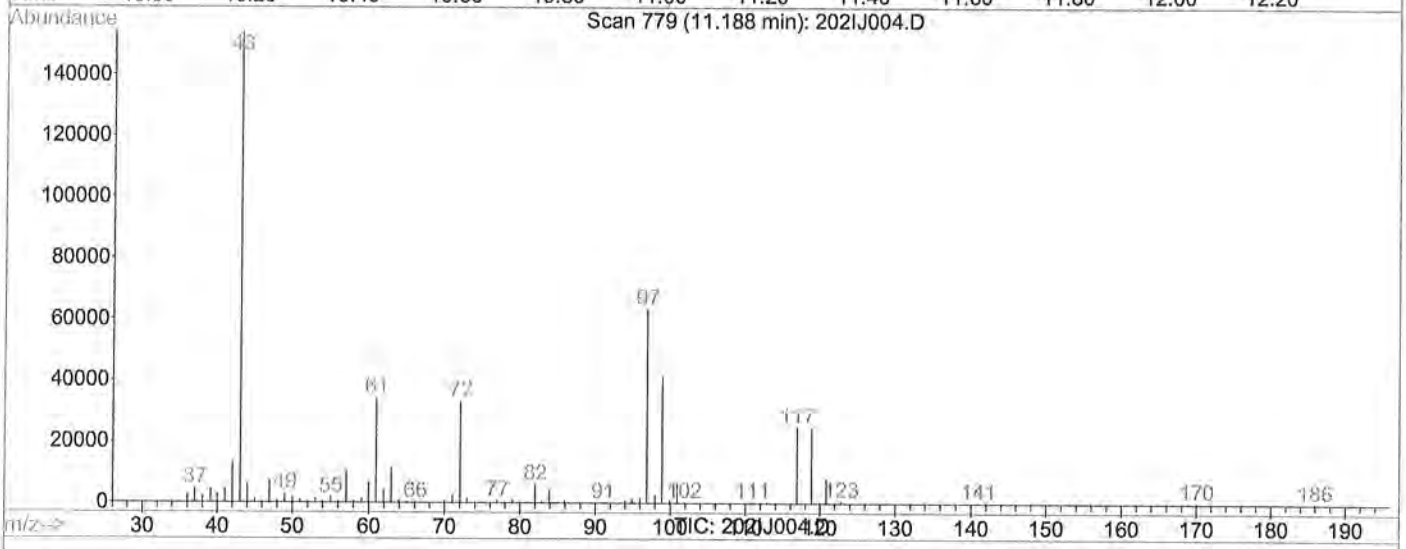
Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\091520\202IJ004.D Vial: 4
Acq On : 15 Sep 2020 9:37 am Operator: KG
Sample : AA62441-SCV2 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 15 10:06 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Sep 15 07:13:51 2020
Response via : Multiple Level Calibration





(25) 2-Butanone

11.19min 370.63ug/kg

response 123055

Ion	Exp%	Act%
72.05	100	100
43.10	487.80	353.54
57.00	32.90	22.79#
0.00	0.00	0.00

Select One:

[x] Original Integration [ ] Manual Integration

Select reason for manual integration:

[x] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date KET 9/15/2020

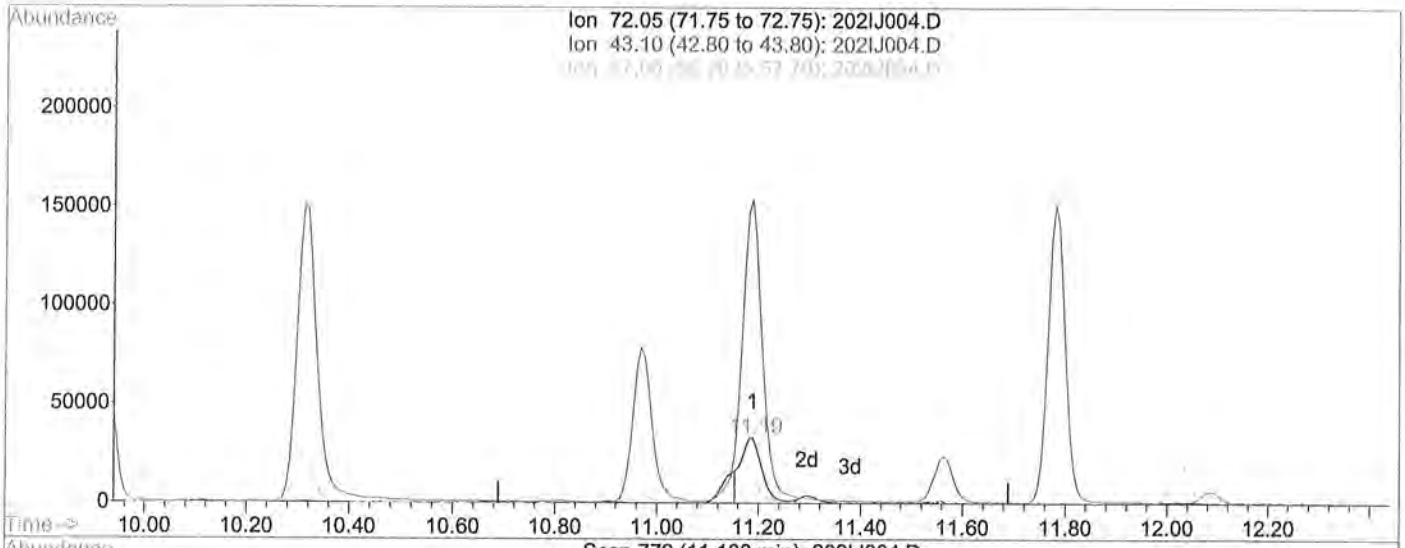
Review by/Date:

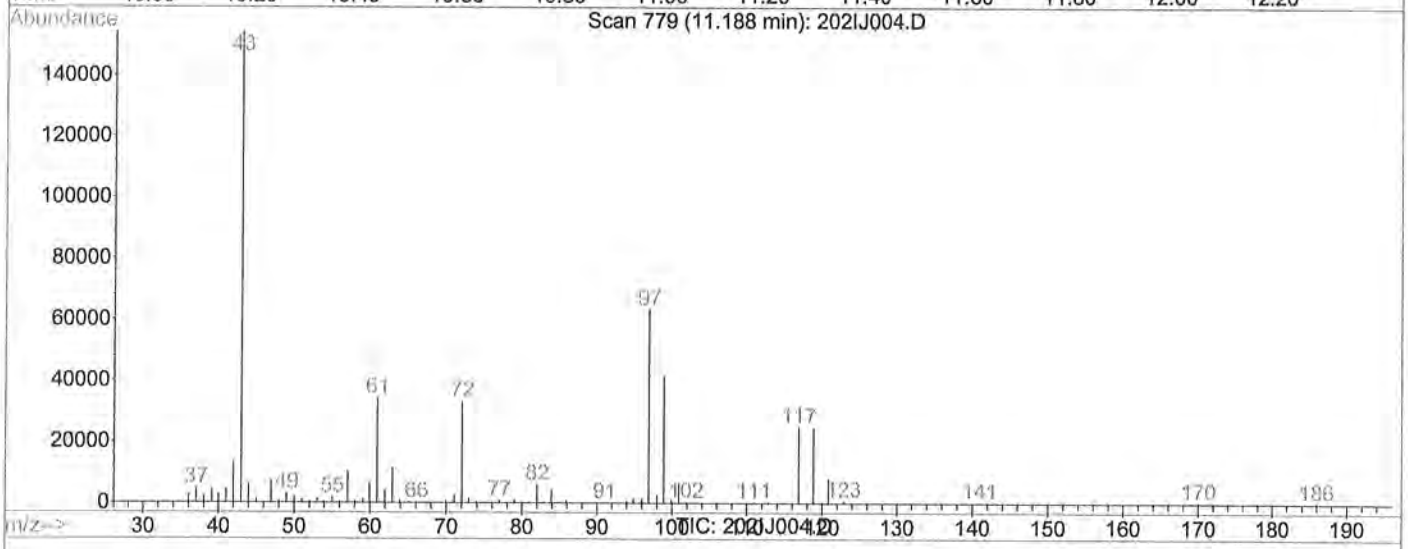
202IJ004.D 091420.M Tue Sep 15 10:06:52 2020

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\091520\202IJ004.D Vial: 4
Acq On : 15 Sep 2020 9:37 am Operator: KG
Sample : AA62441-SCV2 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 15 10:06 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Sep 15 07:13:51 2020
Response via : Multiple Level Calibration





(25) 2-Butanone

11.19min 285.99ug/kg m

response 94954

Ion	Exp%	Act%
72.05	100	100
43.10	487.80	458.17
57.00	32.90	29.53
0.00	0.00	0.00

Select One:

[ ] Original Integration [✓] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date KF 9/15/2020

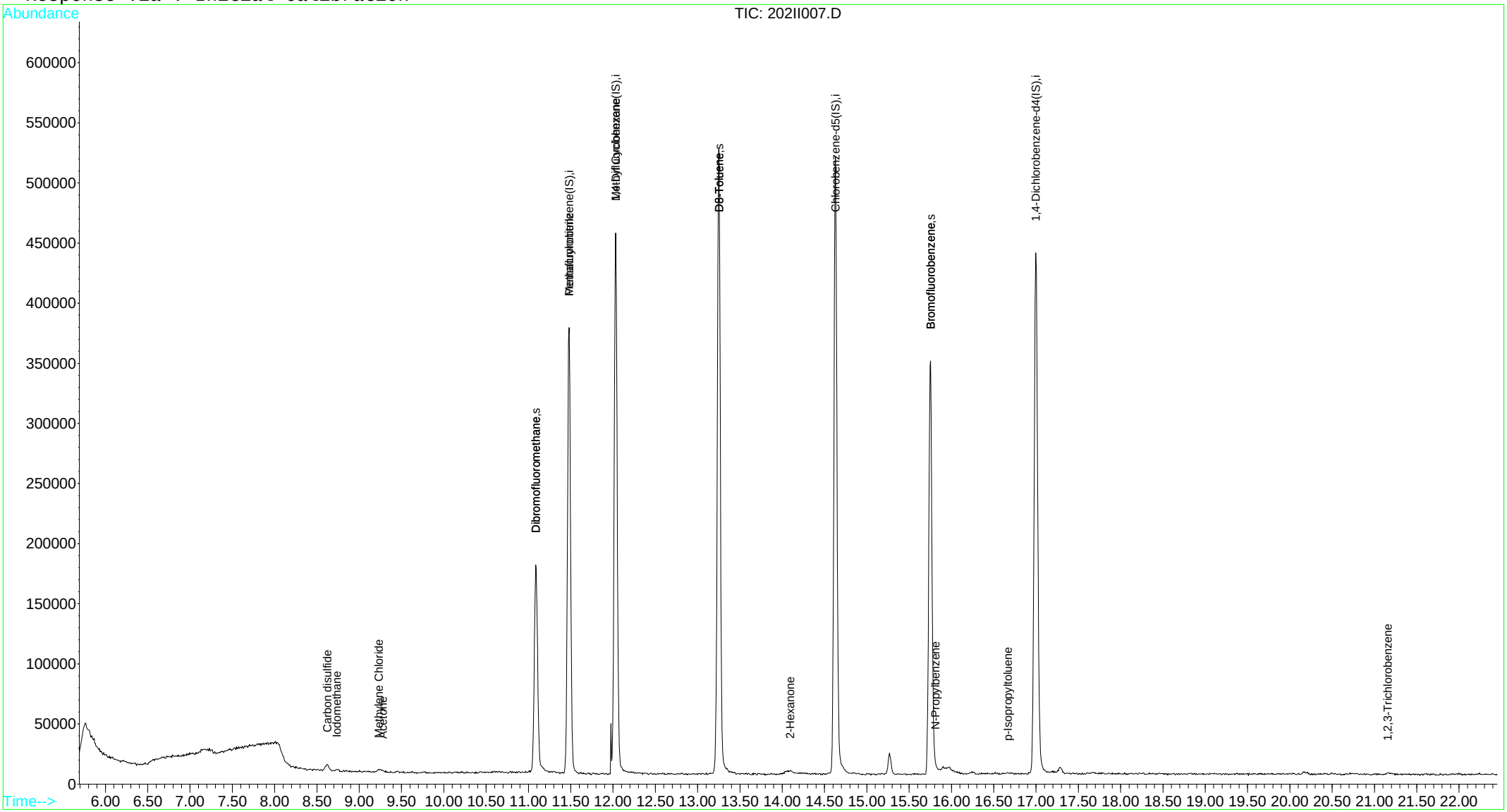
Review by/Date:

202IJ004.D 091420.M Tue Sep 15 10:06:58 2020

Quantitation Report

Data File : C:\HPCHEM\1\DATA\091420\202II007.D Vial: 1
Acq On : 14 Sep 2020 12:21 pm Operator: KG
Sample : tun1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 14 12:43 2020 Quant Results File: 070220.RES

Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\091420\202II007.D Vial: 1
Acq On : 14 Sep 2020 12:21 pm Operator: KG
Sample : tun1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 14 12:43 2020 Quant Results File: 070220.RES

Quant Method : C:\HPCHEM\1\METHODS\070220.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2007017
Last Update : Mon Aug 31 07:21:12 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.48	168	336795	50.00	ug/kg	0.00
38) 1,4-Difluorobenzene(IS)	12.03	114	445515	50.00	ug/kg	0.00
56) Chlorobenzene-d5(IS)	14.63	82	242003	50.00	ug/kg	0.00
79) 1,4-Dichlorobenzene-d4(IS)	17.00	152	205982	50.00	ug/kg	-0.01
System Monitoring Compounds						
30) Dibromofluoromethane	11.09	113	137181	41.12	ug/kg	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 82.24%			
54) D8-Toluene	13.25	98	435920	44.47	ug/kg	-0.01
Spiked Amount 50.000	Range 41 - 146		Recovery = 88.94%			
75) Bromofluorobenzene	15.75	95	178970	48.98	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 142		Recovery = 97.96%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.		
3) Chloromethane	0.00	50	0	N.D.		
4) Vinyl Chloride	0.00	62	0	N.D.		
5) Bromomethane	0.00	96	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Trichlorofluoromethane	0.00	101	0	N.D.		
8) Trichlorotrifluoroethane	0.00	101	0	N.D.		
9) acrolein	0.00	56	0	N.D.		
10) Acetone	9.28	43	3153	3.61	ug/kg#	46
11) 1,1-Dichloroethene	0.00	96	0	N.D.		
12) 3-Chloropropene	0.00	76	0	N.D.		
13) Acetonitrile	0.00	41	0	N.D.		
14) Iodomethane	8.74	142	2820	1.03	ug/kg#	65
15) Carbon disulfide	8.62	76	12543	1.31	ug/kg	83
16) Methylene Chloride	9.22	84	1084	0.32	ug/kg#	49
17) Methyl tert-butyl ether	0.00	73	0	N.D.		
18) Acrylonitrile	0.00	53	0	N.D.		
19) T-1,2-Dichloroethene	0.00	96	0	N.D.		
20) Isopropyl Ether	0.00	45	0	N.D.		
21) C-1,2-Dichloroethene	0.00	96	0	N.D.		
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	0.00	43	0	N.D.		
24) Chloroprene	0.00	88	0	N.D.		
25) 2-Butanone	0.00	72	0	N.D.		
26) Propionitrile	0.00	54	0	N.D.		
27) 2,2-Dichloropropane	0.00	77	0	N.D.		
28) Methacrylonitrile	11.48	67	1321	0.92	ug/kg	73
29) Chloroform	0.00	83	0	N.D.		
31) Dibromofluoromethane	11.09	113	137181	41.12	ug/kg	100
32) Bromochloromethane	0.00	128	0	N.D.		
33) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
34) 1,1-Dichloropropene	0.00	75	0	N.D.		
35) Diethyl Ether	0.00	59	0	N.D.		
36) Methyl Acetate	0.00	74	0	N.D.		
37) Cyclohexane	0.00	56	0	N.D.		
39) Methyl Cyclohexane	12.02	55	2792	1.18	ug/kg#	42
40) Carbon Tetrachloride	0.00	117	0	N.D.		
41) 1,2-Dichloroethane	0.00	62	0	N.D.		
42) Benzene	0.00	78	0	N.D.		
43) Isobutyl Alcohol	0.00	43	0	N.D.		
44) Trichloroethene	0.00	130	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Methyl Methacrylate	0.00	100	0	N.D.		
47) 1,4-Dioxane	0.00	88	0	N.D.		
48) Bromodichloromethane	0.00	83	0	N.D.		
49) Dibromomethane	0.00	93	0	N.D.		
50) 4-Methyl-2-Pentanone	0.00	100	0	N.D.		
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	14.09	43	5101	2.35	ug/kg#	41

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\091420\202II007.D Vial: 1
Acq On : 14 Sep 2020 12:21 pm Operator: KG
Sample : tun1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 14 12:43 2020 Quant Results File: 070220.RES

Quant Method : C:\HPCHEM\1\METHODS\070220.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2007017
Last Update : Mon Aug 31 07:21:12 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

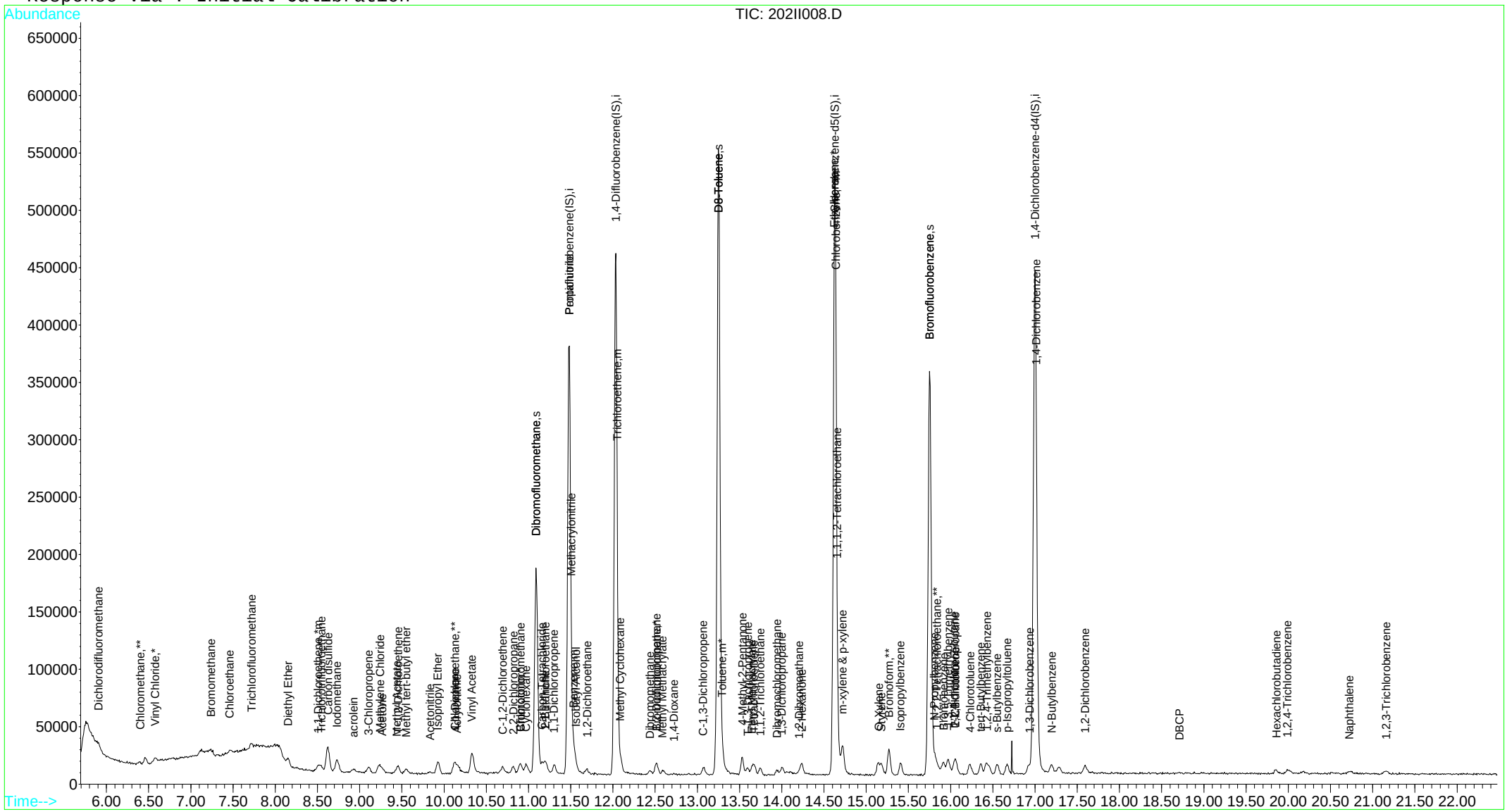
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	0.00	75	0	N.D.	
55) D8-Toluene	13.25	98	435920	44.47 ug/kg	93
57) Toluene	0.00	92	0	N.D.	
58) Ethyl Methacrylate	0.00	69	0	N.D.	
59) T-1,3-Dichloropropene	0.00	75	0	N.D.	
60) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
61) 1,3-Dichloropropane	0.00	76	0	N.D.	
62) Tetrachloroethene	0.00	164	0	N.D.	
63) Dibromochloromethane	0.00	129	0	N.D.	
64) 1,2-Dibromoethane	0.00	107	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
67) Ethylbenzene	0.00	106	0	N.D.	
68) m-xylene & p-xylene	0.00	106	0	N.D.	
69) O-Xylene	0.00	106	0	N.D.	
70) Bromoform	0.00	173	0	N.D.	
71) Styrene	0.00	104	0	N.D.	
72) Isopropylbenzene	0.00	105	0	N.D.	
73) 1,2,3-Trichloropropane	0.00	75	0	N.D.	
74) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
76) Bromofluorobenzene	15.75	95	178970	48.98 ug/kg	89
77) T-1,4-dichloro-2-butene	0.00	53	0	N.D.	
78) N-Propylbenzene	15.82	91	851	0.06 ug/kg#	59
80) Bromobenzene	0.00	156	0	N.D.	
81) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
82) 2-Chlorotoluene	0.00	91	0	N.D.	
83) 4-Chlorotoluene	0.00	91	0	N.D.	
84) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.	
85) s-Butylbenzene	0.00	105	0	N.D.	
86) tert-Butylbenzene	0.00	119	0	N.D.	
87) p-Isopropyltoluene	16.66	119	844	0.09 ug/kg#	52
88) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
89) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) N-Butylbenzene	0.00	91	0	N.D.	
92) DBCP	0.00	75	0	N.D.	
93) Naphthalene	0.00	128	0	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Hexachlorobutadiene	0.00	225	0	N.D.	
96) 1,2,3-Trichlorobenzene	21.16	180	969	0.55 ug/kg#	83

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\091420\202II008.D Vial: 2
Acq On : 14 Sep 2020 1:02 pm Operator: KG
Sample : CAL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 15 6:56 2020 Quant Results File: 091420.RES

Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\091420\202II008.D Vial: 2
Acq On : 14 Sep 2020 1:02 pm Operator: KG
Sample : CAL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 15 6:56 2020 Quant Results File: 091420.RES

Quant Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Mon Sep 14 13:46:53 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.48	168	335711	50.00	ug/kg	0.00
38) 1,4-Difluorobenzene(IS)	12.04	114	451324	50.00	ug/kg	0.00
56) Chlorobenzene-d5(IS)	14.63	82	240514	50.00	ug/kg	0.00
79) 1,4-Dichlorobenzene-d4(IS)	17.00	152	203028	50.00	ug/kg	0.00
System Monitoring Compounds						
30) Dibromofluoromethane	11.09	113	140627	42.29	ug/kg	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 84.58%			
54) D8-Toluene	13.25	98	437921	44.10	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 146		Recovery = 88.20%			
75) Bromofluorobenzene	15.75	95	180461	49.70	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 142		Recovery = 99.40%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.91	85	4986	1.03	ug/kg	89
3) Chloromethane	6.39	50	5908	1.47	ug/kg	93
4) Vinyl Chloride	6.58	62	5342	0.98	ug/kg#	27
5) Bromomethane	7.23	96	2317	0.55	ug/kg	93
6) Chloroethane	7.45	64	4893	1.15	ug/kg	88
7) Trichlorofluoromethane	7.72	101	4817	0.43	ug/kg	81
8) Trichlorotrifluoroethane	8.55	101	2687	1.15	ug/kg	71
9) acrolein	8.92	56	5088	7.41	ug/kg	100
10) Acetone	9.27	43	6906	7.94	ug/kg	90
11) 1,1-Dichloroethene	8.50	96	2565	1.15	ug/kg#	73
12) 3-Chloropropene	9.10	76	2424	1.15	ug/kg	93
13) Acetonitrile	9.83	41	2054	5.31	ug/kg#	60
14) Iodomethane	8.73	142	19884	10.67	ug/kg	85
15) Carbon disulfide	8.62	76	49549	5.19	ug/kg	99
16) Methylene Chloride	9.23	84	4106	1.23	ug/kg#	71
17) Methyl tert-butyl ether	9.55	73	4565	0.68	ug/kg	91
18) Acrylonitrile	10.16	53	8434	5.32	ug/kg#	51
19) T-1,2-Dichloroethene	9.46	96	3028	0.99	ug/kg	74
20) Isopropyl Ether	9.93	45	12329	1.08	ug/kg	93
21) C-1,2-Dichloroethene	10.69	96	2971	0.80	ug/kg#	65
22) 1,1-Dichloroethane	10.13	63	6462	1.17	ug/kg	91
23) Vinyl Acetate	10.33	43	41103	4.76	ug/kg	92
24) Chloroprene	10.12	88	2282	0.75	ug/kg	5
25) 2-Butanone	11.20	72	1470	3.93	ug/kg#	83
26) Propionitrile	11.49	54	3189	7.15	ug/kg	100
27) 2,2-Dichloropropane	10.82	77	5055	1.23	ug/kg	84
28) Methacrylonitrile	11.51	67	12466	8.71	ug/kg	98
29) Chloroform	10.91	83	5762	1.00	ug/kg	83
31) Dibromofluoromethane	11.09	113	140627	42.29	ug/kg	100
32) Bromochloromethane	10.91	128	1688	1.09	ug/kg	91
33) 1,1,1-Trichloroethane	11.21	97	3856	0.87	ug/kg	94
34) 1,1-Dichloropropene	11.31	75	4568	1.14	ug/kg	92
35) Diethyl Ether	8.14	59	2784	1.26	ug/kg	92
36) Methyl Acetate	9.43	74	702	1.02	ug/kg#	83
37) Cyclohexane	10.97	56	4752	1.31	ug/kg#	80
39) Methyl Cyclohexane	12.09	55	4039	1.69	ug/kg#	60
40) Carbon Tetrachloride	11.17	117	3541	0.95	ug/kg	98
41) 1,2-Dichloroethane	11.69	62	4488	1.43	ug/kg	91
42) Benzene	11.54	78	11385	1.03	ug/kg	93
43) Isobutyl Alcohol	11.57	43	1980	11.01	ug/kg#	1
44) Trichloroethene	12.06	130	3039	1.29	ug/kg#	1
45) 1,2-Dichloropropane	12.51	63	3871	1.29	ug/kg	85
46) Methyl Methacrylate	12.59	100	622	0.70	ug/kg#	9
47) 1,4-Dioxane	12.73	88	439	18.28	ug/kg#	42
48) Bromodichloromethane	12.52	83	3804	0.94	ug/kg	96
49) Dibromomethane	12.44	93	2045	0.92	ug/kg	89
50) 4-Methyl-2-Pentanone	13.53	100	2154	4.22	ug/kg	78
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.	d	
52) 2-Hexanone	14.24	43	10681	4.86	ug/kg#	93

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\091420\202II008.D Vial: 2
Acq On : 14 Sep 2020 1:02 pm Operator: KG
Sample : CAL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 15 6:56 2020 Quant Results File: 091420.RES

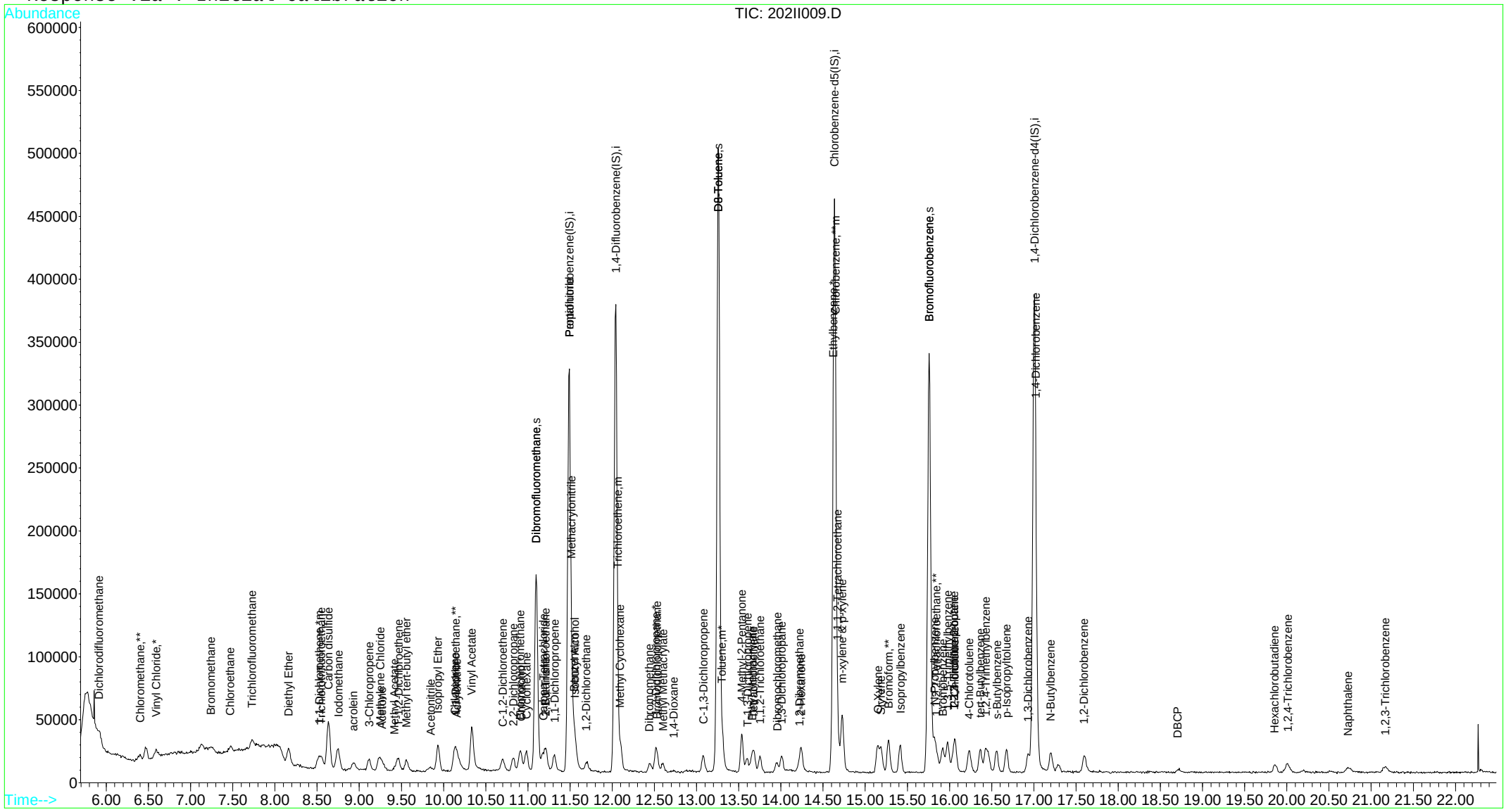
Quant Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Mon Sep 14 13:46:53 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.07	75	5404	1.10	ug/kg	82
55) D8-Toluene	13.25	98	437921	44.10	ug/kg	93
57) Toluene	13.30	92	6625	0.92	ug/kg	97
58) Ethyl Methacrylate	13.65	69	4100	1.06	ug/kg#	98
59) T-1,3-Dichloropropene	13.60	75	4794	1.12	ug/kg	93
60) 1,1,2-Trichloroethane	13.74	97	2330	0.86	ug/kg	89
61) 1,3-Dichloropropane	14.01	76	5286	1.11	ug/kg	94
62) Tetrachloroethene	13.67	164	2430	0.99	ug/kg	96
63) Dibromochloromethane	13.95	129	2995	1.12	ug/kg#	87
64) 1,2-Dibromoethane	14.20	107	2197	0.74	ug/kg#	81
65) Chlorobenzene	14.65	112	7167	0.98	ug/kg#	47
66) 1,1,1,2-Tetrachloroethane	14.66	131	2325	0.99	ug/kg#	1
67) Ethylbenzene	14.61	106	3438	0.87	ug/kg	92
68) m-xylene & p-xylene	14.73	106	8217	1.79	ug/kg	97
69) O-Xylene	15.14	106	4124	0.91	ug/kg	100
70) Bromoform	15.27	173	1900	1.01	ug/kg	87
71) Styrene	15.18	104	7100	0.83	ug/kg	89
72) Isopropylbenzene	15.41	105	9616	0.86	ug/kg	93
73) 1,2,3-Trichloropropane	16.05	75	4339	1.19	ug/kg	86
74) 1,1,2,2-Tetrachloroethane	15.84	83	3312	0.90	ug/kg	96
76) Bromofluorobenzene	15.75	95	180461	49.70	ug/kg	89
77) T-1,4-dichloro-2-butene	16.03	53	853	1.37	ug/kg#	77
78) N-Propylbenzene	15.81	91	12399	0.92	ug/kg	96
80) Bromobenzene	15.91	156	3194	0.96	ug/kg	94
81) 1,3,5-Trimethylbenzene	15.97	105	7889	0.77	ug/kg	96
82) 2-Chlorotoluene	16.06	91	7606	0.81	ug/kg	99
83) 4-Chlorotoluene	16.22	91	8187	0.84	ug/kg	99
84) 1,2,4-Trimethylbenzene	16.43	105	7838	0.72	ug/kg	93
85) s-Butylbenzene	16.55	105	9338	0.74	ug/kg	88
86) tert-Butylbenzene	16.36	119	6512	0.82	ug/kg	96
87) p-Isopropyltoluene	16.67	119	7840	0.82	ug/kg	93
88) 1,3-Dichlorobenzene	16.93	146	5372	1.05	ug/kg	90
89) 1,4-Dichlorobenzene	17.02	146	6217	1.13	ug/kg	84
90) 1,2-Dichlorobenzene	17.60	146	4769	1.01	ug/kg	92
91) N-Butylbenzene	17.20	91	6881	0.66	ug/kg	97
92) DBCP	18.72	75	666	1.42	ug/kg	64
93) Naphthalene	20.73	128	4097	1.20	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.99	180	2672	1.16	ug/kg	98
95) Hexachlorobutadiene	19.87	225	1209	1.53	ug/kg	90
96) 1,2,3-Trichlorobenzene	21.17	180	2140	1.39	ug/kg	91

Quantitation Report

Data File : C:\HPCHEM\1\DATA\091420\202II009.D Vial: 3
Acq On : 14 Sep 2020 1:49 pm Operator: KG
Sample : CAL2 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 15 6:58 2020 Quant Results File: 091420.RES

Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\091420\202II009.D Vial: 3
Acq On : 14 Sep 2020 1:49 pm Operator: KG
Sample : CAL2 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 15 6:58 2020 Quant Results File: 091420.RES

Quant Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Mon Sep 14 13:46:53 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.49	168	274399	50.00	ug/kg	0.00
38) 1,4-Difluorobenzene(IS)	12.04	114	369289	50.00	ug/kg	0.00
56) Chlorobenzene-d5(IS)	14.63	82	201672	50.00	ug/kg	0.00
79) 1,4-Dichlorobenzene-d4(IS)	17.01	152	173637	50.00	ug/kg	0.00
System Monitoring Compounds						
30) Dibromofluoromethane	11.10	113	123625	45.48	ug/kg	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 90.96%			
54) D8-Toluene	13.26	98	400290	49.26	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 146		Recovery = 98.52%			
75) Bromofluorobenzene	15.76	95	167327	54.96	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 142		Recovery = 109.92%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.92	85	8035	2.03	ug/kg	91
3) Chloromethane	6.41	50	10463	3.19	ug/kg	92
4) Vinyl Chloride	6.59	62	8242	1.85	ug/kg	67
5) Bromomethane	7.24	96	2793	0.81	ug/kg	90
6) Chloroethane	7.46	64	5573	1.60	ug/kg	98
7) Trichlorofluoromethane	7.74	101	7393	0.80	ug/kg	89
8) Trichlorotrifluoroethane	8.55	101	4806	2.52	ug/kg	71
9) acrolein	8.93	56	9057	16.13	ug/kg	100
10) Acetone	9.27	43	10683	15.03	ug/kg	92
11) 1,1-Dichloroethene	8.52	96	4578	2.52	ug/kg#	74
12) 3-Chloropropene	9.13	76	3845	2.24	ug/kg	87
13) Acetonitrile	9.85	41	5198	16.44	ug/kg#	36
14) Iodomethane	8.74	142	31002	20.36	ug/kg	85
15) Carbon disulfide	8.63	76	83781	10.74	ug/kg	98
16) Methylene Chloride	9.24	84	6919	2.55	ug/kg#	81
17) Methyl tert-butyl ether	9.56	73	9461	1.71	ug/kg	77
18) Acrylonitrile	10.16	53	27575	21.28	ug/kg	96
19) T-1,2-Dichloroethene	9.47	96	5491	2.21	ug/kg	73
20) Isopropyl Ether	9.93	45	23943	2.56	ug/kg	91
21) C-1,2-Dichloroethene	10.70	96	5503	1.82	ug/kg#	71
22) 1,1-Dichloroethane	10.14	63	11380	2.53	ug/kg	94
23) Vinyl Acetate	10.33	43	75926	10.76	ug/kg	94
24) Chloroprene	10.13	88	4410	1.78	ug/kg	63
25) 2-Butanone	11.21	72	3455	11.31	ug/kg#	74
26) Propionitrile	11.49	54	7494	20.56	ug/kg	100
27) 2,2-Dichloropropane	10.83	77	8739	2.60	ug/kg	90
28) Methacrylonitrile	11.52	67	21792	18.62	ug/kg	100
29) Chloroform	10.93	83	10685	2.27	ug/kg	88
31) Dibromofluoromethane	11.10	113	123625	45.48	ug/kg	100
32) Bromochloromethane	10.90	128	2994	2.38	ug/kg	94
33) 1,1,1-Trichloroethane	11.22	97	7402	2.05	ug/kg	100
34) 1,1-Dichloropropene	11.32	75	8184	2.50	ug/kg	98
35) Diethyl Ether	8.17	59	5050	2.79	ug/kg	98
36) Methyl Acetate	9.42	74	747	1.33	ug/kg#	1
37) Cyclohexane	10.98	56	9150	3.08	ug/kg#	82
39) Methyl Cyclohexane	12.10	55	6932	3.54	ug/kg#	70
40) Carbon Tetrachloride	11.17	117	7278	2.37	ug/kg	99
41) 1,2-Dichloroethane	11.69	62	7979	3.12	ug/kg	86
42) Benzene	11.56	78	22816	2.53	ug/kg	95
43) Isobutyl Alcohol	11.56	43	3945	26.80	ug/kg#	1
44) Trichloroethene	12.07	130	5502	2.85	ug/kg#	37
45) 1,2-Dichloropropane	12.52	63	6048	2.47	ug/kg	95
46) Methyl Methacrylate	12.59	100	1297	1.79	ug/kg#	51
47) 1,4-Dioxane	12.72	88	819	41.68	ug/kg#	72
48) Bromodichloromethane	12.54	83	7417	2.25	ug/kg	95
49) Dibromomethane	12.44	93	4131	2.28	ug/kg	88
50) 4-Methyl-2-Pentanone	13.53	100	4134	9.89	ug/kg	79
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.	d	
52) 2-Hexanone	14.24	43	20269	11.26	ug/kg#	96

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\091420\202II009.D Vial: 3
Acq On : 14 Sep 2020 1:49 pm Operator: KG
Sample : CAL2 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 15 6:58 2020 Quant Results File: 091420.RES

Quant Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Mon Sep 14 13:46:53 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.08	75	10043	2.49	ug/kg	84
55) D8-Toluene	13.26	98	400290	49.26	ug/kg	94
57) Toluene	13.31	92	12416	2.05	ug/kg	94
58) Ethyl Methacrylate	13.65	69	7691	2.36	ug/kg#	95
59) T-1,3-Dichloropropene	13.60	75	8698	2.42	ug/kg	96
60) 1,1,2-Trichloroethane	13.74	97	4782	2.12	ug/kg	97
61) 1,3-Dichloropropane	14.01	76	10403	2.60	ug/kg	92
62) Tetrachloroethene	13.68	164	4693	2.28	ug/kg	95
63) Dibromochloromethane	13.95	129	5641	2.51	ug/kg#	97
64) 1,2-Dibromoethane	14.21	107	5107	2.05	ug/kg#	95
65) Chlorobenzene	14.66	112	13593	2.21	ug/kg#	71
66) 1,1,1,2-Tetrachloroethane	14.68	131	4700	2.38	ug/kg#	1
67) Ethylbenzene	14.61	106	6525	1.97	ug/kg	94
68) m-xylene & p-xylene	14.73	106	16171	4.19	ug/kg	95
69) O-Xylene	15.15	106	8088	2.13	ug/kg	100
70) Bromoform	15.28	173	3968	2.51	ug/kg	94
71) Styrene	15.19	104	15048	2.10	ug/kg	90
72) Isopropylbenzene	15.42	105	20021	2.15	ug/kg	98
73) 1,2,3-Trichloropropane	16.05	75	7809	2.55	ug/kg	88
74) 1,1,2,2-Tetrachloroethane	15.85	83	6519	2.12	ug/kg	94
76) Bromofluorobenzene	15.76	95	167327	54.96	ug/kg	88
77) T-1,4-dichloro-2-butene	16.05	53	2042	3.92	ug/kg#	37
78) N-Propylbenzene	15.82	91	24261	2.14	ug/kg	96
80) Bromobenzene	15.92	156	6415	2.24	ug/kg	97
81) 1,3,5-Trimethylbenzene	15.98	105	15783	1.81	ug/kg	98
82) 2-Chlorotoluene	16.07	91	15262	1.89	ug/kg	95
83) 4-Chlorotoluene	16.24	91	16381	1.96	ug/kg	96
84) 1,2,4-Trimethylbenzene	16.43	105	15237	1.63	ug/kg	89
85) s-Butylbenzene	16.56	105	18910	1.76	ug/kg	91
86) tert-Butylbenzene	16.36	119	12664	1.87	ug/kg	95
87) p-Isopropyltoluene	16.68	119	15449	1.90	ug/kg	95
88) 1,3-Dichlorobenzene	16.94	146	10246	2.33	ug/kg	94
89) 1,4-Dichlorobenzene	17.03	146	11055	2.36	ug/kg	92
90) 1,2-Dichlorobenzene	17.60	146	9944	2.46	ug/kg	94
91) N-Butylbenzene	17.20	91	14377	1.62	ug/kg	97
92) DBCP	18.70	75	1353m	3.38	ug/kg	
93) Naphthalene	20.72	128	7670	2.62	ug/kg	100
94) 1,2,4-Trichlorobenzene	20.01	180	5087	2.58	ug/kg	95
95) Hexachlorobutadiene	19.86	225	2498	3.70	ug/kg	97
96) 1,2,3-Trichlorobenzene	21.17	180	3927	2.98	ug/kg	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\091420\202II010.D Vial: 4
Acq On : 14 Sep 2020 2:18 pm Operator: KG
Sample : CAL3 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 14 14:40 2020 Quant Results File: 091420.RES

Quant Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Mon Sep 14 13:46:53 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.49	168	275361	50.00	ug/kg	0.00
38) 1,4-Difluorobenzene(IS)	12.04	114	368408	50.00	ug/kg	0.00
56) Chlorobenzene-d5(IS)	14.63	82	207037	50.00	ug/kg	0.00
79) 1,4-Dichlorobenzene-d4(IS)	17.00	152	175506	50.00	ug/kg	0.00
System Monitoring Compounds						
30) Dibromofluoromethane	11.09	113	135341	49.62	ug/kg	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 99.24%			
54) D8-Toluene	13.25	98	447990	55.27	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 146		Recovery = 110.54%			
75) Bromofluorobenzene	15.75	95	187280	59.91	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 142		Recovery = 119.82%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.92	85	18629	4.69	ug/kg	96
3) Chloromethane	6.40	50	23995	7.29	ug/kg	97
4) Vinyl Chloride	6.58	62	16583	3.72	ug/kg	86
5) Bromomethane	7.24	96	6211	1.80	ug/kg	82
6) Chloroethane	7.47	64	10436	2.98	ug/kg	99
7) Trichlorofluoromethane	7.72	101	17876	1.93	ug/kg	98
8) Trichlorotrifluoroethane	8.55	101	10157	5.30	ug/kg	73
9) acrolein	8.92	56	24241	43.02	ug/kg	99
10) Acetone	9.28	43	21673	30.38	ug/kg	99
11) 1,1-Dichloroethene	8.51	96	9581	5.25	ug/kg#	73
12) 3-Chloropropene	9.11	76	6552	3.81	ug/kg	61
13) Acetonitrile	9.83	41	15244	48.05	ug/kg	93
14) Iodomethane	8.74	142	76266	49.90	ug/kg	87
15) Carbon disulfide	8.63	76	191230	24.42	ug/kg	98
16) Methylene Chloride	9.23	84	13967	5.12	ug/kg	82
17) Methyl tert-butyl ether	9.55	73	21547	3.89	ug/kg	93
18) Acrylonitrile	10.15	53	75202	57.83	ug/kg	98
19) T-1,2-Dichloroethene	9.46	96	11115	4.45	ug/kg	73
20) Isopropyl Ether	9.93	45	54940	5.85	ug/kg#	88
21) C-1,2-Dichloroethene	10.70	96	12174	4.01	ug/kg#	73
22) 1,1-Dichloroethane	10.13	63	23806	5.28	ug/kg	96
23) Vinyl Acetate	10.33	43	190868	26.95	ug/kg	94
24) Chloroprene	10.12	88	10519	4.23	ug/kg	32
25) 2-Butanone	11.20	72	7421	24.21	ug/kg#	95
26) Propionitrile	11.49	54	18046	49.34	ug/kg	100
27) 2,2-Dichloropropane	10.82	77	17480	5.17	ug/kg	97
28) Methacrylonitrile	11.51	67	54531	46.44	ug/kg	91
29) Chloroform	10.91	83	22043	4.66	ug/kg	98
31) Dibromofluoromethane	11.09	113	135341	49.62	ug/kg	100
32) Bromochloromethane	10.90	128	6248	4.94	ug/kg	87
33) 1,1,1-Trichloroethane	11.21	97	15821	4.36	ug/kg	96
34) 1,1-Dichloropropene	11.31	75	17322	5.28	ug/kg	96
35) Diethyl Ether	8.16	59	10955	6.03	ug/kg	98
36) Methyl Acetate	9.42	74	3036	5.39	ug/kg#	79
37) Cyclohexane	10.97	56	18718	6.27	ug/kg	84
39) Methyl Cyclohexane	12.09	55	13756	7.04	ug/kg#	75
40) Carbon Tetrachloride	11.17	117	14918	4.88	ug/kg	96
41) 1,2-Dichloroethane	11.69	62	17844	6.99	ug/kg	92
42) Benzene	11.55	78	46821	5.19	ug/kg	94
43) Isobutyl Alcohol	11.56	43	10091	68.72	ug/kg#	1
44) Trichloroethene	12.06	130	10967	5.69	ug/kg#	72
45) 1,2-Dichloropropane	12.51	63	13301	5.44	ug/kg	93
46) Methyl Methacrylate	12.59	100	3171	4.39	ug/kg#	58
47) 1,4-Dioxane	12.72	88	2134	108.86	ug/kg#	65
48) Bromodichloromethane	12.53	83	16178	4.91	ug/kg	99
49) Dibromomethane	12.44	93	8252	4.56	ug/kg	83
50) 4-Methyl-2-Pentanone	13.53	100	9470	22.71	ug/kg	65
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	14.23	43	52876	29.45	ug/kg	97

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\091420\202II010.D Vial: 4
Acq On : 14 Sep 2020 2:18 pm Operator: KG
Sample : CAL3 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 14 14:40 2020 Quant Results File: 091420.RES

Quant Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Mon Sep 14 13:46:53 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

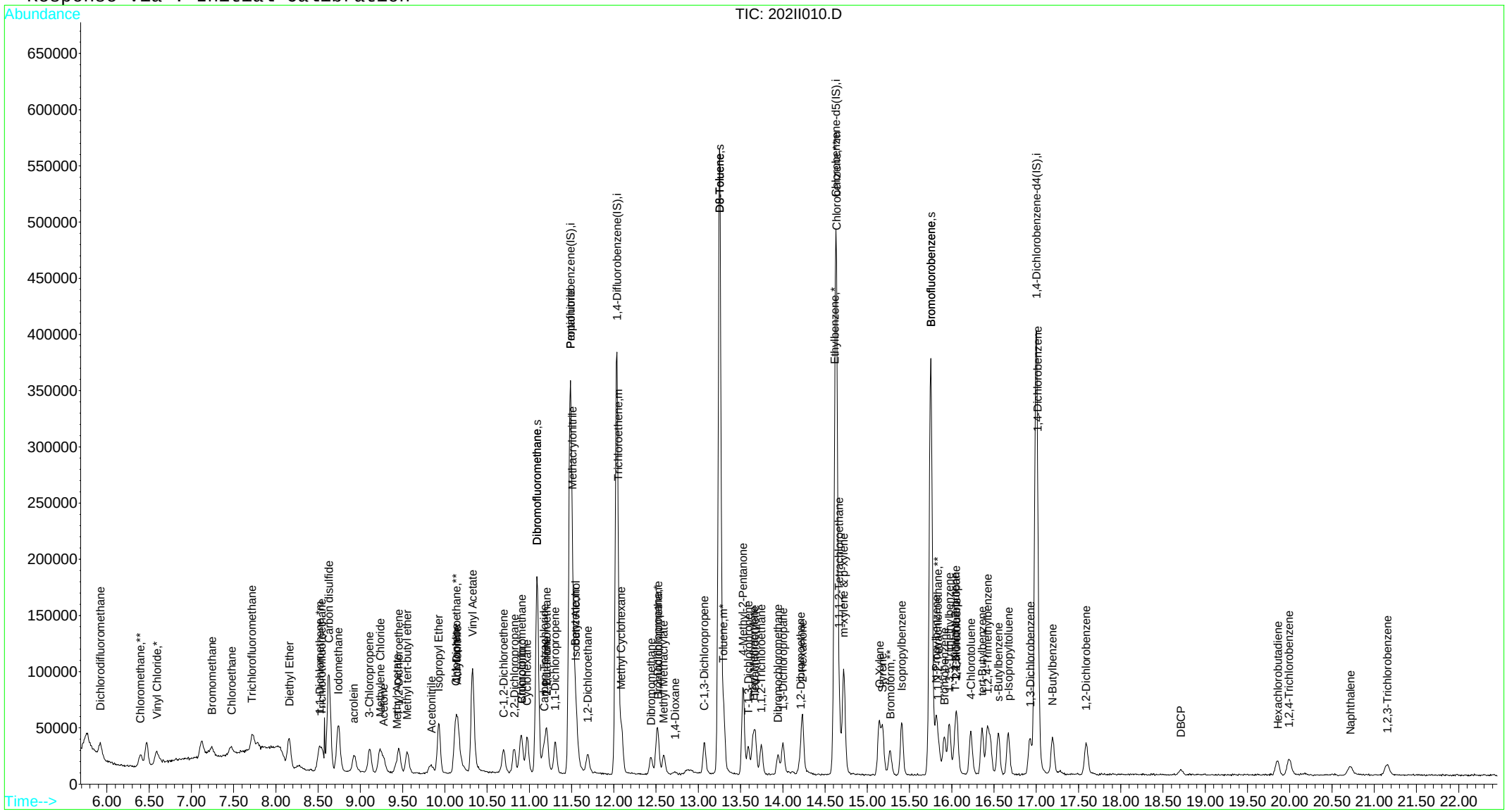
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.07	75	22028	5.48	ug/kg	96
55) D8-Toluene	13.25	98	447990	55.27	ug/kg	94
57) Toluene	13.30	92	27111	4.37	ug/kg	94
58) Ethyl Methacrylate	13.65	69	18655	5.58	ug/kg#	96
59) T-1,3-Dichloropropene	13.59	75	18856	5.12	ug/kg	92
60) 1,1,2-Trichloroethane	13.75	97	10450	4.50	ug/kg	99
61) 1,3-Dichloropropane	14.00	76	20544	5.00	ug/kg	99
62) Tetrachloroethene	13.68	164	10430	4.93	ug/kg	98
63) Dibromochloromethane	13.94	129	12212	5.29	ug/kg#	94
64) 1,2-Dibromoethane	14.20	107	11939	4.67	ug/kg#	95
65) Chlorobenzene	14.64	112	29086	4.60	ug/kg	84
66) 1,1,1,2-Tetrachloroethane	14.67	131	10418	5.15	ug/kg#	1
67) Ethylbenzene	14.61	106	15025	4.42	ug/kg	97
68) m-xylene & p-xylene	14.72	106	35696	9.01	ug/kg	98
69) O-Xylene	15.14	106	17555	4.51	ug/kg	95
70) Bromoform	15.26	173	9004	5.55	ug/kg	99
71) Styrene	15.18	104	30501	4.14	ug/kg	89
72) Isopropylbenzene	15.41	105	43738	4.56	ug/kg	95
73) 1,2,3-Trichloropropane	16.04	75	17577	5.58	ug/kg	98
74) 1,1,2,2-Tetrachloroethane	15.84	83	14225	4.50	ug/kg	98
76) Bromofluorobenzene	15.75	95	187280	59.91	ug/kg	87
77) T-1,4-dichloro-2-butene	16.03	53	3885	7.27	ug/kg#	62
78) N-Propylbenzene	15.81	91	51963	4.46	ug/kg	95
80) Bromobenzene	15.91	156	14059	4.87	ug/kg	97
81) 1,3,5-Trimethylbenzene	15.97	105	34195	3.88	ug/kg	93
82) 2-Chlorotoluene	16.06	91	33495	4.11	ug/kg	95
83) 4-Chlorotoluene	16.22	91	34731	4.11	ug/kg	95
84) 1,2,4-Trimethylbenzene	16.42	105	35453	3.75	ug/kg	95
85) s-Butylbenzene	16.56	105	40641	3.74	ug/kg	91
86) tert-Butylbenzene	16.36	119	28381	4.15	ug/kg	98
87) p-Isopropyltoluene	16.67	119	34408	4.18	ug/kg	97
88) 1,3-Dichlorobenzene	16.92	146	22965	5.17	ug/kg	95
89) 1,4-Dichlorobenzene	17.02	146	23397	4.94	ug/kg	97
90) 1,2-Dichlorobenzene	17.59	146	21231	5.20	ug/kg	94
91) N-Butylbenzene	17.19	91	30893	3.45	ug/kg	97
92) DBCP	18.70	75	2213	5.47	ug/kg	83
93) Naphthalene	20.72	128	14997	5.07	ug/kg	100
94) 1,2,4-Trichlorobenzene	20.00	180	10448	5.24	ug/kg	97
95) Hexachlorobutadiene	19.85	225	5027	7.37	ug/kg	99
96) 1,2,3-Trichlorobenzene	21.15	180	7668	5.76	ug/kg	90

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\091420\202II010.D Vial: 4
Acq On : 14 Sep 2020 2:18 pm Operator: KG
Sample : CAL3 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 14 14:40 2020 Quant Results File: 091420.RES

Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\091420\202II011.D Vial: 5
Acq On : 14 Sep 2020 2:47 pm Operator: KG
Sample : CAL4 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 14 15:32 2020 Quant Results File: 091420.RES

Quant Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Mon Sep 14 13:46:53 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.49	168	277122	50.00	ug/kg	0.00
38) 1,4-Difluorobenzene(IS)	12.04	114	371228	50.00	ug/kg	0.00
56) Chlorobenzene-d5(IS)	14.63	82	206805	50.00	ug/kg	0.00
79) 1,4-Dichlorobenzene-d4(IS)	17.00	152	178283	50.00	ug/kg	0.00
System Monitoring Compounds						
30) Dibromofluoromethane	11.09	113	112223	40.88	ug/kg	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 81.76%			
54) D8-Toluene	13.25	98	376005	46.03	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 146		Recovery = 92.06%			
75) Bromofluorobenzene	15.75	95	155039	49.66	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 142		Recovery = 99.32%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.92	85	34833	8.71	ug/kg	97
3) Chloromethane	6.40	50	42182	12.74	ug/kg	100
4) Vinyl Chloride	6.59	62	31795	7.08	ug/kg	93
5) Bromomethane	7.24	96	12095	3.48	ug/kg	99
6) Chloroethane	7.47	64	19649	5.58	ug/kg	95
7) Trichlorofluoromethane	7.73	101	33077	3.56	ug/kg	97
8) Trichlorotrifluoroethane	8.56	101	18471	9.58	ug/kg	72
9) acrolein	8.92	56	42811	75.49	ug/kg	97
10) Acetone	9.28	43	36850	51.32	ug/kg	99
11) 1,1-Dichloroethene	8.51	96	16287	8.87	ug/kg#	71
12) 3-Chloropropene	9.11	76	12284	7.09	ug/kg	65
13) Acetonitrile	9.83	41	31932	100.02	ug/kg	98
14) Iodomethane	8.74	142	137684	89.51	ug/kg	87
15) Carbon disulfide	8.63	76	350204	44.44	ug/kg	98
16) Methylene Chloride	9.24	84	23668	8.62	ug/kg	82
17) Methyl tert-butyl ether	9.55	73	39297	7.05	ug/kg	98
18) Acrylonitrile	10.14	53	132287	101.08	ug/kg	100
19) T-1,2-Dichloroethene	9.46	96	19025	7.57	ug/kg	73
20) Isopropyl Ether	9.93	45	91168	9.64	ug/kg	93
21) C-1,2-Dichloroethene	10.70	96	21519	7.05	ug/kg#	78
22) 1,1-Dichloroethane	10.14	63	39936	8.79	ug/kg	97
23) Vinyl Acetate	10.33	43	346858	48.67	ug/kg	94
24) Chloroprene	10.12	88	19498	7.79	ug/kg	45
25) 2-Butanone	11.20	72	13033	42.26	ug/kg	98
26) Propionitrile	11.48	54	32876	89.32	ug/kg	100
27) 2,2-Dichloropropane	10.82	77	30270	8.90	ug/kg	100
28) Methacrylonitrile	11.51	67	97923	82.86	ug/kg	93
29) Chloroform	10.91	83	38016	7.99	ug/kg	92
31) Dibromofluoromethane	11.09	113	112223	40.88	ug/kg	100
32) Bromochloromethane	10.89	128	10846	8.52	ug/kg	87
33) 1,1,1-Trichloroethane	11.20	97	27765	7.61	ug/kg	95
34) 1,1-Dichloropropene	11.31	75	29140	8.83	ug/kg	94
35) Diethyl Ether	8.15	59	19125	10.45	ug/kg	96
36) Methyl Acetate	9.41	74	4568	8.05	ug/kg	91
37) Cyclohexane	10.98	56	32335	10.77	ug/kg	86
39) Methyl Cyclohexane	12.09	55	23992	12.18	ug/kg#	74
40) Carbon Tetrachloride	11.17	117	26183	8.50	ug/kg	97
41) 1,2-Dichloroethane	11.69	62	29613	11.51	ug/kg	93
42) Benzene	11.55	78	78184	8.61	ug/kg	90
43) Isobutyl Alcohol	11.56	43	21890	147.93	ug/kg#	14
44) Trichloroethene	12.07	130	18985	9.77	ug/kg	85
45) 1,2-Dichloropropane	12.51	63	23148	9.39	ug/kg	96
46) Methyl Methacrylate	12.58	100	6358	8.73	ug/kg	68
47) 1,4-Dioxane	12.72	88	4054	205.23	ug/kg#	74
48) Bromodichloromethane	12.53	83	27806	8.38	ug/kg	96
49) Dibromomethane	12.44	93	14264	7.82	ug/kg	85
50) 4-Methyl-2-Pentanone	13.53	100	16482	39.22	ug/kg	58
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	14.23	43	94969	52.49	ug/kg	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\091420\202II011.D Vial: 5
Acq On : 14 Sep 2020 2:47 pm Operator: KG
Sample : CAL4 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 14 15:32 2020 Quant Results File: 091420.RES

Quant Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Mon Sep 14 13:46:53 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

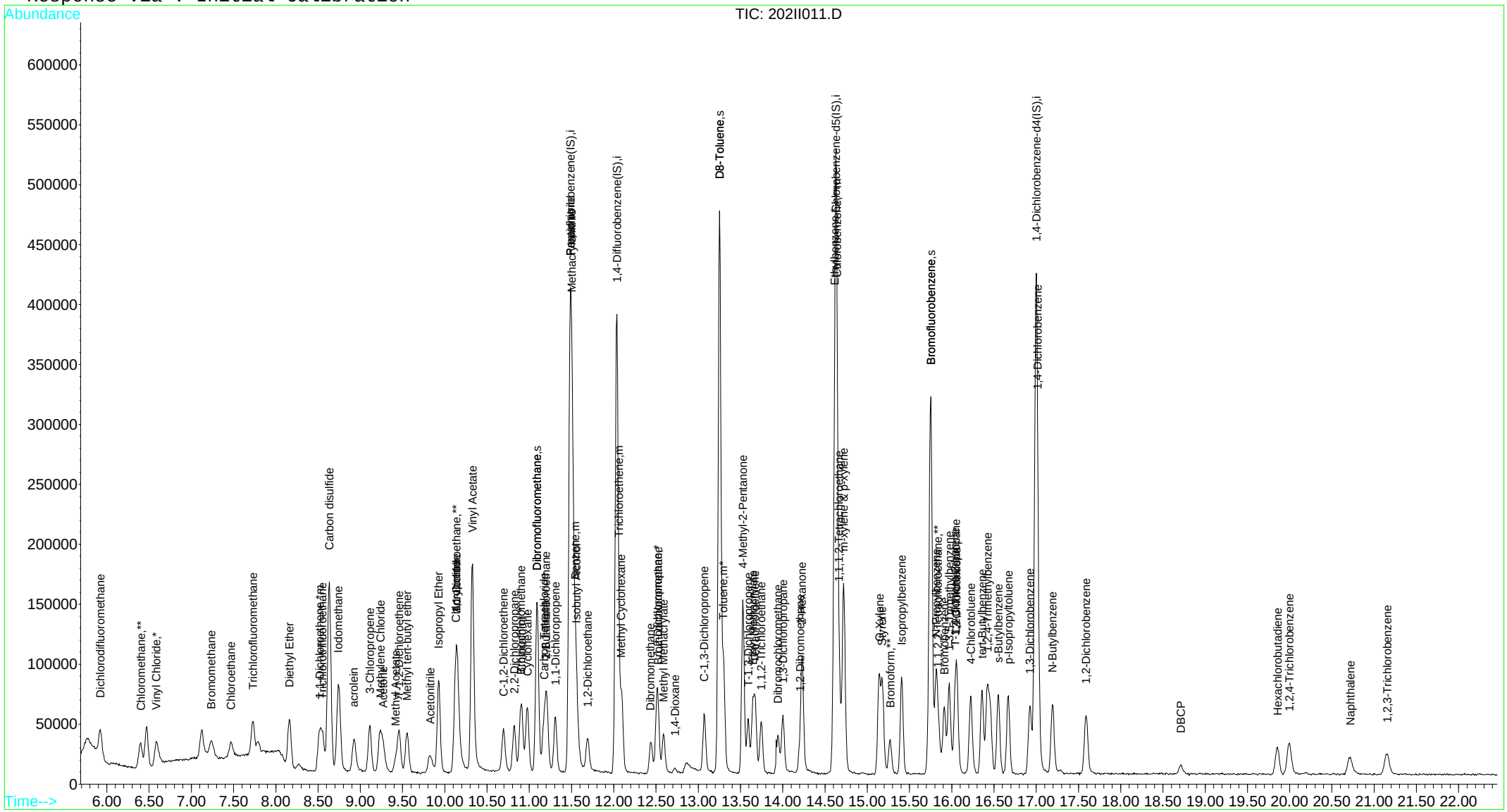
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.07	75	36526	9.02	ug/kg	92
55) D8-Toluene	13.25	98	376005	46.03	ug/kg	94
57) Toluene	13.30	92	46386	7.48	ug/kg	94
58) Ethyl Methacrylate	13.65	69	33910	10.16	ug/kg	94
59) T-1,3-Dichloropropene	13.59	75	33073	8.98	ug/kg	93
60) 1,1,2-Trichloroethane	13.75	97	17278	7.45	ug/kg	98
61) 1,3-Dichloropropane	14.00	76	37366	9.11	ug/kg	97
62) Tetrachloroethene	13.68	164	17897	8.48	ug/kg	98
63) Dibromochloromethane	13.94	129	20634	8.95	ug/kg#	92
64) 1,2-Dibromoethane	14.20	107	20527	8.03	ug/kg#	99
65) Chlorobenzene	14.65	112	49988	7.92	ug/kg	88
66) 1,1,1,2-Tetrachloroethane	14.67	131	18219	9.01	ug/kg#	1
67) Ethylbenzene	14.61	106	25321	7.45	ug/kg	100
68) m-xylene & p-xylene	14.72	106	61280	15.49	ug/kg	99
69) O-Xylene	15.14	106	30092	7.74	ug/kg	92
70) Bromoform	15.27	173	15717	9.70	ug/kg	98
71) Styrene	15.18	104	54997	7.47	ug/kg	91
72) Isopropylbenzene	15.41	105	76136	7.96	ug/kg	96
73) 1,2,3-Trichloropropane	16.04	75	28200	8.97	ug/kg	100
74) 1,1,2,2-Tetrachloroethane	15.84	83	23349	7.39	ug/kg	97
76) Bromofluorobenzene	15.75	95	155039	49.66	ug/kg	88
77) T-1,4-dichloro-2-butene	16.03	53	6930	12.98	ug/kg#	53
78) N-Propylbenzene	15.82	91	91956	7.90	ug/kg	95
80) Bromobenzene	15.91	156	24428	8.32	ug/kg	100
81) 1,3,5-Trimethylbenzene	15.97	105	58755	6.56	ug/kg	92
82) 2-Chlorotoluene	16.06	91	57006	6.88	ug/kg	94
83) 4-Chlorotoluene	16.23	91	58666	6.84	ug/kg	94
84) 1,2,4-Trimethylbenzene	16.42	105	59622	6.21	ug/kg	91
85) s-Butylbenzene	16.55	105	70188	6.36	ug/kg	89
86) tert-Butylbenzene	16.36	119	50699	7.30	ug/kg	97
87) p-Isopropyltoluene	16.67	119	59301	7.10	ug/kg	96
88) 1,3-Dichlorobenzene	16.92	146	39156	8.68	ug/kg	95
89) 1,4-Dichlorobenzene	17.02	146	41126	8.55	ug/kg	96
90) 1,2-Dichlorobenzene	17.59	146	36595	8.82	ug/kg	94
91) N-Butylbenzene	17.19	91	55659	6.11	ug/kg	97
92) DBCP	18.70	75	3725	9.07	ug/kg	84
93) Naphthalene	20.72	128	26701	8.88	ug/kg	100
94) 1,2,4-Trichlorobenzene	20.00	180	19159	9.46	ug/kg	98
95) Hexachlorobutadiene	19.86	225	8652	12.48	ug/kg	100
96) 1,2,3-Trichlorobenzene	21.15	180	14163	10.47	ug/kg	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\091420\202II011.D Vial: 5
Acq On : 14 Sep 2020 2:47 pm Operator: KG
Sample : CAL4 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 14 15:32 2020 Quant Results File: 091420.RES

Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\091420\202II012.D Vial: 6
Acq On : 14 Sep 2020 3:16 pm Operator: KG
Sample : CAL5 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 15 6:59 2020 Quant Results File: 091420.RES

Quant Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Mon Sep 14 13:46:53 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.48	168	289389	50.00	ug/kg	0.00
38) 1,4-Difluorobenzene(IS)	12.03	114	390999	50.00	ug/kg	0.00
56) Chlorobenzene-d5(IS)	14.63	82	216784	50.00	ug/kg	0.00
79) 1,4-Dichlorobenzene-d4(IS)	17.00	152	190885	50.00	ug/kg	-0.01
System Monitoring Compounds						
30) Dibromofluoromethane	11.09	113	151004	52.68	ug/kg	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 105.36%			
54) D8-Toluene	13.25	98	505260	58.73	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 146		Recovery = 117.46%			
75) Bromofluorobenzene	15.75	95	212301	64.87	ug/kg	-0.01
Spiked Amount 50.000	Range 41 - 142		Recovery = 129.74%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.92	85	80255	19.21	ug/kg	97
3) Chloromethane	6.40	50	92919	26.87	ug/kg	98
4) Vinyl Chloride	6.59	62	71541	15.25	ug/kg	97
5) Bromomethane	7.23	96	32418	8.94	ug/kg	96
6) Chloroethane	7.46	64	41819	11.36	ug/kg	98
7) Trichlorofluoromethane	7.72	101	75661	7.79	ug/kg	99
8) Trichlorotrifluoroethane	8.55	101	43228	21.48	ug/kg	73
9) acrolein	8.92	56	93240	157.45	ug/kg	99
10) Acetone	9.27	43	80928	107.93	ug/kg	97
11) 1,1-Dichloroethene	8.51	96	39236	20.45	ug/kg#	72
12) 3-Chloropropene	9.11	76	27402	15.14	ug/kg	72
13) Acetonitrile	9.82	41	67811	203.40	ug/kg	95
14) Iodomethane	8.74	142	340655	212.08	ug/kg	86
15) Carbon disulfide	8.63	76	786047	95.52	ug/kg	99
16) Methylene Chloride	9.24	84	52359	18.26	ug/kg	83
17) Methyl tert-butyl ether	9.55	73	99223	17.05	ug/kg	96
18) Acrylonitrile	10.14	53	294261	215.31	ug/kg	99
19) T-1,2-Dichloroethene	9.46	96	44653	17.01	ug/kg	73
20) Isopropyl Ether	9.93	45	211256	21.39	ug/kg	92
21) C-1,2-Dichloroethene	10.70	96	49576	15.55	ug/kg#	75
22) 1,1-Dichloroethane	10.13	63	92179	19.44	ug/kg	96
23) Vinyl Acetate	10.32	43	742284	99.73	ug/kg	94
24) Chloroprene	10.13	88	44254	16.93	ug/kg	49
25) 2-Butanone	11.20	72	28078	87.18	ug/kg	88
26) Propionitrile	11.47	54	73892	192.25	ug/kg	100
27) 2,2-Dichloropropane	10.82	77	69923	19.70	ug/kg	99
28) Methacrylonitrile	11.51	67	217399	176.15	ug/kg	93
29) Chloroform	10.92	83	86960	17.50	ug/kg	97
31) Dibromofluoromethane	11.09	113	151004	52.68	ug/kg	100
32) Bromochloromethane	10.90	128	25883	19.47	ug/kg	98
33) 1,1,1-Trichloroethane	11.21	97	64272	16.86	ug/kg	98
34) 1,1-Dichloropropene	11.30	75	67327	19.54	ug/kg	95
35) Diethyl Ether	8.16	59	44010	23.03	ug/kg	95
36) Methyl Acetate	9.41	74	9873	16.67	ug/kg	85
37) Cyclohexane	10.97	56	75273	24.01	ug/kg	88
39) Methyl Cyclohexane	12.10	55	59350	28.62	ug/kg#	75
40) Carbon Tetrachloride	11.17	117	62438	19.23	ug/kg	99
41) 1,2-Dichloroethane	11.69	62	69160	25.52	ug/kg	96
42) Benzene	11.55	78	184006	19.24	ug/kg	94
43) Isobutyl Alcohol	11.55	43	52069	334.09	ug/kg#	32
44) Trichloroethene	12.06	130	45718	22.34	ug/kg	91
45) 1,2-Dichloropropane	12.51	63	52895	20.37	ug/kg	97
46) Methyl Methacrylate	12.59	100	13656	17.81	ug/kg	67
47) 1,4-Dioxane	12.72	88	8239	396.01	ug/kg#	63
48) Bromodichloromethane	12.53	83	65040	18.61	ug/kg	99
49) Dibromomethane	12.43	93	34250	17.84	ug/kg	86
50) 4-Methyl-2-Pentanone	13.53	100	34846	78.72	ug/kg#	49
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.	d	
52) 2-Hexanone	14.23	43	212211	111.36	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\091420\202II012.D Vial: 6
Acq On : 14 Sep 2020 3:16 pm Operator: KG
Sample : CAL5 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 15 6:59 2020 Quant Results File: 091420.RES

Quant Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Mon Sep 14 13:46:53 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

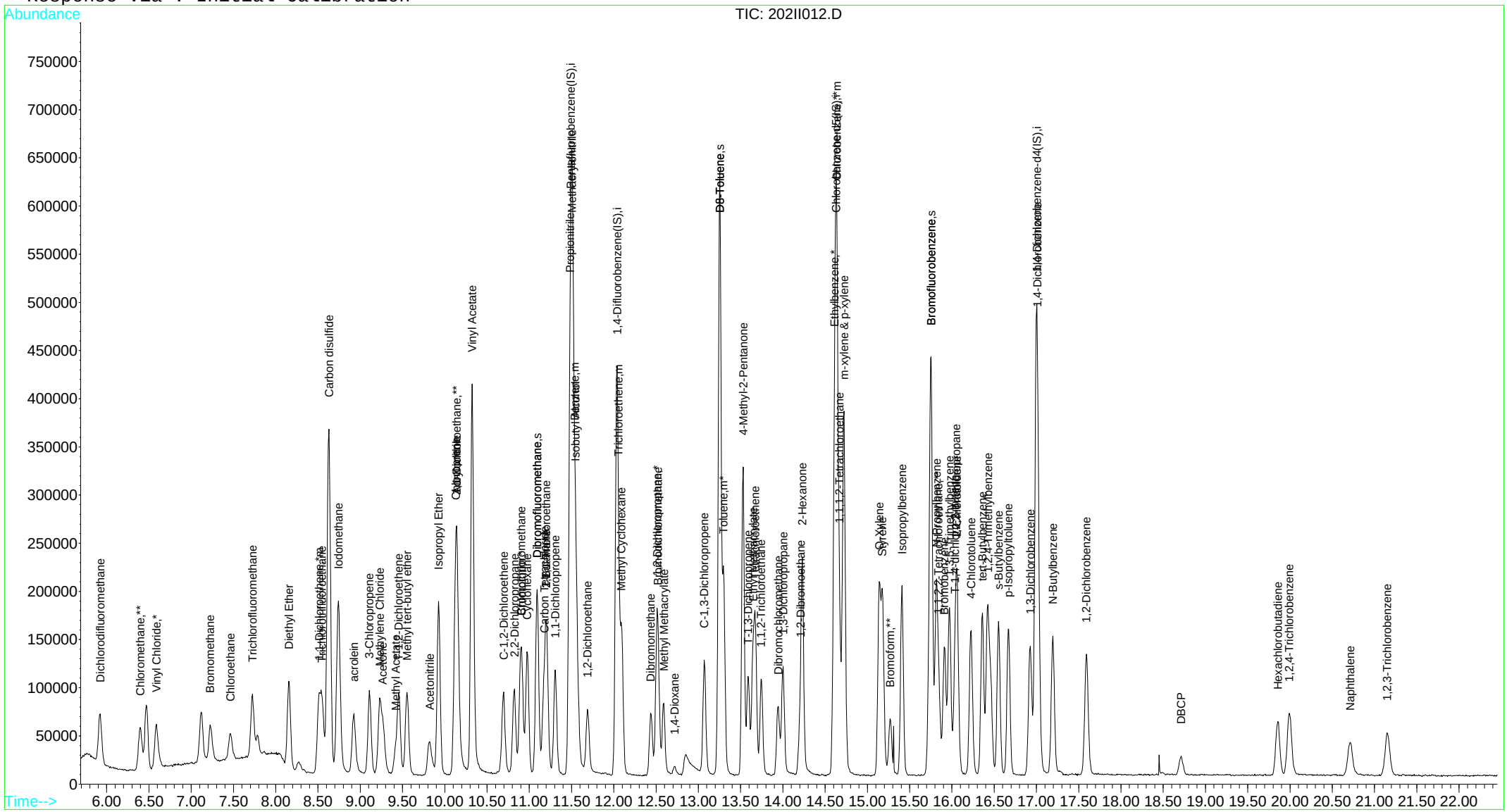
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	13.07	75	87546	20.53 ug/kg	94
55) D8-Toluene	13.25	98	505260	58.73 ug/kg	94
57) Toluene	13.30	92	110626	17.01 ug/kg	98
58) Ethyl Methacrylate	13.64	69	75135	21.47 ug/kg	100
59) T-1,3-Dichloropropene	13.59	75	76366	19.79 ug/kg	92
60) 1,1,2-Trichloroethane	13.75	97	40255	16.56 ug/kg	98
61) 1,3-Dichloropropane	14.00	76	86431	20.10 ug/kg	99
62) Tetrachloroethene	13.68	164	47768	21.58 ug/kg	99
63) Dibromochloromethane	13.95	129	50350	20.83 ug/kg	93
64) 1,2-Dibromoethane	14.20	107	46805	17.47 ug/kg	99
65) Chlorobenzene	14.65	112	115575	17.47 ug/kg	89
66) 1,1,1,2-Tetrachloroethane	14.67	131	42452	20.03 ug/kg#	1
67) Ethylbenzene	14.60	106	60959	17.12 ug/kg	99
68) m-xylene & p-xylene	14.72	106	144251	34.79 ug/kg	96
69) O-Xylene	15.14	106	73962	18.15 ug/kg	97
70) Bromoform	15.27	173	36400	21.43 ug/kg	99
71) Styrene	15.17	104	131302	17.02 ug/kg	92
72) Isopropylbenzene	15.41	105	179874	17.93 ug/kg	96
73) 1,2,3-Trichloropropane	16.04	75	65946	20.01 ug/kg	94
74) 1,1,2,2-Tetrachloroethane	15.85	83	54662	16.50 ug/kg	99
76) Bromofluorobenzene	15.75	95	212301	64.87 ug/kg#	85
77) T-1,4-dichloro-2-butene	16.03	53	15076	26.95 ug/kg#	62
78) N-Propylbenzene	15.82	91	218196	17.87 ug/kg	95
80) Bromobenzene	15.91	156	57973	18.45 ug/kg	97
81) 1,3,5-Trimethylbenzene	15.97	105	142242	14.83 ug/kg	94
82) 2-Chlorotoluene	16.06	91	134995	15.22 ug/kg	94
83) 4-Chlorotoluene	16.23	91	140935	15.35 ug/kg	94
84) 1,2,4-Trimethylbenzene	16.42	105	147365	14.33 ug/kg	94
85) s-Butylbenzene	16.55	105	169325	14.33 ug/kg	90
86) tert-Butylbenzene	16.36	119	119300	16.05 ug/kg	98
87) p-Isopropyltoluene	16.67	119	141470	15.81 ug/kg	96
88) 1,3-Dichlorobenzene	16.93	146	95525	19.77 ug/kg	94
89) 1,4-Dichlorobenzene	17.02	146	96449	18.73 ug/kg	94
90) 1,2-Dichlorobenzene	17.59	146	92337	20.79 ug/kg	94
91) N-Butylbenzene	17.19	91	132858	13.63 ug/kg	96
92) DBCP	18.71	75	9279	21.10 ug/kg	83
93) Naphthalene	20.71	128	65191	20.26 ug/kg	100
94) 1,2,4-Trichlorobenzene	19.99	180	46359	21.38 ug/kg	99
95) Hexachlorobutadiene	19.86	225	21666	29.20 ug/kg	98
96) 1,2,3-Trichlorobenzene	21.15	180	33669	23.25 ug/kg	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\091420\202II012.D Vial: 6
Acq On : 14 Sep 2020 3:16 pm Operator: KG
Sample : CAL5 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 15 6:59 2020 Quant Results File: 091420.RES

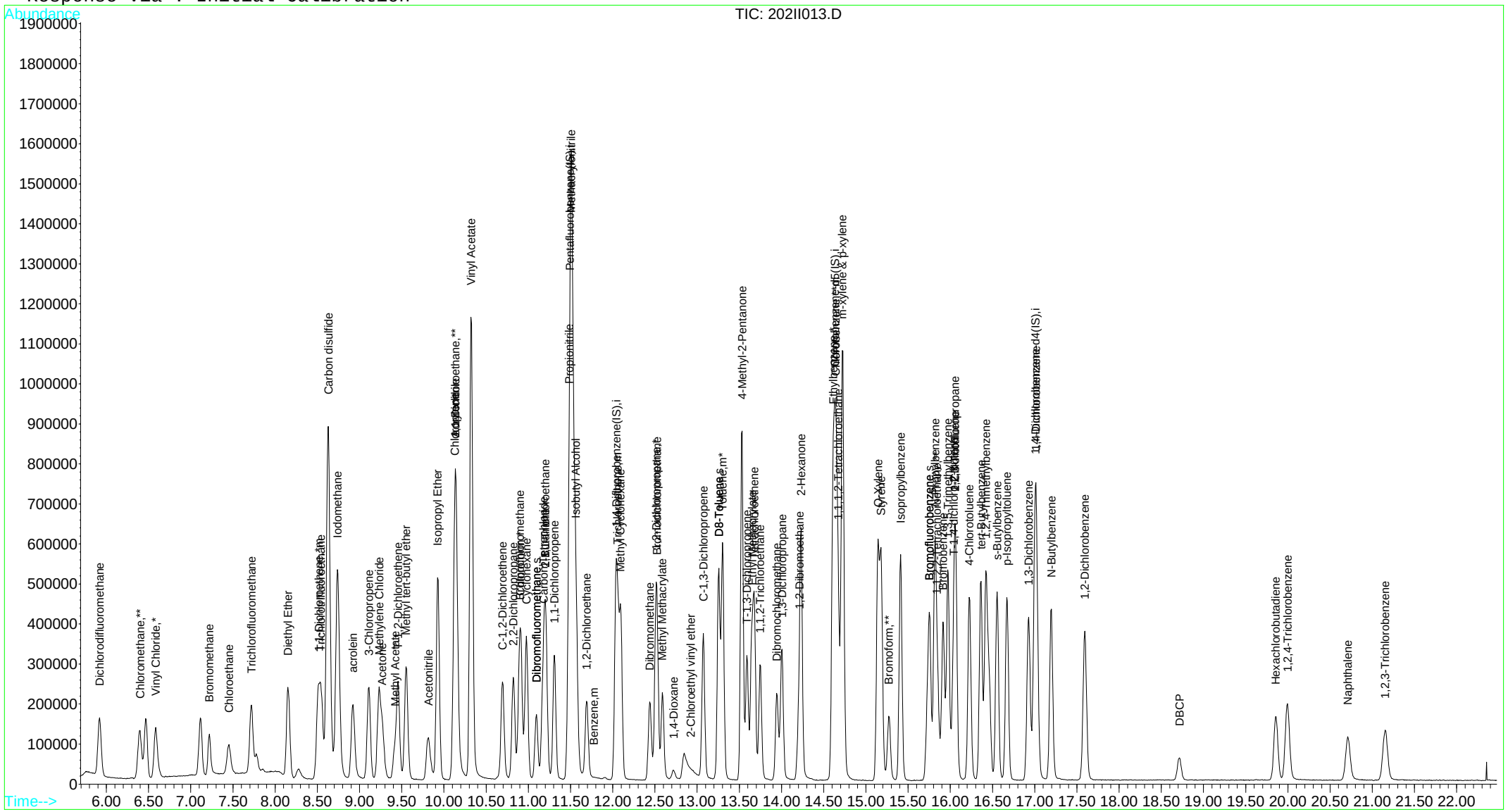
Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\091420\202II013.D Vial: 7
Acq On : 14 Sep 2020 3:44 pm Operator: KG
Sample : CAL6 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 15 10:35 2020 Quant Results File: 091420.RES

Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\091420\202II013.D Vial: 7
Acq On : 14 Sep 2020 3:44 pm Operator: KG
Sample : CAL6 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 15 10:35 2020 Quant Results File: 091420.RES

Quant Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Tue Sep 15 10:29:29 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.48	168	311184	50.00	ug/kg	0.00
38) 1,4-Difluorobenzene(IS)	12.04	114	429243	50.00	ug/kg	0.00
56) Chlorobenzene-d5(IS)	14.63	82	238086	50.00	ug/kg	0.00
79) 1,4-Dichlorobenzene-d4(IS)	17.00	152	211680	50.00	ug/kg	0.00
System Monitoring Compounds						
30) Dibromofluoromethane	11.10	113	125911	49.48	ug/kg	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 98.96%			
54) D8-Toluene	13.26	98	422590	49.72	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 146		Recovery = 99.44%			
75) Bromofluorobenzene	15.76	95	184741	50.93	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 142		Recovery = 101.86%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.92	85	226038	50.67	ug/kg	100
3) Chloromethane	6.39	50	247007	47.07	ug/kg	100
4) Vinyl Chloride	6.58	62	200610	48.30	ug/kg	99
5) Bromomethane	7.22	96	81356	49.86	ug/kg	99
6) Chloroethane	7.45	64	120296	49.92	ug/kg	100
7) Trichlorofluoromethane	7.72	101	214461	51.06	ug/kg	100
8) Trichlorotrifluoroethane	8.55	101	120537	49.75	ug/kg	100
9) acrolein	8.92	56	279623	524.48	ug/kg	100
10) Acetone	9.27	43	217018	248.29	ug/kg	100
11) 1,1-Dichloroethene	8.51	96	112730	50.25	ug/kg	100
12) 3-Chloropropene	9.11	76	73514	49.01	ug/kg	100
13) Acetonitrile	9.82	41	200097	483.38	ug/kg	100
14) Iodomethane	8.74	142	1016169	275.03	ug/kg	100
15) Carbon disulfide	8.63	76	2117268	250.96	ug/kg	100
16) Methylene Chloride	9.23	84	148072	49.62	ug/kg	100
17) Methyl tert-butyl ether	9.55	73	326966	48.64	ug/kg	99
18) Acrylonitrile	10.14	53	820532	505.34	ug/kg	100
19) T-1,2-Dichloroethene	9.46	96	129242	49.52	ug/kg	100
20) Isopropyl Ether	9.92	45	611407	50.84	ug/kg	100
21) C-1,2-Dichloroethene	10.69	96	143285	50.80	ug/kg	100
22) 1,1-Dichloroethane	10.14	63	261337	48.61	ug/kg	100
23) Vinyl Acetate	10.32	43	1970566	245.95	ug/kg	100
24) Chloroprene	10.12	88	121810	51.25	ug/kg	100
25) 2-Butanone	11.19	72	76025	242.03	ug/kg	100
26) Propionitrile	11.48	54	205418	522.72	ug/kg	100
27) 2,2-Dichloropropane	10.82	77	200118	48.53	ug/kg	99
28) Methacrylonitrile	11.51	67	597595	506.21	ug/kg	100
29) Chloroform	10.91	83	247874	49.18	ug/kg	100
31) Dibromofluoromethane	11.10	113	125911	49.48	ug/kg	100
32) Bromochloromethane	10.89	128	74398	50.47	ug/kg	99
33) 1,1,1-Trichloroethane	11.21	97	182257	49.91	ug/kg	100
34) 1,1-Dichloropropene	11.31	75	191764	48.53	ug/kg	100
35) Diethyl Ether	8.14	59	119784	47.68	ug/kg	100
36) Methyl Acetate	9.42	74	28053	48.50	ug/kg	99
37) Cyclohexane	10.98	56	214770	49.19	ug/kg	100
39) Methyl Cyclohexane	12.10	55	159360	47.29	ug/kg	100
40) Carbon Tetrachloride	11.17	117	179763	50.38	ug/kg	100
41) 1,2-Dichloroethane	11.69	62	202682	49.94	ug/kg	100
42) Benzene	11.77	78	473	0.04	ug/kg	100
43) Isobutyl Alcohol	11.57	43	166426	964.91	ug/kg	100
44) Trichloroethene	12.06	130	134248	49.66	ug/kg	100
45) 1,2-Dichloropropane	12.51	63	155748	49.42	ug/kg	100
46) Methyl Methacrylate	12.59	100	39407	52.99	ug/kg	100
47) 1,4-Dioxane	12.72	88	24538	1039.86	ug/kg	100
48) Bromodichloromethane	12.53	83	195350	51.81	ug/kg	100
49) Dibromomethane	12.44	93	99693	50.58	ug/kg	100
50) 4-Methyl-2-Pentanone	13.53	100	99852	244.02	ug/kg	100
51) 2-Chloroethyl vinyl ether	12.93	63	1252	112.92	ug/kg#	100
52) 2-Hexanone	14.23	43	580545	253.99	ug/kg	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\091420\202II013.D Vial: 7
Acq On : 14 Sep 2020 3:44 pm Operator: KG
Sample : CAL6 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 15 10:35 2020 Quant Results File: 091420.RES

Quant Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Tue Sep 15 10:29:29 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

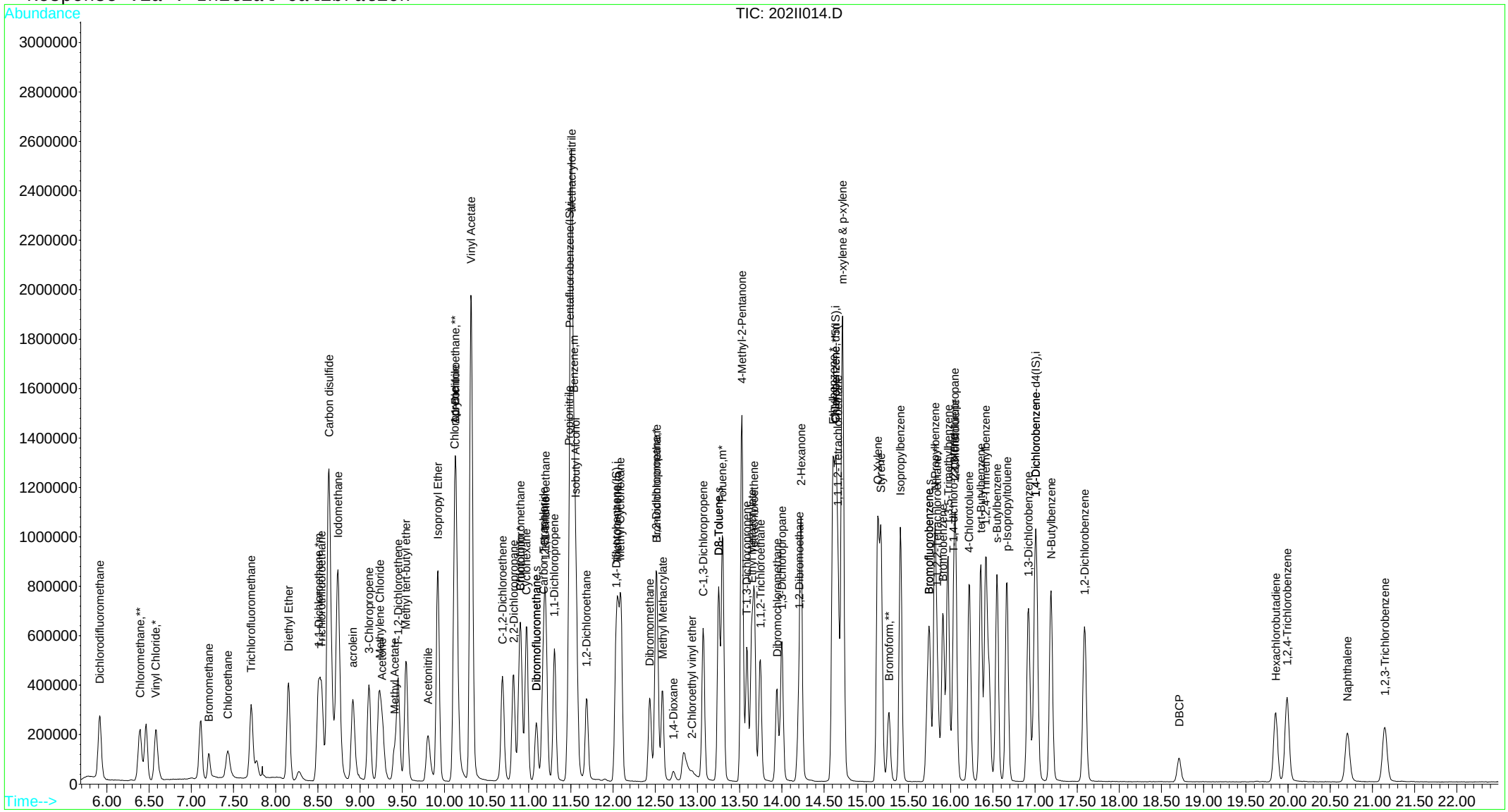
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.07	75	261421	51.05	ug/kg	100
55) D8-Toluene	13.26	98	422590	49.72	ug/kg	94
57) Toluene	13.30	92	321778	50.44	ug/kg	100
58) Ethyl Methacrylate	13.65	69	206185	49.47	ug/kg	100
59) T-1,3-Dichloropropene	13.59	75	226599	50.47	ug/kg	100
60) 1,1,2-Trichloroethane	13.74	97	115638	49.29	ug/kg	99
61) 1,3-Dichloropropane	14.01	76	250146	49.91	ug/kg	100
62) Tetrachloroethene	13.67	164	140306	53.92	ug/kg	100
63) Dibromochloromethane	13.94	129	149077	51.25	ug/kg	100
64) 1,2-Dibromoethane	14.20	107	139117	52.30	ug/kg	100
65) Chlorobenzene	14.65	112	335539	49.54	ug/kg	100
66) 1,1,1,2-Tetrachloroethane	14.68	131	122346	50.68	ug/kg	100
67) Ethylbenzene	14.61	106	175412	50.51	ug/kg	100
68) m-xylene & p-xylene	14.73	106	419079	100.88	ug/kg	100
69) O-Xylene	15.14	106	216550	51.22	ug/kg	100
70) Bromoform	15.27	173	109402	52.14	ug/kg	100
71) Styrene	15.18	104	384689	51.29	ug/kg	100
72) Isopropylbenzene	15.41	105	526102	50.66	ug/kg	100
73) 1,2,3-Trichloropropane	16.05	75	200313	50.28	ug/kg	100
74) 1,1,2,2-Tetrachloroethane	15.85	83	159726	49.69	ug/kg	100
76) Bromofluorobenzene	15.76	95	184741	50.93	ug/kg#	75
77) T-1,4-dichloro-2-butene	16.03	53	46138	50.07	ug/kg	100
78) N-Propylbenzene	15.82	91	658433	51.84	ug/kg	100
80) Bromobenzene	15.91	156	170947	50.20	ug/kg	100
81) 1,3,5-Trimethylbenzene	15.97	105	422103	50.46	ug/kg	100
82) 2-Chlorotoluene	16.06	91	394466	49.38	ug/kg	100
83) 4-Chlorotoluene	16.22	91	413205	49.04	ug/kg	100
84) 1,2,4-Trimethylbenzene	16.42	105	439820	51.46	ug/kg	100
85) s-Butylbenzene	16.56	105	498140	49.84	ug/kg	100
86) tert-Butylbenzene	16.36	119	356245	50.74	ug/kg	100
87) p-Isopropyltoluene	16.67	119	420494	50.11	ug/kg	100
88) 1,3-Dichlorobenzene	16.93	146	283493	50.56	ug/kg	100
89) 1,4-Dichlorobenzene	17.02	146	287378	49.26	ug/kg	100
90) 1,2-Dichlorobenzene	17.59	146	269023	51.14	ug/kg	100
91) N-Butylbenzene	17.20	91	396213	50.78	ug/kg	100
92) DBCP	18.72	75	26037	50.08	ug/kg	100
93) Naphthalene	20.71	128	194559	48.71	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.99	180	132480	49.07	ug/kg	100
95) Hexachlorobutadiene	19.86	225	61390	48.46	ug/kg	100
96) 1,2,3-Trichlorobenzene	21.15	180	93937	46.85	ug/kg	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\091420\202II014.D Vial: 8
Acq On : 14 Sep 2020 4:13 pm Operator: KG
Sample : CAL7 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 14 16:36 2020 Quant Results File: 091420.RES

Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\091420\202II014.D Vial: 8
Acq On : 14 Sep 2020 4:13 pm Operator: KG
Sample : CAL7 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 14 16:36 2020 Quant Results File: 091420.RES

Quant Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Mon Sep 14 13:46:53 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.48	168	322300	50.00	ug/kg	0.00
38) 1,4-Difluorobenzene(IS)	12.03	114	450141	50.00	ug/kg	0.00
56) Chlorobenzene-d5(IS)	14.63	82	249783	50.00	ug/kg	0.00
79) 1,4-Dichlorobenzene-d4(IS)	17.00	152	218794	50.00	ug/kg	0.00
System Monitoring Compounds						
30) Dibromofluoromethane	11.09	113	185096	57.98	ug/kg	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 115.96%			
54) D8-Toluene	13.25	98	614411	62.03	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 146		Recovery = 124.06%			
75) Bromofluorobenzene	15.75	95	270425	71.71	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 142		Recovery = 143.42%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.91	85	389156	83.62	ug/kg	98
3) Chloromethane	6.39	50	418553	108.66	ug/kg	97
4) Vinyl Chloride	6.58	62	343155	65.69	ug/kg	99
5) Bromomethane	7.21	96	81856	20.26	ug/kg	96
6) Chloroethane	7.43	64	196439	47.92	ug/kg	97
7) Trichlorofluoromethane	7.71	101	360309	33.30	ug/kg	99
8) Trichlorotrifluoroethane	8.55	101	211600	94.39	ug/kg	73
9) acrolein	8.91	56	488346	740.45	ug/kg	99
10) Acetone	9.27	43	361358	432.72	ug/kg	98
11) 1,1-Dichloroethene	8.51	96	192725	90.20	ug/kg#	72
12) 3-Chloropropene	9.11	76	123382	61.23	ug/kg	65
13) Acetonitrile	9.80	41	342142	921.47	ug/kg	99
14) Iodomethane	8.74	142	1633886	913.33	ug/kg	86
15) Carbon disulfide	8.63	76	3531312	385.29	ug/kg	99
16) Methylene Chloride	9.23	84	248977	77.98	ug/kg	83
17) Methyl tert-butyl ether	9.54	73	567991	87.62	ug/kg	99
18) Acrylonitrile	10.14	53	1353033	888.92	ug/kg	100
19) T-1,2-Dichloroethene	9.45	96	221716	75.84	ug/kg	74
20) Isopropyl Ether	9.92	45	1041134	94.65	ug/kg	92
21) C-1,2-Dichloroethene	10.69	96	249466	70.27	ug/kg#	76
22) 1,1-Dichloroethane	10.13	63	441166	83.53	ug/kg	97
23) Vinyl Acetate	10.31	43	3278844	395.56	ug/kg	95
24) Chloroprene	10.12	88	207249	71.20	ug/kg	53
25) 2-Butanone	11.19	72	126407	352.39	ug/kg	90
26) Propionitrile	11.47	54	348440	813.98	ug/kg	100
27) 2,2-Dichloropropane	10.82	77	343053	86.77	ug/kg	98
28) Methacrylonitrile	11.51	67	982829	715.03	ug/kg	94
29) Chloroform	10.91	83	419249	75.75	ug/kg	97
31) Dibromofluoromethane	11.09	113	185096	57.98	ug/kg	100
32) Bromochloromethane	10.89	128	126145	85.21	ug/kg	97
33) 1,1,1-Trichloroethane	11.20	97	319249	75.21	ug/kg	99
34) 1,1-Dichloropropene	11.30	75	335623	87.44	ug/kg	95
35) Diethyl Ether	8.15	59	219153	102.99	ug/kg	95
36) Methyl Acetate	9.40	74	47846	72.54	ug/kg	78
37) Cyclohexane	10.98	56	379429	108.66	ug/kg	88
39) Methyl Cyclohexane	12.09	55	284146	119.01	ug/kg#	76
40) Carbon Tetrachloride	11.17	117	313699	83.94	ug/kg	100
41) 1,2-Dichloroethane	11.68	62	345747	110.83	ug/kg	96
42) Benzene	11.54	78	876986	79.63	ug/kg	96
43) Isobutyl Alcohol	11.56	43	294435	1640.98	ug/kg#	83
44) Trichloroethene	12.06	130	235903	100.14	ug/kg	84
45) 1,2-Dichloropropane	12.51	63	263867	88.26	ug/kg	97
46) Methyl Methacrylate	12.59	100	67455	76.39	ug/kg	75
47) 1,4-Dioxane	12.71	88	40223	1679.31	ug/kg#	73
48) Bromodichloromethane	12.52	83	330206	82.06	ug/kg	99
49) Dibromomethane	12.43	93	168623	76.27	ug/kg#	84
50) 4-Methyl-2-Pentanone	13.53	100	163782	321.39	ug/kg	55
51) 2-Chloroethyl vinyl ether	12.94	63	5099	32.07	ug/kg	83
52) 2-Hexanone	14.23	43	973109	443.55	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\091420\202II014.D Vial: 8
Acq On : 14 Sep 2020 4:13 pm Operator: KG
Sample : CAL7 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 14 16:36 2020 Quant Results File: 091420.RES

Quant Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Mon Sep 14 13:46:53 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

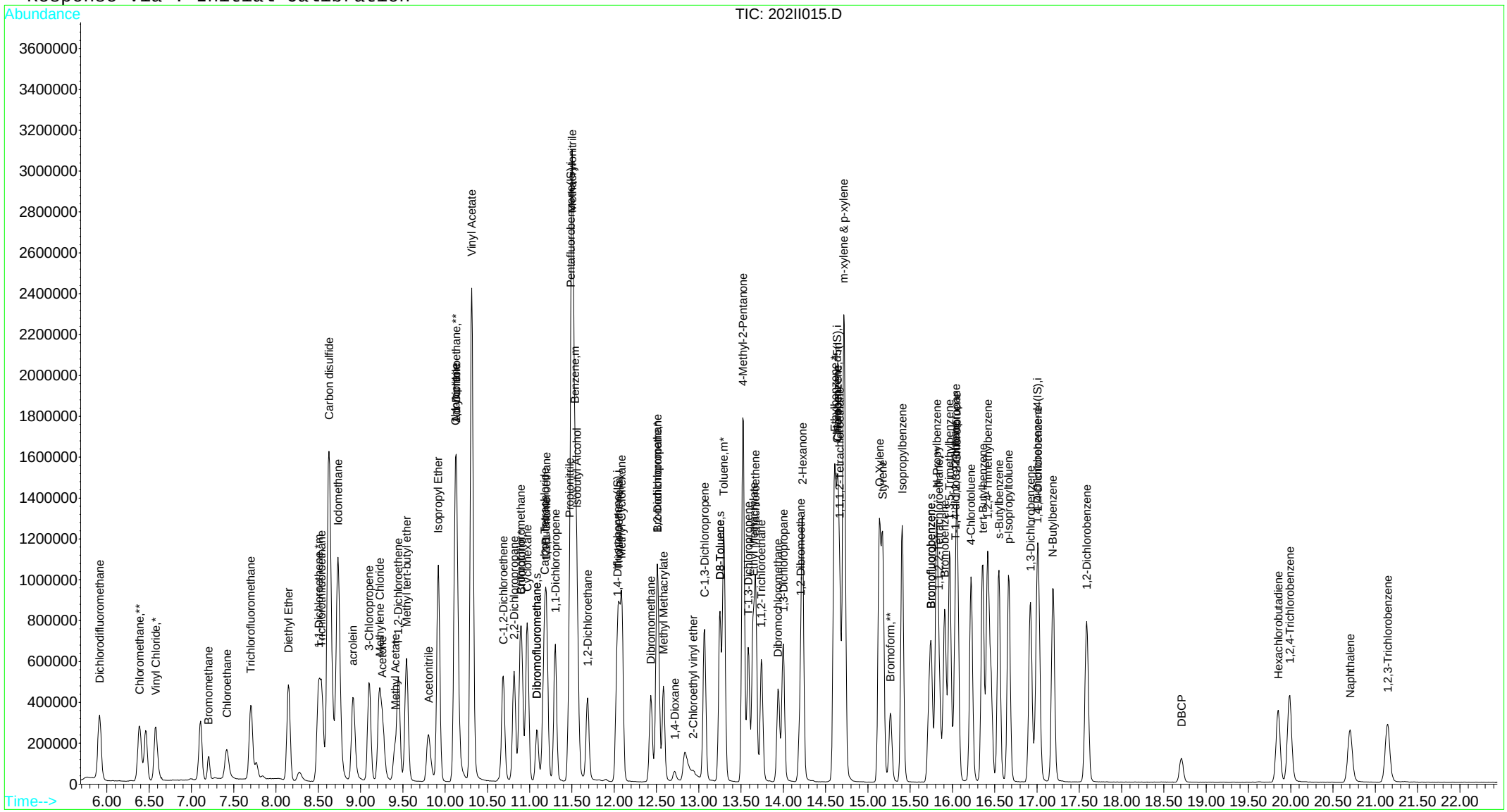
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	13.07	75	448667	91.41 ug/kg	94
55) D8-Toluene	13.25	98	614411	62.03 ug/kg	93
57) Toluene	13.30	92	549820	73.39 ug/kg	98
58) Ethyl Methacrylate	13.64	69	349347	86.64 ug/kg	98
59) T-1,3-Dichloropropene	13.58	75	388597	87.40 ug/kg	92
60) 1,1,2-Trichloroethane	13.75	97	200890	71.74 ug/kg	98
61) 1,3-Dichloropropane	14.00	76	422564	85.30 ug/kg	98
62) Tetrachloroethene	13.67	164	237438	93.12 ug/kg	100
63) Dibromochloromethane	13.94	129	256075	91.93 ug/kg	94
64) 1,2-Dibromoethane	14.20	107	238919	77.41 ug/kg	99
65) Chlorobenzene	14.64	112	576136	75.57 ug/kg	93
66) 1,1,1,2-Tetrachloroethane	14.67	131	211857	86.77 ug/kg#	71
67) Ethylbenzene	14.60	106	306081	74.60 ug/kg	99
68) m-xylene & p-xylene	14.72	106	727615	152.29 ug/kg	100
69) O-Xylene	15.14	106	386090	82.21 ug/kg	95
70) Bromoform	15.27	173	191788	97.98 ug/kg	99
71) Styrene	15.17	104	670365	75.43 ug/kg	91
72) Isopropylbenzene	15.41	105	940288	81.34 ug/kg	95
73) 1,2,3-Trichloropropane	16.04	75	336616	88.63 ug/kg	100
74) 1,1,2,2-Tetrachloroethane	15.84	83	271452	71.11 ug/kg	99
76) Bromofluorobenzene	15.75	95	270425	71.71 ug/kg#	71
77) T-1,4-dichloro-2-butene	16.03	53	78346	121.53 ug/kg#	57
78) N-Propylbenzene	15.81	91	1148640	81.65 ug/kg	95
80) Bromobenzene	15.91	156	293989	81.62 ug/kg	98
81) 1,3,5-Trimethylbenzene	15.97	105	725871	66.01 ug/kg	95
82) 2-Chlorotoluene	16.06	91	682851	67.15 ug/kg	94
83) 4-Chlorotoluene	16.22	91	726864	69.05 ug/kg	94
84) 1,2,4-Trimethylbenzene	16.42	105	763633	64.80 ug/kg	93
85) s-Butylbenzene	16.55	105	882427	65.15 ug/kg	90
86) tert-Butylbenzene	16.36	119	625840	73.45 ug/kg	98
87) p-Isopropyltoluene	16.67	119	744653	72.61 ug/kg	96
88) 1,3-Dichlorobenzene	16.92	146	489530	88.41 ug/kg	94
89) 1,4-Dichlorobenzene	17.02	146	492889	83.49 ug/kg	94
90) 1,2-Dichlorobenzene	17.59	146	458568	90.09 ug/kg	94
91) N-Butylbenzene	17.19	91	712131	63.72 ug/kg	96
92) DBCP	18.71	75	44156	87.60 ug/kg	88
93) Naphthalene	20.70	128	356022	96.51 ug/kg	100
94) 1,2,4-Trichlorobenzene	19.99	180	235520	94.78 ug/kg	98
95) Hexachlorobutadiene	19.85	225	111269	130.82 ug/kg	97
96) 1,2,3-Trichlorobenzene	21.15	180	169307	101.99 ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\091420\202II015.D Vial: 9
Acq On : 14 Sep 2020 4:42 pm Operator: KG
Sample : CAL8 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 14 17:04 2020 Quant Results File: 091420.RES

Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\091420\202II015.D Vial: 9
Acq On : 14 Sep 2020 4:42 pm Operator: KG
Sample : CAL8 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 14 17:04 2020 Quant Results File: 091420.RES

Quant Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Mon Sep 14 13:46:53 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.48	168	319497	50.00	ug/kg	0.00
38) 1,4-Difluorobenzene(IS)	12.03	114	450704	50.00	ug/kg	0.00
56) Chlorobenzene-d5(IS)	14.63	82	248607	50.00	ug/kg	0.00
79) 1,4-Dichlorobenzene-d4(IS)	17.00	152	220904	50.00	ug/kg	-0.01
System Monitoring Compounds						
30) Dibromofluoromethane	11.08	113	197346	62.35	ug/kg	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 124.70%			
54) D8-Toluene	13.25	98	666334	67.19	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 146		Recovery = 134.38%			
75) Bromofluorobenzene	15.75	95	292087	77.82	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 142		Recovery = 155.64%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.91	85	498436	108.05	ug/kg	98
3) Chloromethane	6.39	50	556567	145.75	ug/kg	97
4) Vinyl Chloride	6.58	62	439933	84.96	ug/kg	99
5) Bromomethane	7.21	96	85548	21.36	ug/kg	95
6) Chloroethane	7.42	64	251701	61.95	ug/kg	96
7) Trichlorofluoromethane	7.70	101	460429	42.93	ug/kg	98
8) Trichlorotrifluoroethane	8.54	101	257370	115.82	ug/kg	73
9) acrolein	8.91	56	617457	944.42	ug/kg	99
10) Acetone	9.26	43	450151	543.77	ug/kg	98
11) 1,1-Dichloroethene	8.50	96	237311	112.04	ug/kg#	73
12) 3-Chloropropene	9.10	76	155659	77.92	ug/kg	68
13) Acetonitrile	9.81	41	432061	1173.85	ug/kg	99
14) Iodomethane	8.73	142	2127453	1199.66	ug/kg	86
15) Carbon disulfide	8.63	76	4467761	491.74	ug/kg	99
16) Methylene Chloride	9.23	84	306569	96.86	ug/kg	83
17) Methyl tert-butyl ether	9.54	73	694733	108.11	ug/kg	98
18) Acrylonitrile	10.13	53	1659646	1099.93	ug/kg	100
19) T-1,2-Dichloroethene	9.45	96	272143	93.91	ug/kg	74
20) Isopropyl Ether	9.92	45	1272781	116.73	ug/kg	92
21) C-1,2-Dichloroethene	10.69	96	306149	87.00	ug/kg#	75
22) 1,1-Dichloroethane	10.12	63	535323	102.24	ug/kg#	68
23) Vinyl Acetate	10.31	43	3936904	479.12	ug/kg	95
24) Chloroprene	10.12	88	258306	89.52	ug/kg	57
25) 2-Butanone	11.19	72	158755	446.45	ug/kg	91
26) Propionitrile	11.47	54	428734	1010.34	ug/kg	100
27) 2,2-Dichloropropane	10.82	77	420787	107.36	ug/kg	99
28) Methacrylonitrile	11.50	67	1202079	882.22	ug/kg	95
29) Chloroform	10.91	83	514652	93.80	ug/kg	97
31) Dibromofluoromethane	11.08	113	197346	62.35	ug/kg	100
32) Bromochloromethane	10.89	128	153830	104.82	ug/kg	97
33) 1,1,1-Trichloroethane	11.20	97	389555	92.58	ug/kg	99
34) 1,1-Dichloropropene	11.30	75	414858	109.03	ug/kg	96
35) Diethyl Ether	8.15	59	269283	127.66	ug/kg	95
36) Methyl Acetate	9.40	74	60136	91.98	ug/kg	80
37) Cyclohexane	10.97	56	467612	135.08	ug/kg	85
39) Methyl Cyclohexane	12.09	55	344844	144.25	ug/kg#	77
40) Carbon Tetrachloride	11.17	117	386842	103.38	ug/kg	100
41) 1,2-Dichloroethane	11.68	62	421077	134.80	ug/kg	96
42) Benzene	11.54	78	1075531	97.54	ug/kg	96
43) Isobutyl Alcohol	11.56	43	365151	2032.57	ug/kg#	87
44) Trichloroethene	12.06	130	292260	123.91	ug/kg#	84
45) 1,2-Dichloropropane	12.50	63	323035	107.92	ug/kg	97
46) Methyl Methacrylate	12.58	100	82808	93.67	ug/kg	73
47) 1,4-Dioxane	12.72	88	51828	2161.12	ug/kg#	75
48) Bromodichloromethane	12.52	83	403181	100.07	ug/kg	99
49) Dibromomethane	12.43	93	206508	93.29	ug/kg#	85
50) 4-Methyl-2-Pentanone	13.53	100	203950	399.71	ug/kg	57
51) 2-Chloroethyl vinyl ether	12.94	63	8360	52.52	ug/kg	91
52) 2-Hexanone	14.23	43	1191212	542.28	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\091420\202II015.D Vial: 9
Acq On : 14 Sep 2020 4:42 pm Operator: KG
Sample : CAL8 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 14 17:04 2020 Quant Results File: 091420.RES

Quant Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Mon Sep 14 13:46:53 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

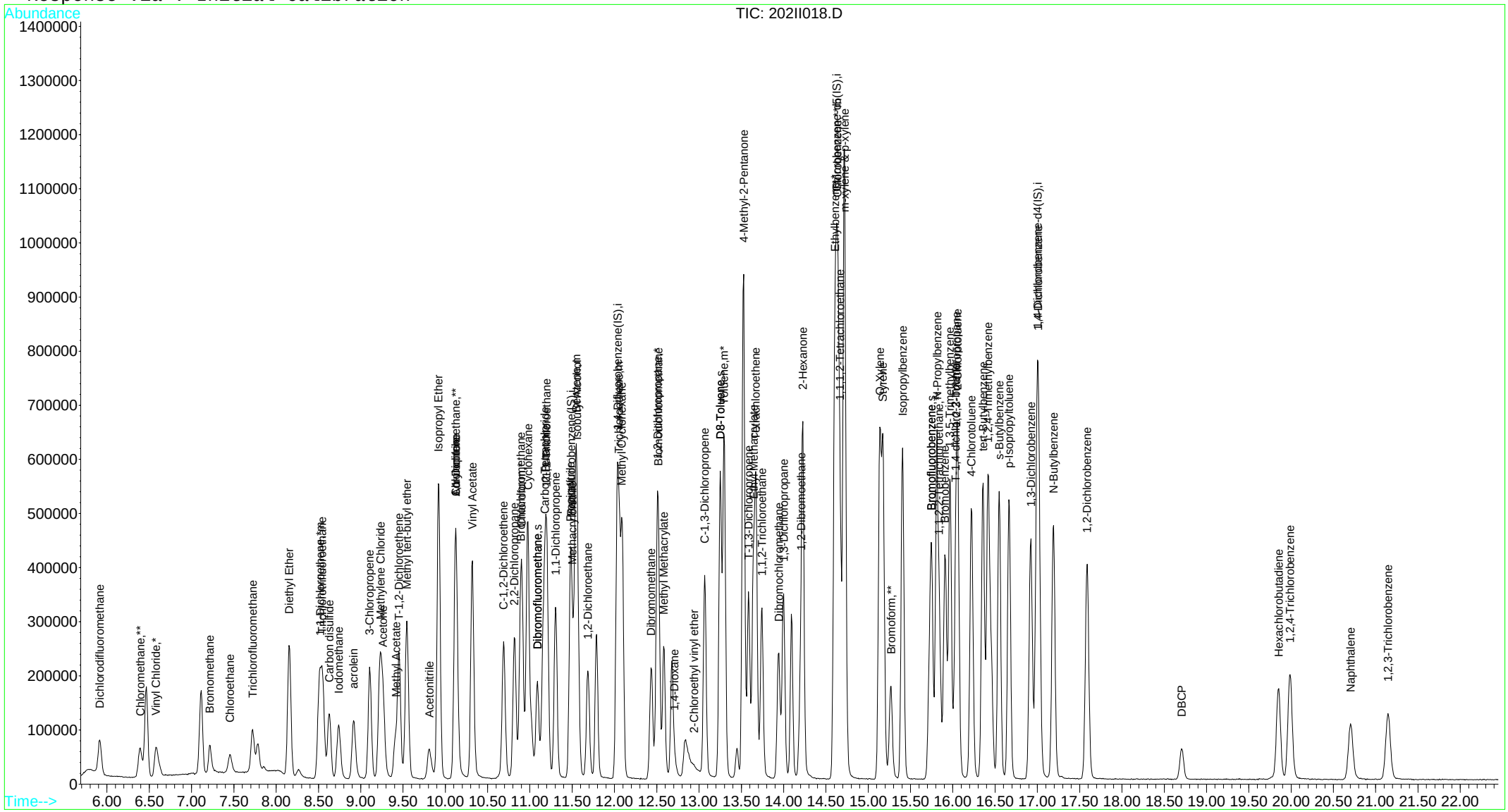
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	13.07	75	551412	112.21 ug/kg	94
55) D8-Toluene	13.25	98	666334	67.19 ug/kg	93
57) Toluene	13.29	92	679583	91.14 ug/kg	99
58) Ethyl Methacrylate	13.64	69	432195	107.69 ug/kg	98
59) T-1,3-Dichloropropene	13.58	75	473965	107.10 ug/kg	96
60) 1,1,2-Trichloroethane	13.74	97	243253	87.28 ug/kg	97
61) 1,3-Dichloropropane	14.00	76	512527	103.95 ug/kg	98
62) Tetrachloroethene	13.67	164	305489	120.37 ug/kg	99
63) Dibromochloromethane	13.94	129	312733	112.80 ug/kg	94
64) 1,2-Dibromoethane	14.20	107	290650	94.61 ug/kg	98
65) Chlorobenzene	14.64	112	699698	92.21 ug/kg	92
66) 1,1,1,2-Tetrachloroethane	14.67	131	254717	104.81 ug/kg#	74
67) Ethylbenzene	14.60	106	381551	93.44 ug/kg	97
68) m-xylene & p-xylene	14.72	106	892729	187.73 ug/kg	100
69) O-Xylene	15.14	106	467047	99.91 ug/kg	97
70) Bromoform	15.26	173	230665	118.40 ug/kg	99
71) Styrene	15.17	104	820107	92.72 ug/kg	92
72) Isopropylbenzene	15.41	105	1181241	102.67 ug/kg	96
73) 1,2,3-Trichloropropane	16.03	75	422078	111.65 ug/kg	99
74) 1,1,2,2-Tetrachloroethane	15.84	83	333796	87.85 ug/kg	99
76) Bromofluorobenzene	15.75	95	292087	77.82 ug/kg#	69
77) T-1,4-dichloro-2-butene	16.03	53	98768	153.94 ug/kg#	57
78) N-Propylbenzene	15.81	91	1425363	101.80 ug/kg	95
80) Bromobenzene	15.91	156	367374	101.03 ug/kg	97
81) 1,3,5-Trimethylbenzene	15.96	105	912171	82.16 ug/kg	95
82) 2-Chlorotoluene	16.06	91	855390	83.32 ug/kg	94
83) 4-Chlorotoluene	16.22	91	905486	85.20 ug/kg	94
84) 1,2,4-Trimethylbenzene	16.42	105	947976	79.67 ug/kg	94
85) s-Butylbenzene	16.55	105	1100413	80.47 ug/kg	90
86) tert-Butylbenzene	16.36	119	780911	90.78 ug/kg	98
87) p-Isopropyltoluene	16.66	119	932534	90.06 ug/kg	96
88) 1,3-Dichlorobenzene	16.92	146	619252	110.77 ug/kg	94
89) 1,4-Dichlorobenzene	17.02	146	614622	103.11 ug/kg	94
90) 1,2-Dichlorobenzene	17.59	146	577791	112.43 ug/kg	94
91) N-Butylbenzene	17.19	91	888790	78.76 ug/kg	96
92) DBCP	18.71	75	53378	104.88 ug/kg	93
93) Naphthalene	20.70	128	460146	123.54 ug/kg	100
94) 1,2,4-Trichlorobenzene	19.99	180	297873	118.73 ug/kg	98
95) Hexachlorobutadiene	19.85	225	139432	162.36 ug/kg	99
96) 1,2,3-Trichlorobenzene	21.15	180	218224	130.20 ug/kg	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\091420\202II018.D Vial: 12
Acq On : 14 Sep 2020 6:09 pm Operator: KG
Sample : SCV1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 15 9:52 2020 Quant Results File: 091420.RES

Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\091420\202II018.D Vial: 12
Acq On : 14 Sep 2020 6:09 pm Operator: KG
Sample : SCV1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 15 9:52 2020 Quant Results File: 091420.RES

Quant Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Sep 15 07:13:51 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.48	168	327535	50.00	ug/kg	0.00
38) 1,4-Difluorobenzene(IS)	12.03	114	454732	50.00	ug/kg	0.00
56) Chlorobenzene-d5(IS)	14.63	82	251986	50.00	ug/kg	0.00
79) 1,4-Dichlorobenzene-d4(IS)	16.99	152	221373	50.00	ug/kg	0.00
System Monitoring Compounds						
30) Dibromofluoromethane	11.09	113	134113	50.07	ug/kg	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 100.14%			
54) D8-Toluene	13.25	98	451520	50.14	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 146		Recovery = 100.28%			
75) Bromofluorobenzene	15.75	95	193688	50.45	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 142		Recovery = 100.90%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.91	85	95937	20.43	ug/kg	98
3) Chloromethane	6.39	50	111922	20.27	ug/kg	97
4) Vinyl Chloride	6.58	62	89638	20.50	ug/kg	99
5) Bromomethane	7.21	96	39380	22.93	ug/kg	94
6) Chloroethane	7.45	64	54016	21.30	ug/kg	98
7) Trichlorofluoromethane	7.72	101	95081	21.51	ug/kg	99
8) Trichlorotrifluoroethane	8.55	101	109945	43.12	ug/kg	99
9) acrolein	8.92	56	162264	289.16	ug/kg	97
10) Acetone	9.27	43	255038	277.22	ug/kg	98
11) 1,1-Dichloroethene	8.51	96	92491	39.49	ug/kg	97
12) 3-Chloropropene	9.11	76	65562	41.53	ug/kg	95
13) Acetonitrile	9.81	41	105212	241.48	ug/kg	99
14) Iodomethane	8.74	142	186196	47.88	ug/kg	98
15) Carbon disulfide	8.63	76	268366	31.01	ug/kg	100
16) Methylene Chloride	9.23	84	148071	47.14	ug/kg	98
17) Methyl tert-butyl ether	9.54	73	336989	47.63	ug/kg	99
18) Acrylonitrile	10.12	53	296662	173.58	ug/kg#	74
19) T-1,2-Dichloroethene	9.45	96	123305	44.88	ug/kg	98
20) Isopropyl Ether	9.93	45	673195	53.18	ug/kg	100
21) C-1,2-Dichloroethene	10.69	96	151558	51.05	ug/kg	98
22) 1,1-Dichloroethane	10.13	63	273123	48.26	ug/kg	100
23) Vinyl Acetate	10.32	43	375950	44.58	ug/kg	97
24) Chloroprene	10.12	88	120468	48.15	ug/kg	1
25) 2-Butanone	11.19	72	84071m	254.29	ug/kg	
26) Propionitrile	11.47	54	20189	48.81	ug/kg	100
27) 2,2-Dichloropropane	10.82	77	206398	47.55	ug/kg	100
28) Methacrylonitrile	11.51	67	65424	52.65	ug/kg	91
29) Chloroform	10.91	83	265368	50.02	ug/kg	96
31) Dibromofluoromethane	11.09	113	134113	50.07	ug/kg	100
32) Bromochloromethane	10.89	128	78716	50.73	ug/kg	98
33) 1,1,1-Trichloroethane	11.20	97	194555	50.62	ug/kg	98
34) 1,1-Dichloropropene	11.30	75	199120	47.88	ug/kg	99
35) Diethyl Ether	8.15	59	126335	47.78	ug/kg	99
36) Methyl Acetate	9.41	74	27619	45.37	ug/kg	96
37) Cyclohexane	10.97	56	227573	49.52	ug/kg	99
39) Methyl Cyclohexane	12.09	55	180297	50.50	ug/kg	98
40) Carbon Tetrachloride	11.17	117	187740	49.66	ug/kg	99
41) 1,2-Dichloroethane	11.68	62	215487	50.12	ug/kg	98
42) Benzene	11.54	78	561135m	49.78	ug/kg	
43) Isobutyl Alcohol	11.56	43	80635	441.30	ug/kg#	1
44) Trichloroethene	12.06	130	143969	50.27	ug/kg	99
45) 1,2-Dichloropropane	12.50	63	166267	49.80	ug/kg	99
46) Methyl Methacrylate	12.58	100	44198	56.10	ug/kg	99
47) 1,4-Dioxane	12.71	88	27976	1119.10	ug/kg	95
48) Bromodichloromethane	12.52	83	209326	52.40	ug/kg	100
49) Dibromomethane	12.43	93	105982	50.75	ug/kg	99
50) 4-Methyl-2-Pentanone	13.53	100	103745	239.32	ug/kg	97
51) 2-Chloroethyl vinyl ether	12.94	63	1290	109.82	ug/kg#	100
52) 2-Hexanone	14.23	43	607152	250.74	ug/kg	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\091420\202II018.D Vial: 12
Acq On : 14 Sep 2020 6:09 pm Operator: KG
Sample : SCV1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 15 9:52 2020 Quant Results File: 091420.RES

Quant Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Sep 15 07:13:51 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

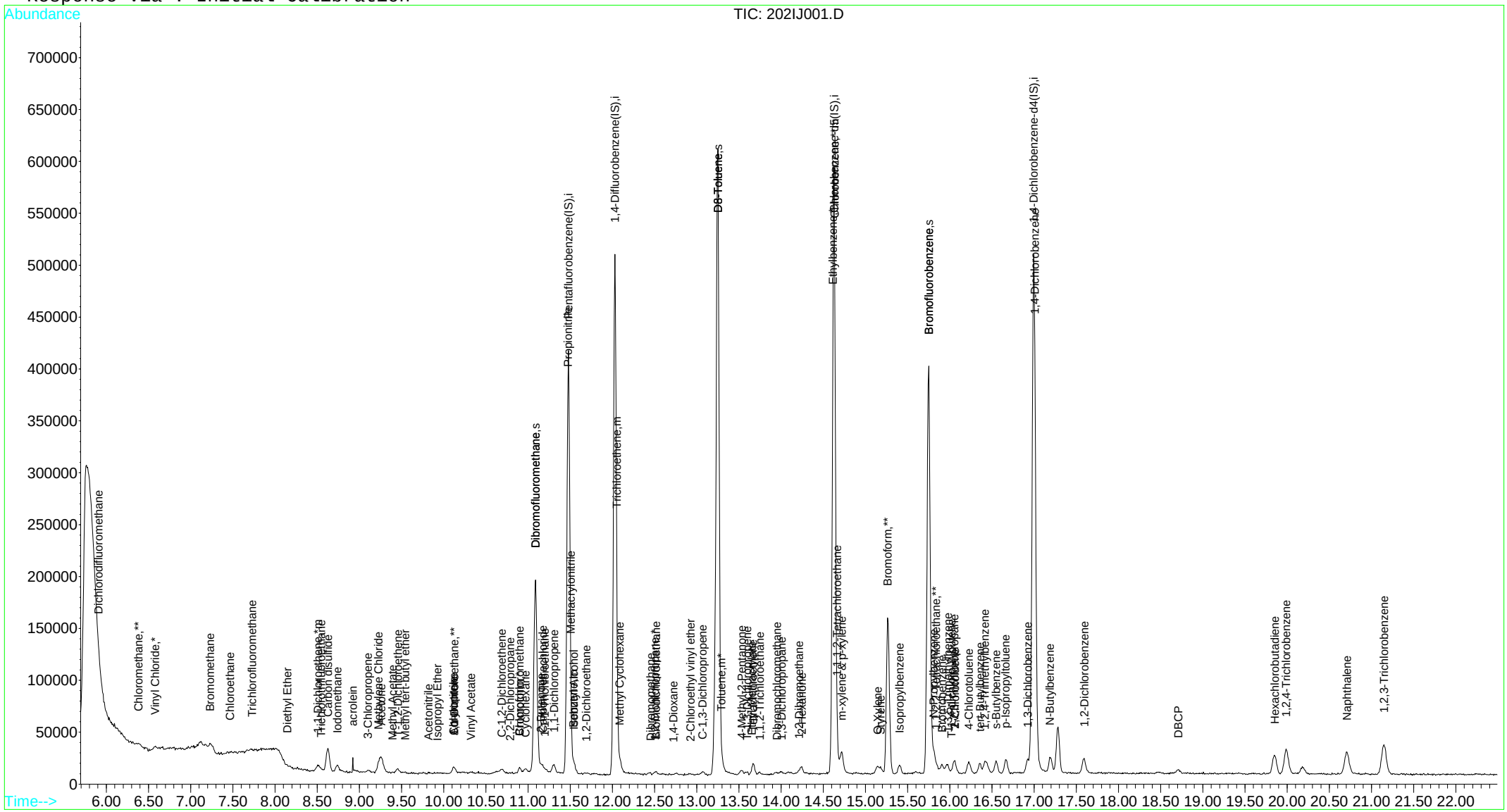
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	13.07	75	273991	50.51 ug/kg	99
55) D8-Toluene	13.25	98	451520	50.14 ug/kg	94
57) Toluene	13.30	92	346892	51.38 ug/kg	100
58) Ethyl Methacrylate	13.64	69	224725	50.94 ug/kg	99
59) T-1,3-Dichloropropene	13.58	75	249268	52.46 ug/kg	97
60) 1,1,2-Trichloroethane	13.75	97	127349	51.29 ug/kg	99
61) 1,3-Dichloropropane	14.00	76	260199	49.06 ug/kg	100
62) Tetrachloroethene	13.68	164	170794	62.01 ug/kg	99
63) Dibromochloromethane	13.94	129	161606	52.49 ug/kg	99
64) 1,2-Dibromoethane	14.20	107	145898	51.82 ug/kg	99
65) Chlorobenzene	14.64	112	365329	50.96 ug/kg	100
66) 1,1,1,2-Tetrachloroethane	14.67	131	136383	53.38 ug/kg	96
67) Ethylbenzene	14.60	106	192644	52.41 ug/kg	99
68) m-xylene & p-xylene	14.72	106	457385	104.03 ug/kg	100
69) O-Xylene	15.14	106	236174	52.78 ug/kg	100
70) Bromoform	15.27	173	116863	52.63 ug/kg	99
71) Styrene	15.17	104	418726	52.75 ug/kg	100
72) Isopropylbenzene	15.41	105	582213	52.97 ug/kg	100
73) 1,2,3-Trichloropropane	16.03	75	199442	47.30 ug/kg	99
74) 1,1,2,2-Tetrachloroethane	15.84	83	161197	47.39 ug/kg	100
76) Bromofluorobenzene	15.75	95	193688	50.45 ug/kg#	75
77) T-1,4-dichloro-2-butene	16.03	53	46412	47.59 ug/kg	97
78) N-Propylbenzene	15.81	91	678634	50.48 ug/kg	100
80) Bromobenzene	15.91	156	181255	50.90 ug/kg	100
81) 1,3,5-Trimethylbenzene	15.96	105	452920	51.77 ug/kg	100
82) 2-Chlorotoluene	16.05	91	422525	50.57 ug/kg	100
83) 4-Chlorotoluene	16.22	91	455163	51.65 ug/kg	99
84) 1,2,4-Trimethylbenzene	16.42	105	478981	53.59 ug/kg	99
85) s-Butylbenzene	16.55	105	564615	54.02 ug/kg	100
86) tert-Butylbenzene	16.36	119	396519	54.01 ug/kg	100
87) p-Isopropyltoluene	16.66	119	470189	53.58 ug/kg	100
88) 1,3-Dichlorobenzene	16.92	146	308307	52.58 ug/kg	99
89) 1,4-Dichlorobenzene	17.02	146	305797	50.12 ug/kg	100
90) 1,2-Dichlorobenzene	17.59	146	289254	52.58 ug/kg	100
91) N-Butylbenzene	17.19	91	442773	54.26 ug/kg	99
92) DBCP	18.70	75	26848	49.38 ug/kg	98
93) Naphthalene	20.70	128	182881	43.78 ug/kg	100
94) 1,2,4-Trichlorobenzene	19.99	180	135102	47.85 ug/kg	99
95) Hexachlorobutadiene	19.85	225	65546	49.48 ug/kg	99
96) 1,2,3-Trichlorobenzene	21.15	180	92011	43.88 ug/kg	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\091520\202IJ001.D Vial: 1
Acq On : 15 Sep 2020 7:57 am Operator: KG
Sample : TUN1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 15 11:41 2020 Quant Results File: 091420.RES

Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\091520\202IJ001.D Vial: 1
Acq On : 15 Sep 2020 7:57 am Operator: KG
Sample : TUN1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 15 11:41 2020 Quant Results File: 091420.RES

Quant Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Tue Sep 15 10:29:29 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.48	168	357886	50.00	ug/kg	0.00
38) 1,4-Difluorobenzene(IS)	12.03	114	487665	50.00	ug/kg	0.00
56) Chlorobenzene-d5(IS)	14.63	82	267236	50.00	ug/kg	0.00
79) 1,4-Dichlorobenzene-d4(IS)	16.99	152	227179	50.00	ug/kg	0.00
System Monitoring Compounds						
30) Dibromofluoromethane	11.09	113	146694	50.12	ug/kg	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 100.24%			
54) D8-Toluene	13.25	98	477880	49.49	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 146		Recovery = 98.98%			
75) Bromofluorobenzene	15.75	95	197855	48.60	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 142		Recovery = 97.20%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.91	85	2471	0.48	ug/kg#	55
3) Chloromethane	6.39	50	6205	1.03	ug/kg	87
4) Vinyl Chloride	6.57	62	4906	1.03	ug/kg	83
5) Bromomethane	7.23	96	3039	1.62	ug/kg	93
6) Chloroethane	7.46	64	1242	0.45	ug/kg	90
7) Trichlorofluoromethane	7.73	101	1464	0.30	ug/kg	92
8) Trichlorotrifluoroethane	8.55	101	975	0.35	ug/kg	83
9) acrolein	8.93	56	661	1.08	ug/kg#	1
10) Acetone	9.27	43	21589	21.48	ug/kg	99
11) 1,1-Dichloroethene	8.51	96	2806	1.13	ug/kg	99
12) 3-Chloropropene	9.11	76	1739	1.01	ug/kg#	37
13) Acetonitrile	9.82	41	261	0.55	ug/kg#	1
14) Iodomethane	8.75	142	13703	3.22	ug/kg	98
15) Carbon disulfide	8.63	76	50890	5.40	ug/kg	99
16) Methylene Chloride	9.22	84	3541	1.03	ug/kg#	84
17) Methyl tert-butyl ether	9.55	73	106	0.01	ug/kg#	1
18) Acrylonitrile	10.12	53	4824	2.58	ug/kg#	66
19) T-1,2-Dichloroethene	9.46	96	2204	0.73	ug/kg	96
20) Isopropyl Ether	9.93	45	1425	0.10	ug/kg#	59
21) C-1,2-Dichloroethene	10.69	96	1936	0.60	ug/kg	96
22) 1,1-Dichloroethane	10.13	63	2300	0.37	ug/kg#	75
23) Vinyl Acetate	10.32	43	3981	0.43	ug/kg#	76
24) Chloroprene	10.12	88	2008	0.73	ug/kg	1
25) 2-Butanone	11.16	72	1534	4.25	ug/kg#	1
26) Propionitrile	11.46	54	112	0.25	ug/kg	100
27) 2,2-Dichloropropane	10.79	77	934	0.20	ug/kg	79
28) Methacrylonitrile	11.51	67	1143	0.84	ug/kg#	55
29) Chloroform	10.91	83	2356	0.41	ug/kg	86
31) Dibromofluoromethane	11.09	113	146694	50.12	ug/kg	100
32) Bromochloromethane	10.90	128	644	0.38	ug/kg	92
33) 1,1,1-Trichloroethane	11.20	97	627	0.15	ug/kg#	48
34) 1,1-Dichloropropene	11.31	75	5148	1.13	ug/kg	89
35) Diethyl Ether	8.15	59	335	0.12	ug/kg#	40
36) Methyl Acetate	9.40	74	188	0.28	ug/kg#	31
37) Cyclohexane	10.98	56	2558	0.51	ug/kg#	88
39) Methyl Cyclohexane	12.09	55	3851	1.01	ug/kg#	79
40) Carbon Tetrachloride	11.17	117	1056	0.26	ug/kg	92
41) 1,2-Dichloroethane	11.69	62	1811	0.39	ug/kg#	88
42) Benzene	11.54	78	9060	0.75	ug/kg#	58
43) Isobutyl Alcohol	11.55	43	224	1.14	ug/kg#	1
44) Trichloroethene	12.06	130	2078	0.68	ug/kg#	1
45) 1,2-Dichloropropane	12.50	63	734	0.20	ug/kg#	34
46) Methyl Methacrylate	0.00	100	0	N.D.		
47) 1,4-Dioxane	12.71	88	108	4.03	ug/kg#	1
48) Bromodichloromethane	12.52	83	1391	0.32	ug/kg#	94
49) Dibromomethane	12.45	93	861	0.38	ug/kg	86
50) 4-Methyl-2-Pentanone	13.53	100	767	1.65	ug/kg#	42
51) 2-Chloroethyl vinyl ether	12.93	63	161	12.78	ug/kg#	100
52) 2-Hexanone	14.24	43	6281	2.42	ug/kg#	82

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\091520\202IJ001.D Vial: 1
Acq On : 15 Sep 2020 7:57 am Operator: KG
Sample : TUN1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 15 11:41 2020 Quant Results File: 091420.RES

Quant Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Tue Sep 15 10:29:29 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.07	75	2289	0.39	ug/kg	84
55) D8-Toluene	13.25	98	477880	49.49	ug/kg	94
57) Toluene	13.30	92	4114	0.57	ug/kg	92
58) Ethyl Methacrylate	13.65	69	1279	0.27	ug/kg#	70
59) T-1,3-Dichloropropene	13.59	75	2012	0.40	ug/kg	72
60) 1,1,2-Trichloroethane	13.75	97	959	0.36	ug/kg	96
61) 1,3-Dichloropropane	14.01	76	2598	0.46	ug/kg	97
62) Tetrachloroethene	13.67	164	3066	1.05	ug/kg	95
63) Dibromochloromethane	13.95	129	1527	0.47	ug/kg#	82
64) 1,2-Dibromoethane	14.20	107	1432	0.48	ug/kg#	97
65) Chlorobenzene	14.64	112	4999	0.66	ug/kg#	23
66) 1,1,1,2-Tetrachloroethane	14.67	131	907	0.33	ug/kg#	1
67) Ethylbenzene	14.61	106	2695	0.69	ug/kg#	63
68) m-xylene & p-xylene	14.73	106	6426	1.38	ug/kg	92
69) O-Xylene	15.14	106	2555	0.54	ug/kg	96
70) Bromoform	15.27	173	1626	0.69	ug/kg#	78
71) Styrene	15.19	104	4635	0.55	ug/kg	89
72) Isopropylbenzene	15.40	105	7771	0.67	ug/kg	97
73) 1,2,3-Trichloropropane	16.05	75	3512	0.79	ug/kg	94
74) 1,1,2,2-Tetrachloroethane	15.84	83	3606	1.00	ug/kg#	94
76) Bromofluorobenzene	15.75	95	197855	48.60	ug/kg	88
77) T-1,4-dichloro-2-butene	16.01	53	408	0.39	ug/kg#	1
78) N-Propylbenzene	15.81	91	15411	1.08	ug/kg	96
80) Bromobenzene	15.91	156	3103	0.85	ug/kg	86
81) 1,3,5-Trimethylbenzene	15.97	105	7082	0.79	ug/kg	98
82) 2-Chlorotoluene	16.06	91	8329	0.97	ug/kg	99
83) 4-Chlorotoluene	16.22	91	9553	1.06	ug/kg	100
84) 1,2,4-Trimethylbenzene	16.41	105	9883	1.08	ug/kg	98
85) s-Butylbenzene	16.55	105	12951	1.21	ug/kg	98
86) tert-Butylbenzene	16.35	119	7180	0.95	ug/kg	93
87) p-Isopropyltoluene	16.67	119	11830	1.31	ug/kg	97
88) 1,3-Dichlorobenzene	16.92	146	8464	1.41	ug/kg	95
89) 1,4-Dichlorobenzene	17.02	146	9404	1.50	ug/kg	78
90) 1,2-Dichlorobenzene	17.59	146	9870	1.75	ug/kg	97
91) N-Butylbenzene	17.19	91	13718	1.64	ug/kg	98
92) DBCP	18.71	75	1957	3.51	ug/kg	89
93) Naphthalene	20.71	128	39818	9.29	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.99	180	17054	5.89	ug/kg	98
95) Hexachlorobutadiene	19.86	225	7034	5.17	ug/kg	99
96) 1,2,3-Trichlorobenzene	21.15	180	22399	10.41	ug/kg	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\091520\202IJ002.D Vial: 2
Acq On : 15 Sep 2020 8:36 am Operator: KG
Sample : CCV1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 15 8:58 2020 Quant Results File: 091420.RES

Quant Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Sep 15 07:13:51 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.49	168	339518	50.00	ug/kg	0.00
38) 1,4-Difluorobenzene(IS)	12.04	114	467301	50.00	ug/kg	0.00
56) Chlorobenzene-d5(IS)	14.63	82	256964	50.00	ug/kg	0.00
79) 1,4-Dichlorobenzene-d4(IS)	17.00	152	228515	50.00	ug/kg	0.00
System Monitoring Compounds						
30) Dibromofluoromethane	11.09	113	135399	48.77	ug/kg	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 97.54%			
54) D8-Toluene	13.25	98	453308	48.99	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 146		Recovery = 97.98%			
75) Bromofluorobenzene	15.75	95	194617	49.71	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 142		Recovery = 99.42%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.91	85	70088	14.40	ug/kg	98
3) Chloromethane	6.39	50	111997	19.56	ug/kg	94
4) Vinyl Chloride	6.57	62	81665	18.02	ug/kg	93
5) Bromomethane	7.21	96	52112	29.27	ug/kg	96
6) Chloroethane	7.45	64	51109	19.44	ug/kg	97
7) Trichlorofluoromethane	7.71	101	90117	19.66	ug/kg	98
8) Trichlorotrifluoroethane	8.55	101	131340	49.69	ug/kg	99
9) acrolein	8.91	56	270861	465.65	ug/kg	100
10) Acetone	9.26	43	241642	253.39	ug/kg	100
11) 1,1-Dichloroethene	8.51	96	121445	49.64	ug/kg	100
12) 3-Chloropropene	9.11	76	81325	49.70	ug/kg	98
13) Acetonitrile	9.80	41	222026	491.60	ug/kg	99
14) Iodomethane	8.73	142	957351	237.49	ug/kg	99
15) Carbon disulfide	8.63	76	2287512	248.58	ug/kg	100
16) Methylene Chloride	9.23	84	158128	48.57	ug/kg	100
17) Methyl tert-butyl ether	9.54	73	317130	43.24	ug/kg	99
18) Acrylonitrile	10.14	53	889157	501.90	ug/kg	100
19) T-1,2-Dichloroethene	9.45	96	141796	49.79	ug/kg	98
20) Isopropyl Ether	9.92	45	662777	50.51	ug/kg	100
21) C-1,2-Dichloroethene	10.69	96	158734	51.58	ug/kg	97
22) 1,1-Dichloroethane	10.13	63	284450	48.49	ug/kg	99
23) Vinyl Acetate	10.32	43	2313222	264.63	ug/kg	100
24) Chloroprene	10.12	88	132552	51.11	ug/kg	99
25) 2-Butanone	11.20	72	83973	245.03	ug/kg	100
26) Propionitrile	11.47	54	223525	521.33	ug/kg	100
27) 2,2-Dichloropropane	10.82	77	219409	48.76	ug/kg	99
28) Methacrylonitrile	11.51	67	646567	501.98	ug/kg	99
29) Chloroform	10.91	83	272456	49.55	ug/kg	99
31) Dibromofluoromethane	11.09	113	135399	48.77	ug/kg	100
32) Bromochloromethane	10.89	128	80156	49.84	ug/kg	98
33) 1,1,1-Trichloroethane	11.20	97	199556	50.09	ug/kg	99
34) 1,1-Dichloropropene	11.31	75	208238	48.31	ug/kg	99
35) Diethyl Ether	8.15	59	140845	51.39	ug/kg	100
36) Methyl Acetate	9.40	74	29190	46.25	ug/kg	97
37) Cyclohexane	10.98	56	232851	48.88	ug/kg	96
39) Methyl Cyclohexane	12.09	55	174891	47.67	ug/kg	99
40) Carbon Tetrachloride	11.17	117	194103	49.96	ug/kg	99
41) 1,2-Dichloroethane	11.69	62	219245	49.62	ug/kg	100
42) Benzene	11.54	78	560260	48.36	ug/kg	100
43) Isobutyl Alcohol	11.53	43	167701	893.11	ug/kg#	84
44) Trichloroethene	12.06	130	143501	48.76	ug/kg	98
45) 1,2-Dichloropropane	12.51	63	168093	48.99	ug/kg	99
46) Methyl Methacrylate	12.59	100	43217	53.38	ug/kg	100
47) 1,4-Dioxane	12.72	88	30246	1177.36	ug/kg	99
48) Bromodichloromethane	12.52	83	210118	51.18	ug/kg	100
49) Dibromomethane	12.44	93	106739	49.74	ug/kg	99
50) 4-Methyl-2-Pentanone	13.53	100	107335	240.94	ug/kg	98
51) 2-Chloroethyl vinyl ether	12.94	63	2100	173.97	ug/kg	100
52) 2-Hexanone	14.23	43	624992	251.17	ug/kg	99

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\091520\202IJ002.D Vial: 2
Acq On : 15 Sep 2020 8:36 am Operator: KG
Sample : CCV1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 15 8:58 2020 Quant Results File: 091420.RES

Quant Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Sep 15 07:13:51 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

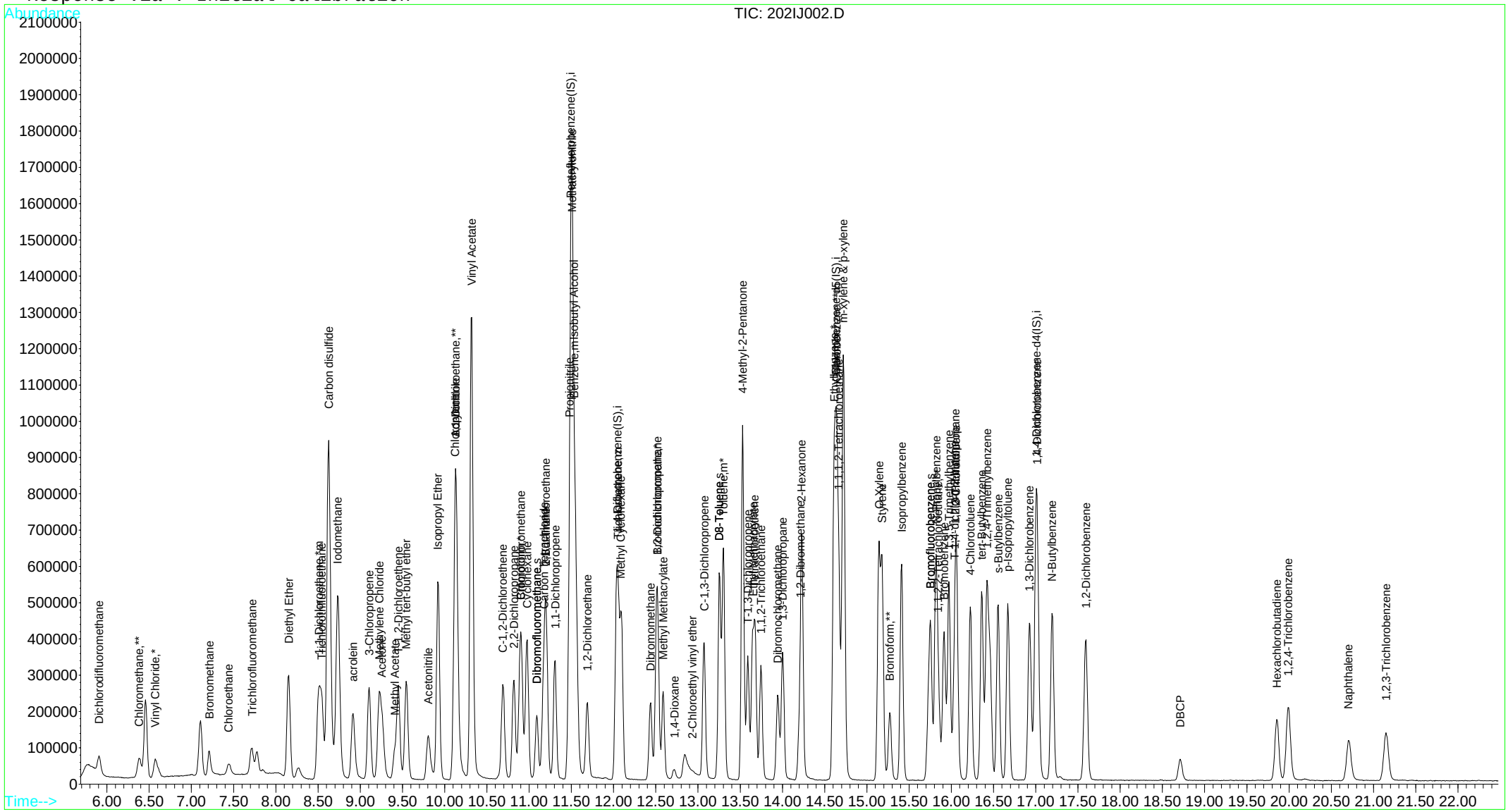
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.07	75	285751	51.26	ug/kg	99
55) D8-Toluene	13.25	98	453308	48.99	ug/kg	93
57) Toluene	13.30	92	348144	50.57	ug/kg	100
58) Ethyl Methacrylate	13.65	69	224186	49.84	ug/kg	100
59) T-1,3-Dichloropropene	13.59	75	248483	51.28	ug/kg	98
60) 1,1,2-Trichloroethane	13.75	97	126653	50.02	ug/kg	100
61) 1,3-Dichloropropane	14.00	76	269475	49.82	ug/kg	100
62) Tetrachloroethene	13.67	164	129265	46.02	ug/kg	100
63) Dibromochloromethane	13.94	129	160127	51.00	ug/kg	100
64) 1,2-Dibromoethane	14.20	107	148204	51.62	ug/kg	98
65) Chlorobenzene	14.65	112	362055	49.53	ug/kg	100
66) 1,1,1,2-Tetrachloroethane	14.67	131	131543	50.49	ug/kg	99
67) Ethylbenzene	14.61	106	190999	50.96	ug/kg	99
68) m-xylene & p-xylene	14.72	106	452132	100.84	ug/kg	99
69) O-Xylene	15.14	106	235494	51.61	ug/kg	99
70) Bromoform	15.27	173	115711	51.10	ug/kg	100
71) Styrene	15.18	104	416948	51.51	ug/kg	99
72) Isopropylbenzene	15.41	105	572041	51.04	ug/kg	100
73) 1,2,3-Trichloropropane	16.04	75	206002	47.91	ug/kg	99
74) 1,1,2,2-Tetrachloroethane	15.85	83	169267	48.79	ug/kg	100
76) Bromofluorobenzene	15.75	95	194617	49.71	ug/kg#	75
77) T-1,4-dichloro-2-butene	16.03	53	45598	45.85	ug/kg	95
78) N-Propylbenzene	15.81	91	690650	50.38	ug/kg	100
80) Bromobenzene	15.91	156	179608	48.86	ug/kg	100
81) 1,3,5-Trimethylbenzene	15.97	105	440664	48.80	ug/kg	99
82) 2-Chlorotoluene	16.06	91	416214	48.26	ug/kg	100
83) 4-Chlorotoluene	16.22	91	440021	48.37	ug/kg	99
84) 1,2,4-Trimethylbenzene	16.42	105	463359	50.22	ug/kg	100
85) s-Butylbenzene	16.56	105	521174	48.30	ug/kg	100
86) tert-Butylbenzene	16.36	119	379572	50.08	ug/kg	98
87) p-Isopropyltoluene	16.67	119	447592	49.41	ug/kg	100
88) 1,3-Dichlorobenzene	16.93	146	300657	49.67	ug/kg	100
89) 1,4-Dichlorobenzene	17.02	146	310586	49.32	ug/kg	99
90) 1,2-Dichlorobenzene	17.59	146	283256	49.88	ug/kg	100
91) N-Butylbenzene	17.19	91	427802	50.79	ug/kg	100
92) DBCP	18.71	75	26473	47.17	ug/kg	98
93) Naphthalene	20.70	128	202420	46.94	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.99	180	142277	48.81	ug/kg	99
95) Hexachlorobutadiene	19.85	225	66651	48.74	ug/kg	100
96) 1,2,3-Trichlorobenzene	21.15	180	101316	46.81	ug/kg	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\091520\202IJ002.D Vial: 2
Acq On : 15 Sep 2020 8:36 am Operator: KG
Sample : CCV1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 15 8:58 2020 Quant Results File: 091420.RES

Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\091520\202IJ004.D Vial: 4
Acq On : 15 Sep 2020 9:37 am Operator: KG
Sample : AA62441-SCV2 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 15 10:06 2020 Quant Results File: 091420.RES

Quant Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Sep 15 07:13:51 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.48	168	328922	50.00	ug/kg	0.00
38) 1,4-Difluorobenzene(IS)	12.03	114	449597	50.00	ug/kg	0.00
56) Chlorobenzene-d5(IS)	14.62	82	252275	50.00	ug/kg	0.00
79) 1,4-Dichlorobenzene-d4(IS)	16.99	152	225151	50.00	ug/kg	0.00
System Monitoring Compounds						
30) Dibromofluoromethane	11.08	113	130535	48.53	ug/kg	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 97.06%			
54) D8-Toluene	13.24	98	443387	49.80	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 146		Recovery = 99.60%			
75) Bromofluorobenzene	15.74	95	190880	49.66	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 142		Recovery = 99.32%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.91	85	93511	19.83	ug/kg	98
3) Chloromethane	6.38	50	105556	19.03	ug/kg	95
4) Vinyl Chloride	6.57	62	88577	20.18	ug/kg	97
5) Bromomethane	7.20	96	30234	17.53	ug/kg	99
6) Chloroethane	7.44	64	53245	20.91	ug/kg	97
7) Trichlorofluoromethane	7.71	101	92207	20.77	ug/kg	99
8) Trichlorotrifluoroethane	8.53	101	127214	49.68	ug/kg	100
9) acrolein	8.91	56	158523	281.30	ug/kg	100
10) Acetone	9.26	43	274462	297.08	ug/kg	100
11) 1,1-Dichloroethene	8.50	96	114699	48.44	ug/kg	100
12) 3-Chloropropene	9.10	76	75144	47.40	ug/kg	99
13) Acetonitrile	9.80	41	108295	247.50	ug/kg	98
14) Iodomethane	8.72	142	242633	62.13	ug/kg	99
15) Carbon disulfide	8.61	76	418092	48.00	ug/kg	99
16) Methylene Chloride	9.22	84	151870	48.15	ug/kg	99
17) Methyl tert-butyl ether	9.54	73	317774	44.72	ug/kg	100
18) Acrylonitrile	10.11	53	299810	174.68	ug/kg#	74
19) T-1,2-Dichloroethene	9.44	96	130943	47.46	ug/kg	100
20) Isopropyl Ether	9.92	45	660415	51.95	ug/kg	99
21) C-1,2-Dichloroethene	10.68	96	148910	49.94	ug/kg	98
22) 1,1-Dichloroethane	10.12	63	269514	47.42	ug/kg	99
23) Vinyl Acetate	10.31	43	423453	50.00	ug/kg	99
24) Chloroprene	10.11	88	122449	48.74	ug/kg	1
25) 2-Butanone	11.19	72	94954m	285.99	ug/kg	
26) Propionitrile	11.47	54	21380	51.47	ug/kg	100
27) 2,2-Dichloropropane	10.81	77	212887	48.84	ug/kg	99
28) Methacrylonitrile	11.51	67	65211	52.26	ug/kg	91
29) Chloroform	10.90	83	256321	48.11	ug/kg	99
31) Dibromofluoromethane	11.08	113	130535	48.53	ug/kg	100
32) Bromochloromethane	10.88	128	77080	49.47	ug/kg	99
33) 1,1,1-Trichloroethane	11.20	97	191142	49.52	ug/kg	99
34) 1,1-Dichloropropene	11.29	75	198301	47.48	ug/kg	100
35) Diethyl Ether	8.14	59	136711	51.48	ug/kg	98
36) Methyl Acetate	9.40	74	29505	48.26	ug/kg	99
37) Cyclohexane	10.96	56	257812	55.86	ug/kg	97
39) Methyl Cyclohexane	12.08	55	185966	52.68	ug/kg	99
40) Carbon Tetrachloride	11.16	117	184203	49.28	ug/kg	99
41) 1,2-Dichloroethane	11.68	62	203677	47.91	ug/kg	98
42) Benzene	11.54	78	551725	49.50	ug/kg#	55
43) Isobutyl Alcohol	11.56	43	59344	328.49	ug/kg#	1
44) Trichloroethene	12.05	130	137858	48.68	ug/kg	98
45) 1,2-Dichloropropane	12.50	63	153399	46.47	ug/kg	98
46) Methyl Methacrylate	12.58	100	44317	56.89	ug/kg	98
47) 1,4-Dioxane	12.71	88	31477	1273.53	ug/kg	96
48) Bromodichloromethane	12.52	83	194630	49.28	ug/kg	99
49) Dibromomethane	12.43	93	100766	48.81	ug/kg	99
50) 4-Methyl-2-Pentanone	13.52	100	107051	249.77	ug/kg	98
51) 2-Chloroethyl vinyl ether	12.93	63	1442	124.16	ug/kg#	100
52) 2-Hexanone	14.22	43	618586	258.38	ug/kg	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\091520\202IJ004.D Vial: 4
Acq On : 15 Sep 2020 9:37 am Operator: KG
Sample : AA62441-SCV2 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 15 10:06 2020 Quant Results File: 091420.RES

Quant Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Sep 15 07:13:51 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

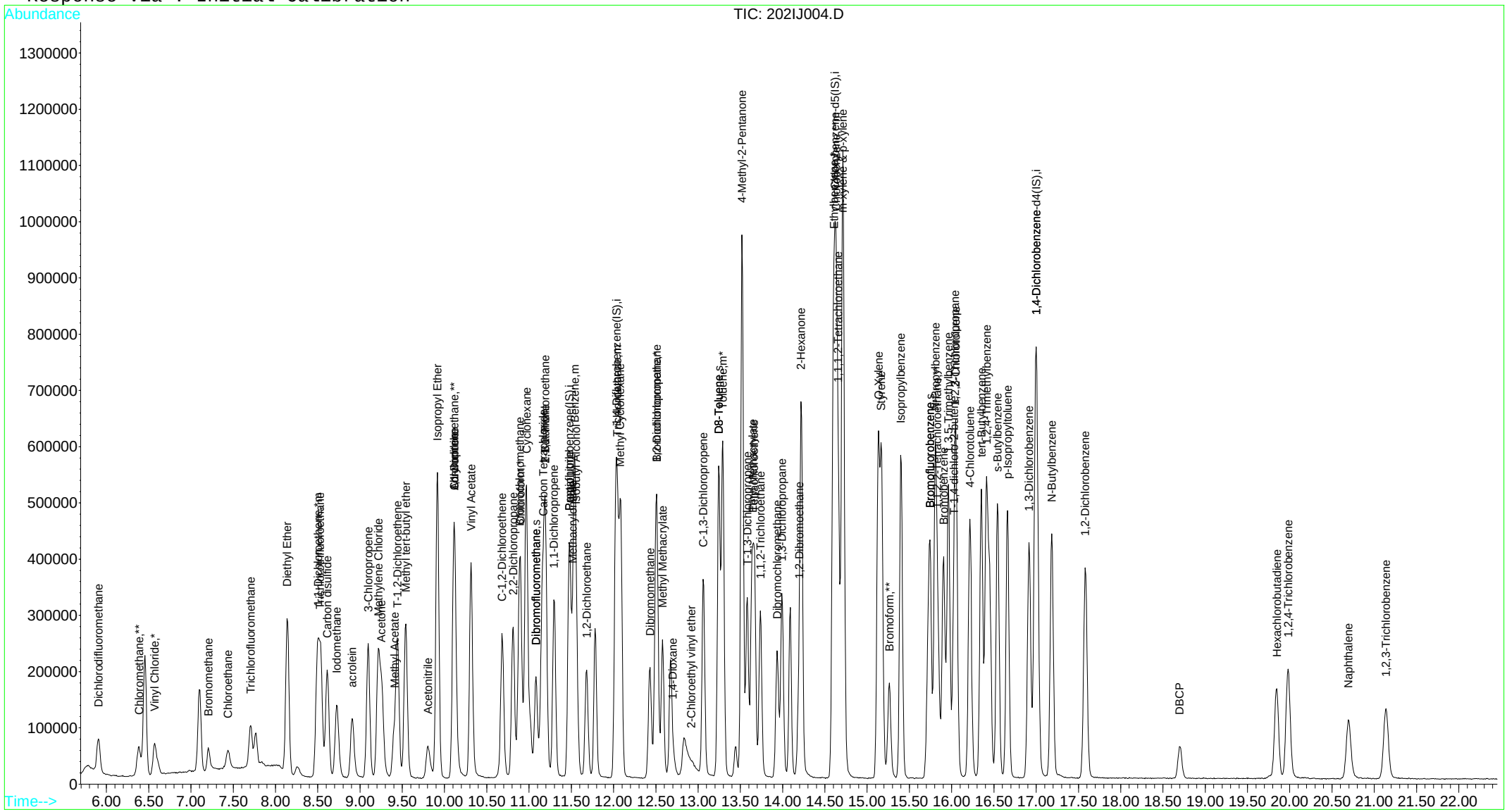
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.06	75	257579	48.02	ug/kg	100
55) D8-Toluene	13.24	98	443387	49.80	ug/kg	94
57) Toluene	13.29	92	327781	48.49	ug/kg	99
58) Ethyl Methacrylate	13.64	69	220549	49.94	ug/kg	98
59) T-1,3-Dichloropropene	13.58	75	232794	48.93	ug/kg	99
60) 1,1,2-Trichloroethane	13.74	97	118186	47.54	ug/kg	99
61) 1,3-Dichloropropane	13.99	76	248085	46.72	ug/kg	99
62) Tetrachloroethene	13.67	164	119352	43.28	ug/kg	100
63) Dibromochloromethane	13.94	129	153159	49.69	ug/kg	100
64) 1,2-Dibromoethane	14.19	107	140334	49.79	ug/kg	99
65) Chlorobenzene	14.64	112	341102	47.53	ug/kg	100
66) 1,1,1,2-Tetrachloroethane	14.66	131	126427	49.43	ug/kg	98
67) Ethylbenzene	14.60	106	178011	48.38	ug/kg	99
68) m-xylene & p-xylene	14.71	106	430457	97.79	ug/kg	100
69) O-Xylene	15.14	106	221587	49.46	ug/kg	99
70) Bromoform	15.26	173	112961	50.81	ug/kg	100
71) Styrene	15.17	104	394093	49.59	ug/kg	98
72) Isopropylbenzene	15.40	105	544323	49.47	ug/kg	100
73) 1,2,3-Trichloropropane	16.03	75	192339	45.56	ug/kg	99
74) 1,1,2,2-Tetrachloroethane	15.83	83	166107	48.77	ug/kg	99
76) Bromofluorobenzene	15.74	95	190880	49.66	ug/kg#	74
77) T-1,4-dichloro-2-butene	16.02	53	46155	47.28	ug/kg	93
78) N-Propylbenzene	15.81	91	662279	49.21	ug/kg	100
80) Bromobenzene	15.91	156	170917	47.19	ug/kg	99
81) 1,3,5-Trimethylbenzene	15.96	105	423672	47.62	ug/kg	100
82) 2-Chlorotoluene	16.05	91	397682	46.80	ug/kg	100
83) 4-Chlorotoluene	16.22	91	412128	45.98	ug/kg	100
84) 1,2,4-Trimethylbenzene	16.41	105	442976	48.73	ug/kg	100
85) s-Butylbenzene	16.54	105	522282	49.13	ug/kg	100
86) tert-Butylbenzene	16.35	119	371871	49.80	ug/kg	98
87) p-Isopropyltoluene	16.66	119	438187	49.10	ug/kg	100
88) 1,3-Dichlorobenzene	16.92	146	290364	48.69	ug/kg	100
89) 1,4-Dichlorobenzene	17.01	146	289739	46.69	ug/kg	100
90) 1,2-Dichlorobenzene	17.58	146	273858	48.95	ug/kg	100
91) N-Butylbenzene	17.18	91	401828	48.42	ug/kg	100
92) DBCP	18.70	75	26990	48.81	ug/kg	99
93) Naphthalene	20.70	128	189683	44.65	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.98	180	137355	47.83	ug/kg	99
95) Hexachlorobutadiene	19.85	225	64353	47.76	ug/kg	98
96) 1,2,3-Trichlorobenzene	21.13	180	96435	45.22	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\091520\202IJ004.D Vial: 4
Acq On : 15 Sep 2020 9:37 am Operator: KG
Sample : AA62441-SCV2 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 15 10:06 2020 Quant Results File: 091420.RES

Method : C:\HPCHEM\1\METHODS\091420.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2009079
Last Update : Wed Sep 16 07:00:06 2020
Response via : Initial Calibration



TETRA TECH ISG
TtNUS, Information Systems Group

Completion Ticket

On 10/14/2020 at 2:48 PM the following files were submitted to Tetra Tech by kdylnicki@encolabs.com with ENCO:

TE016AD03698A1.txt, TE016AD03698A3.txt

If you need to identify this session at a later date refer to Ticket Key:

20201014_5074228019_ledd_ENCO

You may print this page by clicking on the "Print This Page" button

Thank you for using the Data Checker, to upload more files click the "Upload/Check Files" link on navigation menu.

Print this Page Back To Upload

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I Lori S. Mangrum, as the designated Quality Assurance Officer, hereby attest that all electronic deliverables have been thoroughly reviewed and are in agreement with the associated hardcopy data. The enclosed electronic files have been reviewed for accuracy (including significant figures), completeness and format. The laboratory will be responsible for any labor time necessary to correct enclosed electronic deliverables that have been found to be in error. I can be reached at (407) 826-5314 if there are any questions or problems with the enclosed electronic deliverables.

Signature:_____ Title: Quality Assurance Manager Date: October 15, 2020

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Project Narrative	3
Flags/Notes and Definitions	15
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Login Report	18
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ENCO Laboratories
Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Wednesday, November 4, 2020
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AD07290

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Wednesday, October 28, 2020.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

www.encolabs.com

Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Client PM: Alex Murphy
Project Number: 112G08970
ENCO Project ID: AD07290
SDG: AD07290-TE016

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling and processing will be discussed in the Remarks section below.

Remarks

List of instruments used:

Analytical and Preparation Method	SOP Reference Instrument
EPA 8260D / 5030B_MS	OVGCMS5

Analysis: EPA 8260D

Manual integrations were performed on samples associated with EPA 8260D. All data & explanations are included in the raw data section of the report.

The data package for 8260D includes pages for a “Low-Concentration Calibration Verification” standard. This standard identified as “LCV” is the closing CCV required by QSM 5.3 which falls under different validation criteria than the opening CCV.

Affected Samples: AA63365-CCV1, CRCA-ASEFFLUENT-20201027[AD07290-01], CRCA-ASINFLUENT-20201027[AD07290-02]
The associated continuing calibration verification standard for multiple analytes exhibited high bias. Analyte(s) not detected in the sample.

Affected Samples: 0K03050-BS1, CRCA-ASEFFLUENT-20201027[AD07290-01], CRCA-ASINFLUENT-20201027[AD07290-02]
The laboratory control sample exhibited low bias for methyl acetate; the associated sample had ND (non-detect) results, but sensitivity was verified by analyzing a standard with a concentration equivalent to the reporting limit.

Affected Samples: CRCA-ASINFLUENT-20201027[AD07290-02], 0K03050-MSD1
Matrix spike recovery was outside acceptance limits for methyl acetate.

Affected Samples: AA63365-CCV1
The continuing calibration verification standard exhibited low bias for multiple analytes; the associated sample had ND (non-detect) results, but sensitivity was verified by analyzing a standard with a concentration equivalent to the reporting limit.

Affected Samples: AA62152-SCV1
SCV recovery was outside acceptance limits for bromomethane and dichlorodifluoromethane. Analyte(s) not detected in the sample.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager’s designee, as verified by the following signatures.

Kaitlin Dylnicki
Project Manager

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-ASEFFLUENT-20201027	Lab ID: AD07290-01	Sampled: 10/27/20 14:45	Received: 10/28/20 15:00

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	11/10/20	11/03/20 13:49	11/03/20 22:42

Client ID: CRCA-ASINFLUENT-20201027	Lab ID: AD07290-02	Sampled: 10/27/20 14:50	Received: 10/28/20 15:00

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	11/10/20	11/03/20 13:49	11/03/20 22:11

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-ASINFLUENT-20201027 **Lab ID:** AD07290-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
trans-1,2-Dichloroethene	1.0	I	0.73	2.5	ug/L	EPA 8260D	
Vinyl chloride	20		0.71	2.5	ug/L	EPA 8260D	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20201027 **Lab Sample ID:** AD07290-01 **Received:** 10/28/20 15:00

Matrix: Ground Water **Sampled:** 10/27/20 14:45 **Work Order:** AD07290

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	QV-01
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	0K03050	EPA 8260D	11/03/20 22:42	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	0K03050	EPA 8260D	11/03/20 22:42	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	QV-01
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20201027 **Lab Sample ID:** AD07290-01 **Received:** 10/28/20 15:00

Matrix: Ground Water **Sampled:** 10/27/20 14:45 **Work Order:** AD07290

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	QV-01
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	0K03050	EPA 8260D	11/03/20 22:42	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*57*	*1*	*50.0*	*114 %*	*41-142*	*0K03050*	*EPA 8260D*	*11/03/20 22:42*	*KKW*	
Dibromofluoromethane	*53*	*1*	*50.0*	*105 %*	*53-146*	*0K03050*	*EPA 8260D*	*11/03/20 22:42*	*KKW*	
Toluene-d8	*53*	*1*	*50.0*	*106 %*	*41-146*	*0K03050*	*EPA 8260D*	*11/03/20 22:42*	*KKW*	

ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20201027 **Lab Sample ID:** AD07290-02 **Received:** 10/28/20 15:00

Matrix: Ground Water **Sampled:** 10/27/20 14:50 **Work Order:** AD07290

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	QV-01
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	0K03050	EPA 8260D	11/03/20 22:11	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	0K03050	EPA 8260D	11/03/20 22:11	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	QV-01
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	A-07, QM-19
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
trans-1,2-Dichloroethene [156-60-5]^	**1.0**	I	ug/L	1	0.73	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	

ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20201027 **Lab Sample ID:** AD07290-02 **Received:** 10/28/20 15:00

Matrix: Ground Water **Sampled:** 10/27/20 14:50 **Work Order:** AD07290

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	QV-01
Vinyl chloride [75-01-4]^	**20**		ug/L	1	0.71	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	0K03050	EPA 8260D	11/03/20 22:11	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*55*	*1*	*50.0*	*111 %*	*41-142*	*0K03050*	*EPA 8260D*	*11/03/20 22:11*	*KKW*	
Dibromofluoromethane	*54*	*1*	*50.0*	*108 %*	*53-146*	*0K03050*	*EPA 8260D*	*11/03/20 22:11*	*KKW*	
Toluene-d8	*52*	*1*	*50.0*	*104 %*	*41-146*	*0K03050*	*EPA 8260D*	*11/03/20 22:11*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0K03050 - EPA 5030B_MS

Blank (0K03050-BLK1) Prepared: 11/03/2020 13:49 Analyzed: 11/03/2020 21:09

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0K03050 - EPA 5030B_MS - Continued

Blank (0K03050-BLK1) Continued Prepared: 11/03/2020 13:49 Analyzed: 11/03/2020 21:09

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*55*			*ug/L*	*50.0*		*109*	*41-142*			
Dibromofluoromethane	*54*			*ug/L*	*50.0*		*107*	*53-146*			
Toluene-d8	*52*			*ug/L*	*50.0*		*104*	*41-146*			

LCS (0K03050-BS1) Prepared: 11/03/2020 13:49 Analyzed: 11/03/2020 19:06

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	24		2.5	ug/L	20.0		119	57-148			
1,1,2,2-Tetrachloroethane	17		2.5	ug/L	20.0		84	60-139			
1,1,2-Trichloroethane	18		2.5	ug/L	20.0		88	57-141			
1,1-Dichloroethane	19		2.5	ug/L	20.0		93	57-142			
1,1-Dichloroethene	18		2.5	ug/L	20.0		92	47-139			
1,2,4-Trichlorobenzene	26		2.5	ug/L	20.0		130	52-159			
1,2-Dibromo-3-chloropropane	21		2.5	ug/L	20.0		104	48-150			
1,2-Dibromoethane	17		2.5	ug/L	20.0		86	57-140			
1,2-Dichlorobenzene	19		2.5	ug/L	20.0		93	63-131			
1,2-Dichloroethane	24		2.5	ug/L	20.0		121	50-156			
1,2-Dichloropropane	16		2.5	ug/L	20.0		80	61-133			
1,3-Dichlorobenzene	19		2.5	ug/L	20.0		94	66-129			
1,4-Dichlorobenzene	18		2.5	ug/L	20.0		92	65-133			
2-Butanone	92		12	ug/L	100		92	10-180			
2-Hexanone	59		12	ug/L	100		59	12-180			
4-Methyl-2-pentanone	76		12	ug/L	100		76	19-180			
Acetone	79		25	ug/L	100		79	10-180			
Benzene	20		2.5	ug/L	20.0		99	56-136			
Bromodichloromethane	21		2.5	ug/L	20.0		107	58-135			
Bromoform	18		2.5	ug/L	20.0		90	46-148			
Bromomethane	19		2.5	ug/L	20.0		93	10-173			
Carbon disulfide	20		12	ug/L	20.0		98	43-153			
Carbon Tetrachloride	24		2.5	ug/L	20.0		120	54-156			
Chlorobenzene	19		2.5	ug/L	20.0		96	51-139			
Chloroethane	21		2.5	ug/L	20.0		107	27-180			
Chloroform	21		2.5	ug/L	20.0		105	58-139			
Chloromethane	15		2.5	ug/L	20.0		76	33-154			
cis-1,2-Dichloroethene	21		2.5	ug/L	20.0		103	56-128			
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0		87	64-128			
Cyclohexane	17		2.5	ug/L	20.0		85	70-130			
Dibromochloromethane	18		2.5	ug/L	20.0		89	50-140			
Dichlorodifluoromethane	31		2.5	ug/L	20.0		157	10-180			
Ethylbenzene	17		2.5	ug/L	20.0		83	63-133			
Freon 113	20		2.5	ug/L	20.0		99	47-173			
Isopropylbenzene	19		2.5	ug/L	20.0		96	60-132			
m,p-Xylenes	36		5.0	ug/L	40.0		90	64-133			
Methyl acetate	13		2.5	ug/L	20.0		65	70-130			A-07
Methyl cyclohexane	19		2.5	ug/L	20.0		97	70-130			
Methylene Chloride	19		12	ug/L	20.0		97	43-142			
Methyl-tert-Butyl Ether	19		2.5	ug/L	20.0		94	51-145			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0K03050 - EPA 5030B_MS - Continued

LCS (0K03050-BS1) Continued Prepared: 11/03/2020 13:49 Analyzed: 11/03/2020 19:06

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
o-Xylene	18		2.5	ug/L	20.0		88	61-129			
Styrene	17		2.5	ug/L	20.0		85	59-136			
Tetrachloroethene	18		2.5	ug/L	20.0		90	60-147			
Toluene	17		2.5	ug/L	20.0		86	64-131			
trans-1,2-Dichloroethene	19		2.5	ug/L	20.0		93	54-134			
trans-1,3-Dichloropropene	20		2.5	ug/L	20.0		98	65-149			
Trichloroethene	21		2.5	ug/L	20.0		103	62-135			
Trichlorofluoromethane	24		2.5	ug/L	20.0		118	56-155			
Vinyl chloride	20		2.5	ug/L	20.0		99	20-167			
4-Bromofluorobenzene	*53*			*ug/L*	*50.0*		*107*	*41-142*			
Dibromofluoromethane	*54*			*ug/L*	*50.0*		*108*	*53-146*			
Toluene-d8	*52*			*ug/L*	*50.0*		*104*	*41-146*			

Matrix Spike (0K03050-MS1) Prepared: 11/03/2020 13:49 Analyzed: 11/03/2020 19:36

Source: AD07290-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	25		2.5	ug/L	20.0	0.80 U	126	57-148			
1,1,2,2-Tetrachloroethane	18		2.5	ug/L	20.0	0.54 U	91	60-139			
1,1,2-Trichloroethane	19		2.5	ug/L	20.0	0.76 U	93	57-141			
1,1-Dichloroethane	20		2.5	ug/L	20.0	0.62 U	100	57-142			
1,1-Dichloroethene	23		2.5	ug/L	20.0	0.94 U	117	47-139			
1,2,4-Trichlorobenzene	27		2.5	ug/L	20.0	0.70 U	134	52-159			
1,2-Dibromo-3-chloropropane	20		2.5	ug/L	20.0	0.96 U	102	48-150			
1,2-Dibromoethane	19		2.5	ug/L	20.0	0.78 U	93	57-140			
1,2-Dichlorobenzene	21		2.5	ug/L	20.0	0.73 U	106	63-131			
1,2-Dichloroethane	27		2.5	ug/L	20.0	0.63 U	135	50-156			
1,2-Dichloropropane	18		2.5	ug/L	20.0	0.80 U	89	61-133			
1,3-Dichlorobenzene	22		2.5	ug/L	20.0	0.77 U	110	66-129			
1,4-Dichlorobenzene	21		2.5	ug/L	20.0	0.76 U	106	65-133			
2-Butanone	100		12	ug/L	100	4.5 U	101	10-180			
2-Hexanone	76		12	ug/L	100	2.5 U	76	12-180			
4-Methyl-2-pentanone	100		12	ug/L	100	2.5 U	104	19-180			
Acetone	87		25	ug/L	100	10 U	87	10-180			
Benzene	21		2.5	ug/L	20.0	0.71 U	107	56-136			
Bromodichloromethane	24		2.5	ug/L	20.0	0.52 U	122	58-135			
Bromoform	21		2.5	ug/L	20.0	0.75 U	105	46-148			
Bromomethane	23		2.5	ug/L	20.0	0.95 U	115	10-173			
Carbon disulfide	22		12	ug/L	20.0	2.5 U	108	43-153			
Carbon Tetrachloride	26		2.5	ug/L	20.0	0.94 U	131	54-156			
Chlorobenzene	20		2.5	ug/L	20.0	0.72 U	102	51-139			
Chloroethane	22		2.5	ug/L	20.0	0.98 U	112	27-180			
Chloroform	22		2.5	ug/L	20.0	0.80 U	111	58-139			
Chloromethane	17		2.5	ug/L	20.0	0.82 U	83	33-154			
cis-1,2-Dichloroethene	20		2.5	ug/L	20.0	0.53 U	102	56-128			
cis-1,3-Dichloropropene	20		2.5	ug/L	20.0	0.59 U	101	64-128			
Cyclohexane	19		2.5	ug/L	20.0	0.93 U	94	70-130			
Dibromochloromethane	19		2.5	ug/L	20.0	0.50 U	94	50-140			
Dichlorodifluoromethane	32		2.5	ug/L	20.0	0.74 U	161	10-180			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0K03050 - EPA 5030B_MS - Continued

Matrix Spike (0K03050-MS1) Continued Prepared: 11/03/2020 13:49 Analyzed: 11/03/2020 19:36

Source: AD07290-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	20		2.5	ug/L	20.0	0.69 U	99	63-133			
Freon 113	22		2.5	ug/L	20.0	0.73 U	112	47-173			
Isopropylbenzene	21		2.5	ug/L	20.0	0.67 U	107	60-132			
m,p-Xylenes	40		5.0	ug/L	40.0	1.3 U	101	64-133			
Methyl acetate	14		2.5	ug/L	20.0	0.95 U	72	70-130			
Methyl cyclohexane	23		2.5	ug/L	20.0	0.64 U	115	70-130			
Methylene Chloride	20		12	ug/L	20.0	2.5 U	102	43-142			
Methyl-tert-Butyl Ether	21		2.5	ug/L	20.0	0.60 U	104	51-145			
o-Xylene	20		2.5	ug/L	20.0	0.53 U	99	61-129			
Styrene	19		2.5	ug/L	20.0	0.61 U	96	59-136			
Tetrachloroethene	21		2.5	ug/L	20.0	0.76 U	105	60-147			
Toluene	19		2.5	ug/L	20.0	0.72 U	96	64-131			
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0	1.0	105	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0	0.73 U	107	65-149			
Trichloroethene	23		2.5	ug/L	20.0	0.89 U	116	62-135			
Trichlorofluoromethane	25		2.5	ug/L	20.0	0.94 U	124	56-155			
Vinyl chloride	40		2.5	ug/L	20.0	20	102	20-167			
4-Bromofluorobenzene	*54*			*ug/L*	*50.0*		*107*	*41-142*			
Dibromofluoromethane	*51*			*ug/L*	*50.0*		*103*	*53-146*			
Toluene-d8	*52*			*ug/L*	*50.0*		*105*	*41-146*			

Matrix Spike Dup (0K03050-MSD1) Prepared: 11/03/2020 13:49 Analyzed: 11/03/2020 20:07

Source: AD07290-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	26		2.5	ug/L	20.0	0.80 U	128	57-148	1	25	
1,1,2,2-Tetrachloroethane	20		2.5	ug/L	20.0	0.54 U	100	60-139	9	17	
1,1,2-Trichloroethane	19		2.5	ug/L	20.0	0.76 U	97	57-141	4	16	
1,1-Dichloroethane	20		2.5	ug/L	20.0	0.62 U	98	57-142	3	24	
1,1-Dichloroethene	22		2.5	ug/L	20.0	0.94 U	112	47-139	4	16	
1,2,4-Trichlorobenzene	28		2.5	ug/L	20.0	0.70 U	141	52-159	5	24	
1,2-Dibromo-3-chloropropane	24		2.5	ug/L	20.0	0.96 U	120	48-150	16	21	
1,2-Dibromoethane	19		2.5	ug/L	20.0	0.78 U	94	57-140	0.7	16	
1,2-Dichlorobenzene	21		2.5	ug/L	20.0	0.73 U	107	63-131	0.9	25	
1,2-Dichloroethane	29		2.5	ug/L	20.0	0.63 U	143	50-156	6	18	
1,2-Dichloropropane	19		2.5	ug/L	20.0	0.80 U	96	61-133	8	26	
1,3-Dichlorobenzene	20		2.5	ug/L	20.0	0.77 U	102	66-129	8	23	
1,4-Dichlorobenzene	20		2.5	ug/L	20.0	0.76 U	100	65-133	6	23	
2-Butanone	110		12	ug/L	100	4.5 U	107	10-180	6	29	
2-Hexanone	83		12	ug/L	100	2.5 U	83	12-180	8	28	
4-Methyl-2-pentanone	100		12	ug/L	100	2.5 U	102	19-180	2	24	
Acetone	93		25	ug/L	100	10 U	93	10-180	6	19	
Benzene	21		2.5	ug/L	20.0	0.71 U	105	56-136	2	14	
Bromodichloromethane	26		2.5	ug/L	20.0	0.52 U	129	58-135	6	19	
Bromoform	22		2.5	ug/L	20.0	0.75 U	110	46-148	4	18	
Bromomethane	24		2.5	ug/L	20.0	0.95 U	121	10-173	5	29	
Carbon disulfide	20		12	ug/L	20.0	2.5 U	100	43-153	7	26	
Carbon Tetrachloride	26		2.5	ug/L	20.0	0.94 U	128	54-156	2	27	
Chlorobenzene	20		2.5	ug/L	20.0	0.72 U	102	51-139	0.2	13	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0K03050 - EPA 5030B_MS - Continued

Matrix Spike Dup (0K03050-MSD1) Continued Prepared: 11/03/2020 13:49 Analyzed: 11/03/2020 20:07

Source: AD07290-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloroethane	24		2.5	ug/L	20.0	0.98 U	118	27-180	5	22	
Chloroform	22		2.5	ug/L	20.0	0.80 U	110	58-139	0.4	17	
Chloromethane	15		2.5	ug/L	20.0	0.82 U	77	33-154	8	31	
cis-1,2-Dichloroethene	20		2.5	ug/L	20.0	0.53 U	98	56-128	4	17	
cis-1,3-Dichloropropene	21		2.5	ug/L	20.0	0.59 U	106	64-128	4	20	
Cyclohexane	18		2.5	ug/L	20.0	0.93 U	92	70-130	3	20	
Dibromochloromethane	21		2.5	ug/L	20.0	0.50 U	103	50-140	9	18	
Dichlorodifluoromethane	31		2.5	ug/L	20.0	0.74 U	157	10-180	3	26	
Ethylbenzene	19		2.5	ug/L	20.0	0.69 U	97	63-133	1	18	
Freon 113	23		2.5	ug/L	20.0	0.73 U	113	47-173	0.3	30	
Isopropylbenzene	21		2.5	ug/L	20.0	0.67 U	106	60-132	1	23	
m,p-Xylenes	40		5.0	ug/L	40.0	1.3 U	100	64-133	1	18	
Methyl acetate	13		2.5	ug/L	20.0	0.95 U	64	70-130	11	20	QM-19
Methyl cyclohexane	23		2.5	ug/L	20.0	0.64 U	113	70-130	1	20	
Methylene Chloride	20		12	ug/L	20.0	2.5 U	101	43-142	1	23	
Methyl-tert-Butyl Ether	21		2.5	ug/L	20.0	0.60 U	106	51-145	1	22	
o-Xylene	20		2.5	ug/L	20.0	0.53 U	99	61-129	0.2	16	
Styrene	19		2.5	ug/L	20.0	0.61 U	95	59-136	0.9	32	
Tetrachloroethene	20		2.5	ug/L	20.0	0.76 U	100	60-147	4	21	
Toluene	20		2.5	ug/L	20.0	0.72 U	100	64-131	4	16	
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0	1.0	105	54-134	0.05	20	
trans-1,3-Dichloropropene	22		2.5	ug/L	20.0	0.73 U	111	65-149	4	17	
Trichloroethene	23		2.5	ug/L	20.0	0.89 U	114	62-135	1	20	
Trichlorofluoromethane	23		2.5	ug/L	20.0	0.94 U	116	56-155	6	22	
Vinyl chloride	39		2.5	ug/L	20.0	20	97	20-167	2	24	
4-Bromofluorobenzene	*55*			*ug/L*	*50.0*		*109*	*41-142*			
Dibromofluoromethane	*52*			*ug/L*	*50.0*		*103*	*53-146*			
Toluene-d8	*52*			*ug/L*	*50.0*		*104*	*41-146*			

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FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
A-07	Analyte biased low in LCS but detected in the reporting limit standard. Since the analyte in the associated sample was not detected, there is no impact on data quality.
QM-19	The spike recovery was outside acceptance limits for the MS and/or MSD.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.

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B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported result is an estimated value.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence (85% or greater confidence) to make a “tentative identification".
Q	One or more quality control criteria failed.

AD07290

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 1134 | PAGE 1 OF 1

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G08970	CRCA	ALEX MURPHY	321-636-6470	ENCO
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER: JOHN FORRESTER	PHONE NUMBER: 304-780-1426	ADDRESS
		CARRIER/WAYBILL NUMBER: COURIER		CITY, STATE: ORLANDO FL

STANDARD TAT ☐
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE (YEAR 2020)	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TYPE OF ANALYSIS: TCL SVOCs, TCL-CLP-LIKE CUSTOM LIST	COMMENTS
									G	HCL		
27 Oct	1445	CRCA-AS-EFFLUENT-20201027	CRCA			GW	G	3	x			
27 Oct	1450	CRCA-AS-INFLUENT-20201027	CRCA			GW	G	3	x			

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	27 Oct 20	1500	1. RECEIVED BY	27 Oct	1500
2. RELINQUISHED BY	10-28-20	1500	2. RECEIVED BY	10/28/20	1500
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS: C-2126 2.0

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

10/29/2020

Environmental Conservation Labs, Inc.

Alex Murphy
Tetra Tech, Inc. (TE016)
11 Riverside Drive, Suite 204
Cocoa, FL 32922
Phone: (321) 636-6470
Fax: (321) 636-6473

Reference : **Sample Receipt Confirmation - *Please Review***
Project Name / Number : NASA KSC CRCA / 112G08970
Purchase Order # : 1165883

Lab Reference # : AD07290 Lab Receipt Date: 28-Oct-20 15:00
Anticipated ***(Estimated)*** Completion Date: 04-Nov-20 19:00

This is an automated notification from our laboratory information management system (LIMS), indicating the samples we have recently received and their associated analyses. Should any of the following information be in error, please contact us immediately.

Thank you for choosing Environmental Conservation Laboratories. Should any events occur that delay the processing of your samples or inhibit our ability to complete the project within the projected time frame you will be contacted.

Sincerely,

Kaitlin Dylnicki

Client: Tetra Tech, Inc. (TE016) **Project Name:** NASA KSC CRCA
Requested TAT: 5 **Project Number:** 112G08970

Analysis	TAT	Expires	Status
Sample ID: CRCA-ASEFFLUENT-20201027(Lab ID: AD07290-01), Matrix: Ground Water, Sampled: 27-Oct-20 14:45 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	10-Nov-20 23:59	Received
Sample ID: CRCA-ASINFLUENT-20201027(Lab ID: AD07290-02), Matrix: Ground Water, Sampled: 27-Oct-20 14:50 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	10-Nov-20 23:59	Received

Analysis Groups included in this work order

ENCO Orlando

SDG: AD07290-TE016

CLASS: 01_VOA_MS

METHOD: EPA 8260D

ANALYSES DATA PACKAGE COVER PAGE

EPA 8260D

Laboratory: ENCO Orlando

SDG: AD07290-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-ASEFFLUENT-20201027	AD07290-01
CRCA-ASINFLUENT-20201027	AD07290-02

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLUENT-20201027

Laboratory: ENCO Orlando SDG: AD07290-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AD07290-01 File ID: 205K3030.D

Sampled: 10/27/20 14:45 Prepared: 11/03/20 13:49 Analyzed: 11/03/20 22:42

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 0K03050 Sequence: AA63365 Calibration: 2008123 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLUENT-20201027

Laboratory: ENCO Orlando SDG: AD07290-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AD07290-01 File ID: 205K3030.D

Sampled: 10/27/20 14:45 Prepared: 11/03/20 13:49 Analyzed: 11/03/20 22:42

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 0K03050 Sequence: AA63365 Calibration: 2008123 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	53	105	53 - 146	
Toluene-d8	50.0	53	106	41 - 146	
4-Bromofluorobenzene	50.0	57	114	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1286937	10.174	1477488	10.174	
1,4-Difluorobenzene	2220464	10.756	2663458	10.755	
Chlorobenzene-d5	1205145	13.47	1384666	13.476	
1,4-Dichlorobenzene-d4	1363500	15.744	1420785	15.744	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLUENT-20201027

Laboratory: ENCO Orlando SDG: AD07290-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AD07290-02 File ID: 205K3029.D

Sampled: 10/27/20 14:50 Prepared: 11/03/20 13:49 Analyzed: 11/03/20 22:11

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 0K03050 Sequence: AA63365 Calibration: 2008123 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	20		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	1.0	J	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLUENT-20201027

Laboratory: ENCO Orlando SDG: AD07290-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AD07290-02 File ID: 205K3029.D

Sampled: 10/27/20 14:50 Prepared: 11/03/20 13:49 Analyzed: 11/03/20 22:11

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 0K03050 Sequence: AA63365 Calibration: 2008123 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	54	108	53 - 146	
Toluene-d8	50.0	52	104	41 - 146	
4-Bromofluorobenzene	50.0	55	111	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1290197	10.174	1477488	10.174	
1,4-Difluorobenzene	2278430	10.756	2663458	10.755	
Chlorobenzene-d5	1253343	13.47	1384666	13.476	
1,4-Dichlorobenzene-d4	1400350	15.744	1420785	15.744	

* Values outside of QC limits

HOLDING TIME SUMMARY

EPA 8260D

Laboratory: ENCO Orlando

SDG: AD07290-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-ASEFFLUENT-20201027	10/27/20 14:45	10/28/20 15:00	11/03/20 13:49	6.96	NA	11/03/20 22:42	7.00	14.00	
CRCA-ASINFLUENT-20201027	10/27/20 14:50	10/28/20 15:00	11/03/20 13:49	6.96	NA	11/03/20 22:11	7.00	14.00	

PREPARATION BATCH SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AD07290-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 0K03050 Batch Matrix: Water Preparation: EPA 5030B_MS

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	0K03050-BLK1	205K3027.D	11/03/20 13:49	
LCS	0K03050-BS1	205K3023.D	11/03/20 13:49	
CRCA-ASINFLUENT-20201027	0K03050-MS1	205K3024.D	11/03/20 13:49	
CRCA-ASINFLUENT-20201027	0K03050-MSD1	205K3025.D	11/03/20 13:49	
CRCA-ASEFFLUENT-20201027	AD07290-01	205K3030.D	11/03/20 13:49	
CRCA-ASINFLUENT-20201027	AD07290-02	205K3029.D	11/03/20 13:49	

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07290-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	0K03050-BLK1	File ID:	205K3027.D
Prepared:	11/03/20 13:49	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	11/03/20 21:09	Instrument:	OVGCMS5		
Batch:	0K03050	Sequence:	AA63365	Calibration:	2008123

CAS NO.	COMPOUND	CONC. (ug/L)	Q
75-71-8	Dichlorodifluoromethane	0.74	U
74-87-3	Chloromethane	0.82	U
75-01-4	Vinyl chloride	0.71	U
74-83-9	Bromomethane	0.95	U
75-00-3	Chloroethane	0.98	U
75-69-4	Trichlorofluoromethane	0.94	U
76-13-1	Freon 113	0.73	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	0.94	U
75-15-0	Carbon disulfide	2.5	U
75-09-2	Methylene Chloride	2.5	U
1634-04-4	Methyl-tert-Butyl Ether	0.60	U
156-60-5	trans-1,2-Dichloroethene	0.73	U
156-59-2	cis-1,2-Dichloroethene	0.53	U
75-34-3	1,1-Dichloroethane	0.62	U
78-93-3	2-Butanone	4.5	U
67-66-3	Chloroform	0.80	U
71-55-6	1,1,1-Trichloroethane	0.80	U
79-20-9	Methyl acetate	0.95	U
110-82-7	Cyclohexane	0.93	U
108-87-2	Methyl cyclohexane	0.64	U
56-23-5	Carbon Tetrachloride	0.94	U
107-06-2	1,2-Dichloroethane	0.63	U
71-43-2	Benzene	0.71	U
79-01-6	Trichloroethene	0.89	U
78-87-5	1,2-Dichloropropane	0.80	U
75-27-4	Bromodichloromethane	0.52	U
108-10-1	4-Methyl-2-pentanone	2.5	U
591-78-6	2-Hexanone	2.5	U
10061-01-5	cis-1,3-Dichloropropene	0.59	U

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07290-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	0K03050-BLK1	File ID:	205K3027.D
Prepared:	11/03/20 13:49	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	11/03/20 21:09	Instrument:	OVGCMS5		
Batch:	0K03050	Sequence:	AA63365	Calibration:	2008123

CAS NO.	COMPOUND	CONC. (ug/L)	Q
108-88-3	Toluene	0.72	U
10061-02-6	trans-1,3-Dichloropropene	0.73	U
79-00-5	1,1,2-Trichloroethane	0.76	U
127-18-4	Tetrachloroethene	0.76	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.78	U
108-90-7	Chlorobenzene	0.72	U
100-41-4	Ethylbenzene	0.69	U
108-38-3/106-42-3	m,p-Xylenes	1.3	U
95-47-6	o-Xylene	0.53	U
75-25-2	Bromoform	0.75	U
100-42-5	Styrene	0.61	U
98-82-8	Isopropylbenzene	0.67	U
79-34-5	1,1,2,2-Tetrachloroethane	0.54	U
120-82-1	1,2,4-Trichlorobenzene	0.70	U
541-73-1	1,3-Dichlorobenzene	0.77	U
106-46-7	1,4-Dichlorobenzene	0.76	U
95-50-1	1,2-Dichlorobenzene	0.73	U
96-12-8	1,2-Dibromo-3-chloropropane	0.96	U
1330-20-7	Xylenes (Total)	1.3	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	54	107	53 - 146	
Toluene-d8	50.0	52	104	41 - 146	
4-Bromofluorobenzene	50.0	55	109	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1298626	10.174	1477488	10.174	
1,4-Difluorobenzene	2332340	10.756	2663458	10.755	
Chlorobenzene-d5	1300789	13.476	1384666	13.476	
1,4-Dichlorobenzene-d4	1417419	15.744	1420785	15.744	

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07290-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	0K03050	Laboratory ID:	0K03050-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	31	157	10 - 180
Chloromethane	20.0	15	76	33 - 154
Vinyl chloride	20.0	20	99	20 - 167
Bromomethane	20.0	19	93	10 - 173
Chloroethane	20.0	21	107	27 - 180
Trichlorofluoromethane	20.0	24	118	56 - 155
Freon 113	20.0	20	99	47 - 173
Acetone	100	79	79	10 - 180
1,1-Dichloroethene	20.0	18	92	47 - 139
Carbon disulfide	20.0	20	98	43 - 153
Methylene Chloride	20.0	19	97	43 - 142
Methyl-tert-Butyl Ether	20.0	19	94	51 - 145
trans-1,2-Dichloroethene	20.0	19	93	54 - 134
cis-1,2-Dichloroethene	20.0	21	103	56 - 128
1,1-Dichloroethane	20.0	19	93	57 - 142
2-Butanone	100	92	92	10 - 180
Chloroform	20.0	21	105	58 - 139
1,1,1-Trichloroethane	20.0	24	119	57 - 148
Methyl acetate	20.0	13	65 *	70 - 130
Cyclohexane	20.0	17	85	70 - 130
Methyl cyclohexane	20.0	19	97	70 - 130
Carbon Tetrachloride	20.0	24	120	54 - 156
1,2-Dichloroethane	20.0	24	121	50 - 156
Benzene	20.0	20	99	56 - 136
Trichloroethene	20.0	21	103	62 - 135
1,2-Dichloropropane	20.0	16	80	61 - 133
Bromodichloromethane	20.0	21	107	58 - 135
4-Methyl-2-pentanone	100	76	76	19 - 180
2-Hexanone	100	59	59	12 - 180
cis-1,3-Dichloropropene	20.0	17	87	64 - 128

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07290-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	0K03050	Laboratory ID:	0K03050-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Toluene	20.0	17	86	64 - 131
trans-1,3-Dichloropropene	20.0	20	98	65 - 149
1,1,2-Trichloroethane	20.0	18	88	57 - 141
Tetrachloroethene	20.0	18	90	60 - 147
Dibromochloromethane	20.0	18	89	50 - 140
1,2-Dibromoethane	20.0	17	86	57 - 140
Chlorobenzene	20.0	19	96	51 - 139
Ethylbenzene	20.0	17	83	63 - 133
m,p-Xylenes	40.0	36	90	64 - 133
o-Xylene	20.0	18	88	61 - 129
Bromoform	20.0	18	90	46 - 148
Styrene	20.0	17	85	59 - 136
Isopropylbenzene	20.0	19	96	60 - 132
1,1,2,2-Tetrachloroethane	20.0	17	84	60 - 139
1,2,4-Trichlorobenzene	20.0	26	130	52 - 159
1,3-Dichlorobenzene	20.0	19	94	66 - 129
1,4-Dichlorobenzene	20.0	18	92	65 - 133
1,2-Dichlorobenzene	20.0	19	93	63 - 131
1,2-Dibromo-3-chloropropane	20.0	21	104	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASINFLUENT-20201027

Laboratory: ENCO Orlando
SDG: AD07290-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 0K03050
Laboratory ID: 0K03050-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-ASINFLUENT-20201027

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	ND	32	161	10 - 180
Chloromethane	20.0	ND	17	83	33 - 154
Vinyl chloride	20.0	20	40	102	20 - 167
Bromomethane	20.0	ND	23	115	10 - 173
Chloroethane	20.0	ND	22	112	27 - 180
Trichlorofluoromethane	20.0	ND	25	124	56 - 155
Freon 113	20.0	ND	22	112	47 - 173
Acetone	100	ND	87	87	10 - 180
1,1-Dichloroethene	20.0	ND	23	117	47 - 139
Carbon disulfide	20.0	ND	22	108	43 - 153
Methylene Chloride	20.0	ND	20	102	43 - 142
Methyl-tert-Butyl Ether	20.0	ND	21	104	51 - 145
trans-1,2-Dichloroethene	20.0	1.0	22	105	54 - 134
cis-1,2-Dichloroethene	20.0	ND	20	102	56 - 128
1,1-Dichloroethane	20.0	ND	20	100	57 - 142
2-Butanone	100	ND	100	101	10 - 180
Chloroform	20.0	ND	22	111	58 - 139
1,1,1-Trichloroethane	20.0	ND	25	126	57 - 148
Methyl acetate	20.0	ND	14	72	70 - 130
Cyclohexane	20.0	ND	19	94	70 - 130
Methyl cyclohexane	20.0	ND	23	115	70 - 130
Carbon Tetrachloride	20.0	ND	26	131	54 - 156
1,2-Dichloroethane	20.0	ND	27	135	50 - 156
Benzene	20.0	ND	21	107	56 - 136
Trichloroethene	20.0	ND	23	116	62 - 135
1,2-Dichloropropane	20.0	ND	18	89	61 - 133
Bromodichloromethane	20.0	ND	24	122	58 - 135
4-Methyl-2-pentanone	100	ND	100	104	19 - 180
2-Hexanone	100	ND	76	76	12 - 180
cis-1,3-Dichloropropene	20.0	ND	20	101	64 - 128
Toluene	20.0	ND	19	96	64 - 131

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASINFLUENT-20201027

Laboratory:	ENCO Orlando	SDG:	AD07290-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	0K03050	Laboratory ID:	0K03050-MS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

Source Sample Name: CRCA-ASINFLUENT-20201027

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
trans-1,3-Dichloropropene	20.0	ND	21	107	65 - 149
1,1,2-Trichloroethane	20.0	ND	19	93	57 - 141
Tetrachloroethene	20.0	ND	21	105	60 - 147
Dibromochloromethane	20.0	ND	19	94	50 - 140
1,2-Dibromoethane	20.0	ND	19	93	57 - 140
Chlorobenzene	20.0	ND	20	102	51 - 139
Ethylbenzene	20.0	ND	20	99	63 - 133
m,p-Xylenes	40.0	ND	40	101	64 - 133
o-Xylene	20.0	ND	20	99	61 - 129
Bromoform	20.0	ND	21	105	46 - 148
Styrene	20.0	ND	19	96	59 - 136
Isopropylbenzene	20.0	ND	21	107	60 - 132
1,1,2,2-Tetrachloroethane	20.0	ND	18	91	60 - 139
1,2,4-Trichlorobenzene	20.0	ND	27	134	52 - 159
1,3-Dichlorobenzene	20.0	ND	22	110	66 - 129
1,4-Dichlorobenzene	20.0	ND	21	106	65 - 133
1,2-Dichlorobenzene	20.0	ND	21	106	63 - 131
1,2-Dibromo-3-chloropropane	20.0	ND	20	102	48 - 150

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASINFLUENT-20201027

Laboratory: ENCO Orlando
SDG: AD07290-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 0K03050
Laboratory ID: 0K03050-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-ASINFLUENT-20201027

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #		% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20.0	31	157		3	26	10 - 180
Chloromethane	20.0	15	77		8	31	33 - 154
Vinyl chloride	20.0	39	97		2	24	20 - 167
Bromomethane	20.0	24	121		5	29	10 - 173
Chloroethane	20.0	24	118		5	22	27 - 180
Trichlorofluoromethane	20.0	23	116		6	22	56 - 155
Freon 113	20.0	23	113		0.3	30	47 - 173
Acetone	100	93	93		6	19	10 - 180
1,1-Dichloroethene	20.0	22	112		4	16	47 - 139
Carbon disulfide	20.0	20	100		7	26	43 - 153
Methylene Chloride	20.0	20	101		1	23	43 - 142
Methyl-tert-Butyl Ether	20.0	21	106		1	22	51 - 145
trans-1,2-Dichloroethene	20.0	22	105		0.05	20	54 - 134
cis-1,2-Dichloroethene	20.0	20	98		4	17	56 - 128
1,1-Dichloroethane	20.0	20	98		3	24	57 - 142
2-Butanone	100	110	107		6	29	10 - 180
Chloroform	20.0	22	110		0.4	17	58 - 139
1,1,1-Trichloroethane	20.0	26	128		1	25	57 - 148
Methyl acetate	20.0	13	64	*	11	20	70 - 130
Cyclohexane	20.0	18	92		3	20	70 - 130
Methyl cyclohexane	20.0	23	113		1	20	70 - 130
Carbon Tetrachloride	20.0	26	128		2	27	54 - 156
1,2-Dichloroethane	20.0	29	143		6	18	50 - 156
Benzene	20.0	21	105		2	14	56 - 136
Trichloroethene	20.0	23	114		1	20	62 - 135
1,2-Dichloropropane	20.0	19	96		8	26	61 - 133
Bromodichloromethane	20.0	26	129		6	19	58 - 135
4-Methyl-2-pentanone	100	100	102		2	24	19 - 180
2-Hexanone	100	83	83		8	28	12 - 180
cis-1,3-Dichloropropene	20.0	21	106		4	20	64 - 128
Toluene	20.0	20	100		4	16	64 - 131
trans-1,3-Dichloropropene	20.0	22	111		4	17	65 - 149

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASINFLUENT-20201027

Laboratory: ENCO Orlando
SDG: AD07290-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 0K03050
Laboratory ID: 0K03050-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-ASINFLUENT-20201027

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,2-Trichloroethane	20.0	19	97	4	16	57 - 141
Tetrachloroethene	20.0	20	100	4	21	60 - 147
Dibromochloromethane	20.0	21	103	9	18	50 - 140
1,2-Dibromoethane	20.0	19	94	0.7	16	57 - 140
Chlorobenzene	20.0	20	102	0.2	13	51 - 139
Ethylbenzene	20.0	19	97	1	18	63 - 133
m,p-Xylenes	40.0	40	100	1	18	64 - 133
o-Xylene	20.0	20	99	0.2	16	61 - 129
Bromoform	20.0	22	110	4	18	46 - 148
Styrene	20.0	19	95	0.9	32	59 - 136
Isopropylbenzene	20.0	21	106	1	23	60 - 132
1,1,2,2-Tetrachloroethane	20.0	20	100	9	17	60 - 139
1,2,4-Trichlorobenzene	20.0	28	141	5	24	52 - 159
1,3-Dichlorobenzene	20.0	20	102	8	23	66 - 129
1,4-Dichlorobenzene	20.0	20	100	6	23	65 - 133
1,2-Dichlorobenzene	20.0	21	107	0.9	25	63 - 131
1,2-Dibromo-3-chloropropane	20.0	24	120	16	21	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07290-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA62152
Instrument: OVGCMS5
Matrix: Water
Calibration: 2008123

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA62152-SCV1)			Lab File ID: 205HU014.D		Analyzed: 08/26/20 15:55			
Dibromofluoromethane	50.0	109	70 - 130	9.768	9.764375	0.0036	+/-0.5	
Toluene-d8	50.0	108	70 - 130	12.054	12.0585	-0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	105	70 - 130	14.575	14.57575	-0.0008	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07290-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA63365
Instrument: OVGCMS5
Matrix: Water
Calibration: 2008123

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA63365-CCV1)			Lab File ID: 205K3022.D		Analyzed: 11/03/20 18:35			
Dibromofluoromethane	50.0	107	80 - 120	9.763	9.764375	-0.0014	+/-0.5	
Toluene-d8	50.0	104	80 - 120	12.054	12.0585	-0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	111	80 - 120	14.575	14.57575	-0.0008	+/-0.5	
LCS (0K03050-BS1)			Lab File ID: 205K3023.D		Analyzed: 11/03/20 19:06			
Dibromofluoromethane	50.0	108	53 - 146	9.763	9.764375	-0.0014	+/-0.5	
Toluene-d8	50.0	104	41 - 146	12.054	12.0585	-0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	107	41 - 142	14.569	14.57575	-0.0067	+/-0.5	
Matrix Spike (0K03050-MS1)			Lab File ID: 205K3024.D		Analyzed: 11/03/20 19:36			
Dibromofluoromethane	50.0	103	53 - 146	9.768	9.764375	0.0036	+/-0.5	
Toluene-d8	50.0	105	41 - 146	12.054	12.0585	-0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	107	41 - 142	14.575	14.57575	-0.0008	+/-0.5	
Matrix Spike Dup (0K03050-MSD1)			Lab File ID: 205K3025.D		Analyzed: 11/03/20 20:07			
Dibromofluoromethane	50.0	103	53 - 146	9.763	9.764375	-0.0014	+/-0.5	
Toluene-d8	50.0	104	41 - 146	12.054	12.0585	-0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	14.575	14.57575	-0.0008	+/-0.5	
Blank (0K03050-BLK1)			Lab File ID: 205K3027.D		Analyzed: 11/03/20 21:09			
Dibromofluoromethane	50.0	107	53 - 146	9.763	9.764375	-0.0014	+/-0.5	
Toluene-d8	50.0	104	41 - 146	12.054	12.0585	-0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	14.575	14.57575	-0.0008	+/-0.5	
Instrument RL Check (AA63365-CRL1)			Lab File ID: 205K3028.D		Analyzed: 11/03/20 21:40			
Dibromofluoromethane	50.0	105	1 - 199	9.763	9.764375	-0.0014	+/-0.5	
Toluene-d8	50.0	106	1 - 199	12.054	12.0585	-0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	108	1 - 199	14.575	14.57575	-0.0008	+/-0.5	
CRCA-ASINFLUENT-20201027 (AD07290-02)			Lab File ID: 205K3029.D		Analyzed: 11/03/20 22:11			
Dibromofluoromethane	50.0	108	53 - 146	9.769	9.764375	0.0046	+/-0.5	
Toluene-d8	50.0	104	41 - 146	12.054	12.0585	-0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	111	41 - 142	14.575	14.57575	-0.0008	+/-0.5	
CRCA-ASEFFLUENT-20201027 (AD07290-01)			Lab File ID: 205K3030.D		Analyzed: 11/03/20 22:42			
Dibromofluoromethane	50.0	105	53 - 146	9.769	9.764375	0.0046	+/-0.5	
Toluene-d8	50.0	106	41 - 146	12.054	12.0585	-0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	114	41 - 142	14.575	14.57575	-0.0008	+/-0.5	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07290-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA62152
Instrument: OVGCMS5
Matrix: Water
Calibration: 2008123

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA62152-CAL1)			Lab File ID: 205HU004.D			Analyzed: 08/26/20 10:39			
Pentafluorobenzene	1490798	10.174	1477488	10.174	101	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2779965	10.761	2663458	10.755	104	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1417535	13.476	1384666	13.476	102	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1545007	15.75	1420785	15.744	109	50 - 200	0.0060	+/-0.50	
Cal Standard (AA62152-CAL2)			Lab File ID: 205HU005.D			Analyzed: 08/26/20 11:10			
Pentafluorobenzene	1516643	10.174	1477488	10.174	103	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2805358	10.756	2663458	10.755	105	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	1372254	13.476	1384666	13.476	99	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1436786	15.75	1420785	15.744	101	50 - 200	0.0060	+/-0.50	
Cal Standard (AA62152-CAL3)			Lab File ID: 205HU006.D			Analyzed: 08/26/20 11:42			
Pentafluorobenzene	1522354	10.174	1477488	10.174	103	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2749356	10.756	2663458	10.755	103	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	1360962	13.476	1384666	13.476	98	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1433030	15.744	1420785	15.744	101	50 - 200	0.0000	+/-0.50	
Cal Standard (AA62152-CAL4)			Lab File ID: 205HU007.D			Analyzed: 08/26/20 12:13			
Pentafluorobenzene	1486293	10.174	1477488	10.174	101	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2720774	10.756	2663458	10.755	102	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	1378768	13.476	1384666	13.476	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1420641	15.744	1420785	15.744	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA62152-CAL5)			Lab File ID: 205HU008.D			Analyzed: 08/26/20 12:45			
Pentafluorobenzene	1475045	10.168	1477488	10.174	100	50 - 200	-0.0060	+/-0.50	
1,4-Difluorobenzene	2717768	10.756	2663458	10.755	102	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	1379230	13.476	1384666	13.476	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1408814	15.744	1420785	15.744	99	50 - 200	0.0000	+/-0.50	
Cal Standard (AA62152-CAL6)			Lab File ID: 205HU009.D			Analyzed: 08/26/20 13:16			
Pentafluorobenzene	1477488	10.174	1477488	10.174	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2663458	10.755	2663458	10.755	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1384666	13.476	1384666	13.476	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1420785	15.744	1420785	15.744	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA62152-CAL7)			Lab File ID: 205HU010.D			Analyzed: 08/26/20 13:48			
Pentafluorobenzene	1487235	10.174	1477488	10.174	101	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2600765	10.756	2663458	10.755	98	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	1385554	13.47	1384666	13.476	100	50 - 200	-0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1432538	15.744	1420785	15.744	101	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07290-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA62152
Instrument: OVGCMS5
Matrix: Water
Calibration: 2008123

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA62152-CAL8)			Lab File ID: 205HU011.D			Analyzed: 08/26/20 14:19			
Pentafluorobenzene	1447071	10.174	1477488	10.174	98	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2561611	10.756	2663458	10.755	96	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	1380360	13.476	1384666	13.476	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1403220	15.744	1420785	15.744	99	50 - 200	0.0000	+/-0.50	
Secondary Cal Check (AA62152-SCV1)			Lab File ID: 205HU014.D			Analyzed: 08/26/20 15:55			
Pentafluorobenzene	1479172	10.174	1477488	10.174	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2668771	10.756	2663458	10.755	100	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	1342071	13.476	1384666	13.476	97	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1359353	15.744	1420785	15.744	96	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07290-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA63365
Instrument: OVGCMS5
Matrix: Water
Calibration: 2008123

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA63365-CCV1)			Lab File ID: 205K3022.D			Analyzed: 11/03/20 18:35			
Pentafluorobenzene	1345766	10.168	1477488	10.174	91	50 - 200	-0.0060	+/-0.50	
1,4-Difluorobenzene	2398752	10.756	2663458	10.755	90	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	1361227	13.47	1384666	13.476	98	50 - 200	-0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1488967	15.744	1420785	15.744	105	50 - 200	0.0000	+/-0.50	
LCS (0K03050-BS1)			Lab File ID: 205K3023.D			Analyzed: 11/03/20 19:06			
Pentafluorobenzene	1393851	10.168	1477488	10.174	94	50 - 200	-0.0060	+/-0.50	
1,4-Difluorobenzene	2417309	10.756	2663458	10.755	91	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	1388400	13.47	1384666	13.476	100	50 - 200	-0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1483312	15.744	1420785	15.744	104	50 - 200	0.0000	+/-0.50	
Matrix Spike (0K03050-MS1)			Lab File ID: 205K3024.D			Analyzed: 11/03/20 19:36			
Pentafluorobenzene	1450412	10.168	1477488	10.174	98	50 - 200	-0.0060	+/-0.50	
1,4-Difluorobenzene	2505319	10.755	2663458	10.755	94	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1425774	13.47	1384666	13.476	103	50 - 200	-0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1505356	15.744	1420785	15.744	106	50 - 200	0.0000	+/-0.50	
Matrix Spike Dup (0K03050-MSD1)			Lab File ID: 205K3025.D			Analyzed: 11/03/20 20:07			
Pentafluorobenzene	1478555	10.174	1477488	10.174	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2505244	10.756	2663458	10.755	94	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	1417293	13.47	1384666	13.476	102	50 - 200	-0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1527627	15.744	1420785	15.744	108	50 - 200	0.0000	+/-0.50	
Blank (0K03050-BLK1)			Lab File ID: 205K3027.D			Analyzed: 11/03/20 21:09			
Pentafluorobenzene	1298626	10.174	1477488	10.174	88	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2332340	10.756	2663458	10.755	88	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	1300789	13.476	1384666	13.476	94	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1417419	15.744	1420785	15.744	100	50 - 200	0.0000	+/-0.50	
Instrument RL Check (AA63365-CRL1)			Lab File ID: 205K3028.D			Analyzed: 11/03/20 21:40			
Pentafluorobenzene	1314646	10.168	1477488	10.174	89	50 - 200	-0.0060	+/-0.50	
1,4-Difluorobenzene	2276915	10.756	2663458	10.755	85	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	1292520	13.476	1384666	13.476	93	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1395460	15.744	1420785	15.744	98	50 - 200	0.0000	+/-0.50	
CRCA-ASINFLUENT-20201027 (AD07290-02)			Lab File ID: 205K3029.D			Analyzed: 11/03/20 22:11			
Pentafluorobenzene	1290197	10.174	1477488	10.174	87	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2278430	10.756	2663458	10.755	86	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	1253343	13.47	1384666	13.476	91	50 - 200	-0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1400350	15.744	1420785	15.744	99	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07290-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA63365
Instrument: OVGCMS5
Matrix: Water
Calibration: 2008123

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
CRCA-ASEFFLUENT-20201027 (AD07290-01)			Lab File ID: 205K3030.D			Analyzed: 11/03/20 22:42			
Pentafluorobenzene	1286937	10.174	1477488	10.174	87	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2220464	10.756	2663458	10.755	83	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	1205145	13.47	1384666	13.476	87	50 - 200	-0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1363500	15.744	1420785	15.744	96	50 - 200	0.0000	+/-0.50	

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07290-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA62152		
Calibration:	2008123	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA62152-TUN1	205HU003.D	08/26/20 09:31
Cal Standard	AA62152-CAL1	205HU004.D	08/26/20 10:39
Cal Standard	AA62152-CAL2	205HU005.D	08/26/20 11:10
Cal Standard	AA62152-CAL3	205HU006.D	08/26/20 11:42
Cal Standard	AA62152-CAL4	205HU007.D	08/26/20 12:13
Cal Standard	AA62152-CAL5	205HU008.D	08/26/20 12:45
Cal Standard	AA62152-CAL6	205HU009.D	08/26/20 13:16
Cal Standard	AA62152-CAL7	205HU010.D	08/26/20 13:48
Cal Standard	AA62152-CAL8	205HU011.D	08/26/20 14:19
Secondary Cal Check	AA62152-SCV1	205HU014.D	08/26/20 15:55

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07290-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA63365		
Calibration:	2008123	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA63365-CCV1	205K3022.D	11/03/20 18:35
LCS	0K03050-BS1	205K3023.D	11/03/20 19:06
CRCA-ASINFLUENT-20201027	0K03050-MS1	205K3024.D	11/03/20 19:36
CRCA-ASINFLUENT-20201027	0K03050-MSD1	205K3025.D	11/03/20 20:07
Blank	0K03050-BLK1	205K3027.D	11/03/20 21:09
Instrument RL Check	AA63365-CRL1	205K3028.D	11/03/20 21:40
CRCA-ASINFLUENT-20201027	AD07290-02	205K3029.D	11/03/20 22:11
CRCA-ASEFFLUENT-20201027	AD07290-01	205K3030.D	11/03/20 22:42

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07290-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	205HU003.D	Injection Date:	08/26/20
Instrument ID:	OVGCMS5	Injection Time:	09:31
Sequence:	AA62152	Lab Sample ID:	AA62152-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	140	PASS
96	5 - 9% of 95	6.76	PASS
173	Less than 2% of 174	0.1	PASS
174	50 - 200% of 95	71.4	PASS
175	5 - 9% of 174	5.15	PASS
176	95 - 105% of 174	95.3	PASS
177	5 - 10% of 176	6.08	PASS

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07290-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2008123
Lab File ID:	205K3022.D	Calibration Date:	08/26/20 09:31
Sequence:	AA63365	Injection Date:	11/03/20
Lab Sample ID:	AA63365-CCV1	Injection Time:	18:35

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Dichlorodifluoromethane	A	50.0	88	0.2948251	0.4960677		76	20	*
Chloromethane	A	50.0	35	0.4248736	0.2795048		-30	20	*
Vinyl chloride	A	50.0	50	0.4063041	0.4069326		0.20	20	
Bromomethane	A	50.0	56	0.1995199	0.1214795		11	20	
Chloroethane	A	50.0	53	0.2481633	0.2365998		6.8	20	
Trichlorofluoromethane	A	50.0	61	0.5543026	0.6737338		22	20	*
Freon 113	A	50.0	53	0.2655609	0.2798436		5.4	20	
Acetone	A	250	220	7.815289E-02	6.799191E-02		-13	20	
1,1-Dichloroethene	A	50.0	51	0.3414668	0.3475827		1.8	20	
Carbon disulfide	A	250	200	1.075519	0.8773002		-18	20	
Methylene Chloride	A	50.0	50	0.4149098	0.4017214		-0.02	20	
Methyl-tert-Butyl Ether	A	50.0	49	0.9699538	0.9523		-1.8	20	
trans-1,2-Dichloroethene	A	50.0	50	0.4122324	0.4175436		0.080	20	
cis-1,2-Dichloroethene	A	50.0	50	0.4680455	0.4689367		0.20	20	
1,1-Dichloroethane	A	50.0	45	0.7247925	0.6530103		-9.9	20	
2-Butanone	A	250	220	0.0487266	3.946496E-02		-13	20	
Chloroform	A	50.0	53	0.7237291	0.7720659		6.7	20	
1,1,1-Trichloroethane	A	50.0	60	0.579044	0.6941459		20	20	
Methyl acetate	A	50.0	32	0.2913378	0.1569426		-37	20	*
Cyclohexane	A	50.0	42	0.7181999	0.6092359		-15	20	
Methyl cyclohexane	A	50.0	46	0.5587731	0.419722		-8.9	20	
Carbon Tetrachloride	A	50.0	61	0.2548557	0.3219499		23	20	*
1,2-Dichloroethane	A	50.0	63	0.2471022	0.312252		26	20	*
Benzene	A	50.0	47	0.972288	0.9123678		-6.2	20	
Trichloroethene	A	50.0	53	0.2421904	0.254434		5.1	20	
1,2-Dichloropropane	A	50.0	40	0.2554607	0.2047865		-20	20	
Bromodichloromethane	A	50.0	59	0.2647395	0.3118276		18	20	
4-Methyl-2-pentanone	A	250	210	3.349708E-02	2.778478E-02		-17	20	
2-Hexanone	A	250	160	0.127459	9.273514E-02		-27	20	*

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07290-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2008123
Lab File ID:	205K3022.D	Calibration Date:	08/26/20 09:31
Sequence:	AA63365	Injection Date:	11/03/20
Lab Sample ID:	AA63365-CCV1	Injection Time:	18:35

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
cis-1,3-Dichloropropene	A	50.0	49	0.3591361	0.3536372		-1.5	20
Toluene	A	50.0	42	1.290264	1.081504		-16	20
trans-1,3-Dichloropropene	A	50.0	50	0.5558167	0.5524398		-0.6	20
1,1,2-Trichloroethane	A	50.0	43	0.4082639	0.3483673		-15	20
Tetrachloroethene	A	50.0	41	0.3957423	0.3226376		-19	20
Dibromochloromethane	A	50.0	47	0.3309995	0.3656605		11	20
1,2-Dibromoethane	A	50.0	45	0.4031171	0.3600979		-11	20
Chlorobenzene	A	50.0	46	1.274617	1.178002		-7.6	20
Ethylbenzene	A	50.0	43	0.7589337	0.6531886		-14	20
m,p-Xylenes	A	100	90	0.9422385	0.8467897		-10	20
o-Xylene	A	50.0	45	0.9160319	0.8240058		-10	20
Bromoform	A	50.0	50	0.1887345	0.215543		-0.8	20
Styrene	A	50.0	44	1.605253	1.418381		-12	20
Isopropylbenzene	A	50.0	47	2.345417	2.21232		-5.7	20
1,1,2,2-Tetrachloroethane	A	50.0	45	0.535388	0.4857169		-9.3	20
1,2,4-Trichlorobenzene	A	50.0	59	0.3551958	0.4164115		17	20
1,3-Dichlorobenzene	A	50.0	46	1.079613	0.9941302		-7.9	20
1,4-Dichlorobenzene	A	50.0	47	1.112835	1.045531		-6	20
1,2-Dichlorobenzene	A	50.0	47	0.984576	0.9346701		-5.1	20
1,2-Dibromo-3-chloropropane	A	50.0	49	6.649624E-02	6.964224E-02		-1.9	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07290-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA62152	Instrument:	OVGCMS5
Calibration:	2008123		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A0F0994	MS Tune (lower conc.)	AA62152-TUN1	205HU003.D	08/26/20 09:31
A0H1211	8260 CAL 1 PPB	AA62152-CAL1	205HU004.D	08/26/20 10:39
A0H1214	8260 CAL 2 PPB	AA62152-CAL2	205HU005.D	08/26/20 11:10
A0H1216	8260 CAL 5 PPB	AA62152-CAL3	205HU006.D	08/26/20 11:42
A0H1217	8260 CAL 10 PPB	AA62152-CAL4	205HU007.D	08/26/20 12:13
A0H1218	8260 CAL 20 PPB	AA62152-CAL5	205HU008.D	08/26/20 12:45
A0H1219	8260 CAL 50 PPB	AA62152-CAL6	205HU009.D	08/26/20 13:16
A0H1220	8260 CAL 80 PPB	AA62152-CAL7	205HU010.D	08/26/20 13:48
A0H1221	8260 CAL 100 PPB	AA62152-CAL8	205HU011.D	08/26/20 14:19
A0H1165	8260 SCV 50 PPB/20 Gases (surr. lower conc.)	AA62152-SCV1	205HU014.D	08/26/20 15:55

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07290-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2008123
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 08/26/20 09:31

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	1	0.3750005	2	0.3713959	5	0.2572069	10	0.2445917	20	0.2782695	50	0.2593673
Chloromethane	1	0.6754436	2	0.4941506	5	0.3848908	10	0.3368616	20	0.3423251	50	0.3584029
Vinyl chloride	1	0.4614307	2	0.4407102	5	0.3569341	10	0.341541	20	0.3924372	50	0.3803219
Bromomethane	1	0.4779655	2	0.3136697	5	0.228035	10	0.1251537	20	0.1073713	50	0.1018804
Chloroethane	1	0.2758254	2	0.3377525	5	0.2207831	10	0.2044819	20	0.2293252	50	0.2208119
Trichlorofluoromethane	1	0.6707817	2	0.6422408	5	0.4891241	10	0.4775707	20	0.5238603	50	0.5175744
Freon 113	1	0.3377721	2	0.2510973	5	0.2496857	10	0.2086937	20	0.2600446	50	0.2543777
Acetone	5	8.952252E-02	10	8.657278E-02	25	7.375289E-02	50	0.070402	100	7.373368E-02	250	0.072566
1,1-Dichloroethene	1	0.3990145	2	0.333681	5	0.3180666	10	0.2894046	20	0.3432641	50	0.3306842
Carbon disulfide	5	1.253932	10	1.037835	25	1.112832	50	1.00433	100	1.06472	250	1.028287
Methylene Chloride	1	0.5847539	2	0.4185889	5	0.4008529	10	0.3256222	20	0.3964218	50	0.3776491
Methyl-tert-Butyl Ether	1	1.164242	2	0.9056515	5	0.9469808	10	0.7918829	20	0.9566979	50	0.9415806
trans-1,2-Dichloroethene	1	0.5455467	2	0.3701761	5	0.4034804	10	0.3352535	20	0.4121552	50	0.3860634
cis-1,2-Dichloroethene	1	0.5429307	2	0.4566005	5	0.436633	10	0.3952888	20	0.4590148	50	0.4640396
1,1-Dichloroethane	1	0.8640339	2	0.6953185	5	0.7383302	10	0.6029027	20	0.7110953	50	0.6892367
2-Butanone	5	7.135105E-02	10	4.298968E-02	25	3.967934E-02	50	4.310052E-02	100	4.563691E-02	250	4.513214E-02
Chloroform	1	0.8897248	2	0.6827249	5	0.7076278	10	0.6117401	20	0.7083581	50	0.6880936
1,1,1-Trichloroethane	1	0.7157911	2	0.5241675	5	0.5674107	10	0.4753269	20	0.5623947	50	0.5589413
Methyl acetate	1	0.4809505	2	0.3497362	5	0.2257951	10	0.1912443	20	0.2395791	50	0.2518971
Cyclohexane	1	0.7609683	2	0.787809	5	0.679277	10	0.6276656	20	0.7007074	50	0.6778329
Methyl cyclohexane	1	1.033376	2	0.6679896	5	0.5175285	10	0.4251621	20	0.4578233	50	0.4325505
Carbon Tetrachloride	1	0.332756	2	0.2272348	5	0.2307668	10	0.2048351	20	0.236089	50	0.2460996
1,2-Dichloroethane	1	0.2921979	2	0.249068	5	0.2535648	10	0.1975228	20	0.2271588	50	0.2345443
Benzene	1	1.146201	2	0.8705841	5	0.9947093	10	0.8462739	20	0.9745221	50	0.9359566
Trichloroethene	1	0.2813704	2	0.2252386	5	0.2332473	10	0.208358	20	0.2394318	50	0.2341205
1,2-Dichloropropane	1	0.3117845	2	0.2404862	5	0.2401144	10	0.2219699	20	0.2468147	50	0.2425035
Bromodichloromethane	1	0.290831	2	0.2360929	5	0.2587333	10	0.2142736	20	0.2566076	50	0.2604013
4-Methyl-2-pentanone	5	3.858322E-02	10	3.052195E-02	25	3.281132E-02	50	3.050125E-02	100	3.315772E-02	250	3.123631E-02
2-Hexanone	5	0.1509228	10	0.1138268	25	0.1167292	50	0.110821	100	0.1170194	250	0.1248635
cis-1,3-Dichloropropene	1	0.3700406	2	0.2917631	5	0.3596915	10	0.3061941	20	0.3496095	50	0.3700543
Toluene	1	1.577421	2	1.274363	5	1.288243	10	1.108533	20	1.247154	50	1.223067

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07290-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2008123
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 08/26/20 09:31

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	1	0.6242174	2	0.4638536	5	0.5202423	10	0.4823255	20	0.566267	50	0.5651334
1,1,2-Trichloroethane	1	0.5355071	2	0.3590808	5	0.4315403	10	0.3387481	20	0.3827607	50	0.3844219
Tetrachloroethene	1	0.4382608	2	0.4004179	5	0.4351407	10	0.3262587	20	0.3874028	50	0.3480103
Dibromochloromethane	1	0.2809807	2	0.3145919	5	0.3051518	10	0.2696175	20	0.3285783	50	0.354141
1,2-Dibromoethane	1	0.4584014	2	0.363107	5	0.4059481	10	0.345689	20	0.399607	50	0.3983762
Chlorobenzene	1	1.488217	2	1.18575	5	1.328391	10	1.080077	20	1.255496	50	1.239516
Ethylbenzene	1	0.8478098	2	0.6953159	5	0.782013	10	0.657471	20	0.7611675	50	0.7343107
m,p-Xylenes	2	1.101772	4	0.9646993	10	0.934611	20	0.8494576	40	0.9373763	100	0.9060167
o-Xylene	1	1.0271	2	0.8969185	5	0.9114656	10	0.8087691	20	0.9062103	50	0.8945385
Bromoform	1	0.1733996	2	0.1385312	5	0.1494752	10	0.1439546	20	0.1862017	50	0.2125588
Styrene	1	1.825352	2	1.537489	5	1.494017	10	1.426179	20	1.585908	50	1.60502
Isopropylbenzene	1	2.683073	2	2.4079	5	2.319484	10	2.007368	20	2.316657	50	2.272909
1,1,2,2-Tetrachloroethane	1	0.6579026	2	0.5233725	5	0.518207	10	0.462935	20	0.5039152	50	0.519934
1,2,4-Trichlorobenzene	1	0.3771504	2	0.2955033	5	0.3112775	10	0.3020397	20	0.3441778	50	0.369034
1,3-Dichlorobenzene	1	1.190512	2	1.061118	5	1.031088	10	0.9294607	20	1.057068	50	1.065797
1,4-Dichlorobenzene	1	1.327146	2	1.026927	5	1.113201	10	0.9314809	20	1.086394	50	1.092925
1,2-Dichlorobenzene	1	1.052875	2	0.9182474	5	0.9794701	10	0.8555927	20	0.9767826	50	0.9892623
1,2-Dibromo-3-chloropropane	1	0.1032681	2	4.838925E-02	5	4.688667E-02	10	5.516524E-02	20	6.176294E-02	50	7.163575E-02
Dibromofluoromethane	50	0.4489206	55	0.4306659	60	0.4358951	50	0.4430136	65	0.4246368	50	0.4571178
Toluene-d8	50	1.08395	55	1.046894	60	1.050571	50	1.113557	65	1.013304	50	1.135162
4-Bromofluorobenzene	50	0.9436762	55	0.8976863	60	0.8933558	50	0.9459815	65	0.8429001	50	0.9323548

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07290-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2008123
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 08/26/20 09:31

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	80	0.2859963	100	0.2867727								
Chloromethane	80	0.3958117	100	0.4111025								
Vinyl chloride	80	0.437193	100	0.4398651								
Bromomethane	80	0.1150264	100	0.127057								
Chloroethane	80	~~9.071784E-02~~	100	~~4.136079E-02~~								
Trichlorofluoromethane	80	0.5597001	100	0.5535686								
Freon 113	80	0.2828012	100	0.2800146								
Acetone	400	7.713299E-02	500	0.0815403								
1,1-Dichloroethene	80	0.3545539	100	0.3630651								
Carbon disulfide	400	1.05616	500	1.046055								
Methylene Chloride	80	0.4151954	100	0.4001943								
Methyl-tert-Butyl Ether	80	1.046728	100	1.005867								
trans-1,2-Dichloroethene	80	0.422627	100	0.422557								
cis-1,2-Dichloroethene	80	0.5021693	100	0.4876872								
1,1-Dichloroethane	80	0.758259	100	0.7391641								
2-Butanone	400	4.973432E-02	500	5.218887E-02								
Chloroform	80	0.7542789	100	0.7472843								
1,1,1-Trichloroethane	80	0.6221167	100	0.6062032								
Methyl acetate	80	0.2968936	100	0.2946065								
Cyclohexane	80	0.7634457	100	0.7478935								
Methyl cyclohexane	80	0.4790175	100	0.4567372								
Carbon Tetrachloride	80	0.2843548	100	0.2767095								
1,2-Dichloroethane	80	0.2679036	100	0.2548572								
Benzene	80	1.02478	100	0.9852768								
Trichloroethene	80	0.2628767	100	0.2528797								
1,2-Dichloropropane	80	0.2742472	100	0.2657654								
Bromodichloromethane	80	0.3042713	100	0.2967051								
4-Methyl-2-pentanone	400	3.476963E-02	500	3.639526E-02								
2-Hexanone	400	0.1397109	500	0.1457781								
cis-1,3-Dichloropropene	80	0.4216178	100	0.4041183								
Toluene	80	1.340678	100	1.262652								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07290-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2008123
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 08/26/20 09:31

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	80	0.6238615	100	0.6006332								
1,1,2-Trichloroethane	80	0.43017	100	0.403882								
Tetrachloroethene	80	0.4108681	100	0.4195793								
Dibromochloromethane	80	0.3970172	100	0.3979172								
1,2-Dibromoethane	80	0.4342559	100	0.4195521								
Chlorobenzene	80	1.341624	100	1.277863								
Ethylbenzene	80	0.8030547	100	0.7903268								
m,p-Xylenes	160	0.9428548	200	0.9011198								
o-Xylene	80	0.953209	100	0.930044								
Bromoform	80	0.2521207	100	0.2536338								
Styrene	80	1.709697	100	1.658363								
Isopropylbenzene	80	2.420246	100	2.335699								
1,1,2,2-Tetrachloroethane	80	0.5555936	100	0.5412443								
1,2,4-Trichlorobenzene	80	0.4145309	100	0.4278531								
1,3-Dichlorobenzene	80	1.151935	100	1.149928								
1,4-Dichlorobenzene	80	1.15919	100	1.165413								
1,2-Dichlorobenzene	80	1.05874	100	1.045638								
1,2-Dibromo-3-chloropropane	80	7.836572E-02	100	~~8.017809E-02~~								
Dibromofluoromethane	70	0.4120283	75	0.438788								
Toluene-d8	70	1.047682	75	1.071181								
4-Bromofluorobenzene	70	0.8207207	75	0.8639978								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07290-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2008123
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 08/26/20 09:31

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	0.2948251	17.15377	4.291875	4.988773E-02	0.9978792		0.99	
Chloromethane	0.4248736	26.56834	4.74275	6.731234E-02	0.9956816		0.99	
Vinyl chloride	0.4063041	10.92884	4.93075	9.075729E-02			20	
Bromomethane	0.1995199	67.59488	5.5925	4.751654E-02		0.9922792	0.99	
Chloroethane	0.2481633	20.19	5.810167	0.1181189	0.9986709		0.99	
Trichlorofluoromethane	0.5543026	12.52532	6.06475	0.2301703			20	
Freon 113	0.2655609	13.92419	6.92925	5.748041E-02			20	
Acetone	7.815289E-02	8.954934	7.77225	0.1297221			20	
1,1-Dichloroethene	0.3414668	9.513847	6.90925	6.415473E-02			20	
Carbon disulfide	1.075519	7.312832	7.004	0.0653526			20	
Methylene Chloride	0.4149098	17.98468	7.7135	6.962712E-02	0.9981009		0.99	
Methyl-tert-Butyl Ether	0.9699538	11.17787	7.99625	3.635616E-02			20	
trans-1,2-Dichloroethene	0.4122324	14.90961	7.916375	0.0748206	0.9980644		0.99	
cis-1,2-Dichloroethene	0.4680455	9.440563	9.301125	4.980304E-02			20	
1,1-Dichloroethane	0.7247925	10.17562	8.6885	3.160813E-02			20	
2-Butanone	0.0487266	20.43089	9.88375	7.866831E-02		0.9997206	0.99	
Chloroform	0.7237291	11.08232	9.56375	0.0268493			20	
1,1,1-Trichloroethane	0.579044	12.36384	9.8285	0.0541063			20	
Methyl acetate	0.2913378	31.23172	7.891125	0.1502229		0.9980747	0.99	
Cyclohexane	0.7181999	7.671657	9.539	0.0194309			20	
Methyl cyclohexane	0.5587731	37.02578	10.76638	1.143376E-02	0.9977425		0.99	
Carbon Tetrachloride	0.2548557	16.03506	9.756125	6.723115E-02		0.9979677	0.99	
1,2-Dichloroethane	0.2471022	11.43172	10.41275	5.238322E-02			20	
Benzene	0.972288	9.618456	10.20675	4.347433E-02			20	
Trichloroethene	0.2421904	9.443896	10.76513	5.612693E-02			20	
1,2-Dichloropropane	0.2554607	10.9281	11.28625	2.740175E-02			20	
Bromodichloromethane	0.2647395	11.73292	11.3155	0.0278931	0.9949301		0.99	
4-Methyl-2-pentanone	3.349708E-02	8.697115	12.3965	1.829166E-02			20	
2-Hexanone	0.127459	12.33313	13.12625	3.416798E-02			20	
cis-1,3-Dichloropropene	0.3591361	12.27263	11.8905	1.420593E-02			20	

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07290-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2008123
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 08/26/20 09:31

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Toluene	1.290264	10.37423	12.1085	1.171465E-02			20	
trans-1,3-Dichloropropene	0.5558167	11.09844	12.46312	3.596263E-02			20	
1,1,2-Trichloroethane	0.4082639	14.84203	12.6255	3.869146E-02			20	
Tetrachloroethene	0.3957423	10.17719	12.47925	2.824705E-02			20	
Dibromochloromethane	0.3309995	14.7054	12.812	2.874149E-02			20	
1,2-Dibromoethane	0.4031171	9.011604	13.07363	4.589575E-02			20	
Chlorobenzene	1.274617	9.393927	13.49238	1.800424E-02			20	
Ethylbenzene	0.7589337	8.079139	13.454	2.290466E-02			20	
m,p-Xylenes	0.9422385	7.783325	13.5715	3.594678E-02			20	
o-Xylene	0.9160319	6.699621	13.97725	1.003991E-02			20	
Bromoform	0.1887345	24.6134	14.125	3.266424E-02		0.998331	0.99	
Styrene	1.605253	7.865023	14.02513	3.574222E-02			20	
Isopropylbenzene	2.345417	7.970722	14.2415	6.300132E-03			20	
1,1,2,2-Tetrachloroethane	0.535388	10.55899	14.71375	1.070275E-02			20	
1,2,4-Trichlorobenzene	0.3551958	14.24157	18.479	5.537212E-02			20	
1,3-Dichlorobenzene	1.079613	7.703218	15.67475	2.080966E-02			20	
1,4-Dichlorobenzene	1.112835	10.31345	15.76612	1.235281E-02			20	
1,2-Dichlorobenzene	0.984576	7.185797	16.2975	3.539811E-02			20	
1,2-Dibromo-3-chloropropane	6.649624E-02	29.96806	17.37871	3.781393E-02		0.999655	0.99	
Dibromofluoromethane	0.4363833	3.241834	9.764375	3.074849E-02			20	
Toluene-d8	1.070288	3.697505	12.0585	1.613963E-02			20	
4-Bromofluorobenzene	0.8925841	5.275309	14.57575	1.382452E-02			20	

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AD07290-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2008123 **Laboratory ID:** AA62152-SCV1

Sequence: AA62152 **Standard ID:** A0H1165

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Cyclohexane	50.0	59	17.8	30.00
Ethylbenzene	50.0	50	0.2	30.00
Carbon Tetrachloride	50.0	50	-0.9	30.00
1,3-Dichlorobenzene	50.0	53	6.8	30.00
4-Bromofluorobenzene	50.0	52	4.7	30.00
Toluene-d8	50.0	54	7.7	30.00
Dibromofluoromethane	50.0	54	8.7	30.00
Methyl-tert-Butyl Ether	50.0	53	6.6	30.00
trans-1,2-Dichloroethene	50.0	51	1.7	30.00
cis-1,2-Dichloroethene	50.0	51	2.7	30.00
Tetrachloroethene	50.0	47	-6.3	30.00
Acetone	250	300	18.3	30.00
1,2,4-Trichlorobenzene	50.0	54	8.6	30.00
Chloroform	50.0	49	-1.1	30.00
Chlorobenzene	50.0	51	2.3	30.00
Toluene	50.0	50	0.3	30.00
Methyl cyclohexane	50.0	54	8.4	30.00
m,p-Xylenes	100	100	-0.02	30.00
4-Methyl-2-pentanone	250	260	4.7	30.00
1,2-Dichloroethane	50.0	49	-1.1	30.00
1,2-Dibromoethane	50.0	53	5.2	30.00
1,4-Dichlorobenzene	50.0	51	2.0	30.00
trans-1,3-Dichloropropene	50.0	56	13.0	30.00
cis-1,3-Dichloropropene	50.0	52	4.4	30.00
Styrene	50.0	52	3.1	30.00
Dibromochloromethane	50.0	52	3.9	30.00
1,1-Dichloroethene	50.0	54	8.4	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AD07290-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2008123 **Laboratory ID:** AA62152-SCV1

Sequence: AA62152 **Standard ID:** A0H1165

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
1,2-Dibromo-3-chloropropane	50.0	52	4.9	30.00
1,2-Dichlorobenzene	50.0	54	8.2	30.00
o-Xylene	50.0	52	3.3	30.00
1,1,2,2-Tetrachloroethane	50.0	51	2.7	30.00
Methyl acetate	50.0	49	-2.4	30.00
Trichloroethene	50.0	50	-0.2	30.00
1,1,2-Trichloroethane	50.0	51	2.8	30.00
2-Butanone	250	280	12.9	30.00
1,2-Dichloropropane	50.0	50	-0.9	30.00
Freon 113	50.0	51	3.0	30.00
2-Hexanone	250	270	7.6	30.00
Trichlorofluoromethane	20.0	20	2.3	30.00
Isopropylbenzene	50.0	52	3.3	30.00
1,1-Dichloroethane	50.0	50	0.8	30.00
Bromodichloromethane	50.0	52	4.1	30.00
Bromoform	50.0	52	4.0	30.00
Carbon disulfide	50.0	47	-6.7	30.00
Methylene Chloride	50.0	51	1.3	30.00
Vinyl chloride	20.0	22	11.6	30.00
Chloroethane	20.0	24	17.8	30.00
Chloromethane	20.0	24	20.4	30.00
Bromomethane	20.0	28	40.8 *	30.00
1,1,1-Trichloroethane	50.0	52	3.7	30.00
Benzene	50.0	51	2.8	30.00
Dichlorodifluoromethane	20.0	32	58.6 *	30.00

* Values outside of QC limits

ANALYSIS SEQUENCE

AA63365

Instrument: OVGCMS5

Calibration ID: 2008123

Printed: 11/3/2020 1:57:10PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA63365-CCV1	QC		1		A0J1199	A0H0536		
0K03050-BS1	QC		2			A0H0536		
0K03050-MS1	QC		3			A0H0536		
0K03050-MSD1	QC		4			A0H0536		
0K03050-BLK1	QC		5			A0H0536		
AA63365-CRL1	QC		6		A0J1200	A0H0536		
AD07290-02	60D TCL SOM01.2 CLP-LIK	A	7			A0H0536	Tetra Tech, Inc. (TE016)	History 1x jw 102920 custom
AD07290-02	8260D Arom	A	8			A0H0536	Tetra Tech, Inc. (TE016)	BatchQC
AD07290-01	60D TCL SOM01.2 CLP-LIK	B	9			A0H0536	Tetra Tech, Inc. (TE016)	History 1x jw 102920 custom
AD07358-01	8260D Arom	G	10			A0H0536		Run 1x jw 110320
AD07358-02	8260D Arom	F	11			A0H0536		Run 1x jw 110320
AD07358-03	8260D Arom	A	12			A0H0536		TB
AD07369-01	8260D Arom	G	13			A0H0536		Run 1x jw 110220 Benzene Only KD 8
AD07369-02	8260D Arom	A	14			A0H0536		TB Benzene Only KD 8/25/20- soils
AD06931-01RE1	60D TCL SOM01.2 CLP-LIK	C	15			A0H0536		rr@1x overdilute Re-extract added 11/
AD06931-02RE1	60D TCL SOM01.2 CLP-LIK	B	16			A0H0536		rr@50x overdilute Re-extract added 1
AD06931-04RE1	60D TCL SOM01.2 CLP-LIK	B	17			A0H0536		rr@200x overdilute Re-extract added
AD06931-05RE1	60D TCL SOM01.2 CLP-LIK	B	18			A0H0536		rr@1x overdilute Re-extract added 11/
AD06931-06RE1	60D TCL SOM01.2 CLP-LIK	B	19			A0H0536		rr@5x overdilute Re-extract added 11/
AD06931-07RE1	60D TCL SOM01.2 CLP-LIK	C	20			A0H0536		rr@1x overdilute Re-extract added 11/
AD06931-09RE1	60D TCL SOM01.2 CLP-LIK	B	21			A0H0536		rr@1x overdilute Re-extract added 11/
AD06931-10RE1	60D TCL SOM01.2 CLP-LIK	C	22			A0H0536		rr@1x overdilute Re-extract added 11/
AD06931-11RE1	60D TCL SOM01.2 CLP-LIK	C	23			A0H0536		rr@5x overdilute Re-extract added 11/

Samples Loaded By Date

Data Processed By Date

ANALYSIS SEQUENCE

AA63365

Instrument: OVGCMS5

Calibration ID: 2008123

Printed: 11/3/2020 1:57:10PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments

Samples Loaded By Date

Data Processed By Date

Tune Start Date: 11/03/20
Sequence: AA63365
Batch: OK03050
Method: 8260
Analyst: KJ
Instrument EM Voltage: 1741

Surrogate: ADF0992
Internal: AOH0535
LCS Mix 2°: AOJ0580
LCS Acrolein 2°: AOJ0677
LCS Gas 2°: AOJ1020

8260 Mix: AOJ0676
8260 Add: AOJ1189
8260 Ac/Ac: AOJ0647
8260 Gases: AOJ1022
Instrument #: MS-5

205K3 Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)	Comments	LIMS
022	CCV			21			✓	
023	BS			22			✓	
024	MS	C	1	23	✓	N	✓	
025	MSD	C	1	23	✓	N	✓	
026	mbl			24				
027	BLK			25			✓ APA	
028	CRL			26			✓	
029	AD07290-02	A	1	27	✓	N	✓ MS/MSD	
030	AD07290-01	B	1	28	✓	N	✓	
031	AD07358-01	G	1	29	✓	N	✓	
032	AD07358-02	P	1	30	✓	N	✓	
033	AD07358-03	A	1	31	✓	N	✓	
034	AD07369-01	G	1	32	✓	N	✓	
035	AD07369-02	A	1	33	✓	N	✓	
036	AD06931-01re1	C	1	34	✓	N	✓	
037	AD06931-02 re1	B	50	35	✓	N	✓	
038	AD06931-04 re1	B	200	36	✓	N	✓ Freon 113 From Prev. run	
039	AD06931-05 re1	B	1	37	✓	N	RR 1x From IBCO. APA	
040	AD06931-06re1	B	5	38	✓	N	✓RR 2x dvr dilute	
041	AD06931-07 re1	C	1	39	✓	N	✓	
042	AD06931-09 re1	B	1	40	✓	N	✓	

Tune Start Date:
Sequence:
Batch:
Method:
Analyst:
Instrument EM Voltage:

Surrogate:
Internal:
LCS Mix 2⁰:
LCS Acrolein 2⁰:
LCS Gas 2⁰:

8260 Mix:
8260 Add:
8260 Ac/Ac:
8260 Gases:
Instrument #: MS-5

See Pg 175
KD
11/04/20

Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)	Comments	LIMS
043	A006831-10 RE1	C	1	41	✓	N	✓	
044	A006831-11 RE1	C	5	42	✓	N	✓ Double Sam.	

KD
11/04/20

PREPARATION BENCH SHEET

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0K03050

ENCO Orlando

Analysis
8260D Arom [EPA 8260D]
8260D TCL SOM01.2 CLP-LIKE [EPA 8260D]

Surrogate Solution
___ A0F0992 8260 surr working (lower conc.)

Prepared using: EPA 5030B_MS

Spiking Solution
A0J0790 8260 2nd source Mega Mix
A0J1031 8260 2nd source Gases/Acrolein virtual

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
0K03050-BLK1		Blank		QC			5	5			5	
0K03050-BS1		LCS		QC			5	5	A0J1031 A0J0790	2 2	5	
0K03050-MS1		Matrix Spike [AD07290-02]		QC			5	5	A0J1031 A0J0790	2 2	5	
0K03050-MSD1		Matrix Spike Dup [AD07290-02]		QC			5	5	A0J1031 A0J0790	2 2	5	
AD06931-01RE1	C	HMFN-MW0040-042.5-20201026[MS46	04-Nov-20	8260D TCL SOM01.2 CLP-LIKE			5	5			5	rr@1x overdilute Re-extract added 11/3/2020 by KKW
AD06931-02RE1	C	HMFN-MW0039-035.0-20201026[MS46	04-Nov-20	8260D TCL SOM01.2 CLP-LIKE			5	5			5	rr@50x overdilute Re-extract added 11/3/2020 by KKW
AD06931-04RE1	C	HMFN-MW0044-042.5-20201026[MS46	04-Nov-20	8260D TCL SOM01.2 CLP-LIKE			5	5			5	rr@200x overdilute Re-extract added 11/3/2020 by KKW
AD06931-05RE1	C	HMFN-MW0034-015.0-20201026[MS46	04-Nov-20	8260D TCL SOM01.2 CLP-LIKE			5	5			5	rr@1x overdilute Re-extract added 11/3/2020 by KKW
AD06931-06RE1	C	HMFN-MW0035-035.0-20201026[MS46	04-Nov-20	8260D TCL SOM01.2 CLP-LIKE			5	5			5	rr@5x overdilute Re-extract added 11/3/2020 by KKW
AD06931-07RE1	C	HMFN-MW0046-015.0-20201027[MS47	04-Nov-20	8260D TCL SOM01.2 CLP-LIKE			5	5			5	rr@1x overdilute Re-extract added 11/3/2020 by KKW
AD06931-09RE1	C	HMFN-MW0037-010.0-20201027[MS47	04-Nov-20	8260D TCL SOM01.2 CLP-LIKE			5	5			5	rr@1x overdilute Re-extract added 11/3/2020 by KKW
AD06931-10RE1	C	HMFN-MW0038-020.0-20201027[MS47	04-Nov-20	8260D TCL SOM01.2 CLP-LIKE			5	5			5	rr@1x overdilute Re-extract added 11/3/2020 by KKW
AD06931-11RE1	C	HMFN-MW0029-015.0-20201027[MS47	04-Nov-20	8260D TCL SOM01.2 CLP-LIKE			5	5			5	rr@5x overdilute Re-extract added 11/3/2020 by KKW
AD07290-01	C	CRCA-ASEFFLUENT-20201028[MS47	04-Nov-20	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x jw 102920 custom
AD07290-02	C	CRCA-ASINFLUENT-20201027A[MS47		8260D Arom			5	5			5	Added for BatchQC in: 0K03050
AD07290-02	C	CRCA-ASINFLUENT-20201027A[MS47	04-Nov-20	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x jw 102920 custom

PREPARATION BENCH SHEET

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0K03050

ENCO Orlando

Prepared using: EPA 5030B_MS

Surrogate Solution
__ A0F0992 8260 surr working (lower conc.)

Spiking Solution
A0J0790 8260 2nd source Mega Mix
A0J1031 8260 2nd source Gases/Acrolein virtual

Matrix: Water

Lab Number Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
AD07358-01	B-1 G[MS9]	04-Nov-20	8260D Arom			5	5			5	Run 1x jw 110320
AD07358-02	B-1 F[MS9]	04-Nov-20	8260D Arom			5	5			5	Run 1x jw 110320
AD07358-03	TRIP BLANK A[MS9]	04-Nov-20	8260D Arom			5	5			5	TB
AD07369-01	B-1 G[MS9]	04-Nov-20	8260D Arom			5	5			5	Run 1x jw 110220 Benzene Only KD 8/25/20- soils
AD07369-02	TRIP BLANK A[MS9]	04-Nov-20	8260D Arom			5	5			5	TB Benzene Only KD 8/25/20- soils

(1) Before solvent extraction proceeds, verify that there is no residual chlorine above 0.5 mg/L. Any sample above this must be treated to remove excess chlorine before extraction, and this documented as a comment.

Instrument 5
EST Centurian autosampler manufacturer reccommends adding 5 uL of IS/SS.

Start Date _____

StopDate _____

Instrument ID _____

Standard ID#	Description	Manufacture Lot#
A0A1401	pH Test Papers (1.0 to 12.0)	231018
A0B1371	Residual Chlorine Strips (Potassium Iodide S	102916
A0I0581	P&T Anti-Foam working solution	N/A

_____ _____
Samples Prepared By Date

_____ _____
Samples Prepared By Date

Manual Integration Review Form

ENVIRONMENTAL CONSERVATION LABORATORIES, INC. ☐ Cary ☐ Jacksonville ☒ Orlando

I hereby attest that the manual integrations contained in this package have been thoroughly reviewed and are in agreement with the associated hardcopy data.

The electronic files listed below have been reviewed for accuracy, completeness and comply with ENCO labs QA-11 Manual Integration Policy including:

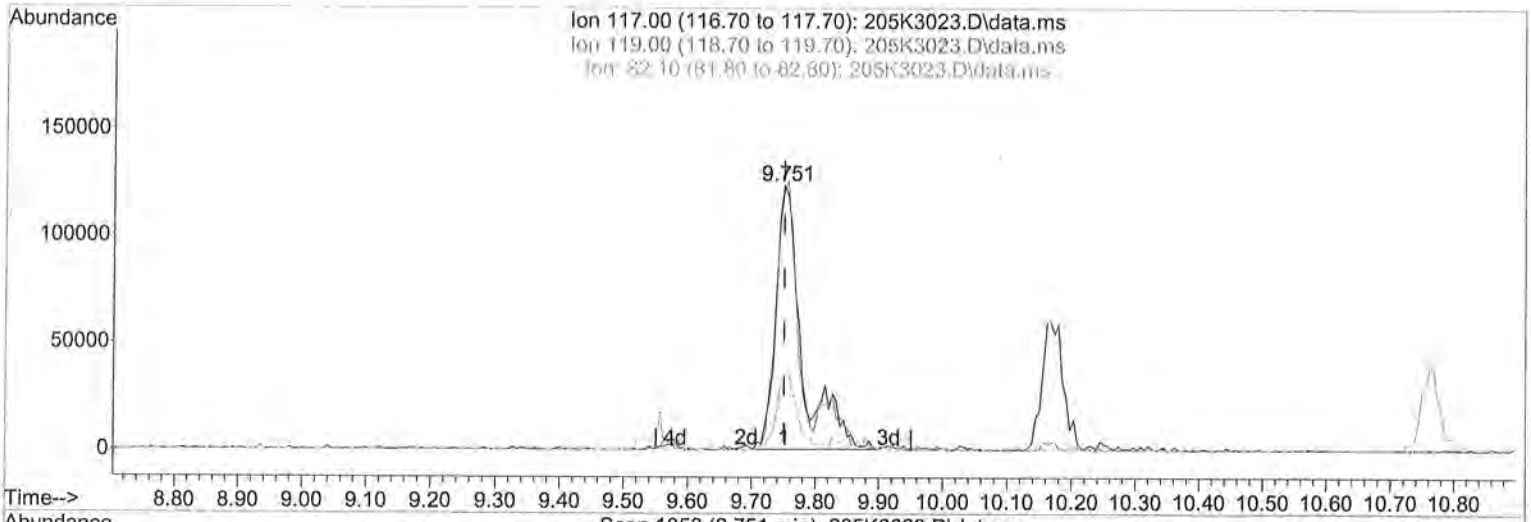
- "Before" and "After" chromatograms are provided
- Manual integrations are indicated on expanded scale "after" chromatograms at a scale large enough to see the manual integration performed.
- Reintegration technique marked if available on the data system
- Technical justification for manual integration
- Appropriate flags indicating which analytes were manually integrated are included in the raw data
- Analyst's initials and date.

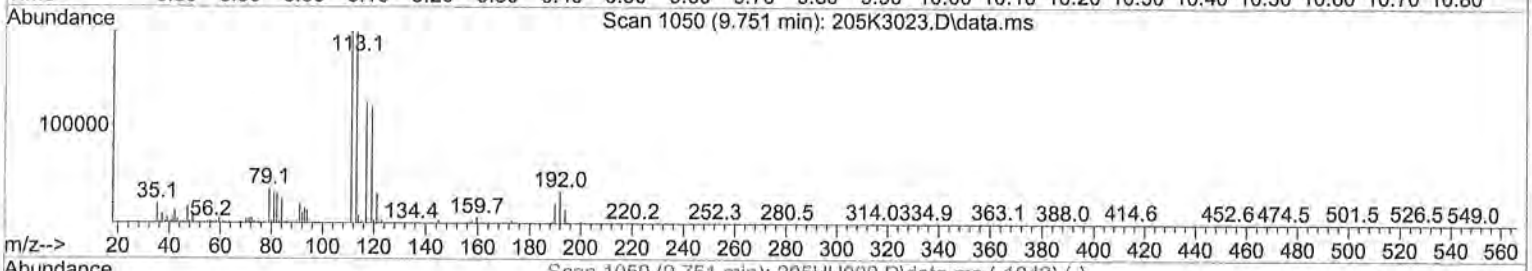
Instrument ID:	OVGcms-5
Sequence/Batch ID:	AA63365/OK03050
Data File Prefix:	205K3
Date and Time Range of MIs:	11/04/20 0801-0813
Reviewer Print Name:	Neil Christmas
Reviewer Signature:	
Date of Review:	11/4/20

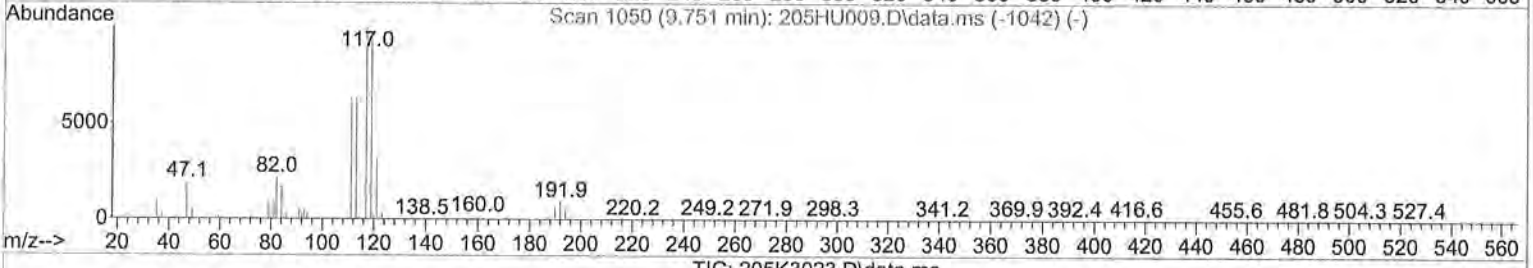
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\110320\
Data File : 205K3023.D
Acq On : 3 Nov 2020 7:06 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0k03050-bs1
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Nov 04 06:58:23 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2008123
QLast Update : Thu Aug 27 08:42:52 2020
Response via : Initial Calibration







TIC: 205K3023.D\data.ms

(40) Carbon Tetrachloride

9.751min (+ 0.000) 29.70 ug/L

response 352410

Ion	Exp%	Act%
117.00	100.00	100.00
119.00	96.10	79.98
82.10	27.00	23.25
0.00	0.00	0.00

Select One:

~~N~~ Original Integration [ ] Manual Integration

Select reason for manual integration:

~~N~~ Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

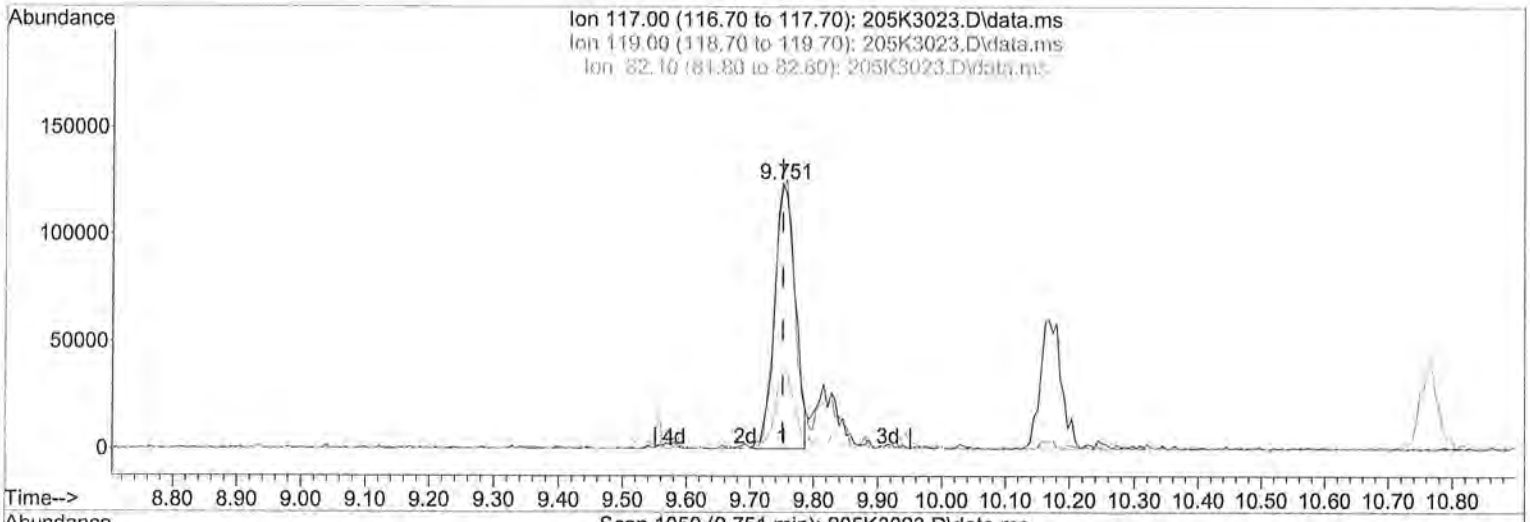
Review by/Date KJ 11/04/20

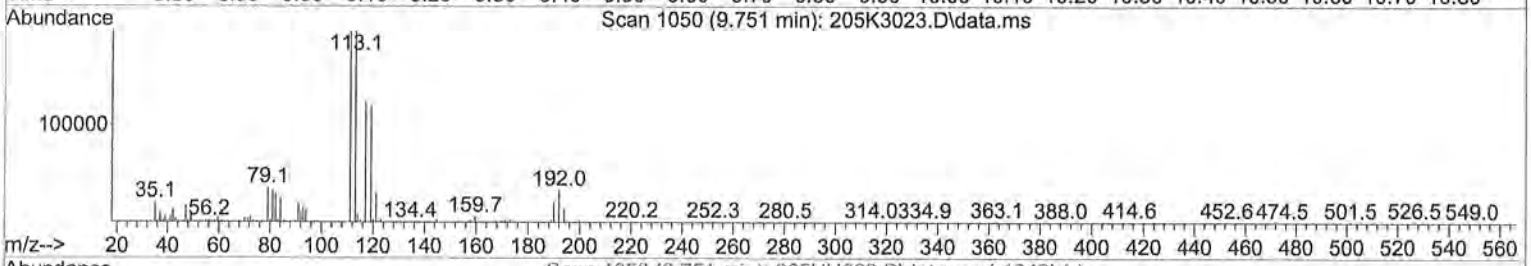
Review by/Date:

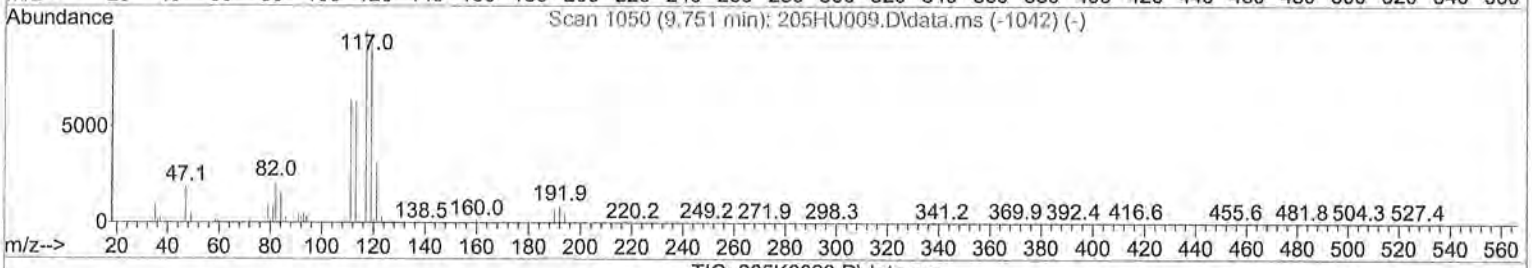
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\110320\
Data File : 205K3023.D
Acq On : 3 Nov 2020 7:06 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0k03050-bs1
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Nov 04 06:58:23 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2008123
QLast Update : Thu Aug 27 08:42:52 2020
Response via : Initial Calibration







TIC: 205K3023.D\data.ms

(40) Carbon Tetrachloride

9.751min (+ 0.000) 23.94 ug/L m

response 280584

Ion	Exp%	Act%
117.00	100.00	100.00
119.00	96.10	100.46
82.10	27.00	29.21
0.00	0.00	0.00

Select One:

[] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[] Incorrect peak selection/Peak not found

[] Hump integration

[] Baseline drop for split peaks

[] ISTD reintegration

[] Other:

Review by/Date KJ 11/04/20

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\110320\
Data File : 205K3023.D
Acq On : 3 Nov 2020 7:06 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0k03050-bs1
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Nov 04 06:58:23 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2008123
QLast Update : Thu Aug 27 08:42:52 2020
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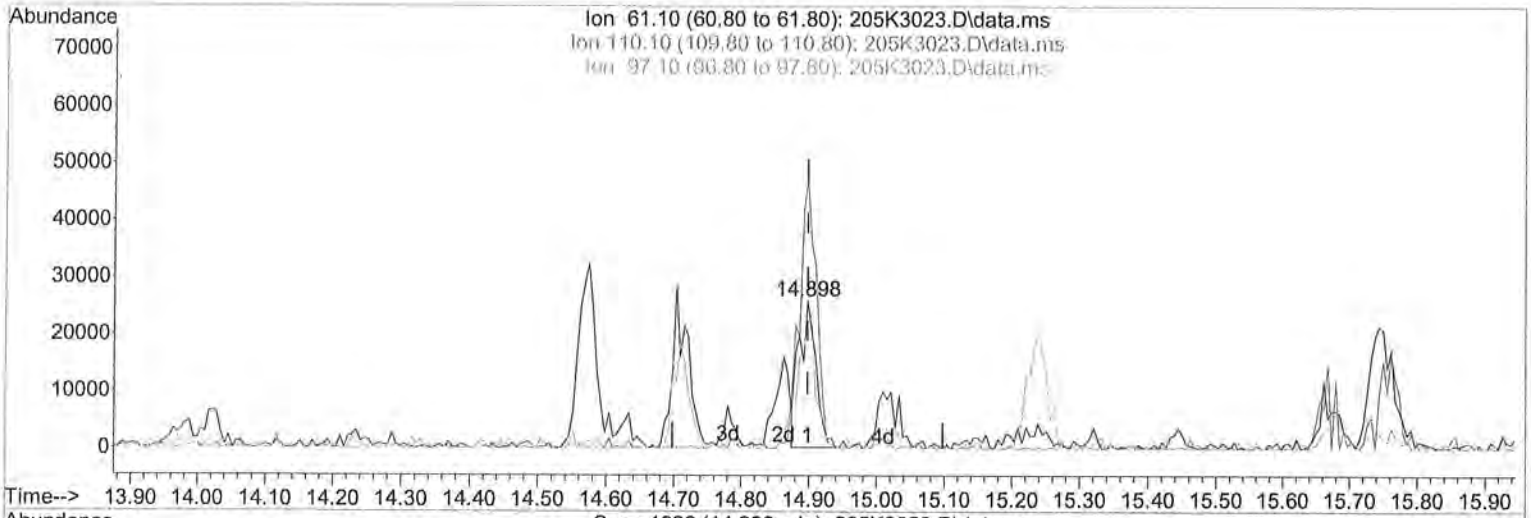
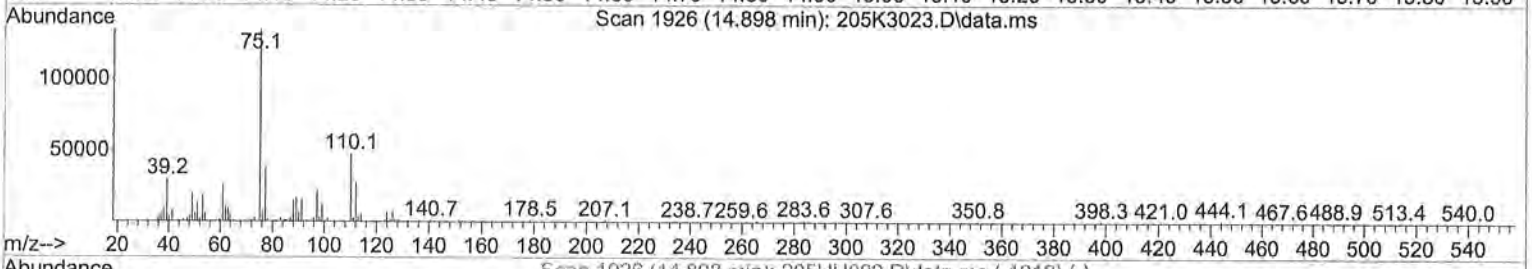
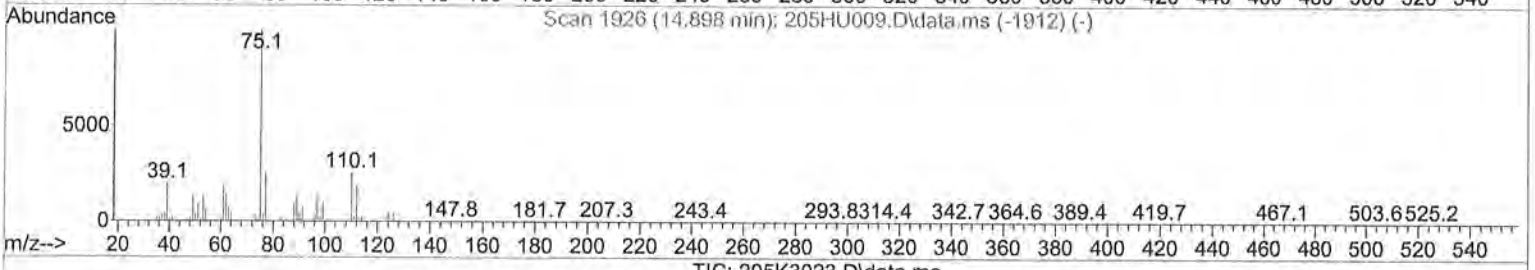






TIC: 205K3023.D\data.ms

(77) 1,2,3-Trichloropropane

14.898min (+ 0.000) 11.17 ug/L

response 45214

Ion	Exp%	Act%
61.10	100.00	100.00
110.10	103.70	185.86#
97.10	64.20	105.10#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

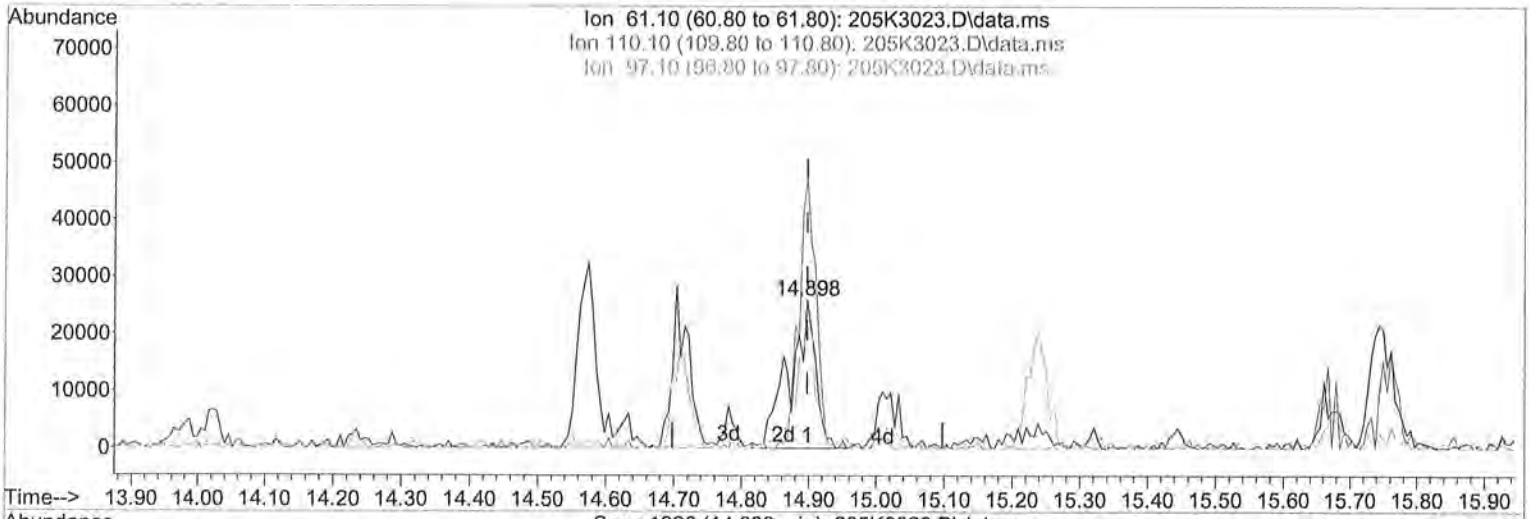
Review by/Date KW 11/04/20

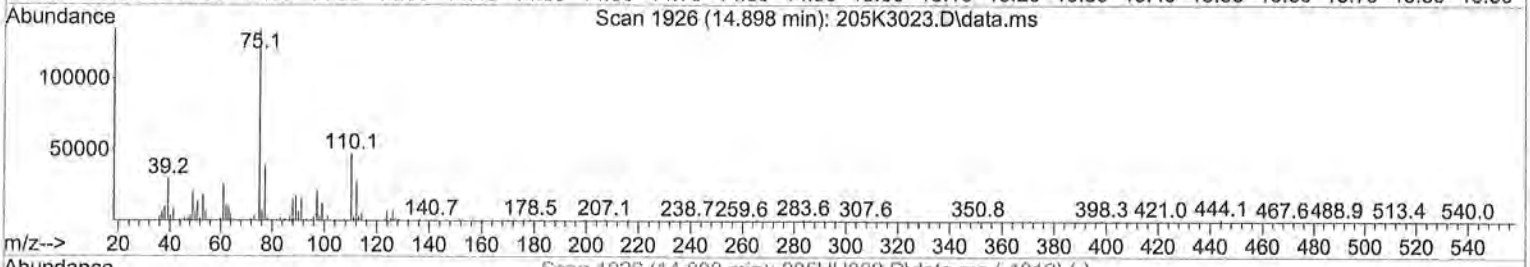
Review by/Date:

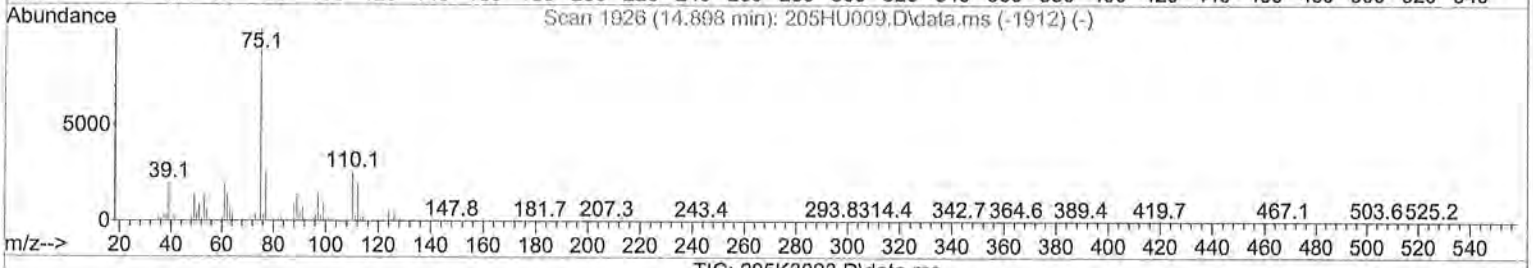
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\110320\
Data File : 205K3023.D
Acq On : 3 Nov 2020 7:06 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0k03050-bs1
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Nov 04 06:58:23 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2008123
QLast Update : Thu Aug 27 08:42:52 2020
Response via : Initial Calibration







TIC: 205K3023.D\data.ms

(77) 1,2,3-Trichloropropane

14.898min (+ 0.000) 17.43 ug/L m

response 70583

Ion	Exp%	Act%
61.10	100.00	100.00
110.10	103.70	119.06
97.10	64.20	67.32
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

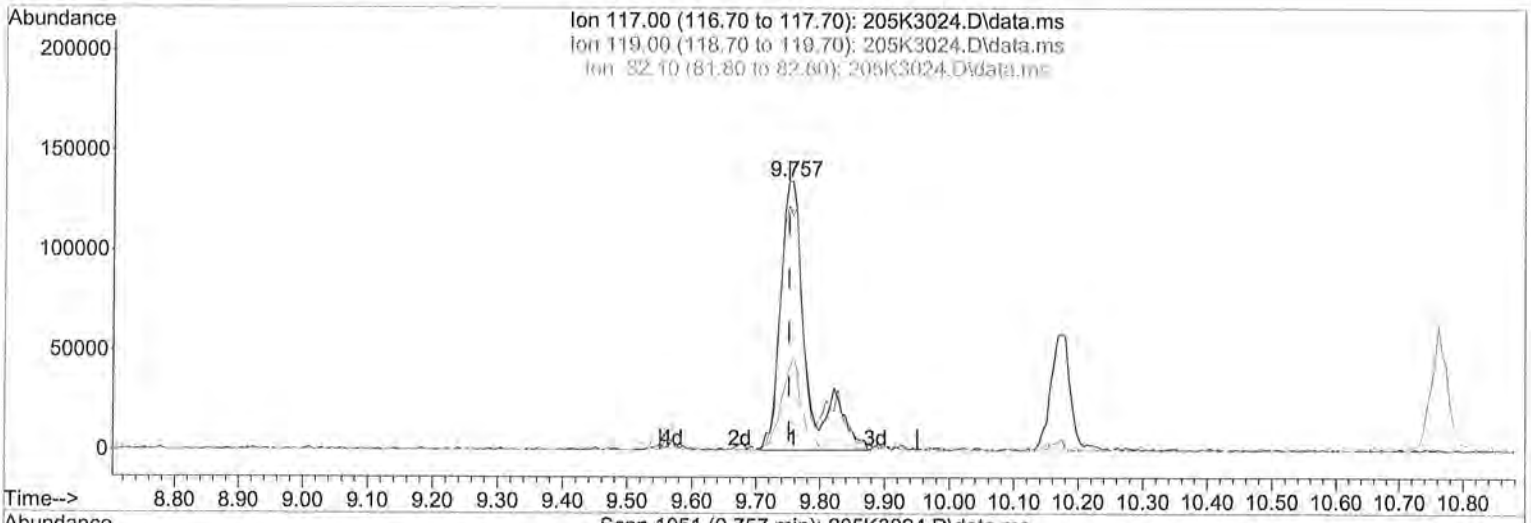
Review by/Date N 11/04/20

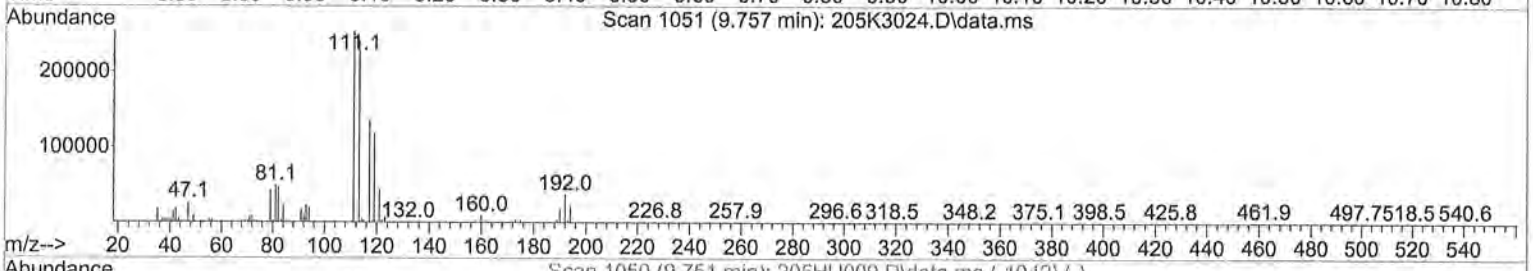
Review by/Date:

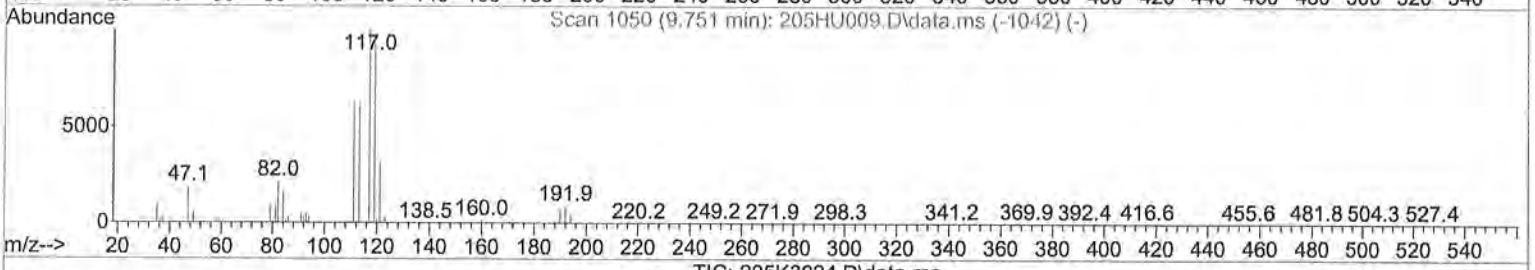
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\110320\
Data File : 205K3024.D
Acq On : 3 Nov 2020 7:36 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0k03050-ms1
Misc :
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Nov 04 06:58:26 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2008123
QLast Update : Thu Aug 27 08:42:52 2020
Response via : Initial Calibration







TIC: 205K3024.D\data.ms

(40) Carbon Tetrachloride

9.757min (+ 0.006) 30.83 ug/L

response 380045

Ion	Exp%	Act%
117.00	100.00	100.00
119.00	96.10	97.80
82.10	27.00	30.03
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

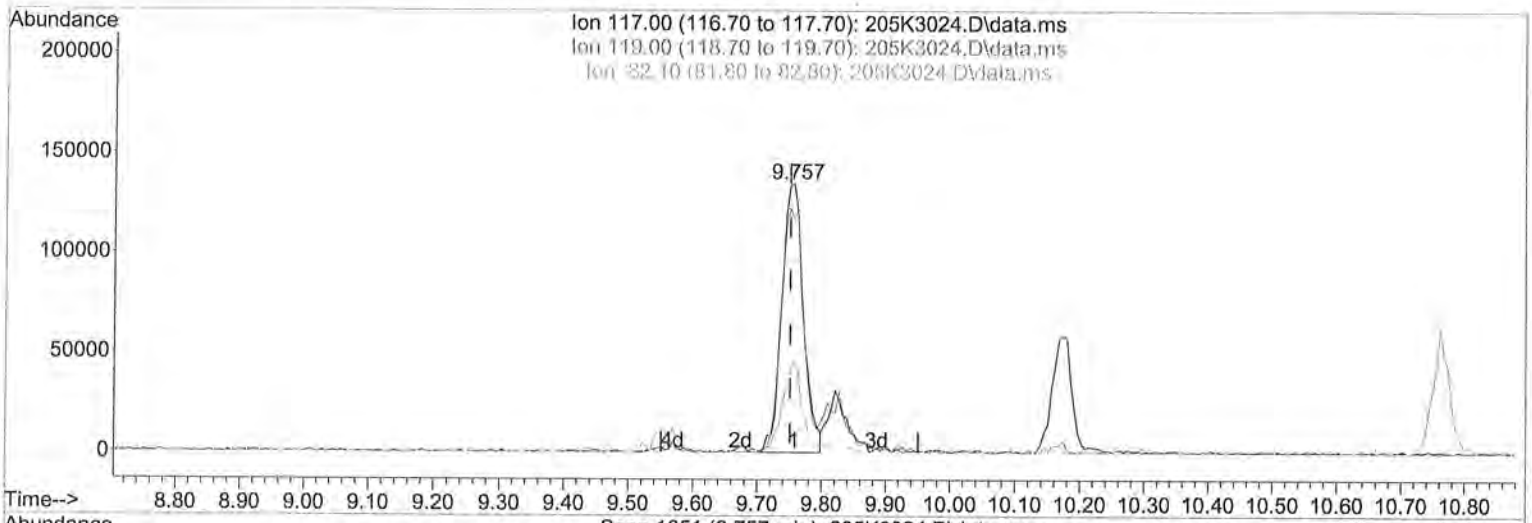
Review by/Date W 11/04/20

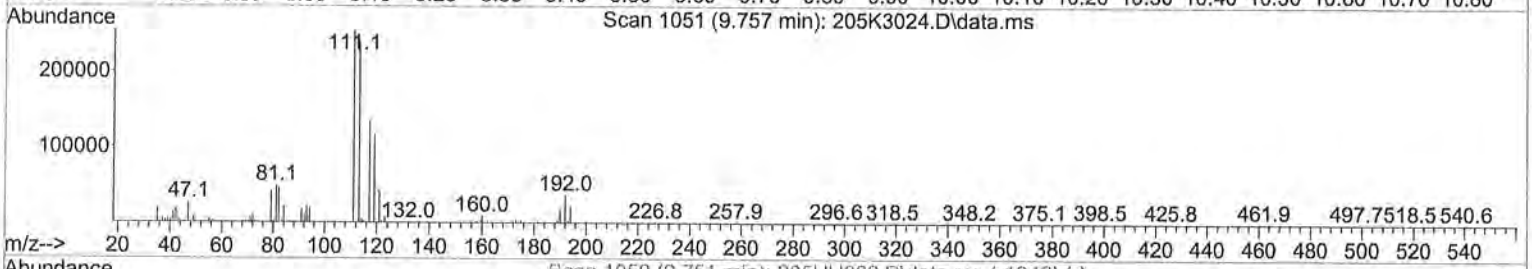
Review by/Date:

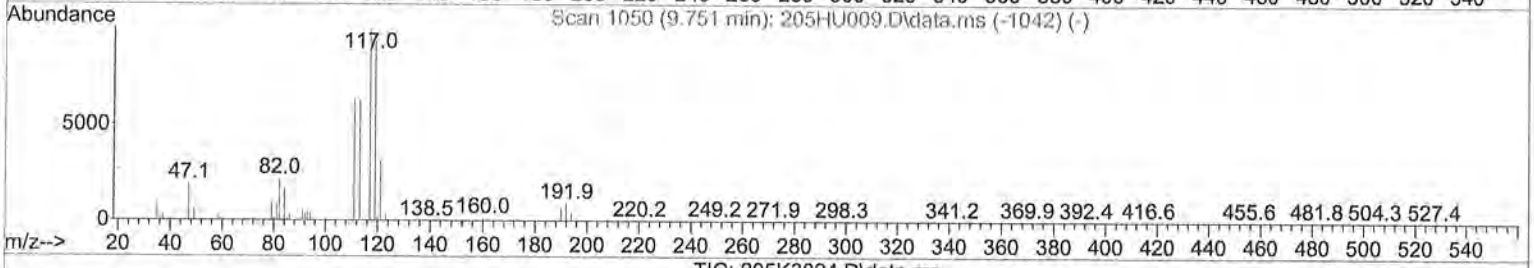
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\110320\
Data File : 205K3024.D
Acq On : 3 Nov 2020 7:36 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0k03050-ms1
Misc :
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Nov 04 06:58:26 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2008123
QLast Update : Thu Aug 27 08:42:52 2020
Response via : Initial Calibration







TIC: 205K3024.D\data.ms

(40) Carbon Tetrachloride

9.757min (+ 0.006) 26.14 ug/L m

response 318957

Ion	Exp%	Act%
117.00	100.00	100.00
119.00	96.10	116.54#
82.10	27.00	35.78#
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

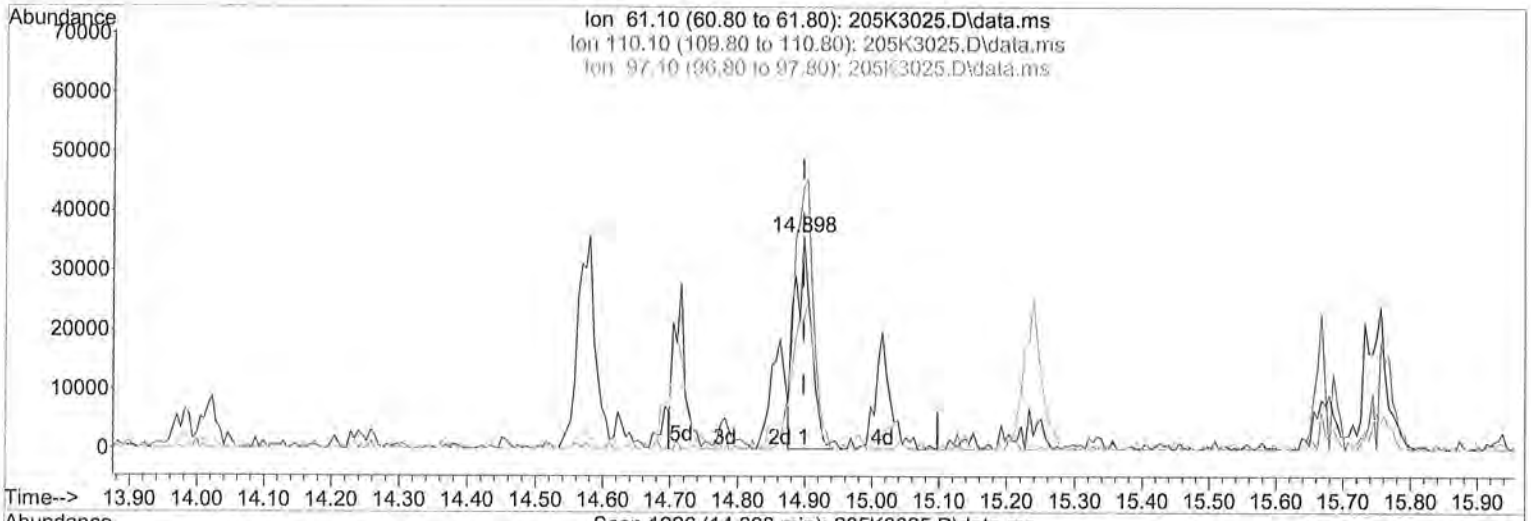
Review by/Date W 11/04/20

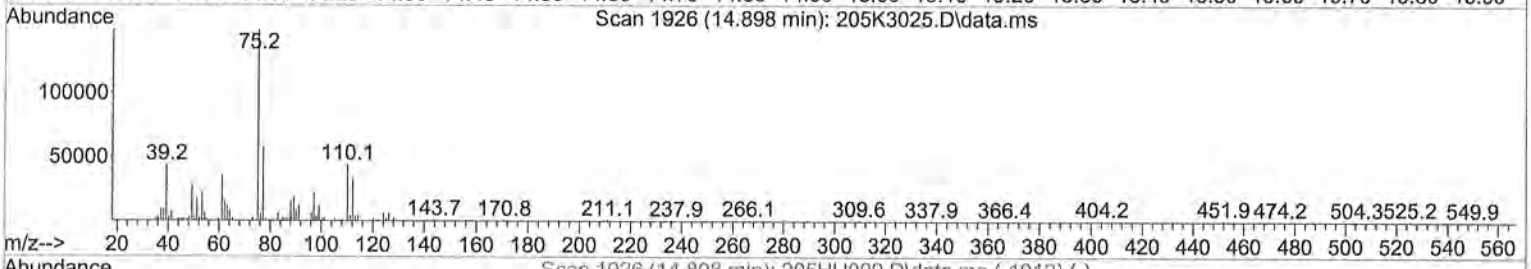
Review by/Date:

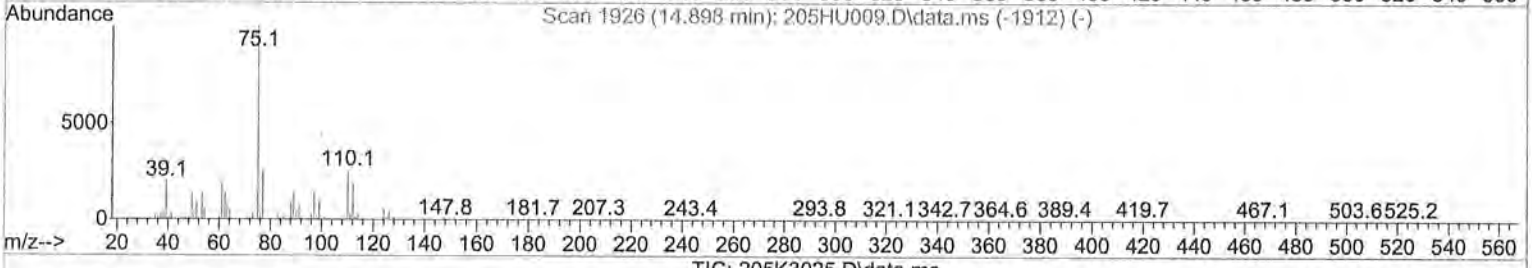
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\110320\
Data File : 205K3025.D
Acq On : 3 Nov 2020 8:07 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0k03050-msd1
Misc :
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Nov 04 06:58:30 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2008123
QLast Update : Thu Aug 27 08:42:52 2020
Response via : Initial Calibration







TIC: 205K3025.D\data.ms

(77) 1,2,3-Trichloropropane

14.898min (+ 0.000) 15.10 ug/L

response 62416

Ion	Exp%	Act%
61.10	100.00	100.00
110.10	103.70	145.98#
97.10	64.20	83.33#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

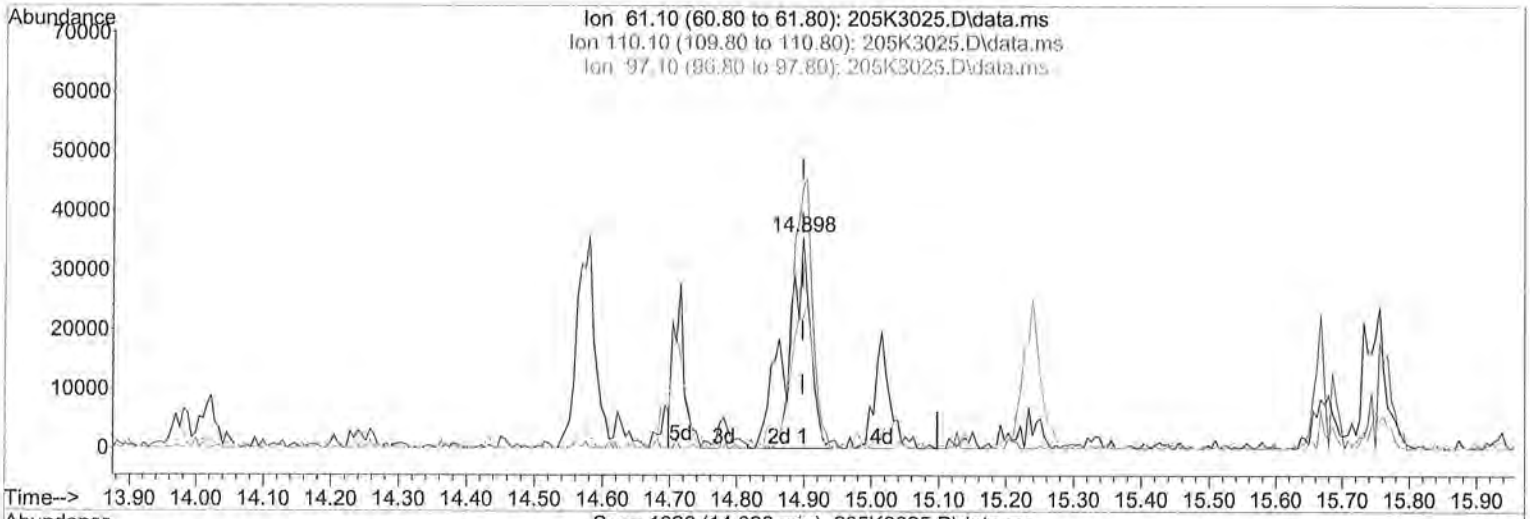
Review by/Date W 11/04/20

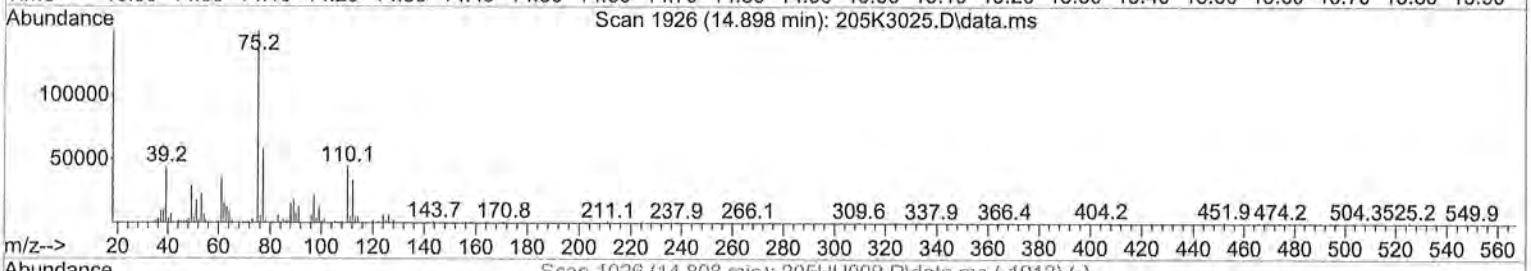
Review by/Data:

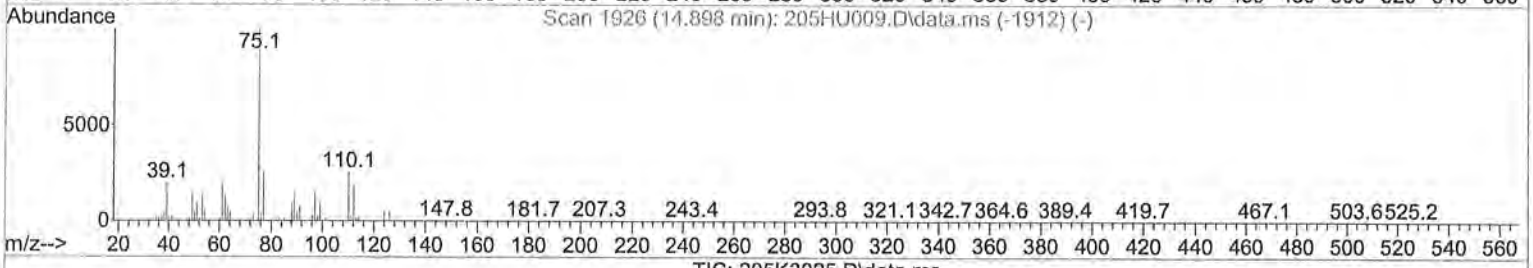
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\110320\
Data File : 205K3025.D
Acq On : 3 Nov 2020 8:07 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0k03050-msd1
Misc :
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Nov 04 06:58:30 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2008123
QLast Update : Thu Aug 27 08:42:52 2020
Response via : Initial Calibration







TIC: 205K3025.D\data.ms

(77) 1,2,3-Trichloropropane

14.898min (+ 0.000) 22.06 ug/L m

response 91161

Ion	Exp%	Act%
61.10	100.00	100.00
110.10	103.70	99.95
97.10	64.20	57.06
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] RTD reintegration

[ ] Other:

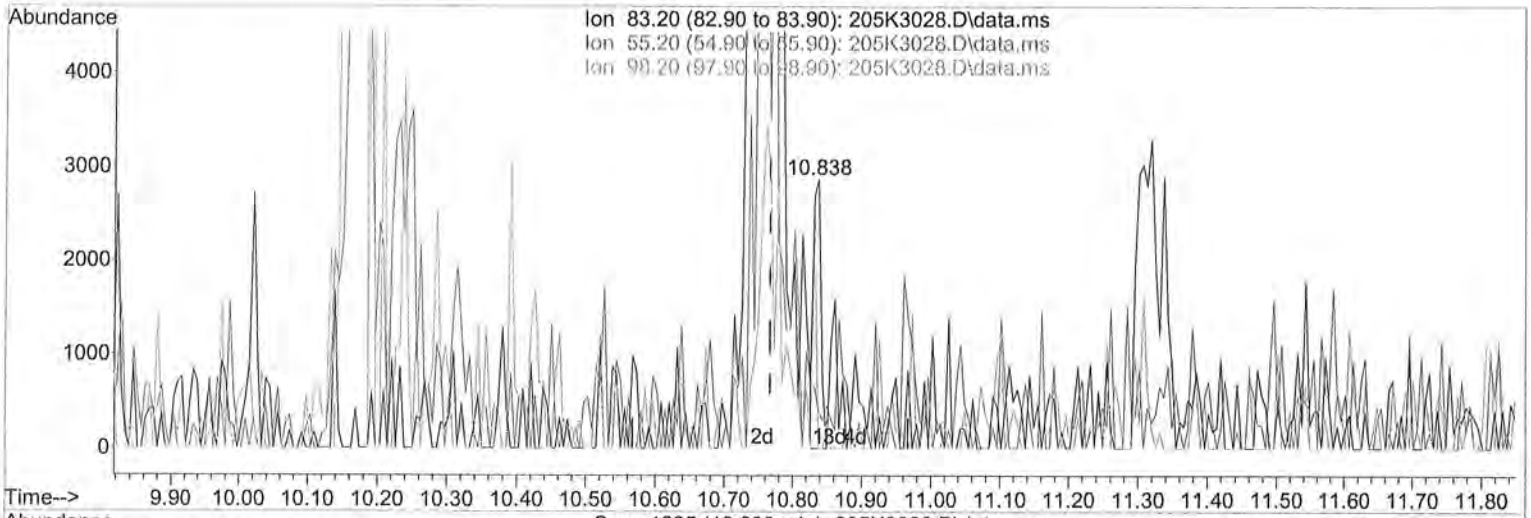
Review by/Date: W 11/04/20

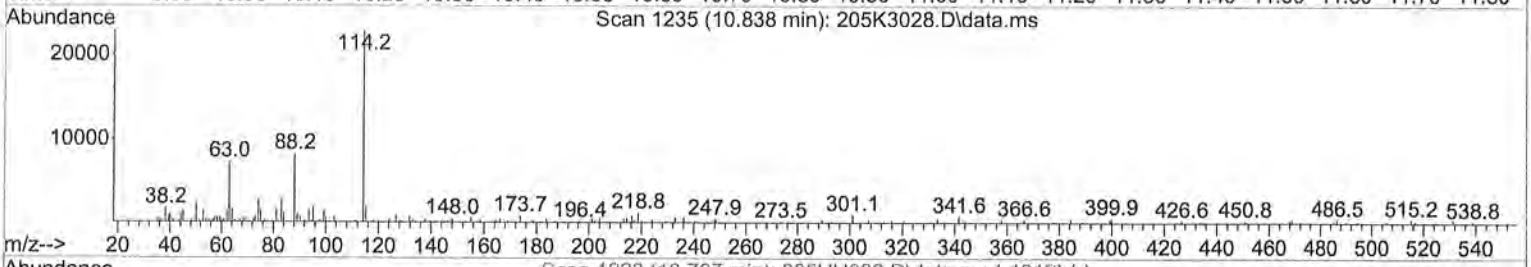
Review by/Date:

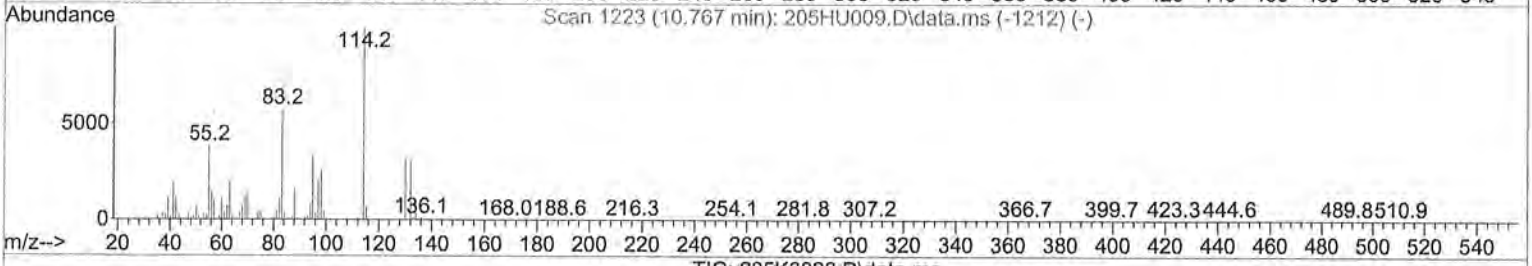
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\110320\
Data File : 205K3028.D
Acq On : 3 Nov 2020 9:40 pm
Operator : KKW
InstName : OVGCMS5
Sample : aa63365-crl1
Misc :
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Nov 04 06:58:40 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2008123
QLast Update : Thu Aug 27 08:42:52 2020
Response via : Initial Calibration







TIC: 205K3028.D\data.ms

(44) Methyl cyclohexane

10.838min (+ 0.071) 0.11 ug/L

response 2207

Ion	Exp%	Act%
83.20	100.00	100.00
55.20	71.30	64.43
98.20	46.00	48.39
0.00	0.00	0.00

Select one:

N Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

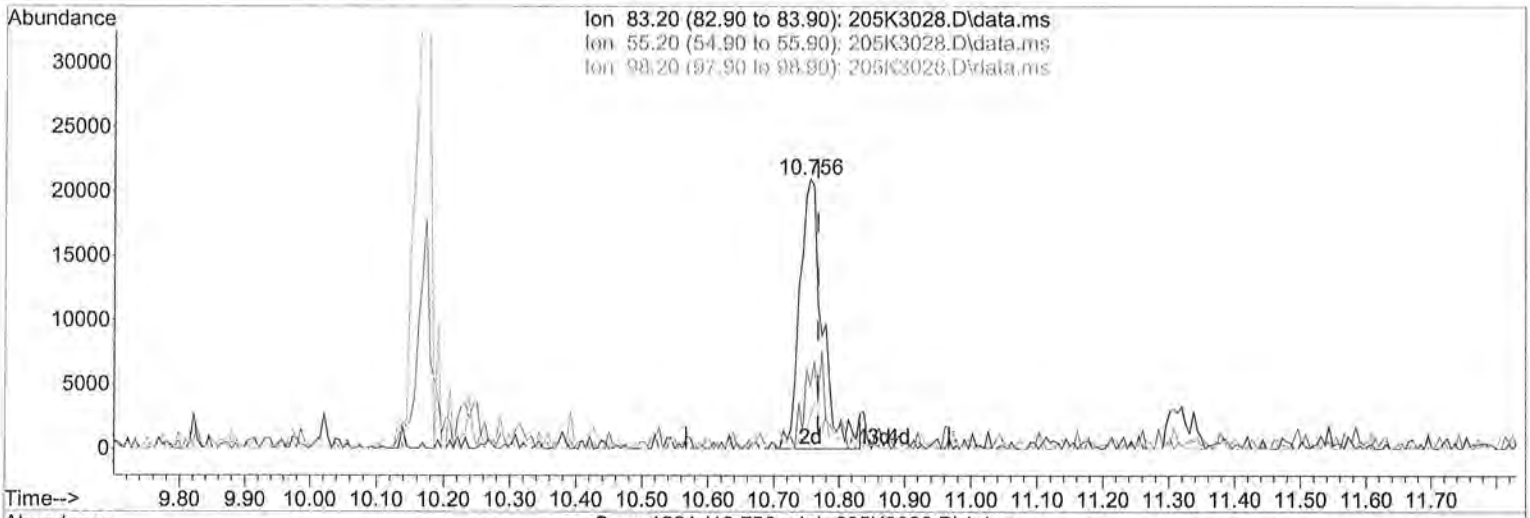
Review by/Date: AJ 11/04/20

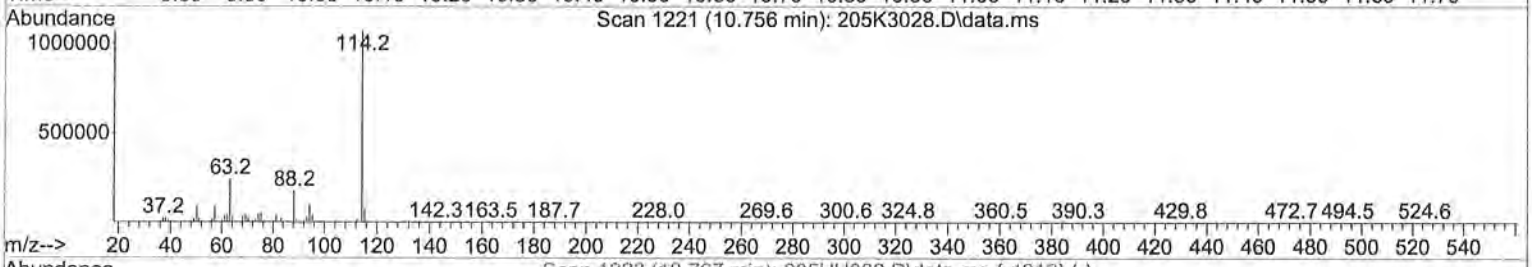
Review by/Date:

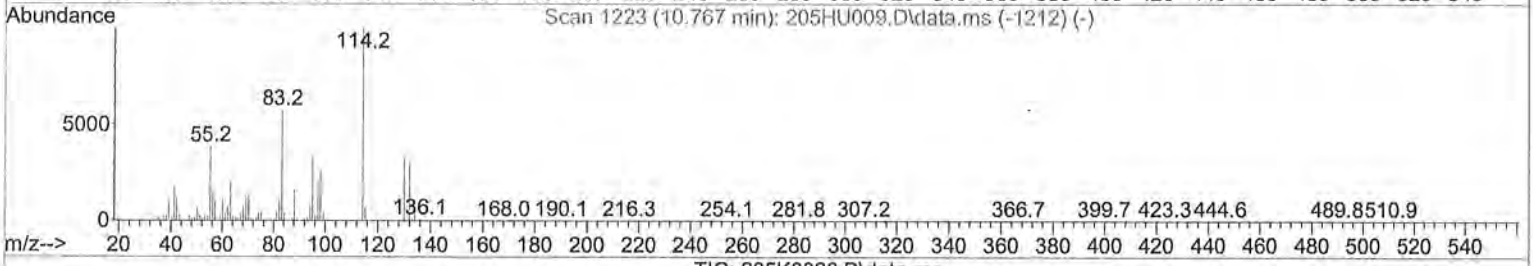
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\110320\
Data File : 205K3028.D
Acq On : 3 Nov 2020 9:40 pm
Operator : KKW
InstName : OVGCMS5
Sample : aa63365-cr11
Misc :
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Nov 04 06:58:40 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2008123
QLast Update : Thu Aug 27 08:42:52 2020
Response via : Initial Calibration







TIC: 205K3028.D\data.ms

(44) Methyl cyclohexane

10.756min (-0.012) 2.44 ug/L m

response 51119

Ion	Exp%	Act%
83.20	100.00	100.00
55.20	71.30	2.78#
98.20	46.00	2.09#
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

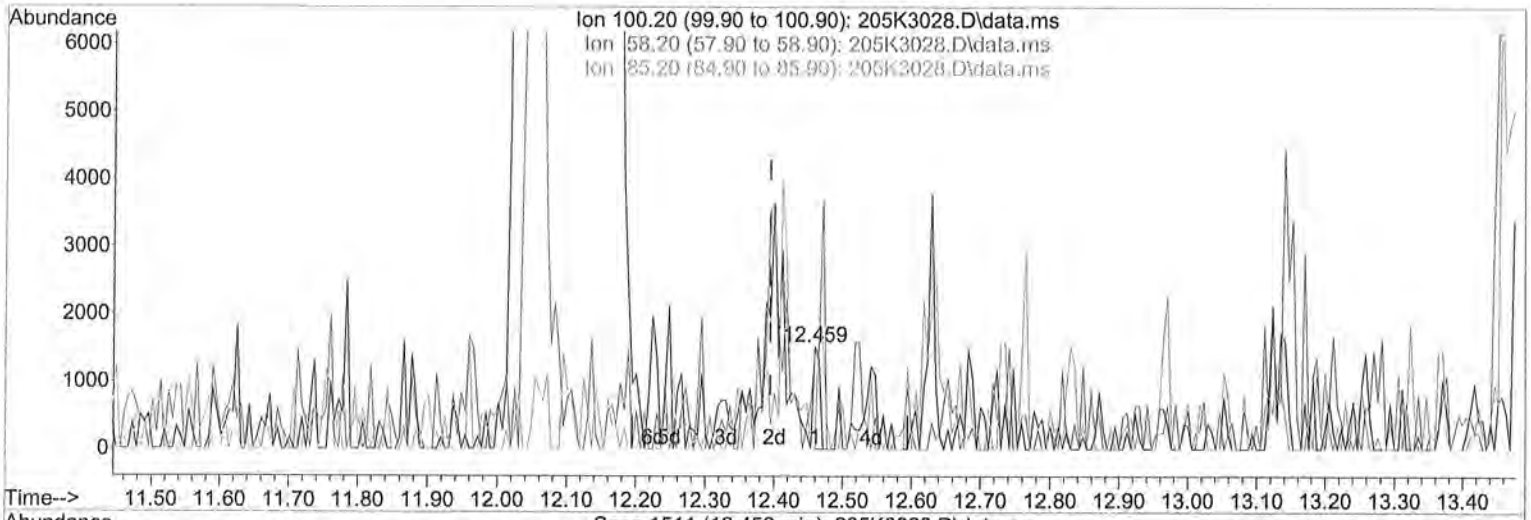
Review by/Date: KJ 11/04/20

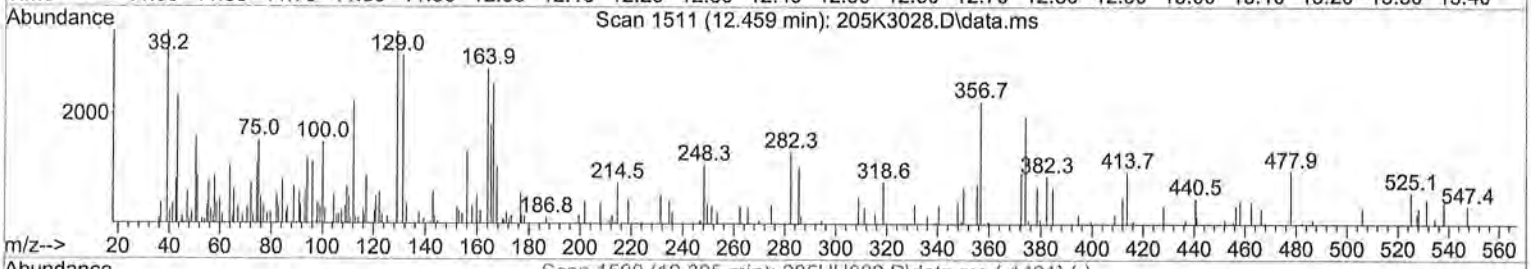
Review by/Date:

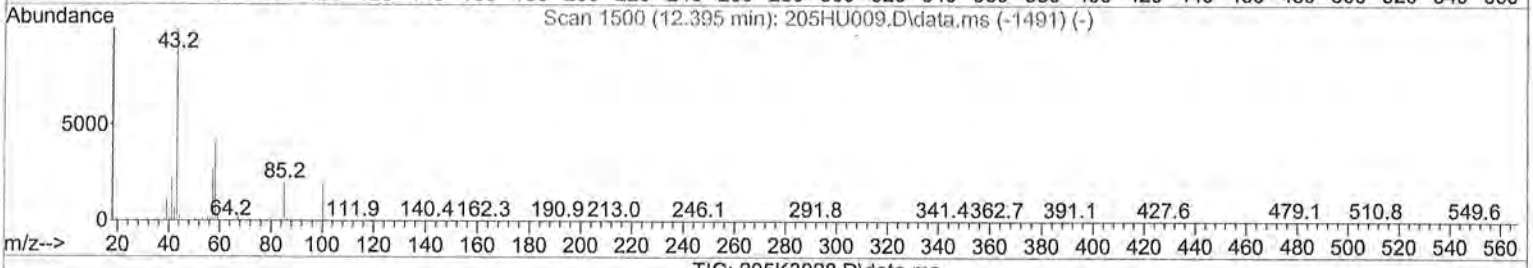
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\110320\
Data File : 205K3028.D
Acq On : 3 Nov 2020 9:40 pm
Operator : KKW
InstName : OVGCMS5
Sample : aa63365-crl1
Misc :
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Nov 04 06:58:40 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2008123
QLast Update : Thu Aug 27 08:42:52 2020
Response via : Initial Calibration







TIC: 205K3028.D\data.ms

(54) 4-Methyl-2-pentanone

12.459min (+ 0.065) 0.67 ug/L

response 1028

Ion	Exp%	Act%
100.20	100.00	100.00
58.20	241.00	257.78
85.20	124.20	129.47
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

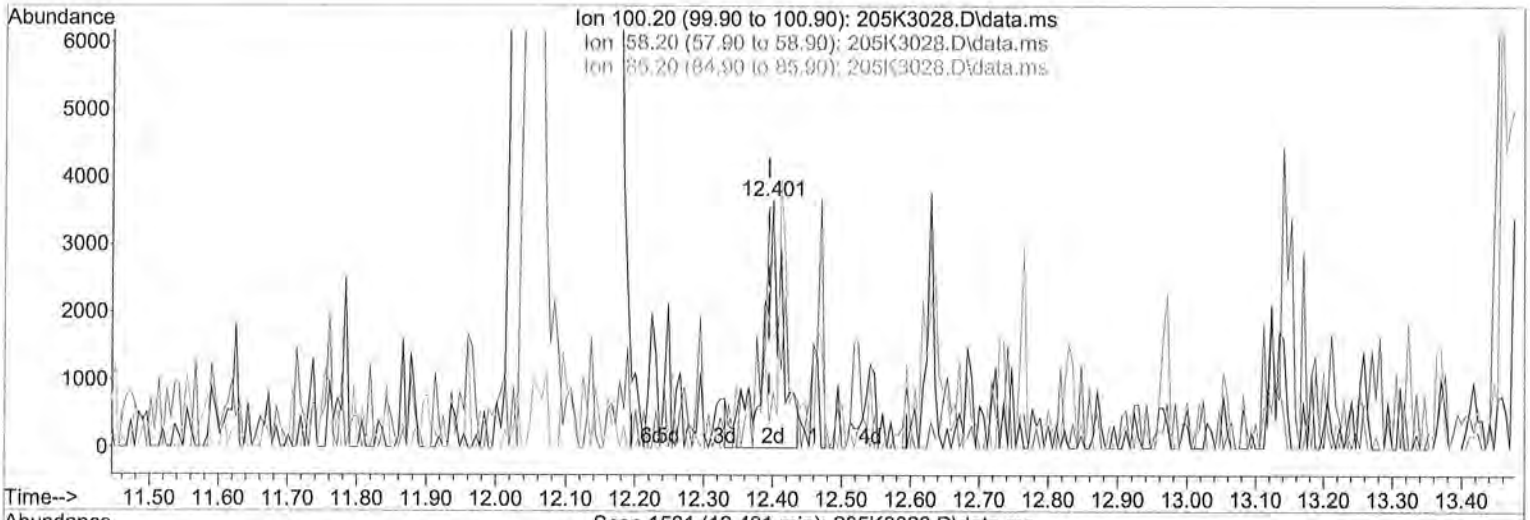
Review by/Date W 11/04/20

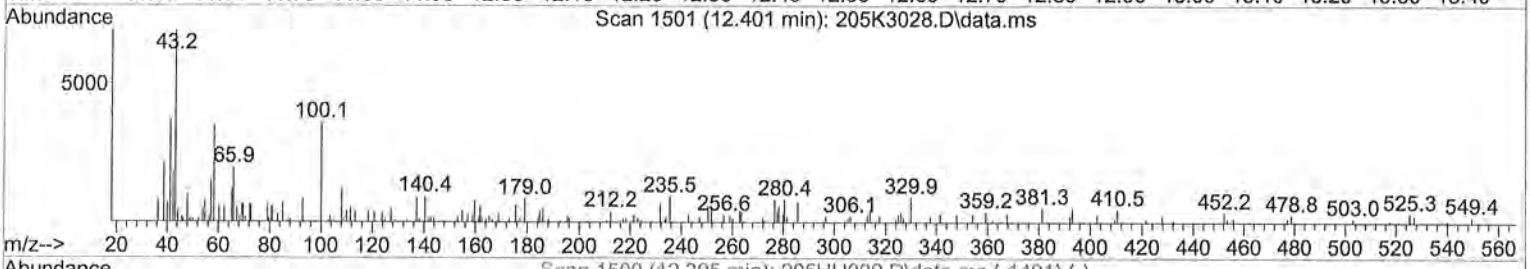
Review by/Date:

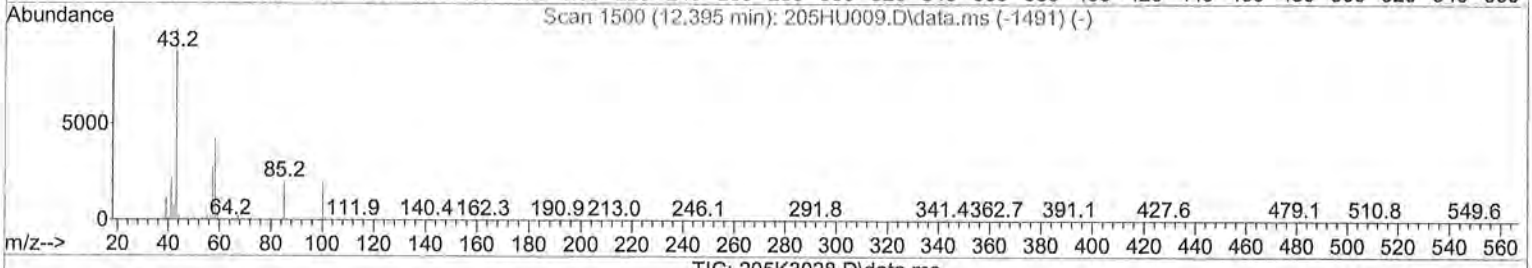
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\110320\
Data File : 205K3028.D
Acq On : 3 Nov 2020 9:40 pm
Operator : KKW
InstName : OVGCMS5
Sample : aa63365-crl1
Misc :
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Nov 04 06:58:40 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2008123
QLast Update : Thu Aug 27 08:42:52 2020
Response via : Initial Calibration







TIC: 205K3028.D\data.ms

(54) 4-Methyl-2-pentanone

12.401min (+ 0.006) 4.61 ug/L m

response 7036

Ion	Exp%	Act%
100.20	100.00	100.00
58.20	241.00	37.66#
85.20	124.20	18.92#
0.00	0.00	0.00

Select One:
[] Original Integration [X] Manual Integration
Select reason for manual integration:
[] Poor integration (peak tailing, baseline selection)
[X] Incorrect peak selection/Peak not found
[] Hump integration
[] Baseline drop for split peaks
[] ISTD reintegration
[] Other:
Review by/Date W 11/04/20
Review by/Date:

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\110320\
Data File : 205K3022.D
Acq On : 3 Nov 2020 6:35 pm
Operator : KKW
InstName : OVGCMS5
Sample : LCV1
Misc :
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Nov 04 06:58:19 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2008123
QLast Update : Thu Aug 27 08:42:52 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	10.168	168	1345766	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.756	114	2398752	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.470	82	1361227	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.744	152	1488967	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.763	113	630232	53.66	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 107.32%				
52) D8-Toluene	12.054	98	2667492	52.02	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 104.04%				
73) Bromofluorobenzene	14.575	95	1351281	55.61	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 111.22%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.287	85	667591	87.77	ug/L		99
3) Chloromethane	4.739	50	376148	35.16	ug/L		100
4) Vinyl Chloride	4.933	62	547636	50.08	ug/L		98
5) Bromomethane	5.591	94	163483	55.53	ug/L		95
6) Chloroethane	5.803	64	318408	53.39	ug/L		96
7) Trichlorofluoromethane	6.061	101	906688	60.77	ug/L		98
8) Diethyl ether	6.555	59	308928	38.84	ug/L		90
9) 1,1-Dichloroethene	6.907	96	467765	50.90	ug/L		88
10) Trichlorotrifluoroethane	6.919	151	376604	52.69	ug/L		99
11) Acrolein	7.395	56	640501	327.14	ug/L		97
12) Iodomethane	7.154	142	2716271	215.34	ug/L	#	91
13) Carbon Disulfide	7.001	76	5903204	203.92	ug/L	#	97
14) 3-chloropropene	7.565	41	560026	33.93	ug/L	#	70
15) Acetone	7.759	43	457506	217.50	ug/L		87
16) Methylene Chloride	7.712	84	540623	49.99	ug/L		87
17) Methyl Acetate	7.882	43	211208	31.60	ug/L	#	87
18) t-1,2-Dichloroethene	7.912	96	561916	50.04	ug/L		97
19) Methyl tert-butyl ether	7.994	73	1281573	49.09	ug/L		93
20) Acetonitrile	8.394	41	604836	366.05	ug/L	#	85
21) Isopropyl ether	8.417	45	1212395	36.98	ug/L	#	92
22) Chloroprene	8.646	88	476377	43.13	ug/L		82
23) 1,1-Dichloroethane	8.687	63	878799	45.05	ug/L		99
24) Acrylonitrile	8.752	53	1252583	373.53	ug/L	#	100
25) Vinyl Acetate	8.893	43	3828606	211.52	ug/L		98
26) c-1,2-Dichloroethene	9.299	96	631079	50.10	ug/L		94
27) 2,2-Dichloropropane	9.422	77	841731	57.38	ug/L	#	91
28) Bromochloromethane	9.528	128	263734	61.11	ug/L		97
29) Cyclohexane	9.539	56	819889	42.41	ug/L		91
30) Chloroform	9.563	83	1039020	53.34	ug/L		99
32) Dibromofluoromethane	9.763	113	630232	53.66	ug/L	#	88
33) 2-Butanone	9.874	72	265553	217.66	ug/L		73
34) 1,1,1-Trichloroethane	9.821	97	934158	59.94	ug/L		99
35) 1,1-Dichloropropene	9.939	75	757220	49.70	ug/L		92
36) Propionitrile	10.227	54	539209	393.48	ug/L	#	75
37) Methacrylonitrile	10.233	41	2595154	412.17	ug/L		99
38) Isobutyl Alcohol	10.221	43	666928	855.51	ug/L	#	98
40) Carbon Tetrachloride	9.757	117	772278	61.46	ug/L		96
41) Benzene	10.203	78	2188544	46.92	ug/L		100
42) 1,2-Dichloroethane	10.409	62	749015	63.18	ug/L	#	86
43) Trichloroethene	10.762	130	610324	52.53	ug/L		96
44) Methyl cyclohexane	10.762	83	1006809	45.53	ug/L		97
45) Dibromomethane	11.202	93	312120	49.48	ug/L		96

Data Path : C:\msdchem\1\data\110320\
Data File : 205K3022.D
Acq On : 3 Nov 2020 6:35 pm
Operator : KKW
InstName : OVGCMS5
Sample : LCV1
Misc :
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Nov 04 06:58:19 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2008123
QLast Update : Thu Aug 27 08:42:52 2020
Response via : Initial Calibration

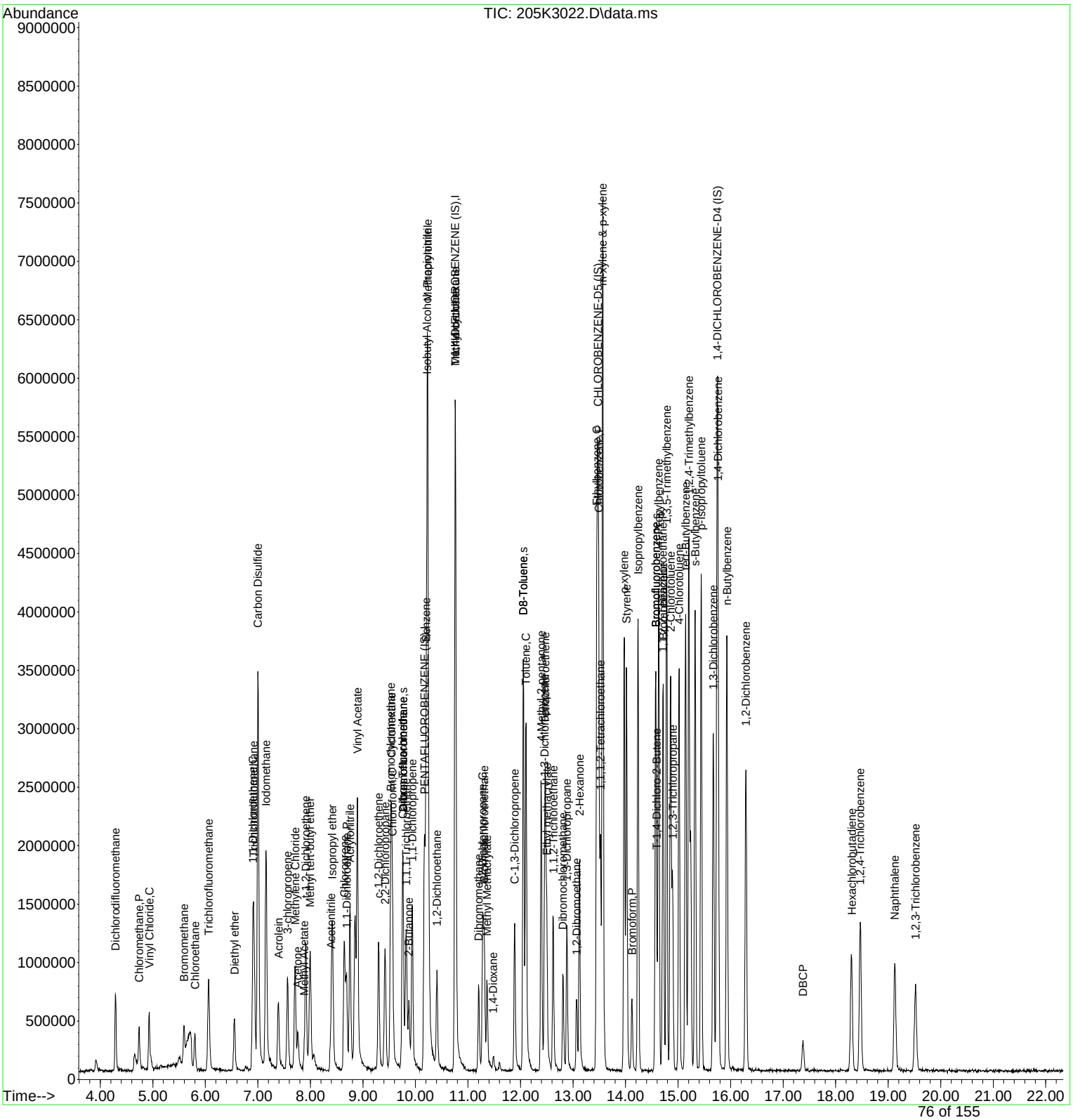
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
46) 1,2-Dichloropropane	11.279	63	491232	40.08	ug/L	#	77
47) Bromodichloromethane	11.308	83	747997	58.89	ug/L		98
48) Methyl Methacrylate	11.361	69	321369	40.95	ug/L		97
49) 1,4-Dioxane	11.478	88	107012	809.03	ug/L		91
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.	d		
51) C-1,3-Dichloropropene	11.884	75	848288	49.23	ug/L		93
53) D8-Toluene	12.054	98	2667492	52.02	ug/L		97
54) 4-Methyl-2-pentanone	12.395	100	333244	207.37	ug/L		90
56) Toluene	12.101	92	1472173	41.91	ug/L		98
57) T-1,3-Dichloropropene	12.460	75	751996	49.70	ug/L		97
58) Tetrachloroethene	12.471	164	439183	40.76	ug/L		96
59) Ethyl methacrylate	12.501	69	610352	38.21	ug/L		97
60) 1,1,2-Trichloroethane	12.624	97	474207	42.66	ug/L		96
61) Dibromochloromethane	12.806	129	497747	46.91	ug/L		98
62) 1,3-Dichloropropane	12.883	76	811455	43.69	ug/L		97
63) 1,2-Dibromoethane	13.065	107	490175	44.66	ug/L		95
64) 2-Hexanone	13.124	43	1112243	164.51	ug/L		99
65) Ethylbenzene	13.453	106	889138	43.03	ug/L		96
66) Chlorobenzene	13.488	112	1603528	46.21	ug/L		99
67) 1,1,1,2-Tetrachloroethane	13.523	131	527707	49.75	ug/L		95
68) m-xylene & p-xylene	13.564	106	2305346	89.87	ug/L		93
69) o-xylene	13.975	106	1121659	44.98	ug/L		93
70) Styrene	14.017	104	1930739	44.18	ug/L		92
71) Bromoform	14.122	173	293403	49.61	ug/L		98
72) Isopropylbenzene	14.240	105	3011470	47.16	ug/L		98
74) Bromofluorobenzene	14.575	95	1351281	55.61	ug/L		98
75) n-Propylbenzene	14.628	91	3748384	47.54	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.710	83	661171	45.36	ug/L		97
77) 1,2,3-Trichloropropane	14.898	61	205864	51.86	ug/L		94
78) T-1,4-Dichloro-2-Butene	14.592	53	174478	43.18	ug/L		90
80) Bromobenzene	14.716	156	715276	45.92	ug/L		98
81) 1,2,4-Trimethylbenzene	15.203	105	2989750	47.15	ug/L		99
82) 2-Chlorotoluene	14.857	91	2338691	47.75	ug/L		97
83) 4-Chlorotoluene	15.021	91	2449281	48.34	ug/L		97
84) tert-Butylbenzene	15.145	119	2332828	47.75	ug/L		94
85) 1,3,5-Trimethylbenzene	14.780	105	2805859	46.01	ug/L		98
86) p-Isopropyltoluene	15.438	119	2982650	44.94	ug/L		95
87) s-Butylbenzene	15.327	105	3411489	45.64	ug/L		99
88) 1,3-Dichlorobenzene	15.674	146	1480227	46.04	ug/L		94
89) 1,4-Dichlorobenzene	15.762	146	1556761	46.98	ug/L		97
90) n-Butylbenzene	15.932	91	2663846	42.46	ug/L		98
91) 1,2-Dichlorobenzene	16.290	146	1391693	47.47	ug/L		95
92) DBCP	17.377	157	103695	49.04	ug/L	#	77
93) Hexachlorobutadiene	18.306	225	301272	53.60	ug/L		95
94) 1,2,4-Trichlorobenzene	18.464	180	620023	58.62	ug/L		95
95) Naphthalene	19.122	128	1280608	55.94	ug/L		98
96) 1,2,3-Trichlorobenzene	19.522	180	408701	61.95	ug/L		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\110320\
Data File : 205K3022.D
Acq On : 3 Nov 2020 6:35 pm
Operator : KKW
InstName : OVGCMS5
Sample : LCV1
Misc :
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Nov 04 06:58:19 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2008123
QLast Update : Thu Aug 27 08:42:52 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\110320\
Data File : 205K3023.D
Acq On : 3 Nov 2020 7:06 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0k03050-bs1
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Nov 04 06:58:23 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2008123
QLast Update : Thu Aug 27 08:42:52 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	10.168	168	1393851	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.756	114	2417309	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.470	82	1388400	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.744	152	1483312	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.763	113	659355	54.20	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 108.40%				
52) D8-Toluene	12.054	98	2684888	51.96	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 103.92%				
73) Bromofluorobenzene	14.569	95	1323032	53.38	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 106.76%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.292	85	247800	31.46	ug/L		97
3) Chloromethane	4.733	50	168999	15.25	ug/L		92
4) Vinyl Chloride	4.927	62	224492	19.82	ug/L		98
5) Bromomethane	5.591	94	49755	18.52	ug/L		97
6) Chloroethane	5.802	64	132360	21.43	ug/L		98
7) Trichlorofluoromethane	6.061	101	364174	23.57	ug/L		98
8) Diethyl ether	6.625	59	3869	0.47	ug/L		95
9) 1,1-Dichloroethene	6.907	96	175715	18.46	ug/L	#	79
10) Trichlorotrifluoroethane	6.931	151	146209	19.75	ug/L		100
11) Acrolein	7.383	56	98303	48.48	ug/L		88
12) Iodomethane	7.160	142	227177	17.86	ug/L		91
13) Carbon Disulfide	7.007	76	587178	19.58	ug/L	#	94
14) 3-chloropropene	7.559	41	252725	14.78	ug/L	#	76
15) Acetone	7.765	43	171559	78.74	ug/L		95
16) Methylene Chloride	7.706	84	216512	19.33	ug/L		99
17) Methyl Acetate	7.882	43	85477	13.08	ug/L	#	89
18) t-1,2-Dichloroethene	7.912	96	216294	18.60	ug/L		94
19) Methyl tert-butyl ether	7.994	73	510849	18.89	ug/L		91
20) Acetonitrile	8.405	41	172005	107.75	ug/L	#	62
21) Isopropyl ether	8.417	45	503564	14.83	ug/L		94
22) Chloroprene	8.646	88	197774	17.29	ug/L		91
23) 1,1-Dichloroethane	8.681	63	376598	18.64	ug/L		97
24) Acrylonitrile	8.764	53	70628	20.34	ug/L	#	77
25) Vinyl Acetate	8.905	43	239609	12.78	ug/L		97
26) c-1,2-Dichloroethene	9.304	96	267761	20.52	ug/L		93
27) 2,2-Dichloropropane	9.422	77	322655	21.24	ug/L		97
28) Bromochloromethane	9.528	128	108182	22.03	ug/L		91
29) Cyclohexane	9.539	56	341630	17.06	ug/L		93
30) Chloroform	9.563	83	425175	21.07	ug/L		99
32) Dibromofluoromethane	9.763	113	659355	54.20	ug/L	#	95
33) 2-Butanone	9.886	72	108674	92.13	ug/L	#	68
34) 1,1,1-Trichloroethane	9.821	97	384438	23.82	ug/L		98
35) 1,1-Dichloropropene	9.939	75	322524	20.44	ug/L		90
36) Propionitrile	10.233	54	28331	19.96	ug/L	#	1
37) Methacrylonitrile	10.233	41	148148	22.72	ug/L	#	75
38) Isobutyl Alcohol	10.221	43	156013	208.28	ug/L	#	54
40) Carbon Tetrachloride	9.751	117	280584m	23.94	ug/L		
41) Benzene	10.203	78	932096	19.83	ug/L		99
42) 1,2-Dichloroethane	10.409	62	288424	24.14	ug/L	#	88
43) Trichloroethene	10.767	130	240442	20.53	ug/L	#	79
44) Methyl cyclohexane	10.761	83	431702	19.37	ug/L		96
45) Dibromomethane	11.196	93	134024	21.08	ug/L		92

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\110320\
Data File : 205K3023.D
Acq On : 3 Nov 2020 7:06 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0k03050-bs1
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Nov 04 06:58:23 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2008123
QLast Update : Thu Aug 27 08:42:52 2020
Response via : Initial Calibration

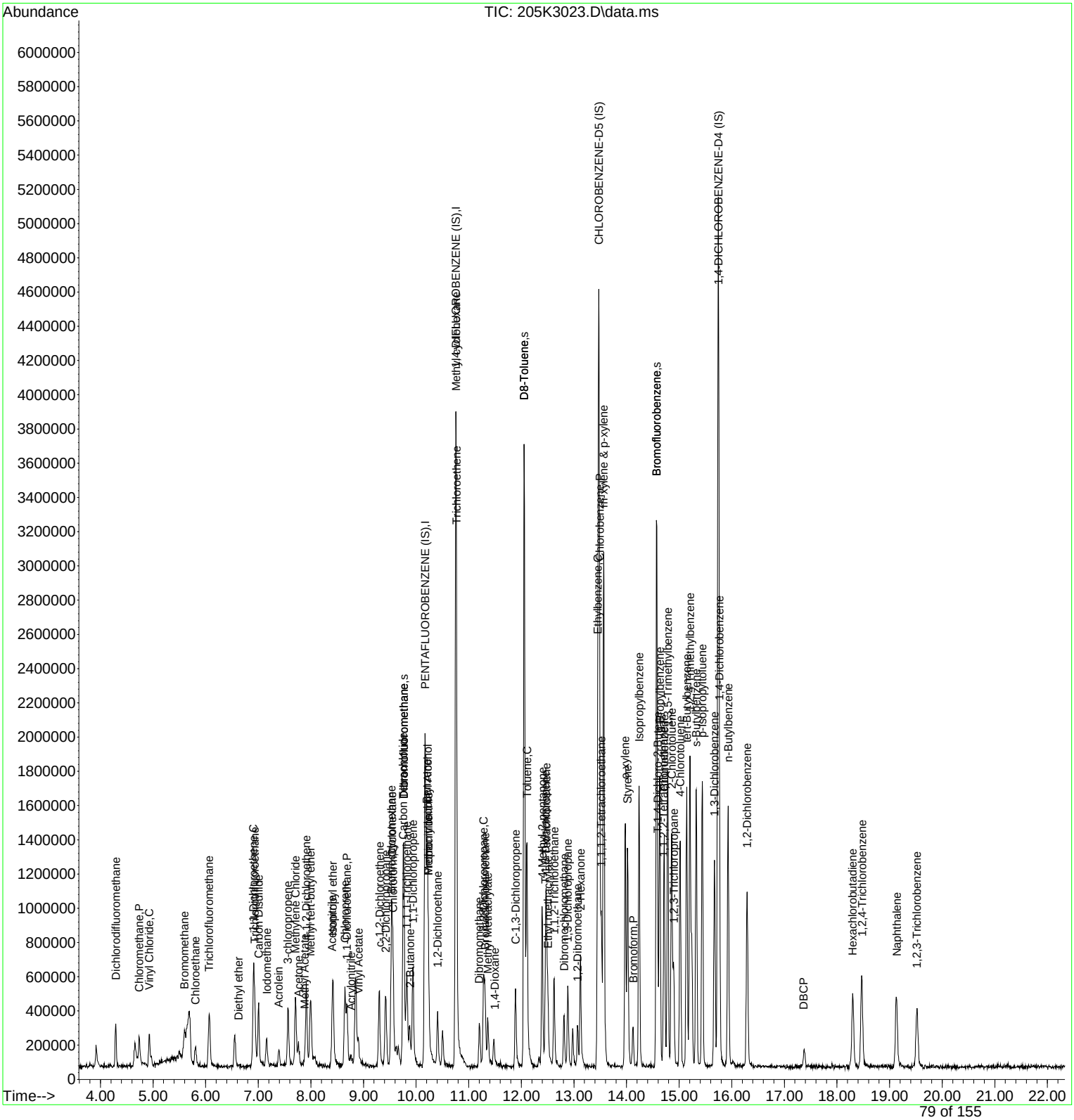
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
46) 1,2-Dichloropropane	11.284	63	198224	16.05 ug/L #	74
47) Bromodichloromethane	11.314	83	273478	21.37 ug/L	99
48) Methyl Methacrylate	11.361	69	110790	14.01 ug/L #	89
49) 1,4-Dioxane	11.496	88	27561	237.25 ug/L	93
50) 2-Chloroethyl vinyl ether	0.000		0	N.D. d	
51) C-1,3-Dichloropropene	11.890	75	302582	17.43 ug/L	92
53) D8-Toluene	12.054	98	2684888	51.96 ug/L	95
54) 4-Methyl-2-pentanone	12.401	100	123181	76.06 ug/L	91
56) Toluene	12.107	92	615277	17.17 ug/L	98
57) T-1,3-Dichloropropene	12.459	75	301992	19.57 ug/L	96
58) Tetrachloroethene	12.477	164	198256	18.04 ug/L	97
59) Ethyl methacrylate	12.506	69	228028	14.00 ug/L	99
60) 1,1,2-Trichloroethane	12.624	97	200389	17.68 ug/L	92
61) Dibromochloromethane	12.812	129	193516	17.88 ug/L	97
62) 1,3-Dichloropropane	12.882	76	316741	16.72 ug/L	97
63) 1,2-Dibromoethane	13.065	107	191664	17.12 ug/L	96
64) 2-Hexanone	13.123	43	408145	59.19 ug/L	99
65) Ethylbenzene	13.452	106	348103	16.52 ug/L	88
66) Chlorobenzene	13.488	112	680229	19.22 ug/L	99
67) 1,1,1,2-Tetrachloroethane	13.517	131	215132	19.88 ug/L	96
68) m-xylene & p-xylene	13.564	106	944901	36.11 ug/L	92
69) o-xylene	13.975	106	445898	17.53 ug/L	89
70) Styrene	14.016	104	760858	17.07 ug/L	93
71) Bromoform	14.128	173	96345	18.10 ug/L	93
72) Isopropylbenzene	14.240	105	1248604	19.17 ug/L	97
74) Bromofluorobenzene	14.569	95	1323032	53.38 ug/L	98
75) n-Propylbenzene	14.633	91	1510250	18.78 ug/L	99
76) 1,1,2,2-Tetrachloroethane	14.704	83	249584	16.79 ug/L #	92
77) 1,2,3-Trichloropropane	14.898	61	70583m	17.43 ug/L	
78) T-1,4-Dichloro-2-Butene	14.592	53	71673	18.67 ug/L #	43
80) Bromobenzene	14.716	156	295432	19.04 ug/L	97
81) 1,2,4-Trimethylbenzene	15.203	105	1231276	19.49 ug/L	95
82) 2-Chlorotoluene	14.857	91	962956	19.74 ug/L	98
83) 4-Chlorotoluene	15.021	91	1000230	19.82 ug/L	95
84) tert-Butylbenzene	15.145	119	952275	19.57 ug/L	98
85) 1,3,5-Trimethylbenzene	14.780	105	1158287	19.07 ug/L	98
86) p-Isopropyltoluene	15.438	119	1207451	18.26 ug/L	96
87) s-Butylbenzene	15.321	105	1426485	19.16 ug/L	99
88) 1,3-Dichlorobenzene	15.673	146	603575	18.85 ug/L	94
89) 1,4-Dichlorobenzene	15.767	146	606849	18.38 ug/L #	82
90) n-Butylbenzene	15.932	91	1051294	16.82 ug/L	96
91) 1,2-Dichlorobenzene	16.290	146	544795	18.65 ug/L	94
92) DBCP	17.366	157	40528	20.84 ug/L	95
93) Hexachlorobutadiene	18.294	225	111585	19.93 ug/L	93
94) 1,2,4-Trichlorobenzene	18.476	180	274425	26.04 ug/L	96
95) Naphthalene	19.134	128	601995	30.01 ug/L #	97
96) 1,2,3-Trichlorobenzene	19.516	180	192920	32.99 ug/L	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\110320\
Data File : 205K3023.D
Acq On : 3 Nov 2020 7:06 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0k03050-bs1
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Nov 04 06:58:23 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2008123
QLast Update : Thu Aug 27 08:42:52 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\110320\
Data File : 205K3024.D
Acq On : 3 Nov 2020 7:36 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0k03050-ms1
Misc :
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Nov 04 06:58:26 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2008123
QLast Update : Thu Aug 27 08:42:52 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	10.168	168	1450412	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.755	114	2505319	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.470	82	1425774	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.744	152	1505356	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.768	113	649468	51.31	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 102.62%				
52) D8-Toluene	12.054	98	2806372	52.40	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 104.80%				
73) Bromofluorobenzene	14.575	95	1361598	53.50	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 107.00%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.286	85	264311	32.24	ug/L		99
3) Chloromethane	4.739	50	190919	16.56	ug/L		100
4) Vinyl Chloride	4.927	62	471960	40.04	ug/L		95
5) Bromomethane	5.597	94	65180	22.94	ug/L		99
6) Chloroethane	5.814	64	144461	22.48	ug/L		94
7) Trichlorofluoromethane	6.073	101	398676	24.79	ug/L		96
8) Diethyl ether	6.560	59	160421	18.71	ug/L		92
9) 1,1-Dichloroethene	6.913	96	230908	23.31	ug/L		92
10) Trichlorotrifluoroethane	6.936	151	172844	22.44	ug/L		97
11) Acrolein	7.389	56	122527	58.07	ug/L		93
12) Iodomethane	7.160	142	200846	15.18	ug/L		95
13) Carbon Disulfide	7.007	76	672494	21.56	ug/L	#	96
14) 3-chloropropene	7.565	41	264220	14.85	ug/L	#	63
15) Acetone	7.765	43	198115	87.39	ug/L		93
16) Methylene Chloride	7.706	84	237144	20.35	ug/L		89
17) Methyl Acetate	7.882	43	97717	14.31	ug/L	#	93
18) t-1,2-Dichloroethene	7.912	96	266051	21.98	ug/L		96
19) Methyl tert-butyl ether	7.994	73	585709	20.82	ug/L	#	92
20) Acetonitrile	8.417	41	192221	115.47	ug/L	#	82
21) Isopropyl ether	8.417	45	598987	16.95	ug/L		93
22) Chloroprene	8.646	88	215211	18.08	ug/L	#	80
23) 1,1-Dichloroethane	8.681	63	421286	20.04	ug/L		98
24) Acrylonitrile	8.764	53	58373	16.15	ug/L	#	88
25) Vinyl Acetate	8.899	43	284157	14.57	ug/L	#	93
26) c-1,2-Dichloroethene	9.298	96	277097	20.41	ug/L		98
27) 2,2-Dichloropropane	9.422	77	395166	24.99	ug/L		95
28) Bromochloromethane	9.527	128	113303	22.18	ug/L		87
29) Cyclohexane	9.533	56	392781	18.85	ug/L		85
30) Chloroform	9.563	83	464113	22.11	ug/L		96
32) Dibromofluoromethane	9.768	113	649468	51.31	ug/L	#	90
33) 2-Butanone	9.874	72	123967	100.52	ug/L	#	67
34) 1,1,1-Trichloroethane	9.821	97	423810	25.23	ug/L		99
35) 1,1-Dichloropropene	9.939	75	367105	22.36	ug/L		96
36) Propionitrile	10.221	54	27072	18.33	ug/L	#	1
37) Methacrylonitrile	10.233	41	178871	26.36	ug/L	#	68
38) Isobutyl Alcohol	10.221	43	188073	240.36	ug/L	#	47
40) Carbon Tetrachloride	9.757	117	318957m	26.14	ug/L		
41) Benzene	10.203	78	1045374	21.46	ug/L		99
42) 1,2-Dichloroethane	10.409	62	333413	26.93	ug/L	#	85
43) Trichloroethene	10.761	130	280507	23.11	ug/L	#	84
44) Methyl cyclohexane	10.761	83	529218	22.91	ug/L		94
45) Dibromomethane	11.202	93	151624	23.02	ug/L		96

Data Path : C:\msdchem\1\data\110320\
Data File : 205K3024.D
Acq On : 3 Nov 2020 7:36 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0k03050-ms1
Misc :
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Nov 04 06:58:26 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2008123
QLast Update : Thu Aug 27 08:42:52 2020
Response via : Initial Calibration

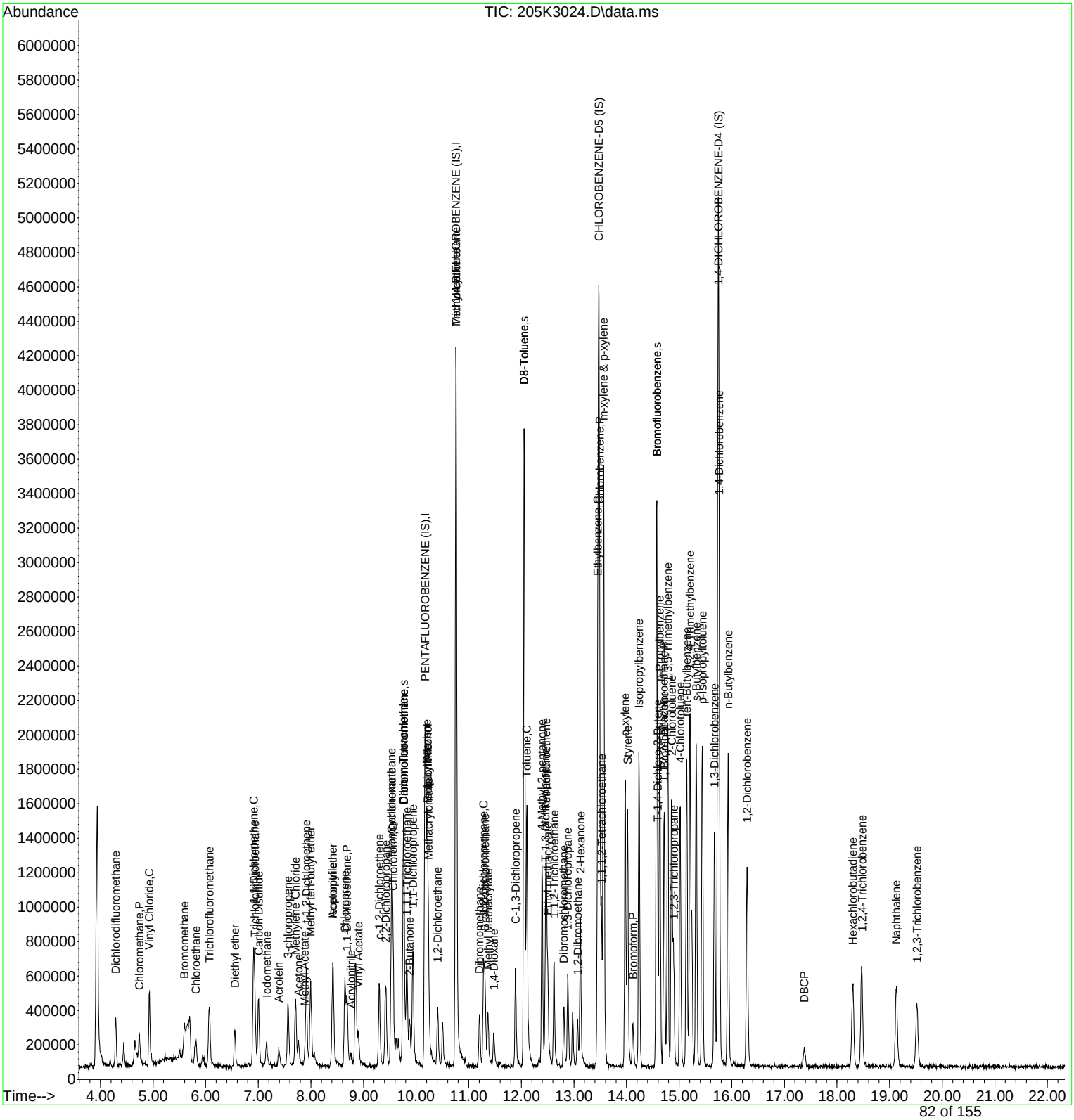
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
46) 1,2-Dichloropropane	11.284	63	227988	17.81 ug/L #	79
47) Bromodichloromethane	11.308	83	323108	24.36 ug/L	97
48) Methyl Methacrylate	11.367	69	134681	16.43 ug/L	93
49) 1,4-Dioxane	11.478	88	22038	185.52 ug/L	89
50) 2-Chloroethyl vinyl ether	0.000		0	N.D. d	
51) C-1,3-Dichloropropene	11.889	75	365138	20.29 ug/L	95
53) D8-Toluene	12.054	98	2806372	52.40 ug/L	96
54) 4-Methyl-2-pentanone	12.389	100	174760	104.12 ug/L	80
56) Toluene	12.101	92	704479	19.15 ug/L	99
57) T-1,3-Dichloropropene	12.459	75	339518	21.42 ug/L	97
58) Tetrachloroethene	12.471	164	237016	21.00 ug/L	93
59) Ethyl methacrylate	12.501	69	272284	16.28 ug/L #	93
60) 1,1,2-Trichloroethane	12.624	97	215935	18.55 ug/L	93
61) Dibromochloromethane	12.806	129	209012	18.81 ug/L #	93
62) 1,3-Dichloropropane	12.882	76	346211	17.80 ug/L	99
63) 1,2-Dibromoethane	13.070	107	213436	18.57 ug/L	98
64) 2-Hexanone	13.123	43	539061	76.12 ug/L #	98
65) Ethylbenzene	13.452	106	427348	19.75 ug/L	98
66) Chlorobenzene	13.488	112	744387	20.48 ug/L	100
67) 1,1,1,2-Tetrachloroethane	13.529	131	236410	21.28 ug/L	93
68) m-xylene & p-xylene	13.564	106	1082085	40.27 ug/L	94
69) o-xylene	13.975	106	518955	19.87 ug/L	94
70) Styrene	14.022	104	878423	19.19 ug/L	93
71) Bromoform	14.122	173	116595	21.07 ug/L	99
72) Isopropylbenzene	14.234	105	1430857	21.39 ug/L	98
74) Bromofluorobenzene	14.575	95	1361598	53.50 ug/L	99
75) n-Propylbenzene	14.627	91	1813793	21.96 ug/L	98
76) 1,1,2,2-Tetrachloroethane	14.710	83	278330	18.23 ug/L #	98
77) 1,2,3-Trichloropropane	14.898	61	92625	22.28 ug/L	93
78) T-1,4-Dichloro-2-Butene	14.592	53	76145	19.28 ug/L #	50
80) Bromobenzene	14.716	156	328408	20.86 ug/L	94
81) 1,2,4-Trimethylbenzene	15.203	105	1370686	21.38 ug/L	95
82) 2-Chlorotoluene	14.857	91	1117903	22.58 ug/L	97
83) 4-Chlorotoluene	15.021	91	1117998	21.83 ug/L	99
84) tert-Butylbenzene	15.145	119	1063503	21.53 ug/L	96
85) 1,3,5-Trimethylbenzene	14.780	105	1323096	21.46 ug/L	99
86) p-Isopropyltoluene	15.444	119	1377940	20.54 ug/L	96
87) s-Butylbenzene	15.327	105	1633787	21.62 ug/L	99
88) 1,3-Dichlorobenzene	15.673	146	712349	21.92 ug/L	98
89) 1,4-Dichlorobenzene	15.761	146	709181	21.17 ug/L #	85
90) n-Butylbenzene	15.932	91	1253645	19.77 ug/L	98
91) 1,2-Dichlorobenzene	16.290	146	630786	21.28 ug/L	98
92) DBCP	17.377	157	40149	20.37 ug/L #	78
93) Hexachlorobutadiene	18.300	225	144996	25.51 ug/L	98
94) 1,2,4-Trichlorobenzene	18.476	180	286389	26.78 ug/L	99
95) Naphthalene	19.122	128	667402	32.38 ug/L	98
96) 1,2,3-Trichlorobenzene	19.522	180	197448	33.23 ug/L	93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\110320\
Data File : 205K3024.D
Acq On : 3 Nov 2020 7:36 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0k03050-ms1
Misc :
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Nov 04 06:58:26 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2008123
QLast Update : Thu Aug 27 08:42:52 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\110320\
Data File : 205K3025.D
Acq On : 3 Nov 2020 8:07 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0k03050-msd1
Misc :
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Nov 04 06:58:30 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2008123
QLast Update : Thu Aug 27 08:42:52 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) PENTAFLUOROBENZENE (IS)	10.174	168	1478555	50.00	ug/L	0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.756	114	2505244	50.00	ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.470	82	1417293	50.00	ug/L	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.744	152	1527627	50.00	ug/L	0.00
System Monitoring Compounds						
31) Dibromofluoromethane	9.763	113	665925	51.60	ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 103.20%			
52) D8-Toluene	12.054	98	2796299	52.22	ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 104.44%			
73) Bromofluorobenzene	14.575	95	1379789	54.53	ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 109.06%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.293	85	261808	31.33	ug/L	98
3) Chloromethane	4.745	50	179906	15.31	ug/L	99
4) Vinyl Chloride	4.933	62	470910	39.19	ug/L	97
5) Bromomethane	5.591	94	70144	24.12	ug/L	96
6) Chloroethane	5.808	64	155304	23.70	ug/L	91
7) Trichlorofluoromethane	6.061	101	381460	23.27	ug/L	99
8) Diethyl ether	6.555	59	163301	18.69	ug/L	93
9) 1,1-Dichloroethene	6.913	96	225138	22.30	ug/L	96
10) Trichlorotrifluoroethane	6.931	151	176785	22.51	ug/L	96
11) Acrolein	7.389	56	127148	59.11	ug/L	99
12) Iodomethane	7.160	142	197681	14.65	ug/L #	89
13) Carbon Disulfide	7.001	76	637650	20.05	ug/L	97
14) 3-chloropropene	7.565	41	268259	14.79	ug/L #	72
15) Acetone	7.765	43	215262	93.14	ug/L	93
16) Methylene Chloride	7.700	84	239408	20.15	ug/L	96
17) Methyl Acetate	7.883	43	88480	12.78	ug/L #	84
18) t-1,2-Dichloroethene	7.912	96	271254	21.99	ug/L	95
19) Methyl tert-butyl ether	8.000	73	606024	21.13	ug/L #	92
20) Acetonitrile	8.405	41	201157	118.44	ug/L #	85
21) Isopropyl ether	8.417	45	589651	16.37	ug/L	95
22) Chloroprene	8.646	88	207664	17.11	ug/L #	75
23) 1,1-Dichloroethane	8.682	63	418209	19.51	ug/L	98
24) Acrylonitrile	8.752	53	66588	18.07	ug/L	87
25) Vinyl Acetate	8.899	43	300027	15.09	ug/L #	91
26) c-1,2-Dichloroethene	9.293	96	270126	19.52	ug/L	96
27) 2,2-Dichloropropane	9.422	77	374864	23.26	ug/L	95
28) Bromochloromethane	9.528	128	122254	23.55	ug/L	96
29) Cyclohexane	9.534	56	389952	18.36	ug/L	92
30) Chloroform	9.557	83	471514	22.03	ug/L	98
32) Dibromofluoromethane	9.763	113	665925	51.60	ug/L #	93
33) 2-Butanone	9.880	72	134763	106.81	ug/L #	59
34) 1,1,1-Trichloroethane	9.827	97	437814	25.57	ug/L	97
35) 1,1-Dichloropropene	9.933	75	354714	21.19	ug/L	92
36) Propionitrile	10.233	54	29476	19.58	ug/L #	1
37) Methacrylonitrile	10.239	41	181515	26.24	ug/L #	74
38) Isobutyl Alcohol	10.221	43	215051	268.69	ug/L #	87
40) Carbon Tetrachloride	9.757	117	312511	25.64	ug/L #	80
41) Benzene	10.203	78	1021538	20.97	ug/L	98
42) 1,2-Dichloroethane	10.409	62	353258	28.53	ug/L #	82
43) Trichloroethene	10.756	130	277568	22.87	ug/L #	79
44) Methyl cyclohexane	10.767	83	521586	22.58	ug/L	98
45) Dibromomethane	11.202	93	139232	21.13	ug/L	96

Data Path : C:\msdchem\1\data\110320\
Data File : 205K3025.D
Acq On : 3 Nov 2020 8:07 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0k03050-msd1
Misc :
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Nov 04 06:58:30 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2008123
QLast Update : Thu Aug 27 08:42:52 2020
Response via : Initial Calibration

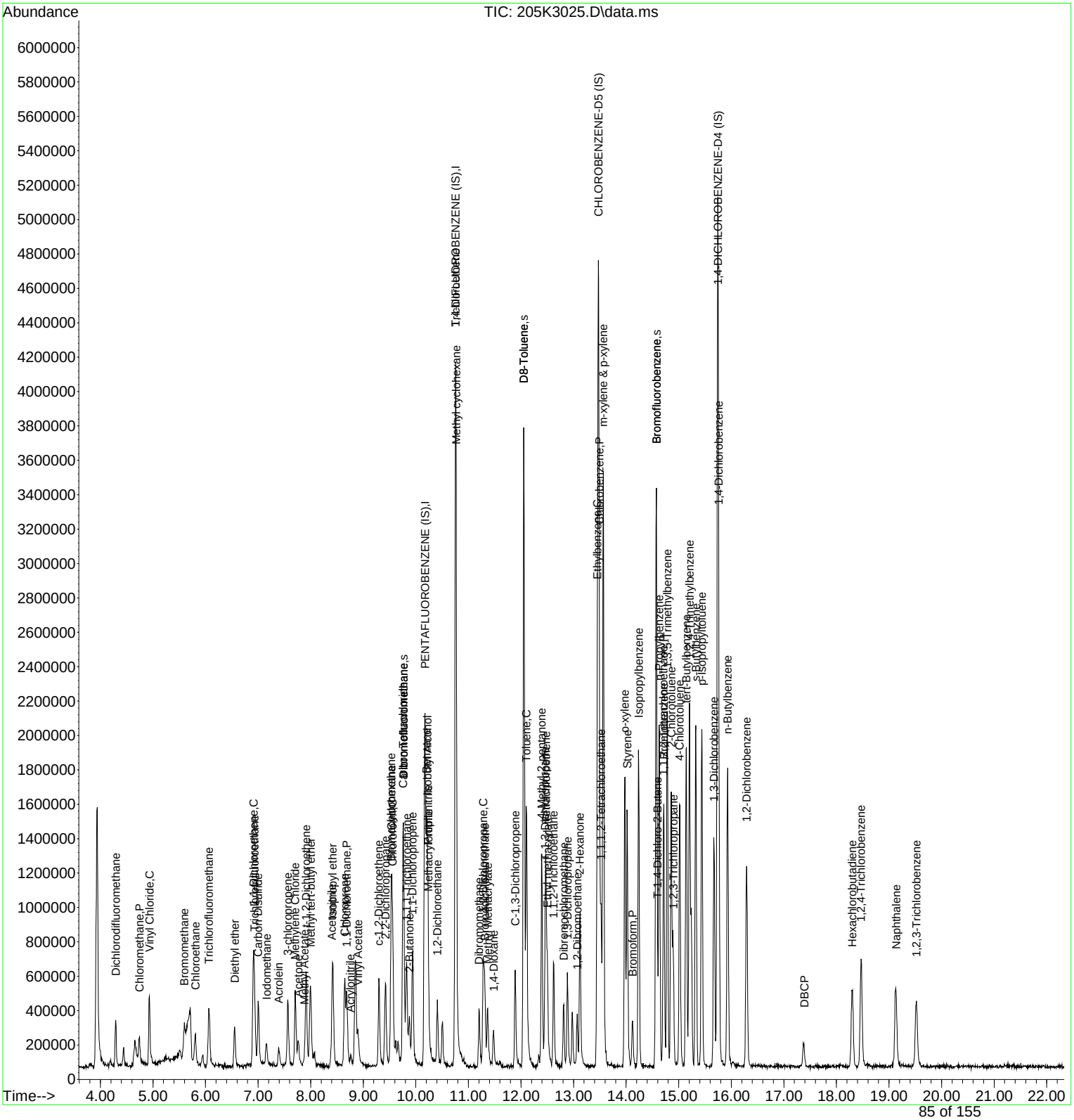
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
46) 1,2-Dichloropropane	11.284	63	246121	19.23 ug/L #	89
47) Bromodichloromethane	11.314	83	342631	25.83 ug/L	97
48) Methyl Methacrylate	11.367	69	153073	18.68 ug/L	98
49) 1,4-Dioxane	11.484	88	29610	245.43 ug/L	84
50) 2-Chloroethyl vinyl ether	0.000		0	N.D. d	
51) C-1,3-Dichloropropene	11.890	75	379628	21.10 ug/L	98
53) D8-Toluene	12.054	98	2796299	52.22 ug/L	98
54) 4-Methyl-2-pentanone	12.389	100	170684	101.70 ug/L	85
56) Toluene	12.101	92	730329	19.97 ug/L	98
57) T-1,3-Dichloropropene	12.460	75	349585	22.19 ug/L	95
58) Tetrachloroethene	12.477	164	225504	20.10 ug/L	96
59) Ethyl methacrylate	12.501	69	287554	17.29 ug/L	98
60) 1,1,2-Trichloroethane	12.618	97	223735	19.33 ug/L	96
61) Dibromochloromethane	12.812	129	228172	20.65 ug/L	91
62) 1,3-Dichloropropane	12.889	76	367483	19.00 ug/L	95
63) 1,2-Dibromoethane	13.071	107	213649	18.70 ug/L	89
64) 2-Hexanone	13.118	43	582089	82.69 ug/L	99
65) Ethylbenzene	13.453	106	418705	19.46 ug/L #	95
66) Chlorobenzene	13.488	112	738529	20.44 ug/L	98
67) 1,1,1,2-Tetrachloroethane	13.523	131	232020	21.01 ug/L #	89
68) m-xylene & p-xylene	13.564	106	1064717	39.86 ug/L	89
69) o-xylene	13.976	106	514819	19.83 ug/L	91
70) Styrene	14.023	104	865627	19.02 ug/L	94
71) Bromoform	14.122	173	121248	21.96 ug/L	99
72) Isopropylbenzene	14.240	105	1404156	21.12 ug/L	99
74) Bromofluorobenzene	14.575	95	1379789	54.53 ug/L	98
75) n-Propylbenzene	14.628	91	1770266	21.56 ug/L	98
76) 1,1,2,2-Tetrachloroethane	14.710	83	302530	19.93 ug/L #	98
77) 1,2,3-Trichloropropane	14.898	61	91161m	22.06 ug/L	
78) T-1,4-Dichloro-2-Butene	14.598	53	81816	20.75 ug/L #	55
80) Bromobenzene	14.716	156	330546	20.69 ug/L	94
81) 1,2,4-Trimethylbenzene	15.204	105	1368958	21.04 ug/L	97
82) 2-Chlorotoluene	14.857	91	1070758	21.31 ug/L	99
83) 4-Chlorotoluene	15.015	91	1138514	21.90 ug/L	97
84) tert-Butylbenzene	15.145	119	1111498	22.17 ug/L	98
85) 1,3,5-Trimethylbenzene	14.780	105	1332276	21.30 ug/L	99
86) p-Isopropyltoluene	15.439	119	1400357	20.57 ug/L	98
87) s-Butylbenzene	15.327	105	1627924	21.23 ug/L	97
88) 1,3-Dichlorobenzene	15.674	146	670090	20.32 ug/L	94
89) 1,4-Dichlorobenzene	15.762	146	679435	19.98 ug/L #	83
90) n-Butylbenzene	15.926	91	1235922	19.20 ug/L	97
91) 1,2-Dichlorobenzene	16.290	146	646112	21.48 ug/L	96
92) DBCP	17.389	157	48417	23.96 ug/L	87
93) Hexachlorobutadiene	18.300	225	131112	22.73 ug/L	90
94) 1,2,4-Trichlorobenzene	18.464	180	306225	28.22 ug/L #	93
95) Naphthalene	19.134	128	685101	32.70 ug/L	96
96) 1,2,3-Trichlorobenzene	19.522	180	220788	36.17 ug/L	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\110320\
Data File : 205K3025.D
Acq On : 3 Nov 2020 8:07 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0k03050-msd1
Misc :
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Nov 04 06:58:30 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2008123
QLast Update : Thu Aug 27 08:42:52 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\110320\
Data File : 205K3027.D
Acq On : 3 Nov 2020 9:09 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0k03050-blk1
Misc :
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Nov 04 06:58:37 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2008123
QLast Update : Thu Aug 27 08:42:52 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) PENTAFLUOROBENZENE (IS)	10.174	168	1298626	50.00	ug/L	0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.756	114	2332340	50.00	ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.476	82	1300789	50.00	ug/L	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.744	152	1417419	50.00	ug/L	0.00
System Monitoring Compounds						
31) Dibromofluoromethane	9.763	113	607804	53.63	ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 107.26%			
52) D8-Toluene	12.054	98	2590079	51.95	ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 103.90%			
73) Bromofluorobenzene	14.575	95	1271002	54.73	ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 109.46%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.		
3) Chloromethane	0.000		0	N.D. d		
4) Vinyl Chloride	4.839	62	1023	N.D.		
5) Bromomethane	0.000		0	N.D. d		
6) Chloroethane	0.000		0	N.D. d		
7) Trichlorofluoromethane	6.126	101	1510	N.D.		
8) Diethyl ether	6.555	59	1285	N.D.		
9) 1,1-Dichloroethene	0.000		0	N.D.		
10) Trichlorotrifluoroethane	0.000		0	N.D.		
11) Acrolein	0.000		0	N.D. d		
12) Iodomethane	0.000		0	N.D. d		
13) Carbon Disulfide	6.989	76	4741	N.D.		
14) 3-chloropropene	7.524	41	1405	N.D.		
15) Acetone	0.000		0	N.D. d		
16) Methylene Chloride	0.000		0	N.D. d		
17) Methyl Acetate	0.000		0	N.D. d		
18) t-1,2-Dichloroethene	8.018	96	1115	N.D.		
19) Methyl tert-butyl ether	7.906	73	1054	N.D.		
20) Acetonitrile	0.000		0	N.D. d		
21) Isopropyl ether	8.370	45	1473	N.D.		
22) Chloroprene	0.000		0	N.D.		
23) 1,1-Dichloroethane	8.687	63	1059	N.D.		
24) Acrylonitrile	0.000		0	N.D. d		
25) Vinyl Acetate	8.817	43	1034	N.D.		
26) c-1,2-Dichloroethene	9.293	96	1143	N.D.		
27) 2,2-Dichloropropane	9.381	77	1619	N.D.		
28) Bromochloromethane	0.000		0	N.D.		
29) Cyclohexane	9.451	56	2399	N.D.		
30) Chloroform	9.569	83	1584	N.D.		
32) Dibromofluoromethane	9.763	113	609007	53.73	ug/L #	91
33) 2-Butanone	0.000		0	N.D. d		
34) 1,1,1-Trichloroethane	0.000		0	N.D.		
35) 1,1-Dichloropropene	0.000		0	N.D. d		
36) Propionitrile	0.000		0	N.D. d		
37) Methacrylonitrile	0.000		0	N.D. d		
38) Isobutyl Alcohol	0.000		0	N.D. d		
40) Carbon Tetrachloride	0.000		0	N.D. d		
41) Benzene	0.000		0	N.D. d		
42) 1,2-Dichloroethane	0.000		0	N.D.		
43) Trichloroethene	0.000		0	N.D.		
44) Methyl cyclohexane	0.000		0	N.D. d		
45) Dibromomethane	0.000		0	N.D. d		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\110320\
Data File : 205K3027.D
Acq On : 3 Nov 2020 9:09 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0k03050-blk1
Misc :
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Nov 04 06:58:37 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2008123
QLast Update : Thu Aug 27 08:42:52 2020
Response via : Initial Calibration

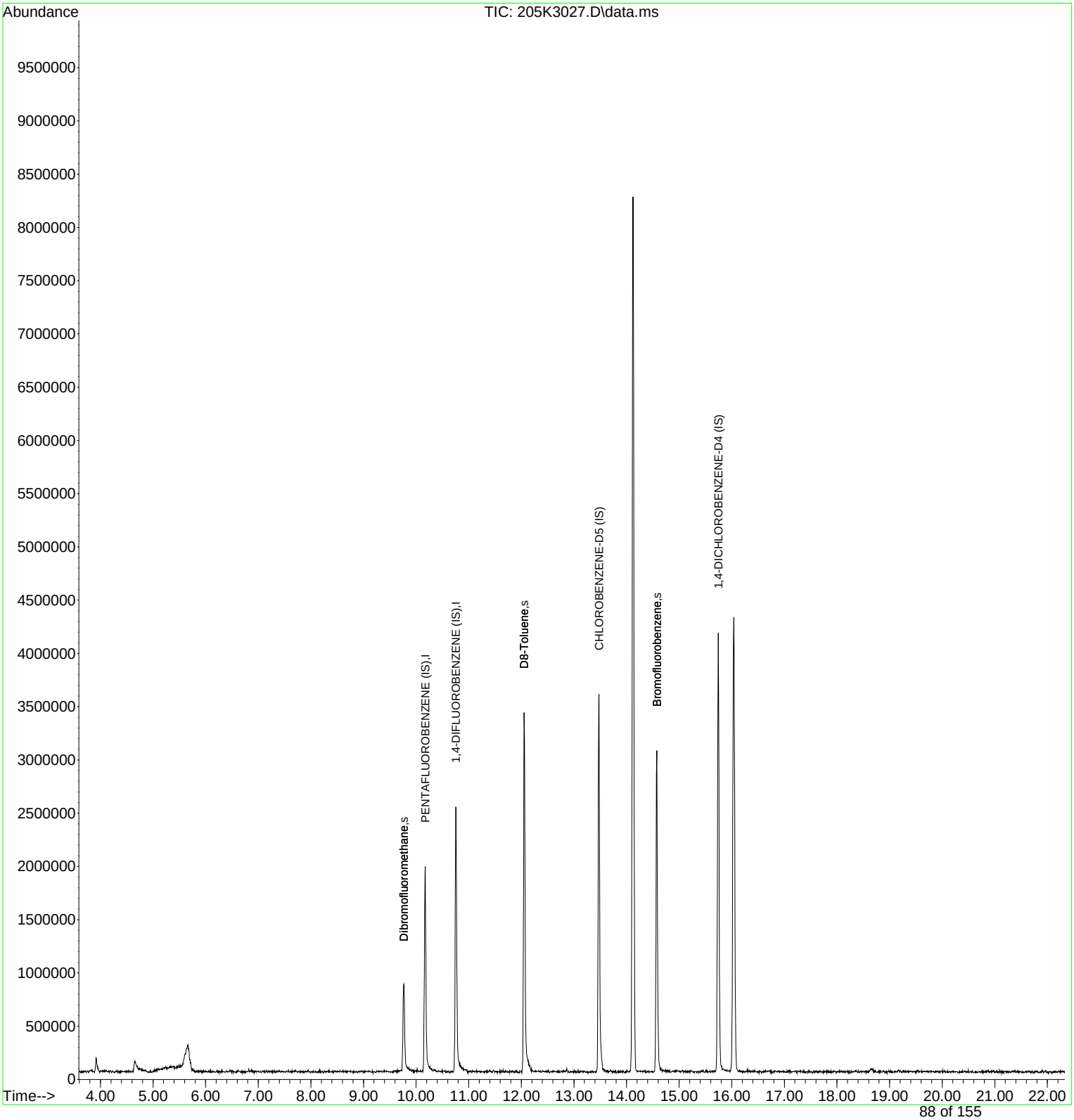
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
46) 1,2-Dichloropropane	11.267	63	1251	N.D.	
47) Bromodichloromethane	11.467	83	1833	N.D.	
48) Methyl Methacrylate	11.396	69	1008	N.D.	
49) 1,4-Dioxane	0.000		0	N.D.	
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.	
51) C-1,3-Dichloropropene	11.907	75	1346	N.D.	
53) D8-Toluene	12.054	98	2587675	51.90 ug/L #	94
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	12.072	92	1944	N.D.	
57) T-1,3-Dichloropropene	12.383	75	1426	N.D.	
58) Tetrachloroethene	12.371	164	1158	N.D.	
59) Ethyl methacrylate	12.507	69	1275	N.D.	
60) 1,1,2-Trichloroethane	12.642	97	1854	N.D.	
61) Dibromochloromethane	12.765	129	1140	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	13.082	107	1236	N.D.	
64) 2-Hexanone	13.147	43	1095	N.D.	
65) Ethylbenzene	13.488	106	1044	N.D.	
66) Chlorobenzene	13.494	112	1522	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	13.981	106	1097	N.D.	
70) Styrene	14.046	104	1484	N.D.	
71) Bromoform	0.000		0	N.D. d	
72) Isopropylbenzene	14.234	105	1565	N.D.	
74) Bromofluorobenzene	14.575	95	1271002	54.73 ug/L	99
75) n-Propylbenzene	14.639	91	5019	N.D.	
76) 1,1,2,2-Tetrachloroethane	14.792	83	2245	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D. d	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D. d	
80) Bromobenzene	14.575	156	1086	N.D.	
81) 1,2,4-Trimethylbenzene	15.239	105	3616	N.D.	
82) 2-Chlorotoluene	14.869	91	2094	N.D.	
83) 4-Chlorotoluene	15.045	91	1768	N.D.	
84) tert-Butylbenzene	15.162	119	2320	N.D.	
85) 1,3,5-Trimethylbenzene	14.792	105	1963	N.D.	
86) p-Isopropyltoluene	15.456	119	1604	N.D.	
87) s-Butylbenzene	15.321	105	3514	N.D.	
88) 1,3-Dichlorobenzene	15.679	146	2764	N.D.	
89) 1,4-Dichlorobenzene	15.756	146	6261	N.D.	
90) n-Butylbenzene	15.950	91	4131	N.D.	
91) 1,2-Dichlorobenzene	16.290	146	2209	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D. d	
95) Naphthalene	0.000		0	N.D. d	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\110320\
Data File : 205K3027.D
Acq On : 3 Nov 2020 9:09 pm
Operator : KKW
InstName : OVGCMS5
Sample : 0k03050-blk1
Misc :
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Nov 04 06:58:37 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2008123
QLast Update : Thu Aug 27 08:42:52 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\110320\
Data File : 205K3028.D
Acq On : 3 Nov 2020 9:40 pm
Operator : KKW
InstName : OVGCMS5
Sample : aa63365-crl1
Misc :
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Nov 04 06:58:40 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2008123
QLast Update : Thu Aug 27 08:42:52 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	10.168	168	1314646	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.756	114	2276915	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.476	82	1292520	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.744	152	1395460	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.763	113	602696	52.53	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 105.06%				
52) D8-Toluene	12.054	98	2572818	52.86	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 105.72%				
73) Bromofluorobenzene	14.575	95	1244759	53.95	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 107.90%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.292	85	6439	0.87	ug/L	#	61
3) Chloromethane	4.733	50	7735	0.74	ug/L		89
4) Vinyl Chloride	4.933	62	7263	0.68	ug/L	#	2
5) Bromomethane	5.591	94	12156	5.04	ug/L	#	78
6) Chloroethane	5.767	64	1267	0.22	ug/L	#	45
7) Trichlorofluoromethane	6.084	101	8494	0.58	ug/L	#	90
8) Diethyl ether	6.555	59	4035	0.52	ug/L	#	70
9) 1,1-Dichloroethene	6.901	96	3118	0.35	ug/L	#	1
10) Trichlorotrifluoroethane	6.931	151	2077	0.30	ug/L	#	45
11) Acrolein	7.389	56	2084	1.09	ug/L	#	15
12) Iodomethane	7.171	142	6899	0.58	ug/L	#	33
13) Carbon Disulfide	7.013	76	65692	2.32	ug/L	#	86
14) 3-chloropropene	7.583	41	7874	0.49	ug/L	#	44
15) Acetone	7.712	43	3022	1.47	ug/L		92
16) Methylene Chloride	7.706	84	14358	1.36	ug/L		80
17) Methyl Acetate	7.871	43	1743	0.29	ug/L	#	1
18) t-1,2-Dichloroethene	7.912	96	9139	0.83	ug/L	#	72
19) Methyl tert-butyl ether	8.012	73	12534	0.49	ug/L	#	82
20) Acetonitrile	8.394	41	4461	3.05	ug/L	#	1
21) Isopropyl ether	8.423	45	12093	0.38	ug/L		92
22) Chloroprene	8.640	88	3170	0.29	ug/L	#	1
23) 1,1-Dichloroethane	8.670	63	12445	0.65	ug/L	#	65
24) Acrylonitrile	8.764	53	14552	4.44	ug/L	#	63
25) Vinyl Acetate	8.905	43	33750	1.91	ug/L	#	91
26) c-1,2-Dichloroethene	9.316	96	9354	0.76	ug/L	#	83
27) 2,2-Dichloropropane	9.410	77	9660	0.67	ug/L	#	85
28) Bromochloromethane	9.522	128	4461	0.92	ug/L	#	24
29) Cyclohexane	9.545	56	9298	0.49	ug/L		94
30) Chloroform	9.563	83	12495	0.66	ug/L	#	84
32) Dibromofluoromethane	9.763	113	602696	52.53	ug/L	#	92
33) 2-Butanone	9.886	72	3844	3.64	ug/L	#	45
34) 1,1,1-Trichloroethane	9.827	97	17348	1.14	ug/L	#	63
35) 1,1-Dichloropropene	9.945	75	9659	0.65	ug/L	#	73
36) Propionitrile	10.233	54	8657	6.47	ug/L	#	85
37) Methacrylonitrile	10.233	41	39759	6.46	ug/L		94
38) Isobutyl Alcohol	10.268	43	2088	3.03	ug/L	#	69
40) Carbon Tetrachloride	9.757	117	12432	1.18	ug/L	#	68
41) Benzene	10.221	78	31346	0.71	ug/L	#	85
42) 1,2-Dichloroethane	10.409	62	10659	0.95	ug/L		94
43) Trichloroethene	10.756	130	6699	0.61	ug/L	#	1
44) Methyl cyclohexane	10.756	83	51119m	2.44	ug/L		
45) Dibromomethane	11.202	93	7770	1.30	ug/L	#	44

Data Path : C:\msdchem\1\data\110320\
Data File : 205K3028.D
Acq On : 3 Nov 2020 9:40 pm
Operator : KKW
InstName : OVGCMS5
Sample : aa63365-crl1
Misc :
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Nov 04 06:58:40 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2008123
QLast Update : Thu Aug 27 08:42:52 2020
Response via : Initial Calibration

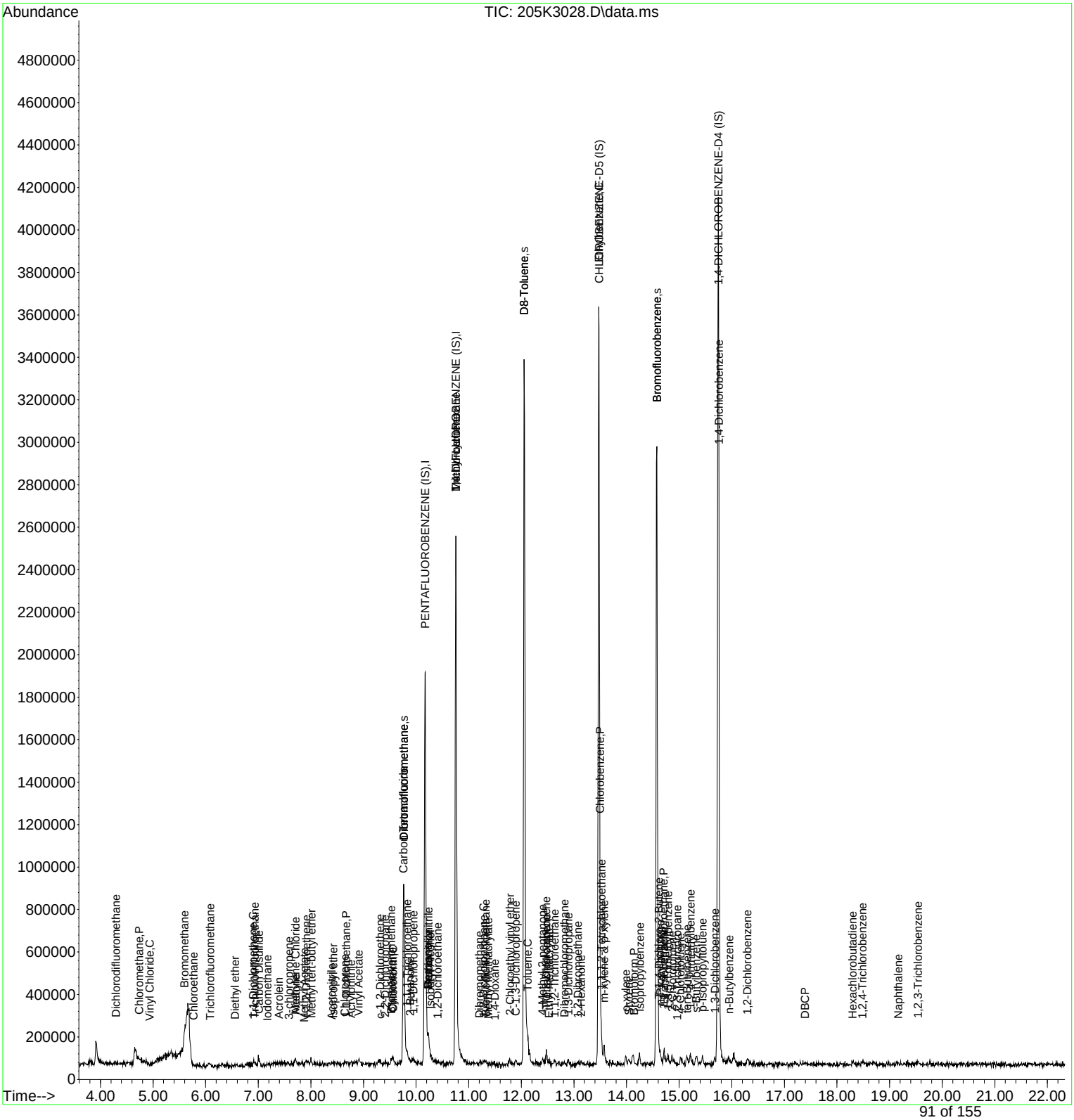
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
46) 1,2-Dichloropropane	11.284	63	7294	0.63	ug/L		90
47) Bromodichloromethane	11.320	83	10286	0.85	ug/L	#	92
48) Methyl Methacrylate	11.373	69	5175	0.69	ug/L	#	41
49) 1,4-Dioxane	11.496	88	2001	19.38	ug/L		100
50) 2-Chloroethyl vinyl ether	11.784	63	11795	2.22	ug/L	#	92
51) C-1,3-Dichloropropene	11.890	75	7451	0.46	ug/L	#	59
53) D8-Toluene	12.054	98	2571583	52.84	ug/L		96
54) 4-Methyl-2-pentanone	12.401	100	7036m	4.61	ug/L		
56) Toluene	12.119	92	22145	0.66	ug/L	#	85
57) T-1,3-Dichloropropene	12.471	75	7852	0.55	ug/L	#	92
58) Tetrachloroethene	12.477	164	10995	1.07	ug/L		86
59) Ethyl methacrylate	12.524	69	6452	0.43	ug/L	#	88
60) 1,1,2-Trichloroethane	12.630	97	9451	0.90	ug/L	#	30
61) Dibromochloromethane	12.818	129	4819	0.48	ug/L	#	87
62) 1,3-Dichloropropane	12.894	76	9522	0.54	ug/L	#	61
63) 1,2-Dibromoethane	13.071	107	6549	0.63	ug/L	#	55
64) 2-Hexanone	13.135	43	13244	2.06	ug/L	#	58
65) Ethylbenzene	13.470	106	12808	0.65	ug/L	#	1
66) Chlorobenzene	13.494	112	24574	0.75	ug/L	#	76
67) 1,1,1,2-Tetrachloroethane	13.523	131	5928	0.59	ug/L	#	80
68) m-xylene & p-xylene	13.570	106	32114	1.32	ug/L		82
69) o-xylene	13.987	106	13064	0.55	ug/L		83
70) Styrene	14.040	104	11385	0.27	ug/L		91
71) Bromoform	14.140	173	3603	0.78	ug/L		92
72) Isopropylbenzene	14.252	105	30937	0.51	ug/L		96
74) Bromofluorobenzene	14.575	95	1244759	53.95	ug/L		99
75) n-Propylbenzene	14.639	91	43430	0.58	ug/L	#	89
76) 1,1,2,2-Tetrachloroethane	14.704	83	9472	0.68	ug/L	#	82
77) 1,2,3-Trichloropropane	14.962	61	1185	0.31	ug/L	#	1
78) T-1,4-Dichloro-2-Butene	14.616	53	6003	1.77	ug/L	#	16
80) Bromobenzene	14.716	156	14626	1.00	ug/L	#	81
81) 1,2,4-Trimethylbenzene	15.215	105	26281	0.44	ug/L	#	76
82) 2-Chlorotoluene	14.868	91	25191	0.55	ug/L	#	93
83) 4-Chlorotoluene	15.027	91	29411	0.62	ug/L		99
84) tert-Butylbenzene	15.150	119	23521	0.51	ug/L	#	84
85) 1,3,5-Trimethylbenzene	14.786	105	26571	0.46	ug/L	#	86
86) p-Isopropyltoluene	15.444	119	32878	0.53	ug/L	#	94
87) s-Butylbenzene	15.321	105	36403	0.52	ug/L	#	84
88) 1,3-Dichlorobenzene	15.679	146	17283	0.57	ug/L	#	68
89) 1,4-Dichlorobenzene	15.756	146	23552	0.76	ug/L	#	1
90) n-Butylbenzene	15.950	91	24299	0.41	ug/L	#	85
91) 1,2-Dichlorobenzene	16.296	146	18108	0.66	ug/L	#	69
92) DBCP	17.389	157	1318	0.77	ug/L	#	79
93) Hexachlorobutadiene	18.294	225	2359	0.45	ug/L	#	56
94) 1,2,4-Trichlorobenzene	18.482	180	2852	0.29	ug/L	#	20
95) Naphthalene	19.164	128	8471	0.53	ug/L	#	91
96) 1,2,3-Trichlorobenzene	19.540	180	2505	0.53	ug/L	#	52

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\110320\
Data File : 205K3028.D
Acq On : 3 Nov 2020 9:40 pm
Operator : KKW
InstName : OVGCMS5
Sample : aa63365-crl1
Misc :
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Nov 04 06:58:40 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2008123
QLast Update : Thu Aug 27 08:42:52 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\110320\
Data File : 205K3029.D
Acq On : 3 Nov 2020 10:11 pm
Operator : KKW
InstName : OVGCMS5
Sample : ad07290-02
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Nov 04 12:04:27 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2008123
QLast Update : Thu Aug 27 08:42:52 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) PENTAFLUOROBENZENE (IS)	10.174	168	1290197	50.00	ug/L	0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.756	114	2278430	50.00	ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.470	82	1253343	50.00	ug/L	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.744	152	1400350	50.00	ug/L	0.00
System Monitoring Compounds						
31) Dibromofluoromethane	9.769	113	607245	53.93	ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 107.86%			
52) D8-Toluene	12.054	98	2534683	52.04	ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 104.08%			
73) Bromofluorobenzene	14.575	95	1238389	55.35	ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 110.70%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.451	85	1272	N.D.		
3) Chloromethane	4.745	50	5557	0.54	ug/L #	47
4) Vinyl Chloride	4.933	62	206707	19.72	ug/L	93
5) Bromomethane	5.603	94	3164	1.36	ug/L #	9
6) Chloroethane	5.855	64	2429	0.42	ug/L #	73
7) Trichlorofluoromethane	6.026	101	1045	N.D.		
8) Diethyl ether	6.713	59	1010	N.D.		
9) 1,1-Dichloroethene	7.048	96	1560	N.D.		
10) Trichlorotrifluoroethane	0.000		0	N.D.		
11) Acrolein	7.418	56	1301	0.69	ug/L #	82
12) Iodomethane	7.160	142	1964	N.D.		
13) Carbon Disulfide	7.013	76	6086	0.22	ug/L #	71
14) 3-chloropropene	7.553	41	1362	N.D.		
15) Acetone	7.777	43	3409	1.69	ug/L #	85
16) Methylene Chloride	7.736	84	1589	N.D.		
17) Methyl Acetate	7.836	43	1286	0.22	ug/L #	1
18) t-1,2-Dichloroethene	7.924	96	11071	1.03	ug/L	94
19) Methyl tert-butyl ether	7.941	73	1281	N.D.		
20) Acetonitrile	8.423	41	1318	0.92	ug/L #	1
21) Isopropyl ether	8.476	45	1277	N.D.		
22) Chloroprene	8.770	88	1992	N.D.		
23) 1,1-Dichloroethane	8.599	63	1092	N.D.		
24) Acrylonitrile	8.758	53	2052	0.64	ug/L #	4
25) Vinyl Acetate	8.917	43	1220	N.D.		
26) c-1,2-Dichloroethene	9.316	96	4422	0.37	ug/L #	77
27) 2,2-Dichloropropane	9.575	77	1619	N.D.		
28) Bromochloromethane	0.000		0	N.D.		
29) Cyclohexane	9.551	56	1478	N.D.		
30) Chloroform	9.545	83	1197	N.D.		
32) Dibromofluoromethane	9.769	113	607245	53.93	ug/L #	92
33) 2-Butanone	9.845	72	1009	0.97	ug/L #	3
34) 1,1,1-Trichloroethane	9.663	97	1090	N.D.		
35) 1,1-Dichloropropene	9.910	75	1144	N.D.		
36) Propionitrile	10.315	54	2469	1.88	ug/L #	29
37) Methacrylonitrile	10.227	41	2871	0.48	ug/L #	71
38) Isobutyl Alcohol	10.198	43	1901	2.81	ug/L #	1
40) Carbon Tetrachloride	9.716	117	1981	N.D.		
41) Benzene	10.215	78	3007	N.D.		
42) 1,2-Dichloroethane	10.415	62	1066	N.D.		
43) Trichloroethene	0.000		0	N.D.		
44) Methyl cyclohexane	10.756	83	35722	1.70	ug/L #	33
45) Dibromomethane	11.161	93	1516	0.25	ug/L #	81

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\110320\
Data File : 205K3029.D
Acq On : 3 Nov 2020 10:11 pm
Operator : KKW
InstName : OVGCMS5
Sample : ad07290-02
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Nov 04 12:04:27 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2008123
QLast Update : Thu Aug 27 08:42:52 2020
Response via : Initial Calibration

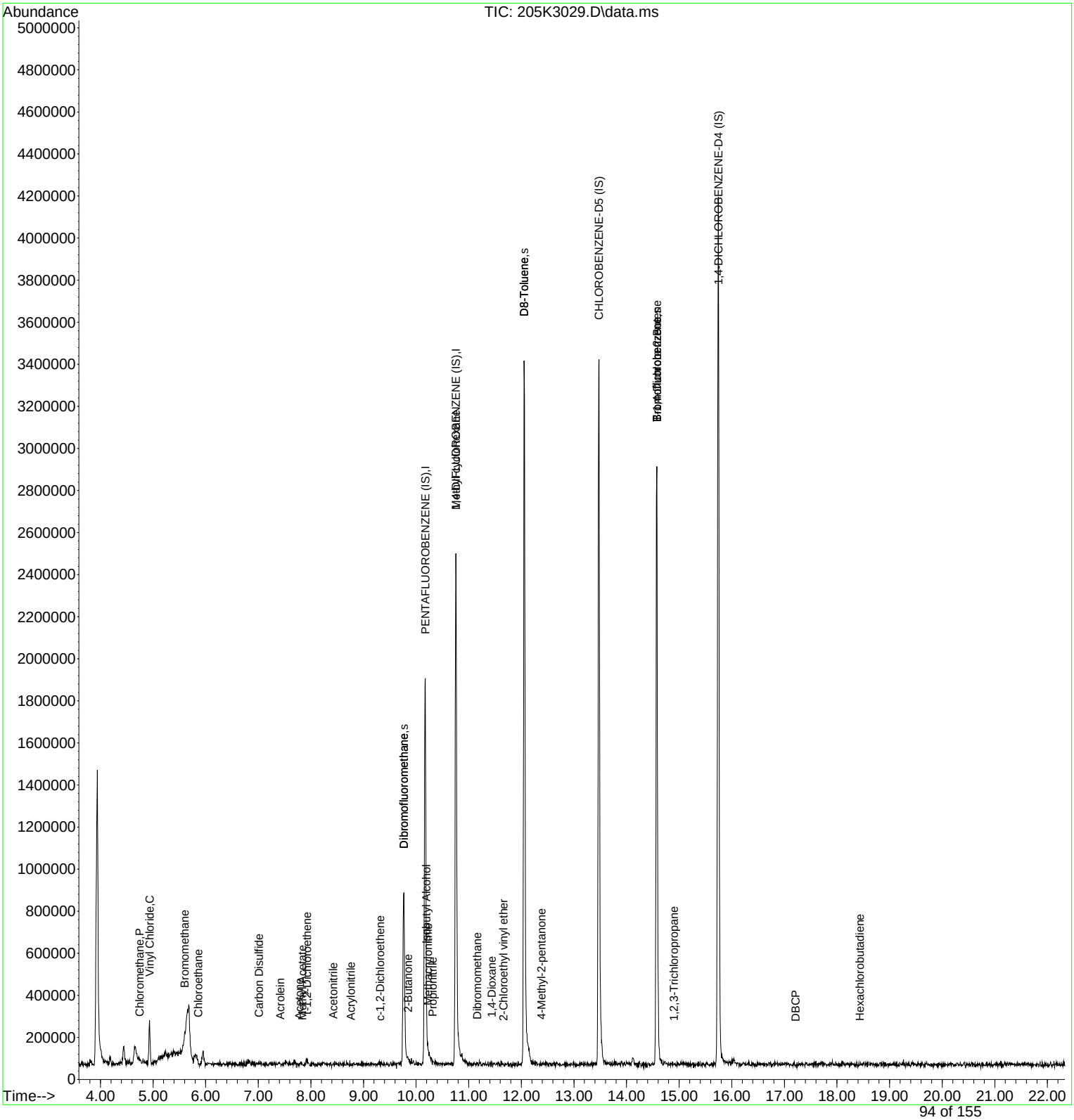
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
46) 1,2-Dichloropropane	11.232	63	2024	N.D.	
47) Bromodichloromethane	11.243	83	1042	N.D.	
48) Methyl Methacrylate	0.000		0	N.D.	
49) 1,4-Dioxane	11.437	88	1320	12.80 ug/L #	17
50) 2-Chloroethyl vinyl ether	11.661	63	1239	0.23 ug/L #	45
51) C-1,3-Dichloropropene	12.001	75	1180	N.D.	
53) D8-Toluene	12.054	98	2534683	52.04 ug/L	97
54) 4-Methyl-2-pentanone	12.383	100	1315	0.86 ug/L #	35
56) Toluene	12.101	92	3833	N.D.	
57) T-1,3-Dichloropropene	12.401	75	1429	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	0.000		0	N.D.	
60) 1,1,2-Trichloroethane	12.683	97	1036	N.D.	
61) Dibromochloromethane	12.771	129	1435	N.D.	
62) 1,3-Dichloropropane	12.936	76	1636	N.D.	
63) 1,2-Dibromoethane	13.053	107	1177	N.D.	
64) 2-Hexanone	13.206	43	1143	N.D.	
65) Ethylbenzene	13.582	106	1280	N.D.	
66) Chlorobenzene	13.476	112	2195	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	13.582	106	1280	N.D.	
69) o-xylene	13.981	106	1661	N.D.	
70) Styrene	14.023	104	1495	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	14.246	105	2252	N.D.	
74) Bromofluorobenzene	14.575	95	1238389	55.35 ug/L	99
75) n-Propylbenzene	14.645	91	4138	N.D.	
76) 1,1,2,2-Tetrachloroethane	14.587	83	1134	N.D.	
77) 1,2,3-Trichloropropane	14.898	61	1092	0.30 ug/L #	6
78) T-1,4-Dichloro-2-Butene	14.575	53	1107	0.34 ug/L #	1
80) Bromobenzene	14.557	156	1308	N.D.	
81) 1,2,4-Trimethylbenzene	15.209	105	1491	N.D.	
82) 2-Chlorotoluene	14.874	91	1240	N.D.	
83) 4-Chlorotoluene	15.027	91	1851	N.D.	
84) tert-Butylbenzene	15.168	119	1621	N.D.	
85) 1,3,5-Trimethylbenzene	14.798	105	1873	N.D.	
86) p-Isopropyltoluene	15.521	119	1691	N.D.	
87) s-Butylbenzene	15.339	105	1191	N.D.	
88) 1,3-Dichlorobenzene	15.703	146	2017	N.D.	
89) 1,4-Dichlorobenzene	15.762	146	2230	N.D.	
90) n-Butylbenzene	15.950	91	1602	N.D.	
91) 1,2-Dichlorobenzene	16.355	146	1234	N.D.	
92) DBCP	17.213	157	1654	0.96 ug/L	99
93) Hexachlorobutadiene	18.435	225	1213	0.23 ug/L #	35
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	19.152	128	1259	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\110320\
Data File : 205K3029.D
Acq On : 3 Nov 2020 10:11 pm
Operator : KKW
InstName : OVGCMS5
Sample : ad07290-02
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Nov 04 12:04:27 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2008123
QLast Update : Thu Aug 27 08:42:52 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\110320\
Data File : 205K3030.D
Acq On : 3 Nov 2020 10:42 pm
Operator : KKW
InstName : OVGCMS5
Sample : ad07290-01
Misc :
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Nov 04 06:58:47 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2008123
QLast Update : Thu Aug 27 08:42:52 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) PENTAFLUOROBENZENE (IS)	10.174	168	1286937	50.00	ug/L	0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.756	114	2220464	50.00	ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.470	82	1205145	50.00	ug/L	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.744	152	1363500	50.00	ug/L	0.00
System Monitoring Compounds						
31) Dibromofluoromethane	9.769	113	590021	52.53	ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 105.06%			
52) D8-Toluene	12.054	98	2503641	52.75	ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 105.50%			
73) Bromofluorobenzene	14.575	95	1230168	57.18	ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 114.36%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.363	85	1193	N.D.		
3) Chloromethane	4.745	50	1535	N.D.		
4) Vinyl Chloride	0.000		0	N.D.		
5) Bromomethane	0.000		0	N.D.	d	
6) Chloroethane	5.855	64	1074	N.D.		
7) Trichlorofluoromethane	0.000		0	N.D.		
8) Diethyl ether	6.572	59	1240	N.D.		
9) 1,1-Dichloroethene	6.931	96	1119	N.D.		
10) Trichlorotrifluoroethane	0.000		0	N.D.		
11) Acrolein	0.000		0	N.D.	d	
12) Iodomethane	0.000		0	N.D.	d	
13) Carbon Disulfide	0.000		0	N.D.	d	
14) 3-chloropropene	0.000		0	N.D.	d	
15) Acetone	0.000		0	N.D.	d	
16) Methylene Chloride	0.000		0	N.D.	d	
17) Methyl Acetate	0.000		0	N.D.	d	
18) t-1,2-Dichloroethene	0.000		0	N.D.	d	
19) Methyl tert-butyl ether	0.000		0	N.D.	d	
20) Acetonitrile	0.000		0	N.D.	d	
21) Isopropyl ether	0.000		0	N.D.	d	
22) Chloroprene	0.000		0	N.D.		
23) 1,1-Dichloroethane	0.000		0	N.D.	d	
24) Acrylonitrile	0.000		0	N.D.	d	
25) Vinyl Acetate	8.881	43	1926	N.D.		
26) c-1,2-Dichloroethene	0.000		0	N.D.		
27) 2,2-Dichloropropane	9.463	77	1046	N.D.		
28) Bromochloromethane	0.000		0	N.D.		
29) Cyclohexane	9.434	56	1068	N.D.		
30) Chloroform	9.486	83	1129	N.D.		
32) Dibromofluoromethane	9.769	113	590021	52.53	ug/L #	95
33) 2-Butanone	0.000		0	N.D.	d	
34) 1,1,1-Trichloroethane	0.000		0	N.D.	d	
35) 1,1-Dichloropropene	0.000		0	N.D.	d	
36) Propionitrile	0.000		0	N.D.	d	
37) Methacrylonitrile	0.000		0	N.D.	d	
38) Isobutyl Alcohol	0.000		0	N.D.	d	
40) Carbon Tetrachloride	0.000		0	N.D.	d	
41) Benzene	0.000		0	N.D.	d	
42) 1,2-Dichloroethane	0.000		0	N.D.	d	
43) Trichloroethene	0.000		0	N.D.		
44) Methyl cyclohexane	0.000		0	N.D.	d	
45) Dibromomethane	0.000		0	N.D.		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\110320\
Data File : 205K3030.D
Acq On : 3 Nov 2020 10:42 pm
Operator : KKW
InstName : OVGCMS5
Sample : ad07290-01
Misc :
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Nov 04 06:58:47 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2008123
QLast Update : Thu Aug 27 08:42:52 2020
Response via : Initial Calibration

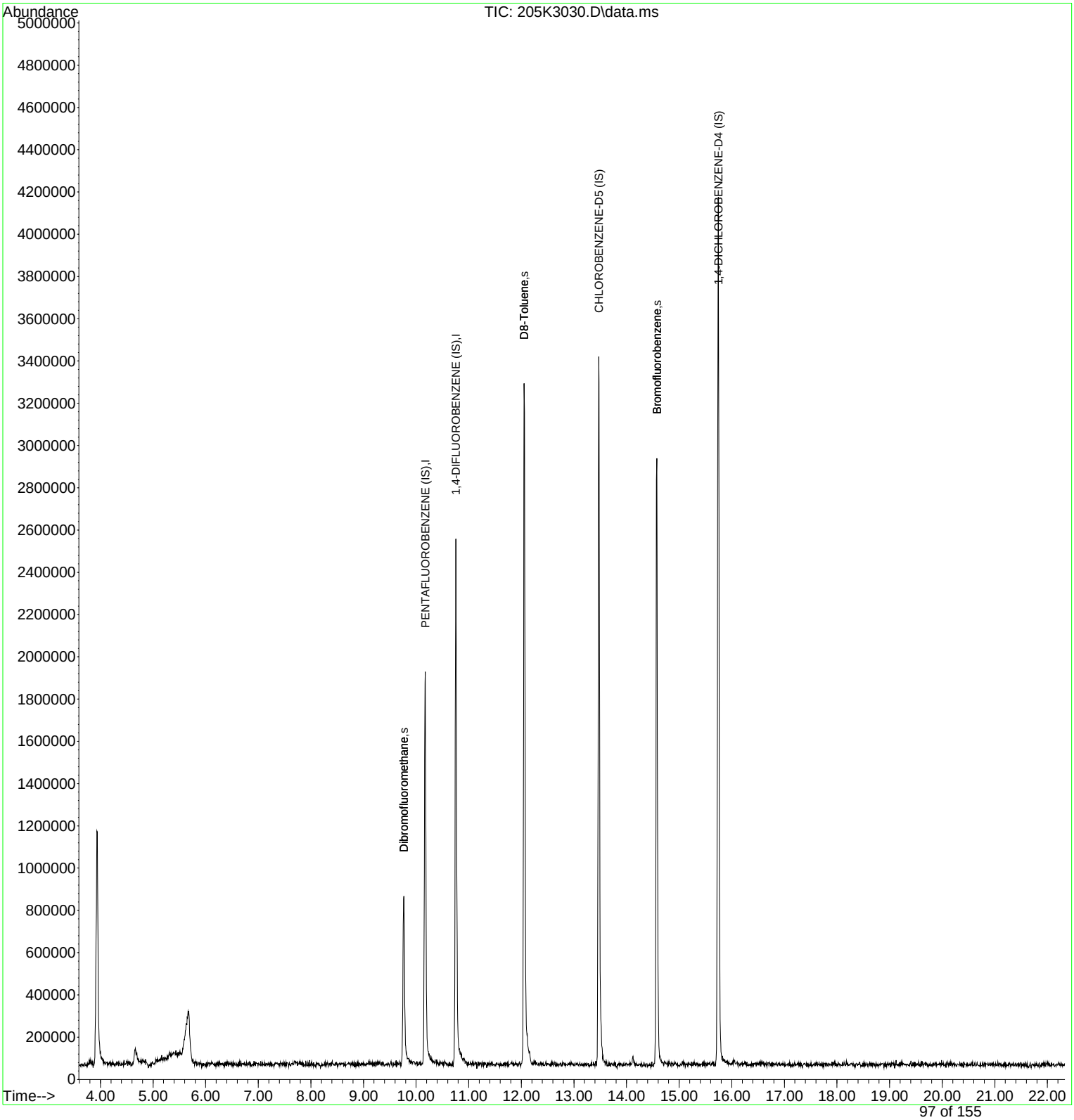
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
46) 1,2-Dichloropropane	0.000		0	N.D. d	
47) Bromodichloromethane	0.000		0	N.D. d	
48) Methyl Methacrylate	0.000		0	N.D. d	
49) 1,4-Dioxane	0.000		0	N.D. d	
50) 2-Chloroethyl vinyl ether	0.000		0	N.D. d	
51) C-1,3-Dichloropropene	11.948	75	1104	N.D.	
53) D8-Toluene	12.054	98	2503641	52.75 ug/L	97
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	12.107	92	2468	N.D.	
57) T-1,3-Dichloropropene	12.530	75	1146	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	12.518	69	1566	N.D.	
60) 1,1,2-Trichloroethane	12.659	97	1617	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	12.753	76	1716	N.D.	
63) 1,2-Dibromoethane	12.994	107	1588	N.D.	
64) 2-Hexanone	0.000		0	N.D. d	
65) Ethylbenzene	13.552	106	1059	N.D.	
66) Chlorobenzene	13.411	112	3253	N.D.	
67) 1,1,1,2-Tetrachloroethane	13.482	131	1149	N.D.	
68) m-xylene & p-xylene	13.552	106	1059	N.D.	
69) o-xylene	14.028	106	1033	N.D.	
70) Styrene	14.017	104	1123	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	14.240	105	4957	N.D.	
74) Bromofluorobenzene	14.575	95	1230168	57.18 ug/L	98
75) n-Propylbenzene	14.592	91	1608	N.D.	
76) 1,1,2,2-Tetrachloroethane	14.569	83	2164	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D. d	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D. d	
80) Bromobenzene	14.557	156	1068	N.D.	
81) 1,2,4-Trimethylbenzene	0.000		0	N.D.	
82) 2-Chlorotoluene	14.851	91	1200	N.D.	
83) 4-Chlorotoluene	15.074	91	1308	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	14.792	105	1789	N.D.	
86) p-Isopropyltoluene	15.450	119	1187	N.D.	
87) s-Butylbenzene	0.000		0	N.D.	
88) 1,3-Dichlorobenzene	15.697	146	1055	N.D.	
89) 1,4-Dichlorobenzene	15.738	146	3032	N.D.	
90) n-Butylbenzene	15.967	91	3440	N.D.	
91) 1,2-Dichlorobenzene	16.290	146	1011	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	18.529	180	1023	N.D.	
95) Naphthalene	19.205	128	1961	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\110320\
Data File : 205K3030.D
Acq On : 3 Nov 2020 10:42 pm
Operator : KKW
InstName : OVGCMS5
Sample : ad07290-01
Misc :
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Nov 04 06:58:47 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2008123
QLast Update : Thu Aug 27 08:42:52 2020
Response via : Initial Calibration



ANALYSIS SEQUENCE

AA62152

Instrument: OVGCMS5

Calibration ID: 2008123

Printed: 8/27/2020 9:48:49AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA62152-TUN1	QC		1		A0F0994			
AA62152-CAL1	QC		2		A0H1211	A0H0536		
AA62152-CAL2	QC		3		A0H1214	A0H0536		
AA62152-CAL3	QC		4		A0H1216	A0H0536		
AA62152-CAL4	QC		5		A0H1217	A0H0536		
AA62152-CAL5	QC		6		A0H1218	A0H0536		
AA62152-CAL6	QC		7		A0H1219	A0H0536		
AA62152-CAL7	QC		8		A0H1220	A0H0536		
AA62152-CAL8	QC		9		A0H1221	A0H0536		
AA62152-SCV1	QC		10		A0H1165	A0H0536		

Samples Loaded By _____ Date _____

Data Processed By _____ Date _____

VOLATILES GC/MS LOGBOOK (EPA Method 624.1 / SW-846 Method 8260D)

Tune Start Date: 08/26/20 | Surrogate: AD05822 | 8260 Mix: AD405680
Sequence: AA62152 / AA62153 | Internal: AD405355 | 8260 Add: AD405687
Batch: OA26846 | LCS Mix 2°: AD41047 | 8260 Ac/Ac: AD41110
Method: 8260 | LCS Acrolein 2°: AD405683 | 8260 Gases: AD41046
Analyst: KD | LCS Gas 2°: AD41044 | Instrument #: MS-5
Instrument EM Voltage: 1576

205 HU

Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)	Comments	LIMS
001	Tun			1				
002	Tun			1				
003	Tun			1			Pass	
004	CAL1 1ppb			2			✓	
005	CAL2 2ppb			3			✓	
006	CAL3 5ppb			4			✓	
007	CAL4 10ppb			5			✓	
008	CAL5 20ppb			6			✓	
009	CAL6 50ppb			7			✓	
010	CAL7 80ppb			8			✓	
011	CAL8 100ppb			9			✓	
012	rinse			10				
013	rinse			11				
014	SCV1			12			✓	
015	BS1			13			✓	
016	MS1	C	1	14	✓	N	✓	
017	MSD1	C	1	14	✓	N	✓	
018	rinse			15				
019	rinse			17				
020	BLK			18			✓	
021	AD05821-02	C	20	19	✓	N	✓ MS/MSD	

Compound List Report OVGCMS5

Method Path : C:\msdchem\1\methods\
Method File : 082620W.M
Title : ENCO SOP VGCMS05; Element Cal
Last Update : Thu Aug 27 08:42:52 2020
Response Via : Initial Calibration

Total Cpnds : 96

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	PENTAFLUOROBENZENE (IS)	168	10.174	1.000	A	3	A	B
2		Dichlorodifluoromethane	85	4.292	0.422	LO	2	A	B
3	P	Chloromethane	50	4.739	0.466	LO	1	A	B
4	C	Vinyl Chloride	62	4.927	0.484	A	1	A	B
5		Bromomethane	94	5.591	0.550	QO	2	A	B
6		Chloroethane	64	5.797	0.570	LO	2	A	B
7		Trichlorofluoromethane	101	6.055	0.595	A	2	A	B
8		Diethyl ether	59	6.554	0.644	A	2	A	B
9	C	1,1-Dichloroethene	96	6.907	0.679	A	2	A	B
10		Trichlorotrifluoroethane	151	6.930	0.681	A	2	A	B
11		Acrolein	56	7.389	0.726	A	1	A	B
12		Iodomethane	142	7.154	0.703	QO	2	A	B
13		Carbon Disulfide	76	7.001	0.688	A	2	A	B
14		3-chloropropene	41	7.565	0.744	A	2	A	B
15		Acetone	43	7.765	0.763	A	1	A	B
16		Methylene Chloride	84	7.712	0.758	LO	1	A	B
17		Methyl Acetate	43	7.882	0.775	QO	2	A	B
18		t-1,2-Dichloroethene	96	7.912	0.778	LO	2	A	B
19		Methyl tert-butyl ether	73	8.000	0.786	A	2	A	B
20		Acetonitrile	41	8.393	0.825	QO	2	A	B
21		Isopropyl ether	45	8.417	0.827	A	2	A	B
22		Chloroprene	88	8.646	0.850	A	2	A	B
23	P	1,1-Dichloroethane	63	8.687	0.854	A	3	A	B
24		Acrylonitrile	53	8.752	0.860	A	2	A	B
25		Vinyl Acetate	43	8.893	0.874	A	1	A	B
26		c-1,2-Dichloroethene	96	9.298	0.914	A	2	A	B
27		2,2-Dichloropropane	77	9.428	0.927	A	2	A	B
28		Bromochloromethane	128	9.527	0.936	QO	1	A	B
29		Cyclohexane	56	9.539	0.938	A	2	A	B
30	C	Chloroform	83	9.563	0.940	A	2	A	B
31	S	Dibromofluoromethane	113	9.763	0.960	A	2	A	B
32		Dibromofluoromethane	113	9.769	0.960	A	2	A	B
33		2-Butanone	72	9.880	0.971	QO	1	A	R
34		1,1,1-Trichloroethane	97	9.827	0.966	A	2	A	B
35		1,1-Dichloropropene	75	9.939	0.977	A	2	A	B
36		Propionitrile	54	10.221	1.005	A	2	A	B
37		Methacrylonitrile	41	10.233	1.006	A	1	A	R
38		Isobutyl Alcohol	43	10.262	1.009	QO	2	A	B
39	I	1,4-DIFLUOROBENZENE (IS)	114	10.755	1.000	A	2	A	B
40		Carbon Tetrachloride	117	9.751	0.907	QO	2	A	B
41		Benzene	78	10.203	0.949	A	1	A	B
42		1,2-Dichloroethane	62	10.409	0.968	A	2	A	B
43		Trichloroethene	130	10.761	1.001	A	2	A	B
44		Methyl cyclohexane	83	10.767	1.001	LO	2	A	B
45		Dibromomethane	93	11.202	1.042	A	2	A	B
46	C	1,2-Dichloropropane	63	11.284	1.049	A	2	A	B
47		Bromodichloromethane	83	11.314	1.052	A	2	A	B
48		Methyl Methacrylate	69	11.361	1.056	A	2	A	B
49		1,4-Dioxane	88	11.490	1.068	QO	1	A	B
50		2-Chloroethyl vinyl ether	63	11.766	1.094	A	2	A	B
51		C-1,3-Dichloropropene	75	11.889	1.105	A	2	A	B
52	S	D8-Toluene	98	12.060	1.121	A	2	A	B
53		D8-Toluene	98	12.060	1.121	A	2	A	B
54		4-Methyl-2-pentanone	100	12.395	1.152	A	2	A	B

55	I	CHLOROBENZENE-D5 (IS)	82	13.476	1.000	A	2	A	B
56	C	Toluene	92	12.107	0.898	A	2	A	B
57		T-1,3-Dichloropropene	75	12.459	0.925	A	2	A	B
58		Tetrachloroethene	164	12.477	0.926	A	2	A	B
59		Ethyl methacrylate	69	12.501	0.928	A	2	A	B
60		1,1,2-Trichloroethane	97	12.624	0.937	A	2	A	B
61		Dibromochloromethane	129	12.812	0.951	LO	2	A	B
62		1,3-Dichloropropane	76	12.888	0.956	A	2	A	B
63		1,2-Dibromoethane	107	13.070	0.970	A	2	A	B
64		2-Hexanone	43	13.123	0.974	A	2	A	B
65	C	Ethylbenzene	106	13.452	0.998	A	2	A	B
66	P	Chlorobenzene	112	13.493	1.001	A	1	A	B
67		1,1,1,2-Tetrachloroethane	131	13.523	1.003	A	2	A	B
68		m-xylene & p-xylene	106	13.570	1.007	A	1	A	B
69		o-xylene	106	13.975	1.037	A	1	A	B
70		Styrene	104	14.022	1.041	A	2	A	B
71	P	Bromoform	173	14.122	1.048	QO	1	A	B
72		Isopropylbenzene	105	14.240	1.057	A	2	A	B
73	S	Bromofluorobenzene	95	14.575	1.082	A	2	A	B
74		Bromofluorobenzene	95	14.575	1.082	A	2	A	B
75		n-Propylbenzene	91	14.633	1.086	A	2	A	B
76	P	1,1,2,2-Tetrachloroethane	83	14.716	1.092	A	3	A	B
77		1,2,3-Trichloropropane	61	14.898	1.106	A	2	A	B
78		T-1,4-Dichloro-2-Butene	53	14.598	1.083	QO	2	A	B
79	I	1,4-DICHLOROBENZENE-D4 (IS)	152	15.744	1.000	A	3	A	B
80		Bromobenzene	156	14.722	0.935	A	2	A	B
81		1,2,4-Trimethylbenzene	105	15.209	0.966	A	2	A	B
82		2-Chlorotoluene	91	14.857	0.944	A	2	A	R
83		4-Chlorotoluene	91	15.021	0.954	A	2	A	R
84		tert-Butylbenzene	119	15.145	0.962	A	2	A	B
85		1,3,5-Trimethylbenzene	105	14.786	0.939	A	2	A	B
86		p-Isopropyltoluene	119	15.444	0.981	A	2	A	B
87		s-Butylbenzene	105	15.327	0.974	A	2	A	B
88		1,3-Dichlorobenzene	146	15.673	0.996	A	2	A	R
89		1,4-Dichlorobenzene	146	15.767	1.001	A	2	A	R
90		n-Butylbenzene	91	15.932	1.012	A	2	A	B
91		1,2-Dichlorobenzene	146	16.296	1.035	A	2	A	B
92		DBCP	157	17.377	1.104	QO	1	A	B
93		Hexachlorobutadiene	225	18.306	1.163	A	2	A	B
94		1,2,4-Trichlorobenzene	180	18.476	1.174	A	2	A	B
95		Naphthalene	128	19.134	1.215	QO	2	A	B
96		1,2,3-Trichlorobenzene	180	19.522	1.240	QO	2	A	B

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

Compound Name Duplication Report

Quant Method: C:\msdchem\1\methods\082620W.M
Number of Compounds: 96

31 Dibromofluoromethane = 32 Dibromofluoromethane
52 D8-Toluene = 53 D8-Toluene
73 Bromofluorobenzene = 74 Bromofluorobenzene

3 Duplicate Names Detected!!!

082620W.M Thu Aug 27 09:17:55 2020

Response Factor Report OVGCMS5

Method Path : C:\msdchem\1\methods\
Method File : 082620W.M
Title : ENCO SOP VGCMS05; Element Cal
Last Update : Thu Aug 27 08:42:52 2020
Response Via : Initial Calibration

Calibration Files
1 =205HU004.D 2 =205HU005.D 5 =205HU006.D 20 =205HU008.D 100 =205HU011.D 50 =205HU009.D 10 =205HU007.D
80 =205HU010.D

		Compound	1	2	5	20	100	50	10	80	Avg	%RSD
1)	I	PENTAFLUOROBENZENE...	ISTD									
2)		Dichlorodifluo...	0.375	0.371	0.257	0.278	0.287	0.259	0.245	0.286	0.295	17.15
3)	P	Chloromethane	0.675	0.494	0.385	0.342	0.411	0.358	0.337	0.396	0.425	26.57
4)	C	Vinyl Chloride	0.461	0.441	0.357	0.392	0.440	0.380	0.342	0.437	0.406	10.93
5)		Bromomethane	0.478	0.314	0.228	0.107	0.127	0.102	0.125	0.115	0.200	67.59
6)		Chloroethane	0.276	0.338	0.221	0.229		0.221	0.204		0.248	20.19
7)		Trichlorofluor...	0.671	0.642	0.489	0.524	0.554	0.518	0.478	0.560	0.554	12.53
8)		Diethyl ether	0.332	0.286	0.309	0.289	0.310	0.282	0.242	0.314	0.296	9.18
9)	C	1,1-Dichloroet...	0.399	0.334	0.318	0.343	0.363	0.331	0.289	0.355	0.341	9.51
10)		Trichlorotrifl...	0.338	0.251	0.250	0.260	0.280	0.254	0.209	0.283	0.266	13.92
11)		Acrolein	0.079	0.062	0.076	0.073	0.076	0.074	0.067	0.075	0.073#	7.61
12)		Iodomethane	0.178	0.223	0.311	0.452	0.484	0.480	0.381	0.483	0.374	32.96
13)		Carbon Disulfide	1.254	1.038	1.113	1.065	1.046	1.028	1.004	1.056	1.076	7.31
14)		3-chloropropene	0.768	0.592	0.578	0.594	0.622	0.575	0.565	0.612	0.613	10.62
15)		Acetone	0.090	0.087	0.074	0.074	0.082	0.073	0.070	0.077	0.078#	8.95
16)		Methylene Chlo...	0.585	0.419	0.401	0.396	0.400	0.378	0.326	0.415	0.415	17.98
17)		Methyl Acetate	0.481	0.350	0.226	0.240	0.295	0.252	0.191	0.297	0.291	31.23
18)		t-1,2-Dichloro...	0.546	0.370	0.403	0.412	0.423	0.386	0.335	0.423	0.412	14.91
19)		Methyl tert-bu...	1.164	0.906	0.947	0.957	1.006	0.942	0.792	1.047	0.970	11.18
20)		Acetonitrile	0.088	0.063	0.061	0.061	0.071	0.061	0.053	0.070	0.066#	16.05
21)		Isopropyl ether	1.444	1.134	1.251	1.175	1.263	1.161	1.022	1.293	1.218	10.31
22)		Chloroprene	0.482	0.397	0.398	0.390	0.429	0.394	0.362	0.430	0.410	8.85
23)	P	1,1-Dichloroet...	0.864	0.695	0.738	0.711	0.739	0.689	0.603	0.758	0.725	10.18
24)		Acrylonitrile	0.128	0.109	0.120	0.126	0.135	0.128	0.118	0.132	0.125	6.77
25)		Vinyl Acetate	0.671	0.622	0.642	0.684	0.709	0.693	0.634	0.724	0.673	5.43
26)		c-1,2-Dichloro...	0.543	0.457	0.437	0.459	0.488	0.464	0.395	0.502	0.468	9.44
27)		2,2-Dichloropr...	0.637	0.539	0.530	0.511	0.568	0.525	0.462	0.589	0.545	9.73
28)		Bromochloromet...	0.255	0.192	0.185	0.181	0.144	0.163	0.172	0.154	0.181	18.82
29)		Cyclohexane	0.761	0.788	0.679	0.701	0.748	0.678	0.628	0.763	0.718	7.67
30)	C	Chloroform	0.890	0.683	0.708	0.708	0.747	0.688	0.612	0.754	0.724	11.08
31)	s	Dibromofluorom...	0.449	0.431	0.436	0.425	0.439	0.457	0.443	0.412	0.436	3.24
32)		Dibromofluorom...	0.449	0.431	0.436	0.425	0.439	0.457	0.443	0.412	0.436	3.24
33)		2-Butanone	0.071	0.043	0.040	0.046	0.052	0.045	0.043	0.050	0.049#	20.43
34)		1,1,1-Trichlor...	0.716	0.524	0.567	0.562	0.606	0.559	0.475	0.622	0.579	12.36
35)		1,1-Dichloropr...	0.631	0.543	0.566	0.561	0.610	0.547	0.463	0.606	0.566	9.25
36)		Propionitrile	0.056	0.050	0.051	0.050	0.053	0.049	0.045	0.053	0.051#	6.64
37)		Methacrylonitrile	0.270	0.219	0.231	0.235	0.234	0.227	0.218	0.236	0.234	6.95
38)		Isobutyl Alcohol	0.037	0.029	0.025	0.028	0.032	0.029	0.023	0.032	0.029#	15.07
39)	I	1,4-DIFLUOROBENZEN...	ISTD									
40)		Carbon Tetrach...	0.333	0.227	0.231	0.236	0.277	0.246	0.205	0.284	0.255	16.04

Method Path : C:\msdchem\1\methods\
Method File : 082620W.M
Title : ENCO SOP VGCMS05; Element Cal

41)		Benzene	1.146	0.871	0.995	0.975	0.985	0.936	0.846	1.025	0.972	9.62
42)		1,2-Dichloroet...	0.292	0.249	0.254	0.227	0.255	0.235	0.198	0.268	0.247	11.43
43)		Trichloroethene	0.281	0.225	0.233	0.239	0.253	0.234	0.208	0.263	0.242	9.44
44)		Methyl cyclohe...	1.033	0.668	0.518	0.458	0.457	0.433	0.425	0.479	0.559	37.03
45)		Dibromomethane	0.166	0.122	0.115	0.128	0.139	0.131	0.108	0.143	0.131	13.92
46)	C	1,2-Dichloropr...	0.312	0.240	0.240	0.247	0.266	0.243	0.222	0.274	0.255	10.93
47)		Bromodichlorom...	0.291	0.236	0.259	0.257	0.297	0.260	0.214	0.304	0.265	11.73
48)		Methyl Methacr...	0.174	0.181	0.145	0.154	0.179	0.159	0.139	0.177	0.164	10.03
49)		1,4-Dioxane	0.002	0.003	0.002	0.003	0.003	0.003	0.002	0.003	0.003#	22.94
50)		2-Chloroethyl ...	0.108	0.116	0.110	0.115	0.128	0.119	0.108	0.131	0.117	7.47
51)		C-1,3-Dichloro...	0.370	0.292	0.360	0.350	0.404	0.370	0.306	0.422	0.359	12.27
52)	s	D8-Toluene	1.081	1.044	1.049	1.012	1.071	1.134	1.111	1.048	1.069	3.70
53)		D8-Toluene	1.081	1.044	1.049	1.012	1.071	1.134	1.111	1.048	1.069	3.70
54)		4-Methyl-2-pen...	0.039	0.031	0.033	0.033	0.036	0.031	0.031	0.035	0.033#	8.70
55)		CHLOROBENZENE-D5 (IS)	----------ISTD----------									
56)	C	Toluene	1.577	1.274	1.288	1.247	1.263	1.223	1.109	1.341	1.290	10.37
57)		T-1,3-Dichloro...	0.624	0.464	0.520	0.566	0.601	0.565	0.482	0.624	0.556	11.10
58)		Tetrachloroethene	0.438	0.400	0.435	0.387	0.420	0.348	0.326	0.411	0.396	10.18
59)		Ethyl methacry...	0.670	0.541	0.573	0.583	0.613	0.566	0.536	0.612	0.587	7.51
60)		1,1,2-Trichlor...	0.536	0.359	0.432	0.383	0.404	0.384	0.339	0.430	0.408	14.84
61)		Dibromochlorom...	0.281	0.315	0.305	0.329	0.398	0.354	0.270	0.397	0.331	14.71
62)		1,3-Dichloropr...	0.737	0.675	0.689	0.664	0.713	0.667	0.583	0.729	0.682	7.17
63)		1,2-Dibromoethane	0.458	0.363	0.406	0.400	0.420	0.398	0.346	0.434	0.403	9.01
64)		2-Hexanone	0.296	0.233	0.236	0.231	0.271	0.240	0.219	0.262	0.248	10.34
65)	C	Ethylbenzene	0.848	0.695	0.782	0.761	0.790	0.734	0.657	0.803	0.759	8.08
66)	P	Chlorobenzene	1.488	1.186	1.328	1.255	1.278	1.240	1.080	1.342	1.275	9.39
67)		1,1,1,2-Tetrac...	0.440	0.339	0.375	0.379	0.426	0.396	0.331	0.431	0.390	10.53
68)		m-xylene & p-x...	1.102	0.965	0.935	0.937	0.901	0.906	0.849	0.943	0.942	7.78
69)		o-xylene	1.027	0.897	0.911	0.906	0.930	0.895	0.809	0.953	0.916	6.70
70)		Styrene	1.825	1.537	1.494	1.586	1.658	1.605	1.426	1.710	1.605	7.87
71)	P	Bromoform	0.173	0.139	0.149	0.186	0.254	0.213	0.144	0.252	0.189	24.61
72)		Isopropylbenzene	2.683	2.408	2.319	2.317	2.336	2.273	2.007	2.420	2.345	7.97
73)	s	Bromofluoroben...	0.944	0.898	0.893	0.843	0.864	0.932	0.946	0.821	0.893	5.28
74)		Bromofluoroben...	0.944	0.898	0.893	0.843	0.864	0.932	0.946	0.821	0.893	5.28
75)		n-Propylbenzene	3.274	2.771	2.853	2.889	2.957	2.830	2.576	3.022	2.896	6.99
76)	P	1,1,2,2-Tetrac...	0.658	0.523	0.518	0.504	0.541	0.520	0.463	0.556	0.535	10.56
77)		1,2,3-Trichlor...	0.181	0.111	0.157	0.137	0.152	0.144	0.127	0.156	0.146	14.52
78)		T-1,4-Dichloro...	0.077	0.164	0.120	0.135	0.170	0.150	0.126	0.167	0.139	22.59
79)		1,4-DICHLOROBENZEN...	----------ISTD----------									
80)		Bromobenzene	0.606	0.498	0.498	0.518	0.555	0.512	0.439	0.557	0.523	9.59
81)		1,2,4-Trimethy...	2.325	1.970	2.058	2.169	2.233	2.134	1.880	2.266	2.129	7.14
82)		2-Chlorotoluene	1.831	1.484	1.574	1.666	1.742	1.642	1.459	1.757	1.645	8.05
83)		4-Chlorotoluene	1.867	1.475	1.632	1.725	1.842	1.719	1.488	1.864	1.701	9.32
84)		tert-Butylbenzene	1.619	1.541	1.603	1.703	1.764	1.656	1.453	1.785	1.641	6.81
85)		1,3,5-Trimethy...	2.237	1.987	1.956	2.059	2.154	2.041	1.771	2.176	2.048	7.20
86)		p-Isopropyltol...	2.560	2.120	2.133	2.256	2.310	2.205	1.876	2.370	2.229	9.02
87)		s-Butylbenzene	2.746	2.382	2.449	2.525	2.627	2.495	2.174	2.681	2.510	7.26
88)		1,3-Dichlorobe...	1.191	1.061	1.031	1.057	1.150	1.066	0.929	1.152	1.080	7.70
89)		1,4-Dichlorobe...	1.327	1.027	1.113	1.086	1.165	1.093	0.931	1.159	1.113	10.31

Method Path : C:\msdchem\1\methods\
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90)	n-Butylbenzene	2.489	1.972	2.040	2.039	2.204	2.089	1.773	2.247	2.107	10.06
91)	1,2-Dichlorobe...	1.053	0.918	0.979	0.977	1.046	0.989	0.856	1.059	0.985	7.19
92)	DBCP	0.103	0.048	0.047	0.062	0.080	0.072	0.055	0.078	0.068#	27.96
93)	Hexachlorobuta...	0.219	0.194	0.167	0.179	0.207	0.184	0.146	0.214	0.189	13.13
94)	1,2,4-Trichlor...	0.377	0.296	0.311	0.344	0.428	0.369	0.302	0.415	0.355	14.24
95)	Naphthalene	0.804	0.640	0.564	0.665	0.921	0.728	0.597	0.869	0.723	17.99
96)	1,2,3-Trichlor...	0.149	0.135	0.193	0.198	0.253	0.207	0.162	0.239	0.192	21.71

(#) = Out of Range

Manual Integration Review Form

ENVIRONMENTAL CONSERVATION LABORATORIES, INC. ☐ Cary ☐ Jacksonville ☒ Orlando

I hereby attest that the manual integrations contained in this package have been thoroughly reviewed and are in agreement with the associated hardcopy data.

The electronic files listed below have been reviewed for accuracy, completeness and comply with ENCO labs QA-11 Manual Integration Policy including:

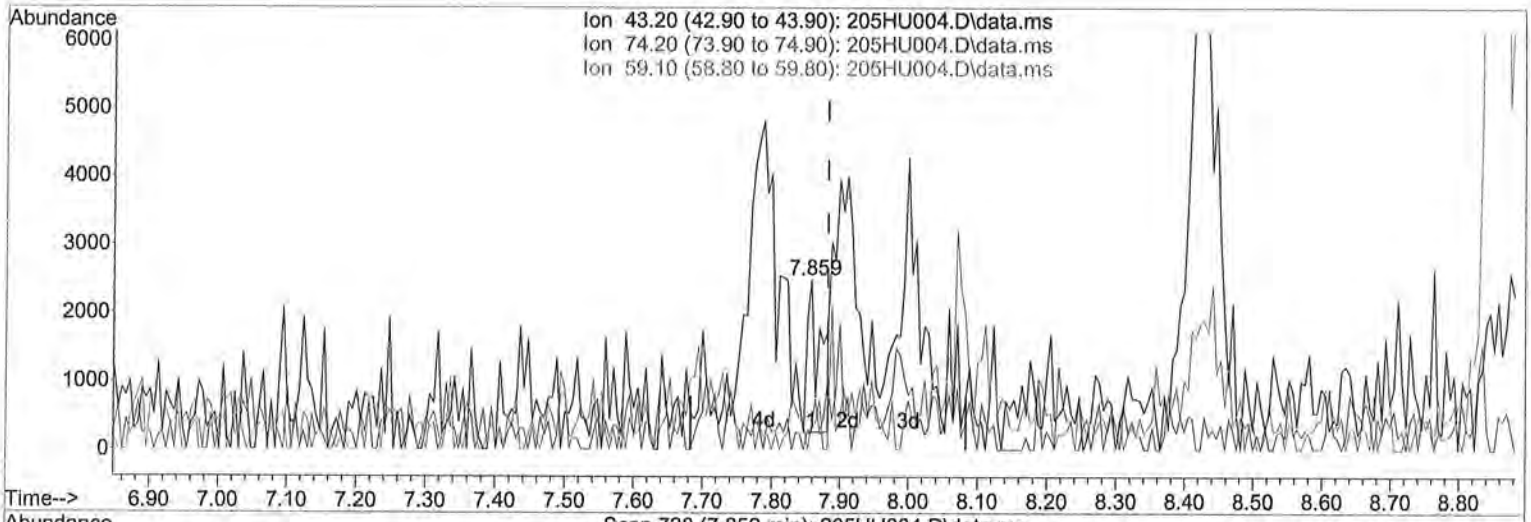
- "Before" and "After" chromatograms are provided
- Manual integrations are indicated on expanded scale "after" chromatograms at a scale large enough to see the manual integration performed.
- Reintegration technique marked if available on the data system
- Technical justification for manual integration
- Appropriate flags indicating which analytes were manually integrated are included in the raw data
- Analyst's initials and date.

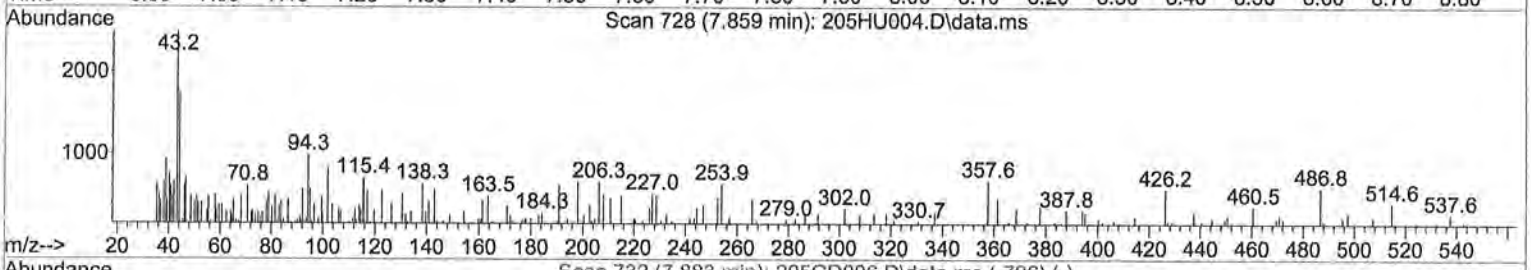
Instrument ID:	OVGCMS-5
Sequence/Batch ID:	AAG2152
Data File Prefix:	205HU
Date and Time Range of MIs:	08/26/20 1104 - 08/27/20 0802
Reviewer Print Name:	Karie Gonzalez
Reviewer Signature:	Karie Gonzalez
Date of Review:	8/27/2020

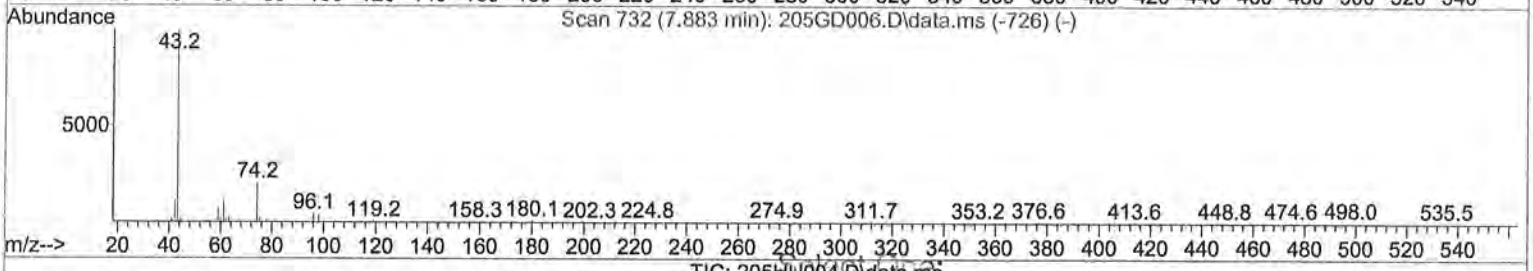
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU004.D
Acq On : 26 Aug 2020 10:39 am
Operator : KKW
InstName : OVGCMS5
Sample : CAL1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 26 11:03:23 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed Aug 26 10:37:30 2020
Response via : Initial Calibration







TIC: 205HU004.D\data.ms

(17) Methyl Acetate

7.859min (-0.024) 0.26 ug/L

response 3048

Ion	Exp%	Act%
43.20	100.00	100.00
74.20	20.50	40.49#
59.10	15.40	121.42#
0.00	0.00	0.00

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date MJ 08/27/20

Review by/Date:

Quantitation Report (Qedit)

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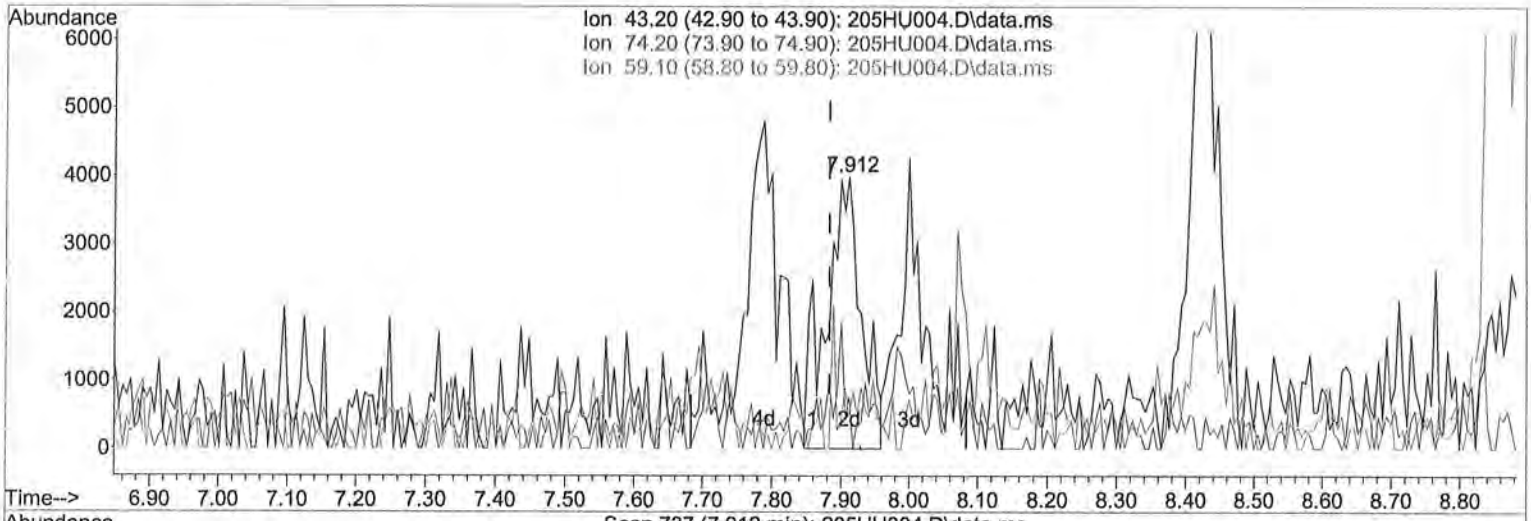
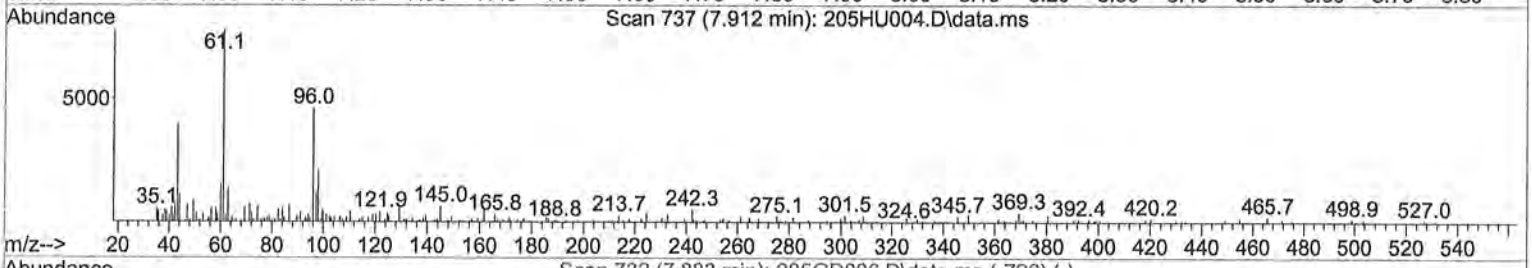
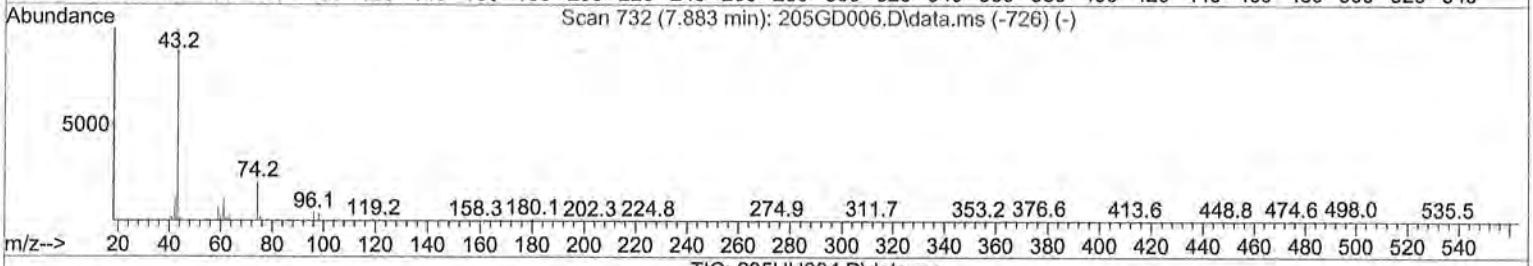
Response via : Initial Calibration







TIC: 205HU004.D\data.ms

(17) Methyl Acetate

7.912min (+ 0.029) 1.24 ug/L m

response 14340

Ion	Exp%	Act%
43.20	100.00	100.00
74.20	20.50	8.61#
59.10	15.40	25.81#
0.00	0.00	0.00

Select One:

[] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[] Incorrect peak selection/Peak not found

[] Hump integration

[] Baseline drop for split peaks

[] ISTD reintegration

[] Other:

Review by/Date W 08/27/20

Review by/Date:

Quantitation Report (Qedit)

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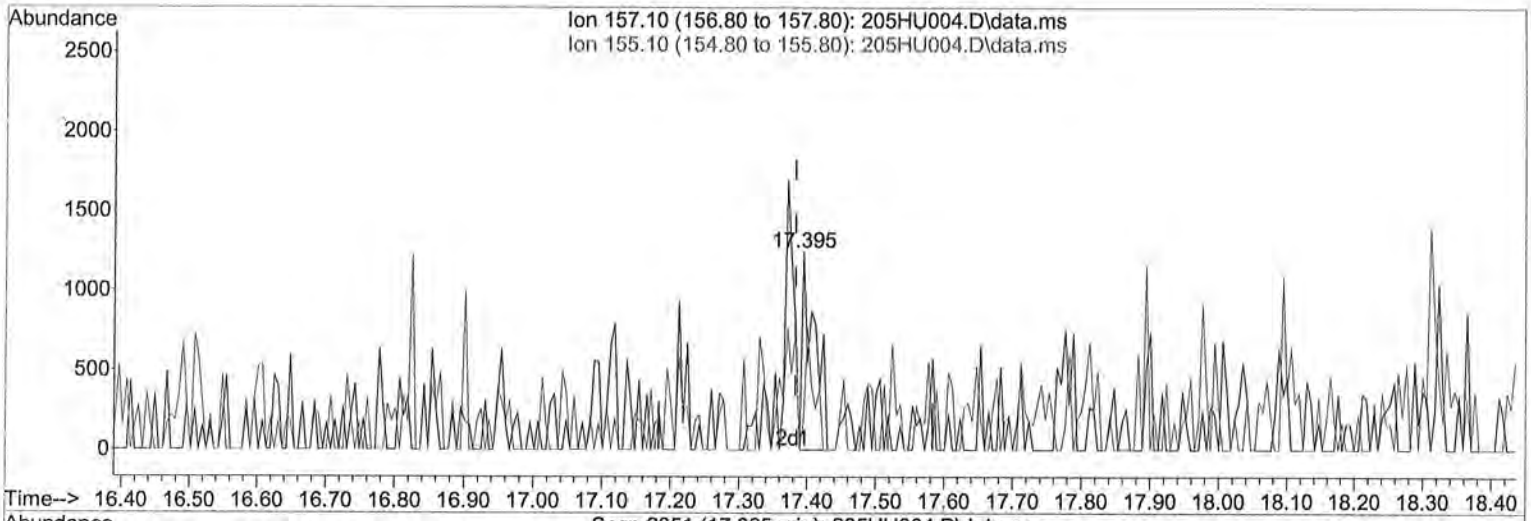

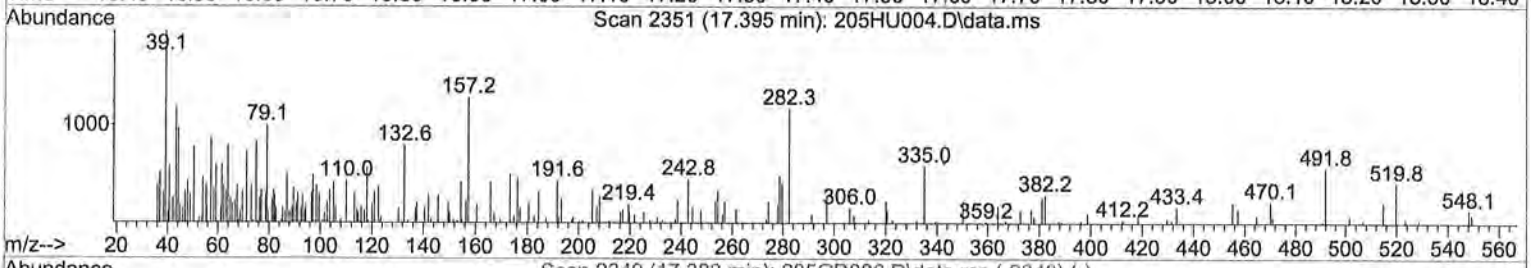

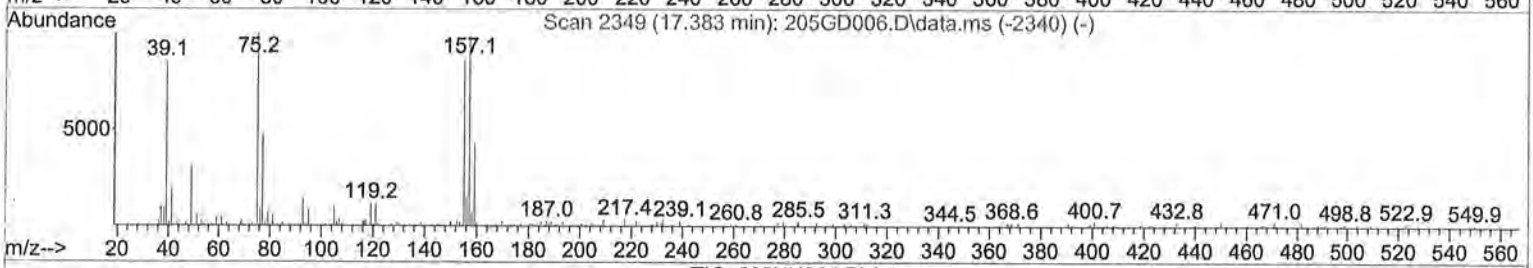

TIC: 205HU004.D\data.ms

(92) DBCP

17.395min (+ 0.012) 0.75 ug/L

response 1606

Ion	Exp%	Act%
157.10	100.00	100.00
155.10	85.80	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Reviewed by/Date NJ 08/27/20

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU004.D
Acq On : 26 Aug 2020 10:39 am
Operator : KKW
InstName : OVGCMS5
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QLast Update : Wed Aug 26 10:37:30 2020
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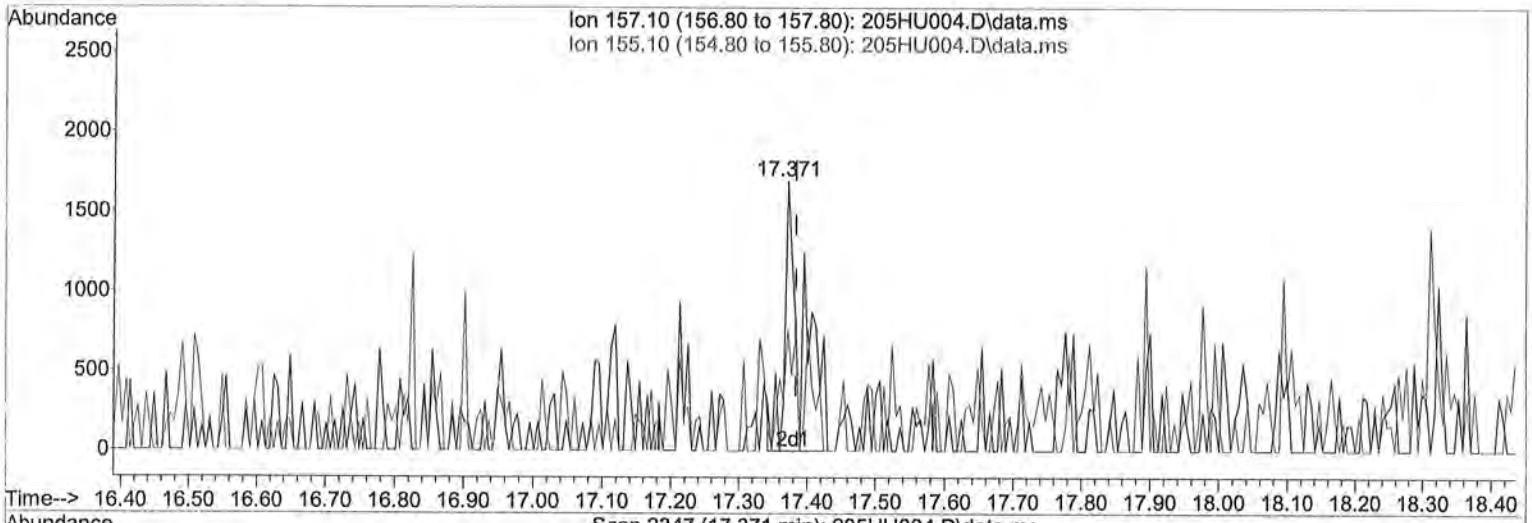
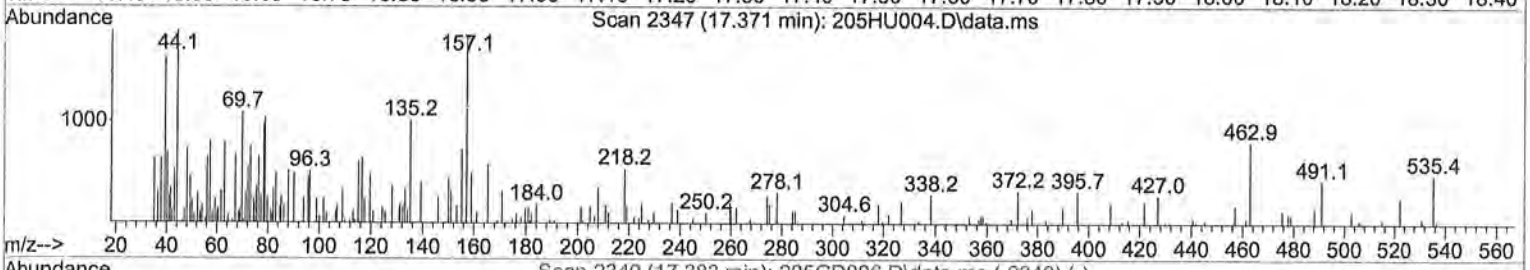
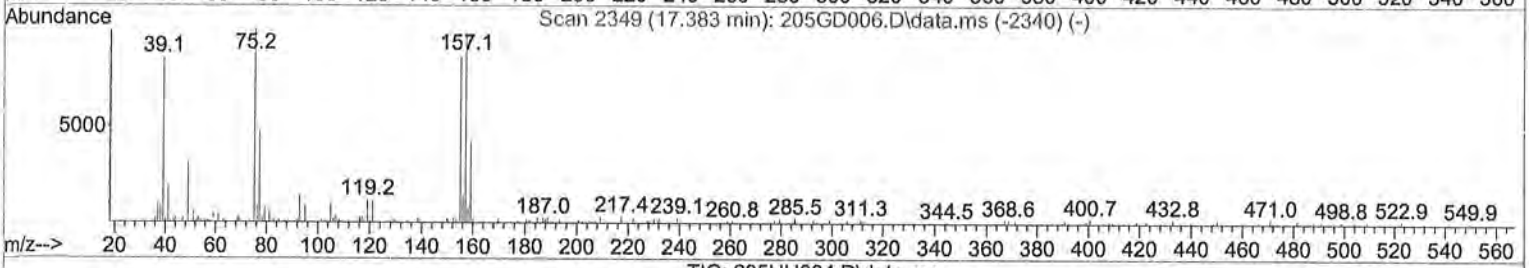






TIC: 205HU004.D\data.ms

(92) DBCP

17.371min (-0.012) 1.49 ug/L m

response 3191

Ion	Exp%	Act%
157.10	100.00	100.00
155.10	85.80	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

[ ] Original integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

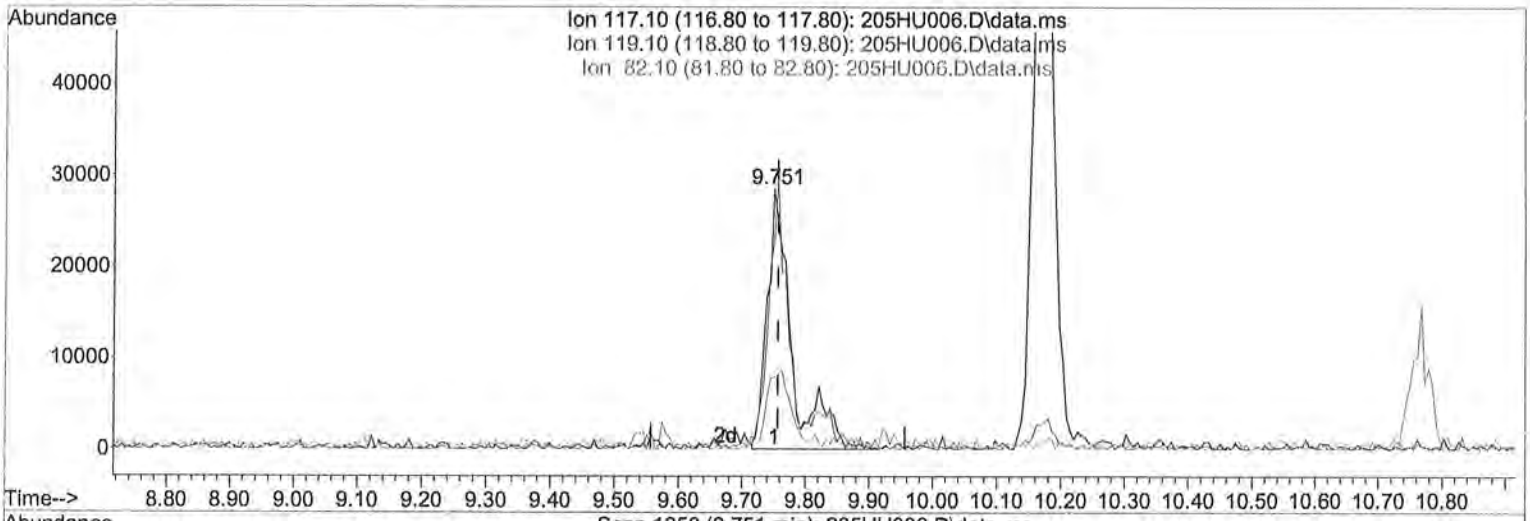
Review by/Date W 08/27/20

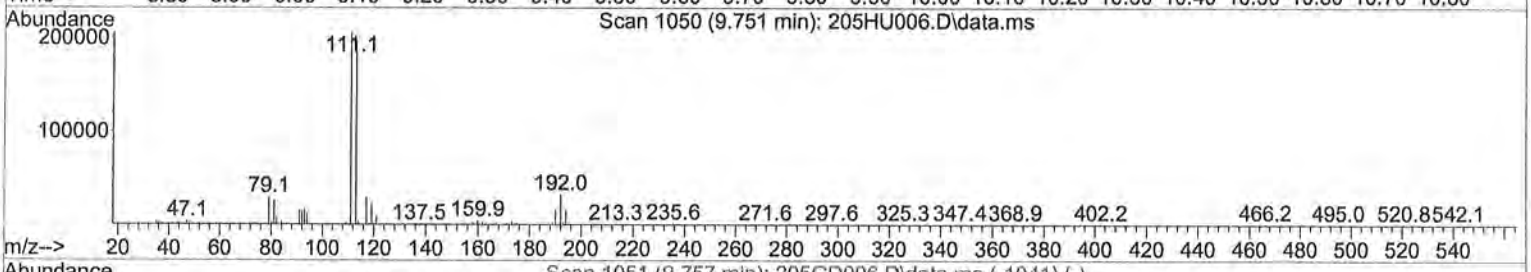
Reviewed by/Date:

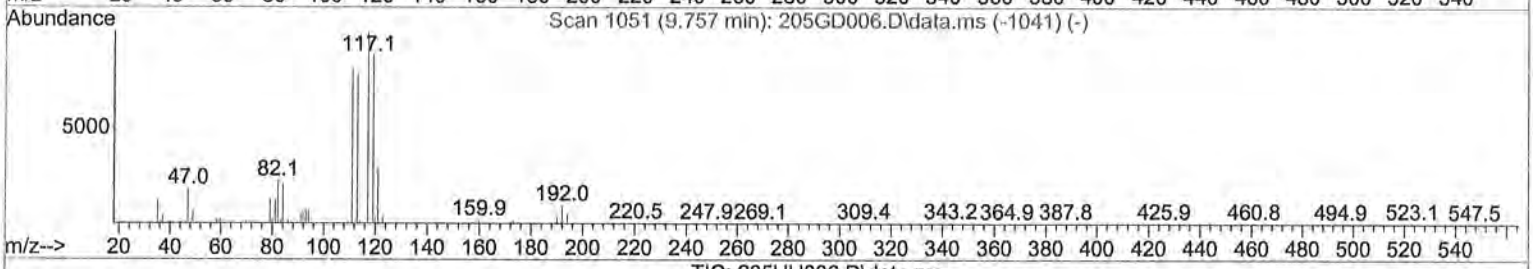
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU006.D
Acq On : 26 Aug 2020 11:42 am
Operator : KKW
InstName : OVGCMS5
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 26 12:53:18 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed Aug 26 10:37:30 2020
Response via : Initial Calibration







TIC: 205HU006.D\data.ms

(40) Carbon Tetrachloride

9.751min (-0.006) 5.72 ug/L

response 77253

Ion	Exp%	Act%
117.10	100.00	100.00
119.10	107.10	92.12
82.10	28.40	28.33
0.00	0.00	0.00

[ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Reviewed by/Date: W 08/27/20

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU006.D
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Operator : KKW
InstName : OVGCMS5
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 26 12:53:18 2020
Quant Method : C:\msdchem\1\methods\082620W.M
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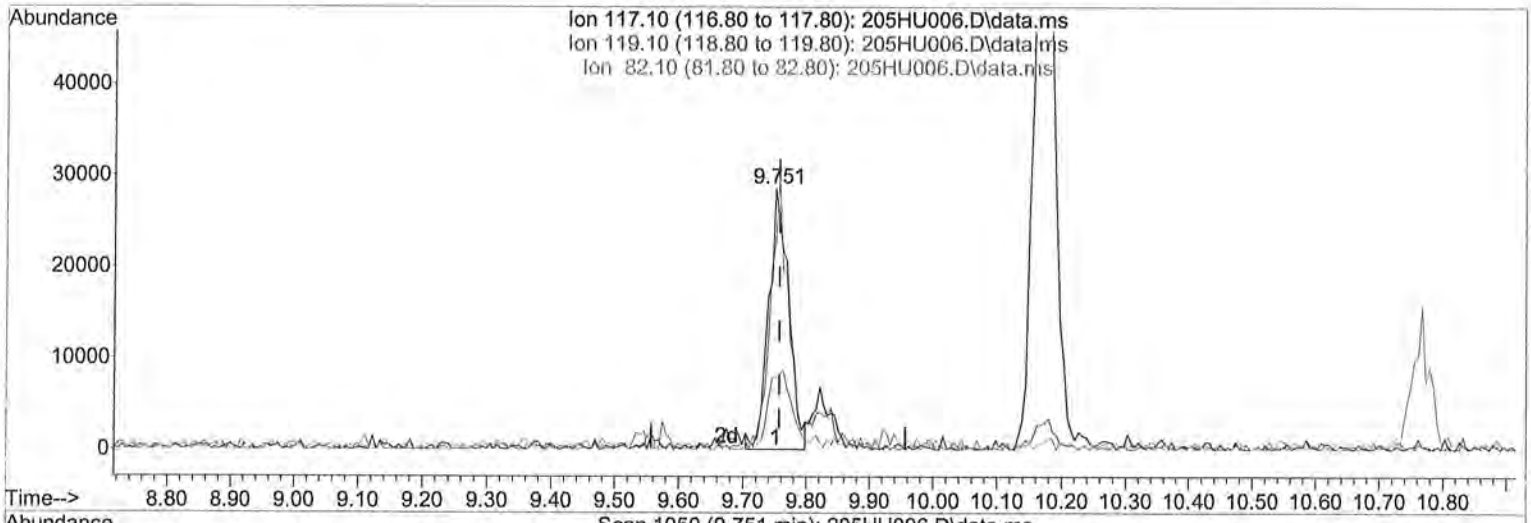
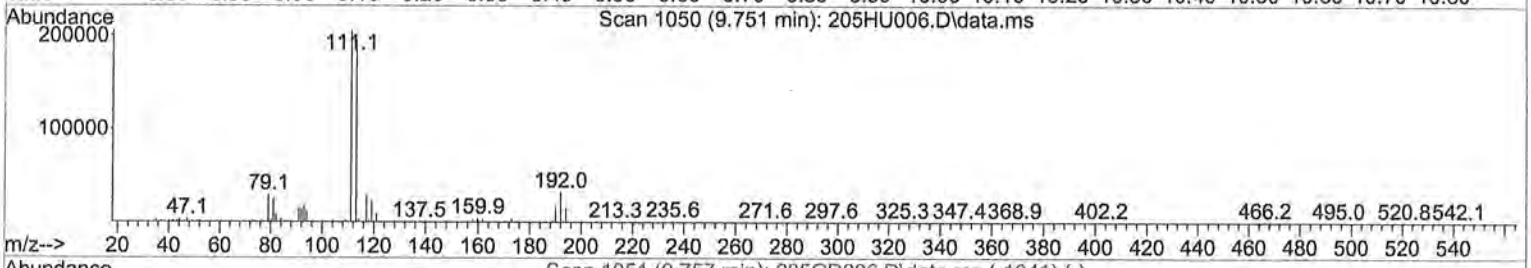
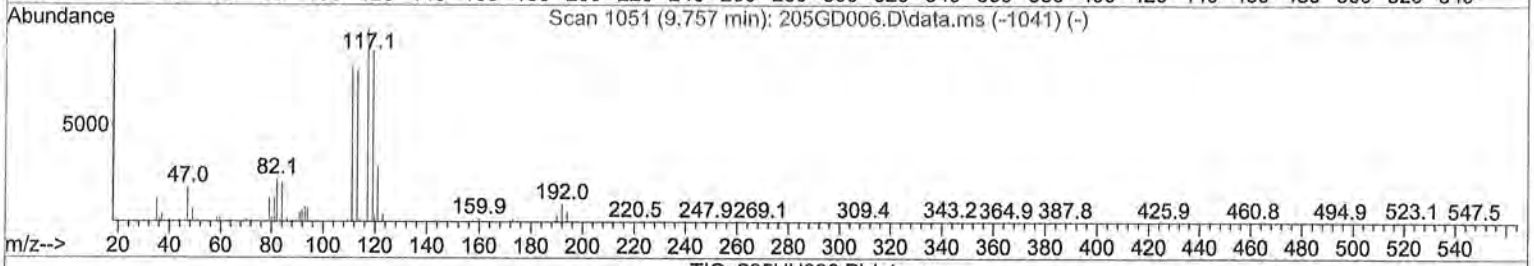
QLast Update : Wed Aug 26 10:37:30 2020
Response via : Initial Calibration







TIC: 205HU006.D\data.ms

(40) Carbon Tetrachloride

9.751min (-0.006) 4.70 ug/L m

response 63446

Ion	Exp%	Act%
117.10	100.00	100.00
119.10	107.10	112.17
82.10	28.40	34.50#
0.00	0.00	0.00

Select reason:
[ ] Original integration [X] Manual Integration
Select reason for manual integration:
[X] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Reviewed by/Date: W 08/27/20

Quantitation Report (Qedit)

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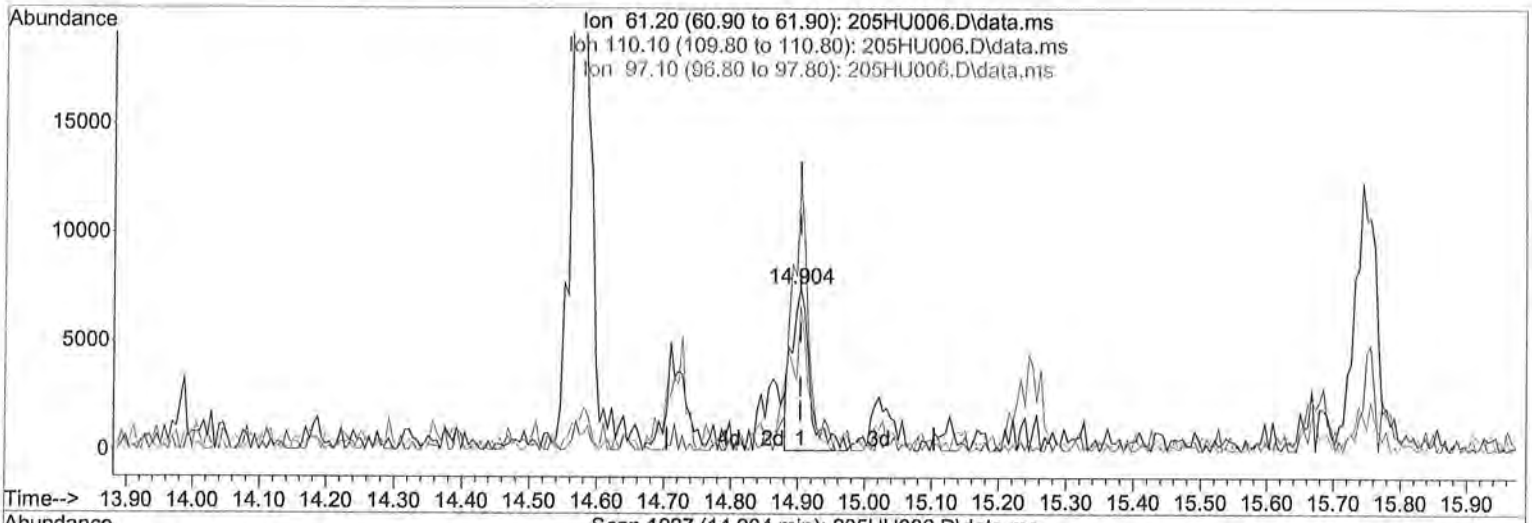
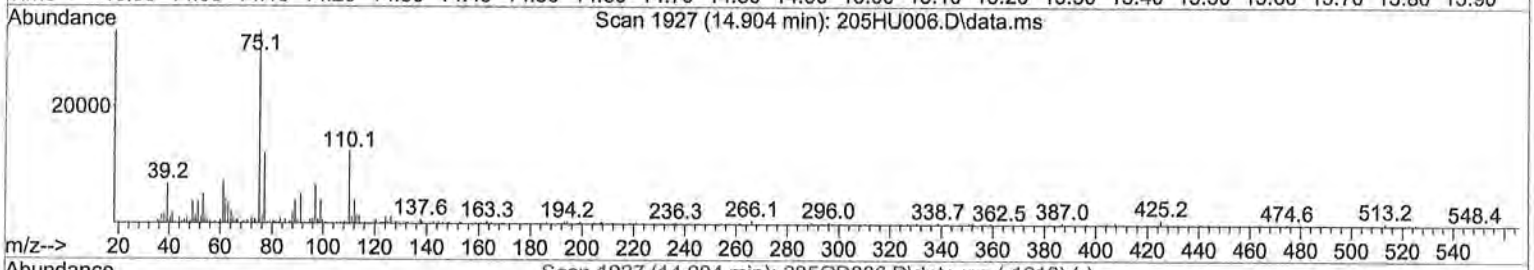
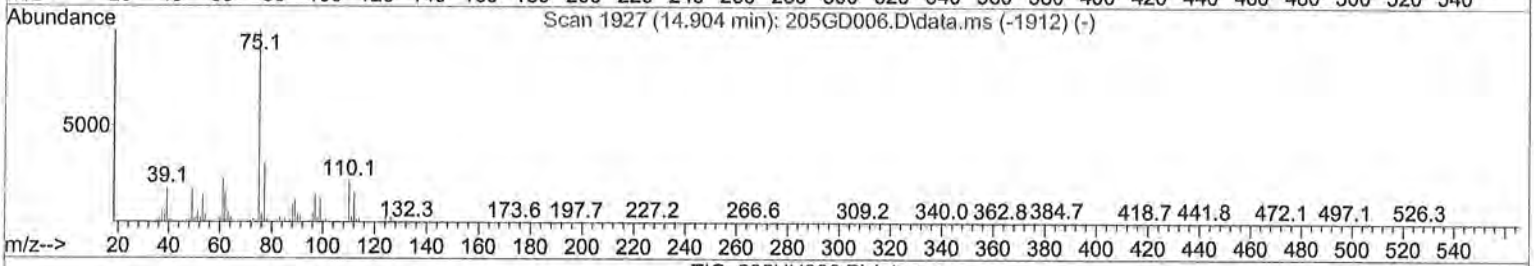
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 26 12:53:18 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed Aug 26 10:37:30 2020
Response via : Initial Calibration







TIC: 205HU006.D\data.ms

(77) 1,2,3-Trichloropropane

14.904min (-0.000) 4.21 ug/L

response 14241

Ion	Exp%	Act%
61.20	100.00	100.00
110.10	84.40	150.14#
97.10	55.90	91.86#
0.00	0.00	0.00

Select One:
[X] Original Integration [ ] Manual Integration
Select reason for manual integration:
[X] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date NJ 08/27/20
Review by/Date:

Quantitation Report (Qedit)

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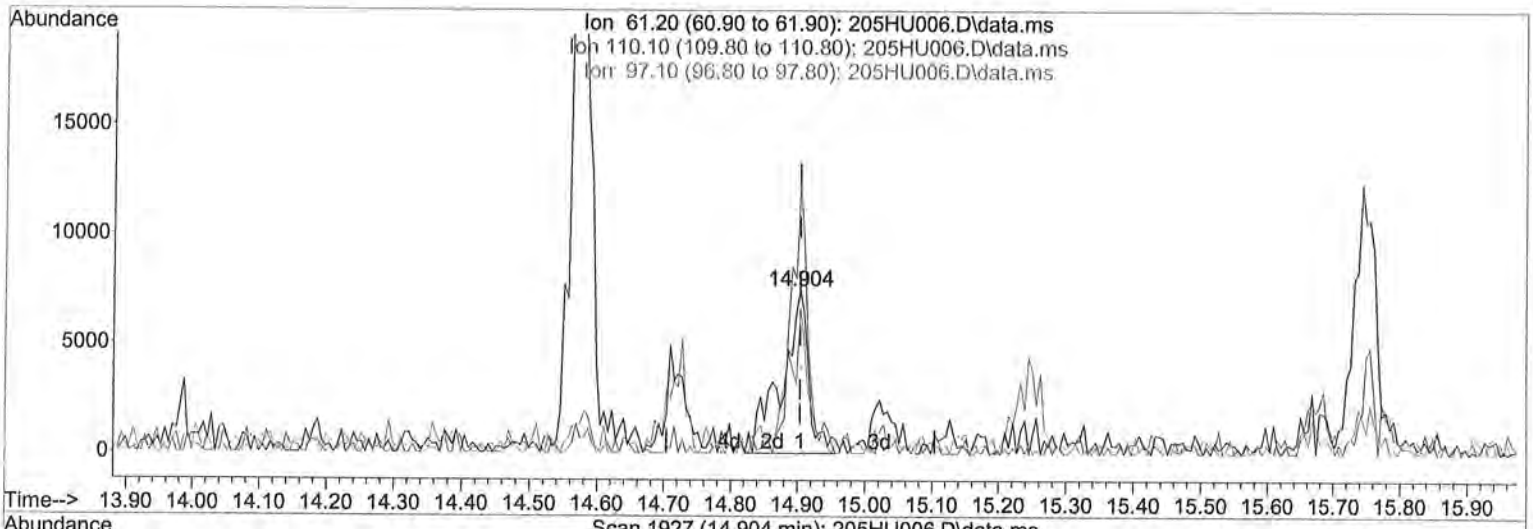
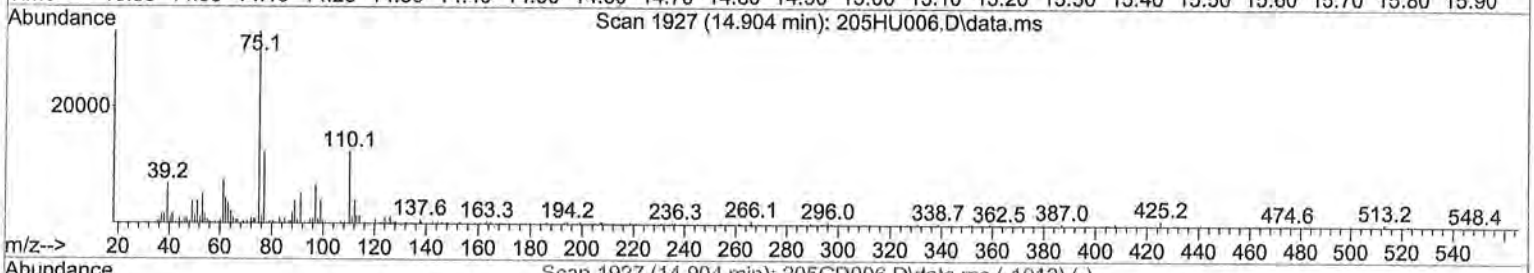
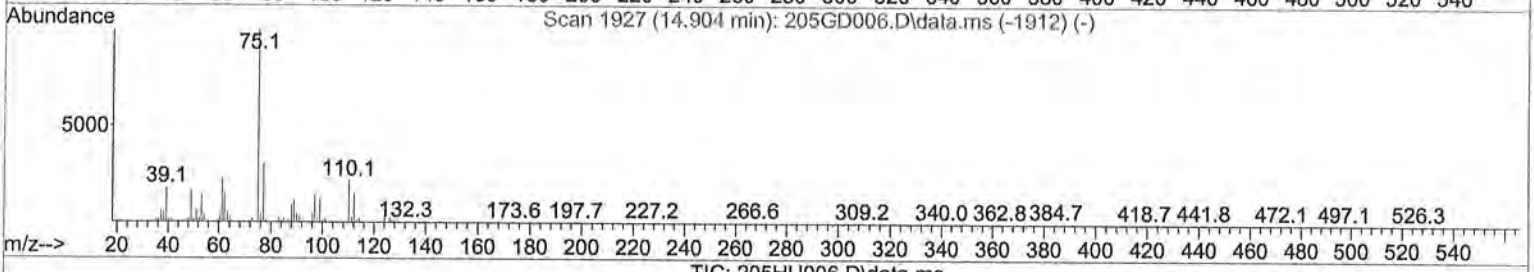
Operator : KKW
InstName : OVGCMS5
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 26 12:53:18 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed Aug 26 10:37:30 2020
Response via : Initial Calibration







TIC: 205HU006.D\data.ms

(77) 1,2,3-Trichloropropane

14.904min (-0.000) 6.32 ug/L m

response 21386

Ion	Exp%	Act%
61.20	100.00	100.00
110.10	84.40	99.98
97.10	55.90	61.17
0.00	0.00	0.00

Select one:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

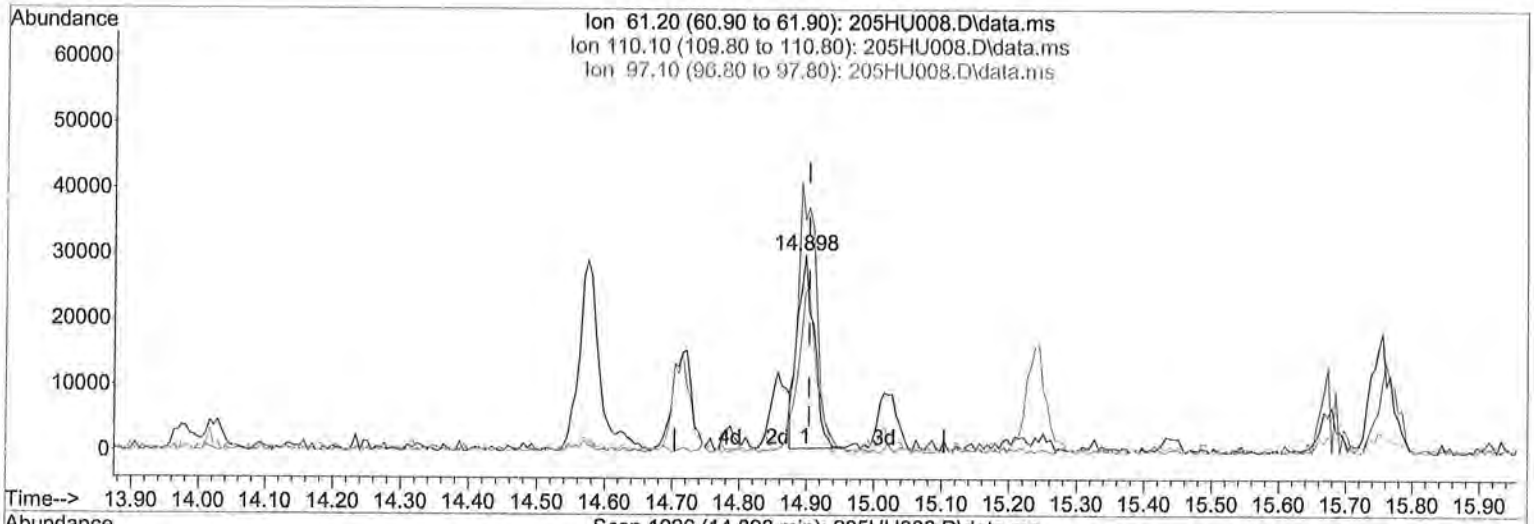
[ ] Other:

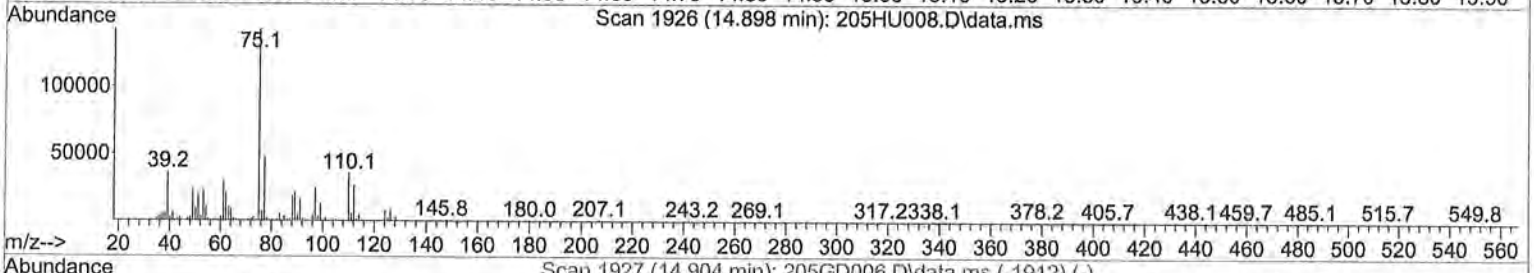
Review by/Date W 08/27/20

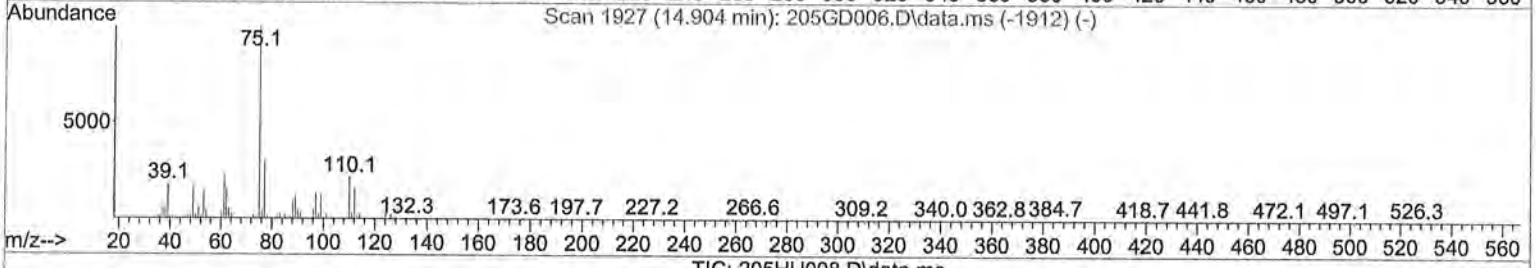
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU008.D
Acq On : 26 Aug 2020 12:45 pm
Operator : KKW
InstName : OVGCMS5
Sample : CAL5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 26 13:22:59 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed Aug 26 10:37:30 2020
Response via : Initial Calibration







TIC: 205HU008.D\data.ms

(77) 1,2,3-Trichloropropane

14.898min (-0.006) 15.07 ug/L

response 51680

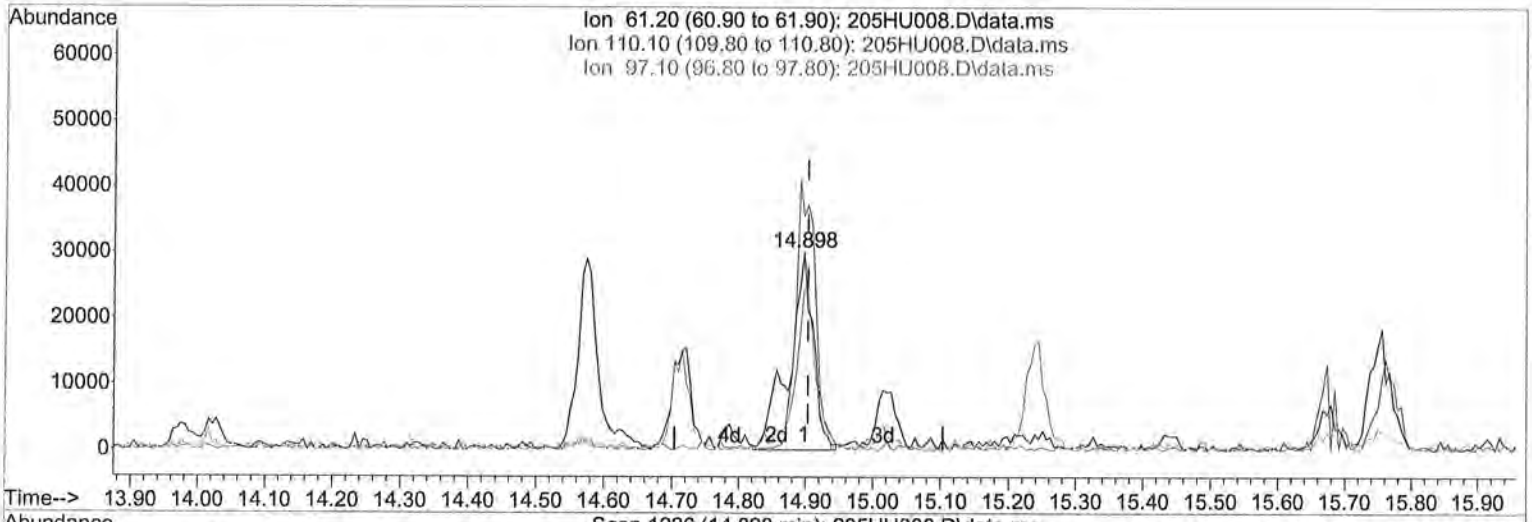
Ion	Exp%	Act%
61.20	100.00	100.00
110.10	84.40	160.06#
97.10	55.90	98.67#
0.00	0.00	0.00

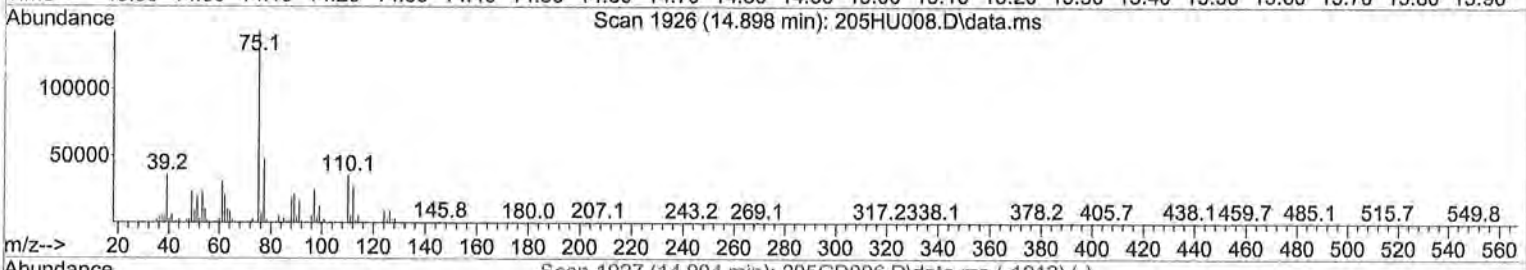
[ ] Manual Integration [ ] Manual Integration
Select reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date N 08/27/20
Reviewed by/Date:

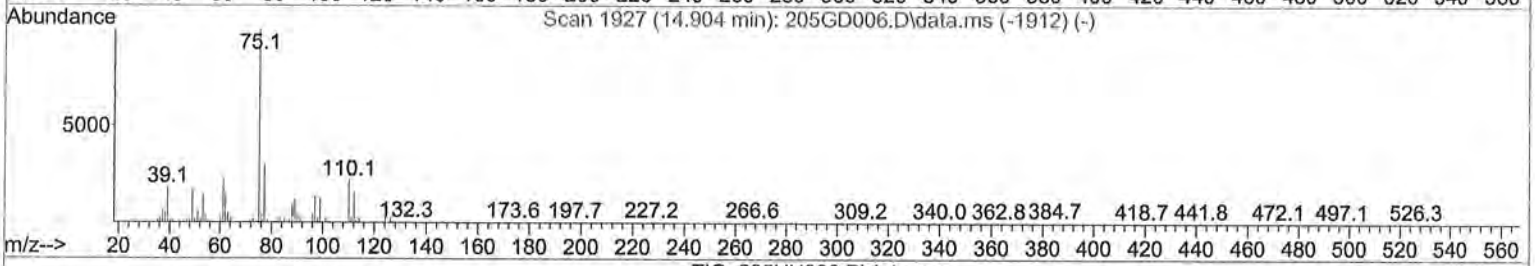
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU008.D
Acq On : 26 Aug 2020 12:45 pm
Operator : KKW
InstName : OVGCMS5
Sample : CAL5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 26 13:22:59 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed Aug 26 10:37:30 2020
Response via : Initial Calibration







TIC: 205HU008.D\data.ms

(77) 1,2,3-Trichloropropane

14.898min (-0.006) 22.08 ug/L m

response 75700

Ion	Exp%	Act%
61.20	100.00	100.00
110.10	84.40	109.27#
97.10	55.90	67.36#
0.00	0.00	0.00

Select One:

[] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[] Incorrect peak selection/Peak not found

[] Hump integration

[] Baseline drop for split peaks

[] ISTD reintegration

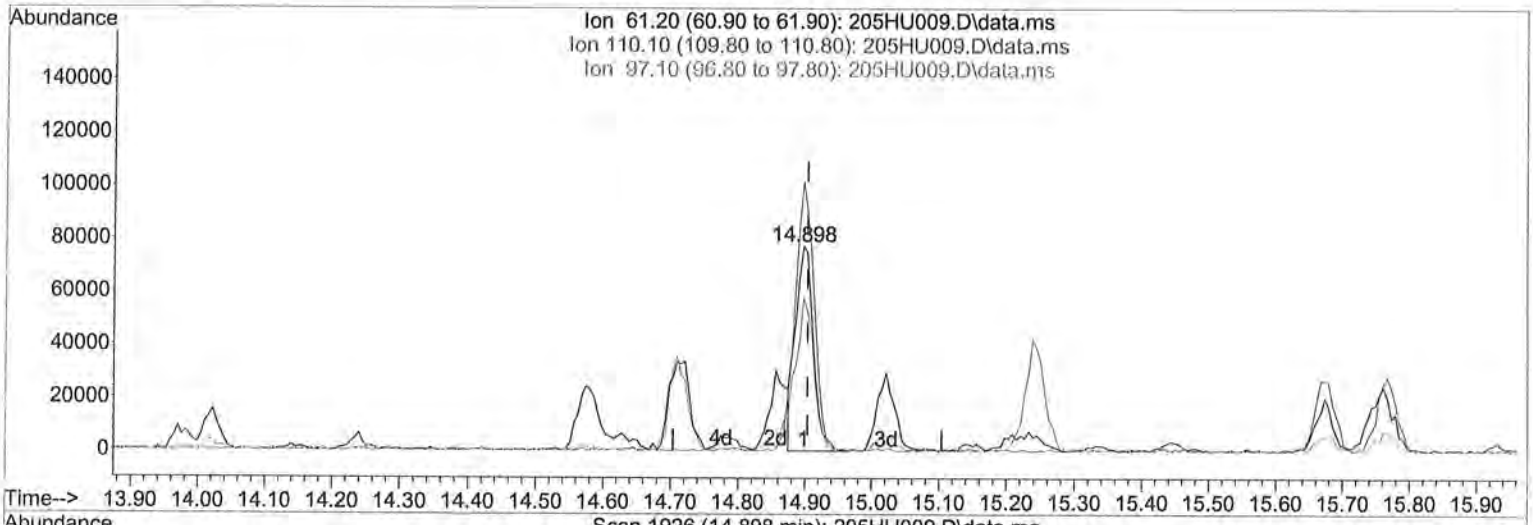
[] Other:

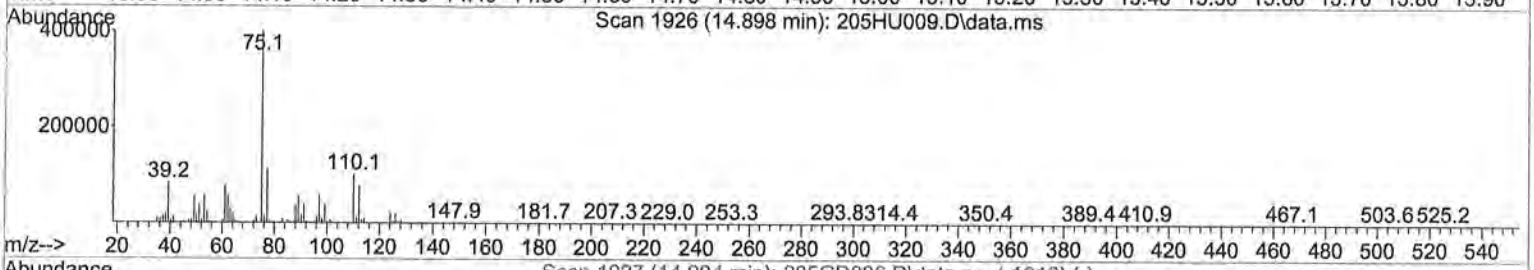
Reviewed By/Date: W 08/27/20

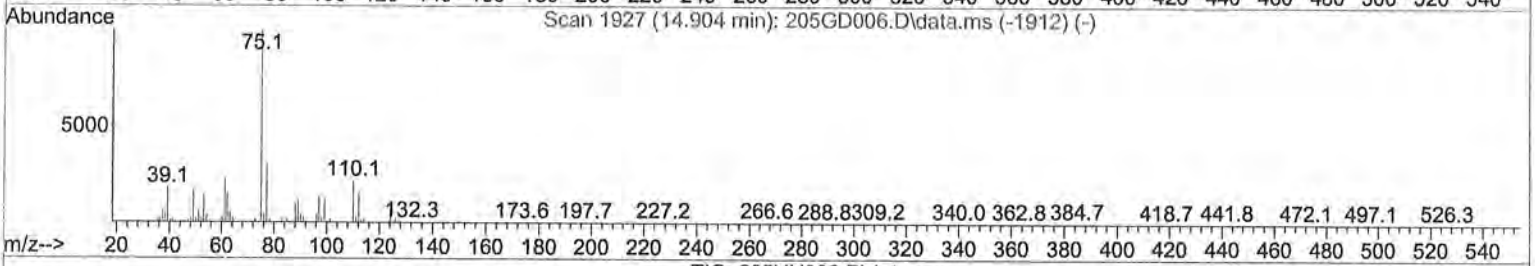
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU009.D
Acq On : 26 Aug 2020 1:16 pm
Operator : KKW
InstName : OVGCMS5
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 26 13:52:59 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed Aug 26 10:37:30 2020
Response via : Initial Calibration







TIC: 205HU009.D\data.ms

(77) 1,2,3-Trichloropropane

14.898min (-0.006) 42.77 ug/L

response 147244

Ion	Exp%	Act%
61.20	100.00	100.00
110.10	84.40	140.44#
97.10	55.90	86.88#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

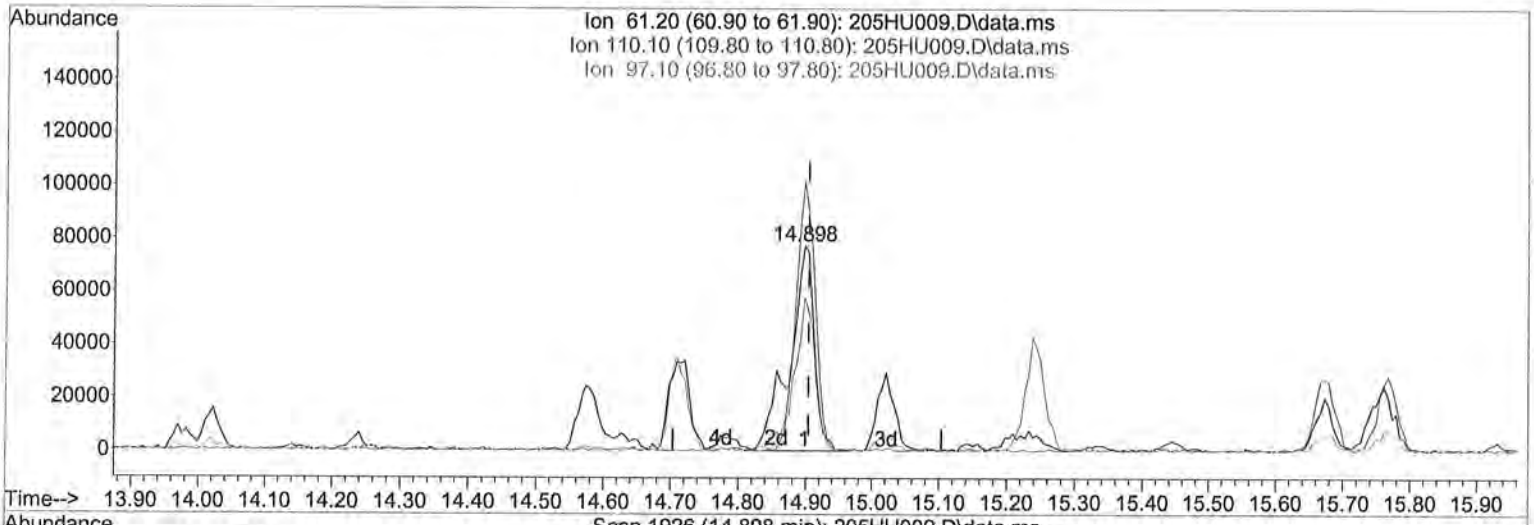
[ ] Other:

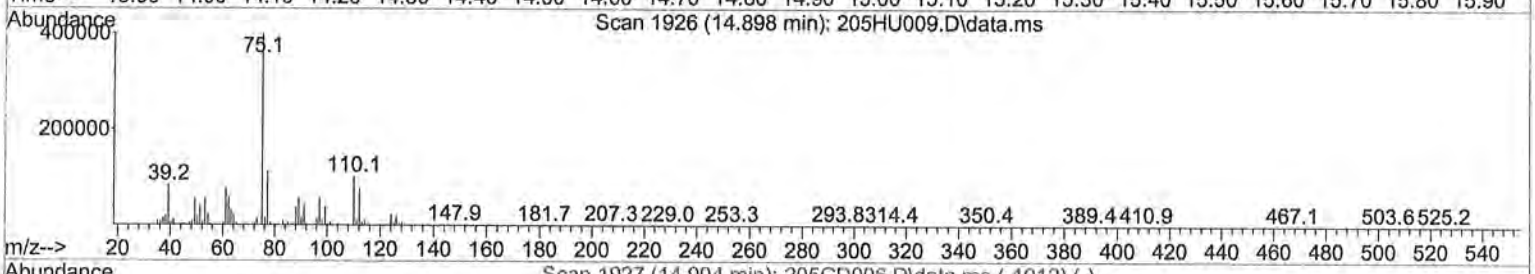
Review by/Date KW 08/27/20

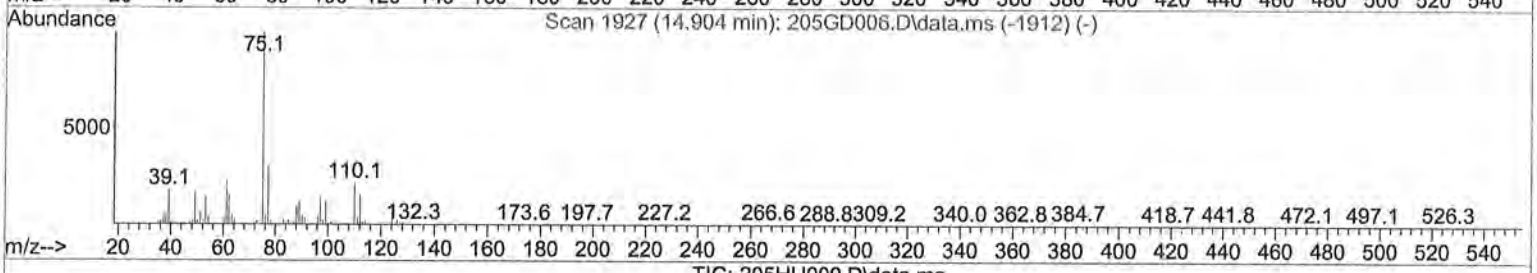
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU009.D
Acq On : 26 Aug 2020 1:16 pm
Operator : KKW
InstName : OVGCMS5
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 26 13:52:59 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed Aug 26 10:37:30 2020
Response via : Initial Calibration







TIC: 205HU009.D\data.ms

(77) 1,2,3-Trichloropropane

14.898min (-0.006) 57.91 ug/L m

response 199373

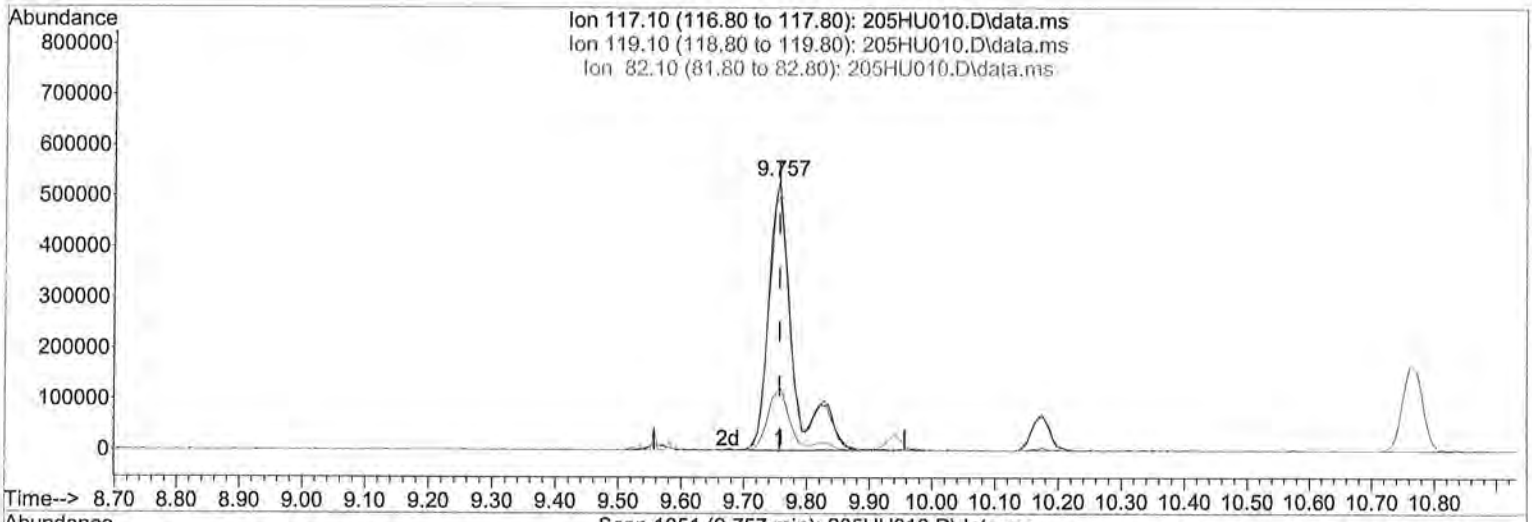
Ion	Exp%	Act%
61.20	100.00	100.00
110.10	84.40	103.72#
97.10	55.90	64.16
0.00	0.00	0.00

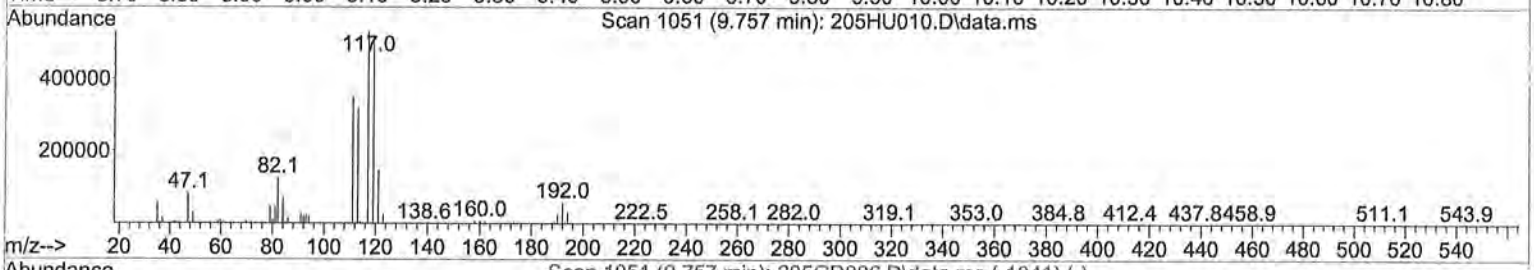
[ ] Undock Integration [X] Manual Integration
Select reason for manual integration:
[X] Poor integration (peak failing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date KJ 08/27/20
Review by/Date:

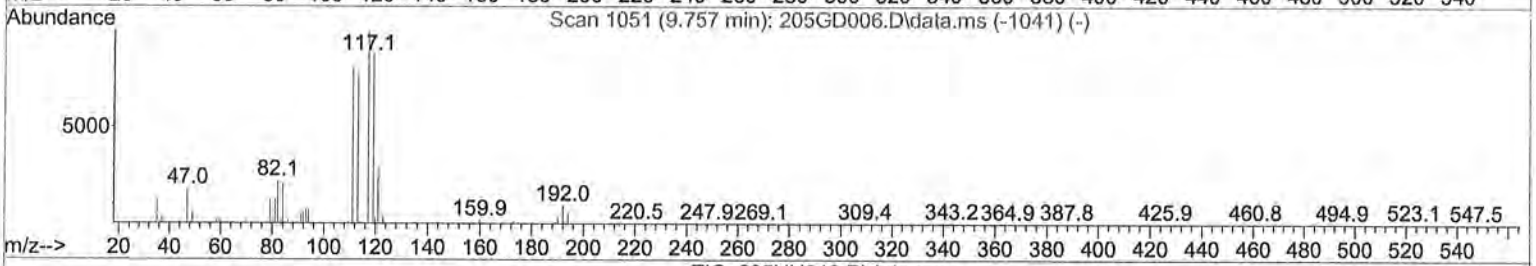
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU010.D
Acq On : 26 Aug 2020 1:48 pm
Operator : KKW
InstName : OVGCMS5
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 26 14:13:12 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed Aug 26 10:37:30 2020
Response via : Initial Calibration







TIC: 205HU010.D\data.ms

(40) Carbon Tetrachloride

9.757min (-0.000) 110.03 ug/L

response 1405118

Ion	Exp%	Act%
117.10	100.00	100.00
119.10	107.10	96.65
82.10	28.40	23.27
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

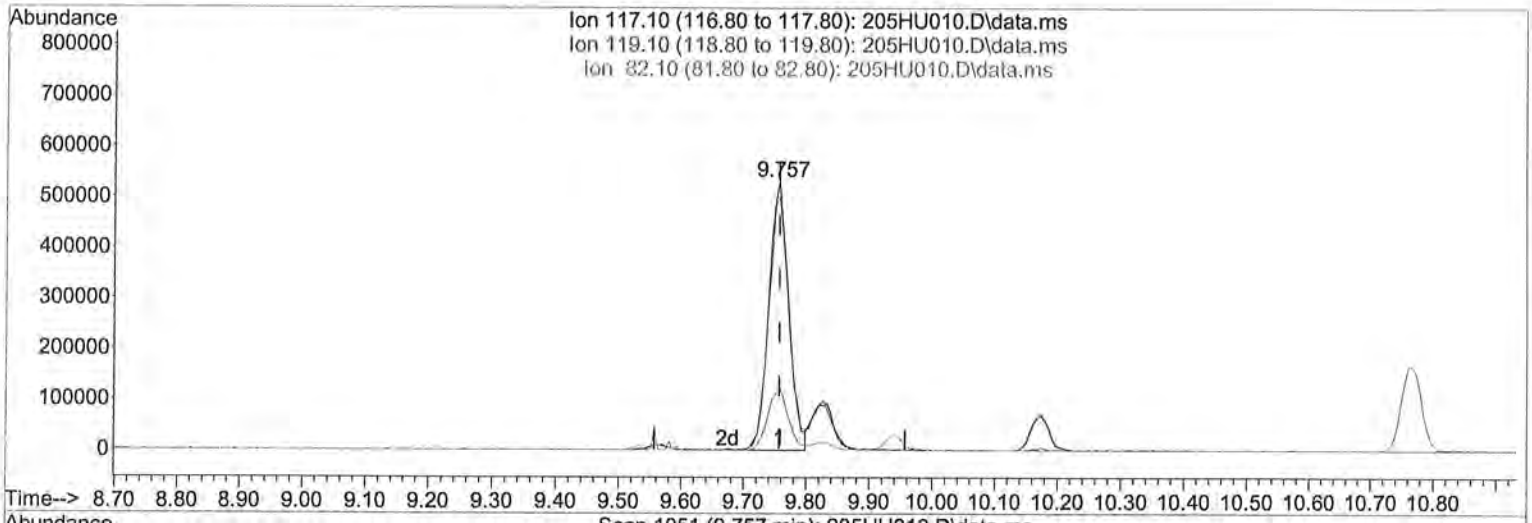
[ ] Other:

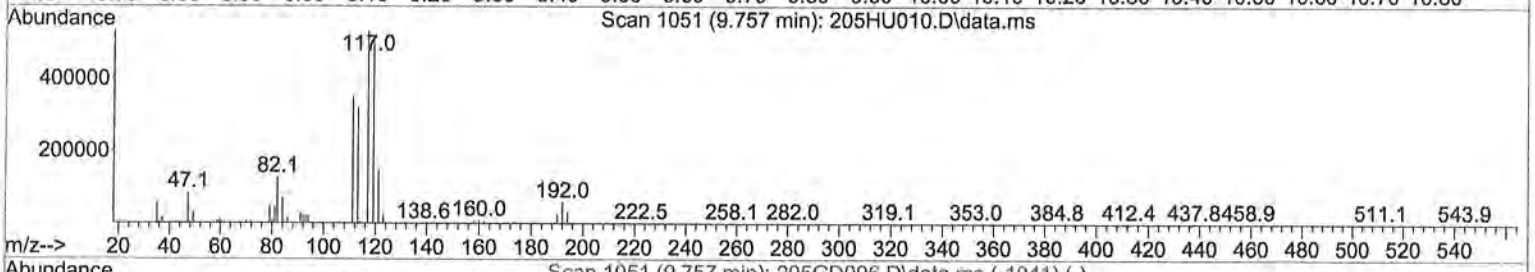
Reviewed/Date KJ 08/27/20

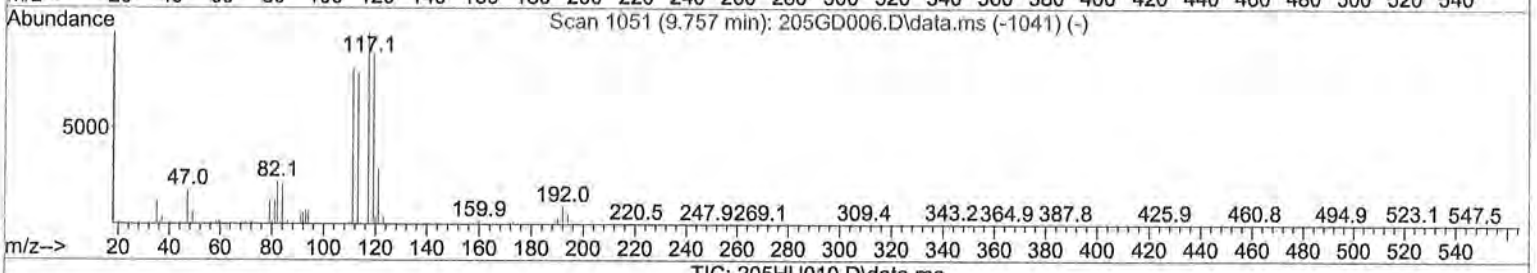
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU010.D
Acq On : 26 Aug 2020 1:48 pm
Operator : KKW
InstName : OVGCMS5
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 26 14:13:12 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed Aug 26 10:37:30 2020
Response via : Initial Calibration







TIC: 205HU010.D\data.ms

(40) Carbon Tetrachloride

9.757min (-0.000) 92.66 ug/L m

response 1183264

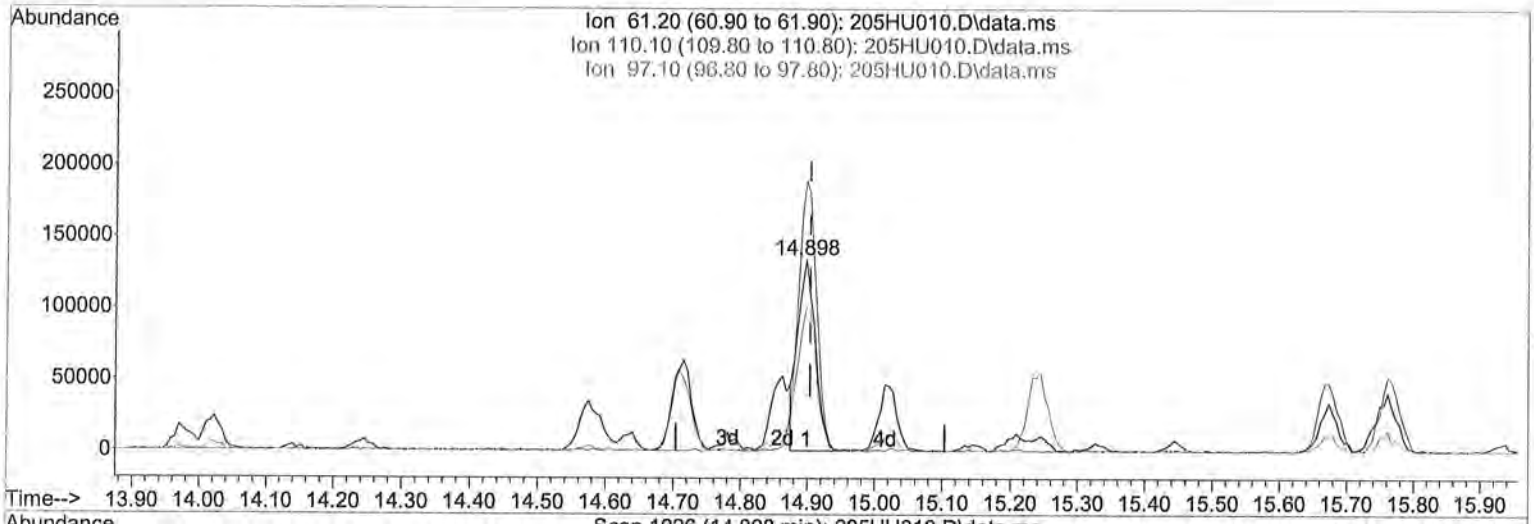
Ion	Exp%	Act%
117.10	100.00	100.00
119.10	107.10	114.77
82.10	28.40	27.64
0.00	0.00	0.00

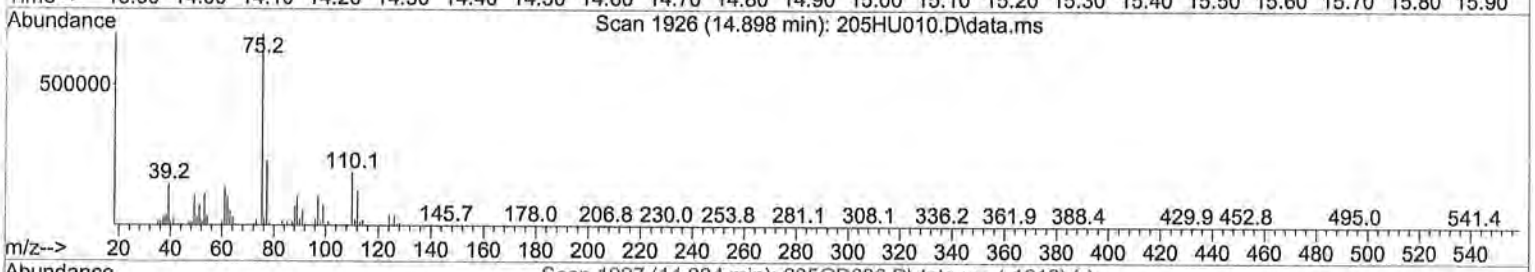
[ ] Original Integration [X] Manual Integration
Select reason for manual integration:
[X] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date: W 08/26/20
Review by/Date:

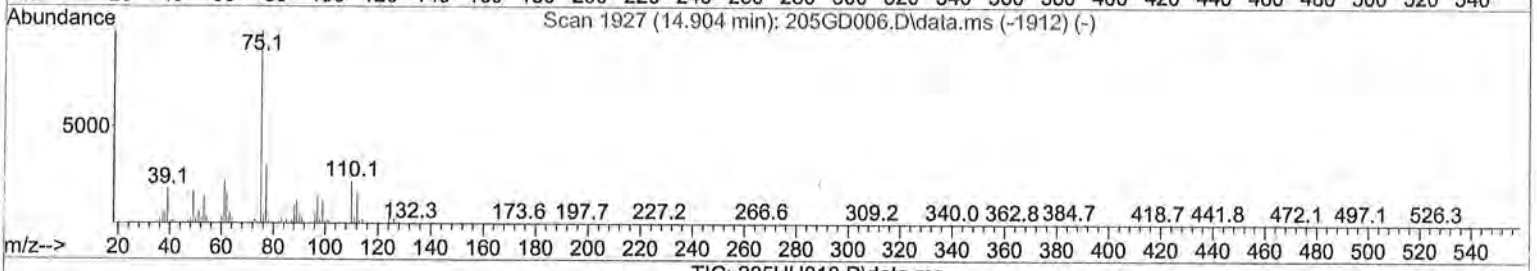
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU010.D
Acq On : 26 Aug 2020 1:48 pm
Operator : KKW
InstName : OVGCMS5
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 26 14:13:12 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed Aug 26 10:37:30 2020
Response via : Initial Calibration







TIC: 205HU010.D\data.ms

(77) 1,2,3-Trichloropropane

14.898min (-0.006) 70.69 ug/L

response 243509

Ion	Exp%	Act%
61.20	100.00	100.00
110.10	84.40	149.56#
97.10	55.90	90.74#
0.00	0.00	0.00

[ ] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] RSTD reintegration

[ ] Other:

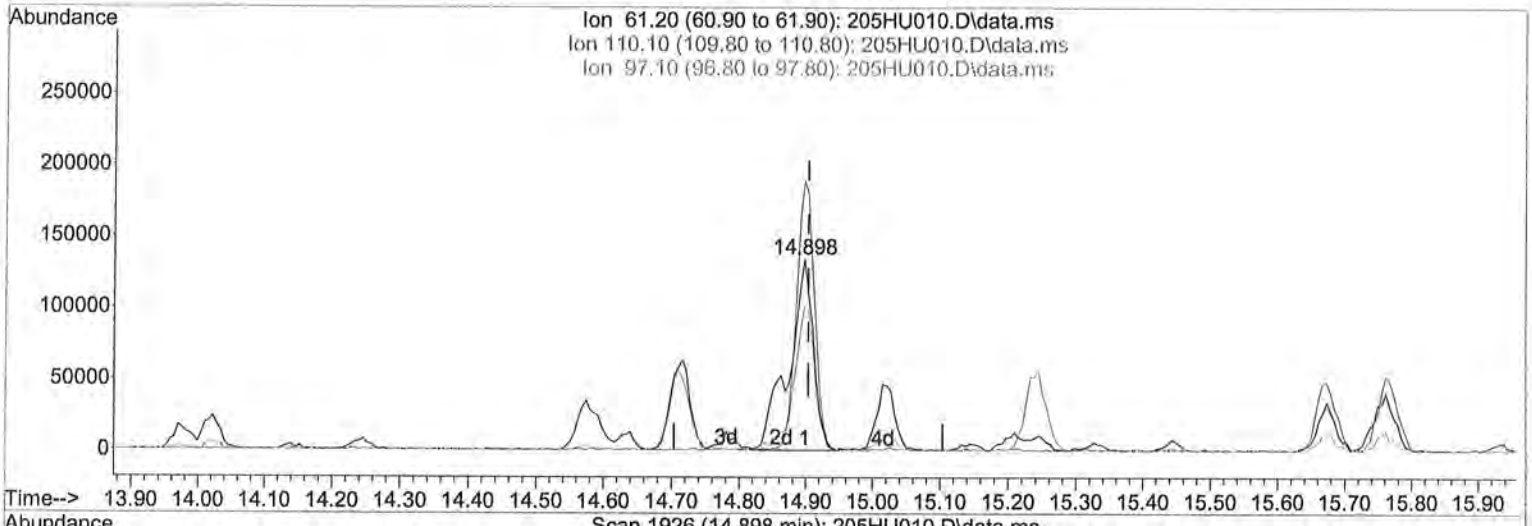
Review by/Date: 8/27/20

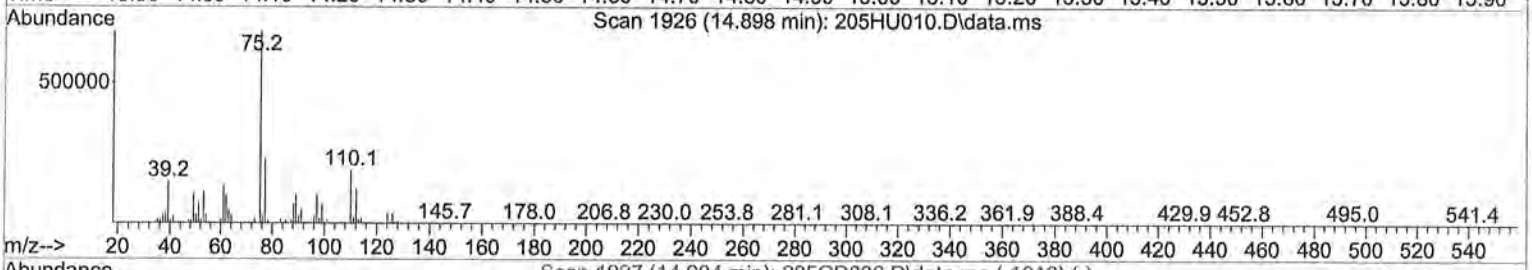
Review by/Date:

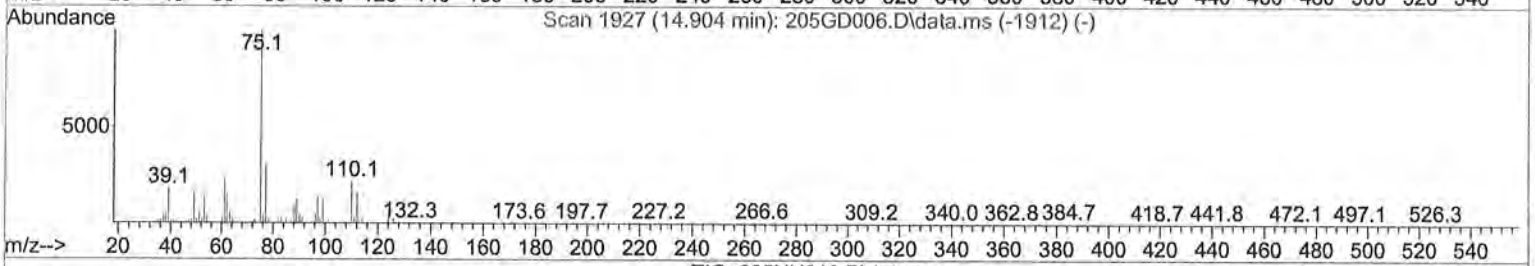
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU010.D
Acq On : 26 Aug 2020 1:48 pm
Operator : KKW
InstName : OVGCMS5
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 26 14:13:12 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed Aug 26 10:37:30 2020
Response via : Initial Calibration







TIC: 205HU010.D\data.ms

(77) 1,2,3-Trichloropropane

14.898min (-0.006) 100.42 ug/L m

response 345938

Ion	Exp%	Act%
61.20	100.00	100.00
110.10	84.40	105.28#
97.10	55.90	63.87
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

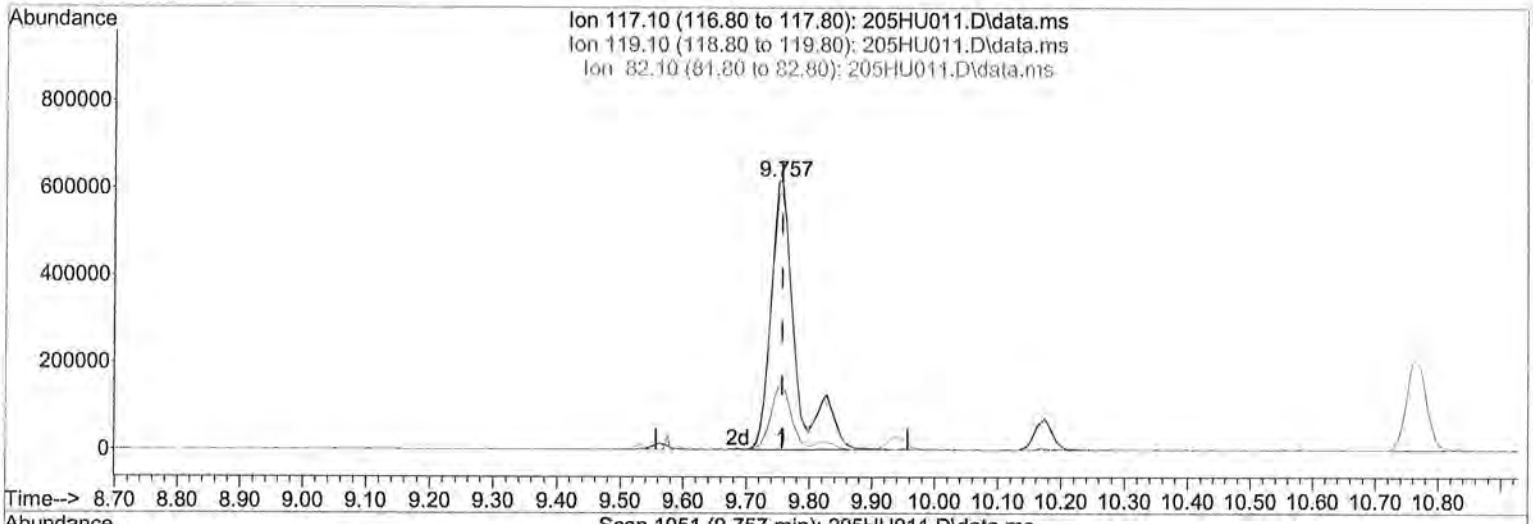
Review by/Date KJ 08/27/20

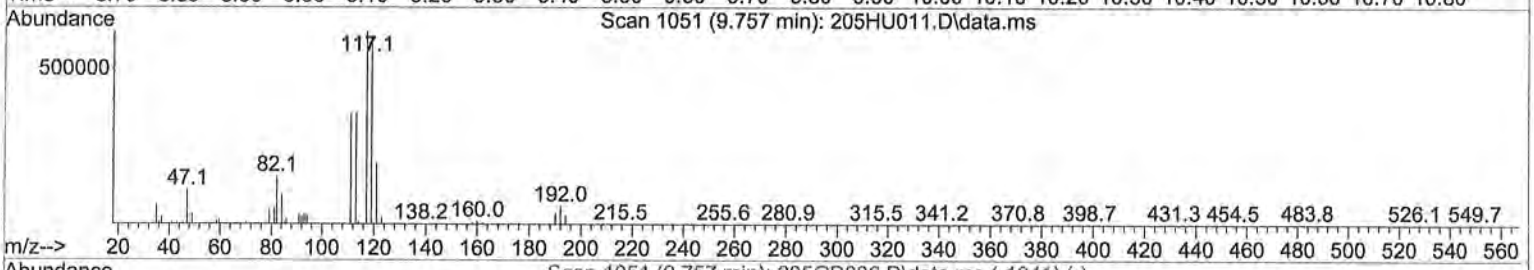
Review by/Date:

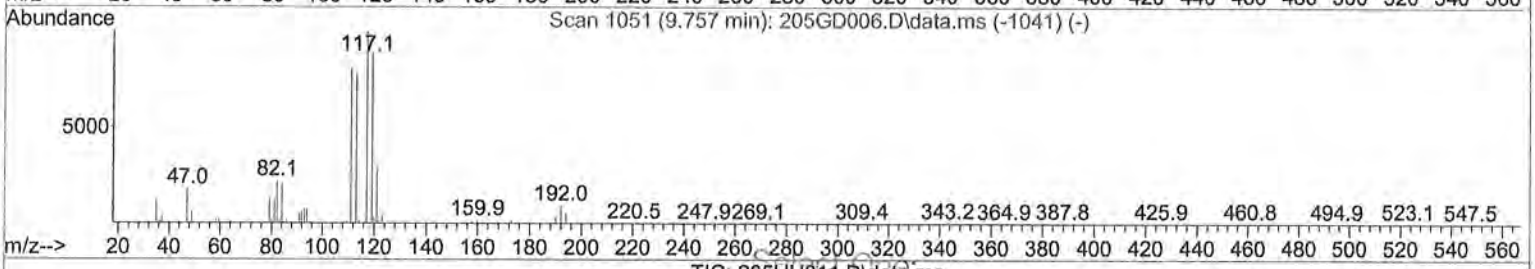
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU011.D
Acq On : 26 Aug 2020 2:19 pm
Operator : KKW
InstName : OVGCMS5
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 26 14:43:08 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed Aug 26 10:37:30 2020
Response via : Initial Calibration







TIC: 205HU011.D\data.ms

(40) Carbon Tetrachloride

9.757min (-0.000) 133.77 ug/L

response 1682572

Ion	Exp%	Act%
117.10	100.00	100.00
119.10	107.10	97.61
82.10	28.40	22.62#
0.00	0.00	0.00

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

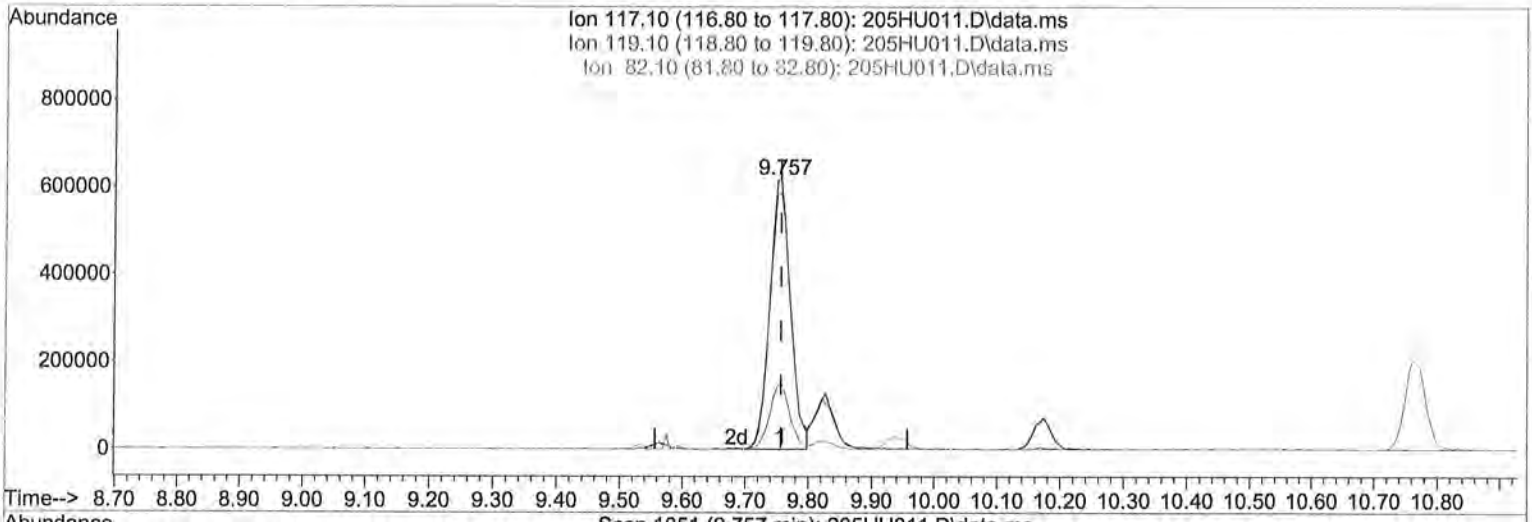
Review by/Date KW 08/27/20

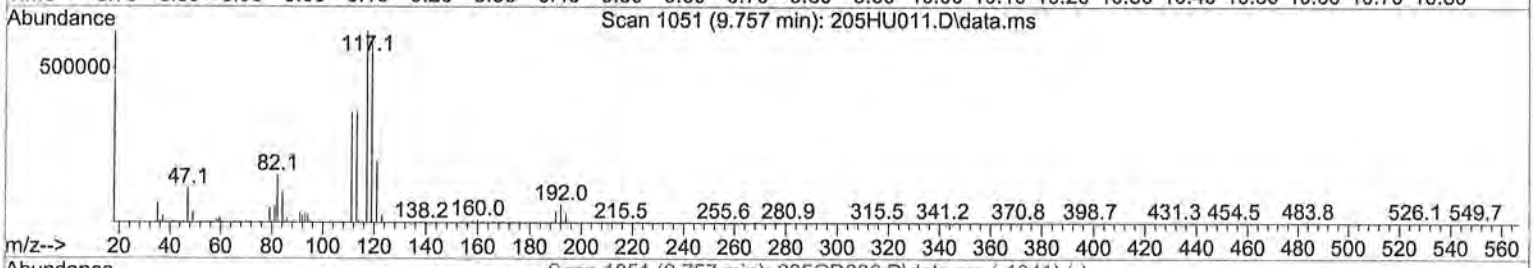
Review by/Date:

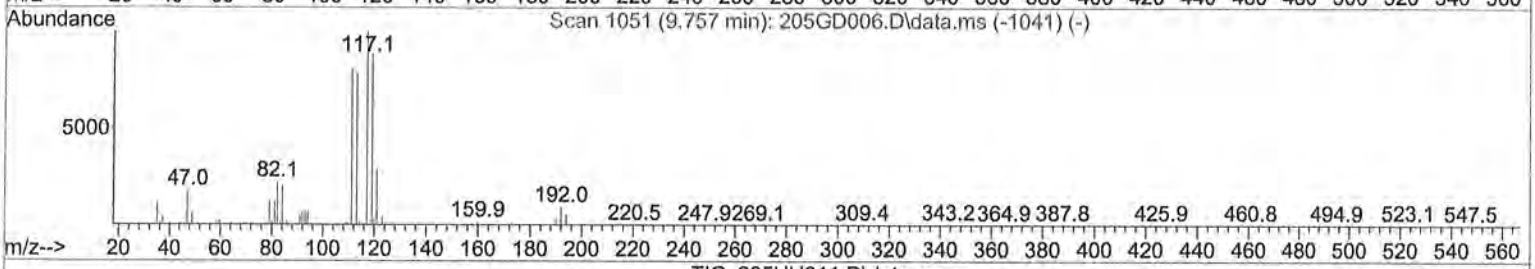
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU011.D
Acq On : 26 Aug 2020 2:19 pm
Operator : KKW
InstName : OVGCMS5
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 26 14:43:08 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed Aug 26 10:37:30 2020
Response via : Initial Calibration







TIC: 205HU011.D\data.ms

(40) Carbon Tetrachloride

9.757min (-0.000) 112.71 ug/L m

response 1417644

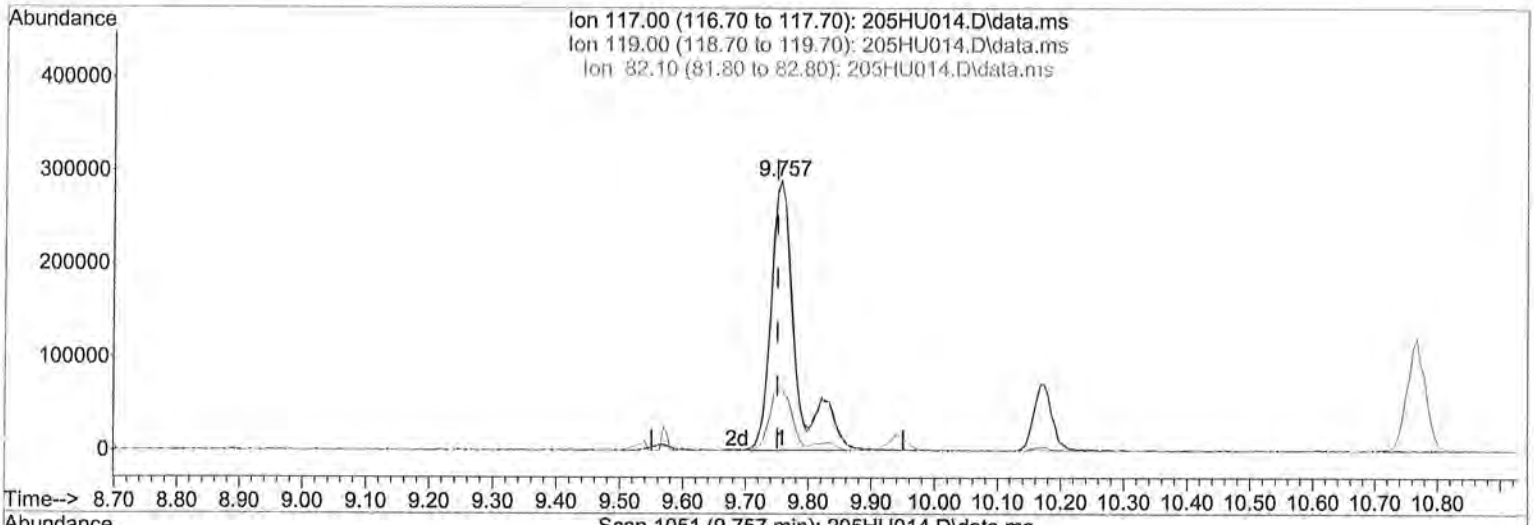
Ion	Exp%	Act%
117.10	100.00	100.00
119.10	107.10	115.85
82.10	28.40	26.85
0.00	0.00	0.00

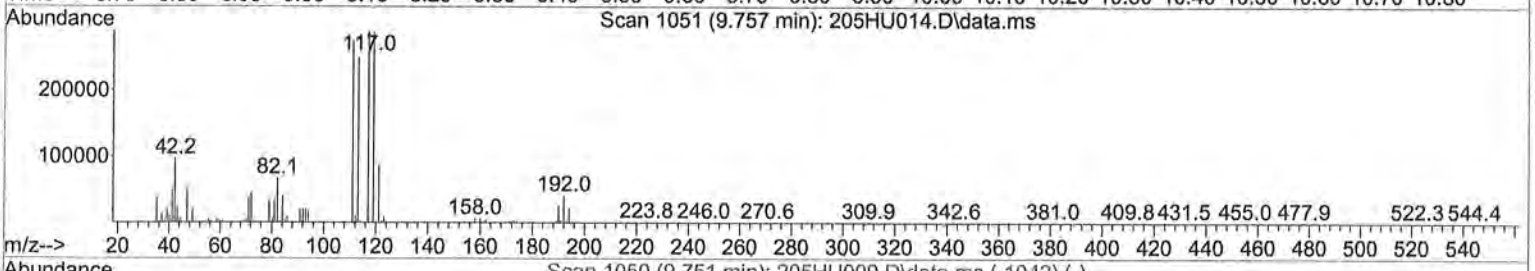
Select One:
[ ] Original Integration [X] Manual Integration
Select reason for manual integration:
(X) Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date KJW 08/27/20

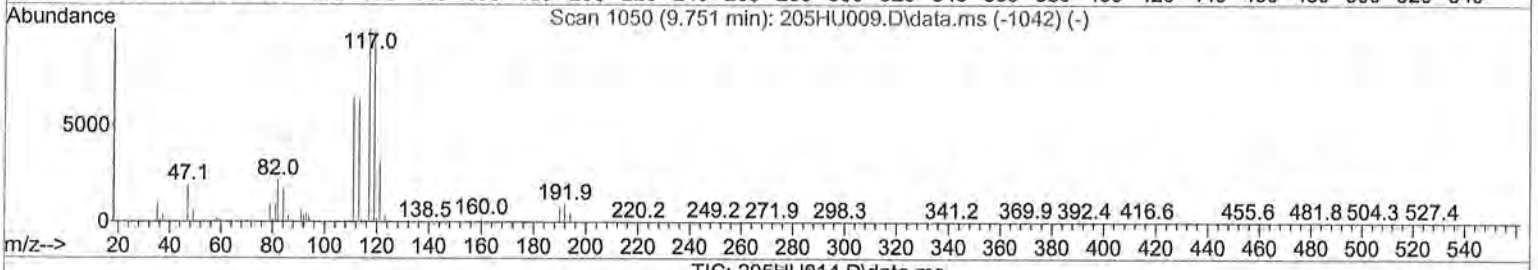
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU014.D
Acq On : 26 Aug 2020 3:55 pm
Operator : KKW
InstName : OVGCMS5
Sample : AA62152-SCV1
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Aug 27 07:52:20 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Aug 27 07:27:53 2020
Response via : Initial Calibration







TIC: 205HU014.D\data.ms

(40) Carbon Tetrachloride

9.757min (+ 0.006) 58.10 ug/L

response 806855

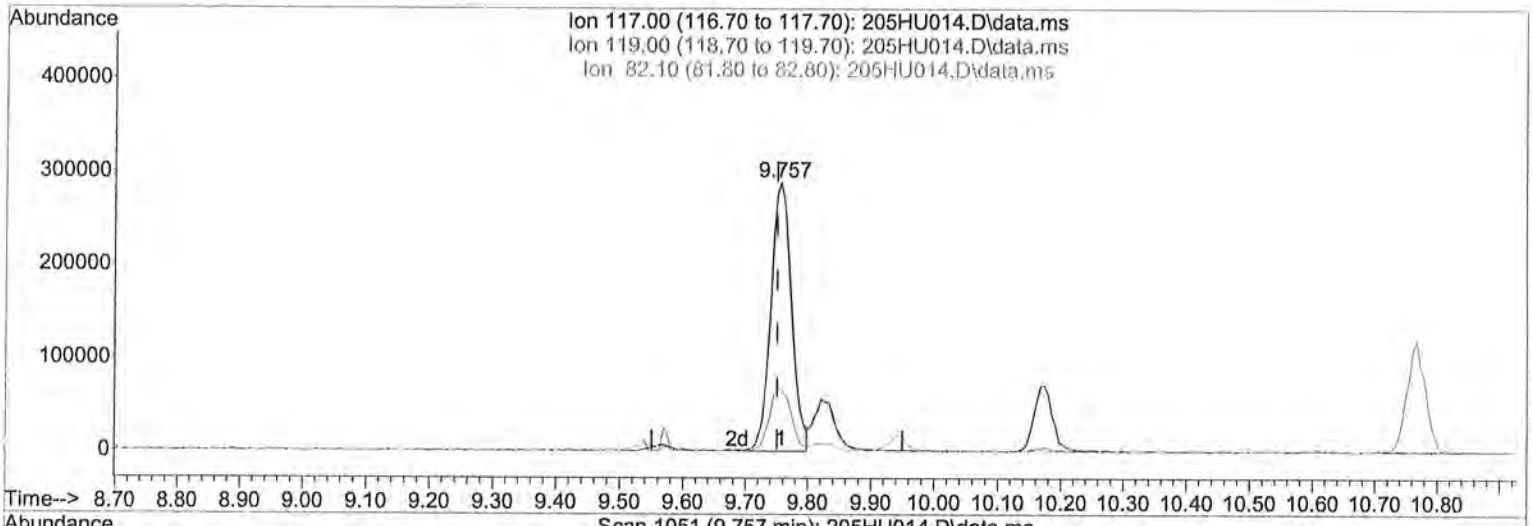
Ion	Exp%	Act%
117.00	100.00	100.00
119.00	96.10	96.61
82.10	27.00	23.56
0.00	0.00	0.00

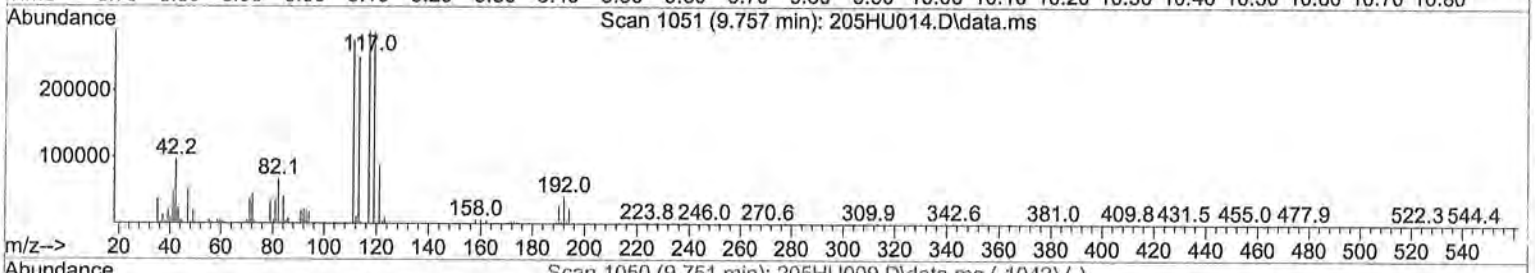
Select quant:
(X) Original integration [ ] Manual Integration
Select reason for manual integration:
(X) Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date KJ 08/27/20
Review by/Date:

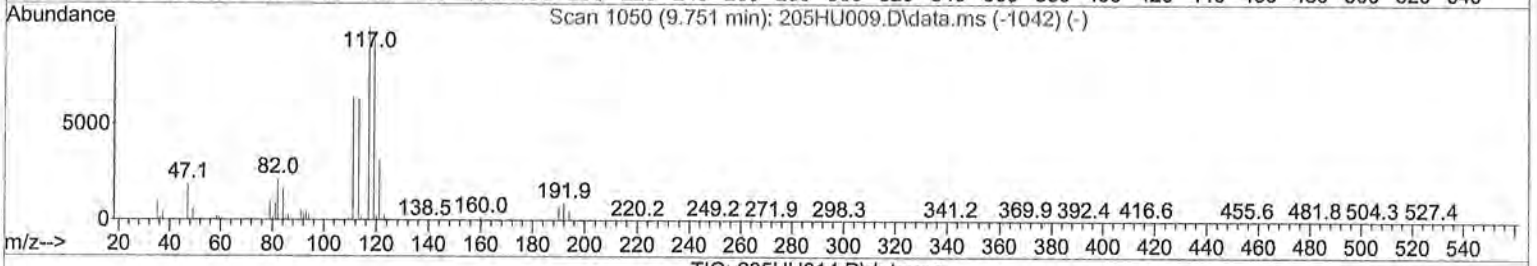
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU014.D
Acq On : 26 Aug 2020 3:55 pm
Operator : KKW
InstName : OVGCMS5
Sample : AA62152-SCV1
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Aug 27 07:52:20 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Aug 27 07:27:53 2020
Response via : Initial Calibration







TIC: 205HU014.D\data.ms

(40) Carbon Tetrachloride

9.757min (+ 0.006) 49.50 ug/L m

response 675581

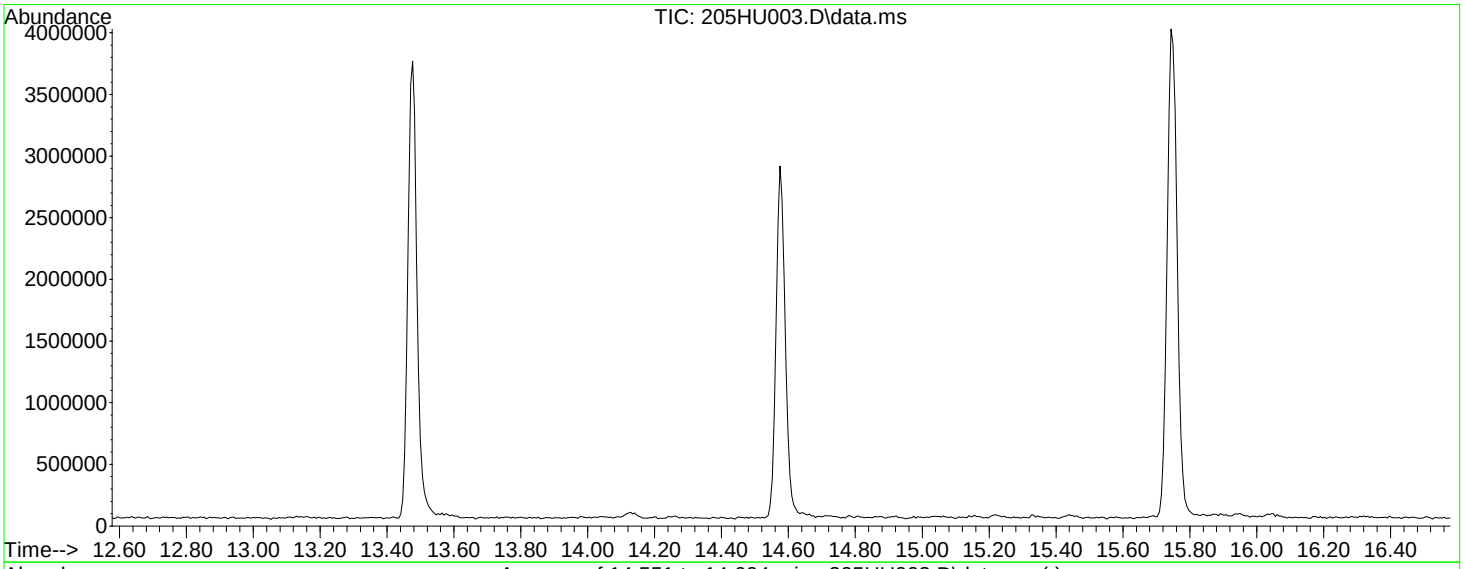
Ion	Exp%	Act%
117.00	100.00	100.00
119.00	96.10	115.38#
82.10	27.00	28.14
0.00	0.00	0.00

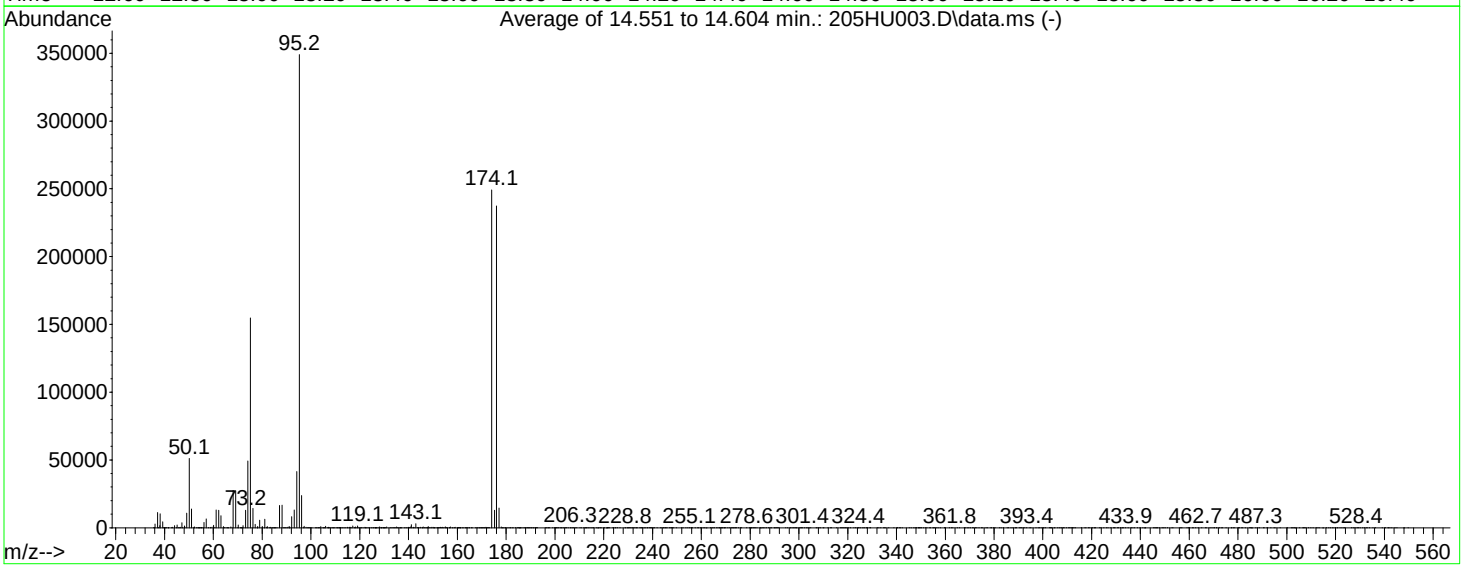
Select One:
[ ] Original Integration [X] Manual Integration
Select reason for manual integration:
[X] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date [illegible] 8/27/20

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU003.D
Acq On : 26 Aug 2020 9:31 am
Operator : KKW
InstName : OVGCMS5
Sample : TUN1
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\methods\082620W.M
Title : ENCO SOP VGCMS05; Element Cal 2008123
Last Update : Thu Aug 27 08:42:52 2020





Spectrum Information: Average of 14.551 to 14.604 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
95	174	50	200	140.1	349150	PASS
96	95	5	9	6.8	23616	PASS
173	174	0.00	2	0.1	250	PASS
174	95	50	200	71.4	249288	PASS
175	174	5	9	5.1	12832	PASS
176	174	95	105	95.3	237500	PASS
177	176	5	10	6.1	14433	PASS

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU004.D
Acq On : 26 Aug 2020 10:39 am
Operator : KKW
InstName : OVGCMS5
Sample : CAL1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 26 11:03:23 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed Aug 26 10:37:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	10.174	168	1490798	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.761	114	2779965	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.476	82	1417535	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.750	152	1545007	50.00	ug/L	#	0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.768	113	669250	45.63	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 91.26%				
52) D8-Toluene	12.060	98	3013343	44.33	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 88.66%				
73) Bromofluorobenzene	14.581	95	1337694	52.43	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 104.86%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.292	85	11181	0.62	ug/L	#	84
3) Chloromethane	4.745	50	20139	0.90	ug/L	#	78
4) Vinyl Chloride	4.933	62	13758	0.71	ug/L	#	64
5) Bromomethane	5.591	94	14251	3.00	ug/L	#	97
6) Chloroethane	5.814	64	8224	0.74	ug/L	#	85
7) Trichlorofluoromethane	6.079	101	20000	1.00	ug/L	#	95
8) Diethyl ether	6.566	59	9884	1.00	ug/L		95
9) 1,1-Dichloroethene	6.913	96	11897	1.13	ug/L		94
10) Trichlorotrifluoroethane	6.936	151	10071	1.25	ug/L	#	82
11) Acrolein	7.401	56	23594	12.23	ug/L		91
12) Iodomethane	7.160	142	26602	2.17	ug/L	#	91
13) Carbon Disulfide	7.007	76	186936	5.81	ug/L		99
14) 3-chloropropene	7.571	41	22884	1.25	ug/L	#	82
15) Acetone	7.788	43	13346	4.53	ug/L	#	86
16) Methylene Chloride	7.718	84	17435	1.30	ug/L		87
17) Methyl Acetate	7.912	43	14340m	1.24	ug/L		
18) t-1,2-Dichloroethene	7.929	96	16266	1.30	ug/L		86
19) Methyl tert-butyl ether	7.994	73	34713	1.16	ug/L	#	82
20) Acetonitrile	8.405	41	26213	13.15	ug/L	#	84
21) Isopropyl ether	8.423	45	43066	1.05	ug/L	#	87
22) Chloroprene	8.664	88	14377	1.35	ug/L	#	78
23) 1,1-Dichloroethane	8.687	63	25762	1.07	ug/L	#	88
24) Acrylonitrile	8.770	53	38262	10.16	ug/L	#	90
25) Vinyl Acetate	8.911	43	100020	4.47	ug/L		95
26) c-1,2-Dichloroethene	9.298	96	16188	1.17	ug/L	#	79
27) 2,2-Dichloropropane	9.434	77	19000	1.07	ug/L	#	85
28) Bromochloromethane	9.539	128	7602	1.24	ug/L		92
29) Cyclohexane	9.539	56	22689	0.90	ug/L	#	80
30) Chloroform	9.569	83	26528	1.19	ug/L		98
32) Dibromofluoromethane	9.768	113	669250	44.77	ug/L	#	92
33) 2-Butanone	9.898	72	10637	7.84	ug/L		76
34) 1,1,1-Trichloroethane	9.839	97	21342	1.19	ug/L		96
35) 1,1-Dichloropropene	9.939	75	18815	1.08	ug/L		91
36) Propionitrile	10.233	54	16779	13.02	ug/L	#	82
37) Methacrylonitrile	10.244	41	80571	11.62	ug/L		94
38) Isobutyl Alcohol	10.227	43	22254	29.04	ug/L	#	58
40) Carbon Tetrachloride	9.751	117	18501	1.36	ug/L	#	65
41) Benzene	10.215	78	63728	1.17	ug/L		96
42) 1,2-Dichloroethane	10.421	62	16246	1.09	ug/L	#	88
43) Trichloroethene	10.779	130	15644	1.31	ug/L	#	1
44) Methyl cyclohexane	10.767	83	57455	1.87	ug/L	#	60
45) Dibromomethane	11.214	93	9231	1.45	ug/L		96

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU004.D
Acq On : 26 Aug 2020 10:39 am
Operator : KKW
InstName : OVGCMS5
Sample : CAL1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 26 11:03:23 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed Aug 26 10:37:30 2020
Response via : Initial Calibration

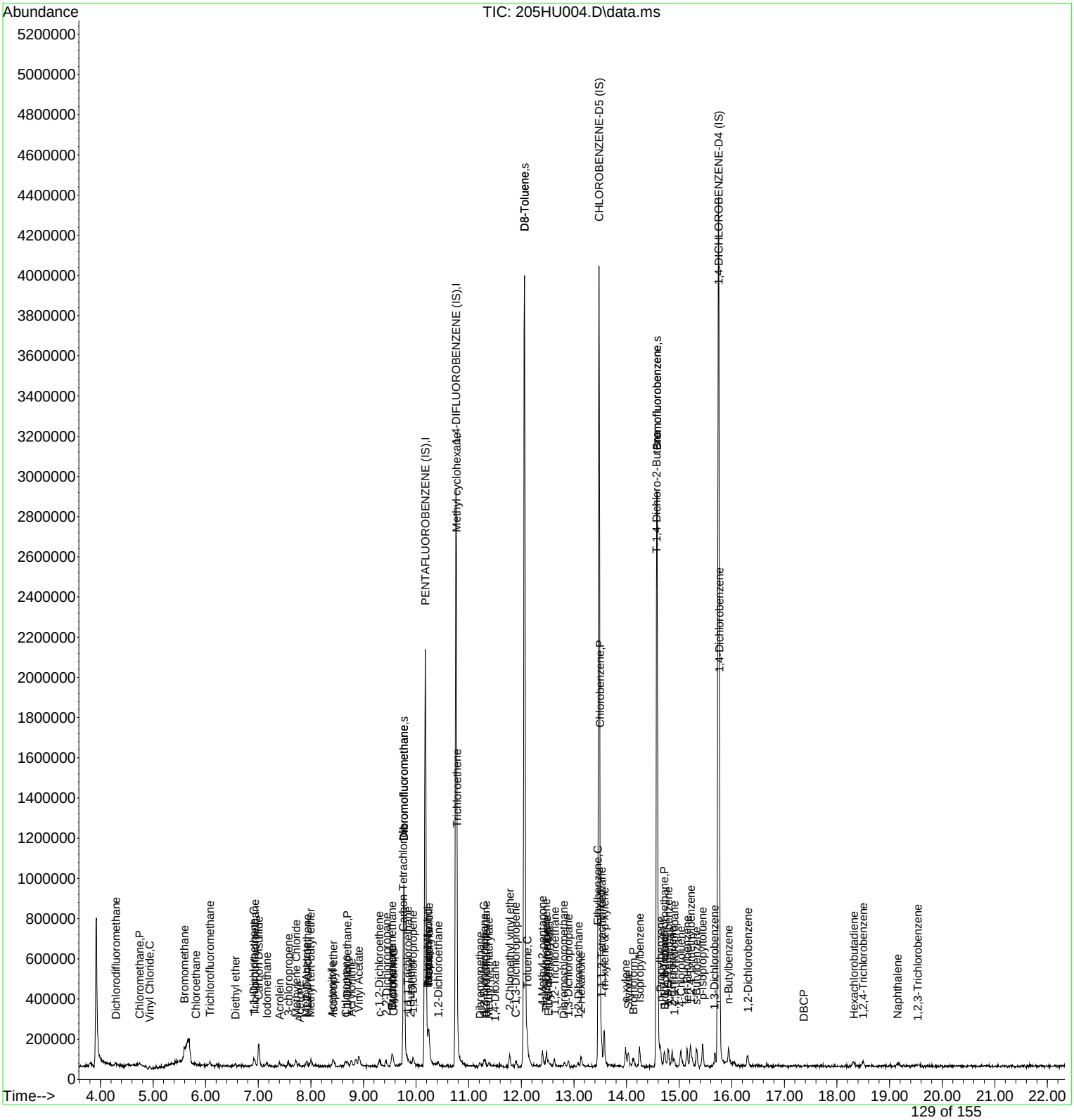
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
46) 1,2-Dichloropropane	11.290	63	17335	1.24 ug/L #	81
47) Bromodichloromethane	11.326	83	16170	1.14 ug/L	94
48) Methyl Methacrylate	11.378	69	9697	1.39 ug/L #	12
49) 1,4-Dioxane	11.502	88	1776	15.45 ug/L #	1
50) 2-Chloroethyl vinyl ether	11.778	63	30098	4.54 ug/L #	84
51) C-1,3-Dichloropropene	11.890	75	20574	1.07 ug/L #	70
53) D8-Toluene	12.060	98	3006281	43.42 ug/L #	95
54) 4-Methyl-2-pentanone	12.401	100	10726	7.74 ug/L	88
56) Toluene	12.113	92	44721	1.48 ug/L	89
57) T-1,3-Dichloropropene	12.471	75	17697	1.25 ug/L #	87
58) Tetrachloroethene	12.483	164	12425	1.22 ug/L	86
59) Ethyl methacrylate	12.512	69	18997	1.60 ug/L #	84
60) 1,1,2-Trichloroethane	12.636	97	15182	1.56 ug/L	95
61) Dibromochloromethane	12.806	129	7966	1.05 ug/L #	68
62) 1,3-Dichloropropane	12.894	76	20895	1.31 ug/L #	83
63) 1,2-Dibromoethane	13.088	107	12996	1.54 ug/L #	99
64) 2-Hexanone	13.135	43	41956	7.35 ug/L #	90
65) Ethylbenzene	13.452	106	24036	1.50 ug/L #	94
66) Chlorobenzene	13.494	112	42192	1.45 ug/L #	86
67) 1,1,1,2-Tetrachloroethane	13.529	131	12465	1.21 ug/L #	91
68) m-xylene & p-xylene	13.582	106	62472	2.99 ug/L	82
69) o-xylene	13.981	106	29119	1.50 ug/L	97
70) Styrene	14.034	104	51750	1.57 ug/L	93
71) Bromoform	14.128	173	4916	1.00 ug/L	91
72) Isopropylbenzene	14.246	105	76067	1.44 ug/L	93
74) Bromofluorobenzene	14.581	95	1337694	52.74 ug/L	100
75) n-Propylbenzene	14.645	91	92820	1.37 ug/L	96
76) 1,1,2,2-Tetrachloroethane	14.716	83	18652	1.49 ug/L #	96
77) 1,2,3-Trichloropropane	14.910	61	5145	1.46 ug/L #	52
78) T-1,4-Dichloro-2-Butene	14.569	53	2197	0.68 ug/L #	1
80) Bromobenzene	14.727	156	18734	1.28 ug/L #	69
81) 1,2,4-Trimethylbenzene	15.221	105	71850	1.12 ug/L	93
82) 2-Chlorotoluene	14.868	91	56588	1.13 ug/L	95
83) 4-Chlorotoluene	15.033	91	57681	1.13 ug/L #	87
84) tert-Butylbenzene	15.150	119	50015	1.12 ug/L #	94
85) 1,3,5-Trimethylbenzene	14.792	105	69131	1.19 ug/L	92
86) p-Isopropyltoluene	15.444	119	79108	1.31 ug/L #	93
87) s-Butylbenzene	15.327	105	84856	1.18 ug/L	96
88) 1,3-Dichlorobenzene	15.673	146	36787	1.22 ug/L	92
89) 1,4-Dichlorobenzene	15.767	146	41009	1.31 ug/L #	1
90) n-Butylbenzene	15.938	91	76899	1.25 ug/L #	97
91) 1,2-Dichlorobenzene	16.308	146	32534	1.21 ug/L	95
92) DBCP	17.371	157	3191m	1.49 ug/L	
93) Hexachlorobutadiene	18.317	225	6765	1.24 ug/L #	81
94) 1,2,4-Trichlorobenzene	18.494	180	11654	1.14 ug/L #	91
95) Naphthalene	19.152	128	24856	1.10 ug/L	95
96) 1,2,3-Trichlorobenzene	19.534	180	4589	0.85 ug/L #	53

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU004.D
Acq On : 26 Aug 2020 10:39 am
Operator : KKW
InstName : OVGCMS5
Sample : CAL1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 26 11:03:23 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed Aug 26 10:37:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU005.D
Acq On : 26 Aug 2020 11:10 am
Operator : KKW
InstName : OVGCMS5
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 26 11:33:23 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed Aug 26 10:37:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	10.174	168	1516643	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.756	114	2805358	50.00	ug/L	#	0.00
55) CHLOROBENZENE-D5 (IS)	13.476	82	1372254	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.750	152	1436786	50.00	ug/L	#	0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.763	113	718483	48.15	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 96.30%				
52) D8-Toluene	12.060	98	3230605	47.09	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 94.18%				
73) Bromofluorobenzene	14.575	95	1355039	54.86	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 109.72%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.292	85	22531	1.24	ug/L	#	89
3) Chloromethane	4.739	50	29978	1.32	ug/L		92
4) Vinyl Chloride	4.939	62	26736	1.35	ug/L	#	88
5) Bromomethane	5.597	94	19029	3.93	ug/L	#	81
6) Chloroethane	5.814	64	20490	1.80	ug/L	#	95
7) Trichlorofluoromethane	6.079	101	38962	1.91	ug/L		93
8) Diethyl ether	6.555	59	17360	1.73	ug/L		96
9) 1,1-Dichloroethene	6.913	96	20243	1.88	ug/L		94
10) Trichlorotrifluoroethane	6.925	151	15233	1.86	ug/L		94
11) Acrolein	7.407	56	37506	19.11	ug/L		99
12) Iodomethane	7.166	142	67545	5.41	ug/L	#	88
13) Carbon Disulfide	7.007	76	314805	9.62	ug/L		99
14) 3-chloropropene	7.565	41	35933	1.93	ug/L		95
15) Acetone	7.788	43	26260	8.77	ug/L		98
16) Methylene Chloride	7.718	84	25394	1.86	ug/L		99
17) Methyl Acetate	7.906	43	21217	1.80	ug/L		97
18) t-1,2-Dichloroethene	7.918	96	22457	1.76	ug/L	#	93
19) Methyl tert-butyl ether	7.994	73	54942	1.81	ug/L	#	87
20) Acetonitrile	8.429	41	38001	18.74	ug/L	#	88
21) Isopropyl ether	8.423	45	68822	1.65	ug/L		94
22) Chloroprene	8.652	88	24061	2.23	ug/L		83
23) 1,1-Dichloroethane	8.693	63	42182	1.73	ug/L	#	95
24) Acrylonitrile	8.764	53	65996	17.23	ug/L		95
25) Vinyl Acetate	8.905	43	188810	8.30	ug/L	#	94
26) c-1,2-Dichloroethene	9.310	96	27700	1.96	ug/L		88
27) 2,2-Dichloropropane	9.428	77	32686	1.80	ug/L	#	83
28) Bromochloromethane	9.533	128	11633	1.86	ug/L		83
29) Cyclohexane	9.539	56	47793	1.86	ug/L		96
30) Chloroform	9.563	83	41418	1.82	ug/L	#	87
32) Dibromofluoromethane	9.763	113	718483	47.25	ug/L	#	91
33) 2-Butanone	9.892	72	13040	9.45	ug/L		99
34) 1,1,1-Trichloroethane	9.833	97	31799	1.75	ug/L		96
35) 1,1-Dichloropropene	9.939	75	32954	1.86	ug/L	#	85
36) Propionitrile	10.233	54	30401	23.19	ug/L	#	96
37) Methacrylonitrile	10.239	41	133112	18.87	ug/L		87
38) Isobutyl Alcohol	10.227	43	34678	44.48	ug/L	#	47
40) Carbon Tetrachloride	9.768	117	25499	1.85	ug/L	#	73
41) Benzene	10.209	78	97692	1.77	ug/L		93
42) 1,2-Dichloroethane	10.421	62	27949	1.86	ug/L		95
43) Trichloroethene	10.761	130	25275	2.10	ug/L	#	1
44) Methyl cyclohexane	10.767	83	74958	2.42	ug/L	#	75
45) Dibromomethane	11.208	93	13662	2.13	ug/L	#	73

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU005.D
Acq On : 26 Aug 2020 11:10 am
Operator : KKW
InstName : OVGCMS5
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 26 11:33:23 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed Aug 26 10:37:30 2020
Response via : Initial Calibration

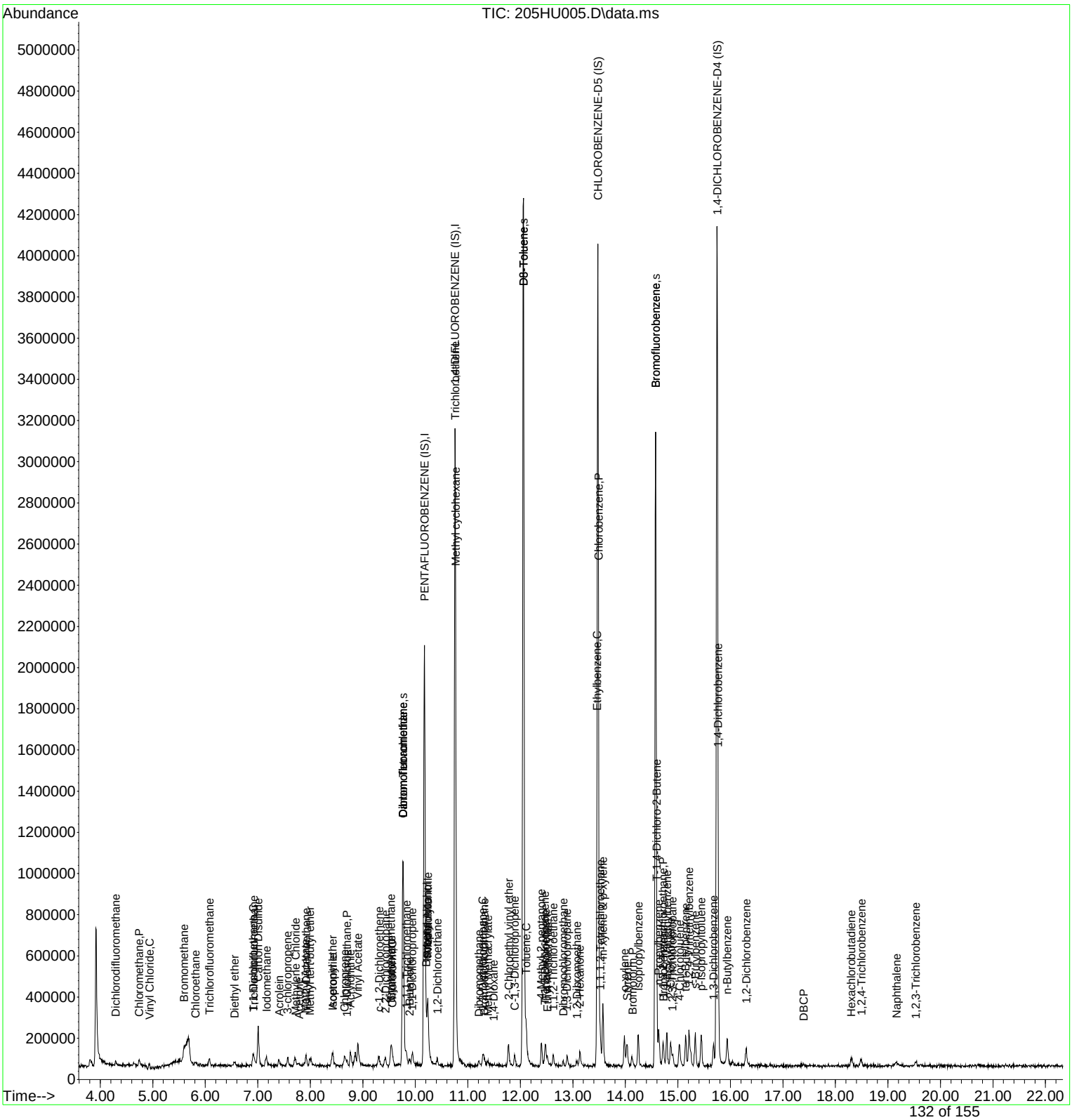
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
46) 1,2-Dichloropropane	11.284	63	26986	1.92	ug/L		94
47) Bromodichloromethane	11.314	83	26493	1.84	ug/L	#	89
48) Methyl Methacrylate	11.384	69	20261	2.88	ug/L		84
49) 1,4-Dioxane	11.490	88	6949	59.91	ug/L	#	82
50) 2-Chloroethyl vinyl ether	11.778	63	65331	9.76	ug/L	#	96
51) C-1,3-Dichloropropene	11.890	75	32740	1.69	ug/L	#	85
53) D8-Toluene	12.060	98	3221848	46.12	ug/L	#	94
54) 4-Methyl-2-pentanone	12.395	100	17125	12.24	ug/L		86
56) Toluene	12.107	92	69950	2.38	ug/L	#	95
57) T-1,3-Dichloropropene	12.465	75	25461	1.86	ug/L	#	81
58) Tetrachloroethene	12.483	164	21979	2.23	ug/L		90
59) Ethyl methacrylate	12.512	69	29704	2.59	ug/L	#	87
60) 1,1,2-Trichloroethane	12.624	97	19710	2.09	ug/L		93
61) Dibromochloromethane	12.818	129	17268	2.35	ug/L	#	95
62) 1,3-Dichloropropane	12.888	76	37040	2.40	ug/L		98
63) 1,2-Dibromoethane	13.076	107	19931	2.44	ug/L	#	95
64) 2-Hexanone	13.129	43	63865	11.55	ug/L	#	97
65) Ethylbenzene	13.458	106	38166	2.46	ug/L	#	94
66) Chlorobenzene	13.488	112	65086	2.31	ug/L		95
67) 1,1,1,2-Tetrachloroethane	13.523	131	18626	1.86	ug/L		91
68) m-xylene & p-xylene	13.570	106	105905	5.23	ug/L		81
69) o-xylene	13.981	106	49232	2.62	ug/L		98
70) Styrene	14.034	104	84393	2.65	ug/L	#	83
71) Bromoform	14.134	173	7604	1.59	ug/L	#	86
72) Isopropylbenzene	14.246	105	132170	2.58	ug/L		99
74) Bromofluorobenzene	14.575	95	1355039	55.18	ug/L		100
75) n-Propylbenzene	14.633	91	152088	2.32	ug/L		97
76) 1,1,2,2-Tetrachloroethane	14.716	83	28728	2.37	ug/L		99
77) 1,2,3-Trichloropropane	14.892	61	6117	1.79	ug/L	#	17
78) T-1,4-Dichloro-2-Butene	14.598	53	8990	2.88	ug/L	#	1
80) Bromobenzene	14.727	156	28644	2.10	ug/L		80
81) 1,2,4-Trimethylbenzene	15.209	105	113198	1.89	ug/L		91
82) 2-Chlorotoluene	14.863	91	85290	1.84	ug/L		94
83) 4-Chlorotoluene	15.033	91	84751	1.78	ug/L	#	90
84) tert-Butylbenzene	15.145	119	88584	2.13	ug/L		96
85) 1,3,5-Trimethylbenzene	14.792	105	114207	2.12	ug/L		97
86) p-Isopropyltoluene	15.444	119	121842	2.16	ug/L		95
87) s-Butylbenzene	15.333	105	136895	2.05	ug/L		100
88) 1,3-Dichlorobenzene	15.679	146	60984	2.18	ug/L	#	86
89) 1,4-Dichlorobenzene	15.767	146	59019	2.03	ug/L	#	1
90) n-Butylbenzene	15.938	91	113346	1.98	ug/L		97
91) 1,2-Dichlorobenzene	16.302	146	52773	2.11	ug/L		94
92) DBCP	17.395	157	2781	1.40	ug/L	#	73
93) Hexachlorobutadiene	18.300	225	11140	2.19	ug/L	#	76
94) 1,2,4-Trichlorobenzene	18.494	180	16983	1.79	ug/L	#	82
95) Naphthalene	19.164	128	36782	1.75	ug/L	#	79
96) 1,2,3-Trichlorobenzene	19.528	180	7781	1.54	ug/L	#	82

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU005.D
Acq On : 26 Aug 2020 11:10 am
Operator : KKW
InstName : OVGCMS5
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 26 11:33:23 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed Aug 26 10:37:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU006.D
Acq On : 26 Aug 2020 11:42 am
Operator : KKW
InstName : OVGCMS5
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 26 12:53:18 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed Aug 26 10:37:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	10.174	168	1522354	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.756	114	2749356	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.476	82	1360962	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.744	152	1433030	50.00	ug/L	#	0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.763	113	796304	53.16	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 106.32%				
52) D8-Toluene	12.060	98	3466073	51.55	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 103.10%				
73) Bromofluorobenzene	14.575	95	1458988	59.56	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 119.12%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.293	85	39156	2.14	ug/L	#	98
3) Chloromethane	4.745	50	58594	2.57	ug/L		95
4) Vinyl Chloride	4.927	62	54338	2.73	ug/L		98
5) Bromomethane	5.591	94	34715	7.15	ug/L	#	86
6) Chloroethane	5.814	64	33611	2.95	ug/L		94
7) Trichlorofluoromethane	6.067	101	74462	3.63	ug/L		99
8) Diethyl ether	6.555	59	47089	4.68	ug/L		99
9) 1,1-Dichloroethene	6.913	96	48421	4.49	ug/L		94
10) Trichlorotrifluoroethane	6.925	151	38011	4.62	ug/L		92
11) Acrolein	7.389	56	115323	58.54	ug/L		100
12) Iodomethane	7.160	142	236774	18.89	ug/L		92
13) Carbon Disulfide	7.007	76	847062	25.79	ug/L		98
14) 3-chloropropene	7.571	41	88029	4.70	ug/L	#	87
15) Acetone	7.771	43	56139	18.68	ug/L		98
16) Methylene Chloride	7.718	84	61024	4.46	ug/L		84
17) Methyl Acetate	7.894	43	34374	2.90	ug/L	#	88
18) t-1,2-Dichloroethene	7.918	96	61424	4.80	ug/L		90
19) Methyl tert-butyl ether	8.000	73	144164	4.73	ug/L		98
20) Acetonitrile	8.400	41	92249	45.32	ug/L		97
21) Isopropyl ether	8.423	45	190513	4.56	ug/L	#	92
22) Chloroprene	8.652	88	60583	5.58	ug/L		89
23) 1,1-Dichloroethane	8.693	63	112400	4.59	ug/L	#	98
24) Acrylonitrile	8.764	53	183263	47.66	ug/L	#	92
25) Vinyl Acetate	8.899	43	489052	21.42	ug/L		95
26) c-1,2-Dichloroethene	9.304	96	66471	4.69	ug/L		94
27) 2,2-Dichloropropane	9.422	77	80754	4.44	ug/L	#	94
28) Bromochloromethane	9.528	128	28127	4.48	ug/L		80
29) Cyclohexane	9.539	56	103410	4.00	ug/L		91
30) Chloroform	9.563	83	107726	4.73	ug/L		96
32) Dibromofluoromethane	9.763	113	796304	52.17	ug/L	#	92
33) 2-Butanone	9.886	72	30203	21.81	ug/L		94
34) 1,1,1-Trichloroethane	9.821	97	86380	4.73	ug/L		100
35) 1,1-Dichloropropene	9.939	75	86208	4.84	ug/L		93
36) Propionitrile	10.227	54	77029	58.53	ug/L		90
37) Methacrylonitrile	10.239	41	351377	49.61	ug/L		90
38) Isobutyl Alcohol	10.227	43	75424	96.37	ug/L	#	46
40) Carbon Tetrachloride	9.751	117	63446m	4.70	ug/L		
41) Benzene	10.209	78	273481	5.07	ug/L		95
42) 1,2-Dichloroethane	10.409	62	69714	4.74	ug/L	#	91
43) Trichloroethene	10.767	130	64128	5.44	ug/L	#	44
44) Methyl cyclohexane	10.762	83	142287	4.69	ug/L	#	86
45) Dibromomethane	11.208	93	31542	5.02	ug/L		86

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU006.D
Acq On : 26 Aug 2020 11:42 am
Operator : KKW
InstName : OVGCMS5
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 26 12:53:18 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed Aug 26 10:37:30 2020
Response via : Initial Calibration

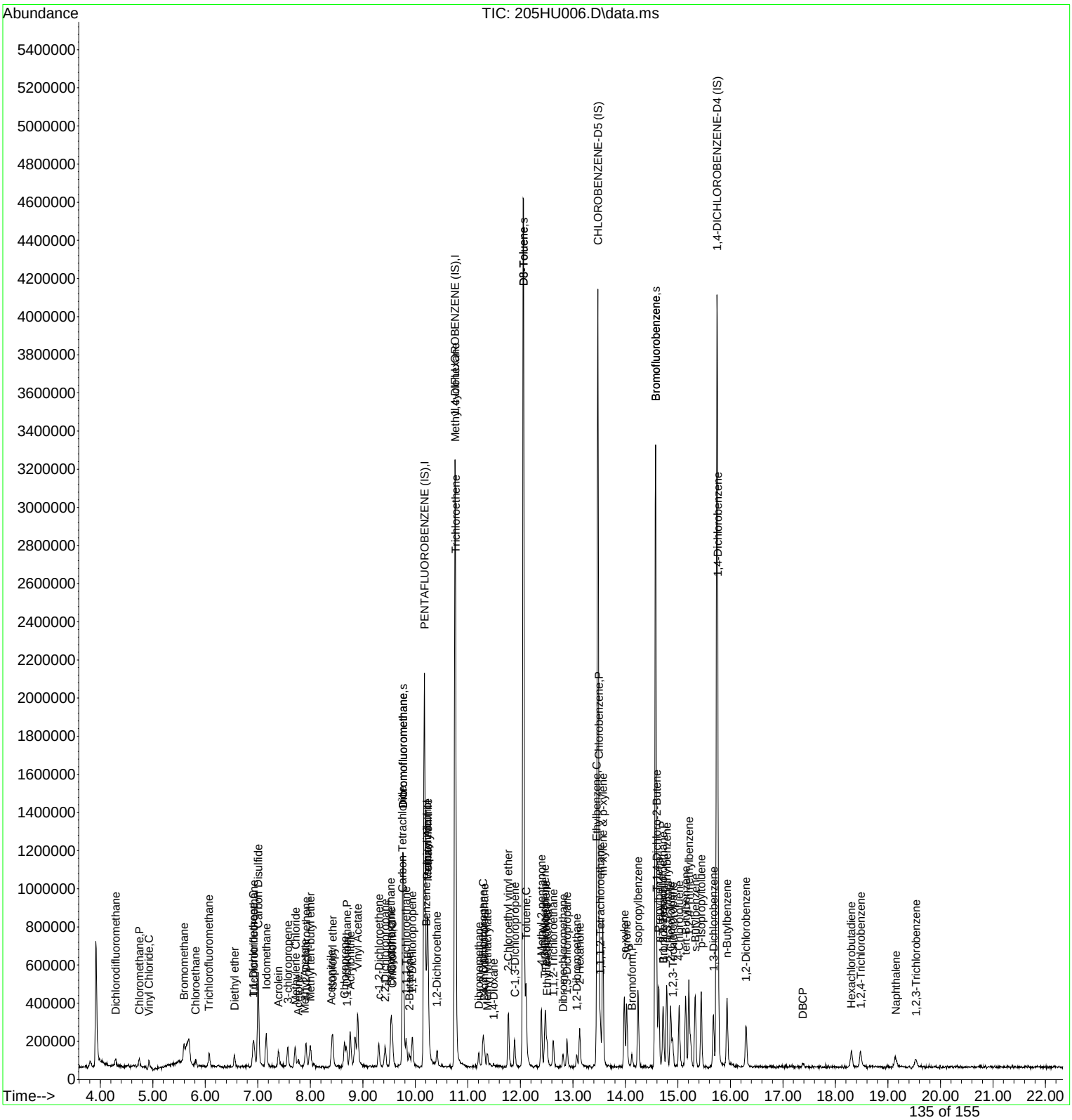
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
46) 1,2-Dichloropropane	11.290	63	66016	4.79	ug/L		98
47) Bromodichloromethane	11.314	83	71135	5.05	ug/L	#	95
48) Methyl Methacrylate	11.373	69	39986	5.80	ug/L	#	85
49) 1,4-Dioxane	11.490	88	12363	108.76	ug/L	#	67
50) 2-Chloroethyl vinyl ether	11.766	63	151898	23.16	ug/L		91
51) C-1,3-Dichloropropene	11.895	75	98892	5.22	ug/L	#	85
53) D8-Toluene	12.060	98	3459781	50.53	ug/L	#	94
54) 4-Methyl-2-pentanone	12.401	100	45105	32.89	ug/L	#	73
56) Toluene	12.107	92	175325	6.02	ug/L		99
57) T-1,3-Dichloropropene	12.465	75	70803	5.22	ug/L	#	94
58) Tetrachloroethene	12.483	164	59221	6.06	ug/L		92
59) Ethyl methacrylate	12.507	69	78025	6.86	ug/L	#	91
60) 1,1,2-Trichloroethane	12.624	97	58731	6.27	ug/L		90
61) Dibromochloromethane	12.812	129	41530	5.69	ug/L	#	95
62) 1,3-Dichloropropane	12.888	76	93829	6.12	ug/L		92
63) 1,2-Dibromoethane	13.071	107	55248	6.83	ug/L	#	90
64) 2-Hexanone	13.129	43	160465	29.26	ug/L	#	96
65) Ethylbenzene	13.453	106	106429	6.92	ug/L		90
66) Chlorobenzene	13.494	112	180789	6.47	ug/L		99
67) 1,1,1,2-Tetrachloroethane	13.523	131	51032	5.15	ug/L		94
68) m-xylene & p-xylene	13.570	106	254394	12.67	ug/L		87
69) o-xylene	13.981	106	124047	6.66	ug/L		91
70) Styrene	14.022	104	203330	6.43	ug/L		95
71) Bromoform	14.122	173	20343	4.29	ug/L	#	84
72) Isopropylbenzene	14.240	105	315673	6.21	ug/L		94
74) Bromofluorobenzene	14.575	95	1458988	59.91	ug/L		100
75) n-Propylbenzene	14.634	91	388229	5.98	ug/L		95
76) 1,1,2,2-Tetrachloroethane	14.716	83	70526	5.86	ug/L	#	98
77) 1,2,3-Trichloropropane	14.904	61	21386m	6.32	ug/L		
78) T-1,4-Dichloro-2-Butene	14.598	53	16291	5.27	ug/L	#	1
80) Bromobenzene	14.722	156	71351	5.24	ug/L	#	87
81) 1,2,4-Trimethylbenzene	15.209	105	294952	4.94	ug/L		93
82) 2-Chlorotoluene	14.863	91	225591	4.87	ug/L	#	91
83) 4-Chlorotoluene	15.027	91	233835	4.94	ug/L	#	90
84) tert-Butylbenzene	15.151	119	229729	5.54	ug/L		92
85) 1,3,5-Trimethylbenzene	14.786	105	280367	5.22	ug/L		92
86) p-Isopropyltoluene	15.444	119	305694	5.44	ug/L		97
87) s-Butylbenzene	15.333	105	350959	5.27	ug/L		97
88) 1,3-Dichlorobenzene	15.679	146	147758	5.29	ug/L	#	89
89) 1,4-Dichlorobenzene	15.762	146	159525	5.51	ug/L	#	33
90) n-Butylbenzene	15.932	91	292278	5.11	ug/L		98
91) 1,2-Dichlorobenzene	16.296	146	140361	5.63	ug/L	#	90
92) DBCP	17.377	157	6719	3.39	ug/L	#	77
93) Hexachlorobutadiene	18.300	225	23982	4.73	ug/L	#	92
94) 1,2,4-Trichlorobenzene	18.482	180	44607	4.71	ug/L		95
95) Naphthalene	19.152	128	80815	3.85	ug/L	#	80
96) 1,2,3-Trichlorobenzene	19.534	180	27695	5.50	ug/L		92

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU006.D
Acq On : 26 Aug 2020 11:42 am
Operator : KKW
InstName : OVGCMS5
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 26 12:53:18 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed Aug 26 10:37:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU007.D
Acq On : 26 Aug 2020 12:13 pm
Operator : KKW
InstName : OVGCMS5
Sample : CAL4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 26 12:55:32 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed Aug 26 10:37:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	10.174	168	1486293	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.756	114	2720774	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.476	82	1378768	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.744	152	1420641	50.00	ug/L	#	0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.763	113	658448	45.02	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 90.04%				
52) D8-Toluene	12.060	98	3029738	45.54	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 91.08%				
73) Bromofluorobenzene	14.575	95	1304289	52.55	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 105.10%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.293	85	72707	4.07	ug/L		99
3) Chloromethane	4.745	50	100135	4.50	ug/L		98
4) Vinyl Chloride	4.933	62	101526	5.23	ug/L		93
5) Bromomethane	5.597	94	37203	7.84	ug/L	#	79
6) Chloroethane	5.814	64	60784	5.46	ug/L	#	90
7) Trichlorofluoromethane	6.073	101	141962	7.09	ug/L		99
8) Diethyl ether	6.561	59	72012	7.33	ug/L		89
9) 1,1-Dichloroethene	6.913	96	86028	8.16	ug/L		91
10) Trichlorotrifluoroethane	6.931	151	62036	7.72	ug/L		94
11) Acrolein	7.389	56	200369	104.18	ug/L		92
12) Iodomethane	7.160	142	566594	46.30	ug/L		94
13) Carbon Disulfide	7.007	76	1492729	46.55	ug/L		98
14) 3-chloropropene	7.571	41	168085	9.19	ug/L		97
15) Acetone	7.771	43	104638	35.65	ug/L		99
16) Methylene Chloride	7.718	84	96794	7.24	ug/L		96
17) Methyl Acetate	7.888	43	56849	4.91	ug/L	#	85
18) t-1,2-Dichloroethene	7.912	96	99657	7.98	ug/L		91
19) Methyl tert-butyl ether	7.994	73	235394	7.91	ug/L		99
20) Acetonitrile	8.400	41	156413	78.70	ug/L		92
21) Isopropyl ether	8.423	45	303849	7.45	ug/L		94
22) Chloroprene	8.646	88	107710	10.17	ug/L		86
23) 1,1-Dichloroethane	8.687	63	179218	7.50	ug/L	#	97
24) Acrylonitrile	8.758	53	351967	93.76	ug/L		97
25) Vinyl Acetate	8.899	43	942873	42.29	ug/L		95
26) c-1,2-Dichloroethene	9.304	96	117503	8.50	ug/L		90
27) 2,2-Dichloropropane	9.428	77	137188	7.72	ug/L		97
28) Bromochloromethane	9.528	128	51142	8.34	ug/L		96
29) Cyclohexane	9.539	56	186579	7.39	ug/L		93
30) Chloroform	9.563	83	181845	8.17	ug/L		96
32) Dibromofluoromethane	9.763	113	658448	44.19	ug/L	#	92
33) 2-Butanone	9.880	72	64060	47.38	ug/L		85
34) 1,1,1-Trichloroethane	9.827	97	141295	7.93	ug/L		98
35) 1,1-Dichloropropene	9.939	75	137751	7.93	ug/L		94
36) Propionitrile	10.227	54	133054	103.56	ug/L		90
37) Methacrylonitrile	10.233	41	647806	93.69	ug/L		89
38) Isobutyl Alcohol	10.233	43	139692	182.82	ug/L	#	47
40) Carbon Tetrachloride	9.763	117	111462	8.34	ug/L	#	82
41) Benzene	10.209	78	460504	8.62	ug/L		96
42) 1,2-Dichloroethane	10.415	62	107483	7.38	ug/L		98
43) Trichloroethene	10.767	130	113379	9.72	ug/L	#	77
44) Methyl cyclohexane	10.767	83	231354	7.71	ug/L		87
45) Dibromomethane	11.214	93	58670	9.44	ug/L	#	85

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU007.D
Acq On : 26 Aug 2020 12:13 pm
Operator : KKW
InstName : OVGCMS5
Sample : CAL4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 26 12:55:32 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed Aug 26 10:37:30 2020
Response via : Initial Calibration

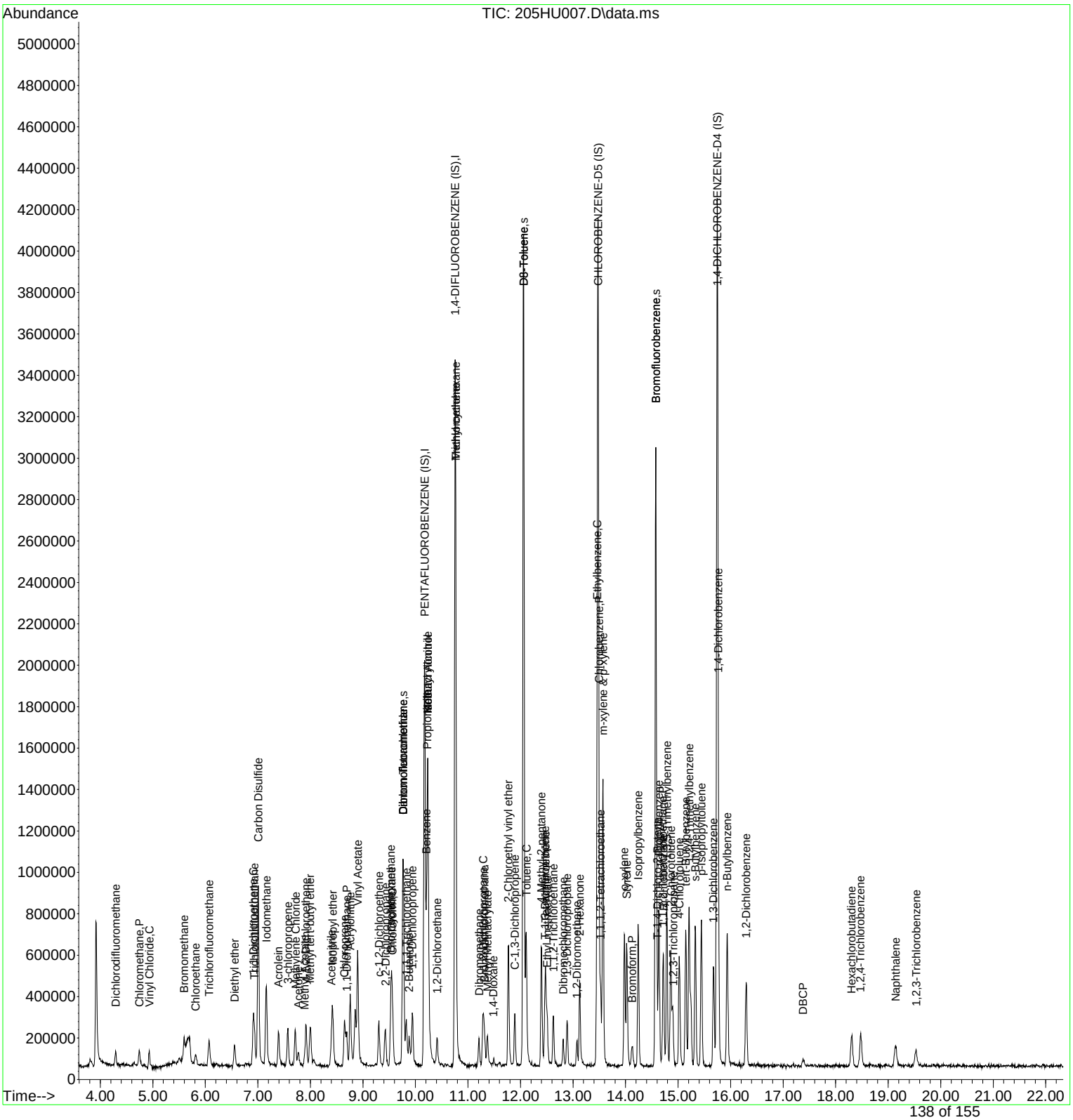
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
46) 1,2-Dichloropropane	11.290	63	120786	8.86 ug/L	94
47) Bromodichloromethane	11.314	83	116598	8.37 ug/L	98
48) Methyl Methacrylate	11.373	69	75554	11.07 ug/L #	91
49) 1,4-Dioxane	11.484	88	25698	228.44 ug/L	95
50) 2-Chloroethyl vinyl ether	11.766	63	292677	45.09 ug/L #	92
51) C-1,3-Dichloropropene	11.890	75	166617	8.88 ug/L	93
53) D8-Toluene	12.060	98	3022786	44.61 ug/L #	94
54) 4-Methyl-2-pentanone	12.395	100	82987	61.15 ug/L	82
56) Toluene	12.113	92	305682	10.37 ug/L	92
57) T-1,3-Dichloropropene	12.465	75	133003	9.68 ug/L	99
58) Tetrachloroethene	12.477	164	89967	9.09 ug/L	94
59) Ethyl methacrylate	12.507	69	147685	12.82 ug/L	97
60) 1,1,2-Trichloroethane	12.624	97	93411	9.85 ug/L	96
61) Dibromochloromethane	12.812	129	74348	10.06 ug/L	97
62) 1,3-Dichloropropane	12.889	76	160675	10.35 ug/L	90
63) 1,2-Dibromoethane	13.071	107	95325	11.63 ug/L #	98
64) 2-Hexanone	13.124	43	301519	54.27 ug/L #	95
65) Ethylbenzene	13.458	106	181300	11.64 ug/L	89
66) Chlorobenzene	13.494	112	297835	10.52 ug/L	100
67) 1,1,1,2-Tetrachloroethane	13.523	131	91380	9.10 ug/L	96
68) m-xylene & p-xylene	13.570	106	468482	23.03 ug/L	79
69) o-xylene	13.975	106	223021	11.83 ug/L	84
70) Styrene	14.023	104	393274	12.27 ug/L #	88
71) Bromoform	14.122	173	39696	8.26 ug/L	97
72) Isopropylbenzene	14.240	105	553539	10.75 ug/L	96
74) Bromofluorobenzene	14.575	95	1304289	52.86 ug/L	99
75) n-Propylbenzene	14.634	91	710456	10.80 ug/L	97
76) 1,1,2,2-Tetrachloroethane	14.710	83	127656	10.47 ug/L	98
77) 1,2,3-Trichloropropane	14.910	61	35137	10.25 ug/L #	79
78) T-1,4-Dichloro-2-Butene	14.604	53	34654	11.06 ug/L #	15
80) Bromobenzene	14.722	156	124625	9.23 ug/L #	86
81) 1,2,4-Trimethylbenzene	15.209	105	534258	9.03 ug/L	94
82) 2-Chlorotoluene	14.863	91	414530	9.03 ug/L	94
83) 4-Chlorotoluene	15.027	91	422763	9.00 ug/L	92
84) tert-Butylbenzene	15.145	119	412819	10.04 ug/L #	93
85) 1,3,5-Trimethylbenzene	14.786	105	503161	9.45 ug/L	94
86) p-Isopropyltoluene	15.444	119	532908	9.57 ug/L	94
87) s-Butylbenzene	15.327	105	617689	9.36 ug/L	97
88) 1,3-Dichlorobenzene	15.674	146	264086	9.54 ug/L	92
89) 1,4-Dichlorobenzene	15.768	146	264660	9.21 ug/L #	66
90) n-Butylbenzene	15.932	91	503638	8.88 ug/L	94
91) 1,2-Dichlorobenzene	16.296	146	243098	9.83 ug/L	91
92) DBCP	17.377	157	15674	7.98 ug/L	96
93) Hexachlorobutadiene	18.300	225	41429	8.25 ug/L #	90
94) 1,2,4-Trichlorobenzene	18.470	180	85818	9.14 ug/L	90
95) Naphthalene	19.140	128	169570	8.15 ug/L #	90
96) 1,2,3-Trichlorobenzene	19.534	180	46103	9.24 ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU007.D
Acq On : 26 Aug 2020 12:13 pm
Operator : KKW
InstName : OVGCMS5
Sample : CAL4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 26 12:55:32 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed Aug 26 10:37:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU008.D
Acq On : 26 Aug 2020 12:45 pm
Operator : KKW
InstName : OVGCMS5
Sample : CAL5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 26 13:22:59 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed Aug 26 10:37:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	10.168	168	1475045	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.756	114	2717768	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.476	82	1379230	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.744	152	1408814	50.00	ug/L	#	0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.763	113	814266	56.10	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 112.20%				
52) D8-Toluene	12.060	98	3580102	53.87	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 107.74%				
73) Bromofluorobenzene	14.575	95	1511319	60.87	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 121.74%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.287	85	164184	9.26	ug/L		94
3) Chloromethane	4.745	50	201978	9.15	ug/L		92
4) Vinyl Chloride	4.927	62	231545	12.02	ug/L		95
5) Bromomethane	5.591	94	63351	13.46	ug/L	#	95
6) Chloroethane	5.808	64	135306	12.24	ug/L		99
7) Trichlorofluoromethane	6.073	101	309087	15.55	ug/L		99
8) Diethyl ether	6.555	59	170801	17.53	ug/L		88
9) 1,1-Dichloroethene	6.907	96	202532	19.37	ug/L		87
10) Trichlorotrifluoroethane	6.931	151	153431	19.23	ug/L		95
11) Acrolein	7.389	56	428643	224.58	ug/L		99
12) Iodomethane	7.160	142	1334176	109.86	ug/L		93
13) Carbon Disulfide	7.007	76	3141020	98.69	ug/L		98
14) 3-chloropropene	7.565	41	350265	19.30	ug/L		97
15) Acetone	7.765	43	217521	74.68	ug/L		96
16) Methylene Chloride	7.712	84	233896	17.63	ug/L		85
17) Methyl Acetate	7.882	43	141356	12.31	ug/L	#	88
18) t-1,2-Dichloroethene	7.918	96	243179	19.63	ug/L		91
19) Methyl tert-butyl ether	8.000	73	564469	19.12	ug/L		98
20) Acetonitrile	8.400	41	361521	183.29	ug/L		98
21) Isopropyl ether	8.417	45	693329	17.13	ug/L	#	89
22) Chloroprene	8.646	88	230065	21.89	ug/L		89
23) 1,1-Dichloroethane	8.687	63	419559	17.69	ug/L	#	97
24) Acrylonitrile	8.752	53	743809	199.65	ug/L		98
25) Vinyl Acetate	8.899	43	2018875	91.25	ug/L		96
26) c-1,2-Dichloroethene	9.298	96	270827	19.73	ug/L		90
27) 2,2-Dichloropropane	9.422	77	301360	17.09	ug/L		95
28) Bromochloromethane	9.528	128	106839	17.56	ug/L		92
29) Cyclohexane	9.539	56	413430	16.50	ug/L		90
30) Chloroform	9.563	83	417944	18.93	ug/L		98
32) Dibromofluoromethane	9.763	113	814266	55.06	ug/L	#	94
33) 2-Butanone	9.880	72	134633	100.33	ug/L		85
34) 1,1,1-Trichloroethane	9.827	97	331823	18.76	ug/L		98
35) 1,1-Dichloropropene	9.939	75	331154	19.20	ug/L		94
36) Propionitrile	10.221	54	295355	231.63	ug/L		90
37) Methacrylonitrile	10.233	41	1389037	202.41	ug/L		90
38) Isobutyl Alcohol	10.227	43	332918	439.02	ug/L	#	86
40) Carbon Tetrachloride	9.751	117	256654	19.23	ug/L		89
41) Benzene	10.203	78	1059410	19.85	ug/L		97
42) 1,2-Dichloroethane	10.409	62	246946	16.98	ug/L		95
43) Trichloroethene	10.762	130	260288	22.34	ug/L		94
44) Methyl cyclohexane	10.767	83	497703	16.60	ug/L		92
45) Dibromomethane	11.208	93	138825	22.37	ug/L		89

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU008.D
Acq On : 26 Aug 2020 12:45 pm
Operator : KKW
InstName : OVGCMS5
Sample : CAL5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 26 13:22:59 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed Aug 26 10:37:30 2020
Response via : Initial Calibration

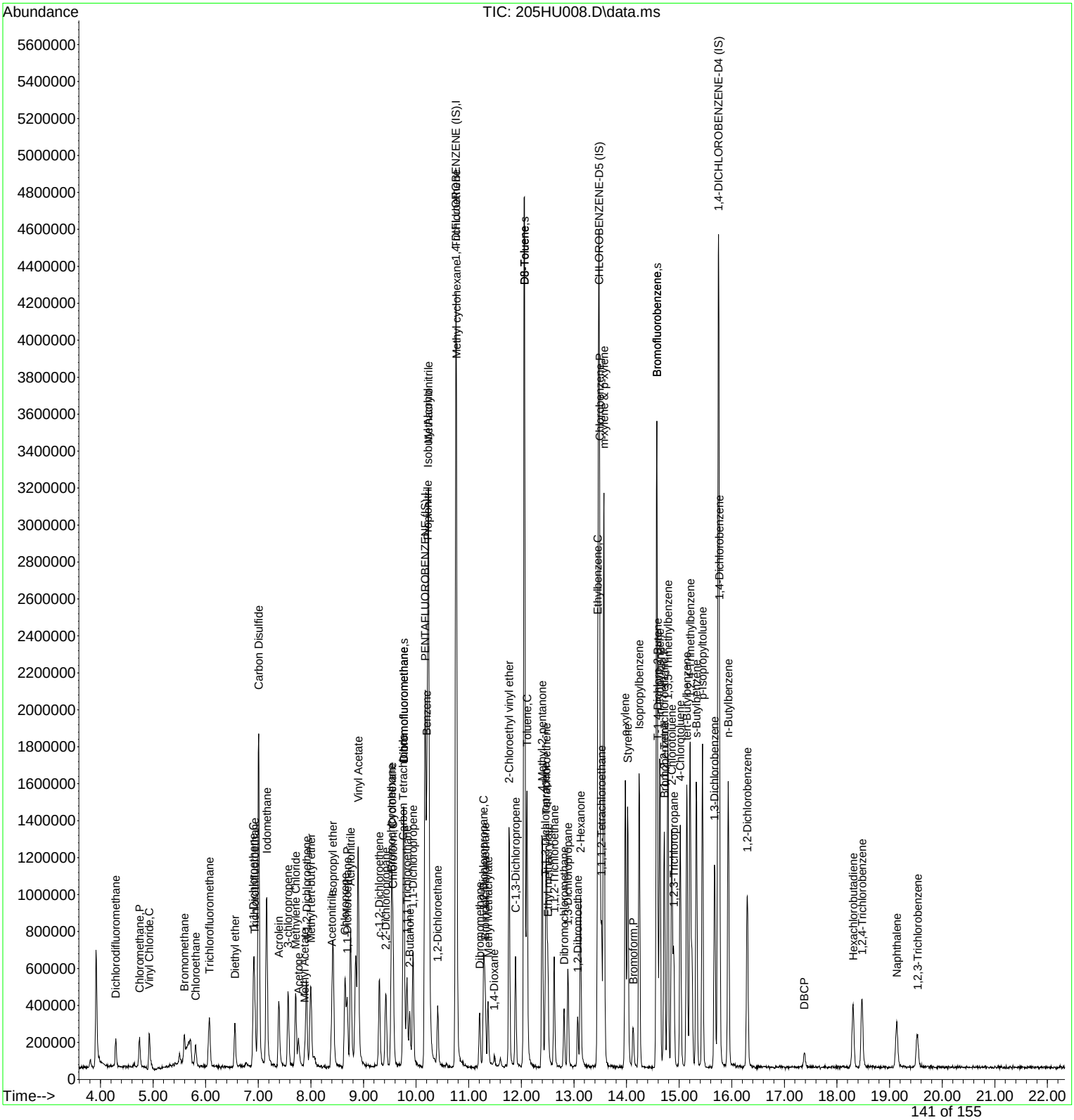
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
46) 1,2-Dichloropropane	11.284	63	268314	19.69	ug/L		95
47) Bromodichloromethane	11.314	83	278960	20.05	ug/L		94
48) Methyl Methacrylate	11.367	69	167516	24.57	ug/L		98
49) 1,4-Dioxane	11.484	88	57546	512.11	ug/L		96
50) 2-Chloroethyl vinyl ether	11.766	63	623257	96.13	ug/L		95
51) C-1,3-Dichloropropene	11.890	75	380063	20.29	ug/L		92
53) D8-Toluene	12.060	98	3575423	52.83	ug/L	#	95
54) 4-Methyl-2-pentanone	12.395	100	180230	132.95	ug/L		80
56) Toluene	12.107	92	688045	23.33	ug/L		98
57) T-1,3-Dichloropropene	12.460	75	312405	22.73	ug/L		95
58) Tetrachloroethene	12.477	164	213727	21.58	ug/L		96
59) Ethyl methacrylate	12.507	69	321538	27.90	ug/L		99
60) 1,1,2-Trichloroethane	12.624	97	211166	22.26	ug/L		93
61) Dibromochloromethane	12.812	129	181274	24.52	ug/L		92
62) 1,3-Dichloropropane	12.888	76	366182	23.57	ug/L		90
63) 1,2-Dibromoethane	13.071	107	220460	26.89	ug/L	#	94
64) 2-Hexanone	13.123	43	636063	114.45	ug/L		94
65) Ethylbenzene	13.453	106	419930	26.95	ug/L		88
66) Chlorobenzene	13.488	112	692647	24.45	ug/L		100
67) 1,1,1,2-Tetrachloroethane	13.523	131	209153	20.82	ug/L		94
68) m-xylene & p-xylene	13.570	106	1034286	50.82	ug/L		85
69) o-xylene	13.975	106	499949	26.51	ug/L		92
70) Styrene	14.022	104	874933	27.28	ug/L		90
71) Bromoform	14.128	173	102726	21.37	ug/L		97
72) Isopropylbenzene	14.240	105	1278081	24.80	ug/L		95
74) Bromofluorobenzene	14.575	95	1511319	61.24	ug/L		97
75) n-Propylbenzene	14.634	91	1593701	24.21	ug/L		96
76) 1,1,2,2-Tetrachloroethane	14.716	83	278006	22.80	ug/L		97
77) 1,2,3-Trichloropropane	14.898	61	75700m	22.08	ug/L		
78) T-1,4-Dichloro-2-Butene	14.592	53	74245	23.69	ug/L	#	15
80) Bromobenzene	14.722	156	292135	21.81	ug/L	#	79
81) 1,2,4-Trimethylbenzene	15.209	105	1222077	20.83	ug/L		93
82) 2-Chlorotoluene	14.857	91	939048	20.63	ug/L		94
83) 4-Chlorotoluene	15.021	91	971930	20.87	ug/L		93
84) tert-Butylbenzene	15.145	119	959791	23.53	ug/L		92
85) 1,3,5-Trimethylbenzene	14.786	105	1160375	21.98	ug/L		93
86) p-Isopropyltoluene	15.444	119	1271167	23.02	ug/L		95
87) s-Butylbenzene	15.327	105	1422808	21.73	ug/L		96
88) 1,3-Dichlorobenzene	15.673	146	595685	21.71	ug/L		92
89) 1,4-Dichlorobenzene	15.768	146	612211	21.49	ug/L		92
90) n-Butylbenzene	15.932	91	1149295	20.43	ug/L		94
91) 1,2-Dichlorobenzene	16.296	146	550442	22.45	ug/L		93
92) DBCP	17.377	157	34805	17.88	ug/L		97
93) Hexachlorobutadiene	18.306	225	101085	20.30	ug/L	#	91
94) 1,2,4-Trichlorobenzene	18.476	180	193953	20.82	ug/L		94
95) Naphthalene	19.134	128	374719	18.15	ug/L		97
96) 1,2,3-Trichlorobenzene	19.534	180	111510	22.54	ug/L		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU008.D
Acq On : 26 Aug 2020 12:45 pm
Operator : KKW
InstName : OVGCMS5
Sample : CAL5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 26 13:22:59 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed Aug 26 10:37:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU009.D
Acq On : 26 Aug 2020 1:16 pm
Operator : KKW
InstName : OVGCMS5
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 26 13:52:59 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed Aug 26 10:37:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	10.174	168	1477488	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.755	114	2663458	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.476	82	1384666	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.744	152	1420785	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.763	113	675386	46.46	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 92.92%				
52) D8-Toluene	12.060	98	3023455	46.42	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 92.84%				
73) Bromofluorobenzene	14.575	95	1291000	51.80	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 103.60%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.292	85	383212	21.58	ug/L		97
3) Chloromethane	4.739	50	529536	23.95	ug/L		98
4) Vinyl Chloride	4.927	62	561921	29.12	ug/L		100
5) Bromomethane	5.591	94	150527	31.92	ug/L		98
6) Chloroethane	5.797	64	326247	29.45	ug/L		95
7) Trichlorofluoromethane	6.055	101	764710	38.40	ug/L		99
8) Diethyl ether	6.554	59	416668	42.69	ug/L		94
9) 1,1-Dichloroethene	6.907	96	488582	46.65	ug/L		88
10) Trichlorotrifluoroethane	6.930	151	375840	47.03	ug/L		93
11) Acrolein	7.389	56	1096666	573.62	ug/L		99
12) Iodomethane	7.154	142	3545245	291.45	ug/L		93
13) Carbon Disulfide	7.001	76	7596409	238.28	ug/L		98
14) 3-chloropropene	7.565	41	849414	46.73	ug/L		95
15) Acetone	7.765	43	536077	183.75	ug/L		95
16) Methylene Chloride	7.712	84	557972	42.00	ug/L		90
17) Methyl Acetate	7.882	43	372175	32.36	ug/L	#	92
18) t-1,2-Dichloroethene	7.912	96	570404	45.97	ug/L		93
19) Methyl tert-butyl ether	8.000	73	1391174	47.05	ug/L		97
20) Acetonitrile	8.393	41	906968	459.07	ug/L		98
21) Isopropyl ether	8.417	45	1715521	42.31	ug/L		92
22) Chloroprene	8.646	88	582668	55.34	ug/L		88
23) 1,1-Dichloroethane	8.687	63	1018339	42.85	ug/L		98
24) Acrylonitrile	8.752	53	1884093	504.89	ug/L		98
25) Vinyl Acetate	8.893	43	5121107	231.08	ug/L	#	95
26) c-1,2-Dichloroethene	9.298	96	685613	49.88	ug/L		91
27) 2,2-Dichloropropane	9.428	77	776198	43.96	ug/L		98
28) Bromochloromethane	9.527	128	240349	39.44	ug/L		94
29) Cyclohexane	9.539	56	1001490	39.91	ug/L		92
30) Chloroform	9.563	83	1016650	45.96	ug/L		98
32) Dibromofluoromethane	9.763	113	675386	45.59	ug/L	#	89
33) 2-Butanone	9.880	72	333411	248.05	ug/L		94
34) 1,1,1-Trichloroethane	9.827	97	825829	46.61	ug/L		97
35) 1,1-Dichloropropene	9.939	75	807982	46.77	ug/L		93
36) Propionitrile	10.221	54	729412	571.09	ug/L		86
37) Methacrylonitrile	10.233	41	3353082	487.81	ug/L		90
38) Isobutyl Alcohol	10.262	43	848080	1116.52	ug/L		97
40) Carbon Tetrachloride	9.751	117	655476	50.12	ug/L		91
41) Benzene	10.203	78	2492881	47.66	ug/L		97
42) 1,2-Dichloroethane	10.409	62	624699	43.82	ug/L		99
43) Trichloroethene	10.761	130	623570	54.61	ug/L	#	85
44) Methyl cyclohexane	10.767	83	1152080	39.22	ug/L		92
45) Dibromomethane	11.202	93	349314	57.42	ug/L		90

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU009.D
Acq On : 26 Aug 2020 1:16 pm
Operator : KKW
InstName : OVGCMS5
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 26 13:52:59 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed Aug 26 10:37:30 2020
Response via : Initial Calibration

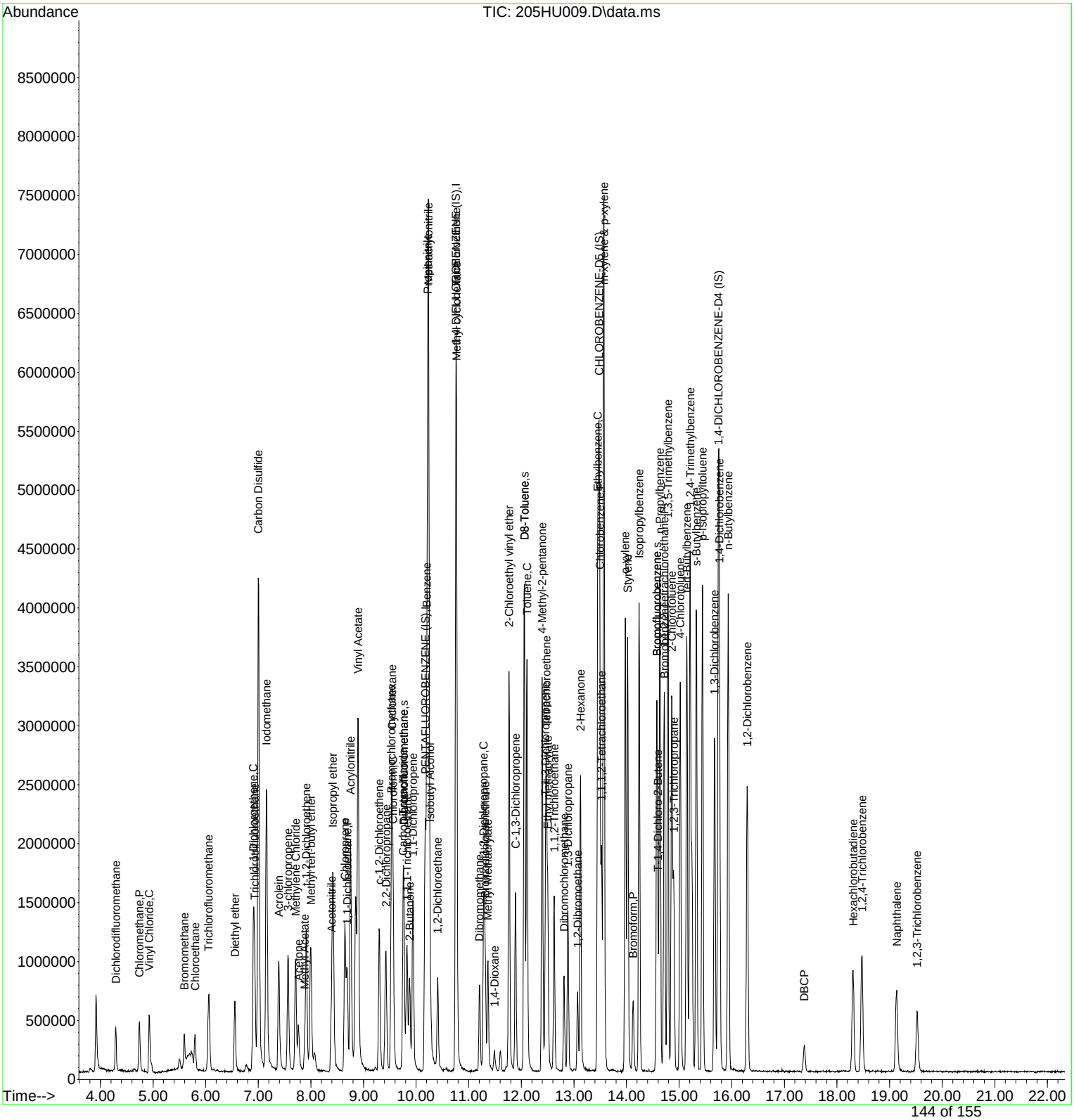
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
46) 1,2-Dichloropropane	11.284	63	645898	48.37	ug/L		96
47) Bromodichloromethane	11.314	83	693568	50.86	ug/L		96
48) Methyl Methacrylate	11.361	69	423470	63.38	ug/L		97
49) 1,4-Dioxane	11.490	88	148781	1351.03	ug/L		97
50) 2-Chloroethyl vinyl ether	11.766	63	1583960	249.29	ug/L	#	93
51) C-1,3-Dichloropropene	11.889	75	985624	53.68	ug/L		92
53) D8-Toluene	12.060	98	3021321	45.55	ug/L	#	94
54) 4-Methyl-2-pentanone	12.395	100	415983	313.11	ug/L		90
56) Toluene	12.107	92	1693539	57.20	ug/L		96
57) T-1,3-Dichloropropene	12.459	75	782521	56.71	ug/L	#	93
58) Tetrachloroethene	12.477	164	481878	48.46	ug/L		94
59) Ethyl methacrylate	12.501	69	783396	67.71	ug/L		97
60) 1,1,2-Trichloroethane	12.624	97	532296	55.89	ug/L		93
61) Dibromochloromethane	12.812	129	490367	66.08	ug/L		97
62) 1,3-Dichloropropane	12.888	76	923991	59.25	ug/L		90
63) 1,2-Dibromoethane	13.070	107	551618	67.02	ug/L	#	92
64) 2-Hexanone	13.123	43	1662843	298.02	ug/L	#	94
65) Ethylbenzene	13.452	106	1016775	64.99	ug/L		90
66) Chlorobenzene	13.493	112	1716315	60.34	ug/L		97
67) 1,1,1,2-Tetrachloroethane	13.523	131	548362	54.37	ug/L		97
68) m-xylene & p-xylene	13.570	106	2509061	122.81	ug/L		83
69) o-xylene	13.975	106	1238637	65.41	ug/L		91
70) Styrene	14.022	104	2222417	69.03	ug/L		90
71) Bromoform	14.122	173	294323	60.99	ug/L		93
72) Isopropylbenzene	14.240	105	3147220	60.84	ug/L		96
74) Bromofluorobenzene	14.575	95	1291000	52.10	ug/L		97
75) n-Propylbenzene	14.633	91	3918624	59.31	ug/L		95
76) 1,1,2,2-Tetrachloroethane	14.716	83	719935	58.82	ug/L		100
77) 1,2,3-Trichloropropane	14.898	61	199373m	57.91	ug/L		
78) T-1,4-Dichloro-2-Butene	14.598	53	207044	65.80	ug/L	#	97
80) Bromobenzene	14.722	156	727848	53.89	ug/L	#	79
81) 1,2,4-Trimethylbenzene	15.209	105	3032148	51.25	ug/L		94
82) 2-Chlorotoluene	14.857	91	2333490	50.84	ug/L		93
83) 4-Chlorotoluene	15.021	91	2442578	52.00	ug/L		93
84) tert-Butylbenzene	15.145	119	2353201	57.21	ug/L		94
85) 1,3,5-Trimethylbenzene	14.786	105	2899647	54.45	ug/L		96
86) p-Isopropyltoluene	15.444	119	3133245	56.28	ug/L		95
87) s-Butylbenzene	15.327	105	3545325	53.69	ug/L		97
88) 1,3-Dichlorobenzene	15.673	146	1514269	54.72	ug/L		90
89) 1,4-Dichlorobenzene	15.767	146	1552812	54.05	ug/L		88
90) n-Butylbenzene	15.932	91	2968454	52.32	ug/L		96
91) 1,2-Dichlorobenzene	16.296	146	1405529	56.84	ug/L		91
92) DBCP	17.377	157	101779	51.84	ug/L		84
93) Hexachlorobutadiene	18.306	225	261613	52.10	ug/L		91
94) 1,2,4-Trichlorobenzene	18.476	180	524318	55.82	ug/L		93
95) Naphthalene	19.134	128	1033683	49.65	ug/L		95
96) 1,2,3-Trichlorobenzene	19.522	180	294273	58.99	ug/L		94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU009.D
Acq On : 26 Aug 2020 1:16 pm
Operator : KKW
InstName : OVGCMS5
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 26 13:52:59 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed Aug 26 10:37:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU010.D
Acq On : 26 Aug 2020 1:48 pm
Operator : KKW
InstName : OVGCMS5
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 26 14:13:12 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed Aug 26 10:37:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	10.174	168	1487235	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.756	114	2600765	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.470	82	1385554	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.744	152	1432538	50.00	ug/L	#	0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.763	113	857896	58.63	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 117.26%				
52) D8-Toluene	12.054	98	3814684	59.98	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 119.96%				
73) Bromofluorobenzene	14.575	95	1592014	63.83	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 127.66%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.293	85	680550	38.07	ug/L		98
3) Chloromethane	4.745	50	941864	42.32	ug/L		97
4) Vinyl Chloride	4.927	62	1040334	53.56	ug/L		95
5) Bromomethane	5.591	94	273714	57.67	ug/L		94
6) Chloroethane	5.803	64	215870	19.36	ug/L		97
7) Trichlorofluoromethane	6.049	101	1331849	66.45	ug/L		98
8) Diethyl ether	6.555	59	746082	75.94	ug/L		90
9) 1,1-Dichloroethene	6.907	96	843688	80.02	ug/L		92
10) Trichlorotrifluoroethane	6.931	151	672947	83.66	ug/L		94
11) Acrolein	7.389	56	1794524	932.49	ug/L		99
12) Iodomethane	7.154	142	5741635	468.93	ug/L		94
13) Carbon Disulfide	7.001	76	12566061	391.58	ug/L		98
14) 3-chloropropene	7.565	41	1455919	79.57	ug/L		96
15) Acetone	7.765	43	917719	312.50	ug/L		95
16) Methylene Chloride	7.706	84	987989	73.88	ug/L		88
17) Methyl Acetate	7.882	43	706481	61.03	ug/L	#	92
18) t-1,2-Dichloroethene	7.912	96	1005673	80.52	ug/L		94
19) Methyl tert-butyl ether	7.994	73	2490768	83.68	ug/L		97
20) Acetonitrile	8.388	41	1665173	837.31	ug/L		97
21) Isopropyl ether	8.417	45	3075953	75.37	ug/L		93
22) Chloroprene	8.646	88	1022661	96.49	ug/L		88
23) 1,1-Dichloroethane	8.687	63	1804335	75.43	ug/L		98
24) Acrylonitrile	8.752	53	3140714	836.11	ug/L		99
25) Vinyl Acetate	8.893	43	8610273	385.97	ug/L	#	95
26) c-1,2-Dichloroethene	9.298	96	1194950	86.36	ug/L		89
27) 2,2-Dichloropropane	9.422	77	1400520	78.79	ug/L		96
28) Bromochloromethane	9.528	128	367215	59.86	ug/L		95
29) Cyclohexane	9.539	56	1816677	71.92	ug/L		93
30) Chloroform	9.563	83	1794864	80.62	ug/L		96
32) Dibromofluoromethane	9.763	113	857896	57.53	ug/L	#	91
33) 2-Butanone	9.874	72	591733	437.35	ug/L		88
34) 1,1,1-Trichloroethane	9.827	97	1480374	83.01	ug/L		97
35) 1,1-Dichloropropene	9.939	75	1441181	82.87	ug/L		94
36) Propionitrile	10.221	54	1255033	976.17	ug/L		87
37) Methacrylonitrile	10.233	41	5624125	812.84	ug/L		94
38) Isobutyl Alcohol	10.268	43	1530437	2001.66	ug/L		91
40) Carbon Tetrachloride	9.757	117	1183264m	92.66	ug/L		
41) Benzene	10.203	78	4264340	83.50	ug/L		98
42) 1,2-Dichloroethane	10.409	62	1114807	80.08	ug/L		99
43) Trichloroethene	10.762	130	1093889	98.11	ug/L	#	83
44) Methyl cyclohexane	10.767	83	1993299	69.49	ug/L		93
45) Dibromomethane	11.208	93	595902	100.32	ug/L		90

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU010.D
Acq On : 26 Aug 2020 1:48 pm
Operator : KKW
InstName : OVGCMS5
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 26 14:13:12 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed Aug 26 10:37:30 2020
Response via : Initial Calibration

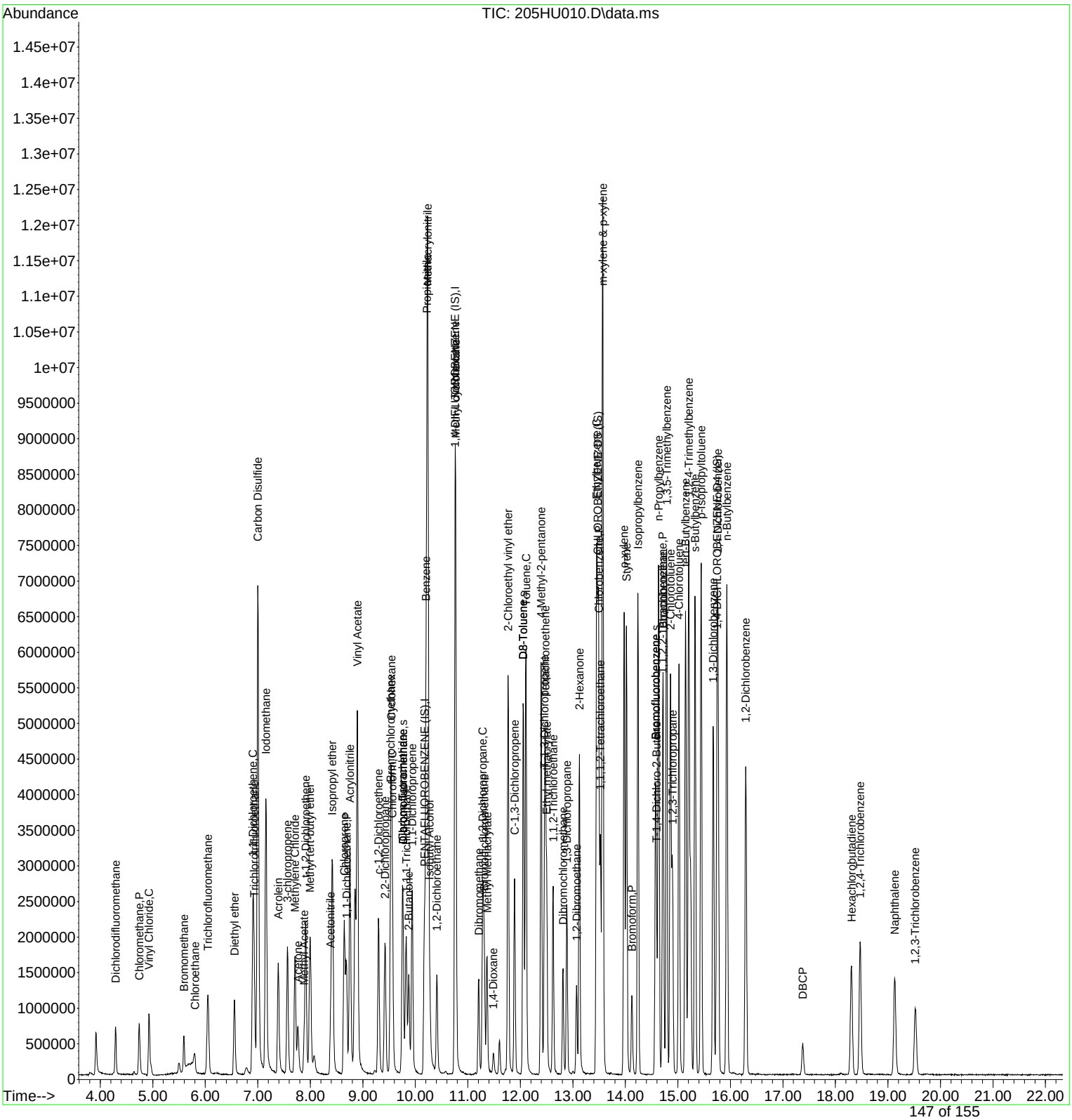
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
46) 1,2-Dichloropropane	11.284	63	1141204	87.53 ug/L	96
47) Bromodichloromethane	11.314	83	1266141	95.09 ug/L	94
48) Methyl Methacrylate	11.367	69	737732	113.08 ug/L	95
49) 1,4-Dioxane	11.484	88	274015	2548.22 ug/L	94
50) 2-Chloroethyl vinyl ether	11.766	63	2717762	438.04 ug/L #	93
51) C-1,3-Dichloropropene	11.890	75	1754446	97.85 ug/L	92
53) D8-Toluene	12.054	98	3814684	58.90 ug/L	94
54) 4-Methyl-2-pentanone	12.395	100	723421	557.64 ug/L	91
56) Toluene	12.107	92	2972130	100.32 ug/L	95
57) T-1,3-Dichloropropene	12.460	75	1383030	100.16 ug/L #	93
58) Tetrachloroethene	12.477	164	910848	91.54 ug/L	95
59) Ethyl methacrylate	12.501	69	1356415	117.16 ug/L	97
60) 1,1,2-Trichloroethane	12.624	97	953638	100.07 ug/L	93
61) Dibromochloromethane	12.812	129	880142	118.53 ug/L	96
62) 1,3-Dichloropropane	12.888	76	1616617	103.60 ug/L	91
63) 1,2-Dibromoethane	13.071	107	962696	116.88 ug/L #	95
64) 2-Hexanone	13.123	43	2906842	520.64 ug/L #	94
65) Ethylbenzene	13.453	106	1780281	113.72 ug/L	85
66) Chlorobenzene	13.494	112	2974227	104.50 ug/L	97
67) 1,1,1,2-Tetrachloroethane	13.523	131	954462	94.58 ug/L	96
68) m-xylene & p-xylene	13.570	106	4180404	204.48 ug/L	83
69) o-xylene	13.975	106	2113156	111.52 ug/L	91
70) Styrene	14.022	104	3790204	117.65 ug/L	91
71) Bromoform	14.122	173	558923	115.75 ug/L	92
72) Isopropylbenzene	14.240	105	5365410	103.65 ug/L	96
74) Bromofluorobenzene	14.575	95	1592014	64.21 ug/L	99
75) n-Propylbenzene	14.634	91	6698517	101.31 ug/L	95
76) 1,1,2,2-Tetrachloroethane	14.710	83	1231688	100.57 ug/L	99
77) 1,2,3-Trichloropropane	14.898	61	345938m	100.42 ug/L	
78) T-1,4-Dichloro-2-Butene	14.592	53	370724	117.75 ug/L #	87
80) Bromobenzene	14.716	156	1277178	93.78 ug/L	80
81) 1,2,4-Trimethylbenzene	15.203	105	5193093	87.05 ug/L	93
82) 2-Chlorotoluene	14.857	91	4026686	87.01 ug/L	94
83) 4-Chlorotoluene	15.021	91	4271264	90.18 ug/L	93
84) tert-Butylbenzene	15.145	119	4092392	98.67 ug/L	94
85) 1,3,5-Trimethylbenzene	14.786	105	4987231	92.89 ug/L	95
86) p-Isopropyltoluene	15.444	119	5431148	96.75 ug/L	95
87) s-Butylbenzene	15.327	105	6144552	92.29 ug/L	96
88) 1,3-Dichlorobenzene	15.673	146	2640305	94.63 ug/L	91
89) 1,4-Dichlorobenzene	15.762	146	2656935	91.72 ug/L #	85
90) n-Butylbenzene	15.932	91	5151186	90.04 ug/L	96
91) 1,2-Dichlorobenzene	16.290	146	2426697	97.33 ug/L	92
92) DBCP	17.377	157	179619	90.73 ug/L	98
93) Hexachlorobutadiene	18.306	225	490030	96.78 ug/L	91
94) 1,2,4-Trichlorobenzene	18.470	180	950130	100.32 ug/L	93
95) Naphthalene	19.128	128	1991035	94.85 ug/L	96
96) 1,2,3-Trichlorobenzene	19.516	180	547595	108.87 ug/L	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU010.D
Acq On : 26 Aug 2020 1:48 pm
Operator : KKW
InstName : OVGCMS5
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 26 14:13:12 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed Aug 26 10:37:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU011.D
Acq On : 26 Aug 2020 2:19 pm
Operator : KKW
InstName : OVGCMS5
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 26 14:43:08 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed Aug 26 10:37:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	10.174	168	1447071	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.756	114	2561611	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.476	82	1380360	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.744	152	1403220	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.769	113	952436	66.89	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 133.78%#				
52) D8-Toluene	12.054	98	4115925	65.70	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 131.40%#				
73) Bromofluorobenzene	14.575	95	1788942	72.00	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 144.00%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.293	85	829961	47.71	ug/L		98
3) Chloromethane	4.739	50	1189789	54.94	ug/L		99
4) Vinyl Chloride	4.933	62	1273032	67.36	ug/L		98
5) Bromomethane	5.591	94	367721	79.62	ug/L		96
6) Chloroethane	5.791	64	119704	11.03	ug/L		92
7) Trichlorofluoromethane	6.043	101	1602106	82.15	ug/L		99
8) Diethyl ether	6.555	59	896497	93.78	ug/L		92
9) 1,1-Dichloroethene	6.901	96	1050762	102.43	ug/L		88
10) Trichlorotrifluoroethane	6.925	151	810402	103.54	ug/L		92
11) Acrolein	7.389	56	2186077	1167.48	ug/L		99
12) Iodomethane	7.154	142	7004897	587.98	ug/L		94
13) Carbon Disulfide	6.995	76	15137156	484.79	ug/L		99
14) 3-chloropropene	7.565	41	1799085	101.06	ug/L		97
15) Acetone	7.765	43	1179946	412.95	ug/L		97
16) Methylene Chloride	7.706	84	1158219	89.01	ug/L		91
17) Methyl Acetate	7.883	43	852633	75.70	ug/L	#	92
18) t-1,2-Dichloroethene	7.912	96	1222940	100.63	ug/L		94
19) Methyl tert-butyl ether	7.994	73	2911122	100.52	ug/L		99
20) Acetonitrile	8.394	41	2052734	1060.84	ug/L		97
21) Isopropyl ether	8.417	45	3653885	92.01	ug/L		94
22) Chloroprene	8.646	88	1242982	120.53	ug/L		89
23) 1,1-Dichloroethane	8.687	63	2139246	91.92	ug/L		98
24) Acrylonitrile	8.752	53	3913877	1070.86	ug/L		99
25) Vinyl Acetate	8.893	43	10253082	472.37	ug/L	#	94
26) c-1,2-Dichloroethene	9.299	96	1411436	104.84	ug/L		90
27) 2,2-Dichloropropane	9.422	77	1642857	94.99	ug/L		96
28) Bromochloromethane	9.528	128	416761	69.82	ug/L		94
29) Cyclohexane	9.539	56	2164510	88.06	ug/L		93
30) Chloroform	9.563	83	2162747	99.84	ug/L		97
32) Dibromofluoromethane	9.769	113	952436	65.65	ug/L	#	93
33) 2-Butanone	9.880	72	755210	573.67	ug/L		85
34) 1,1,1-Trichloroethane	9.827	97	1754438	101.11	ug/L		98
35) 1,1-Dichloropropene	9.939	75	1766515	104.39	ug/L		93
36) Propionitrile	10.227	54	1545202	1235.23	ug/L	#	85
37) Methacrylonitrile	10.239	41	6782338	1007.44	ug/L		93
38) Isobutyl Alcohol	10.274	43	1872658	2517.23	ug/L		90
40) Carbon Tetrachloride	9.757	117	1417644m	112.71	ug/L		
41) Benzene	10.203	78	5047792	100.35	ug/L		98
42) 1,2-Dichloroethane	10.409	62	1305690	95.22	ug/L		100
43) Trichloroethene	10.762	130	1295559	117.97	ug/L	#	84
44) Methyl cyclohexane	10.767	83	2339966	82.82	ug/L		94
45) Dibromomethane	11.208	93	714495	122.13	ug/L		89

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU011.D
Acq On : 26 Aug 2020 2:19 pm
Operator : KKW
InstName : OVGCMS5
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 26 14:43:08 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed Aug 26 10:37:30 2020
Response via : Initial Calibration

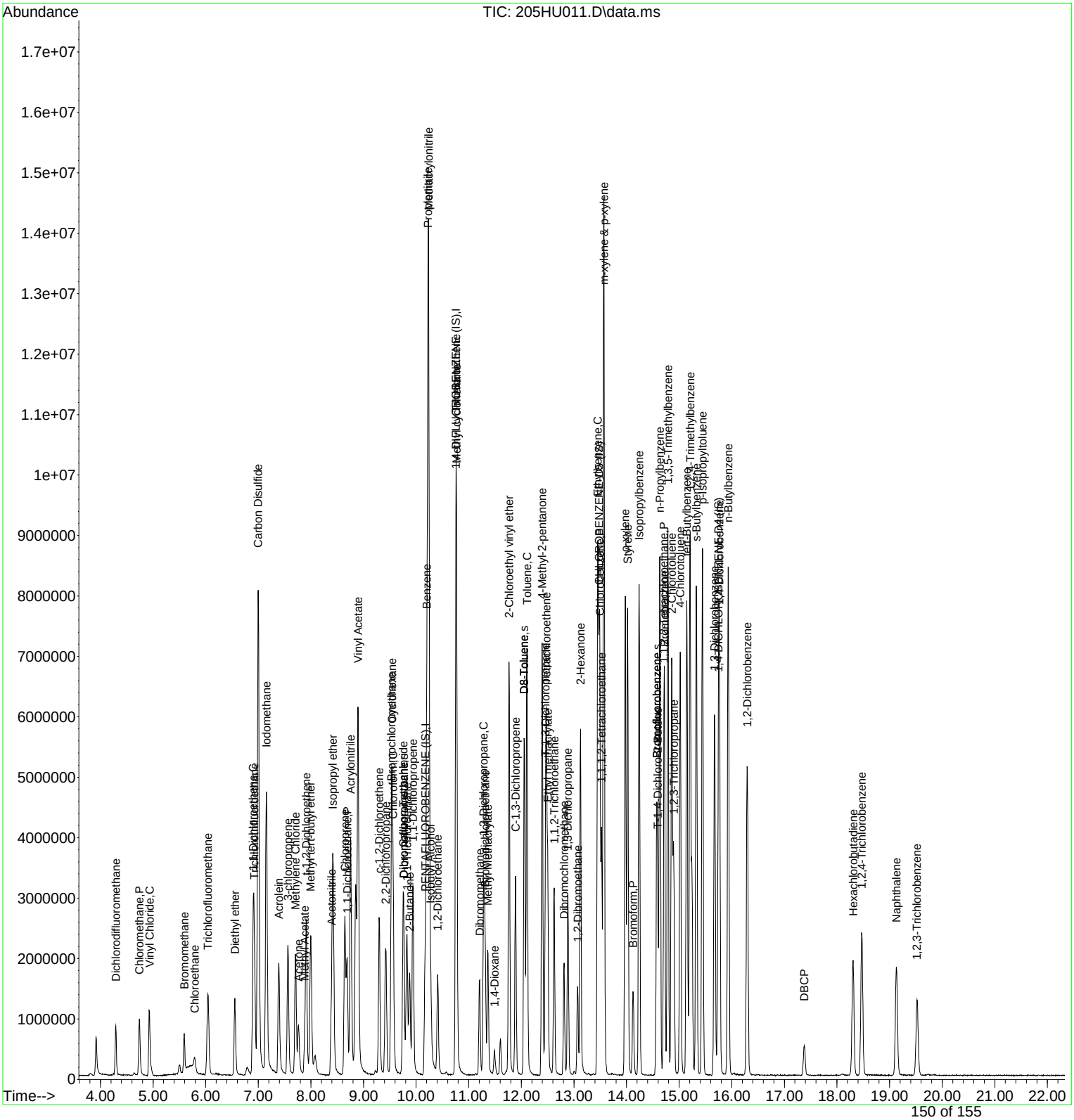
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
46) 1,2-Dichloropropane	11.284	63	1361575	106.03 ug/L	98
47) Bromodichloromethane	11.314	83	1520086	115.90 ug/L	94
48) Methyl Methacrylate	11.361	69	917142	142.72 ug/L	94
49) 1,4-Dioxane	11.490	88	356676	3367.64 ug/L	96
50) 2-Chloroethyl vinyl ether	11.766	63	3290837	538.52 ug/L #	93
51) C-1,3-Dichloropropene	11.890	75	2070388	117.24 ug/L	92
53) D8-Toluene	12.054	98	4115925	64.52 ug/L	94
54) 4-Methyl-2-pentanone	12.395	100	932305	729.64 ug/L	85
56) Toluene	12.107	92	3485828	118.11 ug/L	95
57) T-1,3-Dichloropropene	12.460	75	1658180	120.54 ug/L	93
58) Tetrachloroethene	12.477	164	1158341	116.85 ug/L	93
59) Ethyl methacrylate	12.501	69	1691606	146.66 ug/L	97
60) 1,1,2-Trichloroethane	12.624	97	1115005	117.45 ug/L	95
61) Dibromochloromethane	12.812	129	1098538	148.50 ug/L	98
62) 1,3-Dichloropropane	12.883	76	1968524	126.63 ug/L	90
63) 1,2-Dibromoethane	13.071	107	1158266	141.16 ug/L #	95
64) 2-Hexanone	13.124	43	3734267	671.35 ug/L #	95
65) Ethylbenzene	13.453	106	2181871	139.90 ug/L	84
66) Chlorobenzene	13.494	112	3527822	124.42 ug/L	99
67) 1,1,1,2-Tetrachloroethane	13.523	131	1176187	116.99 ug/L	95
68) m-xylene & p-xylene	13.570	106	4975479	244.28 ug/L	82
69) o-xylene	13.975	106	2567591	136.01 ug/L	90
70) Styrene	14.022	104	4578275	142.65 ug/L	91
71) Bromoform	14.122	173	700212	145.56 ug/L	92
72) Isopropylbenzene	14.240	105	6448210	125.04 ug/L	95
74) Bromofluorobenzene	14.575	95	1788942	72.42 ug/L	98
75) n-Propylbenzene	14.634	91	8164642	123.95 ug/L	95
76) 1,1,2,2-Tetrachloroethane	14.710	83	1494224	122.46 ug/L	97
77) 1,2,3-Trichloropropane	14.898	61	418885	122.05 ug/L #	82
78) T-1,4-Dichloro-2-Butene	14.592	53	470397	149.97 ug/L #	86
80) Bromobenzene	14.722	156	1557961	116.79 ug/L #	78
81) 1,2,4-Trimethylbenzene	15.209	105	6267919	107.26 ug/L	93
82) 2-Chlorotoluene	14.857	91	4889480	107.86 ug/L	93
83) 4-Chlorotoluene	15.021	91	5170787	111.46 ug/L	93
84) tert-Butylbenzene	15.145	119	4950825	121.86 ug/L	94
85) 1,3,5-Trimethylbenzene	14.786	105	6043761	114.92 ug/L	94
86) p-Isopropyltoluene	15.444	119	6482974	117.90 ug/L	96
87) s-Butylbenzene	15.327	105	7373426	113.06 ug/L	97
88) 1,3-Dichlorobenzene	15.674	146	3227203	118.09 ug/L	90
89) 1,4-Dichlorobenzene	15.768	146	3270661	115.27 ug/L #	84
90) n-Butylbenzene	15.932	91	6184802	110.37 ug/L	95
91) 1,2-Dichlorobenzene	16.296	146	2934521	120.16 ug/L	92
92) DBCP	17.377	157	225015	116.04 ug/L	90
93) Hexachlorobutadiene	18.306	225	580408	117.02 ug/L	92
94) 1,2,4-Trichlorobenzene	18.470	180	1200744	129.42 ug/L	92
95) Naphthalene	19.128	128	2585047	125.73 ug/L	97
96) 1,2,3-Trichlorobenzene	19.516	180	709909	144.09 ug/L	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU011.D
Acq On : 26 Aug 2020 2:19 pm
Operator : KKW
InstName : OVGCMS5
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 26 14:43:08 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed Aug 26 10:37:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU014.D
Acq On : 26 Aug 2020 3:55 pm
Operator : KKW
InstName : OVGCMS5
Sample : AA62152-SCV1
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Aug 27 09:53:52 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2008123
QLast Update : Thu Aug 27 09:53:42 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	10.174	168	1479172	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.756	114	2668771	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.476	82	1342071	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.744	152	1359353	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.768	113	701404	54.33	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 108.66%				
52) D8-Toluene	12.054	98	3072975	53.87	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 107.74%				
73) Bromofluorobenzene	14.575	95	1254076	52.34	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 104.68%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.292	85	265204	31.72	ug/L		96
3) Chloromethane	4.739	50	283022	24.07	ug/L		98
4) Vinyl Chloride	4.933	62	268365	22.33	ug/L		97
5) Bromomethane	5.591	94	83105	28.16	ug/L		99
6) Chloroethane	5.802	64	154452	23.56	ug/L		94
7) Trichlorofluoromethane	6.061	101	335438	20.46	ug/L	#	97
8) Diethyl ether	6.555	59	465004	53.19	ug/L		95
9) 1,1-Dichloroethene	6.907	96	547512	54.20	ug/L		97
10) Trichlorotrifluoroethane	6.936	151	404534	51.49	ug/L		100
11) Acrolein	7.395	56	592554	275.36	ug/L		97
12) Iodomethane	7.160	142	643083	47.44	ug/L		99
13) Carbon Disulfide	7.007	76	1484894	46.67	ug/L		99
14) 3-chloropropene	7.565	41	804892	44.37	ug/L		99
15) Acetone	7.765	43	683738	295.73	ug/L		99
16) Methylene Chloride	7.712	84	601920	50.64	ug/L		98
17) Methyl Acetate	7.882	43	376888	48.78	ug/L		100
18) t-1,2-Dichloroethene	7.912	96	627567	50.85	ug/L		100
19) Methyl tert-butyl ether	7.994	73	1529374	53.30	ug/L		98
20) Acetonitrile	8.411	41	613461	340.09	ug/L	#	91
21) Isopropyl ether	8.423	45	1908292	52.96	ug/L		99
22) Chloroprene	8.652	88	613921	50.57	ug/L		99
23) 1,1-Dichloroethane	8.687	63	1080616	50.40	ug/L		99
24) Acrylonitrile	8.764	53	219661	59.60	ug/L		97
25) Vinyl Acetate	8.899	43	1021063	51.32	ug/L		99
26) c-1,2-Dichloroethene	9.298	96	710701	51.33	ug/L		99
27) 2,2-Dichloropropane	9.422	77	809248	50.19	ug/L		97
28) Bromochloromethane	9.533	128	285933	60.13	ug/L		97
29) Cyclohexane	9.545	56	1251603	58.91	ug/L		94
30) Chloroform	9.563	83	1058437	49.44	ug/L		100
32) Dibromofluoromethane	9.768	113	701404	54.33	ug/L	#	91
33) 2-Butanone	9.880	72	391496	282.28	ug/L		89
34) 1,1,1-Trichloroethane	9.827	97	888381	51.86	ug/L		98
35) 1,1-Dichloropropene	9.939	75	870756	52.00	ug/L		100
36) Propionitrile	10.227	54	94690	62.87	ug/L	#	1
37) Methacrylonitrile	10.239	41	523745	75.68	ug/L	#	78
38) Isobutyl Alcohol	10.227	43	507762	609.34	ug/L	#	76
40) Carbon Tetrachloride	9.757	117	676109m	49.54	ug/L		
41) Benzene	10.203	78	2667665	51.40	ug/L		100
42) 1,2-Dichloroethane	10.409	62	652505	49.47	ug/L		99
43) Trichloroethene	10.761	130	645128	49.91	ug/L		99
44) Methyl cyclohexane	10.767	83	1334044	54.22	ug/L		100
45) Dibromomethane	11.202	93	358336	51.06	ug/L		99

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU014.D
Acq On : 26 Aug 2020 3:55 pm
Operator : KKW
InstName : OVGCMS5
Sample : AA62152-SCV1
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Aug 27 09:53:52 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2008123
QLast Update : Thu Aug 27 09:53:42 2020
Response via : Initial Calibration

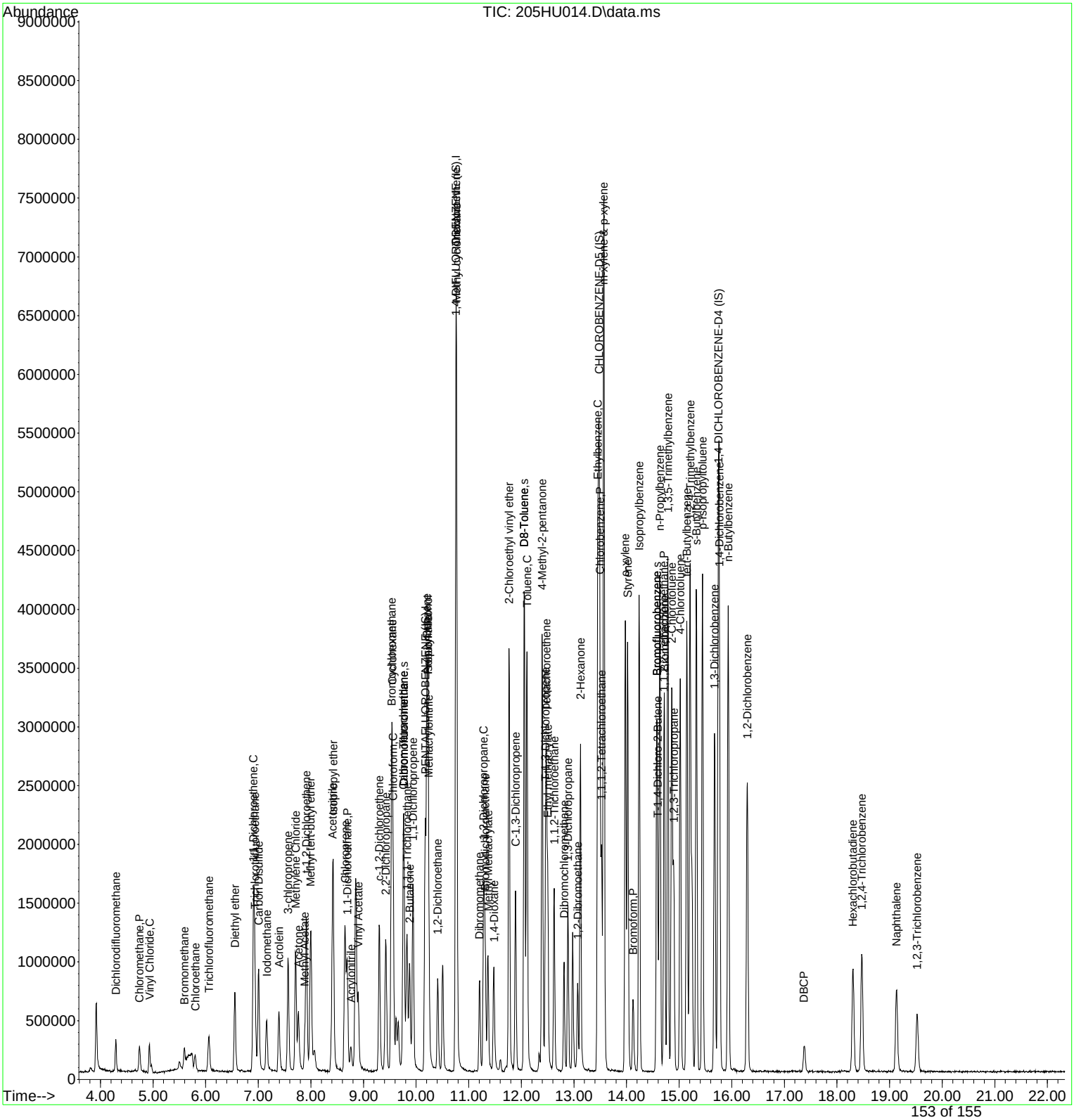
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
46) 1,2-Dichloropropane	11.284	63	675911	49.57	ug/L		98
47) Bromodichloromethane	11.314	83	735229	52.03	ug/L		98
48) Methyl Methacrylate	11.367	69	453974	51.99	ug/L		98
49) 1,4-Dioxane	11.484	88	163519	1053.33	ug/L		100
50) 2-Chloroethyl vinyl ether	11.766	63	1748422	280.13	ug/L	#	99
51) C-1,3-Dichloropropene	11.890	75	1000207	52.18	ug/L		99
53) D8-Toluene	12.054	98	3072975	53.87	ug/L	#	95
54) 4-Methyl-2-pentanone	12.395	100	467819	261.66	ug/L		97
56) Toluene	12.107	92	1736134	50.13	ug/L		100
57) T-1,3-Dichloropropene	12.460	75	842622	56.48	ug/L		99
58) Tetrachloroethene	12.477	164	497565	46.84	ug/L		96
59) Ethyl methacrylate	12.501	69	818184	51.96	ug/L		98
60) 1,1,2-Trichloroethane	12.624	97	563492	51.42	ug/L		96
61) Dibromochloromethane	12.812	129	543369	51.94	ug/L		98
62) 1,3-Dichloropropane	12.888	76	936306	51.14	ug/L		99
63) 1,2-Dibromoethane	13.071	107	569110	52.60	ug/L		98
64) 2-Hexanone	13.123	43	1793701	269.09	ug/L		99
65) Ethylbenzene	13.452	106	1020644	50.10	ug/L		99
66) Chlorobenzene	13.494	112	1750793	51.17	ug/L		99
67) 1,1,1,2-Tetrachloroethane	13.523	131	545917	52.20	ug/L		95
68) m-xylene & p-xylene	13.564	106	2528484	99.98	ug/L		99
69) o-xylene	13.975	106	1270125	51.66	ug/L		97
70) Styrene	14.022	104	2221669	51.56	ug/L		100
71) Bromoform	14.122	173	306062	52.02	ug/L		99
72) Isopropylbenzene	14.240	105	3252034	51.66	ug/L		100
74) Bromofluorobenzene	14.575	95	1254076	52.34	ug/L		97
75) n-Propylbenzene	14.633	91	4012683	51.61	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.710	83	737653	51.33	ug/L		98
77) 1,2,3-Trichloropropane	14.898	61	202255	51.68	ug/L		93
78) T-1,4-Dichloro-2-Butene	14.592	53	205576	50.56	ug/L		99
80) Bromobenzene	14.722	156	731434	51.44	ug/L		99
81) 1,2,4-Trimethylbenzene	15.209	105	3012728	52.04	ug/L		99
82) 2-Chlorotoluene	14.857	91	2392963	53.52	ug/L		99
83) 4-Chlorotoluene	15.021	91	2497501	53.99	ug/L		99
84) tert-Butylbenzene	15.145	119	2443569	54.78	ug/L		99
85) 1,3,5-Trimethylbenzene	14.786	105	2931875	52.67	ug/L		99
86) p-Isopropyltoluene	15.444	119	3132563	51.70	ug/L		99
87) s-Butylbenzene	15.327	105	3701800	54.25	ug/L		100
88) 1,3-Dichlorobenzene	15.673	146	1566773	53.38	ug/L		100
89) 1,4-Dichlorobenzene	15.767	146	1543449	51.02	ug/L		98
90) n-Butylbenzene	15.932	91	2933619	51.22	ug/L		99
91) 1,2-Dichlorobenzene	16.296	146	1447995	54.09	ug/L		100
92) DBCP	17.371	157	102181	52.44	ug/L		97
93) Hexachlorobutadiene	18.300	225	263553	51.36	ug/L		98
94) 1,2,4-Trichlorobenzene	18.470	180	524240	54.29	ug/L		97
95) Naphthalene	19.128	128	1011406	49.81	ug/L		98
96) 1,2,3-Trichlorobenzene	19.522	180	267927	47.14	ug/L		95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\082620\
Data File : 205HU014.D
Acq On : 26 Aug 2020 3:55 pm
Operator : KKW
InstName : OVGCMS5
Sample : AA62152-SCV1
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Aug 27 09:53:52 2020
Quant Method : C:\msdchem\1\methods\082620W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2008123
QLast Update : Thu Aug 27 09:53:42 2020
Response via : Initial Calibration



TETRA TECH ISG
TtNUS, Information Systems Group

Completion Ticket

On 11/20/2020 at 2:41 PM the following files were submitted to Tetra Tech by kdylnicki@encolabs.com with ENCO:

TE016AD07290A1.txt, TE016AD07290A3.txt

If you need to identify this session at a later date refer to Ticket Key:

20201120_6005182713_ledd_ENCO

You may print this page by clicking on the "Print This Page" button

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I Lori S. Mangrum, as the designated Quality Assurance Officer, hereby attest that all electronic deliverables have been thoroughly reviewed and are in agreement with the associated hardcopy data. The enclosed electronic files have been reviewed for accuracy (including significant figures), completeness and format. The laboratory will be responsible for any labor time necessary to correct enclosed electronic deliverables that have been found to be in error. I can be reached at (407) 826-5314 if there are any questions or problems with the enclosed electronic deliverables.

Signature:_____ Title: Quality Assurance Manager Date: November 23, 2020

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ENCO Laboratories

Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Wednesday, November 4, 2020
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AD07290

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Wednesday, October 28, 2020.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

www.encolabs.com

Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Client PM: Alex Murphy
Project Number: 112G08970
ENCO Project ID: AD07290
SDG: AD07290-TE016

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling and processing will be discussed in the Remarks section below.

Remarks

List of instruments used:

Analytical and Preparation Method	SOP Reference Instrument
EPA 8260D / 5030B_MS	OVGCMS5

Analysis: EPA 8260D

Manual integrations were performed on samples associated with EPA 8260D. All data & explanations are included in the raw data section of the report.

The data package for 8260D includes pages for a "Low-Concentration Calibration Verification" standard. This standard identified as "LCV" is the closing CCV required by QSM 5.3 which falls under different validation criteria than the opening CCV.

Affected Samples: AA63365-CCV1, CRCA-ASEFFLUENT-20201027[AD07290-01], CRCA-ASINFLUENT-20201027[AD07290-02]
The associated continuing calibration verification standard for multiple analytes exhibited high bias. Analyte(s) not detected in the sample.

Affected Samples: 0K03050-BS1, CRCA-ASEFFLUENT-20201027[AD07290-01], CRCA-ASINFLUENT-20201027[AD07290-02]
The laboratory control sample exhibited low bias for methyl acetate; the associated sample had ND (non-detect) results, but sensitivity was verified by analyzing a standard with a concentration equivalent to the reporting limit.

Affected Samples: CRCA-ASINFLUENT-20201027[AD07290-02], 0K03050-MSD1
Matrix spike recovery was outside acceptance limits for methyl acetate.

Affected Samples: AA63365-CCV1
The continuing calibration verification standard exhibited low bias for multiple analytes; the associated sample had ND (non-detect) results, but sensitivity was verified by analyzing a standard with a concentration equivalent to the reporting limit.

Affected Samples: AA62152-SCV1
SCV recovery was outside acceptance limits for bromomethane and dichlorodifluoromethane. Analyte(s) not detected in the sample.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Kaitlin Dylnicki
Project Manager

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-ASEFFLUENT-20201027 **Lab ID: AD07290-01** **Sampled: 10/27/20 14:45** **Received: 10/28/20 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	11/10/20	11/03/20 13:49	11/03/20 22:42

Client ID: CRCA-ASINFLUENT-20201027 **Lab ID: AD07290-02** **Sampled: 10/27/20 14:50** **Received: 10/28/20 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	11/10/20	11/03/20 13:49	11/03/20 22:11

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-ASINFLUENT-20201027 **Lab ID:** AD07290-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
trans-1,2-Dichloroethene	1.0	I	0.73	2.5	ug/L	EPA 8260D	
Vinyl chloride	20		0.71	2.5	ug/L	EPA 8260D	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20201027 **Lab Sample ID:** AD07290-01 **Received:** 10/28/20 15:00

Matrix: Ground Water **Sampled:** 10/27/20 14:45 **Work Order:** AD07290

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	QV-01
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	0K03050	EPA 8260D	11/03/20 22:42	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	0K03050	EPA 8260D	11/03/20 22:42	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	QV-01
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20201027 **Lab Sample ID:** AD07290-01 **Received:** 10/28/20 15:00

Matrix: Ground Water **Sampled:** 10/27/20 14:45 **Work Order:** AD07290

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	QV-01
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	0K03050	EPA 8260D	11/03/20 22:42	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	0K03050	EPA 8260D	11/03/20 22:42	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*57*	*1*	*50.0*	*114 %*	*41-142*	*0K03050*	*EPA 8260D*	*11/03/20 22:42*	*KKW*	
Dibromofluoromethane	*53*	*1*	*50.0*	*105 %*	*53-146*	*0K03050*	*EPA 8260D*	*11/03/20 22:42*	*KKW*	
Toluene-d8	*53*	*1*	*50.0*	*106 %*	*41-146*	*0K03050*	*EPA 8260D*	*11/03/20 22:42*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20201027 **Lab Sample ID:** AD07290-02 **Received:** 10/28/20 15:00

Matrix: Ground Water **Sampled:** 10/27/20 14:50 **Work Order:** AD07290

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	QV-01
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	0K03050	EPA 8260D	11/03/20 22:11	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	0K03050	EPA 8260D	11/03/20 22:11	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	QV-01
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	A-07, QM-19
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
trans-1,2-Dichloroethene [156-60-5]^	**1.0**	I	ug/L	1	0.73	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	

ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20201027 **Lab Sample ID:** AD07290-02 **Received:** 10/28/20 15:00

Matrix: Ground Water **Sampled:** 10/27/20 14:50 **Work Order:** AD07290

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	QV-01
Vinyl chloride [75-01-4]^	**20**		ug/L	1	0.71	2.5	0K03050	EPA 8260D	11/03/20 22:11	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	0K03050	EPA 8260D	11/03/20 22:11	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*55*	*1*	*50.0*	*111 %*	*41-142*	*0K03050*	*EPA 8260D*	*11/03/20 22:11*	*KKW*	
Dibromofluoromethane	*54*	*1*	*50.0*	*108 %*	*53-146*	*0K03050*	*EPA 8260D*	*11/03/20 22:11*	*KKW*	
Toluene-d8	*52*	*1*	*50.0*	*104 %*	*41-146*	*0K03050*	*EPA 8260D*	*11/03/20 22:11*	*KKW*	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0K03050 - EPA 5030B_MS

Blank (0K03050-BLK1) Prepared: 11/03/2020 13:49 Analyzed: 11/03/2020 21:09

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0K03050 - EPA 5030B_MS - Continued

Blank (0K03050-BLK1) Continued Prepared: 11/03/2020 13:49 Analyzed: 11/03/2020 21:09

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*55*			*ug/L*	*50.0*		*109*	*41-142*			
Dibromofluoromethane	*54*			*ug/L*	*50.0*		*107*	*53-146*			
Toluene-d8	*52*			*ug/L*	*50.0*		*104*	*41-146*			

LCS (0K03050-BS1) Prepared: 11/03/2020 13:49 Analyzed: 11/03/2020 19:06

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	24		2.5	ug/L	20.0		119	57-148			
1,1,2,2-Tetrachloroethane	17		2.5	ug/L	20.0		84	60-139			
1,1,2-Trichloroethane	18		2.5	ug/L	20.0		88	57-141			
1,1-Dichloroethane	19		2.5	ug/L	20.0		93	57-142			
1,1-Dichloroethene	18		2.5	ug/L	20.0		92	47-139			
1,2,4-Trichlorobenzene	26		2.5	ug/L	20.0		130	52-159			
1,2-Dibromo-3-chloropropane	21		2.5	ug/L	20.0		104	48-150			
1,2-Dibromoethane	17		2.5	ug/L	20.0		86	57-140			
1,2-Dichlorobenzene	19		2.5	ug/L	20.0		93	63-131			
1,2-Dichloroethane	24		2.5	ug/L	20.0		121	50-156			
1,2-Dichloropropane	16		2.5	ug/L	20.0		80	61-133			
1,3-Dichlorobenzene	19		2.5	ug/L	20.0		94	66-129			
1,4-Dichlorobenzene	18		2.5	ug/L	20.0		92	65-133			
2-Butanone	92		12	ug/L	100		92	10-180			
2-Hexanone	59		12	ug/L	100		59	12-180			
4-Methyl-2-pentanone	76		12	ug/L	100		76	19-180			
Acetone	79		25	ug/L	100		79	10-180			
Benzene	20		2.5	ug/L	20.0		99	56-136			
Bromodichloromethane	21		2.5	ug/L	20.0		107	58-135			
Bromoform	18		2.5	ug/L	20.0		90	46-148			
Bromomethane	19		2.5	ug/L	20.0		93	10-173			
Carbon disulfide	20		12	ug/L	20.0		98	43-153			
Carbon Tetrachloride	24		2.5	ug/L	20.0		120	54-156			
Chlorobenzene	19		2.5	ug/L	20.0		96	51-139			
Chloroethane	21		2.5	ug/L	20.0		107	27-180			
Chloroform	21		2.5	ug/L	20.0		105	58-139			
Chloromethane	15		2.5	ug/L	20.0		76	33-154			
cis-1,2-Dichloroethene	21		2.5	ug/L	20.0		103	56-128			
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0		87	64-128			
Cyclohexane	17		2.5	ug/L	20.0		85	70-130			
Dibromochloromethane	18		2.5	ug/L	20.0		89	50-140			
Dichlorodifluoromethane	31		2.5	ug/L	20.0		157	10-180			
Ethylbenzene	17		2.5	ug/L	20.0		83	63-133			
Freon 113	20		2.5	ug/L	20.0		99	47-173			
Isopropylbenzene	19		2.5	ug/L	20.0		96	60-132			
m,p-Xylenes	36		5.0	ug/L	40.0		90	64-133			
Methyl acetate	13		2.5	ug/L	20.0		65	70-130			A-07
Methyl cyclohexane	19		2.5	ug/L	20.0		97	70-130			
Methylene Chloride	19		12	ug/L	20.0		97	43-142			
Methyl-tert-Butyl Ether	19		2.5	ug/L	20.0		94	51-145			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0K03050 - EPA 5030B_MS - Continued

LCS (0K03050-BS1) Continued Prepared: 11/03/2020 13:49 Analyzed: 11/03/2020 19:06

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
o-Xylene	18		2.5	ug/L	20.0		88	61-129			
Styrene	17		2.5	ug/L	20.0		85	59-136			
Tetrachloroethene	18		2.5	ug/L	20.0		90	60-147			
Toluene	17		2.5	ug/L	20.0		86	64-131			
trans-1,2-Dichloroethene	19		2.5	ug/L	20.0		93	54-134			
trans-1,3-Dichloropropene	20		2.5	ug/L	20.0		98	65-149			
Trichloroethene	21		2.5	ug/L	20.0		103	62-135			
Trichlorofluoromethane	24		2.5	ug/L	20.0		118	56-155			
Vinyl chloride	20		2.5	ug/L	20.0		99	20-167			
4-Bromofluorobenzene	*53*			*ug/L*	*50.0*		*107*	*41-142*			
Dibromofluoromethane	*54*			*ug/L*	*50.0*		*108*	*53-146*			
Toluene-d8	*52*			*ug/L*	*50.0*		*104*	*41-146*			

Matrix Spike (0K03050-MS1) Prepared: 11/03/2020 13:49 Analyzed: 11/03/2020 19:36

Source: AD07290-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	25		2.5	ug/L	20.0	0.80 U	126	57-148			
1,1,2,2-Tetrachloroethane	18		2.5	ug/L	20.0	0.54 U	91	60-139			
1,1,2-Trichloroethane	19		2.5	ug/L	20.0	0.76 U	93	57-141			
1,1-Dichloroethane	20		2.5	ug/L	20.0	0.62 U	100	57-142			
1,1-Dichloroethene	23		2.5	ug/L	20.0	0.94 U	117	47-139			
1,2,4-Trichlorobenzene	27		2.5	ug/L	20.0	0.70 U	134	52-159			
1,2-Dibromo-3-chloropropane	20		2.5	ug/L	20.0	0.96 U	102	48-150			
1,2-Dibromoethane	19		2.5	ug/L	20.0	0.78 U	93	57-140			
1,2-Dichlorobenzene	21		2.5	ug/L	20.0	0.73 U	106	63-131			
1,2-Dichloroethane	27		2.5	ug/L	20.0	0.63 U	135	50-156			
1,2-Dichloropropane	18		2.5	ug/L	20.0	0.80 U	89	61-133			
1,3-Dichlorobenzene	22		2.5	ug/L	20.0	0.77 U	110	66-129			
1,4-Dichlorobenzene	21		2.5	ug/L	20.0	0.76 U	106	65-133			
2-Butanone	100		12	ug/L	100	4.5 U	101	10-180			
2-Hexanone	76		12	ug/L	100	2.5 U	76	12-180			
4-Methyl-2-pentanone	100		12	ug/L	100	2.5 U	104	19-180			
Acetone	87		25	ug/L	100	10 U	87	10-180			
Benzene	21		2.5	ug/L	20.0	0.71 U	107	56-136			
Bromodichloromethane	24		2.5	ug/L	20.0	0.52 U	122	58-135			
Bromoform	21		2.5	ug/L	20.0	0.75 U	105	46-148			
Bromomethane	23		2.5	ug/L	20.0	0.95 U	115	10-173			
Carbon disulfide	22		12	ug/L	20.0	2.5 U	108	43-153			
Carbon Tetrachloride	26		2.5	ug/L	20.0	0.94 U	131	54-156			
Chlorobenzene	20		2.5	ug/L	20.0	0.72 U	102	51-139			
Chloroethane	22		2.5	ug/L	20.0	0.98 U	112	27-180			
Chloroform	22		2.5	ug/L	20.0	0.80 U	111	58-139			
Chloromethane	17		2.5	ug/L	20.0	0.82 U	83	33-154			
cis-1,2-Dichloroethene	20		2.5	ug/L	20.0	0.53 U	102	56-128			
cis-1,3-Dichloropropene	20		2.5	ug/L	20.0	0.59 U	101	64-128			
Cyclohexane	19		2.5	ug/L	20.0	0.93 U	94	70-130			
Dibromochloromethane	19		2.5	ug/L	20.0	0.50 U	94	50-140			
Dichlorodifluoromethane	32		2.5	ug/L	20.0	0.74 U	161	10-180			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0K03050 - EPA 5030B_MS - Continued

Matrix Spike (0K03050-MS1) Continued Prepared: 11/03/2020 13:49 Analyzed: 11/03/2020 19:36

Source: AD07290-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	20		2.5	ug/L	20.0	0.69 U	99	63-133			
Freon 113	22		2.5	ug/L	20.0	0.73 U	112	47-173			
Isopropylbenzene	21		2.5	ug/L	20.0	0.67 U	107	60-132			
m,p-Xylenes	40		5.0	ug/L	40.0	1.3 U	101	64-133			
Methyl acetate	14		2.5	ug/L	20.0	0.95 U	72	70-130			
Methyl cyclohexane	23		2.5	ug/L	20.0	0.64 U	115	70-130			
Methylene Chloride	20		12	ug/L	20.0	2.5 U	102	43-142			
Methyl-tert-Butyl Ether	21		2.5	ug/L	20.0	0.60 U	104	51-145			
o-Xylene	20		2.5	ug/L	20.0	0.53 U	99	61-129			
Styrene	19		2.5	ug/L	20.0	0.61 U	96	59-136			
Tetrachloroethene	21		2.5	ug/L	20.0	0.76 U	105	60-147			
Toluene	19		2.5	ug/L	20.0	0.72 U	96	64-131			
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0	1.0	105	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0	0.73 U	107	65-149			
Trichloroethene	23		2.5	ug/L	20.0	0.89 U	116	62-135			
Trichlorofluoromethane	25		2.5	ug/L	20.0	0.94 U	124	56-155			
Vinyl chloride	40		2.5	ug/L	20.0	20	102	20-167			
4-Bromofluorobenzene	*54*			*ug/L*	*50.0*		*107*	*41-142*			
Dibromofluoromethane	*51*			*ug/L*	*50.0*		*103*	*53-146*			
Toluene-d8	*52*			*ug/L*	*50.0*		*105*	*41-146*			

Matrix Spike Dup (0K03050-MSD1) Prepared: 11/03/2020 13:49 Analyzed: 11/03/2020 20:07

Source: AD07290-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	26		2.5	ug/L	20.0	0.80 U	128	57-148	1	25	
1,1,2,2-Tetrachloroethane	20		2.5	ug/L	20.0	0.54 U	100	60-139	9	17	
1,1,2-Trichloroethane	19		2.5	ug/L	20.0	0.76 U	97	57-141	4	16	
1,1-Dichloroethane	20		2.5	ug/L	20.0	0.62 U	98	57-142	3	24	
1,1-Dichloroethene	22		2.5	ug/L	20.0	0.94 U	112	47-139	4	16	
1,2,4-Trichlorobenzene	28		2.5	ug/L	20.0	0.70 U	141	52-159	5	24	
1,2-Dibromo-3-chloropropane	24		2.5	ug/L	20.0	0.96 U	120	48-150	16	21	
1,2-Dibromoethane	19		2.5	ug/L	20.0	0.78 U	94	57-140	0.7	16	
1,2-Dichlorobenzene	21		2.5	ug/L	20.0	0.73 U	107	63-131	0.9	25	
1,2-Dichloroethane	29		2.5	ug/L	20.0	0.63 U	143	50-156	6	18	
1,2-Dichloropropane	19		2.5	ug/L	20.0	0.80 U	96	61-133	8	26	
1,3-Dichlorobenzene	20		2.5	ug/L	20.0	0.77 U	102	66-129	8	23	
1,4-Dichlorobenzene	20		2.5	ug/L	20.0	0.76 U	100	65-133	6	23	
2-Butanone	110		12	ug/L	100	4.5 U	107	10-180	6	29	
2-Hexanone	83		12	ug/L	100	2.5 U	83	12-180	8	28	
4-Methyl-2-pentanone	100		12	ug/L	100	2.5 U	102	19-180	2	24	
Acetone	93		25	ug/L	100	10 U	93	10-180	6	19	
Benzene	21		2.5	ug/L	20.0	0.71 U	105	56-136	2	14	
Bromodichloromethane	26		2.5	ug/L	20.0	0.52 U	129	58-135	6	19	
Bromoform	22		2.5	ug/L	20.0	0.75 U	110	46-148	4	18	
Bromomethane	24		2.5	ug/L	20.0	0.95 U	121	10-173	5	29	
Carbon disulfide	20		12	ug/L	20.0	2.5 U	100	43-153	7	26	
Carbon Tetrachloride	26		2.5	ug/L	20.0	0.94 U	128	54-156	2	27	
Chlorobenzene	20		2.5	ug/L	20.0	0.72 U	102	51-139	0.2	13	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0K03050 - EPA 5030B_MS - Continued

Matrix Spike Dup (0K03050-MSD1) Continued Prepared: 11/03/2020 13:49 Analyzed: 11/03/2020 20:07

Source: AD07290-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloroethane	24		2.5	ug/L	20.0	0.98 U	118	27-180	5	22	
Chloroform	22		2.5	ug/L	20.0	0.80 U	110	58-139	0.4	17	
Chloromethane	15		2.5	ug/L	20.0	0.82 U	77	33-154	8	31	
cis-1,2-Dichloroethene	20		2.5	ug/L	20.0	0.53 U	98	56-128	4	17	
cis-1,3-Dichloropropene	21		2.5	ug/L	20.0	0.59 U	106	64-128	4	20	
Cyclohexane	18		2.5	ug/L	20.0	0.93 U	92	70-130	3	20	
Dibromochloromethane	21		2.5	ug/L	20.0	0.50 U	103	50-140	9	18	
Dichlorodifluoromethane	31		2.5	ug/L	20.0	0.74 U	157	10-180	3	26	
Ethylbenzene	19		2.5	ug/L	20.0	0.69 U	97	63-133	1	18	
Freon 113	23		2.5	ug/L	20.0	0.73 U	113	47-173	0.3	30	
Isopropylbenzene	21		2.5	ug/L	20.0	0.67 U	106	60-132	1	23	
m,p-Xylenes	40		5.0	ug/L	40.0	1.3 U	100	64-133	1	18	
Methyl acetate	13		2.5	ug/L	20.0	0.95 U	64	70-130	11	20	QM-19
Methyl cyclohexane	23		2.5	ug/L	20.0	0.64 U	113	70-130	1	20	
Methylene Chloride	20		12	ug/L	20.0	2.5 U	101	43-142	1	23	
Methyl-tert-Butyl Ether	21		2.5	ug/L	20.0	0.60 U	106	51-145	1	22	
o-Xylene	20		2.5	ug/L	20.0	0.53 U	99	61-129	0.2	16	
Styrene	19		2.5	ug/L	20.0	0.61 U	95	59-136	0.9	32	
Tetrachloroethene	20		2.5	ug/L	20.0	0.76 U	100	60-147	4	21	
Toluene	20		2.5	ug/L	20.0	0.72 U	100	64-131	4	16	
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0	1.0	105	54-134	0.05	20	
trans-1,3-Dichloropropene	22		2.5	ug/L	20.0	0.73 U	111	65-149	4	17	
Trichloroethene	23		2.5	ug/L	20.0	0.89 U	114	62-135	1	20	
Trichlorofluoromethane	23		2.5	ug/L	20.0	0.94 U	116	56-155	6	22	
Vinyl chloride	39		2.5	ug/L	20.0	20	97	20-167	2	24	
4-Bromofluorobenzene	*55*			*ug/L*	*50.0*		*109*	*41-142*			
Dibromofluoromethane	*52*			*ug/L*	*50.0*		*103*	*53-146*			
Toluene-d8	*52*			*ug/L*	*50.0*		*104*	*41-146*			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
A-07	Analyte biased low in LCS but detected in the reporting limit standard. Since the analyte in the associated sample was not detected, there is no impact on data quality.
QM-19	The spike recovery was outside acceptance limits for the MS and/or MSD.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported result is an estimated value.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence (85% or greater confidence) to make a “tentative identification".
Q	One or more quality control criteria failed.

AD07290

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 1134 | PAGE 1 OF 1

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G08970	CRCA	ALEX MURPHY	321-636-6470	ENCO
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER: JAN FORRESTER	PHONE NUMBER: 304-780-1426	ADDRESS
		CARRIER/WAYBILL NUMBER: COURIER		CITY, STATE: ORLANDO FL

STANDARD TAT ☐
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE (YEAR 2020)	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TYPE OF ANALYSIS: 8260 CLD-CZ+E CUSTOM LIST	COMMENTS
									G	HCl		
27 Oct	1445	CRCA-AS-EFFLUENT-20201027	CRCA			GW	G	3	x			
27 Oct	1450	CRCA-AS-INFLUENT-20201027	CRCA			GW	G	3	x			

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	27 Oct 20	1500	1. RECEIVED BY	27 Oct	1500
2. RELINQUISHED BY	10-28-20	1500	2. RECEIVED BY	10/28/20	1500
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS: C-2126 2.0°C

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

10/29/2020

Environmental Conservation Labs, Inc.

Alex Murphy
Tetra Tech, Inc. (TE016)
11 Riverside Drive, Suite 204
Cocoa, FL 32922
Phone: (321) 636-6470
Fax: (321) 636-6473

Reference : **Sample Receipt Confirmation - *Please Review***
Project Name / Number : NASA KSC CRCA / 112G08970
Purchase Order # : 1165883

Lab Reference # : AD07290 Lab Receipt Date: 28-Oct-20 15:00
Anticipated ***(Estimated)*** Completion Date: 04-Nov-20 19:00

This is an automated notification from our laboratory information management system (LIMS), indicating the samples we have recently received and their associated analyses. Should any of the following information be in error, please contact us immediately.

Thank you for choosing Environmental Conservation Laboratories. Should any events occur that delay the processing of your samples or inhibit our ability to complete the project within the projected time frame you will be contacted.

Sincerely,

Kaitlin Dylnicki

Client: Tetra Tech, Inc. (TE016) **Project Name:** NASA KSC CRCA
Requested TAT: 5 **Project Number:** 112G08970

Analysis	TAT	Expires	Status
Sample ID: CRCA-ASEFFLUENT-20201027(Lab ID: AD07290-01), Matrix: Ground Water, Sampled: 27-Oct-20 14:45 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	10-Nov-20 23:59	Received
Sample ID: CRCA-ASINFLUENT-20201027(Lab ID: AD07290-02), Matrix: Ground Water, Sampled: 27-Oct-20 14:50 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	10-Nov-20 23:59	Received

Analysis Groups included in this work order

ENCO Orlando

SDG: AD07290-TE016

CLASS: 01_VOA_MS

METHOD: EPA 8260D

ANALYSES DATA PACKAGE COVER PAGE

EPA 8260D

Laboratory: ENCO Orlando

SDG: AD07290-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-ASEFFLUENT-20201027	AD07290-01
CRCA-ASINFLUENT-20201027	AD07290-02

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLUENT-20201027

Laboratory: ENCO Orlando SDG: AD07290-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AD07290-01 File ID: 205K3030.D

Sampled: 10/27/20 14:45 Prepared: 11/03/20 13:49 Analyzed: 11/03/20 22:42

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 0K03050 Sequence: AA63365 Calibration: 2008123 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLUENT-20201027

Laboratory: ENCO Orlando SDG: AD07290-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AD07290-01 File ID: 205K3030.D

Sampled: 10/27/20 14:45 Prepared: 11/03/20 13:49 Analyzed: 11/03/20 22:42

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 0K03050 Sequence: AA63365 Calibration: 2008123 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	53	105	53 - 146	
Toluene-d8	50.0	53	106	41 - 146	
4-Bromofluorobenzene	50.0	57	114	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1286937	10.174	1477488	10.174	
1,4-Difluorobenzene	2220464	10.756	2663458	10.755	
Chlorobenzene-d5	1205145	13.47	1384666	13.476	
1,4-Dichlorobenzene-d4	1363500	15.744	1420785	15.744	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLUENT-20201027

Laboratory: ENCO Orlando SDG: AD07290-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AD07290-02 File ID: 205K3029.D

Sampled: 10/27/20 14:50 Prepared: 11/03/20 13:49 Analyzed: 11/03/20 22:11

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 0K03050 Sequence: AA63365 Calibration: 2008123 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	20		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	1.0	J	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLUENT-20201027

Laboratory: ENCO Orlando SDG: AD07290-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AD07290-02 File ID: 205K3029.D

Sampled: 10/27/20 14:50 Prepared: 11/03/20 13:49 Analyzed: 11/03/20 22:11

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 0K03050 Sequence: AA63365 Calibration: 2008123 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	54	108	53 - 146	
Toluene-d8	50.0	52	104	41 - 146	
4-Bromofluorobenzene	50.0	55	111	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1290197	10.174	1477488	10.174	
1,4-Difluorobenzene	2278430	10.756	2663458	10.755	
Chlorobenzene-d5	1253343	13.47	1384666	13.476	
1,4-Dichlorobenzene-d4	1400350	15.744	1420785	15.744	

* Values outside of QC limits

HOLDING TIME SUMMARY

EPA 8260D

Laboratory: ENCO Orlando

SDG: AD07290-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-ASEFFLUENT-20201027	10/27/20 14:45	10/28/20 15:00	11/03/20 13:49	6.96	NA	11/03/20 22:42	7.00	14.00	
CRCA-ASINFLUENT-20201027	10/27/20 14:50	10/28/20 15:00	11/03/20 13:49	6.96	NA	11/03/20 22:11	7.00	14.00	

PREPARATION BATCH SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AD07290-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 0K03050 Batch Matrix: Water Preparation: EPA 5030B_MS

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	0K03050-BLK1	205K3027.D	11/03/20 13:49	
LCS	0K03050-BS1	205K3023.D	11/03/20 13:49	
CRCA-ASINFLUENT-20201027	0K03050-MS1	205K3024.D	11/03/20 13:49	
CRCA-ASINFLUENT-20201027	0K03050-MSD1	205K3025.D	11/03/20 13:49	
CRCA-ASEFFLUENT-20201027	AD07290-01	205K3030.D	11/03/20 13:49	
CRCA-ASINFLUENT-20201027	AD07290-02	205K3029.D	11/03/20 13:49	

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07290-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	0K03050-BLK1	File ID:	205K3027.D
Prepared:	11/03/20 13:49	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	11/03/20 21:09	Instrument:	OVGCMS5		
Batch:	0K03050	Sequence:	AA63365	Calibration:	2008123

CAS NO.	COMPOUND	CONC. (ug/L)	Q
75-71-8	Dichlorodifluoromethane	0.74	U
74-87-3	Chloromethane	0.82	U
75-01-4	Vinyl chloride	0.71	U
74-83-9	Bromomethane	0.95	U
75-00-3	Chloroethane	0.98	U
75-69-4	Trichlorofluoromethane	0.94	U
76-13-1	Freon 113	0.73	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	0.94	U
75-15-0	Carbon disulfide	2.5	U
75-09-2	Methylene Chloride	2.5	U
1634-04-4	Methyl-tert-Butyl Ether	0.60	U
156-60-5	trans-1,2-Dichloroethene	0.73	U
156-59-2	cis-1,2-Dichloroethene	0.53	U
75-34-3	1,1-Dichloroethane	0.62	U
78-93-3	2-Butanone	4.5	U
67-66-3	Chloroform	0.80	U
71-55-6	1,1,1-Trichloroethane	0.80	U
79-20-9	Methyl acetate	0.95	U
110-82-7	Cyclohexane	0.93	U
108-87-2	Methyl cyclohexane	0.64	U
56-23-5	Carbon Tetrachloride	0.94	U
107-06-2	1,2-Dichloroethane	0.63	U
71-43-2	Benzene	0.71	U
79-01-6	Trichloroethene	0.89	U
78-87-5	1,2-Dichloropropane	0.80	U
75-27-4	Bromodichloromethane	0.52	U
108-10-1	4-Methyl-2-pentanone	2.5	U
591-78-6	2-Hexanone	2.5	U
10061-01-5	cis-1,3-Dichloropropene	0.59	U

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07290-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	0K03050-BLK1	File ID:	205K3027.D
Prepared:	11/03/20 13:49	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	11/03/20 21:09	Instrument:	OVGCMS5		
Batch:	0K03050	Sequence:	AA63365	Calibration:	2008123

CAS NO.	COMPOUND	CONC. (ug/L)	Q
108-88-3	Toluene	0.72	U
10061-02-6	trans-1,3-Dichloropropene	0.73	U
79-00-5	1,1,2-Trichloroethane	0.76	U
127-18-4	Tetrachloroethene	0.76	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.78	U
108-90-7	Chlorobenzene	0.72	U
100-41-4	Ethylbenzene	0.69	U
108-38-3/106-42-3	m,p-Xylenes	1.3	U
95-47-6	o-Xylene	0.53	U
75-25-2	Bromoform	0.75	U
100-42-5	Styrene	0.61	U
98-82-8	Isopropylbenzene	0.67	U
79-34-5	1,1,2,2-Tetrachloroethane	0.54	U
120-82-1	1,2,4-Trichlorobenzene	0.70	U
541-73-1	1,3-Dichlorobenzene	0.77	U
106-46-7	1,4-Dichlorobenzene	0.76	U
95-50-1	1,2-Dichlorobenzene	0.73	U
96-12-8	1,2-Dibromo-3-chloropropane	0.96	U
1330-20-7	Xylenes (Total)	1.3	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	54	107	53 - 146	
Toluene-d8	50.0	52	104	41 - 146	
4-Bromofluorobenzene	50.0	55	109	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1298626	10.174	1477488	10.174	
1,4-Difluorobenzene	2332340	10.756	2663458	10.755	
Chlorobenzene-d5	1300789	13.476	1384666	13.476	
1,4-Dichlorobenzene-d4	1417419	15.744	1420785	15.744	

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07290-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	0K03050	Laboratory ID:	0K03050-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	31	157	10 - 180
Chloromethane	20.0	15	76	33 - 154
Vinyl chloride	20.0	20	99	20 - 167
Bromomethane	20.0	19	93	10 - 173
Chloroethane	20.0	21	107	27 - 180
Trichlorofluoromethane	20.0	24	118	56 - 155
Freon 113	20.0	20	99	47 - 173
Acetone	100	79	79	10 - 180
1,1-Dichloroethene	20.0	18	92	47 - 139
Carbon disulfide	20.0	20	98	43 - 153
Methylene Chloride	20.0	19	97	43 - 142
Methyl-tert-Butyl Ether	20.0	19	94	51 - 145
trans-1,2-Dichloroethene	20.0	19	93	54 - 134
cis-1,2-Dichloroethene	20.0	21	103	56 - 128
1,1-Dichloroethane	20.0	19	93	57 - 142
2-Butanone	100	92	92	10 - 180
Chloroform	20.0	21	105	58 - 139
1,1,1-Trichloroethane	20.0	24	119	57 - 148
Methyl acetate	20.0	13	65 *	70 - 130
Cyclohexane	20.0	17	85	70 - 130
Methyl cyclohexane	20.0	19	97	70 - 130
Carbon Tetrachloride	20.0	24	120	54 - 156
1,2-Dichloroethane	20.0	24	121	50 - 156
Benzene	20.0	20	99	56 - 136
Trichloroethene	20.0	21	103	62 - 135
1,2-Dichloropropane	20.0	16	80	61 - 133
Bromodichloromethane	20.0	21	107	58 - 135
4-Methyl-2-pentanone	100	76	76	19 - 180
2-Hexanone	100	59	59	12 - 180
cis-1,3-Dichloropropene	20.0	17	87	64 - 128

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07290-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	0K03050	Laboratory ID:	0K03050-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Toluene	20.0	17	86	64 - 131
trans-1,3-Dichloropropene	20.0	20	98	65 - 149
1,1,2-Trichloroethane	20.0	18	88	57 - 141
Tetrachloroethene	20.0	18	90	60 - 147
Dibromochloromethane	20.0	18	89	50 - 140
1,2-Dibromoethane	20.0	17	86	57 - 140
Chlorobenzene	20.0	19	96	51 - 139
Ethylbenzene	20.0	17	83	63 - 133
m,p-Xylenes	40.0	36	90	64 - 133
o-Xylene	20.0	18	88	61 - 129
Bromoform	20.0	18	90	46 - 148
Styrene	20.0	17	85	59 - 136
Isopropylbenzene	20.0	19	96	60 - 132
1,1,2,2-Tetrachloroethane	20.0	17	84	60 - 139
1,2,4-Trichlorobenzene	20.0	26	130	52 - 159
1,3-Dichlorobenzene	20.0	19	94	66 - 129
1,4-Dichlorobenzene	20.0	18	92	65 - 133
1,2-Dichlorobenzene	20.0	19	93	63 - 131
1,2-Dibromo-3-chloropropane	20.0	21	104	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASINFLUENT-20201027

Laboratory: ENCO Orlando
SDG: AD07290-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 0K03050
Laboratory ID: 0K03050-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-ASINFLUENT-20201027

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	ND	32	161	10 - 180
Chloromethane	20.0	ND	17	83	33 - 154
Vinyl chloride	20.0	20	40	102	20 - 167
Bromomethane	20.0	ND	23	115	10 - 173
Chloroethane	20.0	ND	22	112	27 - 180
Trichlorofluoromethane	20.0	ND	25	124	56 - 155
Freon 113	20.0	ND	22	112	47 - 173
Acetone	100	ND	87	87	10 - 180
1,1-Dichloroethene	20.0	ND	23	117	47 - 139
Carbon disulfide	20.0	ND	22	108	43 - 153
Methylene Chloride	20.0	ND	20	102	43 - 142
Methyl-tert-Butyl Ether	20.0	ND	21	104	51 - 145
trans-1,2-Dichloroethene	20.0	1.0	22	105	54 - 134
cis-1,2-Dichloroethene	20.0	ND	20	102	56 - 128
1,1-Dichloroethane	20.0	ND	20	100	57 - 142
2-Butanone	100	ND	100	101	10 - 180
Chloroform	20.0	ND	22	111	58 - 139
1,1,1-Trichloroethane	20.0	ND	25	126	57 - 148
Methyl acetate	20.0	ND	14	72	70 - 130
Cyclohexane	20.0	ND	19	94	70 - 130
Methyl cyclohexane	20.0	ND	23	115	70 - 130
Carbon Tetrachloride	20.0	ND	26	131	54 - 156
1,2-Dichloroethane	20.0	ND	27	135	50 - 156
Benzene	20.0	ND	21	107	56 - 136
Trichloroethene	20.0	ND	23	116	62 - 135
1,2-Dichloropropane	20.0	ND	18	89	61 - 133
Bromodichloromethane	20.0	ND	24	122	58 - 135
4-Methyl-2-pentanone	100	ND	100	104	19 - 180
2-Hexanone	100	ND	76	76	12 - 180
cis-1,3-Dichloropropene	20.0	ND	20	101	64 - 128
Toluene	20.0	ND	19	96	64 - 131

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASINFLUENT-20201027

Laboratory: ENCO Orlando
SDG: AD07290-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 0K03050
Laboratory ID: 0K03050-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-ASINFLUENT-20201027

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
trans-1,3-Dichloropropene	20.0	ND	21	107	65 - 149
1,1,2-Trichloroethane	20.0	ND	19	93	57 - 141
Tetrachloroethene	20.0	ND	21	105	60 - 147
Dibromochloromethane	20.0	ND	19	94	50 - 140
1,2-Dibromoethane	20.0	ND	19	93	57 - 140
Chlorobenzene	20.0	ND	20	102	51 - 139
Ethylbenzene	20.0	ND	20	99	63 - 133
m,p-Xylenes	40.0	ND	40	101	64 - 133
o-Xylene	20.0	ND	20	99	61 - 129
Bromoform	20.0	ND	21	105	46 - 148
Styrene	20.0	ND	19	96	59 - 136
Isopropylbenzene	20.0	ND	21	107	60 - 132
1,1,2,2-Tetrachloroethane	20.0	ND	18	91	60 - 139
1,2,4-Trichlorobenzene	20.0	ND	27	134	52 - 159
1,3-Dichlorobenzene	20.0	ND	22	110	66 - 129
1,4-Dichlorobenzene	20.0	ND	21	106	65 - 133
1,2-Dichlorobenzene	20.0	ND	21	106	63 - 131
1,2-Dibromo-3-chloropropane	20.0	ND	20	102	48 - 150

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASINFLUENT-20201027

Laboratory: ENCO Orlando
SDG: AD07290-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 0K03050
Laboratory ID: 0K03050-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-ASINFLUENT-20201027

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #		% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20.0	31	157		3	26	10 - 180
Chloromethane	20.0	15	77		8	31	33 - 154
Vinyl chloride	20.0	39	97		2	24	20 - 167
Bromomethane	20.0	24	121		5	29	10 - 173
Chloroethane	20.0	24	118		5	22	27 - 180
Trichlorofluoromethane	20.0	23	116		6	22	56 - 155
Freon 113	20.0	23	113		0.3	30	47 - 173
Acetone	100	93	93		6	19	10 - 180
1,1-Dichloroethene	20.0	22	112		4	16	47 - 139
Carbon disulfide	20.0	20	100		7	26	43 - 153
Methylene Chloride	20.0	20	101		1	23	43 - 142
Methyl-tert-Butyl Ether	20.0	21	106		1	22	51 - 145
trans-1,2-Dichloroethene	20.0	22	105		0.05	20	54 - 134
cis-1,2-Dichloroethene	20.0	20	98		4	17	56 - 128
1,1-Dichloroethane	20.0	20	98		3	24	57 - 142
2-Butanone	100	110	107		6	29	10 - 180
Chloroform	20.0	22	110		0.4	17	58 - 139
1,1,1-Trichloroethane	20.0	26	128		1	25	57 - 148
Methyl acetate	20.0	13	64	*	11	20	70 - 130
Cyclohexane	20.0	18	92		3	20	70 - 130
Methyl cyclohexane	20.0	23	113		1	20	70 - 130
Carbon Tetrachloride	20.0	26	128		2	27	54 - 156
1,2-Dichloroethane	20.0	29	143		6	18	50 - 156
Benzene	20.0	21	105		2	14	56 - 136
Trichloroethene	20.0	23	114		1	20	62 - 135
1,2-Dichloropropane	20.0	19	96		8	26	61 - 133
Bromodichloromethane	20.0	26	129		6	19	58 - 135
4-Methyl-2-pentanone	100	100	102		2	24	19 - 180
2-Hexanone	100	83	83		8	28	12 - 180
cis-1,3-Dichloropropene	20.0	21	106		4	20	64 - 128
Toluene	20.0	20	100		4	16	64 - 131
trans-1,3-Dichloropropene	20.0	22	111		4	17	65 - 149

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASINFLUENT-20201027

Laboratory: ENCO Orlando
SDG: AD07290-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 0K03050
Laboratory ID: 0K03050-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-ASINFLUENT-20201027

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,2-Trichloroethane	20.0	19	97	4	16	57 - 141
Tetrachloroethene	20.0	20	100	4	21	60 - 147
Dibromochloromethane	20.0	21	103	9	18	50 - 140
1,2-Dibromoethane	20.0	19	94	0.7	16	57 - 140
Chlorobenzene	20.0	20	102	0.2	13	51 - 139
Ethylbenzene	20.0	19	97	1	18	63 - 133
m,p-Xylenes	40.0	40	100	1	18	64 - 133
o-Xylene	20.0	20	99	0.2	16	61 - 129
Bromoform	20.0	22	110	4	18	46 - 148
Styrene	20.0	19	95	0.9	32	59 - 136
Isopropylbenzene	20.0	21	106	1	23	60 - 132
1,1,2,2-Tetrachloroethane	20.0	20	100	9	17	60 - 139
1,2,4-Trichlorobenzene	20.0	28	141	5	24	52 - 159
1,3-Dichlorobenzene	20.0	20	102	8	23	66 - 129
1,4-Dichlorobenzene	20.0	20	100	6	23	65 - 133
1,2-Dichlorobenzene	20.0	21	107	0.9	25	63 - 131
1,2-Dibromo-3-chloropropane	20.0	24	120	16	21	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07290-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA62152
Instrument: OVGCMS5
Matrix: Water
Calibration: 2008123

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA62152-SCV1)			Lab File ID: 205HU014.D		Analyzed: 08/26/20 15:55			
Dibromofluoromethane	50.0	109	70 - 130	9.768	9.764375	0.0036	+/-0.5	
Toluene-d8	50.0	108	70 - 130	12.054	12.0585	-0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	105	70 - 130	14.575	14.57575	-0.0008	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07290-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA63365
Instrument: OVGCMS5
Matrix: Water
Calibration: 2008123

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA63365-CCV1)			Lab File ID: 205K3022.D		Analyzed: 11/03/20 18:35			
Dibromofluoromethane	50.0	107	80 - 120	9.763	9.764375	-0.0014	+/-0.5	
Toluene-d8	50.0	104	80 - 120	12.054	12.0585	-0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	111	80 - 120	14.575	14.57575	-0.0008	+/-0.5	
LCS (0K03050-BS1)			Lab File ID: 205K3023.D		Analyzed: 11/03/20 19:06			
Dibromofluoromethane	50.0	108	53 - 146	9.763	9.764375	-0.0014	+/-0.5	
Toluene-d8	50.0	104	41 - 146	12.054	12.0585	-0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	107	41 - 142	14.569	14.57575	-0.0067	+/-0.5	
Matrix Spike (0K03050-MS1)			Lab File ID: 205K3024.D		Analyzed: 11/03/20 19:36			
Dibromofluoromethane	50.0	103	53 - 146	9.768	9.764375	0.0036	+/-0.5	
Toluene-d8	50.0	105	41 - 146	12.054	12.0585	-0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	107	41 - 142	14.575	14.57575	-0.0008	+/-0.5	
Matrix Spike Dup (0K03050-MSD1)			Lab File ID: 205K3025.D		Analyzed: 11/03/20 20:07			
Dibromofluoromethane	50.0	103	53 - 146	9.763	9.764375	-0.0014	+/-0.5	
Toluene-d8	50.0	104	41 - 146	12.054	12.0585	-0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	14.575	14.57575	-0.0008	+/-0.5	
Blank (0K03050-BLK1)			Lab File ID: 205K3027.D		Analyzed: 11/03/20 21:09			
Dibromofluoromethane	50.0	107	53 - 146	9.763	9.764375	-0.0014	+/-0.5	
Toluene-d8	50.0	104	41 - 146	12.054	12.0585	-0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	14.575	14.57575	-0.0008	+/-0.5	
Instrument RL Check (AA63365-CRL1)			Lab File ID: 205K3028.D		Analyzed: 11/03/20 21:40			
Dibromofluoromethane	50.0	105	1 - 199	9.763	9.764375	-0.0014	+/-0.5	
Toluene-d8	50.0	106	1 - 199	12.054	12.0585	-0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	108	1 - 199	14.575	14.57575	-0.0008	+/-0.5	
CRCA-ASINFLUENT-20201027 (AD07290-02)			Lab File ID: 205K3029.D		Analyzed: 11/03/20 22:11			
Dibromofluoromethane	50.0	108	53 - 146	9.769	9.764375	0.0046	+/-0.5	
Toluene-d8	50.0	104	41 - 146	12.054	12.0585	-0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	111	41 - 142	14.575	14.57575	-0.0008	+/-0.5	
CRCA-ASEFFLUENT-20201027 (AD07290-01)			Lab File ID: 205K3030.D		Analyzed: 11/03/20 22:42			
Dibromofluoromethane	50.0	105	53 - 146	9.769	9.764375	0.0046	+/-0.5	
Toluene-d8	50.0	106	41 - 146	12.054	12.0585	-0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	114	41 - 142	14.575	14.57575	-0.0008	+/-0.5	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07290-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA62152
Instrument: OVGCMS5
Matrix: Water
Calibration: 2008123

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA62152-CAL1)			Lab File ID: 205HU004.D			Analyzed: 08/26/20 10:39			
Pentafluorobenzene	1490798	10.174	1477488	10.174	101	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2779965	10.761	2663458	10.755	104	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1417535	13.476	1384666	13.476	102	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1545007	15.75	1420785	15.744	109	50 - 200	0.0060	+/-0.50	
Cal Standard (AA62152-CAL2)			Lab File ID: 205HU005.D			Analyzed: 08/26/20 11:10			
Pentafluorobenzene	1516643	10.174	1477488	10.174	103	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2805358	10.756	2663458	10.755	105	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	1372254	13.476	1384666	13.476	99	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1436786	15.75	1420785	15.744	101	50 - 200	0.0060	+/-0.50	
Cal Standard (AA62152-CAL3)			Lab File ID: 205HU006.D			Analyzed: 08/26/20 11:42			
Pentafluorobenzene	1522354	10.174	1477488	10.174	103	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2749356	10.756	2663458	10.755	103	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	1360962	13.476	1384666	13.476	98	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1433030	15.744	1420785	15.744	101	50 - 200	0.0000	+/-0.50	
Cal Standard (AA62152-CAL4)			Lab File ID: 205HU007.D			Analyzed: 08/26/20 12:13			
Pentafluorobenzene	1486293	10.174	1477488	10.174	101	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2720774	10.756	2663458	10.755	102	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	1378768	13.476	1384666	13.476	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1420641	15.744	1420785	15.744	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA62152-CAL5)			Lab File ID: 205HU008.D			Analyzed: 08/26/20 12:45			
Pentafluorobenzene	1475045	10.168	1477488	10.174	100	50 - 200	-0.0060	+/-0.50	
1,4-Difluorobenzene	2717768	10.756	2663458	10.755	102	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	1379230	13.476	1384666	13.476	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1408814	15.744	1420785	15.744	99	50 - 200	0.0000	+/-0.50	
Cal Standard (AA62152-CAL6)			Lab File ID: 205HU009.D			Analyzed: 08/26/20 13:16			
Pentafluorobenzene	1477488	10.174	1477488	10.174	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2663458	10.755	2663458	10.755	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1384666	13.476	1384666	13.476	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1420785	15.744	1420785	15.744	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA62152-CAL7)			Lab File ID: 205HU010.D			Analyzed: 08/26/20 13:48			
Pentafluorobenzene	1487235	10.174	1477488	10.174	101	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2600765	10.756	2663458	10.755	98	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	1385554	13.47	1384666	13.476	100	50 - 200	-0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1432538	15.744	1420785	15.744	101	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07290-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA62152
Instrument: OVGCMS5
Matrix: Water
Calibration: 2008123

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA62152-CAL8)			Lab File ID: 205HU011.D			Analyzed: 08/26/20 14:19			
Pentafluorobenzene	1447071	10.174	1477488	10.174	98	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2561611	10.756	2663458	10.755	96	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	1380360	13.476	1384666	13.476	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1403220	15.744	1420785	15.744	99	50 - 200	0.0000	+/-0.50	
Secondary Cal Check (AA62152-SCV1)			Lab File ID: 205HU014.D			Analyzed: 08/26/20 15:55			
Pentafluorobenzene	1479172	10.174	1477488	10.174	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2668771	10.756	2663458	10.755	100	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	1342071	13.476	1384666	13.476	97	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1359353	15.744	1420785	15.744	96	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07290-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA63365
Instrument: OVGCMS5
Matrix: Water
Calibration: 2008123

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA63365-CCV1)			Lab File ID: 205K3022.D			Analyzed: 11/03/20 18:35			
Pentafluorobenzene	1345766	10.168	1477488	10.174	91	50 - 200	-0.0060	+/-0.50	
1,4-Difluorobenzene	2398752	10.756	2663458	10.755	90	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	1361227	13.47	1384666	13.476	98	50 - 200	-0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1488967	15.744	1420785	15.744	105	50 - 200	0.0000	+/-0.50	
LCS (0K03050-BS1)			Lab File ID: 205K3023.D			Analyzed: 11/03/20 19:06			
Pentafluorobenzene	1393851	10.168	1477488	10.174	94	50 - 200	-0.0060	+/-0.50	
1,4-Difluorobenzene	2417309	10.756	2663458	10.755	91	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	1388400	13.47	1384666	13.476	100	50 - 200	-0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1483312	15.744	1420785	15.744	104	50 - 200	0.0000	+/-0.50	
Matrix Spike (0K03050-MS1)			Lab File ID: 205K3024.D			Analyzed: 11/03/20 19:36			
Pentafluorobenzene	1450412	10.168	1477488	10.174	98	50 - 200	-0.0060	+/-0.50	
1,4-Difluorobenzene	2505319	10.755	2663458	10.755	94	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1425774	13.47	1384666	13.476	103	50 - 200	-0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1505356	15.744	1420785	15.744	106	50 - 200	0.0000	+/-0.50	
Matrix Spike Dup (0K03050-MSD1)			Lab File ID: 205K3025.D			Analyzed: 11/03/20 20:07			
Pentafluorobenzene	1478555	10.174	1477488	10.174	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2505244	10.756	2663458	10.755	94	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	1417293	13.47	1384666	13.476	102	50 - 200	-0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1527627	15.744	1420785	15.744	108	50 - 200	0.0000	+/-0.50	
Blank (0K03050-BLK1)			Lab File ID: 205K3027.D			Analyzed: 11/03/20 21:09			
Pentafluorobenzene	1298626	10.174	1477488	10.174	88	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2332340	10.756	2663458	10.755	88	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	1300789	13.476	1384666	13.476	94	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1417419	15.744	1420785	15.744	100	50 - 200	0.0000	+/-0.50	
Instrument RL Check (AA63365-CRL1)			Lab File ID: 205K3028.D			Analyzed: 11/03/20 21:40			
Pentafluorobenzene	1314646	10.168	1477488	10.174	89	50 - 200	-0.0060	+/-0.50	
1,4-Difluorobenzene	2276915	10.756	2663458	10.755	85	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	1292520	13.476	1384666	13.476	93	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1395460	15.744	1420785	15.744	98	50 - 200	0.0000	+/-0.50	
CRCA-ASINFLUENT-20201027 (AD07290-02)			Lab File ID: 205K3029.D			Analyzed: 11/03/20 22:11			
Pentafluorobenzene	1290197	10.174	1477488	10.174	87	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2278430	10.756	2663458	10.755	86	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	1253343	13.47	1384666	13.476	91	50 - 200	-0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1400350	15.744	1420785	15.744	99	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07290-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA63365
Instrument: OVGCMS5
Matrix: Water
Calibration: 2008123

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
CRCA-ASEFFLUENT-20201027 (AD07290-01)			Lab File ID: 205K3030.D			Analyzed: 11/03/20 22:42			
Pentafluorobenzene	1286937	10.174	1477488	10.174	87	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2220464	10.756	2663458	10.755	83	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5	1205145	13.47	1384666	13.476	87	50 - 200	-0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1363500	15.744	1420785	15.744	96	50 - 200	0.0000	+/-0.50	

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07290-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA62152		
Calibration:	2008123	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA62152-TUN1	205HU003.D	08/26/20 09:31
Cal Standard	AA62152-CAL1	205HU004.D	08/26/20 10:39
Cal Standard	AA62152-CAL2	205HU005.D	08/26/20 11:10
Cal Standard	AA62152-CAL3	205HU006.D	08/26/20 11:42
Cal Standard	AA62152-CAL4	205HU007.D	08/26/20 12:13
Cal Standard	AA62152-CAL5	205HU008.D	08/26/20 12:45
Cal Standard	AA62152-CAL6	205HU009.D	08/26/20 13:16
Cal Standard	AA62152-CAL7	205HU010.D	08/26/20 13:48
Cal Standard	AA62152-CAL8	205HU011.D	08/26/20 14:19
Secondary Cal Check	AA62152-SCV1	205HU014.D	08/26/20 15:55

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07290-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA63365		
Calibration:	2008123	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA63365-CCV1	205K3022.D	11/03/20 18:35
LCS	0K03050-BS1	205K3023.D	11/03/20 19:06
CRCA-ASINFLUENT-20201027	0K03050-MS1	205K3024.D	11/03/20 19:36
CRCA-ASINFLUENT-20201027	0K03050-MSD1	205K3025.D	11/03/20 20:07
Blank	0K03050-BLK1	205K3027.D	11/03/20 21:09
Instrument RL Check	AA63365-CRL1	205K3028.D	11/03/20 21:40
CRCA-ASINFLUENT-20201027	AD07290-02	205K3029.D	11/03/20 22:11
CRCA-ASEFFLUENT-20201027	AD07290-01	205K3030.D	11/03/20 22:42

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07290-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	205HU003.D	Injection Date:	08/26/20
Instrument ID:	OVGCMS5	Injection Time:	09:31
Sequence:	AA62152	Lab Sample ID:	AA62152-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	140	PASS
96	5 - 9% of 95	6.76	PASS
173	Less than 2% of 174	0.1	PASS
174	50 - 200% of 95	71.4	PASS
175	5 - 9% of 174	5.15	PASS
176	95 - 105% of 174	95.3	PASS
177	5 - 10% of 176	6.08	PASS

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07290-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2008123
Lab File ID:	205K3022.D	Calibration Date:	08/26/20 09:31
Sequence:	AA63365	Injection Date:	11/03/20
Lab Sample ID:	AA63365-CCV1	Injection Time:	18:35

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Dichlorodifluoromethane	A	50.0	88	0.2948251	0.4960677		76	20	*
Chloromethane	A	50.0	35	0.4248736	0.2795048		-30	20	*
Vinyl chloride	A	50.0	50	0.4063041	0.4069326		0.20	20	
Bromomethane	A	50.0	56	0.1995199	0.1214795		11	20	
Chloroethane	A	50.0	53	0.2481633	0.2365998		6.8	20	
Trichlorofluoromethane	A	50.0	61	0.5543026	0.6737338		22	20	*
Freon 113	A	50.0	53	0.2655609	0.2798436		5.4	20	
Acetone	A	250	220	7.815289E-02	6.799191E-02		-13	20	
1,1-Dichloroethene	A	50.0	51	0.3414668	0.3475827		1.8	20	
Carbon disulfide	A	250	200	1.075519	0.8773002		-18	20	
Methylene Chloride	A	50.0	50	0.4149098	0.4017214		-0.02	20	
Methyl-tert-Butyl Ether	A	50.0	49	0.9699538	0.9523		-1.8	20	
trans-1,2-Dichloroethene	A	50.0	50	0.4122324	0.4175436		0.080	20	
cis-1,2-Dichloroethene	A	50.0	50	0.4680455	0.4689367		0.20	20	
1,1-Dichloroethane	A	50.0	45	0.7247925	0.6530103		-9.9	20	
2-Butanone	A	250	220	0.0487266	3.946496E-02		-13	20	
Chloroform	A	50.0	53	0.7237291	0.7720659		6.7	20	
1,1,1-Trichloroethane	A	50.0	60	0.579044	0.6941459		20	20	
Methyl acetate	A	50.0	32	0.2913378	0.1569426		-37	20	*
Cyclohexane	A	50.0	42	0.7181999	0.6092359		-15	20	
Methyl cyclohexane	A	50.0	46	0.5587731	0.419722		-8.9	20	
Carbon Tetrachloride	A	50.0	61	0.2548557	0.3219499		23	20	*
1,2-Dichloroethane	A	50.0	63	0.2471022	0.312252		26	20	*
Benzene	A	50.0	47	0.972288	0.9123678		-6.2	20	
Trichloroethene	A	50.0	53	0.2421904	0.254434		5.1	20	
1,2-Dichloropropane	A	50.0	40	0.2554607	0.2047865		-20	20	
Bromodichloromethane	A	50.0	59	0.2647395	0.3118276		18	20	
4-Methyl-2-pentanone	A	250	210	3.349708E-02	2.778478E-02		-17	20	
2-Hexanone	A	250	160	0.127459	9.273514E-02		-27	20	*

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07290-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2008123
Lab File ID:	205K3022.D	Calibration Date:	08/26/20 09:31
Sequence:	AA63365	Injection Date:	11/03/20
Lab Sample ID:	AA63365-CCV1	Injection Time:	18:35

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
cis-1,3-Dichloropropene	A	50.0	49	0.3591361	0.3536372		-1.5	20
Toluene	A	50.0	42	1.290264	1.081504		-16	20
trans-1,3-Dichloropropene	A	50.0	50	0.5558167	0.5524398		-0.6	20
1,1,2-Trichloroethane	A	50.0	43	0.4082639	0.3483673		-15	20
Tetrachloroethene	A	50.0	41	0.3957423	0.3226376		-19	20
Dibromochloromethane	A	50.0	47	0.3309995	0.3656605		11	20
1,2-Dibromoethane	A	50.0	45	0.4031171	0.3600979		-11	20
Chlorobenzene	A	50.0	46	1.274617	1.178002		-7.6	20
Ethylbenzene	A	50.0	43	0.7589337	0.6531886		-14	20
m,p-Xylenes	A	100	90	0.9422385	0.8467897		-10	20
o-Xylene	A	50.0	45	0.9160319	0.8240058		-10	20
Bromoform	A	50.0	50	0.1887345	0.215543		-0.8	20
Styrene	A	50.0	44	1.605253	1.418381		-12	20
Isopropylbenzene	A	50.0	47	2.345417	2.21232		-5.7	20
1,1,2,2-Tetrachloroethane	A	50.0	45	0.535388	0.4857169		-9.3	20
1,2,4-Trichlorobenzene	A	50.0	59	0.3551958	0.4164115		17	20
1,3-Dichlorobenzene	A	50.0	46	1.079613	0.9941302		-7.9	20
1,4-Dichlorobenzene	A	50.0	47	1.112835	1.045531		-6	20
1,2-Dichlorobenzene	A	50.0	47	0.984576	0.9346701		-5.1	20
1,2-Dibromo-3-chloropropane	A	50.0	49	6.649624E-02	6.964224E-02		-1.9	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07290-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA62152	Instrument:	OVGCMS5
Calibration:	2008123		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A0F0994	MS Tune (lower conc.)	AA62152-TUN1	205HU003.D	08/26/20 09:31
A0H1211	8260 CAL 1 PPB	AA62152-CAL1	205HU004.D	08/26/20 10:39
A0H1214	8260 CAL 2 PPB	AA62152-CAL2	205HU005.D	08/26/20 11:10
A0H1216	8260 CAL 5 PPB	AA62152-CAL3	205HU006.D	08/26/20 11:42
A0H1217	8260 CAL 10 PPB	AA62152-CAL4	205HU007.D	08/26/20 12:13
A0H1218	8260 CAL 20 PPB	AA62152-CAL5	205HU008.D	08/26/20 12:45
A0H1219	8260 CAL 50 PPB	AA62152-CAL6	205HU009.D	08/26/20 13:16
A0H1220	8260 CAL 80 PPB	AA62152-CAL7	205HU010.D	08/26/20 13:48
A0H1221	8260 CAL 100 PPB	AA62152-CAL8	205HU011.D	08/26/20 14:19
A0H1165	8260 SCV 50 PPB/20 Gases (surr. lower conc.)	AA62152-SCV1	205HU014.D	08/26/20 15:55

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07290-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2008123
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 08/26/20 09:31

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	1	0.3750005	2	0.3713959	5	0.2572069	10	0.2445917	20	0.2782695	50	0.2593673
Chloromethane	1	0.6754436	2	0.4941506	5	0.3848908	10	0.3368616	20	0.3423251	50	0.3584029
Vinyl chloride	1	0.4614307	2	0.4407102	5	0.3569341	10	0.341541	20	0.3924372	50	0.3803219
Bromomethane	1	0.4779655	2	0.3136697	5	0.228035	10	0.1251537	20	0.1073713	50	0.1018804
Chloroethane	1	0.2758254	2	0.3377525	5	0.2207831	10	0.2044819	20	0.2293252	50	0.2208119
Trichlorofluoromethane	1	0.6707817	2	0.6422408	5	0.4891241	10	0.4775707	20	0.5238603	50	0.5175744
Freon 113	1	0.3377721	2	0.2510973	5	0.2496857	10	0.2086937	20	0.2600446	50	0.2543777
Acetone	5	8.952252E-02	10	8.657278E-02	25	7.375289E-02	50	0.070402	100	7.373368E-02	250	0.072566
1,1-Dichloroethene	1	0.3990145	2	0.333681	5	0.3180666	10	0.2894046	20	0.3432641	50	0.3306842
Carbon disulfide	5	1.253932	10	1.037835	25	1.112832	50	1.00433	100	1.06472	250	1.028287
Methylene Chloride	1	0.5847539	2	0.4185889	5	0.4008529	10	0.3256222	20	0.3964218	50	0.3776491
Methyl-tert-Butyl Ether	1	1.164242	2	0.9056515	5	0.9469808	10	0.7918829	20	0.9566979	50	0.9415806
trans-1,2-Dichloroethene	1	0.5455467	2	0.3701761	5	0.4034804	10	0.3352535	20	0.4121552	50	0.3860634
cis-1,2-Dichloroethene	1	0.5429307	2	0.4566005	5	0.436633	10	0.3952888	20	0.4590148	50	0.4640396
1,1-Dichloroethane	1	0.8640339	2	0.6953185	5	0.7383302	10	0.6029027	20	0.7110953	50	0.6892367
2-Butanone	5	7.135105E-02	10	4.298968E-02	25	3.967934E-02	50	4.310052E-02	100	4.563691E-02	250	4.513214E-02
Chloroform	1	0.8897248	2	0.6827249	5	0.7076278	10	0.6117401	20	0.7083581	50	0.6880936
1,1,1-Trichloroethane	1	0.7157911	2	0.5241675	5	0.5674107	10	0.4753269	20	0.5623947	50	0.5589413
Methyl acetate	1	0.4809505	2	0.3497362	5	0.2257951	10	0.1912443	20	0.2395791	50	0.2518971
Cyclohexane	1	0.7609683	2	0.787809	5	0.679277	10	0.6276656	20	0.7007074	50	0.6778329
Methyl cyclohexane	1	1.033376	2	0.6679896	5	0.5175285	10	0.4251621	20	0.4578233	50	0.4325505
Carbon Tetrachloride	1	0.332756	2	0.2272348	5	0.2307668	10	0.2048351	20	0.236089	50	0.2460996
1,2-Dichloroethane	1	0.2921979	2	0.249068	5	0.2535648	10	0.1975228	20	0.2271588	50	0.2345443
Benzene	1	1.146201	2	0.8705841	5	0.9947093	10	0.8462739	20	0.9745221	50	0.9359566
Trichloroethene	1	0.2813704	2	0.2252386	5	0.2332473	10	0.208358	20	0.2394318	50	0.2341205
1,2-Dichloropropane	1	0.3117845	2	0.2404862	5	0.2401144	10	0.2219699	20	0.2468147	50	0.2425035
Bromodichloromethane	1	0.290831	2	0.2360929	5	0.2587333	10	0.2142736	20	0.2566076	50	0.2604013
4-Methyl-2-pentanone	5	3.858322E-02	10	3.052195E-02	25	3.281132E-02	50	3.050125E-02	100	3.315772E-02	250	3.123631E-02
2-Hexanone	5	0.1509228	10	0.1138268	25	0.1167292	50	0.110821	100	0.1170194	250	0.1248635
cis-1,3-Dichloropropene	1	0.3700406	2	0.2917631	5	0.3596915	10	0.3061941	20	0.3496095	50	0.3700543
Toluene	1	1.577421	2	1.274363	5	1.288243	10	1.108533	20	1.247154	50	1.223067

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07290-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2008123
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 08/26/20 09:31

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	1	0.6242174	2	0.4638536	5	0.5202423	10	0.4823255	20	0.566267	50	0.5651334
1,1,2-Trichloroethane	1	0.5355071	2	0.3590808	5	0.4315403	10	0.3387481	20	0.3827607	50	0.3844219
Tetrachloroethene	1	0.4382608	2	0.4004179	5	0.4351407	10	0.3262587	20	0.3874028	50	0.3480103
Dibromochloromethane	1	0.2809807	2	0.3145919	5	0.3051518	10	0.2696175	20	0.3285783	50	0.354141
1,2-Dibromoethane	1	0.4584014	2	0.363107	5	0.4059481	10	0.345689	20	0.399607	50	0.3983762
Chlorobenzene	1	1.488217	2	1.18575	5	1.328391	10	1.080077	20	1.255496	50	1.239516
Ethylbenzene	1	0.8478098	2	0.6953159	5	0.782013	10	0.657471	20	0.7611675	50	0.7343107
m,p-Xylenes	2	1.101772	4	0.9646993	10	0.934611	20	0.8494576	40	0.9373763	100	0.9060167
o-Xylene	1	1.0271	2	0.8969185	5	0.9114656	10	0.8087691	20	0.9062103	50	0.8945385
Bromoform	1	0.1733996	2	0.1385312	5	0.1494752	10	0.1439546	20	0.1862017	50	0.2125588
Styrene	1	1.825352	2	1.537489	5	1.494017	10	1.426179	20	1.585908	50	1.60502
Isopropylbenzene	1	2.683073	2	2.4079	5	2.319484	10	2.007368	20	2.316657	50	2.272909
1,1,2,2-Tetrachloroethane	1	0.6579026	2	0.5233725	5	0.518207	10	0.462935	20	0.5039152	50	0.519934
1,2,4-Trichlorobenzene	1	0.3771504	2	0.2955033	5	0.3112775	10	0.3020397	20	0.3441778	50	0.369034
1,3-Dichlorobenzene	1	1.190512	2	1.061118	5	1.031088	10	0.9294607	20	1.057068	50	1.065797
1,4-Dichlorobenzene	1	1.327146	2	1.026927	5	1.113201	10	0.9314809	20	1.086394	50	1.092925
1,2-Dichlorobenzene	1	1.052875	2	0.9182474	5	0.9794701	10	0.8555927	20	0.9767826	50	0.9892623
1,2-Dibromo-3-chloropropane	1	0.1032681	2	4.838925E-02	5	4.688667E-02	10	5.516524E-02	20	6.176294E-02	50	7.163575E-02
Dibromofluoromethane	50	0.4489206	55	0.4306659	60	0.4358951	50	0.4430136	65	0.4246368	50	0.4571178
Toluene-d8	50	1.08395	55	1.046894	60	1.050571	50	1.113557	65	1.013304	50	1.135162
4-Bromofluorobenzene	50	0.9436762	55	0.8976863	60	0.8933558	50	0.9459815	65	0.8429001	50	0.9323548

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07290-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2008123
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 08/26/20 09:31

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	80	0.2859963	100	0.2867727								
Chloromethane	80	0.3958117	100	0.4111025								
Vinyl chloride	80	0.437193	100	0.4398651								
Bromomethane	80	0.1150264	100	0.127057								
Chloroethane	80	~~9.071784E-02~~	100	~~4.136079E-02~~								
Trichlorofluoromethane	80	0.5597001	100	0.5535686								
Freon 113	80	0.2828012	100	0.2800146								
Acetone	400	7.713299E-02	500	0.0815403								
1,1-Dichloroethene	80	0.3545539	100	0.3630651								
Carbon disulfide	400	1.05616	500	1.046055								
Methylene Chloride	80	0.4151954	100	0.4001943								
Methyl-tert-Butyl Ether	80	1.046728	100	1.005867								
trans-1,2-Dichloroethene	80	0.422627	100	0.422557								
cis-1,2-Dichloroethene	80	0.5021693	100	0.4876872								
1,1-Dichloroethane	80	0.758259	100	0.7391641								
2-Butanone	400	4.973432E-02	500	5.218887E-02								
Chloroform	80	0.7542789	100	0.7472843								
1,1,1-Trichloroethane	80	0.6221167	100	0.6062032								
Methyl acetate	80	0.2968936	100	0.2946065								
Cyclohexane	80	0.7634457	100	0.7478935								
Methyl cyclohexane	80	0.4790175	100	0.4567372								
Carbon Tetrachloride	80	0.2843548	100	0.2767095								
1,2-Dichloroethane	80	0.2679036	100	0.2548572								
Benzene	80	1.02478	100	0.9852768								
Trichloroethene	80	0.2628767	100	0.2528797								
1,2-Dichloropropane	80	0.2742472	100	0.2657654								
Bromodichloromethane	80	0.3042713	100	0.2967051								
4-Methyl-2-pentanone	400	3.476963E-02	500	3.639526E-02								
2-Hexanone	400	0.1397109	500	0.1457781								
cis-1,3-Dichloropropene	80	0.4216178	100	0.4041183								
Toluene	80	1.340678	100	1.262652								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07290-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2008123
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 08/26/20 09:31

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	80	0.6238615	100	0.6006332								
1,1,2-Trichloroethane	80	0.43017	100	0.403882								
Tetrachloroethene	80	0.4108681	100	0.4195793								
Dibromochloromethane	80	0.3970172	100	0.3979172								
1,2-Dibromoethane	80	0.4342559	100	0.4195521								
Chlorobenzene	80	1.341624	100	1.277863								
Ethylbenzene	80	0.8030547	100	0.7903268								
m,p-Xylenes	160	0.9428548	200	0.9011198								
o-Xylene	80	0.953209	100	0.930044								
Bromoform	80	0.2521207	100	0.2536338								
Styrene	80	1.709697	100	1.658363								
Isopropylbenzene	80	2.420246	100	2.335699								
1,1,2,2-Tetrachloroethane	80	0.5555936	100	0.5412443								
1,2,4-Trichlorobenzene	80	0.4145309	100	0.4278531								
1,3-Dichlorobenzene	80	1.151935	100	1.149928								
1,4-Dichlorobenzene	80	1.15919	100	1.165413								
1,2-Dichlorobenzene	80	1.05874	100	1.045638								
1,2-Dibromo-3-chloropropane	80	7.836572E-02	100	~~8.017809E-02~~								
Dibromofluoromethane	70	0.4120283	75	0.438788								
Toluene-d8	70	1.047682	75	1.071181								
4-Bromofluorobenzene	70	0.8207207	75	0.8639978								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07290-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2008123
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 08/26/20 09:31

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	0.2948251	17.15377	4.291875	4.988773E-02	0.9978792		0.99	
Chloromethane	0.4248736	26.56834	4.74275	6.731234E-02	0.9956816		0.99	
Vinyl chloride	0.4063041	10.92884	4.93075	9.075729E-02			20	
Bromomethane	0.1995199	67.59488	5.5925	4.751654E-02		0.9922792	0.99	
Chloroethane	0.2481633	20.19	5.810167	0.1181189	0.9986709		0.99	
Trichlorofluoromethane	0.5543026	12.52532	6.06475	0.2301703			20	
Freon 113	0.2655609	13.92419	6.92925	5.748041E-02			20	
Acetone	7.815289E-02	8.954934	7.77225	0.1297221			20	
1,1-Dichloroethene	0.3414668	9.513847	6.90925	6.415473E-02			20	
Carbon disulfide	1.075519	7.312832	7.004	0.0653526			20	
Methylene Chloride	0.4149098	17.98468	7.7135	6.962712E-02	0.9981009		0.99	
Methyl-tert-Butyl Ether	0.9699538	11.17787	7.99625	3.635616E-02			20	
trans-1,2-Dichloroethene	0.4122324	14.90961	7.916375	0.0748206	0.9980644		0.99	
cis-1,2-Dichloroethene	0.4680455	9.440563	9.301125	4.980304E-02			20	
1,1-Dichloroethane	0.7247925	10.17562	8.6885	3.160813E-02			20	
2-Butanone	0.0487266	20.43089	9.88375	7.866831E-02		0.9997206	0.99	
Chloroform	0.7237291	11.08232	9.56375	0.0268493			20	
1,1,1-Trichloroethane	0.579044	12.36384	9.8285	0.0541063			20	
Methyl acetate	0.2913378	31.23172	7.891125	0.1502229		0.9980747	0.99	
Cyclohexane	0.7181999	7.671657	9.539	0.0194309			20	
Methyl cyclohexane	0.5587731	37.02578	10.76638	1.143376E-02	0.9977425		0.99	
Carbon Tetrachloride	0.2548557	16.03506	9.756125	6.723115E-02		0.9979677	0.99	
1,2-Dichloroethane	0.2471022	11.43172	10.41275	5.238322E-02			20	
Benzene	0.972288	9.618456	10.20675	4.347433E-02			20	
Trichloroethene	0.2421904	9.443896	10.76513	5.612693E-02			20	
1,2-Dichloropropane	0.2554607	10.9281	11.28625	2.740175E-02			20	
Bromodichloromethane	0.2647395	11.73292	11.3155	0.0278931	0.9949301		0.99	
4-Methyl-2-pentanone	3.349708E-02	8.697115	12.3965	1.829166E-02			20	
2-Hexanone	0.127459	12.33313	13.12625	3.416798E-02			20	
cis-1,3-Dichloropropene	0.3591361	12.27263	11.8905	1.420593E-02			20	

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07290-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2008123
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 08/26/20 09:31

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Toluene	1.290264	10.37423	12.1085	1.171465E-02			20	
trans-1,3-Dichloropropene	0.5558167	11.09844	12.46312	3.596263E-02			20	
1,1,2-Trichloroethane	0.4082639	14.84203	12.6255	3.869146E-02			20	
Tetrachloroethene	0.3957423	10.17719	12.47925	2.824705E-02			20	
Dibromochloromethane	0.3309995	14.7054	12.812	2.874149E-02			20	
1,2-Dibromoethane	0.4031171	9.011604	13.07363	4.589575E-02			20	
Chlorobenzene	1.274617	9.393927	13.49238	1.800424E-02			20	
Ethylbenzene	0.7589337	8.079139	13.454	2.290466E-02			20	
m,p-Xylenes	0.9422385	7.783325	13.5715	3.594678E-02			20	
o-Xylene	0.9160319	6.699621	13.97725	1.003991E-02			20	
Bromoform	0.1887345	24.6134	14.125	3.266424E-02		0.998331	0.99	
Styrene	1.605253	7.865023	14.02513	3.574222E-02			20	
Isopropylbenzene	2.345417	7.970722	14.2415	6.300132E-03			20	
1,1,2,2-Tetrachloroethane	0.535388	10.55899	14.71375	1.070275E-02			20	
1,2,4-Trichlorobenzene	0.3551958	14.24157	18.479	5.537212E-02			20	
1,3-Dichlorobenzene	1.079613	7.703218	15.67475	2.080966E-02			20	
1,4-Dichlorobenzene	1.112835	10.31345	15.76612	1.235281E-02			20	
1,2-Dichlorobenzene	0.984576	7.185797	16.2975	3.539811E-02			20	
1,2-Dibromo-3-chloropropane	6.649624E-02	29.96806	17.37871	3.781393E-02		0.999655	0.99	
Dibromofluoromethane	0.4363833	3.241834	9.764375	3.074849E-02			20	
Toluene-d8	1.070288	3.697505	12.0585	1.613963E-02			20	
4-Bromofluorobenzene	0.8925841	5.275309	14.57575	1.382452E-02			20	

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AD07290-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2008123 **Laboratory ID:** AA62152-SCV1

Sequence: AA62152 **Standard ID:** A0H1165

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Cyclohexane	50.0	59	17.8	30.00
Ethylbenzene	50.0	50	0.2	30.00
Carbon Tetrachloride	50.0	50	-0.9	30.00
1,3-Dichlorobenzene	50.0	53	6.8	30.00
4-Bromofluorobenzene	50.0	52	4.7	30.00
Toluene-d8	50.0	54	7.7	30.00
Dibromofluoromethane	50.0	54	8.7	30.00
Methyl-tert-Butyl Ether	50.0	53	6.6	30.00
trans-1,2-Dichloroethene	50.0	51	1.7	30.00
cis-1,2-Dichloroethene	50.0	51	2.7	30.00
Tetrachloroethene	50.0	47	-6.3	30.00
Acetone	250	300	18.3	30.00
1,2,4-Trichlorobenzene	50.0	54	8.6	30.00
Chloroform	50.0	49	-1.1	30.00
Chlorobenzene	50.0	51	2.3	30.00
Toluene	50.0	50	0.3	30.00
Methyl cyclohexane	50.0	54	8.4	30.00
m,p-Xylenes	100	100	-0.02	30.00
4-Methyl-2-pentanone	250	260	4.7	30.00
1,2-Dichloroethane	50.0	49	-1.1	30.00
1,2-Dibromoethane	50.0	53	5.2	30.00
1,4-Dichlorobenzene	50.0	51	2.0	30.00
trans-1,3-Dichloropropene	50.0	56	13.0	30.00
cis-1,3-Dichloropropene	50.0	52	4.4	30.00
Styrene	50.0	52	3.1	30.00
Dibromochloromethane	50.0	52	3.9	30.00
1,1-Dichloroethene	50.0	54	8.4	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AD07290-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2008123 **Laboratory ID:** AA62152-SCV1

Sequence: AA62152 **Standard ID:** A0H1165

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
1,2-Dibromo-3-chloropropane	50.0	52	4.9	30.00
1,2-Dichlorobenzene	50.0	54	8.2	30.00
o-Xylene	50.0	52	3.3	30.00
1,1,2,2-Tetrachloroethane	50.0	51	2.7	30.00
Methyl acetate	50.0	49	-2.4	30.00
Trichloroethene	50.0	50	-0.2	30.00
1,1,2-Trichloroethane	50.0	51	2.8	30.00
2-Butanone	250	280	12.9	30.00
1,2-Dichloropropane	50.0	50	-0.9	30.00
Freon 113	50.0	51	3.0	30.00
2-Hexanone	250	270	7.6	30.00
Trichlorofluoromethane	20.0	20	2.3	30.00
Isopropylbenzene	50.0	52	3.3	30.00
1,1-Dichloroethane	50.0	50	0.8	30.00
Bromodichloromethane	50.0	52	4.1	30.00
Bromoform	50.0	52	4.0	30.00
Carbon disulfide	50.0	47	-6.7	30.00
Methylene Chloride	50.0	51	1.3	30.00
Vinyl chloride	20.0	22	11.6	30.00
Chloroethane	20.0	24	17.8	30.00
Chloromethane	20.0	24	20.4	30.00
Bromomethane	20.0	28	40.8 *	30.00
1,1,1-Trichloroethane	50.0	52	3.7	30.00
Benzene	50.0	51	2.8	30.00
Dichlorodifluoromethane	20.0	32	58.6 *	30.00

* Values outside of QC limits

TETRA TECH ISG
TtNUS, Information Systems Group

Completion Ticket

On 11/20/2020 at 2:41 PM the following files were submitted to Tetra Tech by kdylnicki@encolabs.com with ENCO:

TE016AD07290A1.txt, TE016AD07290A3.txt

If you need to identify this session at a later date refer to Ticket Key:

20201120_6005182713_ledd_ENCO

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I Lori S. Mangrum, as the designated Quality Assurance Officer, hereby attest that all electronic deliverables have been thoroughly reviewed and are in agreement with the associated hardcopy data. The enclosed electronic files have been reviewed for accuracy (including significant figures), completeness and format. The laboratory will be responsible for any labor time necessary to correct enclosed electronic deliverables that have been found to be in error. I can be reached at (407) 826-5314 if there are any questions or problems with the enclosed electronic deliverables.

Signature:_____ Title: Quality Assurance Manager Date: November 23, 2020

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ENCO Laboratories

Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Monday, November 23, 2020
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AD07669

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Wednesday, November 11, 2020.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

www.encolabs.com

Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Client PM: Alex Murphy
Project Number: 112G08970
ENCO Project ID: AD07669
SDG: AD07669-TE016

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling and processing will be discussed in the Remarks section below.

Remarks

List of instruments used:

Analytical and Preparation Method	SOP Reference Instrument
EPA 8260D / 5030B_MS	OVGCMS2

Analysis: EPA 8260D

Manual integrations were performed on samples associated with EPA 8260D. All data & explanations are included in the raw data section of the report.

Affected Samples: CRCA-ASEFFLUENT-20201111[AD07669-01], CRCA-ASINFLUENT-20201111[AD07669-02], AA63668-CCV1, AA63668-CCV2
The associated continuing calibration verification standard exhibited high bias for multiple analytes. The analytes were not detected in the sample.

Affected Samples: CRCA-ASEFFLUENT-20201111[AD07669-01], CRCA-ASINFLUENT-20201111[AD07669-02], 0K20010-BS1
The laboratory control sample exhibited high bias for carbon disulfide, chloroethane, and trichlorofluoromethane. The analytes were not detected in the sample.

Affected Samples: CRCA-ASEFFLUENT-20201111[AD07669-01], 0K20010-MS1, 0K20010-MSD1
Matrix spike recovery was outside acceptance limits for carbon disulfide and trichlorofluoromethane.

Affected Samples: AA63668-CCV1
4-Bromofluorobenzene was outside out of acceptance limits in CCV1. CCV2 was analyzed with acceptable recoveries.

Affected Samples: AA63668-CCV1
Multiple analytes were outside acceptance limits. CCV2 and a low level standard (CRL) were analyzed with acceptable recoveries.

Affected Samples: AA63668-CCV2
The continuing calibration verification standard exhibited low bias for methyl acetate and tetrachloroethene; the associated sample had ND (non-detect) results, but sensitivity was verified by analyzing a standard with a concentration equivalent to the reporting limit.

Affected Samples: AA63212-SCV1
SCV recovery was outside acceptance limits for carbon disulfide. Analyte was not detected in the sample.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Kaitlin Dylnicki
Project Manager

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-ASEFFLUENT-20201111 **Lab ID: AD07669-01** **Sampled: 11/11/20 09:30** **Received: 11/11/20 13:45**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	11/25/20	11/20/20 10:04	11/20/20 11:32

Client ID: CRCA-ASINFLUENT-20201111 **Lab ID: AD07669-02** **Sampled: 11/11/20 09:35** **Received: 11/11/20 13:45**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	11/25/20	11/20/20 10:04	11/20/20 13:27

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-ASINFLUENT-20201111 **Lab ID:** AD07669-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
o-Xylene	0.60	I	0.53	2.5	ug/L	EPA 8260D	
trans-1,2-Dichloroethene	1.2	I	0.73	2.5	ug/L	EPA 8260D	
Vinyl chloride	23		0.71	2.5	ug/L	EPA 8260D	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20201111 **Lab Sample ID:** AD07669-01 **Received:** 11/11/20 13:45

Matrix: Ground Water **Sampled:** 11/11/20 09:30 **Work Order:** AD07669

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	0K20010	EPA 8260D	11/20/20 11:32	KG	QV-01
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	0K20010	EPA 8260D	11/20/20 11:32	KG	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	0K20010	EPA 8260D	11/20/20 11:32	KG	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	0K20010	EPA 8260D	11/20/20 11:32	KG	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	0K20010	EPA 8260D	11/20/20 11:32	KG	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	0K20010	EPA 8260D	11/20/20 11:32	KG	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	0K20010	EPA 8260D	11/20/20 11:32	KG	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	0K20010	EPA 8260D	11/20/20 11:32	KG	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	0K20010	EPA 8260D	11/20/20 11:32	KG	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	0K20010	EPA 8260D	11/20/20 11:32	KG	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	0K20010	EPA 8260D	11/20/20 11:32	KG	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	0K20010	EPA 8260D	11/20/20 11:32	KG	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	0K20010	EPA 8260D	11/20/20 11:32	KG	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	0K20010	EPA 8260D	11/20/20 11:32	KG	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	0K20010	EPA 8260D	11/20/20 11:32	KG	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	0K20010	EPA 8260D	11/20/20 11:32	KG	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	0K20010	EPA 8260D	11/20/20 11:32	KG	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	0K20010	EPA 8260D	11/20/20 11:32	KG	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	0K20010	EPA 8260D	11/20/20 11:32	KG	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	0K20010	EPA 8260D	11/20/20 11:32	KG	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	0K20010	EPA 8260D	11/20/20 11:32	KG	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	0K20010	EPA 8260D	11/20/20 11:32	KG	QL-02, QM-19, QV-01
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	0K20010	EPA 8260D	11/20/20 11:32	KG	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	0K20010	EPA 8260D	11/20/20 11:32	KG	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	0K20010	EPA 8260D	11/20/20 11:32	KG	QL-02, QV-01
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	0K20010	EPA 8260D	11/20/20 11:32	KG	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	0K20010	EPA 8260D	11/20/20 11:32	KG	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	0K20010	EPA 8260D	11/20/20 11:32	KG	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	0K20010	EPA 8260D	11/20/20 11:32	KG	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	0K20010	EPA 8260D	11/20/20 11:32	KG	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	0K20010	EPA 8260D	11/20/20 11:32	KG	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	0K20010	EPA 8260D	11/20/20 11:32	KG	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	0K20010	EPA 8260D	11/20/20 11:32	KG	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	0K20010	EPA 8260D	11/20/20 11:32	KG	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	0K20010	EPA 8260D	11/20/20 11:32	KG	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	0K20010	EPA 8260D	11/20/20 11:32	KG	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	0K20010	EPA 8260D	11/20/20 11:32	KG	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	0K20010	EPA 8260D	11/20/20 11:32	KG	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	0K20010	EPA 8260D	11/20/20 11:32	KG	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	0K20010	EPA 8260D	11/20/20 11:32	KG	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	0K20010	EPA 8260D	11/20/20 11:32	KG	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	0K20010	EPA 8260D	11/20/20 11:32	KG	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	0K20010	EPA 8260D	11/20/20 11:32	KG	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	0K20010	EPA 8260D	11/20/20 11:32	KG	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	0K20010	EPA 8260D	11/20/20 11:32	KG	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20201111 **Lab Sample ID:** AD07669-01 **Received:** 11/11/20 13:45

Matrix: Ground Water **Sampled:** 11/11/20 09:30 **Work Order:** AD07669

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	0K20010	EPA 8260D	11/20/20 11:32	KG	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	0K20010	EPA 8260D	11/20/20 11:32	KG	
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	0K20010	EPA 8260D	11/20/20 11:32	KG	QL-02, QM-19, QV-01
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	0K20010	EPA 8260D	11/20/20 11:32	KG	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	0K20010	EPA 8260D	11/20/20 11:32	KG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*47*	*1*	*50.0*	*95 %*	*41-142*	*0K20010*	*EPA 8260D*	*11/20/20 11:32*	*KG*	
Dibromofluoromethane	*54*	*1*	*50.0*	*108 %*	*53-146*	*0K20010*	*EPA 8260D*	*11/20/20 11:32*	*KG*	
Toluene-d8	*49*	*1*	*50.0*	*98 %*	*41-146*	*0K20010*	*EPA 8260D*	*11/20/20 11:32*	*KG*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20201111 **Lab Sample ID:** AD07669-02 **Received:** 11/11/20 13:45

Matrix: Ground Water **Sampled:** 11/11/20 09:35 **Work Order:** AD07669

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	0K20010	EPA 8260D	11/20/20 13:27	KG	QV-01
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	0K20010	EPA 8260D	11/20/20 13:27	KG	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	0K20010	EPA 8260D	11/20/20 13:27	KG	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	0K20010	EPA 8260D	11/20/20 13:27	KG	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	0K20010	EPA 8260D	11/20/20 13:27	KG	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	0K20010	EPA 8260D	11/20/20 13:27	KG	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	0K20010	EPA 8260D	11/20/20 13:27	KG	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	0K20010	EPA 8260D	11/20/20 13:27	KG	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	0K20010	EPA 8260D	11/20/20 13:27	KG	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	0K20010	EPA 8260D	11/20/20 13:27	KG	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	0K20010	EPA 8260D	11/20/20 13:27	KG	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	0K20010	EPA 8260D	11/20/20 13:27	KG	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	0K20010	EPA 8260D	11/20/20 13:27	KG	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	0K20010	EPA 8260D	11/20/20 13:27	KG	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	0K20010	EPA 8260D	11/20/20 13:27	KG	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	0K20010	EPA 8260D	11/20/20 13:27	KG	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	0K20010	EPA 8260D	11/20/20 13:27	KG	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	0K20010	EPA 8260D	11/20/20 13:27	KG	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	0K20010	EPA 8260D	11/20/20 13:27	KG	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	0K20010	EPA 8260D	11/20/20 13:27	KG	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	0K20010	EPA 8260D	11/20/20 13:27	KG	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	0K20010	EPA 8260D	11/20/20 13:27	KG	QL-02, QV-01
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	0K20010	EPA 8260D	11/20/20 13:27	KG	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	0K20010	EPA 8260D	11/20/20 13:27	KG	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	0K20010	EPA 8260D	11/20/20 13:27	KG	QL-02, QV-01
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	0K20010	EPA 8260D	11/20/20 13:27	KG	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	0K20010	EPA 8260D	11/20/20 13:27	KG	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	0K20010	EPA 8260D	11/20/20 13:27	KG	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	0K20010	EPA 8260D	11/20/20 13:27	KG	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	0K20010	EPA 8260D	11/20/20 13:27	KG	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	0K20010	EPA 8260D	11/20/20 13:27	KG	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	0K20010	EPA 8260D	11/20/20 13:27	KG	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	0K20010	EPA 8260D	11/20/20 13:27	KG	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	0K20010	EPA 8260D	11/20/20 13:27	KG	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	0K20010	EPA 8260D	11/20/20 13:27	KG	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	0K20010	EPA 8260D	11/20/20 13:27	KG	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	0K20010	EPA 8260D	11/20/20 13:27	KG	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	0K20010	EPA 8260D	11/20/20 13:27	KG	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	0K20010	EPA 8260D	11/20/20 13:27	KG	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	0K20010	EPA 8260D	11/20/20 13:27	KG	
o-Xylene [95-47-6]^	**0.60**	I	ug/L	1	0.53	2.5	0K20010	EPA 8260D	11/20/20 13:27	KG	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	0K20010	EPA 8260D	11/20/20 13:27	KG	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	0K20010	EPA 8260D	11/20/20 13:27	KG	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	0K20010	EPA 8260D	11/20/20 13:27	KG	
trans-1,2-Dichloroethene [156-60-5]^	**1.2**	I	ug/L	1	0.73	2.5	0K20010	EPA 8260D	11/20/20 13:27	KG	

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ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20201111 **Lab Sample ID:** AD07669-02 **Received:** 11/11/20 13:45

Matrix: Ground Water **Sampled:** 11/11/20 09:35 **Work Order:** AD07669

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	0K20010	EPA 8260D	11/20/20 13:27	KG	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	0K20010	EPA 8260D	11/20/20 13:27	KG	
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	0K20010	EPA 8260D	11/20/20 13:27	KG	QL-02, QV-01
Vinyl chloride [75-01-4]^	**23**		ug/L	1	0.71	2.5	0K20010	EPA 8260D	11/20/20 13:27	KG	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	0K20010	EPA 8260D	11/20/20 13:27	KG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*47*	*1*	*50.0*	*94 %*	*41-142*	*0K20010*	*EPA 8260D*	*11/20/20 13:27*	*KG*	
Dibromofluoromethane	*54*	*1*	*50.0*	*109 %*	*53-146*	*0K20010*	*EPA 8260D*	*11/20/20 13:27*	*KG*	
Toluene-d8	*49*	*1*	*50.0*	*99 %*	*41-146*	*0K20010*	*EPA 8260D*	*11/20/20 13:27*	*KG*	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0K20010 - EPA 5030B_MS

Blank (0K20010-BLK1) Prepared: 11/20/2020 00:00 Analyzed: 11/20/2020 10:31

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0K20010 - EPA 5030B_MS - Continued

Blank (0K20010-BLK1) Continued Prepared: 11/20/2020 00:00 Analyzed: 11/20/2020 10:31

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*48*	*I*		*ug/L*	*50.0*		*96*	*41-142*			
Dibromofluoromethane	*54*			*ug/L*	*50.0*		*107*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*98*	*41-146*			

LCS (0K20010-BS1) Prepared: 11/20/2020 00:00 Analyzed: 11/20/2020 09:05

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	25		2.5	ug/L	20.0		126	57-148			
1,1,2,2-Tetrachloroethane	17		2.5	ug/L	20.0		84	60-139			
1,1,2-Trichloroethane	17		2.5	ug/L	20.0		86	57-141			
1,1-Dichloroethane	20		2.5	ug/L	20.0		101	57-142			
1,1-Dichloroethene	20		2.5	ug/L	20.0		101	47-139			
1,2,4-Trichlorobenzene	20		2.5	ug/L	20.0		100	52-159			
1,2-Dibromo-3-chloropropane	18		2.5	ug/L	20.0		92	48-150			
1,2-Dibromoethane	17		2.5	ug/L	20.0		84	57-140			
1,2-Dichlorobenzene	19		2.5	ug/L	20.0		97	63-131			
1,2-Dichloroethane	18		2.5	ug/L	20.0		90	50-156			
1,2-Dichloropropane	17		2.5	ug/L	20.0		86	61-133			
1,3-Dichlorobenzene	20		2.5	ug/L	20.0		99	66-129			
1,4-Dichlorobenzene	20		2.5	ug/L	20.0		102	65-133			
2-Butanone	140		12	ug/L	100		137	10-180			
2-Hexanone	97		12	ug/L	100		97	12-180			
4-Methyl-2-pentanone	90		12	ug/L	100		90	19-180			
Acetone	120		25	ug/L	100		121	10-180			
Benzene	19		2.5	ug/L	20.0		97	56-136			
Bromodichloromethane	19		2.5	ug/L	20.0		93	58-135			
Bromoform	17		2.5	ug/L	20.0		83	46-148			
Bromomethane	33		2.5	ug/L	20.0		163	10-173			
Carbon disulfide	32		12	ug/L	20.0		162	43-153			QL-02
Carbon Tetrachloride	23		2.5	ug/L	20.0		114	54-156			
Chlorobenzene	20		2.5	ug/L	20.0		101	51-139			
Chloroethane	38		2.5	ug/L	20.0		188	27-180			QL-02
Chloroform	21		2.5	ug/L	20.0		106	58-139			
Chloromethane	18		2.5	ug/L	20.0		90	33-154			
cis-1,2-Dichloroethene	22		2.5	ug/L	20.0		108	56-128			
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0		86	64-128			
Cyclohexane	21		2.5	ug/L	20.0		106	70-130			
Dibromochloromethane	17		2.5	ug/L	20.0		85	50-140			
Dichlorodifluoromethane	19		2.5	ug/L	20.0		96	10-180			
Ethylbenzene	19		2.5	ug/L	20.0		96	63-133			
Freon 113	21		2.5	ug/L	20.0		107	47-173			
Isopropylbenzene	19		2.5	ug/L	20.0		96	60-132			
m,p-Xylenes	38		5.0	ug/L	40.0		96	64-133			
Methyl acetate	16		2.5	ug/L	20.0		78	70-130			
Methyl cyclohexane	20		2.5	ug/L	20.0		101	70-130			
Methylene Chloride	21		12	ug/L	20.0		104	43-142			
Methyl-tert-Butyl Ether	21		2.5	ug/L	20.0		107	51-145			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0K20010 - EPA 5030B_MS - Continued

LCS (0K20010-BS1) Continued Prepared: 11/20/2020 00:00 Analyzed: 11/20/2020 09:05

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
o-Xylene	18		2.5	ug/L	20.0		89	61-129			
Styrene	19		2.5	ug/L	20.0		93	59-136			
Tetrachloroethene	17		2.5	ug/L	20.0		87	60-147			
Toluene	19		2.5	ug/L	20.0		94	64-131			
trans-1,2-Dichloroethene	21		2.5	ug/L	20.0		104	54-134			
trans-1,3-Dichloropropene	18		2.5	ug/L	20.0		88	65-149			
Trichloroethene	20		2.5	ug/L	20.0		102	62-135			
Trichlorofluoromethane	43		2.5	ug/L	20.0		217	56-155			QL-02
Vinyl chloride	25		2.5	ug/L	20.0		124	20-167			
4-Bromofluorobenzene	*43*	*I*		*ug/L*	*50.0*		*86*	*41-142*			
Dibromofluoromethane	*53*			*ug/L*	*50.0*		*106*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*98*	*41-146*			

Matrix Spike (0K20010-MS1) Prepared: 11/20/2020 00:00 Analyzed: 11/20/2020 17:46

Source: AD07669-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	26		2.5	ug/L	20.0	0.80 U	128	57-148			
1,1,2,2-Tetrachloroethane	18		2.5	ug/L	20.0	0.54 U	89	60-139			
1,1,2-Trichloroethane	14		2.5	ug/L	20.0	0.76 U	72	57-141			
1,1-Dichloroethane	20		2.5	ug/L	20.0	0.62 U	102	57-142			
1,1-Dichloroethene	20		2.5	ug/L	20.0	0.94 U	102	47-139			
1,2,4-Trichlorobenzene	17		2.5	ug/L	20.0	0.70 U	85	52-159			
1,2-Dibromo-3-chloropropane	14		2.5	ug/L	20.0	0.96 U	71	48-150			
1,2-Dibromoethane	14		2.5	ug/L	20.0	0.78 U	72	57-140			
1,2-Dichlorobenzene	19		2.5	ug/L	20.0	0.73 U	94	63-131			
1,2-Dichloroethane	18		2.5	ug/L	20.0	0.63 U	90	50-156			
1,2-Dichloropropane	17		2.5	ug/L	20.0	0.80 U	85	61-133			
1,3-Dichlorobenzene	19		2.5	ug/L	20.0	0.77 U	95	66-129			
1,4-Dichlorobenzene	19		2.5	ug/L	20.0	0.76 U	93	65-133			
2-Butanone	140		12	ug/L	100	4.5 U	135	10-180			
2-Hexanone	110		12	ug/L	100	2.5 U	112	12-180			
4-Methyl-2-pentanone	98		12	ug/L	100	2.5 U	98	19-180			
Acetone	140		25	ug/L	100	10 U	138	10-180			
Benzene	20		2.5	ug/L	20.0	0.71 U	102	56-136			
Bromodichloromethane	18		2.5	ug/L	20.0	0.52 U	91	58-135			
Bromoform	15		2.5	ug/L	20.0	0.75 U	75	46-148			
Bromomethane	23		2.5	ug/L	20.0	0.95 U	117	10-173			
Carbon disulfide	33		12	ug/L	20.0	2.5 U	164	43-153			QM-19
Carbon Tetrachloride	23		2.5	ug/L	20.0	0.94 U	117	54-156			
Chlorobenzene	19		2.5	ug/L	20.0	0.72 U	96	51-139			
Chloroethane	35		2.5	ug/L	20.0	0.98 U	175	27-180			
Chloroform	21		2.5	ug/L	20.0	0.80 U	105	58-139			
Chloromethane	23		2.5	ug/L	20.0	0.82 U	113	33-154			
cis-1,2-Dichloroethene	20		2.5	ug/L	20.0	0.53 U	101	56-128			
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0	0.59 U	84	64-128			
Cyclohexane	22		2.5	ug/L	20.0	0.93 U	110	70-130			
Dibromochloromethane	14		2.5	ug/L	20.0	0.50 U	72	50-140			
Dichlorodifluoromethane	21		2.5	ug/L	20.0	0.74 U	106	10-180			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0K20010 - EPA 5030B_MS - Continued

Matrix Spike (0K20010-MS1) Continued Prepared: 11/20/2020 00:00 Analyzed: 11/20/2020 17:46

Source: AD07669-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	18		2.5	ug/L	20.0	0.69 U	90	63-133			
Freon 113	23		2.5	ug/L	20.0	0.73 U	113	47-173			
Isopropylbenzene	20		2.5	ug/L	20.0	0.67 U	98	60-132			
m,p-Xylenes	39		5.0	ug/L	40.0	1.3 U	97	64-133			
Methyl acetate	15		2.5	ug/L	20.0	0.95 U	75	70-130			
Methyl cyclohexane	20		2.5	ug/L	20.0	0.64 U	98	70-130			
Methylene Chloride	20		12	ug/L	20.0	2.5 U	100	43-142			
Methyl-tert-Butyl Ether	23		2.5	ug/L	20.0	0.60 U	114	51-145			
o-Xylene	18		2.5	ug/L	20.0	0.53 U	88	61-129			
Styrene	19		2.5	ug/L	20.0	0.61 U	93	59-136			
Tetrachloroethene	15		2.5	ug/L	20.0	0.76 U	76	60-147			
Toluene	17		2.5	ug/L	20.0	0.72 U	87	64-131			
trans-1,2-Dichloroethene	21		2.5	ug/L	20.0	0.73 U	107	54-134			
trans-1,3-Dichloropropene	16		2.5	ug/L	20.0	0.73 U	78	65-149			
Trichloroethene	20		2.5	ug/L	20.0	0.89 U	101	62-135			
Trichlorofluoromethane	41		2.5	ug/L	20.0	0.94 U	205	56-155			QM-19
Vinyl chloride	33		2.5	ug/L	20.0	0.71 U	164	20-167			
4-Bromofluorobenzene	*59*			*ug/L*	*50.0*		*119*	*41-142*			
Dibromofluoromethane	*52*			*ug/L*	*50.0*		*103*	*53-146*			
Toluene-d8	*53*			*ug/L*	*50.0*		*105*	*41-146*			

Matrix Spike Dup (0K20010-MSD1) Prepared: 11/20/2020 00:00 Analyzed: 11/20/2020 18:15

Source: AD07669-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	26		2.5	ug/L	20.0	0.80 U	130	57-148	2	25	
1,1,2,2-Tetrachloroethane	16		2.5	ug/L	20.0	0.54 U	82	60-139	9	17	
1,1,2-Trichloroethane	14		2.5	ug/L	20.0	0.76 U	72	57-141	0.8	16	
1,1-Dichloroethane	21		2.5	ug/L	20.0	0.62 U	104	57-142	2	24	
1,1-Dichloroethene	20		2.5	ug/L	20.0	0.94 U	102	47-139	0.2	16	
1,2,4-Trichlorobenzene	15		2.5	ug/L	20.0	0.70 U	74	52-159	14	24	
1,2-Dibromo-3-chloropropane	15		2.5	ug/L	20.0	0.96 U	77	48-150	7	21	
1,2-Dibromoethane	15		2.5	ug/L	20.0	0.78 U	74	57-140	4	16	
1,2-Dichlorobenzene	18		2.5	ug/L	20.0	0.73 U	89	63-131	5	25	
1,2-Dichloroethane	18		2.5	ug/L	20.0	0.63 U	89	50-156	1	18	
1,2-Dichloropropane	17		2.5	ug/L	20.0	0.80 U	87	61-133	3	26	
1,3-Dichlorobenzene	19		2.5	ug/L	20.0	0.77 U	97	66-129	3	23	
1,4-Dichlorobenzene	19		2.5	ug/L	20.0	0.76 U	97	65-133	4	23	
2-Butanone	140		12	ug/L	100	4.5 U	141	10-180	4	29	
2-Hexanone	110		12	ug/L	100	2.5 U	109	12-180	2	28	
4-Methyl-2-pentanone	96		12	ug/L	100	2.5 U	96	19-180	2	24	
Acetone	130		25	ug/L	100	10 U	133	10-180	4	19	
Benzene	20		2.5	ug/L	20.0	0.71 U	102	56-136	0.3	14	
Bromodichloromethane	19		2.5	ug/L	20.0	0.52 U	93	58-135	2	19	
Bromoform	15		2.5	ug/L	20.0	0.75 U	77	46-148	4	18	
Bromomethane	27		2.5	ug/L	20.0	0.95 U	133	10-173	13	29	
Carbon disulfide	32		12	ug/L	20.0	2.5 U	162	43-153	1	26	QM-19
Carbon Tetrachloride	23		2.5	ug/L	20.0	0.94 U	115	54-156	2	27	
Chlorobenzene	19		2.5	ug/L	20.0	0.72 U	97	51-139	1	13	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0K20010 - EPA 5030B_MS - Continued

Matrix Spike Dup (0K20010-MSD1) Continued Prepared: 11/20/2020 00:00 Analyzed: 11/20/2020 18:15

Source: AD07669-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloroethane	35		2.5	ug/L	20.0	0.98 U	176	27-180	0.3	22	
Chloroform	21		2.5	ug/L	20.0	0.80 U	107	58-139	2	17	
Chloromethane	20		2.5	ug/L	20.0	0.82 U	99	33-154	13	31	
cis-1,2-Dichloroethene	20		2.5	ug/L	20.0	0.53 U	102	56-128	0.2	17	
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0	0.59 U	85	64-128	1	20	
Cyclohexane	22		2.5	ug/L	20.0	0.93 U	110	70-130	0.1	20	
Dibromochloromethane	15		2.5	ug/L	20.0	0.50 U	73	50-140	2	18	
Dichlorodifluoromethane	20		2.5	ug/L	20.0	0.74 U	100	10-180	7	26	
Ethylbenzene	18		2.5	ug/L	20.0	0.69 U	90	63-133	0.4	18	
Freon 113	22		2.5	ug/L	20.0	0.73 U	110	47-173	2	30	
Isopropylbenzene	19		2.5	ug/L	20.0	0.67 U	94	60-132	4	23	
m,p-Xylenes	39		5.0	ug/L	40.0	1.3 U	98	64-133	0.8	18	
Methyl acetate	15		2.5	ug/L	20.0	0.95 U	74	70-130	1	20	
Methyl cyclohexane	20		2.5	ug/L	20.0	0.64 U	101	70-130	2	20	
Methylene Chloride	20		12	ug/L	20.0	2.5 U	101	43-142	1	23	
Methyl-tert-Butyl Ether	22		2.5	ug/L	20.0	0.60 U	111	51-145	2	22	
o-Xylene	17		2.5	ug/L	20.0	0.53 U	86	61-129	2	16	
Styrene	18		2.5	ug/L	20.0	0.61 U	91	59-136	2	32	
Tetrachloroethene	16		2.5	ug/L	20.0	0.76 U	78	60-147	2	21	
Toluene	17		2.5	ug/L	20.0	0.72 U	85	64-131	2	16	
trans-1,2-Dichloroethene	21		2.5	ug/L	20.0	0.73 U	106	54-134	0.8	20	
trans-1,3-Dichloropropene	16		2.5	ug/L	20.0	0.73 U	80	65-149	3	17	
Trichloroethene	20		2.5	ug/L	20.0	0.89 U	101	62-135	0.7	20	
Trichlorofluoromethane	41		2.5	ug/L	20.0	0.94 U	207	56-155	1	22	QM-19
Vinyl chloride	31		2.5	ug/L	20.0	0.71 U	157	20-167	4	24	
4-Bromofluorobenzene	*46*	*I*		*ug/L*	*50.0*		*93*	*41-142*			
Dibromofluoromethane	*53*			*ug/L*	*50.0*		*105*	*53-146*			
Toluene-d8	*53*			*ug/L*	*50.0*		*106*	*41-146*			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
QL-02	The associated laboratory control sample exhibited high bias; since the result is ND, there is no impact.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-11	Precision between duplicate matrix spikes of the same sample was outside acceptance limits.
QM-19	The spike recovery was outside acceptance limits for the MS and/or MSD.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported result is an estimated value.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence (85% or greater confidence) to make a “tentative identification".
Q	One or more quality control criteria failed.

Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 1412 | PAGE 1 OF 1

~~JOB 11112S ADO7669~~ ADO7669

PROJECT NO: 112G08970	FACILITY: CTCA	PROJECT MANAGER ALEX MURPHY	PHONE NUMBER 321-636-6470	LABORATORY NAME AND CONTACT: ENCO
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER J. WINFORESTER	PHONE NUMBER 504-780 1426	ADDRESS
		CARRIER/WAYBILL NUMBER COURTEX		CITY, STATE ORLANDO, FL

STANDARD TAT ☐
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2020	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TYPE OF ANALYSIS (SEE COMMENTS, BELOW)	COMMENTS
									G	HCL		
11 Nov	0930	CTCA-AS EFFLUENT-20201111	CTCA	/	/	GW	G	3	X			Cooled on ICE
11 Nov	0935	CTCA-AS INFLUENT-20201111	CTCA	/	/	GW	G	3	X			

1. RELINQUISHED BY	DATE 11Nov20	TIME 1345	1. RECEIVED BY	DATE 11Nov20	TIME 1345
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS 8260D TCL Soma 1,2 CLP-LIKE Custom List

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

Sm Red 4.3°C

4/02R
FORM NO. TtNUS-001

ENCO Orlando

SDG: AD07669-TE016

CLASS: 01_VOA_MS

METHOD: EPA 8260D

ANALYSES DATA PACKAGE COVER PAGE

EPA 8260D

Laboratory: ENCO Orlando

SDG: AD07669-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-ASEFFLUENT-20201111	AD07669-01
CRCA-ASINFLUENT-20201111	AD07669-02

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLUENT-20201111

Laboratory: ENCO Orlando SDG: AD07669-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AD07669-01 File ID: 202KO009.D

Sampled: 11/11/20 09:30 Prepared: 11/20/20 10:04 Analyzed: 11/20/20 11:32

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 0K20010 Sequence: AA63668 Calibration: 2010142 Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLUENT-20201111

Laboratory: ENCO Orlando SDG: AD07669-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AD07669-01 File ID: 202KO009.D

Sampled: 11/11/20 09:30 Prepared: 11/20/20 10:04 Analyzed: 11/20/20 11:32

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 0K20010 Sequence: AA63668 Calibration: 2010142 Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	54	108	53 - 146	
Toluene-d8	50.0	49	98	41 - 146	
4-Bromofluorobenzene	50.0	47	95	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	175897	11.45	203205	11.48	
1,4-Difluorobenzene	320287	12	343013	12.03	
Chlorobenzene-d5	146040	14.6	166283	14.63	
1,4-Dichlorobenzene-d4	97506	16.97	122373	16.99	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLUENT-20201111

Laboratory: ENCO Orlando SDG: AD07669-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AD07669-02 File ID: 202KO013.D

Sampled: 11/11/20 09:35 Prepared: 11/20/20 10:04 Analyzed: 11/20/20 13:27

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 0K20010 Sequence: AA63668 Calibration: 2010142 Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	23		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	1.2	J	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.60	J	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLUENT-20201111

Laboratory: ENCO Orlando SDG: AD07669-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AD07669-02 File ID: 202KO013.D

Sampled: 11/11/20 09:35 Prepared: 11/20/20 10:04 Analyzed: 11/20/20 13:27

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 0K20010 Sequence: AA63668 Calibration: 2010142 Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	54	109	53 - 146	
Toluene-d8	50.0	49	99	41 - 146	
4-Bromofluorobenzene	50.0	47	94	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	171472	11.46	203205	11.48	
1,4-Difluorobenzene	317655	12.01	343013	12.03	
Chlorobenzene-d5	142273	14.6	166283	14.63	
1,4-Dichlorobenzene-d4	94693	16.97	122373	16.99	

* Values outside of QC limits

HOLDING TIME SUMMARY

EPA 8260D

Laboratory: ENCO Orlando

SDG: AD07669-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-ASEFFLUENT-20201111	11/11/20 09:30	11/11/20 13:45	11/20/20 10:04	9.02	NA	11/20/20 11:32	9.00	14.00	
CRCA-ASINFLUENT-20201111	11/11/20 09:35	11/11/20 13:45	11/20/20 10:04	9.02	NA	11/20/20 13:27	9.00	14.00	

PREPARATION BATCH SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AD07669-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 0K20010 Batch Matrix: Water Preparation: EPA 5030B_MS

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	0K20010-BLK1	202KO007.D	11/20/20 00:00	
LCS	0K20010-BS1	202KO004.D	11/20/20 00:00	
CRCA-ASEFFLUENT-20201111	0K20010-MS1	202KO022.D	11/20/20 00:00	
CRCA-ASEFFLUENT-20201111	0K20010-MSD1	202KO023.D	11/20/20 00:00	
CRCA-ASEFFLUENT-20201111	AD07669-01	202KO009.D	11/20/20 10:04	
CRCA-ASINFLUENT-20201111	AD07669-02	202KO013.D	11/20/20 10:04	

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07669-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	0K20010-BLK1	File ID:	202KO007.D
Prepared:	11/20/20 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	11/20/20 10:31	Instrument:	OVGCMS2		
Batch:	0K20010	Sequence:	AA63668	Calibration:	2010142

CAS NO.	COMPOUND	CONC. (ug/L)	Q
75-71-8	Dichlorodifluoromethane	0.74	U
74-87-3	Chloromethane	0.82	U
75-01-4	Vinyl chloride	0.71	U
74-83-9	Bromomethane	0.95	U
75-00-3	Chloroethane	0.98	U
75-69-4	Trichlorofluoromethane	0.94	U
76-13-1	Freon 113	0.73	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	0.94	U
75-15-0	Carbon disulfide	2.5	U
75-09-2	Methylene Chloride	2.5	U
1634-04-4	Methyl-tert-Butyl Ether	0.60	U
156-60-5	trans-1,2-Dichloroethene	0.73	U
156-59-2	cis-1,2-Dichloroethene	0.53	U
75-34-3	1,1-Dichloroethane	0.62	U
78-93-3	2-Butanone	4.5	U
67-66-3	Chloroform	0.80	U
71-55-6	1,1,1-Trichloroethane	0.80	U
79-20-9	Methyl acetate	0.95	U
110-82-7	Cyclohexane	0.93	U
108-87-2	Methyl cyclohexane	0.64	U
56-23-5	Carbon Tetrachloride	0.94	U
107-06-2	1,2-Dichloroethane	0.63	U
71-43-2	Benzene	0.71	U
79-01-6	Trichloroethene	0.89	U
78-87-5	1,2-Dichloropropane	0.80	U
75-27-4	Bromodichloromethane	0.52	U
108-10-1	4-Methyl-2-pentanone	2.5	U
591-78-6	2-Hexanone	2.5	U
10061-01-5	cis-1,3-Dichloropropene	0.59	U

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07669-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	0K20010-BLK1	File ID:	202KO007.D
Prepared:	11/20/20 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	11/20/20 10:31	Instrument:	OVGCMS2		
Batch:	0K20010	Sequence:	AA63668	Calibration:	2010142

CAS NO.	COMPOUND	CONC. (ug/L)	Q
108-88-3	Toluene	0.72	U
10061-02-6	trans-1,3-Dichloropropene	0.73	U
79-00-5	1,1,2-Trichloroethane	0.76	U
127-18-4	Tetrachloroethene	0.76	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.78	U
108-90-7	Chlorobenzene	0.72	U
100-41-4	Ethylbenzene	0.69	U
108-38-3/106-42-3	m,p-Xylenes	1.3	U
95-47-6	o-Xylene	0.53	U
75-25-2	Bromoform	0.75	U
100-42-5	Styrene	0.61	U
98-82-8	Isopropylbenzene	0.67	U
79-34-5	1,1,2,2-Tetrachloroethane	0.54	U
120-82-1	1,2,4-Trichlorobenzene	0.70	U
541-73-1	1,3-Dichlorobenzene	0.77	U
106-46-7	1,4-Dichlorobenzene	0.76	U
95-50-1	1,2-Dichlorobenzene	0.73	U
96-12-8	1,2-Dibromo-3-chloropropane	0.96	U
1330-20-7	Xylenes (Total)	1.3	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	54	107	53 - 146	
Toluene-d8	50.0	49	98	41 - 146	
4-Bromofluorobenzene	50.0	48	96	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	180198	11.45	203205	11.48	
1,4-Difluorobenzene	327013	12	343013	12.03	
Chlorobenzene-d5	146241	14.6	166283	14.63	
1,4-Dichlorobenzene-d4	98156	16.96	122373	16.99	

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07669-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	0K20010	Laboratory ID:	0K20010-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	19	96	10 - 180
Chloromethane	20.0	18	90	33 - 154
Vinyl chloride	20.0	25	124	20 - 167
Bromomethane	20.0	33	163	10 - 173
Chloroethane	20.0	38	188 *	27 - 180
Trichlorofluoromethane	20.0	43	217 *	56 - 155
Freon 113	20.0	21	107	47 - 173
Acetone	100	120	121	10 - 180
1,1-Dichloroethene	20.0	20	101	47 - 139
Carbon disulfide	20.0	32	162 *	43 - 153
Methylene Chloride	20.0	21	104	43 - 142
Methyl-tert-Butyl Ether	20.0	21	107	51 - 145
trans-1,2-Dichloroethene	20.0	21	104	54 - 134
cis-1,2-Dichloroethene	20.0	22	108	56 - 128
1,1-Dichloroethane	20.0	20	101	57 - 142
2-Butanone	100	140	137	10 - 180
Chloroform	20.0	21	106	58 - 139
1,1,1-Trichloroethane	20.0	25	126	57 - 148
Methyl acetate	20.0	16	78	70 - 130
Cyclohexane	20.0	21	106	70 - 130
Methyl cyclohexane	20.0	20	101	70 - 130
Carbon Tetrachloride	20.0	23	114	54 - 156
1,2-Dichloroethane	20.0	18	90	50 - 156
Benzene	20.0	19	97	56 - 136
Trichloroethene	20.0	20	102	62 - 135
1,2-Dichloropropane	20.0	17	86	61 - 133
Bromodichloromethane	20.0	19	93	58 - 135
4-Methyl-2-pentanone	100	90	90	19 - 180
2-Hexanone	100	97	97	12 - 180
cis-1,3-Dichloropropene	20.0	17	86	64 - 128

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07669-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	0K20010	Laboratory ID:	0K20010-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Toluene	20.0	19	94	64 - 131
trans-1,3-Dichloropropene	20.0	18	88	65 - 149
1,1,2-Trichloroethane	20.0	17	86	57 - 141
Tetrachloroethene	20.0	17	87	60 - 147
Dibromochloromethane	20.0	17	85	50 - 140
1,2-Dibromoethane	20.0	17	84	57 - 140
Chlorobenzene	20.0	20	101	51 - 139
Ethylbenzene	20.0	19	96	63 - 133
m,p-Xylenes	40.0	38	96	64 - 133
o-Xylene	20.0	18	89	61 - 129
Bromoform	20.0	17	83	46 - 148
Styrene	20.0	19	93	59 - 136
Isopropylbenzene	20.0	19	96	60 - 132
1,1,2,2-Tetrachloroethane	20.0	17	84	60 - 139
1,2,4-Trichlorobenzene	20.0	20	100	52 - 159
1,3-Dichlorobenzene	20.0	20	99	66 - 129
1,4-Dichlorobenzene	20.0	20	102	65 - 133
1,2-Dichlorobenzene	20.0	19	97	63 - 131
1,2-Dibromo-3-chloropropane	20.0	18	92	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASEFFLUENT-20201111

Laboratory: ENCO Orlando
SDG: AD07669-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 0K20010
Laboratory ID: 0K20010-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-ASEFFLUENT-20201111

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	ND	21	106	10 - 180
Chloromethane	20.0	ND	23	113	33 - 154
Vinyl chloride	20.0	ND	33	164	20 - 167
Bromomethane	20.0	ND	23	117	10 - 173
Chloroethane	20.0	ND	35	175	27 - 180
Trichlorofluoromethane	20.0	ND	41	205 *	56 - 155
Freon 113	20.0	ND	23	113	47 - 173
Acetone	100	ND	140	138	10 - 180
1,1-Dichloroethene	20.0	ND	20	102	47 - 139
Carbon disulfide	20.0	ND	33	164 *	43 - 153
Methylene Chloride	20.0	ND	20	100	43 - 142
Methyl-tert-Butyl Ether	20.0	ND	23	114	51 - 145
trans-1,2-Dichloroethene	20.0	ND	21	107	54 - 134
cis-1,2-Dichloroethene	20.0	ND	20	101	56 - 128
1,1-Dichloroethane	20.0	ND	20	102	57 - 142
2-Butanone	100	ND	140	135	10 - 180
Chloroform	20.0	ND	21	105	58 - 139
1,1,1-Trichloroethane	20.0	ND	26	128	57 - 148
Methyl acetate	20.0	ND	15	75	70 - 130
Cyclohexane	20.0	ND	22	110	70 - 130
Methyl cyclohexane	20.0	ND	20	98	70 - 130
Carbon Tetrachloride	20.0	ND	23	117	54 - 156
1,2-Dichloroethane	20.0	ND	18	90	50 - 156
Benzene	20.0	ND	20	102	56 - 136
Trichloroethene	20.0	ND	20	101	62 - 135
1,2-Dichloropropane	20.0	ND	17	85	61 - 133
Bromodichloromethane	20.0	ND	18	91	58 - 135
4-Methyl-2-pentanone	100	ND	98	98	19 - 180
2-Hexanone	100	ND	110	112	12 - 180
cis-1,3-Dichloropropene	20.0	ND	17	84	64 - 128
Toluene	20.0	ND	17	87	64 - 131

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASEFFLUENT-20201111

Laboratory: ENCO Orlando
SDG: AD07669-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 0K20010
Laboratory ID: 0K20010-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-ASEFFLUENT-20201111

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
trans-1,3-Dichloropropene	20.0	ND	16	78	65 - 149
1,1,2-Trichloroethane	20.0	ND	14	72	57 - 141
Tetrachloroethene	20.0	ND	15	76	60 - 147
Dibromochloromethane	20.0	ND	14	72	50 - 140
1,2-Dibromoethane	20.0	ND	14	72	57 - 140
Chlorobenzene	20.0	ND	19	96	51 - 139
Ethylbenzene	20.0	ND	18	90	63 - 133
m,p-Xylenes	40.0	ND	39	97	64 - 133
o-Xylene	20.0	ND	18	88	61 - 129
Bromoform	20.0	ND	15	75	46 - 148
Styrene	20.0	ND	19	93	59 - 136
Isopropylbenzene	20.0	ND	20	98	60 - 132
1,1,2,2-Tetrachloroethane	20.0	ND	18	89	60 - 139
1,2,4-Trichlorobenzene	20.0	ND	17	85	52 - 159
1,3-Dichlorobenzene	20.0	ND	19	95	66 - 129
1,4-Dichlorobenzene	20.0	ND	19	93	65 - 133
1,2-Dichlorobenzene	20.0	ND	19	94	63 - 131
1,2-Dibromo-3-chloropropane	20.0	ND	14	71	48 - 150

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASEFFLUENT-20201111

Laboratory: ENCO Orlando
SDG: AD07669-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 0K20010
Laboratory ID: 0K20010-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-ASEFFLUENT-20201111

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20.0	20	100	7	26	10 - 180
Chloromethane	20.0	20	99	13	31	33 - 154
Vinyl chloride	20.0	31	157	4	24	20 - 167
Bromomethane	20.0	27	133	13	29	10 - 173
Chloroethane	20.0	35	176	0.3	22	27 - 180
Trichlorofluoromethane	20.0	41	207 *	1	22	56 - 155
Freon 113	20.0	22	110	2	30	47 - 173
Acetone	100	130	133	4	19	10 - 180
1,1-Dichloroethene	20.0	20	102	0.2	16	47 - 139
Carbon disulfide	20.0	32	162 *	1	26	43 - 153
Methylene Chloride	20.0	20	101	1	23	43 - 142
Methyl-tert-Butyl Ether	20.0	22	111	2	22	51 - 145
trans-1,2-Dichloroethene	20.0	21	106	0.8	20	54 - 134
cis-1,2-Dichloroethene	20.0	20	102	0.2	17	56 - 128
1,1-Dichloroethane	20.0	21	104	2	24	57 - 142
2-Butanone	100	140	141	4	29	10 - 180
Chloroform	20.0	21	107	2	17	58 - 139
1,1,1-Trichloroethane	20.0	26	130	2	25	57 - 148
Methyl acetate	20.0	15	74	1	20	70 - 130
Cyclohexane	20.0	22	110	0.1	20	70 - 130
Methyl cyclohexane	20.0	20	101	2	20	70 - 130
Carbon Tetrachloride	20.0	23	115	2	27	54 - 156
1,2-Dichloroethane	20.0	18	89	1	18	50 - 156
Benzene	20.0	20	102	0.3	14	56 - 136
Trichloroethene	20.0	20	101	0.7	20	62 - 135
1,2-Dichloropropane	20.0	17	87	3	26	61 - 133
Bromodichloromethane	20.0	19	93	2	19	58 - 135
4-Methyl-2-pentanone	100	96	96	2	24	19 - 180
2-Hexanone	100	110	109	2	28	12 - 180
cis-1,3-Dichloropropene	20.0	17	85	1	20	64 - 128
Toluene	20.0	17	85	2	16	64 - 131
trans-1,3-Dichloropropene	20.0	16	80	3	17	65 - 149

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASEFFLUENT-20201111

Laboratory: ENCO Orlando
SDG: AD07669-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 0K20010
Laboratory ID: 0K20010-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-ASEFFLUENT-20201111

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,2-Trichloroethane	20.0	14	72	0.8	16	57 - 141
Tetrachloroethene	20.0	16	78	2	21	60 - 147
Dibromochloromethane	20.0	15	73	2	18	50 - 140
1,2-Dibromoethane	20.0	15	74	4	16	57 - 140
Chlorobenzene	20.0	19	97	1	13	51 - 139
Ethylbenzene	20.0	18	90	0.4	18	63 - 133
m,p-Xylenes	40.0	39	98	0.8	18	64 - 133
o-Xylene	20.0	17	86	2	16	61 - 129
Bromoform	20.0	15	77	4	18	46 - 148
Styrene	20.0	18	91	2	32	59 - 136
Isopropylbenzene	20.0	19	94	4	23	60 - 132
1,1,2,2-Tetrachloroethane	20.0	16	82	9	17	60 - 139
1,2,4-Trichlorobenzene	20.0	15	74	14	24	52 - 159
1,3-Dichlorobenzene	20.0	19	97	3	23	66 - 129
1,4-Dichlorobenzene	20.0	19	97	4	23	65 - 133
1,2-Dichlorobenzene	20.0	18	89	5	25	63 - 131
1,2-Dibromo-3-chloropropane	20.0	15	77	7	21	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07669-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA63212
Instrument: OVGCMS2
Matrix: Water
Calibration: 2010142

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA63212-SCV1)			Lab File ID: 202JV013.D		Analyzed: 10/27/20 15:56			
Dibromofluoromethane	50.0	104	70 - 130	11.09	11.08125	0.0087	+/-0.5	
Toluene-d8	50.0	98	70 - 130	13.25	13.2425	0.0075	+/-0.5	
4-Bromofluorobenzene	50.0	95	70 - 130	15.75	15.7425	0.0075	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07669-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA63668
Instrument: OVGCMS2
Matrix: Water
Calibration: 2010142

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA63668-CCV1)			Lab File ID: 202KO002.D		Analyzed: 11/20/20 07:49			
Dibromofluoromethane	50.0	82	80 - 120	11.06	11.08125	-0.0213	+/-0.5	
Toluene-d8	50.0	98	80 - 120	13.22	13.2425	-0.0225	+/-0.5	
4-Bromofluorobenzene	50.0	78	80 - 120	15.72	15.7425	-0.0225	+/-0.5	*
Calibration Check (AA63668-CCV2)			Lab File ID: 202KO003.D		Analyzed: 11/20/20 08:33			
Dibromofluoromethane	50.0	106	80 - 120	11.06	11.08125	-0.0213	+/-0.5	
Toluene-d8	50.0	98	80 - 120	13.22	13.2425	-0.0225	+/-0.5	
4-Bromofluorobenzene	50.0	84	80 - 120	15.71	15.7425	-0.0325	+/-0.5	
LCS (0K20010-BS1)			Lab File ID: 202KO004.D		Analyzed: 11/20/20 09:05			
Dibromofluoromethane	50.0	106	53 - 146	11.06	11.08125	-0.0213	+/-0.5	
Toluene-d8	50.0	98	41 - 146	13.22	13.2425	-0.0225	+/-0.5	
4-Bromofluorobenzene	50.0	86	41 - 142	15.72	15.7425	-0.0225	+/-0.5	
Blank (0K20010-BLK1)			Lab File ID: 202KO007.D		Analyzed: 11/20/20 10:31			
Dibromofluoromethane	50.0	107	53 - 146	11.06	11.08125	-0.0213	+/-0.5	
Toluene-d8	50.0	98	41 - 146	13.23	13.2425	-0.0125	+/-0.5	
4-Bromofluorobenzene	50.0	96	41 - 142	15.72	15.7425	-0.0225	+/-0.5	
Instrument RL Check (AA63668-CRL1)			Lab File ID: 202KO008.D		Analyzed: 11/20/20 11:00			
Dibromofluoromethane	50.0	107	1 - 199	11.06	11.08125	-0.0213	+/-0.5	
Toluene-d8	50.0	96	1 - 199	13.22	13.2425	-0.0225	+/-0.5	
4-Bromofluorobenzene	50.0	92	1 - 199	15.72	15.7425	-0.0225	+/-0.5	
CRCA-ASEFFLUENT-20201111 (AD07669-01)			Lab File ID: 202KO009.D		Analyzed: 11/20/20 11:32			
Dibromofluoromethane	50.0	108	53 - 146	11.05	11.08125	-0.0313	+/-0.5	
Toluene-d8	50.0	98	41 - 146	13.22	13.2425	-0.0225	+/-0.5	
4-Bromofluorobenzene	50.0	95	41 - 142	15.72	15.7425	-0.0225	+/-0.5	
CRCA-ASINFLUENT-20201111 (AD07669-02)			Lab File ID: 202KO013.D		Analyzed: 11/20/20 13:27			
Dibromofluoromethane	50.0	109	53 - 146	11.06	11.08125	-0.0213	+/-0.5	
Toluene-d8	50.0	99	41 - 146	13.22	13.2425	-0.0225	+/-0.5	
4-Bromofluorobenzene	50.0	94	41 - 142	15.72	15.7425	-0.0225	+/-0.5	
Matrix Spike (0K20010-MS1)			Lab File ID: 202KO022.D		Analyzed: 11/20/20 17:46			
Dibromofluoromethane	50.0	103	53 - 146	11.06	11.08125	-0.0213	+/-0.5	
Toluene-d8	50.0	105	41 - 146	13.22	13.2425	-0.0225	+/-0.5	
4-Bromofluorobenzene	50.0	119	41 - 142	15.72	15.7425	-0.0225	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07669-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA63668
Instrument: OVGCMS2
Matrix: Water
Calibration: 2010142

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Matrix Spike Dup (0K20010-MSD1)			Lab File ID: 202KO023.D		Analyzed: 11/20/20 18:15			
Dibromofluoromethane	50.0	105	53 - 146	11.06	11.08125	-0.0213	+/-0.5	
Toluene-d8	50.0	106	41 - 146	13.23	13.2425	-0.0125	+/-0.5	
4-Bromofluorobenzene	50.0	93	41 - 142	15.72	15.7425	-0.0225	+/-0.5	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07669-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA63212
Instrument: OVGCMS2
Matrix: Water
Calibration: 2010142

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA63212-CAL1)			Lab File ID: 202JV003.D			Analyzed: 10/27/20 11:08			
Pentafluorobenzene	220833	11.47	203205	11.48	109	50 - 200	-0.0100	+/-0.50	
1,4-Difluorobenzene	365586	12.02	343013	12.03	107	50 - 200	-0.0100	+/-0.50	
Chlorobenzene-d5	171058	14.62	166283	14.63	103	50 - 200	-0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	122001	16.99	122373	16.99	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA63212-CAL2)			Lab File ID: 202JV004.D			Analyzed: 10/27/20 11:37			
Pentafluorobenzene	214358	11.47	203205	11.48	105	50 - 200	-0.0100	+/-0.50	
1,4-Difluorobenzene	356422	12.02	343013	12.03	104	50 - 200	-0.0100	+/-0.50	
Chlorobenzene-d5	167334	14.62	166283	14.63	101	50 - 200	-0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	117342	16.99	122373	16.99	96	50 - 200	0.0000	+/-0.50	
Cal Standard (AA63212-CAL3)			Lab File ID: 202JV005.D			Analyzed: 10/27/20 12:06			
Pentafluorobenzene	206350	11.47	203205	11.48	102	50 - 200	-0.0100	+/-0.50	
1,4-Difluorobenzene	346200	12.02	343013	12.03	101	50 - 200	-0.0100	+/-0.50	
Chlorobenzene-d5	161503	14.62	166283	14.63	97	50 - 200	-0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	114664	16.99	122373	16.99	94	50 - 200	0.0000	+/-0.50	
Cal Standard (AA63212-CAL4)			Lab File ID: 202JV006.D			Analyzed: 10/27/20 12:35			
Pentafluorobenzene	207311	11.47	203205	11.48	102	50 - 200	-0.0100	+/-0.50	
1,4-Difluorobenzene	346638	12.03	343013	12.03	101	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	159739	14.62	166283	14.63	96	50 - 200	-0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	117299	16.99	122373	16.99	96	50 - 200	0.0000	+/-0.50	
Cal Standard (AA63212-CAL5)			Lab File ID: 202JV007.D			Analyzed: 10/27/20 13:04			
Pentafluorobenzene	201262	11.48	203205	11.48	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	338805	12.03	343013	12.03	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	161573	14.62	166283	14.63	97	50 - 200	-0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	118450	16.99	122373	16.99	97	50 - 200	0.0000	+/-0.50	
Cal Standard (AA63212-CAL6)			Lab File ID: 202JV008.D			Analyzed: 10/27/20 13:33			
Pentafluorobenzene	203205	11.48	203205	11.48	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	343013	12.03	343013	12.03	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	166283	14.63	166283	14.63	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	122373	16.99	122373	16.99	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA63212-CAL7)			Lab File ID: 202JV009.D			Analyzed: 10/27/20 14:01			
Pentafluorobenzene	206311	11.48	203205	11.48	102	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	354841	12.03	343013	12.03	103	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	172631	14.62	166283	14.63	104	50 - 200	-0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	123009	16.99	122373	16.99	101	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07669-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA63212
Instrument: OVGCMS2
Matrix: Water
Calibration: 2010142

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA63212-CAL8)			Lab File ID: 202JV010.D			Analyzed: 10/27/20 14:30			
Pentafluorobenzene	197007	11.48	203205	11.48	97	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	340539	12.03	343013	12.03	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	166141	14.63	166283	14.63	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	120962	16.99	122373	16.99	99	50 - 200	0.0000	+/-0.50	
Secondary Cal Check (AA63212-SCV1)			Lab File ID: 202JV013.D			Analyzed: 10/27/20 15:56			
Pentafluorobenzene	200527	11.48	203205	11.48	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	341902	12.03	343013	12.03	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	167799	14.62	166283	14.63	101	50 - 200	-0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	118230	17	122373	16.99	97	50 - 200	0.0100	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07669-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA63668
Instrument: OVGCMS2
Matrix: Water
Calibration: 2010142

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA63668-CCV1)			Lab File ID: 202KO002.D			Analyzed: 11/20/20 07:49			
Pentafluorobenzene	227575	11.45	203205	11.48	112	50 - 200	-0.0300	+/-0.50	
1,4-Difluorobenzene	352357	12	343013	12.03	103	50 - 200	-0.0300	+/-0.50	
Chlorobenzene-d5	222477	14.59	166283	14.63	134	50 - 200	-0.0400	+/-0.50	
1,4-Dichlorobenzene-d4	152724	16.96	122373	16.99	125	50 - 200	-0.0300	+/-0.50	
Calibration Check (AA63668-CCV2)			Lab File ID: 202KO003.D			Analyzed: 11/20/20 08:33			
Pentafluorobenzene	183087	11.45	203205	11.48	90	50 - 200	-0.0300	+/-0.50	
1,4-Difluorobenzene	352096	12	343013	12.03	103	50 - 200	-0.0300	+/-0.50	
Chlorobenzene-d5	190921	14.6	166283	14.63	115	50 - 200	-0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	141992	16.96	122373	16.99	116	50 - 200	-0.0300	+/-0.50	
LCS (0K20010-BS1)			Lab File ID: 202KO004.D			Analyzed: 11/20/20 09:05			
Pentafluorobenzene	188171	11.45	203205	11.48	93	50 - 200	-0.0300	+/-0.50	
1,4-Difluorobenzene	353176	12	343013	12.03	103	50 - 200	-0.0300	+/-0.50	
Chlorobenzene-d5	183671	14.6	166283	14.63	110	50 - 200	-0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	118386	16.97	122373	16.99	97	50 - 200	-0.0200	+/-0.50	
Blank (0K20010-BLK1)			Lab File ID: 202KO007.D			Analyzed: 11/20/20 10:31			
Pentafluorobenzene	180198	11.45	203205	11.48	89	50 - 200	-0.0300	+/-0.50	
1,4-Difluorobenzene	327013	12	343013	12.03	95	50 - 200	-0.0300	+/-0.50	
Chlorobenzene-d5	146241	14.6	166283	14.63	88	50 - 200	-0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	98156	16.96	122373	16.99	80	50 - 200	-0.0300	+/-0.50	
Instrument RL Check (AA63668-CRL1)			Lab File ID: 202KO008.D			Analyzed: 11/20/20 11:00			
Pentafluorobenzene	178853	11.45	203205	11.48	88	50 - 200	-0.0300	+/-0.50	
1,4-Difluorobenzene	328386	12	343013	12.03	96	50 - 200	-0.0300	+/-0.50	
Chlorobenzene-d5	150052	14.6	166283	14.63	90	50 - 200	-0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	101241	16.97	122373	16.99	83	50 - 200	-0.0200	+/-0.50	
CRCA-ASEFFLUENT-20201111 (AD07669-01)			Lab File ID: 202KO009.D			Analyzed: 11/20/20 11:32			
Pentafluorobenzene	175897	11.45	203205	11.48	87	50 - 200	-0.0300	+/-0.50	
1,4-Difluorobenzene	320287	12	343013	12.03	93	50 - 200	-0.0300	+/-0.50	
Chlorobenzene-d5	146040	14.6	166283	14.63	88	50 - 200	-0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	97506	16.97	122373	16.99	80	50 - 200	-0.0200	+/-0.50	
CRCA-ASINFLUENT-20201111 (AD07669-02)			Lab File ID: 202KO013.D			Analyzed: 11/20/20 13:27			
Pentafluorobenzene	171472	11.46	203205	11.48	84	50 - 200	-0.0200	+/-0.50	
1,4-Difluorobenzene	317655	12.01	343013	12.03	93	50 - 200	-0.0200	+/-0.50	
Chlorobenzene-d5	142273	14.6	166283	14.63	86	50 - 200	-0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	94693	16.97	122373	16.99	77	50 - 200	-0.0200	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07669-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA63668
Instrument: OVGCMS2
Matrix: Water
Calibration: 2010142

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Matrix Spike (0K20010-MS1)			Lab File ID: 202KO022.D			Analyzed: 11/20/20 17:46			
Pentafluorobenzene	216431	11.45	203205	11.48	107	50 - 200	-0.0300	+/-0.50	
1,4-Difluorobenzene	399881	12	343013	12.03	117	50 - 200	-0.0300	+/-0.50	
Chlorobenzene-d5	232295	14.6	166283	14.63	140	50 - 200	-0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	234538	16.96	122373	16.99	192	50 - 200	-0.0300	+/-0.50	
Matrix Spike Dup (0K20010-MSD1)			Lab File ID: 202KO023.D			Analyzed: 11/20/20 18:15			
Pentafluorobenzene	212495	11.46	203205	11.48	105	50 - 200	-0.0200	+/-0.50	
1,4-Difluorobenzene	395947	12.01	343013	12.03	115	50 - 200	-0.0200	+/-0.50	
Chlorobenzene-d5	231132	14.6	166283	14.63	139	50 - 200	-0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	191540	16.96	122373	16.99	157	50 - 200	-0.0300	+/-0.50	

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07669-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA63212		
Calibration:	2010142	Instrument:	OVGCMS2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA63212-TUN1	202JV002.D	10/27/20 10:29
Cal Standard	AA63212-CAL1	202JV003.D	10/27/20 11:08
Cal Standard	AA63212-CAL2	202JV004.D	10/27/20 11:37
Cal Standard	AA63212-CAL3	202JV005.D	10/27/20 12:06
Cal Standard	AA63212-CAL4	202JV006.D	10/27/20 12:35
Cal Standard	AA63212-CAL5	202JV007.D	10/27/20 13:04
Cal Standard	AA63212-CAL6	202JV008.D	10/27/20 13:33
Cal Standard	AA63212-CAL7	202JV009.D	10/27/20 14:01
Cal Standard	AA63212-CAL8	202JV010.D	10/27/20 14:30
Secondary Cal Check	AA63212-SCV1	202JV013.D	10/27/20 15:56

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07669-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA63668		
Calibration:	2010142	Instrument:	OVGCMS2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA63668-TUN1	202KO001.D	11/20/20 07:18
Calibration Check	AA63668-CCV1	202KO002.D	11/20/20 07:49
Calibration Check	AA63668-CCV2	202KO003.D	11/20/20 08:33
LCS	0K20010-BS1	202KO004.D	11/20/20 09:05
Blank	0K20010-BLK1	202KO007.D	11/20/20 10:31
Instrument RL Check	AA63668-CRL1	202KO008.D	11/20/20 11:00
CRCA-ASEFFLUENT-20201111	AD07669-01	202KO009.D	11/20/20 11:32
CRCA-ASINFLUENT-20201111	AD07669-02	202KO013.D	11/20/20 13:27
CRCA-ASEFFLUENT-20201111	0K20010-MS1	202KO022.D	11/20/20 17:46
CRCA-ASEFFLUENT-20201111	0K20010-MSD1	202KO023.D	11/20/20 18:15

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07669-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	202JV002.D	Injection Date:	10/27/20
Instrument ID:	OVGCMS2	Injection Time:	10:29
Sequence:	AA63212	Lab Sample ID:	AA63212-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	140	PASS
96	5 - 9% of 95	6.72	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	71.5	PASS
175	5 - 9% of 174	7.78	PASS
176	95 - 105% of 174	98	PASS
177	5 - 10% of 176	6.45	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07669-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	202KO001.D	Injection Date:	11/20/20
Instrument ID:	OVGCMS2	Injection Time:	07:18
Sequence:	AA63668	Lab Sample ID:	AA63668-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	133	PASS
96	5 - 9% of 95	6.67	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	75.1	PASS
175	5 - 9% of 174	7.8	PASS
176	95 - 105% of 174	97.6	PASS
177	5 - 10% of 176	6.18	PASS

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07669-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS2	Calibration:	2010142
Lab File ID:	202KO002.D	Calibration Date:	10/27/20 00:00
Sequence:	AA63668	Injection Date:	11/20/20
Lab Sample ID:	AA63668-CCV1	Injection Time:	07:49

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Dichlorodifluoromethane	A	20.0	12	0.7987676	0.4791827		-40	20	*
Chloromethane	A	20.0	13	1.07763	0.6978139		-35	20	*
Vinyl chloride	A	20.0	17	0.840904	0.695518		-17	20	
Bromomethane	A	20.0	78	0.412412	1.608316		290	20	*
Chloroethane	A	20.0	27	0.5103745	0.6765462		33	20	*
Trichlorofluoromethane	A	20.0	31	0.9394432	1.466956		56	20	*
Freon 113	A	50.0	43	0.4961003	0.4315149		-13	20	
Acetone	A	250	230	0.2064254	0.1351809		-8.1	20	
1,1-Dichloroethene	A	50.0	39	0.4717156	0.369654		-22	20	*
Carbon disulfide	A	250	310	1.027534	1.29052		26	20	*
Methylene Chloride	A	50.0	41	0.6088142	0.4637548		-18	20	
Methyl-tert-Butyl Ether	A	50.0	45	1.156212	1.046908		-9.5	20	
trans-1,2-Dichloroethene	A	50.0	42	0.5198207	0.4401802		-15	20	
cis-1,2-Dichloroethene	A	50.0	43	0.5652492	0.4906339		-13	20	
1,1-Dichloroethane	A	50.0	46	1.063127	0.979119		-7.9	20	
2-Butanone	A	250	190	5.987583E-02	3.690564E-02		-24	20	*
Chloroform	A	50.0	44	0.9608716	0.8432561		-12	20	
1,1,1-Trichloroethane	A	50.0	51	0.7048849	0.7208041		2.3	20	
Methyl acetate	A	50.0	35	0.111407	6.813139E-02		-31	20	*
Cyclohexane	A	50.0	42	0.9235853	0.7823531		-15	20	
Methyl cyclohexane	A	50.0	50	0.3774774	0.3791127		0.40	20	
Carbon Tetrachloride	A	50.0	56	0.423679	0.4719645		11	20	
1,2-Dichloroethane	A	50.0	49	0.4238322	0.4147243		-2.1	20	
Benzene	A	50.0	70	1.170467	1.63388		40	20	*
Trichloroethene	A	50.0	52	0.3075837	0.3219661		4.7	20	
1,2-Dichloropropane	A	50.0	45	0.3639583	0.326436		-10	20	
Bromodichloromethane	A	50.0	49	0.4272578	0.4180987		-2.1	20	
4-Methyl-2-pentanone	A	250	250	4.378906E-02	0.0406809		0.70	20	
2-Hexanone	A	250	260	0.2448968	0.2570013		4.9	20	

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07669-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS2	Calibration:	2010142
Lab File ID:	202KO002.D	Calibration Date:	10/27/20 00:00
Sequence:	AA63668	Injection Date:	11/20/20
Lab Sample ID:	AA63668-CCV1	Injection Time:	07:49

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
cis-1,3-Dichloropropene	A	50.0	46	0.5492303	0.5018915		-8.6	20	
Toluene	A	50.0	43	1.46369	1.245769		-15	20	
trans-1,3-Dichloropropene	A	50.0	40	0.9230206	0.7356311		-20	20	
1,1,2-Trichloroethane	A	50.0	36	0.5316414	0.384206		-28	20	*
Tetrachloroethene	A	50.0	40	0.4409217	0.3517577		-20	20	
Dibromochloromethane	A	50.0	36	0.7081429	0.5158016		-27	20	*
1,2-Dibromoethane	A	50.0	36	0.6005858	0.436589		-27	20	*
Chlorobenzene	A	50.0	50	1.56169	1.568427		0.40	20	
Ethylbenzene	A	50.0	47	0.7803279	0.7310239		-6.3	20	
m,p-Xylenes	A	100	110	0.9494273	1.005893		5.9	20	
o-Xylene	A	50.0	47	0.9500223	0.8995222		-5.3	20	
Bromoform	A	50.0	40	0.380996	0.3021571		-21	20	*
Styrene	A	50.0	55	1.689222	1.849692		9.5	20	
Isopropylbenzene	A	50.0	53	2.327125	2.470786		6.2	20	
1,1,2,2-Tetrachloroethane	A	50.0	41	0.6456901	0.5324461		-18	20	
1,2,4-Trichlorobenzene	A	50.0	33	0.5914134	0.3850868		-35	20	*
1,3-Dichlorobenzene	A	50.0	48	1.416846	1.353998		-4.4	20	
1,4-Dichlorobenzene	A	50.0	52	1.461807	1.523952		4.3	20	
1,2-Dichlorobenzene	A	50.0	41	1.29788	1.058877		-18	20	
1,2-Dibromo-3-chloropropane	A	50.0	30	0.1352018	6.852885E-02		-40	20	*

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07669-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS2	Calibration:	2010142
Lab File ID:	202KO003.D	Calibration Date:	10/27/20 00:00
Sequence:	AA63668	Injection Date:	11/20/20
Lab Sample ID:	AA63668-CCV2	Injection Time:	08:33

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Freon 113	A	50.0	58	0.4961003	0.5737982		16	20	
1,1-Dichloroethene	A	50.0	53	0.4717156	0.5037496		6.8	20	
Methylene Chloride	A	50.0	54	0.6088142	0.6112613		7.9	20	
Methyl-tert-Butyl Ether	A	50.0	55	1.156212	1.278665		11	20	
trans-1,2-Dichloroethene	A	50.0	53	0.5198207	0.5554463		6.9	20	
cis-1,2-Dichloroethene	A	50.0	54	0.5652492	0.6062746		7.3	20	
1,1-Dichloroethane	A	50.0	50	1.063127	1.058808		-0.4	20	
Chloroform	A	50.0	55	0.9608716	1.064609		11	20	
1,1,1-Trichloroethane	A	50.0	63	0.7048849	0.8855517		26	20	*
Methyl acetate	A	50.0	36	0.111407	6.995581E-02		-29	20	*
Cyclohexane	A	50.0	53	0.9235853	0.9709482		5.1	20	
Methyl cyclohexane	A	50.0	49	0.3774774	0.3705978		-1.8	20	
Carbon Tetrachloride	A	50.0	57	0.423679	0.4802128		13	20	
1,2-Dichloroethane	A	50.0	46	0.4238322	0.3901209		-8	20	
Benzene	A	50.0	50	1.170467	1.179684		0.80	20	
Trichloroethene	A	50.0	52	0.3075837	0.3175214		3.2	20	
1,2-Dichloropropane	A	50.0	44	0.3639583	0.3191062		-12	20	
Bromodichloromethane	A	50.0	49	0.4272578	0.417406		-2.3	20	
cis-1,3-Dichloropropene	A	50.0	46	0.5492303	0.5002443		-8.9	20	
Toluene	A	50.0	47	1.46369	1.370986		-6.3	20	
trans-1,3-Dichloropropene	A	50.0	41	0.9230206	0.7636666		-17	20	
1,1,2-Trichloroethane	A	50.0	40	0.5316414	0.4254168		-20	20	
Tetrachloroethene	A	50.0	39	0.4409217	0.3440114		-22	20	*
Dibromochloromethane	A	50.0	41	0.7081429	0.5844773		-18	20	
1,2-Dibromoethane	A	50.0	41	0.6005858	0.4919574		-18	20	
Chlorobenzene	A	50.0	50	1.56169	1.54819		-0.9	20	
Ethylbenzene	A	50.0	49	0.7803279	0.7588008		-2.8	20	
m,p-Xylenes	A	100	100	0.9494273	0.9575269		0.90	20	
o-Xylene	A	50.0	49	0.9500223	0.9233138		-2.8	20	

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07669-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS2	Calibration:	2010142
Lab File ID:	202KO003.D	Calibration Date:	10/27/20 00:00
Sequence:	AA63668	Injection Date:	11/20/20
Lab Sample ID:	AA63668-CCV2	Injection Time:	08:33

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Bromoform	A	50.0	41	0.380996	0.3110135		-18	20	
Styrene	A	50.0	54	1.689222	1.818532		7.7	20	
Isopropylbenzene	A	50.0	53	2.327125	2.469089		6.1	20	
1,1,2,2-Tetrachloroethane	A	50.0	44	0.6456901	0.5627668		-13	20	
1,2,4-Trichlorobenzene	A	50.0	39	0.5914134	0.4582441		-23	20	*
1,3-Dichlorobenzene	A	50.0	46	1.416846	1.310926		-7.5	20	
1,4-Dichlorobenzene	A	50.0	52	1.461807	1.507409		3.1	20	
1,2-Dichlorobenzene	A	50.0	44	1.29788	1.13493		-13	20	
1,2-Dibromo-3-chloropropane	A	50.0	34	0.1352018	7.654657E-02		-33	20	*

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD07669-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA63212	Instrument:	OVGCMS2
Calibration:	2010142		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A0I0903	MS Tune	AA63212-TUN1	202JV002.D	10/27/20 10:29
A0J1092	8260 Cal 1PPB	AA63212-CAL1	202JV003.D	10/27/20 11:08
A0J1093	8260 Cal 2 PPB	AA63212-CAL2	202JV004.D	10/27/20 11:37
A0J1094	8260 Cal 5 PPB	AA63212-CAL3	202JV005.D	10/27/20 12:06
A0J1095	8260 Cal 10 PPB	AA63212-CAL4	202JV006.D	10/27/20 12:35
A0J1096	8260 Cal 20 PPB	AA63212-CAL5	202JV007.D	10/27/20 13:04
A0J1097	8260 Cal 50 PPB	AA63212-CAL6	202JV008.D	10/27/20 13:33
A0J1098	8260 Cal 80PPB	AA63212-CAL7	202JV009.D	10/27/20 14:01
A0J1099	8260 Cal 100 PPB	AA63212-CAL8	202JV010.D	10/27/20 14:30
A0J1100	8260 SCV 50 PPB / 20 Gases	AA63212-SCV1	202JV013.D	10/27/20 15:56

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07669-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2010142
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 10/27/20 00:00

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	1	0.7963031	2	0.9108594	5	0.7165496	10	0.717714	20	0.7961513	50	0.7946212
Chloromethane	1	1.214719	2	1.319288	5	1.022728	10	0.9483337	20	1.033317	50	0.9787013
Vinyl chloride	1	0.8311711	2	0.9716222	5	0.7895323	10	0.7646483	20	0.8292797	50	0.8206688
Bromomethane	1	0.38151	2	0.5135101	5	0.3748001	10	0.3904038	20	0.4123729	50	0.401875
Chloroethane	1	0.6498123	2	0.5594613	5	0.4742428	10	0.4785323	20	0.4746673	50	0.4709825
Trichlorofluoromethane	1	0.8298126	2	1.054428	5	0.8862612	10	0.8739768	20	0.9426394	50	0.942216
Freon 113	1	0.4625667	2	0.5103612	5	0.5046765	10	0.4515679	20	0.4928774	50	0.4938264
Acetone	5	0.4733894	10	0.2590993	25	0.1752362	50	0.1489791	100	0.155474	250	0.1445978
1,1-Dichloroethene	1	0.5778122	2	0.5263391	5	0.4633874	10	0.3979046	20	0.4407936	50	0.4320957
Carbon disulfide	5	1.301708	10	1.07668	25	1.011883	50	0.9224643	100	0.9851189	250	0.941653
Methylene Chloride	1	0.8291333	2	0.7209901	5	0.5835231	10	0.5095485	20	0.5456942	50	0.5398342
Methyl-tert-Butyl Ether	1	1.153587	2	1.115074	5	1.085147	10	0.9916985	20	1.152142	50	1.204882
trans-1,2-Dichloroethene	1	0.5737367	2	0.5954991	5	0.5206688	10	0.4451283	20	0.4888156	50	0.4878522
cis-1,2-Dichloroethene	1	0.6527557	2	0.6111272	5	0.5652532	10	0.4835006	20	0.5288629	50	0.5297655
1,1-Dichloroethane	1	1.308455	2	1.197646	5	1.004992	10	0.931282	20	0.9910465	50	0.9940257
2-Butanone	5	0.110219	10	6.524133E-02	25	5.795978E-02	50	0.0483573	100	5.063301E-02	250	4.827145E-02
Chloroform	1	1.098115	2	1.114724	5	0.9557063	10	0.8490143	20	0.8999712	50	0.8840235
1,1,1-Trichloroethane	1	0.7184162	2	0.7656584	5	0.711558	10	0.6356151	20	0.6887043	50	0.685116
Methyl acetate	1	0.1641512	2	0.1379701	5	0.1172765	10	8.494484E-02	20	9.631724E-02	50	9.279791E-02
Cyclohexane	1	0.8046805	2	1.092798	5	0.9951539	10	0.8248477	20	0.9068652	50	0.8856426
Methyl cyclohexane	1	0.3661245	2	0.3801673	5	0.3930387	10	0.3354508	20	0.3833474	50	0.372327
Carbon Tetrachloride	1	0.3918367	2	0.4742973	5	0.4266609	10	0.3825605	20	0.4189799	50	0.4211794
1,2-Dichloroethane	1	0.4685628	2	0.4690367	5	0.4286828	10	0.3767475	20	0.4062292	50	0.4022122
Benzene	1	1.320893	2	1.393643	5	1.205026	10	1.057472	20	1.121449	50	1.073924
Trichloroethene	1	0.3104605	2	0.3181622	5	0.3115829	10	0.2724168	20	0.2997004	50	0.3001519
1,2-Dichloropropane	1	0.461998	2	0.3691551	5	0.3778741	10	0.3132374	20	0.3451322	50	0.3348998
Bromodichloromethane	1	0.4803247	2	0.4710708	5	0.4235413	10	0.3753339	20	0.401647	50	0.4051741
4-Methyl-2-pentanone	5	6.034148E-02	10	4.731751E-02	25	4.290006E-02	50	3.733866E-02	100	4.086717E-02	250	0.0404422
2-Hexanone	5	0.2964008	10	0.2386216	25	0.2526574	50	0.2186633	100	0.238686	250	0.2336495
cis-1,3-Dichloropropene	1	0.5878234	2	0.5927664	5	0.5290872	10	0.4815975	20	0.526623	50	0.5399067
Toluene	1	1.628103	2	1.571259	5	1.463874	10	1.326883	20	1.396226	50	1.395332

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07669-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2010142
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 10/27/20 00:00

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	1	0.9777385	2	0.9590101	5	0.9180015	10	0.8283825	20	0.8944718	50	0.8924304
1,1,2-Trichloroethane	1	0.6331186	2	0.5807248	5	0.5226528	10	0.4908945	20	0.5055764	50	0.4917881
Tetrachloroethene	1	0.4559857	2	0.4600081	5	0.4462456	10	0.4028133	20	0.4384705	50	0.4317519
Dibromochloromethane	1	0.7716681	2	0.7582141	5	0.6898324	10	0.6464608	20	0.6827564	50	0.6767679
1,2-Dibromoethane	1	0.657964	2	0.6140414	5	0.5936732	10	0.5335892	20	0.5947002	50	0.5789167
Chlorobenzene	1	1.685393	2	1.679724	5	1.551364	10	1.429269	20	1.52657	50	1.515116
Ethylbenzene	1	0.7403921	2	0.8420285	5	0.7871061	10	0.7181715	20	0.763695	50	0.7675228
m,p-Xylenes	2	0.9812461	4	1.026839	10	0.9609419	20	0.8708424	40	0.9330767	100	0.9339139
o-Xylene	1	0.9759848	2	1.000843	5	0.9458029	10	0.8564596	20	0.9308022	50	0.9385024
Bromoform	1	0.3966491	2	0.3697694	5	0.3767732	10	0.3451881	20	0.3769349	50	0.3804057
Styrene	1	1.844988	2	1.774595	5	1.668885	10	1.525238	20	1.667853	50	1.67067
Isopropylbenzene	1	2.419063	2	2.499044	5	2.325901	10	2.095762	20	2.283055	50	2.301017
1,1,2,2-Tetrachloroethane	1	0.7243157	2	0.7313218	5	0.6356538	10	0.5696793	20	0.6175073	50	0.6208753
1,2,4-Trichlorobenzene	1	0.5647495	2	0.5812071	5	0.5992291	10	0.5329969	20	0.585057	50	0.5848104
1,3-Dichlorobenzene	1	1.515971	2	1.500315	5	1.383259	10	1.235816	20	1.336218	50	1.385477
1,4-Dichlorobenzene	1	1.515971	2	1.591715	5	1.45861	10	1.292211	20	1.413444	50	1.424881
1,2-Dichlorobenzene	1	1.272121	2	1.346491	5	1.270407	10	1.148859	20	1.280751	50	1.276483
1,2-Dibromo-3-chloropropane	1	0.193441	2	0.1712942	5	0.132038	10	0.1080998	20	0.1190165	50	0.1127618
Dibromofluoromethane	50	0.4547554	55	0.5091652	60	0.5356151	50	0.5253846	65	0.5396219	50	0.5112768
Toluene-d8	50	0.8571253	55	0.9223234	60	0.9426464	50	0.9342571	65	0.9668802	50	0.9188427
4-Bromofluorobenzene	50	0.7978288	55	0.7488344	60	0.7452906	50	0.729515	65	0.7640604	50	0.7116482

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07669-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2010142
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 10/27/20 00:00

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	80	0.8249409	100	0.8330009								
Chloromethane	80	1.052304	100	1.051645								
Vinyl chloride	80	0.854211	100	0.8660987								
Bromomethane	80	~~0.2720498~~	100	~~0.2244336~~								
Chloroethane	80	0.4874467	100	0.4878507								
Trichlorofluoromethane	80	0.9841968	100	1.002015								
Freon 113	80	0.5244176	100	0.5285091								
Acetone	400	0.1481695	500	0.1464582								
1,1-Dichloroethene	80	0.4688401	100	0.4665519								
Carbon disulfide	400	0.9871983	500	0.9935703								
Methylene Chloride	80	0.5689529	100	0.5728375								
Methyl-tert-Butyl Ether	80	1.267346	100	1.27982								
trans-1,2-Dichloroethene	80	0.5210913	100	0.5257732								
cis-1,2-Dichloroethene	80	0.5770051	100	0.5737233								
1,1-Dichloroethane	80	1.042901	100	1.034671								
2-Butanone	400	5.079043E-02	500	4.753435E-02								
Chloroform	80	0.9426879	100	0.9427305								
1,1,1-Trichloroethane	80	0.7331074	100	0.700904								
Methyl acetate	80	9.767717E-02	100	0.1001208								
Cyclohexane	80	0.9349053	100	0.9437888								
Methyl cyclohexane	80	0.3971092	100	0.3922546								
Carbon Tetrachloride	80	0.4413914	100	0.4325261								
1,2-Dichloroethane	80	0.418721	100	0.4204658								
Benzene	80	1.101594	100	1.089739								
Trichloroethene	80	0.3252566	100	0.322938								
1,2-Dichloropropane	80	0.357093	100	0.3522768								
Bromodichloromethane	80	0.4325846	100	0.4283856								
4-Methyl-2-pentanone	400	4.131146E-02	500	3.979397E-02								
2-Hexanone	400	0.244462	500	0.2360338								
cis-1,3-Dichloropropene	80	0.5700564	100	0.5659822								
Toluene	80	1.464471	100	1.463374								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07669-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2010142
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 10/27/20 00:00

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	80	0.9701545	100	0.9439753								
1,1,2-Trichloroethane	80	0.5181826	100	0.5101931								
Tetrachloroethene	80	0.4474464	100	0.4446524								
Dibromochloromethane	80	0.7240842	100	0.7153592								
1,2-Dibromoethane	80	0.6189611	100	0.6128409								
Chlorobenzene	80	1.561944	100	1.544137								
Ethylbenzene	80	0.810714	100	0.8129932								
m,p-Xylenes	160	0.9380612	200	0.9504969								
o-Xylene	80	0.966259	100	0.9855243								
Bromoform	80	0.4062133	100	0.3960341								
Styrene	80	1.660608	100	1.700941								
Isopropylbenzene	80	2.333105	100	2.360056								
1,1,2,2-Tetrachloroethane	80	0.6447133	100	0.6214541								
1,2,4-Trichlorobenzene	80	0.6212147	100	0.6620426								
1,3-Dichlorobenzene	80	1.482137	100	1.495573								
1,4-Dichlorobenzene	80	1.508253	100	1.489369								
1,2-Dichlorobenzene	80	1.386707	100	1.401225								
1,2-Dibromo-3-chloropropane	80	0.1218915	100	0.1230717								
Dibromofluoromethane	70	0.4935579	75	0.5290607								
Toluene-d8	70	0.871962	75	0.9487567								
4-Bromofluorobenzene	70	0.6976855	75	0.7711522								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07669-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2010142
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 10/27/20 00:00

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	0.7987676	7.88688	5.90625	8.612095E-02			20	
Chloromethane	1.07763	11.63215	6.3875	0.1126683			20	
Vinyl chloride	0.840904	7.384568	6.57125	5.240348E-02			20	
Bromomethane	0.412412	12.45194	7.225	0.1442287			20	
Chloroethane	0.5103745	12.39898	7.44875	0.1674348			20	
Trichlorofluoromethane	0.9394432	7.872742	7.7125	9.089489E-02			20	
Freon 113	0.4961003	5.521503	8.54125	7.636455E-02			20	
Acetone	0.2064254	55.45405	9.26125	3.807511E-02	0.9989385		0.99	
1,1-Dichloroethene	0.4717156	11.97024	8.50125	4.184638E-02			20	
Carbon disulfide	1.027534	11.67998	8.62	8.264094E-03			20	
Methylene Chloride	0.6088142	17.91182	9.22	1.894174E-02	0.999148		0.99	
Methyl-tert-Butyl Ether	1.156212	8.258928	9.535	5.308368E-02			20	
trans-1,2-Dichloroethene	0.5198207	9.264293	9.4475	5.104185E-02			20	
cis-1,2-Dichloroethene	0.5652492	9.274533	10.68625	5.011491E-02			20	
1,1-Dichloroethane	1.063127	11.80382	10.12	7.541344E-03			20	
2-Butanone	5.987583E-02	35.45406	11.19	1.726971E-02	0.9979295		0.99	
Chloroform	0.9608716	10.05325	10.9025	4.163838E-02			20	
1,1,1-Trichloroethane	0.7048849	5.411268	11.19625	0.0444183			20	
Methyl acetate	0.111407	24.25714	9.405	8.046685E-02	0.9985185		0.99	
Cyclohexane	0.9235853	10.01567	10.96875	0.0293601			20	
Methyl cyclohexane	0.3774774	5.307093	12.08375	3.979921E-02			20	
Carbon Tetrachloride	0.423679	6.732911	11.165	0.0443847			20	
1,2-Dichloroethane	0.4238322	7.514002	11.68	0.0127112			20	
Benzene	1.170467	10.67983	11.53875	3.101788E-02			20	
Trichloroethene	0.3075837	5.54786	12.0525	5.467035E-02			20	
1,2-Dichloropropane	0.3639583	12.19386	12.49875	2.784302E-02			20	
Bromodichloromethane	0.4272578	8.212682	12.515	4.339362E-02			20	
4-Methyl-2-pentanone	4.378906E-02	16.61799	13.5225	3.029241E-02	0.9993651		0.99	
2-Hexanone	0.2448968	9.367949	14.2225	3.105118E-02			20	
cis-1,3-Dichloropropene	0.5492303	6.76971	13.065	4.133504E-02			20	

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD07669-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2010142
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 10/27/20 00:00

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Toluene	1.46369	6.661243	13.29	4.065269E-02			20	
trans-1,3-Dichloropropene	0.9230206	5.445146	13.5825	3.491374E-02			20	
1,1,2-Trichloroethane	0.5316414	9.366256	13.74	1.545552E-02			20	
Tetrachloroethene	0.4409217	4.037459	13.66875	1.931185E-02			20	
Dibromochloromethane	0.7081429	5.995403	13.93375	3.764128E-02			20	
1,2-Dibromoethane	0.6005858	5.970871	14.195	4.161861E-02			20	
Chlorobenzene	1.56169	5.443484	14.63875	1.736975E-02			20	
Ethylbenzene	0.7803279	5.248643	14.6	3.182624E-02			20	
m,p-Xylenes	0.9494273	4.702197	14.7125	2.626215E-02			20	
o-Xylene	0.9500223	4.716599	15.1325	2.750084E-02			20	
Bromoform	0.380996	5.009579	15.2625	2.504167E-02			20	
Styrene	1.689222	5.508681	15.17125	2.605188E-02			20	
Isopropylbenzene	2.327125	5.013488	15.4	2.711659E-03			20	
1,1,2,2-Tetrachloroethane	0.6456901	8.561454	15.8375	3.166334E-02			20	
1,2,4-Trichlorobenzene	0.5914134	6.470044	19.98375	2.617196E-02			20	
1,3-Dichlorobenzene	1.416846	6.988951	16.91625	3.129922E-02			20	
1,4-Dichlorobenzene	1.461807	6.074901	16.99875	0.1882329			20	
1,2-Dichlorobenzene	1.29788	6.19889	17.58	3.092952E-02			20	
1,2-Dibromo-3-chloropropane	0.1352018	22.58841	18.7	4.153115E-02		0.9993649	0.99	
Dibromofluoromethane	0.5123047	5.429415	11.08125	2.868159E-02			20	
Toluene-d8	0.9203492	4.108273	13.2425	3.369261E-02			20	
4-Bromofluorobenzene	0.7457519	4.371396	15.7425	2.715331E-02			20	

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AD07669-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2010142 **Laboratory ID:** AA63212-SCV1

Sequence: AA63212 **Standard ID:** A0J1100

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Cyclohexane	50.0	51	1.4	30.00
Ethylbenzene	50.0	49	-1.5	30.00
Carbon Tetrachloride	50.0	51	1.8	30.00
1,3-Dichlorobenzene	50.0	51	2.6	30.00
4-Bromofluorobenzene	50.0	47	-5.5	30.00
Toluene-d8	50.0	49	-2.4	30.00
Dibromofluoromethane	50.0	52	3.5	30.00
Methyl-tert-Butyl Ether	50.0	55	9.4	30.00
trans-1,2-Dichloroethene	50.0	49	-1.9	30.00
cis-1,2-Dichloroethene	50.0	50	-0.6	30.00
Tetrachloroethene	50.0	51	1.2	30.00
Acetone	250	300	19.3	30.00
1,2,4-Trichlorobenzene	50.0	52	4.9	30.00
Chloroform	50.0	49	-2.7	30.00
Chlorobenzene	50.0	50	-1.0	30.00
Toluene	50.0	48	-3.1	30.00
Methyl cyclohexane	50.0	50	0.7	30.00
m,p-Xylenes	100	97	-3.1	30.00
4-Methyl-2-pentanone	250	270	8.3	30.00
1,2-Dichloroethane	50.0	50	-0.9	30.00
1,2-Dibromoethane	50.0	50	0.8	30.00
1,4-Dichlorobenzene	50.0	51	1.3	30.00
trans-1,3-Dichloropropene	50.0	52	5.0	30.00
cis-1,3-Dichloropropene	50.0	50	-1.0	30.00
Styrene	50.0	50	-0.5	30.00
Dibromochloromethane	50.0	50	-0.1	30.00
1,1-Dichloroethene	50.0	47	-6.6	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AD07669-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2010142 **Laboratory ID:** AA63212-SCV1

Sequence: AA63212 **Standard ID:** A0J1100

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
1,2-Dibromo-3-chloropropane	50.0	54	8.1	30.00
1,2-Dichlorobenzene	50.0	53	5.3	30.00
o-Xylene	50.0	49	-1.7	30.00
1,1,2,2-Tetrachloroethane	50.0	52	3.1	30.00
Methyl acetate	50.0	45	-9.8	30.00
Trichloroethene	50.0	51	1.8	30.00
1,1,2-Trichloroethane	50.0	48	-3.8	30.00
2-Butanone	250	270	8.9	30.00
1,2-Dichloropropane	50.0	49	-2.3	30.00
Freon 113	50.0	48	-3.0	30.00
2-Hexanone	250	250	1.0	30.00
Trichlorofluoromethane	20.0	20	2.4	30.00
Isopropylbenzene	50.0	50	-0.6	30.00
1,1-Dichloroethane	50.0	49	-1.8	30.00
Bromodichloromethane	50.0	50	0.6	30.00
Bromoform	50.0	54	8.8	30.00
Carbon disulfide	50.0	80	59.5 *	30.00
Methylene Chloride	50.0	49	-2.2	30.00
Vinyl chloride	20.0	20	1.0	30.00
Chloroethane	20.0	19	-2.8	30.00
Chloromethane	20.0	20	-0.4	30.00
Bromomethane	20.0	23	13.3	30.00
1,1,1-Trichloroethane	50.0	51	2.2	30.00
Benzene	50.0	51	1.2	30.00
Dichlorodifluoromethane	20.0	19	-4.6	30.00

* Values outside of QC limits

ANALYSIS SEQUENCE

AA63668

Instrument: OVGCMS2

Calibration ID: 2010142

Printed: 11/20/2020 12:31:20PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA63668-TUN1	QC		1		A0I0903			
AA63668-CCV1	QC		2		A0K1111	A0K0862		
AA63668-CCV2	QC		3		A0K1110	A0K0862		
0K20010-BS1	QC		4			A0K0862		
0K20010-BLK1	QC		5			A0K0862		
AA63668-CRL1	QC		6		A0K1116	A0K0862		
AD07669-01	624.1 Arom	A	7			A0K0862	Tetra Tech, Inc. (TE016)	BatchQC
AD07669-01	624.1 Extended	A	8			A0K0862	Tetra Tech, Inc. (TE016)	BatchQC
AD07669-01	8260D	A	9			A0K0862	Tetra Tech, Inc. (TE016)	BatchQC
AD07669-01	8260D Arom	A	10			A0K0862	Tetra Tech, Inc. (TE016)	BatchQC
AD07669-01	8260D BTEX	A	11			A0K0862	Tetra Tech, Inc. (TE016)	BatchQC
AD07669-01	60D TCL SOM01.2 CLP-LIK	A	12			A0K0862	Tetra Tech, Inc. (TE016)	History 1x nd jw 11/11/2020 custom
AD07340-02	8260D BTEX	A	13			A0K0862		
AD07861-03	8260D Arom	A	14			A0K0862		
AD07229-01	624.1 Extended	K	15			A0K0862		
AD07669-02	60D TCL SOM01.2 CLP-LIK	A	16			A0K0862	Tetra Tech, Inc. (TE016)	History 1x jw 11/11/2020 custom
AD07759-01	60D TCL SOM01.2 CLP-LIK	C	17			A0K0862		
AD07340-01	8260D BTEX	F	18			A0K0862		
AD07861-01	8260D Arom	F	19			A0K0862		
AD07754-01	8260D	C	20			A0K0862		
AD07754-02	8260D	B	21			A0K0862		
AD07754-03	8260D	B	22			A0K0862		
AD07754-04	8260D	B	23			A0K0862		

Samples Loaded By _____ Date _____

Data Processed By _____ Date _____

ANALYSIS SEQUENCE

AA63668

Instrument: OVGCMS2

Calibration ID: 2010142

Printed: 11/20/2020 12:31:20PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AD07849-01	624.1 Arom	C	24			A0K0862		
0K20010-MS1	QC		25			A0K0862		
0K20010-MSD1	QC		26			A0K0862		

Samples Loaded By Date

Data Processed By Date

PREPARATION BENCH SHEET

Printed: 11/20/2020 12:10:09PM

0K20010

ENCO Orlando

Analysis
624.1 Arom [EPA 624.1]
624.1 Extended [EPA 624.1]
8260D [EPA 8260D]
8260D Arom [EPA 8260D]
8260D BTEX [EPA 8260D]
8260D TCL SOM01.2 CLP-LIKE [EPA 8260D]

Surrogate Solution
___ A0I0902 8260 surr working

Prepared using: EPA 5030B_MS

Spiking Solution
A0K0935 8260 2nd source Mega Mix
A0K1039 8260 2nd source Gases/Acrolein virtual

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
0K20010-BLK1		Blank		QC			5	5			1	
0K20010-BS1		LCS		QC			5	5	A0K1039 A0K0935	2 2	1	
0K20010-MS1		Matrix Spike [AD07669-01]		QC			5	5	A0K1039 A0K0935	2 2	1	
0K20010-MSD1		Matrix Spike Dup [AD07669-01]		QC			5	5	A0K1039 A0K0935	2 2	1	
AD07229-01		EFF-OF1 K[MS18	23-Nov-20	624.1 Extended			5	5			1	History 1x nd jw 11/11/2020 Custom List, JAJ 3/9/20.
AD07340-01		CAA11-19-2020 F[MS24	23-Nov-20	8260D BTEX			5	5			1	History 1x jw 11192020 BTEX only per I.King. KD 10/5/20
AD07340-02		TRIP BLANK A[MS24	23-Nov-20	8260D BTEX			5	5			1	TB BTEX only per I.King. KD 10/5/20
AD07669-01	C	CRCA-ASEFFLUENT-2020111A[MS48		8260D BTEX			5	5			1	Added for BatchQC in: 0K20010
AD07669-01	C	CRCA-ASEFFLUENT-2020111A[MS48		624.1 Arom			5	5			1	Added for BatchQC in: 0K20010
AD07669-01	C	CRCA-ASEFFLUENT-2020111A[MS48		624.1 Extended			5	5			1	Added for BatchQC in: 0K20010
AD07669-01	C	CRCA-ASEFFLUENT-2020111A[MS48		8260D Arom			5	5			1	Added for BatchQC in: 0K20010
AD07669-01	C	CRCA-ASEFFLUENT-2020111A[MS48	18-Nov-20	8260D TCL SOM01.2 CLP-LIKE			5	5			1	History 1x nd jw 11/11/2020 custom
AD07669-01	C	CRCA-ASEFFLUENT-2020111A[MS48		8260D			5	5			1	Added for BatchQC in: 0K20010
AD07669-02	C	CRCA-ASINFLUENT-20201111A[MS48	18-Nov-20	8260D TCL SOM01.2 CLP-LIKE			5	5			1	History 1x jw 11/11/2020 custom
AD07754-01		DPT-1 C[MS24	25-Nov-20	8260D			5	5			1	run 1x check foam jw 11202020

PREPARATION BENCH SHEET

Printed: 11/20/2020 12:10:09PM

0K20010

ENCO Orlando

Prepared using: EPA 5030B_MS

Surrogate Solution
___ A0I0902 8260 surr working

Spiking Solution
A0K0935 8260 2nd source Mega Mix
A0K1039 8260 2nd source Gases/Acrolein virtual

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location		Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
AD07754-02		DPT-2	B[MS24	25-Nov-20	8260D			5	5			1	run 1x check foam jw 11202020
AD07754-03		DPT-3	B[MS24	25-Nov-20	8260D			5	5			1	run 1x check foam jw 11202020
AD07754-04		DPT-4	B[MS24	25-Nov-20	8260D			5	5			1	run 1x check foam jw 11202020
AD07759-01	C	CHP-TANK-20201111	C[MS49	20-Nov-20	8260D TCL SOM01.2 CLP-LIKE			5	5			1	run 1x check foam jw 111620 custom
AD07849-01		BD03683-01 (Pond Effluent (Grab))	C[MS23	24-Nov-20	624.1 Arom			5	5			1	Run 5x Foam!! High non-targets jw 11192020 Toluene Only. 02/15/19 DC
AD07861-01		B-1	F[MS24	23-Nov-20	8260D Arom			5	5			1	History 1x jw 11192020
AD07861-03		TRIP BLANK	A[MS24	23-Nov-20	8260D Arom			5	5			1	TB

(1) Before solvent extraction proceeds, verify that there is no residual chlorine above 0.5 mg/L. Any sample above this must be treated to remove excess chlorine before extraction, and this documented as a comment.

Instrument 2

Start Date _____

StopDate _____

Instrument ID _____

Standard ID#	Description	Manufacture Lot#
A0A1401	pH Test Papers (1.0 to 12.0)	231018
A0B1371	Residual Chlorine Strips (Potassium Iodide S	102916
A0J0789	P&T Anti-Foam working solution	N/A

_____ _____
Samples Prepared By Date

_____ _____
Samples Prepared By Date

VOLATILES GC/MS LOGBOOK (EPA Method 624.1 / SW-846 Method 8260D)

Tune Start Date: 11/20/2020
Sequence: AA636668
Batch: OK20010
Method: 8260
Analyst: KG
Instrument EM Voltage: 1741

Surrogate: ACI0902
Internal: AOK0861
LCS Mix 2°: AOK0935
LCS Acrolein 2°: AOK0868
LCS Gas 2°: AOK1023

8260 Mix: AOK0852
8260 Add: AOK1075
8260 Ac/Ac: AOK0725
8260 Gases: AOK1012
Instrument #: OVGCMS2

202KO Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)	Comments	LIMS
001	tune1			1			✓	
002	CCV1			2			✓ Mega Mix CCV never	
003	CCV2 mega			3			✓ Mega Mix only	
004	BS1			4			✓	
005	Rinse			5				
006	Rinse			6				
007	OK20010-BLK1			7			✓	
008	AA636668-CRL1			8			✓	
009	AD07669-01		1	9	✓	n	✓ ms/msd w/AFA	
010	AD07340-02	A	1	10	✓	n	✓	
011	AD07861-03	A	1	11	✓	n	✓	
012	AD07229-01	K	1	12	✓	n	✓	
013	AD07669-02	A	1	13	✓	n	✓ w/AFA	
014	AD07759-01	C	1	14	✓	n	✓ w/AFA	
015	AD07340-01	F	1	15	✓	n	✓ w/AFA	
016	AD07861-01	F	1	16	✓	n	✓	
017	AD07754-01	C	1	17	✓	n	✓ w/AFA	
018	AD07754-02	B	1	18	✓	n	✓ w/AFA	
019	AD07754-03	B	1	19	✓	n	✓ w/AFA	
020	AD07754-04	B	1	20	✓	n	✓ w/AFA	
021	AD07849-01	C	5	21	✓	n	✓ ↑surrogate, internal	

RCF 11/20/2020

RCF 11/20/2020

VOLATILES GC/MS LOGBOOK (EPA Method 624.1 / SW-846 Method 8260D)

Tune Start Date:
Sequence:
Batch:
Method:
Analyst:
Instrument EM Voltage:

Surrogate:
Internal:
LCS Mix 2°:
LCS Acrolein 2°:
LCS Gas 2°:

8260 Mix:
8260 Add:
~~8260 Ac/Ac.~~
8260 Gases:
Instrument #:

see pag 34 MF
11/20/2020

202KO

Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)	Comments	LIMS
022	BK20010-MS1	C	1	22	✓	n	✓	
023	BK20010-MSD	C	1	22	✓	n	✓	

MF 11/20/2020

Manual Integration Review Form

ENVIRONMENTAL CONSERVATION LABORATORIES, INC. ☐ Cary ☐ Jacksonville ☑ Orlando

I hereby attest that the manual integrations contained in this package have been thoroughly reviewed and are in agreement with the associated hardcopy data.

The electronic files listed below have been reviewed for accuracy, completeness and comply with ENCO labs QA-11 Manual Integration Policy including:

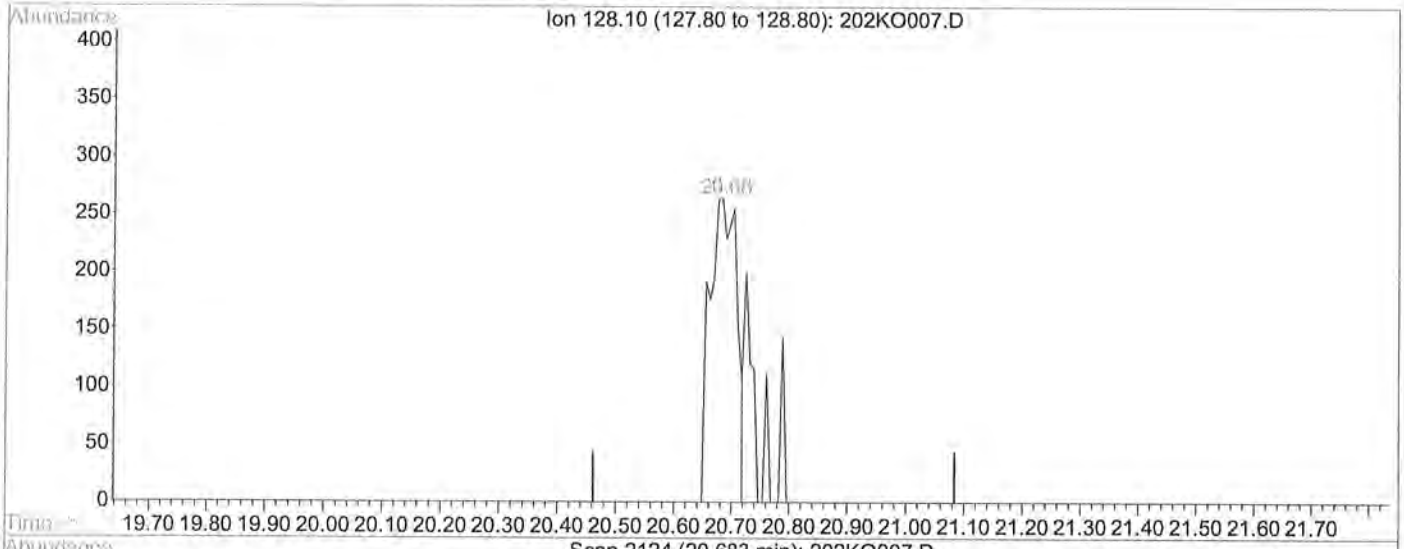
- "Before" and "After" chromatograms are provided
- Manual integrations are indicated on expanded scale "after" chromatograms at a scale large enough to see the manual integration performed.
- Reintegration technique marked if available on the data system
- Technical justification for manual integration
- Appropriate flags indicating which analytes were manually integrated are included in the raw data
- Analyst's initials and date.

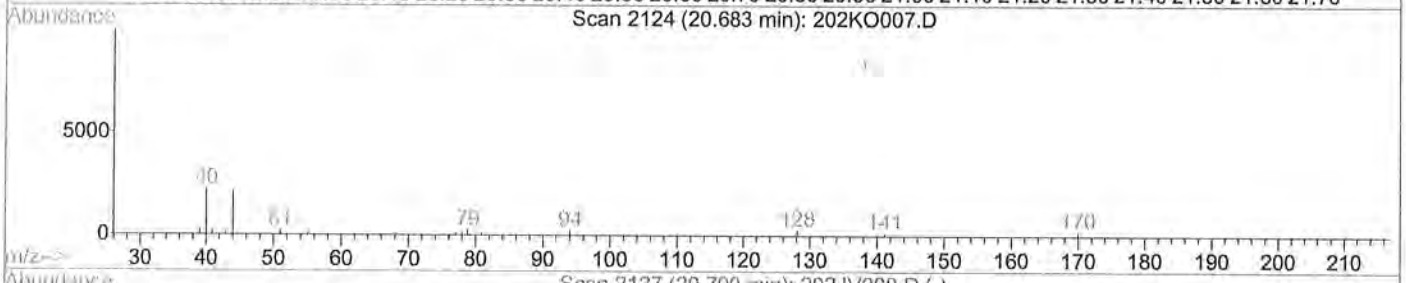
Instrument ID:	OVGCMS2
Sequence/Batch ID:	AA636668/OK20010
Data File Prefix:	202KO
Date and Time Range of MIs:	11/20/2020 11:05-11:27
Reviewer Print Name:	Jennifer A Jones
Reviewer Signature:	
Date of Review:	11/30/20

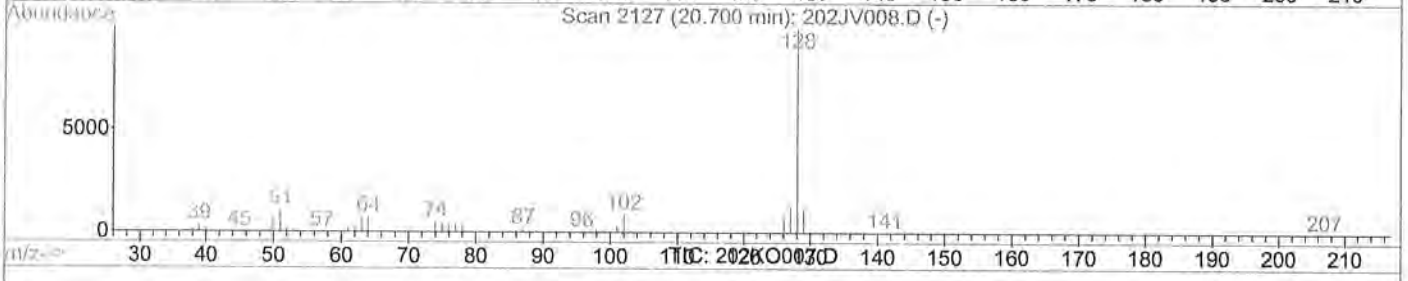
Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\112020\202KO007.D Vial: 7
Acq On : 20 Nov 2020 10:31 am Operator: KG
Sample : 0K20010-BLK1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 11:05 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Multiple Level Calibration







(93) Naphthalene

20.68min 0.51ug/kg

response 878

Ion	Exp%	Act%
128.10	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

[x] Original Integration [ ] Manual Integration

Select reason for manual integration:

[x] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

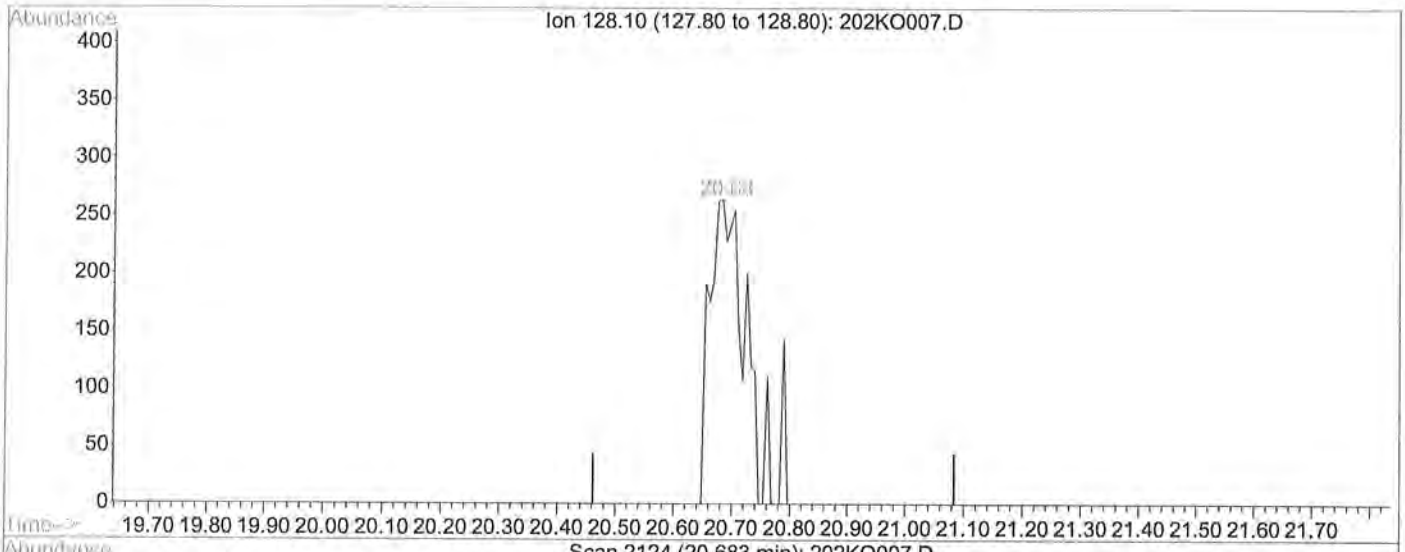
Review by/Date KG 11/20/2020

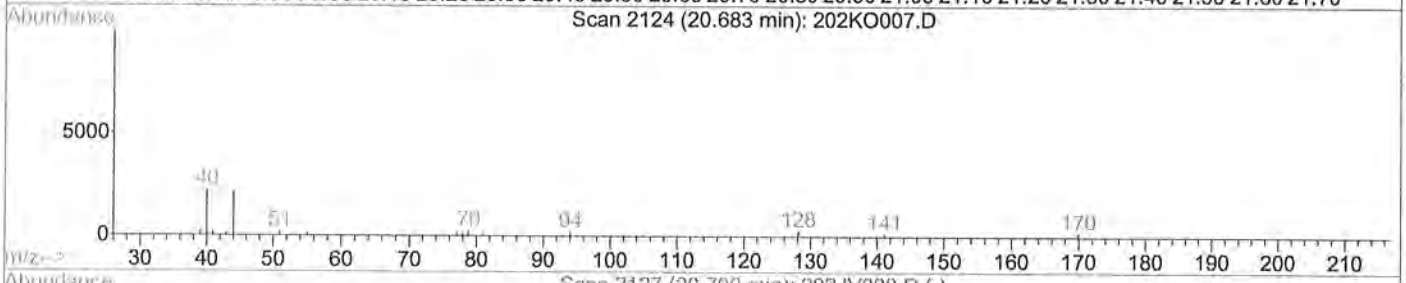
Review by/Date:

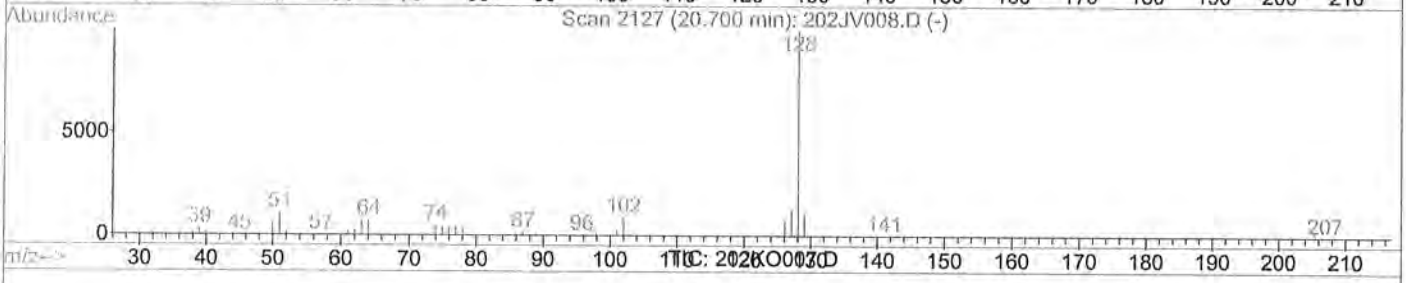
Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\112020\202KO007.D Vial: 7
Acq On : 20 Nov 2020 10:31 am Operator: KG
Sample : 0K20010-BLK1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 11:05 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Multiple Level Calibration







(93) Naphthalene

20.68min 0.68ug/kg m

response 1170

Ion	Exp%	Act%
128.10	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

[ ] Original Integration [✓] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

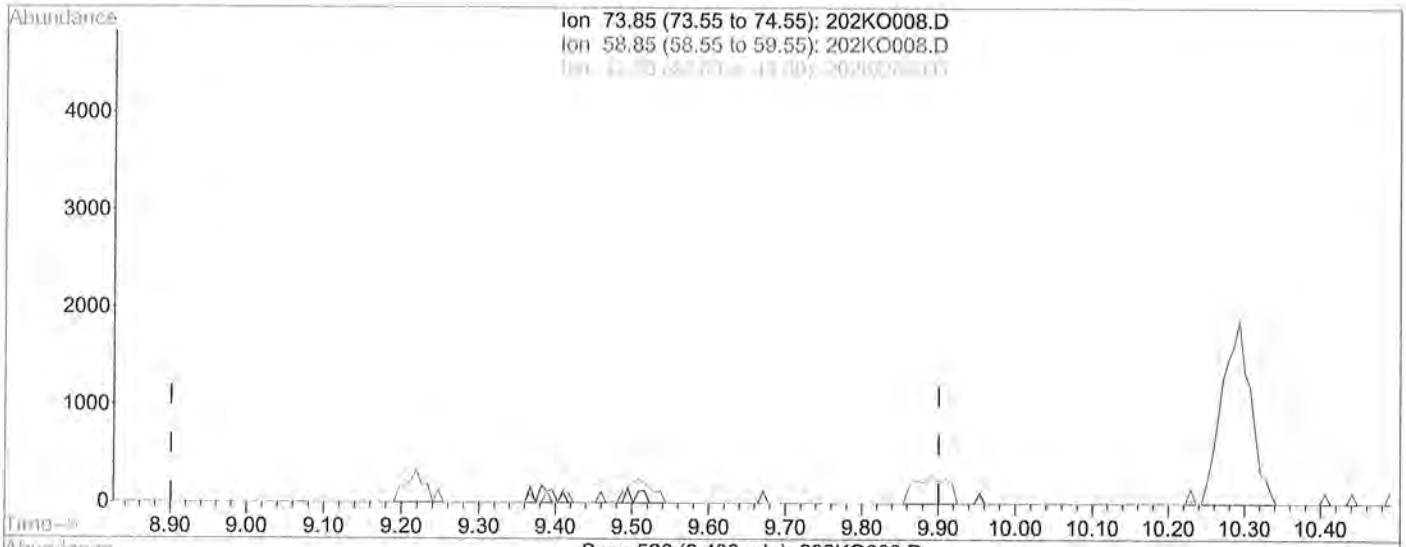
Review by/Date KS 11/20/2020

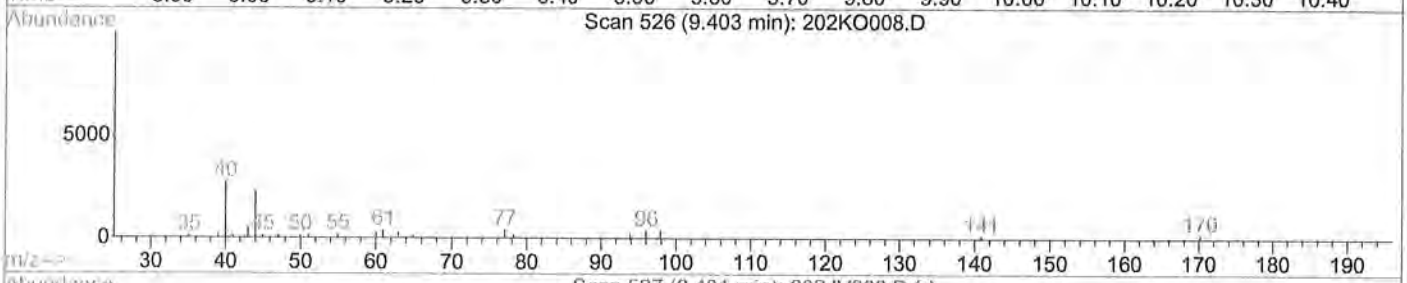
Review by/Date:

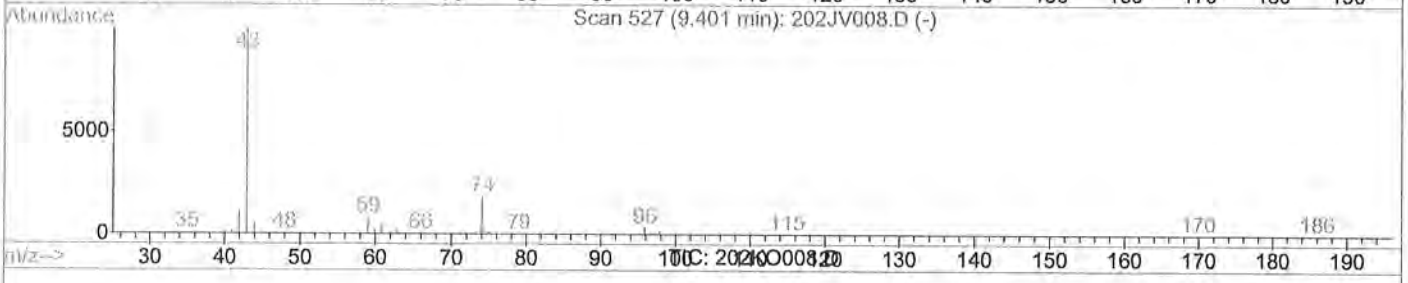
Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\112020\202KO008.D Vial: 8
Acq On : 20 Nov 2020 11:00 am Operator: KG
Sample : AA63668-CRL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 11:23 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Multiple Level Calibration







(36) Methyl Acetate

9.40min 0.00ug/kg

response 0

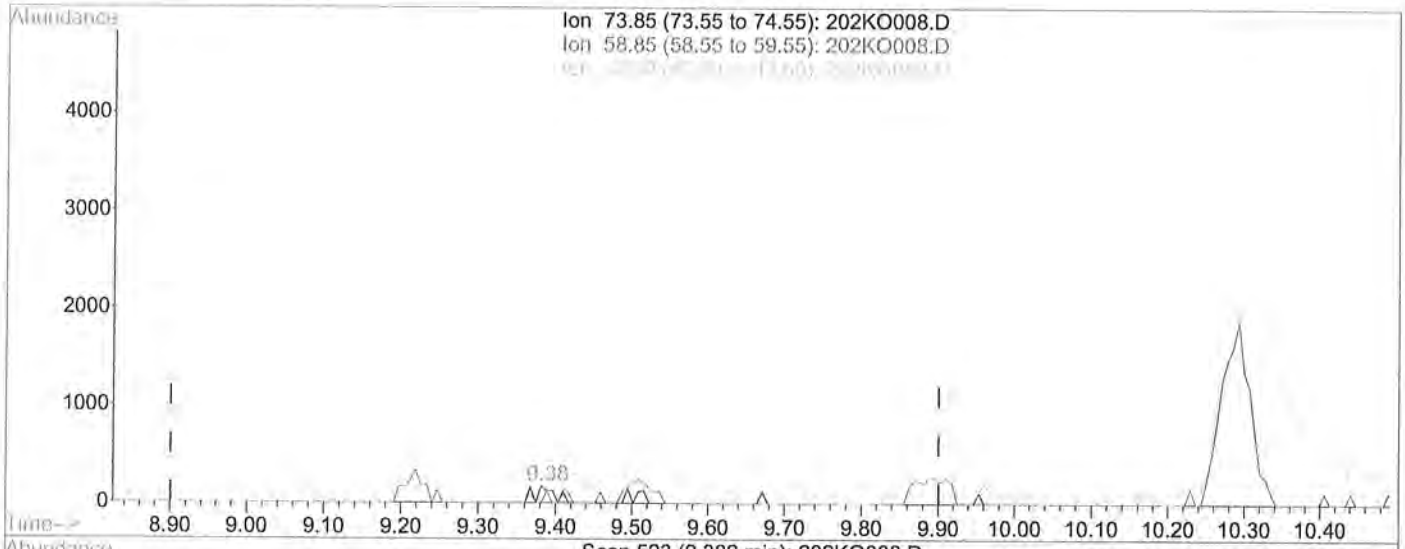
Ion	Exp%	Act%
73.85	100	0.00
58.85	42.00	0.00#
42.90	564.90	0.00#
0.00	0.00	0.00

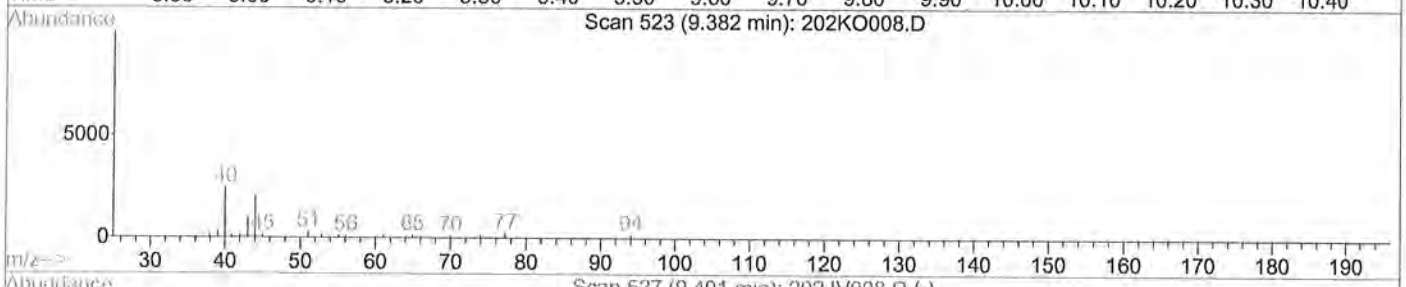
Select One:
[X] Original Integration [ ] Manual Integration
Select reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[X] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date KH 11/20/2020
Review by/Date:

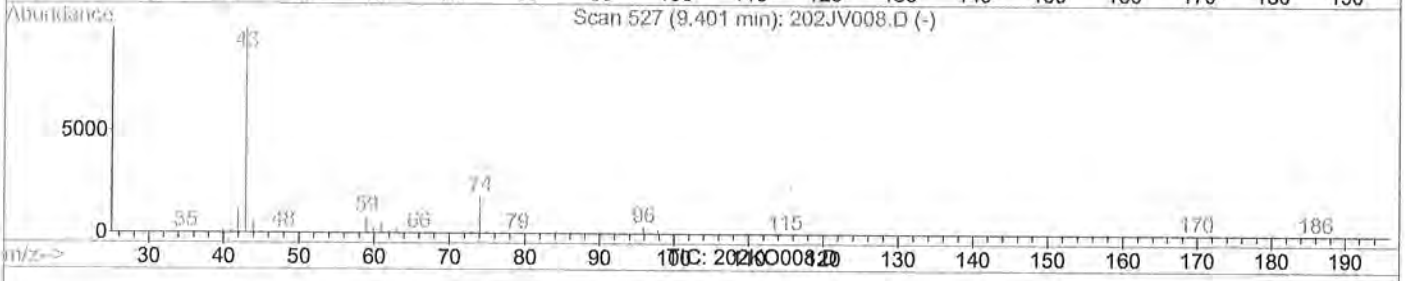
Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\112020\202KO008.D Vial: 8
Acq On : 20 Nov 2020 11:00 am Operator: KG
Sample : AA63668-CRL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 11:25 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Multiple Level Calibration







(36) Methyl Acetate

9.38min 0.82ug/kg m

response 289

Ion	Exp%	Act%
73.85	100	100
58.85	42.00	0.00#
42.90	564.90	0.00#
0.00	0.00	0.00

Select One:

[ ] Original Integration [✓] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[✓] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

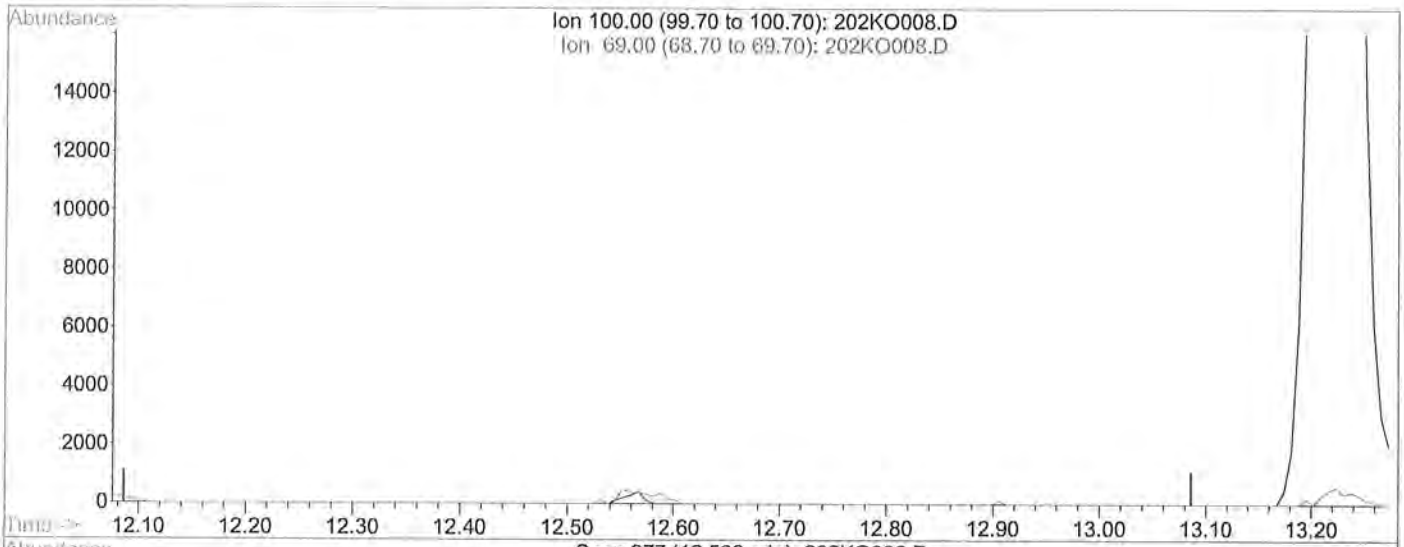
Review by/Date KGS 11/20/2020

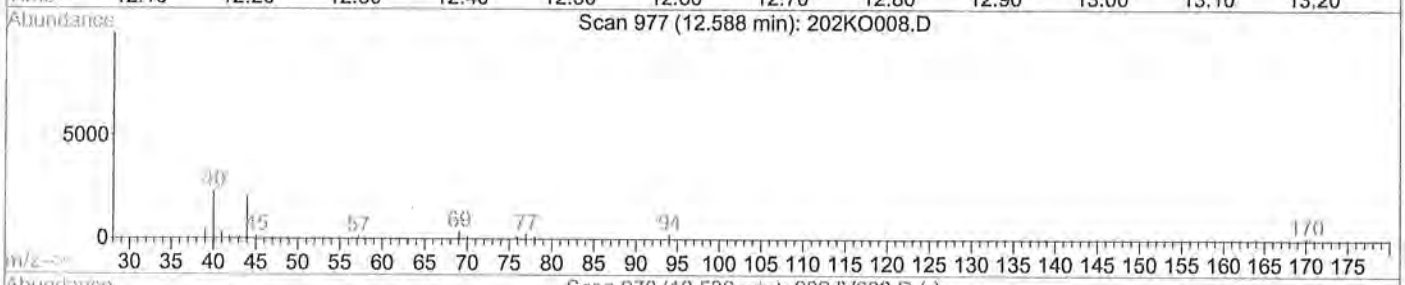
Review by/Date:

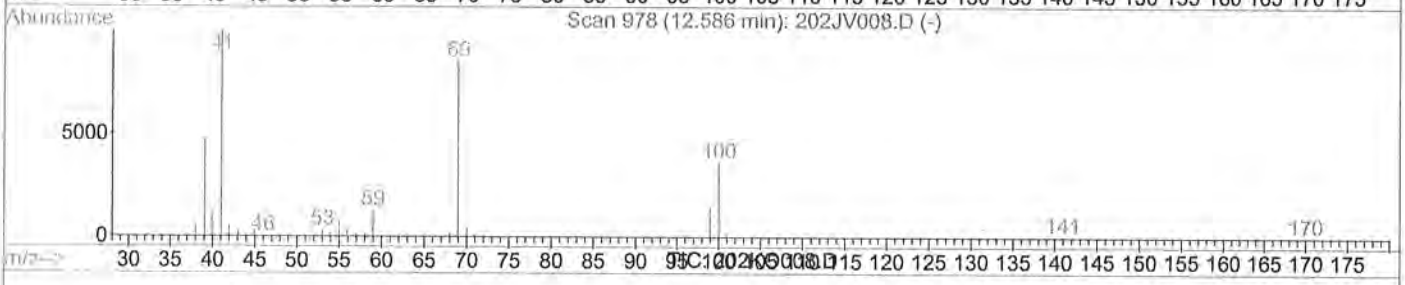
Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\112020\202KO008.D Vial: 8
Acq On : 20 Nov 2020 11:00 am Operator: KG
Sample : AA63668-CRL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 11:25 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Multiple Level Calibration







(46) Methyl Methacrylate

12.59min 0.00ug/kg

response 0

Ion	Exp%	Act%
100.00	100	0.00
69.00	250.20	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

[✓] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[✓] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date KET 11/20/2020

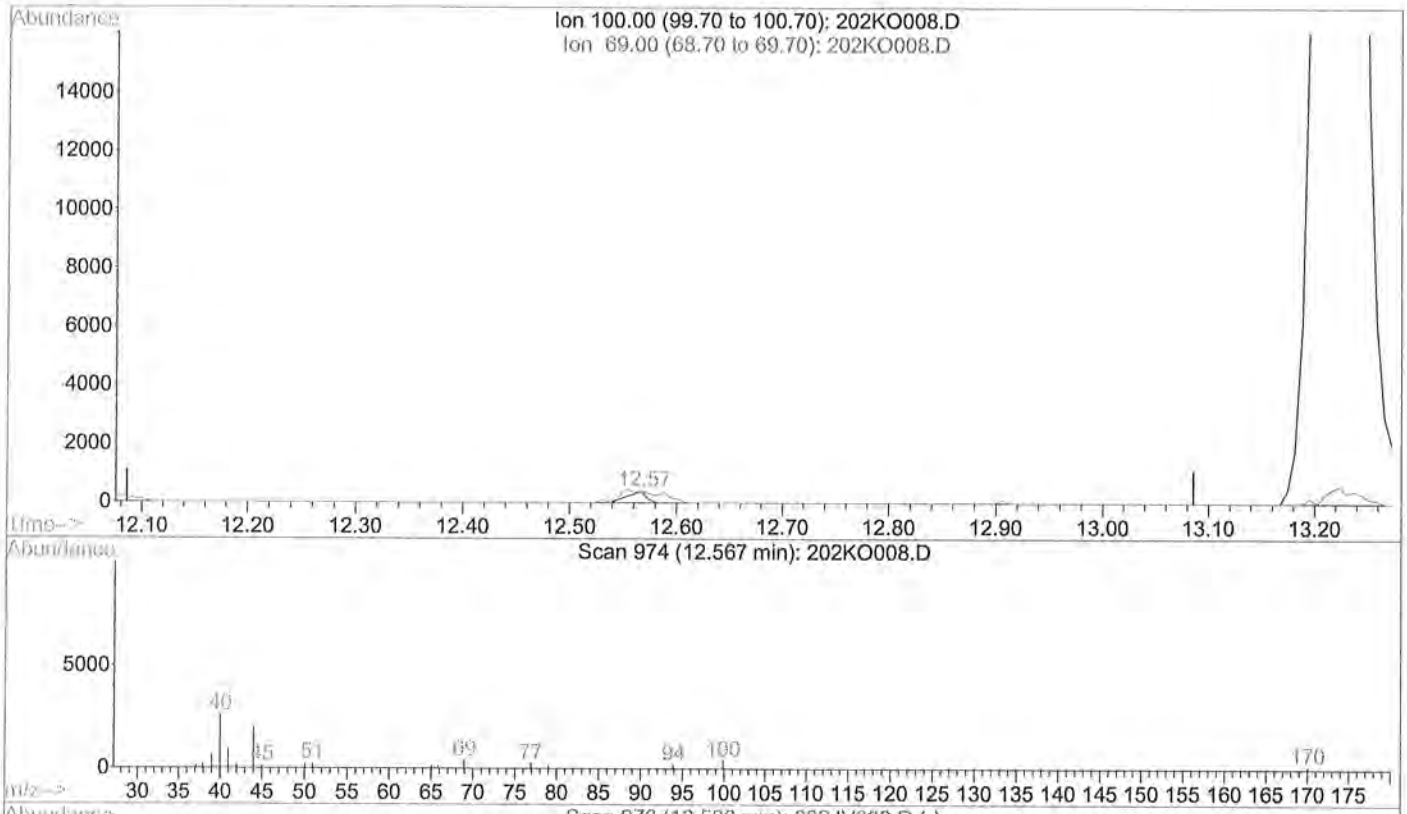
Review by/Date:

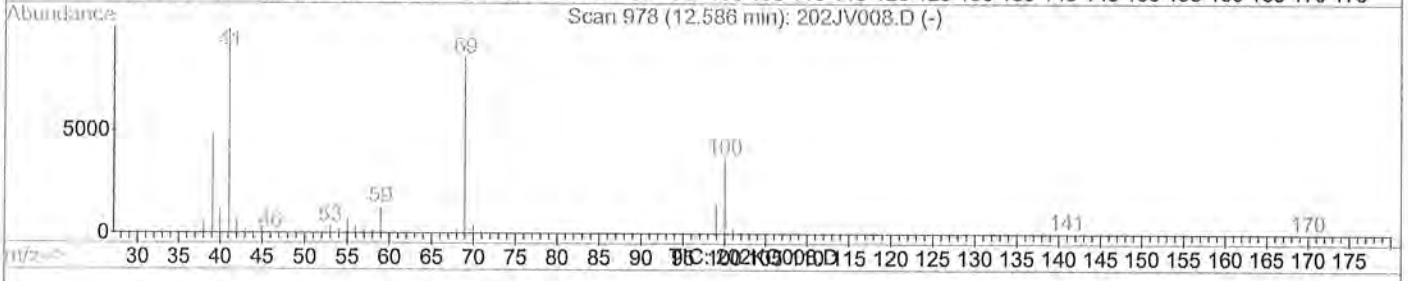
202KO008.D 102720.M Fri Nov 20 11:25:29 2020

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\112020\202KO008.D Vial: 8
Acq On : 20 Nov 2020 11:00 am Operator: KG
Sample : AA63668-CRL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 11:25 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Multiple Level Calibration





(46) Methyl Methacrylate

12.57min 0.81ug/kg m

response 464

Ion	Exp%	Act%
100.00	100	100
69.00	250.20	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

[ ] Original Integration [✓] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[✓] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

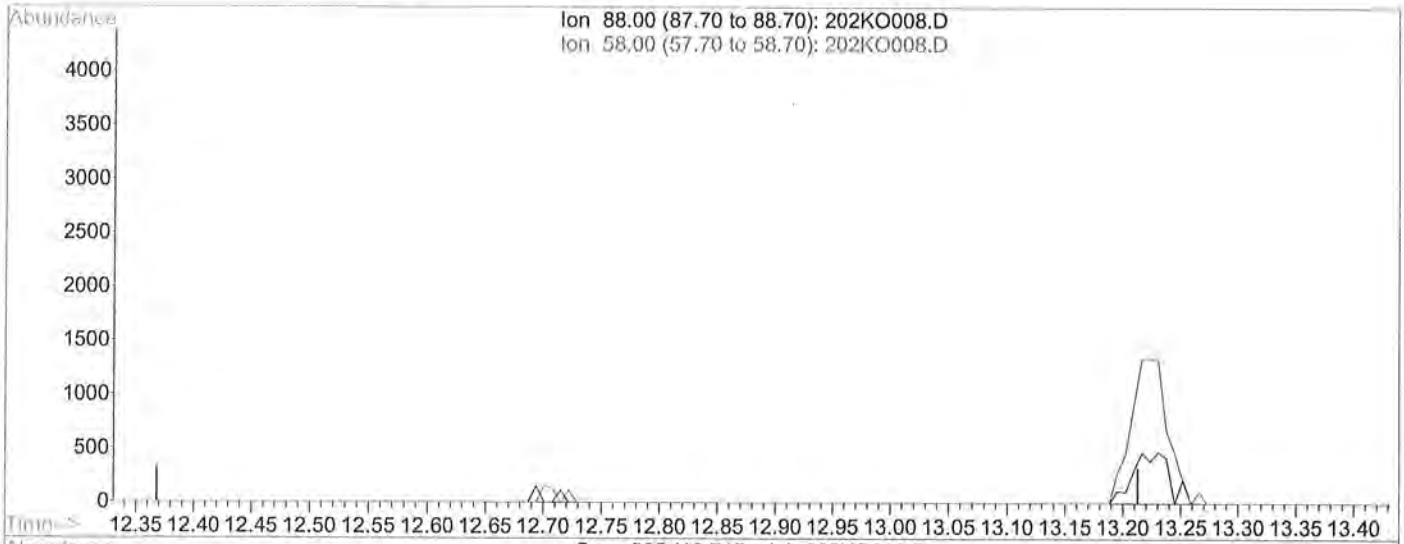
Review by/Date KG 11/20/2020

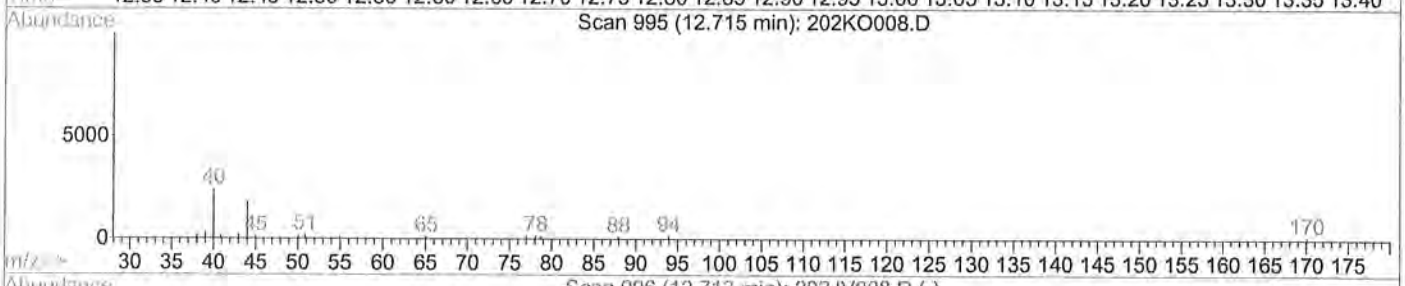
Review by/Date:

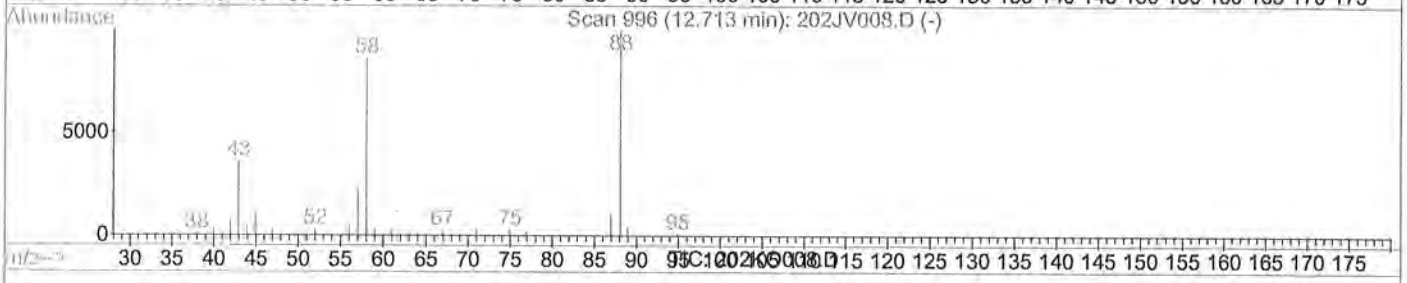
Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\112020\202KO008.D Vial: 8
Acq On : 20 Nov 2020 11:00 am Operator: KG
Sample : AA63668-CRL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 11:25 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Multiple Level Calibration







(47) 1,4-Dioxane

12.71min 0.00ug/kg

response 0

Ion	Exp%	Act%
88.00	100	0.00
58.00	84.70	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

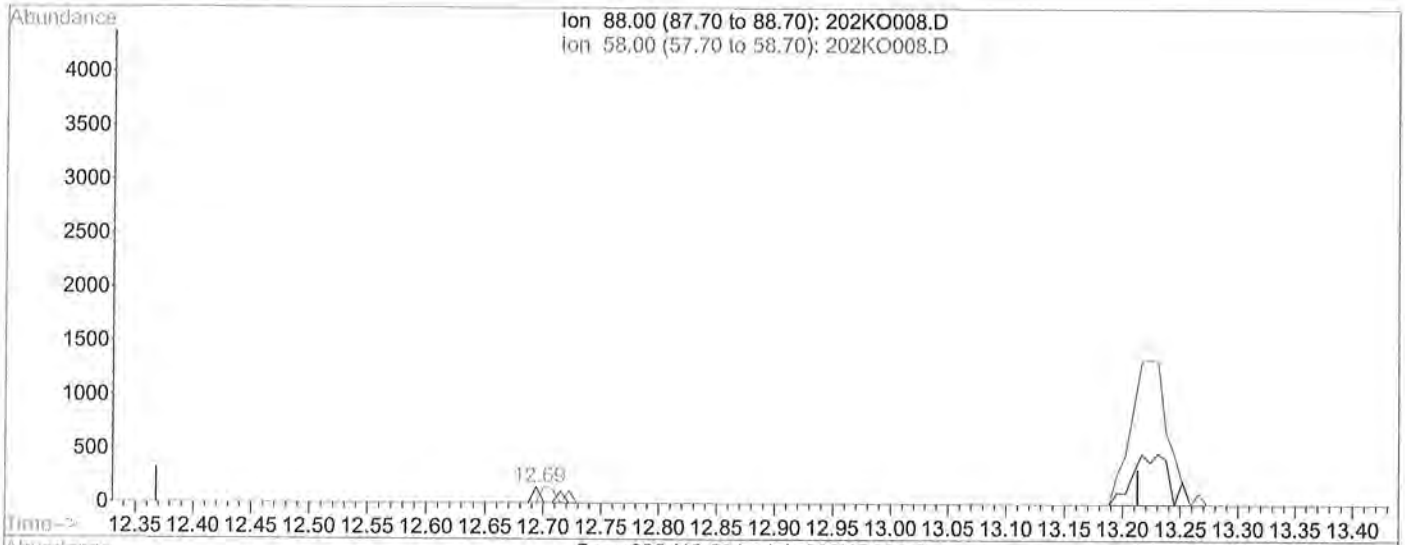
Select One:
[✓] Original Integration [ ] Manual Integration
Select reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[✓] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date KH 11/20/2020
Review by/Date:

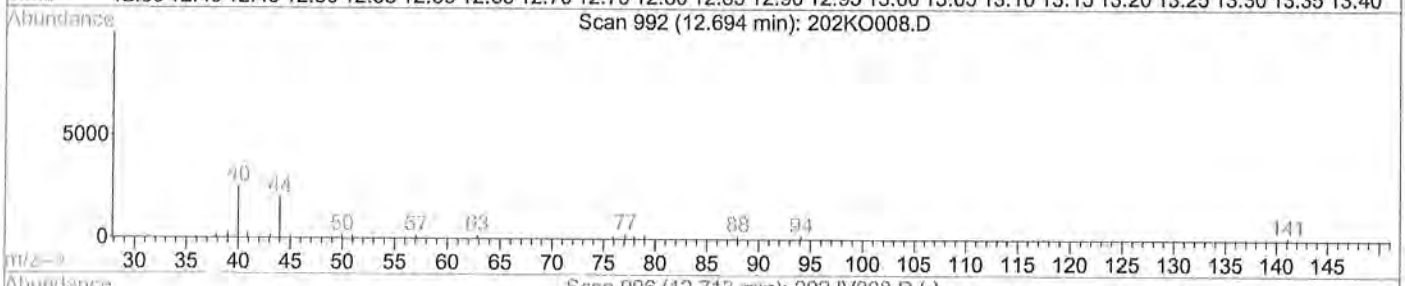
202KO008.D 102720.M Fri Nov 20 11:25:43 2020

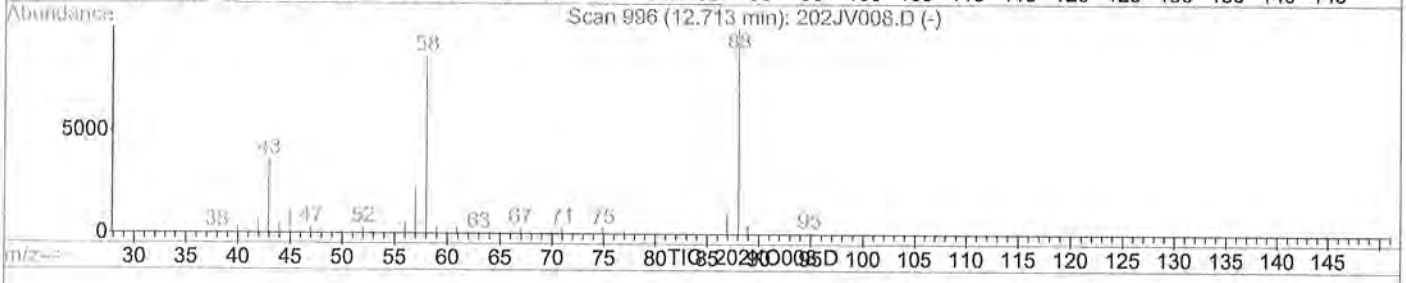
Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\112020\202KO008.D Vial: 8
Acq On : 20 Nov 2020 11:00 am Operator: KG
Sample : AA63668-CRL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 11:25 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Multiple Level Calibration







(47) 1,4-Dioxane

12.69min 8.43ug/kg m

response 107

Ion	Exp%	Act%
88.00	100	100
58.00	84.70	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

[ ] Original Integration [✓] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[✓] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

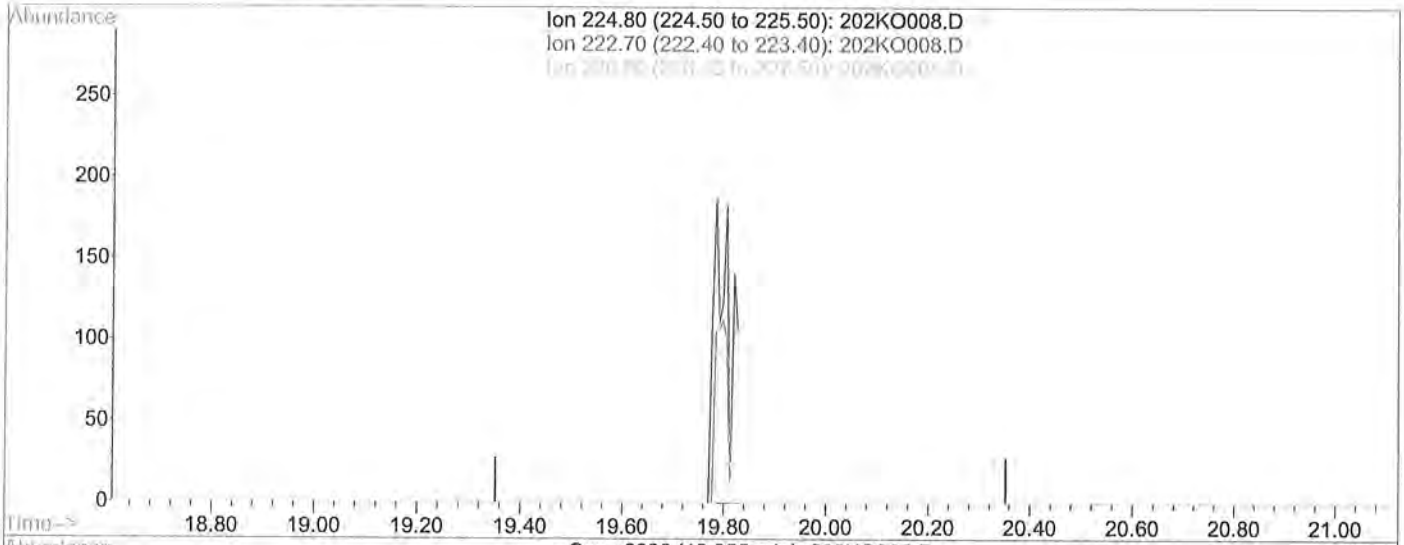
Review by/Date: KLT 11/20/2020

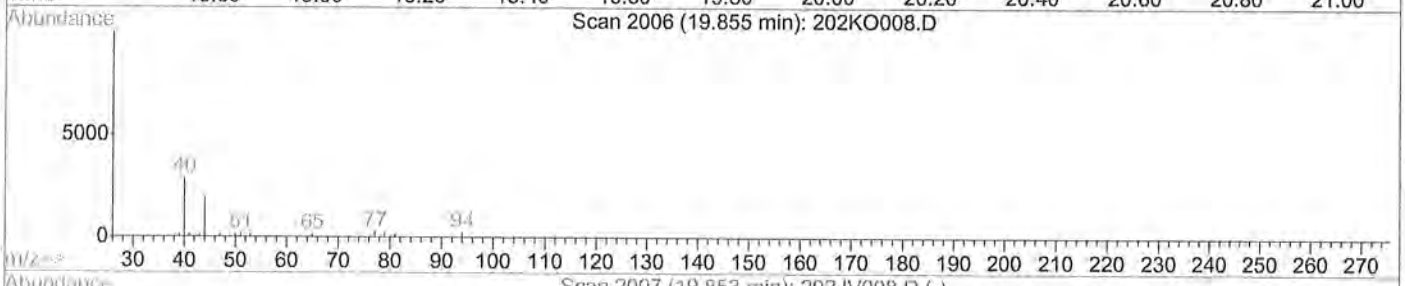
Review by/Date:

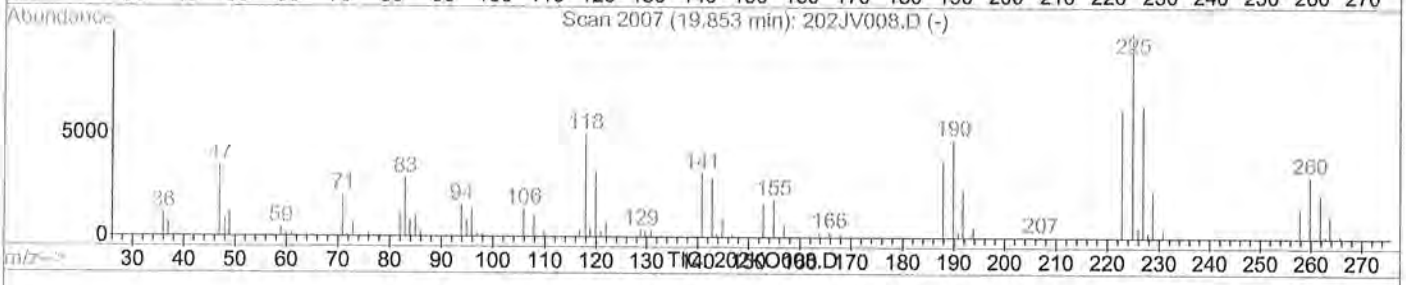
Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\112020\202KO008.D Vial: 8
Acq On : 20 Nov 2020 11:00 am Operator: KG
Sample : AA63668-CRL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 11:26 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Multiple Level Calibration







(95) Hexachlorobutadiene

19.85min 0.00ug/kg

response 0

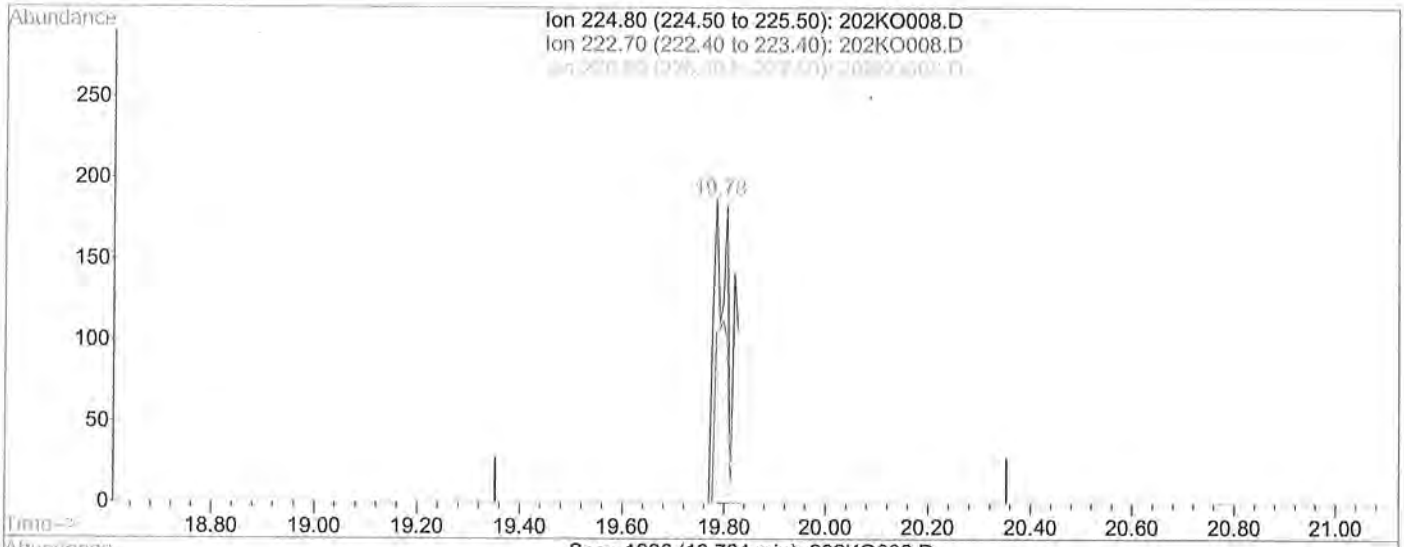
Ion	Exp%	Act%
224.80	100	0.00
222.70	63.70	0.00#
226.80	63.00	0.00#
0.00	0.00	0.00

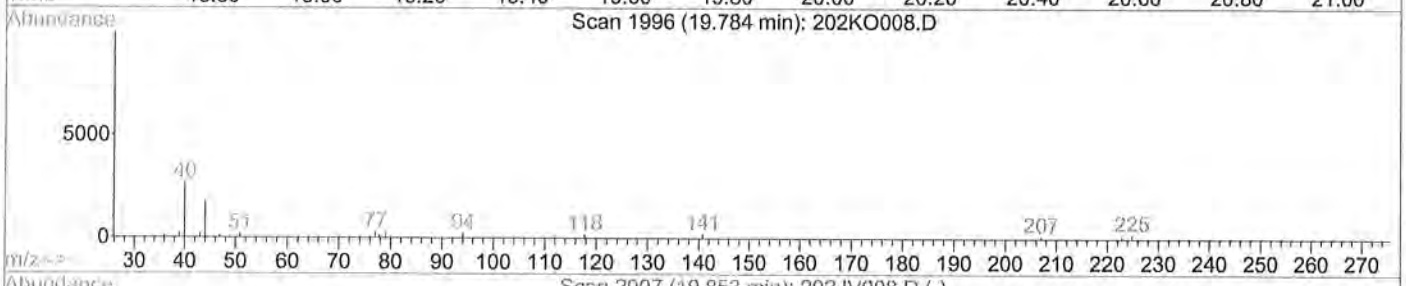
Select One:
[✓] Original Integration [ ] Manual Integration
Select reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[✓] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date RR 11/20/2020
Review by/Date:

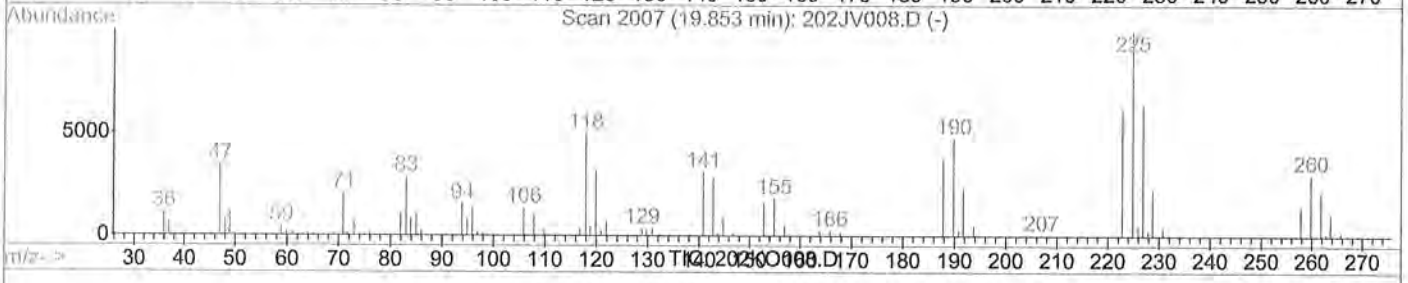
Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\112020\202KO008.D Vial: 8
Acq On : 20 Nov 2020 11:00 am Operator: KG
Sample : AA63668-CRL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 11:27 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Multiple Level Calibration







(95) Hexachlorobutadiene

19.78min 0.74ug/kg m

response 408

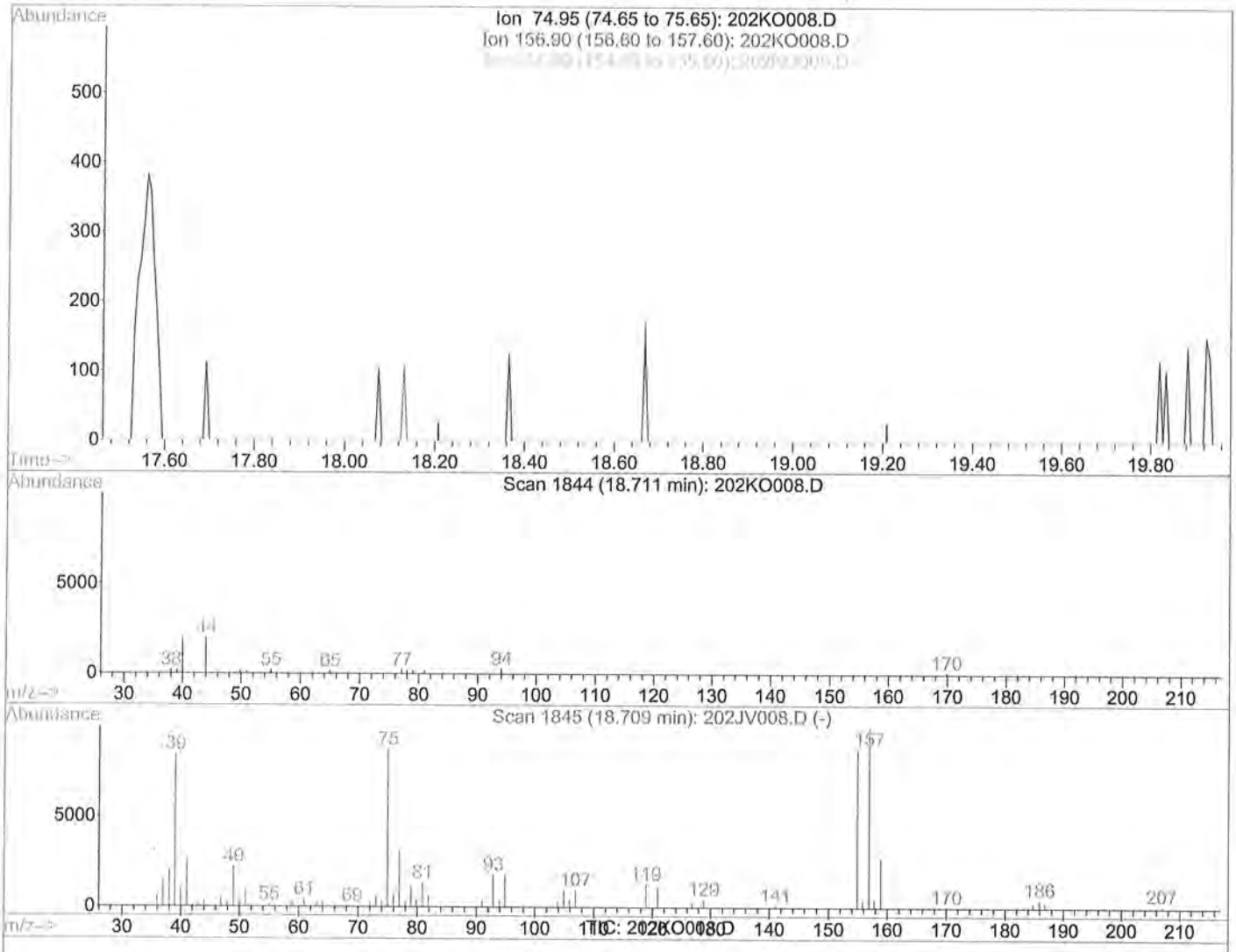
Ion	Exp%	Act%
224.80	100	100
222.70	63.70	0.00#
226.80	63.00	0.00#
0.00	0.00	0.00

Select One:
[ ] Original Integration [✓] Manual Integration
Select reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[✓] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date RES 11/20/2020
Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\112020\202KO008.D Vial: 8
Acq On : 20 Nov 2020 11:00 am Operator: KG
Sample : AA63668-CRL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 11:27 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Multiple Level Calibration



(92) DBCP

18.71min 0.00ug/kg d

response 0

Ion	Exp%	Act%
74.95	100	0.00
156.90	112.30	0.00
154.90	87.30	0.00
0.00	0.00	0.00

Select One:

[✓] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[✓] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

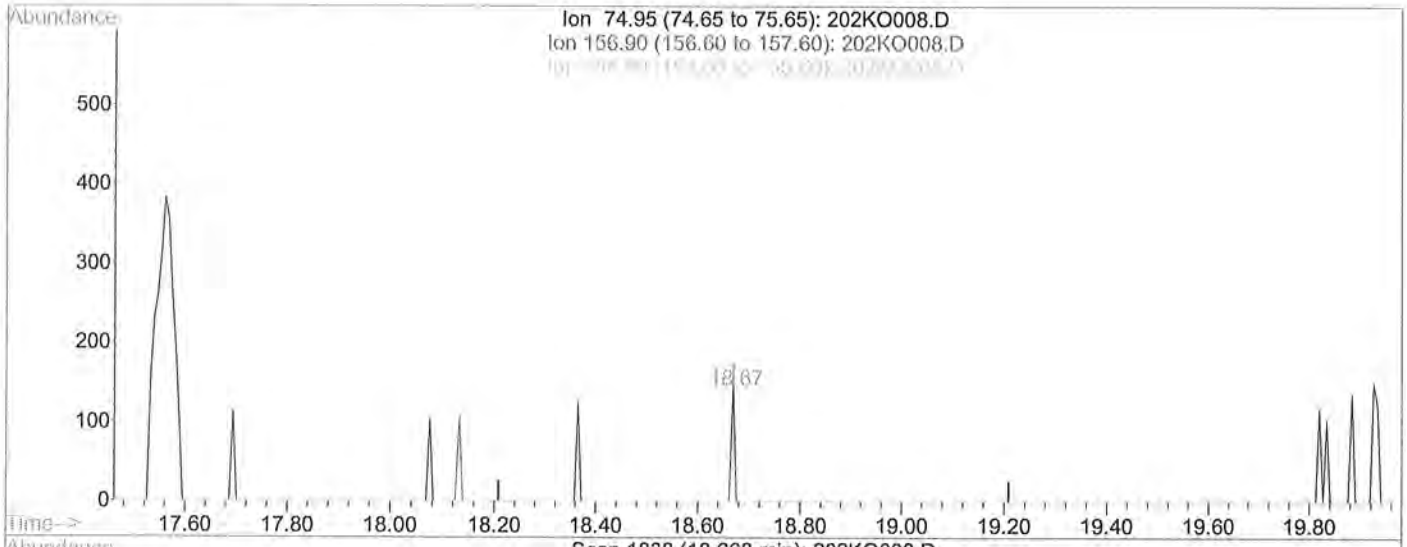
Review by/Date KLS 11/20/2020

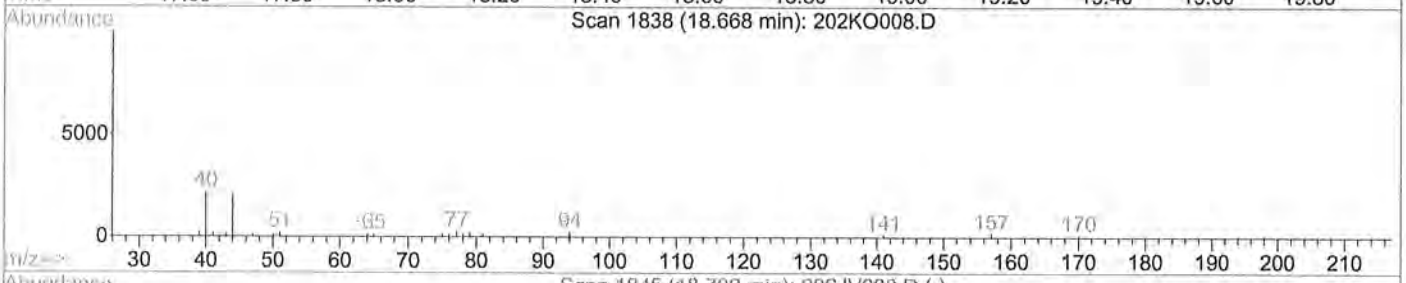
Review by/Date:

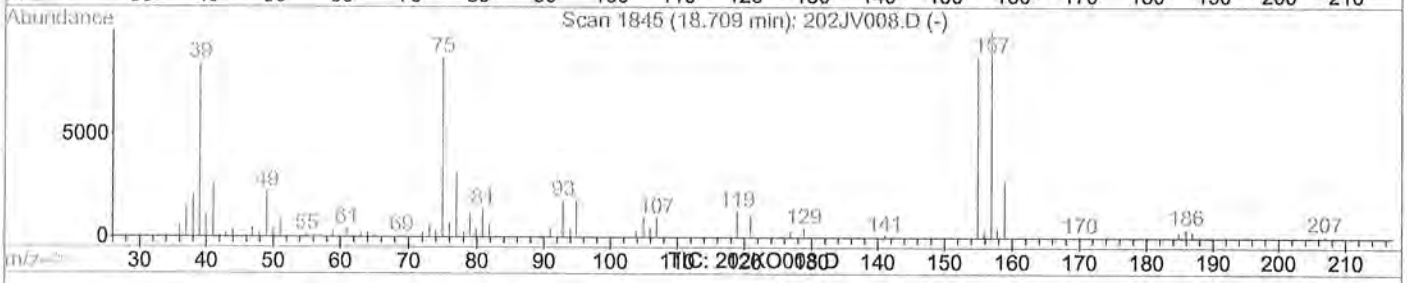
Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\112020\202KO008.D Vial: 8
Acq On : 20 Nov 2020 11:00 am Operator: KG
Sample : AA63668-CRL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 11:27 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Multiple Level Calibration







(92) DBCP

18.67min 0.27ug/kg m

response 60

Ion	Exp%	Act%
74.95	100	100
156.90	112.30	0.00#
154.90	87.30	0.00#
0.00	0.00	0.00

Select One:

[ ] Original Integration [✓] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[✓] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date KLS 11/20/2020

Review by/Date:

202KO008.D 102720.M Fri Nov 20 11:27:41 2020

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\112020\202KO001.D Vial: 1
Acq On : 20 Nov 2020 7:18 am Operator: KG
Sample : tune1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 7:40 2020 Quant Results File: 102720.RES

Quant Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.45	168	171423	50.00	ug/kg	-0.03
38) 1,4-Difluorobenzene(IS)	12.00	114	320793	50.00	ug/kg	-0.03
56) Chlorobenzene-d5(IS)	14.60	82	142025	50.00	ug/kg	-0.03
79) 1,4-Dichlorobenzene-d4(IS)	16.97	152	93783	50.00	ug/kg	-0.03
System Monitoring Compounds						
30) Dibromofluoromethane	11.05	113	95314	54.27	ug/kg	-0.03
Spiked Amount 50.000	Range 53 - 146		Recovery = 108.54%			
54) D8-Toluene	13.22	98	282559	47.85	ug/kg	-0.03
Spiked Amount 50.000	Range 41 - 146		Recovery = 95.70%			
75) Bromofluorobenzene	15.72	95	97373	45.97	ug/kg	-0.03
Spiked Amount 50.000	Range 41 - 142		Recovery = 91.94%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.		
3) Chloromethane	6.35	50	2731	0.74	ug/kg#	67
4) Vinyl Chloride	6.54	62	2115	0.73	ug/kg#	1
5) Bromomethane	7.23	96	1427	1.01	ug/kg#	43
6) Chloroethane	7.37	64	953	0.54	ug/kg#	16
7) Trichlorofluoromethane	0.00	101	0	N.D.		
8) Trichlorotrifluoroethane	0.00	101	0	N.D.		
9) acrolein	0.00	56	0	N.D.		
10) Acetone	9.23	43	6465	12.82	ug/kg	78
11) 1,1-Dichloroethene	8.47	96	1146	0.71	ug/kg	84
12) 3-Chloropropene	0.00	76	0	N.D.		
13) Acetonitrile	0.00	41	0	N.D.		
14) Iodomethane	0.00	142	0	N.D.		
15) Carbon disulfide	8.59	76	9782	2.78	ug/kg	94
16) Methylene Chloride	9.19	84	2092	1.08	ug/kg	93
17) Methyl tert-butyl ether	0.00	73	0	N.D.		
18) Acrylonitrile	0.00	53	0	N.D.		
19) T-1,2-Dichloroethene	9.43	96	893	0.50	ug/kg#	56
20) Isopropyl Ether	0.00	45	0	N.D.		
21) C-1,2-Dichloroethene	10.67	96	918	0.47	ug/kg#	70
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	10.16	43	617	0.12	ug/kg#	78
24) Chloroprene	0.00	88	0	N.D.		
25) 2-Butanone	0.00	72	0	N.D.		
26) Propionitrile	0.00	54	0	N.D.		
27) 2,2-Dichloropropane	0.00	77	0	N.D.		
28) Methacrylonitrile	11.44	67	604	0.81	ug/kg	65
29) Chloroform	10.88	83	701	0.21	ug/kg#	26
31) Dibromofluoromethane	11.05	113	95314	54.27	ug/kg	100
32) Bromochloromethane	0.00	128	0	N.D.		
33) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
34) 1,1-Dichloropropene	11.28	75	1693	0.68	ug/kg#	65
35) Diethyl Ether	0.00	59	0	N.D.		
36) Methyl Acetate	0.00	74	0	N.D.		
37) Cyclohexane	10.94	56	790	0.25	ug/kg#	20
39) Methyl Cyclohexane	12.06	55	1060	0.44	ug/kg#	63
40) Carbon Tetrachloride	0.00	117	0	N.D.		
41) 1,2-Dichloroethane	0.00	62	0	N.D.		
42) Benzene	11.52	78	2941	0.39	ug/kg#	24
43) Isobutyl Alcohol	11.44	43	1031	7.79	ug/kg#	1
44) Trichloroethene	12.04	130	687	0.35	ug/kg#	1
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Methyl Methacrylate	0.00	100	0	N.D.		
47) 1,4-Dioxane	0.00	88	0	N.D.		
48) Bromodichloromethane	0.00	83	0	N.D.		
49) Dibromomethane	0.00	93	0	N.D.		
50) 4-Methyl-2-Pentanone	13.41	100	654	2.52	ug/kg#	1
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	14.23	43	892	0.57	ug/kg#	40

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\112020\202KO001.D Vial: 1
Acq On : 20 Nov 2020 7:18 am Operator: KG
Sample : tune1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 7:40 2020 Quant Results File: 102720.RES

Quant Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

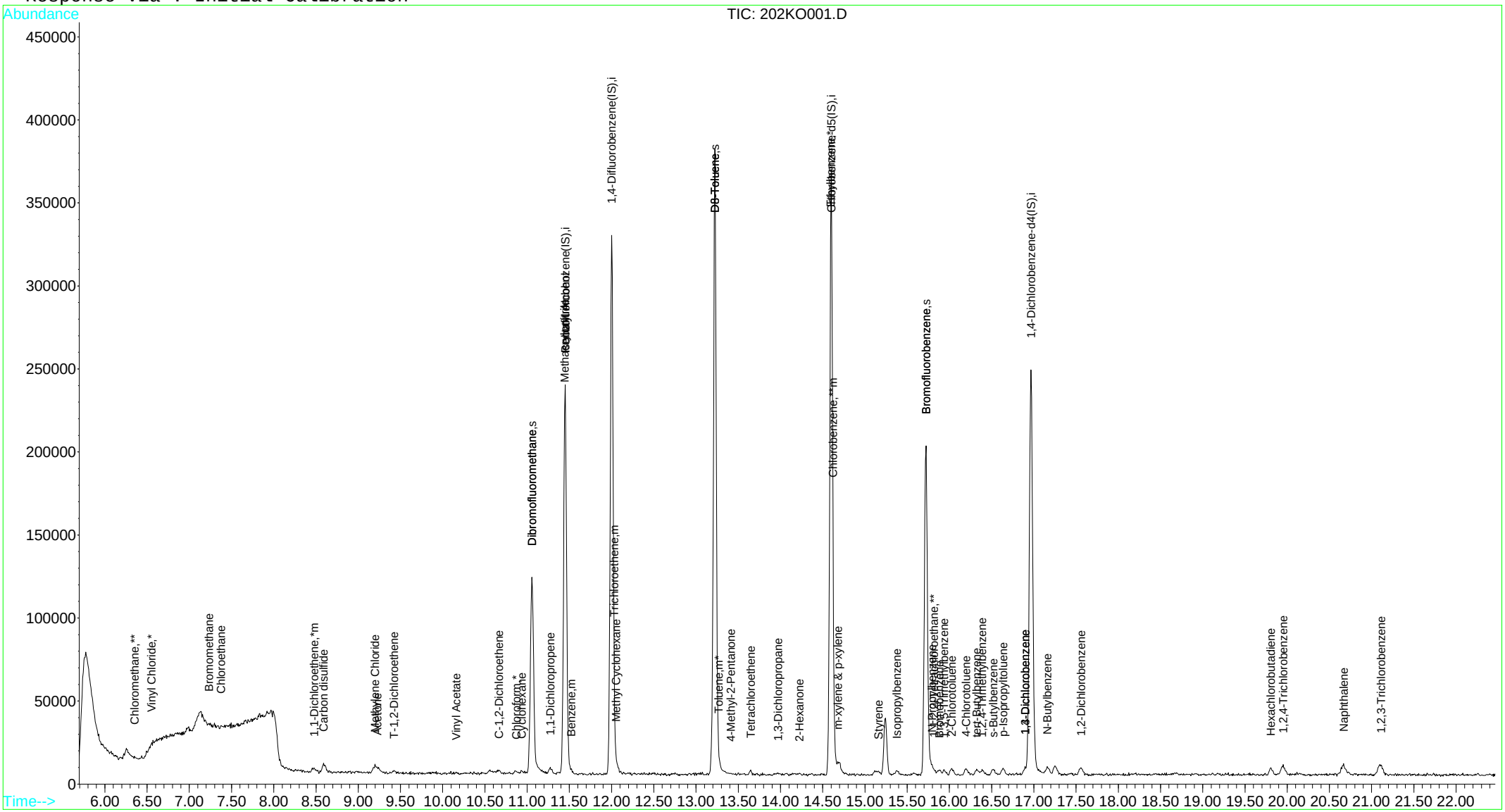
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	0.00	75	0	N.D.	
55) D8-Toluene	13.22	98	282559	47.85 ug/kg	93
57) Toluene	13.27	92	731	0.18 ug/kg#	1
58) Ethyl Methacrylate	0.00	69	0	N.D.	
59) T-1,3-Dichloropropene	0.00	75	0	N.D.	
60) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
61) 1,3-Dichloropropane	13.98	76	864	0.28 ug/kg#	42
62) Tetrachloroethene	13.64	164	602	0.48 ug/kg#	84
63) Dibromochloromethane	0.00	129	0	N.D.	
64) 1,2-Dibromoethane	0.00	107	0	N.D.	
65) Chlorobenzene	14.63	112	1679	0.38 ug/kg#	1
66) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
67) Ethylbenzene	14.59	106	693	0.31 ug/kg#	41
68) m-xylene & p-xylene	14.68	106	1878	0.70 ug/kg	99
69) O-Xylene	0.00	106	0	N.D.	
70) Bromoform	0.00	173	0	N.D.	
71) Styrene	15.16	104	1761	0.37 ug/kg	85
72) Isopropylbenzene	15.38	105	2300	0.35 ug/kg#	84
73) 1,2,3-Trichloropropane	0.00	75	0	N.D.	
74) 1,1,2,2-Tetrachloroethane	15.82	83	1068	0.58 ug/kg#	31
76) Bromofluorobenzene	15.72	95	97373	45.97 ug/kg#	81
77) T-1,4-dichloro-2-butene	0.00	53	0	N.D.	
78) N-Propylbenzene	15.79	91	3776	0.50 ug/kg	97
80) Bromobenzene	15.88	156	1040	0.67 ug/kg	86
81) 1,3,5-Trimethylbenzene	15.94	105	2347	0.51 ug/kg	99
82) 2-Chlorotoluene	16.03	91	2302	0.54 ug/kg	92
83) 4-Chlorotoluene	16.20	91	2856	0.64 ug/kg	95
84) 1,2,4-Trimethylbenzene	16.39	105	2603	0.55 ug/kg	99
85) s-Butylbenzene	16.52	105	3595	0.66 ug/kg	83
86) tert-Butylbenzene	16.33	119	2201	0.55 ug/kg#	84
87) p-Isopropyltoluene	16.63	119	3692	0.79 ug/kg	98
88) 1,3-Dichlorobenzene	16.90	146	2351	0.88 ug/kg	95
89) 1,4-Dichlorobenzene	16.90	146	2351	0.86 ug/kg	96
90) 1,2-Dichlorobenzene	17.55	146	2634	1.08 ug/kg	96
91) N-Butylbenzene	17.16	91	4089	1.00 ug/kg	92
92) DBCP	0.00	75	0	N.D.	
93) Naphthalene	20.67	128	11436	6.80 ug/kg	100
94) 1,2,4-Trichlorobenzene	19.95	180	3261	2.94 ug/kg	89
95) Hexachlorobutadiene	19.81	225	1346	2.63 ug/kg	91
96) 1,2,3-Trichlorobenzene	21.11	180	4390	6.30 ug/kg	90

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\112020\202KO001.D Vial: 1
Acq On : 20 Nov 2020 7:18 am Operator: KG
Sample : tune1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 7:40 2020 Quant Results File: 102720.RES

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\112020\202KO002.D Vial: 2
Acq On : 20 Nov 2020 7:49 am Operator: KG
Sample : ccv1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 8:12 2020 Quant Results File: 102720.RES

Quant Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.45	168	227575	50.00	ug/kg	-0.03
38) 1,4-Difluorobenzene(IS)	12.00	114	352357	50.00	ug/kg	-0.03
56) Chlorobenzene-d5(IS)	14.59	82	222477	50.00	ug/kg	-0.03
79) 1,4-Dichlorobenzene-d4(IS)	16.96	152	152724	50.00	ug/kg	-0.03
System Monitoring Compounds						
30) Dibromofluoromethane	11.06	113	96076	41.20	ug/kg	-0.03
Spiked Amount 50.000	Range 53 - 146		Recovery = 82.40%			
54) D8-Toluene	13.22	98	316383	48.78	ug/kg	-0.03
Spiked Amount 50.000	Range 41 - 146		Recovery = 97.56%			
75) Bromofluorobenzene	15.72	95	129912	39.15	ug/kg	-0.03
Spiked Amount 50.000	Range 41 - 142		Recovery = 78.30%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.87	85	43620	12.00	ug/kg	99
3) Chloromethane	6.35	50	63522	12.95	ug/kg	98
4) Vinyl Chloride	6.54	62	63313	16.54	ug/kg	98
5) Bromomethane	7.18	96	146405	78.00	ug/kg	99
6) Chloroethane	7.41	64	61586	26.51	ug/kg	96
7) Trichlorofluoromethane	7.69	101	133537	31.23	ug/kg	98
8) Trichlorotrifluoroethane	8.51	101	98202	43.49	ug/kg	93
9) acrolein	8.87	56	182739	449.04	ug/kg	96
10) Acetone	9.23	43	153819	229.81	ug/kg	88
11) 1,1-Dichloroethene	8.47	96	84124	39.18	ug/kg	95
12) 3-Chloropropene	9.07	76	54994	46.85	ug/kg	73
13) Acetonitrile	9.77	41	150661	521.64	ug/kg	95
14) Iodomethane	8.70	142	447151	186.99	ug/kg	91
15) Carbon disulfide	8.59	76	1468451	313.98	ug/kg	99
16) Methylene Chloride	9.18	84	105539	40.93	ug/kg	88
17) Methyl tert-butyl ether	9.50	73	238250	45.27	ug/kg	94
18) Acrylonitrile	10.10	53	647066	484.38	ug/kg	98
19) T-1,2-Dichloroethene	9.42	96	100174	42.34	ug/kg	94
20) Isopropyl Ether	9.88	45	568387	50.02	ug/kg	95
21) C-1,2-Dichloroethene	10.65	96	111656	43.40	ug/kg	96
22) 1,1-Dichloroethane	10.09	63	222823	46.05	ug/kg#	98
23) Vinyl Acetate	10.28	43	2504910	374.37	ug/kg	98
24) Chloroprene	10.08	88	96761	49.84	ug/kg	92
25) 2-Butanone	11.15	72	41994	189.10	ug/kg	64
26) Propionitrile	11.44	54	164698	501.37	ug/kg	100
27) 2,2-Dichloropropane	10.78	77	149483	47.46	ug/kg	100
28) Methacrylonitrile	11.47	67	544700	552.48	ug/kg	72
29) Chloroform	10.87	83	191904	43.88	ug/kg	92
31) Dibromofluoromethane	11.06	113	96076	41.20	ug/kg	100
32) Bromochloromethane	10.86	128	57777	42.43	ug/kg	87
33) 1,1,1-Trichloroethane	11.17	97	164037	51.13	ug/kg	98
34) 1,1-Dichloropropene	11.27	75	142002	42.76	ug/kg	98
35) Diethyl Ether	8.11	59	90327	36.59	ug/kg#	89
36) Methyl Acetate	9.38	74	15505	34.67	ug/kg#	54
37) Cyclohexane	10.94	56	178044	42.35	ug/kg	95
39) Methyl Cyclohexane	12.06	55	133583	50.22	ug/kg	99
40) Carbon Tetrachloride	11.13	117	166300	55.70	ug/kg	99
41) 1,2-Dichloroethane	11.65	62	146131	48.93	ug/kg	99
42) Benzene	11.51	78	575709	69.80	ug/kg	96
43) Isobutyl Alcohol	11.53	43	265214	1824.15	ug/kg#	79
44) Trichloroethene	12.02	130	113447	52.34	ug/kg	96
45) 1,2-Dichloropropane	12.48	63	115022	44.85	ug/kg	90
46) Methyl Methacrylate	12.55	100	26951	43.70	ug/kg	92
47) 1,4-Dioxane	12.68	88	13897	1020.18	ug/kg	95
48) Bromodichloromethane	12.49	83	147320	48.93	ug/kg	99
49) Dibromomethane	12.40	93	72100	48.69	ug/kg	92
50) 4-Methyl-2-Pentanone	13.50	100	71671	251.78	ug/kg	67
51) 2-Chloroethyl vinyl ether	12.80	63	2008	257.58	ug/kg#	100
52) 2-Hexanone	14.20	43	452781	262.36	ug/kg	89

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\112020\202KO002.D Vial: 2
Acq On : 20 Nov 2020 7:49 am Operator: KG
Sample : ccv1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 8:12 2020 Quant Results File: 102720.RES

Quant Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

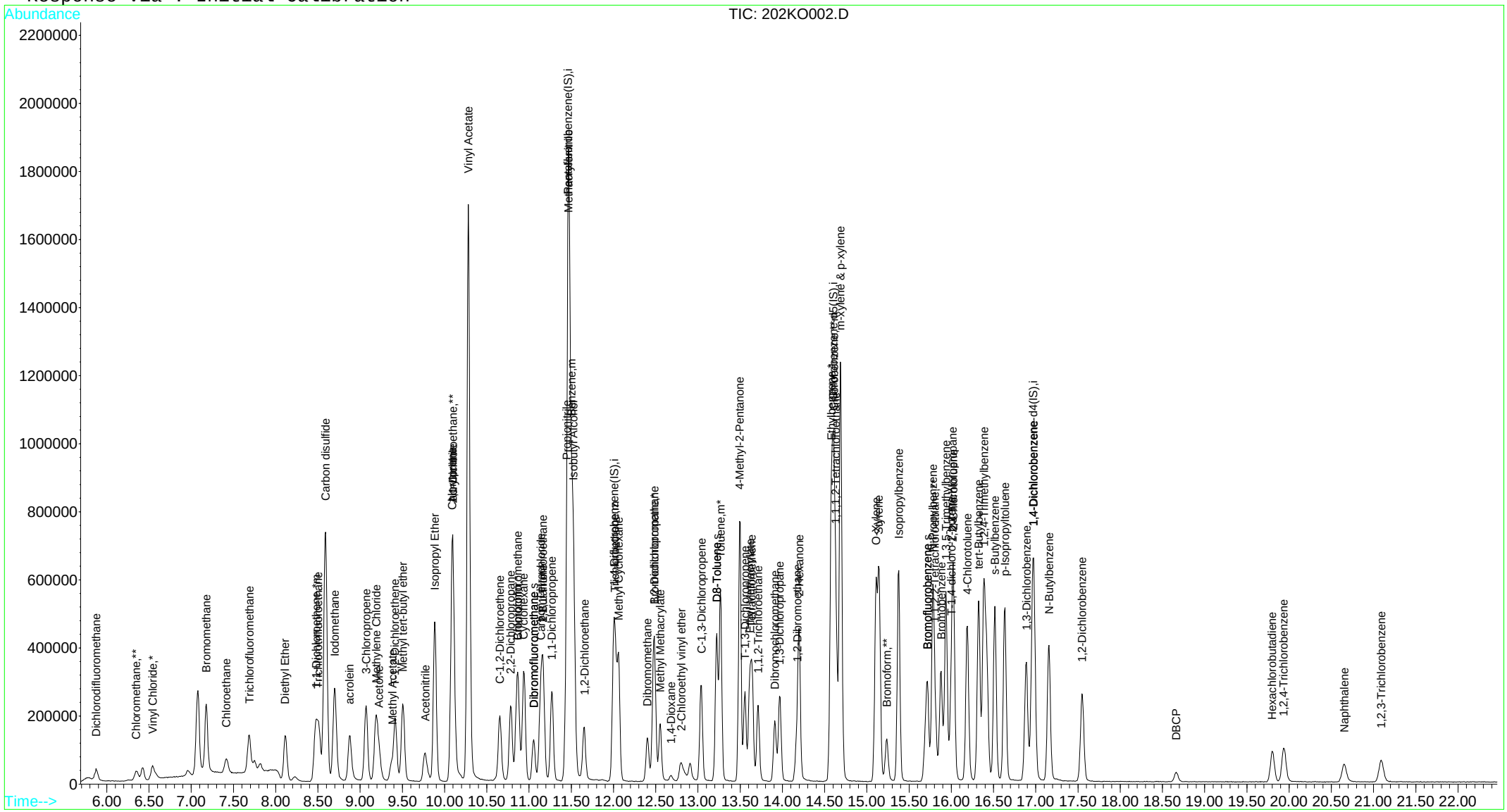
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.04	75	176845	45.69	ug/kg	84
55) D8-Toluene	13.22	98	316383	48.78	ug/kg	93
57) Toluene	13.27	92	277155	42.56	ug/kg	98
58) Ethyl Methacrylate	13.61	69	140624	33.47	ug/kg	76
59) T-1,3-Dichloropropene	13.56	75	163661	39.85	ug/kg	90
60) 1,1,2-Trichloroethane	13.71	97	85477	36.13	ug/kg	98
61) 1,3-Dichloropropane	13.97	76	162865	33.27	ug/kg	99
62) Tetrachloroethene	13.64	164	78258	39.89	ug/kg	95
63) Dibromochloromethane	13.91	129	114754	36.42	ug/kg	97
64) 1,2-Dibromoethane	14.17	107	97131	36.35	ug/kg	97
65) Chlorobenzene	14.62	112	348939	50.22	ug/kg	98
66) 1,1,1,2-Tetrachloroethane	14.64	131	123700	47.19	ug/kg	99
67) Ethylbenzene	14.57	106	162636	46.84	ug/kg	98
68) m-xylene & p-xylene	14.69	106	447576	105.95	ug/kg	99
69) O-Xylene	15.11	106	200123	47.34	ug/kg	95
70) Bromoform	15.24	173	67223	39.65	ug/kg	98
71) Styrene	15.14	104	411514	54.75	ug/kg	98
72) Isopropylbenzene	15.38	105	549693	53.09	ug/kg	100
73) 1,2,3-Trichloropropane	16.01	75	150995	45.64	ug/kg	98
74) 1,1,2,2-Tetrachloroethane	15.81	83	118457	41.23	ug/kg	99
76) Bromofluorobenzene	15.72	95	129912	39.15	ug/kg#	68
77) T-1,4-dichloro-2-butene	15.99	53	38294	51.01	ug/kg#	1
78) N-Propylbenzene	15.78	91	590504	49.61	ug/kg	98
80) Bromobenzene	15.88	156	113156	44.53	ug/kg	97
81) 1,3,5-Trimethylbenzene	15.94	105	425230	57.01	ug/kg	99
82) 2-Chlorotoluene	16.02	91	389851	56.43	ug/kg	100
83) 4-Chlorotoluene	16.19	91	388360	53.81	ug/kg	99
84) 1,2,4-Trimethylbenzene	16.39	105	473508	61.01	ug/kg	100
85) s-Butylbenzene	16.51	105	534444	60.40	ug/kg	100
86) tert-Butylbenzene	16.32	119	370099	56.96	ug/kg	98
87) p-Isopropyltoluene	16.64	119	472944	62.40	ug/kg	99
88) 1,3-Dichlorobenzene	16.89	146	206788	47.78	ug/kg	97
89) 1,4-Dichlorobenzene	16.98	146	232744	52.13	ug/kg	97
90) 1,2-Dichlorobenzene	17.55	146	161716	40.79	ug/kg	97
91) N-Butylbenzene	17.16	91	355122	53.14	ug/kg	97
92) DBCP	18.65	75	10466	30.17	ug/kg	99
93) Naphthalene	20.65	128	95377	31.77	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.94	180	58812	32.56	ug/kg	99
95) Hexachlorobutadiene	19.81	225	26582	31.86	ug/kg	99
96) 1,2,3-Trichlorobenzene	21.09	180	41013	33.09	ug/kg	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\112020\202KO002.D Vial: 2
Acq On : 20 Nov 2020 7:49 am Operator: KG
Sample : ccv1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 8:12 2020 Quant Results File: 102720.RES

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\112020\202KO003.D Vial: 3
Acq On : 20 Nov 2020 8:33 am Operator: KG
Sample : ccv2 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 8:56 2020 Quant Results File: 102720.RES

Quant Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.45	168	183087	50.00	ug/kg	-0.03
38) 1,4-Difluorobenzene(IS)	12.00	114	352096	50.00	ug/kg	-0.03
56) Chlorobenzene-d5(IS)	14.60	82	190921	50.00	ug/kg	-0.03
79) 1,4-Dichlorobenzene-d4(IS)	16.96	152	141992	50.00	ug/kg	-0.03
System Monitoring Compounds						
30) Dibromofluoromethane	11.06	113	99627	53.11	ug/kg	-0.03
Spiked Amount 50.000	Range 53 - 146		Recovery = 106.22%			
54) D8-Toluene	13.22	98	317182	48.94	ug/kg	-0.03
Spiked Amount 50.000	Range 41 - 146		Recovery = 97.88%			
75) Bromofluorobenzene	15.71	95	119180	41.85	ug/kg	-0.04
Spiked Amount 50.000	Range 41 - 142		Recovery = 83.70%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.		
3) Chloromethane	6.44	50	4952	1.25	ug/kg	74
4) Vinyl Chloride	6.54	62	1573	0.51	ug/kg#	1
5) Bromomethane	7.21	96	1656	1.10	ug/kg#	44
6) Chloroethane	7.44	64	831	0.44	ug/kg#	28
7) Trichlorofluoromethane	0.00	101	0	N.D.		
8) Trichlorotrifluoroethane	8.52	101	105055	57.83	ug/kg	93
9) acrolein	8.89	56	1011	3.09	ug/kg#	17
10) Acetone	9.25	43	1453	2.70	ug/kg#	45
11) 1,1-Dichloroethene	8.48	96	92230	53.40	ug/kg	95
12) 3-Chloropropene	0.00	76	0	N.D.		
13) Acetonitrile	9.73	41	687	2.96	ug/kg#	1
14) Iodomethane	8.72	142	1383	0.72	ug/kg#	92
15) Carbon disulfide	8.60	76	27943	7.43	ug/kg	91
16) Methylene Chloride	9.20	84	111914	53.95	ug/kg	87
17) Methyl tert-butyl ether	9.51	73	234107	55.30	ug/kg	94
18) Acrylonitrile	10.09	53	1612	1.50	ug/kg#	27
19) T-1,2-Dichloroethene	9.42	96	101695	53.43	ug/kg	96
20) Isopropyl Ether	9.89	45	582115	63.68	ug/kg	95
21) C-1,2-Dichloroethene	10.66	96	111001	53.63	ug/kg	95
22) 1,1-Dichloroethane	10.10	63	193854	49.80	ug/kg#	98
23) Vinyl Acetate	10.28	43	45813	8.51	ug/kg#	78
24) Chloroprene	9.90	88	4631	2.97	ug/kg#	1
25) 2-Butanone	11.12	72	2417	13.53	ug/kg#	1
26) Propionitrile	11.53	54	1131	4.28	ug/kg	100
27) 2,2-Dichloropropane	10.79	77	145139	57.28	ug/kg	100
28) Methacrylonitrile	11.53	67	666	0.84	ug/kg#	1
29) Chloroform	10.88	83	194916	55.40	ug/kg	93
31) Dibromofluoromethane	11.06	113	99627	53.11	ug/kg	100
32) Bromochloromethane	10.86	128	57482	52.47	ug/kg	87
33) 1,1,1-Trichloroethane	11.17	97	162133	62.82	ug/kg	99
34) 1,1-Dichloropropene	11.28	75	142469	53.32	ug/kg	98
35) Diethyl Ether	8.12	59	97236	48.96	ug/kg#	88
36) Methyl Acetate	9.37	74	12808	35.60	ug/kg#	65
37) Cyclohexane	10.94	56	177768	52.56	ug/kg	97
39) Methyl Cyclohexane	12.06	55	130486	49.09	ug/kg	98
40) Carbon Tetrachloride	11.14	117	169081	56.67	ug/kg	99
41) 1,2-Dichloroethane	11.65	62	137360	46.02	ug/kg	100
42) Benzene	11.51	78	415362	50.39	ug/kg#	51
43) Isobutyl Alcohol	11.53	43	103192	710.29	ug/kg#	1
44) Trichloroethene	12.03	130	111798	51.62	ug/kg	98
45) 1,2-Dichloropropane	12.48	63	112356	43.84	ug/kg	88
46) Methyl Methacrylate	0.00	100	0	N.D.		
47) 1,4-Dioxane	0.00	88	0	N.D.		
48) Bromodichloromethane	12.49	83	146967	48.85	ug/kg	97
49) Dibromomethane	12.40	93	70377	47.56	ug/kg	93
50) 4-Methyl-2-Pentanone	0.00	100	0	N.D.		
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	14.20	43	3305	1.92	ug/kg#	74

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\112020\202KO003.D Vial: 3
Acq On : 20 Nov 2020 8:33 am Operator: KG
Sample : ccv2 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 8:56 2020 Quant Results File: 102720.RES

Quant Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

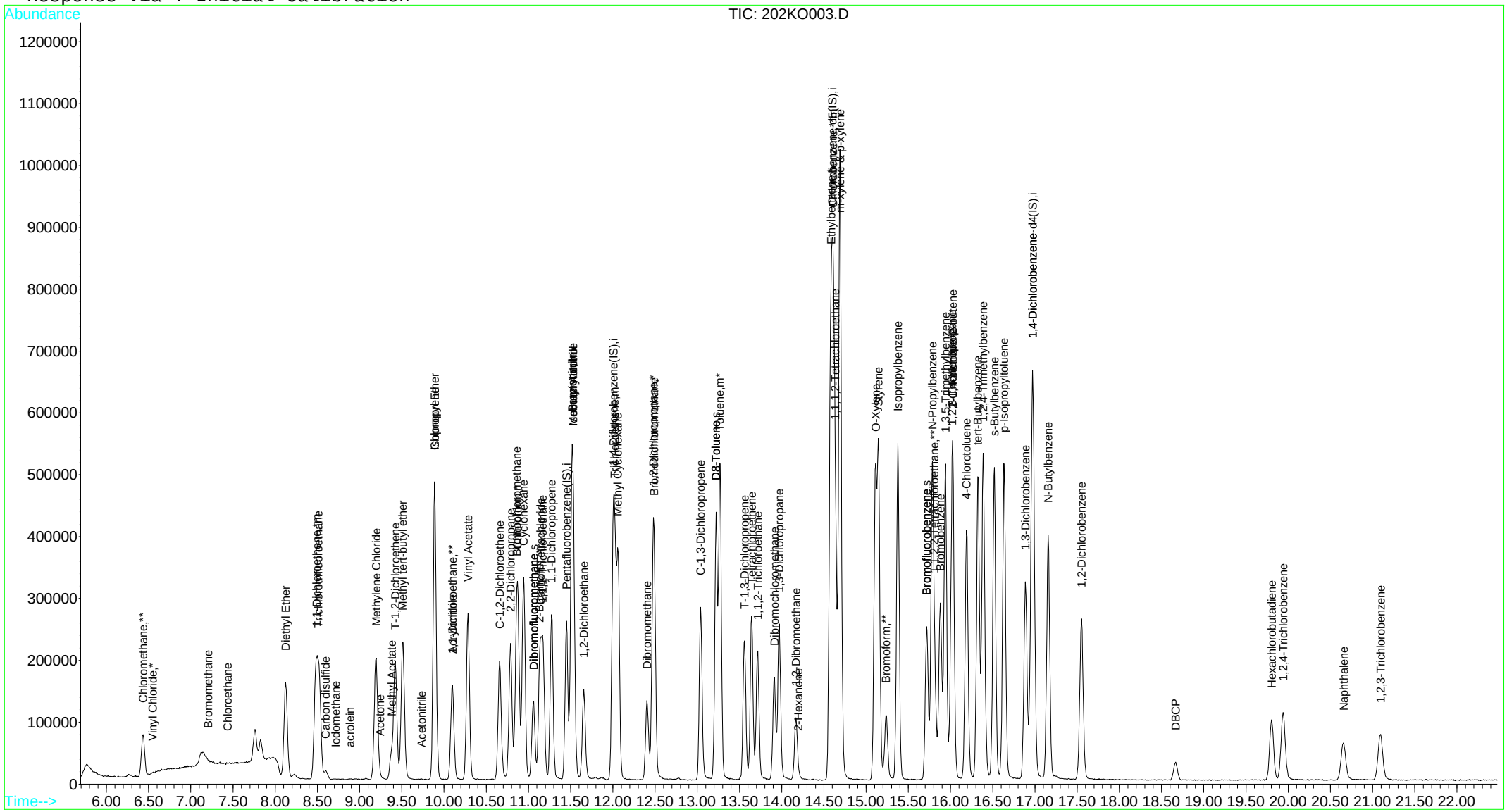
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.04	75	176134	45.54	ug/kg	87
55) D8-Toluene	13.22	98	317182	48.94	ug/kg	94
57) Toluene	13.27	92	261750	46.83	ug/kg	98
58) Ethyl Methacrylate	0.00	69	0	N.D.		
59) T-1,3-Dichloropropene	13.56	75	145800	41.37	ug/kg	87
60) 1,1,2-Trichloroethane	13.72	97	81221	40.01	ug/kg	99
61) 1,3-Dichloropropane	13.97	76	158474	37.73	ug/kg	99
62) Tetrachloroethene	13.65	164	65679	39.01	ug/kg	93
63) Dibromochloromethane	13.91	129	111589	41.27	ug/kg	97
64) 1,2-Dibromoethane	14.17	107	93925	40.96	ug/kg	96
65) Chlorobenzene	14.61	112	295582	49.57	ug/kg	97
66) 1,1,1,2-Tetrachloroethane	14.64	131	110339	49.05	ug/kg	97
67) Ethylbenzene	14.58	106	144871	48.62	ug/kg	97
68) m-xylene & p-xylene	14.69	106	365624	100.85	ug/kg	98
69) O-Xylene	15.11	106	176280	48.59	ug/kg	97
70) Bromoform	15.24	173	59379	40.82	ug/kg	99
71) Styrene	15.15	104	347196	53.83	ug/kg	98
72) Isopropylbenzene	15.38	105	471401	53.05	ug/kg	99
73) 1,2,3-Trichloropropane	16.01	75	99099	34.90	ug/kg	97
74) 1,1,2,2-Tetrachloroethane	15.81	83	107444	43.58	ug/kg	98
76) Bromofluorobenzene	15.71	95	119180	41.85	ug/kg#	79
77) T-1,4-dichloro-2-butene	16.03	53	1317	2.04	ug/kg#	1
78) N-Propylbenzene	15.79	91	533472	52.23	ug/kg	98
80) Bromobenzene	15.88	156	100141	42.39	ug/kg	96
81) 1,3,5-Trimethylbenzene	15.94	105	371104	53.51	ug/kg	99
82) 2-Chlorotoluene	16.03	91	334510	52.08	ug/kg	96
83) 4-Chlorotoluene	16.19	91	334983	49.92	ug/kg	97
84) 1,2,4-Trimethylbenzene	16.39	105	439540	60.92	ug/kg	97
85) s-Butylbenzene	16.52	105	518771	63.06	ug/kg	99
86) tert-Butylbenzene	16.32	119	335683	55.57	ug/kg	98
87) p-Isopropyltoluene	16.63	119	453773	64.40	ug/kg	98
88) 1,3-Dichlorobenzene	16.89	146	186141	46.26	ug/kg	98
89) 1,4-Dichlorobenzene	16.98	146	214040	51.56	ug/kg	98
90) 1,2-Dichlorobenzene	17.55	146	161151	43.72	ug/kg	98
91) N-Butylbenzene	17.16	91	341201	54.92	ug/kg	96
92) DBCP	18.66	75	10869	33.55	ug/kg	97
93) Naphthalene	20.65	128	110003	38.51	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.94	180	65067	38.74	ug/kg	100
95) Hexachlorobutadiene	19.80	225	28901	37.25	ug/kg	98
96) 1,2,3-Trichlorobenzene	21.10	180	47559	40.34	ug/kg	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\112020\202KO003.D Vial: 3
Acq On : 20 Nov 2020 8:33 am Operator: KG
Sample : ccv2 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 8:56 2020 Quant Results File: 102720.RES

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\112020\202KO004.D Vial: 4
Acq On : 20 Nov 2020 9:05 am Operator: KG
Sample : bs1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 9:30 2020 Quant Results File: 102720.RES

Quant Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.45	168	188171	50.00	ug/kg	-0.03
38) 1,4-Difluorobenzene(IS)	12.00	114	353176	50.00	ug/kg	-0.03
56) Chlorobenzene-d5(IS)	14.60	82	183671	50.00	ug/kg	-0.03
79) 1,4-Dichlorobenzene-d4(IS)	16.97	152	118386	50.00	ug/kg	-0.03
System Monitoring Compounds						
30) Dibromofluoromethane	11.06	113	102563	53.20	ug/kg	-0.03
Spiked Amount 50.000	Range 53 - 146		Recovery = 106.40%			
54) D8-Toluene	13.22	98	318504	48.99	ug/kg	-0.03
Spiked Amount 50.000	Range 41 - 146		Recovery = 97.98%			
75) Bromofluorobenzene	15.72	95	117642	42.94	ug/kg	-0.03
Spiked Amount 50.000	Range 41 - 142		Recovery = 85.88%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.88	85	57746	19.21	ug/kg	99
3) Chloromethane	6.37	50	73180	18.04	ug/kg	98
4) Vinyl Chloride	6.54	62	78266	24.73	ug/kg	99
5) Bromomethane	7.20	96	50489	32.53	ug/kg	98
6) Chloroethane	7.43	64	72230	37.61	ug/kg	96
7) Trichlorofluoromethane	7.69	101	153259	43.35	ug/kg	99
8) Trichlorotrifluoroethane	8.52	101	39976	21.41	ug/kg	93
9) acrolein	8.89	56	32336	96.10	ug/kg	100
10) Acetone	9.23	43	66926	120.93	ug/kg	89
11) 1,1-Dichloroethene	8.48	96	35734	20.13	ug/kg	91
12) 3-Chloropropene	9.08	76	23055	23.75	ug/kg	73
13) Acetonitrile	9.78	41	31129	130.35	ug/kg	97
14) Iodomethane	8.71	142	37755	19.09	ug/kg	91
15) Carbon disulfide	8.60	76	125098	32.35	ug/kg	97
16) Methylene Chloride	9.20	84	44184	20.72	ug/kg	89
17) Methyl tert-butyl ether	9.52	73	92986	21.37	ug/kg	92
18) Acrylonitrile	10.09	53	90715	82.13	ug/kg#	75
19) T-1,2-Dichloroethene	9.42	96	40553	20.73	ug/kg	98
20) Isopropyl Ether	9.89	45	226845	24.15	ug/kg	95
21) C-1,2-Dichloroethene	10.66	96	45858	21.56	ug/kg	93
22) 1,1-Dichloroethane	10.10	63	80560	20.13	ug/kg#	97
23) Vinyl Acetate	10.29	43	143630	25.96	ug/kg	94
24) Chloroprene	10.09	88	36275	22.60	ug/kg	1
25) 2-Butanone	11.16	72	25194	137.21	ug/kg	77
26) Propionitrile	11.46	54	5179	19.07	ug/kg	100
27) 2,2-Dichloropropane	10.79	77	57511	22.09	ug/kg	99
28) Methacrylonitrile	11.48	67	15837	19.43	ug/kg	90
29) Chloroform	10.88	83	76643	21.19	ug/kg	95
31) Dibromofluoromethane	11.06	113	102563	53.20	ug/kg	100
32) Bromochloromethane	10.86	128	23278	20.67	ug/kg	83
33) 1,1,1-Trichloroethane	11.18	97	66876	25.21	ug/kg	98
34) 1,1-Dichloropropene	11.27	75	58840	21.43	ug/kg	100
35) Diethyl Ether	8.12	59	37390	18.32	ug/kg#	88
36) Methyl Acetate	9.38	74	5761	15.58	ug/kg#	51
37) Cyclohexane	10.94	56	73378	21.11	ug/kg	95
39) Methyl Cyclohexane	12.07	55	53640	20.12	ug/kg	94
40) Carbon Tetrachloride	11.14	117	68095	22.75	ug/kg	99
41) 1,2-Dichloroethane	11.66	62	54115	18.08	ug/kg	100
42) Benzene	11.51	78	159614	19.31	ug/kg#	55
43) Isobutyl Alcohol	11.54	43	42624	292.49	ug/kg#	1
44) Trichloroethene	12.03	130	44217	20.35	ug/kg	93
45) 1,2-Dichloropropane	12.48	63	44133	17.17	ug/kg	89
46) Methyl Methacrylate	12.56	100	11332	18.33	ug/kg	93
47) 1,4-Dioxane	12.69	88	6095	446.40	ug/kg	96
48) Bromodichloromethane	12.50	83	56128	18.60	ug/kg	97
49) Dibromomethane	12.41	93	28078	18.92	ug/kg	93
50) 4-Methyl-2-Pentanone	13.50	100	25814	90.47	ug/kg	74
51) 2-Chloroethyl vinyl ether	12.81	63	898	114.93	ug/kg#	100
52) 2-Hexanone	14.20	43	167837	97.02	ug/kg	88

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\112020\202KO004.D Vial: 4
Acq On : 20 Nov 2020 9:05 am Operator: KG
Sample : bs1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 9:30 2020 Quant Results File: 102720.RES

Quant Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

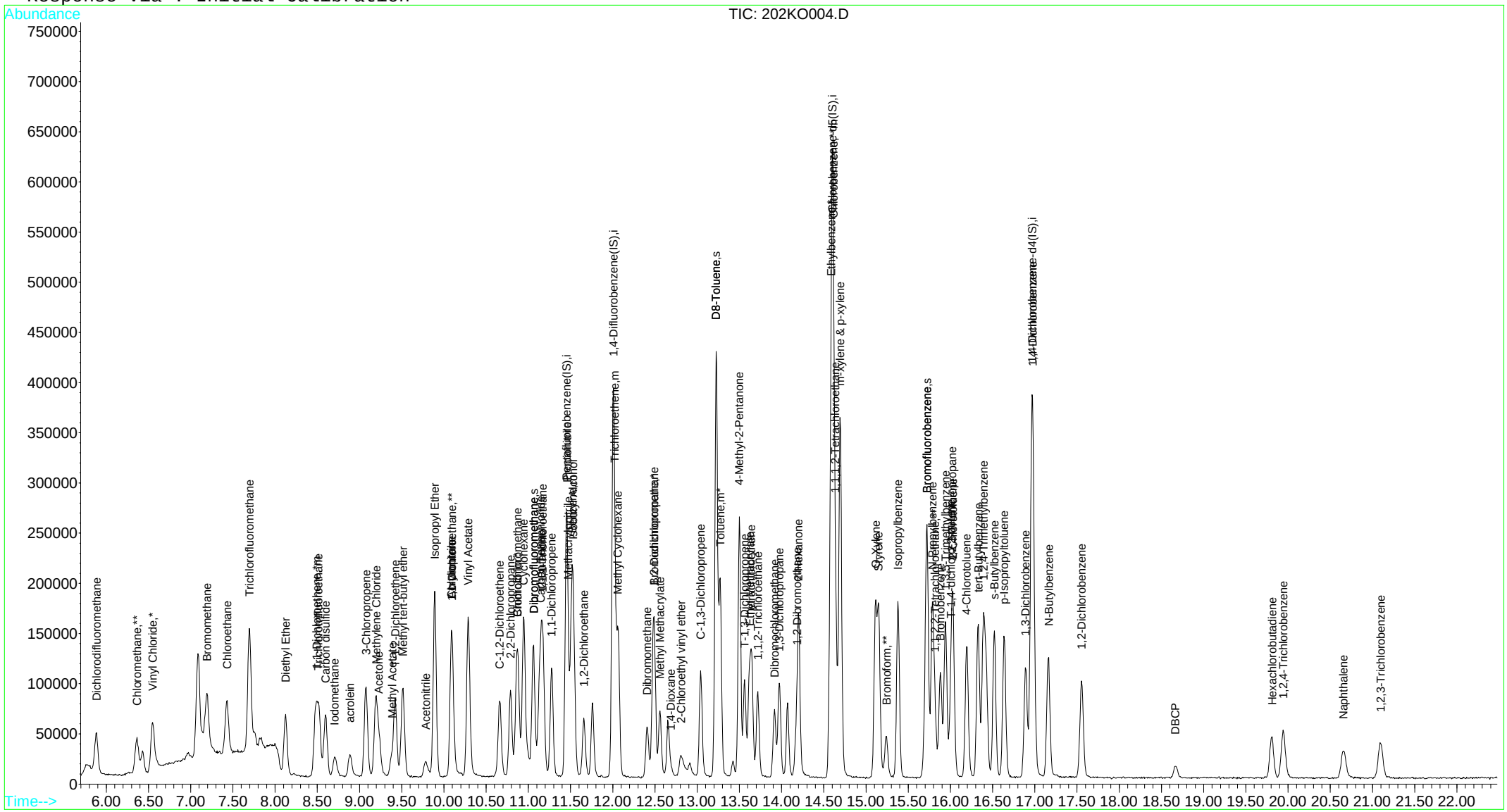
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.04	75	66957	17.26	ug/kg	85
55) D8-Toluene	13.22	98	318504	48.99	ug/kg	94
57) Toluene	13.27	92	100553	18.70	ug/kg	100
58) Ethyl Methacrylate	13.62	69	49986	14.41	ug/kg	78
59) T-1,3-Dichloropropene	13.56	75	59443	17.53	ug/kg	89
60) 1,1,2-Trichloroethane	13.72	97	33560	17.18	ug/kg	98
61) 1,3-Dichloropropane	13.97	76	61769	15.29	ug/kg	99
62) Tetrachloroethene	13.65	164	28109	17.35	ug/kg	95
63) Dibromochloromethane	13.92	129	44176	16.98	ug/kg	97
64) 1,2-Dibromoethane	14.18	107	37030	16.78	ug/kg	99
65) Chlorobenzene	14.62	112	116410	20.29	ug/kg	97
66) 1,1,1,2-Tetrachloroethane	14.64	131	41846	19.34	ug/kg#	30
67) Ethylbenzene	14.58	106	54738	19.10	ug/kg	97
68) m-xylene & p-xylene	14.69	106	133608	38.31	ug/kg	97
69) O-Xylene	15.11	106	62428	17.89	ug/kg	94
70) Bromoform	15.24	173	23194	16.57	ug/kg	97
71) Styrene	15.15	104	115841	18.67	ug/kg	97
72) Isopropylbenzene	15.38	105	163533	19.13	ug/kg	99
73) 1,2,3-Trichloropropane	16.01	75	43962	16.09	ug/kg	99
74) 1,1,2,2-Tetrachloroethane	15.82	83	39963	16.85	ug/kg	98
76) Bromofluorobenzene	15.72	95	117642	42.94	ug/kg#	74
77) T-1,4-dichloro-2-butene	16.00	53	11070	17.86	ug/kg#	1
78) N-Propylbenzene	15.79	91	186761	19.01	ug/kg	99
80) Bromobenzene	15.88	156	37506	19.04	ug/kg	98
81) 1,3,5-Trimethylbenzene	15.94	105	125221	21.66	ug/kg	97
82) 2-Chlorotoluene	16.03	91	112672	21.04	ug/kg	99
83) 4-Chlorotoluene	16.20	91	113747	20.33	ug/kg	100
84) 1,2,4-Trimethylbenzene	16.39	105	128787	21.41	ug/kg	98
85) s-Butylbenzene	16.52	105	155130	22.62	ug/kg	98
86) tert-Butylbenzene	16.33	119	109590	21.76	ug/kg	99
87) p-Isopropyltoluene	16.63	119	130227	22.17	ug/kg	98
88) 1,3-Dichlorobenzene	16.89	146	66240	19.75	ug/kg	97
89) 1,4-Dichlorobenzene	16.98	146	70698	20.43	ug/kg	96
90) 1,2-Dichlorobenzene	17.55	146	59728	19.44	ug/kg	98
91) N-Butylbenzene	17.16	91	111065	21.44	ug/kg	96
92) DBCP	18.67	75	4849	18.30	ug/kg	95
93) Naphthalene	20.65	128	51659	22.91	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.95	180	27964	19.97	ug/kg	99
95) Hexachlorobutadiene	19.81	225	12108	18.72	ug/kg	97
96) 1,2,3-Trichlorobenzene	21.10	180	22567	24.17	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\112020\202KO004.D Vial: 4
Acq On : 20 Nov 2020 9:05 am Operator: KG
Sample : bs1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 9:30 2020 Quant Results File: 102720.RES

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\112020\202KO007.D Vial: 7
Acq On : 20 Nov 2020 10:31 am Operator: KG
Sample : 0K20010-BLK1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 11:05 2020 Quant Results File: 102720.RES

Quant Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.45	168	180198	50.00	ug/kg	-0.02
38) 1,4-Difluorobenzene(IS)	12.00	114	327013	50.00	ug/kg	-0.02
56) Chlorobenzene-d5(IS)	14.60	82	146241	50.00	ug/kg	-0.03
79) 1,4-Dichlorobenzene-d4(IS)	16.96	152	98156	50.00	ug/kg	-0.03
System Monitoring Compounds						
30) Dibromofluoromethane	11.06	113	98810	53.52	ug/kg	-0.03
Spiked Amount 50.000	Range 53 - 146		Recovery = 107.04%			
54) D8-Toluene	13.23	98	294961	49.00	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 98.00%			
75) Bromofluorobenzene	15.72	95	104367	47.85	ug/kg	-0.03
Spiked Amount 50.000	Range 41 - 142		Recovery = 95.70%			

Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.	
3) Chloromethane	0.00	50	0	N.D.	
4) Vinyl Chloride	0.00	62	0	N.D.	
5) Bromomethane	0.00	96	0	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Trichlorofluoromethane	0.00	101	0	N.D.	
8) Trichlorotrifluoroethane	0.00	101	0	N.D.	
9) acrolein	0.00	56	0	N.D.	
10) Acetone	0.00	43	0	N.D.	
11) 1,1-Dichloroethene	0.00	96	0	N.D.	
12) 3-Chloropropene	0.00	76	0	N.D.	
13) Acetonitrile	0.00	41	0	N.D.	
14) Iodomethane	0.00	142	0	N.D.	
15) Carbon disulfide	0.00	76	0	N.D. d	
16) Methylene Chloride	0.00	84	0	N.D.	
17) Methyl tert-butyl ether	0.00	73	0	N.D.	
18) Acrylonitrile	0.00	53	0	N.D.	
19) T-1,2-Dichloroethene	0.00	96	0	N.D.	
20) Isopropyl Ether	0.00	45	0	N.D.	
21) C-1,2-Dichloroethene	0.00	96	0	N.D.	
22) 1,1-Dichloroethane	0.00	63	0	N.D.	
23) Vinyl Acetate	0.00	43	0	N.D.	
24) Chloroprene	0.00	88	0	N.D.	
25) 2-Butanone	0.00	72	0	N.D.	
26) Propionitrile	0.00	54	0	N.D.	
27) 2,2-Dichloropropane	0.00	77	0	N.D.	
28) Methacrylonitrile	0.00	67	0	N.D. d	
29) Chloroform	0.00	83	0	N.D.	
31) Dibromofluoromethane	11.06	113	98810	53.52 ug/kg	100
32) Bromochloromethane	0.00	128	0	N.D.	
33) 1,1,1-Trichloroethane	0.00	97	0	N.D.	
34) 1,1-Dichloropropene	0.00	75	0	N.D.	
35) Diethyl Ether	0.00	59	0	N.D.	
36) Methyl Acetate	0.00	74	0	N.D.	
37) Cyclohexane	0.00	56	0	N.D.	
39) Methyl Cyclohexane	0.00	55	0	N.D. d	
40) Carbon Tetrachloride	0.00	117	0	N.D.	
41) 1,2-Dichloroethane	0.00	62	0	N.D.	
42) Benzene	0.00	78	0	N.D. d	
43) Isobutyl Alcohol	0.00	43	0	N.D. d	
44) Trichloroethene	0.00	130	0	N.D.	
45) 1,2-Dichloropropane	0.00	63	0	N.D.	
46) Methyl Methacrylate	0.00	100	0	N.D.	
47) 1,4-Dioxane	0.00	88	0	N.D.	
48) Bromodichloromethane	0.00	83	0	N.D.	
49) Dibromomethane	0.00	93	0	N.D.	
50) 4-Methyl-2-Pentanone	0.00	100	0	N.D.	
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.	
52) 2-Hexanone	0.00	43	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\112020\202KO007.D Vial: 7
Acq On : 20 Nov 2020 10:31 am Operator: KG
Sample : 0K20010-BLK1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 11:05 2020 Quant Results File: 102720.RES

Quant Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

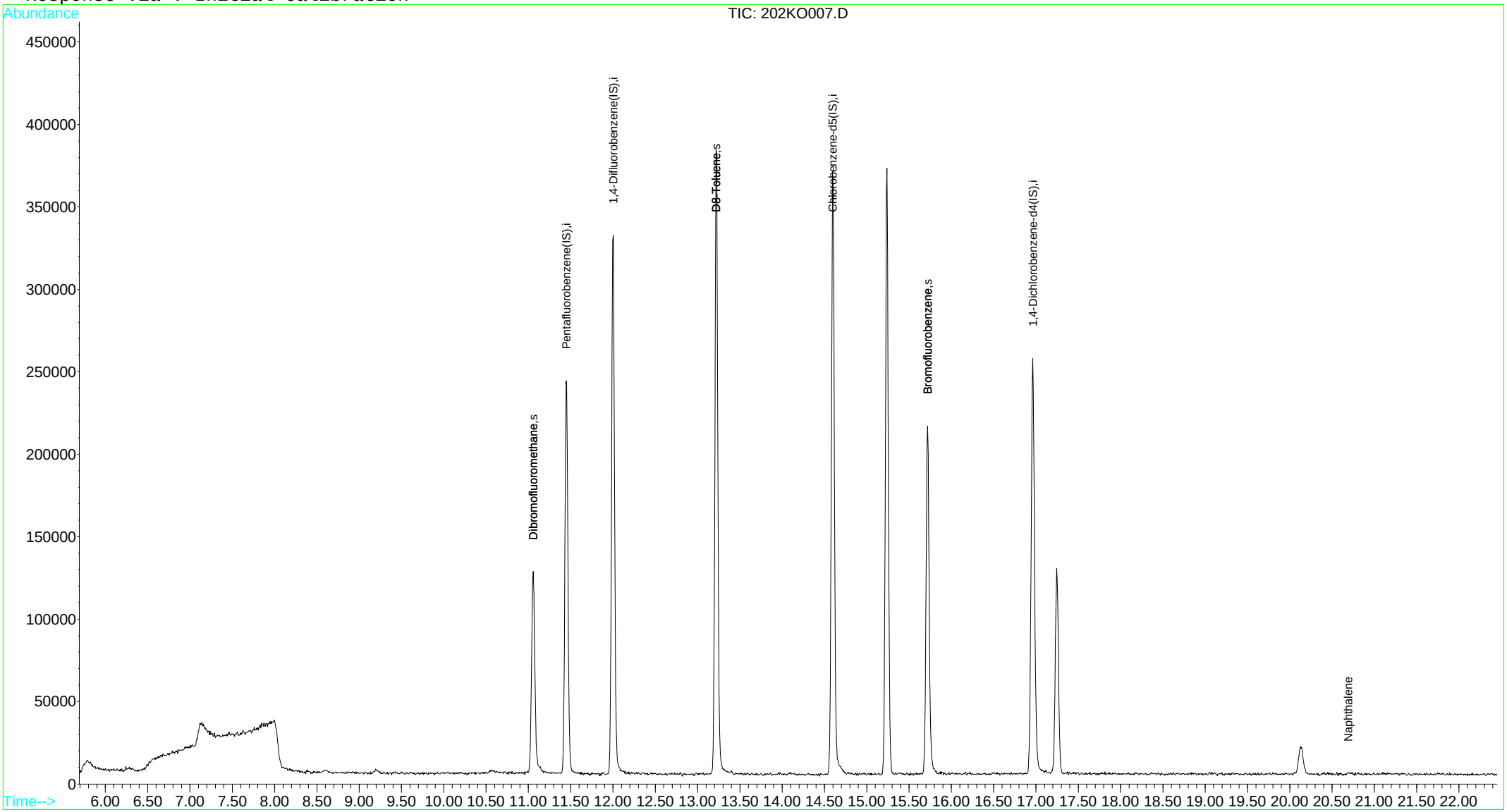
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	0.00	75	0	N.D.	
55) D8-Toluene	13.23	98	294961	49.00 ug/kg	93
57) Toluene	0.00	92	0	N.D.	
58) Ethyl Methacrylate	0.00	69	0	N.D.	
59) T-1,3-Dichloropropene	0.00	75	0	N.D.	
60) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
61) 1,3-Dichloropropane	0.00	76	0	N.D.	
62) Tetrachloroethene	0.00	164	0	N.D.	
63) Dibromochloromethane	0.00	129	0	N.D.	
64) 1,2-Dibromoethane	0.00	107	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
67) Ethylbenzene	0.00	106	0	N.D.	
68) m-xylene & p-xylene	0.00	106	0	N.D.	
69) O-Xylene	0.00	106	0	N.D.	
70) Bromoform	0.00	173	0	N.D.	
71) Styrene	0.00	104	0	N.D. d	
72) Isopropylbenzene	0.00	105	0	N.D. d	
73) 1,2,3-Trichloropropane	0.00	75	0	N.D.	
74) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
76) Bromofluorobenzene	15.72	95	104367	47.85 ug/kg#	79
77) T-1,4-dichloro-2-butene	0.00	53	0	N.D.	
78) N-Propylbenzene	0.00	91	0	N.D.	
80) Bromobenzene	0.00	156	0	N.D.	
81) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
82) 2-Chlorotoluene	0.00	91	0	N.D.	
83) 4-Chlorotoluene	0.00	91	0	N.D.	
84) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.	
85) s-Butylbenzene	0.00	105	0	N.D.	
86) tert-Butylbenzene	0.00	119	0	N.D.	
87) p-Isopropyltoluene	0.00	119	0	N.D.	
88) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
89) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) N-Butylbenzene	0.00	91	0	N.D.	
92) DBCP	0.00	75	0	N.D.	
93) Naphthalene	20.68	128	1170m	0.68 ug/kg	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Hexachlorobutadiene	0.00	225	0	N.D.	
96) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\112020\202KO007.D Vial: 7
Acq On : 20 Nov 2020 10:31 am Operator: KG
Sample : 0K20010-BLK1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 11:05 2020 Quant Results File: 102720.RES

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\112020\202KO008.D Vial: 8
Acq On : 20 Nov 2020 11:00 am Operator: KG
Sample : AA63668-CRL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 11:27 2020 Quant Results File: 102720.RES

Quant Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.45	168	178853	50.00	ug/kg	-0.03
38) 1,4-Difluorobenzene(IS)	12.00	114	328386	50.00	ug/kg	-0.03
56) Chlorobenzene-d5(IS)	14.60	82	150052	50.00	ug/kg	-0.03
79) 1,4-Dichlorobenzene-d4(IS)	16.97	152	101241	50.00	ug/kg	-0.03
System Monitoring Compounds						
30) Dibromofluoromethane	11.06	113	97674	53.30	ug/kg	-0.03
Spiked Amount 50.000	Range 53 - 146		Recovery = 106.60%			
54) D8-Toluene	13.22	98	291557	48.23	ug/kg	-0.03
Spiked Amount 50.000	Range 41 - 146		Recovery = 96.46%			
75) Bromofluorobenzene	15.72	95	103278	46.15	ug/kg	-0.03
Spiked Amount 50.000	Range 41 - 142		Recovery = 92.30%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.88	85	2516	0.88	ug/kg#	77
3) Chloromethane	6.35	50	4845	1.26	ug/kg#	91
4) Vinyl Chloride	6.55	62	3963	1.32	ug/kg#	85
5) Bromomethane	7.21	96	7044	4.77	ug/kg	88
6) Chloroethane	7.44	64	3968	2.17	ug/kg	84
7) Trichlorofluoromethane	7.69	101	7210	2.15	ug/kg	98
8) Trichlorotrifluoroethane	8.51	101	1918	1.08	ug/kg	84
9) acrolein	8.89	56	3300	10.32	ug/kg	87
10) Acetone	9.23	43	4454	8.47	ug/kg	85
11) 1,1-Dichloroethene	8.48	96	1654	0.98	ug/kg	97
12) 3-Chloropropene	9.08	76	1009	1.09	ug/kg#	44
13) Acetonitrile	9.80	41	2239	9.86	ug/kg	78
14) Iodomethane	8.71	142	1744	0.93	ug/kg#	90
15) Carbon disulfide	8.60	76	29648	8.07	ug/kg	93
16) Methylene Chloride	9.20	84	3050	1.51	ug/kg#	73
17) Methyl tert-butyl ether	9.52	73	4097	0.99	ug/kg	67
18) Acrylonitrile	10.12	53	9769	9.30	ug/kg#	35
19) T-1,2-Dichloroethene	9.42	96	2055	1.11	ug/kg#	81
20) Isopropyl Ether	9.90	45	11068	1.24	ug/kg	99
21) C-1,2-Dichloroethene	10.67	96	2244	1.11	ug/kg	97
22) 1,1-Dichloroethane	10.09	63	4047	1.06	ug/kg#	69
23) Vinyl Acetate	10.30	43	29255	5.56	ug/kg	96
24) Chloroprene	10.08	88	1531	1.00	ug/kg#	81
25) 2-Butanone	11.17	72	768	4.40	ug/kg#	1
26) Propionitrile	11.45	54	2342	9.07	ug/kg	100
27) 2,2-Dichloropropane	10.78	77	3484	1.41	ug/kg	59
28) Methacrylonitrile	11.49	67	7135	9.21	ug/kg	64
29) Chloroform	10.88	83	3914	1.14	ug/kg	90
31) Dibromofluoromethane	11.06	113	97674	53.30	ug/kg	100
32) Bromochloromethane	10.86	128	1095	1.02	ug/kg	72
33) 1,1,1-Trichloroethane	11.17	97	2884	1.14	ug/kg	92
34) 1,1-Dichloropropene	11.28	75	2983	1.14	ug/kg#	44
35) Diethyl Ether	8.12	59	2276	1.17	ug/kg#	72
36) Methyl Acetate	9.38	74	289m	0.82	ug/kg	
37) Cyclohexane	10.95	56	3521	1.07	ug/kg	91
39) Methyl Cyclohexane	12.07	55	2669	1.08	ug/kg	84
40) Carbon Tetrachloride	11.13	117	3227	1.16	ug/kg	96
41) 1,2-Dichloroethane	11.66	62	2774	1.00	ug/kg#	92
42) Benzene	11.51	78	8325	1.08	ug/kg#	54
43) Isobutyl Alcohol	11.54	43	1576	11.63	ug/kg#	1
44) Trichloroethene	12.03	130	2013	1.00	ug/kg#	1
45) 1,2-Dichloropropane	12.47	63	2522	1.06	ug/kg#	70
46) Methyl Methacrylate	12.57	100	464m	0.81	ug/kg	
47) 1,4-Dioxane	12.69	88	107m	8.43	ug/kg	
48) Bromodichloromethane	12.50	83	2732	0.97	ug/kg#	83
49) Dibromomethane	12.40	93	1447	1.05	ug/kg	85
50) 4-Methyl-2-Pentanone	13.51	100	1406	5.30	ug/kg#	78
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	14.21	43	7704	4.79	ug/kg#	81

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\112020\202KO008.D Vial: 8
Acq On : 20 Nov 2020 11:00 am Operator: KG
Sample : AA63668-CRL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 11:27 2020 Quant Results File: 102720.RES

Quant Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

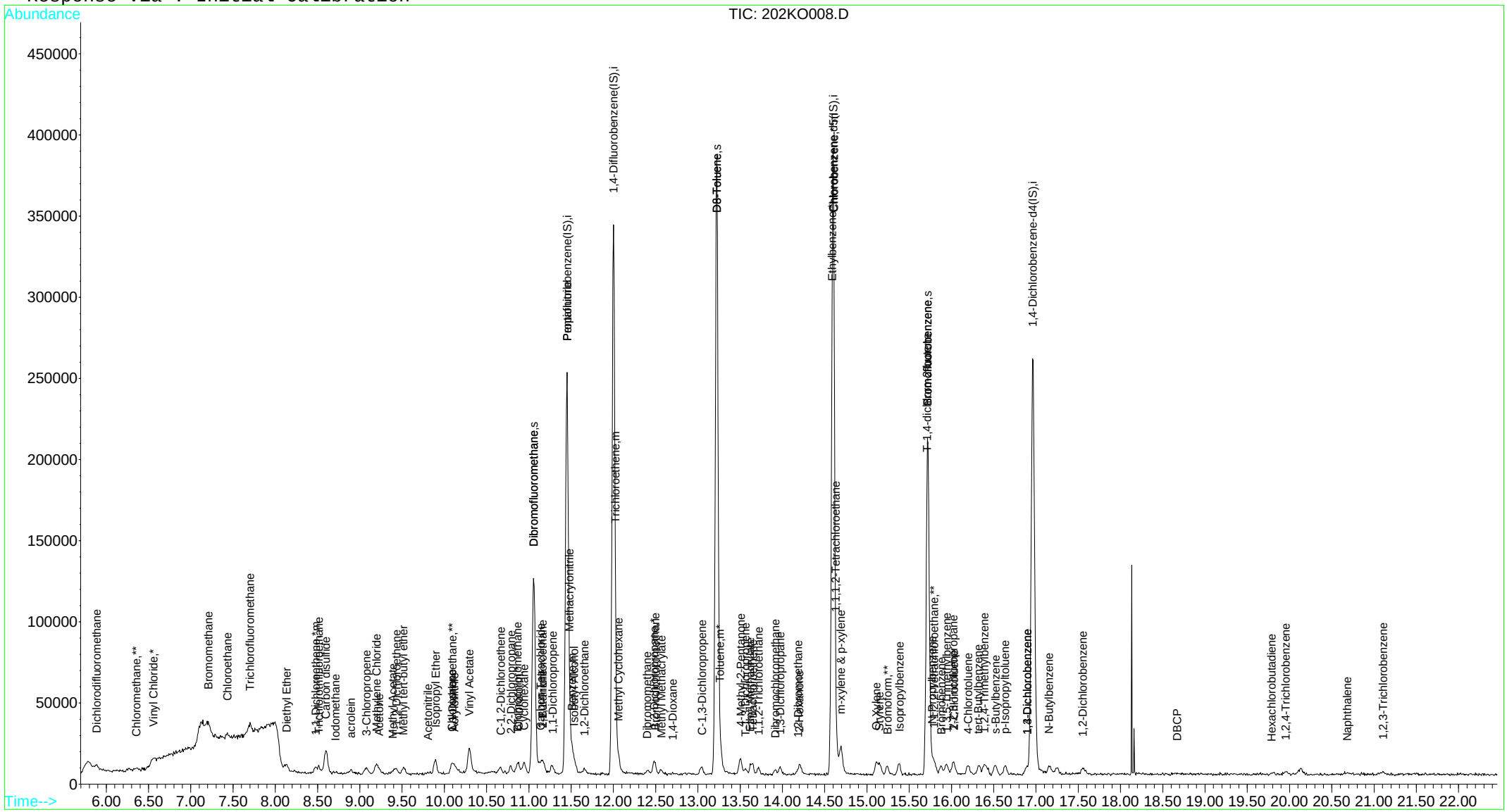
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.04	75	2848	0.79	ug/kg#	63
55) D8-Toluene	13.22	98	291557	48.23	ug/kg	94
57) Toluene	13.27	92	4548	1.04	ug/kg	98
58) Ethyl Methacrylate	13.61	69	2196	0.77	ug/kg#	44
59) T-1,3-Dichloropropene	13.57	75	2446	0.88	ug/kg	96
60) 1,1,2-Trichloroethane	13.72	97	1538	0.96	ug/kg	92
61) 1,3-Dichloropropane	13.98	76	3435	1.04	ug/kg	84
62) Tetrachloroethene	13.65	164	1355	1.02	ug/kg	87
63) Dibromochloromethane	13.91	129	2181	1.03	ug/kg#	85
64) 1,2-Dibromoethane	14.18	107	1565	0.87	ug/kg#	99
65) Chlorobenzene	14.61	112	5035	1.07	ug/kg#	34
66) 1,1,1,2-Tetrachloroethane	14.64	131	1958	1.11	ug/kg#	1
67) Ethylbenzene	14.58	106	2438	1.04	ug/kg	87
68) m-xylene & p-xylene	14.69	106	5764	2.02	ug/kg	95
69) O-Xylene	15.11	106	2864	1.00	ug/kg	92
70) Bromoform	15.24	173	848	0.74	ug/kg#	31
71) Styrene	15.15	104	5069	1.00	ug/kg	92
72) Isopropylbenzene	15.38	105	6826	0.98	ug/kg	88
73) 1,2,3-Trichloropropane	16.01	75	2105	0.94	ug/kg	99
74) 1,1,2,2-Tetrachloroethane	15.80	83	1716	0.89	ug/kg#	86
76) Bromofluorobenzene	15.72	95	103278	46.15	ug/kg#	81
77) T-1,4-dichloro-2-butene	15.70	53	624	1.23	ug/kg#	1
78) N-Propylbenzene	15.78	91	8062	1.00	ug/kg	97
80) Bromobenzene	15.89	156	1652	0.98	ug/kg	86
81) 1,3,5-Trimethylbenzene	15.95	105	5163	1.04	ug/kg	96
82) 2-Chlorotoluene	16.03	91	4761	1.04	ug/kg	96
83) 4-Chlorotoluene	16.19	91	5019	1.05	ug/kg	98
84) 1,2,4-Trimethylbenzene	16.39	105	5020	0.98	ug/kg	100
85) s-Butylbenzene	16.51	105	6456	1.10	ug/kg	95
86) tert-Butylbenzene	16.32	119	4507	1.05	ug/kg	94
87) p-Isopropyltoluene	16.63	119	5117	1.02	ug/kg	99
88) 1,3-Dichlorobenzene	16.89	146	2928	1.02	ug/kg	97
89) 1,4-Dichlorobenzene	16.89	146	2928	0.99	ug/kg	96
90) 1,2-Dichlorobenzene	17.56	146	2416	0.92	ug/kg	97
91) N-Butylbenzene	17.16	91	4797	1.08	ug/kg	95
92) DBCP	18.67	75	60m	0.27	ug/kg	
93) Naphthalene	20.67	128	1523	0.86	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.95	180	959	0.80	ug/kg#	70
95) Hexachlorobutadiene	19.78	225	408m	0.74	ug/kg	
96) 1,2,3-Trichlorobenzene	21.10	180	929	1.26	ug/kg#	83

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\112020\202KO008.D Vial: 8
Acq On : 20 Nov 2020 11:00 am Operator: KG
Sample : AA63668-CRL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 11:27 2020 Quant Results File: 102720.RES

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\112020\202KO009.D Vial: 9
Acq On : 20 Nov 2020 11:32 am Operator: KG
Sample : AD07669-01 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 12:01 2020 Quant Results File: 102720.RES

Quant Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.45	168	175897	50.00	ug/kg	-0.03
38) 1,4-Difluorobenzene(IS)	12.00	114	320287	50.00	ug/kg	-0.03
56) Chlorobenzene-d5(IS)	14.60	82	146040	50.00	ug/kg	-0.03
79) 1,4-Dichlorobenzene-d4(IS)	16.97	152	97506	50.00	ug/kg	-0.03
System Monitoring Compounds						
30) Dibromofluoromethane	11.05	113	96880	53.75	ug/kg	-0.03
Spiked Amount 50.000	Range 53 - 146		Recovery = 107.50%			
54) D8-Toluene	13.22	98	290249	49.23	ug/kg	-0.03
Spiked Amount 50.000	Range 41 - 146		Recovery = 98.46%			
75) Bromofluorobenzene	15.72	95	103084	47.33	ug/kg	-0.03
Spiked Amount 50.000	Range 41 - 142		Recovery = 94.66%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.		
3) Chloromethane	0.00	50	0	N.D.		
4) Vinyl Chloride	0.00	62	0	N.D.		
5) Bromomethane	0.00	96	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Trichlorofluoromethane	0.00	101	0	N.D.		
8) Trichlorotrifluoroethane	0.00	101	0	N.D.		
9) acrolein	0.00	56	0	N.D.		
10) Acetone	9.24	43	4794	9.27	ug/kg	79
11) 1,1-Dichloroethene	0.00	96	0	N.D.		
12) 3-Chloropropene	0.00	76	0	N.D.		
13) Acetonitrile	0.00	41	0	N.D.		
14) Iodomethane	0.00	142	0	N.D.		
15) Carbon disulfide	0.00	76	0	N.D. d		
16) Methylene Chloride	0.00	84	0	N.D.		
17) Methyl tert-butyl ether	0.00	73	0	N.D.		
18) Acrylonitrile	0.00	53	0	N.D.		
19) T-1,2-Dichloroethene	0.00	96	0	N.D.		
20) Isopropyl Ether	0.00	45	0	N.D.		
21) C-1,2-Dichloroethene	0.00	96	0	N.D.		
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	0.00	43	0	N.D.		
24) Chloroprene	0.00	88	0	N.D.		
25) 2-Butanone	0.00	72	0	N.D.		
26) Propionitrile	0.00	54	0	N.D.		
27) 2,2-Dichloropropane	0.00	77	0	N.D.		
28) Methacrylonitrile	0.00	67	0	N.D. d		
29) Chloroform	0.00	83	0	N.D.		
31) Dibromofluoromethane	11.05	113	96880	53.75	ug/kg	100
32) Bromochloromethane	0.00	128	0	N.D.		
33) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
34) 1,1-Dichloropropene	0.00	75	0	N.D.		
35) Diethyl Ether	0.00	59	0	N.D.		
36) Methyl Acetate	0.00	74	0	N.D.		
37) Cyclohexane	0.00	56	0	N.D.		
39) Methyl Cyclohexane	0.00	55	0	N.D. d		
40) Carbon Tetrachloride	0.00	117	0	N.D.		
41) 1,2-Dichloroethane	0.00	62	0	N.D.		
42) Benzene	0.00	78	0	N.D. d		
43) Isobutyl Alcohol	0.00	43	0	N.D. d		
44) Trichloroethene	0.00	130	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Methyl Methacrylate	0.00	100	0	N.D.		
47) 1,4-Dioxane	0.00	88	0	N.D.		
48) Bromodichloromethane	0.00	83	0	N.D.		
49) Dibromomethane	0.00	93	0	N.D.		
50) 4-Methyl-2-Pentanone	0.00	100	0	N.D. d		
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	0.00	43	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\112020\202KO009.D Vial: 9
Acq On : 20 Nov 2020 11:32 am Operator: KG
Sample : AD07669-01 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 12:01 2020 Quant Results File: 102720.RES

Quant Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

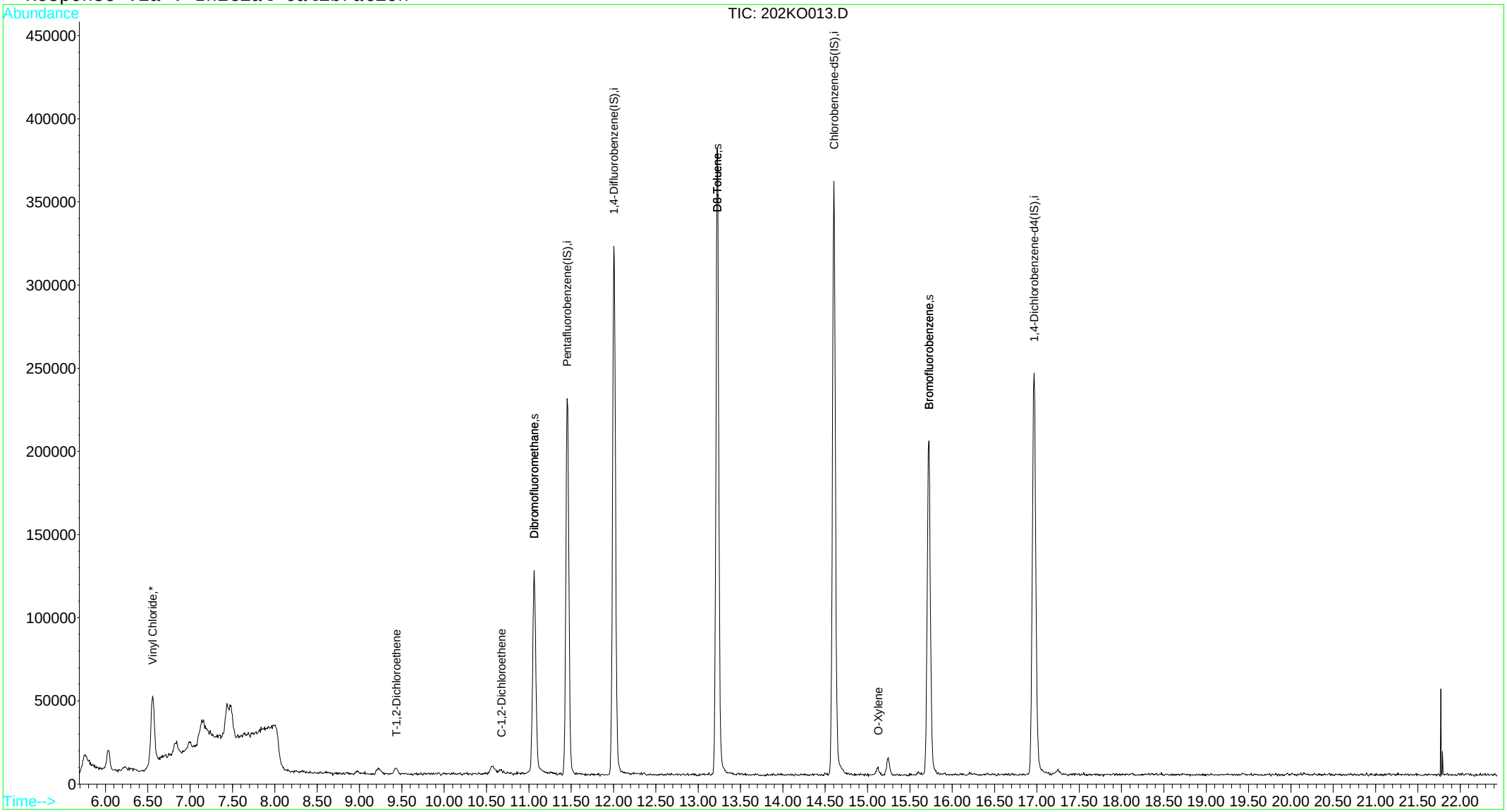
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	0.00	75	0	N.D.	
55) D8-Toluene	13.22	98	290249	49.23 ug/kg	94
57) Toluene	0.00	92	0	N.D.	
58) Ethyl Methacrylate	0.00	69	0	N.D.	
59) T-1,3-Dichloropropene	0.00	75	0	N.D.	
60) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
61) 1,3-Dichloropropane	0.00	76	0	N.D.	
62) Tetrachloroethene	0.00	164	0	N.D.	
63) Dibromochloromethane	0.00	129	0	N.D.	
64) 1,2-Dibromoethane	0.00	107	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
67) Ethylbenzene	0.00	106	0	N.D.	
68) m-xylene & p-xylene	0.00	106	0	N.D.	
69) O-Xylene	0.00	106	0	N.D.	
70) Bromoform	0.00	173	0	N.D.	
71) Styrene	0.00	104	0	N.D.	
72) Isopropylbenzene	0.00	105	0	N.D.	
73) 1,2,3-Trichloropropane	0.00	75	0	N.D.	
74) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
76) Bromofluorobenzene	15.72	95	103084	47.33 ug/kg#	79
77) T-1,4-dichloro-2-butene	0.00	53	0	N.D.	
78) N-Propylbenzene	0.00	91	0	N.D.	
80) Bromobenzene	0.00	156	0	N.D.	
81) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
82) 2-Chlorotoluene	0.00	91	0	N.D.	
83) 4-Chlorotoluene	0.00	91	0	N.D.	
84) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.	
85) s-Butylbenzene	0.00	105	0	N.D.	
86) tert-Butylbenzene	0.00	119	0	N.D.	
87) p-Isopropyltoluene	0.00	119	0	N.D.	
88) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
89) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) N-Butylbenzene	0.00	91	0	N.D.	
92) DBCP	0.00	75	0	N.D.	
93) Naphthalene	20.69	128	786	0.46 ug/kg	100
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Hexachlorobutadiene	0.00	225	0	N.D.	
96) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\112020\202KO013.D Vial: 13
Acq On : 20 Nov 2020 1:27 pm Operator: KG
Sample : AD07669-02 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 13:59 2020 Quant Results File: 102720.RES

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\112020\202KO013.D Vial: 13
Acq On : 20 Nov 2020 1:27 pm Operator: KG
Sample : AD07669-02 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 13:59 2020 Quant Results File: 102720.RES

Quant Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.46	168	171472	50.00	ug/kg	-0.02
38) 1,4-Difluorobenzene(IS)	12.01	114	317655	50.00	ug/kg	-0.02
56) Chlorobenzene-d5(IS)	14.60	82	142273	50.00	ug/kg	-0.02
79) 1,4-Dichlorobenzene-d4(IS)	16.97	152	94693	50.00	ug/kg	-0.02
System Monitoring Compounds						
30) Dibromofluoromethane	11.06	113	95542	54.38	ug/kg	-0.02
Spiked Amount 50.000	Range 53 - 146		Recovery = 108.76%			
54) D8-Toluene	13.22	98	288494	49.34	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 98.68%			
75) Bromofluorobenzene	15.72	95	100108	47.18	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 94.36%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.		
3) Chloromethane	0.00	50	0	N.D.		
4) Vinyl Chloride	6.56	62	65031	22.55	ug/kg	98
5) Bromomethane	0.00	96	0	N.D.		
6) Chloroethane	0.00	64	0	N.D. d		
7) Trichlorofluoromethane	0.00	101	0	N.D.		
8) Trichlorotrifluoroethane	0.00	101	0	N.D.		
9) acrolein	0.00	56	0	N.D.		
10) Acetone	0.00	43	0	N.D. d		
11) 1,1-Dichloroethene	0.00	96	0	N.D.		
12) 3-Chloropropene	0.00	76	0	N.D.		
13) Acetonitrile	0.00	41	0	N.D.		
14) Iodomethane	0.00	142	0	N.D.		
15) Carbon disulfide	0.00	76	0	N.D. d		
16) Methylene Chloride	0.00	84	0	N.D.		
17) Methyl tert-butyl ether	0.00	73	0	N.D.		
18) Acrylonitrile	0.00	53	0	N.D.		
19) T-1,2-Dichloroethene	9.44	96	2105	1.18	ug/kg	88
20) Isopropyl Ether	0.00	45	0	N.D.		
21) C-1,2-Dichloroethene	10.68	96	835	0.43	ug/kg#	53
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	0.00	43	0	N.D.		
24) Chloroprene	0.00	88	0	N.D.		
25) 2-Butanone	0.00	72	0	N.D.		
26) Propionitrile	0.00	54	0	N.D.		
27) 2,2-Dichloropropane	0.00	77	0	N.D.		
28) Methacrylonitrile	0.00	67	0	N.D.		
29) Chloroform	0.00	83	0	N.D.		
31) Dibromofluoromethane	11.06	113	95542	54.38	ug/kg	100
32) Bromochloromethane	0.00	128	0	N.D.		
33) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
34) 1,1-Dichloropropene	0.00	75	0	N.D.		
35) Diethyl Ether	0.00	59	0	N.D.		
36) Methyl Acetate	0.00	74	0	N.D.		
37) Cyclohexane	0.00	56	0	N.D.		
39) Methyl Cyclohexane	0.00	55	0	N.D. d		
40) Carbon Tetrachloride	0.00	117	0	N.D.		
41) 1,2-Dichloroethane	0.00	62	0	N.D.		
42) Benzene	0.00	78	0	N.D. d		
43) Isobutyl Alcohol	0.00	43	0	N.D. d		
44) Trichloroethene	0.00	130	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Methyl Methacrylate	0.00	100	0	N.D.		
47) 1,4-Dioxane	0.00	88	0	N.D.		
48) Bromodichloromethane	0.00	83	0	N.D.		
49) Dibromomethane	0.00	93	0	N.D.		
50) 4-Methyl-2-Pentanone	0.00	100	0	N.D. d		
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	0.00	43	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\112020\202KO013.D Vial: 13
Acq On : 20 Nov 2020 1:27 pm Operator: KG
Sample : AD07669-02 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 13:59 2020 Quant Results File: 102720.RES

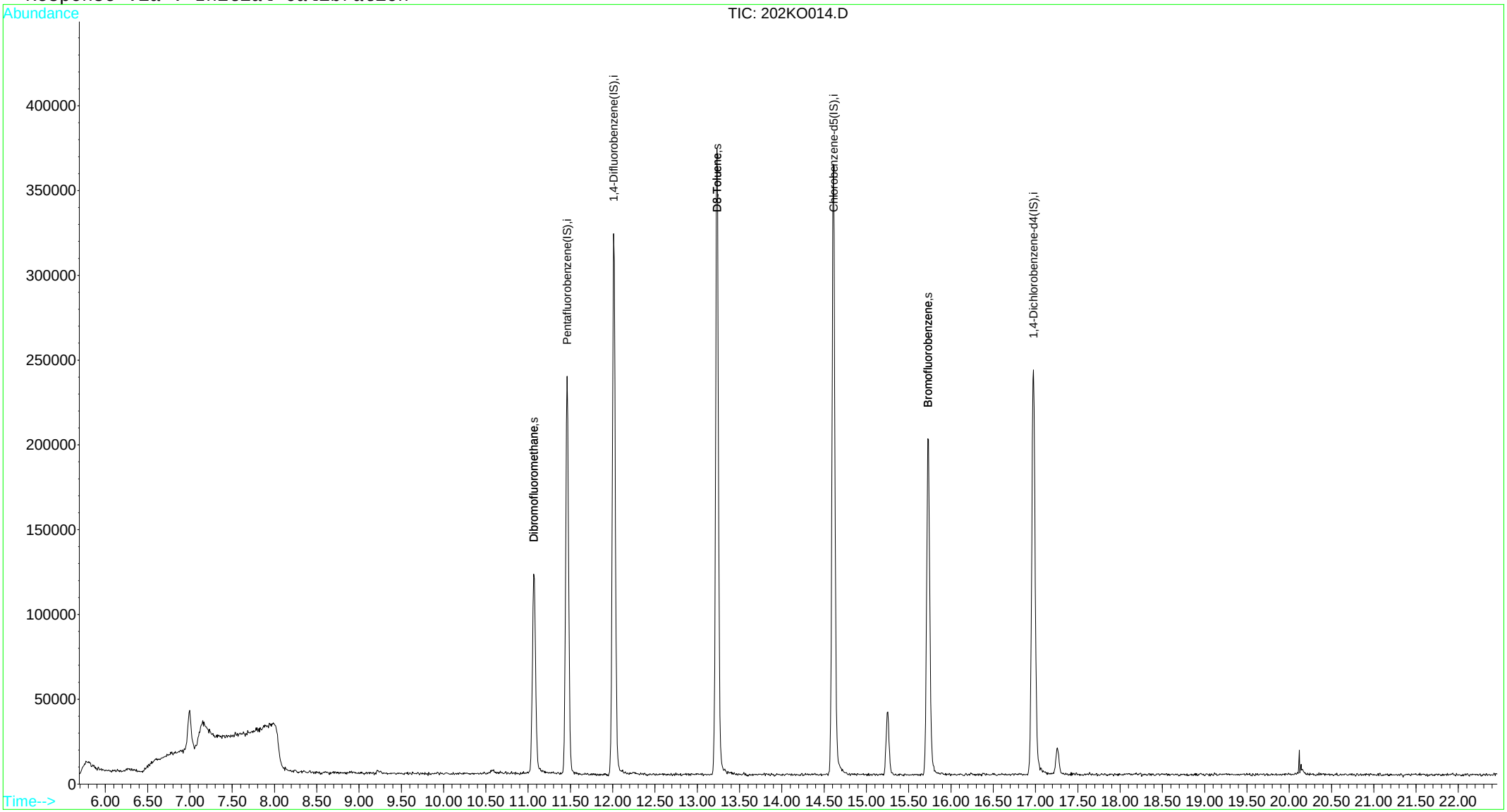
Quant Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	0.00	75	0	N.D.	
55) D8-Toluene	13.22	98	288494	49.34 ug/kg	94
57) Toluene	0.00	92	0	N.D.	
58) Ethyl Methacrylate	0.00	69	0	N.D.	
59) T-1,3-Dichloropropene	0.00	75	0	N.D.	
60) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
61) 1,3-Dichloropropane	0.00	76	0	N.D.	
62) Tetrachloroethene	0.00	164	0	N.D.	
63) Dibromochloromethane	0.00	129	0	N.D.	
64) 1,2-Dibromoethane	0.00	107	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
67) Ethylbenzene	0.00	106	0	N.D.	
68) m-xylene & p-xylene	0.00	106	0	N.D.	
69) O-Xylene	15.12	106	1618	0.60 ug/kg	94
70) Bromoform	0.00	173	0	N.D.	
71) Styrene	0.00	104	0	N.D.	
72) Isopropylbenzene	0.00	105	0	N.D.	
73) 1,2,3-Trichloropropane	0.00	75	0	N.D.	
74) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
76) Bromofluorobenzene	15.72	95	100108	47.18 ug/kg#	80
77) T-1,4-dichloro-2-butene	0.00	53	0	N.D.	
78) N-Propylbenzene	0.00	91	0	N.D. d	
80) Bromobenzene	0.00	156	0	N.D.	
81) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
82) 2-Chlorotoluene	0.00	91	0	N.D.	
83) 4-Chlorotoluene	0.00	91	0	N.D.	
84) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.	
85) s-Butylbenzene	0.00	105	0	N.D.	
86) tert-Butylbenzene	0.00	119	0	N.D.	
87) p-Isopropyltoluene	0.00	119	0	N.D.	
88) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
89) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) N-Butylbenzene	0.00	91	0	N.D.	
92) DBCP	0.00	75	0	N.D.	
93) Naphthalene	0.00	128	0	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Hexachlorobutadiene	0.00	225	0	N.D.	
96) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.	

Quantitation Report

Data File : C:\HPCHEM\1\DATA\112020\202KO014.D Vial: 14
Acq On : 20 Nov 2020 1:56 pm Operator: KG
Sample : AD07759-01 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 14:40 2020 Quant Results File: 102720.RES

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\112020\202KO014.D Vial: 14
Acq On : 20 Nov 2020 1:56 pm Operator: KG
Sample : AD07759-01 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 14:40 2020 Quant Results File: 102720.RES

Quant Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.46	168	170958	50.00	ug/kg	-0.02
38) 1,4-Difluorobenzene(IS)	12.01	114	317180	50.00	ug/kg	-0.02
56) Chlorobenzene-d5(IS)	14.61	82	142391	50.00	ug/kg	-0.02
79) 1,4-Dichlorobenzene-d4(IS)	16.98	152	91856	50.00	ug/kg	-0.02
System Monitoring Compounds						
30) Dibromofluoromethane	11.07	113	95734	54.65	ug/kg	-0.02
Spiked Amount 50.000	Range 53 - 146		Recovery = 109.30%			
54) D8-Toluene	13.23	98	286021	48.99	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 97.98%			
75) Bromofluorobenzene	15.73	95	98682	46.47	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 92.94%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.		
3) Chloromethane	0.00	50	0	N.D.		
4) Vinyl Chloride	0.00	62	0	N.D. d		
5) Bromomethane	0.00	96	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Trichlorofluoromethane	0.00	101	0	N.D.		
8) Trichlorotrifluoroethane	0.00	101	0	N.D.		
9) acrolein	0.00	56	0	N.D.		
10) Acetone	0.00	43	0	N.D. d		
11) 1,1-Dichloroethene	0.00	96	0	N.D.		
12) 3-Chloropropene	0.00	76	0	N.D.		
13) Acetonitrile	0.00	41	0	N.D.		
14) Iodomethane	0.00	142	0	N.D.		
15) Carbon disulfide	0.00	76	0	N.D. d		
16) Methylene Chloride	0.00	84	0	N.D.		
17) Methyl tert-butyl ether	0.00	73	0	N.D.		
18) Acrylonitrile	0.00	53	0	N.D.		
19) T-1,2-Dichloroethene	0.00	96	0	N.D.		
20) Isopropyl Ether	0.00	45	0	N.D.		
21) C-1,2-Dichloroethene	0.00	96	0	N.D.		
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	0.00	43	0	N.D.		
24) Chloroprene	0.00	88	0	N.D.		
25) 2-Butanone	0.00	72	0	N.D.		
26) Propionitrile	0.00	54	0	N.D.		
27) 2,2-Dichloropropane	0.00	77	0	N.D.		
28) Methacrylonitrile	0.00	67	0	N.D. d		
29) Chloroform	0.00	83	0	N.D.		
31) Dibromofluoromethane	11.07	113	95734	54.65	ug/kg	100
32) Bromochloromethane	0.00	128	0	N.D.		
33) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
34) 1,1-Dichloropropene	0.00	75	0	N.D.		
35) Diethyl Ether	0.00	59	0	N.D.		
36) Methyl Acetate	0.00	74	0	N.D.		
37) Cyclohexane	0.00	56	0	N.D.		
39) Methyl Cyclohexane	0.00	55	0	N.D. d		
40) Carbon Tetrachloride	0.00	117	0	N.D.		
41) 1,2-Dichloroethane	0.00	62	0	N.D.		
42) Benzene	0.00	78	0	N.D. d		
43) Isobutyl Alcohol	0.00	43	0	N.D. d		
44) Trichloroethene	0.00	130	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Methyl Methacrylate	0.00	100	0	N.D.		
47) 1,4-Dioxane	0.00	88	0	N.D.		
48) Bromodichloromethane	0.00	83	0	N.D.		
49) Dibromomethane	0.00	93	0	N.D.		
50) 4-Methyl-2-Pentanone	0.00	100	0	N.D. d		
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	0.00	43	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\112020\202KO014.D Vial: 14
Acq On : 20 Nov 2020 1:56 pm Operator: KG
Sample : AD07759-01 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 14:40 2020 Quant Results File: 102720.RES

Quant Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	0.00	75	0	N.D.	
55) D8-Toluene	13.23	98	286021	48.99 ug/kg	94
57) Toluene	0.00	92	0	N.D.	
58) Ethyl Methacrylate	0.00	69	0	N.D.	
59) T-1,3-Dichloropropene	0.00	75	0	N.D.	
60) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
61) 1,3-Dichloropropane	0.00	76	0	N.D.	
62) Tetrachloroethene	0.00	164	0	N.D.	
63) Dibromochloromethane	0.00	129	0	N.D.	
64) 1,2-Dibromoethane	0.00	107	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
67) Ethylbenzene	0.00	106	0	N.D.	
68) m-xylene & p-xylene	0.00	106	0	N.D.	
69) O-Xylene	0.00	106	0	N.D.	
70) Bromoform	0.00	173	0	N.D.	
71) Styrene	0.00	104	0	N.D.	
72) Isopropylbenzene	0.00	105	0	N.D.	
73) 1,2,3-Trichloropropane	0.00	75	0	N.D.	
74) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
76) Bromofluorobenzene	15.73	95	98682	46.47 ug/kg#	80
77) T-1,4-dichloro-2-butene	0.00	53	0	N.D.	
78) N-Propylbenzene	0.00	91	0	N.D.	
80) Bromobenzene	0.00	156	0	N.D.	
81) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
82) 2-Chlorotoluene	0.00	91	0	N.D.	
83) 4-Chlorotoluene	0.00	91	0	N.D.	
84) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.	
85) s-Butylbenzene	0.00	105	0	N.D.	
86) tert-Butylbenzene	0.00	119	0	N.D.	
87) p-Isopropyltoluene	0.00	119	0	N.D.	
88) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
89) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) N-Butylbenzene	0.00	91	0	N.D.	
92) DBCP	0.00	75	0	N.D.	
93) Naphthalene	0.00	128	0	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Hexachlorobutadiene	0.00	225	0	N.D.	
96) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\112020\202KO022.D Vial: 22
Acq On : 20 Nov 2020 5:46 pm Operator: KG
Sample : 0K20010-MS1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 18:09 2020 Quant Results File: 102720.RES

Quant Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.45	168	216431	50.00	ug/kg	-0.02
38) 1,4-Difluorobenzene(IS)	12.00	114	399881	50.00	ug/kg	-0.02
56) Chlorobenzene-d5(IS)	14.60	82	232295	50.00	ug/kg	-0.02
79) 1,4-Dichlorobenzene-d4(IS)	16.96	152	234538	50.00	ug/kg	-0.03
System Monitoring Compounds						
30) Dibromofluoromethane	11.06	113	114482	51.62	ug/kg	-0.02
Spiked Amount 50.000	Range 53 - 146		Recovery = 103.24%			
54) D8-Toluene	13.22	98	387236	52.61	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 105.22%			
75) Bromofluorobenzene	15.72	95	206042	59.47	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 118.94%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.89	85	73588	21.28	ug/kg	98
3) Chloromethane	6.37	50	105417	22.60	ug/kg	97
4) Vinyl Chloride	6.55	62	119524	32.84	ug/kg	97
5) Bromomethane	7.20	96	41807	23.42	ug/kg	89
6) Chloroethane	7.43	64	77356	35.02	ug/kg	95
7) Trichlorofluoromethane	7.70	101	166705	40.99	ug/kg	99
8) Trichlorotrifluoroethane	8.52	101	48445	22.56	ug/kg	93
9) acrolein	8.89	56	35207	90.97	ug/kg	94
10) Acetone	9.23	43	87928	138.13	ug/kg	88
11) 1,1-Dichloroethene	8.48	96	41750	20.45	ug/kg	99
12) 3-Chloropropene	9.08	76	28101	25.17	ug/kg	71
13) Acetonitrile	9.79	41	35489	129.20	ug/kg	91
14) Iodomethane	8.71	142	14293	6.28	ug/kg	92
15) Carbon disulfide	8.60	76	146293	32.89	ug/kg	100
16) Methylene Chloride	9.20	84	48839	19.92	ug/kg	86
17) Methyl tert-butyl ether	9.52	73	113980	22.77	ug/kg	91
18) Acrylonitrile	10.09	53	107630	84.72	ug/kg#	74
19) T-1,2-Dichloroethene	9.43	96	48120	21.39	ug/kg	96
20) Isopropyl Ether	9.89	45	257821	23.86	ug/kg	95
21) C-1,2-Dichloroethene	10.66	96	49636	20.29	ug/kg	98
22) 1,1-Dichloroethane	10.10	63	93898	20.40	ug/kg#	96
23) Vinyl Acetate	10.29	43	171672	26.98	ug/kg	93
24) Chloroprene	10.09	88	41856	22.67	ug/kg	1
25) 2-Butanone	11.16	72	28565	135.26	ug/kg	87
26) Propionitrile	11.45	54	5848	18.72	ug/kg	100
27) 2,2-Dichloropropane	10.79	77	69626	23.25	ug/kg	99
28) Methacrylonitrile	11.48	67	16681	17.79	ug/kg	84
29) Chloroform	10.88	83	87189	20.96	ug/kg	94
31) Dibromofluoromethane	11.06	113	114482	51.62	ug/kg	100
32) Bromochloromethane	10.86	128	25585	19.75	ug/kg	81
33) 1,1,1-Trichloroethane	11.18	97	77865	25.52	ug/kg	99
34) 1,1-Dichloropropene	11.28	75	66622	21.09	ug/kg	97
35) Diethyl Ether	8.13	59	48872	20.82	ug/kg#	88
36) Methyl Acetate	9.38	74	6384	15.01	ug/kg#	49
37) Cyclohexane	10.94	56	87808	21.96	ug/kg	93
39) Methyl Cyclohexane	12.06	55	59323	19.65	ug/kg	96
40) Carbon Tetrachloride	11.14	117	79456	23.45	ug/kg	99
41) 1,2-Dichloroethane	11.66	62	61087	18.02	ug/kg	100
42) Benzene	11.52	78	191426	20.45	ug/kg#	56
43) Isobutyl Alcohol	11.54	43	64026	388.04	ug/kg#	1
44) Trichloroethene	12.03	130	49553	20.14	ug/kg	90
45) 1,2-Dichloropropane	12.48	63	49384	16.97	ug/kg	89
46) Methyl Methacrylate	12.56	100	12031	17.19	ug/kg	100
47) 1,4-Dioxane	12.70	88	10694	691.75	ug/kg	95
48) Bromodichloromethane	12.50	83	62202	18.20	ug/kg	97
49) Dibromomethane	12.41	93	30513	18.16	ug/kg	92
50) 4-Methyl-2-Pentanone	13.50	100	31751	98.29	ug/kg	68
51) 2-Chloroethyl vinyl ether	12.67	63	642	72.57	ug/kg#	100
52) 2-Hexanone	14.20	43	219006	111.82	ug/kg	89

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\112020\202KO022.D Vial: 22
Acq On : 20 Nov 2020 5:46 pm Operator: KG
Sample : 0K20010-MS1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 18:09 2020 Quant Results File: 102720.RES

Quant Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

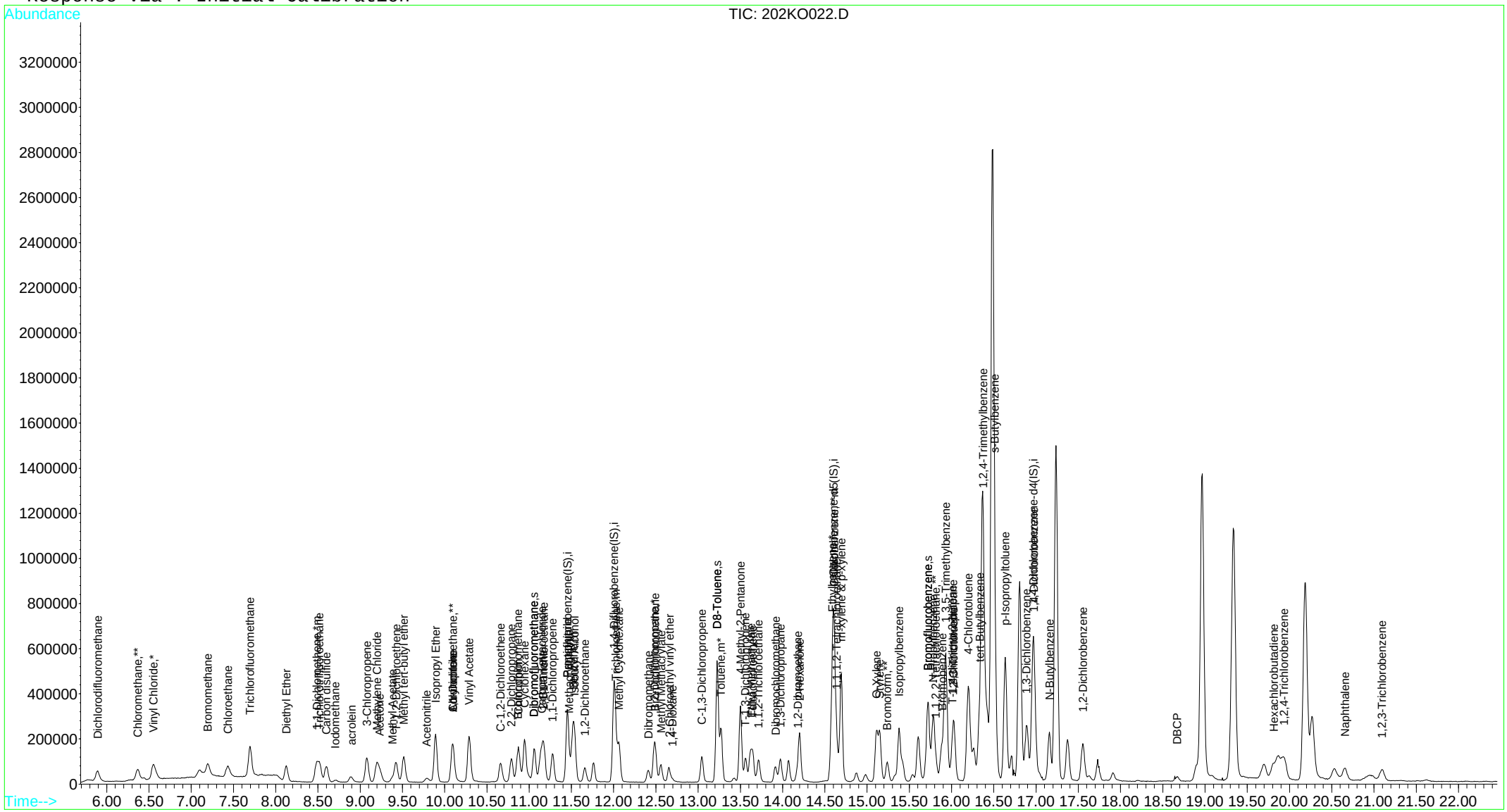
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	13.05	75	74223	16.90 ug/kg	86
55) D8-Toluene	13.22	98	387236	52.61 ug/kg	94
57) Toluene	13.27	92	117928	17.34 ug/kg	97
58) Ethyl Methacrylate	13.62	69	61457	14.01 ug/kg	78
59) T-1,3-Dichloropropene	13.56	75	66655	15.54 ug/kg	88
60) 1,1,2-Trichloroethane	13.71	97	35442	14.35 ug/kg	99
61) 1,3-Dichloropropane	13.97	76	66452	13.00 ug/kg	97
62) Tetrachloroethene	13.65	164	31135	15.20 ug/kg	93
63) Dibromochloromethane	13.91	129	47121	14.32 ug/kg	97
64) 1,2-Dibromoethane	14.17	107	40045	14.35 ug/kg	98
65) Chlorobenzene	14.62	112	139532	19.23 ug/kg	99
66) 1,1,1,2-Tetrachloroethane	14.64	131	49688	18.15 ug/kg#	25
67) Ethylbenzene	14.58	106	64972	17.92 ug/kg	96
68) m-xylene & p-xylene	14.69	106	171209	38.81 ug/kg	99
69) O-Xylene	15.11	106	77326	17.52 ug/kg	95
70) Bromoform	15.24	173	26470	14.95 ug/kg	98
71) Styrene	15.15	104	145613	18.55 ug/kg	99
72) Isopropylbenzene	15.38	105	211469	19.56 ug/kg	98
73) 1,2,3-Trichloropropane	16.01	75	62360	18.05 ug/kg	99
74) 1,1,2,2-Tetrachloroethane	15.82	83	53459	17.82 ug/kg	99
76) Bromofluorobenzene	15.72	95	206042	59.47 ug/kg#	71
77) T-1,4-dichloro-2-butene	16.00	53	15979	20.38 ug/kg#	1
78) N-Propylbenzene	15.78	91	266119	21.41 ug/kg	98
80) Bromobenzene	15.88	156	52296	13.40 ug/kg	95
81) 1,3,5-Trimethylbenzene	15.94	105	204767	17.88 ug/kg	99
82) 2-Chlorotoluene	16.03	91	170186	16.04 ug/kg	99
83) 4-Chlorotoluene	16.19	91	261404	23.58 ug/kg	81
84) 1,2,4-Trimethylbenzene	16.38	105	315745	26.49 ug/kg	94
85) s-Butylbenzene	16.52	105	351037	25.83 ug/kg	95
86) tert-Butylbenzene	16.33	119	249424	25.00 ug/kg#	35
87) p-Isopropyltoluene	16.64	119	541898	46.56 ug/kg	98
88) 1,3-Dichlorobenzene	16.89	146	125821	18.93 ug/kg	96
89) 1,4-Dichlorobenzene	16.98	146	127203	18.55 ug/kg	98
90) 1,2-Dichlorobenzene	17.55	146	114355	18.78 ug/kg	99
91) N-Butylbenzene	17.16	91	193062	18.81 ug/kg	98
92) DBCP	18.67	75	7459	14.28 ug/kg	93
93) Naphthalene	20.65	128	92636	20.89 ug/kg	100
94) 1,2,4-Trichlorobenzene	19.94	180	47022	16.95 ug/kg	99
95) Hexachlorobutadiene	19.81	225	21125	16.49 ug/kg	97
96) 1,2,3-Trichlorobenzene	21.09	180	33713	18.56 ug/kg	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\112020\202KO022.D Vial: 22
Acq On : 20 Nov 2020 5:46 pm Operator: KG
Sample : 0K20010-MS1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 18:09 2020 Quant Results File: 102720.RES

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\112020\202KO023.D Vial: 22
Acq On : 20 Nov 2020 6:15 pm Operator: KG
Sample : 0K20010-MSD1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 18:37 2020 Quant Results File: 102720.RES

Quant Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.46	168	212495	50.00	ug/kg	-0.02
38) 1,4-Difluorobenzene(IS)	12.01	114	395947	50.00	ug/kg	-0.02
56) Chlorobenzene-d5(IS)	14.60	82	231132	50.00	ug/kg	-0.03
79) 1,4-Dichlorobenzene-d4(IS)	16.96	152	191540	50.00	ug/kg	-0.03
System Monitoring Compounds						
30) Dibromofluoromethane	11.06	113	114761	52.71	ug/kg	-0.03
Spiked Amount 50.000	Range 53 - 146		Recovery = 105.42%			
54) D8-Toluene	13.23	98	385538	52.90	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 105.80%			
75) Bromofluorobenzene	15.72	95	159720	46.33	ug/kg	-0.03
Spiked Amount 50.000	Range 41 - 142		Recovery = 92.66%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.90	85	67645	19.93	ug/kg	97
3) Chloromethane	6.36	50	90635	19.79	ug/kg	97
4) Vinyl Chloride	6.55	62	112399	31.45	ug/kg	99
5) Bromomethane	7.20	96	46647	26.61	ug/kg	79
6) Chloroethane	7.43	64	76215	35.14	ug/kg	97
7) Trichlorofluoromethane	7.70	101	165546	41.46	ug/kg	98
8) Trichlorotrifluoroethane	8.52	101	46481	22.05	ug/kg	92
9) acrolein	8.89	56	34742	91.43	ug/kg	94
10) Acetone	9.24	43	82959	132.74	ug/kg	89
11) 1,1-Dichloroethene	8.48	96	40919	20.41	ug/kg	97
12) 3-Chloropropene	9.08	76	27724	25.29	ug/kg	73
13) Acetonitrile	9.79	41	35642	132.16	ug/kg	92
14) Iodomethane	8.71	142	20396	9.13	ug/kg	93
15) Carbon disulfide	8.60	76	141640	32.43	ug/kg	98
16) Methylene Chloride	9.20	84	48673	20.22	ug/kg	88
17) Methyl tert-butyl ether	9.51	73	109543	22.29	ug/kg	90
18) Acrylonitrile	10.09	53	104985	84.17	ug/kg#	74
19) T-1,2-Dichloroethene	9.43	96	46868	21.22	ug/kg	96
20) Isopropyl Ether	9.89	45	254395	23.98	ug/kg	94
21) C-1,2-Dichloroethene	10.66	96	48859	20.34	ug/kg	99
22) 1,1-Dichloroethane	10.10	63	93839	20.77	ug/kg#	98
23) Vinyl Acetate	10.29	43	163350	26.15	ug/kg	93
24) Chloroprene	10.09	88	42823	23.62	ug/kg	1
25) 2-Butanone	11.17	72	29264	141.13	ug/kg	80
26) Propionitrile	11.44	54	6128	19.98	ug/kg	100
27) 2,2-Dichloropropane	10.78	77	68342	23.24	ug/kg	96
28) Methacrylonitrile	11.48	67	17039	18.51	ug/kg	94
29) Chloroform	10.88	83	87711	21.48	ug/kg	94
31) Dibromofluoromethane	11.06	113	114761	52.71	ug/kg	100
32) Bromochloromethane	10.86	128	26331	20.71	ug/kg	89
33) 1,1,1-Trichloroethane	11.17	97	78060	26.06	ug/kg	96
34) 1,1-Dichloropropene	11.28	75	67911	21.90	ug/kg	99
35) Diethyl Ether	8.12	59	46502	20.18	ug/kg	91
36) Methyl Acetate	9.38	74	6199	14.85	ug/kg#	45
37) Cyclohexane	10.95	56	86332	21.99	ug/kg	94
39) Methyl Cyclohexane	12.06	55	60109	20.11	ug/kg	96
40) Carbon Tetrachloride	11.14	117	77164	23.00	ug/kg	99
41) 1,2-Dichloroethane	11.66	62	59717	17.79	ug/kg	96
42) Benzene	11.52	78	188890	20.38	ug/kg#	56
43) Isobutyl Alcohol	11.54	43	64659	395.77	ug/kg#	1
44) Trichloroethene	12.03	130	49432	20.29	ug/kg	89
45) 1,2-Dichloropropane	12.48	63	50377	17.48	ug/kg	89
46) Methyl Methacrylate	12.56	100	11459	16.53	ug/kg	100
47) 1,4-Dioxane	12.68	88	9220	602.32	ug/kg	94
48) Bromodichloromethane	12.49	83	63137	18.66	ug/kg	100
49) Dibromomethane	12.41	93	29095	17.49	ug/kg	93
50) 4-Methyl-2-Pentanone	13.50	100	30860	96.48	ug/kg	69
51) 2-Chloroethyl vinyl ether	12.66	63	602	68.72	ug/kg#	100
52) 2-Hexanone	14.20	43	211778	109.20	ug/kg	88

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\112020\202KO023.D Vial: 22
Acq On : 20 Nov 2020 6:15 pm Operator: KG
Sample : 0K20010-MSD1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 18:37 2020 Quant Results File: 102720.RES

Quant Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

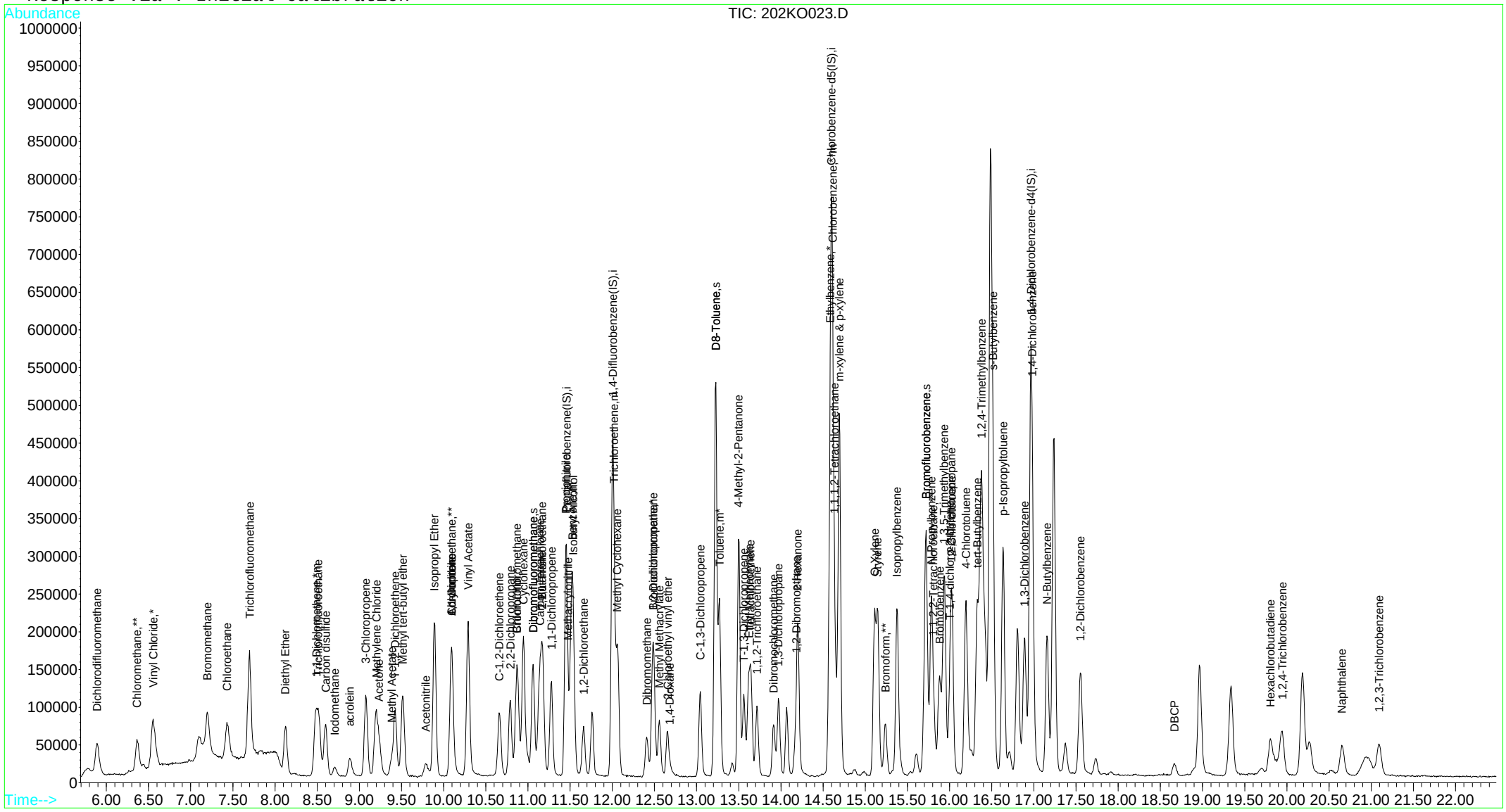
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.04	75	74341	17.09	ug/kg	88
55) D8-Toluene	13.23	98	385538	52.90	ug/kg	94
57) Toluene	13.27	92	115595	17.08	ug/kg	96
58) Ethyl Methacrylate	13.62	69	61773	14.15	ug/kg	78
59) T-1,3-Dichloropropene	13.56	75	68581	16.07	ug/kg	95
60) 1,1,2-Trichloroethane	13.72	97	35563	14.47	ug/kg	98
61) 1,3-Dichloropropane	13.97	76	67521	13.28	ug/kg	98
62) Tetrachloroethene	13.64	164	31584	15.50	ug/kg	95
63) Dibromochloromethane	13.91	129	47728	14.58	ug/kg	98
64) 1,2-Dibromoethane	14.17	107	41282	14.87	ug/kg	96
65) Chlorobenzene	14.62	112	140675	19.49	ug/kg	99
66) 1,1,1,2-Tetrachloroethane	14.64	131	49948	18.34	ug/kg#	26
67) Ethylbenzene	14.58	106	64898	17.99	ug/kg	95
68) m-xylene & p-xylene	14.69	106	171801	39.14	ug/kg	97
69) O-Xylene	15.11	106	75204	17.12	ug/kg	92
70) Bromoform	15.24	173	27284	15.49	ug/kg	97
71) Styrene	15.15	104	141880	18.17	ug/kg	99
72) Isopropylbenzene	15.38	105	202566	18.83	ug/kg	99
73) 1,2,3-Trichloropropane	16.01	75	57578	16.75	ug/kg	99
74) 1,1,2,2-Tetrachloroethane	15.81	83	48722	16.32	ug/kg	99
76) Bromofluorobenzene	15.72	95	159720	46.33	ug/kg#	73
77) T-1,4-dichloro-2-butene	16.00	53	14360	18.41	ug/kg#	1
78) N-Propylbenzene	15.78	91	237744	19.23	ug/kg	97
80) Bromobenzene	15.88	156	46962	14.74	ug/kg	97
81) 1,3,5-Trimethylbenzene	15.94	105	170003	18.17	ug/kg	97
82) 2-Chlorotoluene	16.03	91	155225	17.92	ug/kg	98
83) 4-Chlorotoluene	16.19	91	174918	19.32	ug/kg	92
84) 1,2,4-Trimethylbenzene	16.39	105	215067	22.10	ug/kg	95
85) s-Butylbenzene	16.52	105	288091	25.96	ug/kg	99
86) tert-Butylbenzene	16.33	119	157293	19.30	ug/kg#	66
87) p-Isopropyltoluene	16.64	119	290142	30.52	ug/kg	99
88) 1,3-Dichlorobenzene	16.89	146	105402	19.42	ug/kg	97
89) 1,4-Dichlorobenzene	16.99	146	108562	19.39	ug/kg	96
90) 1,2-Dichlorobenzene	17.56	146	88417	17.78	ug/kg	98
91) N-Butylbenzene	17.15	91	165066	19.70	ug/kg	98
92) DBCP	18.67	75	6573	15.39	ug/kg	90
93) Naphthalene	20.65	128	67737	18.84	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.94	180	33391	14.74	ug/kg	99
95) Hexachlorobutadiene	19.81	225	14064	13.44	ug/kg	97
96) 1,2,3-Trichlorobenzene	21.10	180	26293	17.77	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\112020\202KO023.D Vial: 22
Acq On : 20 Nov 2020 6:15 pm Operator: KG
Sample : 0K20010-MSD1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 20 18:37 2020 Quant Results File: 102720.RES

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration



ANALYSIS SEQUENCE

AA63212

Instrument: OVGCMS2

Calibration ID: 2010142

Printed: 10/28/2020 10:55:56AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA63212-TUN1	QC		1		A0I0903			
AA63212-CAL1	QC		2		A0J1092	A0H0974		
AA63212-CAL2	QC		3		A0J1093	A0H0974		
AA63212-CAL3	QC		4		A0J1094	A0H0974		
AA63212-CAL4	QC		5		A0J1095	A0H0974		
AA63212-CAL5	QC		6		A0J1096	A0H0974		
AA63212-CAL6	QC		7		A0J1097	A0H0974		
AA63212-CAL7	QC		8		A0J1098	A0H0974		
AA63212-CAL8	QC		9		A0J1099	A0H0974		
AA63212-SCV1	QC		10		A0J1100	A0H0974		

Samples Loaded By Date

Data Processed By Date

ANALYSIS SEQUENCE

AA63212

Instrument: OVGCMS2

Calibration ID: UNASSIGNED

Printed: 10/27/2020 1:44:46PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA63212-TUN1	QC		1		A0I0903			
AA63212-CAL1	QC		2		A0J1092	A0H0974		
AA63212-CAL2	QC		3		A0J1093	A0H0974		
AA63212-CAL3	QC		4		A0J1094	A0H0974		
AA63212-CAL4	QC		5		A0J1095	A0H0974		
AA63212-CAL5	QC		6		A0J1096	A0H0974		
AA63212-CAL6	QC		7		A0J1097	A0H0974		
AA63212-CAL7	QC		8		A0J1098	A0H0974		
AA63212-CAL8	QC		9		A0J1099	A0H0974		
AA63212-SCV1	QC		10		A0J1100	A0H0974		

Samples Loaded By Date

Data Processed By Date

VOLATILES GC/MS LOGBOOK (EPA Method 624.1 / SW-846 Method 8260D)

Tune Start Date: 10/27/20
Sequence: AA63212 / AA63215
Batch: OJ270256
Method: 8260
Analyst: KO
Instrument EM Voltage: 600

Surrogate: AOJ0802
Internal: AONO873
LCS Mix 2⁰: AOJ0790
LCS Acrolein 2⁰: AOJ0677
LCS Gas 2⁰: AOJ1020

8260 Mix: AOJ0676
8260 Add: AOJ0646
8260 Ac/Ac: AOJ0647
8260 Gases: AOJ1022
Instrument #: MS-2

2025✓

Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)	Comments	LIMS
001	Rinse	—	—	1	—			
002	Tun			1			Pass	
003	CAL1 1ppb			2			✓	
004	CAL2 2ppb			3			✓	
005	CAL3 5ppb			4			✓	
006	CAL4 10ppb			5			✓	
007	CAL5 20ppb			6			✓	
008	CAL6 50ppb			7			✓	
009	CAL7 50ppb			8			✓	
010	CAL8 100ppb			9			✓	
011	rinse			10				
012	rinse			11				
013	SCV			12				
014	BS		JW 10/28/20	13			✓	
015	MS	A02	~~A07~~	14			100X JW 10/27/20 ✓	
016	MSD	A02	~~A07~~	14			100X JW 10/27/20 ✓	
017	BLK1	—	JW 10/28/20	15			with AFA ✓	
018	ØBLK2 JW 10/27/20	N/A	100	16			OJ22063 ✓	
019	AD06932-01	A02	~~A07~~	17			100X JW 10/27/20 MS/MSD ✓	
020	AD07031-01	A01	100	18			✓	
021	AD07032-01	A02	100	19			✓	

JW 10/28/20

Compound List Report OVGCMS2

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration
Total Cpnds : 96

PK#	Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1 I	Pentafluorobenzene(IS)	168	11.48	1.000	A	2	A	B
2	Dichlorodifluoromethane	85	5.91	0.515	A	3	A	B
3 **	Chloromethane	50	6.39	0.556	A	2	A	B
4 *	Vinyl Chloride	62	6.57	0.572	A	2	A	B
5	Bromomethane	96	7.21	0.628	A	2	A	B
6	Chloroethane	64	7.44	0.649	A	2	A	B
7	Trichlorofluoromethane	101	7.71	0.672	A	2	A	B
8	Trichlorotrifluoroethane	101	8.55	0.745	A	1	A	B
9	acrolein	56	8.91	0.777	A	1	A	B
10	Acetone	43	9.26	0.807	LO	1	A	B
11 *m	1,1-Dichloroethene	96	8.50	0.741	A	2	A	B
12	3-Chloropropene	76	9.10	0.793	LO	1	A	B
13	Acetonitrile	41	9.80	0.854	A	2	A	B
14	Iodomethane	142	8.73	0.761	A	2	A	B
15	Carbon disulfide	76	8.62	0.751	A	1	A	B
16	Methylene Chloride	84	9.22	0.804	LO	3	A	B
17	Methyl tert-butyl ether	73	9.54	0.831	A	2	A	B
18	Acrylonitrile	53	10.13	0.882	A	2	A	B
19	T-1,2-Dichloroethene	96	9.45	0.823	A	2	A	B
20	Isopropyl Ether	45	9.92	0.864	A	1	A	B
21	C-1,2-Dichloroethene	96	10.69	0.931	A	2	A	B
22 **	1,1-Dichloroethane	63	10.12	0.882	A	3	A	B
23	Vinyl Acetate	43	10.31	0.898	A	1	A	B
24	Chloroprene	88	10.11	0.881	A	2	A	B
25	2-Butanone	72	11.19	0.975	LO	2	A	B
26	Propionitrile	54	11.47	0.999	A	0	A	B
27	2,2-Dichloropropane	77	10.81	0.942	A	1	A	B
28	Methacrylonitrile	67	11.50	1.002	A	1	A	B
29 *	Chloroform	83	10.91	0.950	A	2	A	B
30 S	Dibromofluoromethane	113	11.09	0.966	A	0	A	B
31	Dibromofluoromethane	113	11.10	0.967	A	0	A	B
32	Bromochloromethane	128	10.88	0.948	A	2	A	B
33	1,1,1-Trichloroethane	97	11.20	0.976	A	2	A	B
34	1,1-Dichloropropene	75	11.30	0.985	A	2	A	B
35	Diethyl Ether	59	8.14	0.710	A	2	A	B
36	Methyl Acetate	74	9.40	0.819	LO	2	A	B
37	Cyclohexane	56	10.97	0.956	A	2	A	B
38 I	1,4-Difluorobenzene(IS)	114	12.03	1.000	A	2	A	B
39	Methyl Cyclohexane	55	12.09	1.005	A	2	A	B
40	Carbon Tetrachloride	117	11.17	0.928	A	2	A	B
41	1,2-Dichloroethane	62	11.68	0.971	A	2	A	B
42 m	Benzene	78	11.54	0.959	A	2	A	B
43	Isobutyl Alcohol	43	11.56	0.961	LO	2	A	B
44 m	Trichloroethene	130	12.06	1.002	A	3	A	B
45 *	1,2-Dichloropropane	63	12.50	1.039	A	2	A	B
46	Methyl Methacrylate	100	12.59	1.046	A	1	A	B
47	1,4-Dioxane	88	12.71	1.057	LO	1	A	B
48	Bromodichloromethane	83	12.52	1.041	A	2	A	B
49	Dibromomethane	93	12.43	1.033	A	2	A	B
50	4-Methyl-2-Pentanone	100	13.53	1.124	LO	3	A	B
51	2-Chloroethyl vinyl ether	63	12.85	1.068	A	2	A	B
52	2-Hexanone	43	14.22	1.183	A	3	A	B
53	C-1,3-Dichloropropene	75	13.07	1.086	A	2	A	B
54 S	D8-Toluene	98	13.25	1.102	A	2	A	B
55	D8-Toluene	98	13.27	1.103	A	2	A	B
56 I	Chlorobenzene-d5(IS)	82	14.63	1.000	A	2	A	B
57 m*	Toluene	92	13.29	0.909	A	2	A	B
58	Ethyl Methacrylate	69	13.64	0.932	A	3	A	B
59	T-1,3-Dichloropropene	75	13.59	0.929	A	2	A	B
60	1,1,2-Trichloroethane	97	13.74	0.940	A	3	A	B
61	1,3-Dichloropropane	76	14.00	0.957	A	1	A	B
62	Tetrachloroethene	164	13.67	0.935	A	3	A	B
63	Dibromochloromethane	129	13.94	0.953	A	2	A	B
64	1,2-Dibromoethane	107	14.20	0.971	A	2	A	B
65 **m	Chlorobenzene	112	14.64	1.001	A	2	A	B

66		1,1,1,2-Tetrachloroethane	131	14.67	1.003	A	2	A	B
67	*	Ethylbenzene	106	14.61	0.999	A	1	A	B
68		m-xylene & p-xylene	106	14.72	1.006	A	1	A	B
69		O-Xylene	106	15.14	1.035	A	1	A	B
70	**	Bromoform	173	15.27	1.044	A	3	A	B
71		Styrene	104	15.17	1.037	A	2	A	B
72		Isopropylbenzene	105	15.40	1.053	A	1	A	B
73		1,2,3-Trichloropropane	75	16.04	1.097	A	1	A	B
74	**	1,1,2,2-Tetrachloroethane	83	15.84	1.083	A	3	A	B
75	S	Bromofluorobenzene	95	15.75	1.077	A	2	A	B
76		Bromofluorobenzene	95	15.77	1.078	A	2	A	B
77		T-1,4-dichloro-2-butene	53	16.03	1.096	A	2	A	B
78		N-Propylbenzene	91	15.81	1.081	A	1	A	B
79	I	1,4-Dichlorobenzene-d4(IS)	152	16.99	1.000	A	2	A	B
80		Bromobenzene	156	15.91	0.936	A	2	A	B
81		1,3,5-Trimethylbenzene	105	15.97	0.940	A	1	A	B
82		2-Chlorotoluene	91	16.06	0.945	A	1	A	B
83		4-Chlorotoluene	91	16.22	0.954	A	1	A	B
84		1,2,4-Trimethylbenzene	105	16.41	0.966	A	1	A	B
85		s-Butylbenzene	105	16.55	0.974	A	1	A	B
86		tert-Butylbenzene	119	16.36	0.963	A	2	A	B
87		p-Isopropyltoluene	119	16.67	0.981	A	2	A	B
88		1,3-Dichlorobenzene	146	16.92	0.996	A	2	A	B
89		1,4-Dichlorobenzene	146	17.01	1.001	A	2	A	B
90		1,2-Dichlorobenzene	146	17.59	1.035	A	2	A	B
91		N-Butylbenzene	91	17.19	1.012	A	2	A	B
92		DBCP	75	18.71	1.101	QO	2	A	B
93		Naphthalene	128	20.70	1.218	QO	0	A	B
94		1,2,4-Trichlorobenzene	180	19.98	1.176	A	2	A	B
95		Hexachlorobutadiene	225	19.85	1.168	A	2	A	B
96		1,2,3-Trichlorobenzene	180	21.14	1.244	QO	2	A	B

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

102720.M Wed Oct 28 10:44:11 2020

Compound Name Duplication Report

Quant Method: C:\HPCHEM\1\METHODS\102720.M
Number of Compounds: 96

30 Dibromofluoromethane = 31 Dibromofluoromethane
54 D8-Toluene = 55 D8-Toluene
75 Bromofluorobenzene = 76 Bromofluorobenzene

3 Duplicate Names Detected!!!

Response Factor Report OVGCMS2

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration

Calibration Files
1 =202JV003.D 5 =202JV005.D 20 =202JV007.D
50 =202JV008.D 100 =202JV010.D 10 =202JV006.D

		Compound	1	5	20	50	100	10	Avg	%RSD
1)	i	Pentafluorobenzene(IS	----------	ISTD	----------					
2)		Dichlorodifluoromet	0.796	0.717	0.796	0.795	0.833	0.718	0.799	7.89
3)	**	Chloromethane	1.215	1.023	1.033	0.979	1.052	0.948	1.078	11.63
4)	*	Vinyl Chloride	0.831	0.790	0.829	0.821	0.866	0.765	0.841	7.38
5)		Bromomethane	0.382	0.375	0.412	0.402		0.390	0.412	12.45
6)		Chloroethane	0.650	0.474	0.475	0.471	0.488	0.479	0.510	12.40
7)		Trichlorofluorometh	0.830	0.886	0.943	0.942	1.002	0.874	0.939	7.87
8)		Trichlorotrifluoroe	0.463	0.505	0.493	0.494	0.529	0.452	0.496	5.52
9)		acrolein	0.101	0.085	0.078	0.083	0.099	0.077	0.089#	10.92
10)		Acetone	0.473	0.175	0.155	0.145	0.146	0.149	0.206	55.45
11)	*m	1,1-Dichloroethene	0.578	0.463	0.441	0.432	0.467	0.398	0.472	11.97
12)		3-Chloropropene	0.415	0.306	0.272	0.249	0.257	0.250	0.295	20.19
13)		Acetonitrile	0.067	0.054	0.064	0.067	0.071	0.057	0.063#	10.39
14)		Iodomethane	0.520	0.477	0.523	0.548	0.621	0.444	0.525	13.31
15)		Carbon disulfide	1.302	1.012	0.985	0.942	0.994	0.922	1.028	11.68
16)		Methylene Chloride	0.829	0.584	0.546	0.540	0.573	0.510	0.609	17.91
17)		Methyl tert-butyl e	1.154	1.085	1.152	1.205	1.280	0.992	1.156	8.26
18)		Acrylonitrile	0.314	0.291	0.293	0.290	0.292	0.271	0.294	4.07
19)		T-1,2-Dichloroethen	0.574	0.521	0.489	0.488	0.526	0.445	0.520	9.26
20)		Isopropyl Ether	2.806	2.435	2.415	2.395	2.523	2.215	2.496	7.24
21)		C-1,2-Dichloroethen	0.653	0.565	0.529	0.530	0.574	0.484	0.565	9.27
22)	**	1,1-Dichloroethane	1.308	1.005	0.991	0.994	1.035	0.931	1.063	11.80
23)		Vinyl Acetate	1.678	1.487	1.476	1.410	1.395	1.368	1.470	6.70
24)		Chloroprene	0.449	0.417	0.424	0.417	0.436	0.388	0.427	4.54
25)		2-Butanone	0.110	0.058	0.051	0.048	0.048	0.048	0.060#	35.45
26)		Propionitrile	0.090	0.071	0.071	0.069	0.072	0.065	0.072#	10.50
27)		2,2-Dichloropropane	0.783	0.680	0.643	0.650	0.695	0.572	0.692	11.04
28)		Methacrylonitrile	0.271	0.217	0.211	0.201	0.198	0.196	0.217	11.69
29)	*	Chloroform	1.098	0.956	0.900	0.884	0.943	0.849	0.961	10.05
30)	s	Dibromofluoromethan	0.455	0.536	0.540	0.511	0.529	0.525	0.512	5.43
31)		Dibromofluoromethan	0.455	0.536	0.540	0.511	0.529	0.525	0.512	5.43
32)		Bromochloromethane	0.336	0.290	0.280	0.287	0.300	0.267	0.299	8.05
33)		1,1,1-Trichloroetha	0.718	0.712	0.689	0.685	0.701	0.636	0.705	5.41
34)		1,1-Dichloropropene	0.809	0.726	0.700	0.690	0.737	0.635	0.730	7.74
35)		Diethyl Ether	0.666	0.530	0.505	0.509	0.537	0.482	0.542	10.68
36)		Methyl Acetate	0.164	0.117	0.096	0.093	0.100	0.085	0.111	24.26
37)		Cyclohexane	0.805	0.995	0.907	0.886	0.944	0.825	0.924	10.02
38)	i	1,4-Difluorobenzene(I	----------	ISTD	----------					
39)		Methyl Cyclohexane	0.366	0.393	0.383	0.372	0.392	0.335	0.377	5.31
40)		Carbon Tetrachlorid	0.392	0.427	0.419	0.421	0.433	0.383	0.424	6.73
41)		1,2-Dichloroethane	0.469	0.429	0.406	0.402	0.420	0.377	0.424	7.51
42)	m	Benzene	1.321	1.205	1.121	1.074	1.090	1.057	1.170	10.68
43)		Isobutyl Alcohol	0.023	0.016	0.020	0.021	0.020	0.017	0.022#	28.60
44)	m	Trichloroethene	0.310	0.312	0.300	0.300	0.323	0.272	0.308	5.55
45)	*	1,2-Dichloropropane	0.462	0.378	0.345	0.335	0.352	0.313	0.364	12.19
46)		Methyl Methacrylate	0.094	0.089	0.087	0.086	0.088	0.081	0.088#	4.29
47)		1,4-Dioxane	0.003	0.002	0.002	0.002	0.002	0.002	0.002#	25.97
48)		Bromodichloromethan	0.480	0.424	0.402	0.405	0.428	0.375	0.427	8.21
49)		Dibromomethane	0.242	0.200	0.195	0.200	0.210	0.179	0.210	10.40
50)		4-Methyl-2-Pentanon	0.060	0.043	0.041	0.040	0.040	0.037	0.044#	16.62
51)		2-Chloroethyl vinyl				0.001	0.001		0.001#	22.27
52)		2-Hexanone	0.296	0.253	0.239	0.234	0.236	0.219	0.245	9.37
53)		C-1,3-Dichloroprope	0.588	0.529	0.527	0.540	0.566	0.482	0.549	6.77
54)	s	D8-Toluene	0.857	0.943	0.967	0.919	0.949	0.934	0.920	4.11
55)		D8-Toluene	0.857	0.943	0.967	0.919	0.949	0.934	0.920	4.11
56)	i	Chlorobenzene-d5(IS)	----------	ISTD	----------					

(#) = Out of Range ### Number of calibration levels exceeded format ###

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration

Calibration Files
1 =202JV003.D 5 =202JV005.D 20 =202JV007.D
50 =202JV008.D 100 =202JV010.D 10 =202JV006.D

		Compound	1	5	20	50	100	10	Avg	%RSD
57)	m*	Toluene	1.628	1.464	1.396	1.395	1.463	1.327	1.464	6.66
58)		Ethyl Methacrylate	1.169	0.905	0.923	0.874	0.861	0.880	0.944	11.48
59)		T-1,3-Dichloroprope	0.978	0.918	0.894	0.892	0.944	0.828	0.923	5.45
60)		1,1,2-Trichloroetha	0.633	0.523	0.506	0.492	0.510	0.491	0.532	9.37
61)		1,3-Dichloropropane	1.283	1.116	1.040	1.020	1.050	0.998	1.100	9.39
62)		Tetrachloroethene	0.456	0.446	0.438	0.432	0.445	0.403	0.441	4.04
63)		Dibromochloromethan	0.772	0.690	0.683	0.677	0.715	0.646	0.708	6.00
64)		1,2-Dibromoethane	0.658	0.594	0.595	0.579	0.613	0.534	0.601	5.97
65)	**m	Chlorobenzene	1.685	1.551	1.527	1.515	1.544	1.429	1.562	5.44
66)		1,1,1,2-Tetrachloro	0.639	0.593	0.571	0.565	0.594	0.531	0.589	5.62
67)	*	Ethylbenzene	0.740	0.787	0.764	0.768	0.813	0.718	0.780	5.25
68)		m-xylene & p-xylene	0.981	0.961	0.933	0.934	0.950	0.871	0.949	4.70
69)		O-Xylene	0.976	0.946	0.931	0.939	0.986	0.856	0.950	4.72
70)	**	Bromoform	0.397	0.377	0.377	0.380	0.396	0.345	0.381	5.01
71)		Styrene	1.845	1.669	1.668	1.671	1.701	1.525	1.689	5.51
72)		Isopropylbenzene	2.419	2.326	2.283	2.301	2.360	2.096	2.327	5.01
73)		1,2,3-Trichloroprop	0.873	0.723	0.718	0.710	0.710	0.643	0.744	10.20
74)	**	1,1,2,2-Tetrachloro	0.724	0.636	0.618	0.621	0.621	0.570	0.646	8.56
75)	s	Bromofluorobenzene	0.798	0.745	0.764	0.712	0.771	0.730	0.746	4.37
76)		Bromofluorobenzene	0.798	0.745	0.764	0.712	0.771	0.730	0.746	4.37
77)		T-1,4-dichloro-2-bu	0.182	0.149	0.156	0.162	0.164	0.158	0.169	10.28
78)		N-Propylbenzene	2.712	2.568	2.587	2.638	2.766	2.368	2.675	7.14
79)	i	1,4-Dichlorobenzene-d	----------	ISTD	----------					
80)		Bromobenzene	0.895	0.820	0.805	0.814	0.860	0.743	0.832	5.66
81)		1,3,5-Trimethylbenz	2.567	2.449	2.380	2.353	2.470	2.186	2.442	6.22
82)		2-Chlorotoluene	2.653	2.237	2.169	2.161	2.234	1.956	2.262	9.24
83)		4-Chlorotoluene	2.666	2.266	2.208	2.244	2.374	2.056	2.363	9.59
84)		1,2,4-Trimethylbenz	2.725	2.590	2.477	2.455	2.558	2.257	2.541	6.17
85)		s-Butylbenzene	2.945	2.993	2.828	2.813	2.977	2.547	2.897	5.79
86)		tert-Butylbenzene	2.195	2.164	2.047	2.048	2.171	1.885	2.127	6.19
87)		p-Isopropyltoluene	2.577	2.522	2.426	2.398	2.560	2.194	2.481	5.64
88)		1,3-Dichlorobenzene	1.516	1.383	1.336	1.385	1.496	1.236	1.417	6.99
89)		1,4-Dichlorobenzene	1.516	1.459	1.413	1.425	1.489	1.292	1.462	6.07
90)		1,2-Dichlorobenzene	1.272	1.270	1.281	1.276	1.401	1.149	1.298	6.20
91)		N-Butylbenzene	2.306	2.222	2.133	2.098	2.297	1.943	2.188	5.64
92)		DBCP	0.193	0.132	0.119	0.113	0.123	0.108	0.135	22.59
93)		Naphthalene	0.975	1.044	1.016	1.046	1.229	0.937	1.053	8.58
94)		1,2,4-Trichlorobenz	0.565	0.599	0.585	0.585	0.662	0.533	0.591	6.47
95)		Hexachlorobutadiene	0.218	0.282	0.273	0.258	0.315	0.254	0.273	10.93
96)		1,2,3-Trichlorobenz	0.353	0.433	0.422	0.421	0.494	0.390	0.426	9.98

(#) = Out of Range ### Number of calibration levels exceeded format ###

Manual Integration Review Form

ENVIRONMENTAL CONSERVATION LABORATORIES, INC. ☐ Cary ☐ Jacksonville ☒ Orlando

I hereby attest that the manual integrations contained in this package have been thoroughly reviewed and are in agreement with the associated hardcopy data.

The electronic files listed below have been reviewed for accuracy, completeness and comply with ENCO labs QA-11 Manual Integration Policy including:

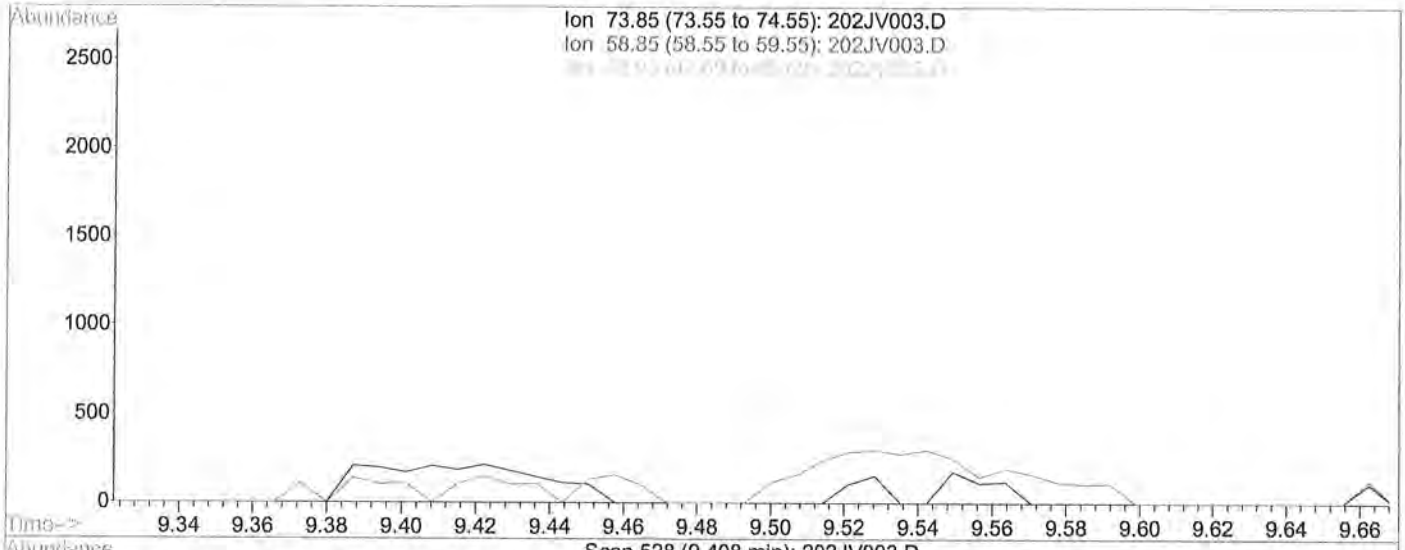
- "Before" and "After" chromatograms are provided
- Manual integrations are indicated on expanded scale "after" chromatograms at a scale large enough to see the manual integration performed.
- Reintegration technique marked if available on the data system
- Technical justification for manual integration
- Appropriate flags indicating which analytes were manually integrated are included in the raw data
- Analyst's initials and date.

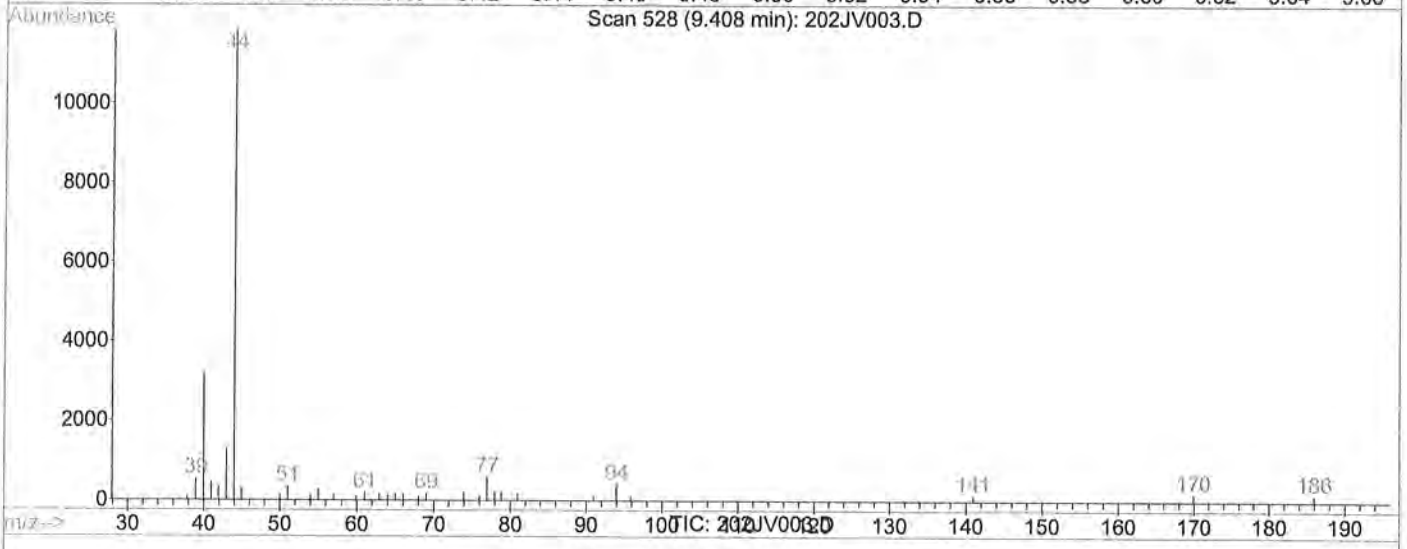
Instrument ID:	OVGCMS-2
Sequence/Batch ID:	AA63212
Data File Prefix:	202JV
Date and Time Range of MIs:	10/27/20 1445 - 10/28/20 10:15
Reviewer Print Name:	Karie Gonzalez
Reviewer Signature:	Karie Gonzalez
Date of Review:	10/28/2020

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\102720\202JV003.D Vial: 2
Acq On : 27 Oct 2020 11:08 am Operator: KKW
Sample : CAL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 11:32 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Oct 27 11:31:37 2020
Response via : Multiple Level Calibration





(36) Methyl Acetate

9.41min 0.00ug/kg

response 0

Ion	Exp%	Act%
73.85	100	0.00
58.85	51.20	0.00#
42.90	428.70	0.00#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

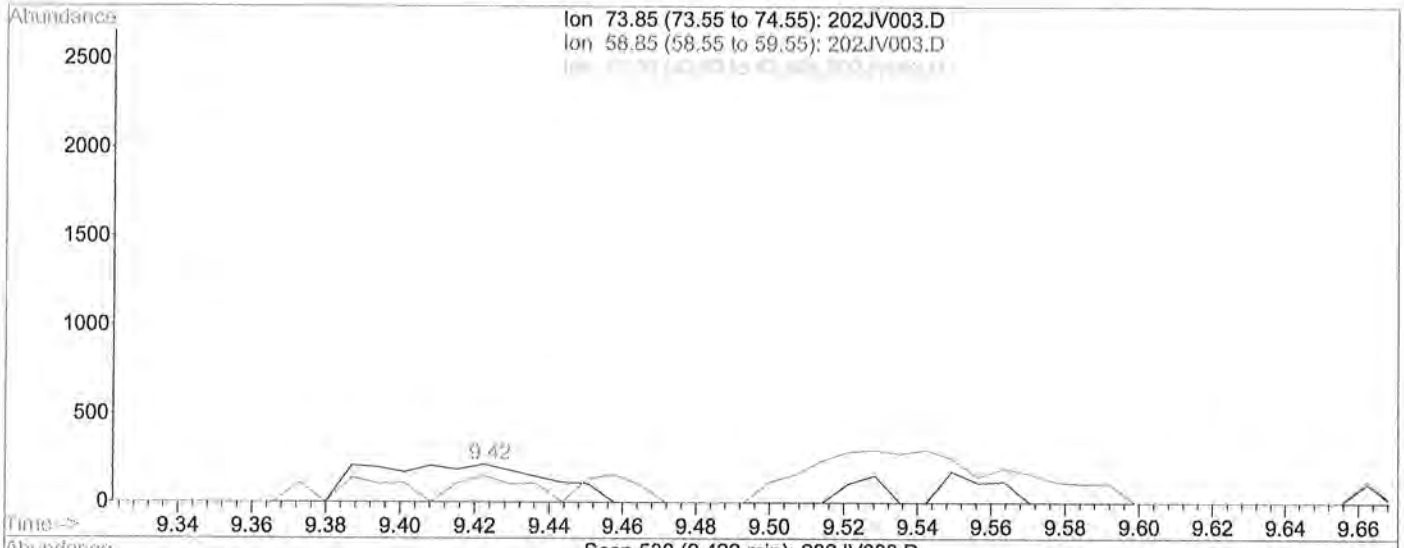
Review by/Date KW 10/28/20

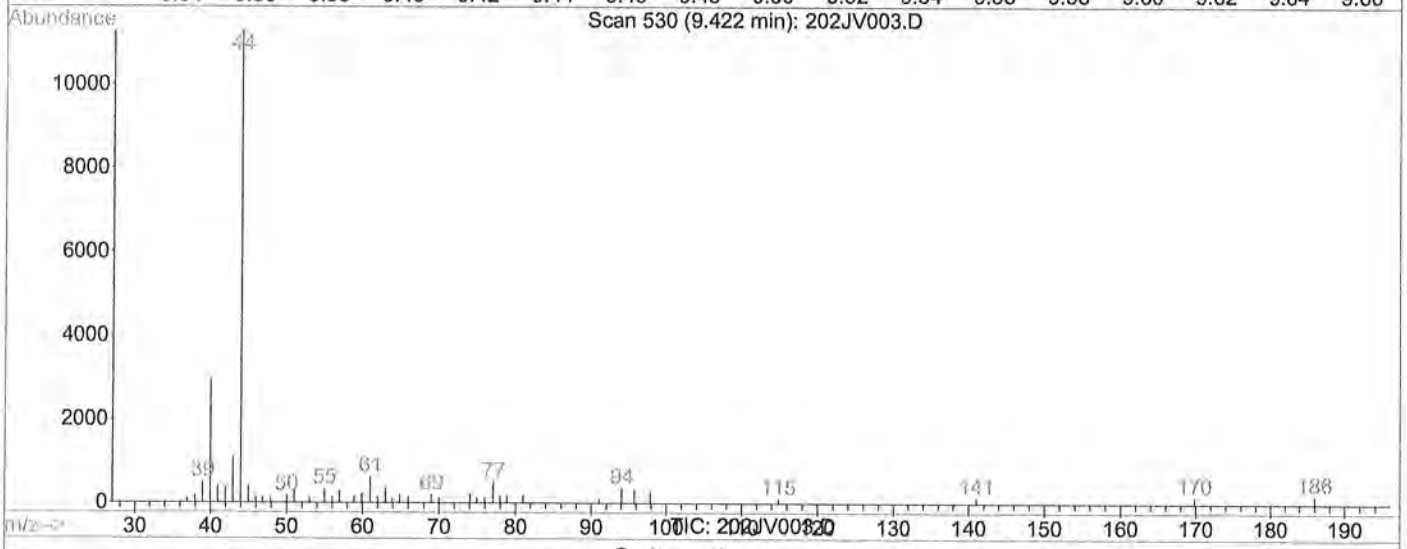
Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\102720\202JV003.D Vial: 2
Acq On : 27 Oct 2020 11:08 am Operator: KKW
Sample : CAL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 14:45 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Oct 27 11:31:37 2020
Response via : Multiple Level Calibration





(36) Methyl Acetate

9.42min 2.23ug/kg m

response 725

Ion	Exp%	Act%
73.85	100	100
58.85	51.20	0.00#
42.90	428.70	0.00#
0.00	0.00	0.00

Select One:

[] Original Integration [X] Manual Integration

Select reason for manual integration:

[] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[] Hump integration

[] Baseline drop for split peaks

[] ISTD reintegration

[] Other:

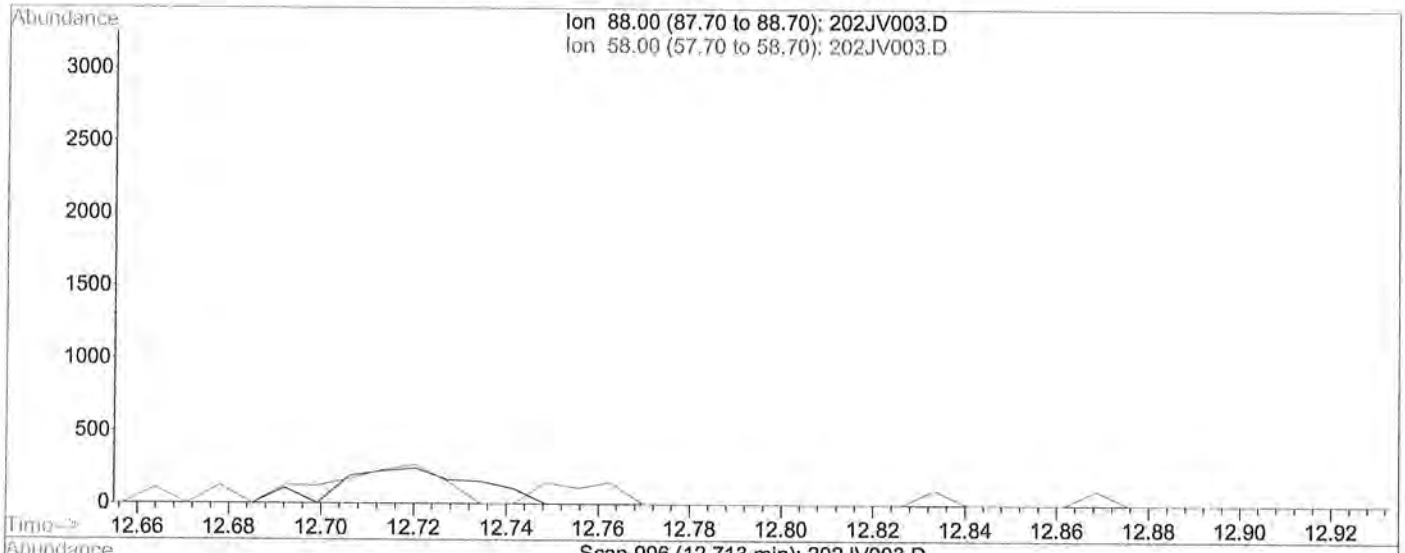
Review by/Date KW 10/28/20

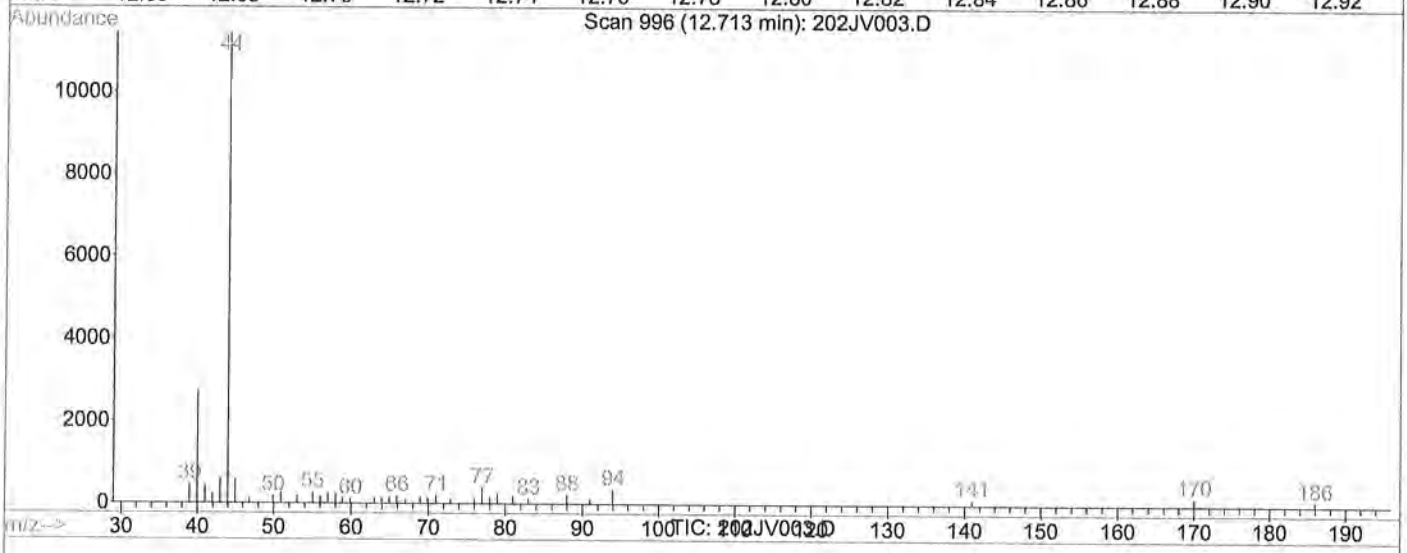
Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\102720\202JV003.D Vial: 2
Acq On : 27 Oct 2020 11:08 am Operator: KKW
Sample : CAL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 14:45 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Oct 27 11:31:37 2020
Response via : Multiple Level Calibration





(47) 1,4-Dioxane

12.71min 0.00ug/kg

response 0

Ion	Exp%	Act%
88.00	100	0.00
58.00	67.30	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

~~N~~ Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

~~X~~ Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

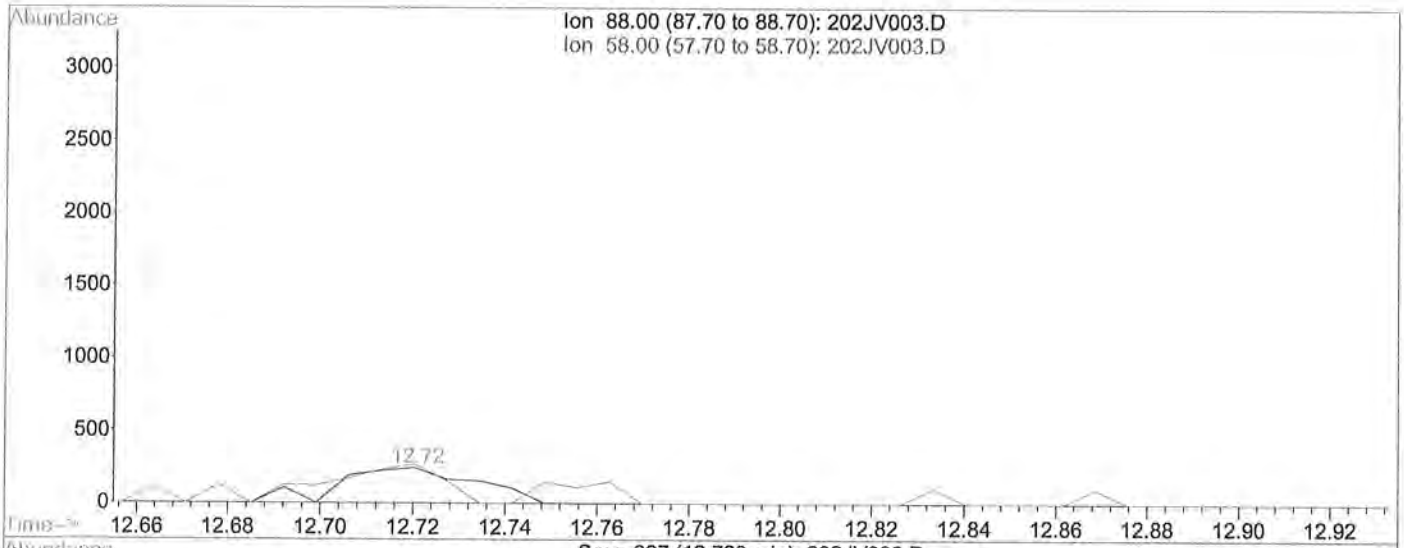
Review by/Date NJ 10/28/20

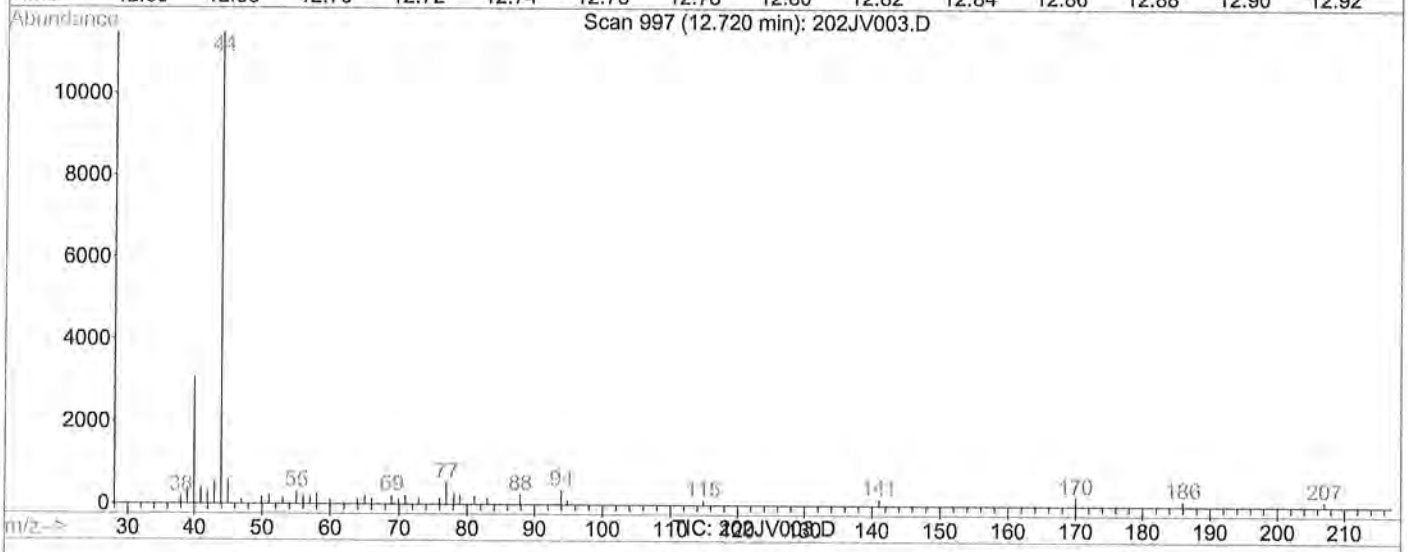
Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\102720\202JV003.D Vial: 2
Acq On : 27 Oct 2020 11:08 am Operator: KKW
Sample : CAL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 14:45 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Oct 27 11:31:37 2020
Response via : Multiple Level Calibration





(47) 1,4-Dioxane

12.72min 26.59ug/kg m

response 500

Ion	Exp%	Act%
88.00	100	100
58.00	67.30	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] EICP reintegration

[ ] Other:

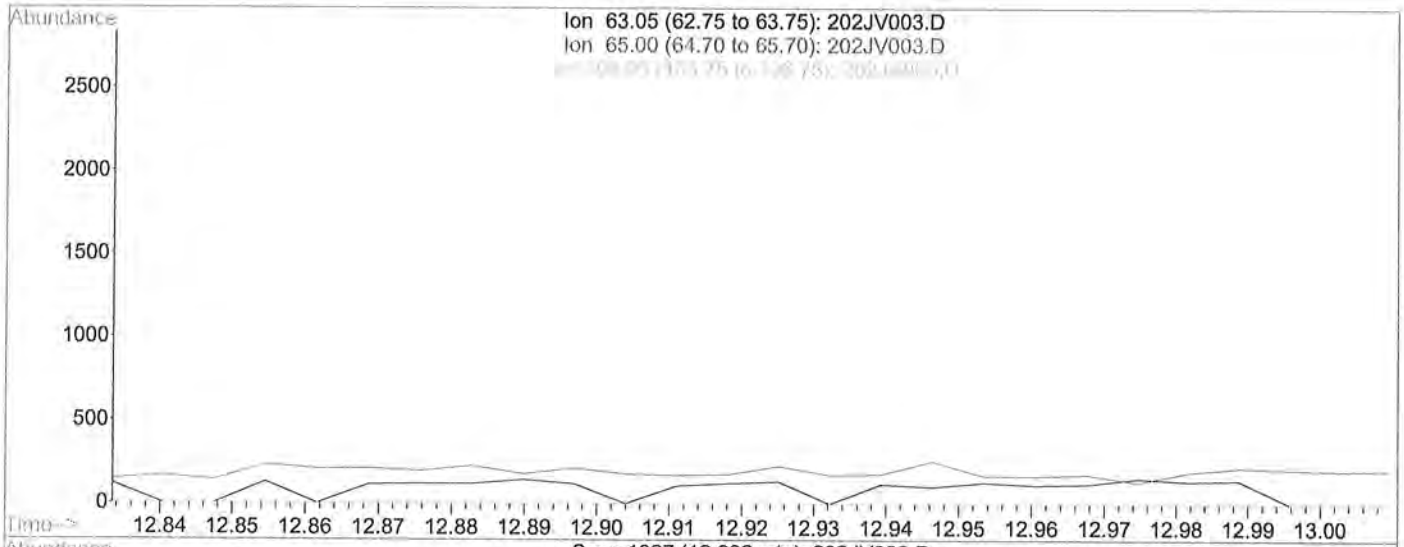
Review by/Date: N 10/28/20

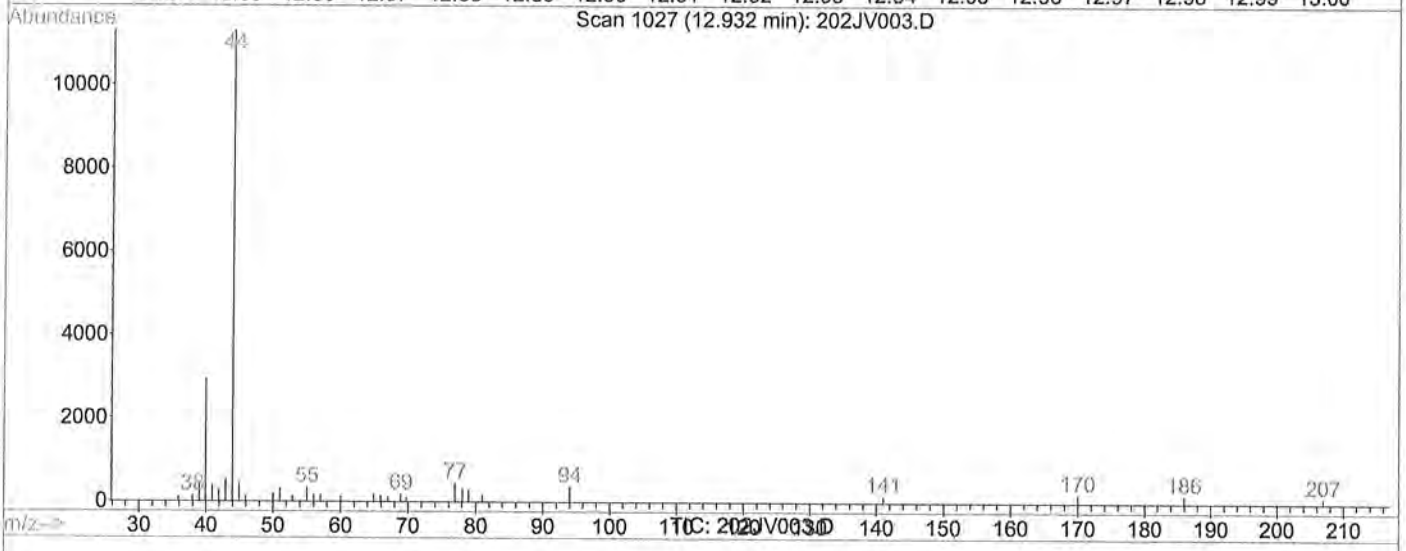
Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\102720\202JV003.D Vial: 2
Acq On : 27 Oct 2020 11:08 am Operator: KKW
Sample : CAL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 14:45 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Oct 27 11:31:37 2020
Response via : Multiple Level Calibration





(51) 2-Chloroethyl vinyl ether

12.93min 0.00ug/kg

response 0

Ion	Exp%	Act%
63.05	100	0.00
65.00	0.00	0.00
106.05	0.00	0.00
0.00	0.00	0.00

Select One:

[X] (Original) Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

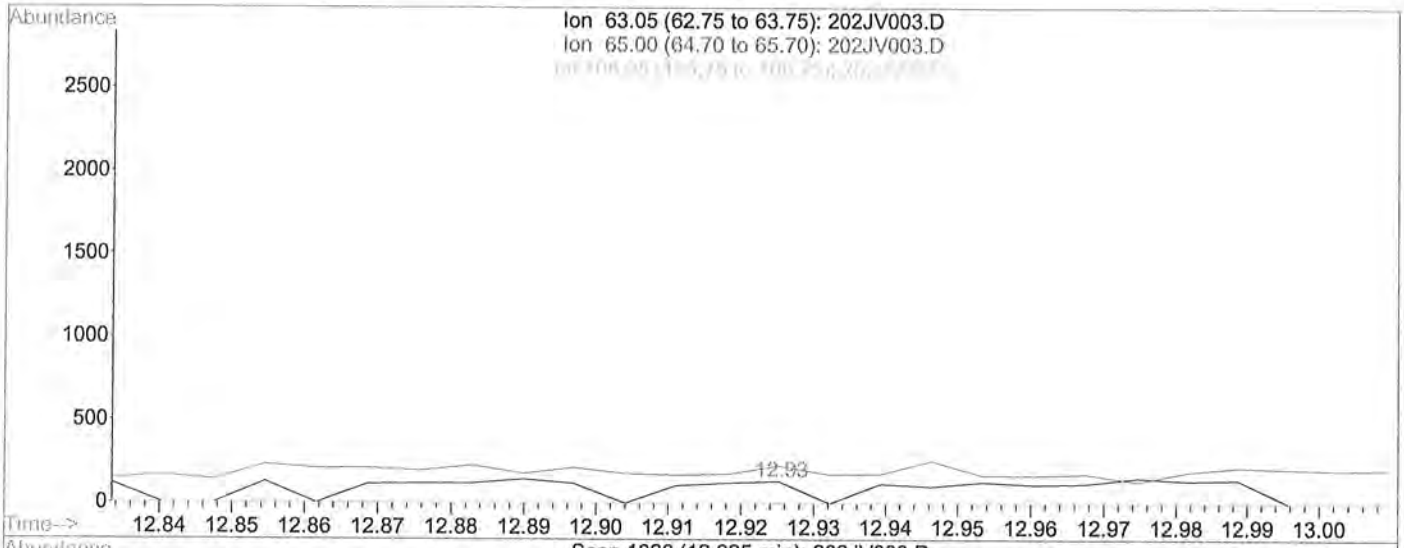
Review by/Date W 10/28/20

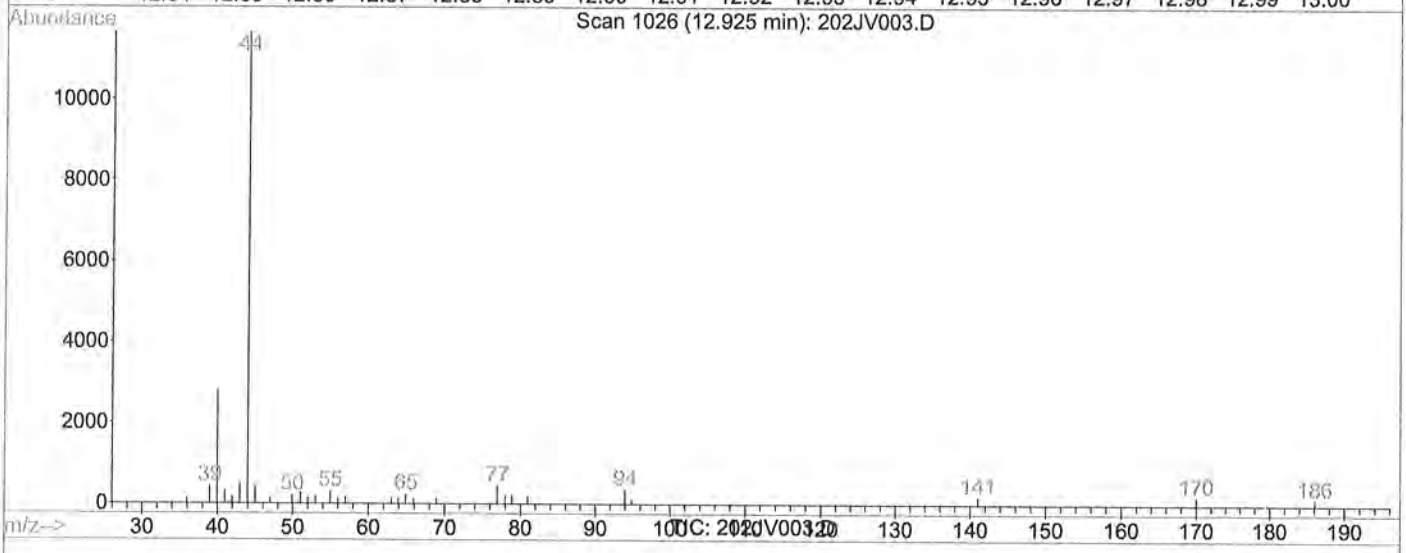
Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\102720\202JV003.D Vial: 2
Acq On : 27 Oct 2020 11:08 am Operator: KKW
Sample : CAL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 14:46 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Oct 27 11:31:37 2020
Response via : Multiple Level Calibration





(51) 2-Chloroethyl vinyl ether

12.93min 21.41ug/kg m

response 152

Ion	Exp%	Act%
63.05	100	100
65.00	0.00	0.00
106.05	0.00	0.00
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Dump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

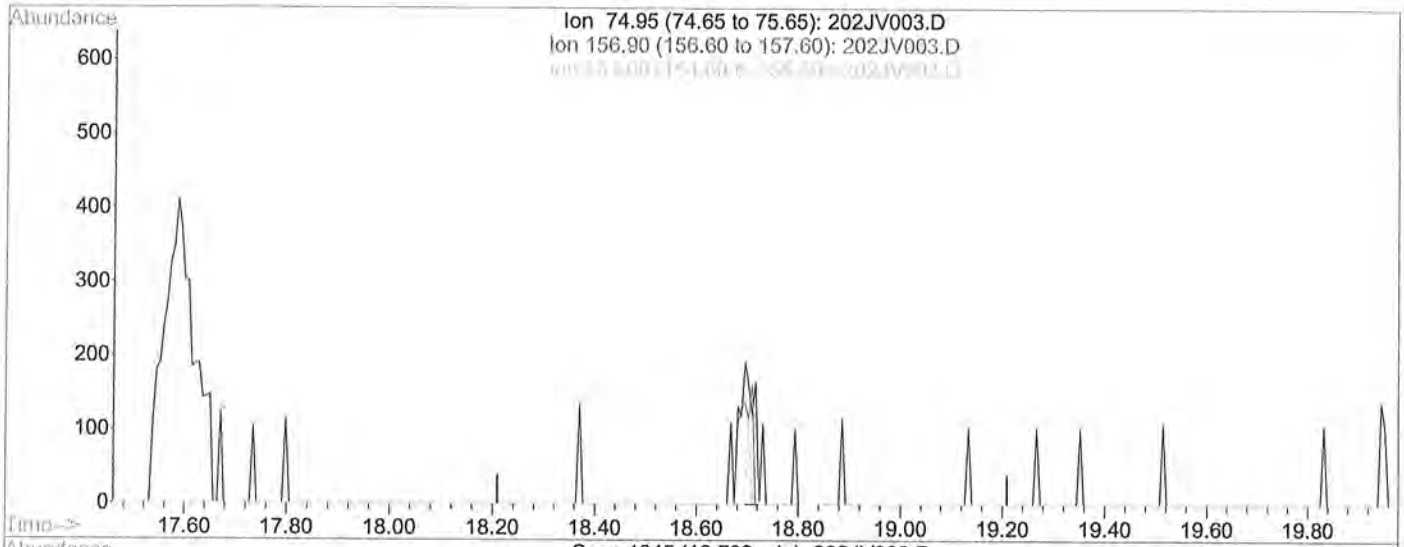
Review by/Date: 10/28/20

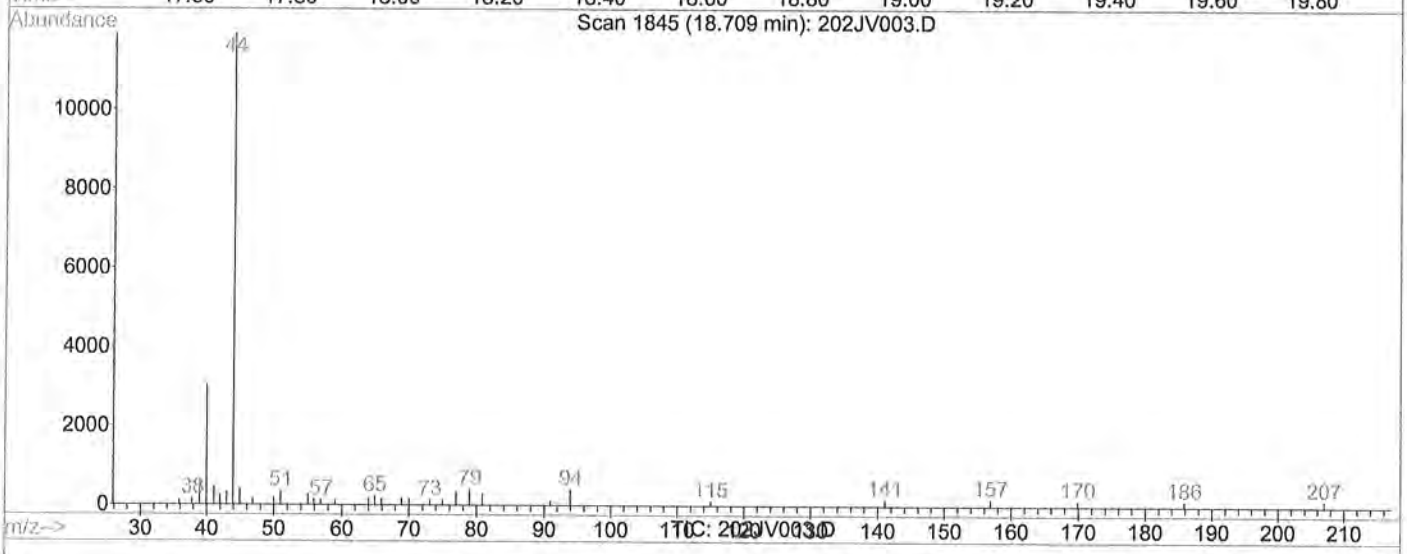
Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\102720\202JV003.D Vial: 2
Acq On : 27 Oct 2020 11:08 am Operator: KKW
Sample : CAL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 14:46 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Oct 27 11:31:37 2020
Response via : Multiple Level Calibration





(92) DBCP

18.71min 0.00ug/kg

response 0

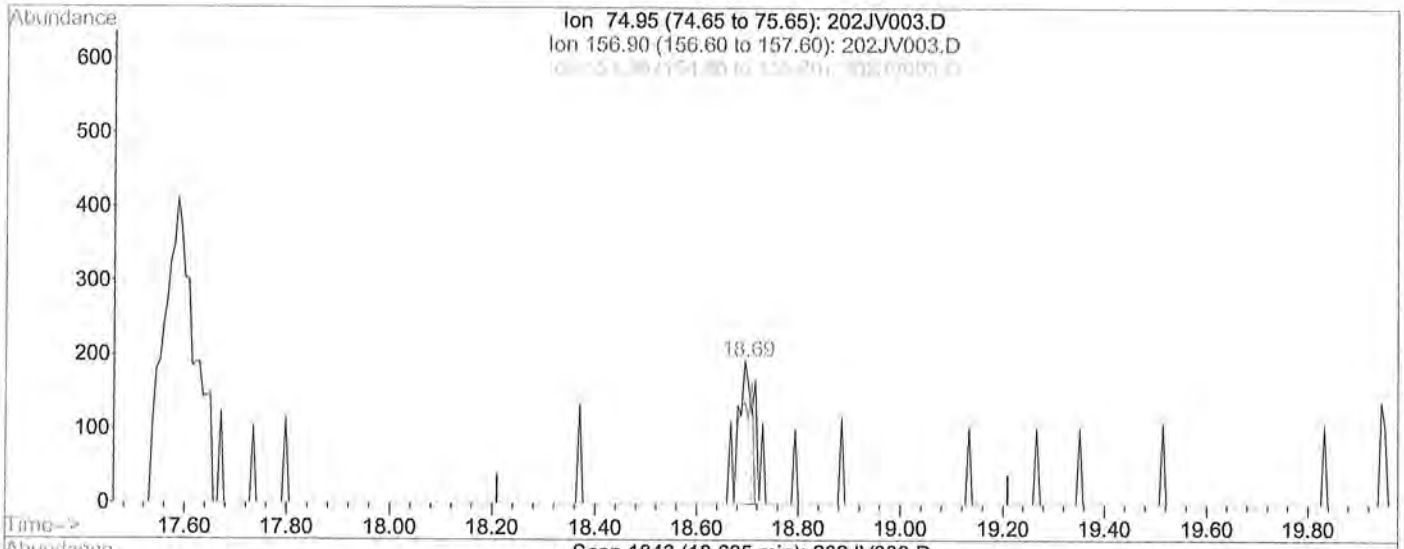
Ion	Exp%	Act%
74.95	100	0.00
156.90	161.40	0.00#
154.90	121.30	0.00#
0.00	0.00	0.00

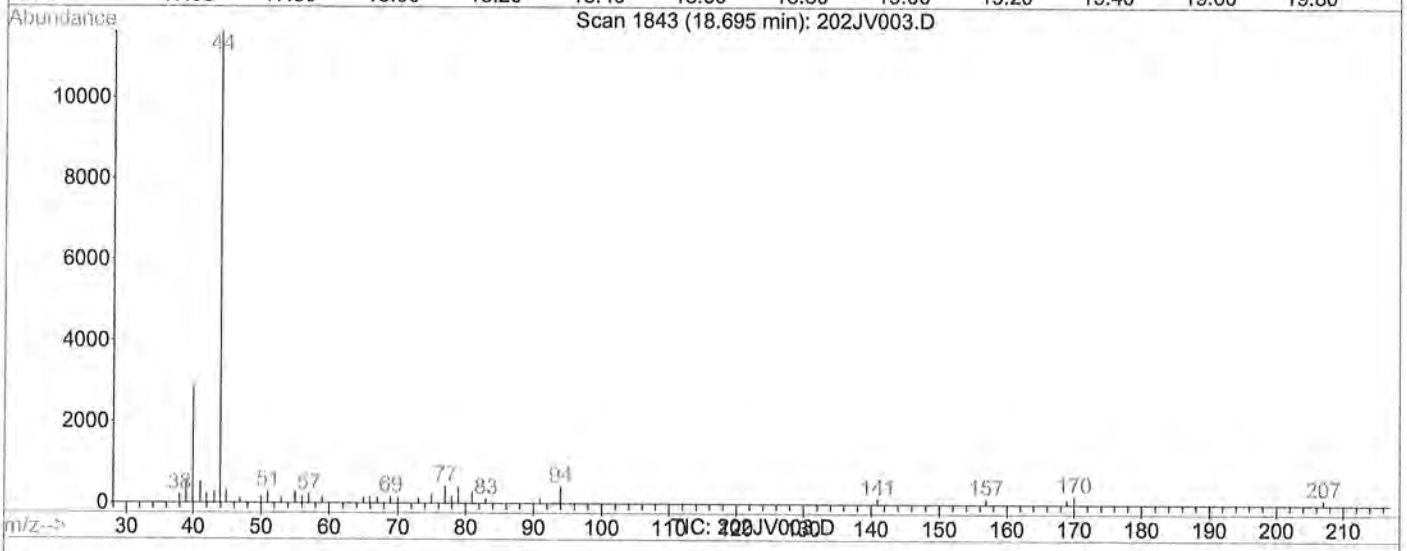
Select One:
[X] Original Integration [ ] Manual Integration
Select reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[X] Incorrect peak selection/Peak not found
[ ] Rump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date W 10/28/20
Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\102720\202JV003.D Vial: 2
Acq On : 27 Oct 2020 11:08 am Operator: KKW
Sample : CAL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 14:46 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Oct 27 11:31:37 2020
Response via : Multiple Level Calibration





(92) DBCP

18.69min 2.49ug/kg m

response 472

Ion	Exp%	Act%
74.95	100	100
156.90	161.40	0.00#
154.90	121.30	0.00#
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Bump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

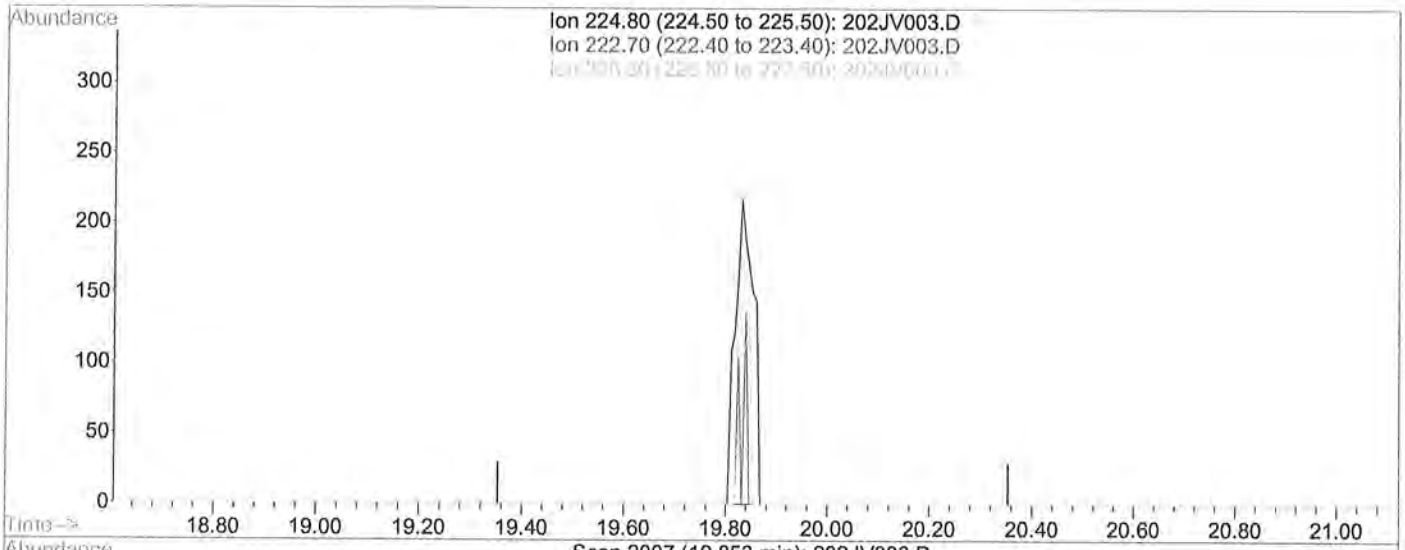
Review by/Date KW 10/28/20

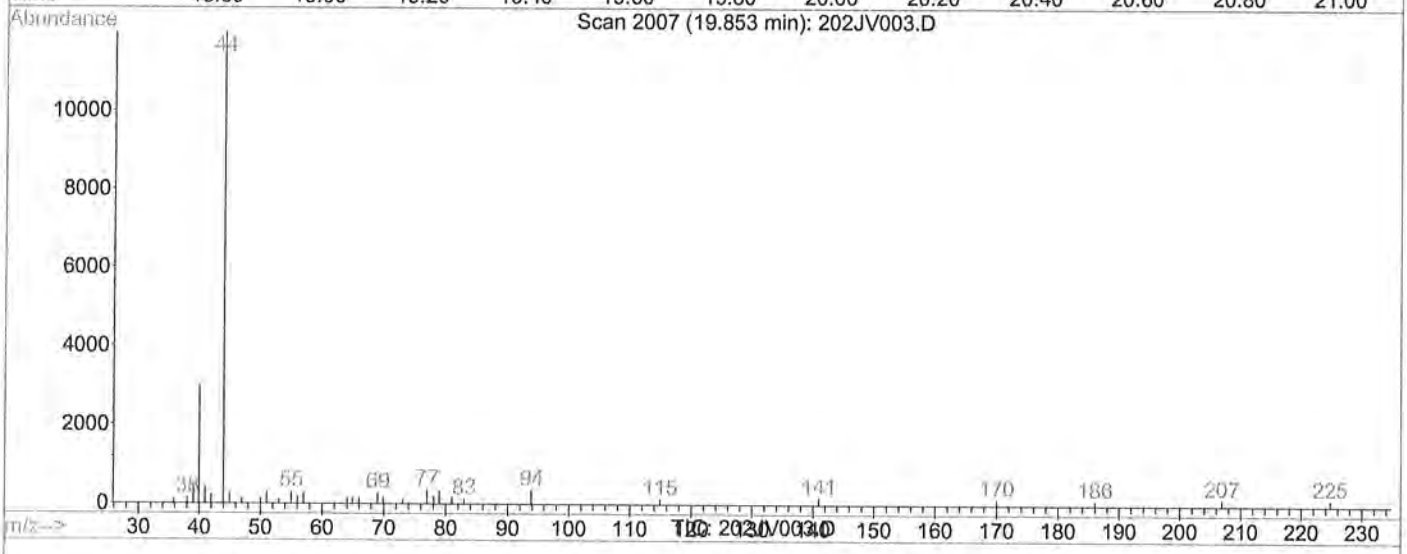
Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\102720\202JV003.D Vial: 2
Acq On : 27 Oct 2020 11:08 am Operator: KKW
Sample : CAL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 14:46 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Oct 27 11:31:37 2020
Response via : Multiple Level Calibration





(95) Hexachlorobutadiene

19.85min 0.00ug/kg

response 0

Ion	Exp%	Act%
224.80	100	0.00
222.70	62.40	0.00#
226.80	63.10	0.00#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Humn integration

[ ] Baseline drop for split peaks

[ ] IS/SS reintegration

[ ] Other:

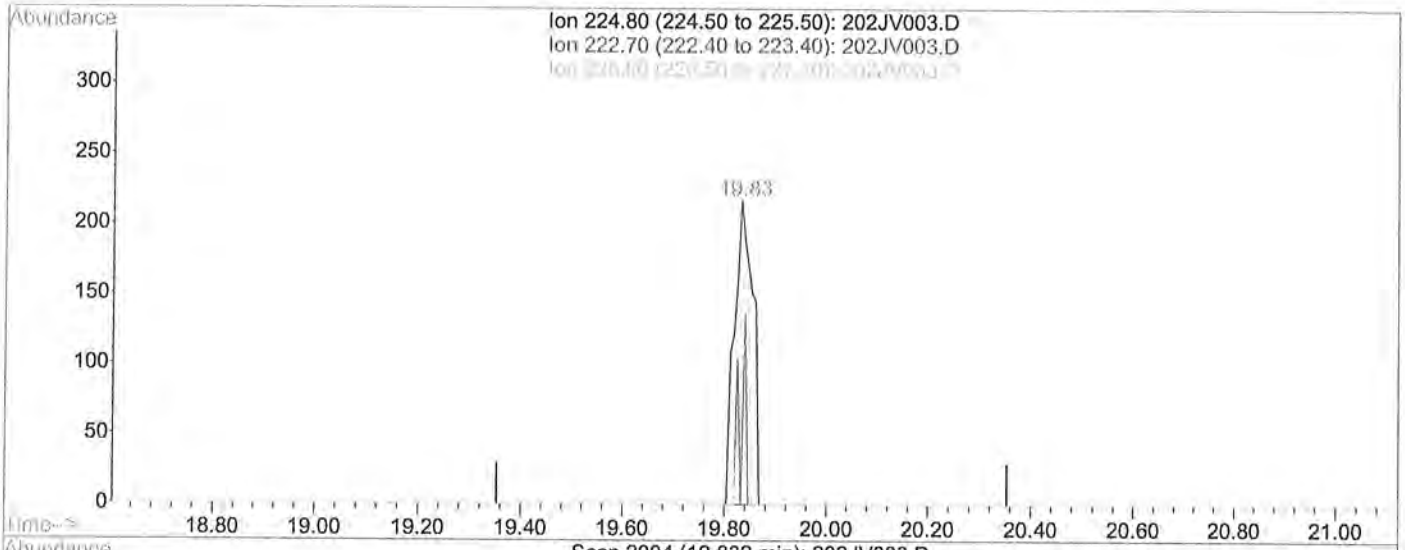
Review by/Date: W 10/28/20

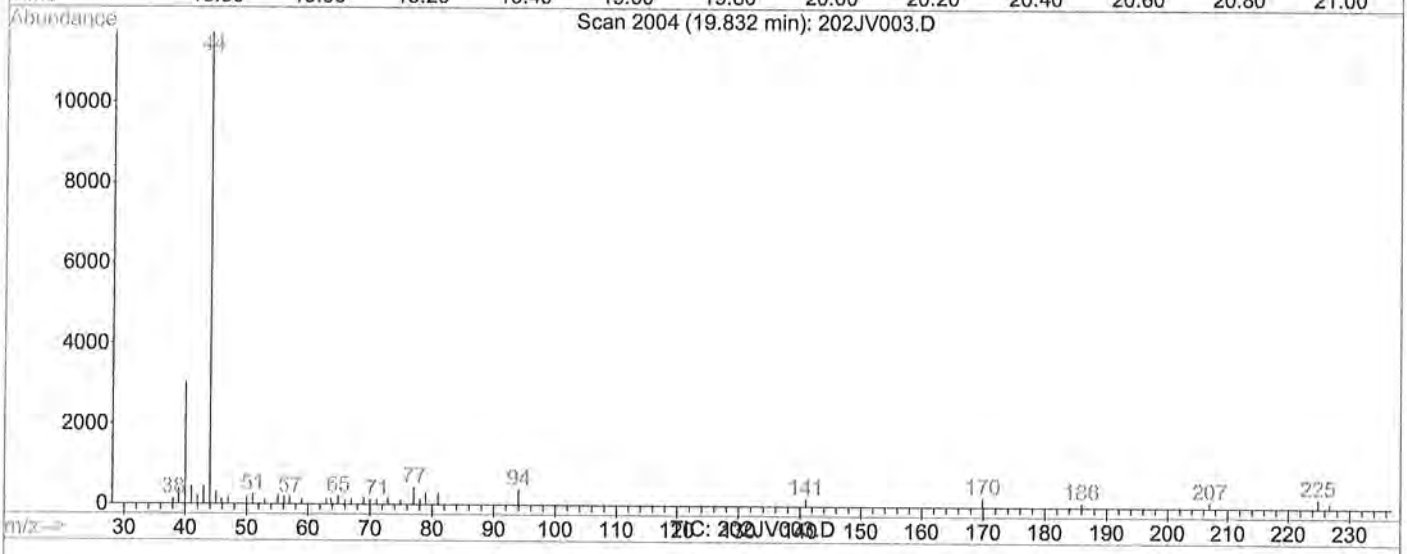
Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\102720\202JV003.D Vial: 2
Acq On : 27 Oct 2020 11:08 am Operator: KKW
Sample : CAL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 14:46 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Oct 27 11:31:37 2020
Response via : Multiple Level Calibration





(95) Hexachlorobutadiene

19.83min 0.95ug/kg m

response 533

Ion	Exp%	Act%
224.80	100	100
222.70	62.40	0.00#
226.80	63.10	0.00#
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

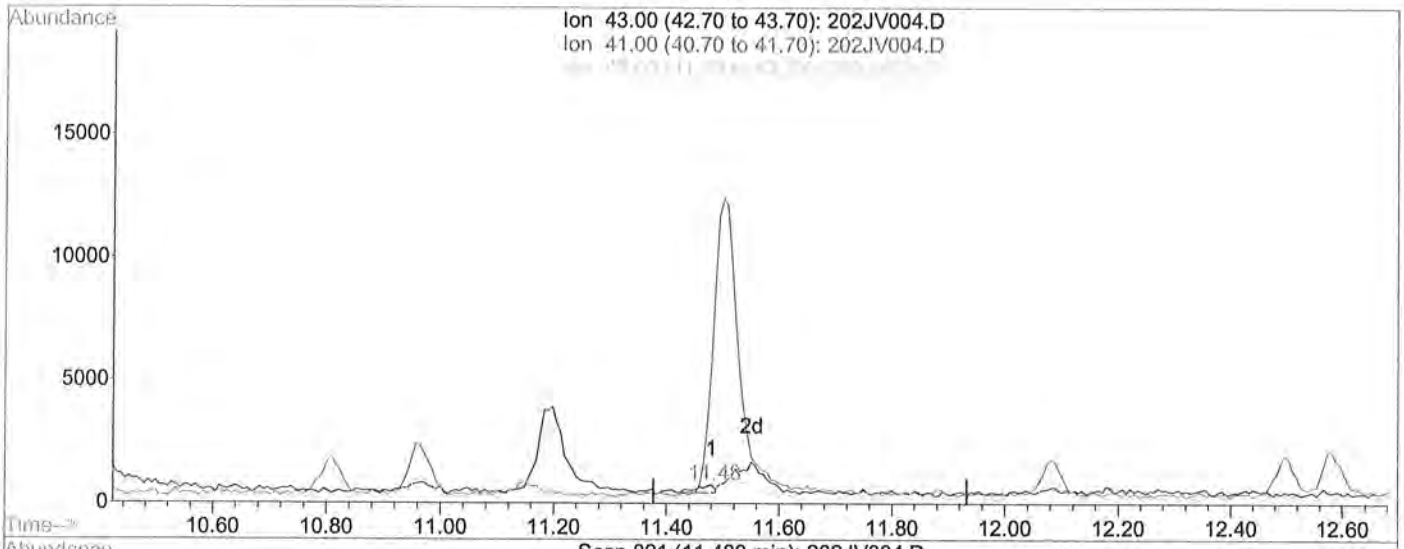
Review by/Date W 10/28/20

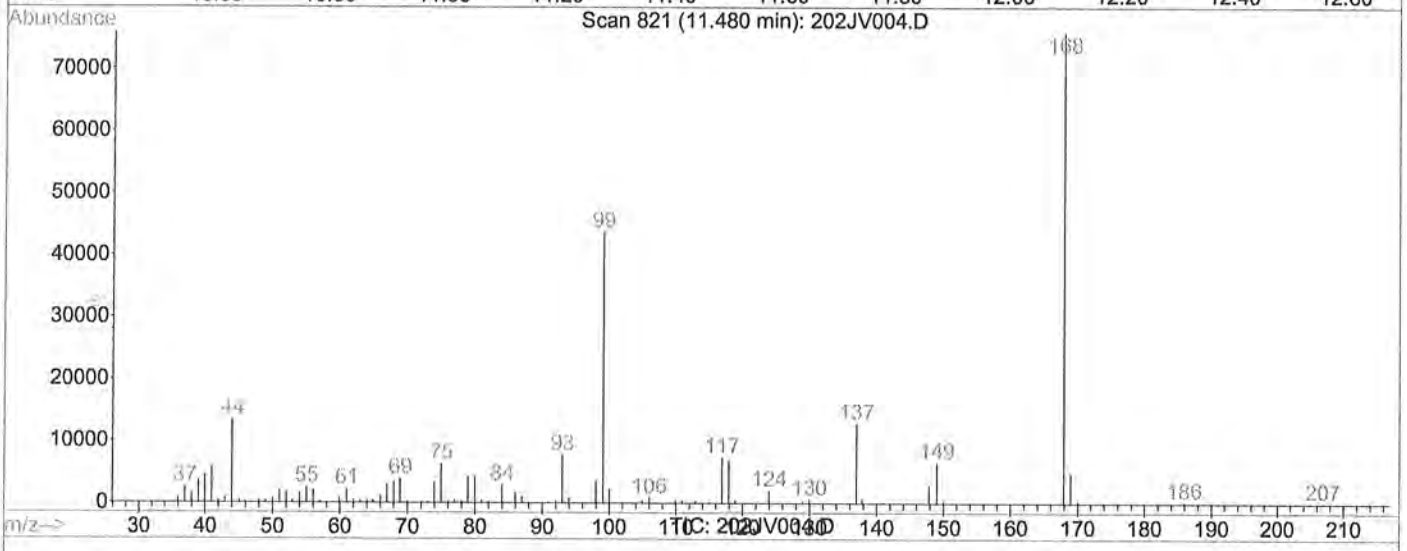
Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\102720\202JV004.D Vial: 3
Acq On : 27 Oct 2020 11:37 am Operator: KKW
Sample : CAL2 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 12:00 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Oct 27 14:57:31 2020
Response via : Multiple Level Calibration





(43) Isobutyl Alcohol

11.48min 8.67ug/kg

response 683

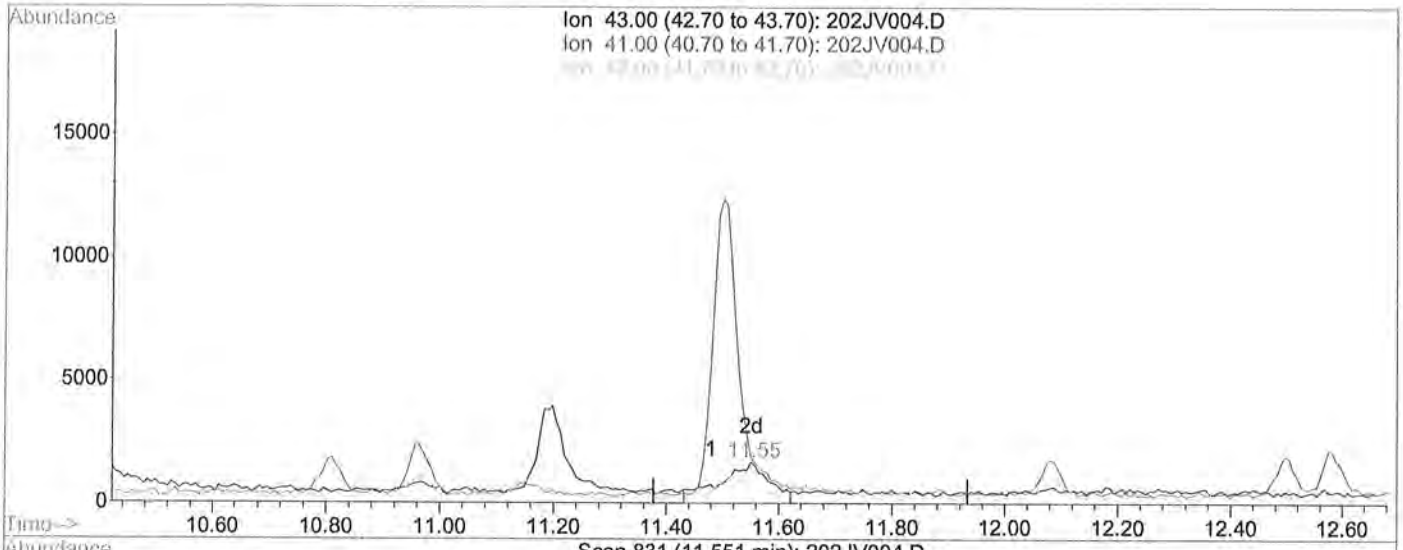
Ion	Exp%	Act%
43.00	100	100
41.00	1089.20	5705.86#
42.00	113.70	562.52#
0.00	0.00	0.00

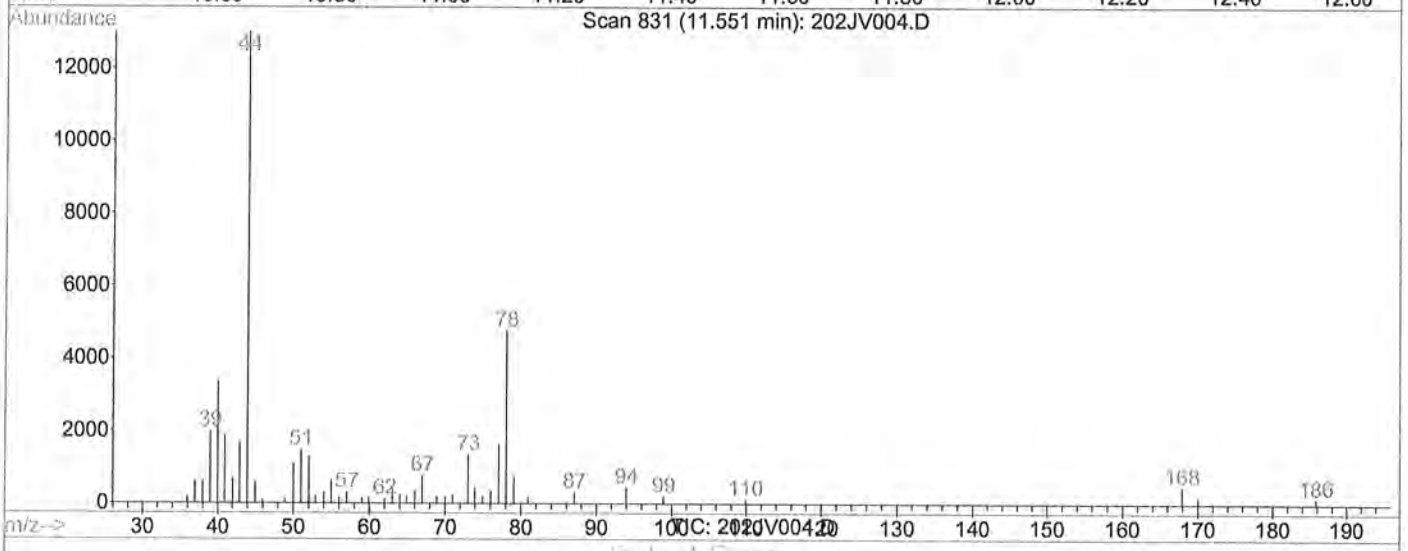
Reason Code:
[X] Missed Integration [ ] Manual Integration
Select reason for manual integration:
[ ] Poor detection (peak tailing, baseline selection)
[X] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date KW 10/28/20
Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\102720\202JV004.D Vial: 3
Acq On : 27 Oct 2020 11:37 am Operator: KKW
Sample : CAL2 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 15:02 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Oct 27 14:57:31 2020
Response via : Multiple Level Calibration





(43) Isobutyl Alcohol

11.55min 130.39ug/kg m

response 10270

Ion	Exp%	Act%
43.00	100	100
41.00	1089.20	379.46#
42.00	113.70	37.41#
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Dump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

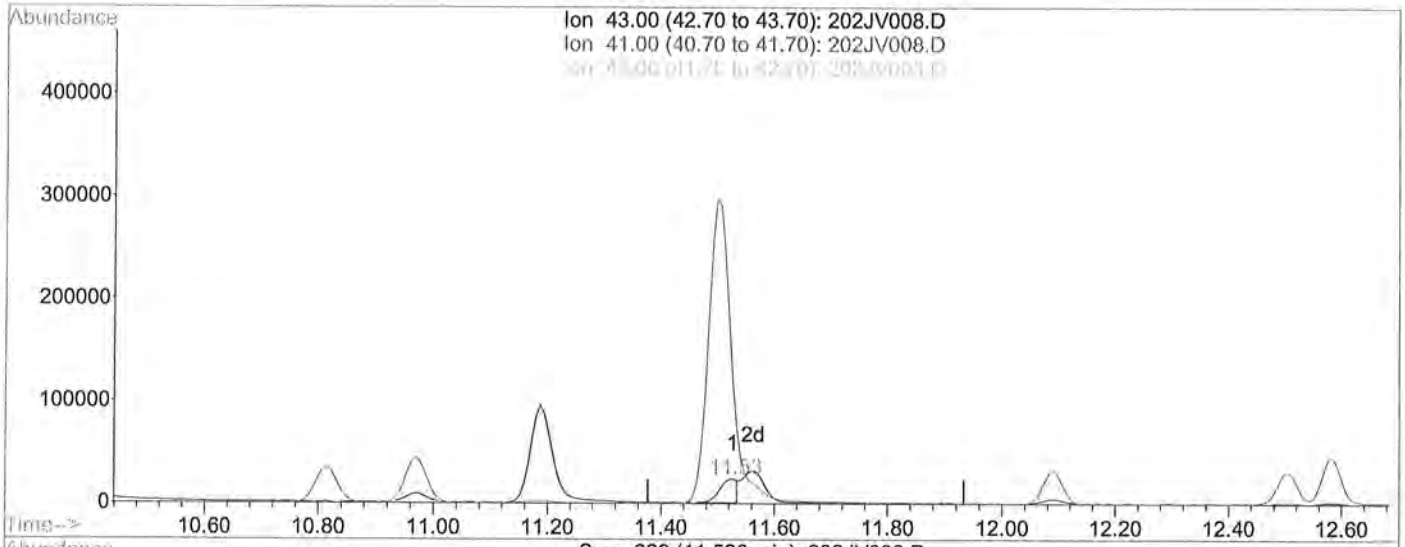
Review by/Date 11/5/20

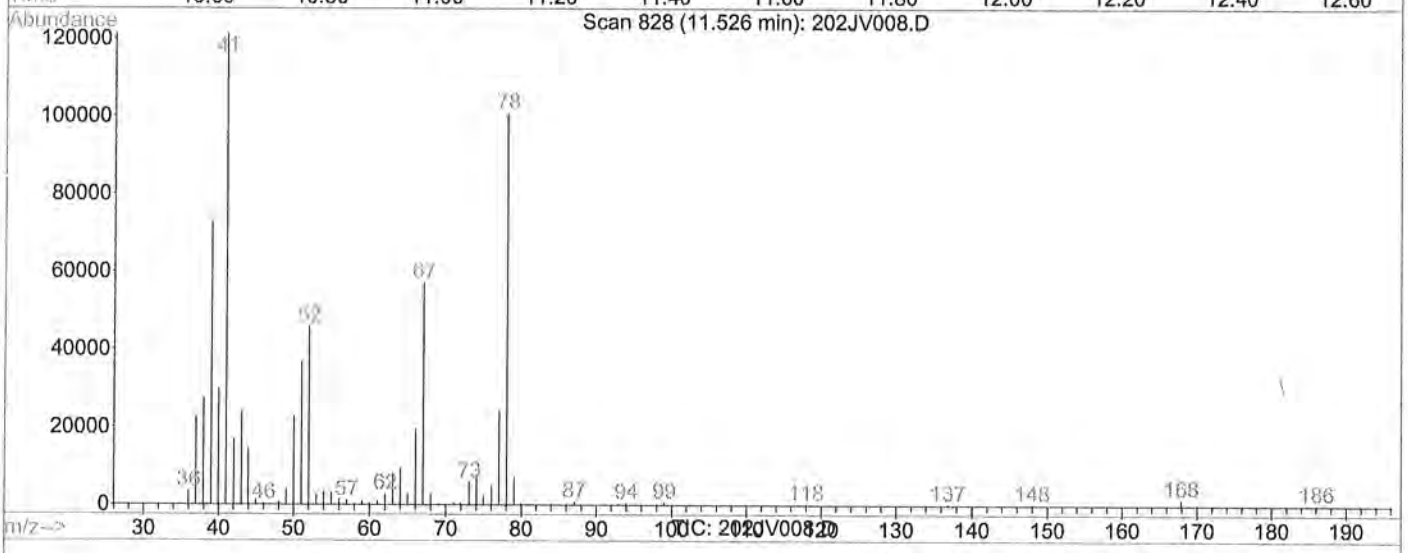
Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\102720\202JV008.D Vial: 7
Acq On : 27 Oct 2020 1:33 pm Operator: KKW
Sample : CAL6 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 13:55 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Oct 27 14:57:31 2020
Response via : Multiple Level Calibration





(43) Isobutyl Alcohol

11.53min 663.46ug/kg

response 50291

Ion	Exp%	Act%
43.00	100	100
41.00	1089.20	1715.87#
42.00	113.70	157.53#
0.00	0.00	0.00

X [ ] Manual Integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

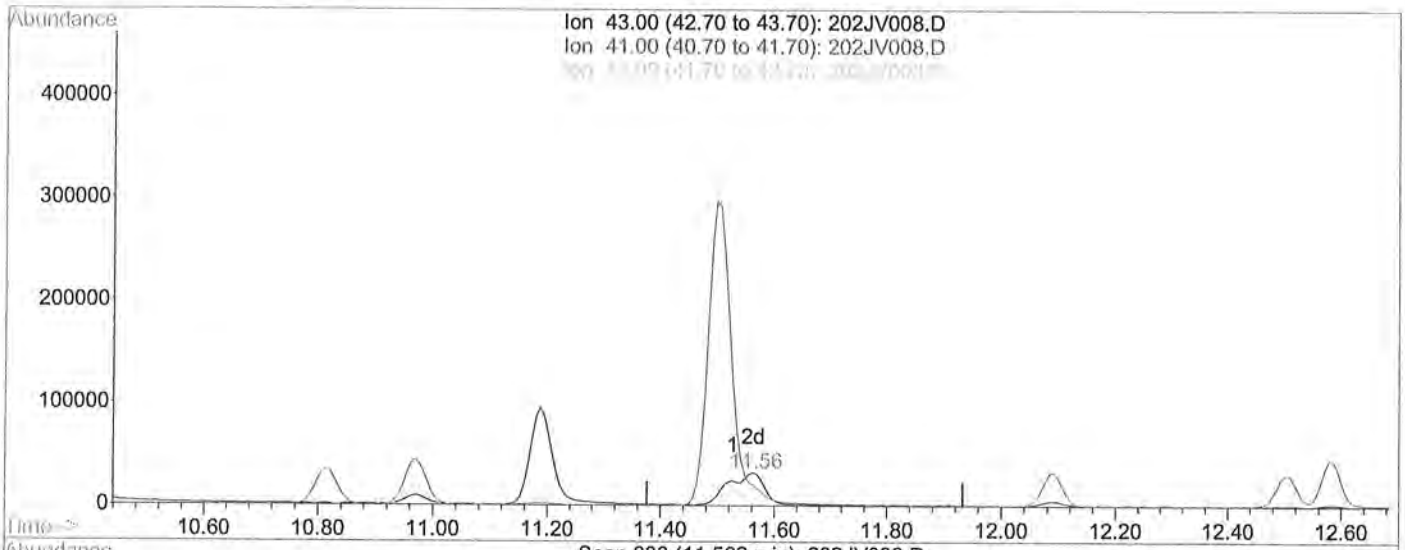
[ ] Other:

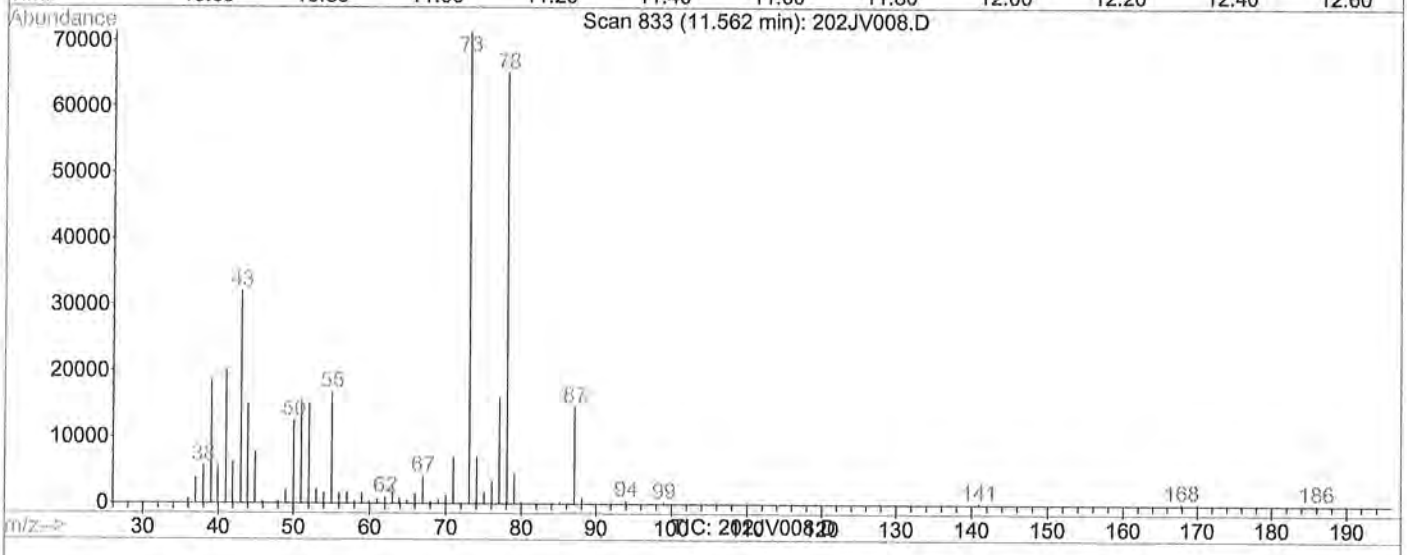
Review by/Date W 10/28/20

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\102720\202JV008.D Vial: 7
Acq On : 27 Oct 2020 1:33 pm Operator: KKW
Sample : CAL6 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 15:03 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Oct 27 14:57:31 2020
Response via : Multiple Level Calibration





(43) Isobutyl Alcohol

11.56min 1911.29ug/kg m

response 144877

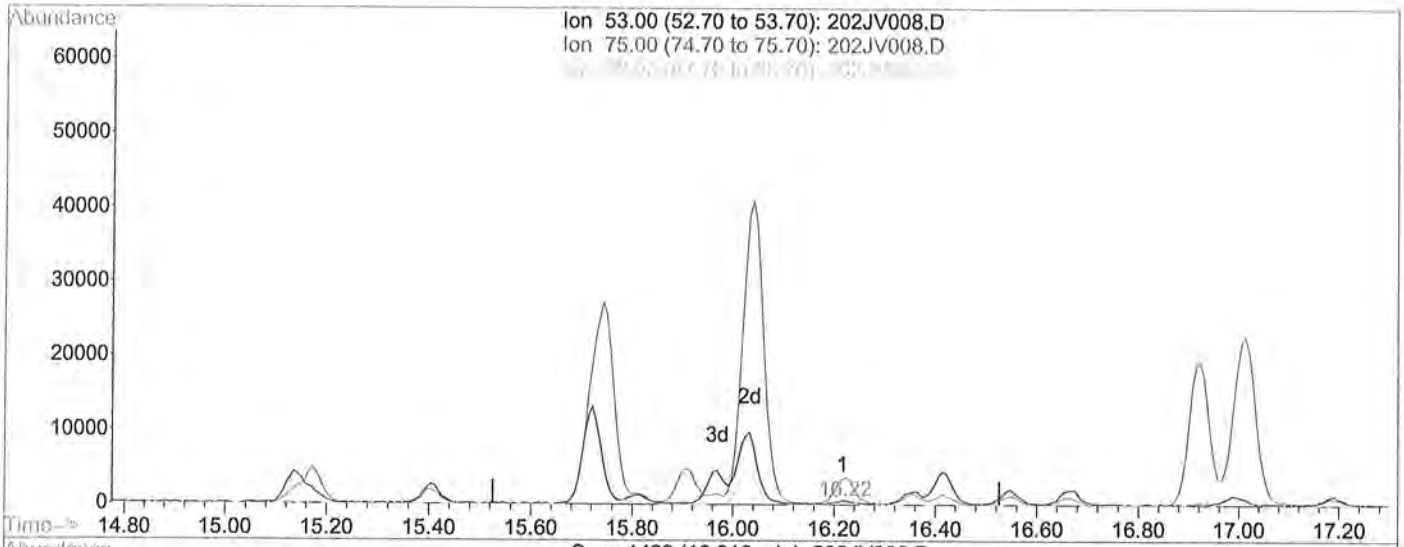
Ion	Exp%	Act%
43.00	100	100
41.00	1089.20	595.63#
42.00	113.70	54.68#
0.00	0.00	0.00

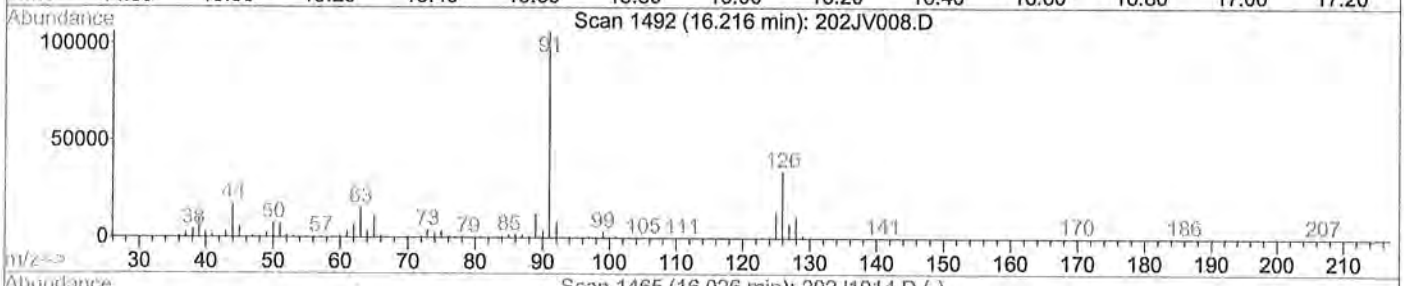
[ ] Original Integration [X] Manual Integration
Select reason for manual integration:
[X] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Dump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date KW 10/28/20
Review by/Date:

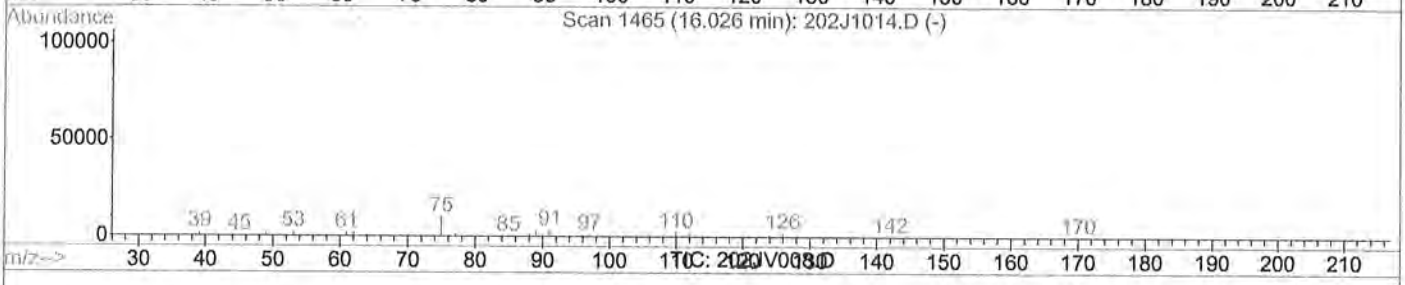
Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\102720\202JV008.D Vial: 7
Acq On : 27 Oct 2020 1:33 pm Operator: KKW
Sample : CAL6 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 15:03 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Oct 27 14:57:31 2020
Response via : Multiple Level Calibration







(77) T-1,4-dichloro-2-butene

16.22min 4.28ug/kg

response 1777

Ion	Exp%	Act%
53.00	100	100
75.00	607.90	604.84
88.00	56.60	60.83
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Human integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date 11/18/20

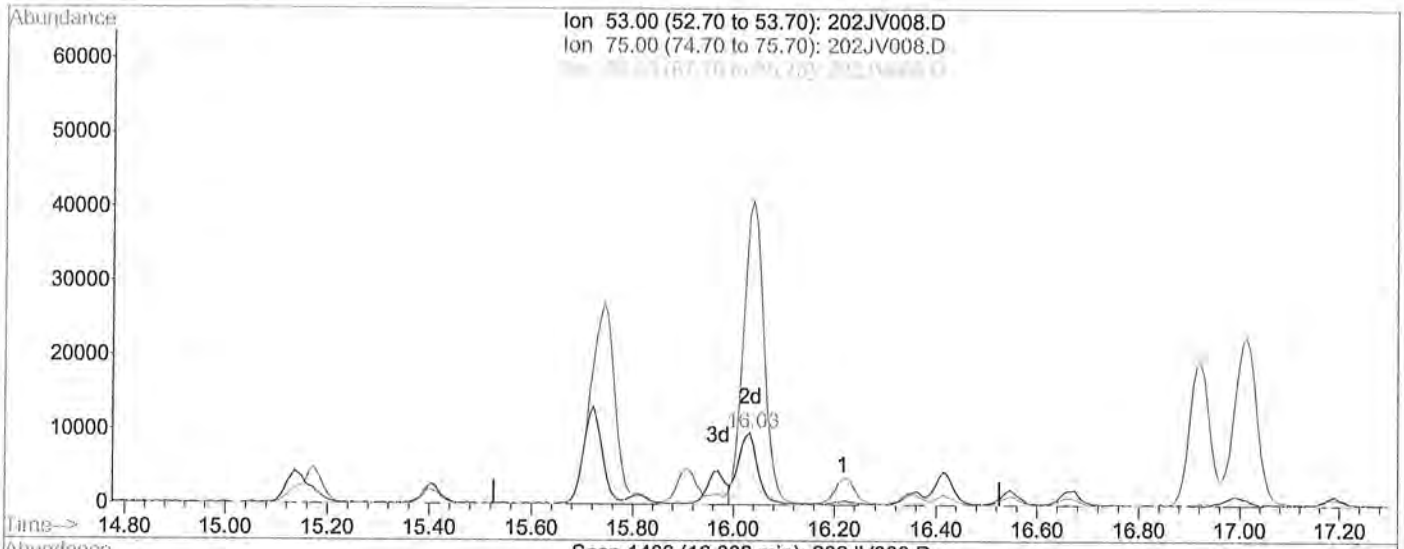
Review by/Date:

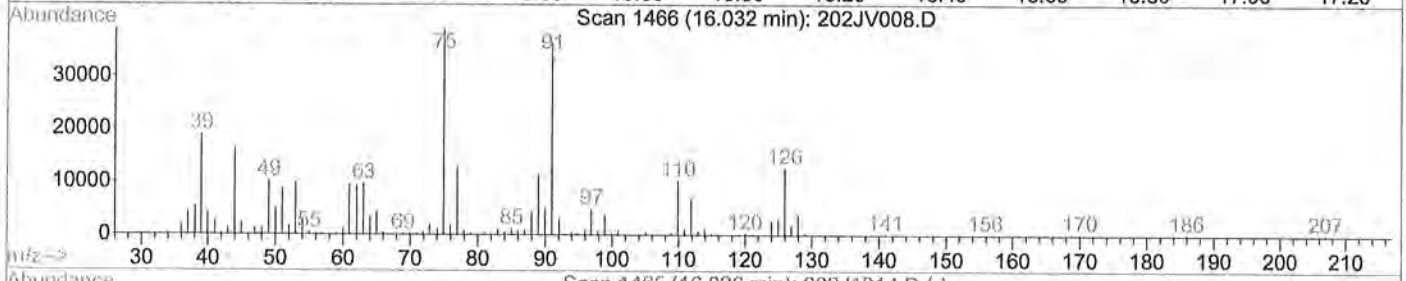
202JV008.D 102720.M Tue Oct 27 15:09:31 2020

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\102720\202JV008.D Vial: 7
Acq On : 27 Oct 2020 1:33 pm Operator: KKW
Sample : CAL6 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 15:09 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Oct 27 14:57:31 2020
Response via : Multiple Level Calibration





(77) T-1,4-dichloro-2-butene

16.03min 64.87ug/kg m

response 26958

Ion	Exp%	Act%
53.00	100	100
75.00	607.90	39.87#
88.00	56.60	4.01#
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Ramp integration

[ ] Baseline drop for split peaks

[ ] IS1D reintegration

[ ] Other:

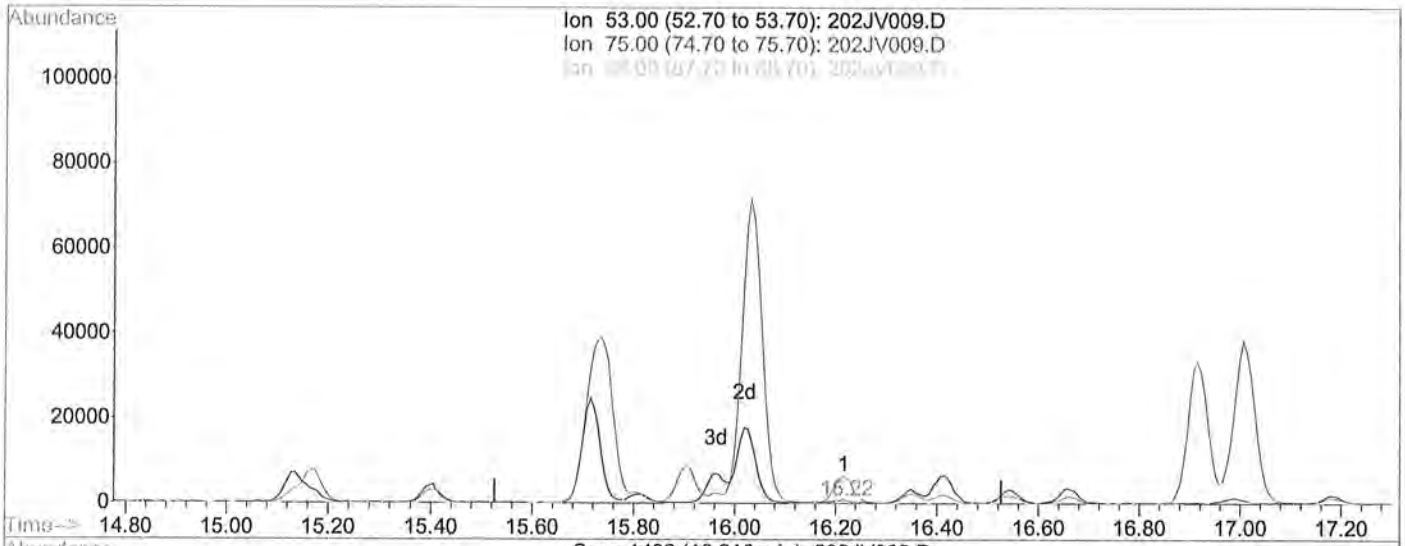
Review by/Date KW 10/28/20

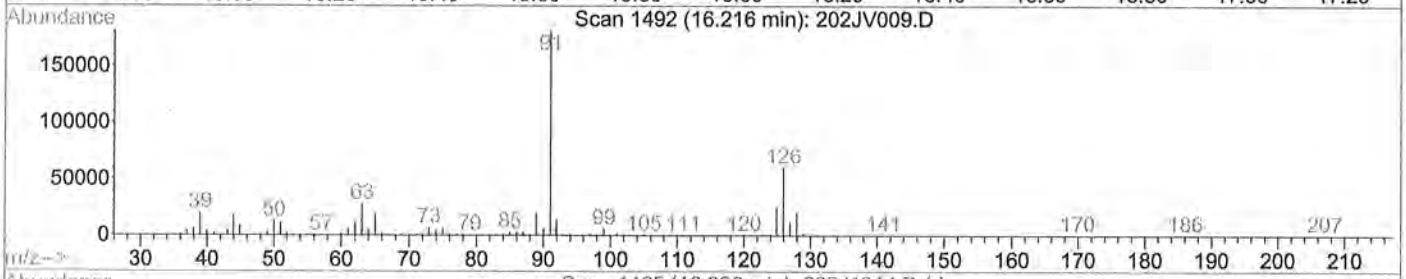
Review by/Date:

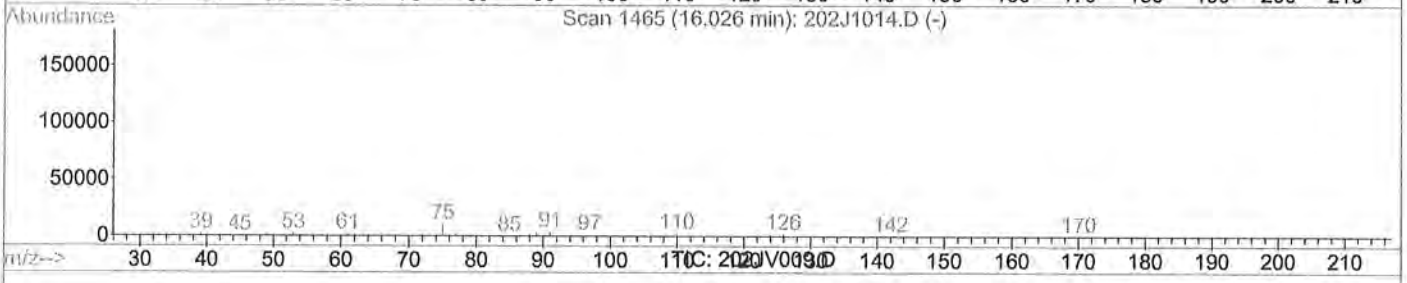
Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\102720\202JV009.D Vial: 8
Acq On : 27 Oct 2020 2:01 pm Operator: KKW
Sample : CAL7 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 14:24 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Oct 27 14:57:31 2020
Response via : Multiple Level Calibration







(77) T-1,4-dichloro-2-butene

16.22min 6.46ug/kg

response 2785

Ion	Exp%	Act%
53.00	100	100
75.00	607.90	612.17
88.00	56.60	60.29
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Peak resolution (peak tailing, baseline selection)

[X] Uncertain peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

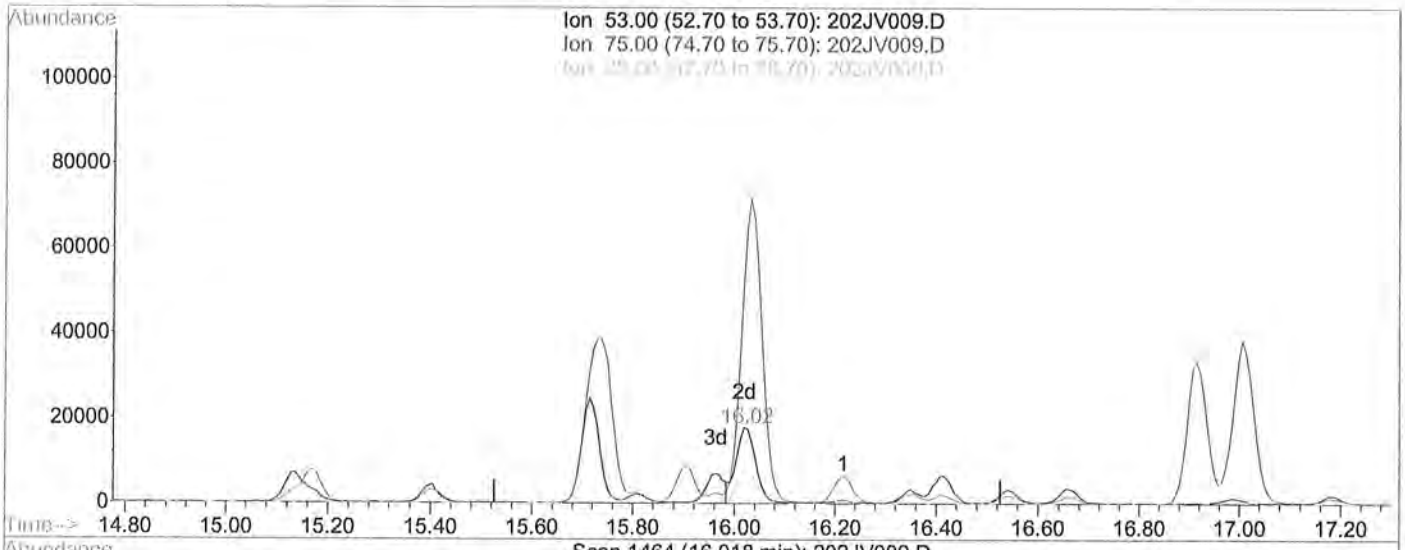
Review by/Date: W 10/28/20

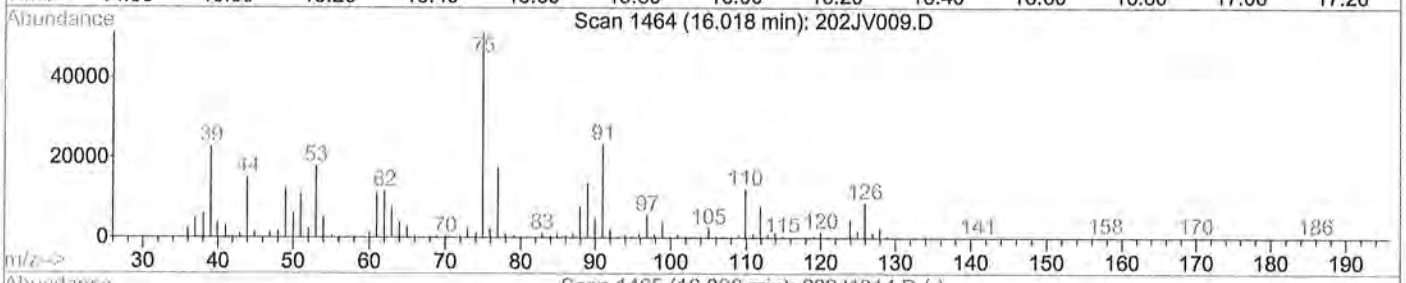
Review by/Date:

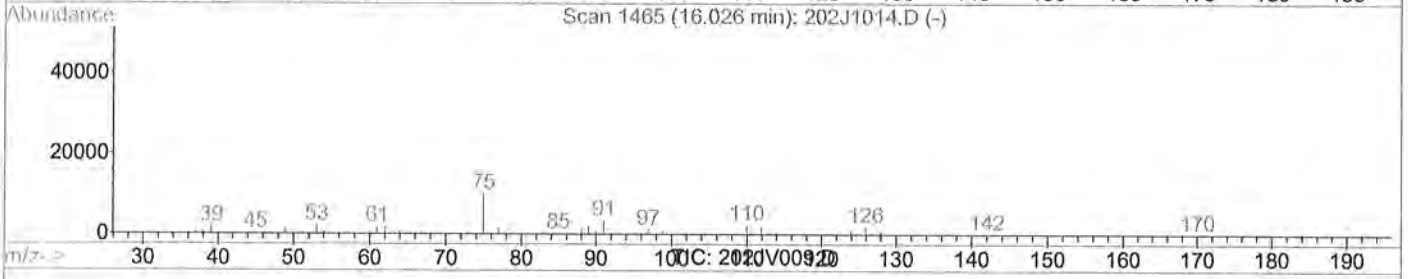
Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\102720\202JV009.D Vial: 8
Acq On : 27 Oct 2020 2:01 pm Operator: KKW
Sample : CAL7 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 15:10 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Oct 27 14:57:31 2020
Response via : Multiple Level Calibration







(77) T-1,4-dichloro-2-butene

16.02min 112.70ug/kg m

response 48621

Ion	Exp%	Act%
53.00	100	100
75.00	607.90	35.07#
88.00	56.60	3.45#
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] RT Reintegration

[ ] Other:

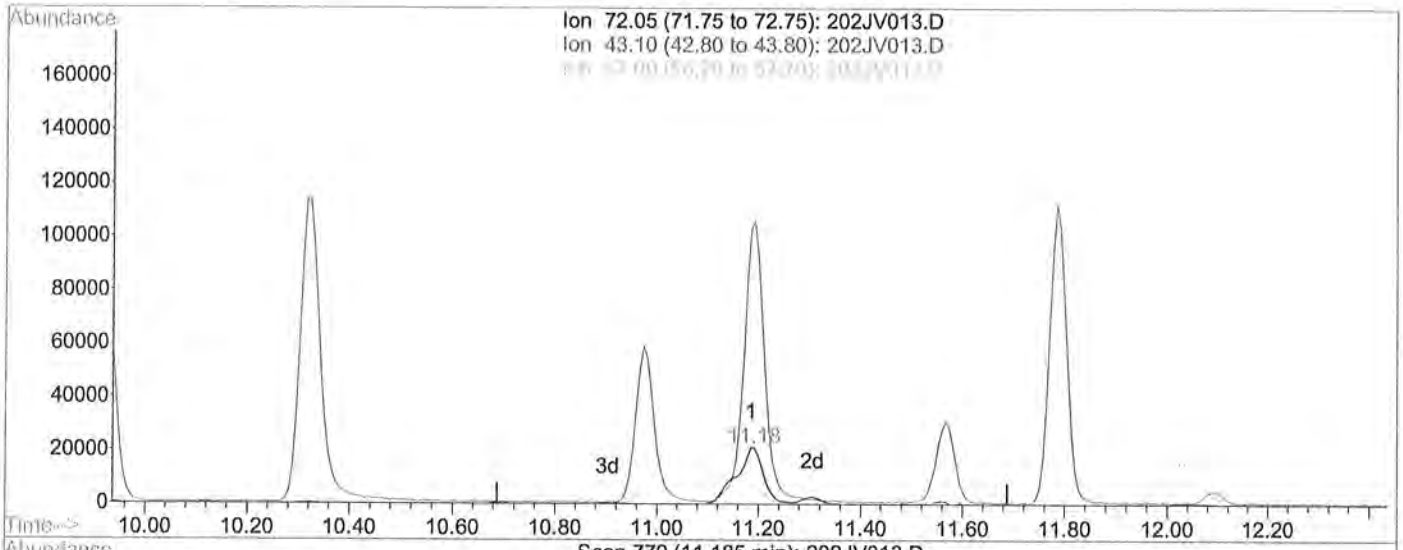
Review by/Date: W 10/28/20

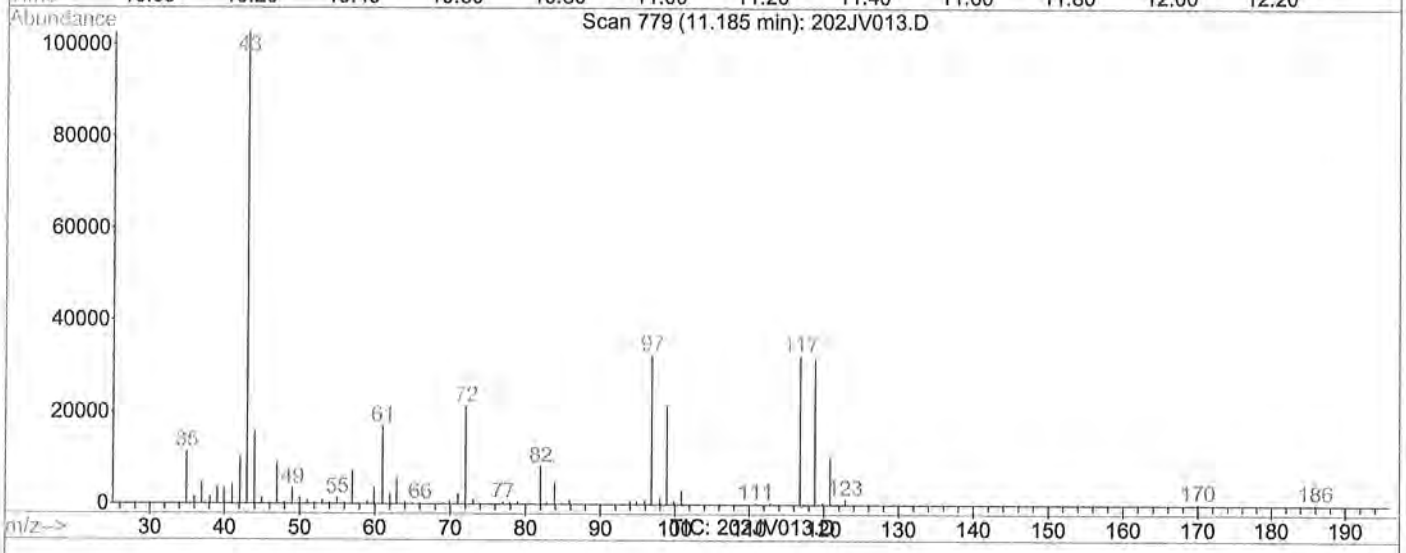
Review cy/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\102720\202JV013.D Vial: 12
Acq On : 27 Oct 2020 3:56 pm Operator: KKW
Sample : SCV1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 28 10:19 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Wed Oct 28 08:54:06 2020
Response via : Multiple Level Calibration





(25) 2-Butanone

11.18min 399.31ug/kg

response 78135

Ion	Exp%	Act%
72.05	100	100
43.10	533.80	382.25
57.00	33.60	24.52
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Horiz integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

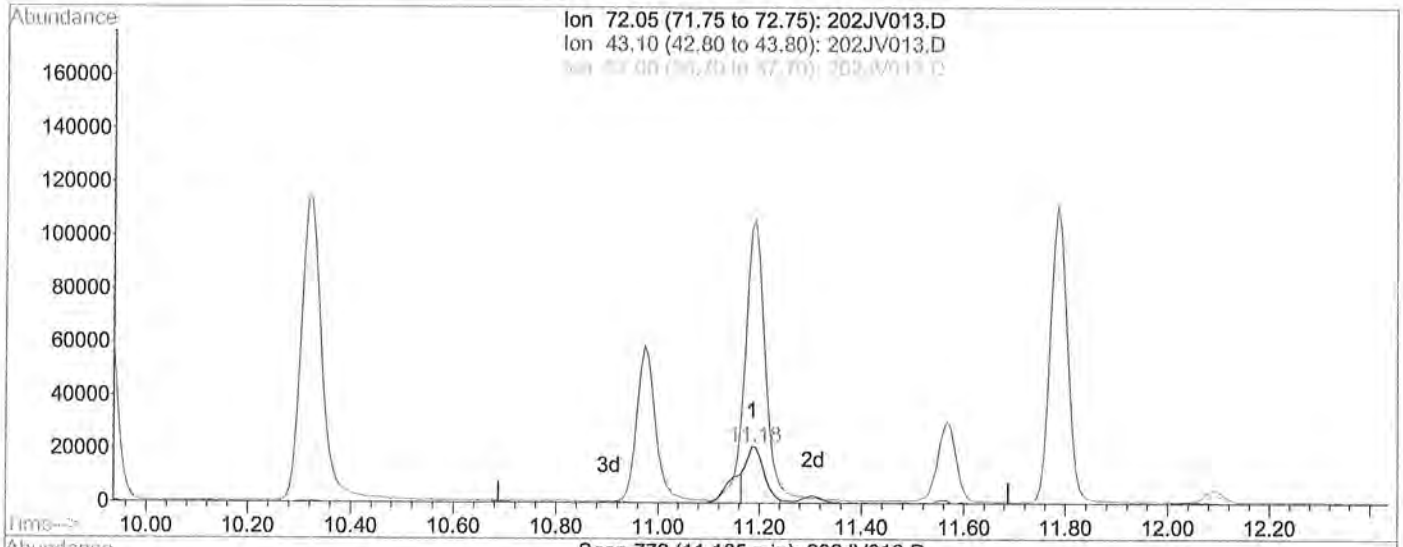
Review by/Date: W 10/28/20

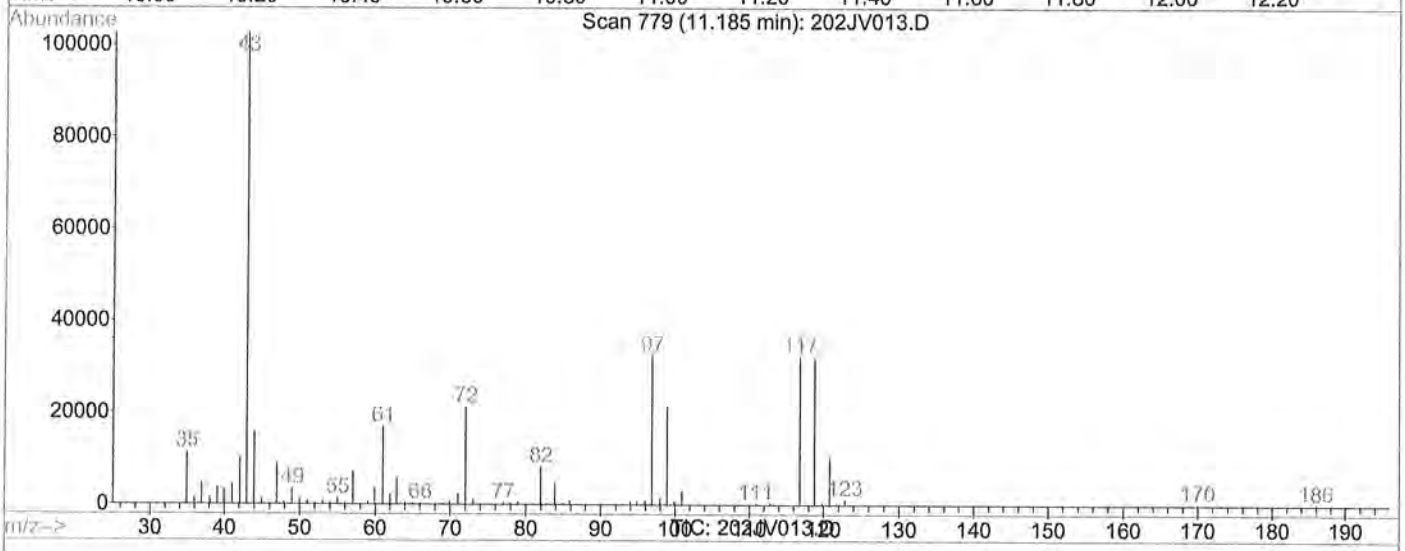
Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\102720\202JV013.D Vial: 12
Acq On : 27 Oct 2020 3:56 pm Operator: KKW
Sample : SCV1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 28 10:19 2020 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Wed Oct 28 08:54:06 2020
Response via : Multiple Level Calibration





(25) 2-Butanone

11.18min 272.18ug/kg m

response 53259

Ion	Exp%	Act%
72.05	100	100
43.10	533.80	560.79
57.00	33.60	35.98
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

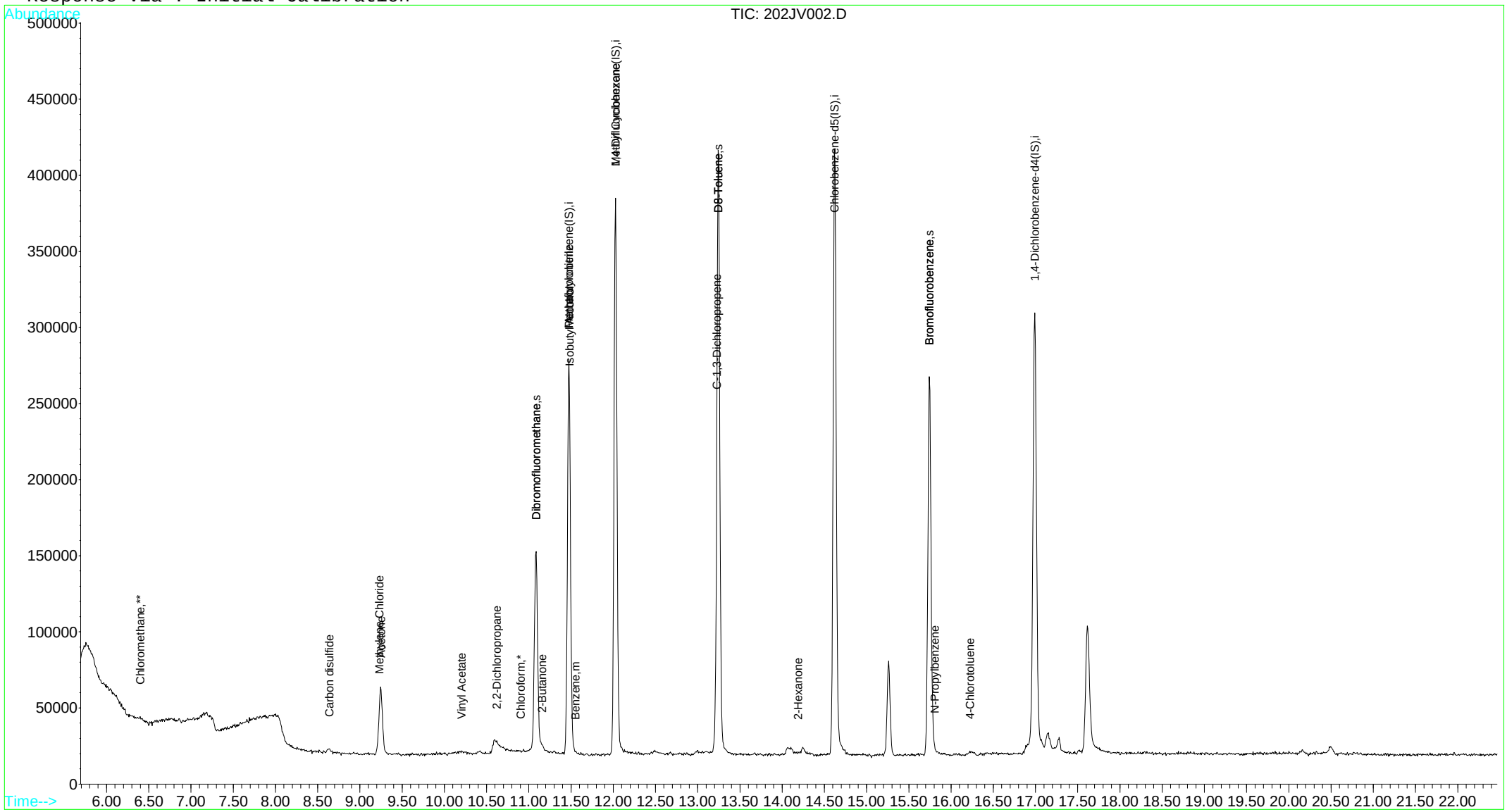
[ ] Other:

Review by/Date W 10/28/20

Quantitation Report

Data File : C:\HPCHEM\1\DATA\102720\202JV002.D Vial: 1
Acq On : 27 Oct 2020 10:29 am Operator: KKW
Sample : TUN1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 9:52 2020 Quant Results File: 100120.RES

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\102720\202JV002.D Vial: 1
Acq On : 27 Oct 2020 10:29 am Operator: KKW
Sample : TUN1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 9:52 2020 Quant Results File: 100120.RES

Quant Method : C:\HPCHEM\1\METHODS\100120.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010013
Last Update : Fri Oct 02 10:28:58 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.48	168	214942	50.00	ug/kg	0.00
38) 1,4-Difluorobenzene(IS)	12.03	114	371717	50.00	ug/kg	0.00
56) Chlorobenzene-d5(IS)	14.62	82	175530	50.00	ug/kg	0.00
79) 1,4-Dichlorobenzene-d4(IS)	16.99	152	125554	50.00	ug/kg	0.00
System Monitoring Compounds						
30) Dibromofluoromethane	11.09	113	104622	57.92	ug/kg	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 115.84%			
54) D8-Toluene	13.25	98	320195	45.72	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 146		Recovery = 91.44%			
75) Bromofluorobenzene	15.74	95	134779	48.89	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 142		Recovery = 97.78%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.		
3) Chloromethane	6.39	50	1446	0.49	ug/kg#	66
4) Vinyl Chloride	0.00	62	0	N.D.		
5) Bromomethane	0.00	96	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Trichlorofluoromethane	0.00	101	0	N.D.		
8) Trichlorotrifluoroethane	0.00	101	0	N.D.		
9) acrolein	0.00	56	0	N.D.		
10) Acetone	9.26	43	12120	27.86	ug/kg	86
11) 1,1-Dichloroethene	0.00	96	0	N.D.		
12) 3-Chloropropene	0.00	76	0	N.D.		
13) Acetonitrile	0.00	41	0	N.D.		
14) Iodomethane	0.00	142	0	N.D.		
15) Carbon disulfide	8.64	76	5681	0.96	ug/kg#	75
16) Methylene Chloride	9.22	84	1212	0.56	ug/kg#	81
17) Methyl tert-butyl ether	0.00	73	0	N.D.		
18) Acrylonitrile	0.00	53	0	N.D.		
19) T-1,2-Dichloroethene	0.00	96	0	N.D.		
20) Isopropyl Ether	0.00	45	0	N.D.		
21) C-1,2-Dichloroethene	0.00	96	0	N.D.		
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	10.21	43	601	0.13	ug/kg#	71
24) Chloroprene	0.00	88	0	N.D.		
25) 2-Butanone	11.17	72	1047	5.32	ug/kg#	1
26) Propionitrile	0.00	54	0	N.D.		
27) 2,2-Dichloropropane	10.61	77	1307	0.58	ug/kg#	1
28) Methacrylonitrile	11.48	67	1030	1.35	ug/kg	81
29) Chloroform	10.91	83	723	0.24	ug/kg#	1
31) Dibromofluoromethane	11.09	113	104622	57.92	ug/kg	100
32) Bromochloromethane	0.00	128	0	N.D.		
33) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
34) 1,1-Dichloropropene	0.00	75	0	N.D.		
35) Diethyl Ether	0.00	59	0	N.D.		
36) Methyl Acetate	0.00	74	0	N.D.		
37) Cyclohexane	0.00	56	0	N.D.		
39) Methyl Cyclohexane	12.02	55	1667	0.78	ug/kg#	1
40) Carbon Tetrachloride	0.00	117	0	N.D.		
41) 1,2-Dichloroethane	0.00	62	0	N.D.		
42) Benzene	11.55	78	1387	0.16	ug/kg#	27
43) Isobutyl Alcohol	11.49	43	1339	19.62	ug/kg#	1
44) Trichloroethene	0.00	130	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Methyl Methacrylate	0.00	100	0	N.D.		
47) 1,4-Dioxane	0.00	88	0	N.D.		
48) Bromodichloromethane	0.00	83	0	N.D.		
49) Dibromomethane	0.00	93	0	N.D.		
50) 4-Methyl-2-Pentanone	0.00	100	0	N.D.		
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	14.19	43	2428	1.78	ug/kg#	37

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\102720\202JV002.D Vial: 1
Acq On : 27 Oct 2020 10:29 am Operator: KKW
Sample : TUN1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 9:52 2020 Quant Results File: 100120.RES

Quant Method : C:\HPCHEM\1\METHODS\100120.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010013
Last Update : Fri Oct 02 10:28:58 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

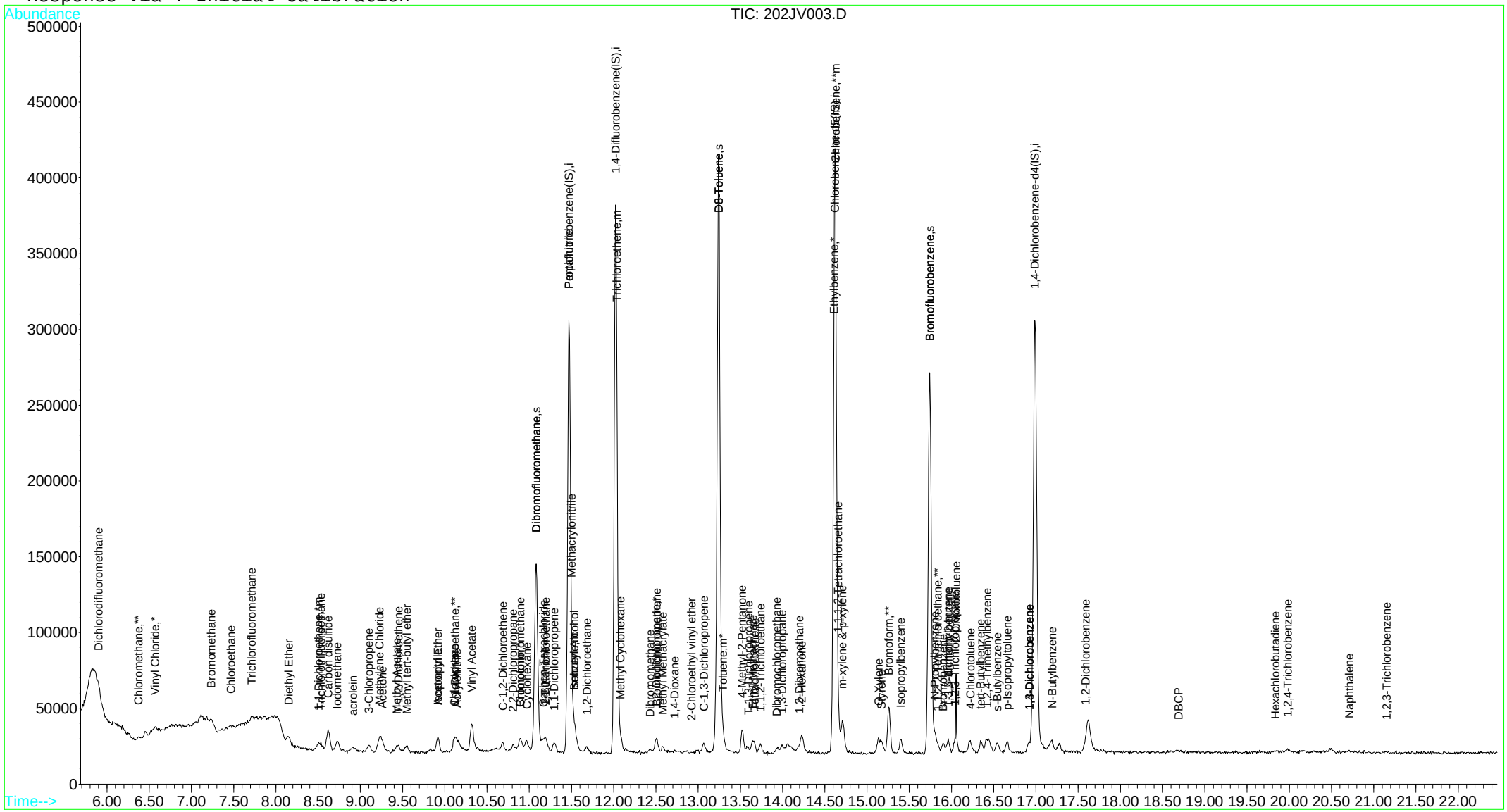
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	13.22	75	1084	0.31 ug/kg#	62
55) D8-Toluene	13.25	98	320195	45.72 ug/kg	92
57) Toluene	0.00	92	0	N.D.	
58) Ethyl Methacrylate	0.00	69	0	N.D.	
59) T-1,3-Dichloropropene	0.00	75	0	N.D.	
60) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
61) 1,3-Dichloropropane	0.00	76	0	N.D.	
62) Tetrachloroethene	0.00	164	0	N.D.	
63) Dibromochloromethane	0.00	129	0	N.D.	
64) 1,2-Dibromoethane	0.00	107	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
67) Ethylbenzene	0.00	106	0	N.D.	
68) m-xylene & p-xylene	0.00	106	0	N.D.	
69) O-Xylene	0.00	106	0	N.D.	
70) Bromoform	0.00	173	0	N.D.	
71) Styrene	0.00	104	0	N.D.	
72) Isopropylbenzene	0.00	105	0	N.D.	
73) 1,2,3-Trichloropropane	0.00	75	0	N.D.	
74) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
76) Bromofluorobenzene	15.74	95	134779	48.89 ug/kg#	81
77) T-1,4-dichloro-2-butene	0.00	53	0	N.D.	
78) N-Propylbenzene	15.81	91	998	0.10 ug/kg#	52
80) Bromobenzene	0.00	156	0	N.D.	
81) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
82) 2-Chlorotoluene	0.00	91	0	N.D.	
83) 4-Chlorotoluene	16.22	91	853	0.19 ug/kg#	38
84) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.	
85) s-Butylbenzene	0.00	105	0	N.D.	
86) tert-Butylbenzene	0.00	119	0	N.D.	
87) p-Isopropyltoluene	0.00	119	0	N.D.	
88) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
89) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) N-Butylbenzene	0.00	91	0	N.D.	
92) DBCP	0.00	75	0	N.D.	
93) Naphthalene	0.00	128	0	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Hexachlorobutadiene	0.00	225	0	N.D.	
96) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\102720\202JV003.D Vial: 2
Acq On : 27 Oct 2020 11:08 am Operator: KKW
Sample : CAL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 13:46 2020 Quant Results File: 102720.RES

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\102720\202JV003.D Vial: 2
Acq On : 27 Oct 2020 11:08 am Operator: KKW
Sample : CAL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 13:46 2020 Quant Results File: 102720.RES

Quant Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Oct 27 11:31:37 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.47	168	220833	50.00	ug/kg	-0.01
38) 1,4-Difluorobenzene(IS)	12.02	114	365586	50.00	ug/kg	-0.01
56) Chlorobenzene-d5(IS)	14.62	82	171058	50.00	ug/kg	0.00
79) 1,4-Dichlorobenzene-d4(IS)	16.99	152	122001	50.00	ug/kg	-0.01
System Monitoring Compounds						
30) Dibromofluoromethane	11.08	113	100425	54.11	ug/kg	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 108.22%			
54) D8-Toluene	13.24	98	313353	45.50	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 146		Recovery = 91.00%			
75) Bromofluorobenzene	15.74	95	136475	50.80	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 142		Recovery = 101.60%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.91	85	3517	1.54	ug/kg#	83
3) Chloromethane	6.38	50	5365	1.82	ug/kg#	74
4) Vinyl Chloride	6.57	62	3671	1.57	ug/kg#	71
5) Bromomethane	7.24	96	1685	1.14	ug/kg#	75
6) Chloroethane	7.47	64	2870	1.95	ug/kg	93
7) Trichlorofluoromethane	7.71	101	3665	1.87	ug/kg	91
8) Trichlorotrifluoroethane	8.53	101	2043	1.16	ug/kg	72
9) acrolein	8.91	56	4441	12.17	ug/kg	94
10) Acetone	9.27	43	10454	21.77	ug/kg	99
11) 1,1-Dichloroethene	8.50	96	2552	1.45	ug/kg	90
12) 3-Chloropropene	9.09	76	1832	1.56	ug/kg	96
13) Acetonitrile	9.91	41	2961	13.45	ug/kg	61
14) Iodomethane	8.73	142	11486	6.91	ug/kg	84
15) Carbon disulfide	8.62	76	28746	4.73	ug/kg	99
16) Methylene Chloride	9.22	84	3662	1.43	ug/kg#	77
17) Methyl tert-butyl ether	9.54	73	5095	1.61	ug/kg	95
18) Acrylonitrile	10.15	53	13864	14.98	ug/kg	97
19) T-1,2-Dichloroethene	9.45	96	2534	1.28	ug/kg	82
20) Isopropyl Ether	9.92	45	12395	1.74	ug/kg#	81
21) C-1,2-Dichloroethene	10.68	96	2883	1.36	ug/kg#	75
22) 1,1-Dichloroethane	10.12	63	5779	1.78	ug/kg#	68
23) Vinyl Acetate	10.32	43	37058	7.69	ug/kg	93
24) Chloroprene	10.11	88	1983	1.08	ug/kg#	37
25) 2-Butanone	11.19	72	2434	11.45	ug/kg#	66
26) Propionitrile	11.47	54	3971	16.39	ug/kg	100
27) 2,2-Dichloropropane	10.81	77	3460	1.50	ug/kg#	9
28) Methacrylonitrile	11.51	67	11970	15.22	ug/kg	72
29) Chloroform	10.90	83	4850	1.55	ug/kg	85
31) Dibromofluoromethane	11.08	113	100425	54.11	ug/kg	100
32) Bromochloromethane	10.89	128	1482	1.22	ug/kg#	56
33) 1,1,1-Trichloroethane	11.20	97	3173	1.46	ug/kg	89
34) 1,1-Dichloropropene	11.29	75	3573	1.45	ug/kg	74
35) Diethyl Ether	8.15	59	2943	1.75	ug/kg	100
36) Methyl Acetate	9.42	74	725m	2.23	ug/kg	
37) Cyclohexane	10.97	56	3554	1.34	ug/kg	90
39) Methyl Cyclohexane	12.08	55	2677	1.28	ug/kg	82
40) Carbon Tetrachloride	11.17	117	2865	1.22	ug/kg	91
41) 1,2-Dichloroethane	11.68	62	3426	1.64	ug/kg#	70
42) Benzene	11.54	78	9658	1.17	ug/kg	73
43) Isobutyl Alcohol	11.54	43	3375	41.78	ug/kg#	27
44) Trichloroethene	12.04	130	2270	0.95	ug/kg#	1
45) 1,2-Dichloropropane	12.49	63	3378	1.59	ug/kg	90
46) Methyl Methacrylate	12.59	100	685	1.05	ug/kg	70
47) 1,4-Dioxane	12.72	88	500m	26.59	ug/kg	
48) Bromodichloromethane	12.51	83	3512	1.41	ug/kg#	89
49) Dibromomethane	12.43	93	1771	1.31	ug/kg#	79
50) 4-Methyl-2-Pentanone	13.53	100	2206	6.51	ug/kg	69
51) 2-Chloroethyl vinyl ether	12.93	63	152m	21.41	ug/kg	
52) 2-Hexanone	14.23	43	10836	8.09	ug/kg#	89

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\102720\202JV003.D Vial: 2
Acq On : 27 Oct 2020 11:08 am Operator: KKW
Sample : CAL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 13:46 2020 Quant Results File: 102720.RES

Quant Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Oct 27 11:31:37 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

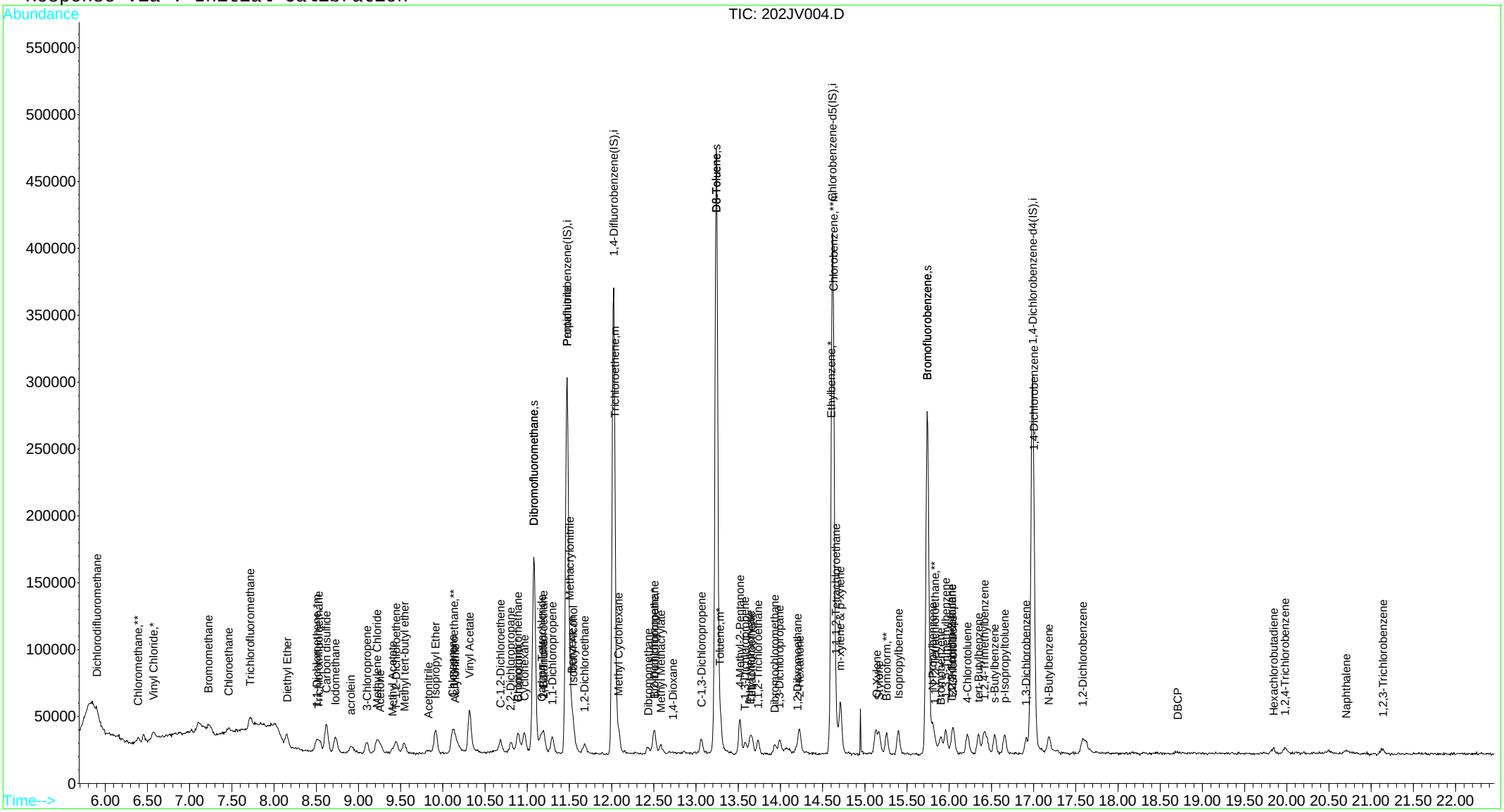
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.06	75	4298	1.23	ug/kg	78
55) D8-Toluene	13.24	98	313353	45.50	ug/kg	92
57) Toluene	13.30	92	5570	1.06	ug/kg	96
58) Ethyl Methacrylate	13.64	69	4000	1.39	ug/kg#	81
59) T-1,3-Dichloropropene	13.59	75	3345	1.14	ug/kg	88
60) 1,1,2-Trichloroethane	13.74	97	2166	1.18	ug/kg	89
61) 1,3-Dichloropropane	13.99	76	4389	1.25	ug/kg	89
62) Tetrachloroethene	13.67	164	1560	0.86	ug/kg	91
63) Dibromochloromethane	13.93	129	2640	1.14	ug/kg#	85
64) 1,2-Dibromoethane	14.19	107	2251	1.11	ug/kg#	99
65) Chlorobenzene	14.63	112	5766	1.00	ug/kg#	53
66) 1,1,1,2-Tetrachloroethane	14.66	131	2186	1.06	ug/kg#	1
67) Ethylbenzene	14.60	106	2533	0.90	ug/kg#	60
68) m-xylene & p-xylene	14.71	106	6714	1.93	ug/kg	96
69) O-Xylene	15.14	106	3339	0.96	ug/kg	76
70) Bromoform	15.26	173	1357	0.90	ug/kg#	96
71) Styrene	15.18	104	6312	1.01	ug/kg	94
72) Isopropylbenzene	15.40	105	8276	1.02	ug/kg	96
73) 1,2,3-Trichloropropane	16.04	75	2987	1.14	ug/kg	89
74) 1,1,2,2-Tetrachloroethane	15.84	83	2478	1.05	ug/kg#	89
76) Bromofluorobenzene	15.74	95	136475	50.80	ug/kg#	80
77) T-1,4-dichloro-2-butene	15.95	53	621	1.45	ug/kg#	1
78) N-Propylbenzene	15.81	91	9278	0.98	ug/kg	96
80) Bromobenzene	15.91	156	2185	1.12	ug/kg#	73
81) 1,3,5-Trimethylbenzene	15.96	105	6263	1.38	ug/kg	93
82) 2-Chlorotoluene	16.05	91	6474	1.55	ug/kg	86
83) 4-Chlorotoluene	16.22	91	6505	1.50	ug/kg	90
84) 1,2,4-Trimethylbenzene	16.41	105	6649	1.45	ug/kg	96
85) s-Butylbenzene	16.54	105	7187	1.32	ug/kg	98
86) tert-Butylbenzene	16.35	119	5356	1.32	ug/kg	96
87) p-Isopropyltoluene	16.66	119	6289	1.32	ug/kg	91
88) 1,3-Dichlorobenzene	16.92	146	3699	1.12	ug/kg	90
89) 1,4-Dichlorobenzene	16.92	146	3699	1.07	ug/kg	89
90) 1,2-Dichlorobenzene	17.58	146	3104	1.00	ug/kg	87
91) N-Butylbenzene	17.18	91	5626	1.51	ug/kg	90
92) DBCP	18.69	75	472m	2.49	ug/kg	
93) Naphthalene	20.71	128	2378	1.09	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.99	180	1378	1.02	ug/kg#	85
95) Hexachlorobutadiene	19.83	225	533m	0.95	ug/kg	
96) 1,2,3-Trichlorobenzene	21.15	180	862	0.87	ug/kg#	78

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\102720\202JV004.D Vial: 3
Acq On : 27 Oct 2020 11:37 am Operator: KKW
Sample : CAL2 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 14:02 2020 Quant Results File: 102720.RES

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\102720\202JV004.D Vial: 3
Acq On : 27 Oct 2020 11:37 am Operator: KKW
Sample : CAL2 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 14:02 2020 Quant Results File: 102720.RES

Quant Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Oct 27 11:31:37 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.47	168	214358	50.00	ug/kg	-0.01
38) 1,4-Difluorobenzene(IS)	12.02	114	356422	50.00	ug/kg	-0.01
56) Chlorobenzene-d5(IS)	14.62	82	167334	50.00	ug/kg	-0.01
79) 1,4-Dichlorobenzene-d4(IS)	16.99	152	117342	50.00	ug/kg	-0.01
System Monitoring Compounds						
30) Dibromofluoromethane	11.08	113	120058	66.64	ug/kg	-0.01
Spiked Amount 50.000	Range 53 - 146		Recovery = 133.28%			
54) D8-Toluene	13.24	98	361610	53.85	ug/kg	-0.01
Spiked Amount 50.000	Range 41 - 146		Recovery = 107.70%			
75) Bromofluorobenzene	15.74	95	137836	52.45	ug/kg	-0.01
Spiked Amount 50.000	Range 41 - 142		Recovery = 104.90%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.91	85	7810	3.51	ug/kg#	92
3) Chloromethane	6.39	50	11312	3.95	ug/kg	93
4) Vinyl Chloride	6.57	62	8331	3.67	ug/kg	98
5) Bromomethane	7.23	96	4403	3.06	ug/kg	90
6) Chloroethane	7.45	64	4797	3.36	ug/kg	73
7) Trichlorofluoromethane	7.72	101	9041	4.76	ug/kg	96
8) Trichlorotrifluoroethane	8.54	101	4376	2.55	ug/kg	84
9) acrolein	8.92	56	8383	23.67	ug/kg	98
10) Acetone	9.26	43	11108	23.83	ug/kg	98
11) 1,1-Dichloroethene	8.51	96	4513	2.64	ug/kg	80
12) 3-Chloropropene	9.11	76	3019	2.65	ug/kg	90
13) Acetonitrile	9.83	41	4904	22.94	ug/kg	89
14) Iodomethane	8.73	142	19159	11.87	ug/kg	79
15) Carbon disulfide	8.62	76	46159	7.82	ug/kg	99
16) Methylene Chloride	9.22	84	6182	2.48	ug/kg#	79
17) Methyl tert-butyl ether	9.54	73	9561	3.12	ug/kg	82
18) Acrylonitrile	10.15	53	25583	28.48	ug/kg	96
19) T-1,2-Dichloroethene	9.45	96	5106	2.66	ug/kg	86
20) Isopropyl Ether	9.91	45	22932	3.32	ug/kg#	84
21) C-1,2-Dichloroethene	10.69	96	5240	2.54	ug/kg#	78
22) 1,1-Dichloroethane	10.12	63	10269	3.26	ug/kg#	67
23) Vinyl Acetate	10.31	43	65212	13.94	ug/kg	90
24) Chloroprene	10.11	88	3752	2.10	ug/kg	46
25) 2-Butanone	11.19	72	2797	13.55	ug/kg	85
26) Propionitrile	11.47	54	5772	24.55	ug/kg	100
27) 2,2-Dichloropropane	10.80	77	6933	3.09	ug/kg	85
28) Methacrylonitrile	11.51	67	20111	26.35	ug/kg	80
29) Chloroform	10.90	83	9558	3.15	ug/kg	86
31) Dibromofluoromethane	11.08	113	120058	66.64	ug/kg	100
32) Bromochloromethane	10.89	128	2853	2.42	ug/kg#	62
33) 1,1,1-Trichloroethane	11.20	97	6565	3.12	ug/kg	99
34) 1,1-Dichloropropene	11.30	75	6821	2.85	ug/kg	95
35) Diethyl Ether	8.15	59	4987	3.06	ug/kg	95
36) Methyl Acetate	9.40	74	1183	3.75	ug/kg#	74
37) Cyclohexane	10.96	56	9370	3.63	ug/kg#	83
39) Methyl Cyclohexane	12.09	55	5420	2.66	ug/kg#	78
40) Carbon Tetrachloride	11.16	117	6762	2.94	ug/kg	96
41) 1,2-Dichloroethane	11.68	62	6687	3.29	ug/kg	87
42) Benzene	11.54	78	19869	2.46	ug/kg	87
43) Isobutyl Alcohol	11.55	43	10270m	130.39	ug/kg	
44) Trichloroethene	12.05	130	4536	1.96	ug/kg#	1
45) 1,2-Dichloropropane	12.50	63	5263	2.55	ug/kg	79
46) Methyl Methacrylate	12.59	100	1198	1.89	ug/kg#	58
47) 1,4-Dioxane	12.72	88	740	40.36	ug/kg#	15
48) Bromodichloromethane	12.51	83	6716	2.77	ug/kg	99
49) Dibromomethane	12.43	93	3427	2.60	ug/kg#	74
50) 4-Methyl-2-Pentanone	13.52	100	3373	10.21	ug/kg	58
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	14.23	43	17010	13.02	ug/kg	97

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\102720\202JV004.D Vial: 3
Acq On : 27 Oct 2020 11:37 am Operator: KKW
Sample : CAL2 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 14:02 2020 Quant Results File: 102720.RES

Quant Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Oct 27 11:31:37 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.06	75	8451	2.48	ug/kg	84
55) D8-Toluene	13.24	98	361610	53.85	ug/kg	93
57) Toluene	13.29	92	10517	2.05	ug/kg	96
58) Ethyl Methacrylate	13.63	69	7024	2.50	ug/kg#	87
59) T-1,3-Dichloropropene	13.58	75	6419	2.25	ug/kg	83
60) 1,1,2-Trichloroethane	13.74	97	3887	2.17	ug/kg	94
61) 1,3-Dichloropropane	13.99	76	8230	2.40	ug/kg	99
62) Tetrachloroethene	13.66	164	3079	1.74	ug/kg	91
63) Dibromochloromethane	13.94	129	5075	2.24	ug/kg#	85
64) 1,2-Dibromoethane	14.19	107	4110	2.07	ug/kg#	94
65) Chlorobenzene	14.64	112	11243	2.00	ug/kg#	72
66) 1,1,1,2-Tetrachloroethane	14.67	131	4121	2.04	ug/kg#	1
67) Ethylbenzene	14.59	106	5636	2.04	ug/kg	91
68) m-xylene & p-xylene	14.71	106	13746	4.05	ug/kg	95
69) O-Xylene	15.13	106	6699	1.97	ug/kg	84
70) Bromoform	15.26	173	2475	1.68	ug/kg#	93
71) Styrene	15.17	104	11878	1.94	ug/kg	93
72) Isopropylbenzene	15.40	105	16727	2.10	ug/kg	94
73) 1,2,3-Trichloropropane	16.03	75	5639	2.20	ug/kg	94
74) 1,1,2,2-Tetrachloroethane	15.84	83	4895	2.13	ug/kg#	92
76) Bromofluorobenzene	15.74	95	137836	52.45	ug/kg#	81
77) T-1,4-dichloro-2-butene	16.02	53	1358	3.25	ug/kg#	37
78) N-Propylbenzene	15.80	91	20303	2.19	ug/kg	89
80) Bromobenzene	15.90	156	3973	2.12	ug/kg#	72
81) 1,3,5-Trimethylbenzene	15.96	105	12685	2.92	ug/kg	93
82) 2-Chlorotoluene	16.05	91	11527	2.87	ug/kg	96
83) 4-Chlorotoluene	16.21	91	12750	3.05	ug/kg	88
84) 1,2,4-Trimethylbenzene	16.41	105	12897	2.93	ug/kg	93
85) s-Butylbenzene	16.54	105	14513	2.76	ug/kg	98
86) tert-Butylbenzene	16.35	119	10910	2.80	ug/kg	92
87) p-Isopropyltoluene	16.66	119	12379	2.70	ug/kg	90
88) 1,3-Dichlorobenzene	16.92	146	7042	2.21	ug/kg	95
89) 1,4-Dichlorobenzene	17.01	146	7471	2.25	ug/kg	78
90) 1,2-Dichlorobenzene	17.57	146	6320	2.13	ug/kg	88
91) N-Butylbenzene	17.19	91	10604	2.96	ug/kg	96
92) DBCP	18.70	75	804	4.41	ug/kg#	19
93) Naphthalene	20.71	128	4928	2.34	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.98	180	2728	2.10	ug/kg	99
95) Hexachlorobutadiene	19.83	225	1346	2.50	ug/kg	97
96) 1,2,3-Trichlorobenzene	21.13	180	2013	2.11	ug/kg#	83

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\102720\202JV005.D Vial: 4
Acq On : 27 Oct 2020 12:06 pm Operator: KKW
Sample : CAL3 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 11:29 2020 Quant Results File: 102720.RES

Quant Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Oct 27 11:31:37 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.47	168	206350	50.00	ug/kg	-0.02
38) 1,4-Difluorobenzene(IS)	12.02	114	346200	50.00	ug/kg	-0.02
56) Chlorobenzene-d5(IS)	14.62	82	161503	50.00	ug/kg	0.00
79) 1,4-Dichlorobenzene-d4(IS)	16.99	152	114664	50.00	ug/kg	0.00
System Monitoring Compounds						
30) Dibromofluoromethane	11.08	113	132629	76.48	ug/kg	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 152.96%#			
54) D8-Toluene	13.24	98	391613	60.04	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 146		Recovery = 120.08%			
75) Bromofluorobenzene	15.74	95	144440	56.95	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 142		Recovery = 113.90%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.91	85	14786	6.91	ug/kg	95
3) Chloromethane	6.39	50	21104	7.66	ug/kg	94
4) Vinyl Chloride	6.57	62	16292	7.46	ug/kg	87
5) Bromomethane	7.22	96	7734	5.58	ug/kg	93
6) Chloroethane	7.46	64	9786	7.13	ug/kg	86
7) Trichlorofluoromethane	7.72	101	18288	10.01	ug/kg	97
8) Trichlorotrifluoroethane	8.54	101	10414	6.31	ug/kg	80
9) acrolein	8.91	56	17514	51.37	ug/kg	96
10) Acetone	9.26	43	18080	40.30	ug/kg	96
11) 1,1-Dichloroethene	8.50	96	9562	5.80	ug/kg#	73
12) 3-Chloropropene	9.10	76	6321	5.76	ug/kg	91
13) Acetonitrile	9.82	41	11172	54.29	ug/kg	74
14) Iodomethane	8.73	142	49230	31.67	ug/kg	82
15) Carbon disulfide	8.62	76	104401	18.37	ug/kg	99
16) Methylene Chloride	9.22	84	12041	5.03	ug/kg#	73
17) Methyl tert-butyl ether	9.53	73	22392	7.59	ug/kg	83
18) Acrylonitrile	10.14	53	60065	69.47	ug/kg	99
19) T-1,2-Dichloroethene	9.44	96	10744	5.82	ug/kg	82
20) Isopropyl Ether	9.92	45	50243	7.56	ug/kg#	87
21) C-1,2-Dichloroethene	10.69	96	11664	5.88	ug/kg	82
22) 1,1-Dichloroethane	10.12	63	20738	6.83	ug/kg#	68
23) Vinyl Acetate	10.32	43	153448	34.07	ug/kg	92
24) Chloroprene	10.11	88	8609	5.00	ug/kg	41
25) 2-Butanone	11.19	72	5980	30.10	ug/kg	76
26) Propionitrile	11.47	54	14727	65.06	ug/kg	100
27) 2,2-Dichloropropane	10.81	77	14040	6.51	ug/kg	82
28) Methacrylonitrile	11.50	67	44793	60.96	ug/kg	73
29) Chloroform	10.90	83	19721	6.75	ug/kg	89
31) Dibromofluoromethane	11.08	113	132629	76.48	ug/kg	100
32) Bromochloromethane	10.89	128	5978	5.27	ug/kg#	61
33) 1,1,1-Trichloroethane	11.19	97	14683	7.25	ug/kg	98
34) 1,1-Dichloropropene	11.29	75	14985	6.50	ug/kg	96
35) Diethyl Ether	8.14	59	10946	6.98	ug/kg	94
36) Methyl Acetate	9.40	74	2420	7.97	ug/kg#	80
37) Cyclohexane	10.97	56	20535	8.27	ug/kg	85
39) Methyl Cyclohexane	12.08	55	13607	6.86	ug/kg#	74
40) Carbon Tetrachloride	11.16	117	14771	6.62	ug/kg	99
41) 1,2-Dichloroethane	11.68	62	14841	7.52	ug/kg	94
42) Benzene	11.54	78	41718	5.32	ug/kg	82
43) Isobutyl Alcohol	11.55	43	11165	145.94	ug/kg#	45
44) Trichloroethene	12.05	130	10787	4.79	ug/kg#	59
45) 1,2-Dichloropropane	12.50	63	13082	6.52	ug/kg	90
46) Methyl Methacrylate	12.59	100	3094	5.03	ug/kg	69
47) 1,4-Dioxane	12.72	88	1460	81.99	ug/kg#	64
48) Bromodichloromethane	12.51	83	14663	6.22	ug/kg	96
49) Dibromomethane	12.43	93	6908	5.39	ug/kg	82
50) 4-Methyl-2-Pentanone	13.52	100	7426	23.15	ug/kg#	45
51) 2-Chloroethyl vinyl ether	13.04	63	760	113.03	ug/kg#	100
52) 2-Hexanone	14.22	43	43735	34.48	ug/kg#	90

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\102720\202JV005.D Vial: 4
Acq On : 27 Oct 2020 12:06 pm Operator: KKW
Sample : CAL3 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 11:29 2020 Quant Results File: 102720.RES

Quant Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Oct 27 11:31:37 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

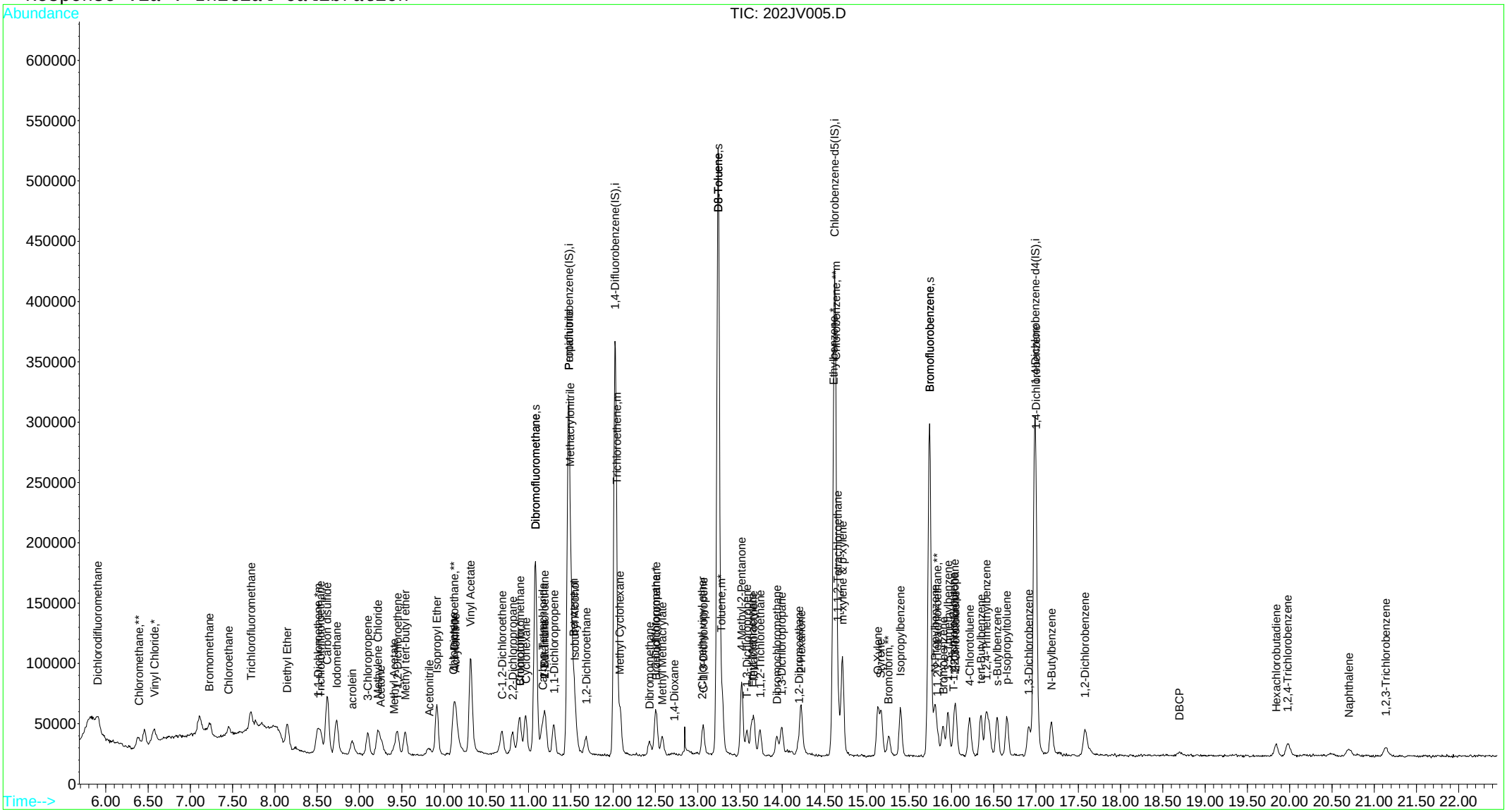
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.07	75	18317	5.53	ug/kg	83
55) D8-Toluene	13.24	98	391613	60.04	ug/kg	92
57) Toluene	13.28	92	23642	4.78	ug/kg	98
58) Ethyl Methacrylate	13.64	69	14621	5.38	ug/kg#	80
59) T-1,3-Dichloropropene	13.58	75	14826	5.37	ug/kg	84
60) 1,1,2-Trichloroethane	13.74	97	8441	4.89	ug/kg	95
61) 1,3-Dichloropropane	13.99	76	18021	5.43	ug/kg	99
62) Tetrachloroethene	13.67	164	7207	4.22	ug/kg	91
63) Dibromochloromethane	13.93	129	11141	5.09	ug/kg#	97
64) 1,2-Dibromoethane	14.19	107	9588	5.00	ug/kg#	98
65) Chlorobenzene	14.64	112	25055	4.62	ug/kg	87
66) 1,1,1,2-Tetrachloroethane	14.66	131	9576	4.90	ug/kg#	1
67) Ethylbenzene	14.60	106	12712	4.76	ug/kg	93
68) m-xylene & p-xylene	14.71	106	31039	9.47	ug/kg	96
69) O-Xylene	15.13	106	15275	4.66	ug/kg	89
70) Bromoform	15.26	173	6085	4.27	ug/kg	99
71) Styrene	15.17	104	26953	4.55	ug/kg	95
72) Isopropylbenzene	15.40	105	37564	4.90	ug/kg	97
73) 1,2,3-Trichloropropane	16.03	75	11684	4.72	ug/kg	99
74) 1,1,2,2-Tetrachloroethane	15.84	83	10266	4.62	ug/kg	99
76) Bromofluorobenzene	15.74	95	144440	56.95	ug/kg#	81
77) T-1,4-dichloro-2-butene	16.02	53	2407	5.96	ug/kg#	63
78) N-Propylbenzene	15.81	91	41473	4.63	ug/kg	98
80) Bromobenzene	15.90	156	9404	5.13	ug/kg#	67
81) 1,3,5-Trimethylbenzene	15.96	105	28081	6.61	ug/kg	93
82) 2-Chlorotoluene	16.05	91	25646	6.54	ug/kg	93
83) 4-Chlorotoluene	16.22	91	25981	6.37	ug/kg	96
84) 1,2,4-Trimethylbenzene	16.41	105	29693	6.90	ug/kg	93
85) s-Butylbenzene	16.54	105	34319	6.68	ug/kg	96
86) tert-Butylbenzene	16.35	119	24810	6.53	ug/kg	92
87) p-Isopropyltoluene	16.66	119	28922	6.45	ug/kg	92
88) 1,3-Dichlorobenzene	16.91	146	15861	5.10	ug/kg	95
89) 1,4-Dichlorobenzene	17.01	146	16725	5.15	ug/kg	90
90) 1,2-Dichlorobenzene	17.58	146	14567	5.01	ug/kg	94
91) N-Butylbenzene	17.18	91	25482	7.27	ug/kg	95
92) DBCP	18.69	75	1514	8.49	ug/kg#	55
93) Naphthalene	20.71	128	11969	5.83	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.98	180	6871	5.40	ug/kg	94
95) Hexachlorobutadiene	19.83	225	3234	6.15	ug/kg	98
96) 1,2,3-Trichlorobenzene	21.13	180	4965	5.32	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\102720\202JV005.D Vial: 4
Acq On : 27 Oct 2020 12:06 pm Operator: KKW
Sample : CAL3 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 11:29 2020 Quant Results File: 102720.RES

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\102720\202JV006.D Vial: 5
Acq On : 27 Oct 2020 12:35 pm Operator: KKW
Sample : CAL4 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 11:57 2020 Quant Results File: 102720.RES

Quant Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Oct 27 11:31:37 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.47	168	207311	50.00	ug/kg	-0.02
38) 1,4-Difluorobenzene(IS)	12.03	114	346638	50.00	ug/kg	0.00
56) Chlorobenzene-d5(IS)	14.62	82	159739	50.00	ug/kg	0.00
79) 1,4-Dichlorobenzene-d4(IS)	16.99	152	117299	50.00	ug/kg	-0.02
System Monitoring Compounds						
30) Dibromofluoromethane	11.08	113	108918	62.51	ug/kg	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 125.02%			
54) D8-Toluene	13.24	98	323849	49.59	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 146		Recovery = 99.18%			
75) Bromofluorobenzene	15.74	95	116532	46.45	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 142		Recovery = 92.90%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.90	85	29758	13.84	ug/kg	95
3) Chloromethane	6.39	50	39320	14.20	ug/kg	96
4) Vinyl Chloride	6.57	62	31704	14.46	ug/kg	98
5) Bromomethane	7.23	96	16187	11.63	ug/kg	94
6) Chloroethane	7.45	64	19841	14.38	ug/kg	92
7) Trichlorofluoromethane	7.71	101	36237	19.73	ug/kg	97
8) Trichlorotrifluoroethane	8.54	101	18723	11.30	ug/kg	82
9) acrolein	8.91	56	31798	92.84	ug/kg	100
10) Acetone	9.26	43	30885	68.52	ug/kg	90
11) 1,1-Dichloroethene	8.50	96	16498	9.96	ug/kg#	72
12) 3-Chloropropene	9.10	76	10365	9.39	ug/kg	60
13) Acetonitrile	9.82	41	23442	113.40	ug/kg	86
14) Iodomethane	8.73	142	92136	59.01	ug/kg	82
15) Carbon disulfide	8.62	76	191237	33.49	ug/kg	98
16) Methylene Chloride	9.22	84	21127	8.78	ug/kg#	75
17) Methyl tert-butyl ether	9.53	73	41118	13.87	ug/kg	87
18) Acrylonitrile	10.14	53	112259	129.24	ug/kg	97
19) T-1,2-Dichloroethene	9.45	96	18456	9.96	ug/kg	81
20) Isopropyl Ether	9.91	45	91846	13.76	ug/kg#	87
21) C-1,2-Dichloroethene	10.68	96	20047	10.06	ug/kg	81
22) 1,1-Dichloroethane	10.12	63	38613	12.66	ug/kg	99
23) Vinyl Acetate	10.31	43	283579	62.67	ug/kg	92
24) Chloroprene	10.11	88	16101	9.30	ug/kg	41
25) 2-Butanone	11.19	72	10025	50.23	ug/kg	69
26) Propionitrile	11.47	54	26909	118.33	ug/kg	100
27) 2,2-Dichloropropane	10.81	77	23697	10.93	ug/kg	88
28) Methacrylonitrile	11.50	67	81095	109.85	ug/kg	71
29) Chloroform	10.90	83	35202	12.00	ug/kg	93
31) Dibromofluoromethane	11.08	113	108918	62.51	ug/kg	100
32) Bromochloromethane	10.88	128	11078	9.71	ug/kg#	62
33) 1,1,1-Trichloroethane	11.19	97	26354	12.94	ug/kg	99
34) 1,1-Dichloropropene	11.29	75	26336	11.36	ug/kg	96
35) Diethyl Ether	8.14	59	19980	12.68	ug/kg	93
36) Methyl Acetate	9.41	74	3522	11.54	ug/kg#	43
37) Cyclohexane	10.97	56	34200	13.71	ug/kg	85
39) Methyl Cyclohexane	12.08	55	23256	11.72	ug/kg#	78
40) Carbon Tetrachloride	11.16	117	26522	11.86	ug/kg	98
41) 1,2-Dichloroethane	11.68	62	26119	13.21	ug/kg	96
42) Benzene	11.53	78	73312	9.35	ug/kg	83
43) Isobutyl Alcohol	11.56	43	22976	299.94	ug/kg#	27
44) Trichloroethene	12.05	130	18886	8.37	ug/kg#	75
45) 1,2-Dichloropropane	12.50	63	21716	10.81	ug/kg	88
46) Methyl Methacrylate	12.59	100	5638	9.15	ug/kg	82
47) 1,4-Dioxane	12.71	88	2433	136.45	ug/kg#	75
48) Bromodichloromethane	12.52	83	26021	11.03	ug/kg	94
49) Dibromomethane	12.43	93	12441	9.69	ug/kg	86
50) 4-Methyl-2-Pentanone	13.52	100	12943	40.29	ug/kg#	41
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	14.22	43	75797	59.67	ug/kg#	93

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\102720\202JV006.D Vial: 5
Acq On : 27 Oct 2020 12:35 pm Operator: KKW
Sample : CAL4 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 11:57 2020 Quant Results File: 102720.RES

Quant Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Oct 27 11:31:37 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

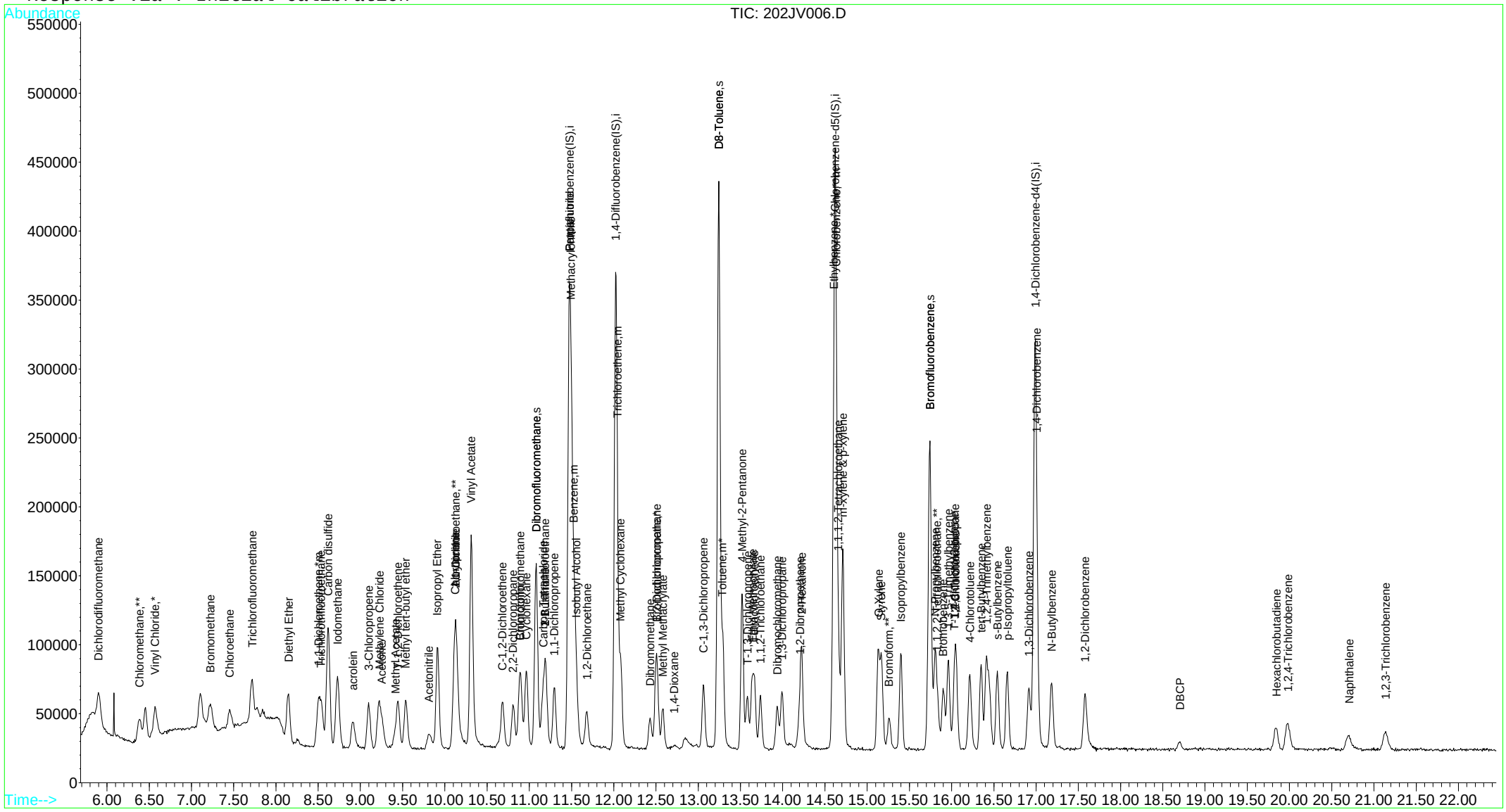
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	13.06	75	33388	10.07 ug/kg	82
55) D8-Toluene	13.24	98	323849	49.59 ug/kg	93
57) Toluene	13.29	92	42391	8.67 ug/kg	99
58) Ethyl Methacrylate	13.64	69	28112	10.46 ug/kg	84
59) T-1,3-Dichloropropene	13.58	75	26465	9.70 ug/kg	87
60) 1,1,2-Trichloroethane	13.74	97	15683	9.18 ug/kg	97
61) 1,3-Dichloropropane	14.00	76	31882	9.72 ug/kg	96
62) Tetrachloroethene	13.67	164	12869	7.62 ug/kg	93
63) Dibromochloromethane	13.93	129	20653	9.54 ug/kg#	97
64) 1,2-Dibromoethane	14.20	107	17047	8.99 ug/kg	99
65) Chlorobenzene	14.64	112	45662	8.51 ug/kg	92
66) 1,1,1,2-Tetrachloroethane	14.66	131	16979	8.78 ug/kg#	1
67) Ethylbenzene	14.60	106	22944	8.68 ug/kg	96
68) m-xylene & p-xylene	14.71	106	55643	17.17 ug/kg	96
69) O-Xylene	15.13	106	27362	8.44 ug/kg	91
70) Bromoform	15.26	173	11028	7.82 ug/kg	98
71) Styrene	15.17	104	48728	8.32 ug/kg	96
72) Isopropylbenzene	15.40	105	66955	8.82 ug/kg	97
73) 1,2,3-Trichloropropane	16.03	75	20534	8.39 ug/kg	97
74) 1,1,2,2-Tetrachloroethane	15.83	83	18200	8.28 ug/kg	99
76) Bromofluorobenzene	15.74	95	116532	46.45 ug/kg#	79
77) T-1,4-dichloro-2-butene	16.02	53	5044	12.64 ug/kg#	40
78) N-Propylbenzene	15.81	91	75666	8.55 ug/kg	97
80) Bromobenzene	15.90	156	17440	9.30 ug/kg	84
81) 1,3,5-Trimethylbenzene	15.96	105	51289	11.80 ug/kg	93
82) 2-Chlorotoluene	16.05	91	45898	11.45 ug/kg	96
83) 4-Chlorotoluene	16.22	91	48222	11.56 ug/kg	95
84) 1,2,4-Trimethylbenzene	16.41	105	52954	12.02 ug/kg	93
85) s-Butylbenzene	16.54	105	59752	11.37 ug/kg	98
86) tert-Butylbenzene	16.35	119	44219	11.37 ug/kg	91
87) p-Isopropyltoluene	16.66	119	51468	11.22 ug/kg	93
88) 1,3-Dichlorobenzene	16.91	146	28992	9.11 ug/kg	95
89) 1,4-Dichlorobenzene	17.01	146	30315	9.13 ug/kg	91
90) 1,2-Dichlorobenzene	17.58	146	26952	9.07 ug/kg	94
91) N-Butylbenzene	17.18	91	45586	12.71 ug/kg	94
92) DBCP	18.70	75	2536	13.90 ug/kg	62
93) Naphthalene	20.70	128	21983	10.46 ug/kg	100
94) 1,2,4-Trichlorobenzene	19.99	180	12504	9.61 ug/kg	100
95) Hexachlorobutadiene	19.84	225	5956	11.07 ug/kg	98
96) 1,2,3-Trichlorobenzene	21.14	180	9151	9.58 ug/kg	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\102720\202JV006.D Vial: 5
Acq On : 27 Oct 2020 12:35 pm Operator: KKW
Sample : CAL4 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 11:57 2020 Quant Results File: 102720.RES

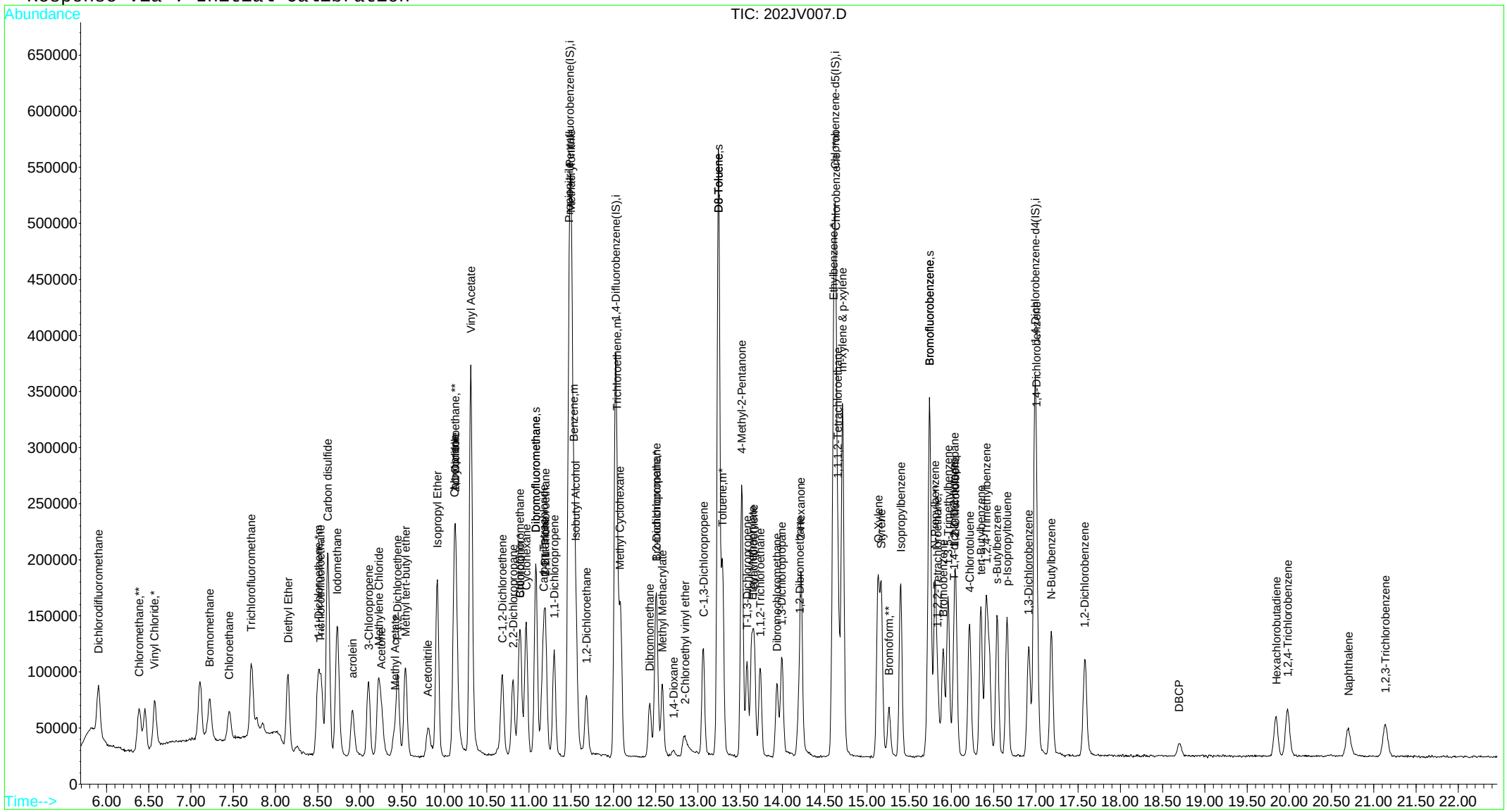
Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\102720\202JV007.D Vial: 6
Acq On : 27 Oct 2020 1:04 pm Operator: KKW
Sample : CAL5 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 12:26 2020 Quant Results File: 102720.RES

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\102720\202JV007.D Vial: 6
Acq On : 27 Oct 2020 1:04 pm Operator: KKW
Sample : CAL5 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 12:26 2020 Quant Results File: 102720.RES

Quant Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Oct 27 11:31:37 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.48	168	201262	50.00	ug/kg	0.00
38) 1,4-Difluorobenzene(IS)	12.03	114	338805	50.00	ug/kg	0.00
56) Chlorobenzene-d5(IS)	14.62	82	161573	50.00	ug/kg	0.00
79) 1,4-Dichlorobenzene-d4(IS)	16.99	152	118450	50.00	ug/kg	0.00
System Monitoring Compounds						
30) Dibromofluoromethane	11.08	113	141187	83.47	ug/kg	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 166.94%#			
54) D8-Toluene	13.24	98	425859	66.72	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 146		Recovery = 133.44%			
75) Bromofluorobenzene	15.74	95	160487	63.25	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 142		Recovery = 126.50%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.90	85	64094	30.70	ug/kg	96
3) Chloromethane	6.38	50	83187	30.95	ug/kg	98
4) Vinyl Chloride	6.57	62	66761	31.36	ug/kg	100
5) Bromomethane	7.22	96	33198	24.56	ug/kg	92
6) Chloroethane	7.45	64	38213	28.53	ug/kg	93
7) Trichlorofluoromethane	7.72	101	75887	42.57	ug/kg	99
8) Trichlorotrifluoroethane	8.54	101	39679	24.66	ug/kg	82
9) acrolein	8.91	56	62840	188.98	ug/kg	100
10) Acetone	9.26	43	62582	143.02	ug/kg	91
11) 1,1-Dichloroethene	8.50	96	35486	22.08	ug/kg#	74
12) 3-Chloropropene	9.10	76	21930	20.47	ug/kg	71
13) Acetonitrile	9.80	41	51925	258.73	ug/kg	88
14) Iodomethane	8.73	142	210362	138.77	ug/kg	82
15) Carbon disulfide	8.62	76	396534	71.52	ug/kg	100
16) Methylene Chloride	9.22	84	43931	18.80	ug/kg#	73
17) Methyl tert-butyl ether	9.53	73	92753	32.23	ug/kg	89
18) Acrylonitrile	10.13	53	235910	279.76	ug/kg	98
19) T-1,2-Dichloroethene	9.45	96	39352	21.87	ug/kg	81
20) Isopropyl Ether	9.92	45	194419	30.00	ug/kg#	86
21) C-1,2-Dichloroethene	10.68	96	42576	22.01	ug/kg	81
22) 1,1-Dichloroethane	10.12	63	79784	26.94	ug/kg	98
23) Vinyl Acetate	10.31	43	594239	135.27	ug/kg	92
24) Chloroprene	10.11	88	34153	20.32	ug/kg	43
25) 2-Butanone	11.19	72	20381	105.18	ug/kg	65
26) Propionitrile	11.47	54	56807	257.31	ug/kg	100
27) 2,2-Dichloropropane	10.81	77	51745	24.59	ug/kg	97
28) Methacrylonitrile	11.50	67	170110	237.35	ug/kg	72
29) Chloroform	10.90	83	72452	25.44	ug/kg	94
31) Dibromofluoromethane	11.08	113	141187	83.47	ug/kg	100
32) Bromochloromethane	10.88	128	22576	20.39	ug/kg#	64
33) 1,1,1-Trichloroethane	11.20	97	55444	28.05	ug/kg	100
34) 1,1-Dichloropropene	11.30	75	56354	25.05	ug/kg	95
35) Diethyl Ether	8.14	59	40637	26.57	ug/kg	93
36) Methyl Acetate	9.41	74	7754	26.18	ug/kg#	56
37) Cyclohexane	10.97	56	73007	30.14	ug/kg	84
39) Methyl Cyclohexane	12.08	55	51952	26.78	ug/kg#	80
40) Carbon Tetrachloride	11.17	117	56781	25.99	ug/kg	100
41) 1,2-Dichloroethane	11.68	62	55053	28.49	ug/kg	94
42) Benzene	11.54	78	151981	19.82	ug/kg	82
43) Isobutyl Alcohol	11.56	43	53551	715.25	ug/kg#	12
44) Trichloroethene	12.05	130	40616	18.42	ug/kg	87
45) 1,2-Dichloropropane	12.50	63	46773	23.82	ug/kg	90
46) Methyl Methacrylate	12.58	100	11824	19.64	ug/kg	76
47) 1,4-Dioxane	12.71	88	5045	289.48	ug/kg#	76
48) Bromodichloromethane	12.51	83	54432	23.60	ug/kg	93
49) Dibromomethane	12.43	93	26390	21.03	ug/kg	88
50) 4-Methyl-2-Pentanone	13.52	100	27692	88.19	ug/kg#	39
51) 2-Chloroethyl vinyl ether	12.84	63	840	127.65	ug/kg#	100
52) 2-Hexanone	14.22	43	161736	130.28	ug/kg	93

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\102720\202JV007.D Vial: 6
Acq On : 27 Oct 2020 1:04 pm Operator: KKW
Sample : CAL5 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 12:26 2020 Quant Results File: 102720.RES

Quant Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Oct 27 11:31:37 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

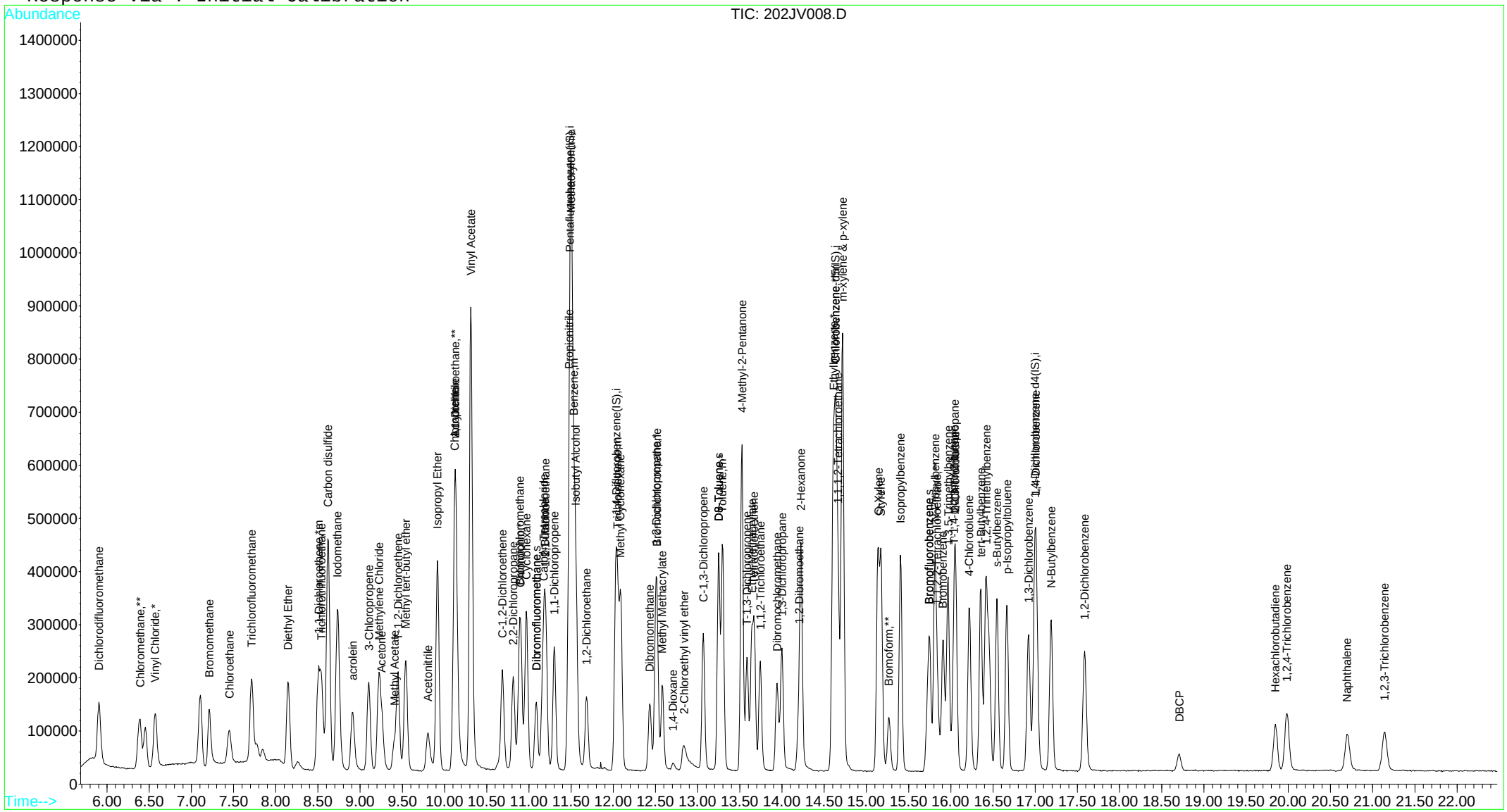
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.06	75	71369	22.03	ug/kg	81
55) D8-Toluene	13.24	98	425859	66.72	ug/kg	93
57) Toluene	13.29	92	90237	18.24	ug/kg	98
58) Ethyl Methacrylate	13.64	69	59642	21.95	ug/kg	82
59) T-1,3-Dichloropropene	13.58	75	57809	20.94	ug/kg	87
60) 1,1,2-Trichloroethane	13.74	97	32675	18.92	ug/kg	99
61) 1,3-Dichloropropane	13.99	76	67199	20.26	ug/kg	96
62) Tetrachloroethene	13.67	164	28338	16.59	ug/kg	93
63) Dibromochloromethane	13.93	129	44126	20.16	ug/kg	99
64) 1,2-Dibromoethane	14.19	107	38435	20.03	ug/kg	98
65) Chlorobenzene	14.64	112	98661	18.18	ug/kg	93
66) 1,1,1,2-Tetrachloroethane	14.66	131	36891	18.87	ug/kg#	29
67) Ethylbenzene	14.60	106	49357	18.47	ug/kg	92
68) m-xylene & p-xylene	14.71	106	120608	36.80	ug/kg	93
69) O-Xylene	15.13	106	60157	18.34	ug/kg	91
70) Bromoform	15.26	173	24361	17.07	ug/kg	100
71) Styrene	15.17	104	107792	18.19	ug/kg	96
72) Isopropylbenzene	15.40	105	147552	19.23	ug/kg	96
73) 1,2,3-Trichloropropane	16.03	75	46411	18.75	ug/kg	100
74) 1,1,2,2-Tetrachloroethane	15.84	83	39909	17.96	ug/kg	99
76) Bromofluorobenzene	15.74	95	160487	63.25	ug/kg#	78
77) T-1,4-dichloro-2-butene	16.02	53	10114	25.05	ug/kg#	55
78) N-Propylbenzene	15.81	91	167217	18.67	ug/kg	97
80) Bromobenzene	15.90	156	38154	20.16	ug/kg	81
81) 1,3,5-Trimethylbenzene	15.96	105	112744	25.68	ug/kg	94
82) 2-Chlorotoluene	16.05	91	102774	25.38	ug/kg	95
83) 4-Chlorotoluene	16.21	91	104629	24.83	ug/kg	96
84) 1,2,4-Trimethylbenzene	16.41	105	117349	26.38	ug/kg	94
85) s-Butylbenzene	16.54	105	134004	25.26	ug/kg	96
86) tert-Butylbenzene	16.35	119	96996	24.70	ug/kg	92
87) p-Isopropyltoluene	16.66	119	114944	24.82	ug/kg	94
88) 1,3-Dichlorobenzene	16.91	146	63310	19.70	ug/kg	94
89) 1,4-Dichlorobenzene	17.01	146	66969	19.97	ug/kg	94
90) 1,2-Dichlorobenzene	17.58	146	60682	20.21	ug/kg	95
91) N-Butylbenzene	17.18	91	101041	27.89	ug/kg	97
92) DBCP	18.70	75	5639	30.61	ug/kg#	63
93) Naphthalene	20.70	128	48150	22.69	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.98	180	27720	21.10	ug/kg	98
95) Hexachlorobutadiene	19.84	225	12923	23.79	ug/kg	99
96) 1,2,3-Trichlorobenzene	21.14	180	19986	20.73	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\102720\202JV008.D Vial: 7
Acq On : 27 Oct 2020 1:33 pm Operator: KKW
Sample : CAL6 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 14:09 2020 Quant Results File: 102720.RES

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\102720\202JV008.D Vial: 7
Acq On : 27 Oct 2020 1:33 pm Operator: KKW
Sample : CAL6 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 14:09 2020 Quant Results File: 102720.RES

Quant Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Oct 27 11:31:37 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.48	168	203205	50.00	ug/kg	0.00
38) 1,4-Difluorobenzene(IS)	12.03	114	343013	50.00	ug/kg	0.00
56) Chlorobenzene-d5(IS)	14.63	82	166283	50.00	ug/kg	0.00
79) 1,4-Dichlorobenzene-d4(IS)	16.99	152	122373	50.00	ug/kg	0.00
System Monitoring Compounds						
30) Dibromofluoromethane	11.09	113	103894	60.84	ug/kg	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 121.68%			
54) D8-Toluene	13.25	98	315175	48.77	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 146		Recovery = 97.54%			
75) Bromofluorobenzene	15.75	95	118335	45.32	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 142		Recovery = 90.64%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.91	85	161471	76.60	ug/kg	97
3) Chloromethane	6.39	50	198877	73.29	ug/kg	98
4) Vinyl Chloride	6.57	62	166764	77.58	ug/kg	99
5) Bromomethane	7.21	96	81663	59.84	ug/kg	97
6) Chloroethane	7.44	64	95706	70.78	ug/kg	94
7) Trichlorofluoromethane	7.71	101	191463	106.37	ug/kg	98
8) Trichlorotrifluoroethane	8.55	101	100348	61.77	ug/kg	83
9) acrolein	8.91	56	169205	503.99	ug/kg	100
10) Acetone	9.26	43	146915	332.54	ug/kg	92
11) 1,1-Dichloroethene	8.50	96	87804	54.10	ug/kg#	71
12) 3-Chloropropene	9.10	76	50654	46.84	ug/kg	57
13) Acetonitrile	9.80	41	135718	669.78	ug/kg	98
14) Iodomethane	8.73	142	556911	363.86	ug/kg	82
15) Carbon disulfide	8.62	76	956743	170.92	ug/kg	99
16) Methylene Chloride	9.22	84	109697	46.50	ug/kg#	76
17) Methyl tert-butyl ether	9.54	73	244838	84.25	ug/kg	90
18) Acrylonitrile	10.13	53	590139	693.14	ug/kg	98
19) T-1,2-Dichloroethene	9.45	96	99134	54.57	ug/kg	82
20) Isopropyl Ether	9.92	45	486726	74.39	ug/kg#	86
21) C-1,2-Dichloroethene	10.69	96	107651	55.11	ug/kg	82
22) 1,1-Dichloroethane	10.12	63	201991	67.56	ug/kg#	67
23) Vinyl Acetate	10.31	43	1432673	323.00	ug/kg	92
24) Chloroprene	10.11	88	84699	49.92	ug/kg	41
25) 2-Butanone	11.19	72	49045	250.68	ug/kg	56
26) Propionitrile	11.47	54	141124	633.11	ug/kg	100
27) 2,2-Dichloropropane	10.81	77	132169	62.21	ug/kg	100
28) Methacrylonitrile	11.50	67	407656	563.36	ug/kg	67
29) Chloroform	10.91	83	179638	62.48	ug/kg	90
31) Dibromofluoromethane	11.09	113	103894	60.84	ug/kg	100
32) Bromochloromethane	10.88	128	58327	52.17	ug/kg#	66
33) 1,1,1-Trichloroethane	11.20	97	139219	69.76	ug/kg	99
34) 1,1-Dichloropropene	11.30	75	140184	61.71	ug/kg	95
35) Diethyl Ether	8.14	59	103444	67.00	ug/kg	90
36) Methyl Acetate	9.40	74	18857	63.06	ug/kg#	50
37) Cyclohexane	10.97	56	179967	73.58	ug/kg	87
39) Methyl Cyclohexane	12.09	55	127713	65.02	ug/kg#	80
40) Carbon Tetrachloride	11.17	117	144470	65.31	ug/kg	100
41) 1,2-Dichloroethane	11.68	62	137964	70.53	ug/kg	94
42) Benzene	11.54	78	368370	47.46	ug/kg	81
43) Isobutyl Alcohol	11.56	43	144877m	1911.29	ug/kg	
44) Trichloroethene	12.06	130	102956	46.12	ug/kg	92
45) 1,2-Dichloropropane	12.50	63	114875	57.78	ug/kg	90
46) Methyl Methacrylate	12.59	100	29657	48.65	ug/kg	80
47) 1,4-Dioxane	12.71	88	12417	703.75	ug/kg#	78
48) Bromodichloromethane	12.52	83	138980	59.51	ug/kg	94
49) Dibromomethane	12.43	93	68747	54.12	ug/kg	86
50) 4-Methyl-2-Pentanone	13.53	100	69361	218.19	ug/kg#	43
51) 2-Chloroethyl vinyl ether	12.85	63	1494	224.25	ug/kg#	100
52) 2-Hexanone	14.22	43	400724	318.82	ug/kg	92

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\102720\202JV008.D Vial: 7
Acq On : 27 Oct 2020 1:33 pm Operator: KKW
Sample : CAL6 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 14:09 2020 Quant Results File: 102720.RES

Quant Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Oct 27 11:31:37 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.07	75	185195	56.47	ug/kg	82
55) D8-Toluene	13.25	98	315175	48.77	ug/kg	92
57) Toluene	13.29	92	232020	45.58	ug/kg	99
58) Ethyl Methacrylate	13.64	69	145361	51.98	ug/kg	79
59) T-1,3-Dichloropropene	13.59	75	148396	52.23	ug/kg	83
60) 1,1,2-Trichloroethane	13.74	97	81776	46.01	ug/kg	98
61) 1,3-Dichloropropane	14.00	76	169536	49.65	ug/kg	98
62) Tetrachloroethene	13.67	164	71793	40.83	ug/kg	93
63) Dibromochloromethane	13.94	129	112535	49.95	ug/kg	100
64) 1,2-Dibromoethane	14.20	107	96264	48.75	ug/kg	100
65) Chlorobenzene	14.64	112	251938	45.11	ug/kg	94
66) 1,1,1,2-Tetrachloroethane	14.67	131	93967	46.70	ug/kg	100
67) Ethylbenzene	14.61	106	127626	46.40	ug/kg	94
68) m-xylene & p-xylene	14.72	106	310588	92.07	ug/kg	93
69) O-Xylene	15.14	106	156057	46.23	ug/kg	93
70) Bromoform	15.27	173	63255	43.08	ug/kg	99
71) Styrene	15.17	104	277804	45.54	ug/kg	95
72) Isopropylbenzene	15.40	105	382620	48.44	ug/kg	97
73) 1,2,3-Trichloropropane	16.04	75	118017	46.33	ug/kg	98
74) 1,1,2,2-Tetrachloroethane	15.84	83	103241	45.15	ug/kg	97
76) Bromofluorobenzene	15.75	95	118335	45.32	ug/kg#	67
77) T-1,4-dichloro-2-butene	16.03	53	26958m	64.87	ug/kg	
78) N-Propylbenzene	15.81	91	438598	47.58	ug/kg	97
80) Bromobenzene	15.91	156	99631	50.95	ug/kg	82
81) 1,3,5-Trimethylbenzene	15.97	105	287996	63.49	ug/kg	94
82) 2-Chlorotoluene	16.06	91	264426	63.22	ug/kg	95
83) 4-Chlorotoluene	16.22	91	274574	63.08	ug/kg	95
84) 1,2,4-Trimethylbenzene	16.41	105	300407	65.37	ug/kg	95
85) s-Butylbenzene	16.55	105	344249	62.81	ug/kg	95
86) tert-Butylbenzene	16.36	119	250622	61.78	ug/kg	92
87) p-Isopropyltoluene	16.67	119	293453	61.33	ug/kg	95
88) 1,3-Dichlorobenzene	16.92	146	169545	51.07	ug/kg	95
89) 1,4-Dichlorobenzene	17.01	146	174367	50.33	ug/kg	96
90) 1,2-Dichlorobenzene	17.59	146	156207	50.36	ug/kg	95
91) N-Butylbenzene	17.19	91	256686	68.59	ug/kg	97
92) DBCP	18.71	75	13799	72.51	ug/kg	66
93) Naphthalene	20.70	128	128041	58.39	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.98	180	71565	52.73	ug/kg	98
95) Hexachlorobutadiene	19.85	225	31593	56.29	ug/kg	99
96) 1,2,3-Trichlorobenzene	21.14	180	51561	51.76	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\102720\202JV009.D Vial: 8
Acq On : 27 Oct 2020 2:01 pm Operator: KKW
Sample : CAL7 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 14:10 2020 Quant Results File: 102720.RES

Quant Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Oct 27 11:31:37 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.48	168	206311	50.00	ug/kg	0.00
38) 1,4-Difluorobenzene(IS)	12.03	114	354841	50.00	ug/kg	0.00
56) Chlorobenzene-d5(IS)	14.62	82	172631	50.00	ug/kg	0.00
79) 1,4-Dichlorobenzene-d4(IS)	16.99	152	123009	50.00	ug/kg	-0.01
System Monitoring Compounds						
30) Dibromofluoromethane	11.08	113	142557	82.22	ug/kg	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 164.44%#			
54) D8-Toluene	13.24	98	433171	64.80	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 146		Recovery = 129.60%			
75) Bromofluorobenzene	15.74	95	168619	62.20	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 142		Recovery = 124.40%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.91	85	272311	127.24	ug/kg	98
3) Chloromethane	6.40	50	347363	126.08	ug/kg	99
4) Vinyl Chloride	6.58	62	281973	129.20	ug/kg	99
5) Bromomethane	7.21	96	89803	64.82	ug/kg	97
6) Chloroethane	7.44	64	160905	117.21	ug/kg	94
7) Trichlorofluoromethane	7.71	101	324881	177.77	ug/kg	99
8) Trichlorotrifluoroethane	8.55	101	173109	104.96	ug/kg	82
9) acrolein	8.91	56	313697	920.30	ug/kg	99
10) Acetone	9.26	43	244552	545.20	ug/kg	91
11) 1,1-Dichloroethene	8.50	96	154763	93.93	ug/kg#	74
12) 3-Chloropropene	9.10	76	86401	78.69	ug/kg#	56
13) Acetonitrile	9.80	41	233406	1134.54	ug/kg	97
14) Iodomethane	8.74	142	1028212	661.67	ug/kg	82
15) Carbon disulfide	8.62	76	1629359	286.70	ug/kg	99
16) Methylene Chloride	9.22	84	187810	78.42	ug/kg#	76
17) Methyl tert-butyl ether	9.54	73	418348	141.79	ug/kg	90
18) Acrylonitrile	10.13	53	984297	1138.69	ug/kg	98
19) T-1,2-Dichloroethene	9.45	96	172011	93.26	ug/kg	82
20) Isopropyl Ether	9.92	45	827587	124.58	ug/kg#	87
21) C-1,2-Dichloroethene	10.69	96	190468	96.04	ug/kg	82
22) 1,1-Dichloroethane	10.12	63	344259	113.41	ug/kg	98
23) Vinyl Acetate	10.31	43	2351082	522.08	ug/kg	92
24) Chloroprene	10.11	88	146125	84.82	ug/kg	49
25) 2-Butanone	11.19	72	83829	422.02	ug/kg	58
26) Propionitrile	11.46	54	238166	1052.37	ug/kg	100
27) 2,2-Dichloropropane	10.81	77	232178	107.64	ug/kg	100
28) Methacrylonitrile	11.50	67	674569	918.19	ug/kg	67
29) Chloroform	10.91	83	311179	106.60	ug/kg	89
31) Dibromofluoromethane	11.08	113	142557	82.22	ug/kg	100
32) Bromochloromethane	10.88	128	99219	87.41	ug/kg#	65
33) 1,1,1-Trichloroethane	11.20	97	241997	119.43	ug/kg	99
34) 1,1-Dichloropropene	11.30	75	245799	106.58	ug/kg	96
35) Diethyl Ether	8.14	59	174240	111.16	ug/kg	90
36) Methyl Acetate	9.40	74	32243	106.19	ug/kg#	52
37) Cyclohexane	10.97	56	308610	124.27	ug/kg	85
39) Methyl Cyclohexane	12.08	55	225457	110.96	ug/kg#	80
40) Carbon Tetrachloride	11.17	117	250598	109.51	ug/kg	100
41) 1,2-Dichloroethane	11.68	62	237727	117.48	ug/kg	94
42) Benzene	11.54	78	625425	77.88	ug/kg	83
43) Isobutyl Alcohol	11.56	43	236108	3011.03	ug/kg#	3
44) Trichloroethene	12.06	130	184663	79.96	ug/kg	94
45) 1,2-Dichloropropane	12.50	63	202738	98.57	ug/kg	91
46) Methyl Methacrylate	12.58	100	50976	80.84	ug/kg	79
47) 1,4-Dioxane	12.71	88	21711	1189.49	ug/kg#	82
48) Bromodichloromethane	12.52	83	245598	101.66	ug/kg	96
49) Dibromomethane	12.43	93	121436	92.40	ug/kg	86
50) 4-Methyl-2-Pentanone	13.52	100	117272	356.61	ug/kg#	44
51) 2-Chloroethyl vinyl ether	12.93	63	3080	446.90	ug/kg	100
52) 2-Hexanone	14.22	43	693961	533.72	ug/kg	92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\102720\202JV009.D Vial: 8
Acq On : 27 Oct 2020 2:01 pm Operator: KKW
Sample : CAL7 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 14:10 2020 Quant Results File: 102720.RES

Quant Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Oct 27 11:31:37 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

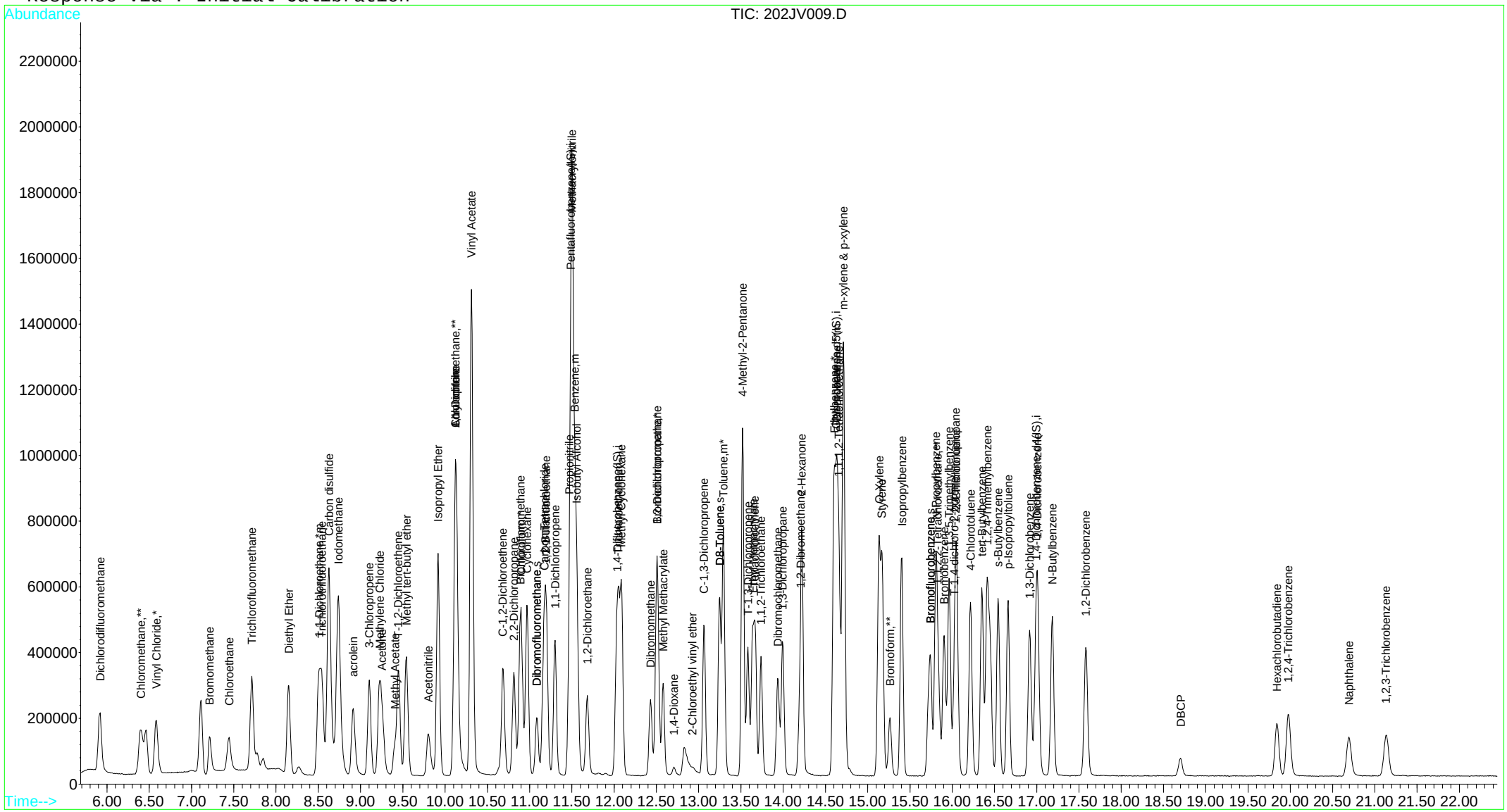
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.07	75	323647	95.40	ug/kg	82
55) D8-Toluene	13.24	98	433171	64.80	ug/kg	92
57) Toluene	13.29	92	404501	76.55	ug/kg	99
58) Ethyl Methacrylate	13.64	69	246538	84.92	ug/kg	80
59) T-1,3-Dichloropropene	13.58	75	267966	90.85	ug/kg	83
60) 1,1,2-Trichloroethane	13.74	97	143127	77.56	ug/kg	98
61) 1,3-Dichloropropane	13.99	76	294227	83.01	ug/kg	98
62) Tetrachloroethene	13.67	164	123589	67.70	ug/kg	92
63) Dibromochloromethane	13.94	129	199999	85.52	ug/kg	100
64) 1,2-Dibromoethane	14.20	107	170963	83.40	ug/kg	99
65) Chlorobenzene	14.64	112	431424	74.41	ug/kg	93
66) 1,1,1,2-Tetrachloroethane	14.66	131	166796	79.85	ug/kg#	53
67) Ethylbenzene	14.60	106	223927	78.43	ug/kg	96
68) m-xylene & p-xylene	14.71	106	518203	147.97	ug/kg	93
69) O-Xylene	15.13	106	266890	76.16	ug/kg	92
70) Bromoform	15.26	173	112200	73.60	ug/kg	99
71) Styrene	15.17	104	458676	72.43	ug/kg	94
72) Isopropylbenzene	15.40	105	644426	78.59	ug/kg	98
73) 1,2,3-Trichloropropane	16.03	75	201406	76.15	ug/kg	98
74) 1,1,2,2-Tetrachloroethane	15.83	83	178076	75.01	ug/kg	98
76) Bromofluorobenzene	15.74	95	168619	62.20	ug/kg#	64
77) T-1,4-dichloro-2-butene	16.02	53	48621m	112.70	ug/kg	
78) N-Propylbenzene	15.81	91	753703	78.76	ug/kg	97
80) Bromobenzene	15.91	156	171311	87.15	ug/kg	81
81) 1,3,5-Trimethylbenzene	15.96	105	477831	104.80	ug/kg	93
82) 2-Chlorotoluene	16.05	91	438371	104.26	ug/kg	94
83) 4-Chlorotoluene	16.22	91	467014	106.73	ug/kg	95
84) 1,2,4-Trimethylbenzene	16.41	105	495320	107.23	ug/kg	94
85) s-Butylbenzene	16.54	105	586156	106.40	ug/kg	96
86) tert-Butylbenzene	16.35	119	429669	105.37	ug/kg	93
87) p-Isopropyltoluene	16.66	119	498898	103.73	ug/kg	95
88) 1,3-Dichlorobenzene	16.92	146	291706	87.41	ug/kg	95
89) 1,4-Dichlorobenzene	17.01	146	296846	85.24	ug/kg	96
90) 1,2-Dichlorobenzene	17.58	146	272924	87.54	ug/kg	95
91) N-Butylbenzene	17.18	91	441726	117.43	ug/kg	98
92) DBCP	18.70	75	23990	125.41	ug/kg	67
93) Naphthalene	20.69	128	221123	100.32	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.98	180	122264	89.61	ug/kg	99
95) Hexachlorobutadiene	19.85	225	58695	104.04	ug/kg	98
96) 1,2,3-Trichlorobenzene	21.14	180	90821	90.69	ug/kg	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\102720\202JV009.D Vial: 8
Acq On : 27 Oct 2020 2:01 pm Operator: KKW
Sample : CAL7 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 14:10 2020 Quant Results File: 102720.RES

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\102720\202JV010.D Vial: 9
Acq On : 27 Oct 2020 2:30 pm Operator: KKW
Sample : CAL8 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 13:52 2020 Quant Results File: 102720.RES

Quant Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Oct 27 11:31:37 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.48	168	197007	50.00	ug/kg	0.00
38) 1,4-Difluorobenzene(IS)	12.03	114	340539	50.00	ug/kg	0.00
56) Chlorobenzene-d5(IS)	14.63	82	166141	50.00	ug/kg	0.00
79) 1,4-Dichlorobenzene-d4(IS)	16.99	152	120962	50.00	ug/kg	0.00
System Monitoring Compounds						
30) Dibromofluoromethane	11.08	113	156343	94.43	ug/kg	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 188.86%#			
54) D8-Toluene	13.25	98	484633	75.54	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 146		Recovery = 151.08%#			
75) Bromofluorobenzene	15.75	95	192180	73.66	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 142		Recovery = 147.32%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.90	85	328214	160.60	ug/kg	97
3) Chloromethane	6.38	50	414363	157.50	ug/kg	99
4) Vinyl Chloride	6.57	62	341255	163.75	ug/kg	98
5) Bromomethane	7.20	96	88430	66.84	ug/kg	95
6) Chloroethane	7.43	64	192220	146.63	ug/kg	93
7) Trichlorofluoromethane	7.70	101	394808	226.24	ug/kg	98
8) Trichlorotrifluoroethane	8.54	101	208240	132.23	ug/kg	81
9) acrolein	8.91	56	390240	1198.92	ug/kg	100
10) Acetone	9.26	43	288533	673.63	ug/kg	90
11) 1,1-Dichloroethene	8.50	96	183828	116.84	ug/kg#	72
12) 3-Chloropropene	9.10	76	101246	96.56	ug/kg	57
13) Acetonitrile	9.80	41	278708	1418.72	ug/kg	98
14) Iodomethane	8.73	142	1223064	824.23	ug/kg	82
15) Carbon disulfide	8.62	76	1957403	360.69	ug/kg	99
16) Methylene Chloride	9.22	84	225706	98.69	ug/kg#	76
17) Methyl tert-butyl ether	9.53	73	504267	178.99	ug/kg	90
18) Acrylonitrile	10.13	53	1151580	1395.13	ug/kg	98
19) T-1,2-Dichloroethene	9.44	96	207162	117.63	ug/kg	83
20) Isopropyl Ether	9.92	45	993962	156.70	ug/kg#	87
21) C-1,2-Dichloroethene	10.69	96	226055	119.36	ug/kg	82
22) 1,1-Dichloroethane	10.12	63	407675	140.65	ug/kg	97
23) Vinyl Acetate	10.31	43	2748668	639.19	ug/kg	92
24) Chloroprene	10.11	88	171924	104.51	ug/kg	50
25) 2-Butanone	11.19	72	93646	493.70	ug/kg	55
26) Propionitrile	11.46	54	282632	1307.83	ug/kg	100
27) 2,2-Dichloropropane	10.81	77	273869	132.97	ug/kg	100
28) Methacrylonitrile	11.50	67	781710	1114.27	ug/kg	66
29) Chloroform	10.90	83	371449	133.25	ug/kg	93
31) Dibromofluoromethane	11.08	113	156343	94.43	ug/kg	100
32) Bromochloromethane	10.88	128	118379	109.21	ug/kg#	63
33) 1,1,1-Trichloroethane	11.19	97	276166	142.74	ug/kg	97
34) 1,1-Dichloropropene	11.30	75	290482	131.90	ug/kg	95
35) Diethyl Ether	8.14	59	211440	141.26	ug/kg	90
36) Methyl Acetate	9.40	74	39449	136.06	ug/kg#	54
37) Cyclohexane	10.97	56	371866	156.81	ug/kg	84
39) Methyl Cyclohexane	12.09	55	267156	137.01	ug/kg#	80
40) Carbon Tetrachloride	11.16	117	294584	134.14	ug/kg	100
41) 1,2-Dichloroethane	11.68	62	286370	147.46	ug/kg	94
42) Benzene	11.54	78	742197	96.31	ug/kg	84
43) Isobutyl Alcohol	11.56	43	279048	3708.08	ug/kg#	1
44) Trichloroethene	12.06	130	219946	99.24	ug/kg	94
45) 1,2-Dichloropropane	12.50	63	239928	121.55	ug/kg	89
46) Methyl Methacrylate	12.58	100	60075	99.27	ug/kg	81
47) 1,4-Dioxane	12.71	88	26984	1540.47	ug/kg	85
48) Bromodichloromethane	12.52	83	291764	125.85	ug/kg	96
49) Dibromomethane	12.43	93	143281	113.61	ug/kg	87
50) 4-Methyl-2-Pentanone	13.52	100	135514	429.39	ug/kg#	43
51) 2-Chloroethyl vinyl ether	12.94	63	4640	701.53	ug/kg#	100
52) 2-Hexanone	14.22	43	803787	644.15	ug/kg	92

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\102720\202JV010.D Vial: 9
Acq On : 27 Oct 2020 2:30 pm Operator: KKW
Sample : CAL8 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 13:52 2020 Quant Results File: 102720.RES

Quant Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Oct 27 11:31:37 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

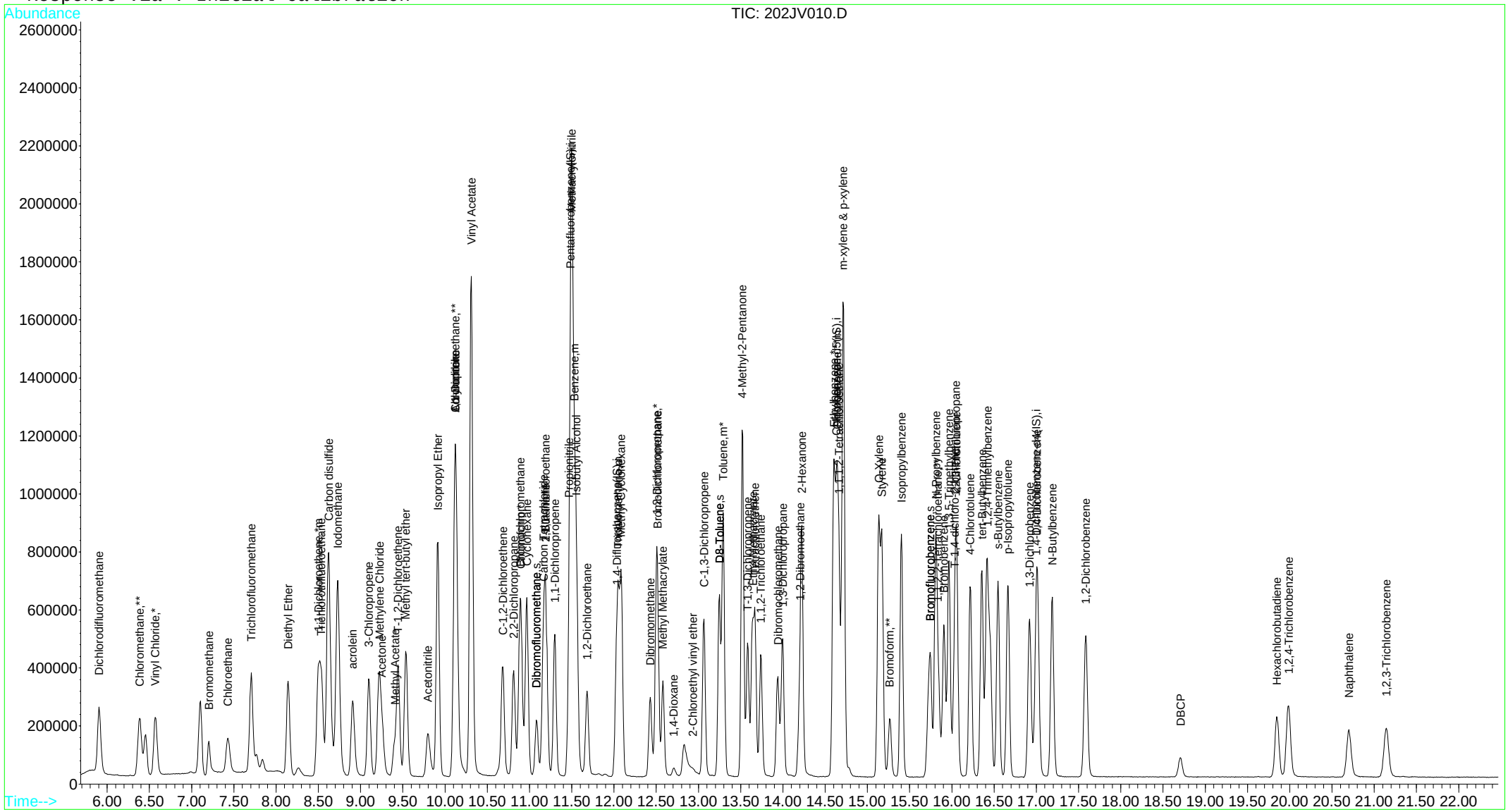
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	13.07	75	385478	118.40 ug/kg	82
55) D8-Toluene	13.25	98	484633	75.54 ug/kg	92
57) Toluene	13.29	92	486253	95.61 ug/kg	99
58) Ethyl Methacrylate	13.64	69	286135	102.41 ug/kg	79
59) T-1,3-Dichloropropene	13.58	75	313666	110.50 ug/kg	85
60) 1,1,2-Trichloroethane	13.74	97	169528	95.46 ug/kg	98
61) 1,3-Dichloropropane	14.00	76	348797	102.24 ug/kg	99
62) Tetrachloroethene	13.67	164	147750	84.10 ug/kg	93
63) Dibromochloromethane	13.93	129	237701	105.61 ug/kg	100
64) 1,2-Dibromoethane	14.20	107	203636	103.22 ug/kg	98
65) Chlorobenzene	14.64	112	513089	91.95 ug/kg	93
66) 1,1,1,2-Tetrachloroethane	14.67	131	197522	98.25 ug/kg#	54
67) Ethylbenzene	14.60	106	270143	98.31 ug/kg	95
68) m-xylene & p-xylene	14.72	106	631666	187.41 ug/kg	92
69) O-Xylene	15.13	106	327472	97.10 ug/kg	92
70) Bromoform	15.27	173	131595	89.70 ug/kg	99
71) Styrene	15.17	104	565192	92.74 ug/kg	94
72) Isopropylbenzene	15.40	105	784204	99.37 ug/kg	98
73) 1,2,3-Trichloropropane	16.04	75	235919	92.69 ug/kg	97
74) 1,1,2,2-Tetrachloroethane	15.84	83	206498	90.38 ug/kg	98
76) Bromofluorobenzene	15.75	95	192180	73.66 ug/kg#	63
77) T-1,4-dichloro-2-butene	16.02	53	54441	131.12 ug/kg#	50
78) N-Propylbenzene	15.81	91	918981	99.79 ug/kg	97
80) Bromobenzene	15.91	156	208134	107.67 ug/kg	83
81) 1,3,5-Trimethylbenzene	15.97	105	597558	133.28 ug/kg	94
82) 2-Chlorotoluene	16.05	91	540503	130.73 ug/kg	94
83) 4-Chlorotoluene	16.21	91	574341	133.48 ug/kg	95
84) 1,2,4-Trimethylbenzene	16.41	105	618949	136.26 ug/kg	95
85) s-Butylbenzene	16.55	105	720219	132.95 ug/kg	96
86) tert-Butylbenzene	16.36	119	525154	130.97 ug/kg	91
87) p-Isopropyltoluene	16.67	119	619302	130.94 ug/kg	94
88) 1,3-Dichlorobenzene	16.92	146	361815	110.25 ug/kg	95
89) 1,4-Dichlorobenzene	17.01	146	360314	105.22 ug/kg	96
90) 1,2-Dichlorobenzene	17.58	146	338990	110.57 ug/kg	95
91) N-Butylbenzene	17.19	91	555755	150.24 ug/kg	98
92) DBCP	18.71	75	29774	158.29 ug/kg	68
93) Naphthalene	20.70	128	297354	137.19 ug/kg	100
94) 1,2,4-Trichlorobenzene	19.99	180	160164	119.38 ug/kg	99
95) Hexachlorobutadiene	19.84	225	76237	137.42 ug/kg	99
96) 1,2,3-Trichlorobenzene	21.14	180	119612	121.47 ug/kg	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\102720\202JV010.D Vial: 9
Acq On : 27 Oct 2020 2:30 pm Operator: KKW
Sample : CAL8 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 13:52 2020 Quant Results File: 102720.RES

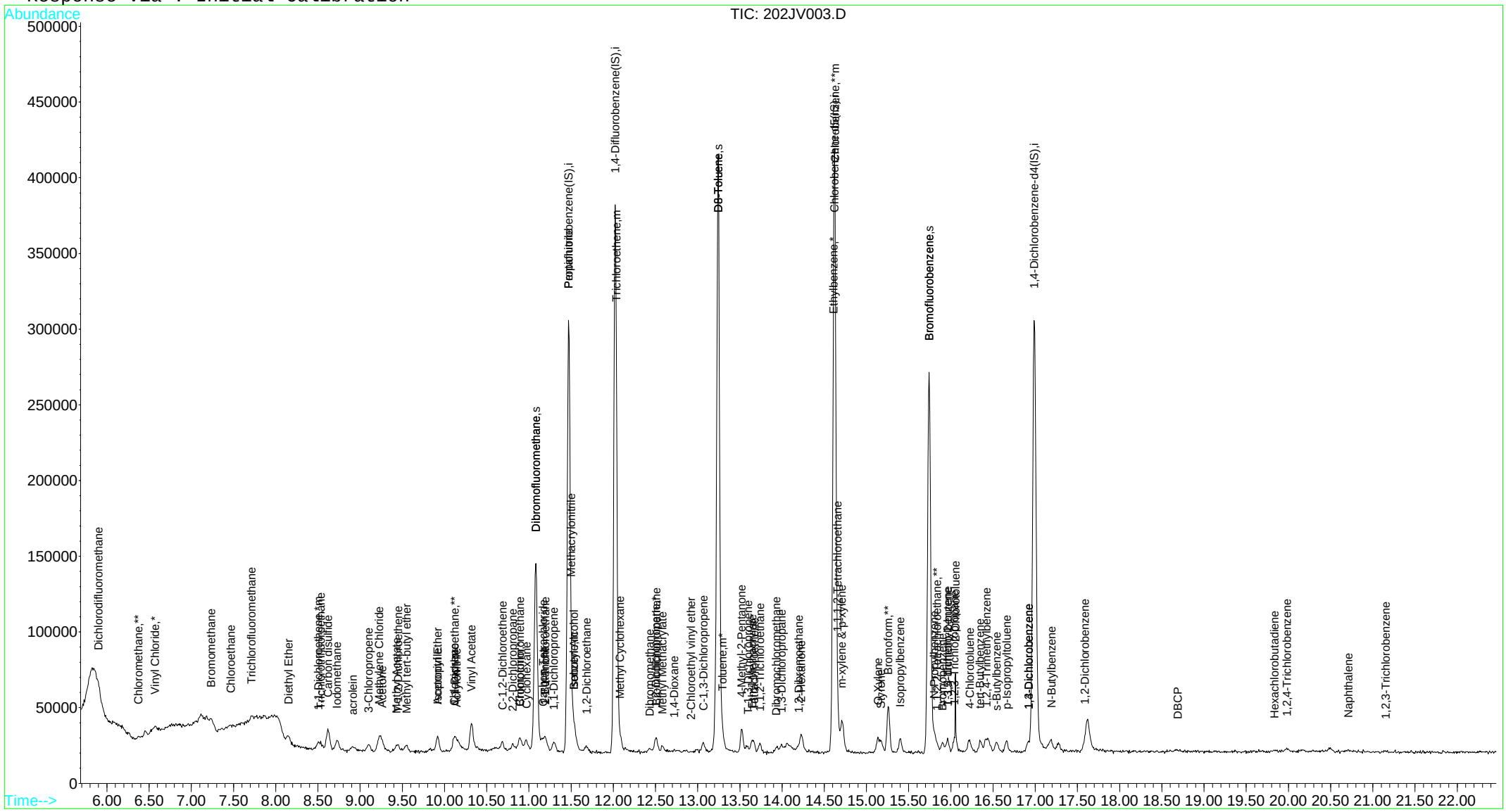
Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\102720\202JV003.D Vial: 2
Acq On : 27 Oct 2020 11:08 am Operator: KKW
Sample : CAL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 13:46 2020 Quant Results File: 102720.RES

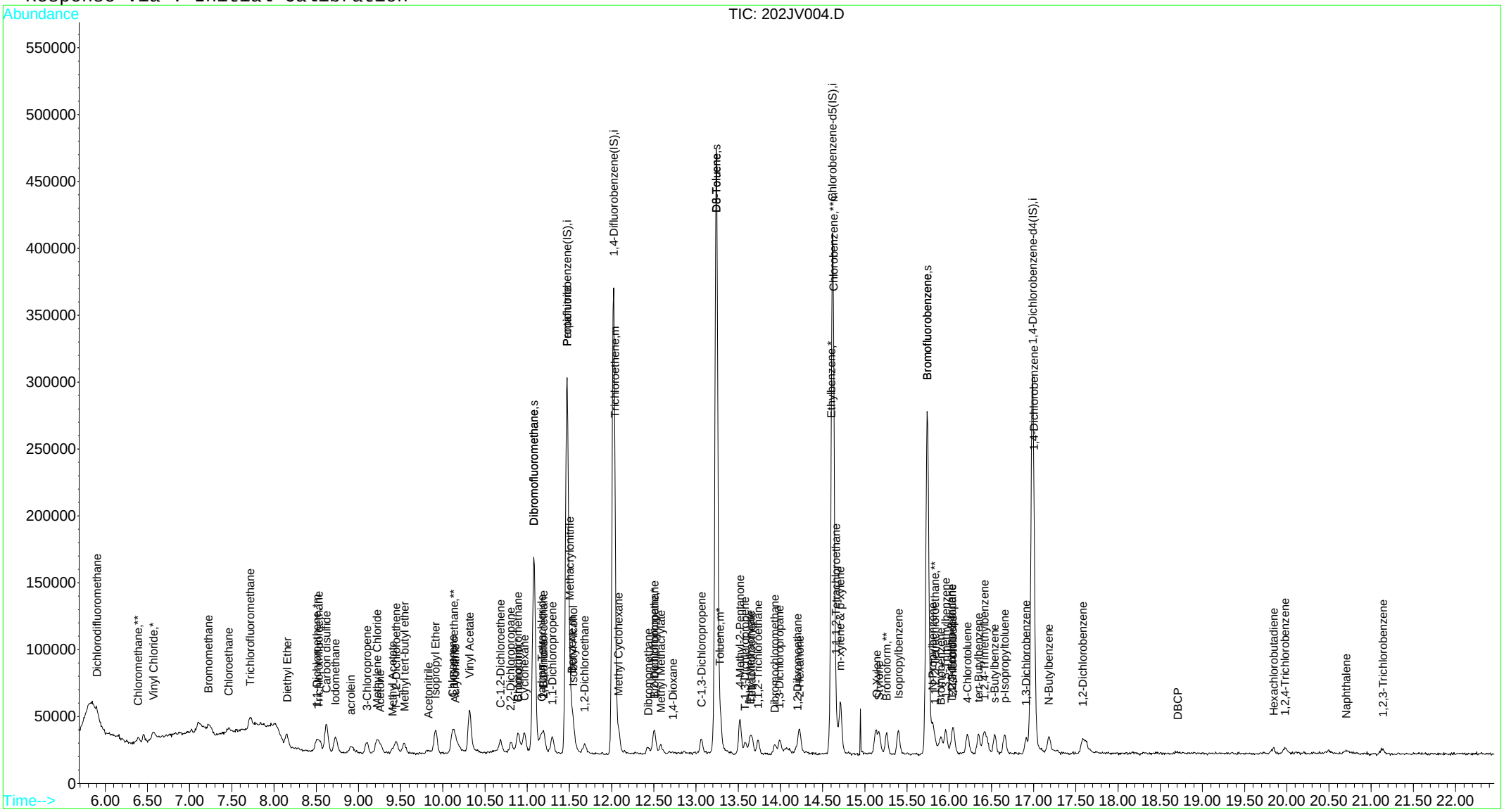
Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\102720\202JV004.D Vial: 3
Acq On : 27 Oct 2020 11:37 am Operator: KKW
Sample : CAL2 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 14:02 2020 Quant Results File: 102720.RES

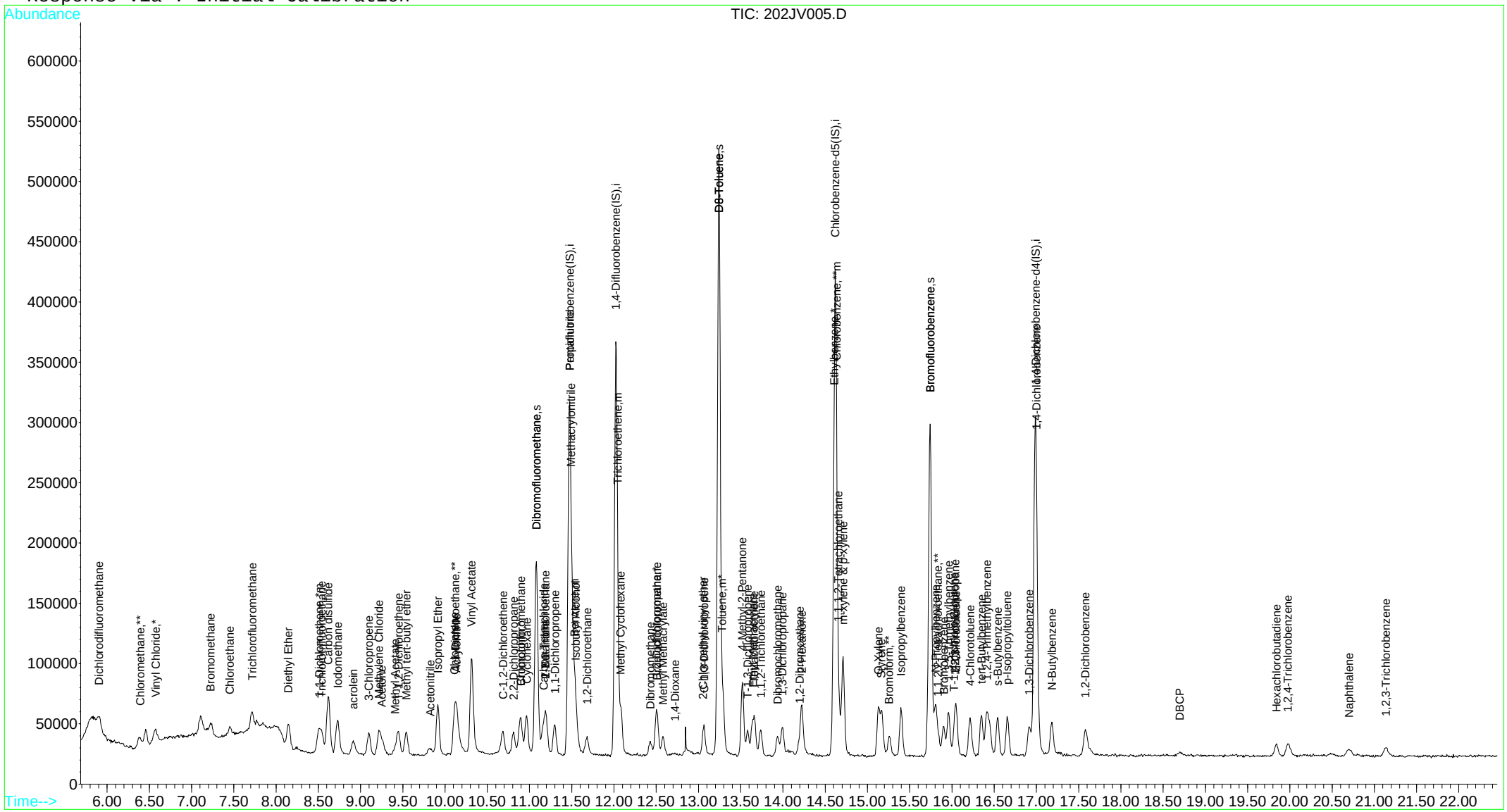
Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\102720\202JV005.D Vial: 4
Acq On : 27 Oct 2020 12:06 pm Operator: KKW
Sample : CAL3 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 11:29 2020 Quant Results File: 102720.RES

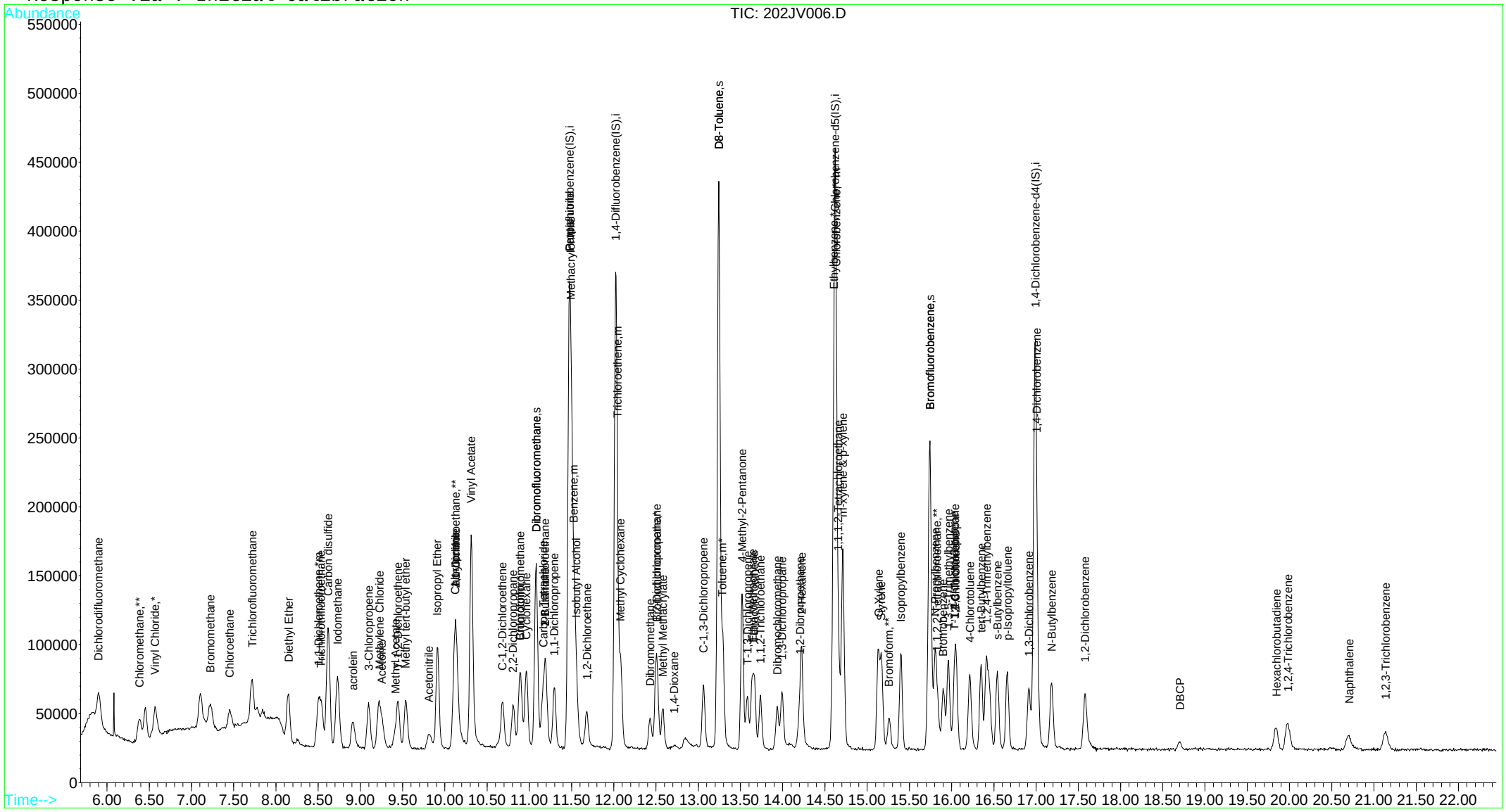
Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\102720\202JV006.D Vial: 5
Acq On : 27 Oct 2020 12:35 pm Operator: KKW
Sample : CAL4 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 11:57 2020 Quant Results File: 102720.RES

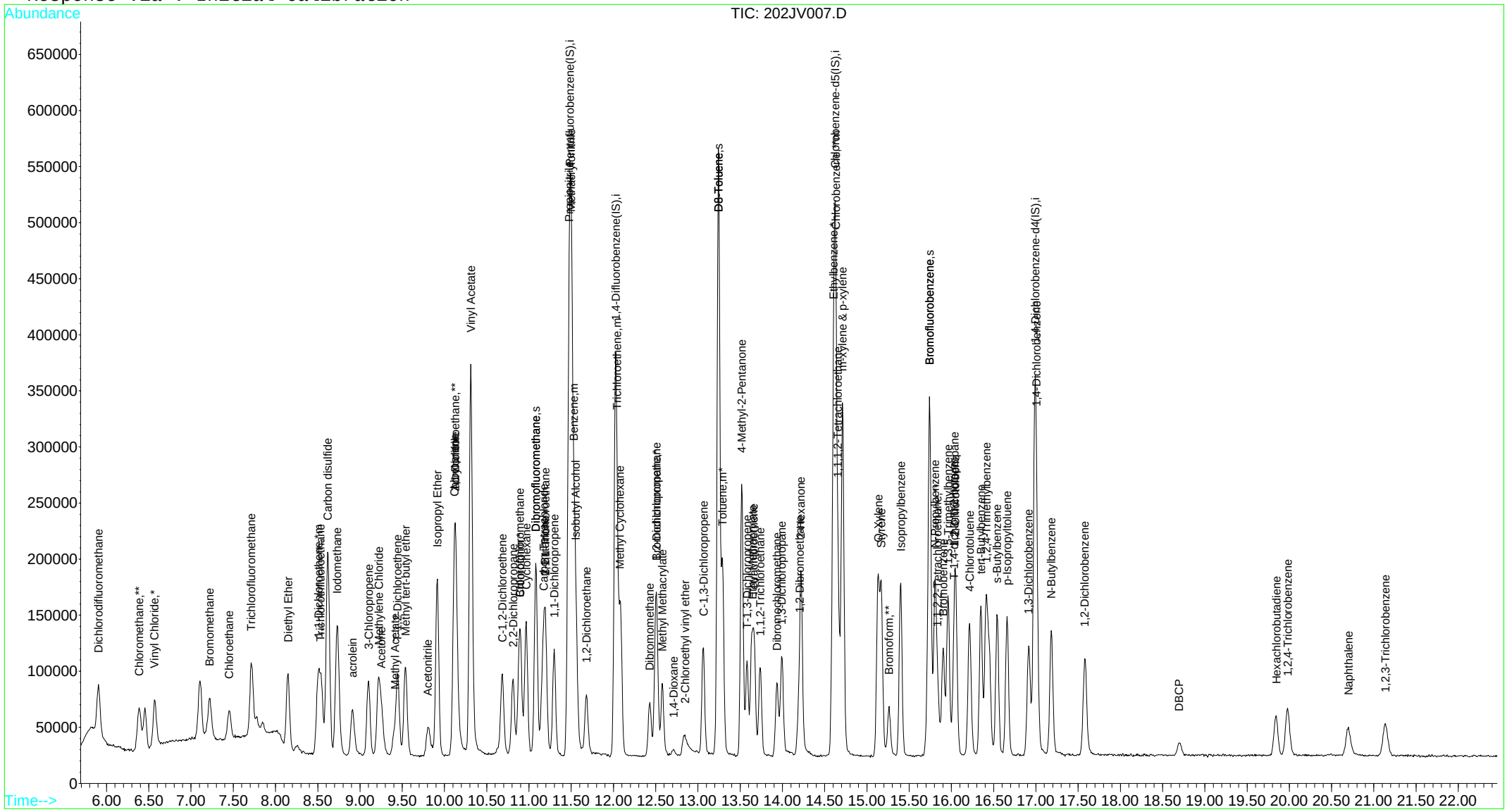
Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\102720\202JV007.D Vial: 6
Acq On : 27 Oct 2020 1:04 pm Operator: KKW
Sample : CAL5 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 12:26 2020 Quant Results File: 102720.RES

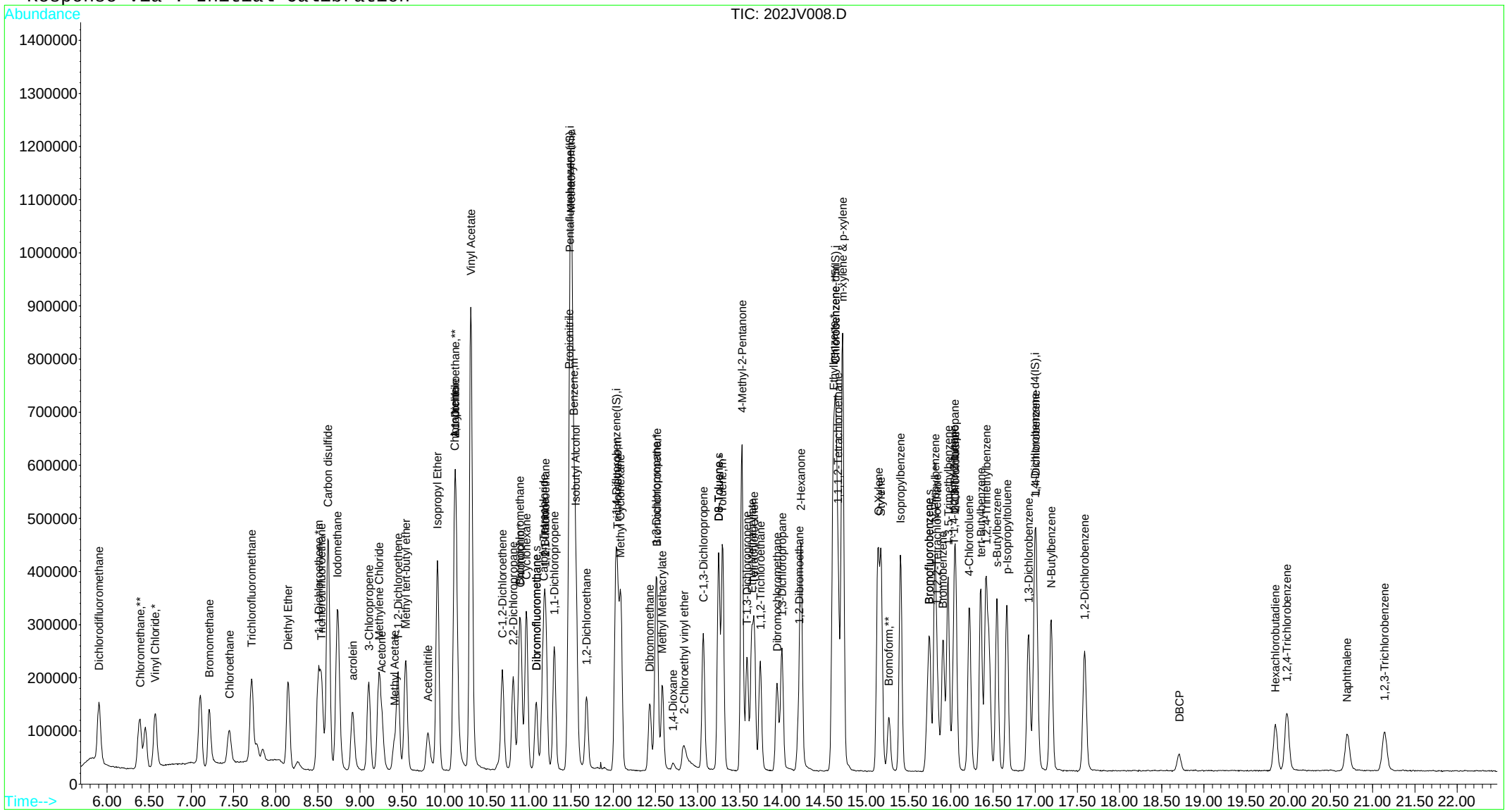
Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\102720\202JV008.D Vial: 7
Acq On : 27 Oct 2020 1:33 pm Operator: KKW
Sample : CAL6 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 14:09 2020 Quant Results File: 102720.RES

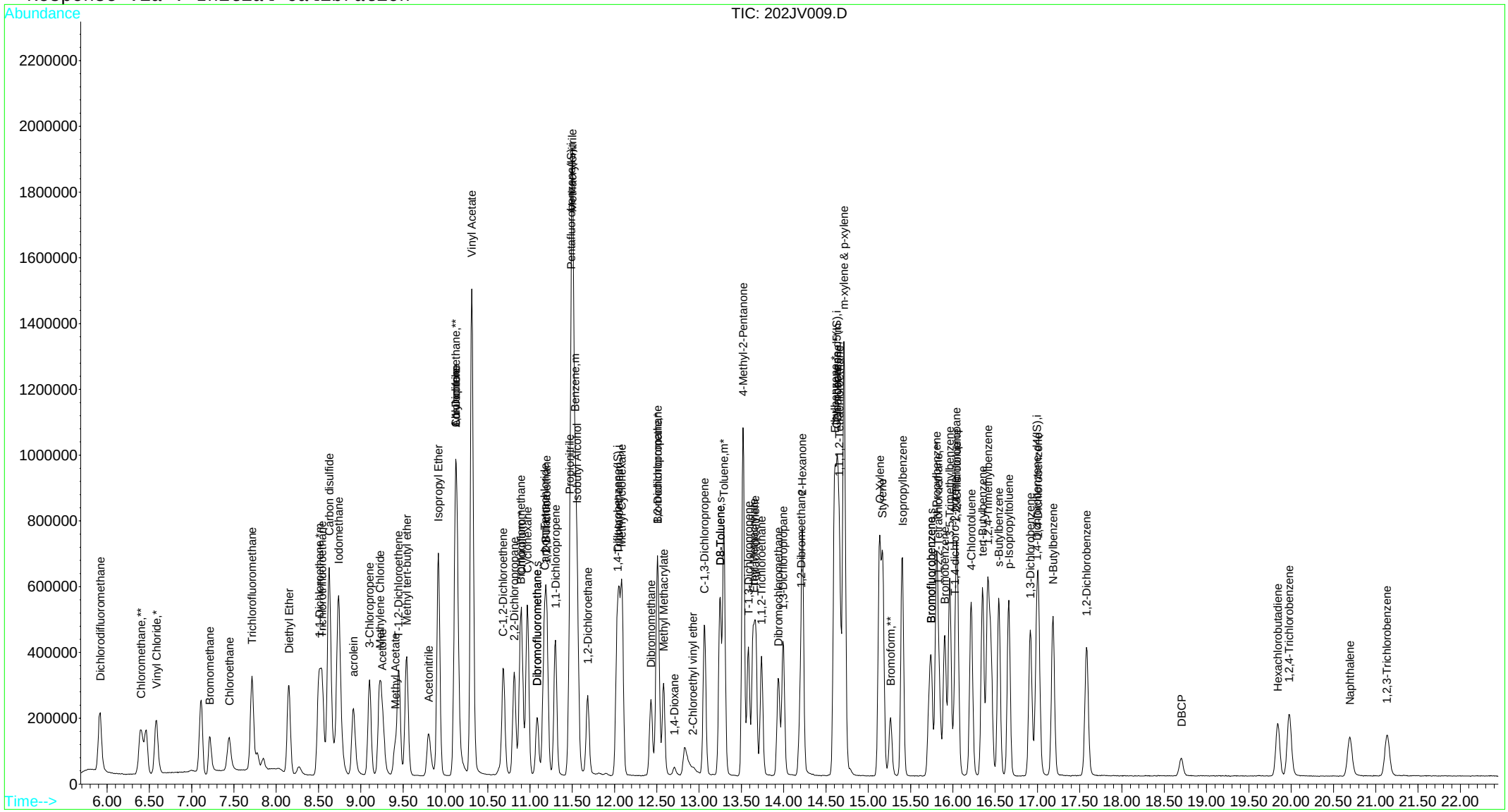
Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\102720\202JV009.D Vial: 8
Acq On : 27 Oct 2020 2:01 pm Operator: KKW
Sample : CAL7 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 14:10 2020 Quant Results File: 102720.RES

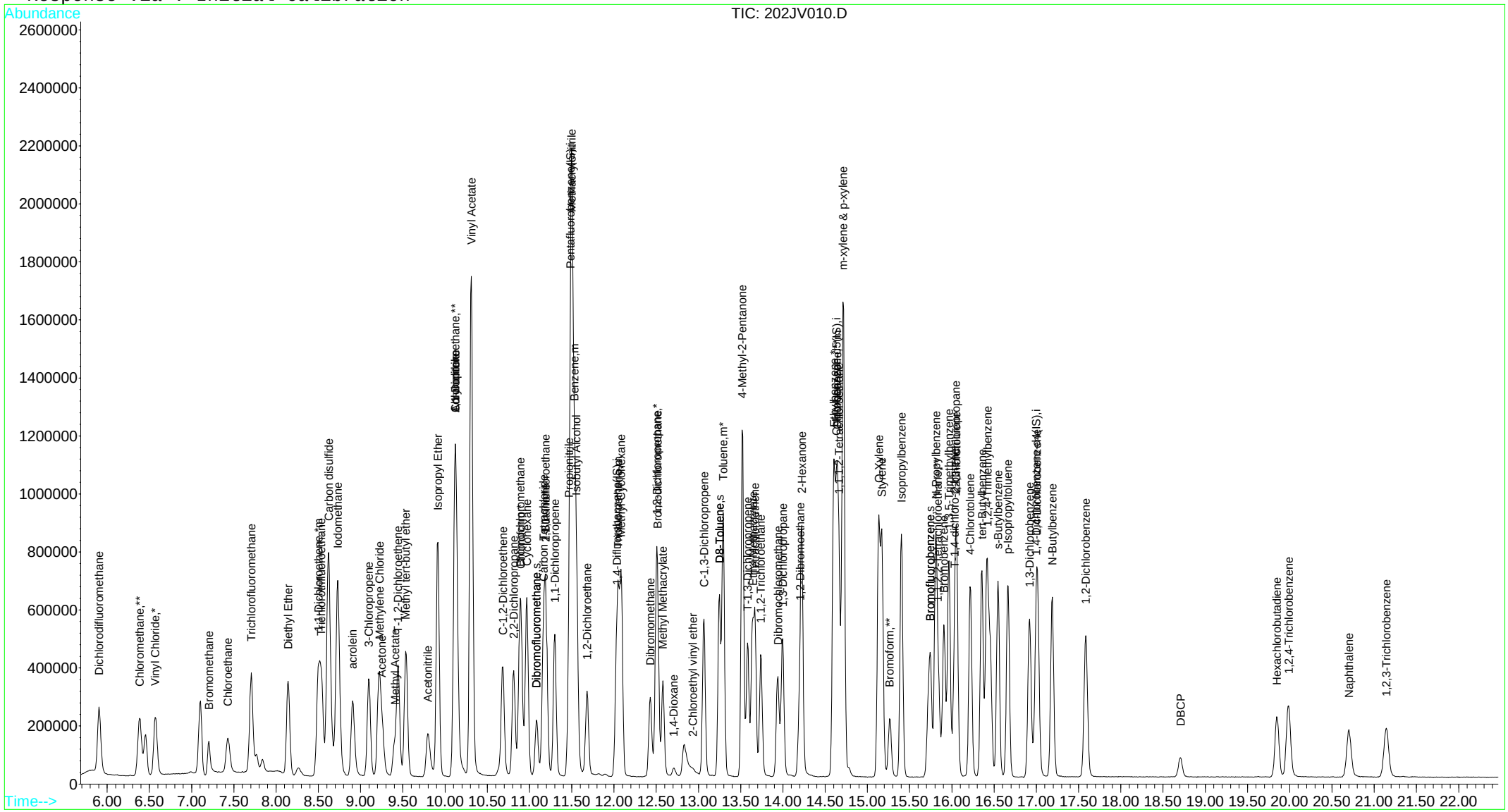
Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\102720\202JV010.D Vial: 9
Acq On : 27 Oct 2020 2:30 pm Operator: KKW
Sample : CAL8 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 27 13:52 2020 Quant Results File: 102720.RES

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\102720\202JV013.D Vial: 12
Acq On : 27 Oct 2020 3:56 pm Operator: KKW
Sample : SCV1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 10 11:49 2020 Quant Results File: 102720.RES

Quant Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.48	168	200527	50.00	ug/kg	0.00
38) 1,4-Difluorobenzene(IS)	12.03	114	341902	50.00	ug/kg	0.00
56) Chlorobenzene-d5(IS)	14.62	82	167799	50.00	ug/kg	0.00
79) 1,4-Dichlorobenzene-d4(IS)	17.00	152	118230	50.00	ug/kg	0.00
System Monitoring Compounds						
30) Dibromofluoromethane	11.09	113	106338	51.76	ug/kg	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 103.52%			
54) D8-Toluene	13.25	98	307234	48.82	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 146		Recovery = 97.64%			
75) Bromofluorobenzene	15.75	95	118282	47.26	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 142		Recovery = 94.52%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.92	85	61132	19.08	ug/kg	98
3) Chloromethane	6.40	50	86068	19.91	ug/kg	97
4) Vinyl Chloride	6.59	62	68078	20.19	ug/kg	98
5) Bromomethane	7.22	96	37473	22.66	ug/kg	97
6) Chloroethane	7.46	64	39762	19.43	ug/kg	99
7) Trichlorofluoromethane	7.72	101	77129	20.47	ug/kg	99
8) Trichlorotrifluoroethane	8.55	101	96492	48.50	ug/kg	98
9) acrolein	8.92	56	84530	235.73	ug/kg	100
10) Acetone	9.26	43	175843	298.15	ug/kg	99
11) 1,1-Dichloroethene	8.51	96	88333	46.69	ug/kg	97
12) 3-Chloropropene	9.11	76	58225	56.29	ug/kg	100
13) Acetonitrile	9.81	41	80363	315.78	ug/kg	98
14) Iodomethane	8.74	142	150626	71.48	ug/kg	100
15) Carbon disulfide	8.63	76	328726	79.77	ug/kg	99
16) Methylene Chloride	9.23	84	111131	48.92	ug/kg	99
17) Methyl tert-butyl ether	9.55	73	253701	54.71	ug/kg	99
18) Acrylonitrile	10.12	53	228190	193.86	ug/kg#	74
19) T-1,2-Dichloroethene	9.45	96	102251	49.05	ug/kg	99
20) Isopropyl Ether	9.92	45	523651	52.30	ug/kg	100
21) C-1,2-Dichloroethene	10.69	96	112686	49.71	ug/kg	100
22) 1,1-Dichloroethane	10.13	63	209431	49.12	ug/kg#	100
23) Vinyl Acetate	10.32	43	320065	54.29	ug/kg	98
24) Chloroprene	10.12	88	92703	54.19	ug/kg	1
25) 2-Butanone	11.18	72	78135	399.31	ug/kg	50
26) Propionitrile	11.48	54	14206	49.08	ug/kg	100
27) 2,2-Dichloropropane	10.82	77	134239	48.37	ug/kg	100
28) Methacrylonitrile	11.51	67	46280	53.27	ug/kg	81
29) Chloroform	10.91	83	187552	48.67	ug/kg	98
31) Dibromofluoromethane	11.09	113	106338	51.76	ug/kg	100
32) Bromochloromethane	10.89	128	61409	51.17	ug/kg	96
33) 1,1,1-Trichloroethane	11.21	97	144447	51.10	ug/kg	98
34) 1,1-Dichloropropene	11.30	75	143601	49.07	ug/kg	99
35) Diethyl Ether	8.15	59	107650	49.49	ug/kg	98
36) Methyl Acetate	9.41	74	17779	45.12	ug/kg	98
37) Cyclohexane	10.97	56	187776	50.69	ug/kg	96
39) Methyl Cyclohexane	12.09	55	129941	50.34	ug/kg	100
40) Carbon Tetrachloride	11.17	117	147474	50.90	ug/kg	100
41) 1,2-Dichloroethane	11.69	62	143561	49.53	ug/kg	98
42) Benzene	11.55	78	405058	50.61	ug/kg#	54
43) Isobutyl Alcohol	11.57	43	76931	545.32	ug/kg#	1
44) Trichloroethene	12.05	130	107103	50.92	ug/kg	99
45) 1,2-Dichloropropane	12.51	63	121529	48.83	ug/kg	98
46) Methyl Methacrylate	12.58	100	31668	52.92	ug/kg	97
47) 1,4-Dioxane	12.72	88	8105	613.18	ug/kg	94
48) Bromodichloromethane	12.52	83	146979	50.31	ug/kg	98
49) Dibromomethane	12.43	93	70777	49.26	ug/kg	98
50) 4-Methyl-2-Pentanone	13.52	100	74804	270.82	ug/kg	96
51) 2-Chloroethyl vinyl ether	12.84	63	2194	290.05	ug/kg#	100
52) 2-Hexanone	14.22	43	422738	252.44	ug/kg	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\102720\202JV013.D Vial: 12
Acq On : 27 Oct 2020 3:56 pm Operator: KKW
Sample : SCV1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 10 11:49 2020 Quant Results File: 102720.RES

Quant Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration
DataAcq Meth : 8260S

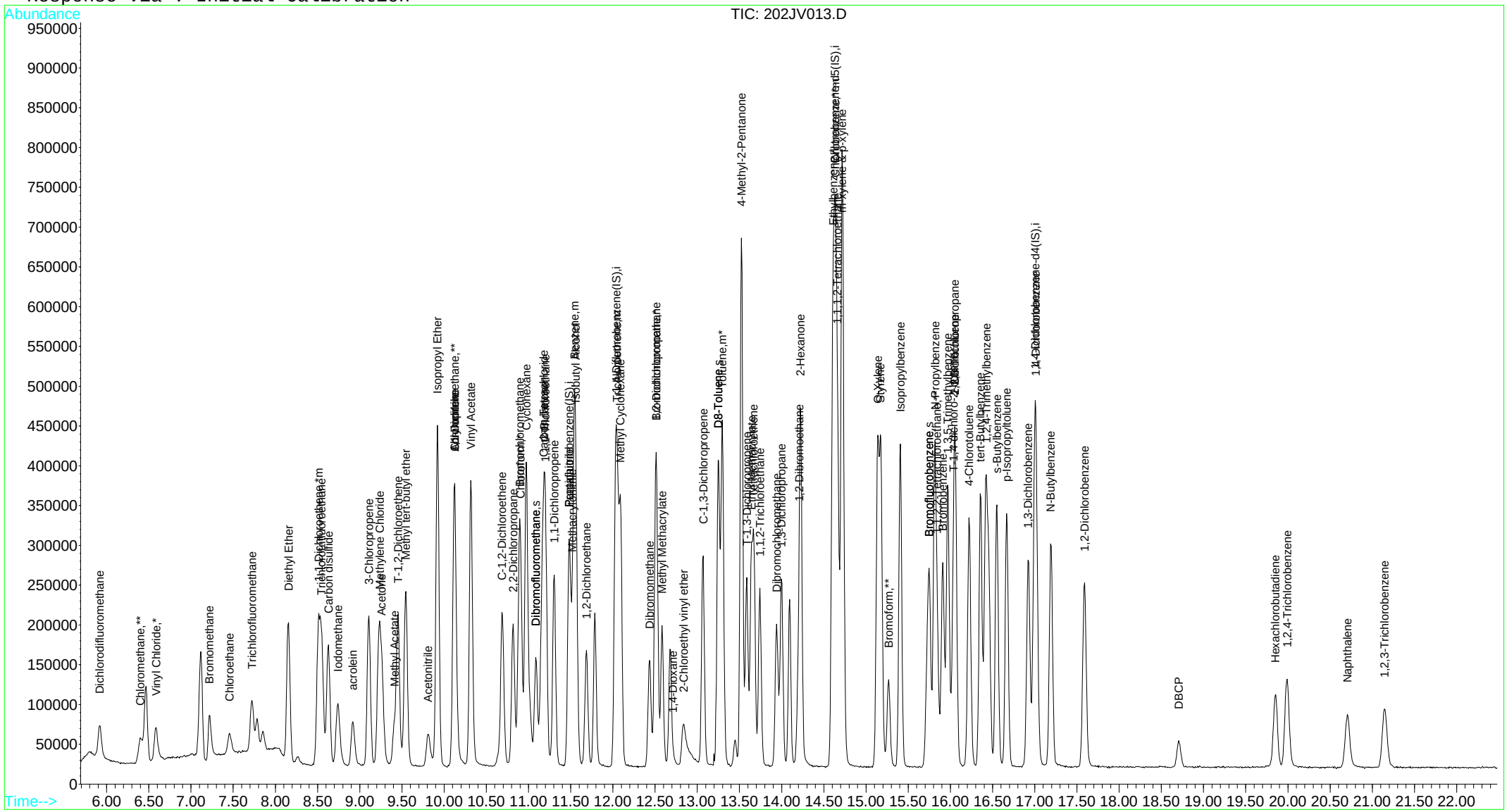
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.06	75	185974	49.52	ug/kg	99
55) D8-Toluene	13.25	98	307234	48.82	ug/kg	93
57) Toluene	13.30	92	237985	48.45	ug/kg	99
58) Ethyl Methacrylate	13.64	69	154008	48.60	ug/kg	97
59) T-1,3-Dichloropropene	13.59	75	162641	52.50	ug/kg	97
60) 1,1,2-Trichloroethane	13.74	97	85814	48.10	ug/kg	98
61) 1,3-Dichloropropane	14.00	76	172883	46.83	ug/kg	99
62) Tetrachloroethene	13.67	164	74871	50.60	ug/kg	100
63) Dibromochloromethane	13.94	129	118675	49.94	ug/kg	99
64) 1,2-Dibromoethane	14.20	107	101615	50.42	ug/kg	100
65) Chlorobenzene	14.65	112	259537	49.52	ug/kg	100
66) 1,1,1,2-Tetrachloroethane	14.67	131	99936	50.54	ug/kg	96
67) Ethylbenzene	14.60	106	128946	49.24	ug/kg	100
68) m-xylene & p-xylene	14.72	106	308780	96.91	ug/kg	100
69) O-Xylene	15.14	106	156673	49.14	ug/kg	100
70) Bromoform	15.27	173	69546	54.39	ug/kg	99
71) Styrene	15.17	104	282126	49.77	ug/kg	100
72) Isopropylbenzene	15.41	105	388180	49.70	ug/kg	100
73) 1,2,3-Trichloropropane	16.04	75	123276	49.40	ug/kg	98
74) 1,1,2,2-Tetrachloroethane	15.85	83	111710	51.55	ug/kg	100
76) Bromofluorobenzene	15.75	95	118282	47.26	ug/kg#	67
77) T-1,4-dichloro-2-butene	16.03	53	27432	48.45	ug/kg#	1
78) N-Propylbenzene	15.81	91	445639	49.64	ug/kg	100
80) Bromobenzene	15.91	156	101537	51.61	ug/kg	98
81) 1,3,5-Trimethylbenzene	15.97	105	291580	50.50	ug/kg	99
82) 2-Chlorotoluene	16.06	91	268404	50.19	ug/kg	100
83) 4-Chlorotoluene	16.22	91	278416	49.83	ug/kg	100
84) 1,2,4-Trimethylbenzene	16.42	105	299693	49.88	ug/kg	100
85) s-Butylbenzene	16.55	105	360062	52.57	ug/kg	100
86) tert-Butylbenzene	16.36	119	258443	51.38	ug/kg	99
87) p-Isopropyltoluene	16.67	119	302772	51.60	ug/kg	100
88) 1,3-Dichlorobenzene	16.93	146	171867	51.30	ug/kg	98
89) 1,4-Dichlorobenzene	17.02	146	175148	50.67	ug/kg	99
90) 1,2-Dichlorobenzene	17.59	146	161613	52.66	ug/kg	99
91) N-Butylbenzene	17.19	91	261484	50.55	ug/kg	100
92) DBCP	18.70	75	14943	54.05	ug/kg	100
93) Naphthalene	20.70	128	124400	50.28	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.99	180	73362	52.46	ug/kg	99
95) Hexachlorobutadiene	19.85	225	34500	53.41	ug/kg	99
96) 1,2,3-Trichlorobenzene	21.15	180	53356	52.40	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\102720\202JV013.D Vial: 12
Acq On : 27 Oct 2020 3:56 pm Operator: KKW
Sample : SCV1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 10 11:49 2020 Quant Results File: 102720.RES

Method : C:\HPCHEM\1\METHODS\102720.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal 2010142
Last Update : Wed Oct 28 08:54:06 2020
Response via : Initial Calibration



TETRA TECH ISG
TtNUS, Information Systems Group

Completion Ticket

On 12/7/2020 at 9:39 AM the following files were submitted to Tetra Tech by kdylnicki@encolabs.com with ENCO:

TE016AD07669A1.txt, TE016AD07669A3.txt

If you need to identify this session at a later date refer to Ticket Key:

2020127_1950642135_ledd_ENCO

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I Lori S. Mangrum, as the designated Quality Assurance Officer, hereby attest that all electronic deliverables have been thoroughly reviewed and are in agreement with the associated hardcopy data. The enclosed electronic files have been reviewed for accuracy (including significant figures), completeness and format. The laboratory will be responsible for any labor time necessary to correct enclosed electronic deliverables that have been found to be in error. I can be reached at (407) 826-5314 if there are any questions or problems with the enclosed electronic deliverables.

Signature:_____ Title: Quality Assurance Manager Date: December 08, 2020

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ENCO Laboratories

Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Monday, December 28, 2020
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AD08762

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Monday, December 21, 2020.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

www.encolabs.com

Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Client PM: Alex Murphy
Project Number: 112G08970
ENCO Project ID: AD08762
SDG: AD08762-TE016

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling and processing will be discussed in the Remarks section below.

Remarks

List of instruments used:

Analytical and Preparation Method	SOP Reference Instrument
EPA 8260D / 5030B_MS	OVGCMS5

Analysis: EPA 8260D

Manual integrations were performed on samples associated with EPA 8260D. All data & explanations are included in the raw data section of the report.

Affected Samples: CRCA-ASEFFLUENT-20201221[AD08762-01], CRCA-ASINFLUENT-20201221[AD08762-02], AA64189-CCV1
The associated continuing calibration verification standard exhibited high bias for 1,1,1-trichloroethane and bromomethane. The analytes were not detected in the sample.

Affected Samples: CRCA-ASEFFLUENT-20201221[AD08762-01], CRCA-ASINFLUENT-20201221[AD08762-02], 0L23041-BS1
The associated laboratory control sample exhibited low bias for methyl acetate; the associated sample had ND (non-detect) results, but sensitivity was verified by analyzing a standard with a concentration equivalent to the reporting limit.

Affected Samples: 0L23041-MS1, 0L23041-MSD1
Matrix spike recovery was outside acceptance limits for methyl acetate.

Affected Samples: 0L23041-MS1, 0L23041-MSD1
Precision between duplicate matrix spikes for the same sample was outside acceptance limits for bromomethane.

Affected Samples: AA64189-CCV1
The continuing calibration verification standard exhibited low bias for multiple analytes; the associated sample had ND (non-detect) results, but sensitivity was verified by analyzing a standard with a concentration equivalent to the reporting limit.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Kaitlin Dylnicki
Project Manager

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-ASEFFLUENT-20201221	Lab ID: AD08762-01	Sampled: 12/21/20 14:30	Received: 12/21/20 15:07

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	01/04/21	12/23/20 13:25	12/24/20 06:44

Client ID: CRCA-ASINFLUENT-20201221	Lab ID: AD08762-02	Sampled: 12/21/20 14:40	Received: 12/21/20 15:07

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	01/04/21	12/23/20 13:25	12/24/20 07:14

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-ASINFLUENT-20201221 **Lab ID:** AD08762-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
cis-1,2-Dichloroethene	0.53	I	0.53	2.5	ug/L	EPA 8260D	
trans-1,2-Dichloroethene	1.3	I	0.73	2.5	ug/L	EPA 8260D	
Vinyl chloride	16		0.71	2.5	ug/L	EPA 8260D	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20201221 **Lab Sample ID:** AD08762-01 **Received:** 12/21/20 15:07

Matrix: Ground Water **Sampled:** 12/21/20 14:30 **Work Order:** AD08762

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	QV-01
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	0L23041	EPA 8260D	12/24/20 06:44	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	0L23041	EPA 8260D	12/24/20 06:44	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20201221 **Lab Sample ID:** AD08762-01 **Received:** 12/21/20 15:07

Matrix: Ground Water **Sampled:** 12/21/20 14:30 **Work Order:** AD08762

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	0L23041	EPA 8260D	12/24/20 06:44	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*55*	*1*	*50.0*	*109 %*	*41-142*	*0L23041*	*EPA 8260D*	*12/24/20 06:44*	*KKW*	
Dibromofluoromethane	*59*	*1*	*50.0*	*117 %*	*53-146*	*0L23041*	*EPA 8260D*	*12/24/20 06:44*	*KKW*	
Toluene-d8	*51*	*1*	*50.0*	*101 %*	*41-146*	*0L23041*	*EPA 8260D*	*12/24/20 06:44*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20201221 **Lab Sample ID:** AD08762-02 **Received:** 12/21/20 15:07

Matrix: Ground Water **Sampled:** 12/21/20 14:40 **Work Order:** AD08762

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	QV-01
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	0L23041	EPA 8260D	12/24/20 07:14	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	0L23041	EPA 8260D	12/24/20 07:14	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
cis-1,2-Dichloroethene [156-59-2]^	**0.53**	I	ug/L	1	0.53	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
trans-1,2-Dichloroethene [156-60-5]^	**1.3**	I	ug/L	1	0.73	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	

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ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20201221 **Lab Sample ID:** AD08762-02 **Received:** 12/21/20 15:07

Matrix: Ground Water **Sampled:** 12/21/20 14:40 **Work Order:** AD08762

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Vinyl chloride [75-01-4]^	**16**		ug/L	1	0.71	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	0L23041	EPA 8260D	12/24/20 07:14	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*55*	*1*	*50.0*	*110 %*	*41-142*	*0L23041*	*EPA 8260D*	*12/24/20 07:14*	*KKW*	
Dibromofluoromethane	*58*	*1*	*50.0*	*116 %*	*53-146*	*0L23041*	*EPA 8260D*	*12/24/20 07:14*	*KKW*	
Toluene-d8	*50*	*1*	*50.0*	*100 %*	*41-146*	*0L23041*	*EPA 8260D*	*12/24/20 07:14*	*KKW*	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0L23041 - EPA 5030B_MS

Blank (0L23041-BLK1) Prepared: 12/23/2020 13:25 Analyzed: 12/23/2020 22:49

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0L23041 - EPA 5030B_MS - Continued

Blank (0L23041-BLK1) Continued Prepared: 12/23/2020 13:25 Analyzed: 12/23/2020 22:49

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*53*			*ug/L*	*50.0*		*105*	*41-142*			
Dibromofluoromethane	*60*			*ug/L*	*50.0*		*120*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*99*	*41-146*			

LCS (0L23041-BS1) Prepared: 12/23/2020 13:25 Analyzed: 12/23/2020 20:51

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	24		2.5	ug/L	20.0		121	57-148			
1,1,2,2-Tetrachloroethane	20		2.5	ug/L	20.0		101	60-139			
1,1,2-Trichloroethane	17		2.5	ug/L	20.0		87	57-141			
1,1-Dichloroethane	19		2.5	ug/L	20.0		95	57-142			
1,1-Dichloroethene	19		2.5	ug/L	20.0		96	47-139			
1,2,4-Trichlorobenzene	16		2.5	ug/L	20.0		82	52-159			
1,2-Dibromo-3-chloropropane	17		2.5	ug/L	20.0		84	48-150			
1,2-Dibromoethane	20		2.5	ug/L	20.0		98	57-140			
1,2-Dichlorobenzene	20		2.5	ug/L	20.0		99	63-131			
1,2-Dichloroethane	19		2.5	ug/L	20.0		97	50-156			
1,2-Dichloropropane	17		2.5	ug/L	20.0		83	61-133			
1,3-Dichlorobenzene	19		2.5	ug/L	20.0		97	66-129			
1,4-Dichlorobenzene	19		2.5	ug/L	20.0		97	65-133			
2-Butanone	74		12	ug/L	100		74	10-180			
2-Hexanone	83		12	ug/L	100		83	12-180			
4-Methyl-2-pentanone	91		12	ug/L	100		91	19-180			
Acetone	95		25	ug/L	100		95	10-180			
Benzene	19		2.5	ug/L	20.0		94	56-136			
Bromodichloromethane	20		2.5	ug/L	20.0		101	58-135			
Bromoform	16		2.5	ug/L	20.0		81	46-148			
Bromomethane	7.2		2.5	ug/L	20.0		36	10-173			
Carbon disulfide	20		12	ug/L	20.0		102	43-153			
Carbon Tetrachloride	19		2.5	ug/L	20.0		93	54-156			
Chlorobenzene	21		2.5	ug/L	20.0		104	51-139			
Chloroethane	21		2.5	ug/L	20.0		107	27-180			
Chloroform	22		2.5	ug/L	20.0		111	58-139			
Chloromethane	11		2.5	ug/L	20.0		57	33-154			
cis-1,2-Dichloroethene	20		2.5	ug/L	20.0		101	56-128			
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0		85	64-128			
Cyclohexane	17		2.5	ug/L	20.0		87	70-130			
Dibromochloromethane	20		2.5	ug/L	20.0		98	50-140			
Dichlorodifluoromethane	23		2.5	ug/L	20.0		114	10-180			
Ethylbenzene	19		2.5	ug/L	20.0		97	63-133			
Freon 113	18		2.5	ug/L	20.0		92	47-173			
Isopropylbenzene	21		2.5	ug/L	20.0		107	60-132			
m,p-Xylenes	42		5.0	ug/L	40.0		106	64-133			
Methyl acetate	13		2.5	ug/L	20.0		65	70-130			A-07
Methyl cyclohexane	18		2.5	ug/L	20.0		90	70-130			
Methylene Chloride	20		12	ug/L	20.0		102	43-142			
Methyl-tert-Butyl Ether	22		2.5	ug/L	20.0		109	51-145			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0L23041 - EPA 5030B_MS - Continued

LCS (0L23041-BS1) Continued Prepared: 12/23/2020 13:25 Analyzed: 12/23/2020 20:51

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
o-Xylene	20		2.5	ug/L	20.0		100	61-129			
Styrene	21		2.5	ug/L	20.0		107	59-136			
Tetrachloroethene	16		2.5	ug/L	20.0		80	60-147			
Toluene	20		2.5	ug/L	20.0		99	64-131			
trans-1,2-Dichloroethene	20		2.5	ug/L	20.0		100	54-134			
trans-1,3-Dichloropropene	19		2.5	ug/L	20.0		97	65-149			
Trichloroethene	19		2.5	ug/L	20.0		97	62-135			
Trichlorofluoromethane	22		2.5	ug/L	20.0		112	56-155			
Vinyl chloride	19		2.5	ug/L	20.0		93	20-167			
4-Bromofluorobenzene	*55*			*ug/L*	*50.0*		*110*	*41-142*			
Dibromofluoromethane	*59*			*ug/L*	*50.0*		*118*	*53-146*			
Toluene-d8	*52*			*ug/L*	*50.0*		*104*	*41-146*			

Matrix Spike (0L23041-MS1) Prepared: 12/23/2020 13:25 Analyzed: 12/23/2020 21:20

Source: AD08695-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	27		2.5	ug/L	20.0	0.80 U	136	57-148			
1,1,2,2-Tetrachloroethane	21		2.5	ug/L	20.0	0.54 U	105	60-139			
1,1,2-Trichloroethane	21		2.5	ug/L	20.0	0.76 U	104	57-141			
1,1-Dichloroethane	21		2.5	ug/L	20.0	0.62 U	104	57-142			
1,1-Dichloroethene	23		2.5	ug/L	20.0	0.94 U	114	47-139			
1,2,4-Trichlorobenzene	17		2.5	ug/L	20.0	0.70 U	86	52-159			
1,2-Dibromo-3-chloropropane	18		2.5	ug/L	20.0	0.96 U	89	48-150			
1,2-Dibromoethane	21		2.5	ug/L	20.0	0.78 U	107	57-140			
1,2-Dichlorobenzene	22		2.5	ug/L	20.0	0.73 U	108	63-131			
1,2-Dichloroethane	20		2.5	ug/L	20.0	0.63 U	102	50-156			
1,2-Dichloropropane	18		2.5	ug/L	20.0	0.80 U	88	61-133			
1,3-Dichlorobenzene	23		2.5	ug/L	20.0	0.77 U	114	66-129			
1,4-Dichlorobenzene	20		2.5	ug/L	20.0	0.76 U	102	65-133			
2-Butanone	120		12	ug/L	100	4.5 U	122	10-180			
2-Hexanone	83		12	ug/L	100	2.5 U	83	12-180			
4-Methyl-2-pentanone	94		12	ug/L	100	2.5 U	94	19-180			
Acetone	100		25	ug/L	100	10 U	104	10-180			
Benzene	21		2.5	ug/L	20.0	0.71 U	103	56-136			
Bromodichloromethane	21		2.5	ug/L	20.0	0.52 U	104	58-135			
Bromoform	19		2.5	ug/L	20.0	0.75 U	93	46-148			
Bromomethane	11		2.5	ug/L	20.0	0.95 U	55	10-173			QM-11
Carbon disulfide	23		12	ug/L	20.0	2.5 U	116	43-153			
Carbon Tetrachloride	21		2.5	ug/L	20.0	0.94 U	106	54-156			
Chlorobenzene	21		2.5	ug/L	20.0	0.72 U	106	51-139			
Chloroethane	26		2.5	ug/L	20.0	0.98 U	129	27-180			
Chloroform	25		2.5	ug/L	20.0	0.80 U	127	58-139			
Chloromethane	12		2.5	ug/L	20.0	0.82 U	62	33-154			
cis-1,2-Dichloroethene	21		2.5	ug/L	20.0	0.53 U	105	56-128			
cis-1,3-Dichloropropene	18		2.5	ug/L	20.0	0.59 U	88	64-128			
Cyclohexane	20		2.5	ug/L	20.0	0.93 U	101	70-130			
Dibromochloromethane	21		2.5	ug/L	20.0	0.50 U	103	50-140			
Dichlorodifluoromethane	26		2.5	ug/L	20.0	0.74 U	128	10-180			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0L23041 - EPA 5030B_MS - Continued

Matrix Spike (0L23041-MS1) Continued Prepared: 12/23/2020 13:25 Analyzed: 12/23/2020 21:20

Source: AD08695-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	21		2.5	ug/L	20.0	0.69 U	106	63-133			
Freon 113	22		2.5	ug/L	20.0	0.73 U	112	47-173			
Isopropylbenzene	22		2.5	ug/L	20.0	0.67 U	112	60-132			
m,p-Xylenes	44		5.0	ug/L	40.0	1.3 U	109	64-133			
Methyl acetate	12		2.5	ug/L	20.0	0.95 U	61	70-130			QM-19
Methyl cyclohexane	21		2.5	ug/L	20.0	0.64 U	104	70-130			
Methylene Chloride	20		12	ug/L	20.0	2.5 U	101	43-142			
Methyl-tert-Butyl Ether	24		2.5	ug/L	20.0	0.60 U	118	51-145			
o-Xylene	22		2.5	ug/L	20.0	0.53 U	108	61-129			
Styrene	22		2.5	ug/L	20.0	0.61 U	112	59-136			
Tetrachloroethene	18		2.5	ug/L	20.0	0.76 U	88	60-147			
Toluene	22		2.5	ug/L	20.0	0.72 U	110	64-131			
trans-1,2-Dichloroethene	23		2.5	ug/L	20.0	0.73 U	115	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0	0.73 U	104	65-149			
Trichloroethene	23		2.5	ug/L	20.0	0.89 U	117	62-135			
Trichlorofluoromethane	28		2.5	ug/L	20.0	0.94 U	142	56-155			
Vinyl chloride	23		2.5	ug/L	20.0	0.71 U	115	20-167			
4-Bromofluorobenzene	*55*			*ug/L*	*50.0*		*110*	*41-142*			
Dibromofluoromethane	*60*			*ug/L*	*50.0*		*119*	*53-146*			
Toluene-d8	*51*			*ug/L*	*50.0*		*102*	*41-146*			

Matrix Spike Dup (0L23041-MSD1) Prepared: 12/23/2020 13:25 Analyzed: 12/23/2020 21:50

Source: AD08695-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	26		2.5	ug/L	20.0	0.80 U	129	57-148	6	25	
1,1,2,2-Tetrachloroethane	18		2.5	ug/L	20.0	0.54 U	90	60-139	15	17	
1,1,2-Trichloroethane	18		2.5	ug/L	20.0	0.76 U	91	57-141	13	16	
1,1-Dichloroethane	21		2.5	ug/L	20.0	0.62 U	103	57-142	0.2	24	
1,1-Dichloroethene	23		2.5	ug/L	20.0	0.94 U	113	47-139	0.4	16	
1,2,4-Trichlorobenzene	17		2.5	ug/L	20.0	0.70 U	84	52-159	3	24	
1,2-Dibromo-3-chloropropane	21		2.5	ug/L	20.0	0.96 U	103	48-150	14	21	
1,2-Dibromoethane	19		2.5	ug/L	20.0	0.78 U	95	57-140	12	16	
1,2-Dichlorobenzene	21		2.5	ug/L	20.0	0.73 U	105	63-131	3	25	
1,2-Dichloroethane	20		2.5	ug/L	20.0	0.63 U	102	50-156	0.1	18	
1,2-Dichloropropane	17		2.5	ug/L	20.0	0.80 U	87	61-133	2	26	
1,3-Dichlorobenzene	22		2.5	ug/L	20.0	0.77 U	112	66-129	1	23	
1,4-Dichlorobenzene	21		2.5	ug/L	20.0	0.76 U	107	65-133	5	23	
2-Butanone	120		12	ug/L	100	4.5 U	117	10-180	4	29	
2-Hexanone	81		12	ug/L	100	2.5 U	81	12-180	2	28	
4-Methyl-2-pentanone	98		12	ug/L	100	2.5 U	98	19-180	4	24	
Acetone	100		25	ug/L	100	10 U	103	10-180	1	19	
Benzene	20		2.5	ug/L	20.0	0.71 U	101	56-136	2	14	
Bromodichloromethane	20		2.5	ug/L	20.0	0.52 U	102	58-135	2	19	
Bromoform	18		2.5	ug/L	20.0	0.75 U	89	46-148	4	18	
Bromomethane	16		2.5	ug/L	20.0	0.95 U	78	10-173	34	29	QM-11
Carbon disulfide	21		12	ug/L	20.0	2.5 U	104	43-153	11	26	
Carbon Tetrachloride	20		2.5	ug/L	20.0	0.94 U	101	54-156	5	27	
Chlorobenzene	21		2.5	ug/L	20.0	0.72 U	104	51-139	2	13	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0L23041 - EPA 5030B_MS - Continued

Matrix Spike Dup (0L23041-MSD1) Continued Prepared: 12/23/2020 13:25 Analyzed: 12/23/2020 21:50

Source: AD08695-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloroethane	24		2.5	ug/L	20.0	0.98 U	122	27-180	6	22	
Chloroform	25		2.5	ug/L	20.0	0.80 U	124	58-139	2	17	
Chloromethane	13		2.5	ug/L	20.0	0.82 U	64	33-154	3	31	
cis-1,2-Dichloroethene	23		2.5	ug/L	20.0	0.53 U	116	56-128	10	17	
cis-1,3-Dichloropropene	18		2.5	ug/L	20.0	0.59 U	89	64-128	2	20	
Cyclohexane	20		2.5	ug/L	20.0	0.93 U	100	70-130	0.8	20	
Dibromochloromethane	19		2.5	ug/L	20.0	0.50 U	97	50-140	6	18	
Dichlorodifluoromethane	25		2.5	ug/L	20.0	0.74 U	126	10-180	2	26	
Ethylbenzene	18		2.5	ug/L	20.0	0.69 U	91	63-133	15	18	
Freon 113	18		2.5	ug/L	20.0	0.73 U	90	47-173	22	30	
Isopropylbenzene	22		2.5	ug/L	20.0	0.67 U	111	60-132	1	23	
m,p-Xylenes	42		5.0	ug/L	40.0	1.3 U	106	64-133	3	18	
Methyl acetate	13		2.5	ug/L	20.0	0.95 U	64	70-130	5	20	QM-19
Methyl cyclohexane	21		2.5	ug/L	20.0	0.64 U	104	70-130	0.2	20	
Methylene Chloride	21		12	ug/L	20.0	2.5 U	103	43-142	2	23	
Methyl-tert-Butyl Ether	24		2.5	ug/L	20.0	0.60 U	118	51-145	0.4	22	
o-Xylene	20		2.5	ug/L	20.0	0.53 U	100	61-129	8	16	
Styrene	18		2.5	ug/L	20.0	0.61 U	92	59-136	20	32	
Tetrachloroethene	17		2.5	ug/L	20.0	0.76 U	83	60-147	6	21	
Toluene	20		2.5	ug/L	20.0	0.72 U	102	64-131	7	16	
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.73 U	110	54-134	5	20	
trans-1,3-Dichloropropene	20		2.5	ug/L	20.0	0.73 U	98	65-149	7	17	
Trichloroethene	22		2.5	ug/L	20.0	0.89 U	109	62-135	7	20	
Trichlorofluoromethane	27		2.5	ug/L	20.0	0.94 U	136	56-155	4	22	
Vinyl chloride	22		2.5	ug/L	20.0	0.71 U	112	20-167	3	24	
4-Bromofluorobenzene	*54*			*ug/L*	*50.0*		*108*	*41-142*			
Dibromofluoromethane	*61*			*ug/L*	*50.0*		*123*	*53-146*			
Toluene-d8	*52*			*ug/L*	*50.0*		*103*	*41-146*			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
A-07	Analyte biased low in LCS but detected in the reporting limit standard. Since the analyte in the associated sample was not detected, there is no impact on data quality.
QM-11	Precision between duplicate matrix spikes of the same sample was outside acceptance limits.
QM-19	The spike recovery was outside acceptance limits for the MS and/or MSD.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported result is an estimated value.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence (85% or greater confidence) to make a “tentative identification".
Q	One or more quality control criteria failed.

AD08762

Tetra Tech, Inc.

CHAIN OF CUSTODY | **NUMBER** No. 1411 | **PAGE** 1 **OF** 1

PROJECT NO: 112G08970	**FACILITY:** CRCA	**PROJECT MANAGER** ALEX MURPHY	**PHONE NUMBER** 321-636-6470	**LABORATORY NAME AND CONTACT:** ENCO
SAMPLERS (SIGNATURE)		**FIELD OPERATIONS LEADER** DAN FORESTER	**PHONE NUMBER** 304-780-1426	**ADDRESS**
		CARRIER/WAYBILL NUMBER COURIER		**CITY, STATE** ORLANDO, FL

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2020	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TYPE OF ANALYSIS (SEE COMMENTS BELOW)	COMMENTS
									G	HCL		
21 DEC	1430	CRCA-A$EFFLUENT-20201221	CRCA	/	/	GW	G	3			X	
21 DEC	1440	CRCA-A$INFLUENT-20201221	CRCA	/	/	GW	G	3			X	

1. RELINQUISHED BY		DATE 21 DEC 20	TIME 1507	1. RECEIVED BY James W Gregory		DATE 21 DEC 20	TIME 1507
2. RELINQUISHED BY		DATE	TIME	2. RECEIVED BY		DATE	TIME
3. RELINQUISHED BY		DATE	TIME	3. RECEIVED BY		DATE	TIME

COMMENTS 82600 TCL Semi 1.2 CLP-LIKE Custom List SM2(1) 0.36

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

12/21/2020

Environmental Conservation Labs, Inc.

Alex Murphy
Tetra Tech, Inc. (TE016)
11 Riverside Drive, Suite 204
Cocoa, FL 32922
Phone: (321) 636-6470
Fax: (321) 636-6473

Reference : **Sample Receipt Confirmation - *Please Review***
Project Name / Number : NASA KSC CRCA / 112G08970
Purchase Order # : 1165883

Lab Reference # : AD08762 Lab Receipt Date: 21-Dec-20 15:07
Anticipated ***(Estimated)*** Completion Date: 29-Dec-20 19:00

This is an automated notification from our laboratory information management system (LIMS), indicating the samples we have recently received and their associated analyses. Should any of the following information be in error, please contact us immediately.

Thank you for choosing Environmental Conservation Laboratories. Should any events occur that delay the processing of your samples or inhibit our ability to complete the project within the projected time frame you will be contacted.

Sincerely,

Kaitlin Dylnicki

Client: Tetra Tech, Inc. (TE016) **Project Name:** NASA KSC CRCA
Requested TAT: 5 **Project Number:** 112G08970

Analysis	TAT	Expires	Status
Sample ID: CRCA-ASEFFLUENT-20201221(Lab ID: AD08762-01), Matrix: Ground Water, Sampled: 12-Dec-20 14:30 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	26-Dec-20 23:59	Received
Sample ID: CRCA-ASINFLUENT-20201221(Lab ID: AD08762-02), Matrix: Ground Water, Sampled: 12-Dec-20 14:40 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	26-Dec-20 23:59	Received

Analysis Groups included in this work order

ENCO Orlando

SDG: AD08762-TE016

CLASS: 01_VOA_MS

METHOD: EPA 8260D

ANALYSES DATA PACKAGE COVER PAGE

EPA 8260D

Laboratory: ENCO Orlando

SDG: AD08762-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-ASEFFLUENT-20201221	AD08762-01
CRCA-ASINFLUENT-20201221	AD08762-02

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLUENT-20201221

Laboratory: ENCO Orlando SDG: AD08762-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AD08762-01 File ID: 205LR047.D

Sampled: 12/21/20 14:30 Prepared: 12/23/20 13:25 Analyzed: 12/24/20 06:44

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 0L23041 Sequence: AA64189 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLUENT-20201221

Laboratory: ENCO Orlando SDG: AD08762-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AD08762-01 File ID: 205LR047.D

Sampled: 12/21/20 14:30 Prepared: 12/23/20 13:25 Analyzed: 12/24/20 06:44

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 0L23041 Sequence: AA64189 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	59	117	53 - 146	
Toluene-d8	50.0	51	101	41 - 146	
4-Bromofluorobenzene	50.0	55	109	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	995099	9.862	1217120	9.845	
1,4-Difluorobenzene	2133790	10.462	2353990	10.438	
Chlorobenzene-d5	1349368	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1090257	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLUENT-20201221

Laboratory: ENCO Orlando SDG: AD08762-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AD08762-02 File ID: 205LR048.D

Sampled: 12/21/20 14:40 Prepared: 12/23/20 13:25 Analyzed: 12/24/20 07:14

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 0L23041 Sequence: AA64189 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	16		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	1.3	J	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	J	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLUENT-20201221

Laboratory: ENCO Orlando
SDG: AD08762-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AD08762-02
File ID: 205LR048.D
Sampled: 12/21/20 14:40
Prepared: 12/23/20 13:25
Analyzed: 12/24/20 07:14
Solids:
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Batch: 0L23041
Sequence: AA64189
Calibration: 2011113
Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	58	116	53 - 146	
Toluene-d8	50.0	50	100	41 - 146	
4-Bromofluorobenzene	50.0	55	110	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1055032	9.862	1217120	9.845	
1,4-Difluorobenzene	2164630	10.462	2353990	10.438	
Chlorobenzene-d5	1331984	13.241	1612072	13.217	
1,4-Dichlorobenzene-d4	1104363	15.503	1366836	15.474	

* Values outside of QC limits

HOLDING TIME SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AD08762-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-ASEFFLUENT-20201221	12/21/20 14:30	12/21/20 15:07	12/23/20 13:25	1.95	NA	12/24/20 06:44	3.00	14.00	
CRCA-ASINFLUENT-20201221	12/21/20 14:40	12/21/20 15:07	12/23/20 13:25	1.95	NA	12/24/20 07:14	3.00	14.00	

PREPARATION BATCH SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AD08762-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 0L23041 Batch Matrix: Water Preparation: EPA 5030B_MS

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	0L23041-BLK1	205LR031.D	12/23/20 13:25	
LCS	0L23041-BS1	205LR027.D	12/23/20 13:25	
MW-26	0L23041-MS1	205LR028.D	12/23/20 13:25	
MW-26	0L23041-MSD1	205LR029.D	12/23/20 13:25	
CRCA-ASEFFLUENT-20201221	AD08762-01	205LR047.D	12/23/20 13:25	
CRCA-ASINFLUENT-20201221	AD08762-02	205LR048.D	12/23/20 13:25	

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD08762-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	0L23041-BLK1	File ID:	205LR031.D
Prepared:	12/23/20 13:25	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	12/23/20 22:49	Instrument:	OVGCMS5		
Batch:	0L23041	Sequence:	AA64189	Calibration:	2011113

CAS NO.	COMPOUND	CONC. (ug/L)	Q
75-71-8	Dichlorodifluoromethane	0.74	U
74-87-3	Chloromethane	0.82	U
75-01-4	Vinyl chloride	0.71	U
74-83-9	Bromomethane	0.95	U
75-00-3	Chloroethane	0.98	U
75-69-4	Trichlorofluoromethane	0.94	U
76-13-1	Freon 113	0.73	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	0.94	U
75-15-0	Carbon disulfide	2.5	U
75-09-2	Methylene Chloride	2.5	U
1634-04-4	Methyl-tert-Butyl Ether	0.60	U
156-60-5	trans-1,2-Dichloroethene	0.73	U
156-59-2	cis-1,2-Dichloroethene	0.53	U
75-34-3	1,1-Dichloroethane	0.62	U
78-93-3	2-Butanone	4.5	U
67-66-3	Chloroform	0.80	U
71-55-6	1,1,1-Trichloroethane	0.80	U
79-20-9	Methyl acetate	0.95	U
110-82-7	Cyclohexane	0.93	U
108-87-2	Methyl cyclohexane	0.64	U
56-23-5	Carbon Tetrachloride	0.94	U
107-06-2	1,2-Dichloroethane	0.63	U
71-43-2	Benzene	0.71	U
79-01-6	Trichloroethene	0.89	U
78-87-5	1,2-Dichloropropane	0.80	U
75-27-4	Bromodichloromethane	0.52	U
108-10-1	4-Methyl-2-pentanone	2.5	U
591-78-6	2-Hexanone	2.5	U
10061-01-5	cis-1,3-Dichloropropene	0.59	U

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD08762-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	0L23041-BLK1	File ID:	205LR031.D
Prepared:	12/23/20 13:25	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	12/23/20 22:49	Instrument:	OVGCMS5		
Batch:	0L23041	Sequence:	AA64189	Calibration:	2011113

CAS NO.	COMPOUND	CONC. (ug/L)	Q
108-88-3	Toluene	0.72	U
10061-02-6	trans-1,3-Dichloropropene	0.73	U
79-00-5	1,1,2-Trichloroethane	0.76	U
127-18-4	Tetrachloroethene	0.76	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.78	U
108-90-7	Chlorobenzene	0.72	U
100-41-4	Ethylbenzene	0.69	U
108-38-3/106-42-3	m,p-Xylenes	1.3	U
95-47-6	o-Xylene	0.53	U
75-25-2	Bromoform	0.75	U
100-42-5	Styrene	0.61	U
98-82-8	Isopropylbenzene	0.67	U
79-34-5	1,1,2,2-Tetrachloroethane	0.54	U
120-82-1	1,2,4-Trichlorobenzene	0.70	U
541-73-1	1,3-Dichlorobenzene	0.77	U
106-46-7	1,4-Dichlorobenzene	0.76	U
95-50-1	1,2-Dichlorobenzene	0.73	U
96-12-8	1,2-Dibromo-3-chloropropane	0.96	U
1330-20-7	Xylenes (Total)	1.3	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	60	120	53 - 146	
Toluene-d8	50.0	49	99	41 - 146	
4-Bromofluorobenzene	50.0	53	105	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1128883	9.857	1217120	9.845	
1,4-Difluorobenzene	2476454	10.45	2353990	10.438	
Chlorobenzene-d5	1533672	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1198680	15.491	1366836	15.474	

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD08762-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	0L23041	Laboratory ID:	0L23041-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	23	114	10 - 180
Chloromethane	20.0	11	57	33 - 154
Vinyl chloride	20.0	19	93	20 - 167
Bromomethane	20.0	7.2	36	10 - 173
Chloroethane	20.0	21	107	27 - 180
Trichlorofluoromethane	20.0	22	112	56 - 155
Freon 113	20.0	18	92	47 - 173
Acetone	100	95	95	10 - 180
1,1-Dichloroethene	20.0	19	96	47 - 139
Carbon disulfide	20.0	20	102	43 - 153
Methylene Chloride	20.0	20	102	43 - 142
Methyl-tert-Butyl Ether	20.0	22	109	51 - 145
trans-1,2-Dichloroethene	20.0	20	100	54 - 134
cis-1,2-Dichloroethene	20.0	20	101	56 - 128
1,1-Dichloroethane	20.0	19	95	57 - 142
2-Butanone	100	74	74	10 - 180
Chloroform	20.0	22	111	58 - 139
1,1,1-Trichloroethane	20.0	24	121	57 - 148
Methyl acetate	20.0	13	65 *	70 - 130
Cyclohexane	20.0	17	87	70 - 130
Methyl cyclohexane	20.0	18	90	70 - 130
Carbon Tetrachloride	20.0	19	93	54 - 156
1,2-Dichloroethane	20.0	19	97	50 - 156
Benzene	20.0	19	94	56 - 136
Trichloroethene	20.0	19	97	62 - 135
1,2-Dichloropropane	20.0	17	83	61 - 133
Bromodichloromethane	20.0	20	101	58 - 135
4-Methyl-2-pentanone	100	91	91	19 - 180
2-Hexanone	100	83	83	12 - 180
cis-1,3-Dichloropropene	20.0	17	85	64 - 128

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD08762-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	0L23041	Laboratory ID:	0L23041-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Toluene	20.0	20	99	64 - 131
trans-1,3-Dichloropropene	20.0	19	97	65 - 149
1,1,2-Trichloroethane	20.0	17	87	57 - 141
Tetrachloroethene	20.0	16	80	60 - 147
Dibromochloromethane	20.0	20	98	50 - 140
1,2-Dibromoethane	20.0	20	98	57 - 140
Chlorobenzene	20.0	21	104	51 - 139
Ethylbenzene	20.0	19	97	63 - 133
m,p-Xylenes	40.0	42	106	64 - 133
o-Xylene	20.0	20	100	61 - 129
Bromoform	20.0	16	81	46 - 148
Styrene	20.0	21	107	59 - 136
Isopropylbenzene	20.0	21	107	60 - 132
1,1,2,2-Tetrachloroethane	20.0	20	101	60 - 139
1,2,4-Trichlorobenzene	20.0	16	82	52 - 159
1,3-Dichlorobenzene	20.0	19	97	66 - 129
1,4-Dichlorobenzene	20.0	19	97	65 - 133
1,2-Dichlorobenzene	20.0	20	99	63 - 131
1,2-Dibromo-3-chloropropane	20.0	17	84	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-26

Laboratory: ENCO Orlando
SDG: AD08762-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 0L23041
Laboratory ID: 0L23041-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-26

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	ND	26	128	10 - 180
Chloromethane	20.0	ND	12	62	33 - 154
Vinyl chloride	20.0	ND	23	115	20 - 167
Bromomethane	20.0	ND	11	55	10 - 173
Chloroethane	20.0	ND	26	129	27 - 180
Trichlorofluoromethane	20.0	ND	28	142	56 - 155
Freon 113	20.0	ND	22	112	47 - 173
Acetone	100	ND	100	104	10 - 180
1,1-Dichloroethene	20.0	ND	23	114	47 - 139
Carbon disulfide	20.0	ND	23	116	43 - 153
Methylene Chloride	20.0	ND	20	101	43 - 142
Methyl-tert-Butyl Ether	20.0	ND	24	118	51 - 145
trans-1,2-Dichloroethene	20.0	ND	23	115	54 - 134
cis-1,2-Dichloroethene	20.0	ND	21	105	56 - 128
1,1-Dichloroethane	20.0	ND	21	104	57 - 142
2-Butanone	100	ND	120	122	10 - 180
Chloroform	20.0	ND	25	127	58 - 139
1,1,1-Trichloroethane	20.0	ND	27	136	57 - 148
Methyl acetate	20.0	ND	12	61 *	70 - 130
Cyclohexane	20.0	ND	20	101	70 - 130
Methyl cyclohexane	20.0	ND	21	104	70 - 130
Carbon Tetrachloride	20.0	ND	21	106	54 - 156
1,2-Dichloroethane	20.0	ND	20	102	50 - 156
Benzene	20.0	ND	21	103	56 - 136
Trichloroethene	20.0	ND	23	117	62 - 135
1,2-Dichloropropane	20.0	ND	18	88	61 - 133
Bromodichloromethane	20.0	ND	21	104	58 - 135
4-Methyl-2-pentanone	100	ND	94	94	19 - 180
2-Hexanone	100	ND	83	83	12 - 180
cis-1,3-Dichloropropene	20.0	ND	18	88	64 - 128
Toluene	20.0	ND	22	110	64 - 131

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-26

Laboratory: ENCO Orlando
SDG: AD08762-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 0L23041
Laboratory ID: 0L23041-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-26

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
trans-1,3-Dichloropropene	20.0	ND	21	104	65 - 149
1,1,2-Trichloroethane	20.0	ND	21	104	57 - 141
Tetrachloroethene	20.0	ND	18	88	60 - 147
Dibromochloromethane	20.0	ND	21	103	50 - 140
1,2-Dibromoethane	20.0	ND	21	107	57 - 140
Chlorobenzene	20.0	ND	21	106	51 - 139
Ethylbenzene	20.0	ND	21	106	63 - 133
m,p-Xylenes	40.0	ND	44	109	64 - 133
o-Xylene	20.0	ND	22	108	61 - 129
Bromoform	20.0	ND	19	93	46 - 148
Styrene	20.0	ND	22	112	59 - 136
Isopropylbenzene	20.0	ND	22	112	60 - 132
1,1,2,2-Tetrachloroethane	20.0	ND	21	105	60 - 139
1,2,4-Trichlorobenzene	20.0	ND	17	86	52 - 159
1,3-Dichlorobenzene	20.0	ND	23	114	66 - 129
1,4-Dichlorobenzene	20.0	ND	20	102	65 - 133
1,2-Dichlorobenzene	20.0	ND	22	108	63 - 131
1,2-Dibromo-3-chloropropane	20.0	ND	18	89	48 - 150

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-26

Laboratory: ENCO Orlando
SDG: AD08762-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 0L23041
Laboratory ID: 0L23041-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-26

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20.0	25	126	2	26	10 - 180
Chloromethane	20.0	13	64	3	31	33 - 154
Vinyl chloride	20.0	22	112	3	24	20 - 167
Bromomethane	20.0	16	78	34 *	29	10 - 173
Chloroethane	20.0	24	122	6	22	27 - 180
Trichlorofluoromethane	20.0	27	136	4	22	56 - 155
Freon 113	20.0	18	90	22	30	47 - 173
Acetone	100	100	103	1	19	10 - 180
1,1-Dichloroethene	20.0	23	113	0.4	16	47 - 139
Carbon disulfide	20.0	21	104	11	26	43 - 153
Methylene Chloride	20.0	21	103	2	23	43 - 142
Methyl-tert-Butyl Ether	20.0	24	118	0.4	22	51 - 145
trans-1,2-Dichloroethene	20.0	22	110	5	20	54 - 134
cis-1,2-Dichloroethene	20.0	23	116	10	17	56 - 128
1,1-Dichloroethane	20.0	21	103	0.2	24	57 - 142
2-Butanone	100	120	117	4	29	10 - 180
Chloroform	20.0	25	124	2	17	58 - 139
1,1,1-Trichloroethane	20.0	26	129	6	25	57 - 148
Methyl acetate	20.0	13	64 *	5	20	70 - 130
Cyclohexane	20.0	20	100	0.8	20	70 - 130
Methyl cyclohexane	20.0	21	104	0.2	20	70 - 130
Carbon Tetrachloride	20.0	20	101	5	27	54 - 156
1,2-Dichloroethane	20.0	20	102	0.1	18	50 - 156
Benzene	20.0	20	101	2	14	56 - 136
Trichloroethene	20.0	22	109	7	20	62 - 135
1,2-Dichloropropane	20.0	17	87	2	26	61 - 133
Bromodichloromethane	20.0	20	102	2	19	58 - 135
4-Methyl-2-pentanone	100	98	98	4	24	19 - 180
2-Hexanone	100	81	81	2	28	12 - 180
cis-1,3-Dichloropropene	20.0	18	89	2	20	64 - 128
Toluene	20.0	20	102	7	16	64 - 131
trans-1,3-Dichloropropene	20.0	20	98	7	17	65 - 149

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-26

Laboratory: ENCO Orlando
SDG: AD08762-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 0L23041
Laboratory ID: 0L23041-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-26

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,2-Trichloroethane	20.0	18	91	13	16	57 - 141
Tetrachloroethene	20.0	17	83	6	21	60 - 147
Dibromochloromethane	20.0	19	97	6	18	50 - 140
1,2-Dibromoethane	20.0	19	95	12	16	57 - 140
Chlorobenzene	20.0	21	104	2	13	51 - 139
Ethylbenzene	20.0	18	91	15	18	63 - 133
m,p-Xylenes	40.0	42	106	3	18	64 - 133
o-Xylene	20.0	20	100	8	16	61 - 129
Bromoform	20.0	18	89	4	18	46 - 148
Styrene	20.0	18	92	20	32	59 - 136
Isopropylbenzene	20.0	22	111	1	23	60 - 132
1,1,2,2-Tetrachloroethane	20.0	18	90	15	17	60 - 139
1,2,4-Trichlorobenzene	20.0	17	84	3	24	52 - 159
1,3-Dichlorobenzene	20.0	22	112	1	23	66 - 129
1,4-Dichlorobenzene	20.0	21	107	5	23	65 - 133
1,2-Dichlorobenzene	20.0	21	105	3	25	63 - 131
1,2-Dibromo-3-chloropropane	20.0	21	103	14	21	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD08762-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA63653
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA63653-SCV1)			Lab File ID: 205KN012.D		Analyzed: 11/19/20 13:24			
Dibromofluoromethane	50.0	100	70 - 130	9.422	9.4205	0.0015	+/-0.5	
Toluene-d8	50.0	104	70 - 130	11.772	11.77275	-0.0008	+/-0.5	
4-Bromofluorobenzene	50.0	105	70 - 130	14.322	14.322	0.0000	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD08762-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64189
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA64189-CCV1)			Lab File ID: 205LR026.D		Analyzed: 12/23/20 20:21			
Dibromofluoromethane	50.0	119	80 - 120	9.428	9.4205	0.0075	+/-0.5	
Toluene-d8	50.0	104	80 - 120	11.784	11.77275	0.0113	+/-0.5	
4-Bromofluorobenzene	50.0	113	80 - 120	14.328	14.322	0.0060	+/-0.5	
LCS (0L23041-BS1)			Lab File ID: 205LR027.D		Analyzed: 12/23/20 20:51			
Dibromofluoromethane	50.0	118	53 - 146	9.428	9.4205	0.0075	+/-0.5	
Toluene-d8	50.0	104	41 - 146	11.778	11.77275	0.0053	+/-0.5	
4-Bromofluorobenzene	50.0	110	41 - 142	14.328	14.322	0.0060	+/-0.5	
Matrix Spike (0L23041-MS1)			Lab File ID: 205LR028.D		Analyzed: 12/23/20 21:20			
Dibromofluoromethane	50.0	119	53 - 146	9.434	9.4205	0.0135	+/-0.5	
Toluene-d8	50.0	102	41 - 146	11.784	11.77275	0.0113	+/-0.5	
4-Bromofluorobenzene	50.0	110	41 - 142	14.334	14.322	0.0120	+/-0.5	
Matrix Spike Dup (0L23041-MSD1)			Lab File ID: 205LR029.D		Analyzed: 12/23/20 21:50			
Dibromofluoromethane	50.0	123	53 - 146	9.428	9.4205	0.0075	+/-0.5	
Toluene-d8	50.0	103	41 - 146	11.784	11.77275	0.0113	+/-0.5	
4-Bromofluorobenzene	50.0	108	41 - 142	14.334	14.322	0.0120	+/-0.5	
Blank (0L23041-BLK1)			Lab File ID: 205LR031.D		Analyzed: 12/23/20 22:49			
Dibromofluoromethane	50.0	120	53 - 146	9.428	9.4205	0.0075	+/-0.5	
Toluene-d8	50.0	99	41 - 146	11.784	11.77275	0.0113	+/-0.5	
4-Bromofluorobenzene	50.0	105	41 - 142	14.334	14.322	0.0120	+/-0.5	
Instrument RL Check (AA64189-CRL1)			Lab File ID: 205LR032.D		Analyzed: 12/23/20 23:19			
Dibromofluoromethane	50.0	115	1 - 199	9.434	9.4205	0.0135	+/-0.5	
Toluene-d8	50.0	103	1 - 199	11.784	11.77275	0.0113	+/-0.5	
4-Bromofluorobenzene	50.0	108	1 - 199	14.334	14.322	0.0120	+/-0.5	
CRCA-ASEFFLUENT-20201221 (AD08762-01)			Lab File ID: 205LR047.D		Analyzed: 12/24/20 06:44			
Dibromofluoromethane	50.0	117	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	101	41 - 146	11.789	11.77275	0.0162	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	14.339	14.322	0.0170	+/-0.5	
CRCA-ASINFLUENT-20201221 (AD08762-02)			Lab File ID: 205LR048.D		Analyzed: 12/24/20 07:14			
Dibromofluoromethane	50.0	116	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	100	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	110	41 - 142	14.34	14.322	0.0180	+/-0.5	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AD08762-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA63653
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA63653-CAL1)			Lab File ID: 205KN003.D			Analyzed: 11/19/20 08:46			
Pentafluorobenzene	1250058	9.851	1217120	9.845	103	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2384669	10.444	2353990	10.438	101	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1608704	13.223	1612072	13.217	100	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1323293	15.48	1366836	15.474	97	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL2)			Lab File ID: 205KN004.D			Analyzed: 11/19/20 09:16			
Pentafluorobenzene	1204238	9.845	1217120	9.845	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2405138	10.438	2353990	10.438	102	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1568806	13.217	1612072	13.217	97	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1312583	15.48	1366836	15.474	96	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL3)			Lab File ID: 205KN005.D			Analyzed: 11/19/20 09:47			
Pentafluorobenzene	1203996	9.845	1217120	9.845	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2450219	10.438	2353990	10.438	104	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1607155	13.217	1612072	13.217	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1325758	15.48	1366836	15.474	97	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL4)			Lab File ID: 205KN006.D			Analyzed: 11/19/20 10:18			
Pentafluorobenzene	1172592	9.845	1217120	9.845	96	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2346408	10.438	2353990	10.438	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1580434	13.223	1612072	13.217	98	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1299188	15.48	1366836	15.474	95	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL5)			Lab File ID: 205KN007.D			Analyzed: 11/19/20 10:49			
Pentafluorobenzene	1203065	9.845	1217120	9.845	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2330356	10.438	2353990	10.438	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1579586	13.217	1612072	13.217	98	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1295652	15.48	1366836	15.474	95	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL6)			Lab File ID: 205KN008.D			Analyzed: 11/19/20 11:20			
Pentafluorobenzene	1217120	9.845	1217120	9.845	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2353990	10.438	2353990	10.438	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1612072	13.217	1612072	13.217	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1366836	15.474	1366836	15.474	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA63653-CAL7)			Lab File ID: 205KN009.D			Analyzed: 11/19/20 11:51			
Pentafluorobenzene	1208553	9.845	1217120	9.845	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2324329	10.438	2353990	10.438	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1614423	13.217	1612072	13.217	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1389872	15.48	1366836	15.474	102	50 - 200	0.0060	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AD08762-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA63653
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA63653-CAL8)			Lab File ID: 205KN010.D			Analyzed: 11/19/20 12:22			
Pentafluorobenzene	1285587	9.845	1217120	9.845	106	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2302813	10.438	2353990	10.438	98	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1664856	13.218	1612072	13.217	103	50 - 200	0.0010	+/-0.50	
1,4-Dichlorobenzene-d4	1435917	15.48	1366836	15.474	105	50 - 200	0.0060	+/-0.50	
Secondary Cal Check (AA63653-SCV1)			Lab File ID: 205KN012.D			Analyzed: 11/19/20 13:24			
Pentafluorobenzene	1335071	9.851	1217120	9.845	110	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2438645	10.444	2353990	10.438	104	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1652574	13.223	1612072	13.217	103	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1403353	15.48	1366836	15.474	103	50 - 200	0.0060	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AD08762-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64189
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA64189-CCV1)			Lab File ID: 205LR026.D			Analyzed: 12/23/20 20:21			
Pentafluorobenzene	1054217	9.857	1217120	9.845	87	50 - 200	0.0120	+/-0.50	
1,4-Difluorobenzene	2293867	10.45	2353990	10.438	97	50 - 200	0.0120	+/-0.50	
Chlorobenzene-d5	1538735	13.229	1612072	13.217	95	50 - 200	0.0120	+/-0.50	
1,4-Dichlorobenzene-d4	1247879	15.491	1366836	15.474	91	50 - 200	0.0170	+/-0.50	
LCS (0L23041-BS1)			Lab File ID: 205LR027.D			Analyzed: 12/23/20 20:51			
Pentafluorobenzene	1150441	9.863	1217120	9.845	95	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	2364045	10.45	2353990	10.438	100	50 - 200	0.0120	+/-0.50	
Chlorobenzene-d5	1554471	13.229	1612072	13.217	96	50 - 200	0.0120	+/-0.50	
1,4-Dichlorobenzene-d4	1306150	15.491	1366836	15.474	96	50 - 200	0.0170	+/-0.50	
Matrix Spike (0L23041-MS1)			Lab File ID: 205LR028.D			Analyzed: 12/23/20 21:20			
Pentafluorobenzene	1146484	9.857	1217120	9.845	94	50 - 200	0.0120	+/-0.50	
1,4-Difluorobenzene	2434602	10.45	2353990	10.438	103	50 - 200	0.0120	+/-0.50	
Chlorobenzene-d5	1605620	13.229	1612072	13.217	100	50 - 200	0.0120	+/-0.50	
1,4-Dichlorobenzene-d4	1286839	15.491	1366836	15.474	94	50 - 200	0.0170	+/-0.50	
Matrix Spike Dup (0L23041-MSD1)			Lab File ID: 205LR029.D			Analyzed: 12/23/20 21:50			
Pentafluorobenzene	1148028	9.862	1217120	9.845	94	50 - 200	0.0170	+/-0.50	
1,4-Difluorobenzene	2475439	10.45	2353990	10.438	105	50 - 200	0.0120	+/-0.50	
Chlorobenzene-d5	1648020	13.229	1612072	13.217	102	50 - 200	0.0120	+/-0.50	
1,4-Dichlorobenzene-d4	1270066	15.491	1366836	15.474	93	50 - 200	0.0170	+/-0.50	
Blank (0L23041-BLK1)			Lab File ID: 205LR031.D			Analyzed: 12/23/20 22:49			
Pentafluorobenzene	1128883	9.857	1217120	9.845	93	50 - 200	0.0120	+/-0.50	
1,4-Difluorobenzene	2476454	10.45	2353990	10.438	105	50 - 200	0.0120	+/-0.50	
Chlorobenzene-d5	1533672	13.235	1612072	13.217	95	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1198680	15.491	1366836	15.474	88	50 - 200	0.0170	+/-0.50	
Instrument RL Check (AA64189-CRL1)			Lab File ID: 205LR032.D			Analyzed: 12/23/20 23:19			
Pentafluorobenzene	1099667	9.863	1217120	9.845	90	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	2273802	10.45	2353990	10.438	97	50 - 200	0.0120	+/-0.50	
Chlorobenzene-d5	1505006	13.229	1612072	13.217	93	50 - 200	0.0120	+/-0.50	
1,4-Dichlorobenzene-d4	1159657	15.491	1366836	15.474	85	50 - 200	0.0170	+/-0.50	
CRCA-ASEFFLUENT-20201221 (AD08762-01)			Lab File ID: 205LR047.D			Analyzed: 12/24/20 06:44			
Pentafluorobenzene	995099	9.862	1217120	9.845	82	50 - 200	0.0170	+/-0.50	
1,4-Difluorobenzene	2133790	10.462	2353990	10.438	91	50 - 200	0.0240	+/-0.50	
Chlorobenzene-d5	1349368	13.235	1612072	13.217	84	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1090257	15.497	1366836	15.474	80	50 - 200	0.0230	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AD08762-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64189
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
CRCA-ASINFLUENT-20201221 (AD08762-02)			Lab File ID: 205LR048.D			Analyzed: 12/24/20 07:14			
Pentafluorobenzene	1055032	9.862	1217120	9.845	87	50 - 200	0.0170	+/-0.50	
1,4-Difluorobenzene	2164630	10.462	2353990	10.438	92	50 - 200	0.0240	+/-0.50	
Chlorobenzene-d5	1331984	13.241	1612072	13.217	83	50 - 200	0.0240	+/-0.50	
1,4-Dichlorobenzene-d4	1104363	15.503	1366836	15.474	81	50 - 200	0.0290	+/-0.50	

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD08762-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA63653		
Calibration:	2011113	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA63653-TUN1	205KN002.D	11/19/20 08:07
Cal Standard	AA63653-CAL1	205KN003.D	11/19/20 08:46
Cal Standard	AA63653-CAL2	205KN004.D	11/19/20 09:16
Cal Standard	AA63653-CAL3	205KN005.D	11/19/20 09:47
Cal Standard	AA63653-CAL4	205KN006.D	11/19/20 10:18
Cal Standard	AA63653-CAL5	205KN007.D	11/19/20 10:49
Cal Standard	AA63653-CAL6	205KN008.D	11/19/20 11:20
Cal Standard	AA63653-CAL7	205KN009.D	11/19/20 11:51
Cal Standard	AA63653-CAL8	205KN010.D	11/19/20 12:22
Secondary Cal Check	AA63653-SCV1	205KN012.D	11/19/20 13:24

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD08762-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64189		
Calibration:	2011113	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA64189-CCV1	205LR026.D	12/23/20 20:21
LCS	0L23041-BS1	205LR027.D	12/23/20 20:51
MW-26	0L23041-MS1	205LR028.D	12/23/20 21:20
MW-26	0L23041-MSD1	205LR029.D	12/23/20 21:50
Blank	0L23041-BLK1	205LR031.D	12/23/20 22:49
Instrument RL Check	AA64189-CRL1	205LR032.D	12/23/20 23:19
CRCA-ASEFFLUENT-20201221	AD08762-01	205LR047.D	12/24/20 06:44
CRCA-ASINFLUENT-20201221	AD08762-02	205LR048.D	12/24/20 07:14

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD08762-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	205KN002.D	Injection Date:	11/19/20
Instrument ID:	OVGCMS5	Injection Time:	08:07
Sequence:	AA63653	Lab Sample ID:	AA63653-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	155	PASS
96	5 - 9% of 95	7.22	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	64.6	PASS
175	5 - 9% of 174	5.13	PASS
176	95 - 105% of 174	97.9	PASS
177	5 - 10% of 176	5.82	PASS

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD08762-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2011113
Lab File ID:	205LR026.D	Calibration Date:	11/19/20 00:00
Sequence:	AA64189	Injection Date:	12/23/20
Lab Sample ID:	AA64189-CCV1	Injection Time:	20:21

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Dichlorodifluoromethane	A	20.0	16	0.6454795	0.5214652		-19	20	
Chloromethane	A	20.0	9.2	0.7429916	0.3414359		-54	20	*
Vinyl chloride	A	20.0	18	0.6032767	0.5320157		-12	20	
Bromomethane	A	20.0	25	0.2658711	0.2031318		23	20	*
Chloroethane	A	20.0	22	0.3233106	0.2959021		11	20	
Trichlorofluoromethane	A	20.0	23	0.739293	0.8741464		18	20	
Freon 113	A	50.0	54	0.2891047	0.3112765		7.7	20	
Acetone	A	250	240	0.1178043	0.1132901		-3.6	20	
1,1-Dichloroethene	A	50.0	56	0.4316853	0.4795626		11	20	
Carbon disulfide	A	250	250	1.413985	1.421109		0.50	20	
Methylene Chloride	A	50.0	47	0.5959536	0.4877317		-6.8	20	
Methyl-tert-Butyl Ether	A	50.0	58	1.264184	1.468292		16	20	
trans-1,2-Dichloroethene	A	50.0	53	0.4994822	0.5303699		6.2	20	
cis-1,2-Dichloroethene	A	50.0	52	0.5290745	0.5534183		4.6	20	
1,1-Dichloroethane	A	50.0	51	1.027426	1.053446		2.5	20	
2-Butanone	A	250	210	5.654494E-02	4.799107E-02		-16	20	
Chloroform	A	50.0	57	0.9811366	1.12753		15	20	
1,1,1-Trichloroethane	A	50.0	65	0.8099887	1.056736		31	20	*
Methyl acetate	A	50.0	32	0.4097982	0.232732		-37	20	*
Cyclohexane	A	50.0	44	1.084118	0.9832302		-12	20	
Methyl cyclohexane	A	50.0	45	0.6851364	0.5164842		-9.9	20	
Carbon Tetrachloride	A	50.0	50	0.3247415	0.3711763		-0.9	20	
1,2-Dichloroethane	A	50.0	50	0.3947961	0.4175983		0.20	20	
Benzene	A	50.0	48	1.143102	1.090291		-4.6	20	
Trichloroethene	A	50.0	53	0.2308676	0.2426026		5.1	20	
1,2-Dichloropropane	A	50.0	41	0.3327441	0.2726156		-19	20	
Bromodichloromethane	A	50.0	47	0.3384447	0.3540537		-5.1	20	
4-Methyl-2-pentanone	A	250	240	3.573082E-02	3.248148E-02		-4.2	20	
2-Hexanone	A	250	190	0.1672315	0.1278792		-24	20	*

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD08762-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2011113
Lab File ID:	205LR026.D	Calibration Date:	11/19/20 00:00
Sequence:	AA64189	Injection Date:	12/23/20
Lab Sample ID:	AA64189-CCV1	Injection Time:	20:21

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
cis-1,3-Dichloropropene	A	50.0	44	0.4465376	0.4436521		-12	20	
Toluene	A	50.0	47	1.066872	1.012773		-5.1	20	
trans-1,3-Dichloropropene	A	50.0	45	0.5606682	0.5740098		-9.6	20	
1,1,2-Trichloroethane	A	50.0	45	0.3401845	0.3248682		-9.9	20	
Tetrachloroethene	A	50.0	42	0.2798513	0.2457987		-16	20	
Dibromochloromethane	A	50.0	47	0.2803526	0.3090935		-5.8	20	
1,2-Dibromoethane	A	50.0	50	0.3355065	0.332581		-0.9	20	
Chlorobenzene	A	50.0	50	1.074819	1.074211		-0.06	20	
Ethylbenzene	A	50.0	48	0.6263821	0.6211264		-4.2	20	
m,p-Xylenes	A	100	100	0.7525839	0.7680734		2.1	20	
o-Xylene	A	50.0	52	0.7718014	0.8041508		4.2	20	
Bromoform	A	50.0	44	0.1740972	0.1645709		-13	20	
Styrene	A	50.0	54	1.260238	1.360221		7.9	20	
Isopropylbenzene	A	50.0	54	2.031474	2.185309		7.6	20	
1,1,2,2-Tetrachloroethane	A	50.0	49	0.5037271	0.4944139		-1.8	20	
1,2,4-Trichlorobenzene	A	50.0	39	0.4097947	0.3725906		-22	20	*
1,3-Dichlorobenzene	A	50.0	53	1.008577	1.065694		5.7	20	
1,4-Dichlorobenzene	A	50.0	51	1.081206	1.108071		2.5	20	
1,2-Dichlorobenzene	A	50.0	52	0.9520015	0.9873033		3.7	20	
1,2-Dibromo-3-chloropropane	A	50.0	44	7.396002E-02	6.875266E-02		-12	20	

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD08762-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA63653	Instrument:	OVGCMS5
Calibration:	2011113		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A0F0994	MS Tune (lower conc.)	AA63653-TUN1	205KN002.D	11/19/20 08:07
A0K1094	8260 CAL 1 PPB	AA63653-CAL1	205KN003.D	11/19/20 08:46
A0K1095	8260 CAL 2 PPB	AA63653-CAL2	205KN004.D	11/19/20 09:16
A0K1096	8260 CAL 5 PPB	AA63653-CAL3	205KN005.D	11/19/20 09:47
A0K1097	8260 CAL 10 PPB	AA63653-CAL4	205KN006.D	11/19/20 10:18
A0K1098	8260 CAL 20 PPB	AA63653-CAL5	205KN007.D	11/19/20 10:49
A0K1099	8260 CAL 50 PPB	AA63653-CAL6	205KN008.D	11/19/20 11:20
A0K1100	8260 CAL 80 PPB	AA63653-CAL7	205KN009.D	11/19/20 11:51
A0K1101	8260 CAL 100 PPB	AA63653-CAL8	205KN010.D	11/19/20 12:22
A0K1038	8260 SCV 50 PPB/20 Gases (Surr. Lower Conc.)	AA63653-SCV1	205KN012.D	11/19/20 13:24

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD08762-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	1	0.731806	2	0.5311658	5	0.6196449	10	0.5826494	20	0.6291202	50	0.6876832
Chloromethane	1	0.9635553	2	0.7678092	5	0.7533414	10	0.6436211	20	0.6665122	50	0.6618772
Vinyl chloride	1	0.6389704	2	0.4961021	5	0.5937063	10	0.518373	20	0.6097052	50	0.6178544
Bromomethane	1	0.5487745	2	0.3936929	5	0.2468862	10	0.1795339	20	0.1536388	50	0.1805656
Chloroethane	1	0.5095364	2	0.3356687	5	0.2733979	10	0.2639921	20	0.2971223	50	0.2601461
Trichlorofluoromethane	1	0.796403	2	0.6188353	5	0.6866136	10	0.7074541	20	0.7578705	50	0.7930894
Freon 113	1	0.2609479	2	0.2643996	5	0.2925508	10	0.3082914	20	0.2611185	50	0.3063124
Acetone	5	0.1640884	10	7.640101E-02	25	0.1132944	50	0.1270502	100	0.1080203	250	0.1165466
1,1-Dichloroethene	1	0.5304954	2	0.3722686	5	0.3921026	10	0.3748874	20	0.4134066	50	0.4489426
Carbon disulfide	5	1.625549	10	1.279116	25	1.418201	50	1.427008	100	1.452276	250	1.421308
Methylene Chloride	1	0.949196	2	0.6799528	5	0.584977	10	0.4949633	20	0.4791616	50	0.5261996
Methyl-tert-Butyl Ether	1	1.207824	2	1.067003	5	1.181117	10	1.225797	20	1.218685	50	1.417615
trans-1,2-Dichloroethene	1	0.6322907	2	0.4293379	5	0.4477091	10	0.4308276	20	0.4738958	50	0.5202946
cis-1,2-Dichloroethene	1	0.5540143	2	0.424397	5	0.5243456	10	0.4742059	20	0.5250755	50	0.5758438
1,1-Dichloroethane	1	1.150187	2	0.7455129	5	1.073417	10	0.9430262	20	0.9854351	50	1.108909
2-Butanone	5	0.0948676	10	2.903081E-02	25	6.102678E-02	50	0.0450745	100	4.561931E-02	250	5.804341E-02
Chloroform	1	1.008433	2	0.8175709	5	1.016573	10	0.9572895	20	0.9442549	50	1.031745
1,1,1-Trichloroethane	1	0.8856789	2	0.6484806	5	0.7444128	10	0.6971223	20	0.8036702	50	0.8940367
Methyl acetate	1	0.7524051	2	0.3734104	5	0.3421025	10	0.3735826	20	0.3312477	50	0.3623833
Cyclohexane	1	1.445653	2	0.8159309	5	1.111773	10	0.900795	20	1.011174	50	1.139422
Methyl cyclohexane	1	1.296553	2	0.7643948	5	0.6505051	10	0.4980933	20	0.5493699	50	0.5706184
Carbon Tetrachloride	1	0.3562759	2	0.265754	5	0.2802362	10	0.2692435	20	0.3099687	50	0.358654
1,2-Dichloroethane	1	0.52978	2	0.3246383	5	0.3561682	10	0.3270765	20	0.3804547	50	0.3951041
Benzene	1	1.368953	2	0.8953644	5	1.012387	10	1.019627	20	1.160622	50	1.20187
Trichloroethene	1	0.2433461	2	0.2067345	5	0.2092384	10	0.2186576	20	0.2226559	50	0.2443388
1,2-Dichloropropane	1	0.4168922	2	0.2741735	5	0.2789057	10	0.3037835	20	0.3161759	50	0.336891
Bromodichloromethane	1	0.3390617	2	0.2184906	5	0.3136005	10	0.3123434	20	0.3305471	50	0.3770309
4-Methyl-2-pentanone	5	5.360492E-02	10	3.485663E-02	25	3.163227E-02	50	3.145233E-02	100	3.245856E-02	250	3.359233E-02
2-Hexanone	5	0.1888606	10	0.1362687	25	0.1491622	50	0.1581622	100	0.1619347	250	0.1747743
cis-1,3-Dichloropropene	1	0.38758	2	0.337174	5	0.3962381	10	0.3859495	20	0.4436114	50	0.5153998
Toluene	1	1.301234	2	0.8125606	5	1.029104	10	0.9467653	20	1.065835	50	1.125779

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD08762-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	1	0.5782294	2	0.3963364	5	0.5391328	10	0.5150579	20	0.5581557	50	0.6082166
1,1,2-Trichloroethane	1	0.4258708	2	0.2571382	5	0.3085141	10	0.3163403	20	0.3319446	50	0.354357
Tetrachloroethene	1	0.3547887	2	0.216805	5	0.2447617	10	0.2609188	20	0.2888004	50	0.2808423
Dibromochloromethane	1	0.261577	2	0.1928537	5	0.2186472	10	0.2340749	20	0.271185	50	0.3243124
1,2-Dibromoethane	1	0.3776332	2	0.275273	5	0.3089372	10	0.289778	20	0.3254935	50	0.3684265
Chlorobenzene	1	1.227137	2	0.9187082	5	1.088831	10	1.029964	20	1.028877	50	1.084228
Ethylbenzene	1	0.8370092	2	0.5046991	5	0.5351257	10	0.5817041	20	0.6079204	50	0.6386446
m,p-Xylenes	2	0.7709622	4	0.6304954	10	0.7519001	20	0.7265378	40	0.7815244	100	0.7925899
o-Xylene	1	0.827343	2	0.5495581	5	0.7980935	10	0.715101	20	0.7577872	50	0.8412149
Bromoform	1	0.2244042	2	0.1325052	5	0.1113209	10	0.1336911	20	0.151421	50	0.198042
Styrene	1	1.184587	2	0.9487151	5	1.197756	10	1.179467	20	1.329056	50	1.37226
Isopropylbenzene	1	2.11919	2	1.612596	5	1.9581	10	1.86924	20	2.054396	50	2.203894
1,1,2,2-Tetrachloroethane	1	0.5748727	2	0.4241761	5	0.4667316	10	0.4666946	20	0.48922	50	0.5296984
1,2,4-Trichlorobenzene	1	0.444006	2	0.2155102	5	0.3665073	10	0.3682377	20	0.3931939	50	0.481305
1,3-Dichlorobenzene	1	1.059554	2	0.8308046	5	0.914986	10	0.9259784	20	1.006449	50	1.075948
1,4-Dichlorobenzene	1	1.342371	2	0.9420738	5	0.9853156	10	0.9772104	20	1.047961	50	1.090424
1,2-Dichlorobenzene	1	1.133196	2	0.6932895	5	0.9302226	10	0.8814044	20	0.8963441	50	1.002858
1,2-Dibromo-3-chloropropane	1	0.1462261	2	0.0374643	5	3.684685E-02	10	6.679172E-02	20	6.657845E-02	50	7.807374E-02
Dibromofluoromethane	50	0.4987681	55	0.5168814	57.5	0.5405413	50	0.5403508	65	0.5020478	50	0.5574545
Toluene-d8	50	1.241808	55	1.219018	57.5	1.232296	50	1.264503	65	1.198608	50	1.317554
4-Bromofluorobenzene	50	0.9421565	55	0.8971015	57.5	0.892347	50	0.9405353	65	0.8691396	50	0.9269369

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD08762-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	80	0.70919	100	0.6725768								
Chloromethane	80	0.754096	100	0.7331207								
Vinyl chloride	80	0.6865886	100	0.6649138								
Bromomethane	80	0.2051834	100	0.2186939								
Chloroethane	80	~~0.1749365~~	100	~~0.1284219~~								
Trichlorofluoromethane	80	~~0.8301317~~	100	0.814785								
Freon 113	80	0.3132915	100	0.3059256								
Acetone	400	0.1217886	500	0.1152447								
1,1-Dichloroethene	80	0.4650106	100	0.4563686								
Carbon disulfide	400	1.39256	500	1.295861								
Methylene Chloride	80	0.5379475	100	0.5152308								
Methyl-tert-Butyl Ether	80	1.459444	100	1.335989								
trans-1,2-Dichloroethene	80	0.5437929	100	0.517709								
cis-1,2-Dichloroethene	80	0.6019223	100	0.5527918								
1,1-Dichloroethane	80	1.134374	100	1.078543								
2-Butanone	400	6.102308E-02	500	5.767404E-02								
Chloroform	80	1.078098	100	0.9951283								
1,1,1-Trichloroethane	80	0.9329545	100	0.8735539								
Methyl acetate	80	0.3852903	100	0.3579641								
Cyclohexane	80	1.150511	100	1.097683								
Methyl cyclohexane	80	0.580204	100	0.5713529								
Carbon Tetrachloride	80	0.3766286	100	0.3811714								
1,2-Dichloroethane	80	0.4259138	100	0.4192331								
Benzene	80	1.233887	100	1.252102								
Trichloroethene	80	0.2480525	100	0.2539173								
1,2-Dichloropropane	80	0.3671019	100	0.3680292								
Bromodichloromethane	80	0.405243	100	0.4112405								
4-Methyl-2-pentanone	400	3.457471E-02	500	3.367481E-02								
2-Hexanone	400	0.1842147	500	0.1844748								
cis-1,3-Dichloropropene	80	0.5492152	100	0.5571325								
Toluene	80	1.145043	100	1.108659								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD08762-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	80	0.6603691	100	0.6298476								
1,1,2-Trichloroethane	80	0.3689886	100	0.3583223								
Tetrachloroethene	80	0.2965475	100	0.2953463								
Dibromochloromethane	80	0.3768537	100	0.3633167								
1,2-Dibromoethane	80	0.3782567	100	0.360254								
Chlorobenzene	80	1.134842	100	1.085963								
Ethylbenzene	80	0.6600876	100	0.6458658								
m,p-Xylenes	160	0.7997641	200	0.7668973								
o-Xylene	80	0.8625415	100	0.8227721								
Bromoform	80	0.2162944	100	0.2250987								
Styrene	80	1.466473	100	1.403591								
Isopropylbenzene	80	2.273953	100	2.16042								
1,1,2,2-Tetrachloroethane	80	0.5602106	100	0.5182127								
1,2,4-Trichlorobenzene	80	0.5236953	100	0.485902								
1,3-Dichlorobenzene	80	1.133433	100	1.121463								
1,4-Dichlorobenzene	80	1.14285	100	1.121445								
1,2-Dichlorobenzene	80	1.071346	100	1.007351								
1,2-Dibromo-3-chloropropane	80	8.573901E-02	100	~~8.239508E-02~~								
Dibromofluoromethane	70	0.5077306	75	0.4842722								
Toluene-d8	70	1.203106	75	1.255696								
4-Bromofluorobenzene	70	0.8681085	75	0.8442992								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD08762-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	0.6454795	10.47099	3.97125	7.848416E-02			20	
Chloromethane	0.7429916	13.64009	4.39275	4.507071E-02			20	
Vinyl chloride	0.6032767	11.0407	4.575	4.400144E-02			20	
Bromomethane	0.2658711	51.25071	5.221	5.968524E-02		0.9984319	0.99	
Chloroethane	0.3233106	29.51129	5.432333	0.1760207	0.9952741		0.99	
Trichlorofluoromethane	0.739293	9.643804	5.680714	0.1191043			20	
Freon 113	0.2891047	7.985007	6.54225	5.909168E-02			20	
Acetone	0.1178043	20.49874	7.39275	7.521591E-02	0.9984468		0.99	
1,1-Dichloroethene	0.4316853	12.51718	6.52275	4.626374E-02			20	
Carbon disulfide	1.413985	7.516358	6.611625	4.231748E-02			20	
Methylene Chloride	0.5959536	26.19116	7.33075	6.734604E-02	0.9988511		0.99	
Methyl-tert-Butyl Ether	1.264184	10.32773	7.62475	5.009821E-02			20	
trans-1,2-Dichloroethene	0.4994822	13.81611	7.540375	0.0786285			20	
cis-1,2-Dichloroethene	0.5290745	10.75978	8.94375	6.951434E-02			20	
1,1-Dichloroethane	1.027426	13.07056	8.305375	3.359958E-02			20	
2-Butanone	5.654494E-02	33.55672	9.542875	0.1054762		0.9965506	0.99	
Chloroform	0.9811366	7.973652	9.21525	9.664849E-02			20	
1,1,1-Trichloroethane	0.8099887	12.78922	9.4765	4.549804E-02			20	
Methyl acetate	0.4097982	34.05137	7.5195	0.1021645	0.9973892		0.99	
Cyclohexane	1.084118	17.43103	9.1825	2.763801E-02	0.9983605		0.99	
Methyl cyclohexane	0.6851364	37.89251	10.4425	2.481194E-02	0.9994238		0.99	
Carbon Tetrachloride	0.3247415	15.07661	9.40325	3.946246E-02	0.997318		0.99	
1,2-Dichloroethane	0.3947961	16.85402	10.083	6.413568E-02	0.998277		0.99	
Benzene	1.143102	13.57666	9.871	4.625673E-02			20	
Trichloroethene	0.2308676	8.071231	10.4425	2.481194E-02			20	
1,2-Dichloropropane	0.3327441	14.79548	10.97825	3.768472E-02		0.9995583	0.99	
Bromodichloromethane	0.3384447	18.35051	11.0095	2.483783E-02		0.9995909	0.99	
4-Methyl-2-pentanone	3.573082E-02	20.51705	12.12775	4.882009E-02	0.9995377		0.99	
2-Hexanone	0.1672315	11.31414	12.874	0.0309941			20	
cis-1,3-Dichloropropene	0.4465376	18.76753	11.60275	0.0283524		0.999376	0.99	

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD08762-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Toluene	1.066872	13.57287	11.82575	3.641946E-02			20	
trans-1,3-Dichloropropene	0.5606682	14.59159	12.1935	6.110681E-02	0.9976126		0.99	
1,1,2-Trichloroethane	0.3401845	14.58738	12.35775	3.776279E-02	0.9991086		0.99	
Tetrachloroethene	0.2798513	14.65878	12.20475	6.050502E-02	0.9992435		0.99	
Dibromochloromethane	0.2803526	24.18079	12.54425	2.540952E-02		0.9966995	0.99	
1,2-Dibromoethane	0.3355065	12.24976	12.80675	5.029451E-02			20	
Chlorobenzene	1.074819	8.299772	13.238	2.555814E-02			20	
Ethylbenzene	0.6263821	16.13499	13.20525	2.269002E-02	0.9993938		0.99	
m,p-Xylenes	0.7525839	7.241605	13.32075	3.483174E-02			20	
o-Xylene	0.7718014	13.16143	13.726	2.743597E-02			20	
Bromoform	0.1740972	26.85684	13.86988	2.962488E-02		0.9990525	0.99	
Styrene	1.260238	13.19508	13.77575	6.052145E-02			20	
Isopropylbenzene	2.031474	10.53359	13.99225	2.532555E-02			20	
1,1,2,2-Tetrachloroethane	0.5037271	10.18228	14.463	1.928567E-02			20	
1,2,4-Trichlorobenzene	0.4097947	23.81543	18.13363	0.0263798		0.9955535	0.99	
1,3-Dichlorobenzene	1.008577	10.77426	15.4075	2.626486E-02			20	
1,4-Dichlorobenzene	1.081206	11.81261	15.49775	7.350592E-03			20	
1,2-Dichlorobenzene	0.9520015	14.21603	16.01475	1.858857E-02			20	
1,2-Dibromo-3-chloropropane	7.396002E-02	49.9638	17.07629	4.554431E-02		0.9992021	0.99	
Dibromofluoromethane	0.5185058	4.852246	9.4205	3.503454E-02			20	
Toluene-d8	1.241574	3.107317	11.77275	1.495661E-03			20	
4-Bromofluorobenzene	0.8975781	4.047299	14.322	1.411585E-02			20	

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AD08762-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2011113 **Laboratory ID:** AA63653-SCV1

Sequence: AA63653 **Standard ID:** A0K1038

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Cyclohexane	50.0	46	-8.0	30.00
Ethylbenzene	50.0	49	-2.4	30.00
Carbon Tetrachloride	50.0	55	10.9	30.00
1,3-Dichlorobenzene	50.0	55	9.4	30.00
4-Bromofluorobenzene	50.0	52	4.6	30.00
Toluene-d8	50.0	52	4.4	30.00
Dibromofluoromethane	50.0	50	-0.5	30.00
Methyl-tert-Butyl Ether	50.0	49	-1.8	30.00
trans-1,2-Dichloroethene	50.0	48	-4.3	30.00
cis-1,2-Dichloroethene	50.0	50	-0.1	30.00
Tetrachloroethene	50.0	48	-3.1	30.00
Acetone	250	240	-4.3	30.00
1,2,4-Trichlorobenzene	50.0	49	-2.0	30.00
Chloroform	50.0	49	-2.2	30.00
Chlorobenzene	50.0	52	3.4	30.00
Toluene	50.0	53	5.9	30.00
Methyl cyclohexane	50.0	47	-5.0	30.00
m,p-Xylenes	100	110	5.6	30.00
4-Methyl-2-pentanone	250	230	-7.3	30.00
1,2-Dichloroethane	50.0	46	-8.3	30.00
1,2-Dibromoethane	50.0	52	3.4	30.00
1,4-Dichlorobenzene	50.0	51	1.3	30.00
trans-1,3-Dichloropropene	50.0	49	-1.5	30.00
cis-1,3-Dichloropropene	50.0	49	-2.4	30.00
Styrene	50.0	55	10.3	30.00
Dibromochloromethane	50.0	52	3.8	30.00
1,1-Dichloroethene	50.0	49	-2.0	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AD08762-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2011113 **Laboratory ID:** AA63653-SCV1

Sequence: AA63653 **Standard ID:** A0K1038

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
1,2-Dibromo-3-chloropropane	50.0	55	9.4	30.00
1,2-Dichlorobenzene	50.0	52	3.8	30.00
o-Xylene	50.0	53	5.4	30.00
1,1,2,2-Tetrachloroethane	50.0	52	3.2	30.00
Methyl acetate	50.0	38	-23.9	30.00
Trichloroethene	50.0	54	7.6	30.00
1,1,2-Trichloroethane	50.0	50	-0.4	30.00
2-Butanone	250	250	-1.7	30.00
1,2-Dichloropropane	50.0	50	-0.4	30.00
Freon 113	50.0	51	2.3	30.00
2-Hexanone	250	250	0.6	30.00
Trichlorofluoromethane	20.0	21	2.9	30.00
Isopropylbenzene	50.0	54	8.8	30.00
1,1-Dichloroethane	50.0	48	-4.6	30.00
Bromodichloromethane	50.0	50	-0.1	30.00
Bromoform	50.0	52	3.8	30.00
Carbon disulfide	50.0	52	4.0	30.00
Methylene Chloride	50.0	47	-5.6	30.00
Vinyl chloride	20.0	21	3.6	30.00
Chloroethane	20.0	22	8.4	30.00
Chloromethane	20.0	20	-0.1	30.00
Bromomethane	20.0	25	24.8	30.00
1,1,1-Trichloroethane	50.0	51	1.2	30.00
Benzene	50.0	54	7.1	30.00
Dichlorodifluoromethane	20.0	21	3.0	30.00

* Values outside of QC limits

ANALYSIS SEQUENCE

AA64189

Instrument: OVGCMS5

Calibration ID: 2011113

Printed: 12/23/2020 1:32:24PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA64189-CCV1	QC		1		A0L0967	A0H0536		
0L23041-BS1	QC		2			A0H0536		
0L23041-MS1	QC		3			A0H0536		
0L23041-MSD1	QC		4			A0H0536		
0L23041-BLK1	QC		5			A0H0536		
AA64189-CRL1	QC		6		A0L0968	A0H0536		
AD08695-01	60D TCL SOM01.2 CLP-LIK	G	7			A0H0536		BatchQC
AD08695-01	8260D Arom/Halo	G	8			A0H0536		BatchQC
AD08695-01	8260D Appendix 1 FL	G	9			A0H0536		
AD08695-02	8260D Appendix 1 FL	F	10			A0H0536		
AD08695-03	8260D Appendix 1 FL	F	11			A0H0536		
AD08695-04	8260D Appendix 1 FL	F	12			A0H0536		
AD08695-05	8260D Appendix 1 FL	F	13			A0H0536		
AD08695-06	8260D Appendix 1 FL	F	14			A0H0536		
AD08695-07	8260D Appendix 1 FL	A	15			A0H0536		
AD08134-11	8260D Arom/Halo	A	16			A0H0536		TB
AD08134-12	8260D Arom/Halo	A	17			A0H0536		TB
AD08723-04	8260D Arom/Halo	D	18			A0H0536		Run 1x jmw 122220
AD08723-05	8260D Arom/Halo	C	19			A0H0536		Run 1x jmw 122220
AD08723-06	8260D Arom/Halo	C	20			A0H0536		Run 1x jmw 122220
AD08495-01	8260D Appendix 1 FL	K	21			A0H0536		
AD08495-02	8260D Appendix 1 FL	J	22			A0H0536		
AD08762-01	60D TCL SOM01.2 CLP-LIK	A	23			A0H0536	Tetra Tech, Inc. (TE016)	History 1x nd jmw 122220 custom

Samples Loaded By Date

Data Processed By Date

ANALYSIS SEQUENCE

AA64189

Instrument: OVGCMS5

Calibration ID: 2011113

Printed: 12/23/2020 1:32:24PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AD08762-02	60D TCL SOM01.2 CLP-LIK	A	24			A0H0536	Tetra Tech, Inc. (TE016)	History 1x jmw 122220 custom

Samples Loaded By Date

Data Processed By Date

VOLATILES GC/MS LOGBOOK (EPA Method 624.1 / SW-846 Method 8260D)

Tune Start Date: 12/23/20
Sequence: AA64189
Batch: OL23041
Method: 8260
Analyst: JD
Instrument EM Voltage: 1847

Surrogate: A0F0892
Internal: A0H0535
LCS Mix 2°: A0L0902
LCS Acrolein 2°: A0L0759
LCS Gas 2°: A0L1017

8260 Mix: A0L0757
8260 Add: A0L0756
8260 Ac/Ac: A0L0493
8260 Gases: A0L0952
Instrument #: MS-5

205LR

Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)	Comments	LIMS
025	mbk			24				
026	CCV		10 ml/5ml	25			✓	
027	BS			26			✓	
028	MS	H	1	27	✓	N	✓	
029	MSD	H	1	27	✓	N	✓	
030	mbk			28				
031	BLK		10 ml/5ml	29			✓ AFA	
032	CRL			30			✓	
033	A008695-01	G	1	31	✓	N	✓	
034	A008695-02	F	1	32	✓	N	✓	
035	A008695-03	F	1	33	✓	N	✓	
036	A008695-04	F	1	34	✓	N	✓	
037	A008695-05	F	1	35	✓	N	✓	
038	A008695-06	F	1	36	✓	N	✓	
039	A008695-07	A	1	37	✓	N	✓	
040	A008134-11	A	1	38	✓	N	✓	
041	A008134-12	A	1	39	✓	N	✓	
042	A008723-04	D	1	40	✓	N	✓	
043	A008723-05	C	1	41	✓	N	✓	
044	A008723-06	C	1	42	✓	N	✓	
045	A008455-01	K	1	43	✓	N	✓ AFA	

VOLATILES GC/MS LOGBOOK (EPA Method 624.1 / SW-846 Method 8260D)

Tune Start Date:	Surrogate:	8260 Mix:
Sequence:	Internal:	8260 Add:
Batch:	LCS Mix 2⁰:	8260 Ac/Ac:
Method:	LCS Acrolein 2⁰:	8260 Gases:
Analyst:	LCS Gas 2⁰:	Instrument #: MS. 5
Instrument EM Voltage:		

Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)		Comments	LIMS
0416	AD08495-02	J	1	44	✓	N	✓	AFA	
047	AD08762-01	A	1	45	✓	N	✓		
048	AD08762-02	A	1	46	✓	N	✓		

PREPARATION BENCH SHEET

Printed: 12/23/2020 1:29:46PM

0L23041

ENCO Orlando

Analysis
8260D Appendix 1 FL [EPA 8260D]
8260D Arom/Halo [EPA 8260D]
8260D TCL SOM01.2 CLP-LIKE [EPA 8260D]

Surrogate Solution
___ A0F0992 8260 surr working (lower conc.)

Prepared using: EPA 5030B_MS

Spiking Solution
A0L0902 8260 2nd source Mega Mix
A0L1018 8260 2nd source Gases/Acrolein virtual

Matrix: Water

Lab Number Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
0L23041-BLK1	Blank		QC			5	5			5	
0L23041-BS1	LCS		QC			5	5	A0L1018 A0L0902	2 2	5	
0L23041-MS1	Matrix Spike [AD08695-01]		QC			5	5	A0L1018 A0L0902	2 2	5	
0L23041-MSD1	Matrix Spike Dup [AD08695-01]		QC			5	5	A0L1018 A0L0902	2 2	5	
AD08134-11	TRIP BLANK A[MS9]	29-Dec-20	8260D Arom/Halo			5	5			5	TB
AD08134-12	TRIP BLANK A[MS9]	29-Dec-20	8260D Arom/Halo			5	5			5	TB
AD08495-01	SW-1 K[MS9]	30-Dec-20	8260D Appendix 1 FL			5	5			5	
AD08495-02	SW-2 J[MS9]	30-Dec-20	8260D Appendix 1 FL			5	5			5	
AD08695-01	MW-26 G[MS8]		8260D TCL SOM01.2 CLP-LIKE			5	5			5	Added for BatchQC in: 0L23041
AD08695-01	MW-26 G[MS8]	28-Dec-20	8260D Appendix 1 FL			5	5			5	
AD08695-01	MW-26 G[MS8]		8260D Arom/Halo			5	5			5	Added for BatchQC in: 0L23041
AD08695-02	MW-15R F[MS8]	28-Dec-20	8260D Appendix 1 FL			5	5			5	
AD08695-03	MW-2A F[MS8]	28-Dec-20	8260D Appendix 1 FL			5	5			5	
AD08695-04	MW-3A F[MS8]	28-Dec-20	8260D Appendix 1 FL			5	5			5	
AD08695-05	MW-4 F[MS8]	28-Dec-20	8260D Appendix 1 FL			5	5			5	
AD08695-06	MW-9 F[MS8]	28-Dec-20	8260D Appendix 1 FL			5	5			5	
AD08695-07	TRIP BLANK 2 A[MS8]	28-Dec-20	8260D Appendix 1 FL			5	5			5	
AD08723-04	MW-1 D[MS9]	29-Dec-20	8260D Arom/Halo			5	5			5	Run 1x jmw 122220

PREPARATION BENCH SHEET

Printed: 12/23/2020 1:29:46PM

0L23041

ENCO Orlando

Prepared using: EPA 5030B_MS

Surrogate Solution

__ A0F0992 8260 surr working (lower conc.)

Spiking Solution

A0L0902 8260 2nd source Mega Mix

A0L1018 8260 2nd source Gases/Acrolein virtual

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
AD08723-05		MW-2 C[MS9]	29-Dec-20	8260D Arom/Halo			5	5			5	Run 1x jmw 122220
AD08723-06		MW-3 C[MS9]	29-Dec-20	8260D Arom/Halo			5	5			5	Run 1x jmw 122220
AD08762-01	C	CRCA-ASEFFLUENT-2020122A[MS42	29-Dec-20	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x nd jmw 122220 custom
AD08762-02	C	CRCA-ASINFLUENT-2020122A[MS42	29-Dec-20	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x jmw 122220 custom

(1) Before solvent extraction proceeds, verify that there is no residual chlorine above 0.5 mg/L. Any sample above this must be treated to remove excess chlorine before extraction, and this documented as a comment.

Instrument 5

EST Centurian autosampler manufacturer reccommends adding 5 uL of IS/SS.

Start Date _____

StopDate _____

Instrument ID _____

Standard ID#	Description	Manufacture Lot#
A0A1401	pH Test Papers (1.0 to 12.0)	231018
A0B1371	Residual Chlorine Strips (Potassium Iodide S	102916
A0L0697	P&T Anti-Foam working solution	N/A

_____ _____

Samples Prepared By Date

_____ _____

Samples Prepared By Date

Manual Integration Review Form

ENVIRONMENTAL CONSERVATION LABORATORIES, INC. - ☐ Cary ☐ Jacksonville ☒ Orlando

I hereby attest that the manual integrations contained in this package have been thoroughly reviewed and are in agreement with the associated hardcopy data.

The electronic files listed below have been reviewed for accuracy, completeness and comply with ENCO labs QA-11 Manual Integration Policy including:

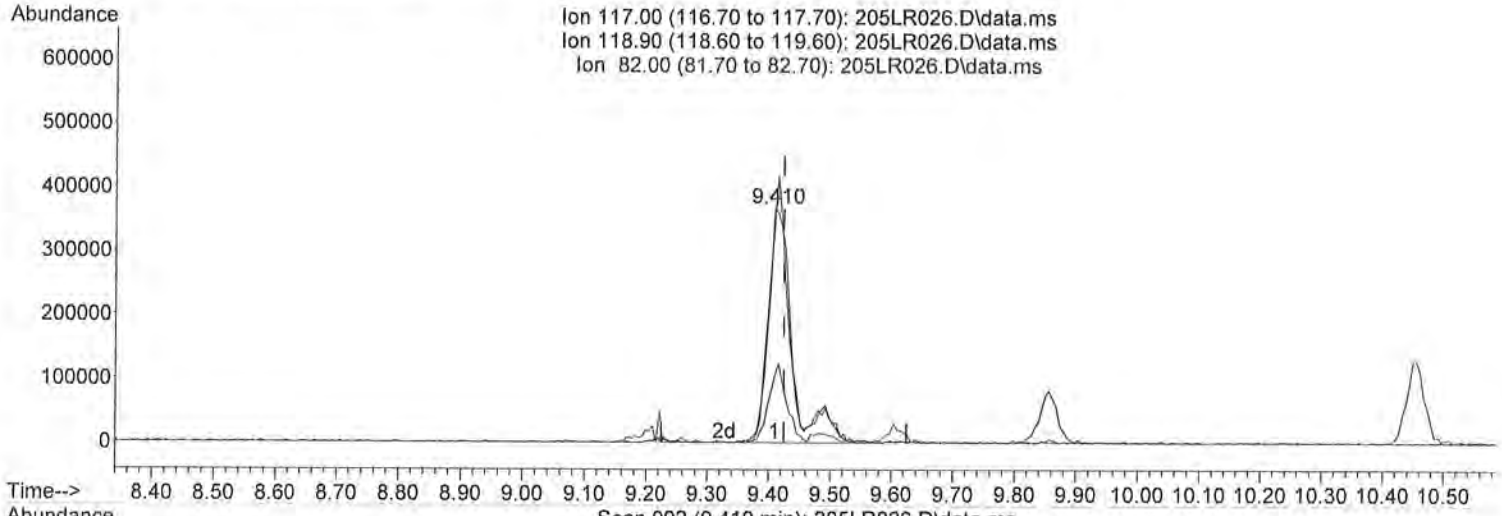
- "Before" and "After" chromatograms are provided
- Manual integrations are indicated on expanded scale "after" chromatograms at a scale large enough to see the manual integration performed.
- Reintegration technique marked if available on the data system
- Technical justification for manual integration
- Appropriate flags indicating which analytes were manually integrated are included in the raw data
- Analyst's initials and date.

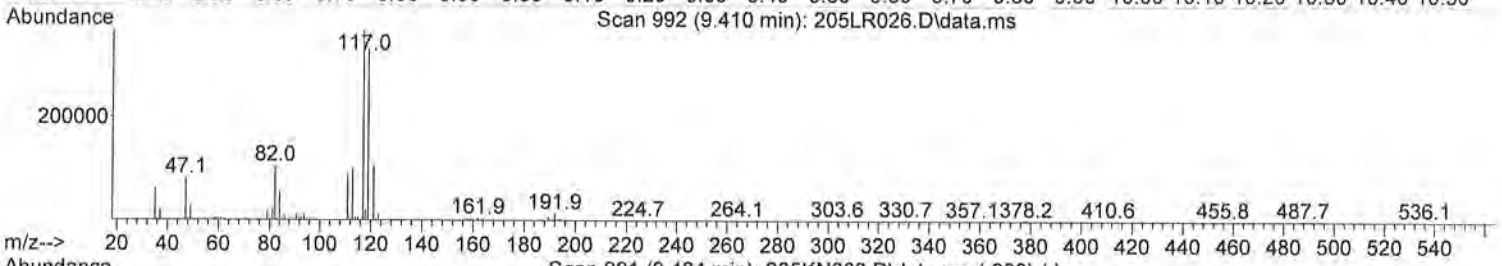
Instrument ID:	OVGCms.5
Sequence/Batch ID:	AAG4188/OC2304/
Data File Prefix:	205LR
Date and Time Range of MIs:	12/24/20 0843-0856
Reviewer Print Name:	Jennifer Adams
Reviewer Signature:	
Date of Review:	12/24/20

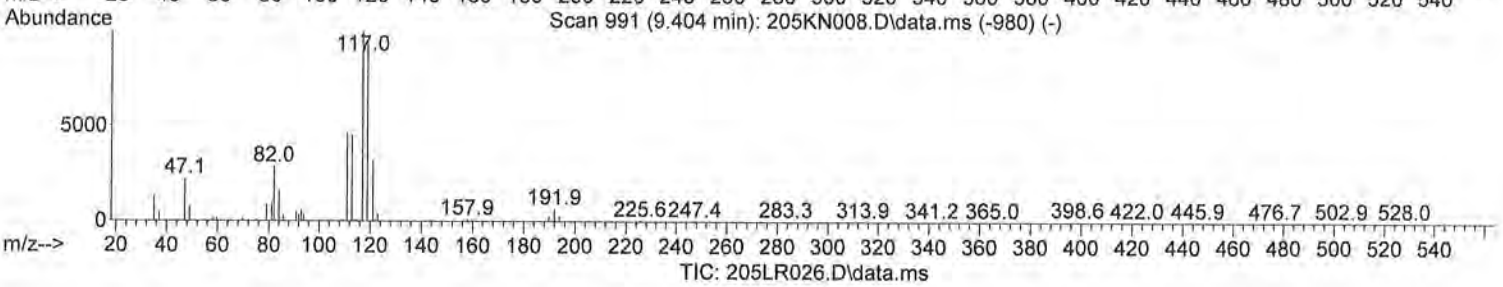
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR026.D
Acq On : 23 Dec 2020 8:21 pm
Operator : KKW
Sample : AA64189-CCV1
Misc :
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Dec 24 07:52:22 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration







TIC: 205LR026.D\data.ms

(40) Carbon Tetrachloride

9.410min (-0.015) 57.56 ug/L

response 989112

Ion	Exp%	Act%
117.00	100.00	100.00
118.90	108.90	97.86
82.00	28.80	25.15
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

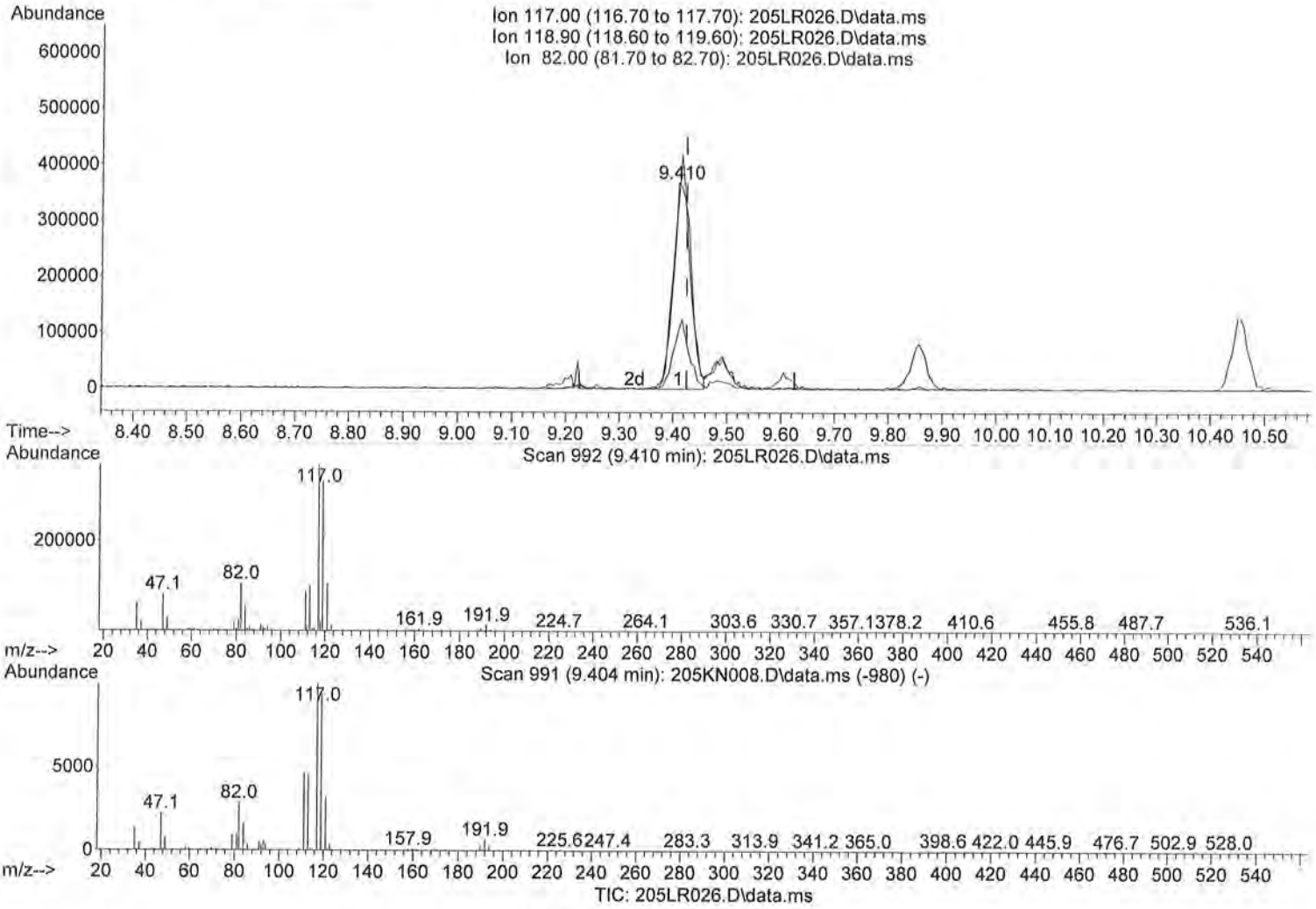
Review by/Date W 12/24/20

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR026.D
Acq On : 23 Dec 2020 8:21 pm
Operator : KKW
Sample : AA64189-CCV1
Misc :
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Dec 24 07:52:22 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



(40) Carbon Tetrachloride

9.410min (-0.015) 49.55 ug/L m

response 851429

Ion	Exp%	Act%
117.00	100.00	100.00
118.90	108.90	113.69
82.00	28.80	29.22
0.00	0.00	0.00

Select One:

[ ] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

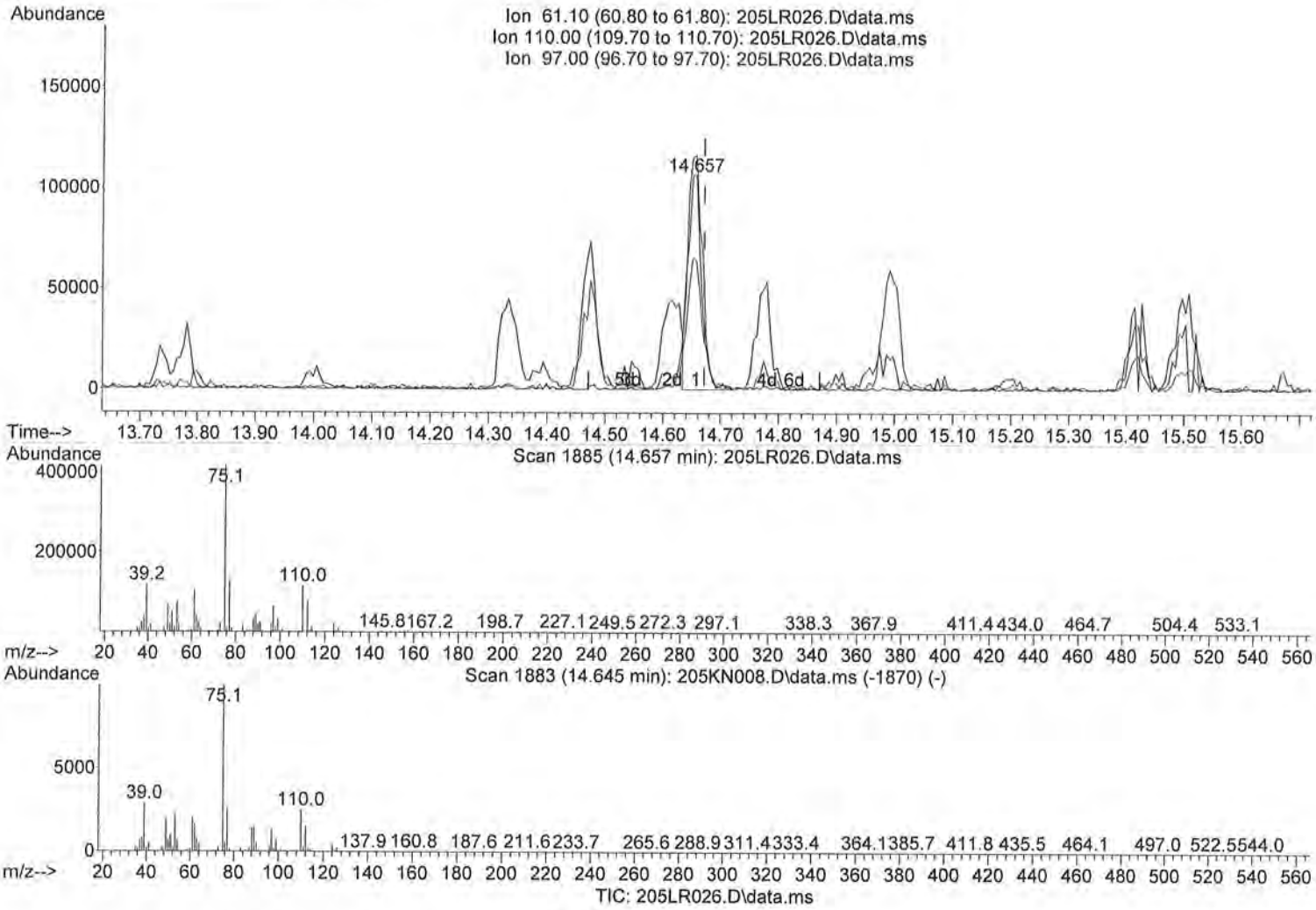
Review by/Date W 12/24/20

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR026.D
Acq On : 23 Dec 2020 8:21 pm
Operator : KKW
Sample : AA64189-CCV1
Misc :
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Dec 24 07:52:22 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



(77) 1,2,3-Trichloropropane

14.657min (-0.014) 31.05 ug/L

response 176017

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.60	124.69#
97.00	49.10	68.67#
0.00	0.00	0.00

Select One:

[x] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

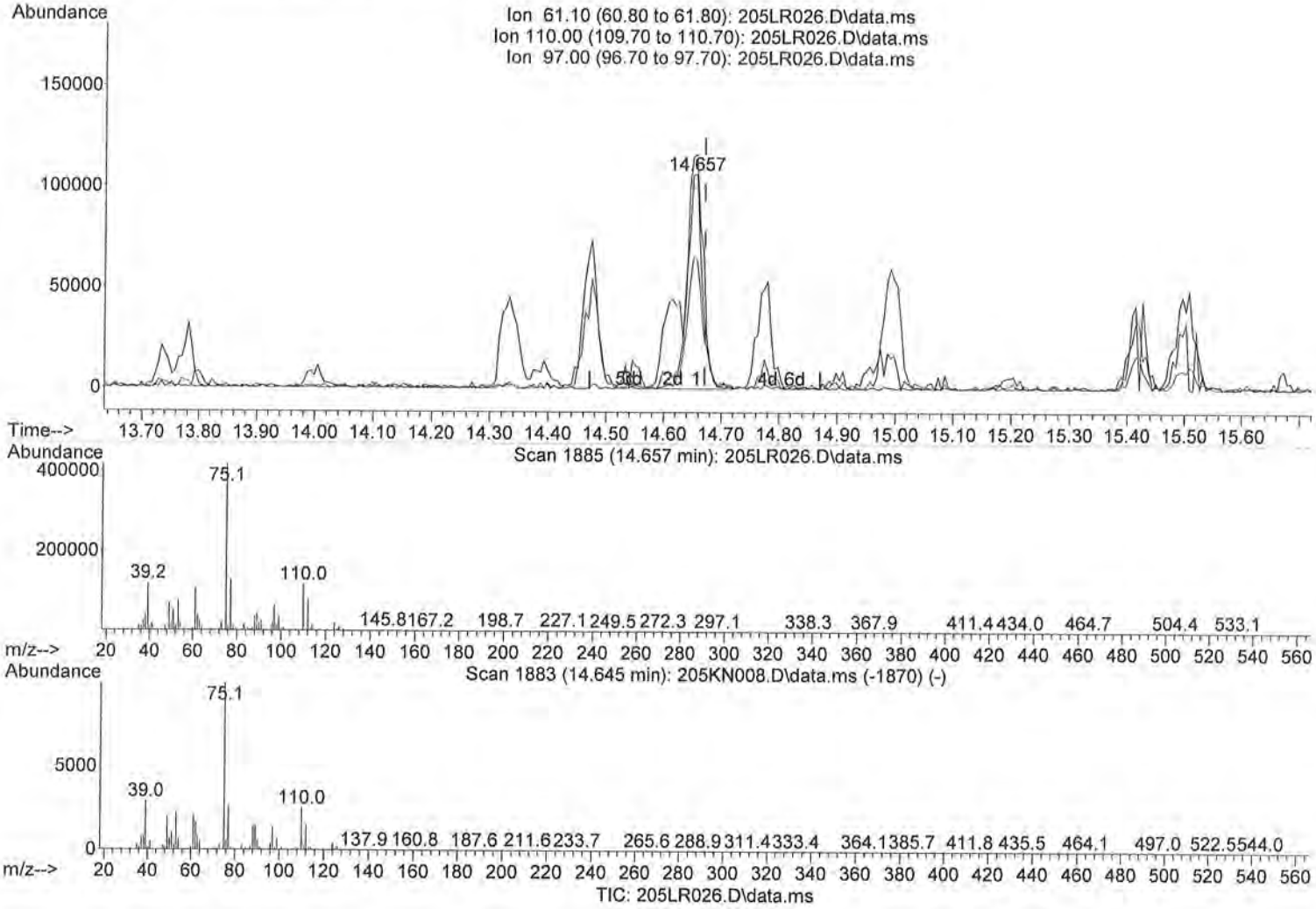
Review by/Date W 12/24/20

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR026.D
Acq On : 23 Dec 2020 8:21 pm
Operator : KKW
Sample : AA64189-CCV1
Misc :
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Dec 24 07:52:22 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



(77) 1,2,3-Trichloropropane

14.657min (-0.014) 48.54 ug/L m

response 275169

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.60	79.76
97.00	49.10	43.92
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

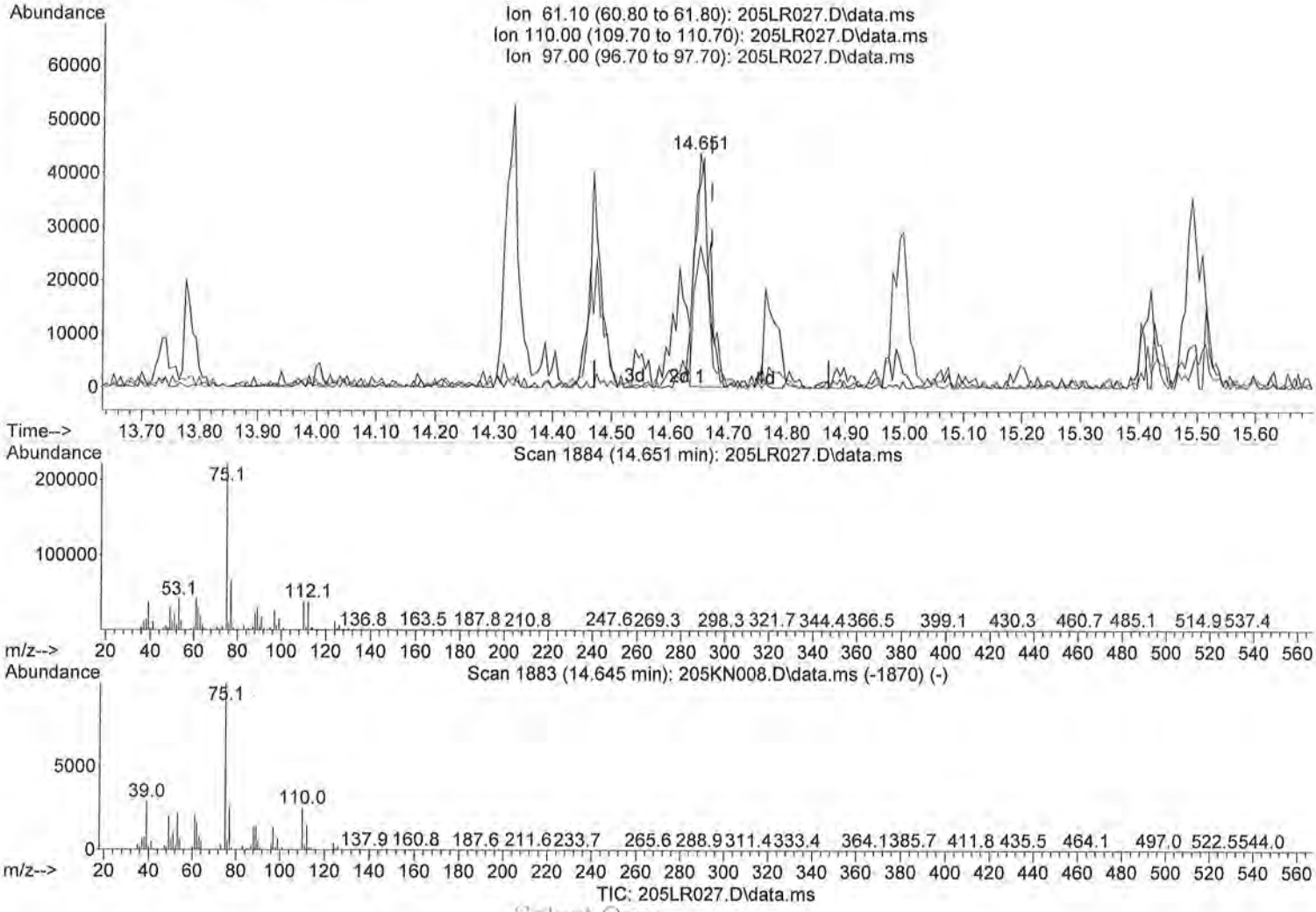
Review by/Date W 12/24/20

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR027.D
Acq On : 23 Dec 2020 8:51 pm
Operator : KKW
Sample : 0L23041-BS1
Misc :
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Dec 24 07:52:27 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



(77) 1,2,3-Trichloropropane

14.651min (-0.020) 12.22 ug/L

response 69999

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.60	116.97#
97.00	49.10	69.08#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

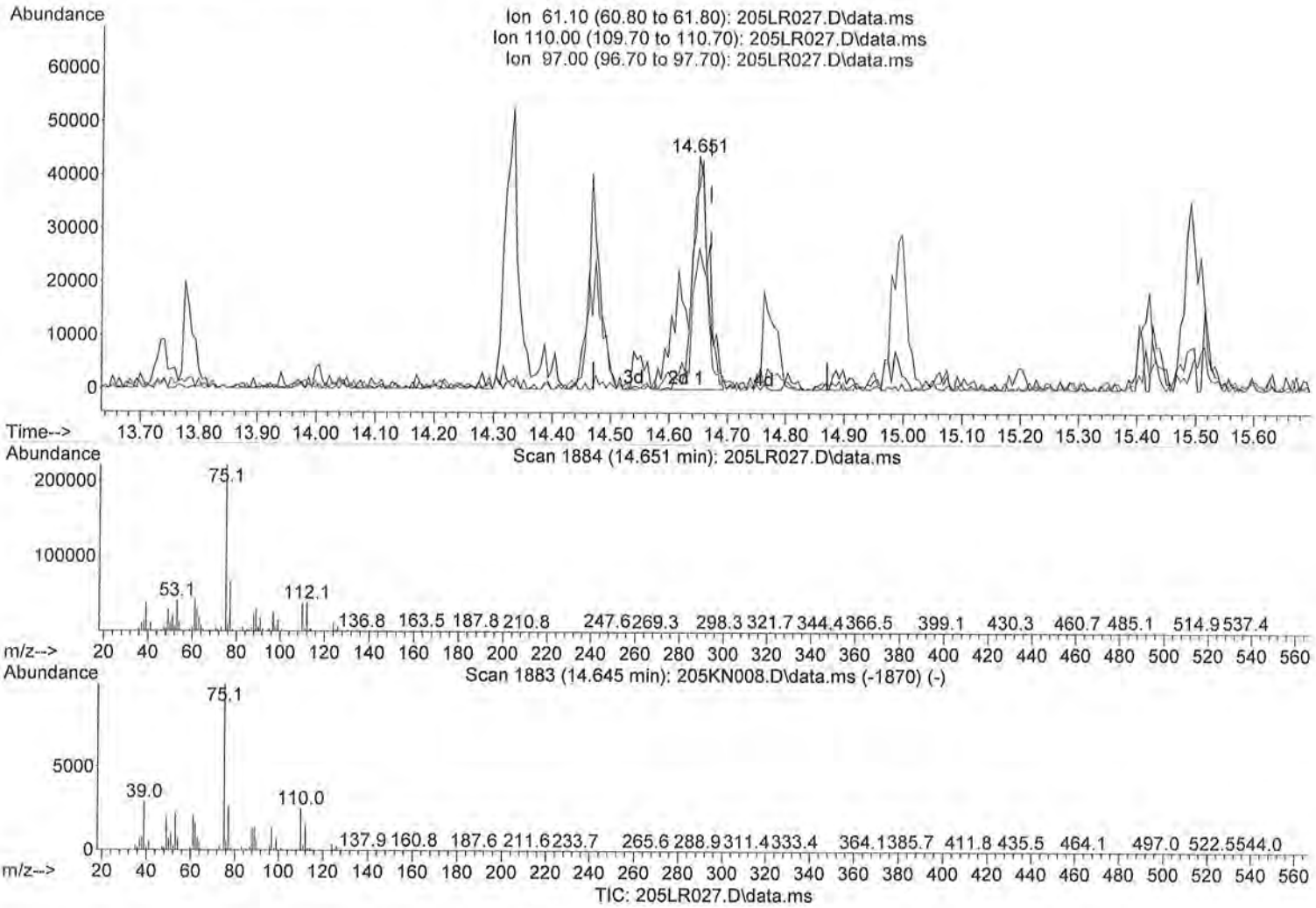
Review by/Date W 12/24/20

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR027.D
Acq On : 23 Dec 2020 8:51 pm
Operator : KKW
Sample : 0L23041-BS1
Misc :
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Dec 24 07:52:27 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



(77) 1,2,3-Trichloropropane

14.651min (-0.020) 19.14 ug/L m

response 109621

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.60	74.69
97.00	49.10	44.11
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

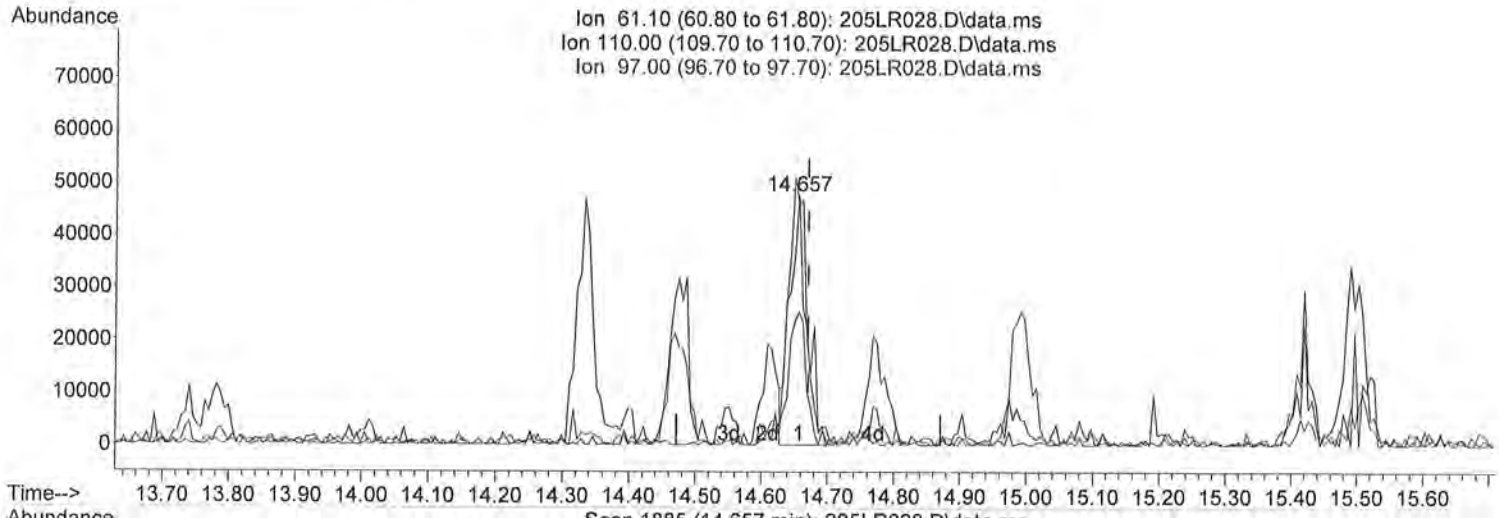
Review by/Date W 12/29/20

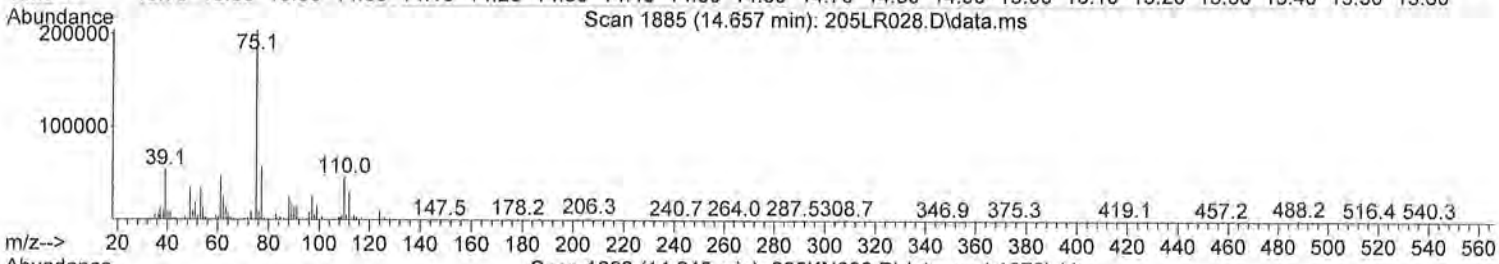
Review by/Date:

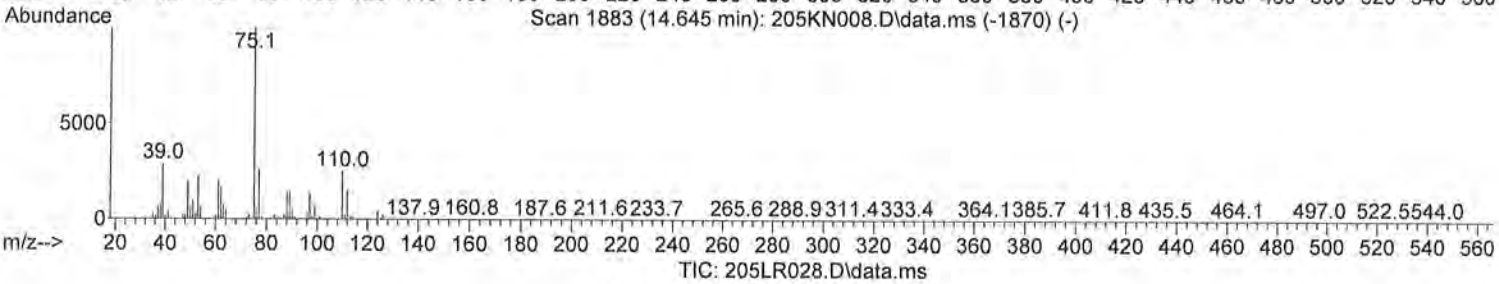
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR028.D
Acq On : 23 Dec 2020 9:20 pm
Operator : KKW
Sample : 0L23041-MS1
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Dec 24 07:52:31 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration







TIC: 205LR028.D\data.ms

(77) 1,2,3-Trichloropropane

14.657min (-0.014) 13.57 ug/L

response 80282

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.60	132.36#
97.00	49.10	65.96#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

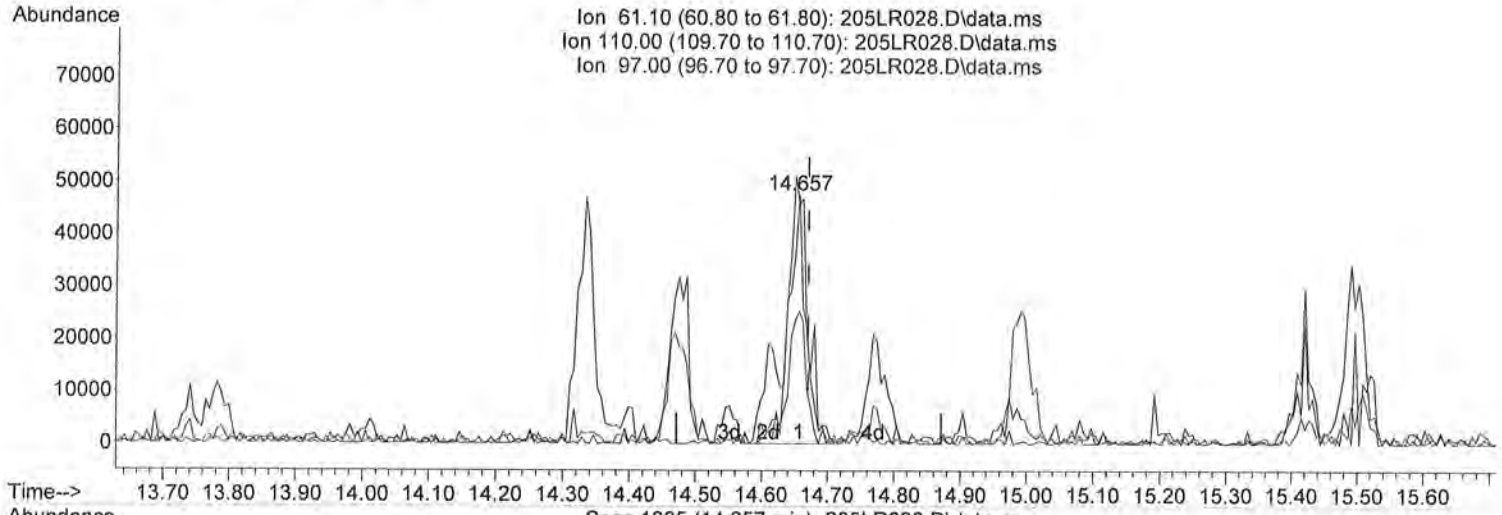
Review by/Date W 12/24/20

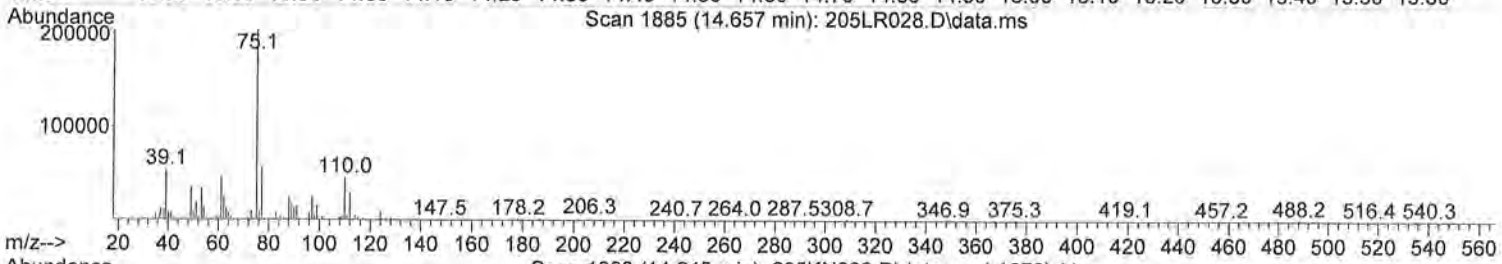
Review by/Date:

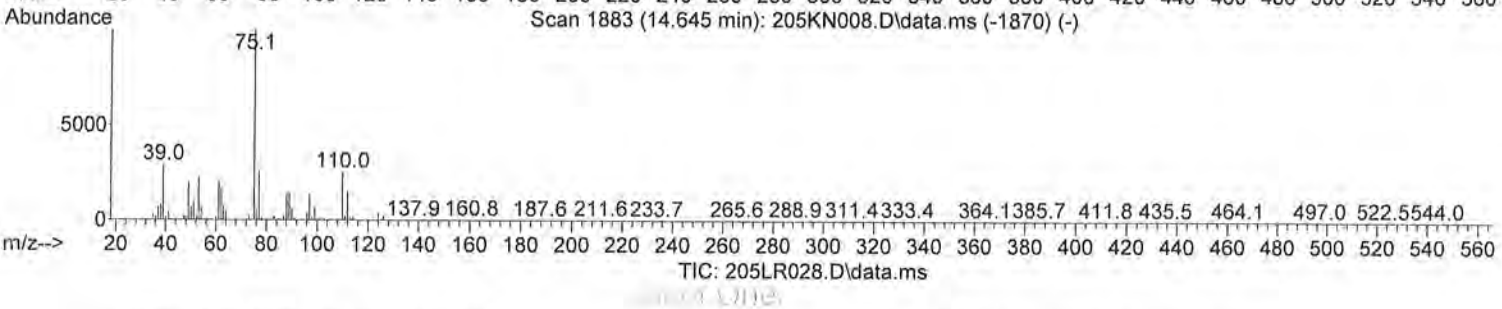
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR028.D
Acq On : 23 Dec 2020 9:20 pm
Operator : KKW
Sample : 0L23041-MS1
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Dec 24 07:52:31 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration







TIC: 205LR028.D\data.ms

(77) 1,2,3-Trichloropropane

14.657min (-0.014) 18.72 ug/L m

response 110739

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.60	95.96
97.00	49.10	47.82
0.00	0.00	0.00

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

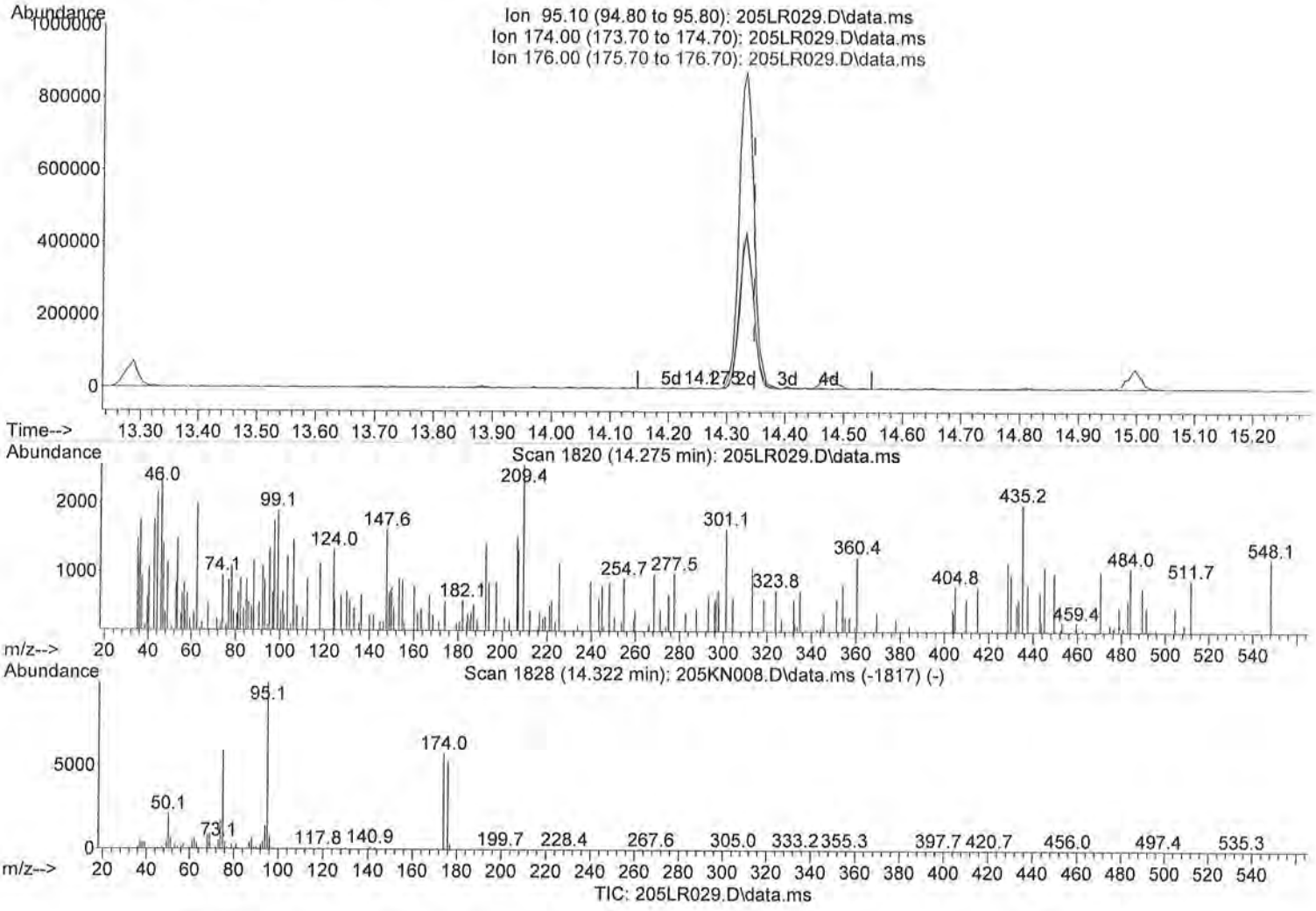
Review by/Date W 12/24/20

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR029.D
Acq On : 23 Dec 2020 9:50 pm
Operator : KKW
Sample : 0L23041-MSD1
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Dec 24 07:52:35 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



(74) Bromofluorobenzene		
14.275min (-0.072)	0.06 ug/L	
response	1671	
Ion	Exp%	Act%
95.10	100.00	100.00
174.00	71.90	68.82
176.00	69.40	62.54
0.00	0.00	0.00

Select One:

[N] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

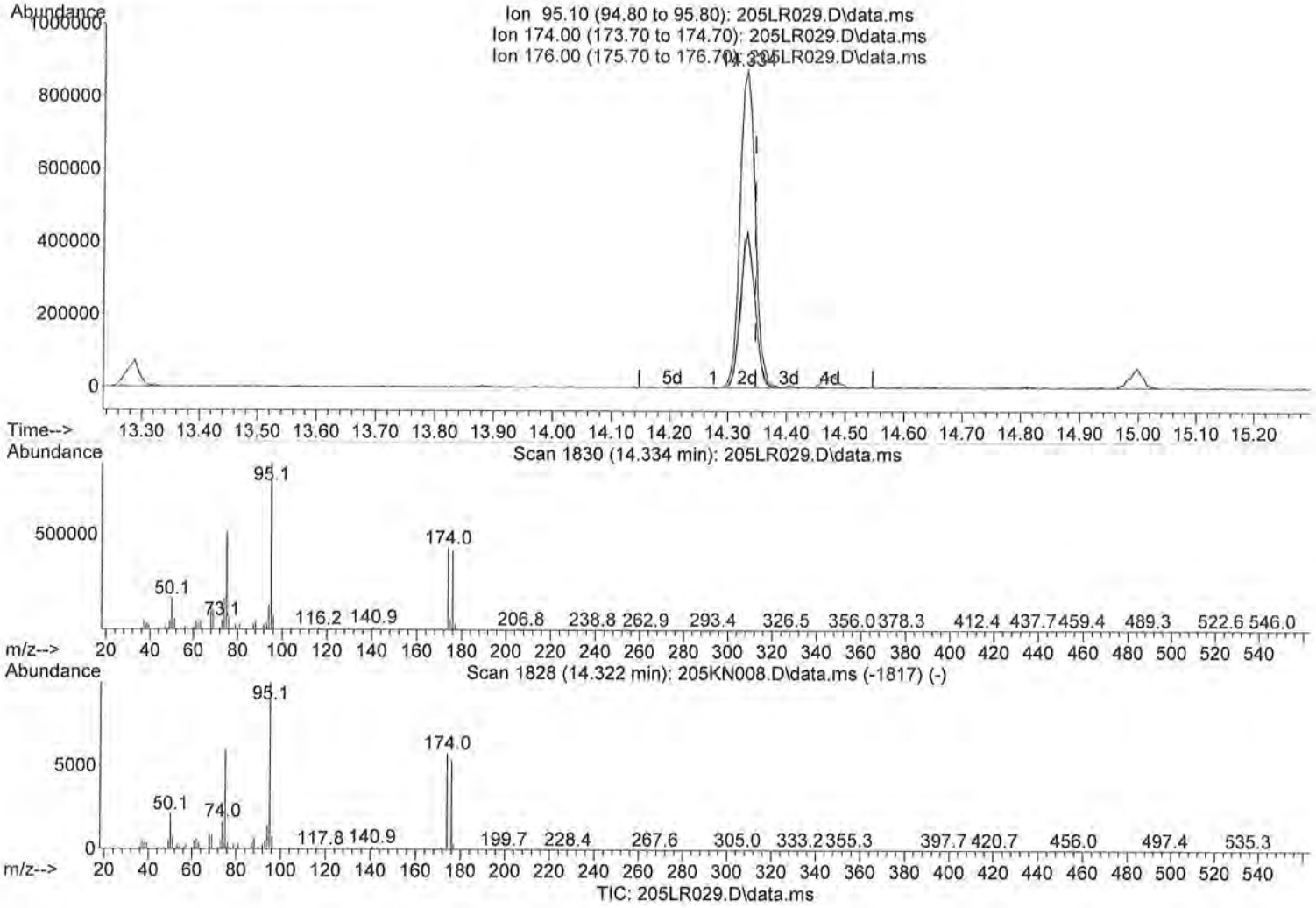
Review by/Date KJW 12/24/20

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR029.D
Acq On : 23 Dec 2020 9:50 pm
Operator : KKW
Sample : 0L23041-MSD1
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Dec 24 07:52:35 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



(74) Bromofluorobenzene

14.334min (-0.014) 54.06 ug/L m

response 1591144

Ion	Exp%	Act%
95.10	100.00	100.00
174.00	71.90	0.07#
176.00	69.40	0.07#
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

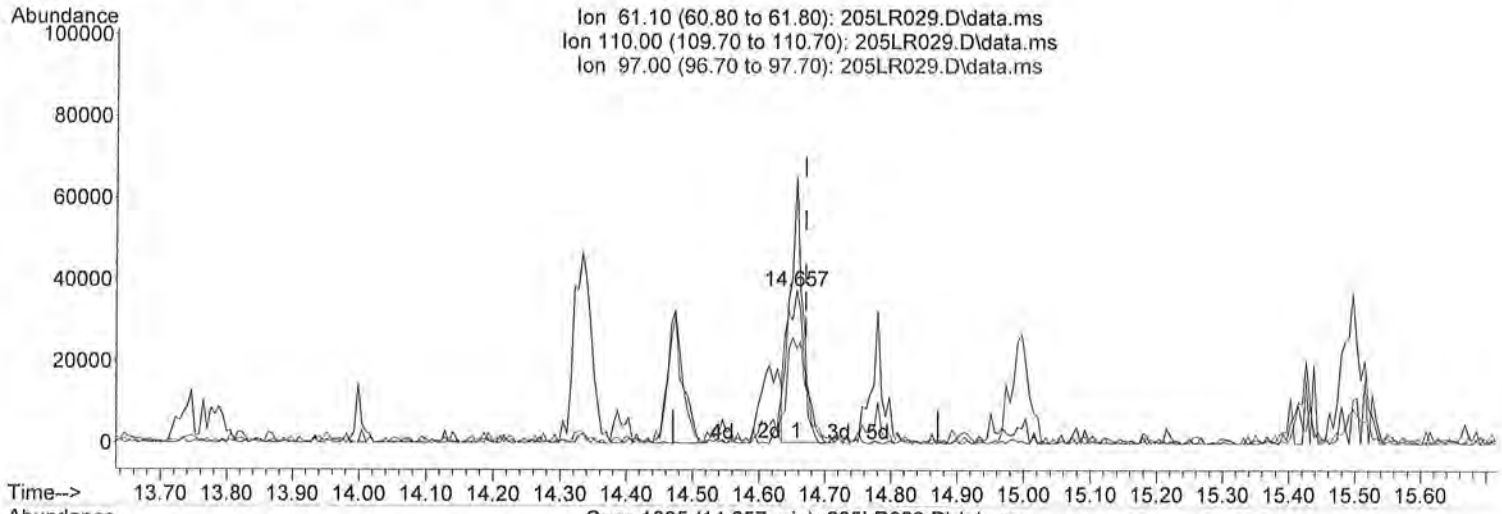
Review by/Date W 12/24/20

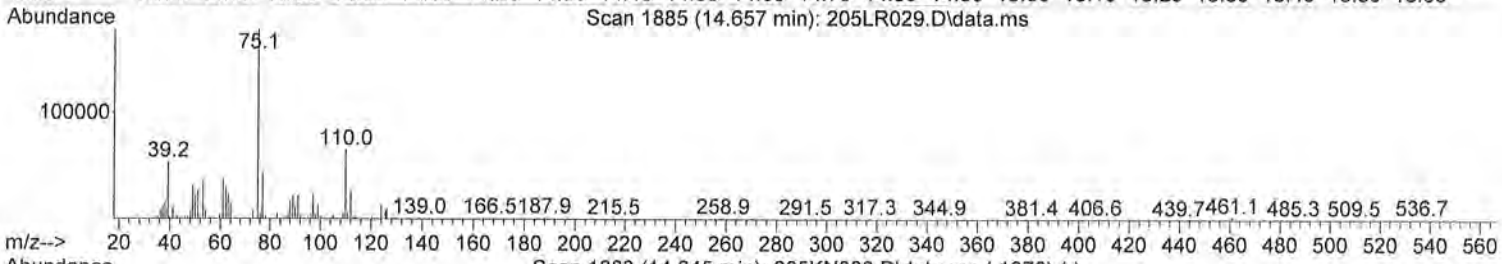
Review by/Date:

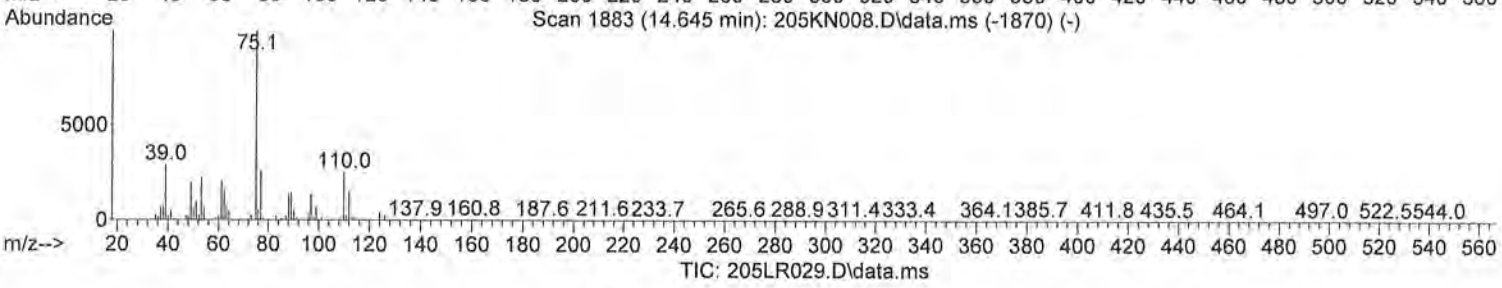
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR029.D
Acq On : 23 Dec 2020 9:50 pm
Operator : KKW
Sample : 0L23041-MSD1
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Dec 24 07:52:35 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration







TIC: 205LR029.D\data.ms

(77) 1,2,3-Trichloropropane

14.657min (-0.014) 11.96 ug/L

response 72615

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.60	128.05#
97.00	49.10	71.02#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

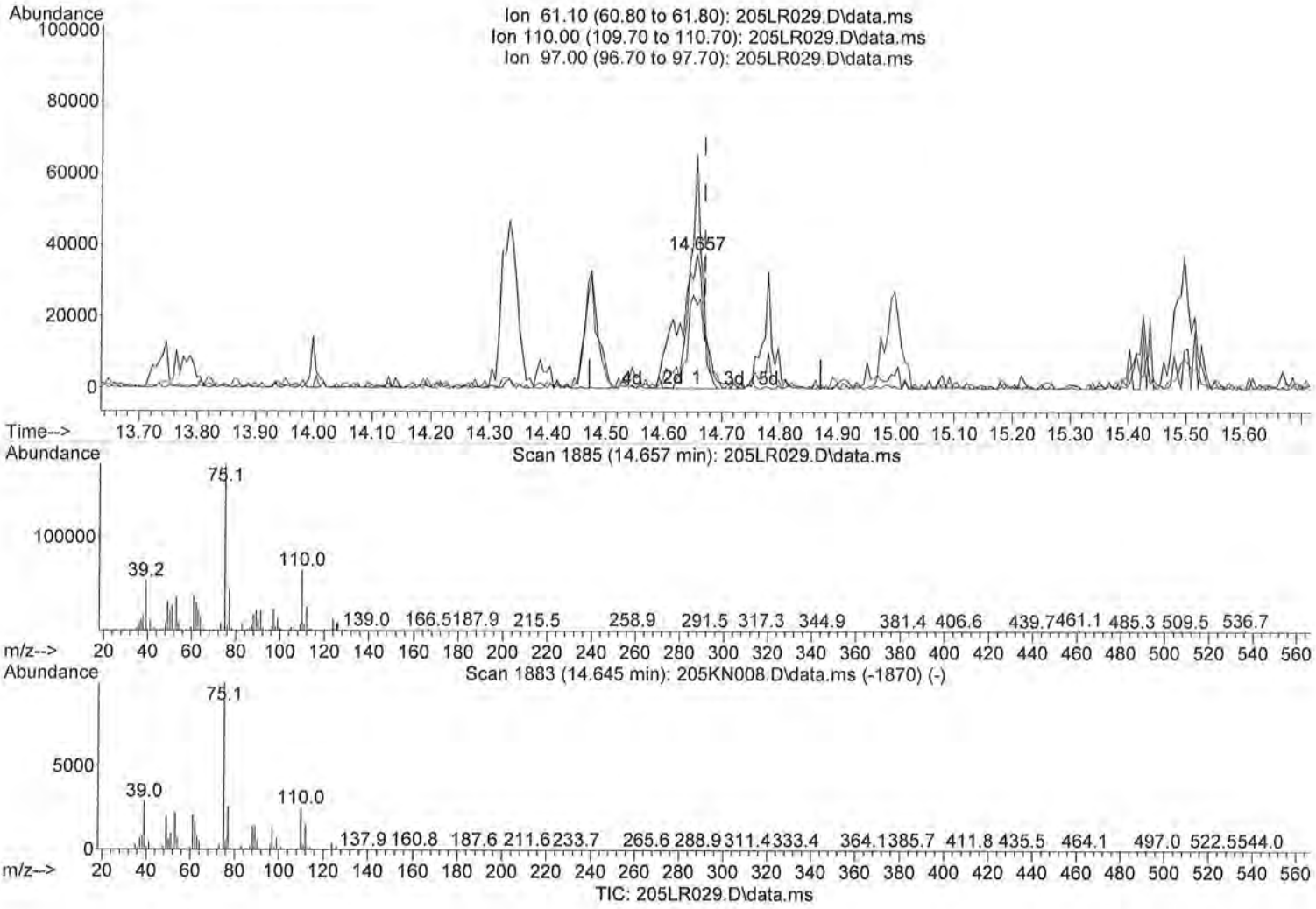
Review by/Date W 12/24/20

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR029.D
Acq On : 23 Dec 2020 9:50 pm
Operator : KKW
Sample : 0L23041-MSD1
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Dec 24 07:52:35 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



(77) 1,2,3-Trichloropropane

14.657min (-0.014) 18.86 ug/L m

response 114510

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.60	81.20
97.00	49.10	45.04
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

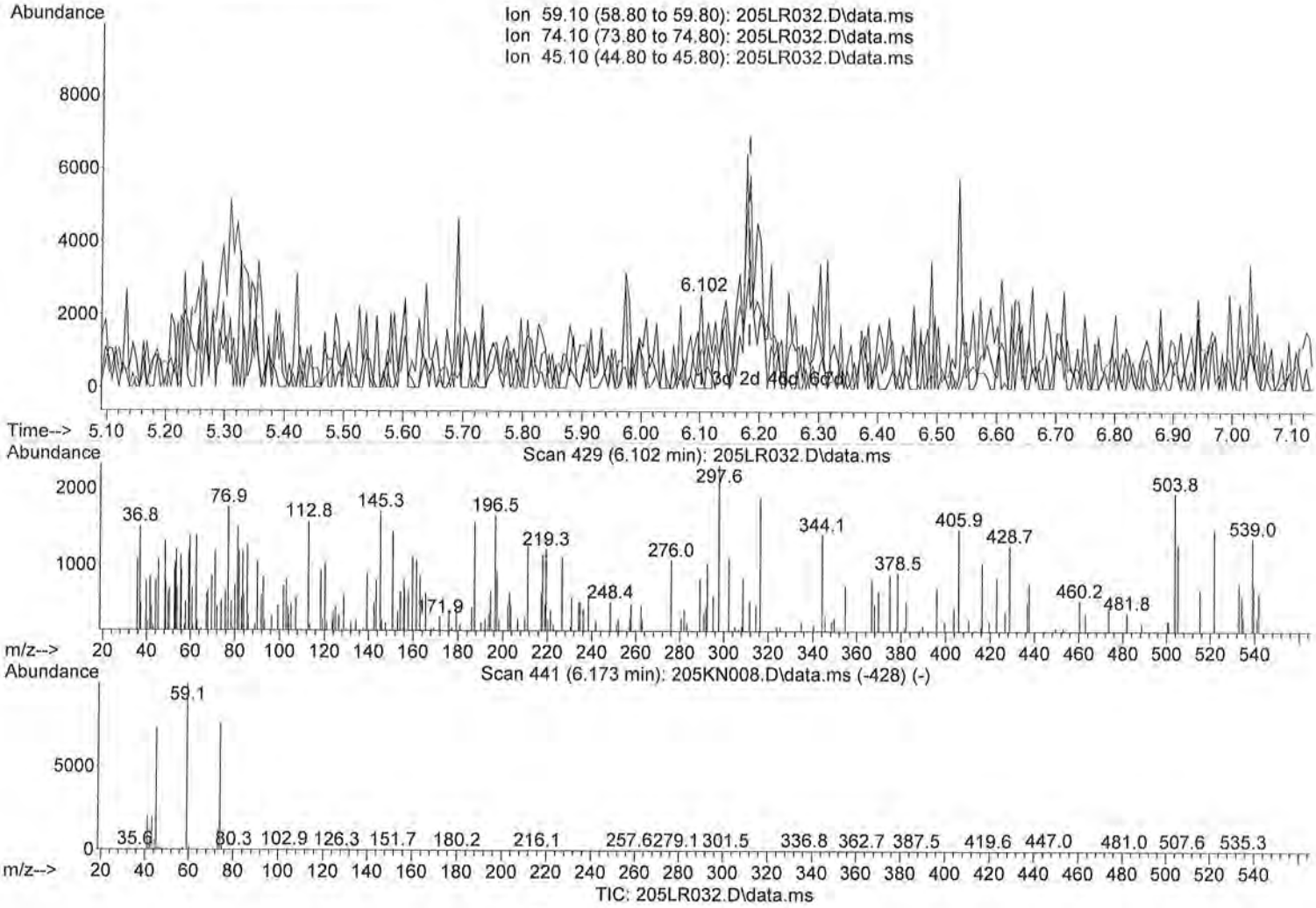
Review by/Date W 12/24/20

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR032.D
Acq On : 23 Dec 2020 11:19 pm
Operator : KKW
Sample : AA64189-CRL1
Misc :
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Dec 24 07:52:43 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



(8) Diethyl ether

6.102min (-0.081) 0.18 ug/L

response 1673

Ion	Exp%	Act%
59.10	100.00	100.00
74.10	72.50	77.64
45.10	72.00	76.93
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other

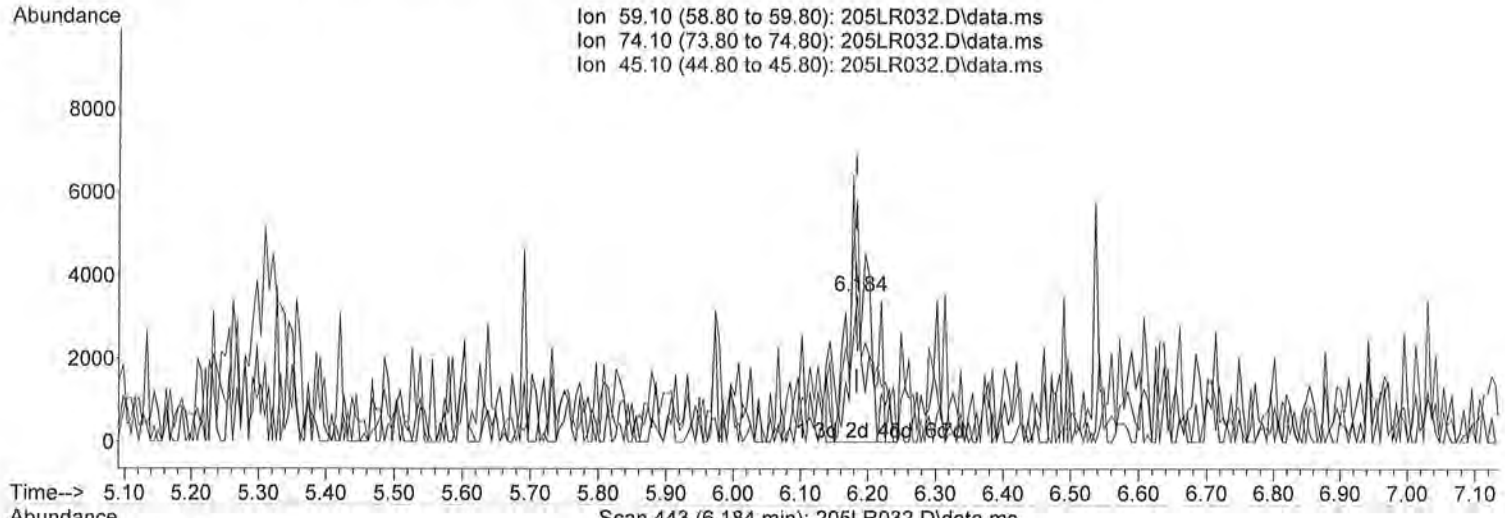
Review by/Date KW 12/24

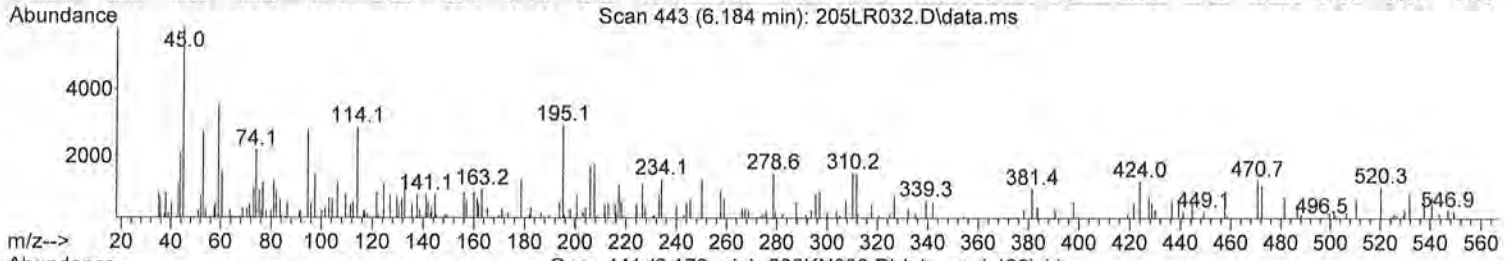
Review by/Date

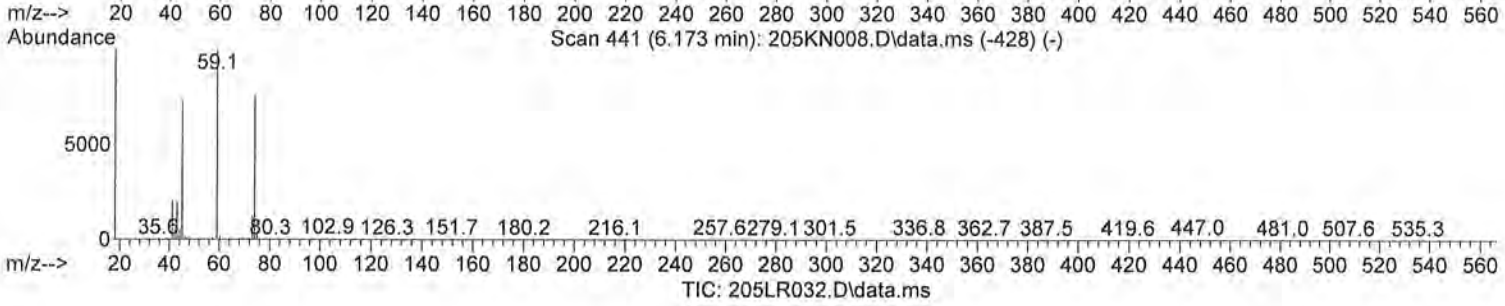
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR032.D
Acq On : 23 Dec 2020 11:19 pm
Operator : KKW
Sample : AA64189-CRL1
Misc :
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Dec 24 07:52:43 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration







TIC: 205LR032.D\data.ms

(8) Diethyl ether

6.184min (+ 0.001) 0.95 ug/L m

response 8744

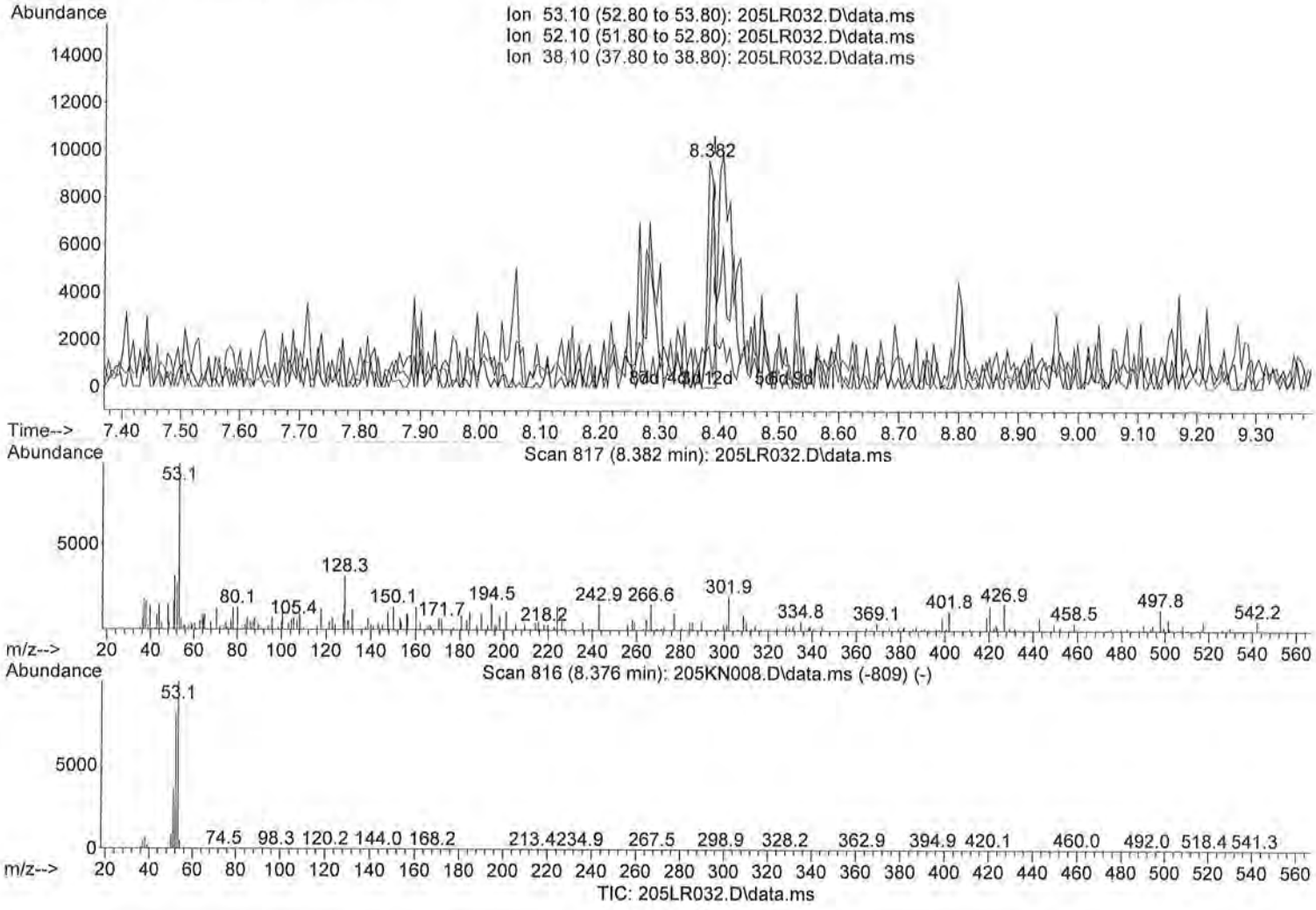
Ion	Exp%	Act%
59.10	100.00	100.00
74.10	72.50	14.86#
45.10	72.00	14.72#
0.00	0.00	0.00

Select One:
[ ] Original Integration [X] Manual Integration
Select reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[X] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date W 12/24/20
Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR032.D
Acq On : 23 Dec 2020 11:19 pm
Operator : KKW
Sample : AA64189-CRL1
Misc :
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Dec 24 07:52:43 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



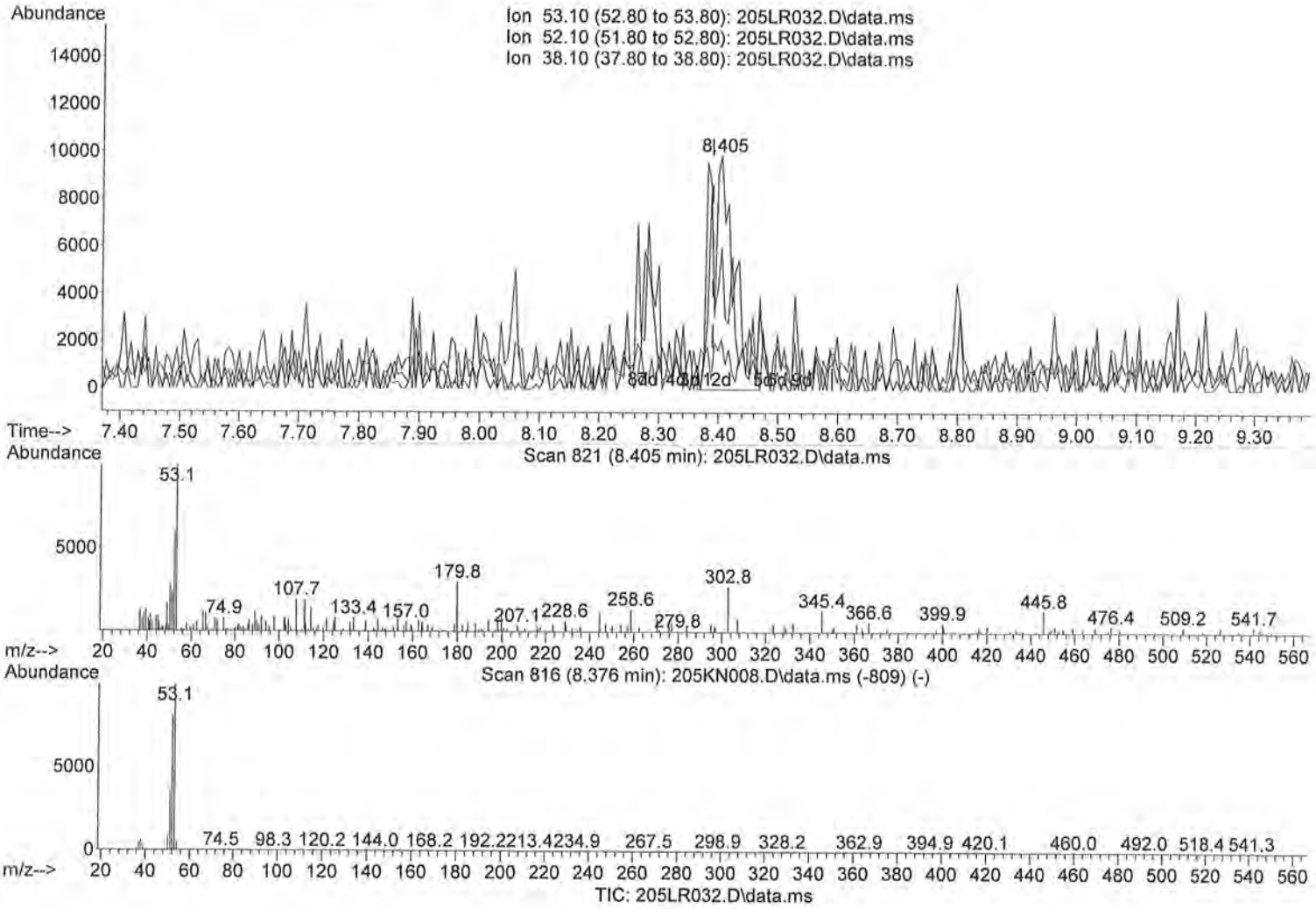
(24) Acrylonitrile		
8.382min (-0.009)	2.40 ug/L	
response	8179	
Ion	Exp%	Act%
53.10	100.00	100.00
52.10	84.60	193.79#
38.10	6.60	32.61#
0.00	0.00	0.00

Select One:
[X] Original Integration [ ] Manual Integration
Select reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date IJ 12/24/20
Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR032.D
Acq On : 23 Dec 2020 11:19 pm
Operator : KKW
Sample : AA64189-CRL1
Misc :
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Dec 24 07:52:43 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



(24) Acrylonitrile

8.405min (+ 0.015) 8.18 ug/L m

response 27927

Ion	Exp%	Act%
53.10	100.00	100.00
52.10	84.60	56.76#
38.10	6.60	9.55#
0.00	0.00	0.00

Select One:

[ ] Original Integration [ ] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

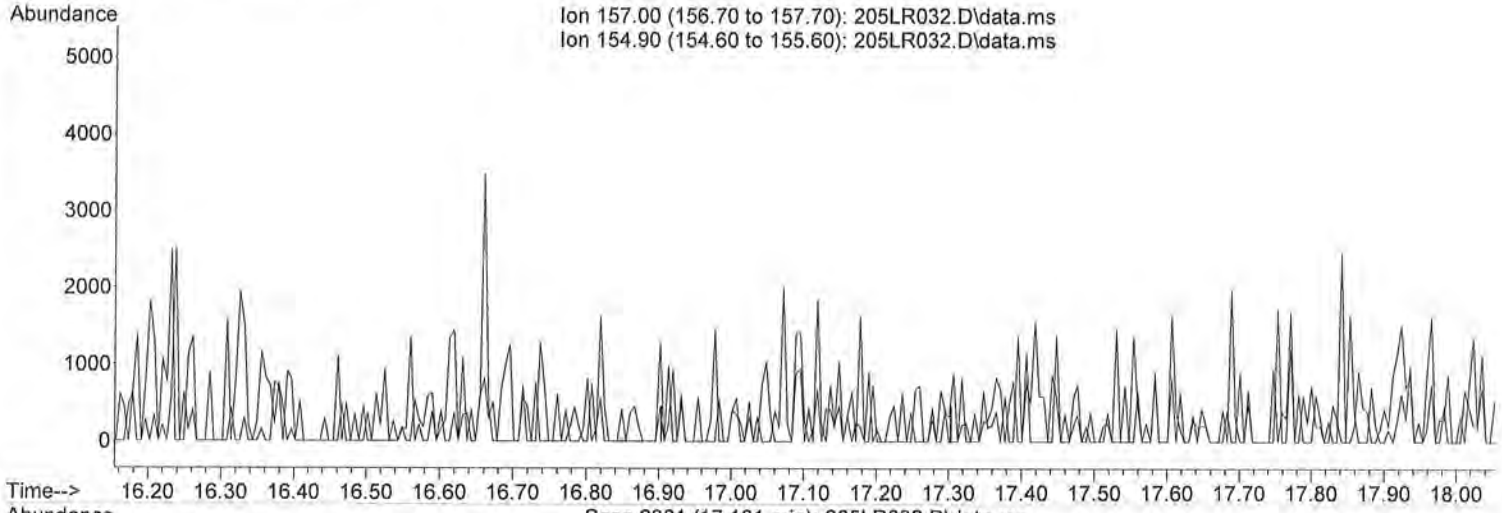
Review by/Date [illegible]

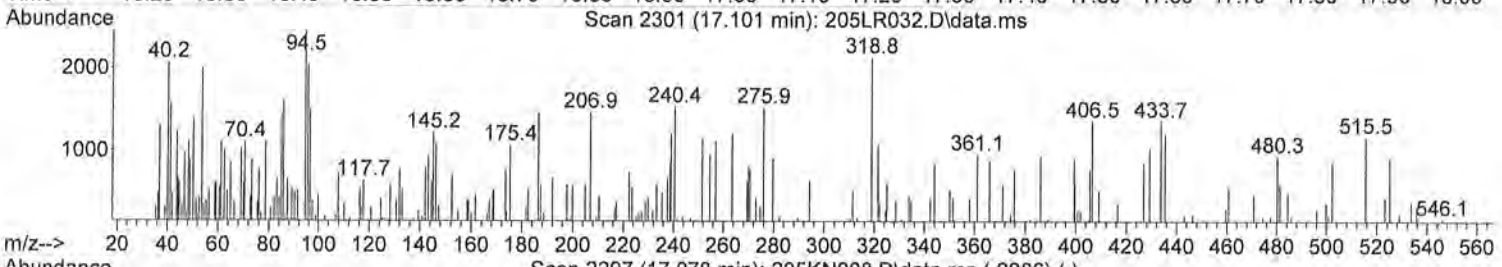
Review by/Date:

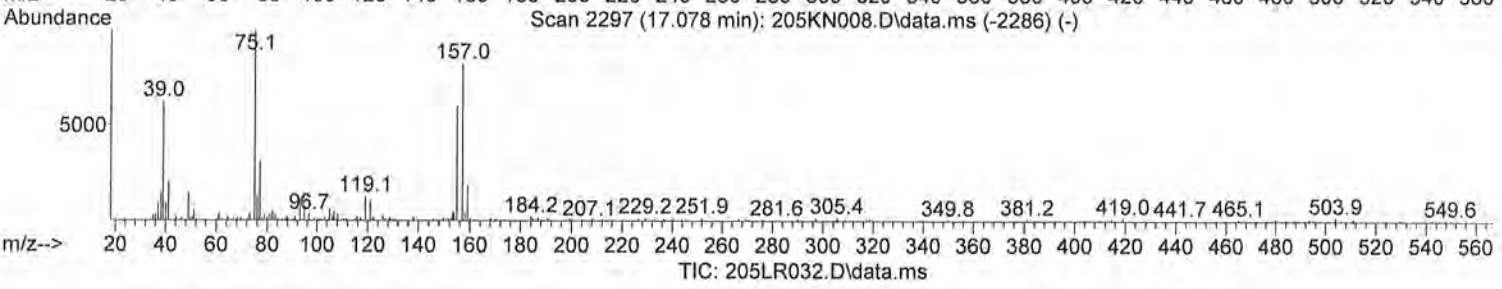
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR032.D
Acq On : 23 Dec 2020 11:19 pm
Operator : KKW
Sample : AA64189-CRL1
Misc :
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Dec 24 07:52:43 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration







TIC: 205LR032.D\data.ms

(92) DBCP

17.104min (-17.104) 0.00 ug/L

response 0

Ion	Exp%	Act%
157.00	100.00	0.00
154.90	81.80	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

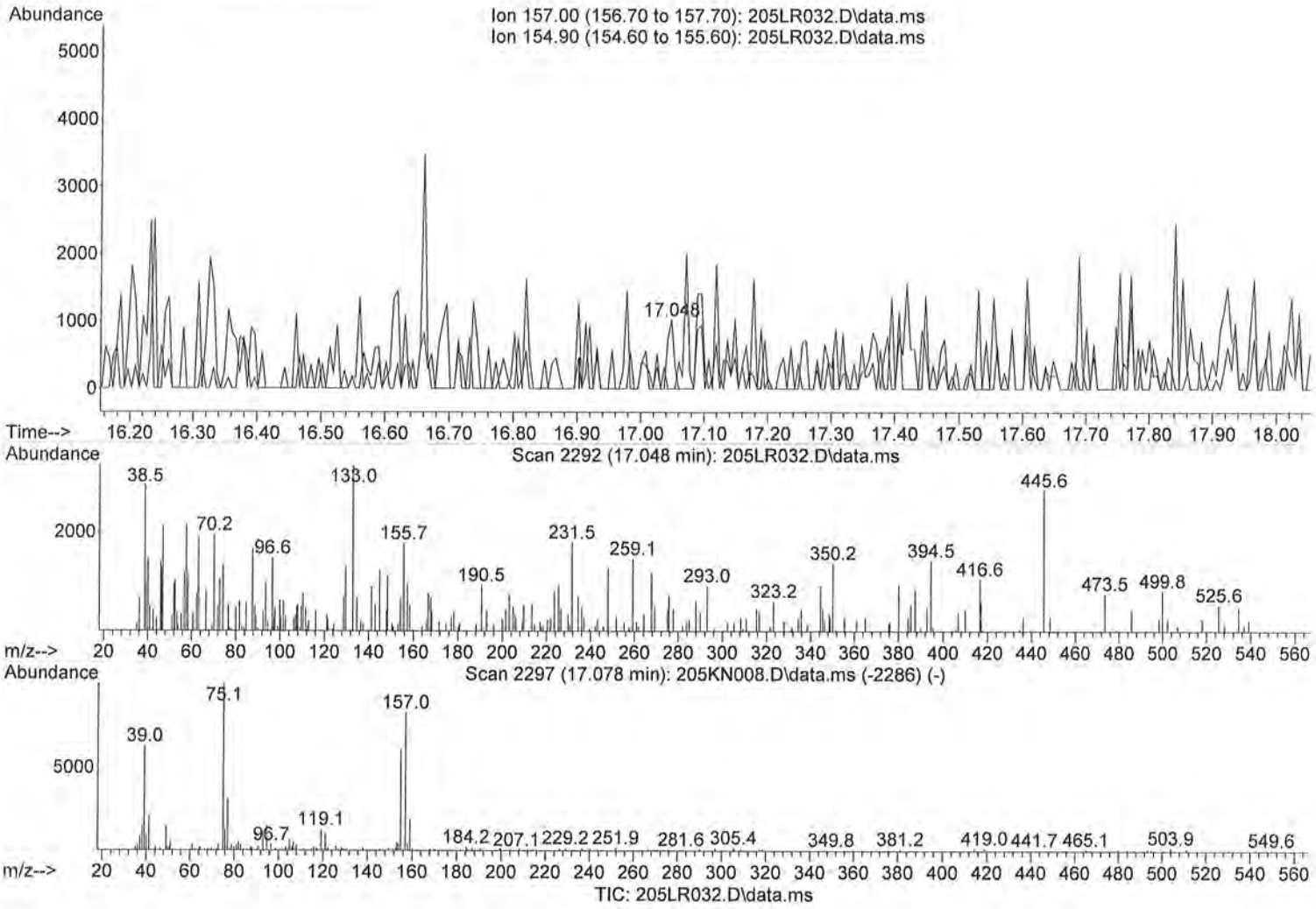
Review by/Date KJ 12/24/20

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR032.D
Acq On : 23 Dec 2020 11:19 pm
Operator : KKW
Sample : AA64189-CRL1
Misc :
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Dec 24 07:52:43 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



(92) DBCP

17.048min (-0.055) 0.55 ug/L m

response 925

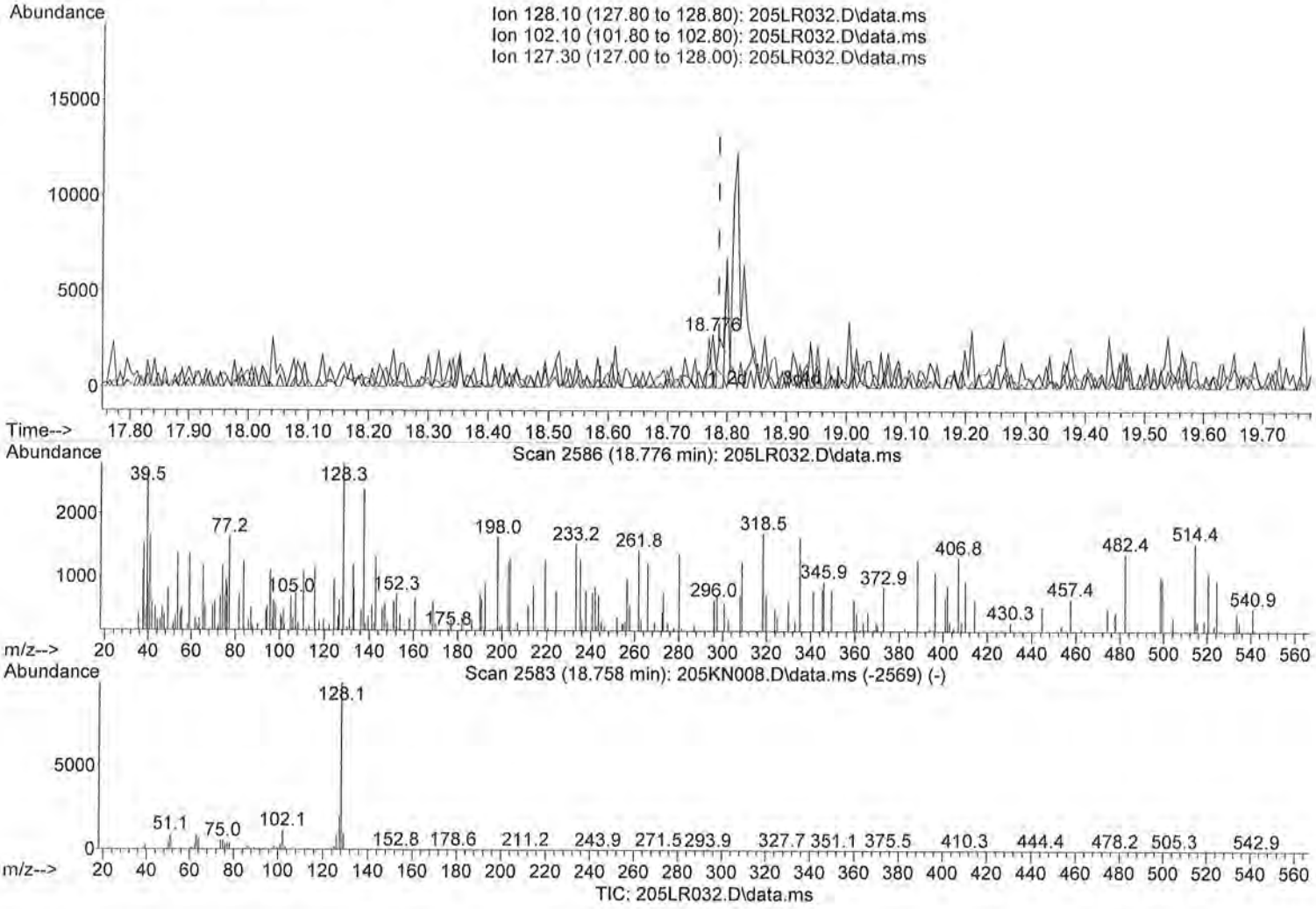
Ion	Exp%	Act%
157.00	100.00	100.00
154.90	81.80	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

[ ] Original Integration [X] Manual Integration
Select reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[X] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date W 12/24/20
Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR032.D
Acq On : 23 Dec 2020 11:19 pm
Operator : KKW
Sample : AA64189-CRL1
Misc :
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Dec 24 07:52:43 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



(95) Naphthalene

18.776min (-0.011) 0.09 ug/L

response 2010

Ion	Exp%	Act%
128.10	100.00	100.00
102.10	11.20	0.00#
127.30	18.20	89.50#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

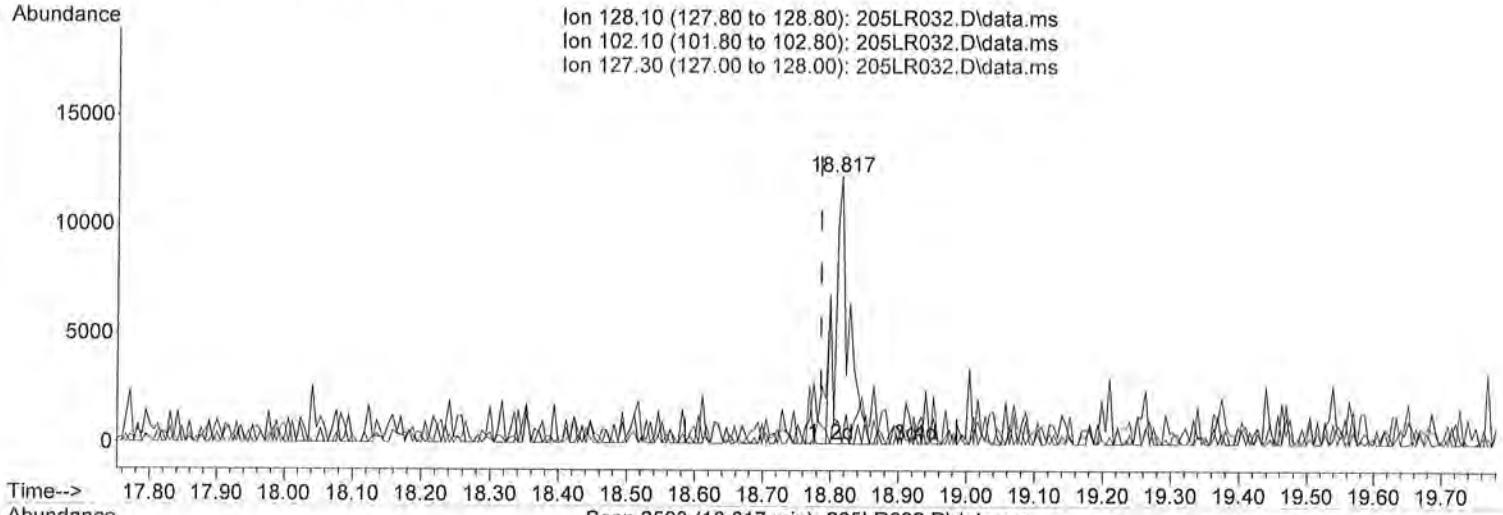
Review by/Date W 12/24/20

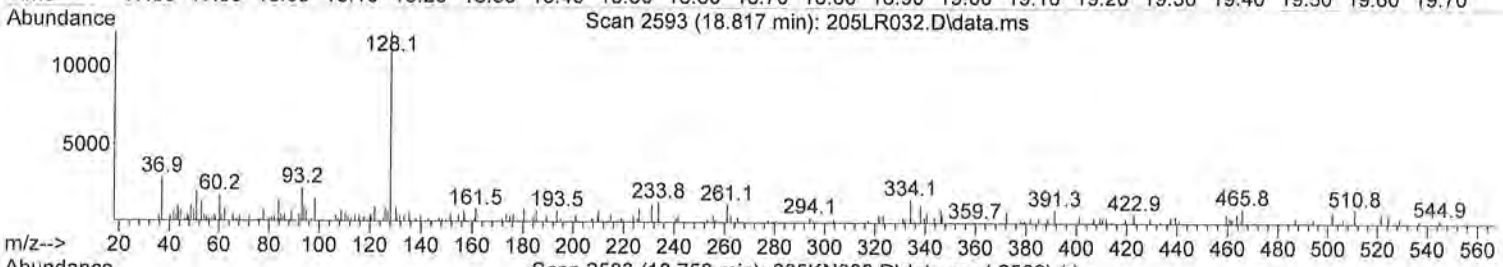
Review by/Date:

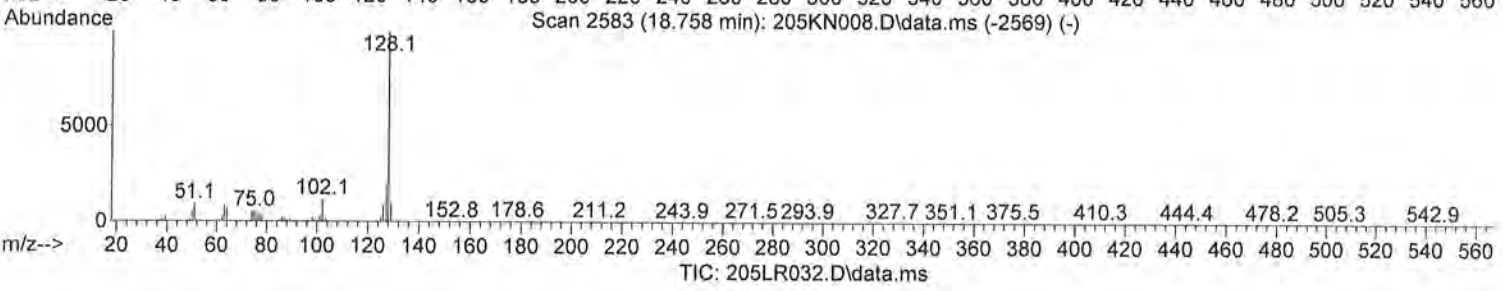
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR032.D
Acq On : 23 Dec 2020 11:19 pm
Operator : KKW
Sample : AA64189-CRL1
Misc :
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Dec 24 07:52:43 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration







TIC: 205LR032.D\data.ms

(95) Naphthalene

18.817min (+ 0.030) 0.97 ug/L m

response 21950

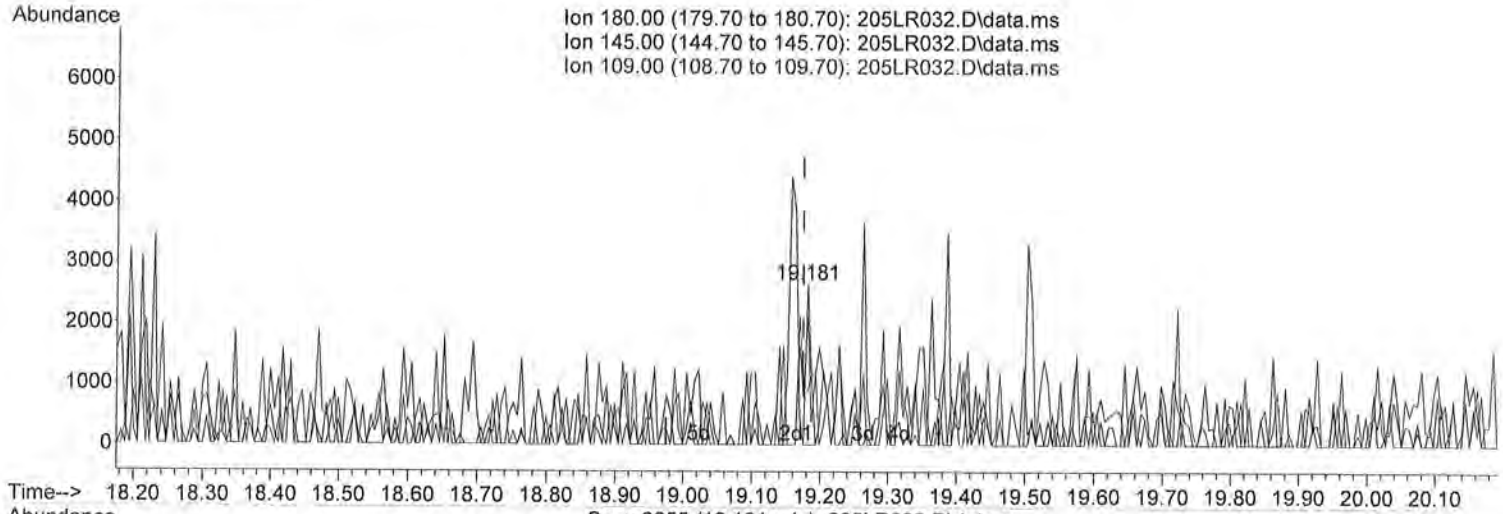
Ion	Exp%	Act%
128.10	100.00	100.00
102.10	11.20	0.00#
127.30	18.20	8.20#
0.00	0.00	0.00

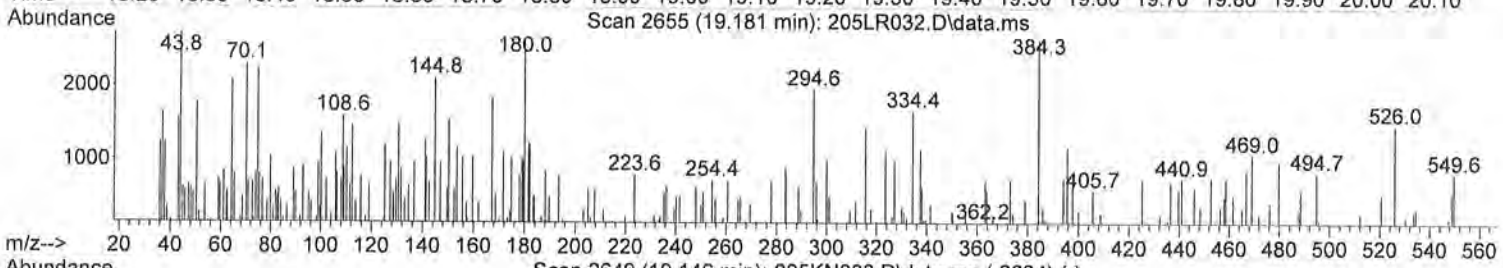
Select One:
[ ] Original Integration [X] Manual Integration
Select reason for manual integration:
[X] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date: W 12/24/20
Review by/Date:

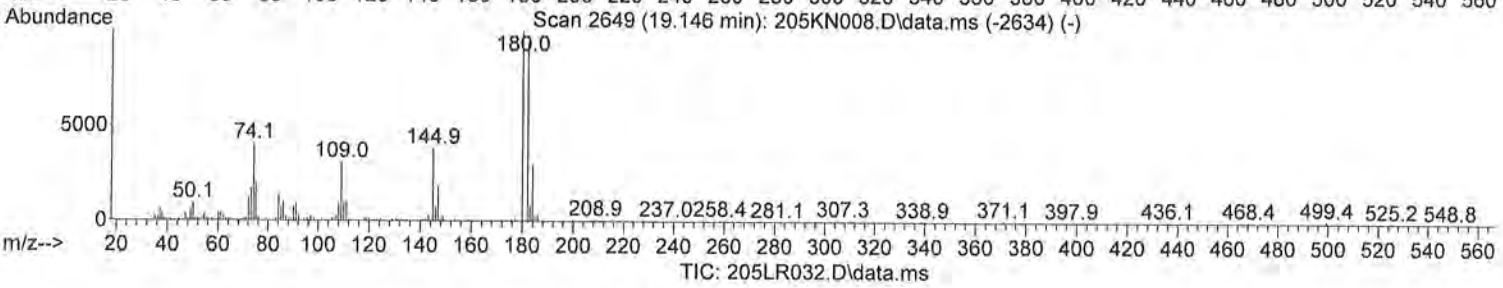
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR032.D
Acq On : 23 Dec 2020 11:19 pm
Operator : KKW
Sample : AA64189-CRL1
Misc :
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Dec 24 07:52:43 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration







TIC: 205LR032.D\data.ms

(96) 1,2,3-Trichlorobenzene

19.181min (+ 0.006) 0.22 ug/L

response 1332

Ion	Exp%	Act%
180.00	100.00	100.00
145.00	37.50	252.93#
109.00	34.60	164.49#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

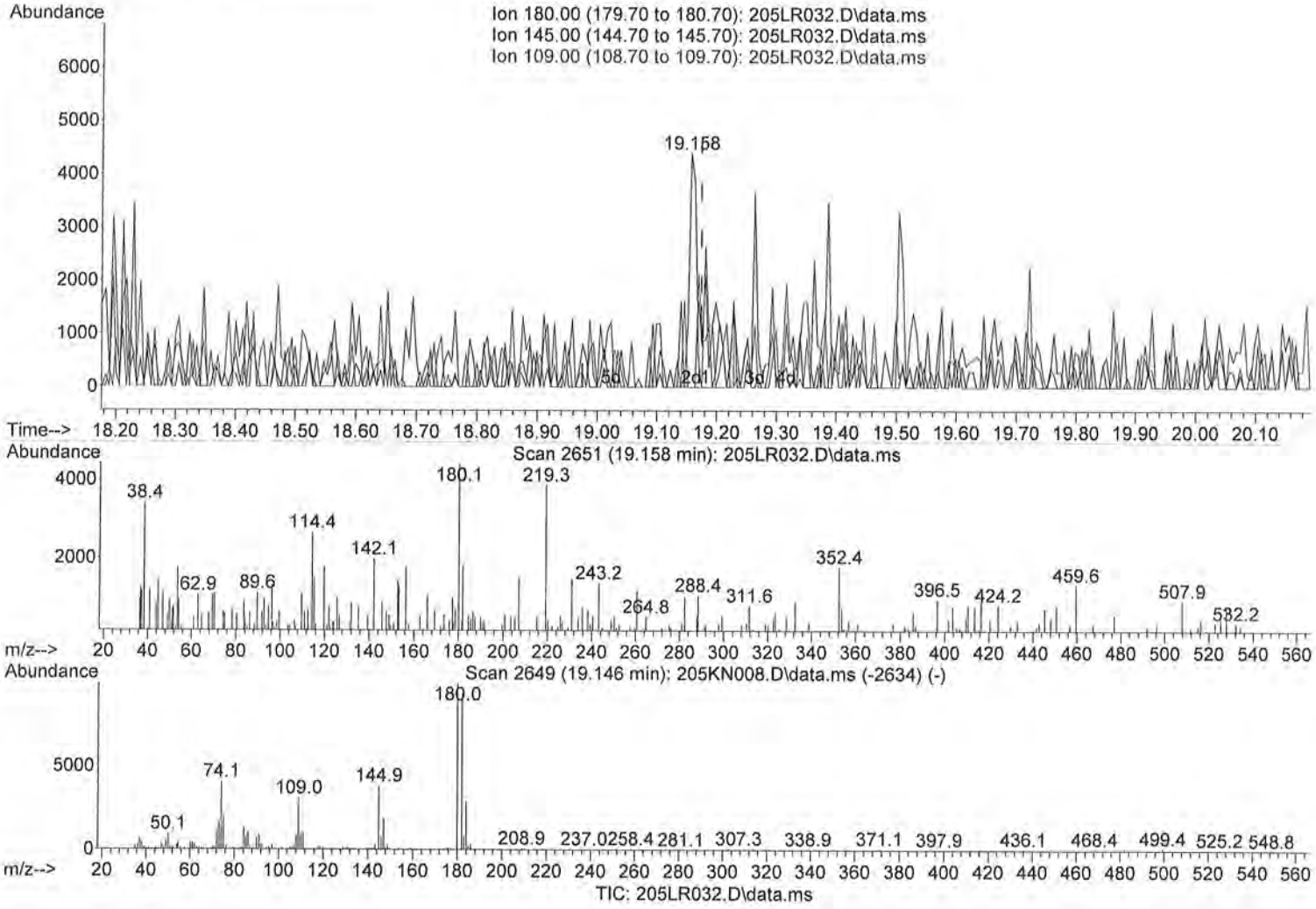
Review by/Date W 12/24/20

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR032.D
Acq On : 23 Dec 2020 11:19 pm
Operator : KKW
Sample : AA64189-CRL1
Misc :
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Dec 24 07:52:43 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



(96) 1,2,3-Trichlorobenzene

19.158min (-0.017) 1.14 ug/L m

response 6968

Ion	Exp%	Act%
180.00	100.00	100.00
145.00	37.50	48.35#
109.00	34.60	31.44
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date W 12/24/20

Review by/Date:

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR026.D
Acq On : 23 Dec 2020 8:21 pm
Operator : KKW
Sample : AA64189-CCV1
Misc :
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Dec 24 07:52:22 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1054217	50.00	ug/L	#	0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2293867	50.00	ug/L		-0.01
55) CHLOROBENZENE-D5 (IS)	13.229	82	1538735	50.00	ug/L	#	-0.01
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1247879	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	645985	59.41	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 118.82%				
52) D8-Toluene	11.784	98	2932967	51.77	ug/L		-0.01
Spiked Amount 50.000	Range 85 - 120		Recovery = 103.54%				
73) Bromofluorobenzene	14.328	95	1547417	56.31	ug/L		-0.02
Spiked Amount 50.000	Range 75 - 120		Recovery = 112.62%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	219895	16.16	ug/L	#	95
3) Chloromethane	4.404	50	143979	9.19	ug/L		91
4) Vinyl Chloride	4.586	62	224344	17.64	ug/L	#	1
5) Bromomethane	5.221	94	85658	24.52	ug/L	#	90
6) Chloroethane	5.432	64	124778	22.29	ug/L		94
7) Trichlorofluoromethane	5.691	101	368616	23.29	ug/L		97
8) Diethyl ether	6.179	59	386481	43.92	ug/L		97
9) 1,1-Dichloroethene	6.531	96	505563	55.55	ug/L		95
10) Trichlorotrifluoroethane	6.555	151	328153	53.83	ug/L		98
11) Acrolein	7.019	56	774853	423.30	ug/L		95
12) Iodomethane	6.778	142	2056857	210.71	ug/L		92
13) Carbon Disulfide	6.625	76	7490788	251.26	ug/L		97
14) 3-chloropropene	7.195	41	676829	37.63	ug/L	#	73
15) Acetone	7.395	43	597162	241.10	ug/L	#	86
16) Methylene Chloride	7.342	84	514175	46.59	ug/L		99
17) Methyl Acetate	7.530	43	245350	31.70	ug/L	#	79
18) t-1,2-Dichloroethene	7.548	96	559125	53.09	ug/L		94
19) Methyl tert-butyl ether	7.636	73	1547898	58.07	ug/L		95
20) Acetonitrile	8.018	41	764985	380.99	ug/L	#	59
21) Isopropyl ether	8.059	45	1590141	44.94	ug/L		94
22) Chloroprene	8.276	88	539372	53.48	ug/L		89
23) 1,1-Dichloroethane	8.317	63	1110561	51.27	ug/L		99
24) Acrylonitrile	8.388	53	1518842	464.30	ug/L	#	99
25) Vinyl Acetate	8.547	43	4366686	196.75	ug/L		96
26) c-1,2-Dichloroethene	8.952	96	583423	52.30	ug/L		96
27) 2,2-Dichloropropane	9.075	77	1043811	56.24	ug/L		99
28) Bromochloromethane	9.187	128	227120	57.65	ug/L		99
29) Cyclohexane	9.193	56	1036538	43.99	ug/L		89
30) Chloroform	9.222	83	1188661	57.46	ug/L		97
32) Dibromofluoromethane	9.428	113	645985	59.41	ug/L	#	85
33) 2-Butanone	9.551	72	252965	210.33	ug/L		97
34) 1,1,1-Trichloroethane	9.492	97	1114029	65.23	ug/L		96
35) 1,1-Dichloropropene	9.610	75	947754	54.54	ug/L		97
36) Propionitrile	9.898	54	680040	458.59	ug/L		89
37) Methacrylonitrile	9.910	41	3277551	447.66	ug/L		98
38) Isobutyl Alcohol	9.910	43	819214	925.16	ug/L		91
40) Carbon Tetrachloride	9.410	117	851429m	49.55	ug/L		
41) Benzene	9.880	78	2500983	47.69	ug/L		99
42) 1,2-Dichloroethane	10.092	62	957915	50.08	ug/L		94
43) Trichloroethene	10.450	130	556498	52.54	ug/L		99
44) Methyl cyclohexane	10.456	83	1184746	45.03	ug/L		93
45) Dibromomethane	10.908	93	348544	46.78	ug/L		98
46) 1,2-Dichloropropane	10.991	63	625344	40.61	ug/L	#	86
47) Bromodichloromethane	11.014	83	812152	47.44	ug/L		99
48) Methyl Methacrylate	11.085	69	334152	34.31	ug/L		96
49) 1,4-Dioxane	11.202	88	131066	985.63	ug/L	#	80
50) 2-Chloroethyl vinyl ether	11.502	63	1306	N.D.			
51) C-1,3-Dichloropropene	11.614	75	1017679	44.17	ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR026.D
Acq On : 23 Dec 2020 8:21 pm
Operator : KKW
Sample : AA64189-CCV1
Misc :
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Dec 24 07:52:22 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

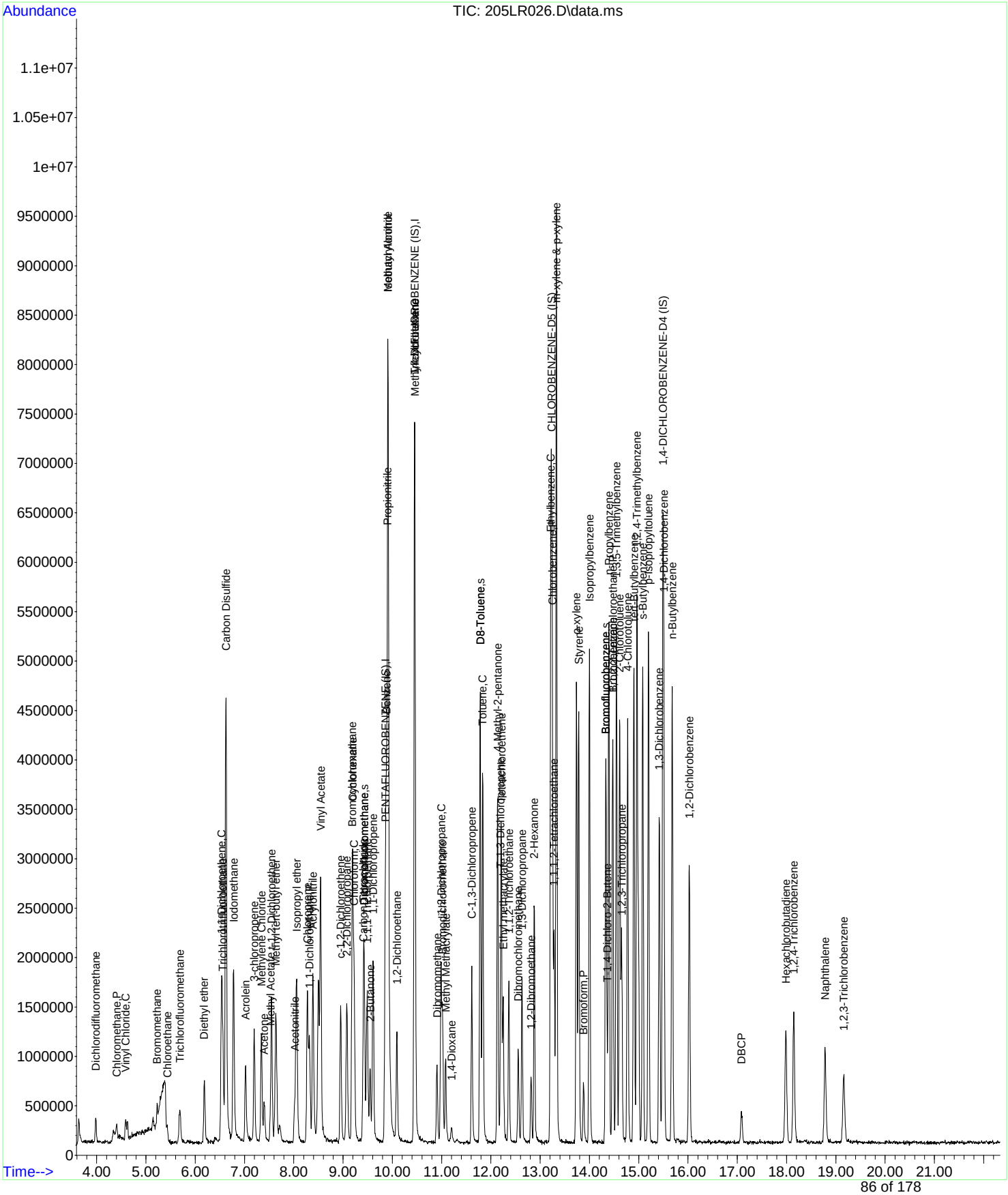
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.784	98	2932967	51.77 ug/L	98
54) 4-Methyl-2-pentanone	12.136	100	372541	239.38 ug/L #	74
56) Toluene	11.831	92	1558390	47.46 ug/L	96
57) T-1,3-Dichloropropene	12.195	75	883249	45.21 ug/L	97
58) Tetrachloroethene	12.213	164	378219	41.88 ug/L	95
59) Ethyl methacrylate	12.248	69	688047	39.37 ug/L	94
60) 1,1,2-Trichloroethane	12.366	97	499886	45.06 ug/L	98
61) Dibromochloromethane	12.554	129	475613	47.09 ug/L	97
62) 1,3-Dichloropropane	12.630	76	950356	46.27 ug/L	94
63) 1,2-Dibromoethane	12.812	107	511754	49.56 ug/L #	97
64) 2-Hexanone	12.877	43	1466689	193.97 ug/L	99
65) Ethylbenzene	13.212	106	955749	47.90 ug/L	96
66) Chlorobenzene	13.247	112	1652926	49.97 ug/L	98
67) 1,1,1,2-Tetrachloroethane	13.276	131	531153	53.66 ug/L	97
68) m-xylene & p-xylene	13.329	106	2363723	102.06 ug/L	96
69) o-xylene	13.735	106	1237375	52.10 ug/L	98
70) Styrene	13.782	104	2093019	53.97 ug/L	97
71) Bromoform	13.876	173	253231	43.71 ug/L	91
72) Isopropylbenzene	13.999	105	3362612	53.79 ug/L	99
74) Bromofluorobenzene	14.328	95	1547417	56.31 ug/L #	71
75) n-Propylbenzene	14.393	91	4443135	53.17 ug/L	99
76) 1,1,2,2-Tetrachloroethane	14.475	83	760772	49.08 ug/L	99
77) 1,2,3-Trichloropropane	14.657	61	275169m	48.54 ug/L	
78) T-1,4-Dichloro-2-Butene	14.357	53	215801	35.27 ug/L	88
80) Bromobenzene	14.475	156	619866	49.33 ug/L #	86
81) 1,2,4-Trimethylbenzene	14.963	105	3358761	57.49 ug/L	96
82) 2-Chlorotoluene	14.610	91	2728200	55.55 ug/L	96
83) 4-Chlorotoluene	14.775	91	2895697	56.47 ug/L	98
84) tert-Butylbenzene	14.904	119	2465717	55.56 ug/L	97
85) 1,3,5-Trimethylbenzene	14.545	105	3210442	56.72 ug/L	98
86) p-Isopropyltoluene	15.198	119	3119932	56.59 ug/L	97
87) s-Butylbenzene	15.080	105	3752756	56.51 ug/L	100
88) 1,3-Dichlorobenzene	15.415	146	1329857	52.83 ug/L	93
89) 1,4-Dichlorobenzene	15.509	146	1382738	51.24 ug/L	95
90) n-Butylbenzene	15.679	91	3250660	56.71 ug/L	97
91) 1,2-Dichlorobenzene	16.026	146	1232035	51.85 ug/L	96
92) DBCP	17.084	157	85795	44.15 ug/L	97
93) Hexachlorobutadiene	17.989	225	249468	43.67 ug/L	95
94) 1,2,4-Trichlorobenzene	18.141	180	464948	38.94 ug/L #	90
95) Naphthalene	18.782	128	1126382	44.56 ug/L	95
96) 1,2,3-Trichlorobenzene	19.158	180	247522	35.34 ug/L #	78

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR026.D
Acq On : 23 Dec 2020 8:21 pm
Operator : KKW
Sample : AA64189-CCV1
Misc :
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Dec 24 07:52:22 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR027.D
Acq On : 23 Dec 2020 8:51 pm
Operator : KKW
Sample : 0L23041-BS1
Misc :
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Dec 24 07:52:27 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.863	168	1150441	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2364045	50.00	ug/L		-0.01
55) CHLOROBENZENE-D5 (IS)	13.229	82	1554471	50.00	ug/L		#-0.01
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1306150	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	700985	59.08	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 118.16%				
52) D8-Toluene	11.778	98	3044441	52.14	ug/L		-0.02
Spiked Amount 50.000	Range 85 - 120		Recovery = 104.28%				
73) Bromofluorobenzene	14.328	95	1533301	55.23	ug/L		-0.02
Spiked Amount 50.000	Range 75 - 120		Recovery = 110.46%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	339078	22.83	ug/L		99
3) Chloromethane	4.398	50	195252	11.42	ug/L		91
4) Vinyl Chloride	4.586	62	258938	18.65	ug/L	#	87
5) Bromomethane	5.233	94	25616	7.25	ug/L	#	85
6) Chloroethane	5.444	64	130281	21.33	ug/L		97
7) Trichlorofluoromethane	5.697	101	388631	22.50	ug/L		96
8) Diethyl ether	6.184	59	166580	17.35	ug/L		93
9) 1,1-Dichloroethene	6.537	96	191122	19.24	ug/L		96
10) Trichlorotrifluoroethane	6.555	151	121822	18.31	ug/L		91
11) Acrolein	7.025	56	144840	72.51	ug/L		97
12) Iodomethane	6.772	142	236642	22.21	ug/L		90
13) Carbon Disulfide	6.619	76	666716	20.49	ug/L		99
14) 3-chloropropene	7.201	41	336920	17.16	ug/L	#	83
15) Acetone	7.395	43	256739	94.99	ug/L		93
16) Methylene Chloride	7.348	84	246815	20.49	ug/L		81
17) Methyl Acetate	7.524	43	109829	13.00	ug/L		94
18) t-1,2-Dichloroethene	7.553	96	229291	19.95	ug/L		96
19) Methyl tert-butyl ether	7.642	73	633013	21.76	ug/L		96
20) Acetonitrile	8.065	41	245699	112.13	ug/L	#	83
21) Isopropyl ether	8.059	45	664222	17.20	ug/L	#	90
22) Chloroprene	8.276	88	219636	19.95	ug/L		93
23) 1,1-Dichloroethane	8.317	63	450579	19.06	ug/L	#	98
24) Acrylonitrile	8.394	53	81495	22.83	ug/L	#	97
25) Vinyl Acetate	8.546	43	338767	13.99	ug/L		96
26) c-1,2-Dichloroethene	8.952	96	247035	20.29	ug/L		97
27) 2,2-Dichloropropane	9.075	77	418788	20.95	ug/L		99
28) Bromochloromethane	9.187	128	96375	22.42	ug/L		98
29) Cyclohexane	9.193	56	449096	17.46	ug/L		90
30) Chloroform	9.222	83	499969	22.15	ug/L		99
32) Dibromofluoromethane	9.428	113	700985	59.08	ug/L	#	90
33) 2-Butanone	9.551	72	95370	73.88	ug/L		82
34) 1,1,1-Trichloroethane	9.486	97	450830	24.19	ug/L		99
35) 1,1-Dichloropropene	9.610	75	375207	19.79	ug/L		100
36) Propionitrile	9.910	54	40783	25.20	ug/L	#	1
37) Methacrylonitrile	9.910	41	212092	26.55	ug/L	#	73
38) Isobutyl Alcohol	9.910	43	239278	247.62	ug/L	#	50
40) Carbon Tetrachloride	9.410	117	328856	18.57	ug/L		91
41) Benzene	9.880	78	1015946	18.80	ug/L		99
42) 1,2-Dichloroethane	10.092	62	381007	19.33	ug/L		92
43) Trichloroethene	10.456	130	211814	19.40	ug/L	#	77
44) Methyl cyclohexane	10.456	83	489526	18.05	ug/L		93
45) Dibromomethane	10.903	93	162252	21.13	ug/L		92
46) 1,2-Dichloropropane	10.985	63	252901	16.65	ug/L	#	87
47) Bromodichloromethane	11.020	83	336655	20.25	ug/L		100
48) Methyl Methacrylate	11.079	69	152222	15.17	ug/L	#	83
49) 1,4-Dioxane	11.208	88	55298	403.50	ug/L		92
50) 2-Chloroethyl vinyl ether	11.508	63	1088	N.D.			
51) C-1,3-Dichloropropene	11.613	75	379284	16.96	ug/L		92

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR027.D
Acq On : 23 Dec 2020 8:51 pm
Operator : KKW
Sample : 0L23041-BS1
Misc :
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Dec 24 07:52:27 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

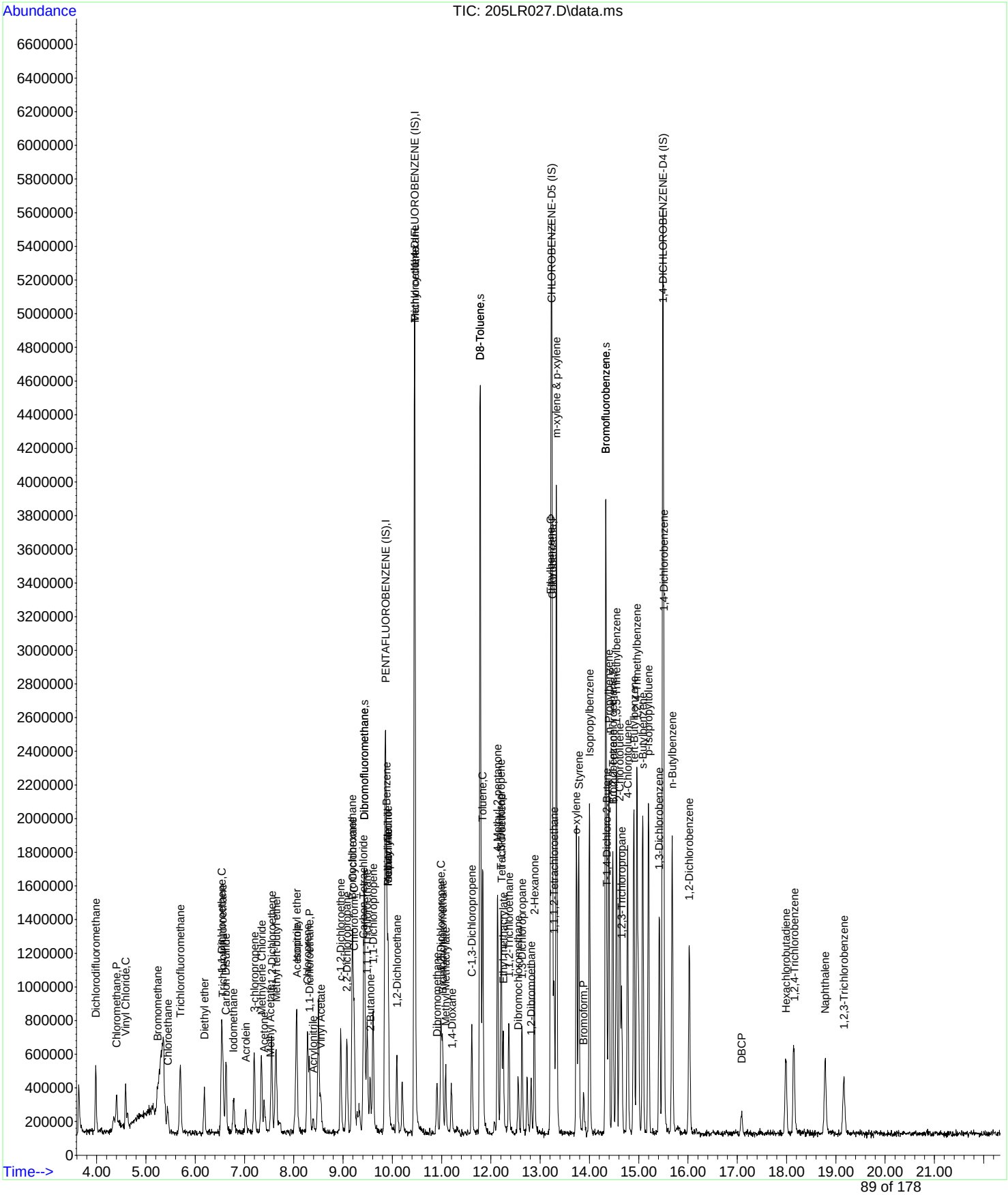
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	3044441	52.14	ug/L		99
54) 4-Methyl-2-pentanone	12.131	100	146596	91.40	ug/L		80
56) Toluene	11.831	92	654362	19.73	ug/L		98
57) T-1,3-Dichloropropene	12.201	75	384074	19.46	ug/L		95
58) Tetrachloroethene	12.213	164	145215	15.92	ug/L	#	88
59) Ethyl methacrylate	12.248	69	301911	17.10	ug/L		94
60) 1,1,2-Trichloroethane	12.366	97	194939	17.39	ug/L		89
61) Dibromochloromethane	12.554	129	185192	19.53	ug/L		96
62) 1,3-Dichloropropane	12.630	76	377886	18.21	ug/L		96
63) 1,2-Dibromoethane	12.812	107	205436	19.70	ug/L		96
64) 2-Hexanone	12.883	43	635352	83.18	ug/L		95
65) Ethylbenzene	13.212	106	392605	19.48	ug/L		95
66) Chlorobenzene	13.247	112	691768	20.70	ug/L		98
67) 1,1,1,2-Tetrachloroethane	13.282	131	227619	22.76	ug/L		98
68) m-xylene & p-xylene	13.329	106	991238	42.37	ug/L		96
69) o-xylene	13.729	106	479457	19.98	ug/L		94
70) Styrene	13.782	104	839401	21.42	ug/L		96
71) Bromoform	13.876	173	85246	16.20	ug/L	#	78
72) Isopropylbenzene	13.999	105	1356738	21.48	ug/L		99
74) Bromofluorobenzene	14.328	95	1533301	55.23	ug/L	#	74
75) n-Propylbenzene	14.393	91	1770305	20.97	ug/L		100
76) 1,1,2,2-Tetrachloroethane	14.475	83	316399	20.20	ug/L		98
77) 1,2,3-Trichloropropane	14.651	61	109621m	19.14	ug/L		
78) T-1,4-Dichloro-2-Butene	14.351	53	91138	14.74	ug/L	#	50
80) Bromobenzene	14.475	156	239128	18.18	ug/L		77
81) 1,2,4-Trimethylbenzene	14.963	105	1358469	22.22	ug/L		96
82) 2-Chlorotoluene	14.610	91	1135983	22.10	ug/L		97
83) 4-Chlorotoluene	14.775	91	1143392	21.30	ug/L		99
84) tert-Butylbenzene	14.904	119	1011562	21.78	ug/L		98
85) 1,3,5-Trimethylbenzene	14.545	105	1280792	21.62	ug/L		97
86) p-Isopropyltoluene	15.198	119	1243541	21.55	ug/L		99
87) s-Butylbenzene	15.080	105	1494547	21.50	ug/L		98
88) 1,3-Dichlorobenzene	15.415	146	510877	19.39	ug/L	#	87
89) 1,4-Dichlorobenzene	15.509	146	550123	19.48	ug/L	#	75
90) n-Butylbenzene	15.679	91	1252745	20.88	ug/L		97
91) 1,2-Dichlorobenzene	16.020	146	493090	19.83	ug/L		94
92) DBCP	17.090	157	32958	16.88	ug/L	#	81
93) Hexachlorobutadiene	17.988	225	82119	14.61	ug/L	#	83
94) 1,2,4-Trichlorobenzene	18.153	180	202666	16.50	ug/L	#	92
95) Naphthalene	18.782	128	535581	20.71	ug/L	#	79
96) 1,2,3-Trichlorobenzene	19.164	180	139137	19.55	ug/L		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR027.D
Acq On : 23 Dec 2020 8:51 pm
Operator : KKW
Sample : 0L23041-BS1
Misc :
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Dec 24 07:52:27 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR028.D
Acq On : 23 Dec 2020 9:20 pm
Operator : KKW
Sample : 0L23041-MS1
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Dec 24 07:52:31 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1146484	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2434602	50.00	ug/L		-0.01
55) CHLOROBENZENE-D5 (IS)	13.229	82	1605620	50.00	ug/L		-0.01
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1286839	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.434	113	705147	59.63	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 119.26%				
52) D8-Toluene	11.784	98	3076646	51.16	ug/L		-0.01
Spiked Amount 50.000	Range 85 - 120		Recovery = 102.32%				
73) Bromofluorobenzene	14.334	95	1571097	54.79	ug/L		-0.01
Spiked Amount 50.000	Range 75 - 120		Recovery = 109.58%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.987	85	378583	25.58	ug/L		97
3) Chloromethane	4.398	50	210563	12.36	ug/L		90
4) Vinyl Chloride	4.586	62	317498	22.95	ug/L	#	81
5) Bromomethane	5.227	94	39273	10.97	ug/L	#	96
6) Chloroethane	5.438	64	157525	25.88	ug/L		96
7) Trichlorofluoromethane	5.691	101	487550	28.33	ug/L		93
8) Diethyl ether	6.179	59	179564	18.76	ug/L		96
9) 1,1-Dichloroethene	6.537	96	225500	22.78	ug/L		97
10) Trichlorotrifluoroethane	6.555	151	148601	22.42	ug/L		95
11) Acrolein	7.025	56	150213	75.46	ug/L		88
12) Iodomethane	6.778	142	234030	22.05	ug/L		98
13) Carbon Disulfide	6.619	76	750853	23.16	ug/L		97
14) 3-chloropropene	7.201	41	368372	18.83	ug/L	#	82
15) Acetone	7.395	43	280336	104.08	ug/L		95
16) Methylene Chloride	7.342	84	241708	20.14	ug/L		86
17) Methyl Acetate	7.524	43	102026	12.12	ug/L	#	80
18) t-1,2-Dichloroethene	7.548	96	263873	23.04	ug/L		94
19) Methyl tert-butyl ether	7.636	73	682178	23.53	ug/L		94
20) Acetonitrile	8.059	41	280522	128.47	ug/L	#	77
21) Isopropyl ether	8.059	45	734421	19.09	ug/L	#	87
22) Chloroprene	8.276	88	249983	22.79	ug/L		92
23) 1,1-Dichloroethane	8.317	63	488117	20.72	ug/L	#	98
24) Acrylonitrile	8.394	53	82308	23.14	ug/L	#	90
25) Vinyl Acetate	8.546	43	322898	13.38	ug/L		99
26) c-1,2-Dichloroethene	8.946	96	255013	21.02	ug/L		96
27) 2,2-Dichloropropane	9.081	77	497198	24.92	ug/L	#	94
28) Bromochloromethane	9.187	128	98057	22.89	ug/L		98
29) Cyclohexane	9.199	56	518300	20.22	ug/L		89
30) Chloroform	9.222	83	570433	25.36	ug/L		94
32) Dibromofluoromethane	9.434	113	705147	59.63	ug/L	#	91
33) 2-Butanone	9.551	72	157651	121.83	ug/L		68
34) 1,1,1-Trichloroethane	9.492	97	506981	27.30	ug/L		98
35) 1,1-Dichloropropene	9.604	75	412586	21.83	ug/L		93
36) Propionitrile	9.910	54	38446	23.84	ug/L	#	1
37) Methacrylonitrile	9.915	41	218042	27.38	ug/L	#	75
38) Isobutyl Alcohol	9.904	43	235430	244.48	ug/L	#	51
40) Carbon Tetrachloride	9.416	117	387206	21.23	ug/L		97
41) Benzene	9.886	78	1147828	20.62	ug/L		98
42) 1,2-Dichloroethane	10.092	62	415282	20.45	ug/L	#	91
43) Trichloroethene	10.456	130	262478	23.35	ug/L		96
44) Methyl cyclohexane	10.456	83	581374	20.82	ug/L		93
45) Dibromomethane	10.903	93	140804	17.81	ug/L		97
46) 1,2-Dichloropropane	10.991	63	276904	17.67	ug/L		90
47) Bromodichloromethane	11.020	83	357971	20.87	ug/L		98
48) Methyl Methacrylate	11.079	69	155118	15.01	ug/L		95
49) 1,4-Dioxane	11.190	88	57485	407.30	ug/L		90
50) 2-Chloroethyl vinyl ether	11.473	63	1276	N.D.			
51) C-1,3-Dichloropropene	11.614	75	404432	17.54	ug/L		97

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR028.D
Acq On : 23 Dec 2020 9:20 pm
Operator : KKW
Sample : 0L23041-MS1
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Dec 24 07:52:31 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

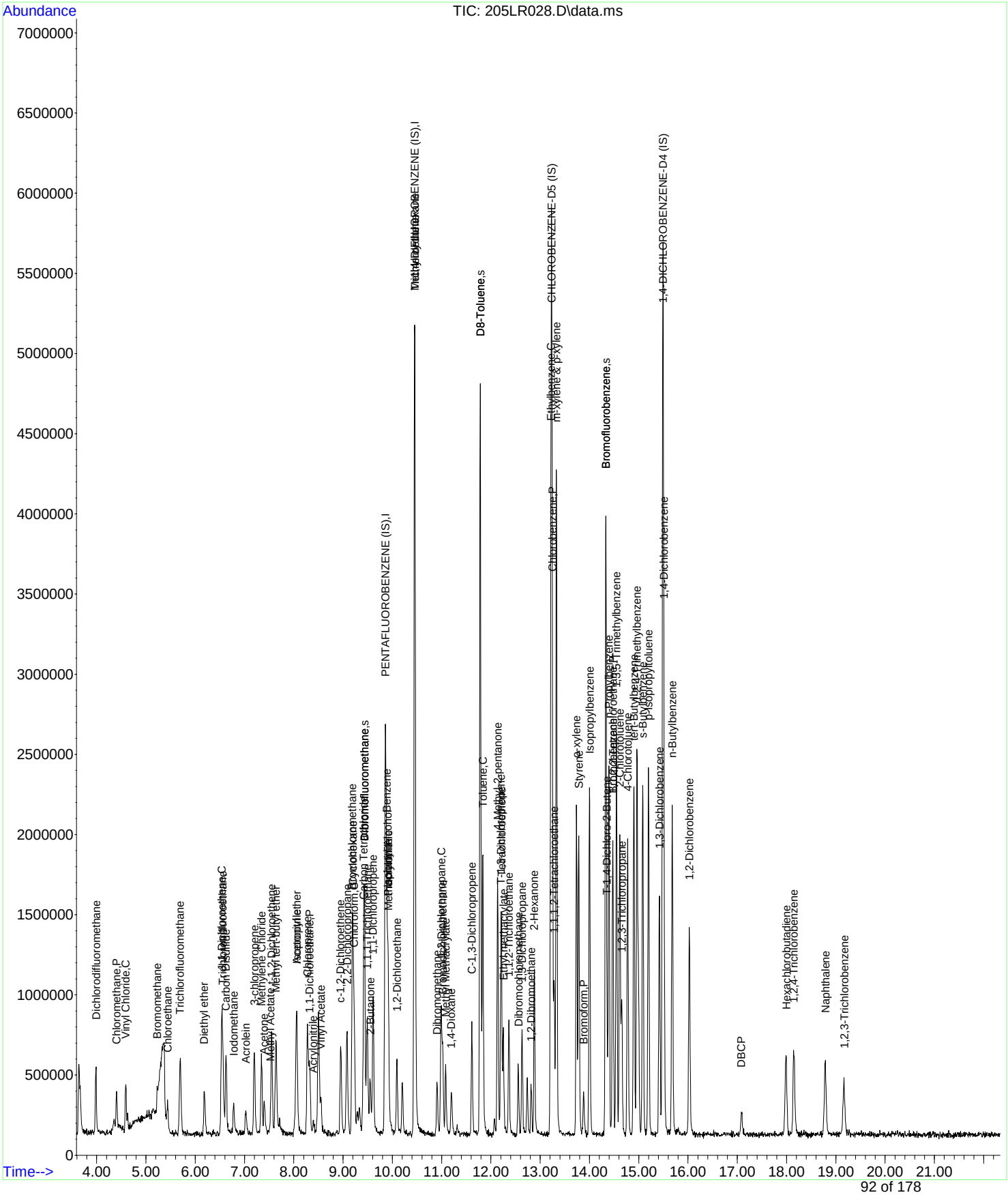
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.784	98	3076646	51.16	ug/L		99
54) 4-Methyl-2-pentanone	12.136	100	155489	94.13	ug/L		90
56) Toluene	11.837	92	751010	21.92	ug/L		93
57) T-1,3-Dichloropropene	12.201	75	425210	20.86	ug/L		97
58) Tetrachloroethene	12.213	164	166363	17.65	ug/L	#	89
59) Ethyl methacrylate	12.254	69	311927	17.10	ug/L		95
60) 1,1,2-Trichloroethane	12.360	97	240599	20.78	ug/L		89
61) Dibromochloromethane	12.559	129	203108	20.67	ug/L		96
62) 1,3-Dichloropropane	12.630	76	383058	17.87	ug/L		96
63) 1,2-Dibromoethane	12.818	107	230416	21.39	ug/L		97
64) 2-Hexanone	12.877	43	653220	82.79	ug/L	#	97
65) Ethylbenzene	13.218	106	440197	21.14	ug/L		99
66) Chlorobenzene	13.247	112	732439	21.22	ug/L		95
67) 1,1,1,2-Tetrachloroethane	13.282	131	229776	22.25	ug/L		96
68) m-xylene & p-xylene	13.329	106	1057975	43.78	ug/L		92
69) o-xylene	13.735	106	535867	21.62	ug/L		95
70) Styrene	13.782	104	904703	22.36	ug/L		96
71) Bromoform	13.881	173	102104	18.60	ug/L		90
72) Isopropylbenzene	14.005	105	1461128	22.40	ug/L		98
74) Bromofluorobenzene	14.334	95	1571097	54.79	ug/L	#	72
75) n-Propylbenzene	14.393	91	1988013	22.80	ug/L		100
76) 1,1,2,2-Tetrachloroethane	14.475	83	339934	21.01	ug/L		96
77) 1,2,3-Trichloropropane	14.657	61	110739m	18.72	ug/L		
78) T-1,4-Dichloro-2-Butene	14.352	53	92397	14.47	ug/L	#	16
80) Bromobenzene	14.475	156	268396	20.71	ug/L		84
81) 1,2,4-Trimethylbenzene	14.963	105	1490856	24.75	ug/L		96
82) 2-Chlorotoluene	14.616	91	1228341	24.26	ug/L		98
83) 4-Chlorotoluene	14.775	91	1259624	23.82	ug/L		99
84) tert-Butylbenzene	14.898	119	1095407	23.93	ug/L		96
85) 1,3,5-Trimethylbenzene	14.545	105	1436487	24.61	ug/L		98
86) p-Isopropyltoluene	15.198	119	1385719	24.38	ug/L		96
87) s-Butylbenzene	15.080	105	1721104	25.13	ug/L		94
88) 1,3-Dichlorobenzene	15.421	146	592067	22.81	ug/L		94
89) 1,4-Dichlorobenzene	15.509	146	569167	20.45	ug/L	#	73
90) n-Butylbenzene	15.679	91	1406376	23.79	ug/L		100
91) 1,2-Dichlorobenzene	16.026	146	530134	21.64	ug/L		93
92) DBCP	17.078	157	34255	17.78	ug/L	#	79
93) Hexachlorobutadiene	17.994	225	113481	20.24	ug/L	#	93
94) 1,2,4-Trichlorobenzene	18.141	180	208404	17.21	ug/L	#	90
95) Naphthalene	18.788	128	550515	21.59	ug/L		99
96) 1,2,3-Trichlorobenzene	19.175	180	157160	22.29	ug/L		94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR028.D
Acq On : 23 Dec 2020 9:20 pm
Operator : KKW
Sample : 0L23041-MS1
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Dec 24 07:52:31 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR029.D
Acq On : 23 Dec 2020 9:50 pm
Operator : KKW
Sample : 0L23041-MSD1
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Dec 24 07:52:35 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.862	168	1148028	50.00	ug/L	#	0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2475439	50.00	ug/L		-0.01
55) CHLOROBENZENE-D5 (IS)	13.229	82	1648020	50.00	ug/L		-0.01
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1270066	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	727782	61.46	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 122.92%				
52) D8-Toluene	11.784	98	3163856	51.74	ug/L		-0.01
Spiked Amount 50.000	Range 85 - 120		Recovery = 103.48%				
73) Bromofluorobenzene	14.334	95	1590491	54.04	ug/L		-0.01
Spiked Amount 50.000	Range 75 - 120		Recovery = 108.08%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	373390	25.19	ug/L		98
3) Chloromethane	4.404	50	218365	12.80	ug/L	#	84
4) Vinyl Chloride	4.586	62	309784	22.36	ug/L	#	82
5) Bromomethane	5.232	94	56704	15.50	ug/L	#	95
6) Chloroethane	5.438	64	149134	24.47	ug/L		96
7) Trichlorofluoromethane	5.697	101	469777	27.26	ug/L		96
8) Diethyl ether	6.190	59	189500	19.77	ug/L		99
9) 1,1-Dichloroethene	6.537	96	224796	22.68	ug/L		92
10) Trichlorotrifluoroethane	6.560	151	118944	17.92	ug/L	#	70
11) Acrolein	7.024	56	151562	76.03	ug/L		98
12) Iodomethane	6.784	142	180975	17.02	ug/L	#	91
13) Carbon Disulfide	6.619	76	672698	20.72	ug/L		95
14) 3-chloropropene	7.195	41	335831	17.14	ug/L	#	77
15) Acetone	7.401	43	277871	103.02	ug/L		90
16) Methylene Chloride	7.342	84	247105	20.56	ug/L		86
17) Methyl Acetate	7.530	43	107642	12.77	ug/L	#	64
18) t-1,2-Dichloroethene	7.547	96	251486	21.93	ug/L		93
19) Methyl tert-butyl ether	7.636	73	685532	23.62	ug/L	#	88
20) Acetonitrile	8.059	41	265117	121.25	ug/L	#	73
21) Isopropyl ether	8.053	45	730673	18.96	ug/L	#	93
22) Chloroprene	8.282	88	218798	19.92	ug/L		91
23) 1,1-Dichloroethane	8.311	63	487605	20.67	ug/L	#	96
24) Acrylonitrile	8.388	53	58393	16.39	ug/L	#	95
25) Vinyl Acetate	8.552	43	323694	13.39	ug/L	#	91
26) c-1,2-Dichloroethene	8.952	96	281959	23.21	ug/L		97
27) 2,2-Dichloropropane	9.075	77	453271	22.71	ug/L		97
28) Bromochloromethane	9.193	128	116278	27.10	ug/L		83
29) Cyclohexane	9.187	56	514515	20.05	ug/L		94
30) Chloroform	9.228	83	559970	24.86	ug/L		98
32) Dibromofluoromethane	9.428	113	727782	61.46	ug/L	#	93
33) 2-Butanone	9.545	72	151777	117.20	ug/L	#	65
34) 1,1,1-Trichloroethane	9.486	97	478215	25.71	ug/L		96
35) 1,1-Dichloropropene	9.610	75	435296	23.00	ug/L		97
36) Propionitrile	9.909	54	36826	22.80	ug/L	#	1
37) Methacrylonitrile	9.915	41	221551	27.79	ug/L		87
38) Isobutyl Alcohol	9.904	43	259687	269.31	ug/L	#	53
40) Carbon Tetrachloride	9.416	117	373492	20.14	ug/L		96
41) Benzene	9.880	78	1139213	20.13	ug/L		95
42) 1,2-Dichloroethane	10.097	62	421621	20.42	ug/L		93
43) Trichloroethene	10.456	130	248696	21.76	ug/L		80
44) Methyl cyclohexane	10.456	83	592721	20.87	ug/L		94
45) Dibromomethane	10.914	93	141613	17.61	ug/L		96
46) 1,2-Dichloropropane	10.991	63	275978	17.33	ug/L	#	89
47) Bromodichloromethane	11.020	83	356759	20.48	ug/L		96
48) Methyl Methacrylate	11.085	69	159952	15.22	ug/L		90
49) 1,4-Dioxane	11.202	88	48379	337.13	ug/L		92
50) 2-Chloroethyl vinyl ether	11.519	63	1443	N.D.			
51) C-1,3-Dichloropropene	11.619	75	419519	17.88	ug/L		96

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR029.D
Acq On : 23 Dec 2020 9:50 pm
Operator : KKW
Sample : 0L23041-MSD1
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Dec 24 07:52:35 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

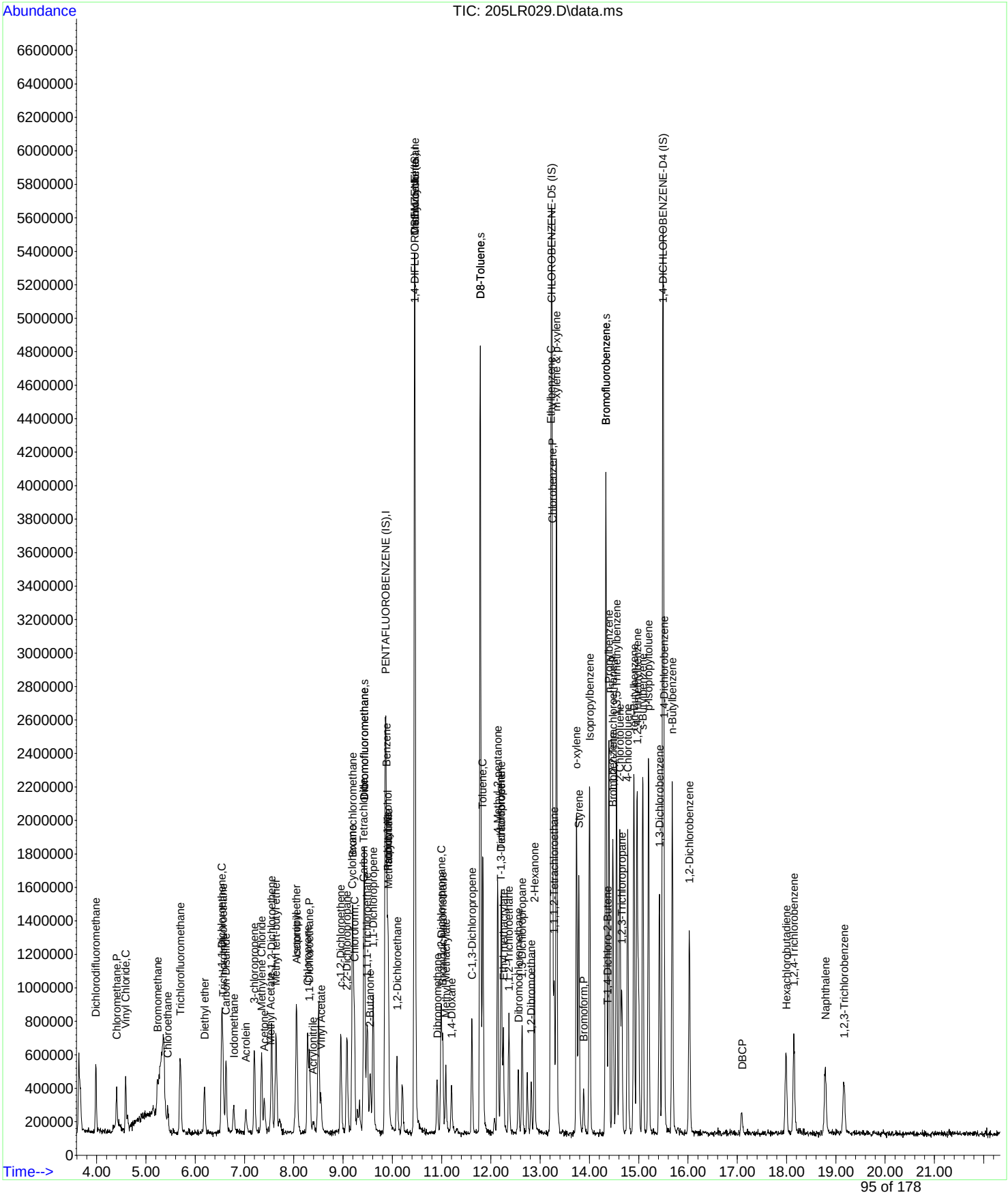
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.784	98	3163856	51.74 ug/L	98
54) 4-Methyl-2-pentanone	12.136	100	164602	98.01 ug/L	77
56) Toluene	11.831	92	720849	20.50 ug/L	97
57) T-1,3-Dichloropropene	12.201	75	408710	19.53 ug/L	96
58) Tetrachloroethene	12.207	164	160257	16.57 ug/L #	89
59) Ethyl methacrylate	12.254	69	314507	16.80 ug/L	97
60) 1,1,2-Trichloroethane	12.360	97	216307	18.21 ug/L	97
61) Dibromochloromethane	12.559	129	195029	19.41 ug/L	98
62) 1,3-Dichloropropane	12.630	76	414144	18.83 ug/L	90
63) 1,2-Dibromoethane	12.818	107	210661	19.05 ug/L #	91
64) 2-Hexanone	12.882	43	657799	81.23 ug/L	97
65) Ethylbenzene	13.217	106	387468	18.13 ug/L	88
66) Chlorobenzene	13.247	112	734140	20.72 ug/L	98
67) 1,1,1,2-Tetrachloroethane	13.282	131	227602	21.47 ug/L	95
68) m-xylene & p-xylene	13.329	106	1051525	42.39 ug/L	99
69) o-xylene	13.734	106	507623	19.95 ug/L	94
70) Styrene	13.781	104	761232	18.33 ug/L	93
71) Bromoform	13.881	173	100083	17.82 ug/L	96
72) Isopropylbenzene	14.005	105	1484509	22.17 ug/L	99
74) Bromofluorobenzene	14.334	95	1591144m	54.06 ug/L	
75) n-Propylbenzene	14.392	91	1958287	21.88 ug/L	99
76) 1,1,2,2-Tetrachloroethane	14.475	83	300180	18.08 ug/L #	88
77) 1,2,3-Trichloropropane	14.657	61	114510m	18.86 ug/L	
78) T-1,4-Dichloro-2-Butene	14.363	53	89922	13.72 ug/L #	60
80) Bromobenzene	14.469	156	285059	22.29 ug/L	97
81) 1,2,4-Trimethylbenzene	14.968	105	1276698	21.47 ug/L	97
82) 2-Chlorotoluene	14.616	91	1196498	23.94 ug/L	99
83) 4-Chlorotoluene	14.774	91	1212503	23.23 ug/L	99
84) tert-Butylbenzene	14.904	119	1098474	24.32 ug/L	96
85) 1,3,5-Trimethylbenzene	14.551	105	1374699	23.86 ug/L	97
86) p-Isopropyltoluene	15.197	119	1355022	24.15 ug/L	98
87) s-Butylbenzene	15.080	105	1674831	24.78 ug/L	98
88) 1,3-Dichlorobenzene	15.421	146	576273	22.49 ug/L	92
89) 1,4-Dichlorobenzene	15.515	146	589503	21.46 ug/L #	76
90) n-Butylbenzene	15.679	91	1374886	23.57 ug/L	100
91) 1,2-Dichlorobenzene	16.026	146	507890	21.00 ug/L	93
92) DBCP	17.101	157	39173	20.52 ug/L #	69
93) Hexachlorobutadiene	17.994	225	102665	18.62 ug/L #	86
94) 1,2,4-Trichlorobenzene	18.147	180	199623	16.71 ug/L #	84
95) Naphthalene	18.787	128	502763	20.01 ug/L #	93
96) 1,2,3-Trichlorobenzene	19.169	180	129724	18.77 ug/L #	92

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR029.D
Acq On : 23 Dec 2020 9:50 pm
Operator : KKW
Sample : 0L23041-MSD1
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Dec 24 07:52:35 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR031.D
Acq On : 23 Dec 2020 10:49 pm
Operator : KKW
Sample : 0L23041-BLK1
Misc :
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Dec 24 07:52:39 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) PENTAFLUOROBENZENE (IS)	9.857	168	1128883	50.00 ug/L	0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2476454	50.00 ug/L	-0.01
55) CHLOROBENZENE-D5 (IS)	13.235	82	1533672	50.00 ug/L	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1198680	50.00 ug/L	0.00
System Monitoring Compounds					
31) Dibromofluoromethane	9.428	113	699029	60.04 ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 120.08%		
52) D8-Toluene	11.784	98	3017013	49.32 ug/L	-0.01
Spiked Amount 50.000	Range 85 - 120		Recovery = 98.64%		
73) Bromofluorobenzene	14.334	95	1443714	52.71 ug/L	-0.01
Spiked Amount 50.000	Range 75 - 120		Recovery = 105.42%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.981	85	1181	N.D.	
3) Chloromethane	4.375	50	3327	N.D.	
4) Vinyl Chloride	4.598	62	2151	N.D.	
5) Bromomethane	0.000		0	N.D. d	
6) Chloroethane	5.432	64	1044	N.D.	
7) Trichlorofluoromethane	5.673	101	2303	N.D.	
8) Diethyl ether	6.161	59	1499	N.D.	
9) 1,1-Dichloroethene	6.466	96	1035	N.D.	
10) Trichlorotrifluoroethane	6.443	151	1140	N.D.	
11) Acrolein	0.000		0	N.D. d	
12) Iodomethane	0.000		0	N.D. d	
13) Carbon Disulfide	0.000		0	N.D. d	
14) 3-chloropropene	0.000		0	N.D. d	
15) Acetone	0.000		0	N.D. d	
16) Methylene Chloride	0.000		0	N.D. d	
17) Methyl Acetate	0.000		0	N.D. d	
18) t-1,2-Dichloroethene	0.000		0	N.D. d	
19) Methyl tert-butyl ether	0.000		0	N.D. d	
20) Acetonitrile	0.000		0	N.D. d	
21) Isopropyl ether	0.000		0	N.D. d	
22) Chloroprene	0.000		0	N.D. d	
23) 1,1-Dichloroethane	0.000		0	N.D. d	
24) Acrylonitrile	0.000		0	N.D. d	
25) Vinyl Acetate	0.000		0	N.D. d	
26) c-1,2-Dichloroethene	0.000		0	N.D. d	
27) 2,2-Dichloropropane	0.000		0	N.D. d	
28) Bromochloromethane	0.000		0	N.D. d	
29) Cyclohexane	9.187	56	1469	N.D.	
30) Chloroform	9.228	83	3007	N.D.	
32) Dibromofluoromethane	9.428	113	699029	60.04 ug/L #	88
33) 2-Butanone	0.000		0	N.D. d	
34) 1,1,1-Trichloroethane	0.000		0	N.D. d	
35) 1,1-Dichloropropene	0.000		0	N.D. d	
36) Propionitrile	0.000		0	N.D. d	
37) Methacrylonitrile	0.000		0	N.D. d	
38) Isobutyl Alcohol	0.000		0	N.D. d	
40) Carbon Tetrachloride	9.434	117	1734	N.D.	
41) Benzene	9.898	78	6953	N.D.	
42) 1,2-Dichloroethane	10.115	62	1636	N.D.	
43) Trichloroethene	0.000		0	N.D.	
44) Methyl cyclohexane	0.000		0	N.D. d	
45) Dibromomethane	0.000		0	N.D. d	
46) 1,2-Dichloropropane	0.000		0	N.D. d	
47) Bromodichloromethane	0.000		0	N.D. d	
48) Methyl Methacrylate	0.000		0	N.D. d	
49) 1,4-Dioxane	0.000		0	N.D. d	
50) 2-Chloroethyl vinyl ether	0.000		0	N.D. d	
51) C-1,3-Dichloropropene	11.625	75	3246	N.D.	

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR031.D
Acq On : 23 Dec 2020 10:49 pm
Operator : KKW
Sample : 0L23041-BLK1
Misc :
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Dec 24 07:52:39 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

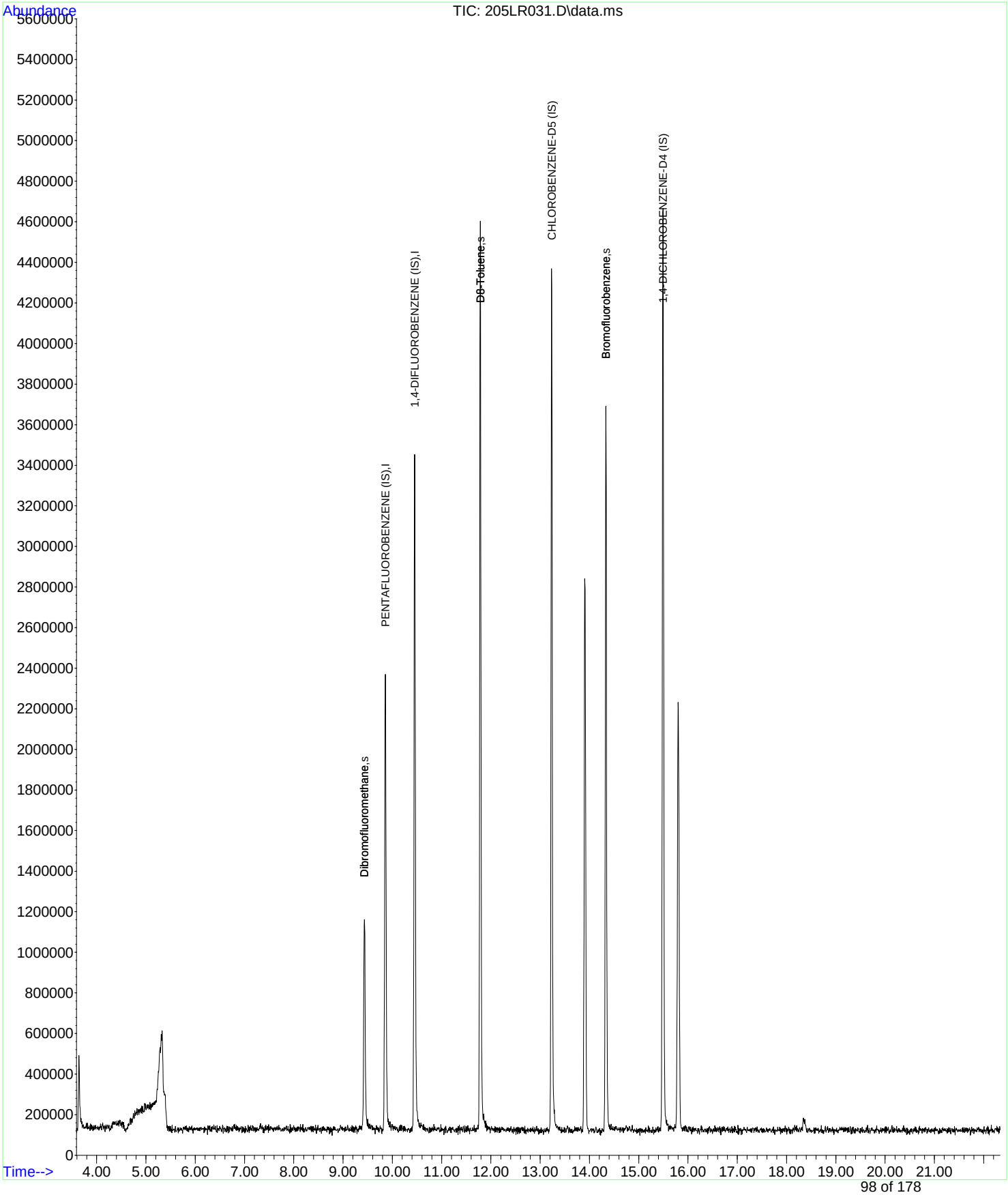
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.784	98	3017013	49.32 ug/L	99
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	11.837	92	1662	N.D.	
57) T-1,3-Dichloropropene	12.219	75	2528	N.D.	
58) Tetrachloroethene	12.283	164	1649	N.D.	
59) Ethyl methacrylate	12.230	69	1160	N.D.	
60) 1,1,2-Trichloroethane	12.371	97	1271	N.D.	
61) Dibromochloromethane	12.559	129	1020	N.D.	
62) 1,3-Dichloropropane	12.747	76	1242	N.D.	
63) 1,2-Dibromoethane	12.824	107	1000	N.D.	
64) 2-Hexanone	0.000		0	N.D. d	
65) Ethylbenzene	13.223	106	1411	N.D.	
66) Chlorobenzene	13.235	112	4730	N.D.	
67) 1,1,1,2-Tetrachloroethane	13.253	131	1034	N.D.	
68) m-xylene & p-xylene	13.323	106	3687	N.D.	
69) o-xylene	13.735	106	2016	N.D.	
70) Styrene	13.770	104	1683	N.D.	
71) Bromoform	0.000		0	N.D. d	
72) Isopropylbenzene	14.022	105	2402	N.D.	
74) Bromofluorobenzene	14.334	95	1443714	52.71 ug/L #	74
75) n-Propylbenzene	14.410	91	6056	N.D.	
76) 1,1,2,2-Tetrachloroethane	14.475	83	1794	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D. d	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D. d	
80) Bromobenzene	14.404	156	1504	N.D.	
81) 1,2,4-Trimethylbenzene	14.974	105	2708	N.D.	
82) 2-Chlorotoluene	14.628	91	2178	N.D.	
83) 4-Chlorotoluene	14.786	91	4855	N.D.	
84) tert-Butylbenzene	14.916	119	1935	N.D.	
85) 1,3,5-Trimethylbenzene	14.551	105	1436	N.D.	
86) p-Isopropyltoluene	15.192	119	2148	N.D.	
87) s-Butylbenzene	15.068	105	3714	N.D.	
88) 1,3-Dichlorobenzene	15.444	146	1112	N.D.	
89) 1,4-Dichlorobenzene	15.509	146	2787	N.D.	
90) n-Butylbenzene	15.674	91	3549	N.D.	
91) 1,2-Dichlorobenzene	16.050	146	1266	N.D.	
92) DBCP	0.000		0	N.D. d	
93) Hexachlorobutadiene	0.000		0	N.D. d	
94) 1,2,4-Trichlorobenzene	18.206	180	1935	N.D.	
95) Naphthalene	18.788	128	1029	N.D.	
96) 1,2,3-Trichlorobenzene	19.211	180	1076	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR031.D
Acq On : 23 Dec 2020 10:49 pm
Operator : KKW
Sample : 0L23041-BLK1
Misc :
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Dec 24 07:52:39 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR032.D
Acq On : 23 Dec 2020 11:19 pm
Operator : KKW
Sample : AA64189-CRL1
Misc :
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Dec 24 07:52:43 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.863	168	1099667	50.00	ug/L	#	0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2273802	50.00	ug/L		-0.01
55) CHLOROBENZENE-D5 (IS)	13.229	82	1505006	50.00	ug/L		-0.01
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1159657	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.434	113	650269	57.33	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 114.66%				
52) D8-Toluene	11.784	98	2899983	51.63	ug/L		-0.01
Spiked Amount 50.000	Range 85 - 120		Recovery = 103.26%				
73) Bromofluorobenzene	14.334	95	1450518	53.97	ug/L		-0.01
Spiked Amount 50.000	Range 75 - 120		Recovery = 107.94%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.987	85	19029	1.34	ug/L		93
3) Chloromethane	4.404	50	15427	0.94	ug/L		99
4) Vinyl Chloride	4.592	62	11392	0.86	ug/L	#	1
5) Bromomethane	5.233	94	10697	3.23	ug/L	#	59
6) Chloroethane	5.462	64	14448	2.47	ug/L	#	58
7) Trichlorofluoromethane	5.709	101	18741	1.14	ug/L	#	79
8) Diethyl ether	6.184	59	8744m	0.95	ug/L		
9) 1,1-Dichloroethene	6.531	96	9780	1.03	ug/L	#	84
10) Trichlorotrifluoroethane	6.561	151	10941	1.72	ug/L	#	60
11) Acrolein	7.130	56	1241	0.65	ug/L		89
12) Iodomethane	6.790	142	29781	2.92	ug/L	#	91
13) Carbon Disulfide	6.619	76	164470	5.29	ug/L	#	94
14) 3-chloropropene	7.201	41	15413	0.82	ug/L	#	48
15) Acetone	7.418	43	14470	5.60	ug/L	#	66
16) Methylene Chloride	7.336	84	21480	1.87	ug/L		98
17) Methyl Acetate	7.530	43	11746	1.45	ug/L	#	71
18) t-1,2-Dichloroethene	7.559	96	11519	1.05	ug/L	#	66
19) Methyl tert-butyl ether	7.636	73	39419	1.42	ug/L	#	58
20) Acetonitrile	8.029	41	6517	3.11	ug/L	#	1
21) Isopropyl ether	8.047	45	32671	0.89	ug/L		97
22) Chloroprene	8.300	88	13351	1.27	ug/L	#	19
23) 1,1-Dichloroethane	8.317	63	27226	1.20	ug/L	#	81
24) Acrylonitrile	8.405	53	27927m	8.18	ug/L		
25) Vinyl Acetate	8.564	43	40120	1.73	ug/L		98
26) c-1,2-Dichloroethene	8.952	96	16498	1.42	ug/L		98
27) 2,2-Dichloropropane	9.075	77	25130	1.33	ug/L	#	86
28) Bromochloromethane	9.193	128	6645	1.62	ug/L	#	69
29) Cyclohexane	9.193	56	17277	0.70	ug/L	#	81
30) Chloroform	9.228	83	33300	1.54	ug/L	#	31
32) Dibromofluoromethane	9.434	113	650269	57.33	ug/L	#	90
33) 2-Butanone	9.569	72	5629	4.60	ug/L		82
34) 1,1,1-Trichloroethane	9.498	97	25886	1.45	ug/L	#	89
35) 1,1-Dichloropropene	9.604	75	18308	1.01	ug/L	#	40
36) Propionitrile	9.892	54	14107	9.12	ug/L	#	39
37) Methacrylonitrile	9.910	41	74000	9.69	ug/L		100
38) Isobutyl Alcohol	9.892	43	16075	17.40	ug/L	#	49
40) Carbon Tetrachloride	9.410	117	12593	0.74	ug/L	#	27
41) Benzene	9.880	78	62662	1.21	ug/L		97
42) 1,2-Dichloroethane	10.086	62	21802	1.15	ug/L		92
43) Trichloroethene	10.456	130	13491	1.28	ug/L	#	1
44) Methyl cyclohexane	10.456	83	58697	2.25	ug/L	#	63
45) Dibromomethane	10.908	93	10756	1.46	ug/L		90
46) 1,2-Dichloropropane	10.991	63	13245	0.93	ug/L	#	45
47) Bromodichloromethane	11.032	83	18835	1.23	ug/L	#	77
48) Methyl Methacrylate	11.096	69	3327	0.34	ug/L	#	1
49) 1,4-Dioxane	11.220	88	1585	12.02	ug/L	#	43
50) 2-Chloroethyl vinyl ether	11.502	63	31209	4.26	ug/L	#	80
51) C-1,3-Dichloropropene	11.614	75	21731	1.05	ug/L	#	93

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR032.D
Acq On : 23 Dec 2020 11:19 pm
Operator : KKW
Sample : AA64189-CRL1
Misc :
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Dec 24 07:52:43 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

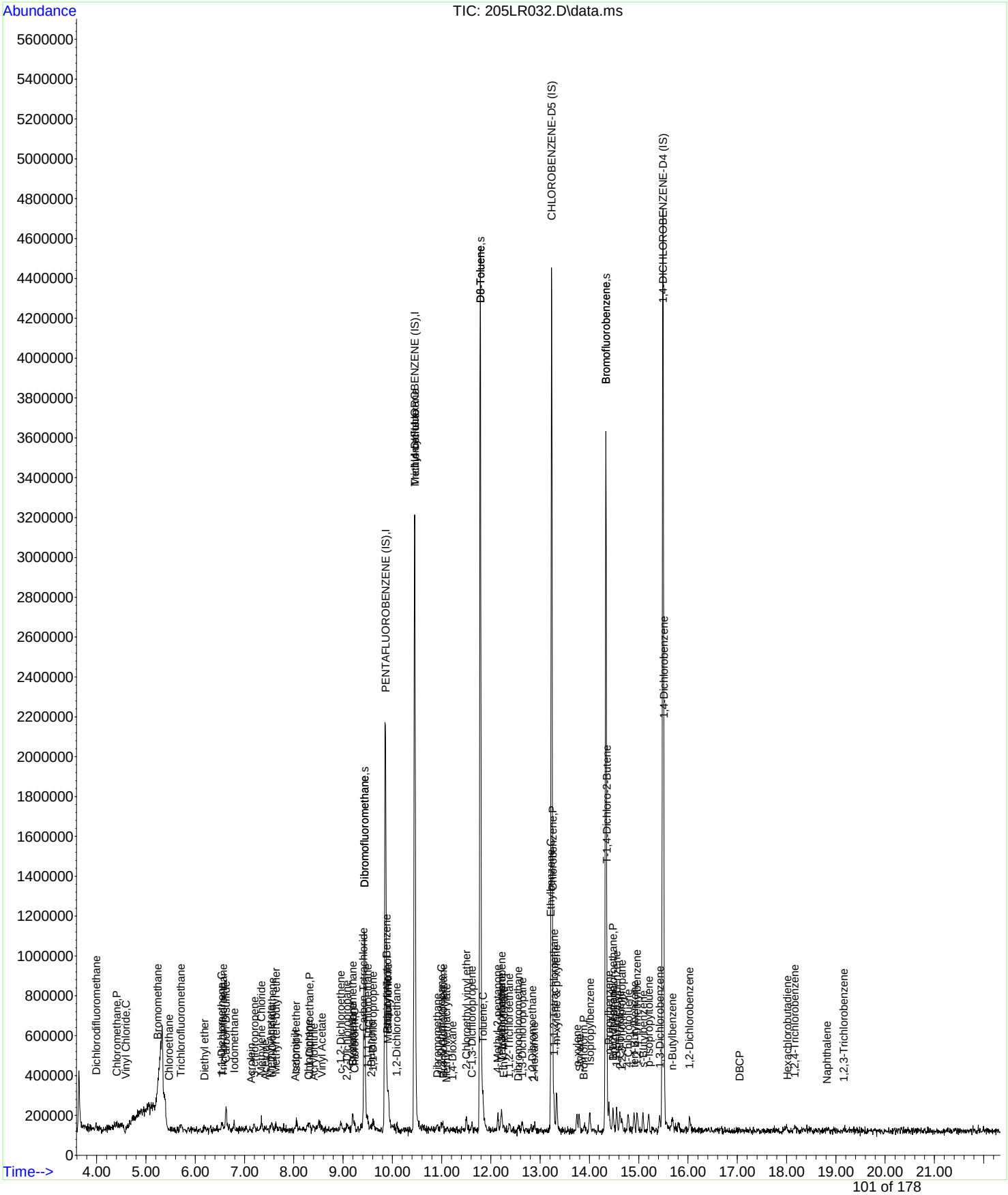
Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
53) D8-Toluene	11.784	98	2899983	51.63 ug/L		98
54) 4-Methyl-2-pentanone	12.131	100	8785	5.69 ug/L	#	69
56) Toluene	11.837	92	47663	1.48 ug/L		80
57) T-1,3-Dichloropropene	12.213	75	23784	1.24 ug/L	#	80
58) Tetrachloroethene	12.213	164	15691	1.78 ug/L	#	77
59) Ethyl methacrylate	12.260	69	10885	0.64 ug/L	#	90
60) 1,1,2-Trichloroethane	12.371	97	15400	1.42 ug/L	#	71
61) Dibromochloromethane	12.554	129	11489	1.32 ug/L	#	93
62) 1,3-Dichloropropane	12.636	76	21720	1.08 ug/L	#	89
63) 1,2-Dibromoethane	12.842	107	12906	1.28 ug/L	#	84
64) 2-Hexanone	12.877	43	34364	4.65 ug/L	#	35
65) Ethylbenzene	13.212	106	21878	1.12 ug/L	#	75
66) Chlorobenzene	13.253	112	46065	1.42 ug/L		95
67) 1,1,1,2-Tetrachloroethane	13.282	131	10214	1.06 ug/L	#	60
68) m-xylene & p-xylene	13.329	106	55721	2.46 ug/L		96
69) o-xylene	13.746	106	24322	1.05 ug/L		93
70) Styrene	13.799	104	38197	1.01 ug/L	#	75
71) Bromoform	13.882	173	2082	0.44 ug/L	#	2
72) Isopropylbenzene	14.011	105	66141	1.08 ug/L		95
74) Bromofluorobenzene	14.334	95	1450518	53.97 ug/L	#	70
75) n-Propylbenzene	14.393	91	84697	1.04 ug/L	#	95
76) 1,1,2,2-Tetrachloroethane	14.475	83	20544	1.35 ug/L	#	83
77) 1,2,3-Trichloropropane	14.657	61	6499	1.17 ug/L	#	81
78) T-1,4-Dichloro-2-Butene	14.352	53	6213	1.04 ug/L	#	1
80) Bromobenzene	14.475	156	15364	1.32 ug/L		87
81) 1,2,4-Trimethylbenzene	14.963	105	68925	1.27 ug/L	#	86
82) 2-Chlorotoluene	14.622	91	57736	1.27 ug/L		94
83) 4-Chlorotoluene	14.786	91	64002	1.34 ug/L		93
84) tert-Butylbenzene	14.910	119	41154	1.00 ug/L	#	90
85) 1,3,5-Trimethylbenzene	14.545	105	57469	1.09 ug/L	#	89
86) p-Isopropyltoluene	15.204	119	57724	1.13 ug/L	#	64
87) s-Butylbenzene	15.092	105	71851	1.16 ug/L	#	90
88) 1,3-Dichlorobenzene	15.427	146	29659	1.27 ug/L	#	83
89) 1,4-Dichlorobenzene	15.509	146	32259	1.29 ug/L	#	1
90) n-Butylbenzene	15.679	91	62277	1.17 ug/L	#	73
91) 1,2-Dichlorobenzene	16.026	146	30256	1.37 ug/L		97
92) DBCP	17.048	157	925m	0.55 ug/L		
93) Hexachlorobutadiene	18.012	225	1666	0.34 ug/L	#	1
94) 1,2,4-Trichlorobenzene	18.165	180	7925	0.74 ug/L	#	79
95) Naphthalene	18.817	128	21950m	0.97 ug/L		
96) 1,2,3-Trichlorobenzene	19.158	180	6968m	1.14 ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR032.D
Acq On : 23 Dec 2020 11:19 pm
Operator : KKW
Sample : AA64189-CRL1
Misc :
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Dec 24 07:52:43 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR033.D
Acq On : 23 Dec 2020 11:49 pm
Operator : KKW
Sample : AD08695-01
Misc :
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Dec 24 07:52:48 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) PENTAFLUOROBENZENE (IS)	9.857	168	1091588	50.00	ug/L	# 0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.456	114	2332179	50.00	ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1480789	50.00	ug/L	-0.01
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1160532	50.00	ug/L	0.00
System Monitoring Compounds						
31) Dibromofluoromethane	9.440	113	674680	59.93	ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 119.86%			
52) D8-Toluene	11.784	98	2892236	50.21	ug/L	-0.01
Spiked Amount 50.000	Range 85 - 120		Recovery = 100.42%			
73) Bromofluorobenzene	14.334	95	1393179	52.68	ug/L	-0.01
Spiked Amount 50.000	Range 75 - 120		Recovery = 105.36%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.917	85	1065	N.D.		
3) Chloromethane	0.000		0	N.D.	d	
4) Vinyl Chloride	0.000		0	N.D.	d	
5) Bromomethane	0.000		0	N.D.	d	
6) Chloroethane	0.000		0	N.D.	d	
7) Trichlorofluoromethane	0.000		0	N.D.	d	
8) Diethyl ether	0.000		0	N.D.	d	
9) 1,1-Dichloroethene	0.000		0	N.D.	d	
10) Trichlorotrifluoroethane	0.000		0	N.D.	d	
11) Acrolein	0.000		0	N.D.	d	
12) Iodomethane	0.000		0	N.D.	d	
13) Carbon Disulfide	0.000		0	N.D.	d	
14) 3-chloropropene	0.000		0	N.D.	d	
15) Acetone	0.000		0	N.D.	d	
16) Methylene Chloride	0.000		0	N.D.	d	
17) Methyl Acetate	0.000		0	N.D.	d	
18) t-1,2-Dichloroethene	0.000		0	N.D.	d	
19) Methyl tert-butyl ether	0.000		0	N.D.	d	
20) Acetonitrile	0.000		0	N.D.	d	
21) Isopropyl ether	0.000		0	N.D.	d	
22) Chloroprene	0.000		0	N.D.	d	
23) 1,1-Dichloroethane	0.000		0	N.D.	d	
24) Acrylonitrile	0.000		0	N.D.	d	
25) Vinyl Acetate	0.000		0	N.D.	d	
26) c-1,2-Dichloroethene	0.000		0	N.D.	d	
27) 2,2-Dichloropropane	0.000		0	N.D.	d	
28) Bromochloromethane	0.000		0	N.D.	d	
29) Cyclohexane	9.158	56	1010	N.D.		
30) Chloroform	9.193	83	1075	N.D.		
32) Dibromofluoromethane	9.440	113	674680	59.93	ug/L #	91
33) 2-Butanone	0.000		0	N.D.	d	
34) 1,1,1-Trichloroethane	0.000		0	N.D.	d	
35) 1,1-Dichloropropene	0.000		0	N.D.	d	
36) Propionitrile	0.000		0	N.D.	d	
37) Methacrylonitrile	0.000		0	N.D.	d	
38) Isobutyl Alcohol	0.000		0	N.D.	d	
40) Carbon Tetrachloride	9.434	117	1026	N.D.		
41) Benzene	9.874	78	5874	N.D.		
42) 1,2-Dichloroethane	10.109	62	1686	N.D.		
43) Trichloroethene	10.444	130	1922	N.D.		
44) Methyl cyclohexane	10.568	83	2271	N.D.		
45) Dibromomethane	0.000		0	N.D.	d	
46) 1,2-Dichloropropane	0.000		0	N.D.	d	
47) Bromodichloromethane	0.000		0	N.D.	d	
48) Methyl Methacrylate	0.000		0	N.D.	d	
49) 1,4-Dioxane	0.000		0	N.D.	d	
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.	d	
51) C-1,3-Dichloropropene	11.631	75	1280	N.D.		

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR033.D
Acq On : 23 Dec 2020 11:49 pm
Operator : KKW
Sample : AD08695-01
Misc :
ALS Vial : 31 Sample Multiplier: 1

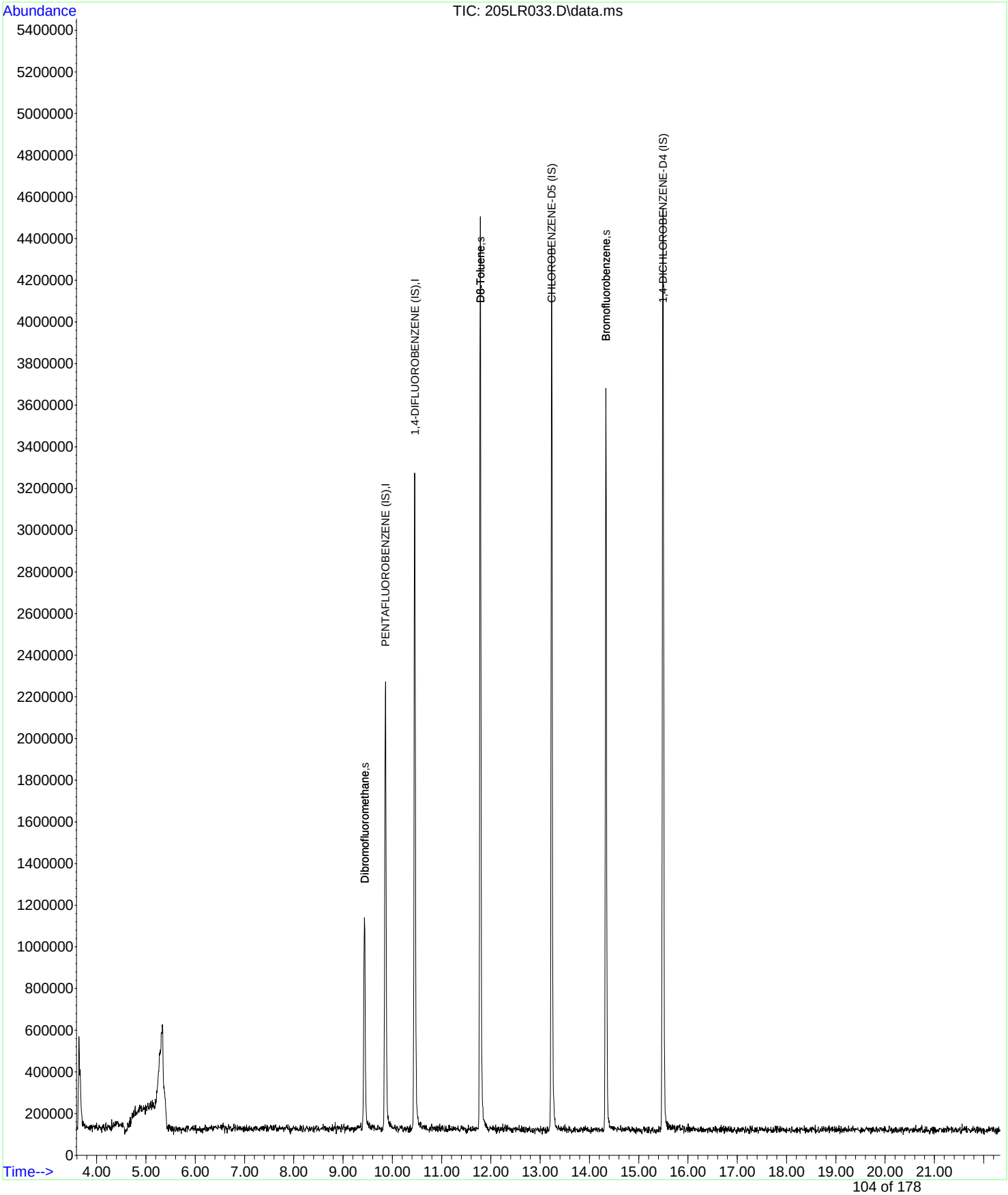
Quant Time: Dec 24 07:52:48 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.784	98	2892236	50.21 ug/L	98
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	11.831	92	2853	N.D.	
57) T-1,3-Dichloropropene	12.230	75	1979	N.D.	
58) Tetrachloroethene	12.248	164	1078	N.D.	
59) Ethyl methacrylate	12.236	69	2969	N.D.	
60) 1,1,2-Trichloroethane	12.371	97	1548	N.D.	
61) Dibromochloromethane	12.389	129	1270	N.D.	
62) 1,3-Dichloropropane	12.630	76	1518	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D. d	
64) 2-Hexanone	0.000		0	N.D. d	
65) Ethylbenzene	0.000		0	N.D. d	
66) Chlorobenzene	0.000		0	N.D. d	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D. d	
68) m-xylene & p-xylene	13.370	106	1727	N.D.	
69) o-xylene	13.835	106	1215	N.D.	
70) Styrene	13.735	104	1663	N.D.	
71) Bromoform	0.000		0	N.D. d	
72) Isopropylbenzene	14.005	105	1238	N.D.	
74) Bromofluorobenzene	14.334	95	1393179	52.68 ug/L #	74
75) n-Propylbenzene	14.416	91	4677	N.D.	
76) 1,1,2,2-Tetrachloroethane	14.510	83	1330	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D. d	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D. d	
80) Bromobenzene	14.610	156	1262	N.D.	
81) 1,2,4-Trimethylbenzene	15.021	105	1115	N.D.	
82) 2-Chlorotoluene	14.545	91	1024	N.D.	
83) 4-Chlorotoluene	14.810	91	3353	N.D.	
84) tert-Butylbenzene	14.904	119	1022	N.D.	
85) 1,3,5-Trimethylbenzene	14.551	105	1649	N.D.	
86) p-Isopropyltoluene	15.204	119	1466	N.D.	
87) s-Butylbenzene	15.021	105	1115	N.D.	
88) 1,3-Dichlorobenzene	0.000		0	N.D. d	
89) 1,4-Dichlorobenzene	0.000		0	N.D. d	
90) n-Butylbenzene	0.000		0	N.D. d	
91) 1,2-Dichlorobenzene	0.000		0	N.D. d	
92) DBCP	0.000		0	N.D. d	
93) Hexachlorobutadiene	0.000		0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D. d	
95) Naphthalene	0.000		0	N.D. d	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR033.D
Acq On : 23 Dec 2020 11:49 pm
Operator : KKW
Sample : AD08695-01
Misc :
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Dec 24 07:52:48 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR047.D
Acq On : 24 Dec 2020 6:44 am
Operator : KKW
Sample : AD08762-01
Misc :
ALS Vial : 45 Sample Multiplier: 1

Quant Time: Dec 24 07:53:44 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) PENTAFLUOROBENZENE (IS)	9.862	168	995099	50.00 ug/L	0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.462	114	2133790	50.00 ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	1349368	50.00 ug/L	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.497	152	1090257	50.00 ug/L	0.00
System Monitoring Compounds					
31) Dibromofluoromethane	9.439	113	602538	58.71 ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 117.42%		
52) D8-Toluene	11.789	98	2667046	50.60 ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 101.20%		
73) Bromofluorobenzene	14.339	95	1314229	54.54 ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 109.08%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.998	85	1031	N.D.	
3) Chloromethane	4.404	50	2114	N.D.	
4) Vinyl Chloride	4.633	62	1036	N.D.	
5) Bromomethane	0.000		0	N.D. d	
6) Chloroethane	0.000		0	N.D. d	
7) Trichlorofluoromethane	0.000		0	N.D. d	
8) Diethyl ether	0.000		0	N.D. d	
9) 1,1-Dichloroethene	0.000		0	N.D. d	
10) Trichlorotrifluoroethane	0.000		0	N.D. d	
11) Acrolein	0.000		0	N.D. d	
12) Iodomethane	0.000		0	N.D. d	
13) Carbon Disulfide	0.000		0	N.D. d	
14) 3-chloropropene	0.000		0	N.D. d	
15) Acetone	0.000		0	N.D. d	
16) Methylene Chloride	0.000		0	N.D. d	
17) Methyl Acetate	0.000		0	N.D. d	
18) t-1,2-Dichloroethene	0.000		0	N.D. d	
19) Methyl tert-butyl ether	0.000		0	N.D. d	
20) Acetonitrile	0.000		0	N.D. d	
21) Isopropyl ether	0.000		0	N.D. d	
22) Chloroprene	0.000		0	N.D. d	
23) 1,1-Dichloroethane	0.000		0	N.D. d	
24) Acrylonitrile	0.000		0	N.D. d	
25) Vinyl Acetate	0.000		0	N.D. d	
26) c-1,2-Dichloroethene	0.000		0	N.D. d	
27) 2,2-Dichloropropane	0.000		0	N.D. d	
28) Bromochloromethane	0.000		0	N.D. d	
29) Cyclohexane	9.228	56	3076	N.D.	
30) Chloroform	9.239	83	1595	N.D.	
32) Dibromofluoromethane	9.439	113	602538	58.71 ug/L #	89
33) 2-Butanone	0.000		0	N.D. d	
34) 1,1,1-Trichloroethane	0.000		0	N.D. d	
35) 1,1-Dichloropropene	0.000		0	N.D. d	
36) Propionitrile	0.000		0	N.D. d	
37) Methacrylonitrile	0.000		0	N.D. d	
38) Isobutyl Alcohol	0.000		0	N.D. d	
40) Carbon Tetrachloride	9.422	117	2744	N.D.	
41) Benzene	9.903	78	3821	N.D.	
42) 1,2-Dichloroethane	10.091	62	2019	N.D.	
43) Trichloroethene	10.597	130	1020	N.D.	
44) Methyl cyclohexane	0.000		0	N.D. d	
45) Dibromomethane	0.000		0	N.D. d	
46) 1,2-Dichloropropane	0.000		0	N.D. d	
47) Bromodichloromethane	0.000		0	N.D. d	
48) Methyl Methacrylate	0.000		0	N.D. d	
49) 1,4-Dioxane	0.000		0	N.D. d	
50) 2-Chloroethyl vinyl ether	11.490	63	1215	N.D.	
51) C-1,3-Dichloropropene	11.625	75	1131	N.D.	

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR047.D
Acq On : 24 Dec 2020 6:44 am
Operator : KKW
Sample : AD08762-01
Misc :
ALS Vial : 45 Sample Multiplier: 1

Quant Time: Dec 24 07:53:44 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

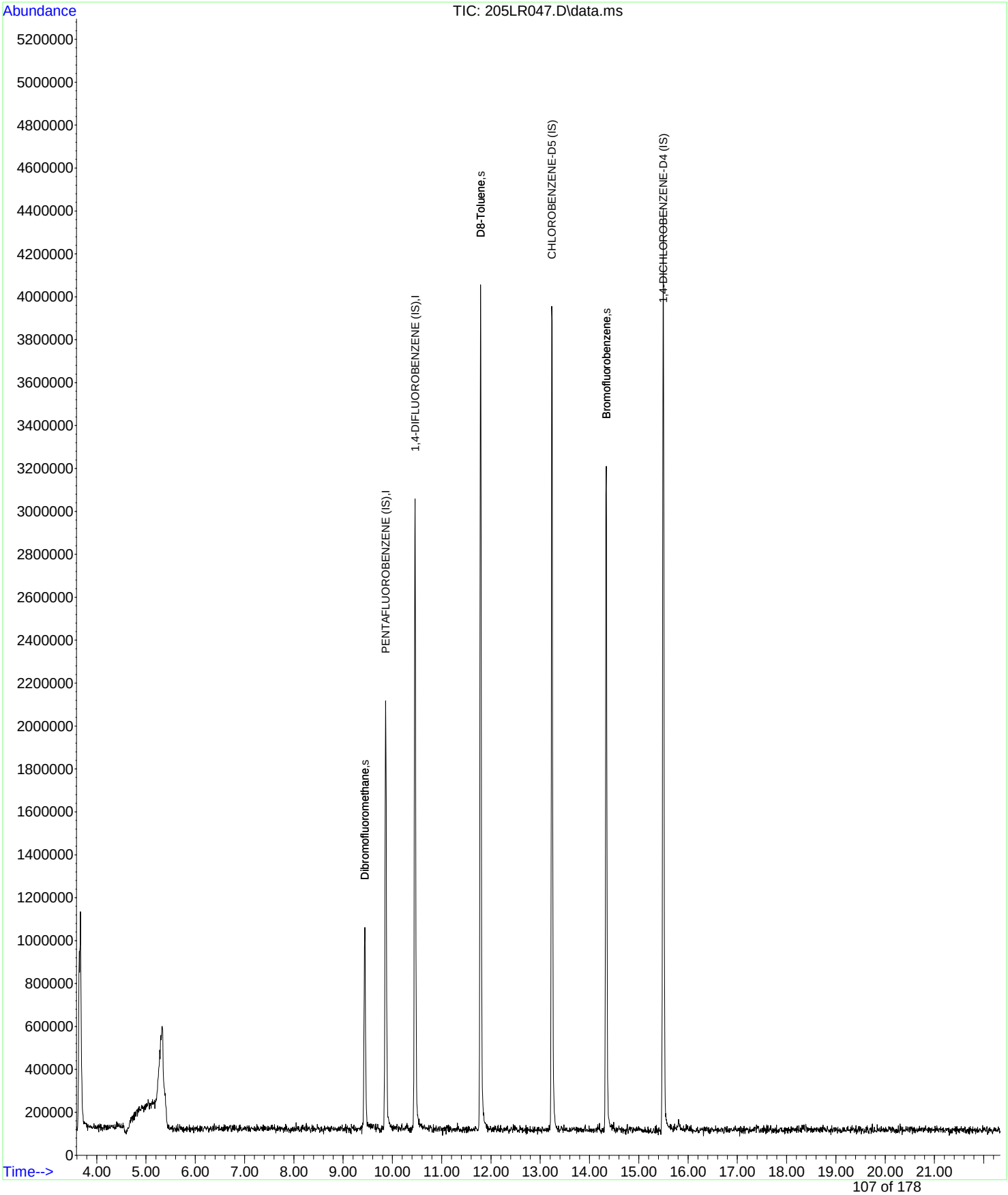
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.789	98	2667046	50.60 ug/L	98
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	11.842	92	3795	N.D.	
57) T-1,3-Dichloropropene	12.177	75	1909	N.D.	
58) Tetrachloroethene	12.336	164	1212	N.D.	
59) Ethyl methacrylate	12.283	69	1808	N.D.	
60) 1,1,2-Trichloroethane	12.354	97	1483	N.D.	
61) Dibromochloromethane	0.000		0	N.D. d	
62) 1,3-Dichloropropane	0.000		0	N.D. d	
63) 1,2-Dibromoethane	0.000		0	N.D. d	
64) 2-Hexanone	0.000		0	N.D. d	
65) Ethylbenzene	0.000		0	N.D. d	
66) Chlorobenzene	0.000		0	N.D. d	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D. d	
68) m-xylene & p-xylene	13.347	106	1309	N.D.	
69) o-xylene	13.723	106	1808	N.D.	
70) Styrene	13.834	104	1602	N.D.	
71) Bromoform	0.000		0	N.D. d	
72) Isopropylbenzene	14.016	105	1611	N.D.	
74) Bromofluorobenzene	14.339	95	1314229	54.54 ug/L #	71
75) n-Propylbenzene	14.404	91	1432	N.D.	
76) 1,1,2,2-Tetrachloroethane	14.445	83	1968	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D. d	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D. d	
80) Bromobenzene	14.369	156	1947	N.D.	
81) 1,2,4-Trimethylbenzene	14.886	105	1700	N.D.	
82) 2-Chlorotoluene	14.651	91	1270	N.D.	
83) 4-Chlorotoluene	14.674	91	1137	N.D.	
84) tert-Butylbenzene	14.974	119	2251	N.D.	
85) 1,3,5-Trimethylbenzene	14.575	105	1619	N.D.	
86) p-Isopropyltoluene	15.139	119	1562	N.D.	
87) s-Butylbenzene	15.086	105	1080	N.D.	
88) 1,3-Dichlorobenzene	15.479	146	2571	N.D.	
89) 1,4-Dichlorobenzene	0.000		0	N.D. d	
90) n-Butylbenzene	0.000		0	N.D. d	
91) 1,2-Dichlorobenzene	0.000		0	N.D. d	
92) DBCP	0.000		0	N.D. d	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	18.875	128	1016	N.D.	
96) 1,2,3-Trichlorobenzene	19.216	180	1038	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR047.D
Acq On : 24 Dec 2020 6:44 am
Operator : KKW
Sample : AD08762-01
Misc :
ALS Vial : 45 Sample Multiplier: 1

Quant Time: Dec 24 07:53:44 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR048.D
Acq On : 24 Dec 2020 7:14 am
Operator : KKW
Sample : AD08762-02
Misc :
ALS Vial : 46 Sample Multiplier: 1

Quant Time: Dec 24 07:53:47 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) PENTAFLUOROBENZENE (IS)	9.862	168	1055032	50.00 ug/L	0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.462	114	2164630	50.00 ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.241	82	1331984	50.00 ug/L	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.503	152	1104363	50.00 ug/L	0.00
System Monitoring Compounds					
31) Dibromofluoromethane	9.439	113	630585	57.95 ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 115.90%		
52) D8-Toluene	11.790	98	2681642	50.16 ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 100.32%		
73) Bromofluorobenzene	14.340	95	1306709	54.93 ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 109.86%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	4.057	85	1453	N.D.	
3) Chloromethane	4.398	50	2257	N.D.	
4) Vinyl Chloride	4.598	62	200299	15.73 ug/L	91
5) Bromomethane	0.000		0	N.D. d	
6) Chloroethane	0.000		0	N.D. d	
7) Trichlorofluoromethane	0.000		0	N.D. d	
8) Diethyl ether	0.000		0	N.D. d	
9) 1,1-Dichloroethene	0.000		0	N.D. d	
10) Trichlorotrifluoroethane	0.000		0	N.D. d	
11) Acrolein	0.000		0	N.D. d	
12) Iodomethane	0.000		0	N.D. d	
13) Carbon Disulfide	0.000		0	N.D. d	
14) 3-chloropropene	0.000		0	N.D. d	
15) Acetone	0.000		0	N.D. d	
16) Methylene Chloride	0.000		0	N.D. d	
17) Methyl Acetate	0.000		0	N.D. d	
18) t-1,2-Dichloroethene	7.559	96	13699	1.30 ug/L #	62
19) Methyl tert-butyl ether	7.671	73	1814	N.D.	
20) Acetonitrile	0.000		0	N.D. d	
21) Isopropyl ether	0.000		0	N.D. d	
22) Chloroprene	0.000		0	N.D. d	
23) 1,1-Dichloroethane	0.000		0	N.D. d	
24) Acrylonitrile	0.000		0	N.D. d	
25) Vinyl Acetate	8.535	43	1087	N.D.	
26) c-1,2-Dichloroethene	8.952	96	5909	0.53 ug/L	87
27) 2,2-Dichloropropane	9.057	77	2379	N.D.	
28) Bromochloromethane	0.000		0	N.D. d	
29) Cyclohexane	9.175	56	1982	N.D.	
30) Chloroform	9.293	83	1461	N.D.	
32) Dibromofluoromethane	9.439	113	630585	57.95 ug/L #	94
33) 2-Butanone	0.000		0	N.D. d	
34) 1,1,1-Trichloroethane	0.000		0	N.D. d	
35) 1,1-Dichloropropene	0.000		0	N.D. d	
36) Propionitrile	0.000		0	N.D. d	
37) Methacrylonitrile	0.000		0	N.D. d	
38) Isobutyl Alcohol	0.000		0	N.D. d	
40) Carbon Tetrachloride	9.422	117	1169	N.D.	
41) Benzene	0.000		0	N.D. d	
42) 1,2-Dichloroethane	0.000		0	N.D. d	
43) Trichloroethene	0.000		0	N.D. d	
44) Methyl cyclohexane	0.000		0	N.D. d	
45) Dibromomethane	0.000		0	N.D. d	
46) 1,2-Dichloropropane	0.000		0	N.D. d	
47) Bromodichloromethane	0.000		0	N.D. d	
48) Methyl Methacrylate	0.000		0	N.D. d	
49) 1,4-Dioxane	0.000		0	N.D. d	
50) 2-Chloroethyl vinyl ether	0.000		0	N.D. d	
51) C-1,3-Dichloropropene	0.000		0	N.D. d	

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR048.D
Acq On : 24 Dec 2020 7:14 am
Operator : KKW
Sample : AD08762-02
Misc :
ALS Vial : 46 Sample Multiplier: 1

Quant Time: Dec 24 07:53:47 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

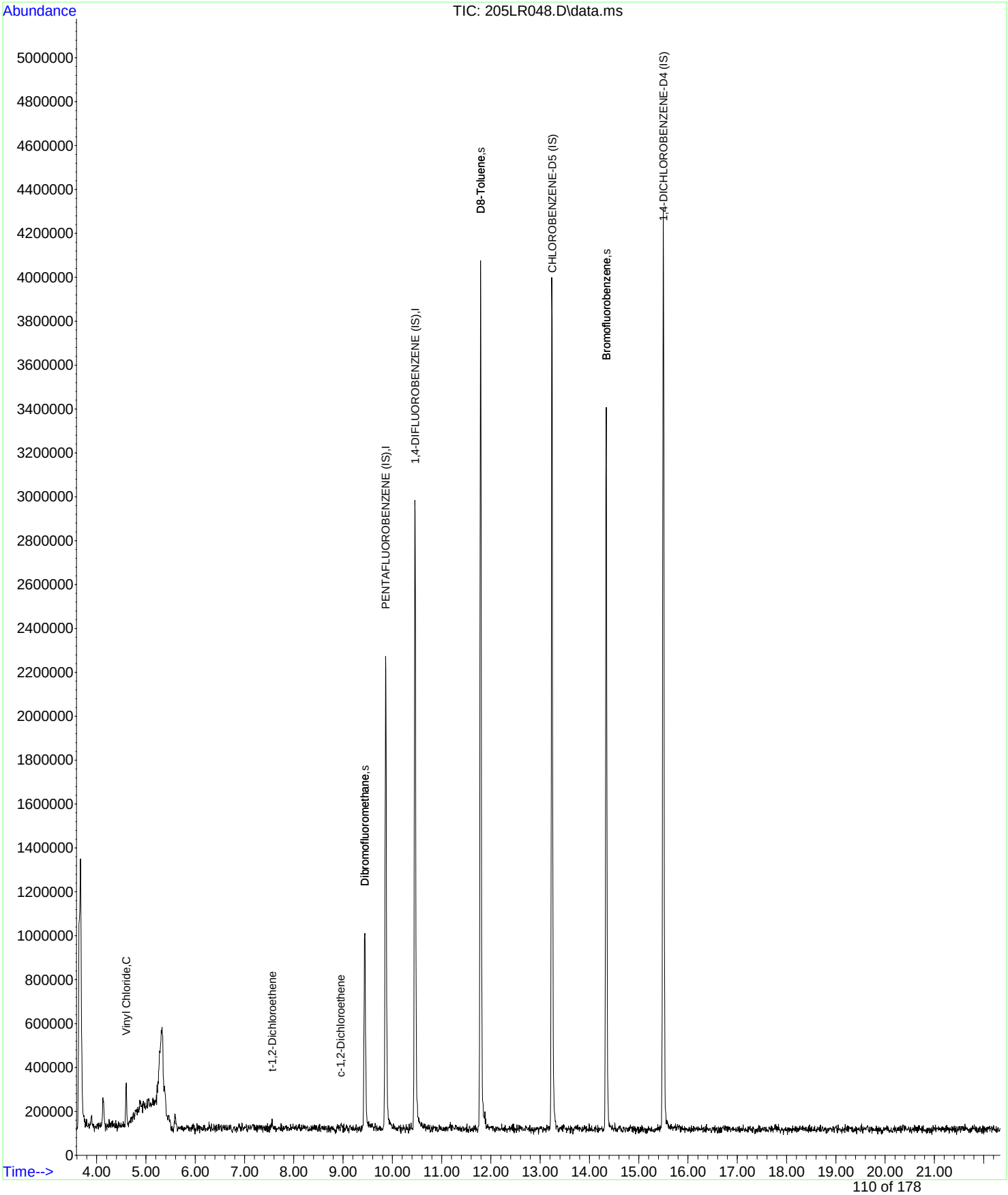
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.790	98	2681642	50.16 ug/L	99
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	11.837	92	1806	N.D.	
57) T-1,3-Dichloropropene	12.207	75	1241	N.D.	
58) Tetrachloroethene	12.260	164	1512	N.D.	
59) Ethyl methacrylate	12.271	69	1182	N.D.	
60) 1,1,2-Trichloroethane	12.307	97	1217	N.D.	
61) Dibromochloromethane	12.565	129	1100	N.D.	
62) 1,3-Dichloropropane	12.630	76	2199	N.D.	
63) 1,2-Dibromoethane	12.847	107	1390	N.D.	
64) 2-Hexanone	0.000		0	N.D. d	
65) Ethylbenzene	13.217	106	2059	N.D.	
66) Chlorobenzene	13.235	112	3612	N.D.	
67) 1,1,1,2-Tetrachloroethane	13.388	131	1011	N.D.	
68) m-xylene & p-xylene	13.306	106	1065	N.D.	
69) o-xylene	13.781	106	1317	N.D.	
70) Styrene	13.623	104	2648	N.D.	
71) Bromoform	0.000		0	N.D. d	
72) Isopropylbenzene	14.011	105	1331	N.D.	
74) Bromofluorobenzene	14.340	95	1306709	54.93 ug/L #	74
75) n-Propylbenzene	14.398	91	1901	N.D.	
76) 1,1,2,2-Tetrachloroethane	14.492	83	1057	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D. d	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D. d	
80) Bromobenzene	14.481	156	1599	N.D.	
81) 1,2,4-Trimethylbenzene	14.998	105	1101	N.D.	
82) 2-Chlorotoluene	14.675	91	1856	N.D.	
83) 4-Chlorotoluene	14.763	91	1132	N.D.	
84) tert-Butylbenzene	14.992	119	1008	N.D.	
85) 1,3,5-Trimethylbenzene	14.492	105	1130	N.D.	
86) p-Isopropyltoluene	15.168	119	2277	N.D.	
87) s-Butylbenzene	14.998	105	1101	N.D.	
88) 1,3-Dichlorobenzene	15.438	146	1036	N.D.	
89) 1,4-Dichlorobenzene	15.544	146	1521	N.D.	
90) n-Butylbenzene	15.750	91	1772	N.D.	
91) 1,2-Dichlorobenzene	16.132	146	1754	N.D.	
92) DBCP	0.000		0	N.D. d	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	18.159	180	1142	N.D.	
95) Naphthalene	18.746	128	1663	N.D.	
96) 1,2,3-Trichlorobenzene	19.334	180	1104	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\122320\
Data File : 205LR048.D
Acq On : 24 Dec 2020 7:14 am
Operator : KKW
Sample : AD08762-02
Misc :
ALS Vial : 46 Sample Multiplier: 1

Quant Time: Dec 24 07:53:47 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



ANALYSIS SEQUENCE

AA63653

Instrument: OVGCMS5

Calibration ID: 2011113

Printed: 11/20/2020 10:14:21AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA63653-TUN1	QC		1		A0F0994			
AA63653-CAL1	QC		2		A0K1094	A0H0536		
AA63653-CAL2	QC		3		A0K1095	A0H0536		
AA63653-CAL3	QC		4		A0K1096	A0H0536		
AA63653-CAL4	QC		5		A0K1097	A0H0536		
AA63653-CAL5	QC		6		A0K1098	A0H0536		
AA63653-CAL6	QC		7		A0K1099	A0H0536		
AA63653-CAL7	QC		8		A0K1100	A0H0536		
AA63653-CAL8	QC		9		A0K1101	A0H0536		
AA63653-SCV1	QC		10		A0K1038	A0H0536		

Samples Loaded By Date

Data Processed By Date

VOLATILES GC/MS LOGBOOK (EPA Method 624.1 / SW-846 Method 8260D)

Tune Start Date: 11/12/20	Surrogate: AOF0892	8260 Mix: AOK0852
Sequence: AA63653 / AA63657	Internal: AOH0535	8260 Add: AOK0725
Batch: OK19040	LCS Mix 2⁰: AOK0835	8260 Ac/Ac: AOK1075
Method: 8260	LCS Acrolein 2⁰: AOK0868	8260 Gases: AOE1012
Analyst: JCN	LCS Gas 2⁰: AOK1020	Instrument #: MS-5
Instrument EM Voltage: 1706		

205KN

Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)	Comments	LIMS
001	Tun			1				
002	Tun			1			Pass	
003	CAL1 1ppb			2			✓	
004	CAL2 2ppb			3			✓	
005	CAL3 5ppb			4			✓	
006	CAL4 10ppb			5			✓	
007	CAL5 20ppb			6			✓ Undersp.ked Acrolein / Acrylonitrile	
008	CAL6 50ppb			7			✓	
009	CAL7 80ppb			8			✓	
010	CAL8 100ppb			9			✓	
011	Rinse			10				
012	SCV		1/20	11		N	✓	
013	BS		1/20	12		1/20	✓	
014	BLK			13			✓	
015	AD06553-03	H	1	14	✓	N	✓ MS/MSD	
016	AD06553-13	E	1	15	✓	N	✓	
017	AD06553-14	D	1	16	✓	N	✓	
018	AD06553-15	D	1	17	✓	N	✓	
019	AD06553-16	D	1	18	✓	N	✓	
020	AD06553-17	E	1	19	✓	N	✓	
021	AD06553-18	D	1	20	✓	N	✓	

Response Factor Report OVGCMS5

Method Path : C:\msdchem\1\methods\
Method File : 111920W.M
Title : ENCO SOP VGCMS05; Element Cal
Last Update : Thu Nov 19 13:02:55 2020
Response Via : Initial Calibration

Calibration Files
1 =205KN003.D 2 =205KN004.D 5 =205KN005.D 20 =205KN007.D 100 =205KN010.D 50 =205KN008.D 80 =205KN009.D 10 =205KN(

	Compound	1	2	5	20	100	50	80	10	Avg	%RSD
1) I	PENTAFLUOROBENZENE...	----------	ISTD	----------							
2)	Dichlorodifluo...	0.732	0.531	0.620	0.629	0.673	0.688	0.709	0.583	0.645	10.47
3) P	Chloromethane	0.964	0.768	0.753	0.667	0.733	0.662	0.754	0.644	0.743	13.64
4) C	Vinyl Chloride	0.639	0.496	0.594	0.610	0.665	0.618	0.687	0.518	0.603	11.04
5)	Bromomethane	0.549	0.394	0.247	0.154	0.219	0.181	0.205	0.180	0.266	51.25
6)	Chloroethane	0.510	0.336	0.273	0.297	0.260	0.264	0.323			29.51
7)	Trichlorofluor...	0.796	0.619	0.687	0.758	0.815	0.793	0.830	0.707	0.751	9.78
8)	Diethyl ether	0.518	0.368	0.387	0.388	0.432	0.430	0.456	0.360	0.417	12.66
9) C	1,1-Dichloroet...	0.530	0.372	0.392	0.413	0.456	0.449	0.465	0.375	0.432	12.52
10)	Trichlorotrifl...	0.261	0.264	0.293	0.261	0.306	0.306	0.313	0.308	0.289	7.99
11)	Acrolein	0.103	0.071	0.088	0.042	0.093	0.099	0.101	0.098	0.087#	24.14
12)	Iodomethane	0.324	0.307	0.371	0.456	0.460	0.473	0.466	0.432	0.411	16.35
13)	Carbon Disulfide	1.626	1.279	1.418	1.452	1.296	1.421	1.393	1.427	1.414	7.52
14)	3-chloropropene	1.169	0.669	0.682	0.774	0.864	0.852	0.844	0.712	0.821	19.61
15)	Acetone	0.164	0.076	0.113	0.108	0.115	0.117	0.122	0.127	0.118	20.50
16)	Methylene Chlo...	0.949	0.680	0.585	0.479	0.515	0.526	0.538	0.495	0.596	26.19
17)	Methyl Acetate	0.752	0.373	0.342	0.331	0.358	0.362	0.385	0.374	0.410	34.05
18)	t-1,2-Dichloro...	0.632	0.429	0.448	0.474	0.518	0.520	0.544	0.431	0.499	13.82
19)	Methyl tert-bu...	1.208	1.067	1.181	1.219	1.336	1.418	1.459	1.226	1.264	10.33
20)	Acetonitrile	0.133	0.087	0.083	0.083	0.092	0.096	0.101	0.093	0.096#	16.96
21)	Isopropyl ether	1.694	1.497	1.582	1.599	1.799	1.820	1.914	1.521	1.678	9.10
22)	Chloroprene	0.511	0.397	0.476	0.495	0.500	0.505	0.508	0.435	0.478	8.66
23) P	1,1-Dichloroet...	1.150	0.746	1.073	0.985	1.079	1.109	1.134	0.943	1.027	13.07
24)	Acrylonitrile	0.171	0.135	0.157	0.083	0.167	0.177	0.183	0.168	0.155	21.11
25)	Vinyl Acetate	1.109	0.868	1.055	1.064	1.035	1.119	1.124	1.046	1.053	7.80
26)	c-1,2-Dichloro...	0.554	0.424	0.524	0.525	0.553	0.576	0.602	0.474	0.529	10.76
27)	2,2-Dichloropr...	0.987	0.574	0.726	0.745	0.872	0.884	0.932	0.636	0.795	18.48
28)	Bromochloromet...	0.174	0.176	0.238	0.191	0.160	0.194	0.174	0.188	0.187	12.53
29)	Cyclohexane	1.446	0.816	1.112	1.011	1.098	1.139	1.151	0.901	1.084	17.43
30) C	Chloroform	1.008	0.818	1.017	0.944	0.995	1.032	1.078	0.957	0.981	7.97
31) s	Dibromofluorom...	0.499	0.517	0.518	0.502	0.484	0.557	0.508	0.540	0.516	4.57
32)	Dibromofluorom...	0.499	0.517	0.518	0.502	0.484	0.557	0.508	0.540	0.516	4.57
33)	2-Butanone	0.095	0.029	0.061	0.046	0.058	0.058	0.061	0.045	0.057#	33.56
34)	1,1,1-Trichlor...	0.886	0.648	0.744	0.804	0.874	0.894	0.933	0.697	0.810	12.79
35)	1,1-Dichloropr...	0.995	0.693	0.799	0.777	0.841	0.869	0.895	0.723	0.824	11.87
36)	Propionitrile	0.073	0.071	0.073	0.070	0.065	0.070	0.072	0.069	0.070#	3.49
37)	Methacrylonitrile	0.399	0.336	0.360	0.337	0.311	0.348	0.341	0.345	0.347	7.26
38)	Isobutyl Alcohol	0.039	0.041	0.042	0.039	0.041	0.045	0.045	0.043	0.042#	5.18

Method Path : C:\msdchem\1\methods\
Method File : 111920W.M

39)	I	1,4-DIFLUOROBENZEN...	----------ISTD----------									
40)		Carbon Tetrach...	0.356	0.266	0.280	0.310	0.381	0.359	0.377	0.269	0.325	15.08
41)		Benzene	1.369	0.895	1.012	1.161	1.252	1.202	1.234	1.020	1.143	13.58
42)		1,2-Dichloroet...	0.530	0.325	0.356	0.380	0.419	0.395	0.426	0.327	0.395	16.85
43)		Trichloroethene	0.243	0.207	0.209	0.223	0.254	0.244	0.248	0.219	0.231	8.07
44)		Methyl cyclohe...	1.297	0.764	0.651	0.549	0.571	0.571	0.580	0.498	0.685	37.89
45)		Dibromomethane	0.175	0.131	0.166	0.162	0.171	0.170	0.178	0.145	0.162	9.97
46)	C	1,2-Dichloropr...	0.417	0.274	0.279	0.316	0.368	0.337	0.367	0.304	0.333	14.80
47)		Bromodichlorom...	0.339	0.218	0.314	0.331	0.411	0.377	0.405	0.312	0.338	18.35
48)		Methyl Methacr...	0.209	0.116	0.173	0.191	0.216	0.207	0.211	0.180	0.188	17.59
49)		1,4-Dioxane	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.003#	15.13
50)		2-Chloroethyl ...	0.164	0.132	0.148	0.164	0.174	0.176	0.176	0.155	0.161	9.70
51)		C-1,3-Dichloro...	0.388	0.337	0.396	0.444	0.557	0.515	0.549	0.386	0.447	18.77
52)	s	D8-Toluene	1.242	1.219	1.181	1.198	1.256	1.317	1.203	1.265	1.235	3.56
53)		D8-Toluene	1.242	1.219	1.181	1.198	1.256	1.317	1.203	1.265	1.235	3.56
54)		4-Methyl-2-pen...	0.054	0.035	0.032	0.032	0.034	0.034	0.035	0.031	0.036#	20.52
55)		CHLOROBENZENE-D5 (IS)	----------ISTD----------									
56)	C	Toluene	1.301	0.813	1.029	1.066	1.109	1.126	1.145	0.947	1.067	13.57
57)		T-1,3-Dichloro...	0.578	0.396	0.539	0.558	0.630	0.608	0.660	0.515	0.561	14.59
58)		Tetrachloroethene	0.355	0.217	0.245	0.289	0.295	0.281	0.297	0.261	0.280	14.66
59)		Ethyl methacry...	0.788	0.476	0.467	0.517	0.560	0.573	0.583	0.495	0.557	18.49
60)		1,1,2-Trichlor...	0.426	0.257	0.309	0.332	0.358	0.354	0.369	0.316	0.340	14.59
61)		Dibromochlorom...	0.262	0.193	0.219	0.271	0.363	0.324	0.377	0.234	0.280	24.18
62)		1,3-Dichloropr...	0.786	0.497	0.586	0.666	0.713	0.696	0.746	0.649	0.667	13.77
63)		1,2-Dibromoethane	0.378	0.275	0.309	0.325	0.360	0.368	0.378	0.290	0.336	12.25
64)		2-Hexanone	0.280	0.209	0.227	0.239	0.255	0.255	0.265	0.235	0.246	9.21
65)	C	Ethylbenzene	0.837	0.505	0.535	0.608	0.646	0.639	0.660	0.582	0.626	16.13
66)	P	Chlorobenzene	1.227	0.919	1.089	1.029	1.086	1.084	1.135	1.030	1.075	8.30
67)		1,1,1,2-Tetrac...	0.325	0.266	0.294	0.319	0.372	0.355	0.375	0.267	0.322	13.59
68)		m-xylene & p-x...	0.771	0.630	0.752	0.782	0.767	0.793	0.800	0.727	0.753	7.24
69)		o-xylene	0.827	0.550	0.798	0.758	0.823	0.841	0.863	0.715	0.772	13.16
70)		Styrene	1.185	0.949	1.198	1.329	1.404	1.372	1.466	1.179	1.260	13.20
71)	P	Bromoform	0.224	0.133	0.111	0.151	0.225	0.198	0.216	0.134	0.174	26.86
72)		Isopropylbenzene	2.119	1.613	1.958	2.054	2.160	2.204	2.274	1.869	2.031	10.53
73)	s	Bromofluoroben...	0.942	0.897	0.855	0.869	0.844	0.927	0.868	0.941	0.893	4.41
74)		Bromofluoroben...	0.942	0.897	0.855	0.869	0.844	0.927	0.868	0.941	0.893	4.41
75)		n-Propylbenzene	2.779	2.232	2.681	2.705	2.871	2.885	3.015	2.557	2.716	8.87
76)	P	1,1,2,2-Tetrac...	0.575	0.424	0.467	0.489	0.518	0.530	0.560	0.467	0.504	10.18
77)		1,2,3-Trichlor...	0.235	0.146	0.161	0.180	0.187	0.187	0.189	0.188	0.184	13.95
78)		T-1,4-Dichloro...	0.121	0.127	0.190	0.191	0.198	0.188	0.206	0.188	0.176	18.47
79)		1,4-DICHLOROBENZEN...	----------ISTD----------									
80)		Bromobenzene	0.491	0.463	0.517	0.513	0.522	0.515	0.541	0.466	0.503	5.46
81)		1,2,4-Trimethy...	2.482	1.775	2.358	2.398	2.416	2.462	2.548	2.288	2.341	10.33
82)		2-Chlorotoluene	2.119	1.605	1.920	2.021	2.048	2.052	2.168	1.808	1.968	9.39
83)		4-Chlorotoluene	2.103	1.725	2.035	2.091	2.145	2.166	2.252	1.920	2.055	8.04

Method Path : C:\msdchem\1\methods\
Method File : 111920W.M

84)	tert-Butylbenzene	1.917	1.425	1.700	1.829	1.869	1.859	1.971	1.656	1.778	9.97
85)	1,3,5-Trimethy...	2.490	1.694	2.251	2.291	2.388	2.406	2.450	2.172	2.268	11.25
86)	p-Isopropyltol...	2.229	1.689	2.180	2.250	2.350	2.377	2.484	2.112	2.209	10.91
87)	s-Butylbenzene	2.516	2.130	2.702	2.757	2.812	2.890	2.983	2.495	2.661	10.24
88)	1,3-Dichlorobe...	1.060	0.831	0.915	1.006	1.121	1.076	1.133	0.926	1.009	10.77
89)	1,4-Dichlorobe...	1.342	0.942	0.985	1.048	1.121	1.090	1.143	0.977	1.081	11.81
90)	n-Butylbenzene	2.456	1.647	2.037	2.410	2.489	2.528	2.635	2.174	2.297	14.24
91)	1,2-Dichlorobe...	1.133	0.693	0.930	0.896	1.007	1.003	1.071	0.881	0.952	14.22
92)	DBCP	0.146	0.037	0.037	0.067	0.082	0.078	0.086	0.067	0.075#	45.78
93)	Hexachlorobuta...	0.179	0.172	0.213	0.199	0.252	0.230	0.254	0.186	0.211	15.26
94)	1,2,4-Trichlor...	0.444	0.216	0.367	0.393	0.486	0.481	0.524	0.368	0.410	23.82
95)	Naphthalene	0.860	0.626	0.684	0.841	1.037	1.012	1.109	0.795	0.870	19.70
96)	1,2,3-Trichlor...	0.242	0.250	0.204	0.239	0.307	0.284	0.319	0.234	0.260	15.18

(#) = Out of Range

Manual Integration Review Form

ENVIRONMENTAL CONSERVATION LABORATORIES, INC. ☐ Cary ☐ Jacksonville ☒ Orlando

I hereby attest that the manual integrations contained in this package have been thoroughly reviewed and are in agreement with the associated hardcopy data.

The electronic files listed below have been reviewed for accuracy, completeness and comply with ENCO labs QA-11 Manual Integration Policy including:

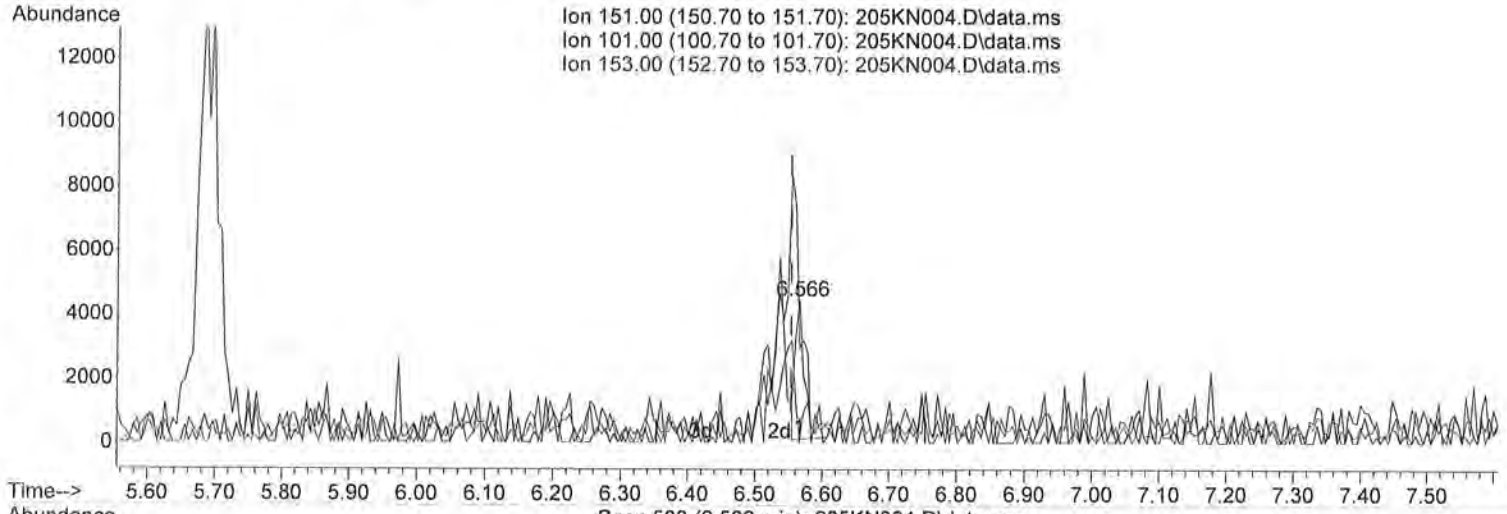
- "Before" and "After" chromatograms are provided
- Manual integrations are indicated on expanded scale "after" chromatograms at a scale large enough to see the manual integration performed.
- Reintegration technique marked if available on the data system
- Technical justification for manual integration
- Appropriate flags indicating which analytes were manually integrated are included in the raw data
- Analyst's initials and date.

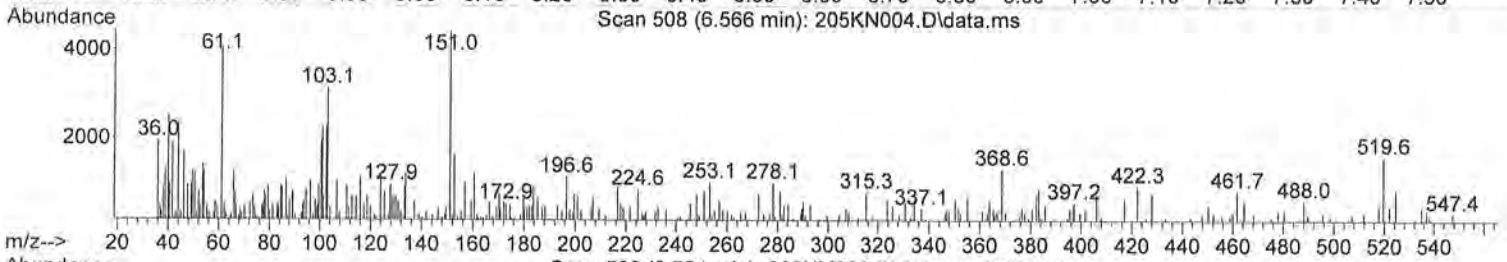
Instrument ID:	OVGCMS-5
Sequence/Batch ID:	AA63053
Data File Prefix:	205KN
Date and Time Range of MIs:	11/19/20 12:16 - 11/20/20 0737
Reviewer Print Name:	Karie Gonzalez
Reviewer Signature:	Karie Gonzalez
Date of Review:	11/20/2020

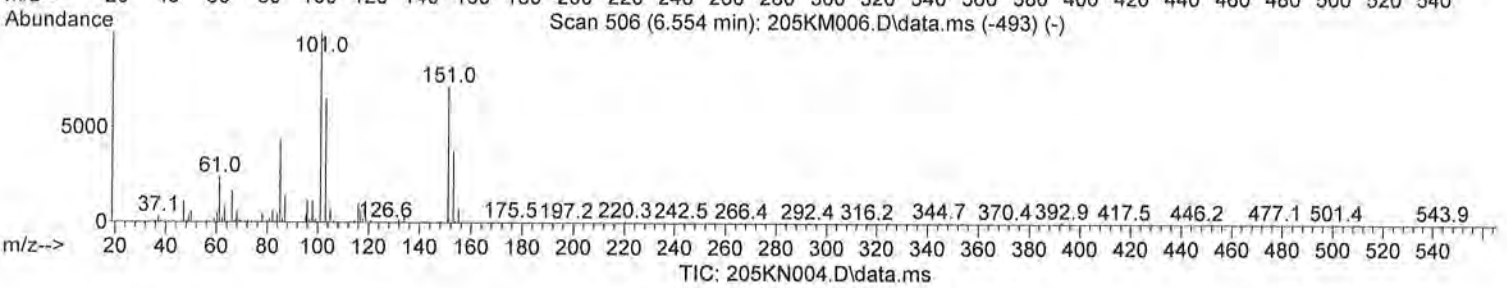
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN004.D\data.ms

(10) Trichlorotrifluoroethane

6.566min (+ 0.012) 0.52 ug/L

response 4301

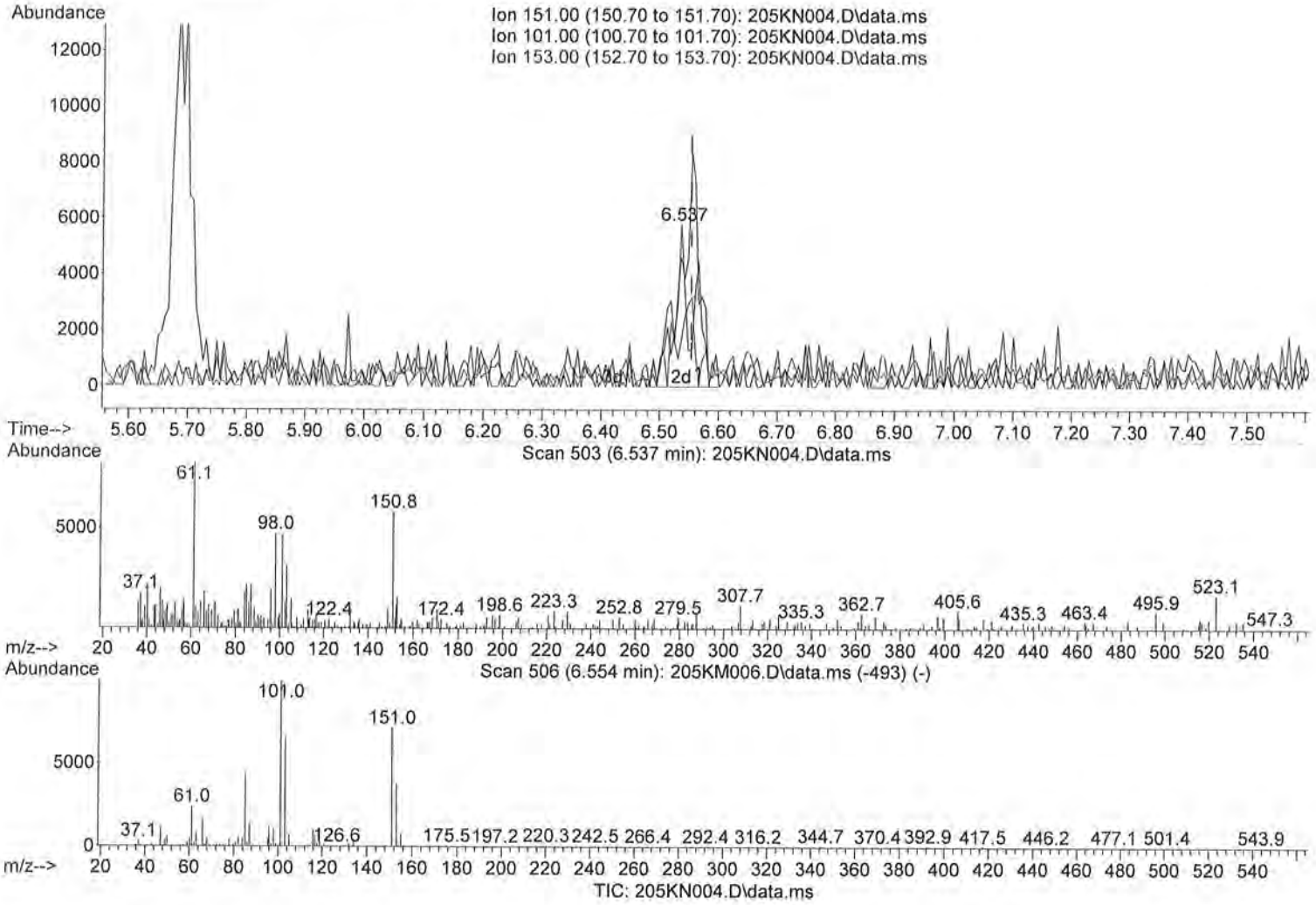
Ion	Exp%	Act%
151.00	100.00	100.00
101.00	154.20	0.00#
153.00	62.50	40.66#
0.00	0.00	0.00

Review Type:
[X] Manual Integration [ ] Manual Integration
Select reason for manual integration:
[X] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Reviewed by/Date: KW 11/23/20
Reviewed by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



(10) Trichlorotrifluoroethane

6.537min (-0.017) 1.54 ug/L m

response 12736

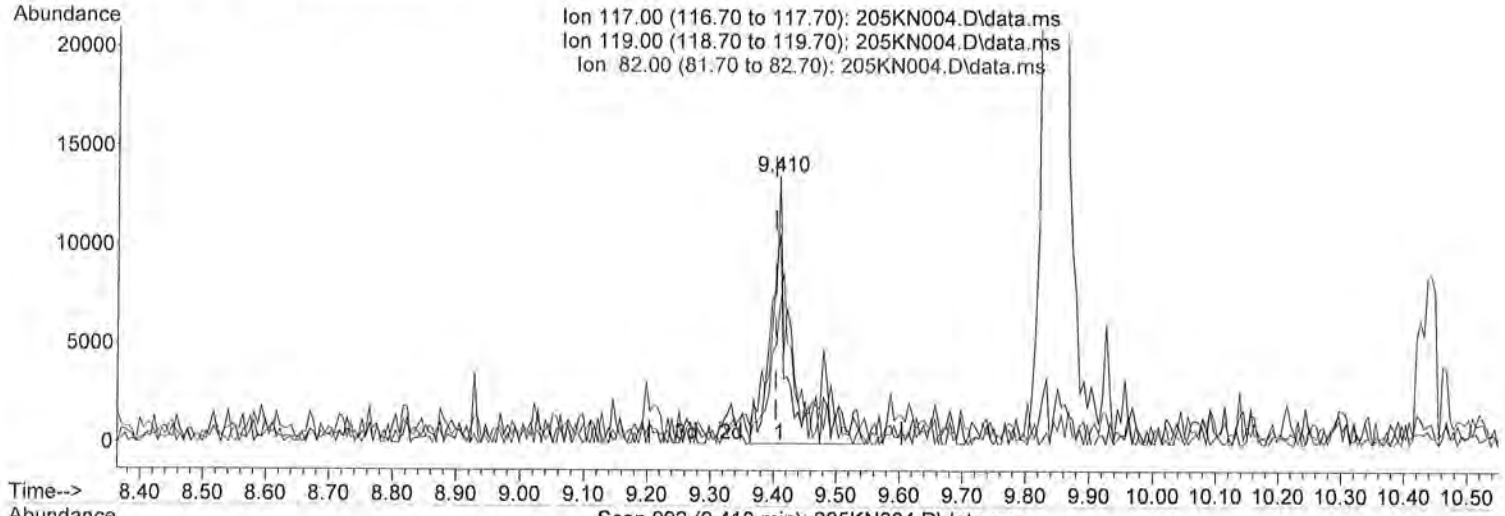
Ion	Exp%	Act%
151.00	100.00	100.00
101.00	154.20	0.00#
153.00	62.50	13.73#
0.00	0.00	0.00

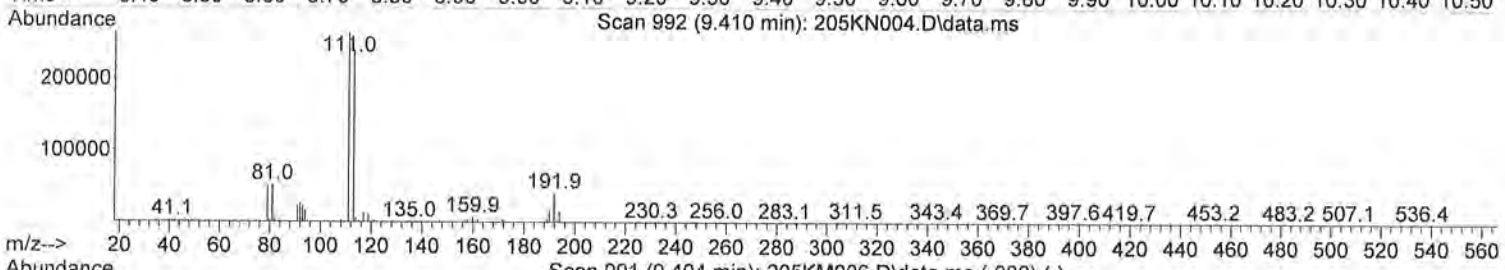
Reason for manual integration:
[X] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date: 11/20/20
Review by/Date:

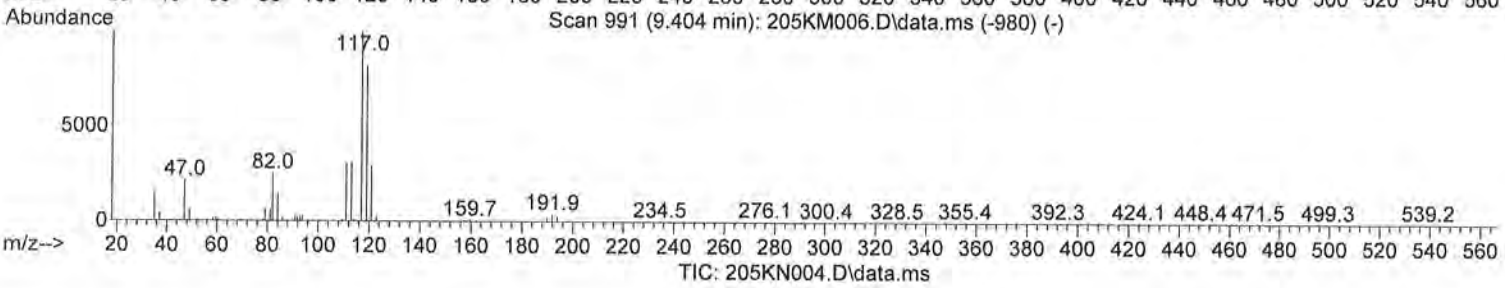
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN004.D\data.ms

(40) Carbon Tetrachloride

9.410min (+ 0.006) 2.08 ug/L

response 32862

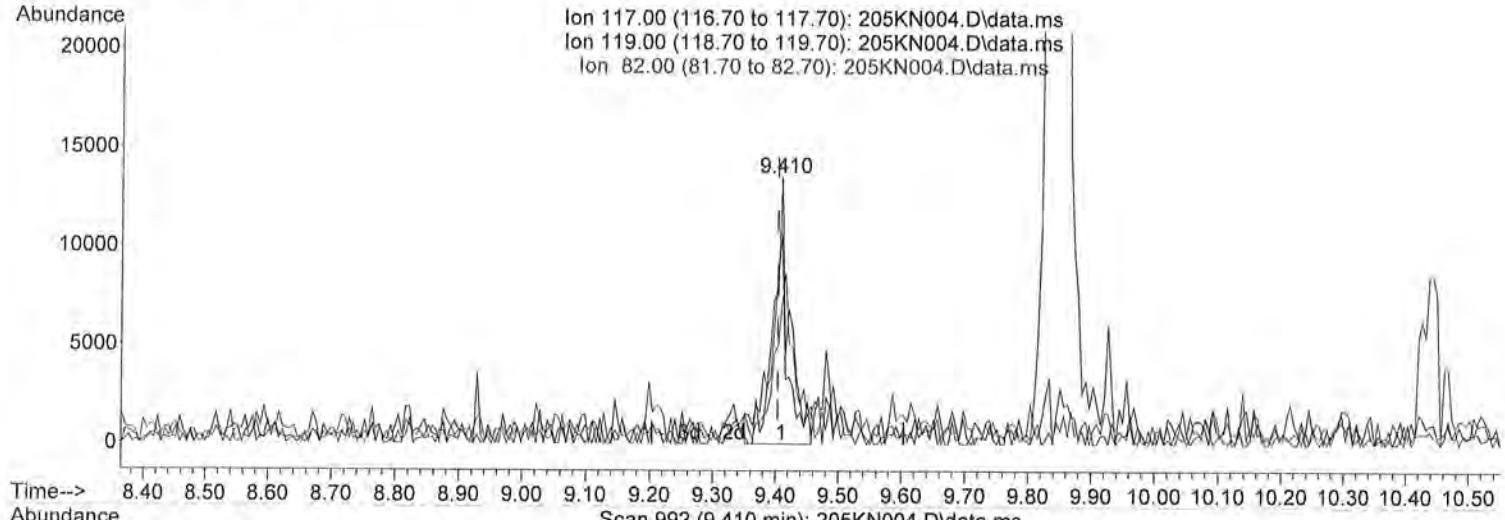
Ion	Exp%	Act%
117.00	100.00	100.00
119.00	93.20	54.94#
82.00	27.60	58.67#
0.00	0.00	0.00

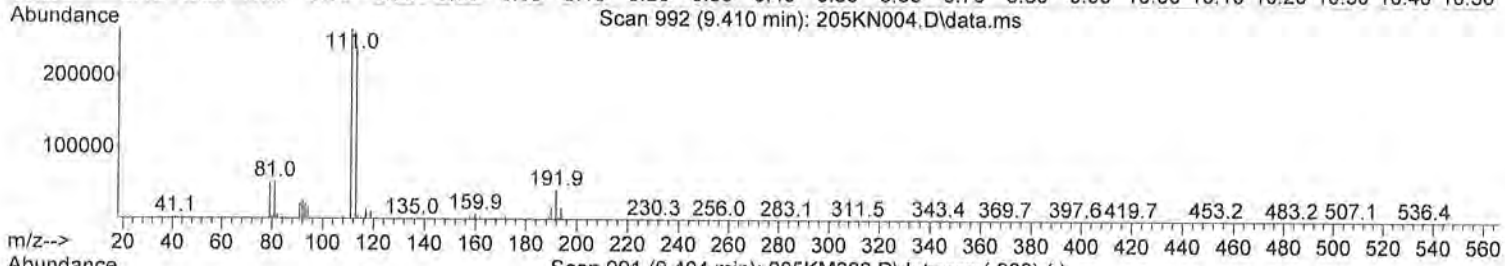
[X] Manual Integration [ ] Manual Integration
Select reason for manual integration:
[X] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date: W 11/23/20
Review by/Date:

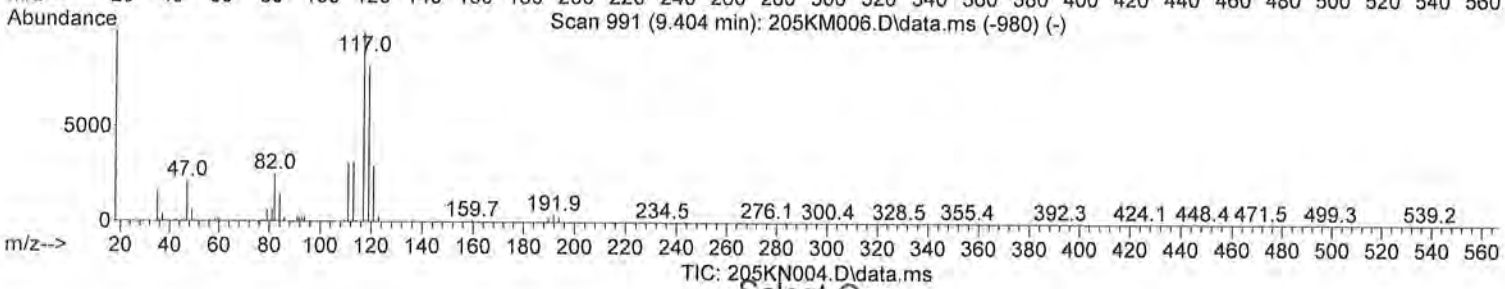
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN004.D\data.ms

(40) Carbon Tetrachloride

9.410min (+ 0.006) 1.62 ug/L m

response 25567

Ion	Exp%	Act%
117.00	100.00	100.00
119.00	93.20	70.61#
82.00	27.60	75.41#
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

[ ] Other:

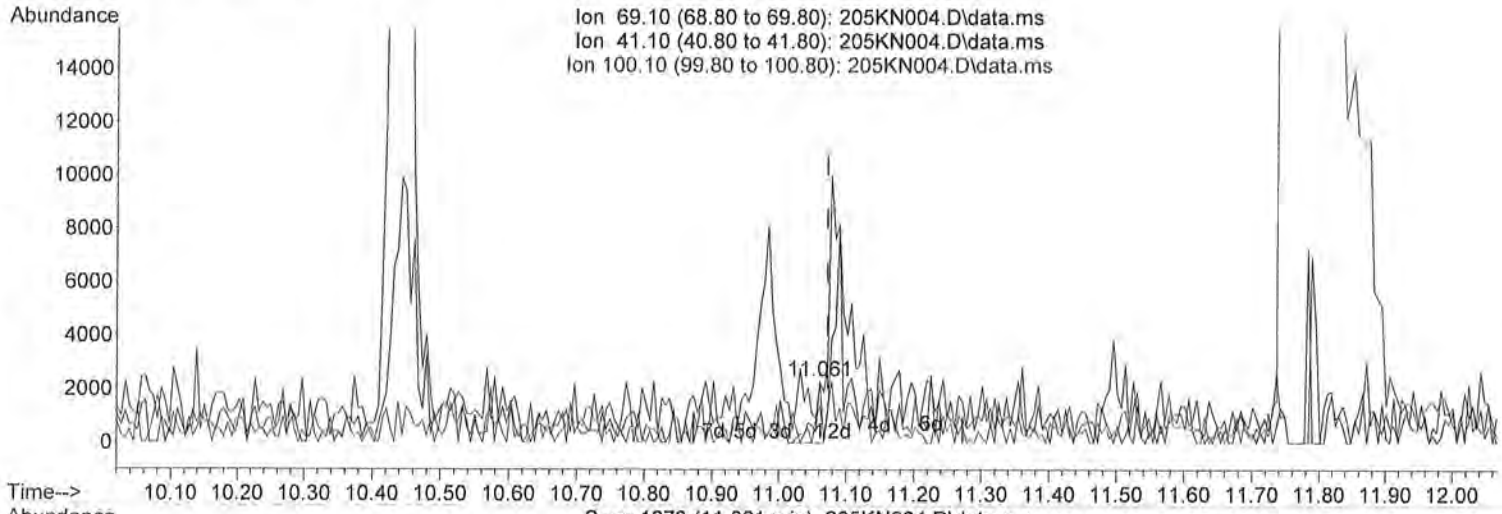
Review by/Date 11/20/20

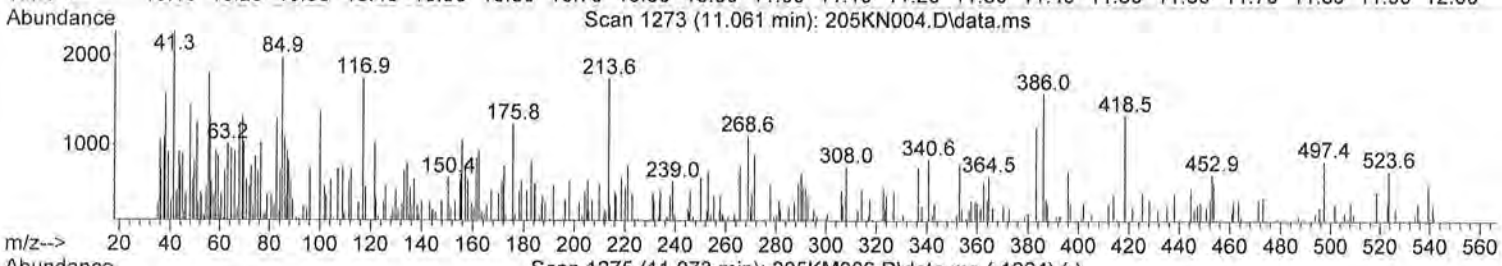
Review by/Date:

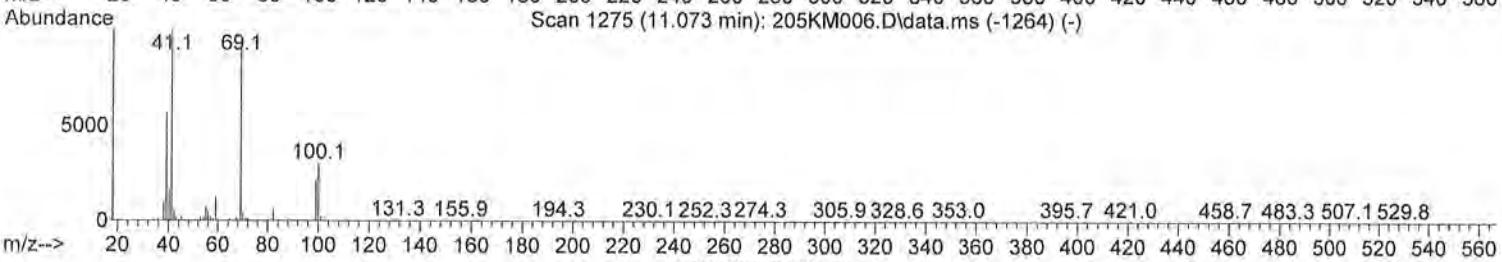
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN004.D\data.ms

(48) Methyl Methacrylate

11.061min (-0.012) 0.14 ug/L

response 1750

Ion	Exp%	Act%
69.10	100.00	100.00
41.10	124.40	141.03
100.10	35.70	69.43#
0.00	0.00	0.00

Select One:

[✓] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (baseline selection)

[ ] Missed peak(s) found

[ ] Incorrect peak(s) found

[ ] Co-eluting peaks

[ ] Re-integration

[ ] Other:

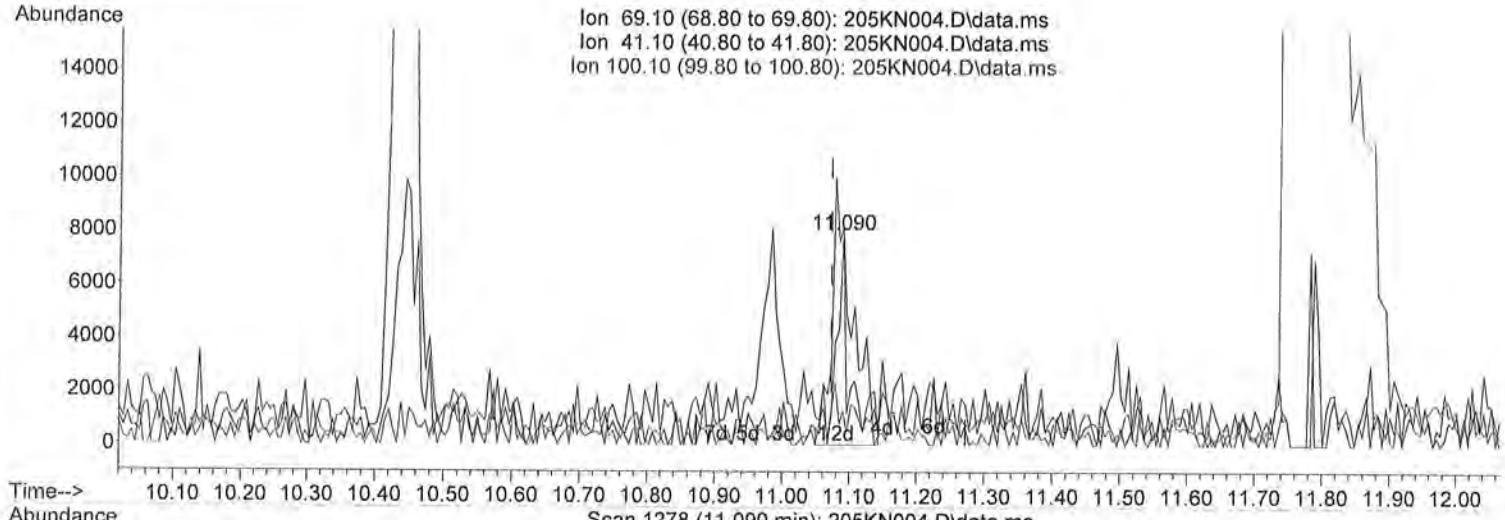
Review by/Date KKW 11/19/20

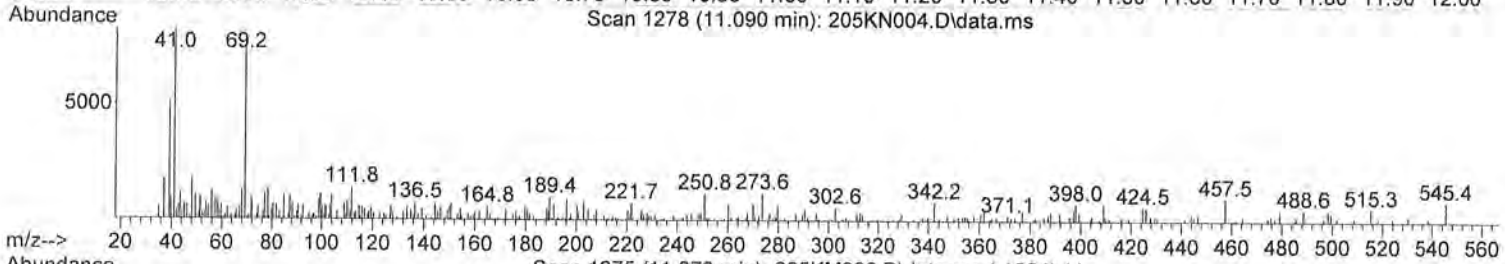
Review by/Date:

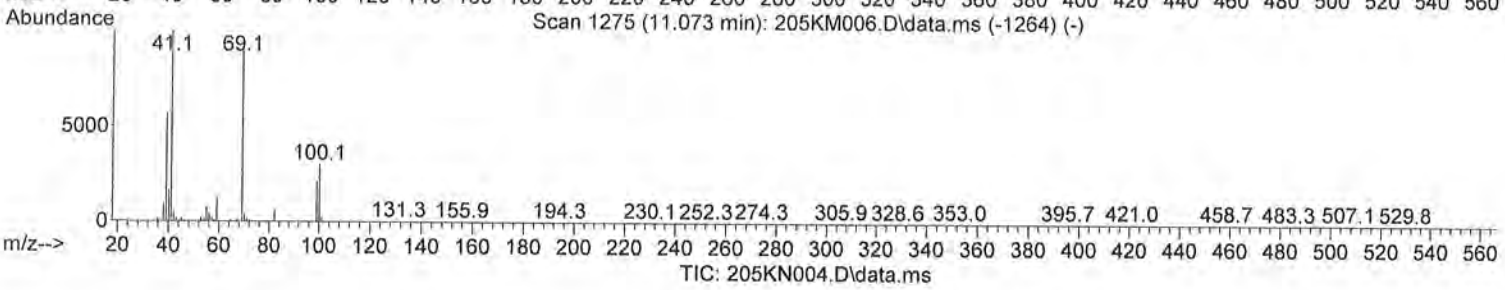
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN004.D\data.ms

(48) Methyl Methacrylate

11.090min (+ 0.017) 0.86 ug/L m

response 11122

Ion	Exp%	Act%
69.10	100.00	100.00
41.10	124.40	22.19#
100.10	35.70	10.92#
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date W 11/20/20

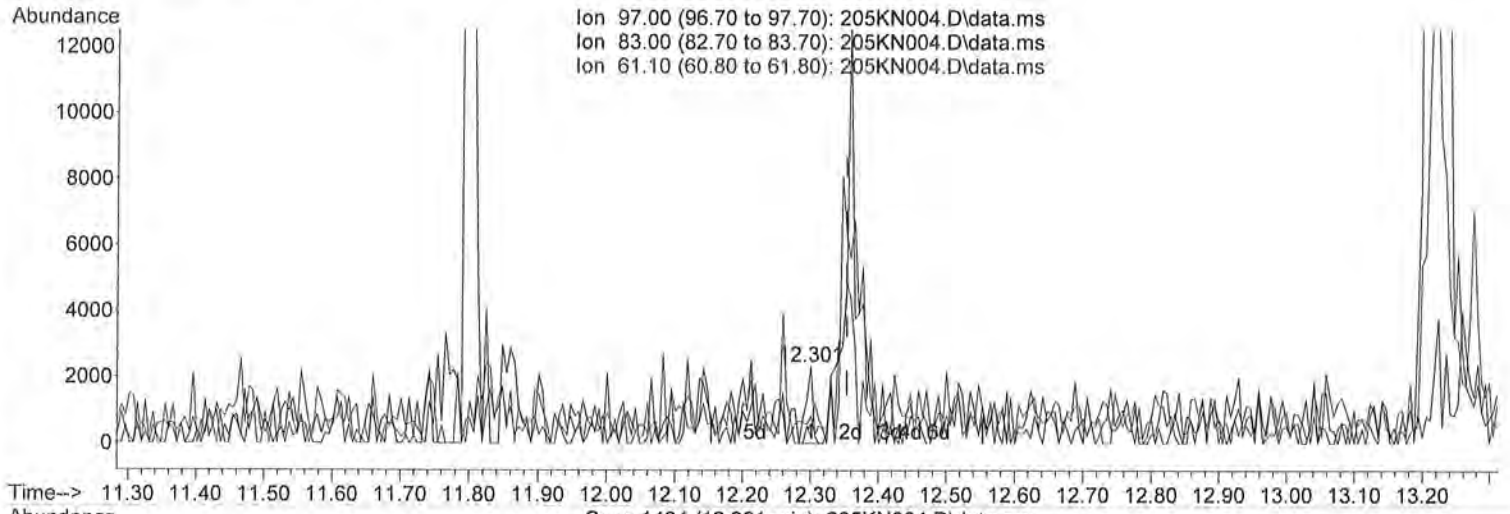
Review by/Date:

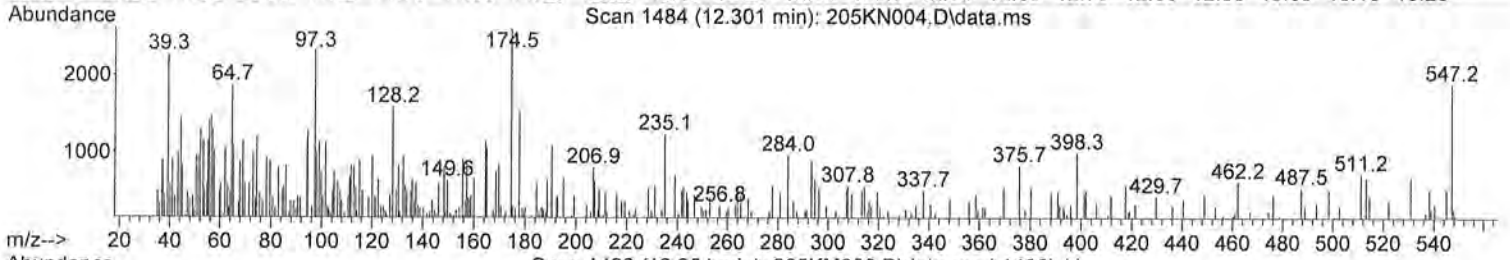
111920W.M Thu Nov 19 12:17:22 2020

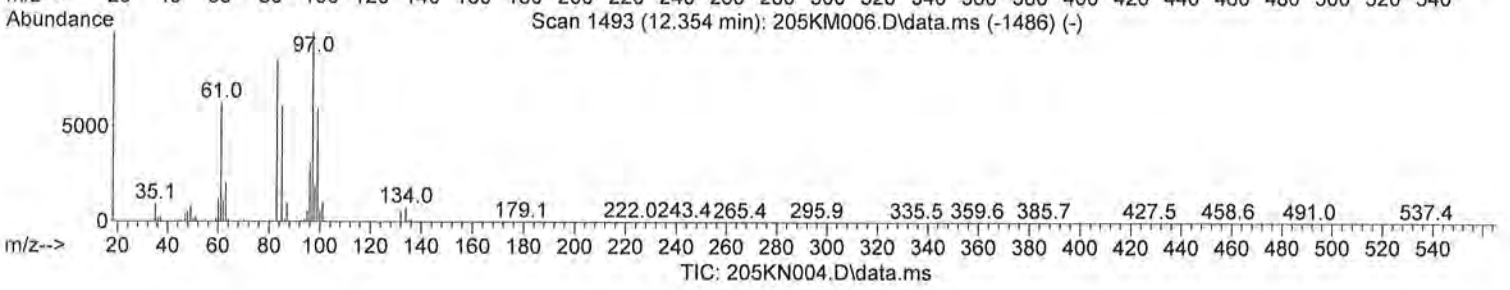
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN004.D\data.ms

(60) 1,1,2-Trichloroethane

12.301min (-0.053) 0.12 ug/L

response 1625

Ion	Exp%	Act%
97.00	100.00	100.00
83.00	90.90	103.69
61.10	65.40	78.09
0.00	0.00	0.00

Select One:

[ ] Manual Integration

[ ] Incorrect peak selection/Peak not found

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

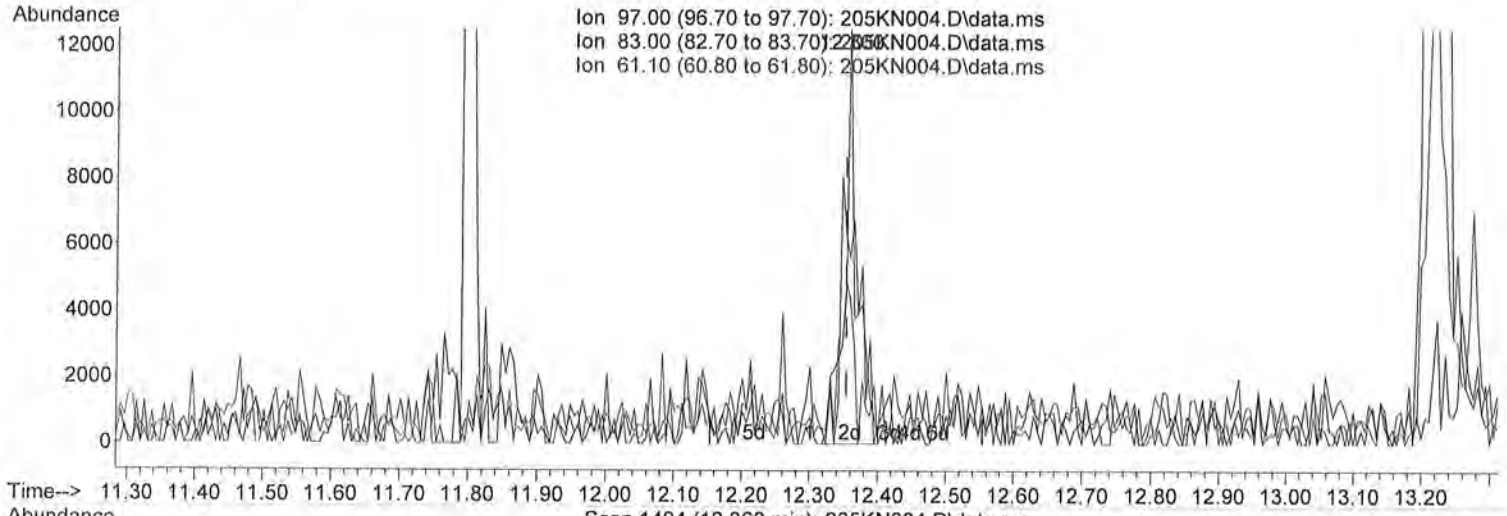
Review by/Date

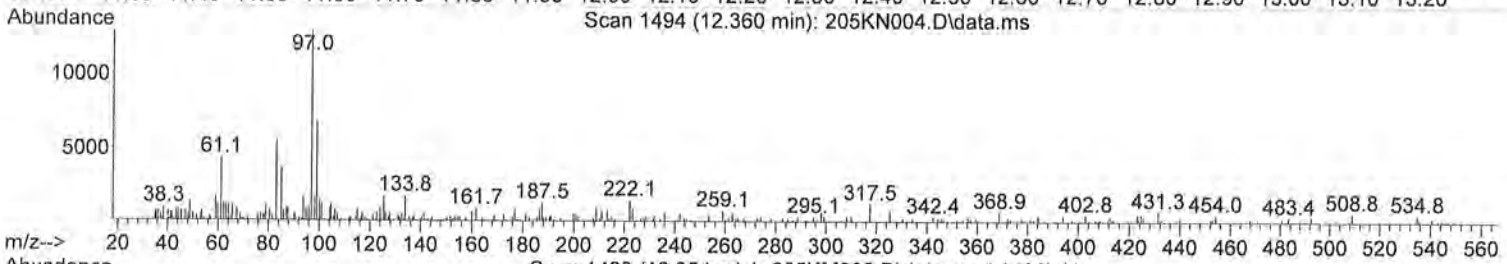
Review by/Date:

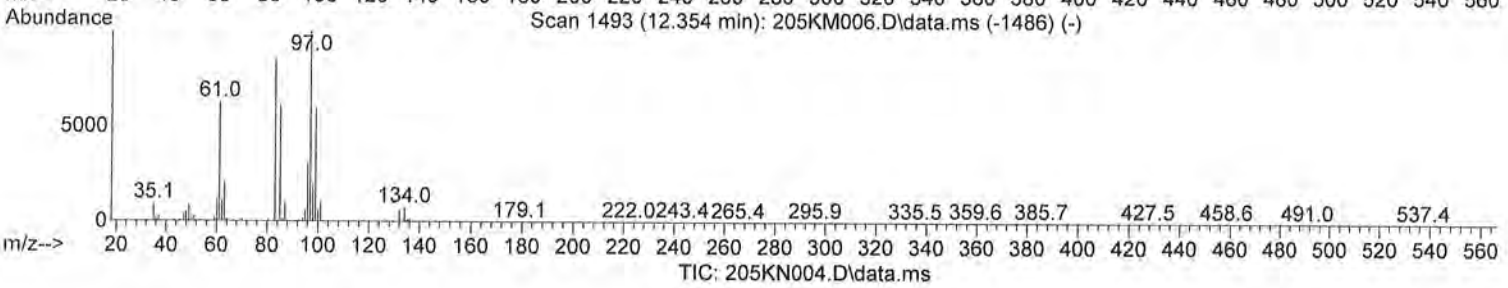
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN004.D\data.ms

(60) 1,1,2-Trichloroethane

12.360min (+ 0.006) 1.20 ug/L m

response 16136

Ion	Exp%	Act%
97.00	100.00	100.00
83.00	90.90	10.44#
61.10	65.40	7.86#
0.00	0.00	0.00

Select One:

[ ] Original (Unacceptable) Manual Integration

[ ] [illegible] Integration

[ ] [illegible] baseline selection)

[ ] [illegible] result not found

[ ] [illegible] integration

[ ] Reintegrate to spot peaks

[ ] ISTD reintegration

[ ] Other:

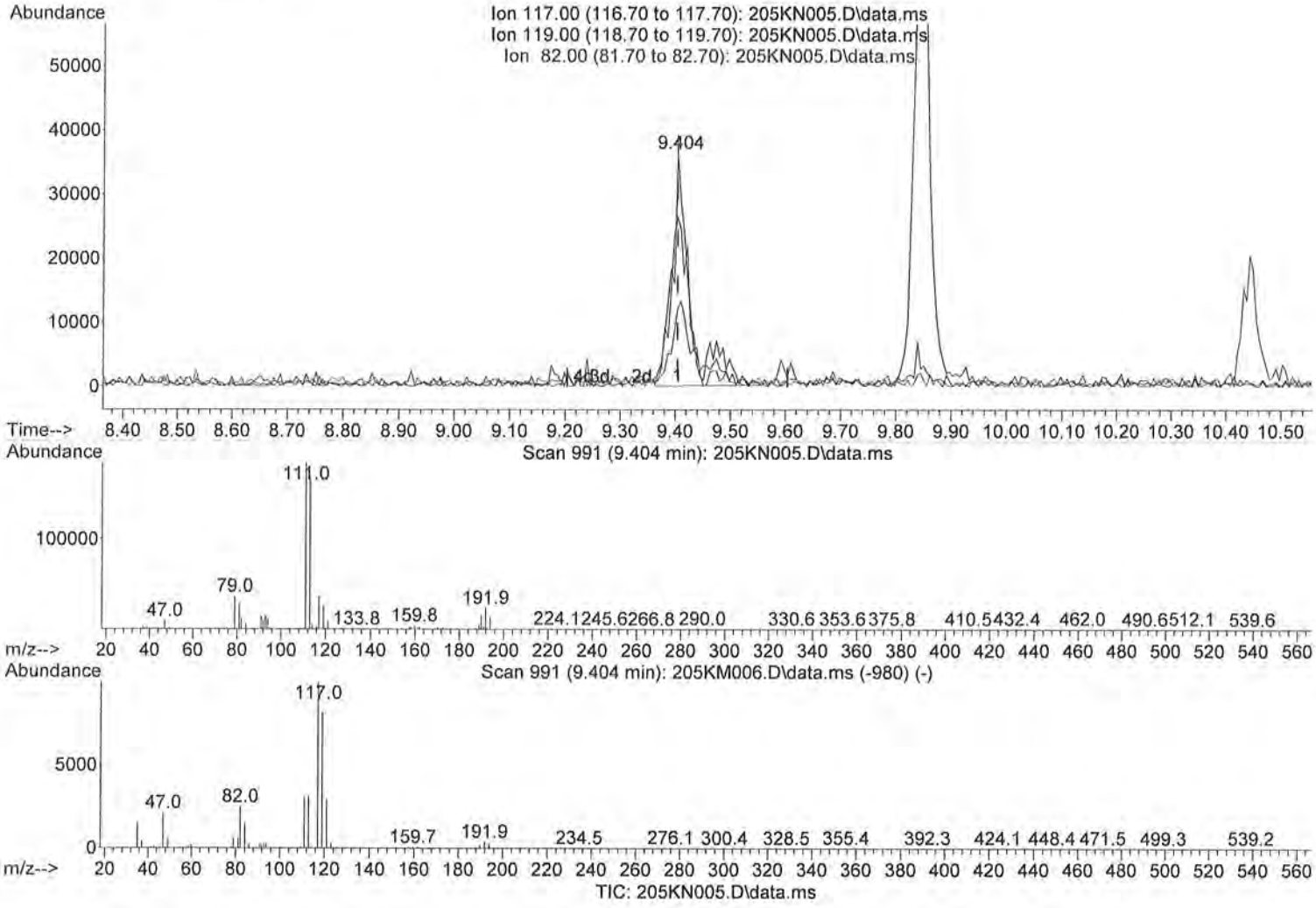
Review by/Date W 11/19/20

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN005.D
Acq On : 19 Nov 2020 9:47 am
Operator : KKW
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 19 12:13:14 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



(40) Carbon Tetrachloride

9.404min (+ 0.000) 4.90 ug/L

response 78732

Ion	Exp%	Act%
117.00	100.00	100.00
119.00	93.20	79.64
82.00	27.60	40.68#
0.00	0.00	0.00

Select One:

[ ] Other:

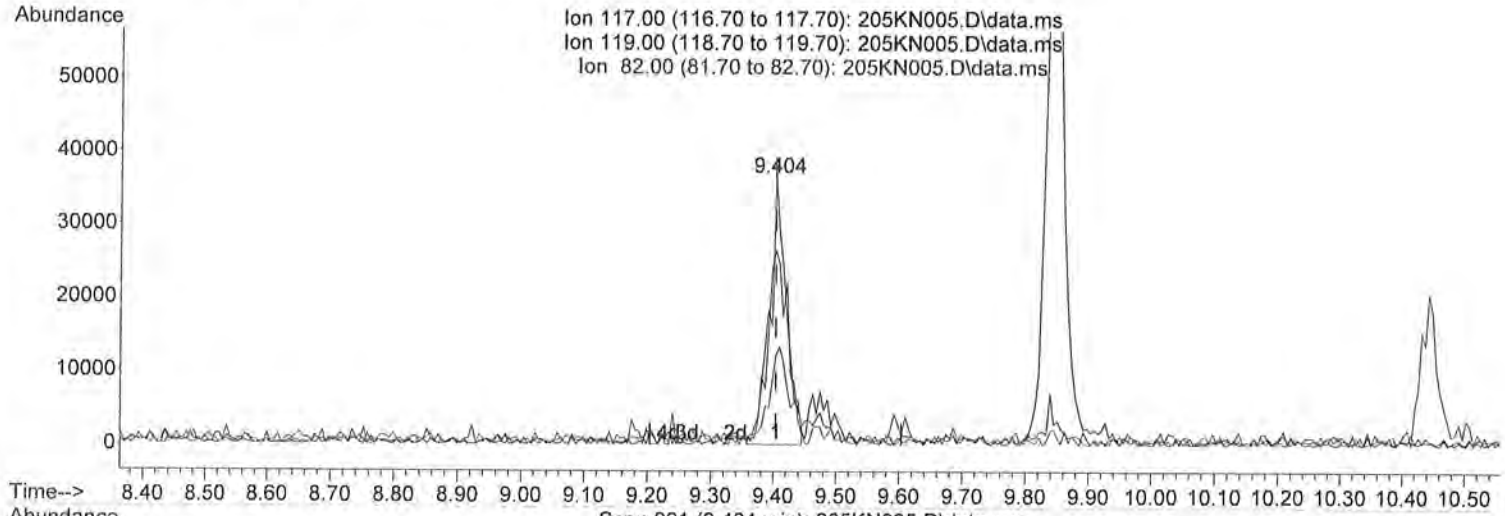
Review by/Date Wlukasik

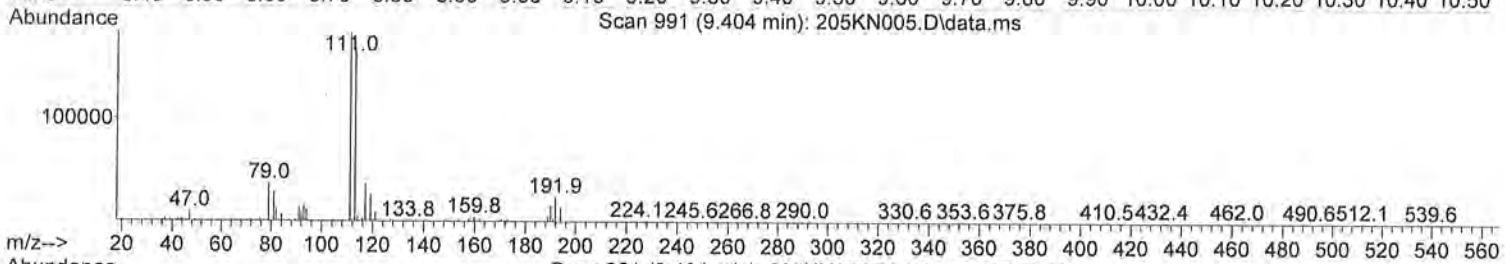
Review by/Date:

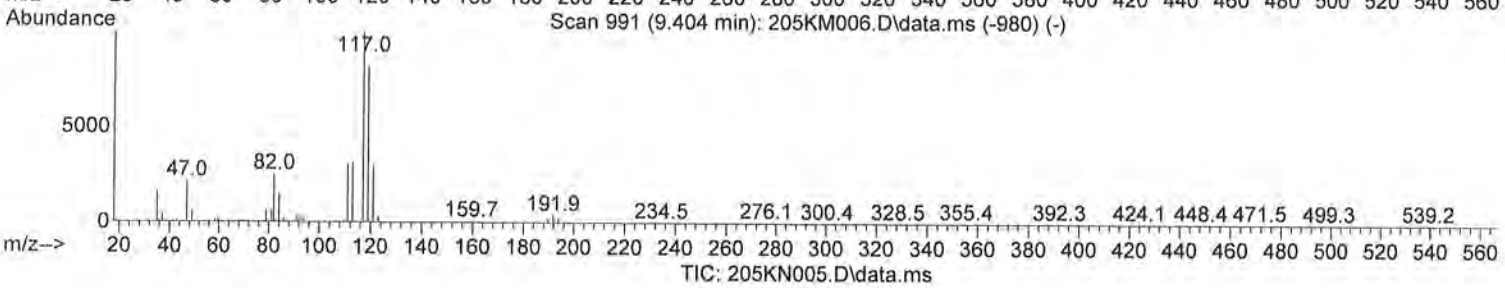
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN005.D
Acq On : 19 Nov 2020 9:47 am
Operator : KKW
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 19 12:13:14 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN005.D\data.ms

(40) Carbon Tetrachloride

9.404min (+ 0.000) 4.27 ug/L m

response 68664

Ion	Exp%	Act%
117.00	100.00	100.00
119.00	93.20	91.32
82.00	27.60	46.64#
0.00	0.00	0.00

Select One:

[ ] Other:

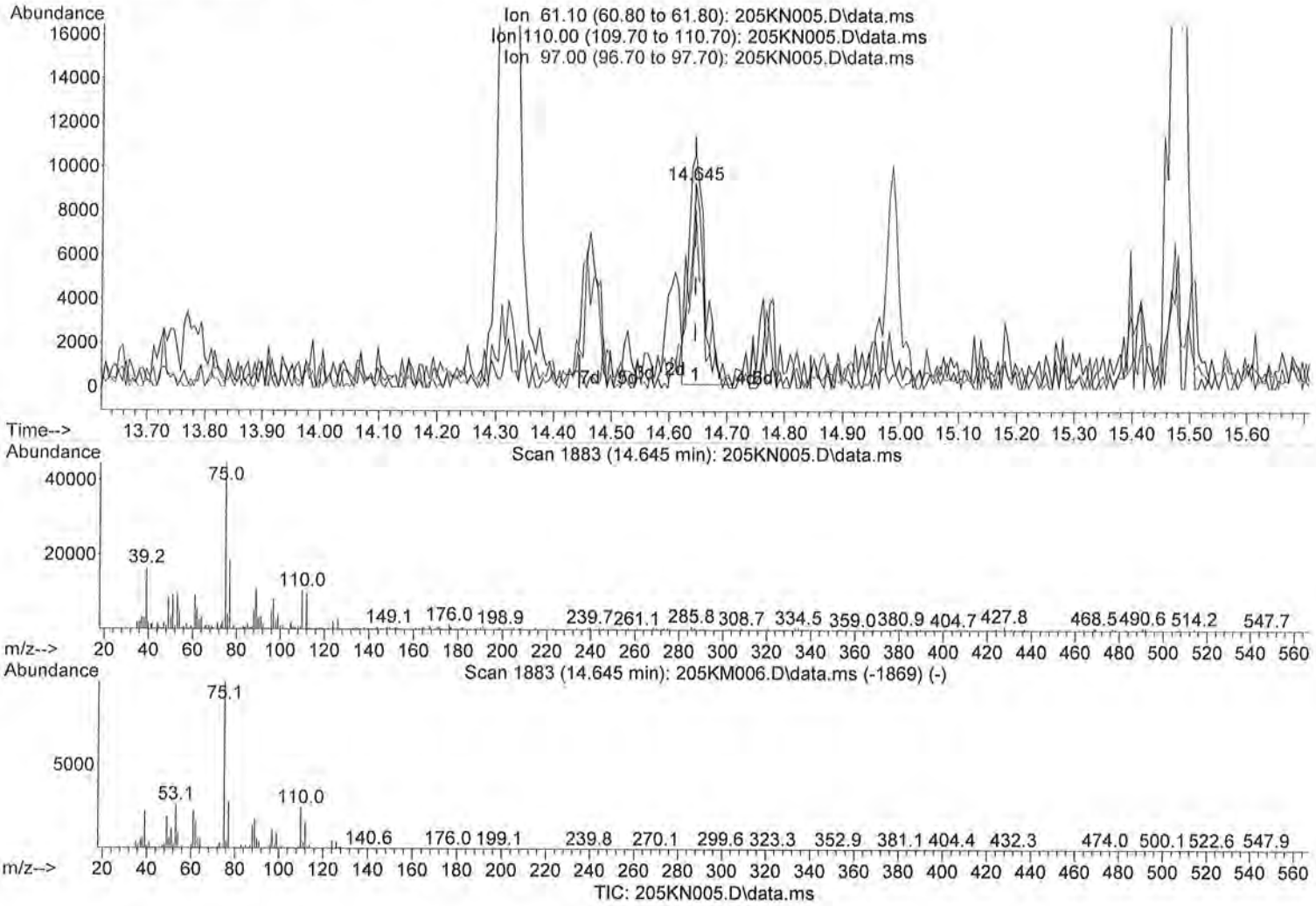
Review by/Date: 11/20/20

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN005.D
Acq On : 19 Nov 2020 9:47 am
Operator : KKW
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 19 12:13:14 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



TIC: 205KN005.D\data.ms

(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 2.18 ug/L

response 16030

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	142.51#
97.00	45.60	94.38#
0.00	0.00	0.00

Select One:

[X] Original integration [ ] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

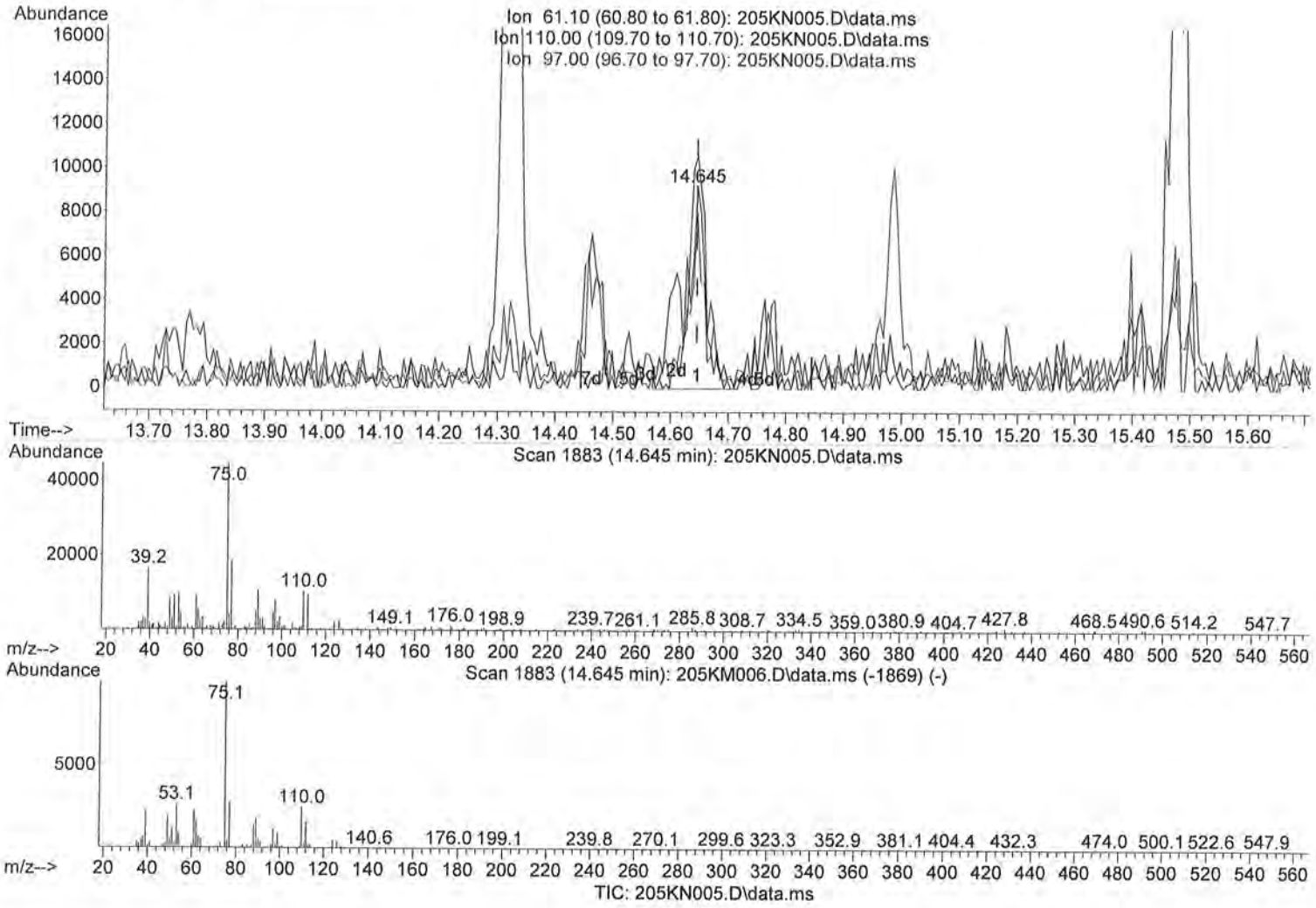
Review by/Date: W 11/20/20

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN005.D
Acq On : 19 Nov 2020 9:47 am
Operator : KKW
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 19 12:13:14 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 3.52 ug/L m

response 25913

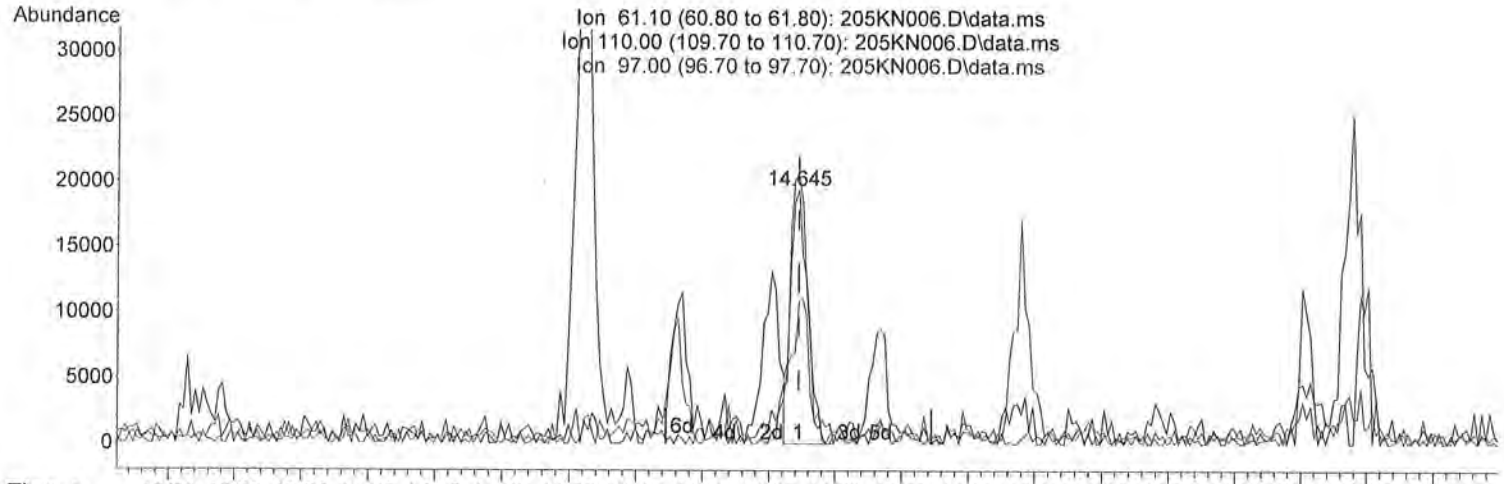
Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	88.16
97.00	45.60	58.38#
0.00	0.00	0.00

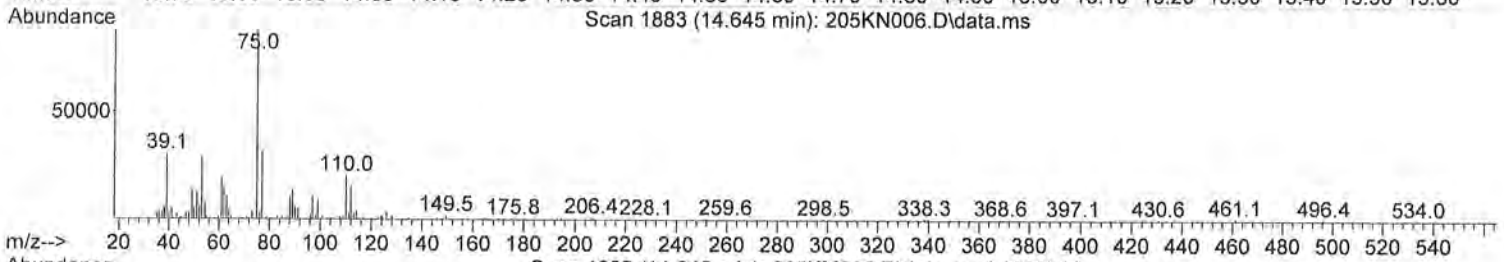
Select One:
[ ] Original Integration [ ] Manual Integration
Select reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date
Review by/Date:

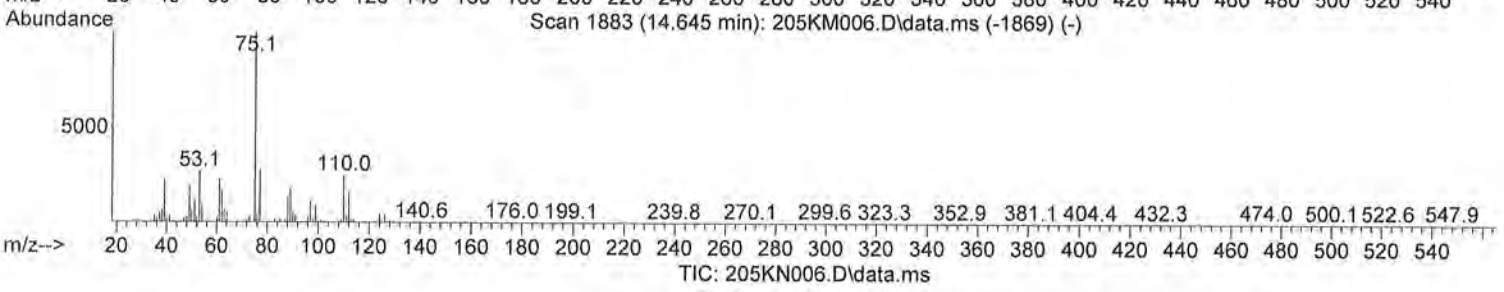
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN006.D
Acq On : 19 Nov 2020 10:18 am
Operator : KKW
Sample : CAL4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 19 12:13:19 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN006.D\data.ms

(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 4.92 ug/L

response 35588

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	115.40#
97.00	45.60	74.17#
0.00	0.00	0.00

Select One:

[ ] Manual Integration

[ ] Manual integration: (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Manual integration

[ ] Baseline drop for split peaks

[ ] IS/TD reintegration

[ ] Other:

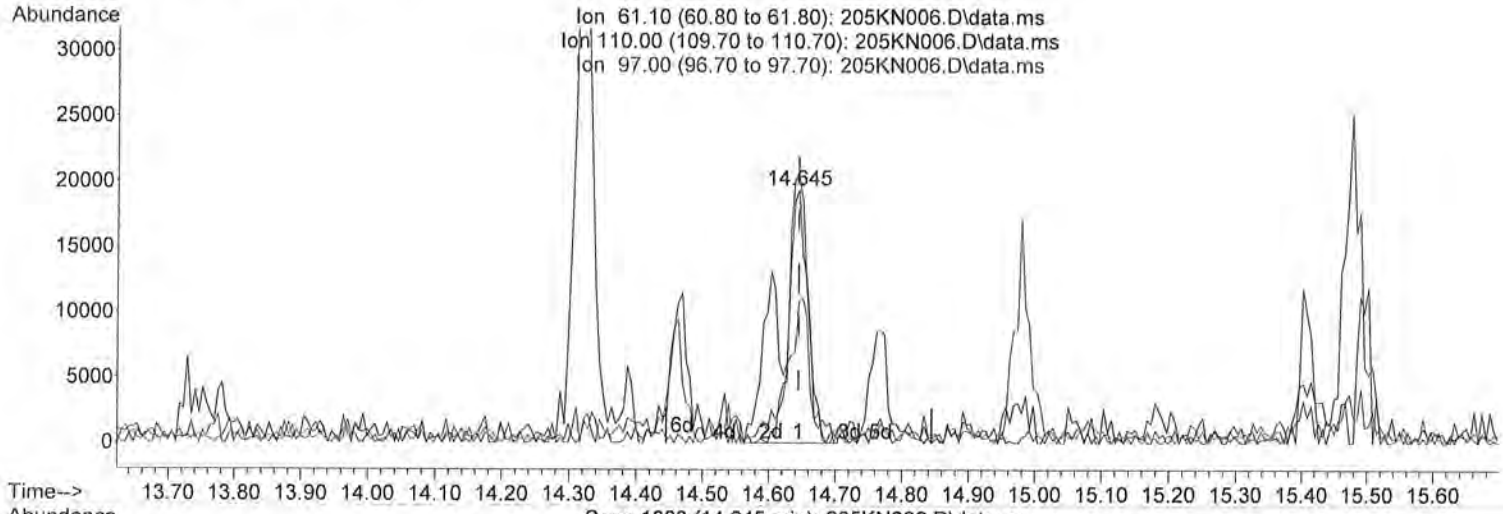
Review by/Date 11/23/20

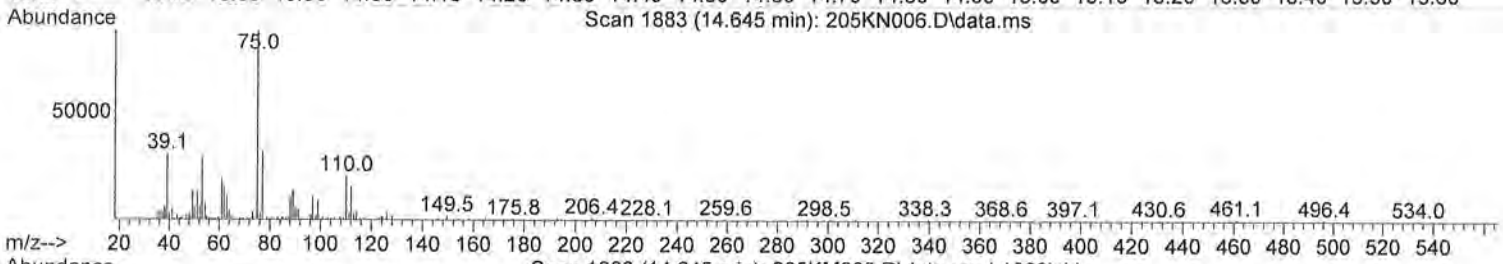
Review by/Date:

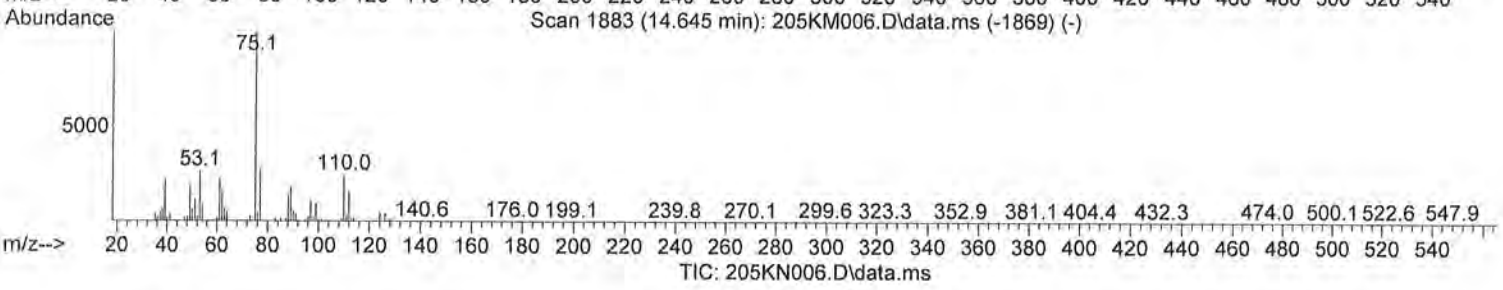
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN006.D
Acq On : 19 Nov 2020 10:18 am
Operator : KKW
Sample : CAL4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 19 12:13:19 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN006.D\data.ms

(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 8.20 ug/L m

response 59327

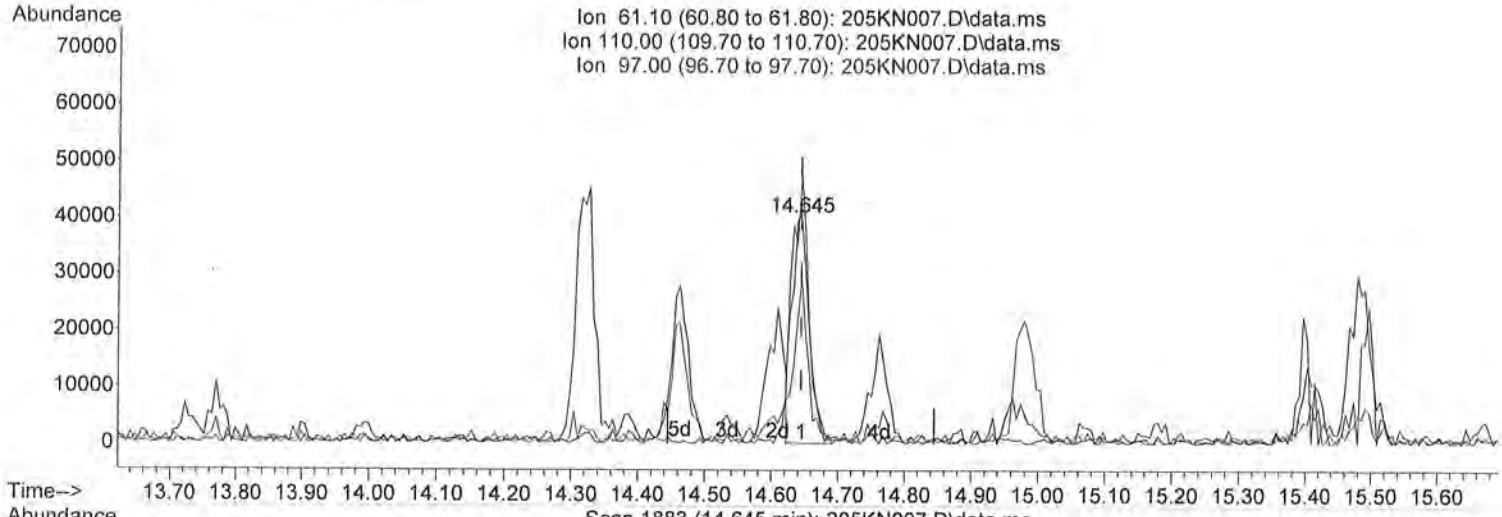
Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	69.22
97.00	45.60	44.49
0.00	0.00	0.00

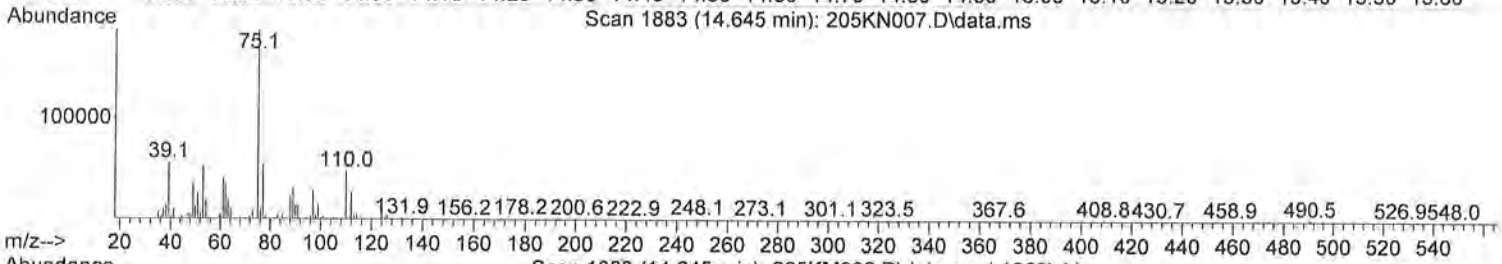
Select One:
[ ] Manual Integration
[ ] Integration:
[ ] peak selection (peak tailing, baseline selection)
[ ] peak selection/Peak not found
[ ] Hump Integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date 11/23/20
Review by/Date:

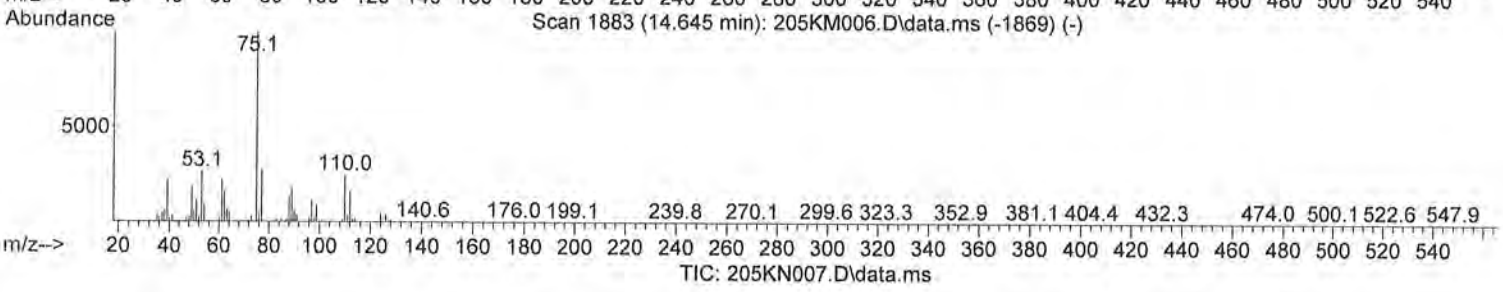
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN007.D
Acq On : 19 Nov 2020 10:49 am
Operator : KKW
Sample : CAL5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 19 12:13:23 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN007.D\data.ms

(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 9.98 ug/L

response 72138

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	122.36#
97.00	45.60	76.42#
0.00	0.00	0.00

Select One:

[X] Manual Integration [ ] Manual Integration

[ ] Reason for manual integration:

[ ] Poor peak resolution (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Co-elution

[ ] Valley drop for split peaks

[ ] ISTD reintegration

[ ] Other:

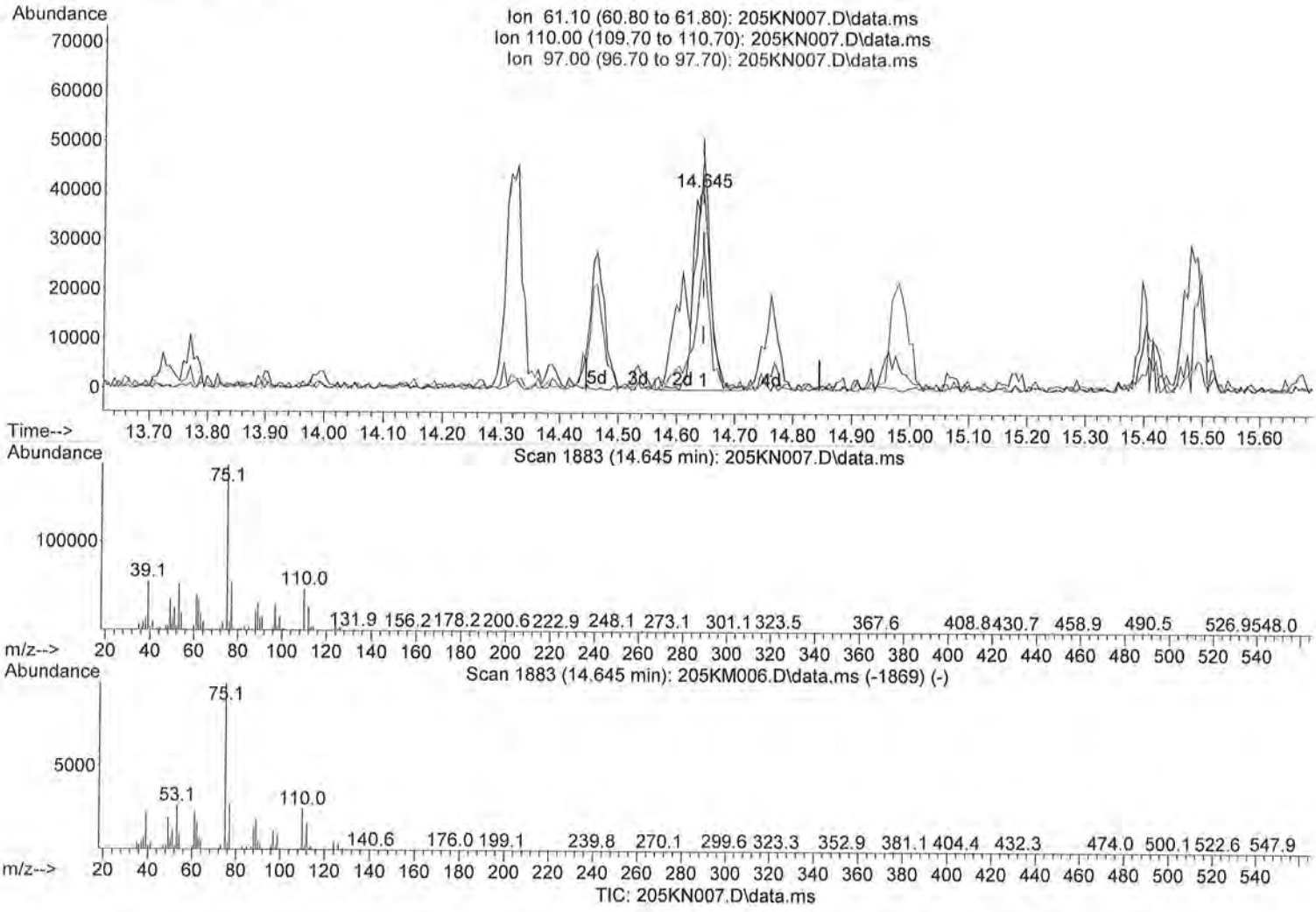
Review by/Date W 11/20/20

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN007.D
Acq On : 19 Nov 2020 10:49 am
Operator : KKW
Sample : CAL5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 19 12:13:23 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 15.74 ug/L m

response 113773

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	77.58
97.00	45.60	48.45
0.00	0.00	0.00

Select One:

[ ] Manual Integration

[ ] Integration:

[ ] (peak tailing, baseline selection)

[ ] Peak not found

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

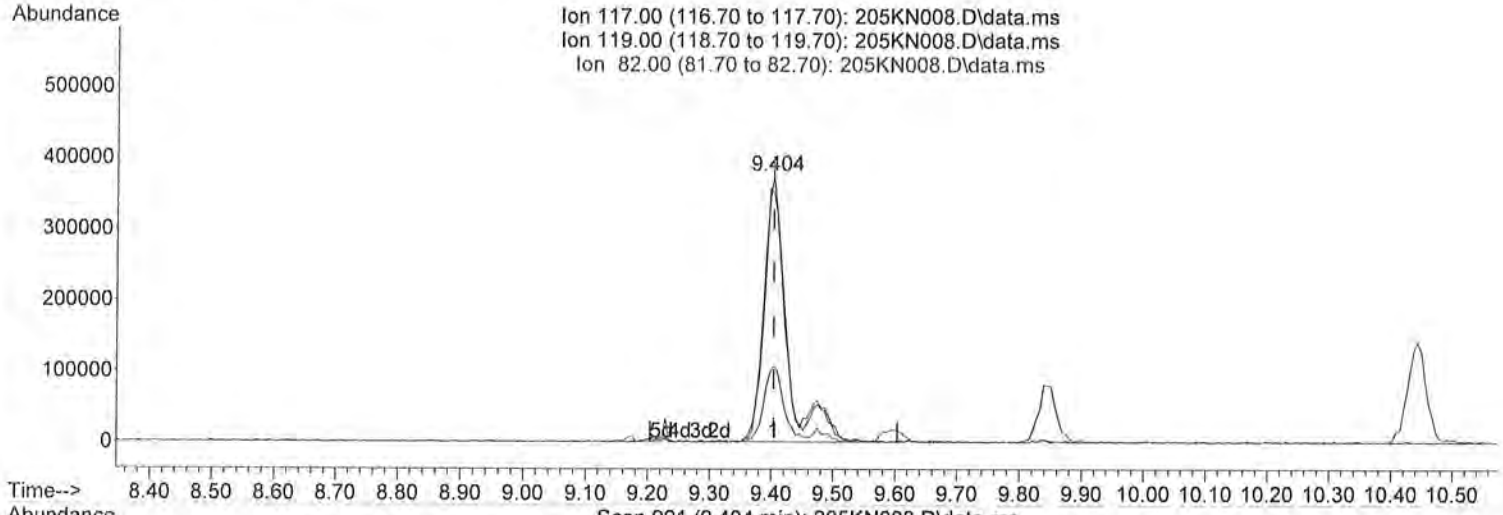
Review by/Date

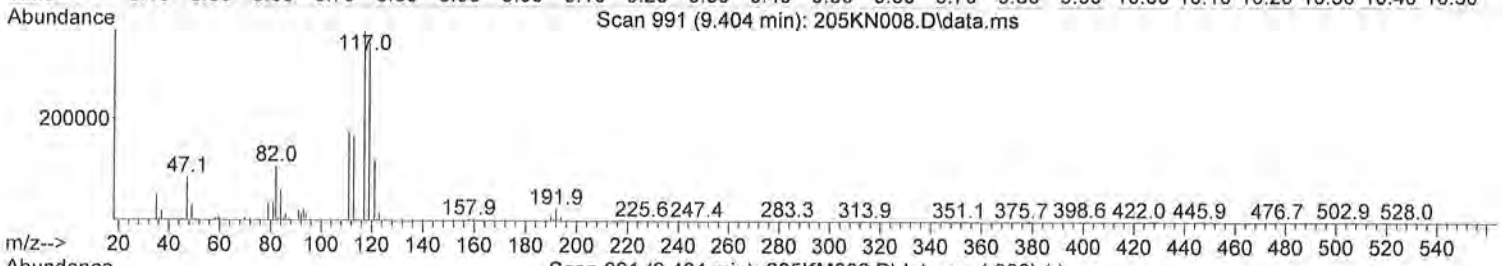
Review by/Date:

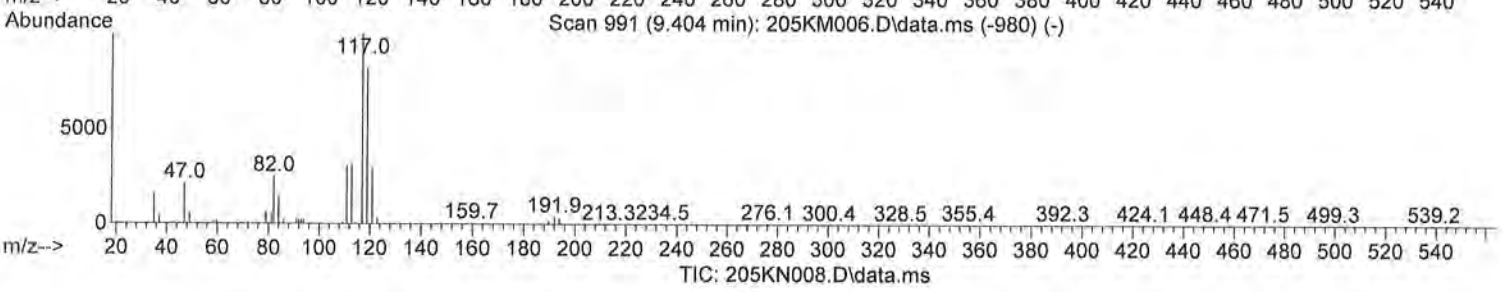
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN008.D
Acq On : 19 Nov 2020 11:20 am
Operator : KKW
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 19 12:13:26 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN008.D\data.ms

(40) Carbon Tetrachloride

9.404min (+ 0.000) 63.70 ug/L

response 983486

Ion	Exp%	Act%
117.00	100.00	100.00
119.00	93.20	93.44
82.00	27.60	24.71
0.00	0.00	0.00

Select One:

[X] Manual integration

[X] Other: (peak not found, baseline selection)

[ ] Peak not found

[ ] Baseline drop for spot peaks

[ ] IS ID reintegration

[ ] Other:

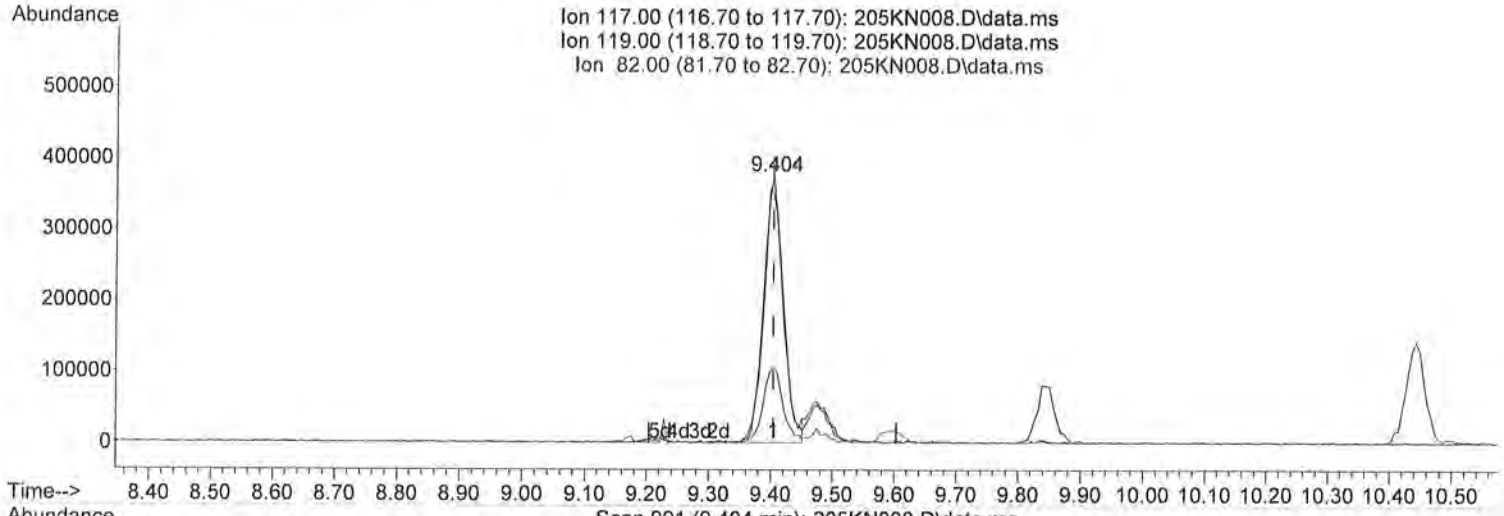
Review by/Date: KJ 11/19/20

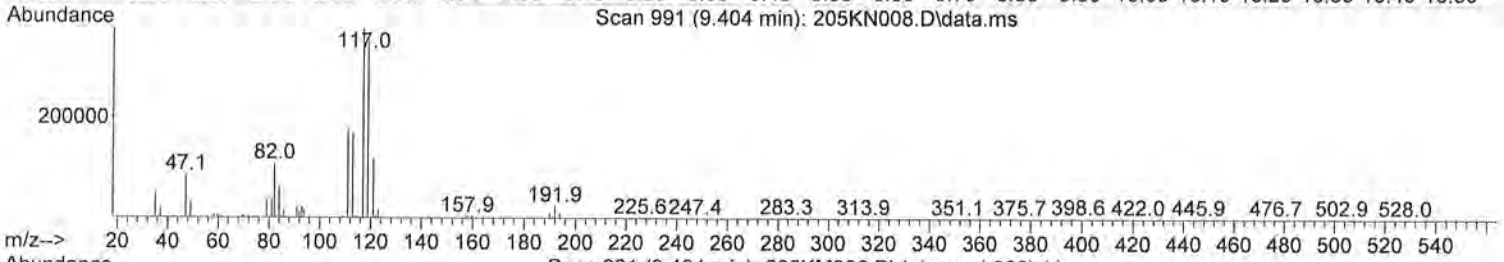
Review by/Date:

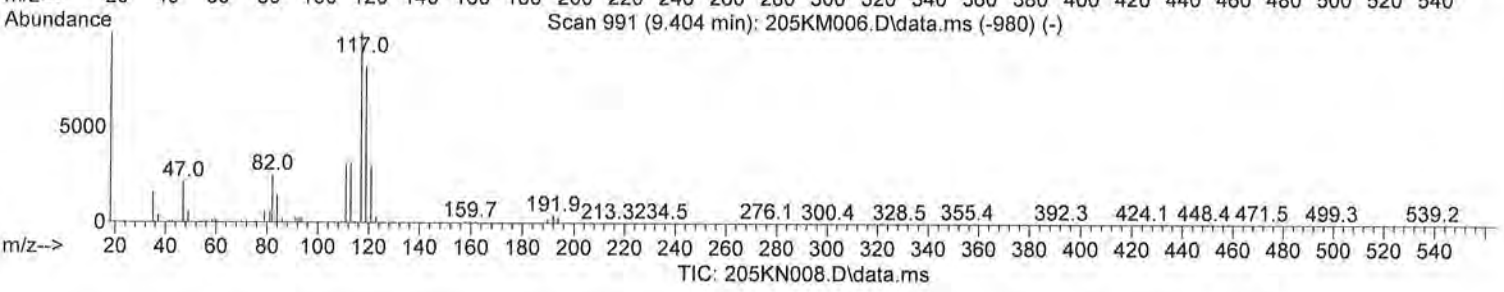
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN008.D
Acq On : 19 Nov 2020 11:20 am
Operator : KKW
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 19 12:13:26 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN008.D\data.ms

(40) Carbon Tetrachloride

9.404min (+ 0.000) 54.69 ug/L m

response 844268

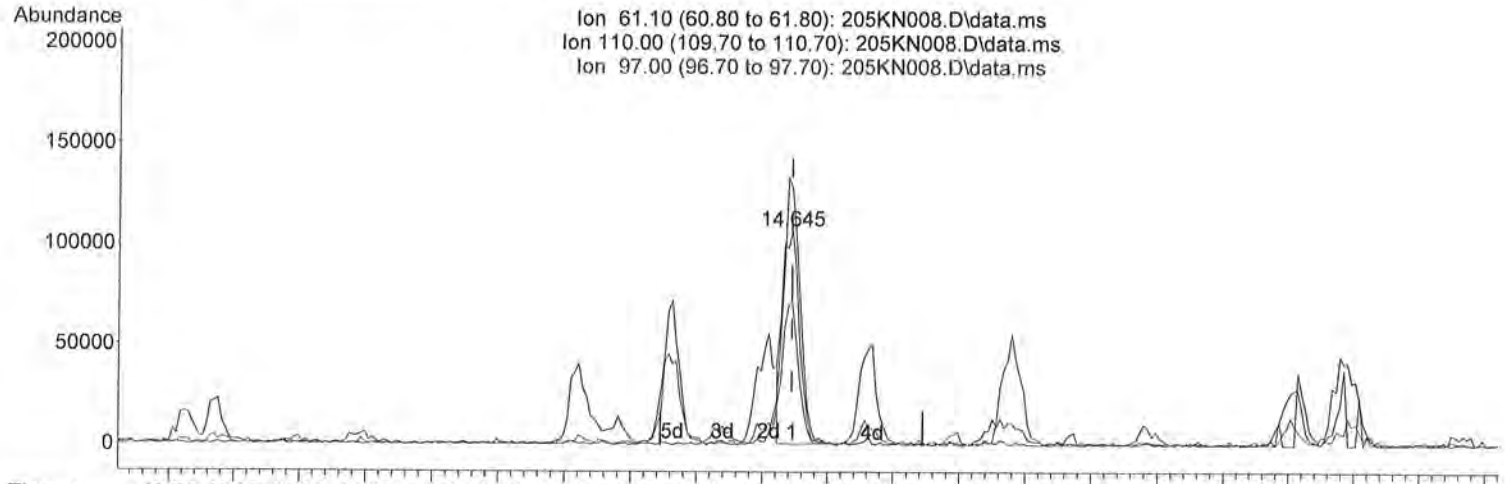
Ion	Exp%	Act%
117.00	100.00	100.00
119.00	93.20	108.85
82.00	27.60	28.79
0.00	0.00	0.00

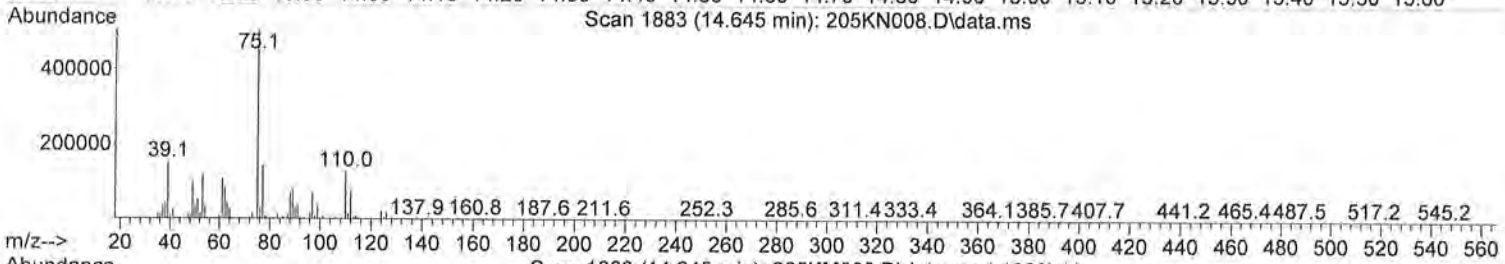
Select Item:
[ ] Omit integration [X] Manual Integration
Select reason for manual integration:
[X] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date W 11/20/20
Review by/Data:

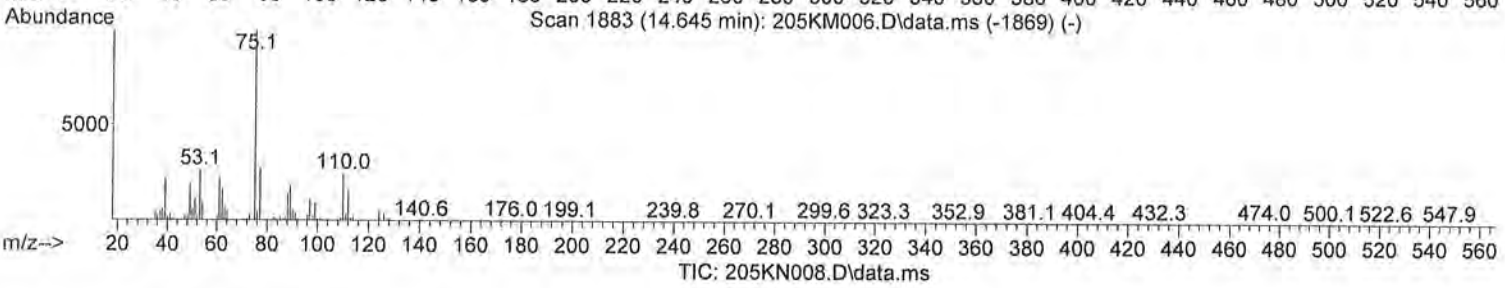
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN008.D
Acq On : 19 Nov 2020 11:20 am
Operator : KKW
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 19 12:13:26 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN008.D\data.ms

(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 26.33 ug/L

response 194191

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	128.20#
97.00	45.60	76.22#
0.00	0.00	0.00

Select One:

[ ] Manual Integration

[ ] Other (peak selection/Peak not found

[ ] Baseline drop for spilt peaks

[ ] ISTD reintegration

[ ] Other:

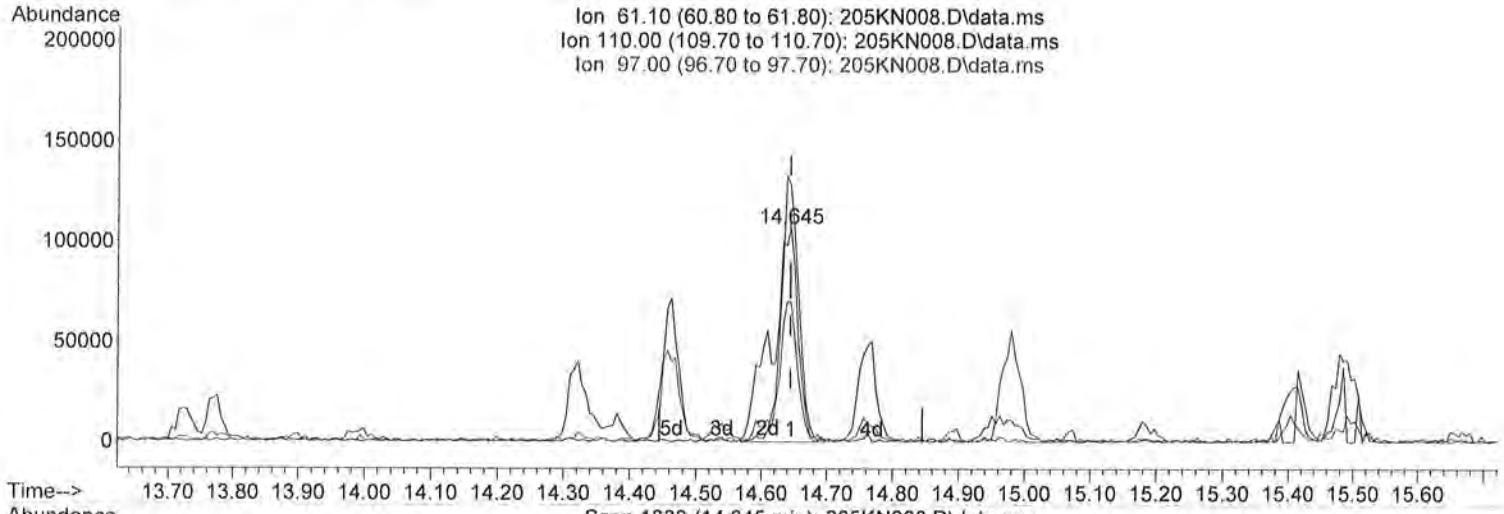
Review by/Date W 11/20/20

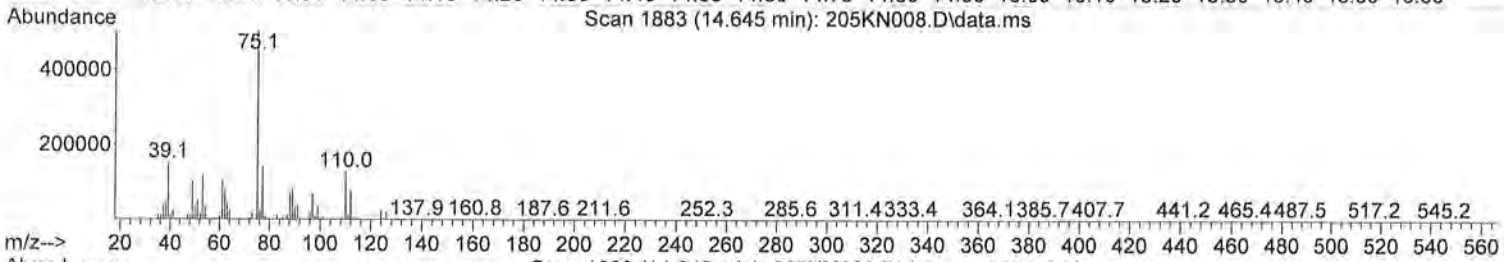
Review by/Date:

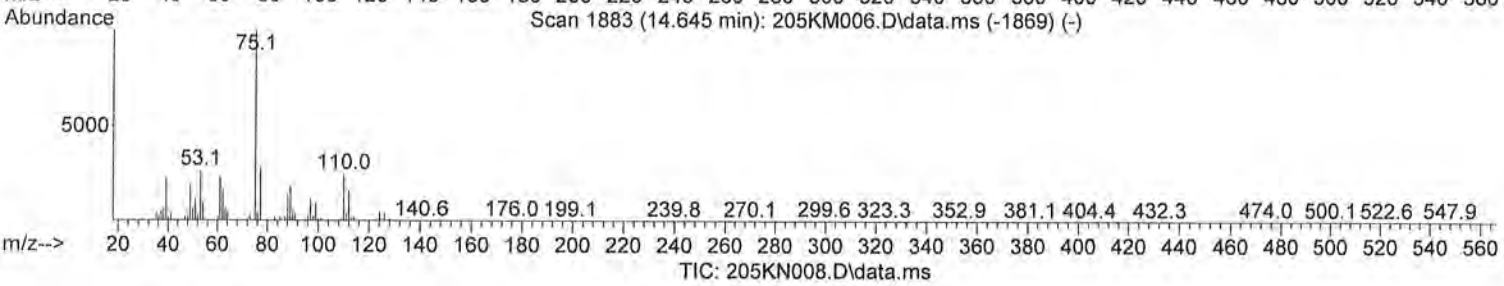
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN008.D
Acq On : 19 Nov 2020 11:20 am
Operator : KKW
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 19 12:13:26 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN008.D\data.ms

(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 40.84 ug/L m

response 301262

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	82.64
97.00	45.60	49.13
0.00	0.00	0.00

Select Case:

[ ] Correct as is / Manual Integration

[ ] Reintegrate (peak finding, baseline selection)

[ ] Incorrect Peak Selection/Peak not found

[ ] Change Integration

[ ] Baseline drop (or split peaks

[ ] IS I.D. reintegration

[ ] Other:

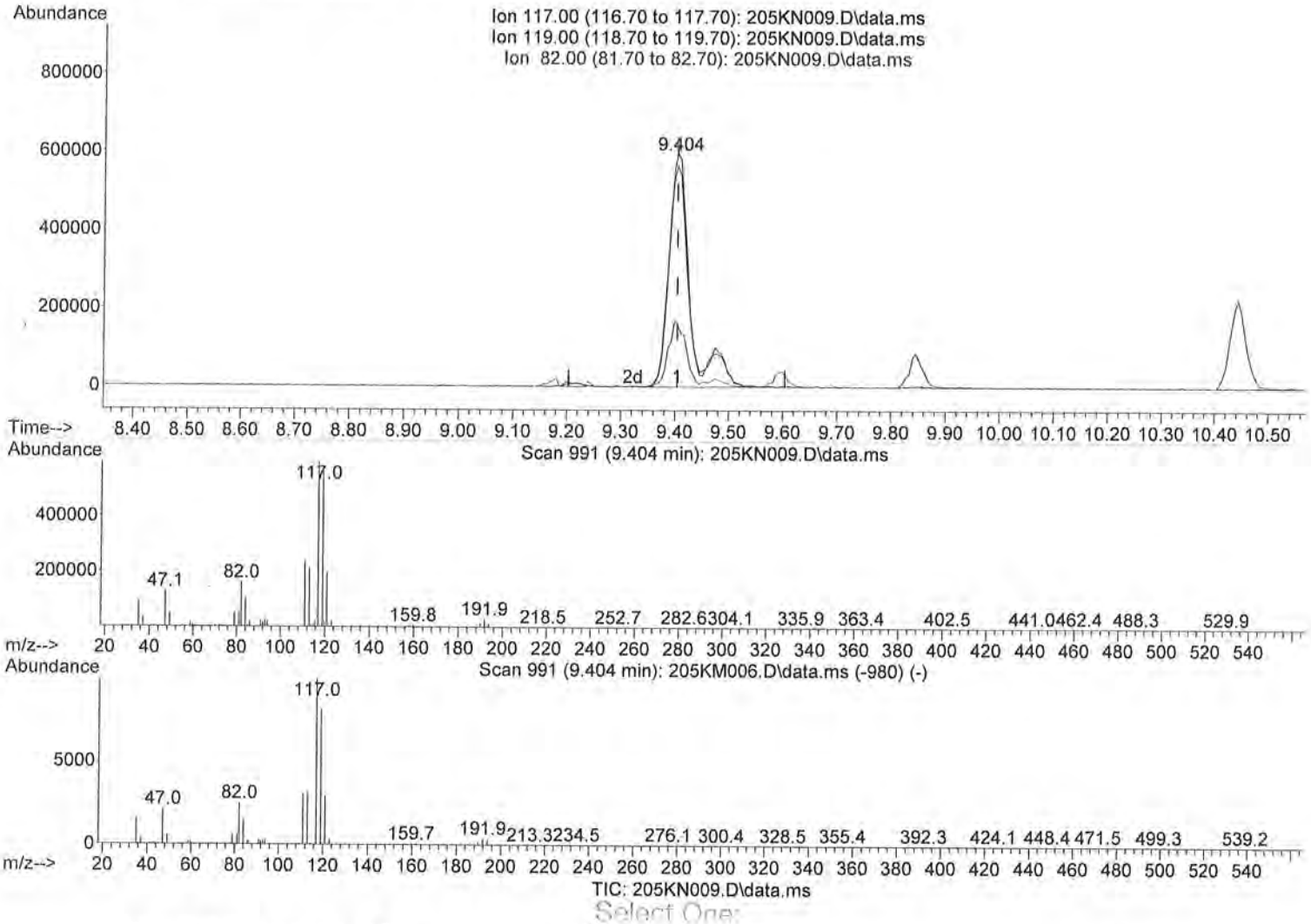
Review by/Date W 11/20

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN009.D
Acq On : 19 Nov 2020 11:51 am
Operator : KKW
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 19 12:26:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



TIC: 205KN009.D\data.ms

(40) Carbon Tetrachloride

9.404min (+ 0.000) 107.51 ug/L

response 1638930

Ion	Exp%	Act%
117.00	100.00	100.00
119.00	93.20	81.21
82.00	27.60	26.61
0.00	0.00	0.00

Select One:

[ ] Other:

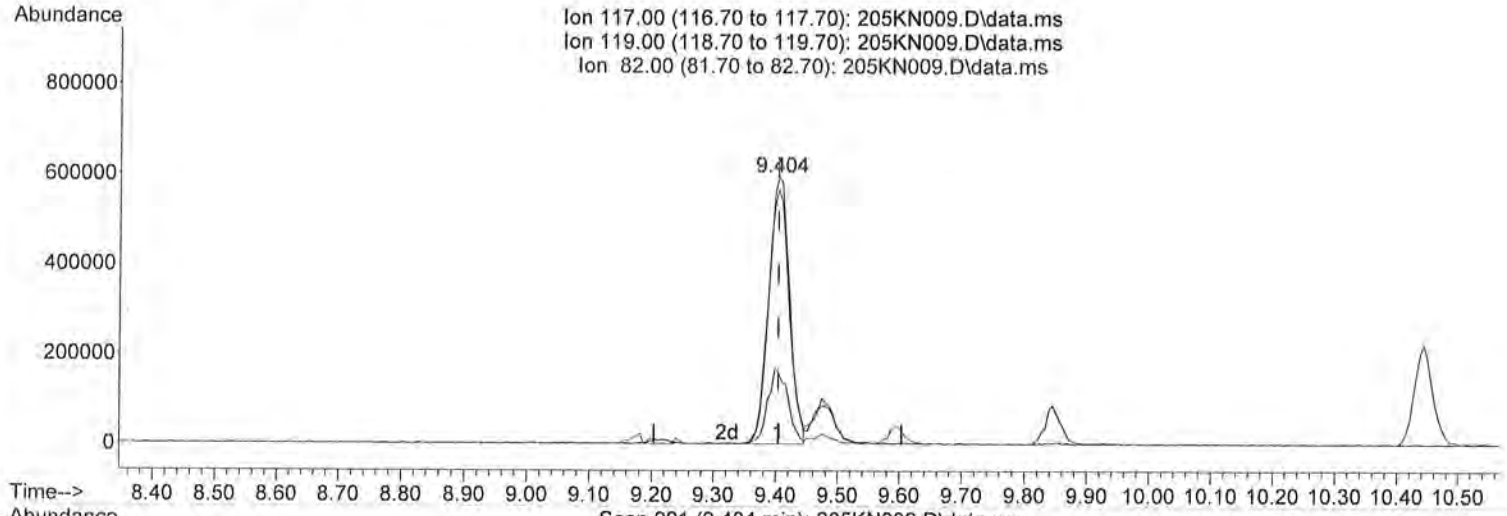
Review by/Date W 11/20/20

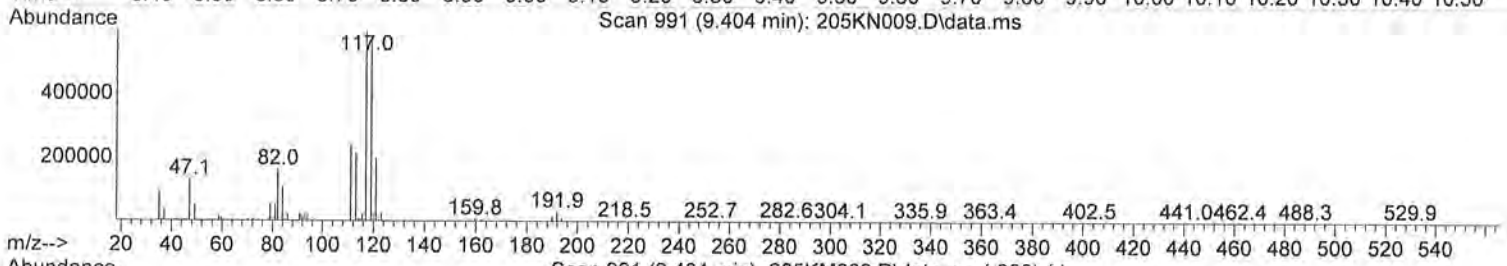
Review by/Date:

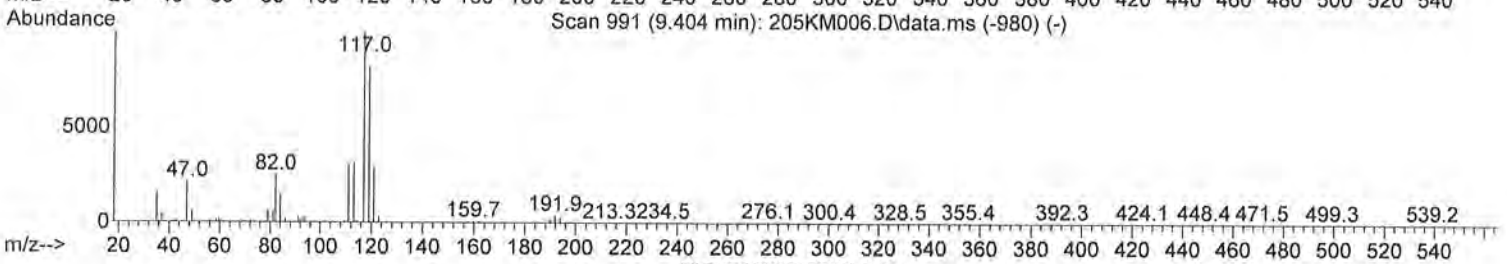
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN009.D
Acq On : 19 Nov 2020 11:51 am
Operator : KKW
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 19 12:26:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN009.D\data.ms

(40) Carbon Tetrachloride

9.404min (+ 0.000) 91.88 ug/L m

response 1400654

Ion	Exp%	Act%
117.00	100.00	100.00
119.00	93.20	95.03
82.00	27.60	31.13
0.00	0.00	0.00

11/23/20

Select Qua

[ ] Other:

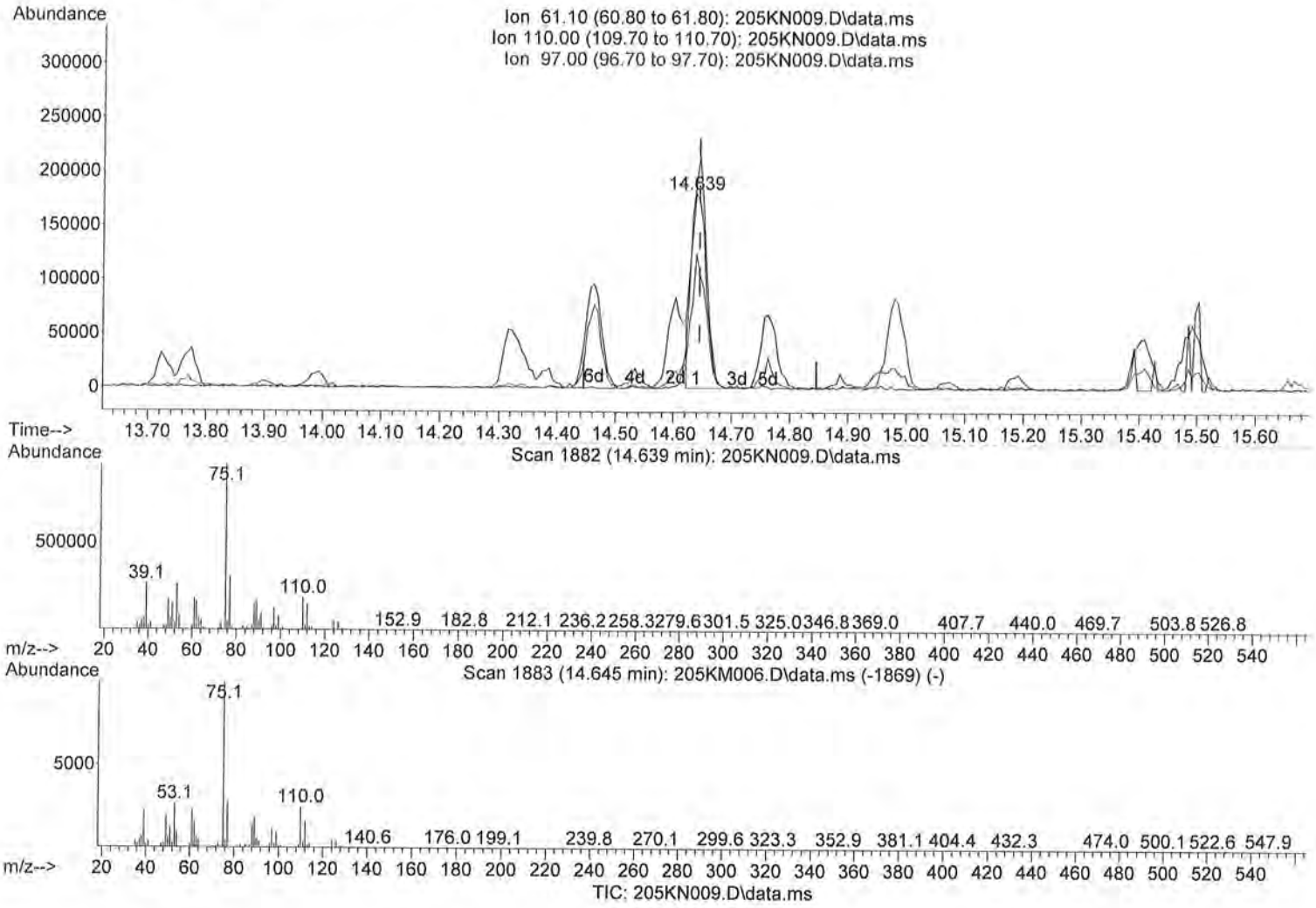
Review by/Date: 11/23/20

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN009.D
Acq On : 19 Nov 2020 11:51 am
Operator : KKW
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 19 12:26:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



TIC: 205KN009.D\data.ms

(77) 1,2,3-Trichloropropane

14.639min (-0.006) 43.53 ug/L

response 321564

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	120.75#
97.00	45.60	76.71#
0.00	0.00	0.00

Select One:

[X] [illegible] integration

[X] [illegible] baseline selection)

[illegible] peak not found

[illegible] for split peaks

[ ] Manual integration

[ ] Other:

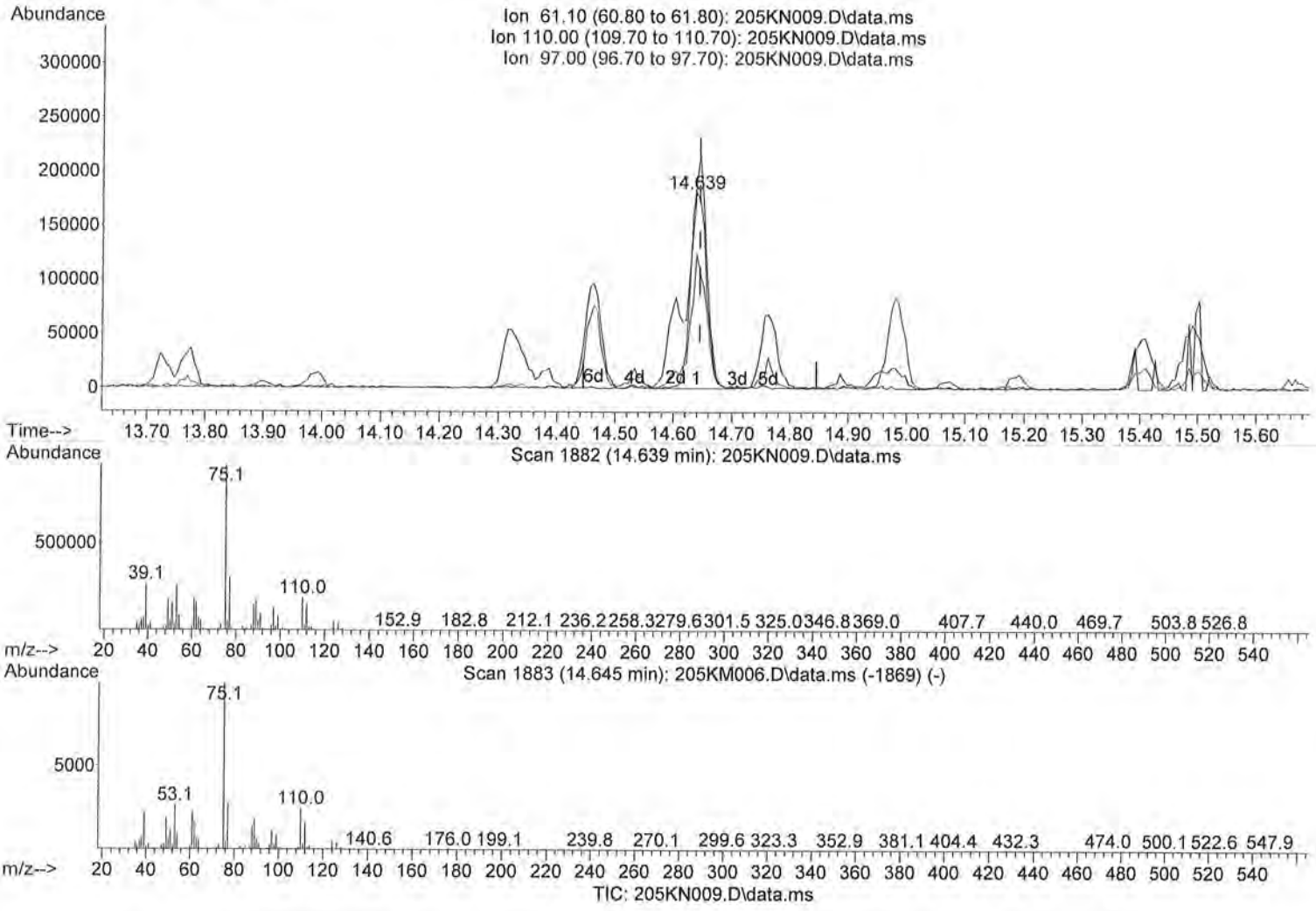
Review by/Date: [illegible] 11/20/20

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN009.D
Acq On : 19 Nov 2020 11:51 am
Operator : KKW
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 19 12:26:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



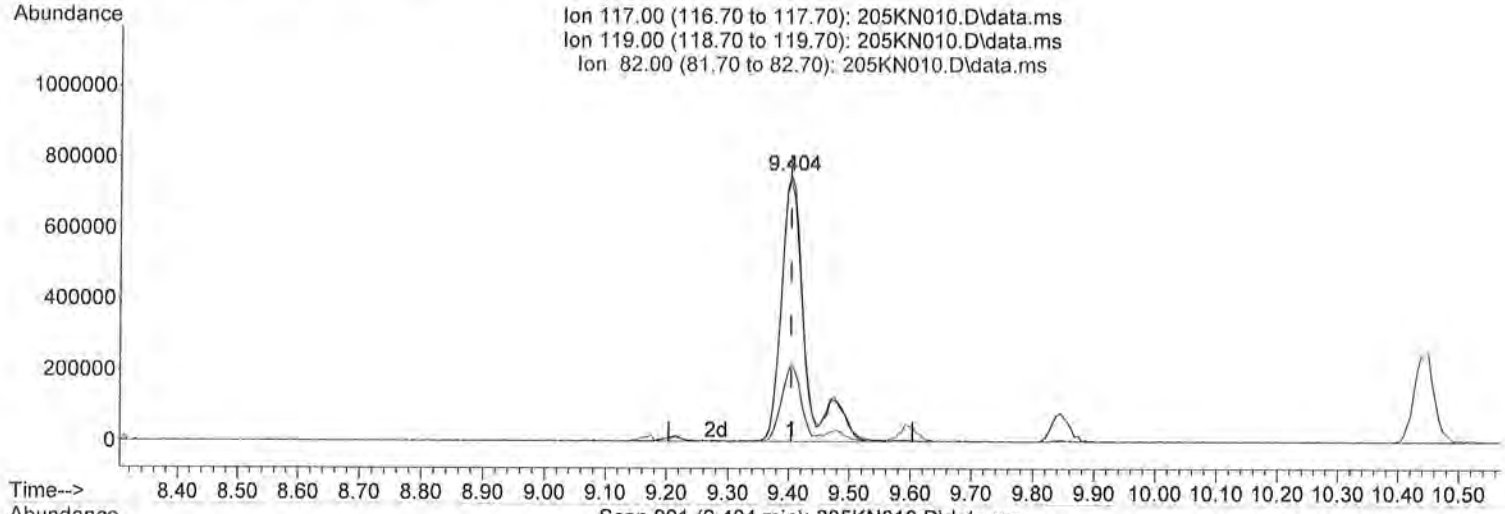
(77) 1,2,3-Trichloropropane		
14.639min (-0.006)	66.05 ug/L m	
response	487875	
Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	79.59
97.00	45.60	50.56
0.00	0.00	0.00

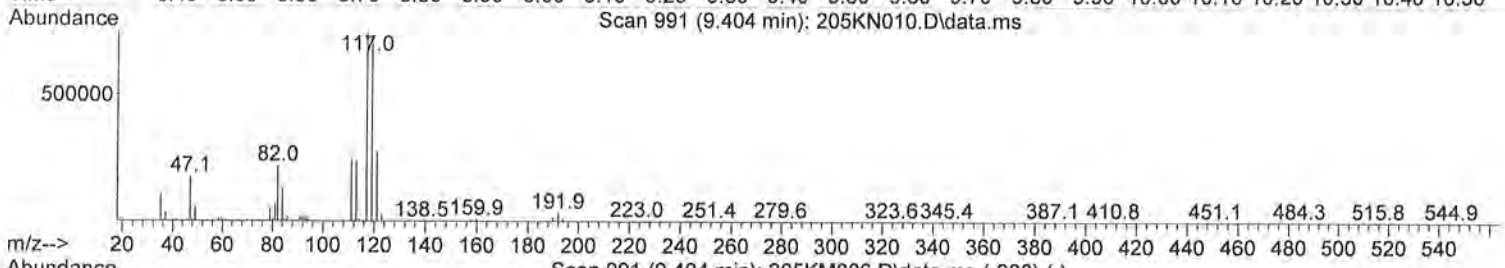
Select One:
[ ] Original Integration [X] Manual Integration
Sat
[ ] Unsat
Review by/Date W 11/20/20
Review by/Date:

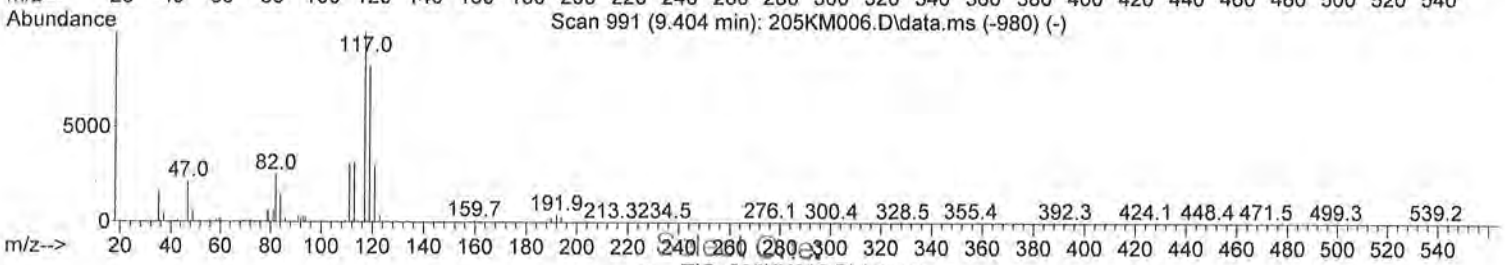
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN010.D
Acq On : 19 Nov 2020 12:22 pm
Operator : KKW
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 19 12:45:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN010.D\data.ms

(40) Carbon Tetrachloride

9.404min (+ 0.000) 137.08 ug/L

response 2070325

Ion	Exp%	Act%
117.00	100.00	100.00
119.00	93.20	95.53
82.00	27.60	26.74
0.00	0.00	0.00

[X] Original Integration [ ] Manual Integration

Select reason for manual integration

[ ] Other

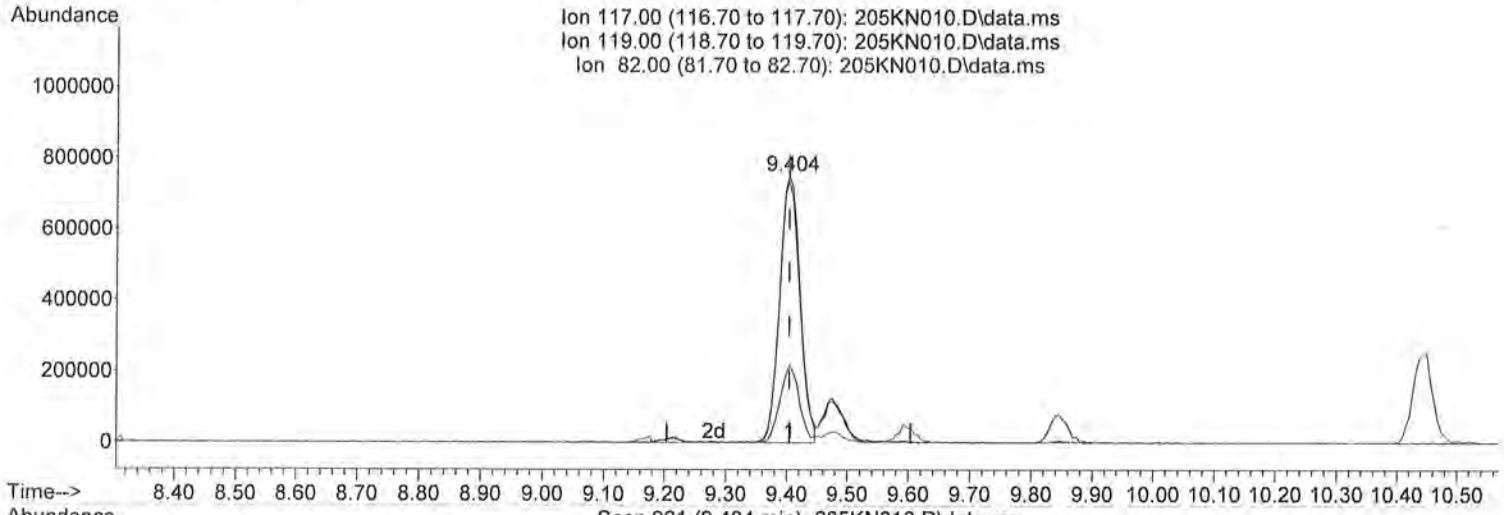
Review by/Date: 11/20/20

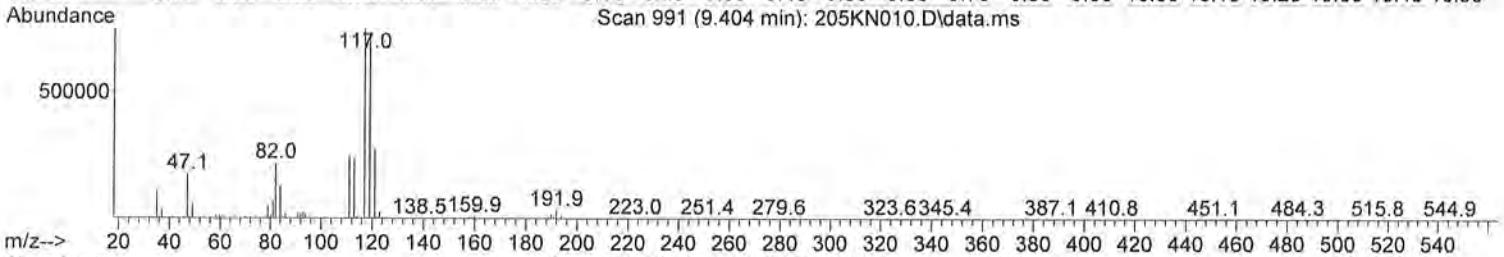
Review by/Date:

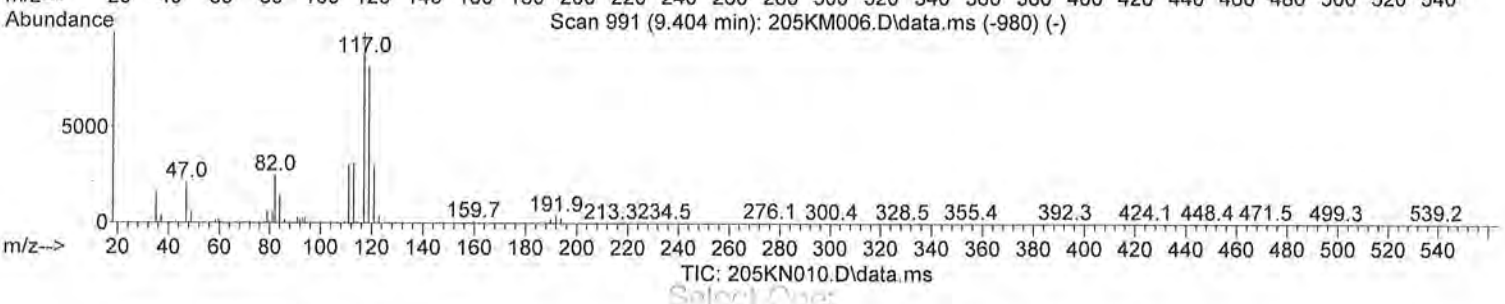
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN010.D
Acq On : 19 Nov 2020 12:22 pm
Operator : KKW
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 19 12:45:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN010.D\data.ms

(40) Carbon Tetrachloride

9.404min (+ 0.000) 116.24 ug/L m

response 1755533

Ion	Exp%	Act%
117.00	100.00	100.00
119.00	93.20	112.66#
82.00	27.60	31.54
0.00	0.00	0.00

Select One:

[ ] Manual Integration

[ ] Manual Integration:

[ ] Incorrect (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Reintegration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

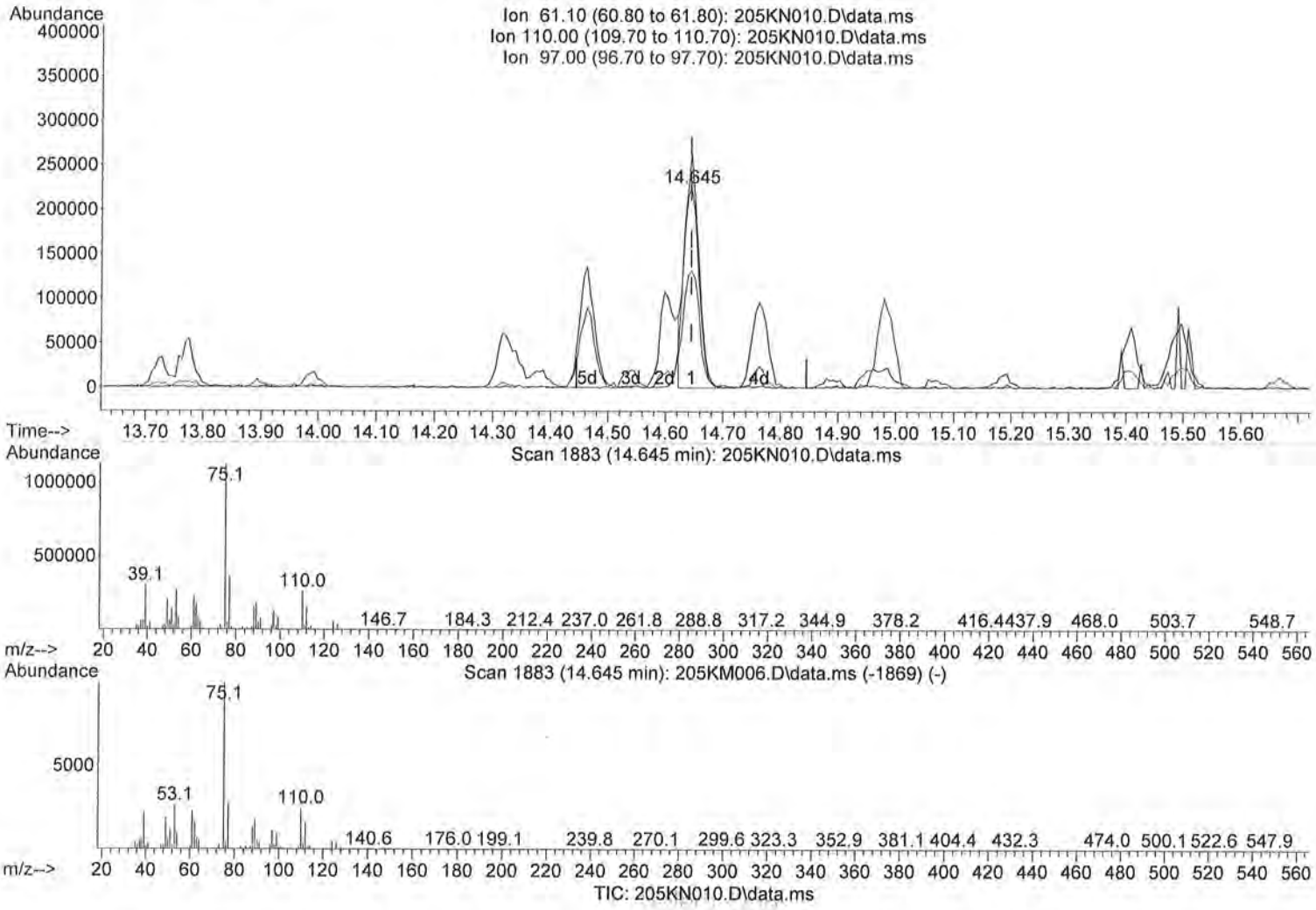
Review by/Date: W 11/20/20

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN010.D
Acq On : 19 Nov 2020 12:22 pm
Operator : KKW
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 19 12:45:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 54.53 ug/L

response 415382

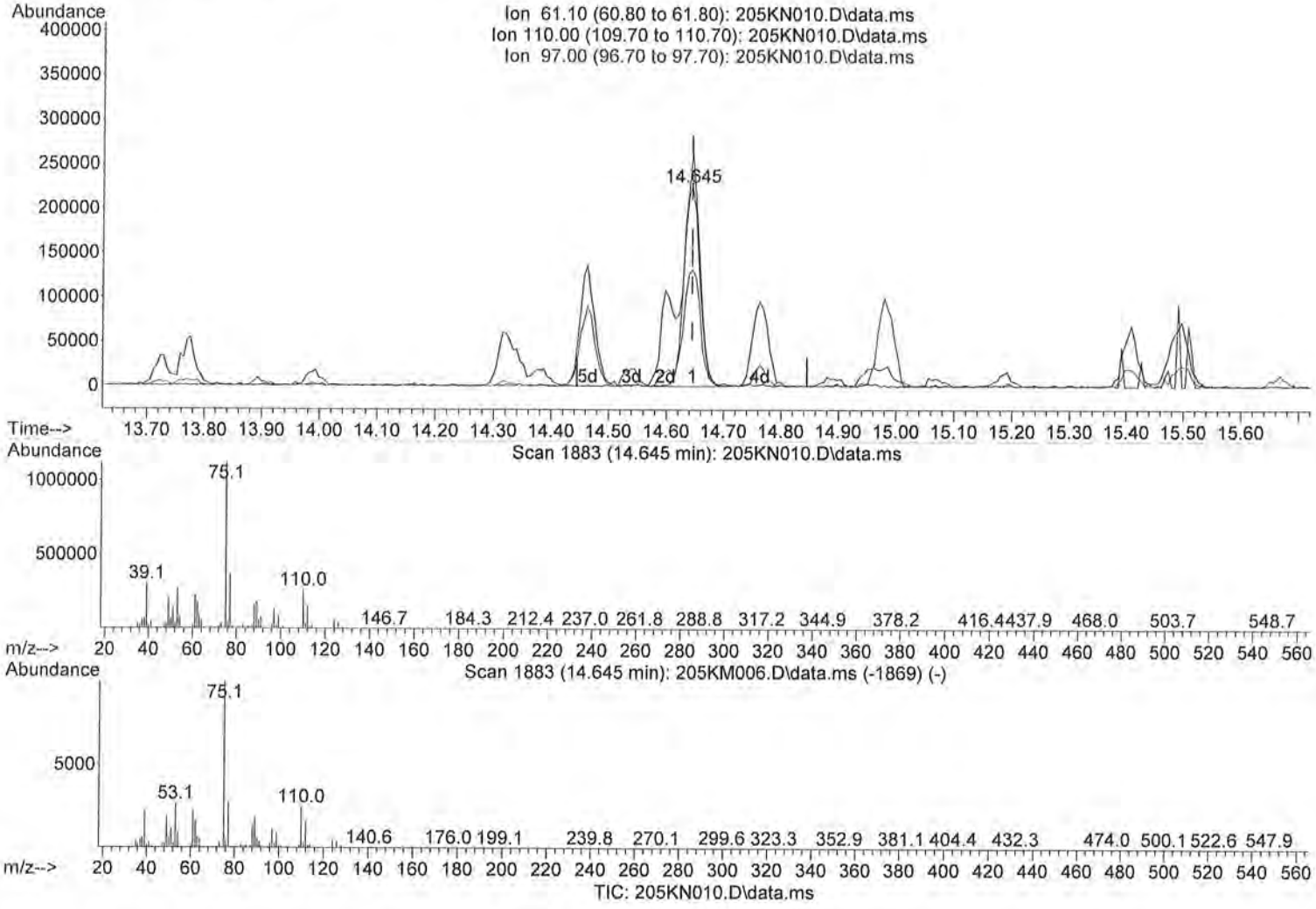
Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	115.68#
97.00	45.60	72.11#
0.00	0.00	0.00

[ ] Manual Integration
[ ] Reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date W 11/20/20
Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN010.D
Acq On : 19 Nov 2020 12:22 pm
Operator : KKW
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 19 12:45:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 81.80 ug/L m

response 623122

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	77.12
97.00	45.60	48.07
0.00	0.00	0.00

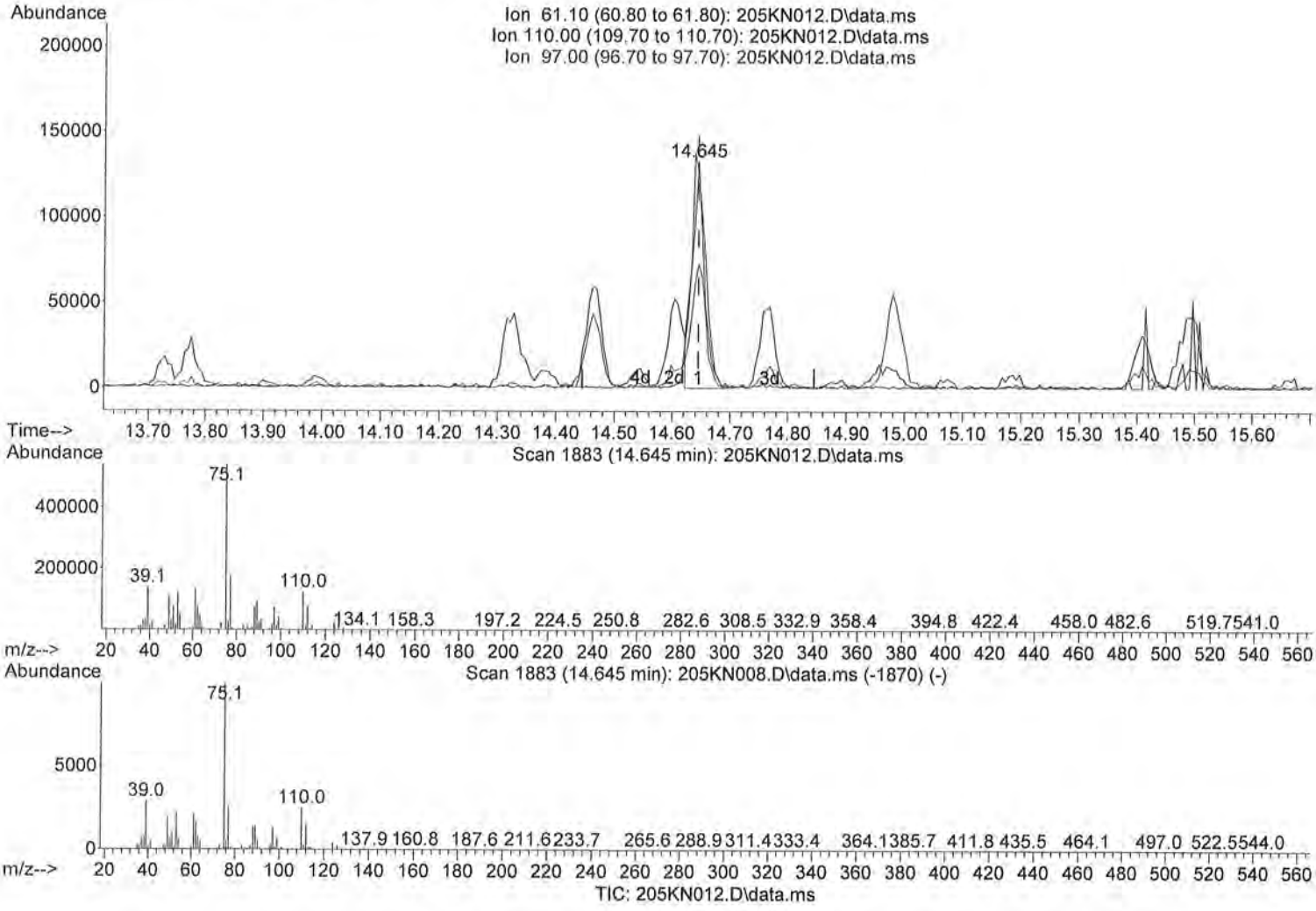
Manual Integration

111920W.M Thu Nov 19 12:46:41 2020 Page: 1

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN012.D
Acq On : 19 Nov 2020 1:24 pm
Operator : KKW
Sample : SCV
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Nov 20 07:34:48 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 13:02:55 2020
Response via : Initial Calibration



(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 31.90 ug/L

response 194193

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.60	122.25#
97.00	49.10	75.45#
0.00	0.00	0.00

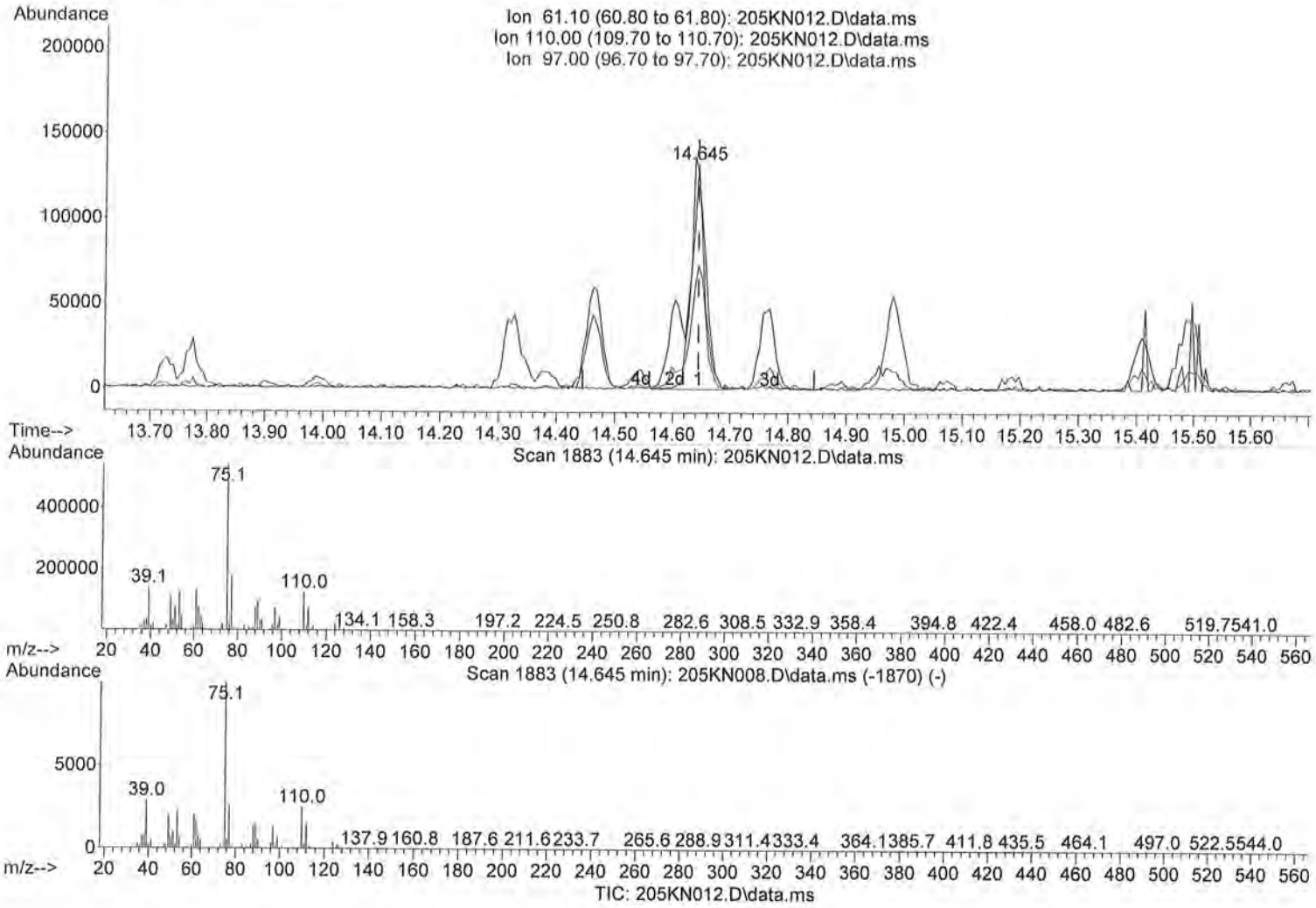
Select One:

[ ] Manual Integration
[ ] Other:
Review by/Date
Review by/Date

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN012.D
Acq On : 19 Nov 2020 1:24 pm
Operator : KKW
Sample : SCV
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Nov 20 07:34:48 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 13:02:55 2020
Response via : Initial Calibration



(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 47.38 ug/L m

response 288427

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.60	82.31
97.00	49.10	50.80
0.00	0.00	0.00

Select One:

[] Original Integration [X] Manual Integration

Select reason for manual integration

[X]

[] Other:

Review by/Date

Review by/Date:

Compound List Report OVGCMS5

Method Path : C:\msdchem\1\methods\
Method File : 111920W.M
Title : ENCO SOP VGCMS05; Element Cal
Last Update : Thu Nov 19 13:02:55 2020
Response Via : Initial Calibration

Total Cpnds : 96

PK#	Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1 I	PENTAFLUOROBENZENE (IS)	168	9.845	1.000	A	3	A	B
2	Dichlorodifluoromethane	85	3.969	0.403	A	2	A	B
3 P	Chloromethane	50	4.392	0.446	A	1	A	B
4 C	Vinyl Chloride	62	4.574	0.465	A	1	A	B
5	Bromomethane	94	5.221	0.530	QO	2	A	B
6	Chloroethane	64	5.421	0.551	LO	2	A	B
7	Trichlorofluoromethane	101	5.679	0.577	A	2	A	B
8	Diethyl ether	59	6.173	0.627	A	2	A	B
9 C	1,1-Dichloroethene	96	6.519	0.662	A	2	A	B
10	Trichlorotrifluoroethane	151	6.543	0.665	A	2	A	B
11	Acrolein	56	7.007	0.712	A	1	A	B
12	Iodomethane	142	6.766	0.687	LO	2	A	B
13	Carbon Disulfide	76	6.613	0.672	A	2	A	B
14	3-chloropropene	41	7.183	0.730	LO	2	A	B
15	Acetone	43	7.389	0.751	LO	1	A	R
16	Methylene Chloride	84	7.330	0.745	LO	1	A	R
17	Methyl Acetate	43	7.512	0.763	LO	2	A	B
18	t-1,2-Dichloroethene	96	7.542	0.766	A	2	A	B
19	Methyl tert-butyl ether	73	7.624	0.774	A	2	A	B
20	Acetonitrile	41	8.006	0.813	LO	2	A	B
21	Isopropyl ether	45	8.047	0.817	A	2	A	B
22	Chloroprene	88	8.264	0.839	A	2	A	B
23 P	1,1-Dichloroethane	63	8.305	0.844	A	3	A	B
24	Acrylonitrile	53	8.376	0.851	A	2	A	B
25	Vinyl Acetate	43	8.529	0.866	A	1	A	B
26	c-1,2-Dichloroethene	96	8.940	0.908	A	2	A	B
27	2,2-Dichloropropane	77	9.063	0.921	QO	2	A	B
28	Bromochloromethane	128	9.175	0.932	A	1	A	B
29	Cyclohexane	56	9.181	0.933	LO	2	A	B
30 C	Chloroform	83	9.210	0.936	A	2	A	B
31 S	Dibromofluoromethane	113	9.416	0.956	A	2	A	B
32	Dibromofluoromethane	113	9.428	0.958	A	2	A	B
33	2-Butanone	72	9.539	0.969	QO	1	A	R
34	1,1,1-Trichloroethane	97	9.481	0.963	A	2	A	B
35	1,1-Dichloropropene	75	9.592	0.974	A	2	A	B
36	Propionitrile	54	9.892	1.005	A	2	A	B
37	Methacrylonitrile	41	9.904	1.006	A	1	A	R
38	Isobutyl Alcohol	43	9.898	1.005	A	2	A	B
39 I	1,4-DIFLUOROBENZENE (IS)	114	10.438	1.000	A	2	A	B
40	Carbon Tetrachloride	117	9.404	0.901	LO	2	A	B
41	Benzene	78	9.868	0.945	A	1	A	B
42	1,2-Dichloroethane	62	10.080	0.966	LO	2	A	B
43	Trichloroethene	130	10.444	1.001	A	2	A	B
44	Methyl cyclohexane	83	10.438	1.000	LO	2	A	B
45	Dibromomethane	93	10.891	1.043	A	2	A	B
46 C	1,2-Dichloropropane	63	10.973	1.051	QO	2	A	B
47	Bromodichloromethane	83	11.008	1.055	QO	2	A	B
48	Methyl Methacrylate	69	11.073	1.061	LO	2	A	B
49	1,4-Dioxane	88	11.190	1.072	LO	1	A	R
50	2-Chloroethyl vinyl ether	63	11.478	1.100	A	2	A	B
51	C-1,3-Dichloropropene	75	11.602	1.111	QO	2	A	B
52 S	D8-Toluene	98	11.772	1.128	A	2	A	B
53	D8-Toluene	98	11.778	1.128	A	2	A	B
54	4-Methyl-2-pentanone	100	12.125	1.162	LO	2	A	B

55	I	CHLOROBENZENE-D5 (IS)	82	13.217	1.000	A	2	A	B
56	C	Toluene	92	11.819	0.894	A	2	A	B
57		T-1,3-Dichloropropene	75	12.189	0.922	LO	2	A	B
58		Tetrachloroethene	164	12.201	0.923	LO	2	A	B
59		Ethyl methacrylate	69	12.236	0.926	LO	2	A	B
60		1,1,2-Trichloroethane	97	12.354	0.935	LO	2	A	B
61		Dibromochloromethane	129	12.542	0.949	QO	2	A	B
62		1,3-Dichloropropane	76	12.618	0.955	A	2	A	B
63		1,2-Dibromoethane	107	12.806	0.969	A	2	A	B
64		2-Hexanone	43	12.871	0.974	A	2	A	B
65	C	Ethylbenzene	106	13.200	0.999	LO	2	A	B
66	P	Chlorobenzene	112	13.235	1.001	A	1	A	B
67		1,1,1,2-Tetrachloroethane	131	13.270	1.004	A	2	A	B
68		m-xylene & p-xylene	106	13.317	1.008	A	1	A	B
69		o-xylene	106	13.729	1.039	A	1	A	B
70		Styrene	104	13.770	1.042	A	2	A	B
71	P	Bromoform	173	13.870	1.049	QO	1	A	B
72		Isopropylbenzene	105	13.987	1.058	A	2	A	B
73	S	Bromofluorobenzene	95	14.322	1.084	A	2	A	B
74		Bromofluorobenzene	95	14.322	1.084	A	2	A	B
75		n-Propylbenzene	91	14.381	1.088	A	2	A	B
76	P	1,1,2,2-Tetrachloroethane	83	14.463	1.094	A	3	A	B
77		1,2,3-Trichloropropane	61	14.645	1.108	A	2	A	B
78		T-1,4-Dichloro-2-Butene	53	14.346	1.085	LO	2	A	B
79	I	1,4-DICHLOROBENZENE-D4 (IS)	152	15.474	1.000	A	3	A	B
80		Bromobenzene	156	14.457	0.934	A	2	A	B
81		1,2,4-Trimethylbenzene	105	14.951	0.966	A	2	A	B
82		2-Chlorotoluene	91	14.604	0.944	A	2	A	R
83		4-Chlorotoluene	91	14.763	0.954	A	2	A	R
84		tert-Butylbenzene	119	14.892	0.962	A	2	A	B
85		1,3,5-Trimethylbenzene	105	14.539	0.940	A	2	A	B
86		p-Isopropyltoluene	119	15.186	0.981	A	2	A	B
87		s-Butylbenzene	105	15.068	0.974	A	2	A	B
88		1,3-Dichlorobenzene	146	15.409	0.996	A	2	A	R
89		1,4-Dichlorobenzene	146	15.497	1.002	A	2	A	R
90		n-Butylbenzene	91	15.668	1.013	A	2	A	B
91		1,2-Dichlorobenzene	146	16.014	1.035	A	2	A	B
92		DBCP	157	17.078	1.104	QO	1	A	B
93		Hexachlorobutadiene	225	17.965	1.161	QO	2	A	B
94		1,2,4-Trichlorobenzene	180	18.129	1.172	QO	2	A	B
95		Naphthalene	128	18.758	1.212	QO	2	A	B
96		1,2,3-Trichlorobenzene	180	19.146	1.237	QO	2	A	B

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

Compound Name Duplication Report

Quant Method: C:\msdchem\1\methods\111920W.M
Number of Compounds: 96

31 Dibromofluoromethane = 32 Dibromofluoromethane
52 D8-Toluene = 53 D8-Toluene
73 Bromofluorobenzene = 74 Bromofluorobenzene

3 Duplicate Names Detected!!!

111920W.M Fri Nov 20 09:31:15 2020

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN003.D
Acq On : 19 Nov 2020 8:46 am
Operator : KKW
Sample : CAL1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 19 12:13:03 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.851	168	1250058	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2384669	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.223	82	1608704	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.480	152	1323293	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.422	113	623489	70.75	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 141.50%#				
52) D8-Toluene	11.778	98	2961300	71.07	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 142.14%#				
73) Bromofluorobenzene	14.322	95	1515651	80.75	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 161.50%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.975	85	18296	1.05	ug/L		92
3) Chloromethane	4.398	50	24090	1.04	ug/L	#	64
4) Vinyl Chloride	4.575	62	15975	0.86	ug/L	#	40
5) Bromomethane	5.227	94	13720	3.79	ug/L	#	85
6) Chloroethane	5.444	64	12739	1.59	ug/L	#	87
7) Trichlorofluoromethane	5.679	101	19911	1.01	ug/L	#	38
8) Diethyl ether	6.184	59	12948	0.98	ug/L	#	54
9) 1,1-Dichloroethene	6.525	96	13263	1.04	ug/L	#	87
10) Trichlorotrifluoroethane	6.543	151	6524	0.76	ug/L	#	61
11) Acrolein	7.025	56	25649	6.51	ug/L		99
12) Iodomethane	6.778	142	40512	4.66	ug/L	#	89
13) Carbon Disulfide	6.613	76	203203	8.96	ug/L		95
14) 3-chloropropene	7.189	41	29238	1.45	ug/L	#	78
15) Acetone	7.401	43	20512	4.24	ug/L	#	82
16) Methylene Chloride	7.336	84	23731	0.91	ug/L	#	70
17) Methyl Acetate	7.530	43	18811	1.38	ug/L	#	94
18) t-1,2-Dichloroethene	7.536	96	15808	1.14	ug/L	#	1
19) Methyl tert-butyl ether	7.618	73	30197	0.83	ug/L	#	76
20) Acetonitrile	8.047	41	33337	11.03	ug/L	#	68
21) Isopropyl ether	8.053	45	42345	0.90	ug/L	#	90
22) Chloroprene	8.276	88	12782	1.01	ug/L	#	75
23) 1,1-Dichloroethane	8.311	63	28756	1.00	ug/L	#	95
24) Acrylonitrile	8.388	53	42630	5.96	ug/L		91
25) Vinyl Acetate	8.546	43	138673	4.83	ug/L	#	100
26) c-1,2-Dichloroethene	8.946	96	13851	0.87	ug/L	#	82
27) 2,2-Dichloropropane	9.069	77	24680	1.13	ug/L	#	71
28) Bromochloromethane	9.193	128	4358	0.77	ug/L	#	5
29) Cyclohexane	9.181	56	36143	1.30	ug/L		91
30) Chloroform	9.234	83	25212	0.94	ug/L	#	77
32) Dibromofluoromethane	9.422	113	623489	70.75	ug/L	#	84
33) 2-Butanone	9.563	72	11859	5.48	ug/L	#	52
34) 1,1,1-Trichloroethane	9.481	97	22143	1.02	ug/L	#	85
35) 1,1-Dichloropropene	9.604	75	24888	1.18	ug/L	#	94
36) Propionitrile	9.898	54	18232	7.06	ug/L	#	47
37) Methacrylonitrile	9.904	41	99844	8.86	ug/L		98
38) Isobutyl Alcohol	9.898	43	19639	12.58	ug/L	#	67
40) Carbon Tetrachloride	9.398	117	16992	1.09	ug/L	#	63
41) Benzene	9.880	78	65290	1.05	ug/L	#	80
42) 1,2-Dichloroethane	10.098	62	25267	1.28	ug/L		93
43) Trichloroethene	10.444	130	11606	0.88	ug/L	#	1
44) Methyl cyclohexane	10.438	83	61837	1.83	ug/L	#	78
45) Dibromomethane	10.897	93	8357	0.94	ug/L		90
46) 1,2-Dichloropropane	10.979	63	19883	1.09	ug/L	#	86
47) Bromodichloromethane	11.014	83	16171	0.95	ug/L	#	84
48) Methyl Methacrylate	11.096	69	9981	0.78	ug/L	#	86
49) 1,4-Dioxane	11.191	88	2274	7.99	ug/L	#	1
50) 2-Chloroethyl vinyl ether	11.484	63	38992	4.48	ug/L	#	91
51) C-1,3-Dichloropropene	11.602	75	18485	0.77	ug/L	#	74

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN003.D
Acq On : 19 Nov 2020 8:46 am
Operator : KKW
Sample : CAL1
Misc :
ALS Vial : 2 Sample Multiplier: 1

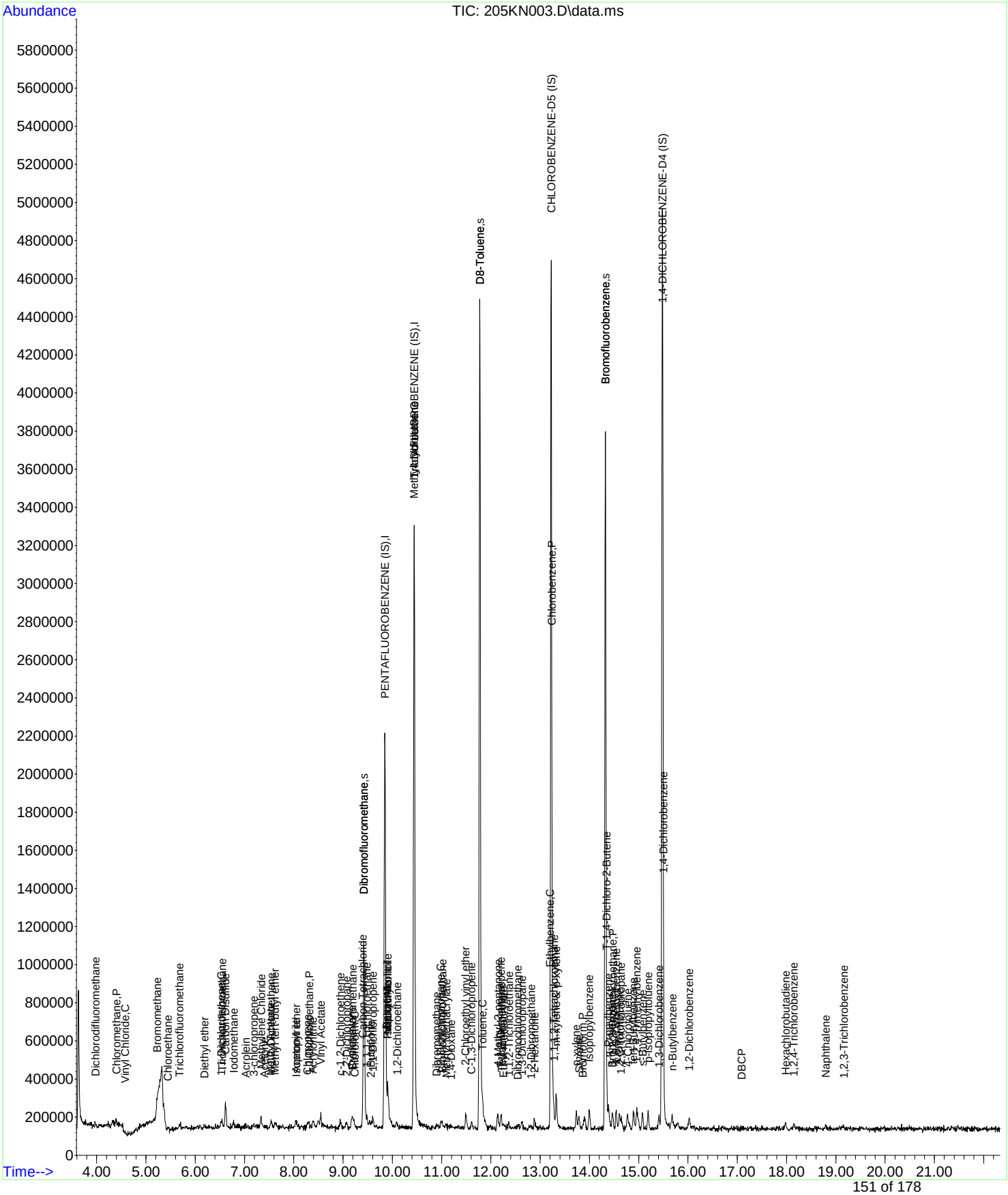
Quant Time: Nov 19 12:13:03 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	2961300	71.07	ug/L		97
54) 4-Methyl-2-pentanone	12.142	100	12783	5.15	ug/L	#	58
56) Toluene	11.831	92	41866	0.91	ug/L	#	79
57) T-1,3-Dichloropropene	12.201	75	18604	0.81	ug/L	#	81
58) Tetrachloroethene	12.219	164	11415	1.09	ug/L		89
59) Ethyl methacrylate	12.248	69	25350	1.17	ug/L	#	83
60) 1,1,2-Trichloroethane	12.366	97	13702	0.99	ug/L	#	72
61) Dibromochloromethane	12.542	129	8416	0.76	ug/L	#	87
62) 1,3-Dichloropropane	12.630	76	25304	0.97	ug/L	#	82
63) 1,2-Dibromoethane	12.818	107	12150	0.91	ug/L	#	81
64) 2-Hexanone	12.883	43	45037	3.33	ug/L	#	97
65) Ethylbenzene	13.200	106	26930	1.14	ug/L	#	79
66) Chlorobenzene	13.235	112	39482	0.98	ug/L	#	42
67) 1,1,1,2-Tetrachloroethane	13.282	131	10455	0.84	ug/L	#	85
68) m-xylene & p-xylene	13.323	106	49610	1.75	ug/L		95
69) o-xylene	13.729	106	26619	0.91	ug/L		95
70) Styrene	13.793	104	38113	0.74	ug/L	#	77
71) Bromoform	13.864	173	7220	1.08	ug/L		96
72) Isopropylbenzene	13.993	105	68183	0.90	ug/L	#	96
74) Bromofluorobenzene	14.322	95	1515651	80.75	ug/L	#	82
75) n-Propylbenzene	14.387	91	89415	0.94	ug/L		97
76) 1,1,2,2-Tetrachloroethane	14.469	83	18496	0.88	ug/L	#	97
77) 1,2,3-Trichloropropane	14.639	61	7568	1.03	ug/L	#	59
78) T-1,4-Dichloro-2-Butene	14.346	53	3904	0.50	ug/L	#	25
80) Bromobenzene	14.457	156	12991	0.77	ug/L	#	62
81) 1,2,4-Trimethylbenzene	14.957	105	65688	1.02	ug/L		88
82) 2-Chlorotoluene	14.610	91	56094	1.00	ug/L		99
83) 4-Chlorotoluene	14.775	91	55670	0.96	ug/L	#	89
84) tert-Butylbenzene	14.886	119	50745	0.92	ug/L		95
85) 1,3,5-Trimethylbenzene	14.540	105	65899	1.02	ug/L	#	91
86) p-Isopropyltoluene	15.192	119	58999	0.89	ug/L	#	91
87) s-Butylbenzene	15.080	105	66592	0.81	ug/L	#	90
88) 1,3-Dichlorobenzene	15.415	146	28042	0.90	ug/L		91
89) 1,4-Dichlorobenzene	15.503	146	35527	1.06	ug/L	#	1
90) n-Butylbenzene	15.685	91	64987	0.95	ug/L		99
91) 1,2-Dichlorobenzene	16.020	146	29991	1.01	ug/L		95
92) DBCP	17.090	157	3870	1.12	ug/L	#	38
93) Hexachlorobutadiene	17.983	225	4733	0.53	ug/L	#	14
94) 1,2,4-Trichlorobenzene	18.141	180	11751	0.74	ug/L	#	59
95) Naphthalene	18.794	128	22751	0.55	ug/L	#	79
96) 1,2,3-Trichlorobenzene	19.164	180	6414	0.50	ug/L	#	71

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN003.D
Acq On : 19 Nov 2020 8:46 am
Operator : KKW
Sample : CAL1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 19 12:13:03 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.845	168	1204238	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.438	114	2405138	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.217	82	1568806	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.480	152	1312583	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.422	113	684693	80.65	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 161.30%#				
52) D8-Toluene	11.772	98	3225098	76.74	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 153.48%#				
73) Bromofluorobenzene	14.322	95	1548116	84.58	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 169.16%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.969	85	25586	1.52	ug/L	#	95
3) Chloromethane	4.392	50	36985	1.66	ug/L		96
4) Vinyl Chloride	4.574	62	23897	1.33	ug/L	#	72
5) Bromomethane	5.221	94	18964	5.44	ug/L	#	71
6) Chloroethane	5.432	64	16169	2.09	ug/L		91
7) Trichlorofluoromethane	5.685	101	29809	1.57	ug/L	#	77
8) Diethyl ether	6.173	59	17712	1.39	ug/L		89
9) 1,1-Dichloroethene	6.525	96	17932	1.46	ug/L		89
10) Trichlorotrifluoroethane	6.537	151	12736m	1.54	ug/L		
11) Acrolein	7.019	56	34067	8.97	ug/L		93
12) Iodomethane	6.772	142	74024	8.84	ug/L	#	86
13) Carbon Disulfide	6.613	76	308072	14.10	ug/L		96
14) 3-chloropropene	7.183	41	32217	1.66	ug/L	#	76
15) Acetone	7.401	43	18401	3.95	ug/L		92
16) Methylene Chloride	7.336	84	32753	1.31	ug/L	#	75
17) Methyl Acetate	7.530	43	17987	1.37	ug/L	#	63
18) t-1,2-Dichloroethene	7.553	96	20681	1.55	ug/L	#	1
19) Methyl tert-butyl ether	7.624	73	51397	1.46	ug/L	#	89
20) Acetonitrile	8.053	41	41973	14.42	ug/L	#	73
21) Isopropyl ether	8.047	45	72128	1.58	ug/L		98
22) Chloroprene	8.276	88	19106	1.56	ug/L	#	94
23) 1,1-Dichloroethane	8.305	63	35911	1.30	ug/L	#	93
24) Acrylonitrile	8.388	53	64927	9.43	ug/L	#	89
25) Vinyl Acetate	8.546	43	209163	7.56	ug/L	#	100
26) c-1,2-Dichloroethene	8.958	96	20443	1.33	ug/L		89
27) 2,2-Dichloropropane	9.069	77	27636	1.31	ug/L	#	82
28) Bromochloromethane	9.181	128	8462	1.55	ug/L	#	77
29) Cyclohexane	9.181	56	39303	1.47	ug/L		89
30) Chloroform	9.222	83	39382	1.52	ug/L	#	85
32) Dibromofluoromethane	9.422	113	684725	80.65	ug/L	#	87
33) 2-Butanone	9.545	72	6992	3.35	ug/L	#	1
34) 1,1,1-Trichloroethane	9.475	97	31237	1.49	ug/L		96
35) 1,1-Dichloropropene	9.598	75	33405	1.64	ug/L	#	83
36) Propionitrile	9.898	54	34088	13.71	ug/L	#	62
37) Methacrylonitrile	9.904	41	161695	14.89	ug/L		99
38) Isobutyl Alcohol	9.904	43	39900	26.53	ug/L	#	100
40) Carbon Tetrachloride	9.410	117	25567m	1.62	ug/L		
41) Benzene	9.874	78	86139	1.38	ug/L		94
42) 1,2-Dichloroethane	10.080	62	31232	1.56	ug/L	#	78
43) Trichloroethene	10.444	130	19889	1.49	ug/L	#	1
44) Methyl cyclohexane	10.444	83	73539	2.16	ug/L	#	76
45) Dibromomethane	10.897	93	12606	1.40	ug/L	#	86
46) 1,2-Dichloropropane	10.979	63	26377	1.43	ug/L	#	92
47) Bromodichloromethane	11.008	83	21020	1.23	ug/L	#	69
48) Methyl Methacrylate	11.090	69	11122m	0.86	ug/L		
49) 1,4-Dioxane	11.184	88	3651	12.73	ug/L	#	57
50) 2-Chloroethyl vinyl ether	11.490	63	63403	7.23	ug/L	#	90
51) C-1,3-Dichloropropene	11.602	75	32438	1.34	ug/L	#	82

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

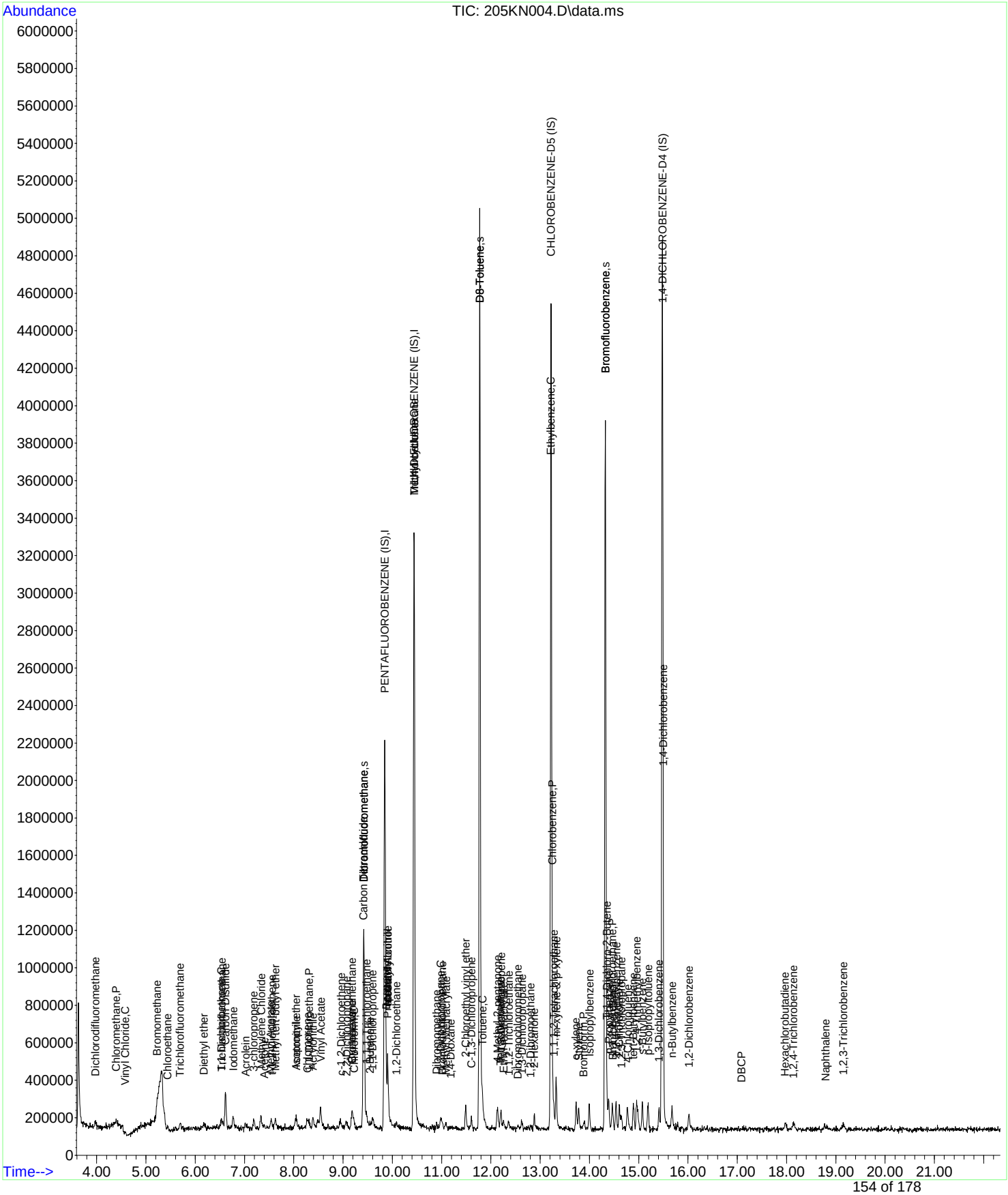
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.772	98	3225098	76.74	ug/L		98
54) 4-Methyl-2-pentanone	12.130	100	16767	6.70	ug/L		87
56) Toluene	11.831	92	50990	1.14	ug/L	#	83
57) T-1,3-Dichloropropene	12.207	75	24871	1.11	ug/L	#	82
58) Tetrachloroethene	12.195	164	13605	1.33	ug/L		97
59) Ethyl methacrylate	12.254	69	29880	1.41	ug/L		95
60) 1,1,2-Trichloroethane	12.360	97	16136m	1.20	ug/L		
61) Dibromochloromethane	12.542	129	12102	1.12	ug/L	#	88
62) 1,3-Dichloropropane	12.630	76	31210	1.23	ug/L	#	69
63) 1,2-Dibromoethane	12.800	107	17274	1.32	ug/L	#	85
64) 2-Hexanone	12.877	43	65549	4.97	ug/L	#	95
65) Ethylbenzene	13.212	106	31671	1.37	ug/L	#	83
66) Chlorobenzene	13.241	112	57651	1.47	ug/L	#	68
67) 1,1,1,2-Tetrachloroethane	13.276	131	16700	1.37	ug/L	#	82
68) m-xylene & p-xylene	13.329	106	79130	2.86	ug/L		91
69) o-xylene	13.723	106	34486	1.21	ug/L		73
70) Styrene	13.781	104	59534	1.18	ug/L	#	81
71) Bromoform	13.876	173	8315	1.27	ug/L	#	40
72) Isopropylbenzene	13.999	105	101194	1.37	ug/L		95
74) Bromofluorobenzene	14.322	95	1548116	84.58	ug/L		84
75) n-Propylbenzene	14.393	91	140081	1.51	ug/L	#	92
76) 1,1,2,2-Tetrachloroethane	14.463	83	26618	1.30	ug/L	#	88
77) 1,2,3-Trichloropropane	14.645	61	9189	1.28	ug/L		95
78) T-1,4-Dichloro-2-Butene	14.351	53	7999	1.05	ug/L	#	1
80) Bromobenzene	14.469	156	24323	1.46	ug/L		98
81) 1,2,4-Trimethylbenzene	14.957	105	93218	1.45	ug/L		98
82) 2-Chlorotoluene	14.604	91	84274	1.51	ug/L		92
83) 4-Chlorotoluene	14.774	91	90552	1.57	ug/L	#	94
84) tert-Butylbenzene	14.886	119	74805	1.37	ug/L		94
85) 1,3,5-Trimethylbenzene	14.545	105	88928	1.38	ug/L		92
86) p-Isopropyltoluene	15.192	119	88659	1.35	ug/L		94
87) s-Butylbenzene	15.074	105	111856	1.37	ug/L	#	92
88) 1,3-Dichlorobenzene	15.409	146	43620	1.41	ug/L	#	93
89) 1,4-Dichlorobenzene	15.497	146	49462	1.48	ug/L	#	1
90) n-Butylbenzene	15.673	91	86450	1.28	ug/L		93
91) 1,2-Dichlorobenzene	16.014	146	36400	1.23	ug/L	#	84
92) DBCP	17.084	157	1967	0.58	ug/L		97
93) Hexachlorobutadiene	17.965	225	9033	1.02	ug/L	#	80
94) 1,2,4-Trichlorobenzene	18.135	180	11315	0.72	ug/L	#	35
95) Naphthalene	18.787	128	32865	0.80	ug/L	#	83
96) 1,2,3-Trichlorobenzene	19.146	180	13123	1.04	ug/L	#	80

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN005.D
Acq On : 19 Nov 2020 9:47 am
Operator : KKW
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 19 12:13:14 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.845	168	1203996	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.438	114	2450219	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.217	82	1607155	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.480	152	1325758	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.422	113	748431	88.17	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 176.34%#				
52) D8-Toluene	11.772	98	3472304	81.11	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 162.22%#				
73) Bromofluorobenzene	14.322	95	1649261	87.95	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 175.90%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.975	85	74605	4.45	ug/L	#	84
3) Chloromethane	4.392	50	90702	4.06	ug/L		95
4) Vinyl Chloride	4.580	62	71482	3.99	ug/L		96
5) Bromomethane	5.221	94	29725	8.53	ug/L	#	76
6) Chloroethane	5.421	64	32917	4.25	ug/L		99
7) Trichlorofluoromethane	5.685	101	82668	4.36	ug/L	#	96
8) Diethyl ether	6.173	59	46647	3.66	ug/L		94
9) 1,1-Dichloroethene	6.525	96	47209	3.83	ug/L		88
10) Trichlorotrifluoroethane	6.543	151	35223	4.26	ug/L		98
11) Acrolein	7.013	56	106122	27.96	ug/L		88
12) Iodomethane	6.772	142	223049	26.65	ug/L	#	86
13) Carbon Disulfide	6.613	76	853754	39.09	ug/L		98
14) 3-chloropropene	7.189	41	82112	4.23	ug/L	#	84
15) Acetone	7.395	43	68203	14.65	ug/L		93
16) Methylene Chloride	7.324	84	70431	2.81	ug/L		96
17) Methyl Acetate	7.524	43	41189	3.14	ug/L	#	75
18) t-1,2-Dichloroethene	7.542	96	53904	4.03	ug/L	#	1
19) Methyl tert-butyl ether	7.630	73	142206	4.05	ug/L		98
20) Acetonitrile	8.023	41	100254	34.44	ug/L		94
21) Isopropyl ether	8.053	45	190415	4.18	ug/L		97
22) Chloroprene	8.264	88	57323	4.68	ug/L		99
23) 1,1-Dichloroethane	8.300	63	129239	4.67	ug/L	#	91
24) Acrylonitrile	8.382	53	189148	27.46	ug/L		89
25) Vinyl Acetate	8.535	43	635408	22.98	ug/L	#	100
26) c-1,2-Dichloroethene	8.946	96	63131	4.10	ug/L		88
27) 2,2-Dichloropropane	9.069	77	87442	4.14	ug/L	#	95
28) Bromochloromethane	9.187	128	28669	5.26	ug/L		99
29) Cyclohexane	9.181	56	133857	5.00	ug/L		89
30) Chloroform	9.216	83	122395	4.72	ug/L		92
32) Dibromofluoromethane	9.422	113	748431	88.17	ug/L	#	89
33) 2-Butanone	9.539	72	36738	17.61	ug/L		70
34) 1,1,1-Trichloroethane	9.475	97	89627	4.28	ug/L		95
35) 1,1-Dichloropropene	9.592	75	96148	4.73	ug/L		93
36) Propionitrile	9.898	54	87631	35.25	ug/L	#	73
37) Methacrylonitrile	9.904	41	433810	39.95	ug/L		98
38) Isobutyl Alcohol	9.904	43	101382	67.43	ug/L	#	98
40) Carbon Tetrachloride	9.404	117	68664m	4.27	ug/L		
41) Benzene	9.874	78	248057	3.89	ug/L		97
42) 1,2-Dichloroethane	10.080	62	87269	4.29	ug/L	#	95
43) Trichloroethene	10.438	130	51268	3.78	ug/L	#	1
44) Methyl cyclohexane	10.444	83	159388	4.59	ug/L	#	83
45) Dibromomethane	10.897	93	40717	4.45	ug/L	#	84
46) 1,2-Dichloropropane	10.985	63	68338	3.64	ug/L		99
47) Bromodichloromethane	11.014	83	76839	4.42	ug/L		95
48) Methyl Methacrylate	11.079	69	42500	3.24	ug/L		96
49) 1,4-Dioxane	11.202	88	15649	53.54	ug/L		92
50) 2-Chloroethyl vinyl ether	11.484	63	180854	20.24	ug/L	#	97
51) C-1,3-Dichloropropene	11.608	75	97087	3.92	ug/L		98

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN005.D
Acq On : 19 Nov 2020 9:47 am
Operator : KKW
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 19 12:13:14 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

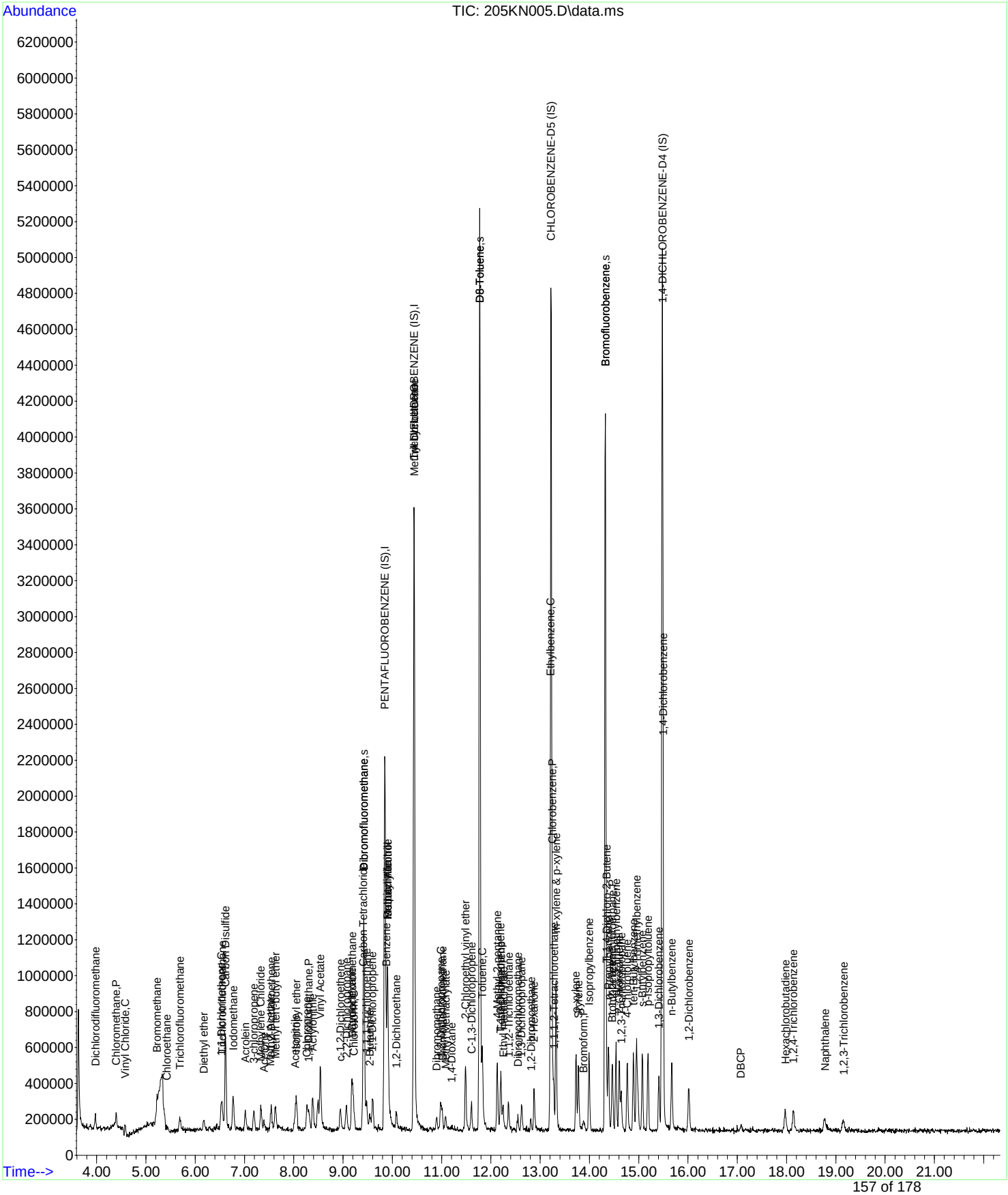
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.772	98	3472304	81.11	ug/L		98
54) 4-Methyl-2-pentanone	12.125	100	38753	15.19	ug/L		86
56) Toluene	11.825	92	165393	3.60	ug/L		98
57) T-1,3-Dichloropropene	12.195	75	86647	3.76	ug/L		92
58) Tetrachloroethene	12.207	164	39337	3.74	ug/L	#	86
59) Ethyl methacrylate	12.248	69	74987	3.46	ug/L	#	89
60) 1,1,2-Trichloroethane	12.360	97	49583	3.58	ug/L		91
61) Dibromochloromethane	12.548	129	35140	3.19	ug/L	#	91
62) 1,3-Dichloropropane	12.618	76	94212	3.62	ug/L	#	84
63) 1,2-Dibromoethane	12.812	107	49651	3.71	ug/L		94
64) 2-Hexanone	12.871	43	182740	13.52	ug/L	#	93
65) Ethylbenzene	13.206	106	86003	3.64	ug/L	#	80
66) Chlorobenzene	13.241	112	174992	4.36	ug/L		99
67) 1,1,1,2-Tetrachloroethane	13.282	131	47239	3.79	ug/L		98
68) m-xylene & p-xylene	13.323	106	241684	8.52	ug/L		97
69) o-xylene	13.723	106	128266	4.39	ug/L		94
70) Styrene	13.776	104	192498	3.74	ug/L		96
71) Bromoform	13.875	173	17891	2.67	ug/L	#	58
72) Isopropylbenzene	13.993	105	314697	4.15	ug/L		97
74) Bromofluorobenzene	14.322	95	1649261	87.95	ug/L	#	83
75) n-Propylbenzene	14.387	91	430878	4.54	ug/L		98
76) 1,1,2,2-Tetrachloroethane	14.463	83	75011	3.57	ug/L	#	97
77) 1,2,3-Trichloropropane	14.645	61	25913m	3.52	ug/L		
78) T-1,4-Dichloro-2-Butene	14.346	53	30582	3.90	ug/L	#	25
80) Bromobenzene	14.457	156	68481	4.07	ug/L		95
81) 1,2,4-Trimethylbenzene	14.957	105	312679	4.83	ug/L		96
82) 2-Chlorotoluene	14.604	91	254584	4.52	ug/L		98
83) 4-Chlorotoluene	14.763	91	269745	4.64	ug/L		96
84) tert-Butylbenzene	14.892	119	225427	4.10	ug/L		95
85) 1,3,5-Trimethylbenzene	14.539	105	298492	4.59	ug/L		97
86) p-Isopropyltoluene	15.186	119	288991	4.35	ug/L		97
87) s-Butylbenzene	15.074	105	358245	4.33	ug/L		99
88) 1,3-Dichlorobenzene	15.409	146	121305	3.89	ug/L	#	88
89) 1,4-Dichlorobenzene	15.497	146	130629	3.88	ug/L	#	1
90) n-Butylbenzene	15.668	91	270003	3.95	ug/L		94
91) 1,2-Dichlorobenzene	16.014	146	123325	4.13	ug/L		98
92) DBCP	17.072	157	4885	1.42	ug/L		94
93) Hexachlorobutadiene	17.977	225	28258	3.17	ug/L	#	73
94) 1,2,4-Trichlorobenzene	18.135	180	48590	3.06	ug/L	#	88
95) Naphthalene	18.782	128	90648	2.20	ug/L	#	76
96) 1,2,3-Trichlorobenzene	19.158	180	27107	2.12	ug/L	#	63

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN005.D
Acq On : 19 Nov 2020 9:47 am
Operator : KKW
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 19 12:13:14 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN006.D
Acq On : 19 Nov 2020 10:18 am
Operator : KKW
Sample : CAL4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 19 12:13:19 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.845	168	1172592	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.438	114	2346408	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.223	82	1580434	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.480	152	1299188	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.422	113	633611	76.64	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 153.28%#				
52) D8-Toluene	11.772	98	2967040	72.37	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 144.74%#				
73) Bromofluorobenzene	14.322	95	1486454	80.61	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 161.22%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.969	85	136642	8.36	ug/L	#	98
3) Chloromethane	4.392	50	150941	6.94	ug/L		98
4) Vinyl Chloride	4.574	62	121568	6.97	ug/L		97
5) Bromomethane	5.221	94	42104	12.41	ug/L	#	85
6) Chloroethane	5.438	64	61911	8.21	ug/L	#	92
7) Trichlorofluoromethane	5.685	101	165911	8.98	ug/L		92
8) Diethyl ether	6.173	59	84419	6.81	ug/L		94
9) 1,1-Dichloroethene	6.525	96	87918	7.33	ug/L		97
10) Trichlorotrifluoroethane	6.537	151	72300	8.97	ug/L		92
11) Acrolein	7.019	56	230022	62.23	ug/L		98
12) Iodomethane	6.766	142	506927	62.20	ug/L	#	91
13) Carbon Disulfide	6.613	76	1673298	78.66	ug/L		99
14) 3-chloropropene	7.183	41	167038	8.84	ug/L		98
15) Acetone	7.389	43	148978	32.85	ug/L		90
16) Methylene Chloride	7.324	84	116078	4.75	ug/L		95
17) Methyl Acetate	7.518	43	87612	6.86	ug/L	#	91
18) t-1,2-Dichloroethene	7.536	96	101037	7.76	ug/L	#	1
19) Methyl tert-butyl ether	7.630	73	287472	8.40	ug/L		95
20) Acetonitrile	8.012	41	217380	76.68	ug/L		97
21) Isopropyl ether	8.041	45	356646	8.05	ug/L		96
22) Chloroprene	8.270	88	101968	8.55	ug/L		94
23) 1,1-Dichloroethane	8.305	63	221157	8.21	ug/L		96
24) Acrylonitrile	8.382	53	395143	58.91	ug/L		97
25) Vinyl Acetate	8.535	43	1226867	45.56	ug/L	#	100
26) c-1,2-Dichloroethene	8.940	96	111210	7.41	ug/L		89
27) 2,2-Dichloropropane	9.058	77	149262	7.26	ug/L	#	92
28) Bromochloromethane	9.169	128	44116	8.31	ug/L		92
29) Cyclohexane	9.187	56	211253	8.10	ug/L		93
30) Chloroform	9.210	83	224502	8.89	ug/L		96
32) Dibromofluoromethane	9.422	113	633611	76.64	ug/L	#	91
33) 2-Butanone	9.551	72	52854	26.02	ug/L	#	56
34) 1,1,1-Trichloroethane	9.469	97	163488	8.02	ug/L		95
35) 1,1-Dichloropropene	9.592	75	169450	8.57	ug/L		95
36) Propionitrile	9.892	54	162895	67.28	ug/L	#	73
37) Methacrylonitrile	9.898	41	807949	76.39	ug/L		93
38) Isobutyl Alcohol	9.892	43	201685	137.74	ug/L	#	97
40) Carbon Tetrachloride	9.398	117	126351	8.21	ug/L	#	93
41) Benzene	9.868	78	478492	7.84	ug/L		98
42) 1,2-Dichloroethane	10.086	62	153491	7.87	ug/L		96
43) Trichloroethene	10.438	130	102612	7.91	ug/L	#	58
44) Methyl cyclohexane	10.444	83	233746	7.02	ug/L		94
45) Dibromomethane	10.897	93	68274	7.78	ug/L	#	90
46) 1,2-Dichloropropane	10.973	63	142560	7.94	ug/L		99
47) Bromodichloromethane	11.008	83	146577	8.80	ug/L		96
48) Methyl Methacrylate	11.073	69	84258	6.70	ug/L		99
49) 1,4-Dioxane	11.196	88	27005	96.48	ug/L		98
50) 2-Chloroethyl vinyl ether	11.484	63	363921	42.52	ug/L	#	99
51) C-1,3-Dichloropropene	11.602	75	181119	7.64	ug/L		91

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN006.D
Acq On : 19 Nov 2020 10:18 am
Operator : KKW
Sample : CAL4
Misc :
ALS Vial : 5 Sample Multiplier: 1

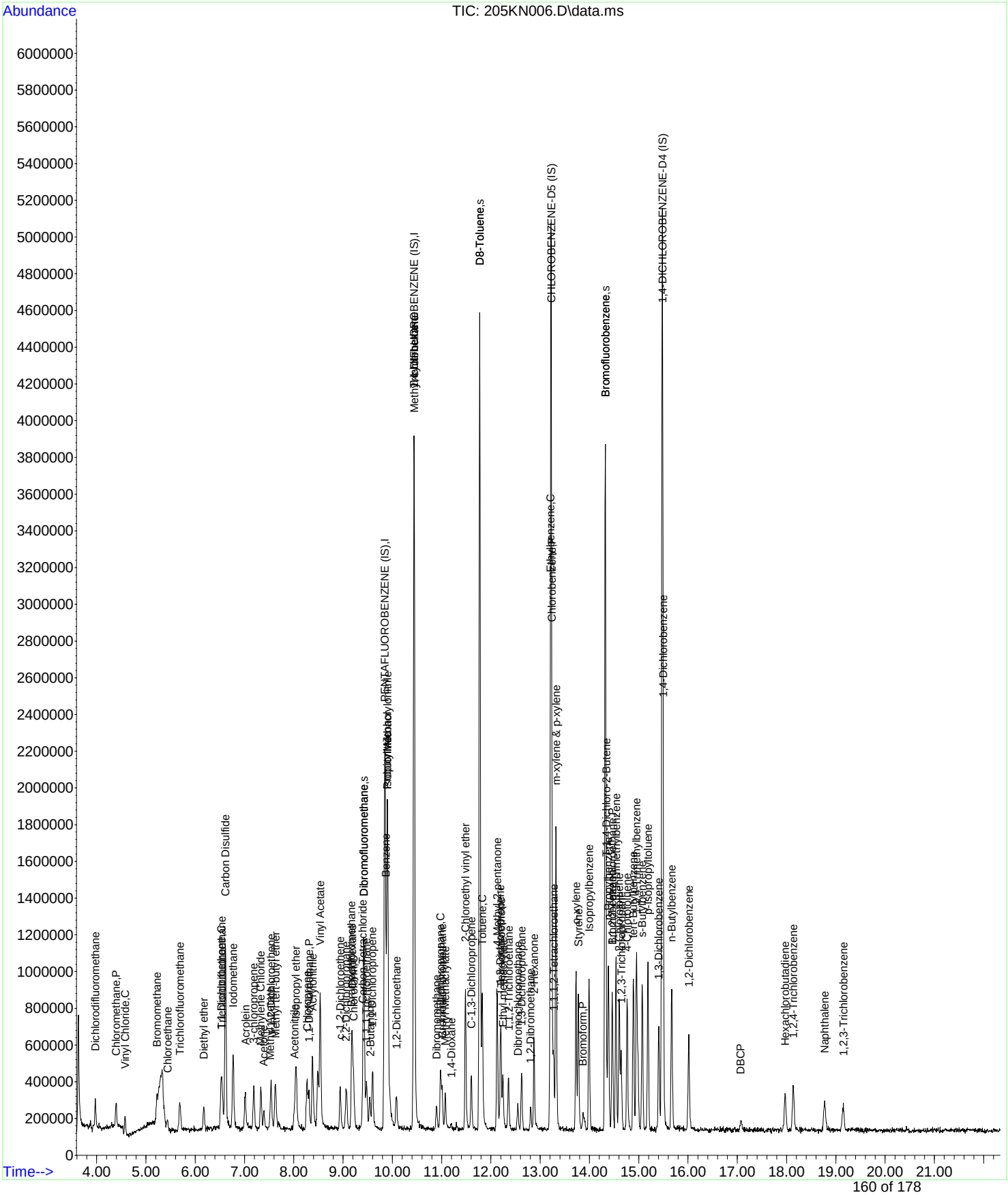
Quant Time: Nov 19 12:13:19 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.772	98	2967040	72.37	ug/L		98
54) 4-Methyl-2-pentanone	12.125	100	73800	30.21	ug/L		96
56) Toluene	11.825	92	299260	6.63	ug/L		94
57) T-1,3-Dichloropropene	12.189	75	162803	7.18	ug/L		97
58) Tetrachloroethene	12.207	164	82473	7.98	ug/L		91
59) Ethyl methacrylate	12.242	69	156564	7.34	ug/L		97
60) 1,1,2-Trichloroethane	12.360	97	99991	7.35	ug/L		95
61) Dibromochloromethane	12.548	129	73988	6.82	ug/L		96
62) 1,3-Dichloropropane	12.624	76	205100	8.00	ug/L		99
63) 1,2-Dibromoethane	12.800	107	91595	6.95	ug/L	#	97
64) 2-Hexanone	12.877	43	371113	27.92	ug/L		99
65) Ethylbenzene	13.206	106	183869	7.91	ug/L		93
66) Chlorobenzene	13.235	112	325558	8.26	ug/L		98
67) 1,1,1,2-Tetrachloroethane	13.276	131	84396	6.89	ug/L	#	91
68) m-xylene & p-xylene	13.323	106	459298	16.47	ug/L		100
69) o-xylene	13.729	106	226034	7.87	ug/L		98
70) Styrene	13.776	104	372814	7.36	ug/L		97
71) Bromoform	13.864	173	42258	6.41	ug/L		95
72) Isopropylbenzene	13.993	105	590842	7.93	ug/L		97
74) Bromofluorobenzene	14.322	95	1486454	80.61	ug/L	#	83
75) n-Propylbenzene	14.381	91	808182	8.66	ug/L		98
76) 1,1,2,2-Tetrachloroethane	14.463	83	147516	7.14	ug/L	#	98
77) 1,2,3-Trichloropropane	14.645	61	59327m	8.20	ug/L		
78) T-1,4-Dichloro-2-Butene	14.340	53	59486	7.72	ug/L	#	1
80) Bromobenzene	14.463	156	121209	7.35	ug/L		91
81) 1,2,4-Trimethylbenzene	14.951	105	594469	9.37	ug/L		98
82) 2-Chlorotoluene	14.604	91	469789	8.52	ug/L		97
83) 4-Chlorotoluene	14.763	91	498816	8.75	ug/L		98
84) tert-Butylbenzene	14.886	119	430271	7.98	ug/L		93
85) 1,3,5-Trimethylbenzene	14.539	105	564368	8.87	ug/L		98
86) p-Isopropyltoluene	15.186	119	548845	8.44	ug/L		99
87) s-Butylbenzene	15.068	105	648219	7.99	ug/L		99
88) 1,3-Dichlorobenzene	15.403	146	240604	7.88	ug/L	#	89
89) 1,4-Dichlorobenzene	15.497	146	253916	7.69	ug/L	#	36
90) n-Butylbenzene	15.668	91	564995	8.44	ug/L		99
91) 1,2-Dichlorobenzene	16.014	146	229022	7.83	ug/L		99
92) DBCP	17.066	157	17355	5.14	ug/L		92
93) Hexachlorobutadiene	17.971	225	48211	5.52	ug/L	#	93
94) 1,2,4-Trichlorobenzene	18.135	180	95682	6.14	ug/L		98
95) Naphthalene	18.770	128	206620	5.11	ug/L	#	91
96) 1,2,3-Trichlorobenzene	19.152	180	60810	4.85	ug/L	#	87

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN006.D
Acq On : 19 Nov 2020 10:18 am
Operator : KKW
Sample : CAL4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 19 12:13:19 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN007.D
Acq On : 19 Nov 2020 10:49 am
Operator : KKW
Sample : CAL5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 19 12:13:23 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.845	168	1203065	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.438	114	2330356	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.217	82	1579586	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.480	152	1295652	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.422	113	785195	92.57	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 185.14%#				
52) D8-Toluene	11.772	98	3631138	89.18	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 178.36%#				
73) Bromofluorobenzene	14.322	95	1784745	96.84	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 193.68%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.975	85	302749	18.06	ug/L	#	96
3) Chloromethane	4.392	50	320743	14.37	ug/L		100
4) Vinyl Chloride	4.574	62	293406	16.39	ug/L		96
5) Bromomethane	5.221	94	73935	21.23	ug/L	#	91
6) Chloroethane	5.438	64	142983	18.49	ug/L	#	91
7) Trichlorofluoromethane	5.685	101	364707	19.24	ug/L		95
8) Diethyl ether	6.179	59	186506	14.66	ug/L		96
9) 1,1-Dichloroethene	6.525	96	198942	16.17	ug/L		97
10) Trichlorotrifluoroethane	6.549	151	125657	15.20	ug/L		88
11) Acrolein	7.007	56	200300	52.81	ug/L		96
12) Iodomethane	6.766	142	1096522	131.13	ug/L	#	92
13) Carbon Disulfide	6.613	76	3494366	160.10	ug/L		99
14) 3-chloropropene	7.183	41	372388	19.21	ug/L		94
15) Acetone	7.389	43	259911	55.85	ug/L		99
16) Methylene Chloride	7.336	84	230585	9.20	ug/L		94
17) Methyl Acetate	7.518	43	159405	12.17	ug/L	#	93
18) t-1,2-Dichloroethene	7.542	96	228051	17.07	ug/L	#	1
19) Methyl tert-butyl ether	7.624	73	586463	16.71	ug/L		96
20) Acetonitrile	8.006	41	398425	136.97	ug/L	#	60
21) Isopropyl ether	8.047	45	769298	16.92	ug/L		98
22) Chloroprene	8.270	88	238292	19.47	ug/L		93
23) 1,1-Dichloroethane	8.306	63	474217	17.17	ug/L		98
24) Acrylonitrile	8.376	53	397768	57.80	ug/L		94
25) Vinyl Acetate	8.535	43	2559621	92.65	ug/L	#	100
26) c-1,2-Dichloroethene	8.940	96	252680	16.41	ug/L		97
27) 2,2-Dichloropropane	9.069	77	358578	17.00	ug/L		99
28) Bromochloromethane	9.169	128	91814	16.86	ug/L		100
29) Cyclohexane	9.187	56	486603	18.19	ug/L		97
30) Chloroform	9.210	83	454400	17.54	ug/L		99
32) Dibromofluoromethane	9.422	113	785195	92.57	ug/L	#	89
33) 2-Butanone	9.539	72	109766	52.66	ug/L		72
34) 1,1,1-Trichloroethane	9.481	97	386747	18.48	ug/L		99
35) 1,1-Dichloropropene	9.598	75	374086	18.43	ug/L		100
36) Propionitrile	9.886	54	337913	136.04	ug/L	#	79
37) Methacrylonitrile	9.898	41	1621006	149.38	ug/L		94
38) Isobutyl Alcohol	9.898	43	378850	252.19	ug/L	#	97
40) Carbon Tetrachloride	9.404	117	288935	18.91	ug/L	#	94
41) Benzene	9.868	78	1081865	17.84	ug/L		100
42) 1,2-Dichloroethane	10.080	62	354638	18.31	ug/L		95
43) Trichloroethene	10.444	130	207547	16.10	ug/L	#	78
44) Methyl cyclohexane	10.444	83	512091	15.49	ug/L		96
45) Dibromomethane	10.903	93	150740	17.31	ug/L		88
46) 1,2-Dichloropropane	10.979	63	294721	16.53	ug/L		98
47) Bromodichloromethane	11.008	83	308117	18.62	ug/L		98
48) Methyl Methacrylate	11.067	69	177753	14.23	ug/L		98
49) 1,4-Dioxane	11.190	88	54003	194.27	ug/L		93
50) 2-Chloroethyl vinyl ether	11.484	63	766428	90.17	ug/L		99
51) C-1,3-Dichloropropene	11.602	75	413509	17.57	ug/L		98

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN007.D
Acq On : 19 Nov 2020 10:49 am
Operator : KKW
Sample : CAL5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 19 12:13:23 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

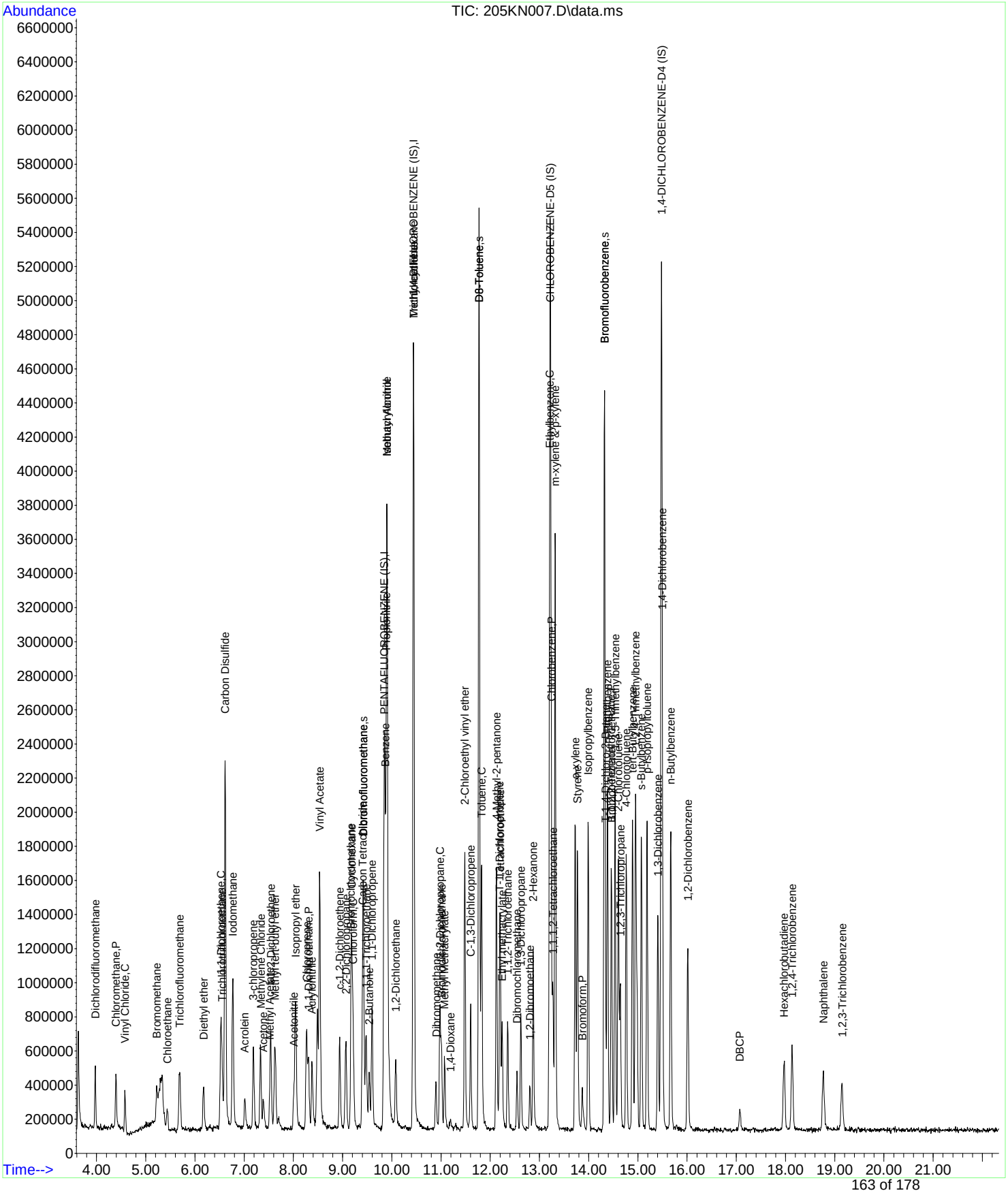
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.772	98	3630051	89.15	ug/L		97
54) 4-Methyl-2-pentanone	12.125	100	151280	62.35	ug/L		93
56) Toluene	11.825	92	673431	14.93	ug/L		98
57) T-1,3-Dichloropropene	12.189	75	352662	15.56	ug/L		98
58) Tetrachloroethene	12.201	164	182474	17.67	ug/L		95
59) Ethyl methacrylate	12.236	69	326927	15.34	ug/L		99
60) 1,1,2-Trichloroethane	12.354	97	209734	15.43	ug/L		98
61) Dibromochloromethane	12.542	129	171344	15.80	ug/L		95
62) 1,3-Dichloropropane	12.624	76	420496	16.42	ug/L		94
63) 1,2-Dibromoethane	12.806	107	205658	15.62	ug/L	#	97
64) 2-Hexanone	12.871	43	754731	56.82	ug/L		96
65) Ethylbenzene	13.206	106	384105	16.52	ug/L		95
66) Chlorobenzene	13.241	112	650080	16.50	ug/L		96
67) 1,1,1,2-Tetrachloroethane	13.276	131	201298	16.44	ug/L		98
68) m-xylene & p-xylene	13.317	106	987588	35.44	ug/L		99
69) o-xylene	13.729	106	478796	16.67	ug/L		93
70) Styrene	13.770	104	839743	16.59	ug/L		99
71) Bromoform	13.870	173	95673	14.53	ug/L		99
72) Isopropylbenzene	13.987	105	1298038	17.44	ug/L		97
74) Bromofluorobenzene	14.322	95	1784745	96.84	ug/L	#	80
75) n-Propylbenzene	14.381	91	1709278	18.32	ug/L		98
76) 1,1,2,2-Tetrachloroethane	14.457	83	309106	14.97	ug/L		98
77) 1,2,3-Trichloropropane	14.645	61	113773m	15.74	ug/L		
78) T-1,4-Dichloro-2-Butene	14.340	53	120576	15.65	ug/L	#	52
80) Bromobenzene	14.463	156	265636	16.16	ug/L		94
81) 1,2,4-Trimethylbenzene	14.951	105	1242925	19.64	ug/L		97
82) 2-Chlorotoluene	14.604	91	1047191	19.04	ug/L		98
83) 4-Chlorotoluene	14.763	91	1083494	19.06	ug/L		99
84) tert-Butylbenzene	14.892	119	947987	17.64	ug/L		97
85) 1,3,5-Trimethylbenzene	14.539	105	1187445	18.70	ug/L		99
86) p-Isopropyltoluene	15.186	119	1166109	17.97	ug/L		100
87) s-Butylbenzene	15.068	105	1428842	17.67	ug/L		98
88) 1,3-Dichlorobenzene	15.409	146	521603	17.12	ug/L		90
89) 1,4-Dichlorobenzene	15.497	146	543117	16.49	ug/L	#	70
90) n-Butylbenzene	15.668	91	1248886	18.71	ug/L		97
91) 1,2-Dichlorobenzene	16.014	146	464540	15.93	ug/L		89
92) DBCP	17.072	157	34505	10.24	ug/L		98
93) Hexachlorobutadiene	17.971	225	103201	11.85	ug/L		95
94) 1,2,4-Trichlorobenzene	18.135	180	203777	13.12	ug/L	#	94
95) Naphthalene	18.770	128	436068	10.81	ug/L		100
96) 1,2,3-Trichlorobenzene	19.152	180	123784	9.90	ug/L	#	87

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN007.D
Acq On : 19 Nov 2020 10:49 am
Operator : KKW
Sample : CAL5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 19 12:13:23 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN008.D
Acq On : 19 Nov 2020 11:20 am
Operator : KKW
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 19 12:13:26 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.845	168	1217120	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.438	114	2353990	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.217	82	1612072	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.474	152	1366836	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.416	113	678489	79.07	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 158.14%#				
52) D8-Toluene	11.772	98	3101508	75.41	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 150.82%#				
73) Bromofluorobenzene	14.322	95	1494289	79.44	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 158.88%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.969	85	836993	49.35	ug/L		99
3) Chloromethane	4.392	50	805584	35.67	ug/L		97
4) Vinyl Chloride	4.574	62	752003	41.53	ug/L		98
5) Bromomethane	5.221	94	219770	62.38	ug/L		90
6) Chloroethane	5.421	64	316629	40.47	ug/L		96
7) Trichlorofluoromethane	5.679	101	965285	50.35	ug/L		99
8) Diethyl ether	6.173	59	522992	40.63	ug/L		98
9) 1,1-Dichloroethene	6.519	96	546417	43.90	ug/L		95
10) Trichlorotrifluoroethane	6.543	151	372819	44.57	ug/L		94
11) Acrolein	7.007	56	1204139	313.84	ug/L		99
12) Iodomethane	6.766	142	2879969	340.42	ug/L	#	90
13) Carbon Disulfide	6.613	76	8649511	391.72	ug/L		99
14) 3-chloropropene	7.183	41	1037538	52.90	ug/L		97
15) Acetone	7.389	43	709256	150.65	ug/L		98
16) Methylene Chloride	7.330	84	640448	25.25	ug/L		100
17) Methyl Acetate	7.512	43	441064	33.30	ug/L	#	96
18) t-1,2-Dichloroethene	7.542	96	633261	46.87	ug/L	#	1
19) Methyl tert-butyl ether	7.624	73	1725407	48.58	ug/L		96
20) Acetonitrile	8.006	41	1168765	397.17	ug/L		98
21) Isopropyl ether	8.047	45	2215010	48.14	ug/L		99
22) Chloroprene	8.264	88	614319	49.62	ug/L		97
23) 1,1-Dichloroethane	8.305	63	1349675	48.29	ug/L		100
24) Acrylonitrile	8.376	53	2151787	309.07	ug/L		99
25) Vinyl Acetate	8.529	43	6808531	243.61	ug/L	#	100
26) c-1,2-Dichloroethene	8.940	96	700871	44.98	ug/L		95
27) 2,2-Dichloropropane	9.063	77	1076528	50.46	ug/L		98
28) Bromochloromethane	9.175	128	235594	42.76	ug/L		95
29) Cyclohexane	9.181	56	1386813	51.24	ug/L		96
30) Chloroform	9.210	83	1255758	47.91	ug/L		99
32) Dibromofluoromethane	9.416	113	678489	79.07	ug/L	#	89
33) 2-Butanone	9.539	72	353229	167.51	ug/L		95
34) 1,1,1-Trichloroethane	9.481	97	1088150	51.41	ug/L		99
35) 1,1-Dichloropropene	9.592	75	1057919	51.52	ug/L		98
36) Propionitrile	9.892	54	847412	337.21	ug/L	#	73
37) Methacrylonitrile	9.904	41	4240505	386.26	ug/L		95
38) Isobutyl Alcohol	9.898	43	1088288	716.08	ug/L	#	89
40) Carbon Tetrachloride	9.404	117	844268m	54.69	ug/L		
41) Benzene	9.868	78	2829189	46.19	ug/L		99
42) 1,2-Dichloroethane	10.080	62	930071	47.54	ug/L		96
43) Trichloroethene	10.444	130	575171	44.17	ug/L		95
44) Methyl cyclohexane	10.438	83	1343230	40.23	ug/L		98
45) Dibromomethane	10.891	93	399997	45.46	ug/L		91
46) 1,2-Dichloropropane	10.973	63	793038	44.02	ug/L		97
47) Bromodichloromethane	11.008	83	887527	53.08	ug/L		99
48) Methyl Methacrylate	11.073	69	486732	38.58	ug/L		99
49) 1,4-Dioxane	11.190	88	137914	491.15	ug/L		95
50) 2-Chloroethyl vinyl ether	11.478	63	2074511	241.63	ug/L		99
51) C-1,3-Dichloropropene	11.602	75	1213246	51.02	ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN008.D
Acq On : 19 Nov 2020 11:20 am
Operator : KKW
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 19 12:13:26 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

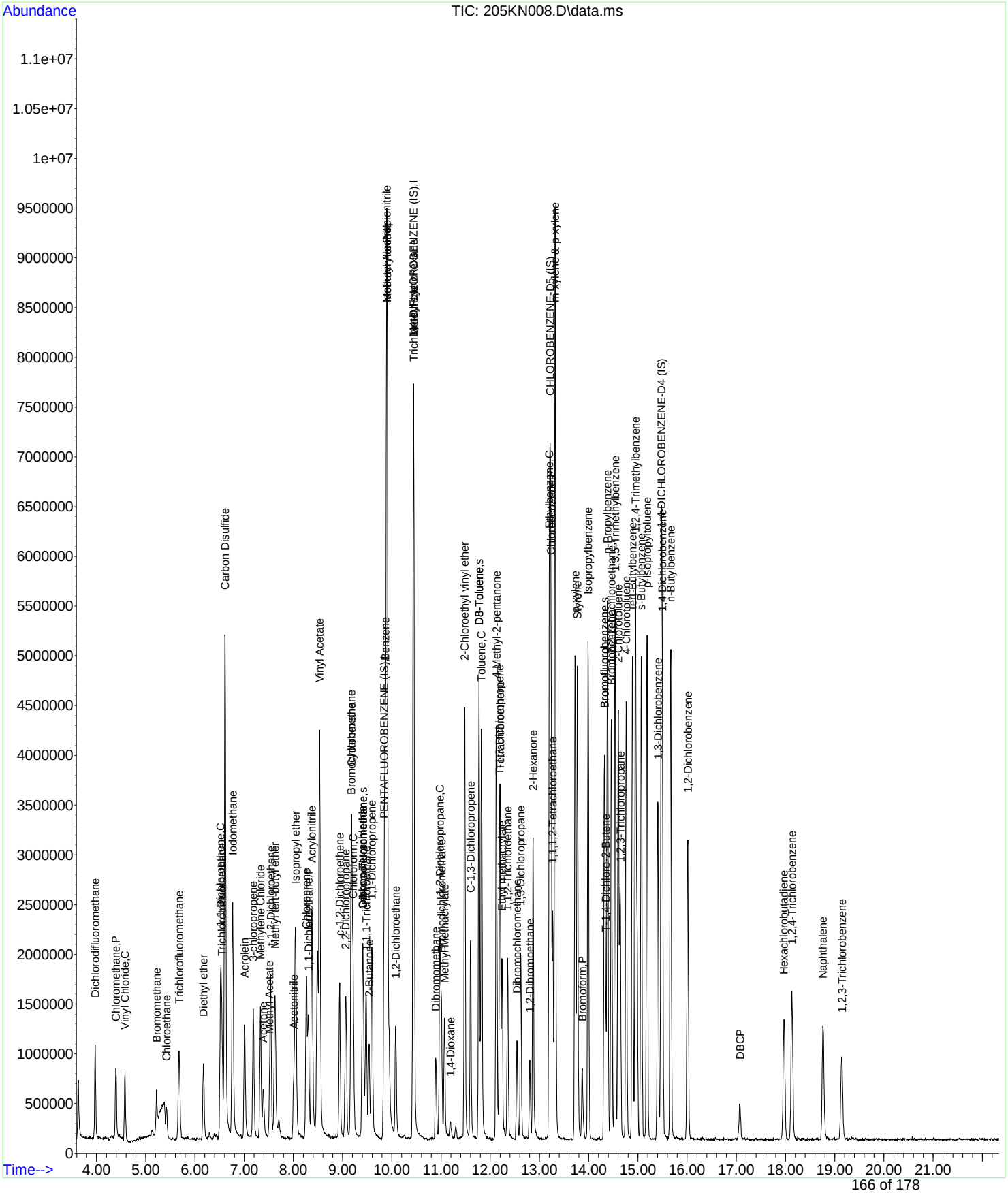
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.772	98	3099476	75.36	ug/L		99
54) 4-Methyl-2-pentanone	12.125	100	395380	161.32	ug/L		95
56) Toluene	11.819	92	1814837	39.43	ug/L		99
57) T-1,3-Dichloropropene	12.189	75	980489	42.40	ug/L		96
58) Tetrachloroethene	12.201	164	452738	42.95	ug/L		97
59) Ethyl methacrylate	12.236	69	923118	42.43	ug/L		99
60) 1,1,2-Trichloroethane	12.354	97	571249	41.17	ug/L		98
61) Dibromochloromethane	12.542	129	522815	47.25	ug/L		99
62) 1,3-Dichloropropane	12.618	76	1122001	42.93	ug/L		95
63) 1,2-Dibromoethane	12.806	107	593930	44.20	ug/L		96
64) 2-Hexanone	12.871	43	2057085	151.75	ug/L		96
65) Ethylbenzene	13.200	106	1029541	43.40	ug/L		98
66) Chlorobenzene	13.235	112	1747854	43.46	ug/L		98
67) 1,1,1,2-Tetrachloroethane	13.270	131	572785	45.85	ug/L		99
68) m-xylene & p-xylene	13.317	106	2555424	89.85	ug/L		99
69) o-xylene	13.729	106	1356099	46.27	ug/L		98
70) Styrene	13.770	104	2212182	42.81	ug/L		98
71) Bromoform	13.870	173	319258	47.50	ug/L		100
72) Isopropylbenzene	13.987	105	3552836	46.76	ug/L		97
74) Bromofluorobenzene	14.322	95	1494289	79.44	ug/L	#	83
75) n-Propylbenzene	14.381	91	4650659	48.83	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.463	83	853912	40.52	ug/L		98
77) 1,2,3-Trichloropropane	14.645	61	301262m	40.84	ug/L		
78) T-1,4-Dichloro-2-Butene	14.346	53	303268	38.58	ug/L	#	82
80) Bromobenzene	14.457	156	703749	40.57	ug/L		93
81) 1,2,4-Trimethylbenzene	14.951	105	3364816	50.40	ug/L		99
82) 2-Chlorotoluene	14.604	91	2804184	48.32	ug/L		98
83) 4-Chlorotoluene	14.763	91	2961213	49.37	ug/L		99
84) tert-Butylbenzene	14.892	119	2540489	44.80	ug/L		94
85) 1,3,5-Trimethylbenzene	14.539	105	3288125	49.10	ug/L		99
86) p-Isopropyltoluene	15.186	119	3248592	47.46	ug/L		97
87) s-Butylbenzene	15.068	105	3950643	46.31	ug/L		99
88) 1,3-Dichlorobenzene	15.409	146	1470644	45.76	ug/L		94
89) 1,4-Dichlorobenzene	15.497	146	1490431	42.91	ug/L		92
90) n-Butylbenzene	15.668	91	3454884	49.07	ug/L		100
91) 1,2-Dichlorobenzene	16.014	146	1370743	44.57	ug/L		97
92) DBCP	17.078	157	106714	30.01	ug/L		97
93) Hexachlorobutadiene	17.965	225	314949	34.28	ug/L		97
94) 1,2,4-Trichlorobenzene	18.129	180	657865	40.15	ug/L		97
95) Naphthalene	18.758	128	1383722	32.51	ug/L		99
96) 1,2,3-Trichlorobenzene	19.146	180	388718	29.46	ug/L		93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN008.D
Acq On : 19 Nov 2020 11:20 am
Operator : KKW
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 19 12:13:26 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN009.D
Acq On : 19 Nov 2020 11:51 am
Operator : KKW
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 19 12:26:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.845	168	1208553	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.438	114	2324329	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.217	82	1614423	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.480	152	1389872	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.416	113	859067	100.82	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 201.64%#				
52) D8-Toluene	11.772	98	3914979	96.40	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 192.80%#				
73) Bromofluorobenzene	14.322	95	1962092	104.16	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 208.32%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.969	85	1371350	81.43	ug/L		100
3) Chloromethane	4.392	50	1458184	65.02	ug/L		98
4) Vinyl Chloride	4.574	62	1327646	73.85	ug/L		97
5) Bromomethane	5.215	94	396760	113.42	ug/L		97
6) Chloroethane	5.421	64	338272	43.55	ug/L		97
7) Trichlorofluoromethane	5.667	101	1605213	84.32	ug/L		99
8) Diethyl ether	6.173	59	882717	69.07	ug/L		99
9) 1,1-Dichloroethene	6.519	96	899184	72.75	ug/L		96
10) Trichlorotrifluoroethane	6.543	151	605807	72.94	ug/L		94
11) Acrolein	7.007	56	1957408	513.78	ug/L		98
12) Iodomethane	6.766	142	4503159	536.06	ug/L	#	90
13) Carbon Disulfide	6.607	76	13463864	614.08	ug/L		99
14) 3-chloropropene	7.183	41	1631725	83.79	ug/L		98
15) Acetone	7.389	43	1177504	251.89	ug/L		97
16) Methylene Chloride	7.330	84	1040221	41.30	ug/L		99
17) Methyl Acetate	7.512	43	745030	56.64	ug/L		98
18) t-1,2-Dichloroethene	7.536	96	1051524	78.37	ug/L	#	1
19) Methyl tert-butyl ether	7.624	73	2822105	80.03	ug/L		95
20) Acetonitrile	8.006	41	1944065	665.32	ug/L		98
21) Isopropyl ether	8.047	45	3700268	81.00	ug/L		99
22) Chloroprene	8.258	88	983163	79.98	ug/L		98
23) 1,1-Dichloroethane	8.305	63	2193522	79.05	ug/L		99
24) Acrylonitrile	8.376	53	3548204	513.26	ug/L		99
25) Vinyl Acetate	8.529	43	10869613	391.68	ug/L	#	100
26) c-1,2-Dichloroethene	8.940	96	1163928	75.23	ug/L		96
27) 2,2-Dichloropropane	9.063	77	1802386	85.09	ug/L		98
28) Bromochloromethane	9.175	128	336411	61.49	ug/L		86
29) Cyclohexane	9.181	56	2224726	82.79	ug/L		96
30) Chloroform	9.210	83	2084702	80.10	ug/L		99
32) Dibromofluoromethane	9.416	113	859067	100.82	ug/L	#	89
33) 2-Butanone	9.533	72	589997	281.78	ug/L		98
34) 1,1,1-Trichloroethane	9.475	97	1804040	85.83	ug/L		98
35) 1,1-Dichloropropene	9.592	75	1731510	84.93	ug/L		98
36) Propionitrile	9.886	54	1385608	555.28	ug/L	#	78
37) Methacrylonitrile	9.904	41	6602548	605.68	ug/L		98
38) Isobutyl Alcohol	9.898	43	1741977	1154.32	ug/L	#	92
40) Carbon Tetrachloride	9.404	117	1400654m	91.88	ug/L		
41) Benzene	9.868	78	4588735	75.86	ug/L		100
42) 1,2-Dichloroethane	10.080	62	1583942	82.00	ug/L		96
43) Trichloroethene	10.444	130	922489	71.75	ug/L		98
44) Methyl cyclohexane	10.444	83	2157736	65.44	ug/L		97
45) Dibromomethane	10.897	93	662363	76.24	ug/L		94
46) 1,2-Dichloropropane	10.979	63	1365225	76.75	ug/L		98
47) Bromodichloromethane	11.008	83	1507069	91.29	ug/L		98
48) Methyl Methacrylate	11.073	69	784575	62.98	ug/L		97
49) 1,4-Dioxane	11.196	88	226181	815.78	ug/L		90
50) 2-Chloroethyl vinyl ether	11.484	63	3267574	385.45	ug/L		98
51) C-1,3-Dichloropropene	11.602	75	2042491	87.00	ug/L		97

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN009.D
Acq On : 19 Nov 2020 11:51 am
Operator : KKW
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 19 12:26:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

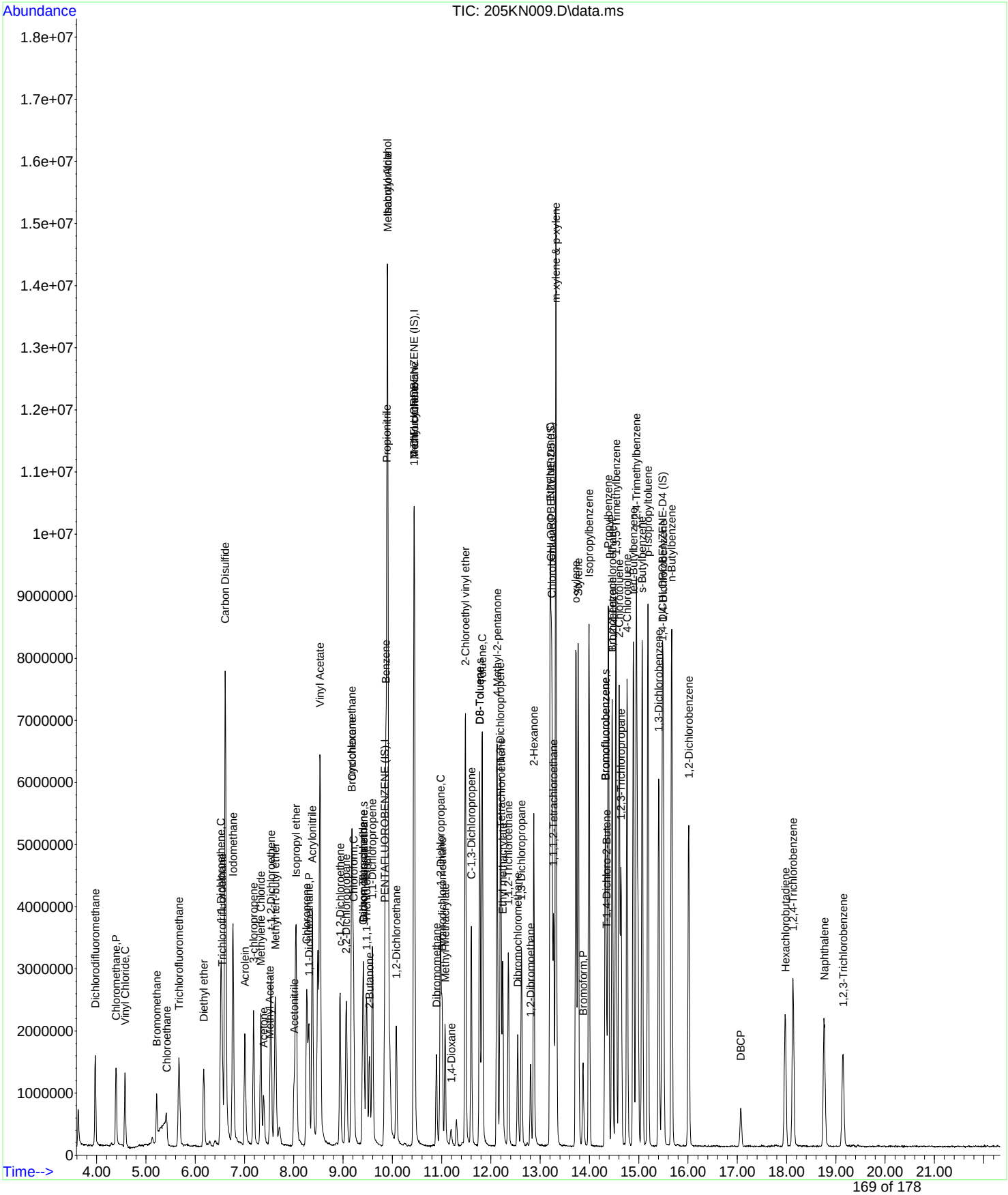
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.772	98	3914979	96.40	ug/L		98
54) 4-Methyl-2-pentanone	12.125	100	642904	265.66	ug/L		98
56) Toluene	11.825	92	2957735	64.17	ug/L		99
57) T-1,3-Dichloropropene	12.189	75	1705784	73.65	ug/L		99
58) Tetrachloroethene	12.207	164	766005	72.57	ug/L		98
59) Ethyl methacrylate	12.236	69	1505263	69.09	ug/L		99
60) 1,1,2-Trichloroethane	12.354	97	953126	68.60	ug/L		99
61) Dibromochloromethane	12.542	129	973442	87.85	ug/L		98
62) 1,3-Dichloropropane	12.618	76	1926010	73.59	ug/L		96
63) 1,2-Dibromoethane	12.806	107	977066	72.60	ug/L		100
64) 2-Hexanone	12.871	43	3425404	252.32	ug/L		98
65) Ethylbenzene	13.206	106	1705057	71.77	ug/L		99
66) Chlorobenzene	13.235	112	2931384	72.78	ug/L		100
67) 1,1,1,2-Tetrachloroethane	13.270	131	967791	77.35	ug/L		98
68) m-xylene & p-xylene	13.317	106	4131704	145.06	ug/L		98
69) o-xylene	13.723	106	2228011	75.92	ug/L		96
70) Styrene	13.770	104	3788012	73.20	ug/L		98
71) Bromoform	13.870	173	558705	83.00	ug/L		95
72) Isopropylbenzene	13.993	105	5873794	77.19	ug/L		97
74) Bromofluorobenzene	14.322	95	1962092	104.16	ug/L	#	83
75) n-Propylbenzene	14.381	91	7786988	81.65	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.463	83	1447067	68.57	ug/L		96
77) 1,2,3-Trichloropropane	14.639	61	487875m	66.05	ug/L		
78) T-1,4-Dichloro-2-Butene	14.346	53	531782	67.54	ug/L		93
80) Bromobenzene	14.463	156	1203554	68.24	ug/L		93
81) 1,2,4-Trimethylbenzene	14.951	105	5665226	83.44	ug/L		99
82) 2-Chlorotoluene	14.604	91	4821335	81.71	ug/L		98
83) 4-Chlorotoluene	14.763	91	5008377	82.12	ug/L		98
84) tert-Butylbenzene	14.892	119	4383506	76.02	ug/L		97
85) 1,3,5-Trimethylbenzene	14.539	105	5448477	80.00	ug/L		99
86) p-Isopropyltoluene	15.186	119	5524575	79.38	ug/L		98
87) s-Butylbenzene	15.068	105	6633423	76.47	ug/L		99
88) 1,3-Dichlorobenzene	15.403	146	2520522	77.12	ug/L		92
89) 1,4-Dichlorobenzene	15.497	146	2541465	71.95	ug/L		97
90) n-Butylbenzene	15.668	91	5860785	81.86	ug/L		99
91) 1,2-Dichlorobenzene	16.014	146	2382455	76.18	ug/L		97
92) DBCP	17.072	157	190666	52.73	ug/L		100
93) Hexachlorobutadiene	17.977	225	565022	60.48	ug/L		98
94) 1,2,4-Trichlorobenzene	18.129	180	1164591	69.90	ug/L		97
95) Naphthalene	18.764	128	2466369	56.99	ug/L	#	85
96) 1,2,3-Trichlorobenzene	19.146	180	710050	52.92	ug/L		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN009.D
Acq On : 19 Nov 2020 11:51 am
Operator : KKW
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 19 12:26:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN010.D
Acq On : 19 Nov 2020 12:22 pm
Operator : KKW
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 19 12:45:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.845	168	1285587	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.438	114	2302813	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.218	82	1664856	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.480	152	1435917	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.422	113	933861	103.03	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 206.06%#				
52) D8-Toluene	11.772	98	4337450	107.80	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 215.60%#				
73) Bromofluorobenzene	14.322	95	2108455	108.54	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 217.08%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.969	85	1729312	96.53	ug/L		99
3) Chloromethane	4.392	50	1884981	79.02	ug/L		99
4) Vinyl Chloride	4.575	62	1709609	89.39	ug/L		97
5) Bromomethane	5.221	94	562300	151.12	ug/L		92
6) Chloroethane	5.427	64	330195	39.96	ug/L		93
7) Trichlorofluoromethane	5.667	101	2094954	103.45	ug/L		99
8) Diethyl ether	6.173	59	1111643	81.77	ug/L		100
9) 1,1-Dichloroethene	6.519	96	1173403	89.25	ug/L		99
10) Trichlorotrifluoroethane	6.543	151	786588	89.03	ug/L		98
11) Acrolein	7.007	56	2396965	591.46	ug/L		98
12) Iodomethane	6.766	142	5907666	661.12	ug/L	#	93
13) Carbon Disulfide	6.608	76	16659424	714.30	ug/L		99
14) 3-chloropropene	7.183	41	2222281	107.28	ug/L		97
15) Acetone	7.389	43	1481571	297.94	ug/L		96
16) Methylene Chloride	7.330	84	1324748	49.44	ug/L		99
17) Methyl Acetate	7.512	43	920388	65.78	ug/L	#	94
18) t-1,2-Dichloroethene	7.536	96	1331120	93.26	ug/L	#	1
19) Methyl tert-butyl ether	7.624	73	3435059	91.57	ug/L		95
20) Acetonitrile	8.012	41	2370312	762.58	ug/L		99
21) Isopropyl ether	8.041	45	4624660	95.17	ug/L		99
22) Chloroprene	8.259	88	1285297	98.29	ug/L		99
23) 1,1-Dichloroethane	8.306	63	2773122	93.94	ug/L		99
24) Acrylonitrile	8.376	53	4303032	585.15	ug/L		98
25) Vinyl Acetate	8.529	43	13302716	450.63	ug/L	#	100
26) c-1,2-Dichloroethene	8.940	96	1421324	86.36	ug/L		92
27) 2,2-Dichloropropane	9.064	77	2243269	99.55	ug/L		98
28) Bromochloromethane	9.175	128	412367	70.85	ug/L		94
29) Cyclohexane	9.181	56	2822334	98.73	ug/L		96
30) Chloroform	9.210	83	2558648	92.42	ug/L		100
32) Dibromofluoromethane	9.422	113	933861	103.03	ug/L	#	90
33) 2-Butanone	9.534	72	741450	332.90	ug/L		97
34) 1,1,1-Trichloroethane	9.475	97	2246059	100.46	ug/L		98
35) 1,1-Dichloropropene	9.598	75	2161746	99.68	ug/L		97
36) Propionitrile	9.892	54	1676766	631.70	ug/L	#	75
37) Methacrylonitrile	9.904	41	8006829	690.49	ug/L		97
38) Isobutyl Alcohol	9.898	43	2112005	1315.66	ug/L	#	92
40) Carbon Tetrachloride	9.404	117	1755533m	116.24	ug/L		
41) Benzene	9.868	78	5766714	96.23	ug/L		99
42) 1,2-Dichloroethane	10.080	62	1930831	100.90	ug/L		98
43) Trichloroethene	10.444	130	1169448	91.81	ug/L		97
44) Methyl cyclohexane	10.444	83	2631438	80.56	ug/L		97
45) Dibromomethane	10.891	93	789742	91.75	ug/L		93
46) 1,2-Dichloropropane	10.979	63	1695005	96.18	ug/L		99
47) Bromodichloromethane	11.008	83	1894020	115.80	ug/L		99
48) Methyl Methacrylate	11.067	69	994020	80.53	ug/L		98
49) 1,4-Dioxane	11.191	88	257887	938.82	ug/L		96
50) 2-Chloroethyl vinyl ether	11.484	63	4011514	477.62	ug/L		100
51) C-1,3-Dichloropropene	11.602	75	2565944	110.31	ug/L		99

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN010.D
Acq On : 19 Nov 2020 12:22 pm
Operator : KKW
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 19 12:45:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

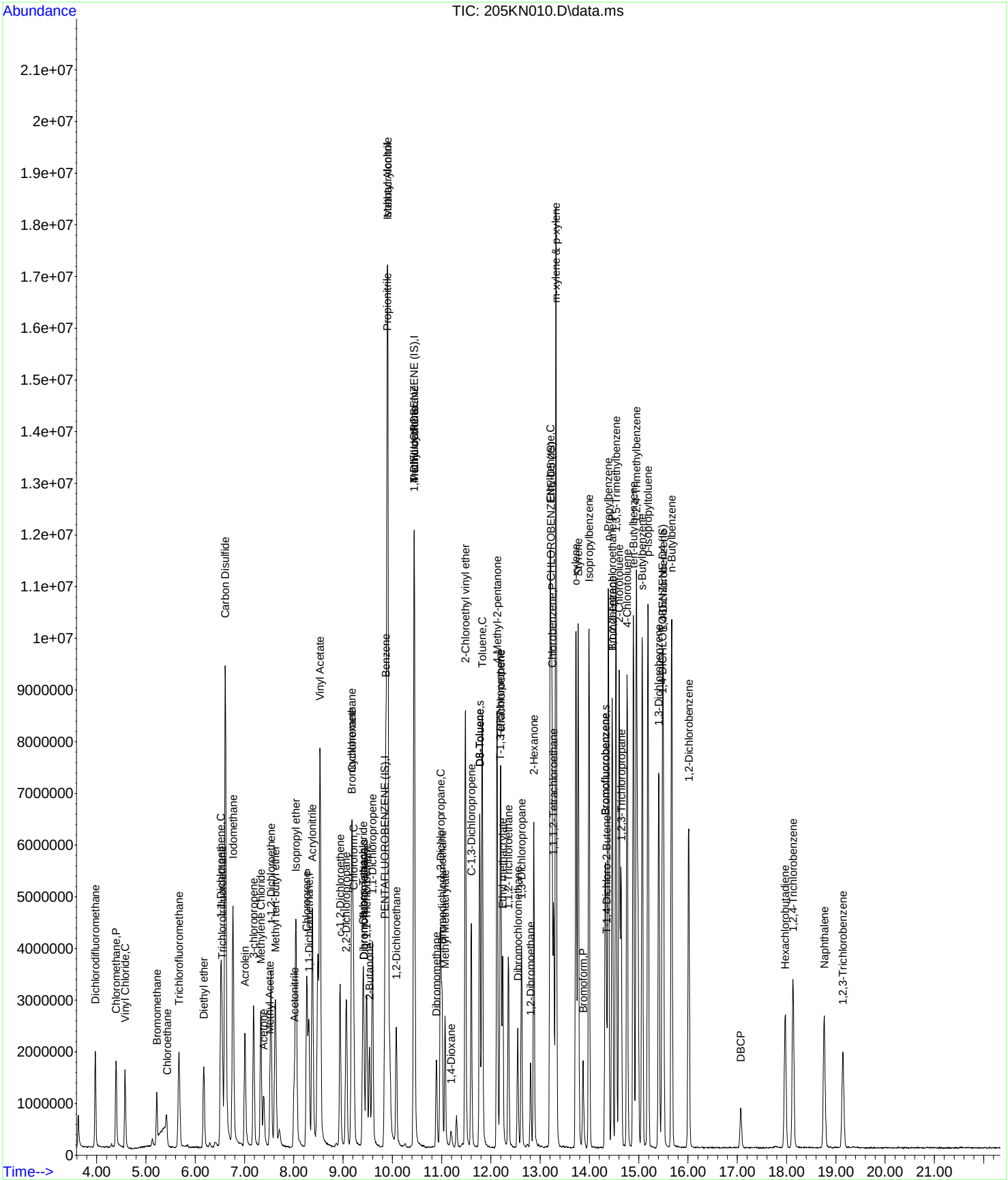
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.772	98	4337573	107.80	ug/L		98
54) 4-Methyl-2-pentanone	12.125	100	775468	323.43	ug/L		93
56) Toluene	11.825	92	3691514	77.66	ug/L		99
57) T-1,3-Dichloropropene	12.189	75	2097211	87.81	ug/L		98
58) Tetrachloroethene	12.201	164	983418	90.35	ug/L		97
59) Ethyl methacrylate	12.236	69	1865494	83.03	ug/L		98
60) 1,1,2-Trichloroethane	12.354	97	1193110	83.27	ug/L		98
61) Dibromochloromethane	12.548	129	1209740	105.87	ug/L		99
62) 1,3-Dichloropropane	12.624	76	2375424	88.01	ug/L		98
63) 1,2-Dibromoethane	12.806	107	1199542	86.44	ug/L		99
64) 2-Hexanone	12.871	43	4248110	303.44	ug/L		98
65) Ethylbenzene	13.206	106	2150547	87.78	ug/L		100
66) Chlorobenzene	13.241	112	3615945	87.06	ug/L		100
67) 1,1,1,2-Tetrachloroethane	13.270	131	1239896	96.10	ug/L		99
68) m-xylene & p-xylene	13.317	106	5107094	173.87	ug/L		95
69) o-xylene	13.723	106	2739594	90.52	ug/L		96
70) Styrene	13.770	104	4673554	87.58	ug/L		98
71) Bromoform	13.870	173	749514	107.97	ug/L		99
72) Isopropylbenzene	13.993	105	7193576	91.67	ug/L		98
74) Bromofluorobenzene	14.322	95	2108455	108.54	ug/L		84
75) n-Propylbenzene	14.381	91	9558022	97.18	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.463	83	1725499	79.29	ug/L		97
77) 1,2,3-Trichloropropane	14.645	61	623122m	81.80	ug/L		
78) T-1,4-Dichloro-2-Butene	14.346	53	657623	81.00	ug/L	#	91
80) Bromobenzene	14.463	156	1499222	82.28	ug/L		95
81) 1,2,4-Trimethylbenzene	14.951	105	6937425	98.90	ug/L		99
82) 2-Chlorotoluene	14.604	91	5882946	96.50	ug/L		99
83) 4-Chlorotoluene	14.763	91	6159101	97.75	ug/L		99
84) tert-Butylbenzene	14.892	119	5367420	90.10	ug/L		96
85) 1,3,5-Trimethylbenzene	14.540	105	6856962	97.46	ug/L		99
86) p-Isopropyltoluene	15.186	119	6748507	93.85	ug/L		98
87) s-Butylbenzene	15.068	105	8074381	90.10	ug/L		99
88) 1,3-Dichlorobenzene	15.403	146	3220656	95.38	ug/L		96
89) 1,4-Dichlorobenzene	15.497	146	3220603	88.26	ug/L		97
90) n-Butylbenzene	15.668	91	7147393	96.63	ug/L		100
91) 1,2-Dichlorobenzene	16.014	146	2892946	89.54	ug/L		97
92) DBCP	17.072	157	236625	63.35	ug/L		99
93) Hexachlorobutadiene	17.971	225	722622	74.88	ug/L		98
94) 1,2,4-Trichlorobenzene	18.130	180	1395430	81.07	ug/L		96
95) Naphthalene	18.764	128	2976771	66.58	ug/L	#	89
96) 1,2,3-Trichlorobenzene	19.140	180	880580	63.53	ug/L		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN010.D
Acq On : 19 Nov 2020 12:22 pm
Operator : KKW
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 19 12:45:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN012.D
Acq On : 19 Nov 2020 1:24 pm
Operator : KKW
Sample : SCV
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Nov 20 07:34:48 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 13:02:55 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.851	168	1335071	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2438645	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.223	82	1652574	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.480	152	1403353	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.422	113	685210	49.76	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 99.52%				
52) D8-Toluene	11.772	98	3142816	52.18	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 104.36%				
73) Bromofluorobenzene	14.322	95	1543298	52.29	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 104.58%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.975	85	354802	20.59	ug/L		99
3) Chloromethane	4.392	50	396453	19.98	ug/L		99
4) Vinyl Chloride	4.574	62	333797	20.72	ug/L		99
5) Bromomethane	5.221	94	110552	24.95	ug/L	#	94
6) Chloroethane	5.432	64	153751	21.69	ug/L		99
7) Trichlorofluoromethane	5.685	101	412512	20.58	ug/L		98
8) Diethyl ether	6.173	59	554603	49.76	ug/L		97
9) 1,1-Dichloroethene	6.525	96	564914	49.01	ug/L		93
10) Trichlorotrifluoroethane	6.549	151	394789	51.14	ug/L		94
11) Acrolein	7.007	56	547444	236.15	ug/L		99
12) Iodomethane	6.772	142	594142	48.06	ug/L		94
13) Carbon Disulfide	6.613	76	1963334	52.00	ug/L		98
14) 3-chloropropene	7.189	41	1102445	48.40	ug/L		95
15) Acetone	7.389	43	750521	239.27	ug/L		97
16) Methylene Chloride	7.336	84	659865	47.21	ug/L		98
17) Methyl Acetate	7.518	43	372876	38.04	ug/L		94
18) t-1,2-Dichloroethene	7.542	96	638351	47.86	ug/L		99
19) Methyl tert-butyl ether	7.630	73	1657107	49.09	ug/L		99
20) Acetonitrile	8.041	41	785041	308.73	ug/L	#	90
21) Isopropyl ether	8.047	45	2283591	50.97	ug/L		98
22) Chloroprene	8.264	88	634995	49.71	ug/L		93
23) 1,1-Dichloroethane	8.311	63	1308548	47.70	ug/L		99
24) Acrylonitrile	8.376	53	249323	60.18	ug/L	#	99
25) Vinyl Acetate	8.535	43	1300608	46.27	ug/L		100
26) c-1,2-Dichloroethene	8.940	96	705586	49.95	ug/L		96
27) 2,2-Dichloropropane	9.063	77	1095632	46.78	ug/L		99
28) Bromochloromethane	9.175	128	266834	53.48	ug/L		96
29) Cyclohexane	9.181	56	1373332	46.02	ug/L		96
30) Chloroform	9.216	83	1281179	48.90	ug/L		100
32) Dibromofluoromethane	9.422	113	685210	49.76	ug/L	#	91
33) 2-Butanone	9.533	72	375785	245.67	ug/L		89
34) 1,1,1-Trichloroethane	9.481	97	1094873	50.62	ug/L		99
35) 1,1-Dichloropropene	9.598	75	1049130	47.68	ug/L		99
36) Propionitrile	9.898	54	103230	54.97	ug/L	#	1
37) Methacrylonitrile	9.904	41	623847	67.28	ug/L	#	82
38) Isobutyl Alcohol	9.898	43	631905	563.50	ug/L	#	72
40) Carbon Tetrachloride	9.410	117	1013178	55.46	ug/L		87
41) Benzene	9.868	78	2985915	53.56	ug/L		99
42) 1,2-Dichloroethane	10.080	62	932453	45.85	ug/L		96
43) Trichloroethene	10.444	130	605829	53.80	ug/L		95
44) Methyl cyclohexane	10.444	83	1328496	47.49	ug/L		98
45) Dibromomethane	10.897	93	387497	48.92	ug/L		94
46) 1,2-Dichloropropane	10.979	63	828991	49.81	ug/L		96
47) Bromodichloromethane	11.008	83	913394	49.93	ug/L		99
48) Methyl Methacrylate	11.073	69	508778	49.14	ug/L		96
49) 1,4-Dioxane	11.190	88	124499	880.66	ug/L		100
50) 2-Chloroethyl vinyl ether	11.484	63	2098051	267.05	ug/L		99
51) C-1,3-Dichloropropene	11.602	75	1207357	48.81	ug/L		100

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN012.D
Acq On : 19 Nov 2020 1:24 pm
Operator : KKW
Sample : SCV
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Nov 20 07:34:48 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 13:02:55 2020
Response via : Initial Calibration

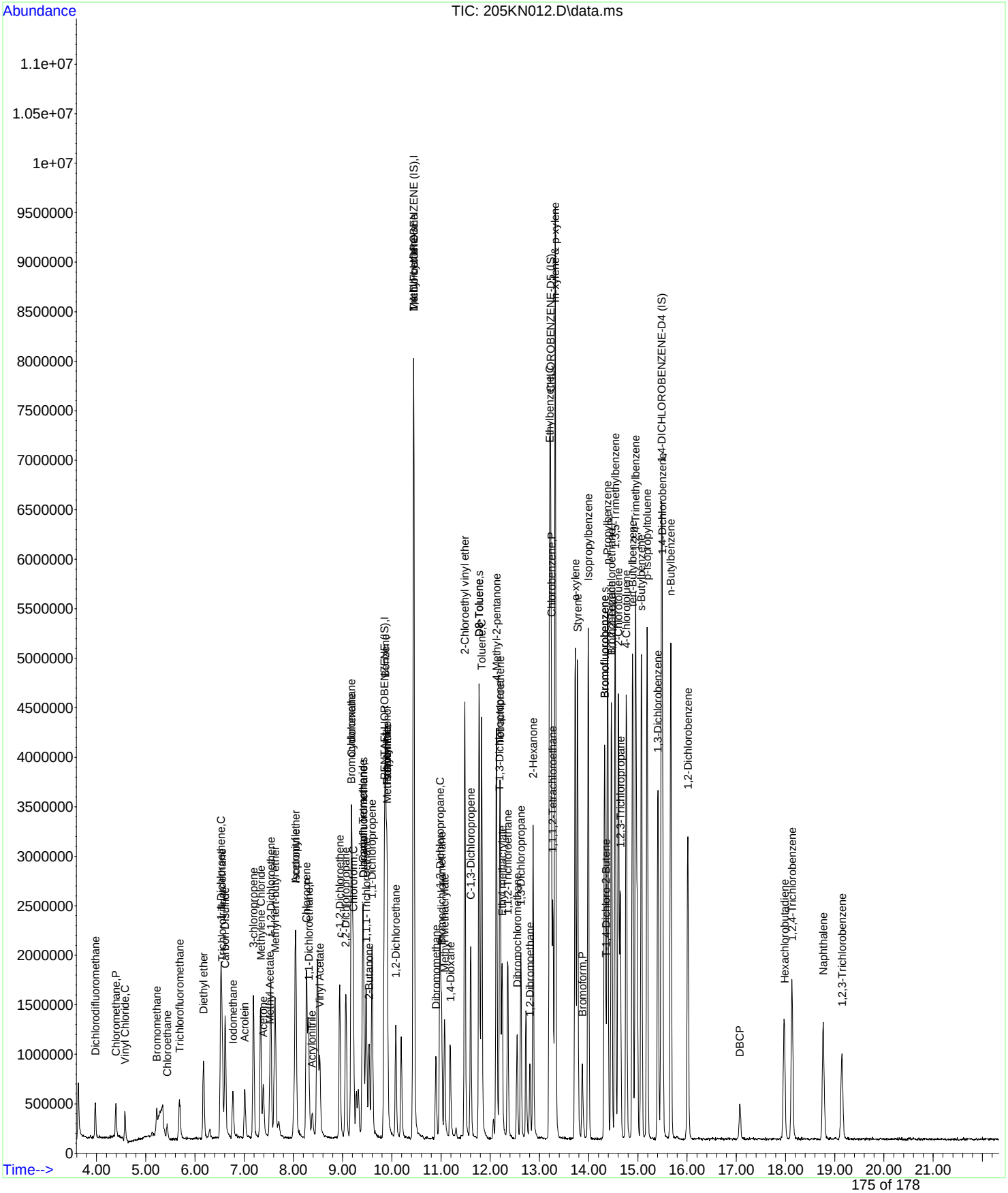
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.772	98	3142816	52.18	ug/L		97
54) 4-Methyl-2-pentanone	12.125	100	383259	231.64	ug/L		95
56) Toluene	11.825	92	1866440	52.93	ug/L		98
57) T-1,3-Dichloropropene	12.189	75	1033154	49.24	ug/L		99
58) Tetrachloroethene	12.201	164	470073	48.46	ug/L		97
59) Ethyl methacrylate	12.242	69	931908	49.65	ug/L		99
60) 1,1,2-Trichloroethane	12.354	97	593568	49.82	ug/L		99
61) Dibromochloromethane	12.548	129	570220	51.92	ug/L		99
62) 1,3-Dichloropropane	12.624	76	1136370	51.51	ug/L		97
63) 1,2-Dibromoethane	12.806	107	573185	51.69	ug/L		93
64) 2-Hexanone	12.871	43	2041750	251.42	ug/L		100
65) Ethylbenzene	13.206	106	1045939	48.81	ug/L		98
66) Chlorobenzene	13.241	112	1837265	51.72	ug/L		99
67) 1,1,1,2-Tetrachloroethane	13.270	131	607147	57.12	ug/L		98
68) m-xylene & p-xylene	13.317	106	2627132	105.62	ug/L		99
69) o-xylene	13.729	106	1344899	52.72	ug/L		99
70) Styrene	13.776	104	2296941	55.15	ug/L		99
71) Bromoform	13.870	173	332797	51.92	ug/L		100
72) Isopropylbenzene	13.993	105	3652042	54.39	ug/L		99
74) Bromofluorobenzene	14.322	95	1543298	52.29	ug/L		85
75) n-Propylbenzene	14.381	91	4786801	53.33	ug/L		100
76) 1,1,2,2-Tetrachloroethane	14.463	83	859359	51.62	ug/L		98
77) 1,2,3-Trichloropropane	14.645	61	288427m	47.38	ug/L		
78) T-1,4-Dichloro-2-Butene	14.351	53	318781	48.51	ug/L		95
80) Bromobenzene	14.463	156	749613	53.05	ug/L		96
81) 1,2,4-Trimethylbenzene	14.951	105	3477379	52.93	ug/L		99
82) 2-Chlorotoluene	14.604	91	2933062	53.11	ug/L		99
83) 4-Chlorotoluene	14.763	91	3049254	52.88	ug/L		99
84) tert-Butylbenzene	14.892	119	2595739	52.01	ug/L		96
85) 1,3,5-Trimethylbenzene	14.539	105	3405478	53.50	ug/L		100
86) p-Isopropyltoluene	15.186	119	3361992	54.23	ug/L		98
87) s-Butylbenzene	15.068	105	4051789	54.26	ug/L		99
88) 1,3-Dichlorobenzene	15.403	146	1547832	54.68	ug/L		99
89) 1,4-Dichlorobenzene	15.497	146	1537044	50.65	ug/L		98
90) n-Butylbenzene	15.668	91	3443258	53.41	ug/L		99
91) 1,2-Dichlorobenzene	16.014	146	1386436	51.89	ug/L		98
92) DBCP	17.072	157	121400	54.71	ug/L		84
93) Hexachlorobutadiene	17.983	225	335097	51.35	ug/L		98
94) 1,2,4-Trichlorobenzene	18.135	180	663064	49.00	ug/L		98
95) Naphthalene	18.764	128	1360689	47.72	ug/L	#	88
96) 1,2,3-Trichlorobenzene	19.146	180	408536	50.47	ug/L		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN012.D
Acq On : 19 Nov 2020 1:24 pm
Operator : KKW
Sample : SCV
Misc :
ALS Vial : 11 Sample Multiplier: 1

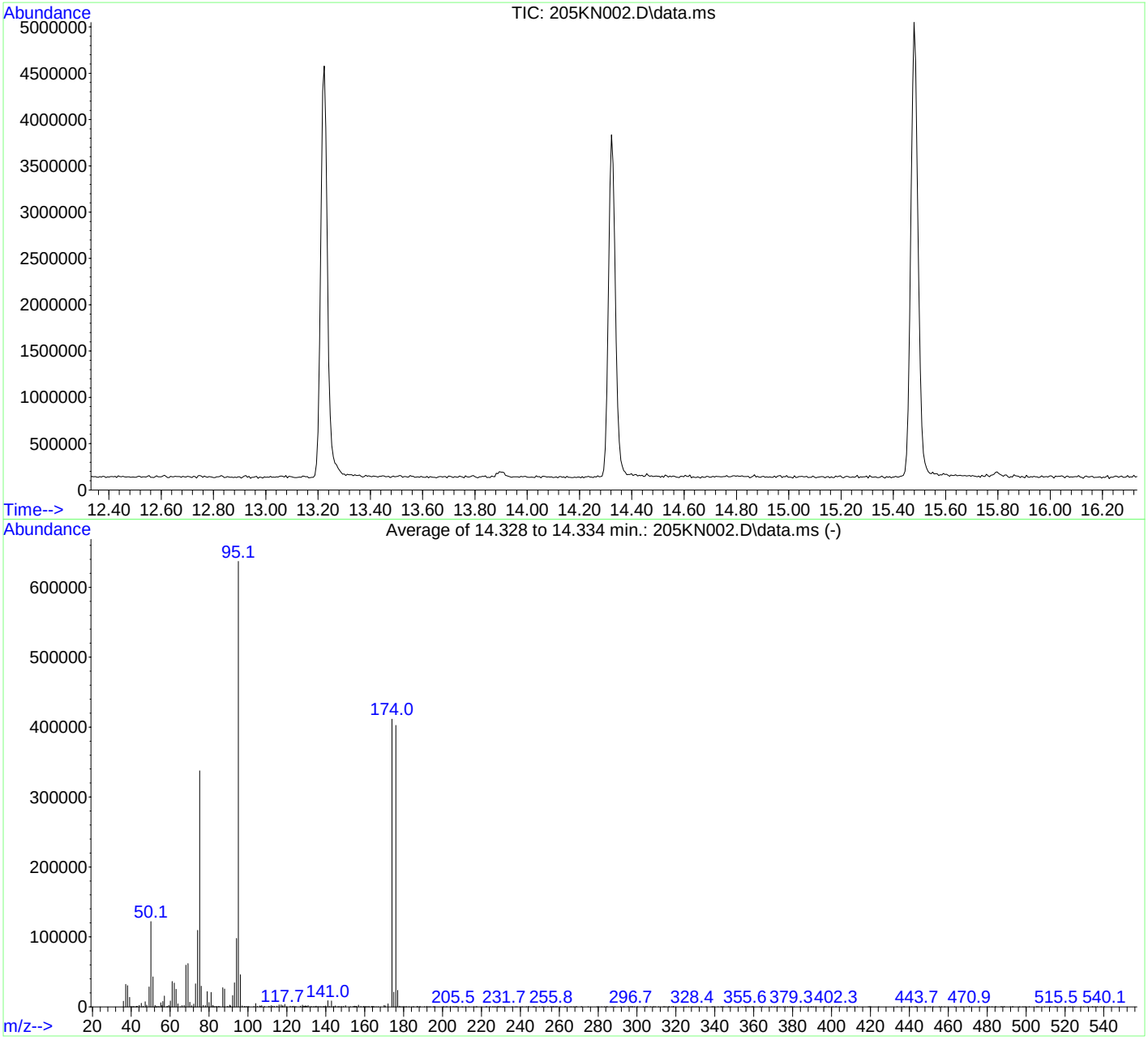
Quant Time: Nov 20 07:34:48 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 13:02:55 2020
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\111920\
Data File : 205KN002.D
Acq On : 19 Nov 2020 8:07 am
Operator : KKW
Sample : TUN1
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\methods\111920W.M
Title : ENCO SOP VGCMS05; Element Cal 2011113
Last Update : Fri Nov 20 09:50:30 2020



Spectrum Information: Average of 14.328 to 14.334 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
95	174	50	200	154.9	636951	PASS
96	95	5	9	7.2	46014	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	200	64.6	411328	PASS
175	174	5	9	5.1	21111	PASS
176	174	95	105	97.9	402612	PASS
177	176	5	10	5.8	23424	PASS

TETRA TECH ISG
TtNUS, Information Systems Group

Completion Ticket

On 12/30/2020 at 3:25 PM the following files were submitted to Tetra Tech by kdylnicki@encolabs.com with ENCO:

TE016AD08762A1.txt, TE016AD08762A3.txt

If you need to identify this session at a later date refer to Ticket Key:

20201230_1884647813_ledd_ENCO

You may print this page by clicking on the "Print This Page" button

Thank you for using the Data Checker, to upload more files click the "Upload/Check Files" link on navigation menu.

Print this Page Back To Upload

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I Lori S. Mangrum, as the designated Quality Assurance Officer, hereby attest that all electronic deliverables have been thoroughly reviewed and are in agreement with the associated hardcopy data. The enclosed electronic files have been reviewed for accuracy (including significant figures), completeness and format. The laboratory will be responsible for any labor time necessary to correct enclosed electronic deliverables that have been found to be in error. I can be reached at (407) 826-5314 if there are any questions or problems with the enclosed electronic deliverables.

Signature:_____ Title: Quality Assurance Manager Date: January 11, 2021

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ENCO Laboratories

Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Monday, December 28, 2020
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AD08762

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Monday, December 21, 2020.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

www.encolabs.com

Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Client PM: Alex Murphy
Project Number: 112G08970
ENCO Project ID: AD08762
SDG: AD08762-TE016

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling and processing will be discussed in the Remarks section below.

Remarks

List of instruments used:

Analytical and Preparation Method	SOP Reference Instrument
EPA 8260D / 5030B_MS	OVGCMS5

Analysis: EPA 8260D

Manual integrations were performed on samples associated with EPA 8260D. All data & explanations are included in the raw data section of the report.

Affected Samples: CRCA-ASEFFLUENT-20201221[AD08762-01], CRCA-ASINFLUENT-20201221[AD08762-02], AA64189-CCV1
The associated continuing calibration verification standard exhibited high bias for 1,1,1-trichloroethane and bromomethane. The analytes were not detected in the sample.

Affected Samples: CRCA-ASEFFLUENT-20201221[AD08762-01], CRCA-ASINFLUENT-20201221[AD08762-02], 0L23041-BS1
The associated laboratory control sample exhibited low bias for methyl acetate; the associated sample had ND (non-detect) results, but sensitivity was verified by analyzing a standard with a concentration equivalent to the reporting limit.

Affected Samples: 0L23041-MS1, 0L23041-MSD1
Matrix spike recovery was outside acceptance limits for methyl acetate.

Affected Samples: 0L23041-MS1, 0L23041-MSD1
Precision between duplicate matrix spikes for the same sample was outside acceptance limits for bromomethane.

Affected Samples: AA64189-CCV1
The continuing calibration verification standard exhibited low bias for multiple analytes; the associated sample had ND (non-detect) results, but sensitivity was verified by analyzing a standard with a concentration equivalent to the reporting limit.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Kaitlin Dylnicki
Project Manager

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-ASEFFLUENT-20201221	Lab ID: AD08762-01	Sampled: 12/21/20 14:30	Received: 12/21/20 15:07

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	01/04/21	12/23/20 13:25	12/24/20 06:44

Client ID: CRCA-ASINFLUENT-20201221	Lab ID: AD08762-02	Sampled: 12/21/20 14:40	Received: 12/21/20 15:07

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	01/04/21	12/23/20 13:25	12/24/20 07:14

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-ASINFLUENT-20201221 **Lab ID:** AD08762-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
cis-1,2-Dichloroethene	0.53	I	0.53	2.5	ug/L	EPA 8260D	
trans-1,2-Dichloroethene	1.3	I	0.73	2.5	ug/L	EPA 8260D	
Vinyl chloride	16		0.71	2.5	ug/L	EPA 8260D	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20201221 **Lab Sample ID:** AD08762-01 **Received:** 12/21/20 15:07

Matrix: Ground Water **Sampled:** 12/21/20 14:30 **Work Order:** AD08762

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	QV-01
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	0L23041	EPA 8260D	12/24/20 06:44	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	0L23041	EPA 8260D	12/24/20 06:44	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20201221 **Lab Sample ID:** AD08762-01 **Received:** 12/21/20 15:07

Matrix: Ground Water **Sampled:** 12/21/20 14:30 **Work Order:** AD08762

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	0L23041	EPA 8260D	12/24/20 06:44	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*55*	*1*	*50.0*	*109 %*	*41-142*	*0L23041*	*EPA 8260D*	*12/24/20 06:44*	*KKW*	
Dibromofluoromethane	*59*	*1*	*50.0*	*117 %*	*53-146*	*0L23041*	*EPA 8260D*	*12/24/20 06:44*	*KKW*	
Toluene-d8	*51*	*1*	*50.0*	*101 %*	*41-146*	*0L23041*	*EPA 8260D*	*12/24/20 06:44*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20201221 **Lab Sample ID:** AD08762-02 **Received:** 12/21/20 15:07

Matrix: Ground Water **Sampled:** 12/21/20 14:40 **Work Order:** AD08762

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	QV-01
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	0L23041	EPA 8260D	12/24/20 07:14	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	0L23041	EPA 8260D	12/24/20 07:14	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
cis-1,2-Dichloroethene [156-59-2]^	**0.53**	I	ug/L	1	0.53	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
trans-1,2-Dichloroethene [156-60-5]^	**1.3**	I	ug/L	1	0.73	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	

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ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20201221 **Lab Sample ID:** AD08762-02 **Received:** 12/21/20 15:07

Matrix: Ground Water **Sampled:** 12/21/20 14:40 **Work Order:** AD08762

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Vinyl chloride [75-01-4]^	**16**		ug/L	1	0.71	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	0L23041	EPA 8260D	12/24/20 07:14	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*55*	*1*	*50.0*	*110 %*	*41-142*	*0L23041*	*EPA 8260D*	*12/24/20 07:14*	*KKW*	
Dibromofluoromethane	*58*	*1*	*50.0*	*116 %*	*53-146*	*0L23041*	*EPA 8260D*	*12/24/20 07:14*	*KKW*	
Toluene-d8	*50*	*1*	*50.0*	*100 %*	*41-146*	*0L23041*	*EPA 8260D*	*12/24/20 07:14*	*KKW*	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0L23041 - EPA 5030B_MS

Blank (0L23041-BLK1) Prepared: 12/23/2020 13:25 Analyzed: 12/23/2020 22:49

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0L23041 - EPA 5030B_MS - Continued

Blank (0L23041-BLK1) Continued Prepared: 12/23/2020 13:25 Analyzed: 12/23/2020 22:49

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*53*			*ug/L*	*50.0*		*105*	*41-142*			
Dibromofluoromethane	*60*			*ug/L*	*50.0*		*120*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*99*	*41-146*			

LCS (0L23041-BS1) Prepared: 12/23/2020 13:25 Analyzed: 12/23/2020 20:51

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	24		2.5	ug/L	20.0		121	57-148			
1,1,2,2-Tetrachloroethane	20		2.5	ug/L	20.0		101	60-139			
1,1,2-Trichloroethane	17		2.5	ug/L	20.0		87	57-141			
1,1-Dichloroethane	19		2.5	ug/L	20.0		95	57-142			
1,1-Dichloroethene	19		2.5	ug/L	20.0		96	47-139			
1,2,4-Trichlorobenzene	16		2.5	ug/L	20.0		82	52-159			
1,2-Dibromo-3-chloropropane	17		2.5	ug/L	20.0		84	48-150			
1,2-Dibromoethane	20		2.5	ug/L	20.0		98	57-140			
1,2-Dichlorobenzene	20		2.5	ug/L	20.0		99	63-131			
1,2-Dichloroethane	19		2.5	ug/L	20.0		97	50-156			
1,2-Dichloropropane	17		2.5	ug/L	20.0		83	61-133			
1,3-Dichlorobenzene	19		2.5	ug/L	20.0		97	66-129			
1,4-Dichlorobenzene	19		2.5	ug/L	20.0		97	65-133			
2-Butanone	74		12	ug/L	100		74	10-180			
2-Hexanone	83		12	ug/L	100		83	12-180			
4-Methyl-2-pentanone	91		12	ug/L	100		91	19-180			
Acetone	95		25	ug/L	100		95	10-180			
Benzene	19		2.5	ug/L	20.0		94	56-136			
Bromodichloromethane	20		2.5	ug/L	20.0		101	58-135			
Bromoform	16		2.5	ug/L	20.0		81	46-148			
Bromomethane	7.2		2.5	ug/L	20.0		36	10-173			
Carbon disulfide	20		12	ug/L	20.0		102	43-153			
Carbon Tetrachloride	19		2.5	ug/L	20.0		93	54-156			
Chlorobenzene	21		2.5	ug/L	20.0		104	51-139			
Chloroethane	21		2.5	ug/L	20.0		107	27-180			
Chloroform	22		2.5	ug/L	20.0		111	58-139			
Chloromethane	11		2.5	ug/L	20.0		57	33-154			
cis-1,2-Dichloroethene	20		2.5	ug/L	20.0		101	56-128			
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0		85	64-128			
Cyclohexane	17		2.5	ug/L	20.0		87	70-130			
Dibromochloromethane	20		2.5	ug/L	20.0		98	50-140			
Dichlorodifluoromethane	23		2.5	ug/L	20.0		114	10-180			
Ethylbenzene	19		2.5	ug/L	20.0		97	63-133			
Freon 113	18		2.5	ug/L	20.0		92	47-173			
Isopropylbenzene	21		2.5	ug/L	20.0		107	60-132			
m,p-Xylenes	42		5.0	ug/L	40.0		106	64-133			
Methyl acetate	13		2.5	ug/L	20.0		65	70-130			A-07
Methyl cyclohexane	18		2.5	ug/L	20.0		90	70-130			
Methylene Chloride	20		12	ug/L	20.0		102	43-142			
Methyl-tert-Butyl Ether	22		2.5	ug/L	20.0		109	51-145			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0L23041 - EPA 5030B_MS - Continued

LCS (0L23041-BS1) Continued Prepared: 12/23/2020 13:25 Analyzed: 12/23/2020 20:51

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
o-Xylene	20		2.5	ug/L	20.0		100	61-129			
Styrene	21		2.5	ug/L	20.0		107	59-136			
Tetrachloroethene	16		2.5	ug/L	20.0		80	60-147			
Toluene	20		2.5	ug/L	20.0		99	64-131			
trans-1,2-Dichloroethene	20		2.5	ug/L	20.0		100	54-134			
trans-1,3-Dichloropropene	19		2.5	ug/L	20.0		97	65-149			
Trichloroethene	19		2.5	ug/L	20.0		97	62-135			
Trichlorofluoromethane	22		2.5	ug/L	20.0		112	56-155			
Vinyl chloride	19		2.5	ug/L	20.0		93	20-167			
4-Bromofluorobenzene	*55*			*ug/L*	*50.0*		*110*	*41-142*			
Dibromofluoromethane	*59*			*ug/L*	*50.0*		*118*	*53-146*			
Toluene-d8	*52*			*ug/L*	*50.0*		*104*	*41-146*			

Matrix Spike (0L23041-MS1) Prepared: 12/23/2020 13:25 Analyzed: 12/23/2020 21:20

Source: AD08695-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	27		2.5	ug/L	20.0	0.80 U	136	57-148			
1,1,2,2-Tetrachloroethane	21		2.5	ug/L	20.0	0.54 U	105	60-139			
1,1,2-Trichloroethane	21		2.5	ug/L	20.0	0.76 U	104	57-141			
1,1-Dichloroethane	21		2.5	ug/L	20.0	0.62 U	104	57-142			
1,1-Dichloroethene	23		2.5	ug/L	20.0	0.94 U	114	47-139			
1,2,4-Trichlorobenzene	17		2.5	ug/L	20.0	0.70 U	86	52-159			
1,2-Dibromo-3-chloropropane	18		2.5	ug/L	20.0	0.96 U	89	48-150			
1,2-Dibromoethane	21		2.5	ug/L	20.0	0.78 U	107	57-140			
1,2-Dichlorobenzene	22		2.5	ug/L	20.0	0.73 U	108	63-131			
1,2-Dichloroethane	20		2.5	ug/L	20.0	0.63 U	102	50-156			
1,2-Dichloropropane	18		2.5	ug/L	20.0	0.80 U	88	61-133			
1,3-Dichlorobenzene	23		2.5	ug/L	20.0	0.77 U	114	66-129			
1,4-Dichlorobenzene	20		2.5	ug/L	20.0	0.76 U	102	65-133			
2-Butanone	120		12	ug/L	100	4.5 U	122	10-180			
2-Hexanone	83		12	ug/L	100	2.5 U	83	12-180			
4-Methyl-2-pentanone	94		12	ug/L	100	2.5 U	94	19-180			
Acetone	100		25	ug/L	100	10 U	104	10-180			
Benzene	21		2.5	ug/L	20.0	0.71 U	103	56-136			
Bromodichloromethane	21		2.5	ug/L	20.0	0.52 U	104	58-135			
Bromoform	19		2.5	ug/L	20.0	0.75 U	93	46-148			
Bromomethane	11		2.5	ug/L	20.0	0.95 U	55	10-173			QM-11
Carbon disulfide	23		12	ug/L	20.0	2.5 U	116	43-153			
Carbon Tetrachloride	21		2.5	ug/L	20.0	0.94 U	106	54-156			
Chlorobenzene	21		2.5	ug/L	20.0	0.72 U	106	51-139			
Chloroethane	26		2.5	ug/L	20.0	0.98 U	129	27-180			
Chloroform	25		2.5	ug/L	20.0	0.80 U	127	58-139			
Chloromethane	12		2.5	ug/L	20.0	0.82 U	62	33-154			
cis-1,2-Dichloroethene	21		2.5	ug/L	20.0	0.53 U	105	56-128			
cis-1,3-Dichloropropene	18		2.5	ug/L	20.0	0.59 U	88	64-128			
Cyclohexane	20		2.5	ug/L	20.0	0.93 U	101	70-130			
Dibromochloromethane	21		2.5	ug/L	20.0	0.50 U	103	50-140			
Dichlorodifluoromethane	26		2.5	ug/L	20.0	0.74 U	128	10-180			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0L23041 - EPA 5030B_MS - Continued

Matrix Spike (0L23041-MS1) Continued Prepared: 12/23/2020 13:25 Analyzed: 12/23/2020 21:20

Source: AD08695-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	21		2.5	ug/L	20.0	0.69 U	106	63-133			
Freon 113	22		2.5	ug/L	20.0	0.73 U	112	47-173			
Isopropylbenzene	22		2.5	ug/L	20.0	0.67 U	112	60-132			
m,p-Xylenes	44		5.0	ug/L	40.0	1.3 U	109	64-133			
Methyl acetate	12		2.5	ug/L	20.0	0.95 U	61	70-130			QM-19
Methyl cyclohexane	21		2.5	ug/L	20.0	0.64 U	104	70-130			
Methylene Chloride	20		12	ug/L	20.0	2.5 U	101	43-142			
Methyl-tert-Butyl Ether	24		2.5	ug/L	20.0	0.60 U	118	51-145			
o-Xylene	22		2.5	ug/L	20.0	0.53 U	108	61-129			
Styrene	22		2.5	ug/L	20.0	0.61 U	112	59-136			
Tetrachloroethene	18		2.5	ug/L	20.0	0.76 U	88	60-147			
Toluene	22		2.5	ug/L	20.0	0.72 U	110	64-131			
trans-1,2-Dichloroethene	23		2.5	ug/L	20.0	0.73 U	115	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0	0.73 U	104	65-149			
Trichloroethene	23		2.5	ug/L	20.0	0.89 U	117	62-135			
Trichlorofluoromethane	28		2.5	ug/L	20.0	0.94 U	142	56-155			
Vinyl chloride	23		2.5	ug/L	20.0	0.71 U	115	20-167			
4-Bromofluorobenzene	*55*			*ug/L*	*50.0*		*110*	*41-142*			
Dibromofluoromethane	*60*			*ug/L*	*50.0*		*119*	*53-146*			
Toluene-d8	*51*			*ug/L*	*50.0*		*102*	*41-146*			

Matrix Spike Dup (0L23041-MSD1) Prepared: 12/23/2020 13:25 Analyzed: 12/23/2020 21:50

Source: AD08695-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	26		2.5	ug/L	20.0	0.80 U	129	57-148	6	25	
1,1,2,2-Tetrachloroethane	18		2.5	ug/L	20.0	0.54 U	90	60-139	15	17	
1,1,2-Trichloroethane	18		2.5	ug/L	20.0	0.76 U	91	57-141	13	16	
1,1-Dichloroethane	21		2.5	ug/L	20.0	0.62 U	103	57-142	0.2	24	
1,1-Dichloroethene	23		2.5	ug/L	20.0	0.94 U	113	47-139	0.4	16	
1,2,4-Trichlorobenzene	17		2.5	ug/L	20.0	0.70 U	84	52-159	3	24	
1,2-Dibromo-3-chloropropane	21		2.5	ug/L	20.0	0.96 U	103	48-150	14	21	
1,2-Dibromoethane	19		2.5	ug/L	20.0	0.78 U	95	57-140	12	16	
1,2-Dichlorobenzene	21		2.5	ug/L	20.0	0.73 U	105	63-131	3	25	
1,2-Dichloroethane	20		2.5	ug/L	20.0	0.63 U	102	50-156	0.1	18	
1,2-Dichloropropane	17		2.5	ug/L	20.0	0.80 U	87	61-133	2	26	
1,3-Dichlorobenzene	22		2.5	ug/L	20.0	0.77 U	112	66-129	1	23	
1,4-Dichlorobenzene	21		2.5	ug/L	20.0	0.76 U	107	65-133	5	23	
2-Butanone	120		12	ug/L	100	4.5 U	117	10-180	4	29	
2-Hexanone	81		12	ug/L	100	2.5 U	81	12-180	2	28	
4-Methyl-2-pentanone	98		12	ug/L	100	2.5 U	98	19-180	4	24	
Acetone	100		25	ug/L	100	10 U	103	10-180	1	19	
Benzene	20		2.5	ug/L	20.0	0.71 U	101	56-136	2	14	
Bromodichloromethane	20		2.5	ug/L	20.0	0.52 U	102	58-135	2	19	
Bromoform	18		2.5	ug/L	20.0	0.75 U	89	46-148	4	18	
Bromomethane	16		2.5	ug/L	20.0	0.95 U	78	10-173	34	29	QM-11
Carbon disulfide	21		12	ug/L	20.0	2.5 U	104	43-153	11	26	
Carbon Tetrachloride	20		2.5	ug/L	20.0	0.94 U	101	54-156	5	27	
Chlorobenzene	21		2.5	ug/L	20.0	0.72 U	104	51-139	2	13	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0L23041 - EPA 5030B_MS - Continued

Matrix Spike Dup (0L23041-MSD1) Continued Prepared: 12/23/2020 13:25 Analyzed: 12/23/2020 21:50

Source: AD08695-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloroethane	24		2.5	ug/L	20.0	0.98 U	122	27-180	6	22	
Chloroform	25		2.5	ug/L	20.0	0.80 U	124	58-139	2	17	
Chloromethane	13		2.5	ug/L	20.0	0.82 U	64	33-154	3	31	
cis-1,2-Dichloroethene	23		2.5	ug/L	20.0	0.53 U	116	56-128	10	17	
cis-1,3-Dichloropropene	18		2.5	ug/L	20.0	0.59 U	89	64-128	2	20	
Cyclohexane	20		2.5	ug/L	20.0	0.93 U	100	70-130	0.8	20	
Dibromochloromethane	19		2.5	ug/L	20.0	0.50 U	97	50-140	6	18	
Dichlorodifluoromethane	25		2.5	ug/L	20.0	0.74 U	126	10-180	2	26	
Ethylbenzene	18		2.5	ug/L	20.0	0.69 U	91	63-133	15	18	
Freon 113	18		2.5	ug/L	20.0	0.73 U	90	47-173	22	30	
Isopropylbenzene	22		2.5	ug/L	20.0	0.67 U	111	60-132	1	23	
m,p-Xylenes	42		5.0	ug/L	40.0	1.3 U	106	64-133	3	18	
Methyl acetate	13		2.5	ug/L	20.0	0.95 U	64	70-130	5	20	QM-19
Methyl cyclohexane	21		2.5	ug/L	20.0	0.64 U	104	70-130	0.2	20	
Methylene Chloride	21		12	ug/L	20.0	2.5 U	103	43-142	2	23	
Methyl-tert-Butyl Ether	24		2.5	ug/L	20.0	0.60 U	118	51-145	0.4	22	
o-Xylene	20		2.5	ug/L	20.0	0.53 U	100	61-129	8	16	
Styrene	18		2.5	ug/L	20.0	0.61 U	92	59-136	20	32	
Tetrachloroethene	17		2.5	ug/L	20.0	0.76 U	83	60-147	6	21	
Toluene	20		2.5	ug/L	20.0	0.72 U	102	64-131	7	16	
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.73 U	110	54-134	5	20	
trans-1,3-Dichloropropene	20		2.5	ug/L	20.0	0.73 U	98	65-149	7	17	
Trichloroethene	22		2.5	ug/L	20.0	0.89 U	109	62-135	7	20	
Trichlorofluoromethane	27		2.5	ug/L	20.0	0.94 U	136	56-155	4	22	
Vinyl chloride	22		2.5	ug/L	20.0	0.71 U	112	20-167	3	24	
4-Bromofluorobenzene	*54*			*ug/L*	*50.0*		*108*	*41-142*			
Dibromofluoromethane	*61*			*ug/L*	*50.0*		*123*	*53-146*			
Toluene-d8	*52*			*ug/L*	*50.0*		*103*	*41-146*			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
A-07	Analyte biased low in LCS but detected in the reporting limit standard. Since the analyte in the associated sample was not detected, there is no impact on data quality.
QM-11	Precision between duplicate matrix spikes of the same sample was outside acceptance limits.
QM-19	The spike recovery was outside acceptance limits for the MS and/or MSD.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported result is an estimated value.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence (85% or greater confidence) to make a “tentative identification".
Q	One or more quality control criteria failed.

AD08762

Tetra Tech, Inc.

CHAIN OF CUSTODY | **NUMBER** No. 1411 | **PAGE** 1 **OF** 1

PROJECT NO: 112G08970	**FACILITY:** CRCA	**PROJECT MANAGER** ALEX MURPHY	**PHONE NUMBER** 321-636-6470	**LABORATORY NAME AND CONTACT:** ENCO
SAMPLERS (SIGNATURE)		**FIELD OPERATIONS LEADER** DAN FORESTER	**PHONE NUMBER** 304-780-1426	**ADDRESS**
		CARRIER/WAYBILL NUMBER COURIER		**CITY, STATE** ORLANDO, FL

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2020	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TYPE OF ANALYSIS (SEE COMMENTS BELOW)								COMMENTS
									G	HCL									
21 DEC	1430	CRCA-A$EFFLUENT-20201221	CRCA	/	/	GW	G	3	X										
21 DEC	1440	CRCA-A$INFLUENT-20201221	CRCA	/	/	GW	G	3	X										

1. RELINQUISHED BY		DATE 21 DEC 20	TIME 1507	1. RECEIVED BY James W Gregory		DATE 21 DEC 20	TIME 1507
2. RELINQUISHED BY		DATE	TIME	2. RECEIVED BY		DATE	TIME
3. RELINQUISHED BY		DATE	TIME	3. RECEIVED BY		DATE	TIME

COMMENTS 82600 TCL Semi 1,2 CLP-LIKE Custom List SM2(1) 0.3°C

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

12/21/2020

Environmental Conservation Labs, Inc.

Alex Murphy
Tetra Tech, Inc. (TE016)
11 Riverside Drive, Suite 204
Cocoa, FL 32922
Phone: (321) 636-6470
Fax: (321) 636-6473

Reference : **Sample Receipt Confirmation - *Please Review***
Project Name / Number : NASA KSC CRCA / 112G08970
Purchase Order # : 1165883

Lab Reference # : AD08762 Lab Receipt Date: 21-Dec-20 15:07
Anticipated ***(Estimated)*** Completion Date: 29-Dec-20 19:00

This is an automated notification from our laboratory information management system (LIMS), indicating the samples we have recently received and their associated analyses. Should any of the following information be in error, please contact us immediately.

Thank you for choosing Environmental Conservation Laboratories. Should any events occur that delay the processing of your samples or inhibit our ability to complete the project within the projected time frame you will be contacted.

Sincerely,

Kaitlin Dylnicki

Client: Tetra Tech, Inc. (TE016) **Project Name:** NASA KSC CRCA
Requested TAT: 5 **Project Number:** 112G08970

Analysis	TAT	Expires	Status
Sample ID: CRCA-ASEFFLUENT-20201221(Lab ID: AD08762-01), Matrix: Ground Water, Sampled: 12-Dec-20 14:30 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	26-Dec-20 23:59	Received
Sample ID: CRCA-ASINFLUENT-20201221(Lab ID: AD08762-02), Matrix: Ground Water, Sampled: 12-Dec-20 14:40 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	26-Dec-20 23:59	Received

Analysis Groups included in this work order

ENCO Orlando

SDG: AD08762-TE016

CLASS: 01_VOA_MS

METHOD: EPA 8260D

ANALYSES DATA PACKAGE COVER PAGE

EPA 8260D

Laboratory: ENCO Orlando

SDG: AD08762-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-ASEFFLUENT-20201221	AD08762-01
CRCA-ASINFLUENT-20201221	AD08762-02

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLUENT-20201221

Laboratory: ENCO Orlando SDG: AD08762-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AD08762-01 File ID: 205LR047.D

Sampled: 12/21/20 14:30 Prepared: 12/23/20 13:25 Analyzed: 12/24/20 06:44

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 0L23041 Sequence: AA64189 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLUENT-20201221

Laboratory: ENCO Orlando SDG: AD08762-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AD08762-01 File ID: 205LR047.D

Sampled: 12/21/20 14:30 Prepared: 12/23/20 13:25 Analyzed: 12/24/20 06:44

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 0L23041 Sequence: AA64189 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	59	117	53 - 146	
Toluene-d8	50.0	51	101	41 - 146	
4-Bromofluorobenzene	50.0	55	109	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	995099	9.862	1217120	9.845	
1,4-Difluorobenzene	2133790	10.462	2353990	10.438	
Chlorobenzene-d5	1349368	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1090257	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLUENT-20201221

Laboratory: ENCO Orlando SDG: AD08762-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AD08762-02 File ID: 205LR048.D

Sampled: 12/21/20 14:40 Prepared: 12/23/20 13:25 Analyzed: 12/24/20 07:14

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 0L23041 Sequence: AA64189 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	16		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	1.3	J	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	J	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLUENT-20201221

Laboratory: ENCO Orlando SDG: AD08762-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AD08762-02 File ID: 205LR048.D

Sampled: 12/21/20 14:40 Prepared: 12/23/20 13:25 Analyzed: 12/24/20 07:14

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 0L23041 Sequence: AA64189 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	58	116	53 - 146	
Toluene-d8	50.0	50	100	41 - 146	
4-Bromofluorobenzene	50.0	55	110	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1055032	9.862	1217120	9.845	
1,4-Difluorobenzene	2164630	10.462	2353990	10.438	
Chlorobenzene-d5	1331984	13.241	1612072	13.217	
1,4-Dichlorobenzene-d4	1104363	15.503	1366836	15.474	

* Values outside of QC limits

HOLDING TIME SUMMARY

EPA 8260D

Laboratory: ENCO Orlando

SDG: AD08762-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-ASEFFLUENT-20201221	12/21/20 14:30	12/21/20 15:07	12/23/20 13:25	1.95	NA	12/24/20 06:44	3.00	14.00	
CRCA-ASINFLUENT-20201221	12/21/20 14:40	12/21/20 15:07	12/23/20 13:25	1.95	NA	12/24/20 07:14	3.00	14.00	

PREPARATION BATCH SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AD08762-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 0L23041 Batch Matrix: Water Preparation: EPA 5030B_MS

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	0L23041-BLK1	205LR031.D	12/23/20 13:25	
LCS	0L23041-BS1	205LR027.D	12/23/20 13:25	
MW-26	0L23041-MS1	205LR028.D	12/23/20 13:25	
MW-26	0L23041-MSD1	205LR029.D	12/23/20 13:25	
CRCA-ASEFFLUENT-20201221	AD08762-01	205LR047.D	12/23/20 13:25	
CRCA-ASINFLUENT-20201221	AD08762-02	205LR048.D	12/23/20 13:25	

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD08762-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	0L23041-BLK1	File ID:	205LR031.D
Prepared:	12/23/20 13:25	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	12/23/20 22:49	Instrument:	OVGCMS5		
Batch:	0L23041	Sequence:	AA64189	Calibration:	2011113

CAS NO.	COMPOUND	CONC. (ug/L)	Q
75-71-8	Dichlorodifluoromethane	0.74	U
74-87-3	Chloromethane	0.82	U
75-01-4	Vinyl chloride	0.71	U
74-83-9	Bromomethane	0.95	U
75-00-3	Chloroethane	0.98	U
75-69-4	Trichlorofluoromethane	0.94	U
76-13-1	Freon 113	0.73	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	0.94	U
75-15-0	Carbon disulfide	2.5	U
75-09-2	Methylene Chloride	2.5	U
1634-04-4	Methyl-tert-Butyl Ether	0.60	U
156-60-5	trans-1,2-Dichloroethene	0.73	U
156-59-2	cis-1,2-Dichloroethene	0.53	U
75-34-3	1,1-Dichloroethane	0.62	U
78-93-3	2-Butanone	4.5	U
67-66-3	Chloroform	0.80	U
71-55-6	1,1,1-Trichloroethane	0.80	U
79-20-9	Methyl acetate	0.95	U
110-82-7	Cyclohexane	0.93	U
108-87-2	Methyl cyclohexane	0.64	U
56-23-5	Carbon Tetrachloride	0.94	U
107-06-2	1,2-Dichloroethane	0.63	U
71-43-2	Benzene	0.71	U
79-01-6	Trichloroethene	0.89	U
78-87-5	1,2-Dichloropropane	0.80	U
75-27-4	Bromodichloromethane	0.52	U
108-10-1	4-Methyl-2-pentanone	2.5	U
591-78-6	2-Hexanone	2.5	U
10061-01-5	cis-1,3-Dichloropropene	0.59	U

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD08762-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	0L23041-BLK1	File ID:	205LR031.D
Prepared:	12/23/20 13:25	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	12/23/20 22:49	Instrument:	OVGCMS5		
Batch:	0L23041	Sequence:	AA64189	Calibration:	2011113

CAS NO.	COMPOUND	CONC. (ug/L)	Q
108-88-3	Toluene	0.72	U
10061-02-6	trans-1,3-Dichloropropene	0.73	U
79-00-5	1,1,2-Trichloroethane	0.76	U
127-18-4	Tetrachloroethene	0.76	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.78	U
108-90-7	Chlorobenzene	0.72	U
100-41-4	Ethylbenzene	0.69	U
108-38-3/106-42-3	m,p-Xylenes	1.3	U
95-47-6	o-Xylene	0.53	U
75-25-2	Bromoform	0.75	U
100-42-5	Styrene	0.61	U
98-82-8	Isopropylbenzene	0.67	U
79-34-5	1,1,2,2-Tetrachloroethane	0.54	U
120-82-1	1,2,4-Trichlorobenzene	0.70	U
541-73-1	1,3-Dichlorobenzene	0.77	U
106-46-7	1,4-Dichlorobenzene	0.76	U
95-50-1	1,2-Dichlorobenzene	0.73	U
96-12-8	1,2-Dibromo-3-chloropropane	0.96	U
1330-20-7	Xylenes (Total)	1.3	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	60	120	53 - 146	
Toluene-d8	50.0	49	99	41 - 146	
4-Bromofluorobenzene	50.0	53	105	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1128883	9.857	1217120	9.845	
1,4-Difluorobenzene	2476454	10.45	2353990	10.438	
Chlorobenzene-d5	1533672	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1198680	15.491	1366836	15.474	

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD08762-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	0L23041	Laboratory ID:	0L23041-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	23	114	10 - 180
Chloromethane	20.0	11	57	33 - 154
Vinyl chloride	20.0	19	93	20 - 167
Bromomethane	20.0	7.2	36	10 - 173
Chloroethane	20.0	21	107	27 - 180
Trichlorofluoromethane	20.0	22	112	56 - 155
Freon 113	20.0	18	92	47 - 173
Acetone	100	95	95	10 - 180
1,1-Dichloroethene	20.0	19	96	47 - 139
Carbon disulfide	20.0	20	102	43 - 153
Methylene Chloride	20.0	20	102	43 - 142
Methyl-tert-Butyl Ether	20.0	22	109	51 - 145
trans-1,2-Dichloroethene	20.0	20	100	54 - 134
cis-1,2-Dichloroethene	20.0	20	101	56 - 128
1,1-Dichloroethane	20.0	19	95	57 - 142
2-Butanone	100	74	74	10 - 180
Chloroform	20.0	22	111	58 - 139
1,1,1-Trichloroethane	20.0	24	121	57 - 148
Methyl acetate	20.0	13	65 *	70 - 130
Cyclohexane	20.0	17	87	70 - 130
Methyl cyclohexane	20.0	18	90	70 - 130
Carbon Tetrachloride	20.0	19	93	54 - 156
1,2-Dichloroethane	20.0	19	97	50 - 156
Benzene	20.0	19	94	56 - 136
Trichloroethene	20.0	19	97	62 - 135
1,2-Dichloropropane	20.0	17	83	61 - 133
Bromodichloromethane	20.0	20	101	58 - 135
4-Methyl-2-pentanone	100	91	91	19 - 180
2-Hexanone	100	83	83	12 - 180
cis-1,3-Dichloropropene	20.0	17	85	64 - 128

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD08762-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	0L23041	Laboratory ID:	0L23041-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Toluene	20.0	20	99	64 - 131
trans-1,3-Dichloropropene	20.0	19	97	65 - 149
1,1,2-Trichloroethane	20.0	17	87	57 - 141
Tetrachloroethene	20.0	16	80	60 - 147
Dibromochloromethane	20.0	20	98	50 - 140
1,2-Dibromoethane	20.0	20	98	57 - 140
Chlorobenzene	20.0	21	104	51 - 139
Ethylbenzene	20.0	19	97	63 - 133
m,p-Xylenes	40.0	42	106	64 - 133
o-Xylene	20.0	20	100	61 - 129
Bromoform	20.0	16	81	46 - 148
Styrene	20.0	21	107	59 - 136
Isopropylbenzene	20.0	21	107	60 - 132
1,1,2,2-Tetrachloroethane	20.0	20	101	60 - 139
1,2,4-Trichlorobenzene	20.0	16	82	52 - 159
1,3-Dichlorobenzene	20.0	19	97	66 - 129
1,4-Dichlorobenzene	20.0	19	97	65 - 133
1,2-Dichlorobenzene	20.0	20	99	63 - 131
1,2-Dibromo-3-chloropropane	20.0	17	84	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-26

Laboratory: ENCO Orlando
SDG: AD08762-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 0L23041
Laboratory ID: 0L23041-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-26

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	ND	26	128	10 - 180
Chloromethane	20.0	ND	12	62	33 - 154
Vinyl chloride	20.0	ND	23	115	20 - 167
Bromomethane	20.0	ND	11	55	10 - 173
Chloroethane	20.0	ND	26	129	27 - 180
Trichlorofluoromethane	20.0	ND	28	142	56 - 155
Freon 113	20.0	ND	22	112	47 - 173
Acetone	100	ND	100	104	10 - 180
1,1-Dichloroethene	20.0	ND	23	114	47 - 139
Carbon disulfide	20.0	ND	23	116	43 - 153
Methylene Chloride	20.0	ND	20	101	43 - 142
Methyl-tert-Butyl Ether	20.0	ND	24	118	51 - 145
trans-1,2-Dichloroethene	20.0	ND	23	115	54 - 134
cis-1,2-Dichloroethene	20.0	ND	21	105	56 - 128
1,1-Dichloroethane	20.0	ND	21	104	57 - 142
2-Butanone	100	ND	120	122	10 - 180
Chloroform	20.0	ND	25	127	58 - 139
1,1,1-Trichloroethane	20.0	ND	27	136	57 - 148
Methyl acetate	20.0	ND	12	61 *	70 - 130
Cyclohexane	20.0	ND	20	101	70 - 130
Methyl cyclohexane	20.0	ND	21	104	70 - 130
Carbon Tetrachloride	20.0	ND	21	106	54 - 156
1,2-Dichloroethane	20.0	ND	20	102	50 - 156
Benzene	20.0	ND	21	103	56 - 136
Trichloroethene	20.0	ND	23	117	62 - 135
1,2-Dichloropropane	20.0	ND	18	88	61 - 133
Bromodichloromethane	20.0	ND	21	104	58 - 135
4-Methyl-2-pentanone	100	ND	94	94	19 - 180
2-Hexanone	100	ND	83	83	12 - 180
cis-1,3-Dichloropropene	20.0	ND	18	88	64 - 128
Toluene	20.0	ND	22	110	64 - 131

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-26

Laboratory: ENCO Orlando
SDG: AD08762-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 0L23041
Laboratory ID: 0L23041-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-26

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
trans-1,3-Dichloropropene	20.0	ND	21	104	65 - 149
1,1,2-Trichloroethane	20.0	ND	21	104	57 - 141
Tetrachloroethene	20.0	ND	18	88	60 - 147
Dibromochloromethane	20.0	ND	21	103	50 - 140
1,2-Dibromoethane	20.0	ND	21	107	57 - 140
Chlorobenzene	20.0	ND	21	106	51 - 139
Ethylbenzene	20.0	ND	21	106	63 - 133
m,p-Xylenes	40.0	ND	44	109	64 - 133
o-Xylene	20.0	ND	22	108	61 - 129
Bromoform	20.0	ND	19	93	46 - 148
Styrene	20.0	ND	22	112	59 - 136
Isopropylbenzene	20.0	ND	22	112	60 - 132
1,1,2,2-Tetrachloroethane	20.0	ND	21	105	60 - 139
1,2,4-Trichlorobenzene	20.0	ND	17	86	52 - 159
1,3-Dichlorobenzene	20.0	ND	23	114	66 - 129
1,4-Dichlorobenzene	20.0	ND	20	102	65 - 133
1,2-Dichlorobenzene	20.0	ND	22	108	63 - 131
1,2-Dibromo-3-chloropropane	20.0	ND	18	89	48 - 150

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-26

Laboratory: ENCO Orlando
SDG: AD08762-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 0L23041
Laboratory ID: 0L23041-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-26

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20.0	25	126	2	26	10 - 180
Chloromethane	20.0	13	64	3	31	33 - 154
Vinyl chloride	20.0	22	112	3	24	20 - 167
Bromomethane	20.0	16	78	34 *	29	10 - 173
Chloroethane	20.0	24	122	6	22	27 - 180
Trichlorofluoromethane	20.0	27	136	4	22	56 - 155
Freon 113	20.0	18	90	22	30	47 - 173
Acetone	100	100	103	1	19	10 - 180
1,1-Dichloroethene	20.0	23	113	0.4	16	47 - 139
Carbon disulfide	20.0	21	104	11	26	43 - 153
Methylene Chloride	20.0	21	103	2	23	43 - 142
Methyl-tert-Butyl Ether	20.0	24	118	0.4	22	51 - 145
trans-1,2-Dichloroethene	20.0	22	110	5	20	54 - 134
cis-1,2-Dichloroethene	20.0	23	116	10	17	56 - 128
1,1-Dichloroethane	20.0	21	103	0.2	24	57 - 142
2-Butanone	100	120	117	4	29	10 - 180
Chloroform	20.0	25	124	2	17	58 - 139
1,1,1-Trichloroethane	20.0	26	129	6	25	57 - 148
Methyl acetate	20.0	13	64 *	5	20	70 - 130
Cyclohexane	20.0	20	100	0.8	20	70 - 130
Methyl cyclohexane	20.0	21	104	0.2	20	70 - 130
Carbon Tetrachloride	20.0	20	101	5	27	54 - 156
1,2-Dichloroethane	20.0	20	102	0.1	18	50 - 156
Benzene	20.0	20	101	2	14	56 - 136
Trichloroethene	20.0	22	109	7	20	62 - 135
1,2-Dichloropropane	20.0	17	87	2	26	61 - 133
Bromodichloromethane	20.0	20	102	2	19	58 - 135
4-Methyl-2-pentanone	100	98	98	4	24	19 - 180
2-Hexanone	100	81	81	2	28	12 - 180
cis-1,3-Dichloropropene	20.0	18	89	2	20	64 - 128
Toluene	20.0	20	102	7	16	64 - 131
trans-1,3-Dichloropropene	20.0	20	98	7	17	65 - 149

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-26

Laboratory: ENCO Orlando
SDG: AD08762-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 0L23041
Laboratory ID: 0L23041-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-26

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,2-Trichloroethane	20.0	18	91	13	16	57 - 141
Tetrachloroethene	20.0	17	83	6	21	60 - 147
Dibromochloromethane	20.0	19	97	6	18	50 - 140
1,2-Dibromoethane	20.0	19	95	12	16	57 - 140
Chlorobenzene	20.0	21	104	2	13	51 - 139
Ethylbenzene	20.0	18	91	15	18	63 - 133
m,p-Xylenes	40.0	42	106	3	18	64 - 133
o-Xylene	20.0	20	100	8	16	61 - 129
Bromoform	20.0	18	89	4	18	46 - 148
Styrene	20.0	18	92	20	32	59 - 136
Isopropylbenzene	20.0	22	111	1	23	60 - 132
1,1,2,2-Tetrachloroethane	20.0	18	90	15	17	60 - 139
1,2,4-Trichlorobenzene	20.0	17	84	3	24	52 - 159
1,3-Dichlorobenzene	20.0	22	112	1	23	66 - 129
1,4-Dichlorobenzene	20.0	21	107	5	23	65 - 133
1,2-Dichlorobenzene	20.0	21	105	3	25	63 - 131
1,2-Dibromo-3-chloropropane	20.0	21	103	14	21	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD08762-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA63653
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA63653-SCV1)			Lab File ID: 205KN012.D		Analyzed: 11/19/20 13:24			
Dibromofluoromethane	50.0	100	70 - 130	9.422	9.4205	0.0015	+/-0.5	
Toluene-d8	50.0	104	70 - 130	11.772	11.77275	-0.0008	+/-0.5	
4-Bromofluorobenzene	50.0	105	70 - 130	14.322	14.322	0.0000	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD08762-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64189
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA64189-CCV1)				Lab File ID: 205LR026.D		Analyzed: 12/23/20 20:21		
Dibromofluoromethane	50.0	119	80 - 120	9.428	9.4205	0.0075	+/-0.5	
Toluene-d8	50.0	104	80 - 120	11.784	11.77275	0.0113	+/-0.5	
4-Bromofluorobenzene	50.0	113	80 - 120	14.328	14.322	0.0060	+/-0.5	
LCS (0L23041-BS1)				Lab File ID: 205LR027.D		Analyzed: 12/23/20 20:51		
Dibromofluoromethane	50.0	118	53 - 146	9.428	9.4205	0.0075	+/-0.5	
Toluene-d8	50.0	104	41 - 146	11.778	11.77275	0.0053	+/-0.5	
4-Bromofluorobenzene	50.0	110	41 - 142	14.328	14.322	0.0060	+/-0.5	
Matrix Spike (0L23041-MS1)				Lab File ID: 205LR028.D		Analyzed: 12/23/20 21:20		
Dibromofluoromethane	50.0	119	53 - 146	9.434	9.4205	0.0135	+/-0.5	
Toluene-d8	50.0	102	41 - 146	11.784	11.77275	0.0113	+/-0.5	
4-Bromofluorobenzene	50.0	110	41 - 142	14.334	14.322	0.0120	+/-0.5	
Matrix Spike Dup (0L23041-MSD1)				Lab File ID: 205LR029.D		Analyzed: 12/23/20 21:50		
Dibromofluoromethane	50.0	123	53 - 146	9.428	9.4205	0.0075	+/-0.5	
Toluene-d8	50.0	103	41 - 146	11.784	11.77275	0.0113	+/-0.5	
4-Bromofluorobenzene	50.0	108	41 - 142	14.334	14.322	0.0120	+/-0.5	
Blank (0L23041-BLK1)				Lab File ID: 205LR031.D		Analyzed: 12/23/20 22:49		
Dibromofluoromethane	50.0	120	53 - 146	9.428	9.4205	0.0075	+/-0.5	
Toluene-d8	50.0	99	41 - 146	11.784	11.77275	0.0113	+/-0.5	
4-Bromofluorobenzene	50.0	105	41 - 142	14.334	14.322	0.0120	+/-0.5	
Instrument RL Check (AA64189-CRL1)				Lab File ID: 205LR032.D		Analyzed: 12/23/20 23:19		
Dibromofluoromethane	50.0	115	1 - 199	9.434	9.4205	0.0135	+/-0.5	
Toluene-d8	50.0	103	1 - 199	11.784	11.77275	0.0113	+/-0.5	
4-Bromofluorobenzene	50.0	108	1 - 199	14.334	14.322	0.0120	+/-0.5	
CRCA-ASEFFLUENT-20201221 (AD08762-01)				Lab File ID: 205LR047.D		Analyzed: 12/24/20 06:44		
Dibromofluoromethane	50.0	117	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	101	41 - 146	11.789	11.77275	0.0162	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	14.339	14.322	0.0170	+/-0.5	
CRCA-ASINFLUENT-20201221 (AD08762-02)				Lab File ID: 205LR048.D		Analyzed: 12/24/20 07:14		
Dibromofluoromethane	50.0	116	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	100	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	110	41 - 142	14.34	14.322	0.0180	+/-0.5	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AD08762-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA63653
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA63653-CAL1)			Lab File ID: 205KN003.D			Analyzed: 11/19/20 08:46			
Pentafluorobenzene	1250058	9.851	1217120	9.845	103	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2384669	10.444	2353990	10.438	101	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1608704	13.223	1612072	13.217	100	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1323293	15.48	1366836	15.474	97	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL2)			Lab File ID: 205KN004.D			Analyzed: 11/19/20 09:16			
Pentafluorobenzene	1204238	9.845	1217120	9.845	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2405138	10.438	2353990	10.438	102	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1568806	13.217	1612072	13.217	97	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1312583	15.48	1366836	15.474	96	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL3)			Lab File ID: 205KN005.D			Analyzed: 11/19/20 09:47			
Pentafluorobenzene	1203996	9.845	1217120	9.845	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2450219	10.438	2353990	10.438	104	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1607155	13.217	1612072	13.217	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1325758	15.48	1366836	15.474	97	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL4)			Lab File ID: 205KN006.D			Analyzed: 11/19/20 10:18			
Pentafluorobenzene	1172592	9.845	1217120	9.845	96	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2346408	10.438	2353990	10.438	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1580434	13.223	1612072	13.217	98	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1299188	15.48	1366836	15.474	95	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL5)			Lab File ID: 205KN007.D			Analyzed: 11/19/20 10:49			
Pentafluorobenzene	1203065	9.845	1217120	9.845	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2330356	10.438	2353990	10.438	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1579586	13.217	1612072	13.217	98	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1295652	15.48	1366836	15.474	95	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL6)			Lab File ID: 205KN008.D			Analyzed: 11/19/20 11:20			
Pentafluorobenzene	1217120	9.845	1217120	9.845	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2353990	10.438	2353990	10.438	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1612072	13.217	1612072	13.217	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1366836	15.474	1366836	15.474	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA63653-CAL7)			Lab File ID: 205KN009.D			Analyzed: 11/19/20 11:51			
Pentafluorobenzene	1208553	9.845	1217120	9.845	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2324329	10.438	2353990	10.438	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1614423	13.217	1612072	13.217	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1389872	15.48	1366836	15.474	102	50 - 200	0.0060	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AD08762-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA63653
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA63653-CAL8)			Lab File ID: 205KN010.D			Analyzed: 11/19/20 12:22			
Pentafluorobenzene	1285587	9.845	1217120	9.845	106	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2302813	10.438	2353990	10.438	98	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1664856	13.218	1612072	13.217	103	50 - 200	0.0010	+/-0.50	
1,4-Dichlorobenzene-d4	1435917	15.48	1366836	15.474	105	50 - 200	0.0060	+/-0.50	
Secondary Cal Check (AA63653-SCV1)			Lab File ID: 205KN012.D			Analyzed: 11/19/20 13:24			
Pentafluorobenzene	1335071	9.851	1217120	9.845	110	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2438645	10.444	2353990	10.438	104	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1652574	13.223	1612072	13.217	103	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1403353	15.48	1366836	15.474	103	50 - 200	0.0060	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AD08762-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64189
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA64189-CCV1)			Lab File ID: 205LR026.D			Analyzed: 12/23/20 20:21			
Pentafluorobenzene	1054217	9.857	1217120	9.845	87	50 - 200	0.0120	+/-0.50	
1,4-Difluorobenzene	2293867	10.45	2353990	10.438	97	50 - 200	0.0120	+/-0.50	
Chlorobenzene-d5	1538735	13.229	1612072	13.217	95	50 - 200	0.0120	+/-0.50	
1,4-Dichlorobenzene-d4	1247879	15.491	1366836	15.474	91	50 - 200	0.0170	+/-0.50	
LCS (0L23041-BS1)			Lab File ID: 205LR027.D			Analyzed: 12/23/20 20:51			
Pentafluorobenzene	1150441	9.863	1217120	9.845	95	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	2364045	10.45	2353990	10.438	100	50 - 200	0.0120	+/-0.50	
Chlorobenzene-d5	1554471	13.229	1612072	13.217	96	50 - 200	0.0120	+/-0.50	
1,4-Dichlorobenzene-d4	1306150	15.491	1366836	15.474	96	50 - 200	0.0170	+/-0.50	
Matrix Spike (0L23041-MS1)			Lab File ID: 205LR028.D			Analyzed: 12/23/20 21:20			
Pentafluorobenzene	1146484	9.857	1217120	9.845	94	50 - 200	0.0120	+/-0.50	
1,4-Difluorobenzene	2434602	10.45	2353990	10.438	103	50 - 200	0.0120	+/-0.50	
Chlorobenzene-d5	1605620	13.229	1612072	13.217	100	50 - 200	0.0120	+/-0.50	
1,4-Dichlorobenzene-d4	1286839	15.491	1366836	15.474	94	50 - 200	0.0170	+/-0.50	
Matrix Spike Dup (0L23041-MSD1)			Lab File ID: 205LR029.D			Analyzed: 12/23/20 21:50			
Pentafluorobenzene	1148028	9.862	1217120	9.845	94	50 - 200	0.0170	+/-0.50	
1,4-Difluorobenzene	2475439	10.45	2353990	10.438	105	50 - 200	0.0120	+/-0.50	
Chlorobenzene-d5	1648020	13.229	1612072	13.217	102	50 - 200	0.0120	+/-0.50	
1,4-Dichlorobenzene-d4	1270066	15.491	1366836	15.474	93	50 - 200	0.0170	+/-0.50	
Blank (0L23041-BLK1)			Lab File ID: 205LR031.D			Analyzed: 12/23/20 22:49			
Pentafluorobenzene	1128883	9.857	1217120	9.845	93	50 - 200	0.0120	+/-0.50	
1,4-Difluorobenzene	2476454	10.45	2353990	10.438	105	50 - 200	0.0120	+/-0.50	
Chlorobenzene-d5	1533672	13.235	1612072	13.217	95	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1198680	15.491	1366836	15.474	88	50 - 200	0.0170	+/-0.50	
Instrument RL Check (AA64189-CRL1)			Lab File ID: 205LR032.D			Analyzed: 12/23/20 23:19			
Pentafluorobenzene	1099667	9.863	1217120	9.845	90	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	2273802	10.45	2353990	10.438	97	50 - 200	0.0120	+/-0.50	
Chlorobenzene-d5	1505006	13.229	1612072	13.217	93	50 - 200	0.0120	+/-0.50	
1,4-Dichlorobenzene-d4	1159657	15.491	1366836	15.474	85	50 - 200	0.0170	+/-0.50	
CRCA-ASEFFLUENT-20201221 (AD08762-01)			Lab File ID: 205LR047.D			Analyzed: 12/24/20 06:44			
Pentafluorobenzene	995099	9.862	1217120	9.845	82	50 - 200	0.0170	+/-0.50	
1,4-Difluorobenzene	2133790	10.462	2353990	10.438	91	50 - 200	0.0240	+/-0.50	
Chlorobenzene-d5	1349368	13.235	1612072	13.217	84	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1090257	15.497	1366836	15.474	80	50 - 200	0.0230	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AD08762-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64189
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
CRCA-ASINFLUENT-20201221 (AD08762-02)			Lab File ID: 205LR048.D			Analyzed: 12/24/20 07:14			
Pentafluorobenzene	1055032	9.862	1217120	9.845	87	50 - 200	0.0170	+/-0.50	
1,4-Difluorobenzene	2164630	10.462	2353990	10.438	92	50 - 200	0.0240	+/-0.50	
Chlorobenzene-d5	1331984	13.241	1612072	13.217	83	50 - 200	0.0240	+/-0.50	
1,4-Dichlorobenzene-d4	1104363	15.503	1366836	15.474	81	50 - 200	0.0290	+/-0.50	

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD08762-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA63653		
Calibration:	2011113	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA63653-TUN1	205KN002.D	11/19/20 08:07
Cal Standard	AA63653-CAL1	205KN003.D	11/19/20 08:46
Cal Standard	AA63653-CAL2	205KN004.D	11/19/20 09:16
Cal Standard	AA63653-CAL3	205KN005.D	11/19/20 09:47
Cal Standard	AA63653-CAL4	205KN006.D	11/19/20 10:18
Cal Standard	AA63653-CAL5	205KN007.D	11/19/20 10:49
Cal Standard	AA63653-CAL6	205KN008.D	11/19/20 11:20
Cal Standard	AA63653-CAL7	205KN009.D	11/19/20 11:51
Cal Standard	AA63653-CAL8	205KN010.D	11/19/20 12:22
Secondary Cal Check	AA63653-SCV1	205KN012.D	11/19/20 13:24

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD08762-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64189		
Calibration:	2011113	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA64189-CCV1	205LR026.D	12/23/20 20:21
LCS	0L23041-BS1	205LR027.D	12/23/20 20:51
MW-26	0L23041-MS1	205LR028.D	12/23/20 21:20
MW-26	0L23041-MSD1	205LR029.D	12/23/20 21:50
Blank	0L23041-BLK1	205LR031.D	12/23/20 22:49
Instrument RL Check	AA64189-CRL1	205LR032.D	12/23/20 23:19
CRCA-ASEFFLUENT-20201221	AD08762-01	205LR047.D	12/24/20 06:44
CRCA-ASINFLUENT-20201221	AD08762-02	205LR048.D	12/24/20 07:14

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD08762-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	205KN002.D	Injection Date:	11/19/20
Instrument ID:	OVGCMS5	Injection Time:	08:07
Sequence:	AA63653	Lab Sample ID:	AA63653-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	155	PASS
96	5 - 9% of 95	7.22	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	64.6	PASS
175	5 - 9% of 174	5.13	PASS
176	95 - 105% of 174	97.9	PASS
177	5 - 10% of 176	5.82	PASS

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD08762-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2011113
Lab File ID:	205LR026.D	Calibration Date:	11/19/20 00:00
Sequence:	AA64189	Injection Date:	12/23/20
Lab Sample ID:	AA64189-CCV1	Injection Time:	20:21

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Dichlorodifluoromethane	A	20.0	16	0.6454795	0.5214652		-19	20	
Chloromethane	A	20.0	9.2	0.7429916	0.3414359		-54	20	*
Vinyl chloride	A	20.0	18	0.6032767	0.5320157		-12	20	
Bromomethane	A	20.0	25	0.2658711	0.2031318		23	20	*
Chloroethane	A	20.0	22	0.3233106	0.2959021		11	20	
Trichlorofluoromethane	A	20.0	23	0.739293	0.8741464		18	20	
Freon 113	A	50.0	54	0.2891047	0.3112765		7.7	20	
Acetone	A	250	240	0.1178043	0.1132901		-3.6	20	
1,1-Dichloroethene	A	50.0	56	0.4316853	0.4795626		11	20	
Carbon disulfide	A	250	250	1.413985	1.421109		0.50	20	
Methylene Chloride	A	50.0	47	0.5959536	0.4877317		-6.8	20	
Methyl-tert-Butyl Ether	A	50.0	58	1.264184	1.468292		16	20	
trans-1,2-Dichloroethene	A	50.0	53	0.4994822	0.5303699		6.2	20	
cis-1,2-Dichloroethene	A	50.0	52	0.5290745	0.5534183		4.6	20	
1,1-Dichloroethane	A	50.0	51	1.027426	1.053446		2.5	20	
2-Butanone	A	250	210	5.654494E-02	4.799107E-02		-16	20	
Chloroform	A	50.0	57	0.9811366	1.12753		15	20	
1,1,1-Trichloroethane	A	50.0	65	0.8099887	1.056736		31	20	*
Methyl acetate	A	50.0	32	0.4097982	0.232732		-37	20	*
Cyclohexane	A	50.0	44	1.084118	0.9832302		-12	20	
Methyl cyclohexane	A	50.0	45	0.6851364	0.5164842		-9.9	20	
Carbon Tetrachloride	A	50.0	50	0.3247415	0.3711763		-0.9	20	
1,2-Dichloroethane	A	50.0	50	0.3947961	0.4175983		0.20	20	
Benzene	A	50.0	48	1.143102	1.090291		-4.6	20	
Trichloroethene	A	50.0	53	0.2308676	0.2426026		5.1	20	
1,2-Dichloropropane	A	50.0	41	0.3327441	0.2726156		-19	20	
Bromodichloromethane	A	50.0	47	0.3384447	0.3540537		-5.1	20	
4-Methyl-2-pentanone	A	250	240	3.573082E-02	3.248148E-02		-4.2	20	
2-Hexanone	A	250	190	0.1672315	0.1278792		-24	20	*

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD08762-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2011113
Lab File ID:	205LR026.D	Calibration Date:	11/19/20 00:00
Sequence:	AA64189	Injection Date:	12/23/20
Lab Sample ID:	AA64189-CCV1	Injection Time:	20:21

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
cis-1,3-Dichloropropene	A	50.0	44	0.4465376	0.4436521		-12	20	
Toluene	A	50.0	47	1.066872	1.012773		-5.1	20	
trans-1,3-Dichloropropene	A	50.0	45	0.5606682	0.5740098		-9.6	20	
1,1,2-Trichloroethane	A	50.0	45	0.3401845	0.3248682		-9.9	20	
Tetrachloroethene	A	50.0	42	0.2798513	0.2457987		-16	20	
Dibromochloromethane	A	50.0	47	0.2803526	0.3090935		-5.8	20	
1,2-Dibromoethane	A	50.0	50	0.3355065	0.332581		-0.9	20	
Chlorobenzene	A	50.0	50	1.074819	1.074211		-0.06	20	
Ethylbenzene	A	50.0	48	0.6263821	0.6211264		-4.2	20	
m,p-Xylenes	A	100	100	0.7525839	0.7680734		2.1	20	
o-Xylene	A	50.0	52	0.7718014	0.8041508		4.2	20	
Bromoform	A	50.0	44	0.1740972	0.1645709		-13	20	
Styrene	A	50.0	54	1.260238	1.360221		7.9	20	
Isopropylbenzene	A	50.0	54	2.031474	2.185309		7.6	20	
1,1,2,2-Tetrachloroethane	A	50.0	49	0.5037271	0.4944139		-1.8	20	
1,2,4-Trichlorobenzene	A	50.0	39	0.4097947	0.3725906		-22	20	*
1,3-Dichlorobenzene	A	50.0	53	1.008577	1.065694		5.7	20	
1,4-Dichlorobenzene	A	50.0	51	1.081206	1.108071		2.5	20	
1,2-Dichlorobenzene	A	50.0	52	0.9520015	0.9873033		3.7	20	
1,2-Dibromo-3-chloropropane	A	50.0	44	7.396002E-02	6.875266E-02		-12	20	

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AD08762-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA63653	Instrument:	OVGCMS5
Calibration:	2011113		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A0F0994	MS Tune (lower conc.)	AA63653-TUN1	205KN002.D	11/19/20 08:07
A0K1094	8260 CAL 1 PPB	AA63653-CAL1	205KN003.D	11/19/20 08:46
A0K1095	8260 CAL 2 PPB	AA63653-CAL2	205KN004.D	11/19/20 09:16
A0K1096	8260 CAL 5 PPB	AA63653-CAL3	205KN005.D	11/19/20 09:47
A0K1097	8260 CAL 10 PPB	AA63653-CAL4	205KN006.D	11/19/20 10:18
A0K1098	8260 CAL 20 PPB	AA63653-CAL5	205KN007.D	11/19/20 10:49
A0K1099	8260 CAL 50 PPB	AA63653-CAL6	205KN008.D	11/19/20 11:20
A0K1100	8260 CAL 80 PPB	AA63653-CAL7	205KN009.D	11/19/20 11:51
A0K1101	8260 CAL 100 PPB	AA63653-CAL8	205KN010.D	11/19/20 12:22
A0K1038	8260 SCV 50 PPB/20 Gases (Surr. Lower Conc.)	AA63653-SCV1	205KN012.D	11/19/20 13:24

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD08762-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	1	0.731806	2	0.5311658	5	0.6196449	10	0.5826494	20	0.6291202	50	0.6876832
Chloromethane	1	0.9635553	2	0.7678092	5	0.7533414	10	0.6436211	20	0.6665122	50	0.6618772
Vinyl chloride	1	0.6389704	2	0.4961021	5	0.5937063	10	0.518373	20	0.6097052	50	0.6178544
Bromomethane	1	0.5487745	2	0.3936929	5	0.2468862	10	0.1795339	20	0.1536388	50	0.1805656
Chloroethane	1	0.5095364	2	0.3356687	5	0.2733979	10	0.2639921	20	0.2971223	50	0.2601461
Trichlorofluoromethane	1	0.796403	2	0.6188353	5	0.6866136	10	0.7074541	20	0.7578705	50	0.7930894
Freon 113	1	0.2609479	2	0.2643996	5	0.2925508	10	0.3082914	20	0.2611185	50	0.3063124
Acetone	5	0.1640884	10	7.640101E-02	25	0.1132944	50	0.1270502	100	0.1080203	250	0.1165466
1,1-Dichloroethene	1	0.5304954	2	0.3722686	5	0.3921026	10	0.3748874	20	0.4134066	50	0.4489426
Carbon disulfide	5	1.625549	10	1.279116	25	1.418201	50	1.427008	100	1.452276	250	1.421308
Methylene Chloride	1	0.949196	2	0.6799528	5	0.584977	10	0.4949633	20	0.4791616	50	0.5261996
Methyl-tert-Butyl Ether	1	1.207824	2	1.067003	5	1.181117	10	1.225797	20	1.218685	50	1.417615
trans-1,2-Dichloroethene	1	0.6322907	2	0.4293379	5	0.4477091	10	0.4308276	20	0.4738958	50	0.5202946
cis-1,2-Dichloroethene	1	0.5540143	2	0.424397	5	0.5243456	10	0.4742059	20	0.5250755	50	0.5758438
1,1-Dichloroethane	1	1.150187	2	0.7455129	5	1.073417	10	0.9430262	20	0.9854351	50	1.108909
2-Butanone	5	0.0948676	10	2.903081E-02	25	6.102678E-02	50	0.0450745	100	4.561931E-02	250	5.804341E-02
Chloroform	1	1.008433	2	0.8175709	5	1.016573	10	0.9572895	20	0.9442549	50	1.031745
1,1,1-Trichloroethane	1	0.8856789	2	0.6484806	5	0.7444128	10	0.6971223	20	0.8036702	50	0.8940367
Methyl acetate	1	0.7524051	2	0.3734104	5	0.3421025	10	0.3735826	20	0.3312477	50	0.3623833
Cyclohexane	1	1.445653	2	0.8159309	5	1.111773	10	0.900795	20	1.011174	50	1.139422
Methyl cyclohexane	1	1.296553	2	0.7643948	5	0.6505051	10	0.4980933	20	0.5493699	50	0.5706184
Carbon Tetrachloride	1	0.3562759	2	0.265754	5	0.2802362	10	0.2692435	20	0.3099687	50	0.358654
1,2-Dichloroethane	1	0.52978	2	0.3246383	5	0.3561682	10	0.3270765	20	0.3804547	50	0.3951041
Benzene	1	1.368953	2	0.8953644	5	1.012387	10	1.019627	20	1.160622	50	1.20187
Trichloroethene	1	0.2433461	2	0.2067345	5	0.2092384	10	0.2186576	20	0.2226559	50	0.2443388
1,2-Dichloropropane	1	0.4168922	2	0.2741735	5	0.2789057	10	0.3037835	20	0.3161759	50	0.336891
Bromodichloromethane	1	0.3390617	2	0.2184906	5	0.3136005	10	0.3123434	20	0.3305471	50	0.3770309
4-Methyl-2-pentanone	5	5.360492E-02	10	3.485663E-02	25	3.163227E-02	50	3.145233E-02	100	3.245856E-02	250	3.359233E-02
2-Hexanone	5	0.1888606	10	0.1362687	25	0.1491622	50	0.1581622	100	0.1619347	250	0.1747743
cis-1,3-Dichloropropene	1	0.38758	2	0.337174	5	0.3962381	10	0.3859495	20	0.4436114	50	0.5153998
Toluene	1	1.301234	2	0.8125606	5	1.029104	10	0.9467653	20	1.065835	50	1.125779

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD08762-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	1	0.5782294	2	0.3963364	5	0.5391328	10	0.5150579	20	0.5581557	50	0.6082166
1,1,2-Trichloroethane	1	0.4258708	2	0.2571382	5	0.3085141	10	0.3163403	20	0.3319446	50	0.354357
Tetrachloroethene	1	0.3547887	2	0.216805	5	0.2447617	10	0.2609188	20	0.2888004	50	0.2808423
Dibromochloromethane	1	0.261577	2	0.1928537	5	0.2186472	10	0.2340749	20	0.271185	50	0.3243124
1,2-Dibromoethane	1	0.3776332	2	0.275273	5	0.3089372	10	0.289778	20	0.3254935	50	0.3684265
Chlorobenzene	1	1.227137	2	0.9187082	5	1.088831	10	1.029964	20	1.028877	50	1.084228
Ethylbenzene	1	0.8370092	2	0.5046991	5	0.5351257	10	0.5817041	20	0.6079204	50	0.6386446
m,p-Xylenes	2	0.7709622	4	0.6304954	10	0.7519001	20	0.7265378	40	0.7815244	100	0.7925899
o-Xylene	1	0.827343	2	0.5495581	5	0.7980935	10	0.715101	20	0.7577872	50	0.8412149
Bromoform	1	0.2244042	2	0.1325052	5	0.1113209	10	0.1336911	20	0.151421	50	0.198042
Styrene	1	1.184587	2	0.9487151	5	1.197756	10	1.179467	20	1.329056	50	1.37226
Isopropylbenzene	1	2.11919	2	1.612596	5	1.9581	10	1.86924	20	2.054396	50	2.203894
1,1,2,2-Tetrachloroethane	1	0.5748727	2	0.4241761	5	0.4667316	10	0.4666946	20	0.48922	50	0.5296984
1,2,4-Trichlorobenzene	1	0.444006	2	0.2155102	5	0.3665073	10	0.3682377	20	0.3931939	50	0.481305
1,3-Dichlorobenzene	1	1.059554	2	0.8308046	5	0.914986	10	0.9259784	20	1.006449	50	1.075948
1,4-Dichlorobenzene	1	1.342371	2	0.9420738	5	0.9853156	10	0.9772104	20	1.047961	50	1.090424
1,2-Dichlorobenzene	1	1.133196	2	0.6932895	5	0.9302226	10	0.8814044	20	0.8963441	50	1.002858
1,2-Dibromo-3-chloropropane	1	0.1462261	2	0.0374643	5	3.684685E-02	10	6.679172E-02	20	6.657845E-02	50	7.807374E-02
Dibromofluoromethane	50	0.4987681	55	0.5168814	57.5	0.5405413	50	0.5403508	65	0.5020478	50	0.5574545
Toluene-d8	50	1.241808	55	1.219018	57.5	1.232296	50	1.264503	65	1.198608	50	1.317554
4-Bromofluorobenzene	50	0.9421565	55	0.8971015	57.5	0.892347	50	0.9405353	65	0.8691396	50	0.9269369

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD08762-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	80	0.70919	100	0.6725768								
Chloromethane	80	0.754096	100	0.7331207								
Vinyl chloride	80	0.6865886	100	0.6649138								
Bromomethane	80	0.2051834	100	0.2186939								
Chloroethane	80	~~0.1749365~~	100	~~0.1284219~~								
Trichlorofluoromethane	80	~~0.8301317~~	100	0.814785								
Freon 113	80	0.3132915	100	0.3059256								
Acetone	400	0.1217886	500	0.1152447								
1,1-Dichloroethene	80	0.4650106	100	0.4563686								
Carbon disulfide	400	1.39256	500	1.295861								
Methylene Chloride	80	0.5379475	100	0.5152308								
Methyl-tert-Butyl Ether	80	1.459444	100	1.335989								
trans-1,2-Dichloroethene	80	0.5437929	100	0.517709								
cis-1,2-Dichloroethene	80	0.6019223	100	0.5527918								
1,1-Dichloroethane	80	1.134374	100	1.078543								
2-Butanone	400	6.102308E-02	500	5.767404E-02								
Chloroform	80	1.078098	100	0.9951283								
1,1,1-Trichloroethane	80	0.9329545	100	0.8735539								
Methyl acetate	80	0.3852903	100	0.3579641								
Cyclohexane	80	1.150511	100	1.097683								
Methyl cyclohexane	80	0.580204	100	0.5713529								
Carbon Tetrachloride	80	0.3766286	100	0.3811714								
1,2-Dichloroethane	80	0.4259138	100	0.4192331								
Benzene	80	1.233887	100	1.252102								
Trichloroethene	80	0.2480525	100	0.2539173								
1,2-Dichloropropane	80	0.3671019	100	0.3680292								
Bromodichloromethane	80	0.405243	100	0.4112405								
4-Methyl-2-pentanone	400	3.457471E-02	500	3.367481E-02								
2-Hexanone	400	0.1842147	500	0.1844748								
cis-1,3-Dichloropropene	80	0.5492152	100	0.5571325								
Toluene	80	1.145043	100	1.108659								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD08762-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	80	0.6603691	100	0.6298476								
1,1,2-Trichloroethane	80	0.3689886	100	0.3583223								
Tetrachloroethene	80	0.2965475	100	0.2953463								
Dibromochloromethane	80	0.3768537	100	0.3633167								
1,2-Dibromoethane	80	0.3782567	100	0.360254								
Chlorobenzene	80	1.134842	100	1.085963								
Ethylbenzene	80	0.6600876	100	0.6458658								
m,p-Xylenes	160	0.7997641	200	0.7668973								
o-Xylene	80	0.8625415	100	0.8227721								
Bromoform	80	0.2162944	100	0.2250987								
Styrene	80	1.466473	100	1.403591								
Isopropylbenzene	80	2.273953	100	2.16042								
1,1,2,2-Tetrachloroethane	80	0.5602106	100	0.5182127								
1,2,4-Trichlorobenzene	80	0.5236953	100	0.485902								
1,3-Dichlorobenzene	80	1.133433	100	1.121463								
1,4-Dichlorobenzene	80	1.14285	100	1.121445								
1,2-Dichlorobenzene	80	1.071346	100	1.007351								
1,2-Dibromo-3-chloropropane	80	8.573901E-02	100	~~8.239508E-02~~								
Dibromofluoromethane	70	0.5077306	75	0.4842722								
Toluene-d8	70	1.203106	75	1.255696								
4-Bromofluorobenzene	70	0.8681085	75	0.8442992								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD08762-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	0.6454795	10.47099	3.97125	7.848416E-02			20	
Chloromethane	0.7429916	13.64009	4.39275	4.507071E-02			20	
Vinyl chloride	0.6032767	11.0407	4.575	4.400144E-02			20	
Bromomethane	0.2658711	51.25071	5.221	5.968524E-02		0.9984319	0.99	
Chloroethane	0.3233106	29.51129	5.432333	0.1760207	0.9952741		0.99	
Trichlorofluoromethane	0.739293	9.643804	5.680714	0.1191043			20	
Freon 113	0.2891047	7.985007	6.54225	5.909168E-02			20	
Acetone	0.1178043	20.49874	7.39275	7.521591E-02	0.9984468		0.99	
1,1-Dichloroethene	0.4316853	12.51718	6.52275	4.626374E-02			20	
Carbon disulfide	1.413985	7.516358	6.611625	4.231748E-02			20	
Methylene Chloride	0.5959536	26.19116	7.33075	6.734604E-02	0.9988511		0.99	
Methyl-tert-Butyl Ether	1.264184	10.32773	7.62475	5.009821E-02			20	
trans-1,2-Dichloroethene	0.4994822	13.81611	7.540375	0.0786285			20	
cis-1,2-Dichloroethene	0.5290745	10.75978	8.94375	6.951434E-02			20	
1,1-Dichloroethane	1.027426	13.07056	8.305375	3.359958E-02			20	
2-Butanone	5.654494E-02	33.55672	9.542875	0.1054762		0.9965506	0.99	
Chloroform	0.9811366	7.973652	9.21525	9.664849E-02			20	
1,1,1-Trichloroethane	0.8099887	12.78922	9.4765	4.549804E-02			20	
Methyl acetate	0.4097982	34.05137	7.5195	0.1021645	0.9973892		0.99	
Cyclohexane	1.084118	17.43103	9.1825	2.763801E-02	0.9983605		0.99	
Methyl cyclohexane	0.6851364	37.89251	10.4425	2.481194E-02	0.9994238		0.99	
Carbon Tetrachloride	0.3247415	15.07661	9.40325	3.946246E-02	0.997318		0.99	
1,2-Dichloroethane	0.3947961	16.85402	10.083	6.413568E-02	0.998277		0.99	
Benzene	1.143102	13.57666	9.871	4.625673E-02			20	
Trichloroethene	0.2308676	8.071231	10.4425	2.481194E-02			20	
1,2-Dichloropropane	0.3327441	14.79548	10.97825	3.768472E-02		0.9995583	0.99	
Bromodichloromethane	0.3384447	18.35051	11.0095	2.483783E-02		0.9995909	0.99	
4-Methyl-2-pentanone	3.573082E-02	20.51705	12.12775	4.882009E-02	0.9995377		0.99	
2-Hexanone	0.1672315	11.31414	12.874	0.0309941			20	
cis-1,3-Dichloropropene	0.4465376	18.76753	11.60275	0.0283524		0.999376	0.99	

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AD08762-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Toluene	1.066872	13.57287	11.82575	3.641946E-02			20	
trans-1,3-Dichloropropene	0.5606682	14.59159	12.1935	6.110681E-02	0.9976126		0.99	
1,1,2-Trichloroethane	0.3401845	14.58738	12.35775	3.776279E-02	0.9991086		0.99	
Tetrachloroethene	0.2798513	14.65878	12.20475	6.050502E-02	0.9992435		0.99	
Dibromochloromethane	0.2803526	24.18079	12.54425	2.540952E-02		0.9966995	0.99	
1,2-Dibromoethane	0.3355065	12.24976	12.80675	5.029451E-02			20	
Chlorobenzene	1.074819	8.299772	13.238	2.555814E-02			20	
Ethylbenzene	0.6263821	16.13499	13.20525	2.269002E-02	0.9993938		0.99	
m,p-Xylenes	0.7525839	7.241605	13.32075	3.483174E-02			20	
o-Xylene	0.7718014	13.16143	13.726	2.743597E-02			20	
Bromoform	0.1740972	26.85684	13.86988	2.962488E-02		0.9990525	0.99	
Styrene	1.260238	13.19508	13.77575	6.052145E-02			20	
Isopropylbenzene	2.031474	10.53359	13.99225	2.532555E-02			20	
1,1,2,2-Tetrachloroethane	0.5037271	10.18228	14.463	1.928567E-02			20	
1,2,4-Trichlorobenzene	0.4097947	23.81543	18.13363	0.0263798		0.9955535	0.99	
1,3-Dichlorobenzene	1.008577	10.77426	15.4075	2.626486E-02			20	
1,4-Dichlorobenzene	1.081206	11.81261	15.49775	7.350592E-03			20	
1,2-Dichlorobenzene	0.9520015	14.21603	16.01475	1.858857E-02			20	
1,2-Dibromo-3-chloropropane	7.396002E-02	49.9638	17.07629	4.554431E-02		0.9992021	0.99	
Dibromofluoromethane	0.5185058	4.852246	9.4205	3.503454E-02			20	
Toluene-d8	1.241574	3.107317	11.77275	1.495661E-03			20	
4-Bromofluorobenzene	0.8975781	4.047299	14.322	1.411585E-02			20	

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AD08762-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2011113 **Laboratory ID:** AA63653-SCV1

Sequence: AA63653 **Standard ID:** A0K1038

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Cyclohexane	50.0	46	-8.0	30.00
Ethylbenzene	50.0	49	-2.4	30.00
Carbon Tetrachloride	50.0	55	10.9	30.00
1,3-Dichlorobenzene	50.0	55	9.4	30.00
4-Bromofluorobenzene	50.0	52	4.6	30.00
Toluene-d8	50.0	52	4.4	30.00
Dibromofluoromethane	50.0	50	-0.5	30.00
Methyl-tert-Butyl Ether	50.0	49	-1.8	30.00
trans-1,2-Dichloroethene	50.0	48	-4.3	30.00
cis-1,2-Dichloroethene	50.0	50	-0.1	30.00
Tetrachloroethene	50.0	48	-3.1	30.00
Acetone	250	240	-4.3	30.00
1,2,4-Trichlorobenzene	50.0	49	-2.0	30.00
Chloroform	50.0	49	-2.2	30.00
Chlorobenzene	50.0	52	3.4	30.00
Toluene	50.0	53	5.9	30.00
Methyl cyclohexane	50.0	47	-5.0	30.00
m,p-Xylenes	100	110	5.6	30.00
4-Methyl-2-pentanone	250	230	-7.3	30.00
1,2-Dichloroethane	50.0	46	-8.3	30.00
1,2-Dibromoethane	50.0	52	3.4	30.00
1,4-Dichlorobenzene	50.0	51	1.3	30.00
trans-1,3-Dichloropropene	50.0	49	-1.5	30.00
cis-1,3-Dichloropropene	50.0	49	-2.4	30.00
Styrene	50.0	55	10.3	30.00
Dibromochloromethane	50.0	52	3.8	30.00
1,1-Dichloroethene	50.0	49	-2.0	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AD08762-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2011113 **Laboratory ID:** AA63653-SCV1

Sequence: AA63653 **Standard ID:** A0K1038

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
1,2-Dibromo-3-chloropropane	50.0	55	9.4	30.00
1,2-Dichlorobenzene	50.0	52	3.8	30.00
o-Xylene	50.0	53	5.4	30.00
1,1,2,2-Tetrachloroethane	50.0	52	3.2	30.00
Methyl acetate	50.0	38	-23.9	30.00
Trichloroethene	50.0	54	7.6	30.00
1,1,2-Trichloroethane	50.0	50	-0.4	30.00
2-Butanone	250	250	-1.7	30.00
1,2-Dichloropropane	50.0	50	-0.4	30.00
Freon 113	50.0	51	2.3	30.00
2-Hexanone	250	250	0.6	30.00
Trichlorofluoromethane	20.0	21	2.9	30.00
Isopropylbenzene	50.0	54	8.8	30.00
1,1-Dichloroethane	50.0	48	-4.6	30.00
Bromodichloromethane	50.0	50	-0.1	30.00
Bromoform	50.0	52	3.8	30.00
Carbon disulfide	50.0	52	4.0	30.00
Methylene Chloride	50.0	47	-5.6	30.00
Vinyl chloride	20.0	21	3.6	30.00
Chloroethane	20.0	22	8.4	30.00
Chloromethane	20.0	20	-0.1	30.00
Bromomethane	20.0	25	24.8	30.00
1,1,1-Trichloroethane	50.0	51	1.2	30.00
Benzene	50.0	54	7.1	30.00
Dichlorodifluoromethane	20.0	21	3.0	30.00

* Values outside of QC limits

TETRA TECH ISG
TtNUS, Information Systems Group

Completion Ticket

On 12/30/2020 at 3:25 PM the following files were submitted to Tetra Tech by kdylnicki@encolabs.com with ENCO:

TE016AD08762A1.txt, TE016AD08762A3.txt

If you need to identify this session at a later date refer to Ticket Key:

20201230_1884647813_ledd_ENCO

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I Lori S. Mangrum, as the designated Quality Assurance Officer, hereby attest that all electronic deliverables have been thoroughly reviewed and are in agreement with the associated hardcopy data. The enclosed electronic files have been reviewed for accuracy (including significant figures), completeness and format. The laboratory will be responsible for any labor time necessary to correct enclosed electronic deliverables that have been found to be in error. I can be reached at (407) 826-5314 if there are any questions or problems with the enclosed electronic deliverables.

Signature:_____ Title: Quality Assurance Manager Date: January 11, 2021

ENCO Laboratories

Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Monday, December 28, 2020
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AD08762

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Monday, December 21, 2020.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-ASEFFLUENT-20201221 **Lab ID: AD08762-01** **Sampled: 12/21/20 14:30** **Received: 12/21/20 15:07**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	01/04/21	12/23/20 13:25	12/24/20 06:44

Client ID: CRCA-ASINFLUENT-20201221 **Lab ID: AD08762-02** **Sampled: 12/21/20 14:40** **Received: 12/21/20 15:07**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	01/04/21	12/23/20 13:25	12/24/20 07:14

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-ASINFLUENT-20201221 **Lab ID:** AD08762-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
cis-1,2-Dichloroethene	0.53	I	0.53	2.5	ug/L	EPA 8260D	
trans-1,2-Dichloroethene	1.3	I	0.73	2.5	ug/L	EPA 8260D	
Vinyl chloride	16		0.71	2.5	ug/L	EPA 8260D	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20201221 **Lab Sample ID:** AD08762-01 **Received:** 12/21/20 15:07

Matrix: Ground Water **Sampled:** 12/21/20 14:30 **Work Order:** AD08762

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	QV-01
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	0L23041	EPA 8260D	12/24/20 06:44	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	0L23041	EPA 8260D	12/24/20 06:44	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20201221 **Lab Sample ID:** AD08762-01 **Received:** 12/21/20 15:07

Matrix: Ground Water **Sampled:** 12/21/20 14:30 **Work Order:** AD08762

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	0L23041	EPA 8260D	12/24/20 06:44	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	0L23041	EPA 8260D	12/24/20 06:44	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*55*	*1*	*50.0*	*109 %*	*41-142*	*0L23041*	*EPA 8260D*	*12/24/20 06:44*	*KKW*	
Dibromofluoromethane	*59*	*1*	*50.0*	*117 %*	*53-146*	*0L23041*	*EPA 8260D*	*12/24/20 06:44*	*KKW*	
Toluene-d8	*51*	*1*	*50.0*	*101 %*	*41-146*	*0L23041*	*EPA 8260D*	*12/24/20 06:44*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20201221 **Lab Sample ID:** AD08762-02 **Received:** 12/21/20 15:07

Matrix: Ground Water **Sampled:** 12/21/20 14:40 **Work Order:** AD08762

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	QV-01
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	0L23041	EPA 8260D	12/24/20 07:14	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	0L23041	EPA 8260D	12/24/20 07:14	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
cis-1,2-Dichloroethene [156-59-2]^	**0.53**	I	ug/L	1	0.53	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
trans-1,2-Dichloroethene [156-60-5]^	**1.3**	I	ug/L	1	0.73	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20201221 **Lab Sample ID:** AD08762-02 **Received:** 12/21/20 15:07

Matrix: Ground Water **Sampled:** 12/21/20 14:40 **Work Order:** AD08762

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Vinyl chloride [75-01-4]^	**16**		ug/L	1	0.71	2.5	0L23041	EPA 8260D	12/24/20 07:14	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	0L23041	EPA 8260D	12/24/20 07:14	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*55*	*1*	*50.0*	*110 %*	*41-142*	*0L23041*	*EPA 8260D*	*12/24/20 07:14*	*KKW*	
Dibromofluoromethane	*58*	*1*	*50.0*	*116 %*	*53-146*	*0L23041*	*EPA 8260D*	*12/24/20 07:14*	*KKW*	
Toluene-d8	*50*	*1*	*50.0*	*100 %*	*41-146*	*0L23041*	*EPA 8260D*	*12/24/20 07:14*	*KKW*	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0L23041 - EPA 5030B_MS

Blank (0L23041-BLK1) Prepared: 12/23/2020 13:25 Analyzed: 12/23/2020 22:49

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0L23041 - EPA 5030B_MS - Continued

Blank (0L23041-BLK1) Continued Prepared: 12/23/2020 13:25 Analyzed: 12/23/2020 22:49

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*53*			*ug/L*	*50.0*		*105*	*41-142*			
Dibromofluoromethane	*60*			*ug/L*	*50.0*		*120*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*99*	*41-146*			

LCS (0L23041-BS1) Prepared: 12/23/2020 13:25 Analyzed: 12/23/2020 20:51

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	24		2.5	ug/L	20.0		121	57-148			
1,1,2,2-Tetrachloroethane	20		2.5	ug/L	20.0		101	60-139			
1,1,2-Trichloroethane	17		2.5	ug/L	20.0		87	57-141			
1,1-Dichloroethane	19		2.5	ug/L	20.0		95	57-142			
1,1-Dichloroethene	19		2.5	ug/L	20.0		96	47-139			
1,2,4-Trichlorobenzene	16		2.5	ug/L	20.0		82	52-159			
1,2-Dibromo-3-chloropropane	17		2.5	ug/L	20.0		84	48-150			
1,2-Dibromoethane	20		2.5	ug/L	20.0		98	57-140			
1,2-Dichlorobenzene	20		2.5	ug/L	20.0		99	63-131			
1,2-Dichloroethane	19		2.5	ug/L	20.0		97	50-156			
1,2-Dichloropropane	17		2.5	ug/L	20.0		83	61-133			
1,3-Dichlorobenzene	19		2.5	ug/L	20.0		97	66-129			
1,4-Dichlorobenzene	19		2.5	ug/L	20.0		97	65-133			
2-Butanone	74		12	ug/L	100		74	10-180			
2-Hexanone	83		12	ug/L	100		83	12-180			
4-Methyl-2-pentanone	91		12	ug/L	100		91	19-180			
Acetone	95		25	ug/L	100		95	10-180			
Benzene	19		2.5	ug/L	20.0		94	56-136			
Bromodichloromethane	20		2.5	ug/L	20.0		101	58-135			
Bromoform	16		2.5	ug/L	20.0		81	46-148			
Bromomethane	7.2		2.5	ug/L	20.0		36	10-173			
Carbon disulfide	20		12	ug/L	20.0		102	43-153			
Carbon Tetrachloride	19		2.5	ug/L	20.0		93	54-156			
Chlorobenzene	21		2.5	ug/L	20.0		104	51-139			
Chloroethane	21		2.5	ug/L	20.0		107	27-180			
Chloroform	22		2.5	ug/L	20.0		111	58-139			
Chloromethane	11		2.5	ug/L	20.0		57	33-154			
cis-1,2-Dichloroethene	20		2.5	ug/L	20.0		101	56-128			
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0		85	64-128			
Cyclohexane	17		2.5	ug/L	20.0		87	70-130			
Dibromochloromethane	20		2.5	ug/L	20.0		98	50-140			
Dichlorodifluoromethane	23		2.5	ug/L	20.0		114	10-180			
Ethylbenzene	19		2.5	ug/L	20.0		97	63-133			
Freon 113	18		2.5	ug/L	20.0		92	47-173			
Isopropylbenzene	21		2.5	ug/L	20.0		107	60-132			
m,p-Xylenes	42		5.0	ug/L	40.0		106	64-133			
Methyl acetate	13		2.5	ug/L	20.0		65	70-130			A-07
Methyl cyclohexane	18		2.5	ug/L	20.0		90	70-130			
Methylene Chloride	20		12	ug/L	20.0		102	43-142			
Methyl-tert-Butyl Ether	22		2.5	ug/L	20.0		109	51-145			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0L23041 - EPA 5030B_MS - Continued

LCS (0L23041-BS1) Continued Prepared: 12/23/2020 13:25 Analyzed: 12/23/2020 20:51

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
o-Xylene	20		2.5	ug/L	20.0		100	61-129			
Styrene	21		2.5	ug/L	20.0		107	59-136			
Tetrachloroethene	16		2.5	ug/L	20.0		80	60-147			
Toluene	20		2.5	ug/L	20.0		99	64-131			
trans-1,2-Dichloroethene	20		2.5	ug/L	20.0		100	54-134			
trans-1,3-Dichloropropene	19		2.5	ug/L	20.0		97	65-149			
Trichloroethene	19		2.5	ug/L	20.0		97	62-135			
Trichlorofluoromethane	22		2.5	ug/L	20.0		112	56-155			
Vinyl chloride	19		2.5	ug/L	20.0		93	20-167			
4-Bromofluorobenzene	*55*			*ug/L*	*50.0*		*110*	*41-142*			
Dibromofluoromethane	*59*			*ug/L*	*50.0*		*118*	*53-146*			
Toluene-d8	*52*			*ug/L*	*50.0*		*104*	*41-146*			

Matrix Spike (0L23041-MS1) Prepared: 12/23/2020 13:25 Analyzed: 12/23/2020 21:20

Source: AD08695-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	27		2.5	ug/L	20.0	0.80 U	136	57-148			
1,1,2,2-Tetrachloroethane	21		2.5	ug/L	20.0	0.54 U	105	60-139			
1,1,2-Trichloroethane	21		2.5	ug/L	20.0	0.76 U	104	57-141			
1,1-Dichloroethane	21		2.5	ug/L	20.0	0.62 U	104	57-142			
1,1-Dichloroethene	23		2.5	ug/L	20.0	0.94 U	114	47-139			
1,2,4-Trichlorobenzene	17		2.5	ug/L	20.0	0.70 U	86	52-159			
1,2-Dibromo-3-chloropropane	18		2.5	ug/L	20.0	0.96 U	89	48-150			
1,2-Dibromoethane	21		2.5	ug/L	20.0	0.78 U	107	57-140			
1,2-Dichlorobenzene	22		2.5	ug/L	20.0	0.73 U	108	63-131			
1,2-Dichloroethane	20		2.5	ug/L	20.0	0.63 U	102	50-156			
1,2-Dichloropropane	18		2.5	ug/L	20.0	0.80 U	88	61-133			
1,3-Dichlorobenzene	23		2.5	ug/L	20.0	0.77 U	114	66-129			
1,4-Dichlorobenzene	20		2.5	ug/L	20.0	0.76 U	102	65-133			
2-Butanone	120		12	ug/L	100	4.5 U	122	10-180			
2-Hexanone	83		12	ug/L	100	2.5 U	83	12-180			
4-Methyl-2-pentanone	94		12	ug/L	100	2.5 U	94	19-180			
Acetone	100		25	ug/L	100	10 U	104	10-180			
Benzene	21		2.5	ug/L	20.0	0.71 U	103	56-136			
Bromodichloromethane	21		2.5	ug/L	20.0	0.52 U	104	58-135			
Bromoform	19		2.5	ug/L	20.0	0.75 U	93	46-148			
Bromomethane	11		2.5	ug/L	20.0	0.95 U	55	10-173			QM-11
Carbon disulfide	23		12	ug/L	20.0	2.5 U	116	43-153			
Carbon Tetrachloride	21		2.5	ug/L	20.0	0.94 U	106	54-156			
Chlorobenzene	21		2.5	ug/L	20.0	0.72 U	106	51-139			
Chloroethane	26		2.5	ug/L	20.0	0.98 U	129	27-180			
Chloroform	25		2.5	ug/L	20.0	0.80 U	127	58-139			
Chloromethane	12		2.5	ug/L	20.0	0.82 U	62	33-154			
cis-1,2-Dichloroethene	21		2.5	ug/L	20.0	0.53 U	105	56-128			
cis-1,3-Dichloropropene	18		2.5	ug/L	20.0	0.59 U	88	64-128			
Cyclohexane	20		2.5	ug/L	20.0	0.93 U	101	70-130			
Dibromochloromethane	21		2.5	ug/L	20.0	0.50 U	103	50-140			
Dichlorodifluoromethane	26		2.5	ug/L	20.0	0.74 U	128	10-180			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0L23041 - EPA 5030B_MS - Continued

Matrix Spike (0L23041-MS1) Continued Prepared: 12/23/2020 13:25 Analyzed: 12/23/2020 21:20

Source: AD08695-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	21		2.5	ug/L	20.0	0.69 U	106	63-133			
Freon 113	22		2.5	ug/L	20.0	0.73 U	112	47-173			
Isopropylbenzene	22		2.5	ug/L	20.0	0.67 U	112	60-132			
m,p-Xylenes	44		5.0	ug/L	40.0	1.3 U	109	64-133			
Methyl acetate	12		2.5	ug/L	20.0	0.95 U	61	70-130			QM-19
Methyl cyclohexane	21		2.5	ug/L	20.0	0.64 U	104	70-130			
Methylene Chloride	20		12	ug/L	20.0	2.5 U	101	43-142			
Methyl-tert-Butyl Ether	24		2.5	ug/L	20.0	0.60 U	118	51-145			
o-Xylene	22		2.5	ug/L	20.0	0.53 U	108	61-129			
Styrene	22		2.5	ug/L	20.0	0.61 U	112	59-136			
Tetrachloroethene	18		2.5	ug/L	20.0	0.76 U	88	60-147			
Toluene	22		2.5	ug/L	20.0	0.72 U	110	64-131			
trans-1,2-Dichloroethene	23		2.5	ug/L	20.0	0.73 U	115	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0	0.73 U	104	65-149			
Trichloroethene	23		2.5	ug/L	20.0	0.89 U	117	62-135			
Trichlorofluoromethane	28		2.5	ug/L	20.0	0.94 U	142	56-155			
Vinyl chloride	23		2.5	ug/L	20.0	0.71 U	115	20-167			
4-Bromofluorobenzene	*55*			*ug/L*	*50.0*		*110*	*41-142*			
Dibromofluoromethane	*60*			*ug/L*	*50.0*		*119*	*53-146*			
Toluene-d8	*51*			*ug/L*	*50.0*		*102*	*41-146*			

Matrix Spike Dup (0L23041-MSD1) Prepared: 12/23/2020 13:25 Analyzed: 12/23/2020 21:50

Source: AD08695-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	26		2.5	ug/L	20.0	0.80 U	129	57-148	6	25	
1,1,2,2-Tetrachloroethane	18		2.5	ug/L	20.0	0.54 U	90	60-139	15	17	
1,1,2-Trichloroethane	18		2.5	ug/L	20.0	0.76 U	91	57-141	13	16	
1,1-Dichloroethane	21		2.5	ug/L	20.0	0.62 U	103	57-142	0.2	24	
1,1-Dichloroethene	23		2.5	ug/L	20.0	0.94 U	113	47-139	0.4	16	
1,2,4-Trichlorobenzene	17		2.5	ug/L	20.0	0.70 U	84	52-159	3	24	
1,2-Dibromo-3-chloropropane	21		2.5	ug/L	20.0	0.96 U	103	48-150	14	21	
1,2-Dibromoethane	19		2.5	ug/L	20.0	0.78 U	95	57-140	12	16	
1,2-Dichlorobenzene	21		2.5	ug/L	20.0	0.73 U	105	63-131	3	25	
1,2-Dichloroethane	20		2.5	ug/L	20.0	0.63 U	102	50-156	0.1	18	
1,2-Dichloropropane	17		2.5	ug/L	20.0	0.80 U	87	61-133	2	26	
1,3-Dichlorobenzene	22		2.5	ug/L	20.0	0.77 U	112	66-129	1	23	
1,4-Dichlorobenzene	21		2.5	ug/L	20.0	0.76 U	107	65-133	5	23	
2-Butanone	120		12	ug/L	100	4.5 U	117	10-180	4	29	
2-Hexanone	81		12	ug/L	100	2.5 U	81	12-180	2	28	
4-Methyl-2-pentanone	98		12	ug/L	100	2.5 U	98	19-180	4	24	
Acetone	100		25	ug/L	100	10 U	103	10-180	1	19	
Benzene	20		2.5	ug/L	20.0	0.71 U	101	56-136	2	14	
Bromodichloromethane	20		2.5	ug/L	20.0	0.52 U	102	58-135	2	19	
Bromoform	18		2.5	ug/L	20.0	0.75 U	89	46-148	4	18	
Bromomethane	16		2.5	ug/L	20.0	0.95 U	78	10-173	34	29	QM-11
Carbon disulfide	21		12	ug/L	20.0	2.5 U	104	43-153	11	26	
Carbon Tetrachloride	20		2.5	ug/L	20.0	0.94 U	101	54-156	5	27	
Chlorobenzene	21		2.5	ug/L	20.0	0.72 U	104	51-139	2	13	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 0L23041 - EPA 5030B_MS - Continued

Matrix Spike Dup (0L23041-MSD1) Continued Prepared: 12/23/2020 13:25 Analyzed: 12/23/2020 21:50

Source: AD08695-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloroethane	24		2.5	ug/L	20.0	0.98 U	122	27-180	6	22	
Chloroform	25		2.5	ug/L	20.0	0.80 U	124	58-139	2	17	
Chloromethane	13		2.5	ug/L	20.0	0.82 U	64	33-154	3	31	
cis-1,2-Dichloroethene	23		2.5	ug/L	20.0	0.53 U	116	56-128	10	17	
cis-1,3-Dichloropropene	18		2.5	ug/L	20.0	0.59 U	89	64-128	2	20	
Cyclohexane	20		2.5	ug/L	20.0	0.93 U	100	70-130	0.8	20	
Dibromochloromethane	19		2.5	ug/L	20.0	0.50 U	97	50-140	6	18	
Dichlorodifluoromethane	25		2.5	ug/L	20.0	0.74 U	126	10-180	2	26	
Ethylbenzene	18		2.5	ug/L	20.0	0.69 U	91	63-133	15	18	
Freon 113	18		2.5	ug/L	20.0	0.73 U	90	47-173	22	30	
Isopropylbenzene	22		2.5	ug/L	20.0	0.67 U	111	60-132	1	23	
m,p-Xylenes	42		5.0	ug/L	40.0	1.3 U	106	64-133	3	18	
Methyl acetate	13		2.5	ug/L	20.0	0.95 U	64	70-130	5	20	QM-19
Methyl cyclohexane	21		2.5	ug/L	20.0	0.64 U	104	70-130	0.2	20	
Methylene Chloride	21		12	ug/L	20.0	2.5 U	103	43-142	2	23	
Methyl-tert-Butyl Ether	24		2.5	ug/L	20.0	0.60 U	118	51-145	0.4	22	
o-Xylene	20		2.5	ug/L	20.0	0.53 U	100	61-129	8	16	
Styrene	18		2.5	ug/L	20.0	0.61 U	92	59-136	20	32	
Tetrachloroethene	17		2.5	ug/L	20.0	0.76 U	83	60-147	6	21	
Toluene	20		2.5	ug/L	20.0	0.72 U	102	64-131	7	16	
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.73 U	110	54-134	5	20	
trans-1,3-Dichloropropene	20		2.5	ug/L	20.0	0.73 U	98	65-149	7	17	
Trichloroethene	22		2.5	ug/L	20.0	0.89 U	109	62-135	7	20	
Trichlorofluoromethane	27		2.5	ug/L	20.0	0.94 U	136	56-155	4	22	
Vinyl chloride	22		2.5	ug/L	20.0	0.71 U	112	20-167	3	24	
4-Bromofluorobenzene	*54*			*ug/L*	*50.0*		*108*	*41-142*			
Dibromofluoromethane	*61*			*ug/L*	*50.0*		*123*	*53-146*			
Toluene-d8	*52*			*ug/L*	*50.0*		*103*	*41-146*			

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FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
A-07	Analyte biased low in LCS but detected in the reporting limit standard. Since the analyte in the associated sample was not detected, there is no impact on data quality.
QM-11	Precision between duplicate matrix spikes of the same sample was outside acceptance limits.
QM-19	The spike recovery was outside acceptance limits for the MS and/or MSD.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

AD08762

Tetra Tech, Inc.

CHAIN OF CUSTODY | **NUMBER** No. 1411 | **PAGE** 1 **OF** 1

PROJECT NO: 112G08970	**FACILITY:** CRCA	**PROJECT MANAGER** ALEX MURPHY	**PHONE NUMBER** 321-636-6470	**LABORATORY NAME AND CONTACT:** ENCO
SAMPLERS (SIGNATURE)		**FIELD OPERATIONS LEADER** DAN FORESTER	**PHONE NUMBER** 304-780-1426	**ADDRESS**
		CARRIER/WAYBILL NUMBER COURIER		**CITY, STATE** ORLANDO, FL

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2020	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TYPE OF ANALYSIS (SEE COMMENTS BELOW)								COMMENTS
									G	HCL									
21 DEC	1430	CRCA-ASEFFLUENT-20201221	CRCA	✓	✓	GW	G	3	X										
21 DEC	1440	CRCA-ASINFLUENT-20201221	CRCA	✓	✓	GW	G	3	X										

1. RELINQUISHED BY		DATE 21 DEC 20	TIME 1507	1. RECEIVED BY James W Gregory		DATE 21 DEC 20	TIME 1507
2. RELINQUISHED BY		DATE	TIME	2. RECEIVED BY		DATE	TIME
3. RELINQUISHED BY		DATE	TIME	3. RECEIVED BY		DATE	TIME

COMMENTS 82600 TCL Semi 1,2 CLP-LIKE Custom List SM2(1) 0.3°C

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

ENCO Laboratories

Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Thursday, January 28, 2021
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AE00488

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Thursday, January 21, 2021.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-ASEFFLUENT-20210119 **Lab ID: AE00488-01** **Sampled: 01/19/21 13:40** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 17:41

Client ID: CRCA-ASINFLUENT-20210119 **Lab ID: AE00488-02** **Sampled: 01/19/21 13:50** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 18:10

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-ASINFLUENT-20210119 **Lab ID:** AE00488-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	13		0.71	2.5	ug/L	EPA 8260D	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20210119 **Lab Sample ID:** AE00488-01 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:40 **Work Order:** AE00488

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 17:41	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:41	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	

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ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20210119 **Lab Sample ID:** AE00488-01 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:40 **Work Order:** AE00488

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 17:41	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*107 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 17:41*	*KKW*	
Dibromofluoromethane	*56*	*1*	*50.0*	*111 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 17:41*	*KKW*	
Toluene-d8	*47*	*1*	*50.0*	*94 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 17:41*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20210119 **Lab Sample ID:** AE00488-02 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:50 **Work Order:** AE00488

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 18:10	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 18:10	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	

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ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20210119 **Lab Sample ID:** AE00488-02 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:50 **Work Order:** AE00488

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Vinyl chloride [75-01-4]^	**13**		ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 18:10	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*107 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 18:10*	*KKW*	
Dibromofluoromethane	*55*	*1*	*50.0*	*110 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 18:10*	*KKW*	
Toluene-d8	*48*	*1*	*50.0*	*96 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 18:10*	*KKW*	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS

Blank (1A25020-BLK1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 10:19

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

Blank (1A25020-BLK1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 10:19

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*54*			*ug/L*	*50.0*		*109*	*41-142*			
Dibromofluoromethane	*55*			*ug/L*	*50.0*		*111*	*53-146*			
Toluene-d8	*48*	*I*		*ug/L*	*50.0*		*96*	*41-146*			

LCS (1A25020-BS1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 09:20

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	19		2.5	ug/L	20.0		97	57-148			
1,1,2,2-Tetrachloroethane	21		2.5	ug/L	20.0		105	60-139			
1,1,2-Trichloroethane	21		2.5	ug/L	20.0		107	57-141			
1,1-Dichloroethane	19		2.5	ug/L	20.0		93	57-142			
1,1-Dichloroethene	20		2.5	ug/L	20.0		102	47-139			
1,2,4-Trichlorobenzene	17		2.5	ug/L	20.0		87	52-159			
1,2-Dibromo-3-chloropropane	20		2.5	ug/L	20.0		102	48-150			
1,2-Dibromoethane	22		2.5	ug/L	20.0		110	57-140			
1,2-Dichlorobenzene	23		2.5	ug/L	20.0		113	63-131			
1,2-Dichloroethane	15		2.5	ug/L	20.0		75	50-156			
1,2-Dichloropropane	16		2.5	ug/L	20.0		80	61-133			
1,3-Dichlorobenzene	24		2.5	ug/L	20.0		118	66-129			
1,4-Dichlorobenzene	21		2.5	ug/L	20.0		106	65-133			
2-Butanone	90		12	ug/L	100		90	10-180			
2-Hexanone	68		12	ug/L	100		68	12-180			
4-Methyl-2-pentanone	90		12	ug/L	100		90	19-180			
Acetone	71		25	ug/L	100		71	10-180			
Benzene	19		2.5	ug/L	20.0		94	56-136			
Bromodichloromethane	18		2.5	ug/L	20.0		89	58-135			
Bromoform	21		2.5	ug/L	20.0		107	46-148			
Bromomethane	8.7		2.5	ug/L	20.0		44	10-173			
Carbon disulfide	20		12	ug/L	20.0		102	43-153			
Carbon Tetrachloride	16		2.5	ug/L	20.0		80	54-156			
Chlorobenzene	24		2.5	ug/L	20.0		120	51-139			
Chloroethane	22		2.5	ug/L	20.0		109	27-180			
Chloroform	20		2.5	ug/L	20.0		99	58-139			
Chloromethane	9.3		2.5	ug/L	20.0		46	33-154			
cis-1,2-Dichloroethene	22		2.5	ug/L	20.0		109	56-128			
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0		87	64-128			
Cyclohexane	16		2.5	ug/L	20.0		82	70-130			
Dibromochloromethane	24		2.5	ug/L	20.0		118	50-140			
Dichlorodifluoromethane	12		2.5	ug/L	20.0		61	10-180			
Ethylbenzene	22		2.5	ug/L	20.0		108	63-133			
Freon 113	21		2.5	ug/L	20.0		104	47-173			
Isopropylbenzene	24		2.5	ug/L	20.0		118	60-132			
m,p-Xylenes	50		5.0	ug/L	40.0		125	64-133			
Methyl acetate	13		2.5	ug/L	20.0		65	70-130			A-07
Methyl cyclohexane	18		2.5	ug/L	20.0		89	70-130			
Methylene Chloride	20		12	ug/L	20.0		100	43-142			
Methyl-tert-Butyl Ether	20		2.5	ug/L	20.0		99	51-145			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

LCS (1A25020-BS1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 09:20

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
o-Xylene	23		2.5	ug/L	20.0		117	61-129			
Styrene	25		2.5	ug/L	20.0		126	59-136			
Tetrachloroethene	21		2.5	ug/L	20.0		104	60-147			
Toluene	23		2.5	ug/L	20.0		114	64-131			
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0		108	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0		103	65-149			
Trichloroethene	21		2.5	ug/L	20.0		103	62-135			
Trichlorofluoromethane	20		2.5	ug/L	20.0		100	56-155			
Vinyl chloride	17		2.5	ug/L	20.0		85	20-167			
4-Bromofluorobenzene	*52*			*ug/L*	*50.0*		*105*	*41-142*			
Dibromofluoromethane	*55*			*ug/L*	*50.0*		*111*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*98*	*41-146*			

Matrix Spike (1A25020-MS1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 18:39

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	22		2.5	ug/L	20.0	0.80 U	110	57-148			
1,1,2,2-Tetrachloroethane	23		2.5	ug/L	20.0	0.54 U	114	60-139			
1,1,2-Trichloroethane	22		2.5	ug/L	20.0	0.76 U	110	57-141			
1,1-Dichloroethane	19		2.5	ug/L	20.0	0.62 U	96	57-142			
1,1-Dichloroethene	23		2.5	ug/L	20.0	0.94 U	114	47-139			
1,2,4-Trichlorobenzene	15		2.5	ug/L	20.0	0.70 U	74	52-159			
1,2-Dibromo-3-chloropropane	14		2.5	ug/L	20.0	0.96 U	72	48-150			
1,2-Dibromoethane	23		2.5	ug/L	20.0	0.78 U	115	57-140			
1,2-Dichlorobenzene	23		2.5	ug/L	20.0	0.73 U	114	63-131			
1,2-Dichloroethane	16		2.5	ug/L	20.0	0.63 U	79	50-156			
1,2-Dichloropropane	16		2.5	ug/L	20.0	0.80 U	79	61-133			
1,3-Dichlorobenzene	25		2.5	ug/L	20.0	0.77 U	125	66-129			
1,4-Dichlorobenzene	23		2.5	ug/L	20.0	0.76 U	114	65-133			
2-Butanone	88		12	ug/L	100	4.5 U	88	10-180			
2-Hexanone	62		12	ug/L	100	2.5 U	62	12-180			
4-Methyl-2-pentanone	87		12	ug/L	100	2.5 U	87	19-180			
Acetone	65		25	ug/L	100	10 U	65	10-180			
Benzene	20		2.5	ug/L	20.0	0.71 U	100	56-136			
Bromodichloromethane	19		2.5	ug/L	20.0	0.52 U	95	58-135			
Bromoform	22		2.5	ug/L	20.0	0.75 U	109	46-148			
Bromomethane	10		2.5	ug/L	20.0	0.95 U	50	10-173			
Carbon disulfide	21		12	ug/L	20.0	2.5 U	106	43-153			
Carbon Tetrachloride	18		2.5	ug/L	20.0	0.94 U	89	54-156			
Chlorobenzene	27		2.5	ug/L	20.0	0.72 U	135	51-139			
Chloroethane	23		2.5	ug/L	20.0	0.98 U	113	27-180			
Chloroform	21		2.5	ug/L	20.0	0.80 U	104	58-139			
Chloromethane	9.6		2.5	ug/L	20.0	0.82 U	48	33-154			
cis-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.53 U	110	56-128			
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0	0.59 U	85	64-128			
Cyclohexane	16		2.5	ug/L	20.0	0.93 U	82	70-130			
Dibromochloromethane	25		2.5	ug/L	20.0	0.50 U	127	50-140			
Dichlorodifluoromethane	13		2.5	ug/L	20.0	0.74 U	66	10-180			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

Matrix Spike (1A25020-MS1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 18:39

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	24		2.5	ug/L	20.0	0.69 U	119	63-133			
Freon 113	23		2.5	ug/L	20.0	0.73 U	115	47-173			
Isopropylbenzene	26		2.5	ug/L	20.0	0.67 U	131	60-132			
m,p-Xylenes	55		5.0	ug/L	40.0	1.3 U	137	64-133			QM-07
Methyl acetate	10		2.5	ug/L	20.0	0.95 U	51	70-130			QM-19
Methyl cyclohexane	19		2.5	ug/L	20.0	0.64 U	95	70-130			
Methylene Chloride	21		12	ug/L	20.0	2.5 U	105	43-142			
Methyl-tert-Butyl Ether	20		2.5	ug/L	20.0	0.60 U	100	51-145			
o-Xylene	25		2.5	ug/L	20.0	0.53 U	127	61-129			
Styrene	28		2.5	ug/L	20.0	0.61 U	140	59-136			QM-07
Tetrachloroethene	24		2.5	ug/L	20.0	0.76 U	122	60-147			
Toluene	24		2.5	ug/L	20.0	0.72 U	122	64-131			
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.73 U	111	54-134			
trans-1,3-Dichloropropene	20		2.5	ug/L	20.0	0.73 U	102	65-149			
Trichloroethene	24		2.5	ug/L	20.0	0.89 U	122	62-135			
Trichlorofluoromethane	23		2.5	ug/L	20.0	0.94 U	113	56-155			
Vinyl chloride	17		2.5	ug/L	20.0	0.71 U	84	20-167			
4-Bromofluorobenzene	*54*			*ug/L*	*50.0*		*109*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*112*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*97*	*41-146*			

Matrix Spike Dup (1A25020-MSD1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 19:09

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	20		2.5	ug/L	20.0	0.80 U	102	57-148	8	25	
1,1,2,2-Tetrachloroethane	22		2.5	ug/L	20.0	0.54 U	110	60-139	4	17	
1,1,2-Trichloroethane	21		2.5	ug/L	20.0	0.76 U	106	57-141	3	16	
1,1-Dichloroethane	18		2.5	ug/L	20.0	0.62 U	90	57-142	6	24	
1,1-Dichloroethene	21		2.5	ug/L	20.0	0.94 U	103	47-139	10	16	
1,2,4-Trichlorobenzene	16		2.5	ug/L	20.0	0.70 U	81	52-159	9	24	
1,2-Dibromo-3-chloropropane	18		2.5	ug/L	20.0	0.96 U	88	48-150	21	21	
1,2-Dibromoethane	22		2.5	ug/L	20.0	0.78 U	110	57-140	4	16	
1,2-Dichlorobenzene	23		2.5	ug/L	20.0	0.73 U	113	63-131	1	25	
1,2-Dichloroethane	15		2.5	ug/L	20.0	0.63 U	77	50-156	1	18	
1,2-Dichloropropane	15		2.5	ug/L	20.0	0.80 U	76	61-133	4	26	
1,3-Dichlorobenzene	24		2.5	ug/L	20.0	0.77 U	120	66-129	4	23	
1,4-Dichlorobenzene	22		2.5	ug/L	20.0	0.76 U	110	65-133	4	23	
2-Butanone	83		12	ug/L	100	4.5 U	83	10-180	5	29	
2-Hexanone	66		12	ug/L	100	2.5 U	66	12-180	5	28	
4-Methyl-2-pentanone	87		12	ug/L	100	2.5 U	87	19-180	0.5	24	
Acetone	70		25	ug/L	100	10 U	70	10-180	7	19	
Benzene	19		2.5	ug/L	20.0	0.71 U	96	56-136	5	14	
Bromodichloromethane	18		2.5	ug/L	20.0	0.52 U	89	58-135	7	19	
Bromoform	21		2.5	ug/L	20.0	0.75 U	106	46-148	2	18	
Bromomethane	11		2.5	ug/L	20.0	0.95 U	55	10-173	10	29	
Carbon disulfide	19		12	ug/L	20.0	2.5 U	94	43-153	12	26	
Carbon Tetrachloride	16		2.5	ug/L	20.0	0.94 U	79	54-156	12	27	
Chlorobenzene	26		2.5	ug/L	20.0	0.72 U	129	51-139	5	13	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

Matrix Spike Dup (1A25020-MSD1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 19:09

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloroethane	21		2.5	ug/L	20.0	0.98 U	105	27-180	7	22	
Chloroform	20		2.5	ug/L	20.0	0.80 U	102	58-139	2	17	
Chloromethane	9.0		2.5	ug/L	20.0	0.82 U	45	33-154	7	31	
cis-1,2-Dichloroethene	21		2.5	ug/L	20.0	0.53 U	104	56-128	5	17	
cis-1,3-Dichloropropene	16		2.5	ug/L	20.0	0.59 U	78	64-128	9	20	
Cyclohexane	15		2.5	ug/L	20.0	0.93 U	75	70-130	8	20	
Dibromochloromethane	23		2.5	ug/L	20.0	0.50 U	117	50-140	8	18	
Dichlorodifluoromethane	13		2.5	ug/L	20.0	0.74 U	63	10-180	4	26	
Ethylbenzene	22		2.5	ug/L	20.0	0.69 U	112	63-133	6	18	
Freon 113	21		2.5	ug/L	20.0	0.73 U	105	47-173	9	30	
Isopropylbenzene	24		2.5	ug/L	20.0	0.67 U	122	60-132	7	23	
m,p-Xylenes	51		5.0	ug/L	40.0	1.3 U	129	64-133	6	18	
Methyl acetate	9.5		2.5	ug/L	20.0	0.95 U	48	70-130	6	20	QM-19
Methyl cyclohexane	18		2.5	ug/L	20.0	0.64 U	91	70-130	4	20	
Methylene Chloride	19		12	ug/L	20.0	2.5 U	95	43-142	9	23	
Methyl-tert-Butyl Ether	19		2.5	ug/L	20.0	0.60 U	95	51-145	5	22	
o-Xylene	25		2.5	ug/L	20.0	0.53 U	123	61-129	4	16	
Styrene	26		2.5	ug/L	20.0	0.61 U	130	59-136	7	32	
Tetrachloroethene	23		2.5	ug/L	20.0	0.76 U	113	60-147	8	21	
Toluene	23		2.5	ug/L	20.0	0.72 U	117	64-131	4	16	
trans-1,2-Dichloroethene	21		2.5	ug/L	20.0	0.73 U	103	54-134	8	20	
trans-1,3-Dichloropropene	19		2.5	ug/L	20.0	0.73 U	97	65-149	5	17	
Trichloroethene	21		2.5	ug/L	20.0	0.89 U	107	62-135	12	20	
Trichlorofluoromethane	20		2.5	ug/L	20.0	0.94 U	102	56-155	10	22	
Vinyl chloride	15		2.5	ug/L	20.0	0.71 U	77	20-167	8	24	
4-Bromofluorobenzene	*55*			*ug/L*	*50.0*		*110*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*111*	*53-146*			
Toluene-d8	*48*	*I*		*ug/L*	*50.0*		*96*	*41-146*			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
A-07	Analyte biased low in LCS but detected in the reporting limit standard. Since the analyte in the associated sample was not detected, there is no impact on data quality.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-19	The spike recovery was outside acceptance limits for the MS and/or MSD.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

AE00488

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 1410 | PAGE 1 OF 1

PROJECT NO: 112G08970	FACILITY: CTCA	PROJECT MANAGER: ALEX MURPHY	PHONE NUMBER: 321-292-0842	LABORATORY NAME AND CONTACT: ENCO
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER: DAN FORESTER	PHONE NUMBER: 304-780-1426	ADDRESS
		CARRIER/WAYBILL NUMBER		CITY, STATE: ORLANDO, FL

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2021	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TYPE OF ANALYSIS: BNAs TCL SOM01.2 CLP-LIKE CUSTOMLIST								COMMENTS
									G	HCl									(cooled on ice)
19JAN	1340	CTCA-ASEFFLUENT-20210119	CTCA	/	/	GW	G	3			X								
19JAN	1350	CTCA-ASINFLUENT-20210119	CTCA	/	/	GW	G	3			X								

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	19JAN21	1400	1. RECEIVED BY	19JAN21	1400
2. RELINQUISHED BY	1-21-21	1500	2. RECEIVED BY KE	1/21/21	15:00
3. RELINQUISHED BY KE	1/21/21	15:00	3. RECEIVED BY	1/21/21	1500
COMMENTS	1-21-21	1500	James W Gregory	1/21/21	1510

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

C-025

4/02R FORM NO. TtNUS-001

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ENCO Laboratories

Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Thursday, January 28, 2021
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AE00488

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Thursday, January 21, 2021.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

www.encolabs.com

Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Client PM: Alex Murphy
Project Number: 112G08970
ENCO Project ID: AE00488
SDG: AE00488-TE016

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling and processing will be discussed in the Remarks section below.

Remarks

List of instruments used:

Analytical and Preparation Method	SOP Reference Instrument
EPA 8260D / 5030B_MS	OVGCMS5

Analysis: EPA 8260D

Manual integrations were performed on samples associated with EPA 8260D. All data & explanations are included in the raw data section of the report.

Affected Samples: 1A25020-BS1, CRCA-ASEFFLUENT-20210119[AE00488-01], CRCA-ASINFLUENT-20210119]
The associated laboratory control sample exhibited low bias for methyl acetate; the associated sample had ND (non-detect) results, but sensitivity was verified by analyzing a standard with a concentration equivalent to the reporting limit.

Affected Samples: 1A25020-MS1, 1A25020-MSD1
Matrix spike recovery was outside acceptance limits for m,p-xylenes, methyl acetate, and styrene.

Affected Samples: AA64632-CCV1
The continuing calibration verification standard exhibited low bias for multiple analytes; the associated sample had ND (non-detect) results, but sensitivity was verified by analyzing a standard with a concentration equivalent to the reporting limit.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Kaitlin Dylnicki
Project Manager

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-ASEFFLUENT-20210119	Lab ID: AE00488-01	Sampled: 01/19/21 13:40	Received: 01/21/21 15:10

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 17:41

Client ID: CRCA-ASINFLUENT-20210119	Lab ID: AE00488-02	Sampled: 01/19/21 13:50	Received: 01/21/21 15:10

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 18:10

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-ASINFLUENT-20210119 **Lab ID:** AE00488-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	13		0.71	2.5	ug/L	EPA 8260D	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20210119 **Lab Sample ID:** AE00488-01 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:40 **Work Order:** AE00488

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 17:41	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:41	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20210119 **Lab Sample ID:** AE00488-01 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:40 **Work Order:** AE00488

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 17:41	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*107 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 17:41*	*KKW*	
Dibromofluoromethane	*56*	*1*	*50.0*	*111 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 17:41*	*KKW*	
Toluene-d8	*47*	*1*	*50.0*	*94 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 17:41*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20210119 **Lab Sample ID:** AE00488-02 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:50 **Work Order:** AE00488

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 18:10	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 18:10	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	

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ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20210119 **Lab Sample ID:** AE00488-02 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:50 **Work Order:** AE00488

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Vinyl chloride [75-01-4]^	**13**		ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 18:10	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*107 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 18:10*	*KKW*	
Dibromofluoromethane	*55*	*1*	*50.0*	*110 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 18:10*	*KKW*	
Toluene-d8	*48*	*1*	*50.0*	*96 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 18:10*	*KKW*	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS

Blank (1A25020-BLK1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 10:19

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

Blank (1A25020-BLK1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 10:19

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*54*			*ug/L*	*50.0*		*109*	*41-142*			
Dibromofluoromethane	*55*			*ug/L*	*50.0*		*111*	*53-146*			
Toluene-d8	*48*	*I*		*ug/L*	*50.0*		*96*	*41-146*			

LCS (1A25020-BS1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 09:20

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	19		2.5	ug/L	20.0		97	57-148			
1,1,2,2-Tetrachloroethane	21		2.5	ug/L	20.0		105	60-139			
1,1,2-Trichloroethane	21		2.5	ug/L	20.0		107	57-141			
1,1-Dichloroethane	19		2.5	ug/L	20.0		93	57-142			
1,1-Dichloroethene	20		2.5	ug/L	20.0		102	47-139			
1,2,4-Trichlorobenzene	17		2.5	ug/L	20.0		87	52-159			
1,2-Dibromo-3-chloropropane	20		2.5	ug/L	20.0		102	48-150			
1,2-Dibromoethane	22		2.5	ug/L	20.0		110	57-140			
1,2-Dichlorobenzene	23		2.5	ug/L	20.0		113	63-131			
1,2-Dichloroethane	15		2.5	ug/L	20.0		75	50-156			
1,2-Dichloropropane	16		2.5	ug/L	20.0		80	61-133			
1,3-Dichlorobenzene	24		2.5	ug/L	20.0		118	66-129			
1,4-Dichlorobenzene	21		2.5	ug/L	20.0		106	65-133			
2-Butanone	90		12	ug/L	100		90	10-180			
2-Hexanone	68		12	ug/L	100		68	12-180			
4-Methyl-2-pentanone	90		12	ug/L	100		90	19-180			
Acetone	71		25	ug/L	100		71	10-180			
Benzene	19		2.5	ug/L	20.0		94	56-136			
Bromodichloromethane	18		2.5	ug/L	20.0		89	58-135			
Bromoform	21		2.5	ug/L	20.0		107	46-148			
Bromomethane	8.7		2.5	ug/L	20.0		44	10-173			
Carbon disulfide	20		12	ug/L	20.0		102	43-153			
Carbon Tetrachloride	16		2.5	ug/L	20.0		80	54-156			
Chlorobenzene	24		2.5	ug/L	20.0		120	51-139			
Chloroethane	22		2.5	ug/L	20.0		109	27-180			
Chloroform	20		2.5	ug/L	20.0		99	58-139			
Chloromethane	9.3		2.5	ug/L	20.0		46	33-154			
cis-1,2-Dichloroethene	22		2.5	ug/L	20.0		109	56-128			
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0		87	64-128			
Cyclohexane	16		2.5	ug/L	20.0		82	70-130			
Dibromochloromethane	24		2.5	ug/L	20.0		118	50-140			
Dichlorodifluoromethane	12		2.5	ug/L	20.0		61	10-180			
Ethylbenzene	22		2.5	ug/L	20.0		108	63-133			
Freon 113	21		2.5	ug/L	20.0		104	47-173			
Isopropylbenzene	24		2.5	ug/L	20.0		118	60-132			
m,p-Xylenes	50		5.0	ug/L	40.0		125	64-133			
Methyl acetate	13		2.5	ug/L	20.0		65	70-130			A-07
Methyl cyclohexane	18		2.5	ug/L	20.0		89	70-130			
Methylene Chloride	20		12	ug/L	20.0		100	43-142			
Methyl-tert-Butyl Ether	20		2.5	ug/L	20.0		99	51-145			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

LCS (1A25020-BS1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 09:20

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
o-Xylene	23		2.5	ug/L	20.0		117	61-129			
Styrene	25		2.5	ug/L	20.0		126	59-136			
Tetrachloroethene	21		2.5	ug/L	20.0		104	60-147			
Toluene	23		2.5	ug/L	20.0		114	64-131			
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0		108	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0		103	65-149			
Trichloroethene	21		2.5	ug/L	20.0		103	62-135			
Trichlorofluoromethane	20		2.5	ug/L	20.0		100	56-155			
Vinyl chloride	17		2.5	ug/L	20.0		85	20-167			
4-Bromofluorobenzene	*52*			*ug/L*	*50.0*		*105*	*41-142*			
Dibromofluoromethane	*55*			*ug/L*	*50.0*		*111*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*98*	*41-146*			

Matrix Spike (1A25020-MS1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 18:39

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	22		2.5	ug/L	20.0	0.80 U	110	57-148			
1,1,2,2-Tetrachloroethane	23		2.5	ug/L	20.0	0.54 U	114	60-139			
1,1,2-Trichloroethane	22		2.5	ug/L	20.0	0.76 U	110	57-141			
1,1-Dichloroethane	19		2.5	ug/L	20.0	0.62 U	96	57-142			
1,1-Dichloroethene	23		2.5	ug/L	20.0	0.94 U	114	47-139			
1,2,4-Trichlorobenzene	15		2.5	ug/L	20.0	0.70 U	74	52-159			
1,2-Dibromo-3-chloropropane	14		2.5	ug/L	20.0	0.96 U	72	48-150			
1,2-Dibromoethane	23		2.5	ug/L	20.0	0.78 U	115	57-140			
1,2-Dichlorobenzene	23		2.5	ug/L	20.0	0.73 U	114	63-131			
1,2-Dichloroethane	16		2.5	ug/L	20.0	0.63 U	79	50-156			
1,2-Dichloropropane	16		2.5	ug/L	20.0	0.80 U	79	61-133			
1,3-Dichlorobenzene	25		2.5	ug/L	20.0	0.77 U	125	66-129			
1,4-Dichlorobenzene	23		2.5	ug/L	20.0	0.76 U	114	65-133			
2-Butanone	88		12	ug/L	100	4.5 U	88	10-180			
2-Hexanone	62		12	ug/L	100	2.5 U	62	12-180			
4-Methyl-2-pentanone	87		12	ug/L	100	2.5 U	87	19-180			
Acetone	65		25	ug/L	100	10 U	65	10-180			
Benzene	20		2.5	ug/L	20.0	0.71 U	100	56-136			
Bromodichloromethane	19		2.5	ug/L	20.0	0.52 U	95	58-135			
Bromoform	22		2.5	ug/L	20.0	0.75 U	109	46-148			
Bromomethane	10		2.5	ug/L	20.0	0.95 U	50	10-173			
Carbon disulfide	21		12	ug/L	20.0	2.5 U	106	43-153			
Carbon Tetrachloride	18		2.5	ug/L	20.0	0.94 U	89	54-156			
Chlorobenzene	27		2.5	ug/L	20.0	0.72 U	135	51-139			
Chloroethane	23		2.5	ug/L	20.0	0.98 U	113	27-180			
Chloroform	21		2.5	ug/L	20.0	0.80 U	104	58-139			
Chloromethane	9.6		2.5	ug/L	20.0	0.82 U	48	33-154			
cis-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.53 U	110	56-128			
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0	0.59 U	85	64-128			
Cyclohexane	16		2.5	ug/L	20.0	0.93 U	82	70-130			
Dibromochloromethane	25		2.5	ug/L	20.0	0.50 U	127	50-140			
Dichlorodifluoromethane	13		2.5	ug/L	20.0	0.74 U	66	10-180			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

Matrix Spike (1A25020-MS1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 18:39

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	24		2.5	ug/L	20.0	0.69 U	119	63-133			
Freon 113	23		2.5	ug/L	20.0	0.73 U	115	47-173			
Isopropylbenzene	26		2.5	ug/L	20.0	0.67 U	131	60-132			
m,p-Xylenes	55		5.0	ug/L	40.0	1.3 U	137	64-133			QM-07
Methyl acetate	10		2.5	ug/L	20.0	0.95 U	51	70-130			QM-19
Methyl cyclohexane	19		2.5	ug/L	20.0	0.64 U	95	70-130			
Methylene Chloride	21		12	ug/L	20.0	2.5 U	105	43-142			
Methyl-tert-Butyl Ether	20		2.5	ug/L	20.0	0.60 U	100	51-145			
o-Xylene	25		2.5	ug/L	20.0	0.53 U	127	61-129			
Styrene	28		2.5	ug/L	20.0	0.61 U	140	59-136			QM-07
Tetrachloroethene	24		2.5	ug/L	20.0	0.76 U	122	60-147			
Toluene	24		2.5	ug/L	20.0	0.72 U	122	64-131			
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.73 U	111	54-134			
trans-1,3-Dichloropropene	20		2.5	ug/L	20.0	0.73 U	102	65-149			
Trichloroethene	24		2.5	ug/L	20.0	0.89 U	122	62-135			
Trichlorofluoromethane	23		2.5	ug/L	20.0	0.94 U	113	56-155			
Vinyl chloride	17		2.5	ug/L	20.0	0.71 U	84	20-167			
4-Bromofluorobenzene	*54*			*ug/L*	*50.0*		*109*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*112*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*97*	*41-146*			

Matrix Spike Dup (1A25020-MSD1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 19:09

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	20		2.5	ug/L	20.0	0.80 U	102	57-148	8	25	
1,1,2,2-Tetrachloroethane	22		2.5	ug/L	20.0	0.54 U	110	60-139	4	17	
1,1,2-Trichloroethane	21		2.5	ug/L	20.0	0.76 U	106	57-141	3	16	
1,1-Dichloroethane	18		2.5	ug/L	20.0	0.62 U	90	57-142	6	24	
1,1-Dichloroethene	21		2.5	ug/L	20.0	0.94 U	103	47-139	10	16	
1,2,4-Trichlorobenzene	16		2.5	ug/L	20.0	0.70 U	81	52-159	9	24	
1,2-Dibromo-3-chloropropane	18		2.5	ug/L	20.0	0.96 U	88	48-150	21	21	
1,2-Dibromoethane	22		2.5	ug/L	20.0	0.78 U	110	57-140	4	16	
1,2-Dichlorobenzene	23		2.5	ug/L	20.0	0.73 U	113	63-131	1	25	
1,2-Dichloroethane	15		2.5	ug/L	20.0	0.63 U	77	50-156	1	18	
1,2-Dichloropropane	15		2.5	ug/L	20.0	0.80 U	76	61-133	4	26	
1,3-Dichlorobenzene	24		2.5	ug/L	20.0	0.77 U	120	66-129	4	23	
1,4-Dichlorobenzene	22		2.5	ug/L	20.0	0.76 U	110	65-133	4	23	
2-Butanone	83		12	ug/L	100	4.5 U	83	10-180	5	29	
2-Hexanone	66		12	ug/L	100	2.5 U	66	12-180	5	28	
4-Methyl-2-pentanone	87		12	ug/L	100	2.5 U	87	19-180	0.5	24	
Acetone	70		25	ug/L	100	10 U	70	10-180	7	19	
Benzene	19		2.5	ug/L	20.0	0.71 U	96	56-136	5	14	
Bromodichloromethane	18		2.5	ug/L	20.0	0.52 U	89	58-135	7	19	
Bromoform	21		2.5	ug/L	20.0	0.75 U	106	46-148	2	18	
Bromomethane	11		2.5	ug/L	20.0	0.95 U	55	10-173	10	29	
Carbon disulfide	19		12	ug/L	20.0	2.5 U	94	43-153	12	26	
Carbon Tetrachloride	16		2.5	ug/L	20.0	0.94 U	79	54-156	12	27	
Chlorobenzene	26		2.5	ug/L	20.0	0.72 U	129	51-139	5	13	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

Matrix Spike Dup (1A25020-MSD1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 19:09

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloroethane	21		2.5	ug/L	20.0	0.98 U	105	27-180	7	22	
Chloroform	20		2.5	ug/L	20.0	0.80 U	102	58-139	2	17	
Chloromethane	9.0		2.5	ug/L	20.0	0.82 U	45	33-154	7	31	
cis-1,2-Dichloroethene	21		2.5	ug/L	20.0	0.53 U	104	56-128	5	17	
cis-1,3-Dichloropropene	16		2.5	ug/L	20.0	0.59 U	78	64-128	9	20	
Cyclohexane	15		2.5	ug/L	20.0	0.93 U	75	70-130	8	20	
Dibromochloromethane	23		2.5	ug/L	20.0	0.50 U	117	50-140	8	18	
Dichlorodifluoromethane	13		2.5	ug/L	20.0	0.74 U	63	10-180	4	26	
Ethylbenzene	22		2.5	ug/L	20.0	0.69 U	112	63-133	6	18	
Freon 113	21		2.5	ug/L	20.0	0.73 U	105	47-173	9	30	
Isopropylbenzene	24		2.5	ug/L	20.0	0.67 U	122	60-132	7	23	
m,p-Xylenes	51		5.0	ug/L	40.0	1.3 U	129	64-133	6	18	
Methyl acetate	9.5		2.5	ug/L	20.0	0.95 U	48	70-130	6	20	QM-19
Methyl cyclohexane	18		2.5	ug/L	20.0	0.64 U	91	70-130	4	20	
Methylene Chloride	19		12	ug/L	20.0	2.5 U	95	43-142	9	23	
Methyl-tert-Butyl Ether	19		2.5	ug/L	20.0	0.60 U	95	51-145	5	22	
o-Xylene	25		2.5	ug/L	20.0	0.53 U	123	61-129	4	16	
Styrene	26		2.5	ug/L	20.0	0.61 U	130	59-136	7	32	
Tetrachloroethene	23		2.5	ug/L	20.0	0.76 U	113	60-147	8	21	
Toluene	23		2.5	ug/L	20.0	0.72 U	117	64-131	4	16	
trans-1,2-Dichloroethene	21		2.5	ug/L	20.0	0.73 U	103	54-134	8	20	
trans-1,3-Dichloropropene	19		2.5	ug/L	20.0	0.73 U	97	65-149	5	17	
Trichloroethene	21		2.5	ug/L	20.0	0.89 U	107	62-135	12	20	
Trichlorofluoromethane	20		2.5	ug/L	20.0	0.94 U	102	56-155	10	22	
Vinyl chloride	15		2.5	ug/L	20.0	0.71 U	77	20-167	8	24	
4-Bromofluorobenzene	*55*			*ug/L*	*50.0*		*110*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*111*	*53-146*			
Toluene-d8	*48*	*I*		*ug/L*	*50.0*		*96*	*41-146*			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
A-07	Analyte biased low in LCS but detected in the reporting limit standard. Since the analyte in the associated sample was not detected, there is no impact on data quality.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-19	The spike recovery was outside acceptance limits for the MS and/or MSD.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported result is an estimated value.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence (85% or greater confidence) to make a “tentative identification".
Q	One or more quality control criteria failed.

AE00488

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 1410 | PAGE 1 OF 1

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G08970	CICA	ALEX MURPHY	321-292-0842	ENCO
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER: DAN FORESTER	PHONE NUMBER: 304-780-1426	ADDRESS
		CARRIER/WAYBILL NUMBER		CITY, STATE: ORLANDO, FL

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2021	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G): G	PRESERVATIVE USED: HCL	TYPE OF ANALYSIS: 8260D TCL SOM01.2 CLP-LIKE CUSTOMLIST	(COOLED ON ICE)	COMMENTS
19JAN	1340	CICA-ASEFFLUENT-20210119	CICA	/	/	GW	G	3	X				
19JAN	1350	CICA-ASINFLUENT-20210119	CICA	/	/	GW	G	3	X				

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	19JAN21	1400	1. RECEIVED BY	19JAN21	1400
2. RELINQUISHED BY	1-21-21	1500	2. RECEIVED BY KE	1/21/21	15:00
3. RELINQUISHED BY KE	1/21/21	15:00	3. RECEIVED BY	1/21/21	1500
COMMENTS	1-21-21	1500	James W Gregory	1/21/21	1510

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R FORM NO. TtNUS-001

C-025

1/22/2021

Environmental Conservation Labs, Inc.

Alex Murphy
Tetra Tech, Inc. (TE016)
11 Riverside Drive, Suite 204
Cocoa, FL 32922
Phone: (321) 636-6470
Fax: (321) 636-6473

Reference : **Sample Receipt Confirmation - *Please Review***
Project Name / Number : NASA KSC CRCA / 112G08970
Purchase Order # : 1165883

Lab Reference # : AE00488 Lab Receipt Date: 21-Jan-21 15:10
Anticipated ***(Estimated)*** Completion Date: 28-Jan-21 19:00

This is an automated notification from our laboratory information management system (LIMS), indicating the samples we have recently received and their associated analyses. Should any of the following information be in error, please contact us immediately.

Thank you for choosing Environmental Conservation Laboratories. Should any events occur that delay the processing of your samples or inhibit our ability to complete the project within the projected time frame you will be contacted.

Sincerely,

Kaitlin Dylnicki

Client: Tetra Tech, Inc. (TE016) **Project Name:** NASA KSC CRCA
Requested TAT: 5 **Project Number:** 112G08970

Analysis	TAT	Expires	Status
Sample ID: CRCA-ASEFFLUENT-20210119(Lab ID: AE00488-01), Matrix: Ground Water, Sampled: 19-Jan-21 13:40 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received
Sample ID: CRCA-ASINFLUENT-20210119(Lab ID: AE00488-02), Matrix: Ground Water, Sampled: 19-Jan-21 13:50 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received

Analysis Groups included in this work order

ENCO Orlando

SDG: AE00488-TE016

CLASS: 01_VOA_MS

METHOD: EPA 8260D

ANALYSES DATA PACKAGE COVER PAGE

EPA 8260D

Laboratory: ENCO Orlando

SDG: AE00488-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-ASEFFLUENT-20210119	AE00488-01
CRCA-ASINFLUENT-20210119	AE00488-02

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLUENT-20210119

Laboratory: ENCO Orlando SDG: AE00488-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00488-01 File ID: 215AT021.D

Sampled: 01/19/21 13:40 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 17:41

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLUENT-20210119

Laboratory: ENCO Orlando SDG: AE00488-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00488-01 File ID: 215AT021.D

Sampled: 01/19/21 13:40 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 17:41

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	56	111	53 - 146	
Toluene-d8	50.0	47	94	41 - 146	
4-Bromofluorobenzene	50.0	53	107	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1335751	9.868	1217120	9.845	
1,4-Difluorobenzene	2864408	10.456	2353990	10.438	
Chlorobenzene-d5	1575881	13.241	1612072	13.217	
1,4-Dichlorobenzene-d4	1522111	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLUENT-20210119

Laboratory: ENCO Orlando SDG: AE00488-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00488-02 File ID: 215AT022.D

Sampled: 01/19/21 13:50 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 18:10

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	13		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLUENT-20210119

Laboratory: ENCO Orlando SDG: AE00488-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00488-02 File ID: 215AT022.D

Sampled: 01/19/21 13:50 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 18:10

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	55	110	53 - 146	
Toluene-d8	50.0	48	96	41 - 146	
4-Bromofluorobenzene	50.0	53	107	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1360126	9.863	1217120	9.845	
1,4-Difluorobenzene	2880951	10.456	2353990	10.438	
Chlorobenzene-d5	1590418	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1528822	15.497	1366836	15.474	

* Values outside of QC limits

HOLDING TIME SUMMARY

EPA 8260D

Laboratory: ENCO Orlando

SDG: AE00488-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-ASEFFLUENT-20210119	01/19/21 13:40	01/21/21 15:10	01/25/21 00:00	5.43	NA	01/25/21 17:41	6.00	14.00	
CRCA-ASINFLUENT-20210119	01/19/21 13:50	01/21/21 15:10	01/25/21 00:00	5.42	NA	01/25/21 18:10	6.00	14.00	

PREPARATION BATCH SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AE00488-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1A25020 Batch Matrix: Water Preparation: EPA 5030B_MS

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1A25020-BLK1	215AT006.D	01/25/21 00:00	
LCS	1A25020-BS1	215AT004.D	01/25/21 00:00	
CRCA-MW0032-058.0-20210120	1A25020-MS1	215AT023.D	01/25/21 00:00	
CRCA-MW0032-058.0-20210120	1A25020-MSD1	215AT024.D	01/25/21 00:00	
CRCA-ASEFFLUENT-20210119	AE00488-01	215AT021.D	01/25/21 00:00	
CRCA-ASINFLUENT-20210119	AE00488-02	215AT022.D	01/25/21 00:00	

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00488-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1A25020-BLK1	File ID:	215AT006.D
Prepared:	01/25/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	01/25/21 10:19	Instrument:	OVGCMS5		
Batch:	1A25020	Sequence:	AA64632	Calibration:	2011113

CAS NO.	COMPOUND	CONC. (ug/L)	Q
75-71-8	Dichlorodifluoromethane	0.74	U
74-87-3	Chloromethane	0.82	U
75-01-4	Vinyl chloride	0.71	U
74-83-9	Bromomethane	0.95	U
75-00-3	Chloroethane	0.98	U
75-69-4	Trichlorofluoromethane	0.94	U
76-13-1	Freon 113	0.73	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	0.94	U
75-15-0	Carbon disulfide	2.5	U
75-09-2	Methylene Chloride	2.5	U
1634-04-4	Methyl-tert-Butyl Ether	0.60	U
156-60-5	trans-1,2-Dichloroethene	0.73	U
156-59-2	cis-1,2-Dichloroethene	0.53	U
75-34-3	1,1-Dichloroethane	0.62	U
78-93-3	2-Butanone	4.5	U
67-66-3	Chloroform	0.80	U
71-55-6	1,1,1-Trichloroethane	0.80	U
79-20-9	Methyl acetate	0.95	U
110-82-7	Cyclohexane	0.93	U
108-87-2	Methyl cyclohexane	0.64	U
56-23-5	Carbon Tetrachloride	0.94	U
107-06-2	1,2-Dichloroethane	0.63	U
71-43-2	Benzene	0.71	U
79-01-6	Trichloroethene	0.89	U
78-87-5	1,2-Dichloropropane	0.80	U
75-27-4	Bromodichloromethane	0.52	U
108-10-1	4-Methyl-2-pentanone	2.5	U
591-78-6	2-Hexanone	2.5	U
10061-01-5	cis-1,3-Dichloropropene	0.59	U

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00488-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1A25020-BLK1	File ID:	215AT006.D
Prepared:	01/25/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	01/25/21 10:19	Instrument:	OVGCMS5		
Batch:	1A25020	Sequence:	AA64632	Calibration:	2011113

CAS NO.	COMPOUND	CONC. (ug/L)	Q
108-88-3	Toluene	0.72	U
10061-02-6	trans-1,3-Dichloropropene	0.73	U
79-00-5	1,1,2-Trichloroethane	0.76	U
127-18-4	Tetrachloroethene	0.76	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.78	U
108-90-7	Chlorobenzene	0.72	U
100-41-4	Ethylbenzene	0.69	U
108-38-3/106-42-3	m,p-Xylenes	1.3	U
95-47-6	o-Xylene	0.53	U
75-25-2	Bromoform	0.75	U
100-42-5	Styrene	0.61	U
98-82-8	Isopropylbenzene	0.67	U
79-34-5	1,1,2,2-Tetrachloroethane	0.54	U
120-82-1	1,2,4-Trichlorobenzene	0.70	U
541-73-1	1,3-Dichlorobenzene	0.77	U
106-46-7	1,4-Dichlorobenzene	0.76	U
95-50-1	1,2-Dichlorobenzene	0.73	U
96-12-8	1,2-Dibromo-3-chloropropane	0.96	U
1330-20-7	Xylenes (Total)	1.3	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	55	111	53 - 146	
Toluene-d8	50.0	48	96	41 - 146	
4-Bromofluorobenzene	50.0	54	109	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1492905	9.857	1217120	9.845	
1,4-Difluorobenzene	3146822	10.456	2353990	10.438	
Chlorobenzene-d5	1772986	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1644956	15.491	1366836	15.474	

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00488-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1A25020	Laboratory ID:	1A25020-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	12	61	10 - 180
Chloromethane	20.0	9.3	46	33 - 154
Vinyl chloride	20.0	17	85	20 - 167
Bromomethane	20.0	8.7	44	10 - 173
Chloroethane	20.0	22	109	27 - 180
Trichlorofluoromethane	20.0	20	100	56 - 155
Freon 113	20.0	21	104	47 - 173
Acetone	100	71	71	10 - 180
1,1-Dichloroethene	20.0	20	102	47 - 139
Carbon disulfide	20.0	20	102	43 - 153
Methylene Chloride	20.0	20	100	43 - 142
Methyl-tert-Butyl Ether	20.0	20	99	51 - 145
trans-1,2-Dichloroethene	20.0	22	108	54 - 134
cis-1,2-Dichloroethene	20.0	22	109	56 - 128
1,1-Dichloroethane	20.0	19	93	57 - 142
2-Butanone	100	90	90	10 - 180
Chloroform	20.0	20	99	58 - 139
1,1,1-Trichloroethane	20.0	19	97	57 - 148
Methyl acetate	20.0	13	65 *	70 - 130
Cyclohexane	20.0	16	82	70 - 130
Methyl cyclohexane	20.0	18	89	70 - 130
Carbon Tetrachloride	20.0	16	80	54 - 156
1,2-Dichloroethane	20.0	15	75	50 - 156
Benzene	20.0	19	94	56 - 136
Trichloroethene	20.0	21	103	62 - 135
1,2-Dichloropropane	20.0	16	80	61 - 133
Bromodichloromethane	20.0	18	89	58 - 135
4-Methyl-2-pentanone	100	90	90	19 - 180
2-Hexanone	100	68	68	12 - 180
cis-1,3-Dichloropropene	20.0	17	87	64 - 128

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00488-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1A25020	Laboratory ID:	1A25020-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Toluene	20.0	23	114	64 - 131
trans-1,3-Dichloropropene	20.0	21	103	65 - 149
1,1,2-Trichloroethane	20.0	21	107	57 - 141
Tetrachloroethene	20.0	21	104	60 - 147
Dibromochloromethane	20.0	24	118	50 - 140
1,2-Dibromoethane	20.0	22	110	57 - 140
Chlorobenzene	20.0	24	120	51 - 139
Ethylbenzene	20.0	22	108	63 - 133
m,p-Xylenes	40.0	50	125	64 - 133
o-Xylene	20.0	23	117	61 - 129
Bromoform	20.0	21	107	46 - 148
Styrene	20.0	25	126	59 - 136
Isopropylbenzene	20.0	24	118	60 - 132
1,1,2,2-Tetrachloroethane	20.0	21	105	60 - 139
1,2,4-Trichlorobenzene	20.0	17	87	52 - 159
1,3-Dichlorobenzene	20.0	24	118	66 - 129
1,4-Dichlorobenzene	20.0	21	106	65 - 133
1,2-Dichlorobenzene	20.0	23	113	63 - 131
1,2-Dibromo-3-chloropropane	20.0	20	102	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0032-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A25020
Laboratory ID: 1A25020-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0032-058.0-20210120

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	ND	13	66	10 - 180
Chloromethane	20.0	ND	9.6	48	33 - 154
Vinyl chloride	20.0	ND	17	84	20 - 167
Bromomethane	20.0	ND	10	50	10 - 173
Chloroethane	20.0	ND	23	113	27 - 180
Trichlorofluoromethane	20.0	ND	23	113	56 - 155
Freon 113	20.0	ND	23	115	47 - 173
Acetone	100	ND	65	65	10 - 180
1,1-Dichloroethene	20.0	ND	23	114	47 - 139
Carbon disulfide	20.0	ND	21	106	43 - 153
Methylene Chloride	20.0	ND	21	105	43 - 142
Methyl-tert-Butyl Ether	20.0	ND	20	100	51 - 145
trans-1,2-Dichloroethene	20.0	ND	22	111	54 - 134
cis-1,2-Dichloroethene	20.0	ND	22	110	56 - 128
1,1-Dichloroethane	20.0	ND	19	96	57 - 142
2-Butanone	100	ND	88	88	10 - 180
Chloroform	20.0	ND	21	104	58 - 139
1,1,1-Trichloroethane	20.0	ND	22	110	57 - 148
Methyl acetate	20.0	ND	10	51 *	70 - 130
Cyclohexane	20.0	ND	16	82	70 - 130
Methyl cyclohexane	20.0	ND	19	95	70 - 130
Carbon Tetrachloride	20.0	ND	18	89	54 - 156
1,2-Dichloroethane	20.0	ND	16	79	50 - 156
Benzene	20.0	ND	20	100	56 - 136
Trichloroethene	20.0	ND	24	122	62 - 135
1,2-Dichloropropane	20.0	ND	16	79	61 - 133
Bromodichloromethane	20.0	ND	19	95	58 - 135
4-Methyl-2-pentanone	100	ND	87	87	19 - 180
2-Hexanone	100	ND	62	62	12 - 180
cis-1,3-Dichloropropene	20.0	ND	17	85	64 - 128
Toluene	20.0	ND	24	122	64 - 131

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0032-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A25020
Laboratory ID: 1A25020-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0032-058.0-20210120

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
trans-1,3-Dichloropropene	20.0	ND	20	102	65 - 149
1,1,2-Trichloroethane	20.0	ND	22	110	57 - 141
Tetrachloroethene	20.0	ND	24	122	60 - 147
Dibromochloromethane	20.0	ND	25	127	50 - 140
1,2-Dibromoethane	20.0	ND	23	115	57 - 140
Chlorobenzene	20.0	ND	27	135	51 - 139
Ethylbenzene	20.0	ND	24	119	63 - 133
m,p-Xylenes	40.0	ND	55	137 *	64 - 133
o-Xylene	20.0	ND	25	127	61 - 129
Bromoform	20.0	ND	22	109	46 - 148
Styrene	20.0	ND	28	140 *	59 - 136
Isopropylbenzene	20.0	ND	26	131	60 - 132
1,1,2,2-Tetrachloroethane	20.0	ND	23	114	60 - 139
1,2,4-Trichlorobenzene	20.0	ND	15	74	52 - 159
1,3-Dichlorobenzene	20.0	ND	25	125	66 - 129
1,4-Dichlorobenzene	20.0	ND	23	114	65 - 133
1,2-Dichlorobenzene	20.0	ND	23	114	63 - 131
1,2-Dibromo-3-chloropropane	20.0	ND	14	72	48 - 150

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0032-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A25020
Laboratory ID: 1A25020-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0032-058.0-20210120

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20.0	13	63	4	26	10 - 180
Chloromethane	20.0	9.0	45	7	31	33 - 154
Vinyl chloride	20.0	15	77	8	24	20 - 167
Bromomethane	20.0	11	55	10	29	10 - 173
Chloroethane	20.0	21	105	7	22	27 - 180
Trichlorofluoromethane	20.0	20	102	10	22	56 - 155
Freon 113	20.0	21	105	9	30	47 - 173
Acetone	100	70	70	7	19	10 - 180
1,1-Dichloroethene	20.0	21	103	10	16	47 - 139
Carbon disulfide	20.0	19	94	12	26	43 - 153
Methylene Chloride	20.0	19	95	9	23	43 - 142
Methyl-tert-Butyl Ether	20.0	19	95	5	22	51 - 145
trans-1,2-Dichloroethene	20.0	21	103	8	20	54 - 134
cis-1,2-Dichloroethene	20.0	21	104	5	17	56 - 128
1,1-Dichloroethane	20.0	18	90	6	24	57 - 142
2-Butanone	100	83	83	5	29	10 - 180
Chloroform	20.0	20	102	2	17	58 - 139
1,1,1-Trichloroethane	20.0	20	102	8	25	57 - 148
Methyl acetate	20.0	9.5	48 *	6	20	70 - 130
Cyclohexane	20.0	15	75	8	20	70 - 130
Methyl cyclohexane	20.0	18	91	4	20	70 - 130
Carbon Tetrachloride	20.0	16	79	12	27	54 - 156
1,2-Dichloroethane	20.0	15	77	1	18	50 - 156
Benzene	20.0	19	96	5	14	56 - 136
Trichloroethene	20.0	21	107	12	20	62 - 135
1,2-Dichloropropane	20.0	15	76	4	26	61 - 133
Bromodichloromethane	20.0	18	89	7	19	58 - 135
4-Methyl-2-pentanone	100	87	87	0.5	24	19 - 180
2-Hexanone	100	66	66	5	28	12 - 180
cis-1,3-Dichloropropene	20.0	16	78	9	20	64 - 128
Toluene	20.0	23	117	4	16	64 - 131
trans-1,3-Dichloropropene	20.0	19	97	5	17	65 - 149

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0032-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A25020
Laboratory ID: 1A25020-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0032-058.0-20210120

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,2-Trichloroethane	20.0	21	106	3	16	57 - 141
Tetrachloroethene	20.0	23	113	8	21	60 - 147
Dibromochloromethane	20.0	23	117	8	18	50 - 140
1,2-Dibromoethane	20.0	22	110	4	16	57 - 140
Chlorobenzene	20.0	26	129	5	13	51 - 139
Ethylbenzene	20.0	22	112	6	18	63 - 133
m,p-Xylenes	40.0	51	129	6	18	64 - 133
o-Xylene	20.0	25	123	4	16	61 - 129
Bromoform	20.0	21	106	2	18	46 - 148
Styrene	20.0	26	130	7	32	59 - 136
Isopropylbenzene	20.0	24	122	7	23	60 - 132
1,1,2,2-Tetrachloroethane	20.0	22	110	4	17	60 - 139
1,2,4-Trichlorobenzene	20.0	16	81	9	24	52 - 159
1,3-Dichlorobenzene	20.0	24	120	4	23	66 - 129
1,4-Dichlorobenzene	20.0	22	110	4	23	65 - 133
1,2-Dichlorobenzene	20.0	23	113	1	25	63 - 131
1,2-Dibromo-3-chloropropane	20.0	18	88	21	21	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA63653
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA63653-SCV1)			Lab File ID: 205KN012.D		Analyzed: 11/19/20 13:24			
Dibromofluoromethane	50.0	100	70 - 130	9.422	9.4205	0.0015	+/-0.5	
Toluene-d8	50.0	104	70 - 130	11.772	11.77275	-0.0008	+/-0.5	
4-Bromofluorobenzene	50.0	105	70 - 130	14.322	14.322	0.0000	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64632
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA64632-CCV1)			Lab File ID: 215AT003.D		Analyzed: 01/25/21 08:47			
Dibromofluoromethane	50.0	107	80 - 120	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	99	80 - 120	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	103	80 - 120	14.334	14.322	0.0120	+/-0.5	
LCS (1A25020-BS1)			Lab File ID: 215AT004.D		Analyzed: 01/25/21 09:20			
Dibromofluoromethane	50.0	111	53 - 146	9.434	9.4205	0.0135	+/-0.5	
Toluene-d8	50.0	98	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	105	41 - 142	14.334	14.322	0.0120	+/-0.5	
Blank (1A25020-BLK1)			Lab File ID: 215AT006.D		Analyzed: 01/25/21 10:19			
Dibromofluoromethane	50.0	111	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	96	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	14.34	14.322	0.0180	+/-0.5	
Instrument RL Check (AA64632-CRL1)			Lab File ID: 215AT007.D		Analyzed: 01/25/21 10:48			
Dibromofluoromethane	50.0	108	1 - 199	9.434	9.4205	0.0135	+/-0.5	
Toluene-d8	50.0	95	1 - 199	11.784	11.77275	0.0113	+/-0.5	
4-Bromofluorobenzene	50.0	106	1 - 199	14.334	14.322	0.0120	+/-0.5	
CRCA-ASEFFLUENT-20210119 (AE00488-01)			Lab File ID: 215AT021.D		Analyzed: 01/25/21 17:41			
Dibromofluoromethane	50.0	111	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	94	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	107	41 - 142	14.34	14.322	0.0180	+/-0.5	
CRCA-ASINFLUENT-20210119 (AE00488-02)			Lab File ID: 215AT022.D		Analyzed: 01/25/21 18:10			
Dibromofluoromethane	50.0	110	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	96	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	107	41 - 142	14.34	14.322	0.0180	+/-0.5	
Matrix Spike (1A25020-MS1)			Lab File ID: 215AT023.D		Analyzed: 01/25/21 18:39			
Dibromofluoromethane	50.0	112	53 - 146	9.44	9.4205	0.0195	+/-0.5	
Toluene-d8	50.0	97	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	14.34	14.322	0.0180	+/-0.5	
Matrix Spike Dup (1A25020-MSD1)			Lab File ID: 215AT024.D		Analyzed: 01/25/21 19:09			
Dibromofluoromethane	50.0	111	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	96	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	110	41 - 142	14.34	14.322	0.0180	+/-0.5	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA63653
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA63653-CAL1)			Lab File ID: 205KN003.D			Analyzed: 11/19/20 08:46			
Pentafluorobenzene	1250058	9.851	1217120	9.845	103	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2384669	10.444	2353990	10.438	101	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1608704	13.223	1612072	13.217	100	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1323293	15.48	1366836	15.474	97	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL2)			Lab File ID: 205KN004.D			Analyzed: 11/19/20 09:16			
Pentafluorobenzene	1204238	9.845	1217120	9.845	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2405138	10.438	2353990	10.438	102	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1568806	13.217	1612072	13.217	97	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1312583	15.48	1366836	15.474	96	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL3)			Lab File ID: 205KN005.D			Analyzed: 11/19/20 09:47			
Pentafluorobenzene	1203996	9.845	1217120	9.845	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2450219	10.438	2353990	10.438	104	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1607155	13.217	1612072	13.217	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1325758	15.48	1366836	15.474	97	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL4)			Lab File ID: 205KN006.D			Analyzed: 11/19/20 10:18			
Pentafluorobenzene	1172592	9.845	1217120	9.845	96	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2346408	10.438	2353990	10.438	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1580434	13.223	1612072	13.217	98	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1299188	15.48	1366836	15.474	95	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL5)			Lab File ID: 205KN007.D			Analyzed: 11/19/20 10:49			
Pentafluorobenzene	1203065	9.845	1217120	9.845	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2330356	10.438	2353990	10.438	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1579586	13.217	1612072	13.217	98	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1295652	15.48	1366836	15.474	95	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL6)			Lab File ID: 205KN008.D			Analyzed: 11/19/20 11:20			
Pentafluorobenzene	1217120	9.845	1217120	9.845	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2353990	10.438	2353990	10.438	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1612072	13.217	1612072	13.217	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1366836	15.474	1366836	15.474	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA63653-CAL7)			Lab File ID: 205KN009.D			Analyzed: 11/19/20 11:51			
Pentafluorobenzene	1208553	9.845	1217120	9.845	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2324329	10.438	2353990	10.438	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1614423	13.217	1612072	13.217	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1389872	15.48	1366836	15.474	102	50 - 200	0.0060	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA63653
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA63653-CAL8)			Lab File ID: 205KN010.D			Analyzed: 11/19/20 12:22			
Pentafluorobenzene	1285587	9.845	1217120	9.845	106	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2302813	10.438	2353990	10.438	98	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1664856	13.218	1612072	13.217	103	50 - 200	0.0010	+/-0.50	
1,4-Dichlorobenzene-d4	1435917	15.48	1366836	15.474	105	50 - 200	0.0060	+/-0.50	
Secondary Cal Check (AA63653-SCV1)			Lab File ID: 205KN012.D			Analyzed: 11/19/20 13:24			
Pentafluorobenzene	1335071	9.851	1217120	9.845	110	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2438645	10.444	2353990	10.438	104	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1652574	13.223	1612072	13.217	103	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1403353	15.48	1366836	15.474	103	50 - 200	0.0060	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64632
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA64632-CCV1)			Lab File ID: 215AT003.D			Analyzed: 01/25/21 08:47			
Pentafluorobenzene	1707380	9.862	1217120	9.845	140	50 - 200	0.0170	+/-0.50	
1,4-Difluorobenzene	3441893	10.456	2353990	10.438	146	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	2103106	13.235	1612072	13.217	130	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1782629	15.497	1366836	15.474	130	50 - 200	0.0230	+/-0.50	
LCS (1A25020-BS1)			Lab File ID: 215AT004.D			Analyzed: 01/25/21 09:20			
Pentafluorobenzene	1599715	9.862	1217120	9.845	131	50 - 200	0.0170	+/-0.50	
1,4-Difluorobenzene	3376621	10.456	2353990	10.438	143	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1975824	13.235	1612072	13.217	123	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1733612	15.497	1366836	15.474	127	50 - 200	0.0230	+/-0.50	
Blank (1A25020-BLK1)			Lab File ID: 215AT006.D			Analyzed: 01/25/21 10:19			
Pentafluorobenzene	1492905	9.857	1217120	9.845	123	50 - 200	0.0120	+/-0.50	
1,4-Difluorobenzene	3146822	10.456	2353990	10.438	134	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1772986	13.235	1612072	13.217	110	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1644956	15.491	1366836	15.474	120	50 - 200	0.0170	+/-0.50	
Instrument RL Check (AA64632-CRL1)			Lab File ID: 215AT007.D			Analyzed: 01/25/21 10:48			
Pentafluorobenzene	1450199	9.863	1217120	9.845	119	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	3054870	10.456	2353990	10.438	130	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1722975	13.235	1612072	13.217	107	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1562753	15.491	1366836	15.474	114	50 - 200	0.0170	+/-0.50	
CRCA-ASEFFLUENT-20210119 (AE00488-01)			Lab File ID: 215AT021.D			Analyzed: 01/25/21 17:41			
Pentafluorobenzene	1335751	9.868	1217120	9.845	110	50 - 200	0.0230	+/-0.50	
1,4-Difluorobenzene	2864408	10.456	2353990	10.438	122	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1575881	13.241	1612072	13.217	98	50 - 200	0.0240	+/-0.50	
1,4-Dichlorobenzene-d4	1522111	15.497	1366836	15.474	111	50 - 200	0.0230	+/-0.50	
CRCA-ASINFLUENT-20210119 (AE00488-02)			Lab File ID: 215AT022.D			Analyzed: 01/25/21 18:10			
Pentafluorobenzene	1360126	9.863	1217120	9.845	112	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	2880951	10.456	2353990	10.438	122	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1590418	13.235	1612072	13.217	99	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1528822	15.497	1366836	15.474	112	50 - 200	0.0230	+/-0.50	
Matrix Spike (1A25020-MS1)			Lab File ID: 215AT023.D			Analyzed: 01/25/21 18:39			
Pentafluorobenzene	1347954	9.863	1217120	9.845	111	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	2823243	10.456	2353990	10.438	120	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1642590	13.235	1612072	13.217	102	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1598011	15.497	1366836	15.474	117	50 - 200	0.0230	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64632
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Matrix Spike Dup (1A25020-MSD1)			Lab File ID: 215AT024.D			Analyzed: 01/25/21 19:09			
Pentafluorobenzene	1455730	9.862	1217120	9.845	120	50 - 200	0.0170	+/-0.50	
1,4-Difluorobenzene	3018464	10.456	2353990	10.438	128	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1707516	13.235	1612072	13.217	106	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1611682	15.497	1366836	15.474	118	50 - 200	0.0230	+/-0.50	

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00488-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA63653		
Calibration:	2011113	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA63653-TUN1	205KN002.D	11/19/20 08:07
Cal Standard	AA63653-CAL1	205KN003.D	11/19/20 08:46
Cal Standard	AA63653-CAL2	205KN004.D	11/19/20 09:16
Cal Standard	AA63653-CAL3	205KN005.D	11/19/20 09:47
Cal Standard	AA63653-CAL4	205KN006.D	11/19/20 10:18
Cal Standard	AA63653-CAL5	205KN007.D	11/19/20 10:49
Cal Standard	AA63653-CAL6	205KN008.D	11/19/20 11:20
Cal Standard	AA63653-CAL7	205KN009.D	11/19/20 11:51
Cal Standard	AA63653-CAL8	205KN010.D	11/19/20 12:22
Secondary Cal Check	AA63653-SCV1	205KN012.D	11/19/20 13:24

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00488-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64632		
Calibration:	2011113	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA64632-CCV1	215AT003.D	01/25/21 08:47
LCS	1A25020-BS1	215AT004.D	01/25/21 09:20
Blank	1A25020-BLK1	215AT006.D	01/25/21 10:19
Instrument RL Check	AA64632-CRL1	215AT007.D	01/25/21 10:48
CRCA-ASEFFLUENT-20210119	AE00488-01	215AT021.D	01/25/21 17:41
CRCA-ASINFLUENT-20210119	AE00488-02	215AT022.D	01/25/21 18:10
CRCA-MW0032-058.0-20210120	1A25020-MS1	215AT023.D	01/25/21 18:39
CRCA-MW0032-058.0-20210120	1A25020-MSD1	215AT024.D	01/25/21 19:09

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00488-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	205KN002.D	Injection Date:	11/19/20
Instrument ID:	OVGCMS5	Injection Time:	08:07
Sequence:	AA63653	Lab Sample ID:	AA63653-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	155	PASS
96	5 - 9% of 95	7.22	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	64.6	PASS
175	5 - 9% of 174	5.13	PASS
176	95 - 105% of 174	97.9	PASS
177	5 - 10% of 176	5.82	PASS

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00488-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2011113
Lab File ID:	215AT003.D	Calibration Date:	11/19/20 00:00
Sequence:	AA64632	Injection Date:	01/25/21
Lab Sample ID:	AA64632-CCV1	Injection Time:	08:47

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Dichlorodifluoromethane	A	20.0	19	0.6454795	0.6065492		-6	20	
Chloromethane	A	20.0	12	0.7429916	0.4439653		-40	20	*
Vinyl chloride	A	20.0	19	0.6032767	0.5739686		-4.9	20	
Bromomethane	A	20.0	19	0.2658711	0.149807		-7.2	20	
Chloroethane	A	20.0	20	0.3233106	0.2720557		2.5	20	
Trichlorofluoromethane	A	20.0	20	0.739293	0.7547265		2.1	20	
Freon 113	A	50.0	50	0.2891047	0.2868658		-0.8	20	
Acetone	A	250	180	0.1178043	8.350467E-02		-29	20	*
1,1-Dichloroethene	A	50.0	49	0.4316853	0.4258747		-1.3	20	
Carbon disulfide	A	250	150	1.413985	0.8728756		-38	20	*
Methylene Chloride	A	50.0	45	0.5959536	0.4701877		-10	20	
Methyl-tert-Butyl Ether	A	50.0	45	1.264184	1.149021		-9.1	20	
trans-1,2-Dichloroethene	A	50.0	49	0.4994822	0.489495		-2	20	
cis-1,2-Dichloroethene	A	50.0	50	0.5290745	0.5271984		-0.4	20	
1,1-Dichloroethane	A	50.0	41	1.027426	0.8473456		-18	20	
2-Butanone	A	250	220	5.654494E-02	5.142944E-02		-10	20	
Chloroform	A	50.0	45	0.9811366	0.8818576		-10	20	
1,1,1-Trichloroethane	A	50.0	46	0.8099887	0.7425781		-8.3	20	
Methyl acetate	A	50.0	31	0.4097982	0.2287546		-38	20	*
Cyclohexane	A	50.0	36	1.084118	0.8065902		-28	20	*
Methyl cyclohexane	A	50.0	41	0.6851364	0.4685979		-18	20	
Carbon Tetrachloride	A	50.0	39	0.3247415	0.2907839		-22	20	*
1,2-Dichloroethane	A	50.0	36	0.3947961	0.2986964		-28	20	*
Benzene	A	50.0	44	1.143102	1.009598		-12	20	
Trichloroethene	A	50.0	50	0.2308676	0.2294848		-0.6	20	
1,2-Dichloropropane	A	50.0	35	0.3327441	0.2311986		-30	20	*
Bromodichloromethane	A	50.0	41	0.3384447	0.3043776		-17	20	
4-Methyl-2-pentanone	A	250	260	3.573082E-02	3.583226E-02		5.6	20	
2-Hexanone	A	250	190	0.1672315	0.116342		-30	20	*

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00488-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2011113
Lab File ID:	215AT003.D	Calibration Date:	11/19/20 00:00
Sequence:	AA64632	Injection Date:	01/25/21
Lab Sample ID:	AA64632-CCV1	Injection Time:	08:47

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
cis-1,3-Dichloropropene	A	50.0	41	0.4465376	0.410246		-18	20	
Toluene	A	50.0	51	1.066872	1.094805		2.6	20	
trans-1,3-Dichloropropene	A	50.0	46	0.5606682	0.5777288		-9	20	
1,1,2-Trichloroethane	A	50.0	48	0.3401845	0.3445765		-4.4	20	
Tetrachloroethene	A	50.0	47	0.2798513	0.273757		-6.7	20	
Dibromochloromethane	A	50.0	52	0.2803526	0.3436893		3.5	20	
1,2-Dibromoethane	A	50.0	52	0.3355065	0.3483481		3.8	20	
Chlorobenzene	A	50.0	54	1.074819	1.151012		7.1	20	
Ethylbenzene	A	50.0	52	0.6263821	0.6735562		3.9	20	
m,p-Xylenes	A	100	110	0.7525839	0.8321309		11	20	
o-Xylene	A	50.0	54	0.7718014	0.8358423		8.3	20	
Bromoform	A	50.0	47	0.1740972	0.178584		-6.2	20	
Styrene	A	50.0	57	1.260238	1.447695		15	20	
Isopropylbenzene	A	50.0	54	2.031474	2.17933		7.3	20	
1,1,2,2-Tetrachloroethane	A	50.0	49	0.5037271	0.4924835		-2.2	20	
1,2,4-Trichlorobenzene	A	50.0	38	0.4097947	0.3618818		-24	20	*
1,3-Dichlorobenzene	A	50.0	53	1.008577	1.072036		6.3	20	
1,4-Dichlorobenzene	A	50.0	51	1.081206	1.09674		1.4	20	
1,2-Dichlorobenzene	A	50.0	51	0.9520015	0.9653383		1.4	20	
1,2-Dibromo-3-chloropropane	A	50.0	45	7.396002E-02	6.969369E-02		-11	20	

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00488-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA63653	Instrument:	OVGCMS5
Calibration:	2011113		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A0F0994	MS Tune (lower conc.)	AA63653-TUN1	205KN002.D	11/19/20 08:07
A0K1094	8260 CAL 1 PPB	AA63653-CAL1	205KN003.D	11/19/20 08:46
A0K1095	8260 CAL 2 PPB	AA63653-CAL2	205KN004.D	11/19/20 09:16
A0K1096	8260 CAL 5 PPB	AA63653-CAL3	205KN005.D	11/19/20 09:47
A0K1097	8260 CAL 10 PPB	AA63653-CAL4	205KN006.D	11/19/20 10:18
A0K1098	8260 CAL 20 PPB	AA63653-CAL5	205KN007.D	11/19/20 10:49
A0K1099	8260 CAL 50 PPB	AA63653-CAL6	205KN008.D	11/19/20 11:20
A0K1100	8260 CAL 80 PPB	AA63653-CAL7	205KN009.D	11/19/20 11:51
A0K1101	8260 CAL 100 PPB	AA63653-CAL8	205KN010.D	11/19/20 12:22
A0K1038	8260 SCV 50 PPB/20 Gases (Surr. Lower Conc.)	AA63653-SCV1	205KN012.D	11/19/20 13:24

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	1	0.731806	2	0.5311658	5	0.6196449	10	0.5826494	20	0.6291202	50	0.6876832
Chloromethane	1	0.9635553	2	0.7678092	5	0.7533414	10	0.6436211	20	0.6665122	50	0.6618772
Vinyl chloride	1	0.6389704	2	0.4961021	5	0.5937063	10	0.518373	20	0.6097052	50	0.6178544
Bromomethane	1	0.5487745	2	0.3936929	5	0.2468862	10	0.1795339	20	0.1536388	50	0.1805656
Chloroethane	1	0.5095364	2	0.3356687	5	0.2733979	10	0.2639921	20	0.2971223	50	0.2601461
Trichlorofluoromethane	1	0.796403	2	0.6188353	5	0.6866136	10	0.7074541	20	0.7578705	50	0.7930894
Freon 113	1	0.2609479	2	0.2643996	5	0.2925508	10	0.3082914	20	0.2611185	50	0.3063124
Acetone	5	0.1640884	10	7.640101E-02	25	0.1132944	50	0.1270502	100	0.1080203	250	0.1165466
1,1-Dichloroethene	1	0.5304954	2	0.3722686	5	0.3921026	10	0.3748874	20	0.4134066	50	0.4489426
Carbon disulfide	5	1.625549	10	1.279116	25	1.418201	50	1.427008	100	1.452276	250	1.421308
Methylene Chloride	1	0.949196	2	0.6799528	5	0.584977	10	0.4949633	20	0.4791616	50	0.5261996
Methyl-tert-Butyl Ether	1	1.207824	2	1.067003	5	1.181117	10	1.225797	20	1.218685	50	1.417615
trans-1,2-Dichloroethene	1	0.6322907	2	0.4293379	5	0.4477091	10	0.4308276	20	0.4738958	50	0.5202946
cis-1,2-Dichloroethene	1	0.5540143	2	0.424397	5	0.5243456	10	0.4742059	20	0.5250755	50	0.5758438
1,1-Dichloroethane	1	1.150187	2	0.7455129	5	1.073417	10	0.9430262	20	0.9854351	50	1.108909
2-Butanone	5	0.0948676	10	2.903081E-02	25	6.102678E-02	50	0.0450745	100	4.561931E-02	250	5.804341E-02
Chloroform	1	1.008433	2	0.8175709	5	1.016573	10	0.9572895	20	0.9442549	50	1.031745
1,1,1-Trichloroethane	1	0.8856789	2	0.6484806	5	0.7444128	10	0.6971223	20	0.8036702	50	0.8940367
Methyl acetate	1	0.7524051	2	0.3734104	5	0.3421025	10	0.3735826	20	0.3312477	50	0.3623833
Cyclohexane	1	1.445653	2	0.8159309	5	1.111773	10	0.900795	20	1.011174	50	1.139422
Methyl cyclohexane	1	1.296553	2	0.7643948	5	0.6505051	10	0.4980933	20	0.5493699	50	0.5706184
Carbon Tetrachloride	1	0.3562759	2	0.265754	5	0.2802362	10	0.2692435	20	0.3099687	50	0.358654
1,2-Dichloroethane	1	0.52978	2	0.3246383	5	0.3561682	10	0.3270765	20	0.3804547	50	0.3951041
Benzene	1	1.368953	2	0.8953644	5	1.012387	10	1.019627	20	1.160622	50	1.20187
Trichloroethene	1	0.2433461	2	0.2067345	5	0.2092384	10	0.2186576	20	0.2226559	50	0.2443388
1,2-Dichloropropane	1	0.4168922	2	0.2741735	5	0.2789057	10	0.3037835	20	0.3161759	50	0.336891
Bromodichloromethane	1	0.3390617	2	0.2184906	5	0.3136005	10	0.3123434	20	0.3305471	50	0.3770309
4-Methyl-2-pentanone	5	5.360492E-02	10	3.485663E-02	25	3.163227E-02	50	3.145233E-02	100	3.245856E-02	250	3.359233E-02
2-Hexanone	5	0.1888606	10	0.1362687	25	0.1491622	50	0.1581622	100	0.1619347	250	0.1747743
cis-1,3-Dichloropropene	1	0.38758	2	0.337174	5	0.3962381	10	0.3859495	20	0.4436114	50	0.5153998
Toluene	1	1.301234	2	0.8125606	5	1.029104	10	0.9467653	20	1.065835	50	1.125779

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	1	0.5782294	2	0.3963364	5	0.5391328	10	0.5150579	20	0.5581557	50	0.6082166
1,1,2-Trichloroethane	1	0.4258708	2	0.2571382	5	0.3085141	10	0.3163403	20	0.3319446	50	0.354357
Tetrachloroethene	1	0.3547887	2	0.216805	5	0.2447617	10	0.2609188	20	0.2888004	50	0.2808423
Dibromochloromethane	1	0.261577	2	0.1928537	5	0.2186472	10	0.2340749	20	0.271185	50	0.3243124
1,2-Dibromoethane	1	0.3776332	2	0.275273	5	0.3089372	10	0.289778	20	0.3254935	50	0.3684265
Chlorobenzene	1	1.227137	2	0.9187082	5	1.088831	10	1.029964	20	1.028877	50	1.084228
Ethylbenzene	1	0.8370092	2	0.5046991	5	0.5351257	10	0.5817041	20	0.6079204	50	0.6386446
m,p-Xylenes	2	0.7709622	4	0.6304954	10	0.7519001	20	0.7265378	40	0.7815244	100	0.7925899
o-Xylene	1	0.827343	2	0.5495581	5	0.7980935	10	0.715101	20	0.7577872	50	0.8412149
Bromoform	1	0.2244042	2	0.1325052	5	0.1113209	10	0.1336911	20	0.151421	50	0.198042
Styrene	1	1.184587	2	0.9487151	5	1.197756	10	1.179467	20	1.329056	50	1.37226
Isopropylbenzene	1	2.11919	2	1.612596	5	1.9581	10	1.86924	20	2.054396	50	2.203894
1,1,2,2-Tetrachloroethane	1	0.5748727	2	0.4241761	5	0.4667316	10	0.4666946	20	0.48922	50	0.5296984
1,2,4-Trichlorobenzene	1	0.444006	2	0.2155102	5	0.3665073	10	0.3682377	20	0.3931939	50	0.481305
1,3-Dichlorobenzene	1	1.059554	2	0.8308046	5	0.914986	10	0.9259784	20	1.006449	50	1.075948
1,4-Dichlorobenzene	1	1.342371	2	0.9420738	5	0.9853156	10	0.9772104	20	1.047961	50	1.090424
1,2-Dichlorobenzene	1	1.133196	2	0.6932895	5	0.9302226	10	0.8814044	20	0.8963441	50	1.002858
1,2-Dibromo-3-chloropropane	1	0.1462261	2	0.0374643	5	3.684685E-02	10	6.679172E-02	20	6.657845E-02	50	7.807374E-02
Dibromofluoromethane	50	0.4987681	55	0.5168814	57.5	0.5405413	50	0.5403508	65	0.5020478	50	0.5574545
Toluene-d8	50	1.241808	55	1.219018	57.5	1.232296	50	1.264503	65	1.198608	50	1.317554
4-Bromofluorobenzene	50	0.9421565	55	0.8971015	57.5	0.892347	50	0.9405353	65	0.8691396	50	0.9269369

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	80	0.70919	100	0.6725768								
Chloromethane	80	0.754096	100	0.7331207								
Vinyl chloride	80	0.6865886	100	0.6649138								
Bromomethane	80	0.2051834	100	0.2186939								
Chloroethane	80	~~0.1749365~~	100	~~0.1284219~~								
Trichlorofluoromethane	80	~~0.8301317~~	100	0.814785								
Freon 113	80	0.3132915	100	0.3059256								
Acetone	400	0.1217886	500	0.1152447								
1,1-Dichloroethene	80	0.4650106	100	0.4563686								
Carbon disulfide	400	1.39256	500	1.295861								
Methylene Chloride	80	0.5379475	100	0.5152308								
Methyl-tert-Butyl Ether	80	1.459444	100	1.335989								
trans-1,2-Dichloroethene	80	0.5437929	100	0.517709								
cis-1,2-Dichloroethene	80	0.6019223	100	0.5527918								
1,1-Dichloroethane	80	1.134374	100	1.078543								
2-Butanone	400	6.102308E-02	500	5.767404E-02								
Chloroform	80	1.078098	100	0.9951283								
1,1,1-Trichloroethane	80	0.9329545	100	0.8735539								
Methyl acetate	80	0.3852903	100	0.3579641								
Cyclohexane	80	1.150511	100	1.097683								
Methyl cyclohexane	80	0.580204	100	0.5713529								
Carbon Tetrachloride	80	0.3766286	100	0.3811714								
1,2-Dichloroethane	80	0.4259138	100	0.4192331								
Benzene	80	1.233887	100	1.252102								
Trichloroethene	80	0.2480525	100	0.2539173								
1,2-Dichloropropane	80	0.3671019	100	0.3680292								
Bromodichloromethane	80	0.405243	100	0.4112405								
4-Methyl-2-pentanone	400	3.457471E-02	500	3.367481E-02								
2-Hexanone	400	0.1842147	500	0.1844748								
cis-1,3-Dichloropropene	80	0.5492152	100	0.5571325								
Toluene	80	1.145043	100	1.108659								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	80	0.6603691	100	0.6298476								
1,1,2-Trichloroethane	80	0.3689886	100	0.3583223								
Tetrachloroethene	80	0.2965475	100	0.2953463								
Dibromochloromethane	80	0.3768537	100	0.3633167								
1,2-Dibromoethane	80	0.3782567	100	0.360254								
Chlorobenzene	80	1.134842	100	1.085963								
Ethylbenzene	80	0.6600876	100	0.6458658								
m,p-Xylenes	160	0.7997641	200	0.7668973								
o-Xylene	80	0.8625415	100	0.8227721								
Bromoform	80	0.2162944	100	0.2250987								
Styrene	80	1.466473	100	1.403591								
Isopropylbenzene	80	2.273953	100	2.16042								
1,1,2,2-Tetrachloroethane	80	0.5602106	100	0.5182127								
1,2,4-Trichlorobenzene	80	0.5236953	100	0.485902								
1,3-Dichlorobenzene	80	1.133433	100	1.121463								
1,4-Dichlorobenzene	80	1.14285	100	1.121445								
1,2-Dichlorobenzene	80	1.071346	100	1.007351								
1,2-Dibromo-3-chloropropane	80	8.573901E-02	100	~~8.239508E-02~~								
Dibromofluoromethane	70	0.5077306	75	0.4842722								
Toluene-d8	70	1.203106	75	1.255696								
4-Bromofluorobenzene	70	0.8681085	75	0.8442992								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	0.6454795	10.47099	3.97125	7.848416E-02			20	
Chloromethane	0.7429916	13.64009	4.39275	4.507071E-02			20	
Vinyl chloride	0.6032767	11.0407	4.575	4.400144E-02			20	
Bromomethane	0.2658711	51.25071	5.221	5.968524E-02		0.9984319	0.99	
Chloroethane	0.3233106	29.51129	5.432333	0.1760207	0.9952741		0.99	
Trichlorofluoromethane	0.739293	9.643804	5.680714	0.1191043			20	
Freon 113	0.2891047	7.985007	6.54225	5.909168E-02			20	
Acetone	0.1178043	20.49874	7.39275	7.521591E-02	0.9984468		0.99	
1,1-Dichloroethene	0.4316853	12.51718	6.52275	4.626374E-02			20	
Carbon disulfide	1.413985	7.516358	6.611625	4.231748E-02			20	
Methylene Chloride	0.5959536	26.19116	7.33075	6.734604E-02	0.9988511		0.99	
Methyl-tert-Butyl Ether	1.264184	10.32773	7.62475	5.009821E-02			20	
trans-1,2-Dichloroethene	0.4994822	13.81611	7.540375	0.0786285			20	
cis-1,2-Dichloroethene	0.5290745	10.75978	8.94375	6.951434E-02			20	
1,1-Dichloroethane	1.027426	13.07056	8.305375	3.359958E-02			20	
2-Butanone	5.654494E-02	33.55672	9.542875	0.1054762		0.9965506	0.99	
Chloroform	0.9811366	7.973652	9.21525	9.664849E-02			20	
1,1,1-Trichloroethane	0.8099887	12.78922	9.4765	4.549804E-02			20	
Methyl acetate	0.4097982	34.05137	7.5195	0.1021645	0.9973892		0.99	
Cyclohexane	1.084118	17.43103	9.1825	2.763801E-02	0.9983605		0.99	
Methyl cyclohexane	0.6851364	37.89251	10.4425	2.481194E-02	0.9994238		0.99	
Carbon Tetrachloride	0.3247415	15.07661	9.40325	3.946246E-02	0.997318		0.99	
1,2-Dichloroethane	0.3947961	16.85402	10.083	6.413568E-02	0.998277		0.99	
Benzene	1.143102	13.57666	9.871	4.625673E-02			20	
Trichloroethene	0.2308676	8.071231	10.4425	2.481194E-02			20	
1,2-Dichloropropane	0.3327441	14.79548	10.97825	3.768472E-02		0.9995583	0.99	
Bromodichloromethane	0.3384447	18.35051	11.0095	2.483783E-02		0.9995909	0.99	
4-Methyl-2-pentanone	3.573082E-02	20.51705	12.12775	4.882009E-02	0.9995377		0.99	
2-Hexanone	0.1672315	11.31414	12.874	0.0309941			20	
cis-1,3-Dichloropropene	0.4465376	18.76753	11.60275	0.0283524		0.999376	0.99	

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Toluene	1.066872	13.57287	11.82575	3.641946E-02			20	
trans-1,3-Dichloropropene	0.5606682	14.59159	12.1935	6.110681E-02	0.9976126		0.99	
1,1,2-Trichloroethane	0.3401845	14.58738	12.35775	3.776279E-02	0.9991086		0.99	
Tetrachloroethene	0.2798513	14.65878	12.20475	6.050502E-02	0.9992435		0.99	
Dibromochloromethane	0.2803526	24.18079	12.54425	2.540952E-02		0.9966995	0.99	
1,2-Dibromoethane	0.3355065	12.24976	12.80675	5.029451E-02			20	
Chlorobenzene	1.074819	8.299772	13.238	2.555814E-02			20	
Ethylbenzene	0.6263821	16.13499	13.20525	2.269002E-02	0.9993938		0.99	
m,p-Xylenes	0.7525839	7.241605	13.32075	3.483174E-02			20	
o-Xylene	0.7718014	13.16143	13.726	2.743597E-02			20	
Bromoform	0.1740972	26.85684	13.86988	2.962488E-02		0.9990525	0.99	
Styrene	1.260238	13.19508	13.77575	6.052145E-02			20	
Isopropylbenzene	2.031474	10.53359	13.99225	2.532555E-02			20	
1,1,2,2-Tetrachloroethane	0.5037271	10.18228	14.463	1.928567E-02			20	
1,2,4-Trichlorobenzene	0.4097947	23.81543	18.13363	0.0263798		0.9955535	0.99	
1,3-Dichlorobenzene	1.008577	10.77426	15.4075	2.626486E-02			20	
1,4-Dichlorobenzene	1.081206	11.81261	15.49775	7.350592E-03			20	
1,2-Dichlorobenzene	0.9520015	14.21603	16.01475	1.858857E-02			20	
1,2-Dibromo-3-chloropropane	7.396002E-02	49.9638	17.07629	4.554431E-02		0.9992021	0.99	
Dibromofluoromethane	0.5185058	4.852246	9.4205	3.503454E-02			20	
Toluene-d8	1.241574	3.107317	11.77275	1.495661E-03			20	
4-Bromofluorobenzene	0.8975781	4.047299	14.322	1.411585E-02			20	

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE00488-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2011113 **Laboratory ID:** AA63653-SCV1

Sequence: AA63653 **Standard ID:** A0K1038

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Cyclohexane	50.0	46	-8.0	30.00
Ethylbenzene	50.0	49	-2.4	30.00
Carbon Tetrachloride	50.0	55	10.9	30.00
1,3-Dichlorobenzene	50.0	55	9.4	30.00
4-Bromofluorobenzene	50.0	52	4.6	30.00
Toluene-d8	50.0	52	4.4	30.00
Dibromofluoromethane	50.0	50	-0.5	30.00
Methyl-tert-Butyl Ether	50.0	49	-1.8	30.00
trans-1,2-Dichloroethene	50.0	48	-4.3	30.00
cis-1,2-Dichloroethene	50.0	50	-0.1	30.00
Tetrachloroethene	50.0	48	-3.1	30.00
Acetone	250	240	-4.3	30.00
1,2,4-Trichlorobenzene	50.0	49	-2.0	30.00
Chloroform	50.0	49	-2.2	30.00
Chlorobenzene	50.0	52	3.4	30.00
Toluene	50.0	53	5.9	30.00
Methyl cyclohexane	50.0	47	-5.0	30.00
m,p-Xylenes	100	110	5.6	30.00
4-Methyl-2-pentanone	250	230	-7.3	30.00
1,2-Dichloroethane	50.0	46	-8.3	30.00
1,2-Dibromoethane	50.0	52	3.4	30.00
1,4-Dichlorobenzene	50.0	51	1.3	30.00
trans-1,3-Dichloropropene	50.0	49	-1.5	30.00
cis-1,3-Dichloropropene	50.0	49	-2.4	30.00
Styrene	50.0	55	10.3	30.00
Dibromochloromethane	50.0	52	3.8	30.00
1,1-Dichloroethene	50.0	49	-2.0	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE00488-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2011113 **Laboratory ID:** AA63653-SCV1

Sequence: AA63653 **Standard ID:** A0K1038

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
1,2-Dibromo-3-chloropropane	50.0	55	9.4	30.00
1,2-Dichlorobenzene	50.0	52	3.8	30.00
o-Xylene	50.0	53	5.4	30.00
1,1,2,2-Tetrachloroethane	50.0	52	3.2	30.00
Methyl acetate	50.0	38	-23.9	30.00
Trichloroethene	50.0	54	7.6	30.00
1,1,2-Trichloroethane	50.0	50	-0.4	30.00
2-Butanone	250	250	-1.7	30.00
1,2-Dichloropropane	50.0	50	-0.4	30.00
Freon 113	50.0	51	2.3	30.00
2-Hexanone	250	250	0.6	30.00
Trichlorofluoromethane	20.0	21	2.9	30.00
Isopropylbenzene	50.0	54	8.8	30.00
1,1-Dichloroethane	50.0	48	-4.6	30.00
Bromodichloromethane	50.0	50	-0.1	30.00
Bromoform	50.0	52	3.8	30.00
Carbon disulfide	50.0	52	4.0	30.00
Methylene Chloride	50.0	47	-5.6	30.00
Vinyl chloride	20.0	21	3.6	30.00
Chloroethane	20.0	22	8.4	30.00
Chloromethane	20.0	20	-0.1	30.00
Bromomethane	20.0	25	24.8	30.00
1,1,1-Trichloroethane	50.0	51	1.2	30.00
Benzene	50.0	54	7.1	30.00
Dichlorodifluoromethane	20.0	21	3.0	30.00

* Values outside of QC limits

ANALYSIS SEQUENCE

AA64632

Instrument: OVGCMS5

Calibration ID: 2011113

Printed: 1/25/2021 12:56:05PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA64632-CCV1	QC		1		A1A0911	A0H0536		
1A25020-BS1	QC		2			A0H0536		
1A25020-BLK1	QC		3			A0H0536		
AA64632-CRL1	QC		4		A1A0912	A0H0536		
AE00295-03	8260D Halo	B	5			A0H0536		Run 1x FOAM jmw 1/22/21 Tetrachlor
AE00066-10	8260D Halo	A	6			A0H0536	Tetra Tech, Inc. (TE016)	BatchQC
AE00066-01	60D TCL SOM01.2 CLP-LIK	B	7			A0H0536	Tetra Tech, Inc. (TE016)	History 1x ND jmw 1/22/21 custom
AE00066-02	60D TCL SOM01.2 CLP-LIK	B	8			A0H0536	Tetra Tech, Inc. (TE016)	History 1x ND jmw 1/22/21 custom
AE00066-03	60D TCL SOM01.2 CLP-LIK	A	9			A0H0536	Tetra Tech, Inc. (TE016)	History 1x V.C. jmw 1/22/21 custom
AE00066-04	60D TCL SOM01.2 CLP-LIK	A	10			A0H0536	Tetra Tech, Inc. (TE016)	History 1x ND jmw 1/22/21 custom
AE00066-05	60D TCL SOM01.2 CLP-LIK	A	11			A0H0536	Tetra Tech, Inc. (TE016)	History 1x V.C. jmw 1/22/21 custom
AE00066-06	60D TCL SOM01.2 CLP-LIK	A	12			A0H0536	Tetra Tech, Inc. (TE016)	History 1x V.C. jmw 1/22/21 custom
AE00066-07	60D TCL SOM01.2 CLP-LIK	A	13			A0H0536	Tetra Tech, Inc. (TE016)	History 1x V.C. jmw 1/22/21 custom
AE00066-08	60D TCL SOM01.2 CLP-LIK	A	14			A0H0536	Tetra Tech, Inc. (TE016)	History 1x V.C. jmw 1/22/21 custom
AE00066-09	60D TCL SOM01.2 CLP-LIK	A	15			A0H0536	Tetra Tech, Inc. (TE016)	History 1x V.C. jmw 1/22/21 custom
AE00066-10	60D TCL SOM01.2 CLP-LIK	A	16			A0H0536	Tetra Tech, Inc. (TE016)	History 1x V.C. jmw 1/22/21 custom
AE00066-11	60D TCL SOM01.2 CLP-LIK	A	17			A0H0536	Tetra Tech, Inc. (TE016)	History 2x VC jmw 1/22/21 custom
AE00066-12	60D TCL SOM01.2 CLP-LIK	A	18			A0H0536	Tetra Tech, Inc. (TE016)	History 1x V.C. jmw 1/22/21 custom
AE00488-01	60D TCL SOM01.2 CLP-LIK	B	19			A0H0536	Tetra Tech, Inc. (TE016)	History 1x ND jmw 1/22/21 custom
AE00488-02	60D TCL SOM01.2 CLP-LIK	A	20			A0H0536	Tetra Tech, Inc. (TE016)	History 1x V.C. T12DCE jmw 1/22/21
1A25020-MS1	QC		21			A0H0536		
1A25020-MSD1	QC		22			A0H0536		

Samples Loaded By _____ Date _____

Data Processed By _____ Date _____

ANALYSIS SEQUENCE

AA64632

Instrument: OVGCMS5

Calibration ID: 2011113

Printed: 1/25/2021 12:56:05PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments

Samples Loaded By Date

Data Processed By Date

VOLATILES GC/MS LOGBOOK (EPA Method 624.1 / SW-846 Method 8260D)

Tune Start Date: 01/25/21 | Surrogate: A0f0982 | 8260 Mix: A1A0764
Sequence: AA64632 | Internal: A0H0535 | 8260 Add: A1A0635
Batch: 1A25022 | LCS Mix 2°: A1A0898 | 8260 Ac/Ac: A1A0593
Method: ~~8260~~ | LCS Acrolein 2°: A1A0830 | 8260 Gases: A1A0899
Analyst: KD | LCS Gas 2°: A1A0920 | Instrument #: MS-5
Instrument EM Voltage: 1694

215AT

Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)		Comments	LIMS
001	mbe			1					
002	CCV			2					
003	CCV			2			✓		
004	BS			3			✓		
005	mbk		N	4					
006	BLK		01/26/21	5		N 01/26/21	✓	APA	
007	CRL			6			✓		
008	AE000295-03	B	1	7	✓	N	✓	APA	
009	AE000066-10	A	1	8	✓	N	✓	MS/MSD	
010	AE000066-01	B	1	9	✓	N	✓		
011	AE000066-02	B	1	10	✓	N	✓		
012	AE000066-03	A	1	11	✓	N	✓		
013	AE000066-04	A	1	12	✓	N	✓		
014	AE000066-05	A	1	13	✓	N	✓		
015	AE000066-06	A	1	14	✓	N	✓	APA	
016	AE000066-07	A	1	15	✓	N	✓	APA	
017	AE000066-08	A	1	16	✓	N	✓		
018	AE000066-09	A	1	17	✓	N	✓		
019	AE000066-11	A	2	18	✓	N	✓	RR 1x overdilute	
020	AE000066-12	A	1	19	✓	N	✓		
021	~~AE000~~ AE000488-01	B	1	20	✓	N	✓		

VOLATILES GC/MS LOGBOOK (EPA Method 624.1 / SW-846 Method 8260D)

Tune Start Date:	Surrogate:	8260 Mix:
Sequence:	Internal:	8260 Add:
Batch:	LCS Mix 2⁰:	8260 Ac/Ac:
Method:	LCS Acrolein 2⁰:	8260 Gases:
Analyst:	LCS Gas 2⁰:	Instrument #:
Instrument EM Voltage:		

Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)	Comments	LIMS
022	AR00488-02	A	1	21	✓	N	✓	
023	MS	B	1	22	✓	N	✓	
024	MSD	B	1	22	✓	N	✓	

NC 1/26/21

PREPARATION BENCH SHEET

Printed: 1/25/2021 12:55:21PM

1A25020

ENCO Orlando

Analysis
8260D Halo [EPA 8260D]
8260D TCL SOM01.2 CLP-LIKE [EPA 8260D]

Surrogate Solution
___ A0F0992 8260 surr working (lower conc.)

Prepared using: EPA 5030B_MS

Spiking Solution
A1A0898 8260 2nd source Mega Mix
A1A0922 8260 2nd source Gases/Acrolein virtual

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
1A25020-BLK1		Blank		QC			5	5			5	
1A25020-BS1		LCS		QC			5	5	A1A0922 A1A0898	2 2	5	
1A25020-MS1		Matrix Spike [AE00066-10]		QC			5	5	A1A0922 A1A0898	2 2	5	
1A25020-MSD1		Matrix Spike Dup [AE00066-10]		QC			5	5	A1A0922 A1A0898	2 2	5	
AE00066-01	C	CRCA-MW0030-058.0-202101[illegible]MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x ND jmw 1/22/21 custom
AE00066-02	C	CRCA-MW0029-035.0-202101[illegible]MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x ND jmw 1/22/21 custom
AE00066-03	C	CRCA-MW0028-058.0-202101[illegible]MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x V.C. jmw 1/22/21 custom
AE00066-04	C	CRCA-MW0027-035.0-202101[illegible]MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x ND jmw 1/22/21 custom
AE00066-05	C	CRCA-MW0015-027.5-202101[illegible]MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x V.C. jmw 1/22/21 custom
AE00066-06	C	CRCA-MW0013-027.5-202101[illegible]MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x V.C. jmw 1/22/21 custom
AE00066-07	C	CRCA-MW0012-027.5-202101[illegible]MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x V.C. jmw 1/22/21 custom
AE00066-08	C	CRCA-MW0002-032.5-202101[illegible]MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x V.C. jmw 1/22/21 custom
AE00066-09	C	CRCA-MW0031-058.0-202101[illegible]MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x V.C. jmw 1/22/21 custom
AE00066-10	C	CRCA-MW0032-058.0-202101[illegible]MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x V.C. jmw 1/22/21 custom
AE00066-10	C	CRCA-MW0032-058.0-202101[illegible]MS43		8260D Halo			5	5			5	Added for BatchQC in: 1A25020
AE00066-11	C	CRCA-MW0018-058.0-202101[illegible]MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 2x VC jmw 1/22/21 custom
AE00066-12	C	CRCA-MW0019-058.0-202101[illegible]MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x V.C. jmw 1/22/21 custom

PREPARATION BENCH SHEET

Printed: 1/25/2021 12:55:21PM

1A25020

ENCO Orlando

Prepared using: EPA 5030B_MS

Surrogate Solution
___ A0F0992 8260 surr working (lower conc.)

Spiking Solution
A1A0898 8260 2nd source Mega Mix
A1A0922 8260 2nd source Gases/Acrolein virtual

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
AE00295-03		S Parking lot B[MS30	27-Jan-21	8260D Halo			5	5			5	Run 1x FOAM jmw 1/22/21 Tetrachloroethene Only. Heavy Sediment in vilas, NB 1/21/21.
AE00488-01	C	CRCA-ASEFFLUENT-2021011B[MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x ND jmw 1/22/21 custom
AE00488-02	C	CRCA-ASINFLUENT-20210119A[MS43	28-Jan-21	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x V.C. T12DCE jmw 1/22/21 custom

(1) Before solvent extraction proceeds, verify that there is no residual chlorine above 0.5 mg/L. Any sample above this must be treated to remove excess chlorine before extraction, and this documented as a comment.

Instrument 5
EST Centurian autosampler manufacturer reccommends adding 5 uL of IS/SS.

Start Date _____

StopDate _____

Instrument ID _____

Standard ID#	Description	Manufacture Lot#
A0A1401	pH Test Papers (1.0 to 12.0)	231018
A0B1371	Residual Chlorine Strips (Potassium Iodide S	102916
A0L0697	P&T Anti-Foam working solution	N/A

_____ _____
Samples Prepared By Date

_____ _____
Samples Prepared By Date

Manual Integration Review Form

ENVIRONMENTAL CONSERVATION LABORATORIES, INC. ☐ Cary ☐ Jacksonville ☒ Orlando

I hereby attest that the manual integrations contained in this package have been thoroughly reviewed and are in agreement with the associated hardcopy data.

The electronic files listed below have been reviewed for accuracy, completeness and comply with ENCO labs QA-11 Manual Integration Policy including:

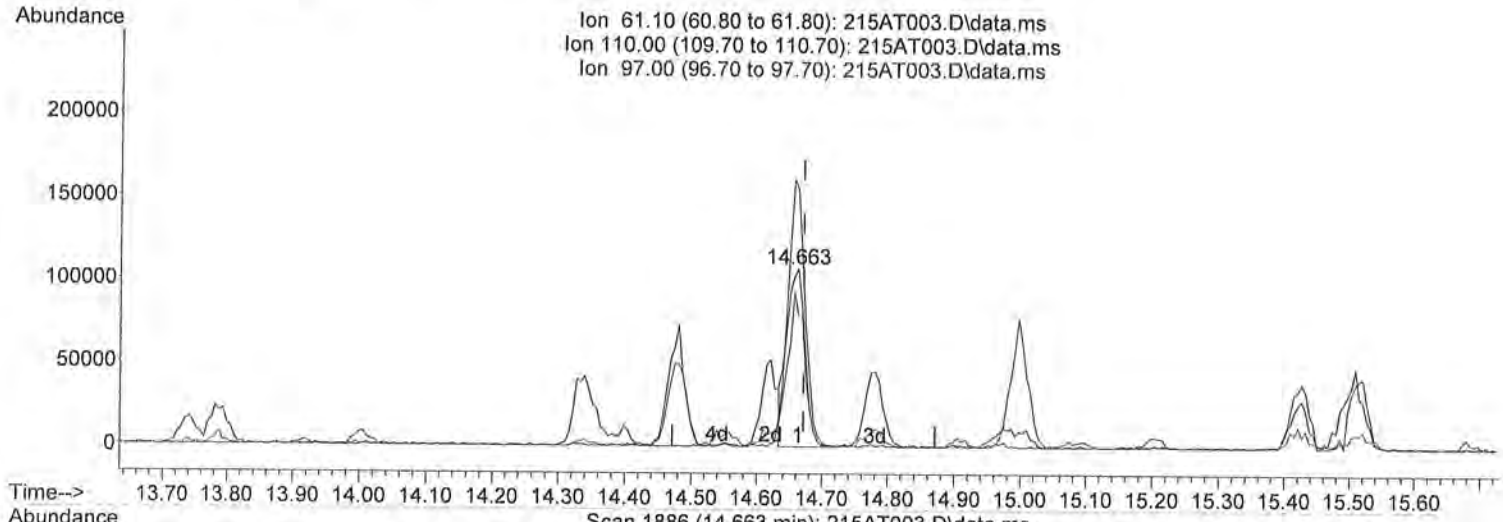
- "Before" and "After" chromatograms are provided
- Manual integrations are indicated on expanded scale "after" chromatograms at a scale large enough to see the manual integration performed.
- Reintegration technique marked if available on the data system
- Technical justification for manual integration
- Appropriate flags indicating which analytes were manually integrated are included in the raw data
- Analyst's initials and date.

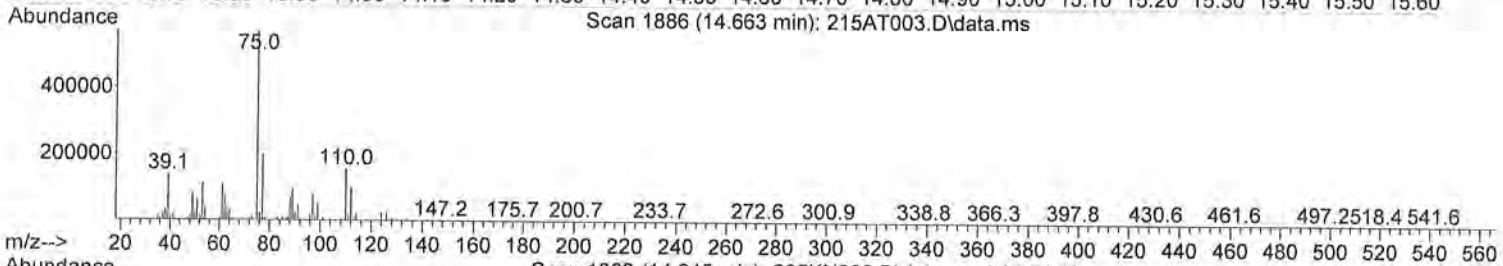
Instrument ID:	OVGCMS-5
Sequence/Batch ID:	AA64632 / IA25020
Data File Prefix:	215AT
Date and Time Range of MIs:	01/25/21 1439-1442
Reviewer Print Name:	Neil Christiana
Reviewer Signature:	
Date of Review:	1/26/21

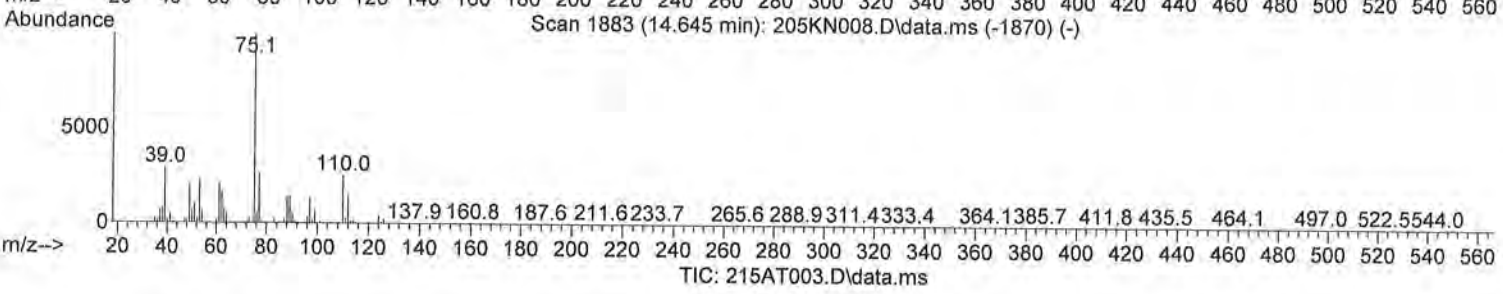
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT003.D
Acq On : 25 Jan 2021 8:47 am
Operator : KKW
Sample : CCV1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jan 25 14:39:42 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration







TIC: 215AT003.D\data.ms

(77) 1,2,3-Trichloropropane

14.663min (-0.008) 27.23 ug/L

response 210998

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.60	140.41#
97.00	49.10	87.71#
0.00	0.00	0.00

Select One:

~~N~~ Original Integration [ ] Manual Integration

Select reason for manual integration:

~~N~~ Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

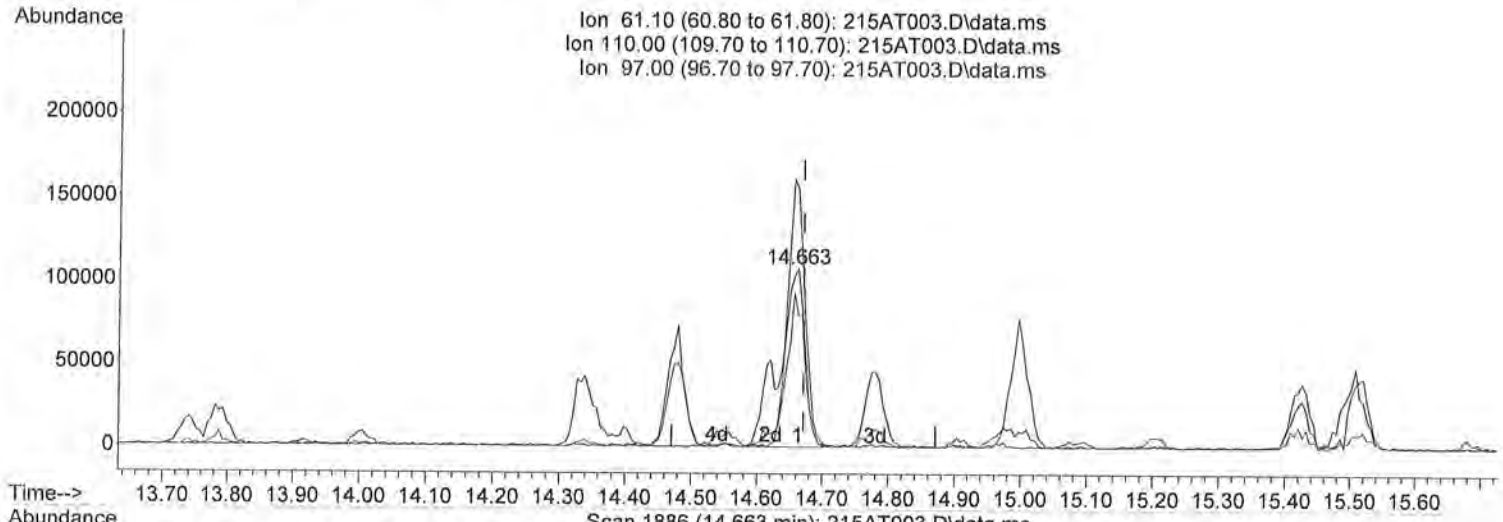
Review by/Date W 01/26/21

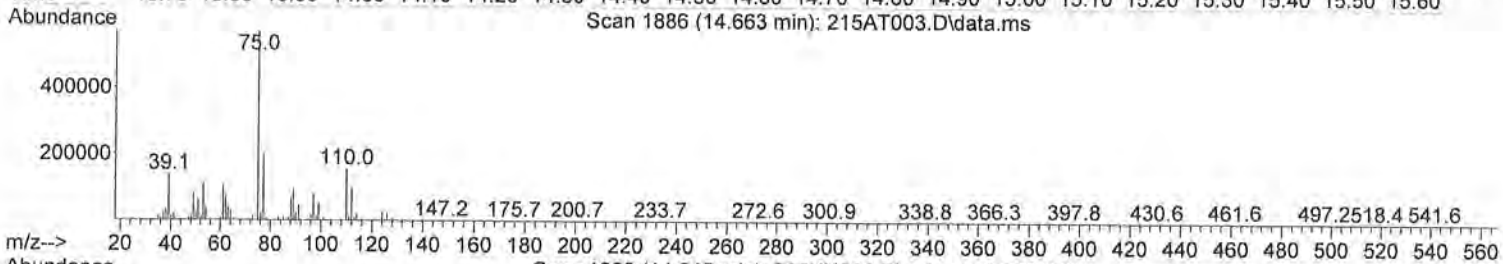
Review by/Date:

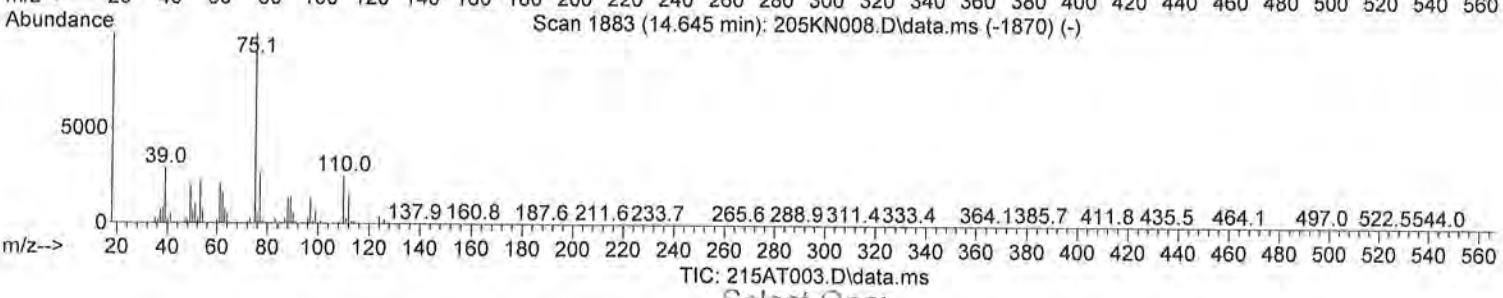
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT003.D
Acq On : 25 Jan 2021 8:47 am
Operator : KKW
Sample : CCV1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jan 25 14:39:42 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration







TIC: 215AT003.D\data.ms

(77) 1,2,3-Trichloropropane

14.663min (-0.008) 38.14 ug/L m

response 295490

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.60	100.26#
97.00	49.10	62.63#
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

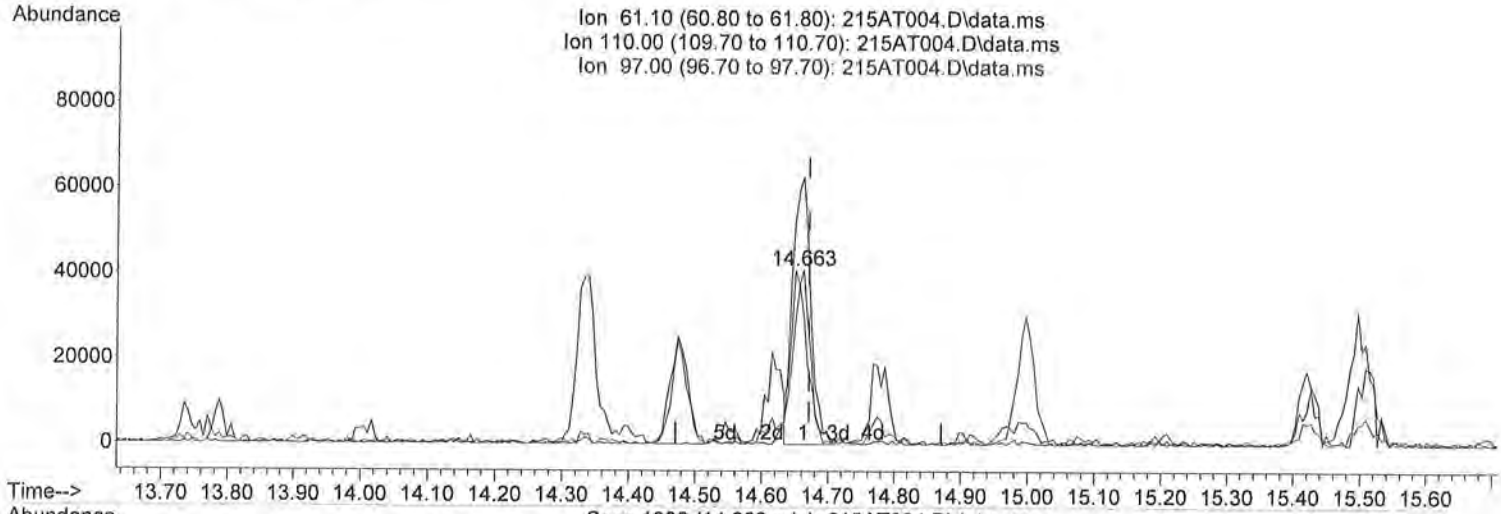
Review by/Date W 01/26/21

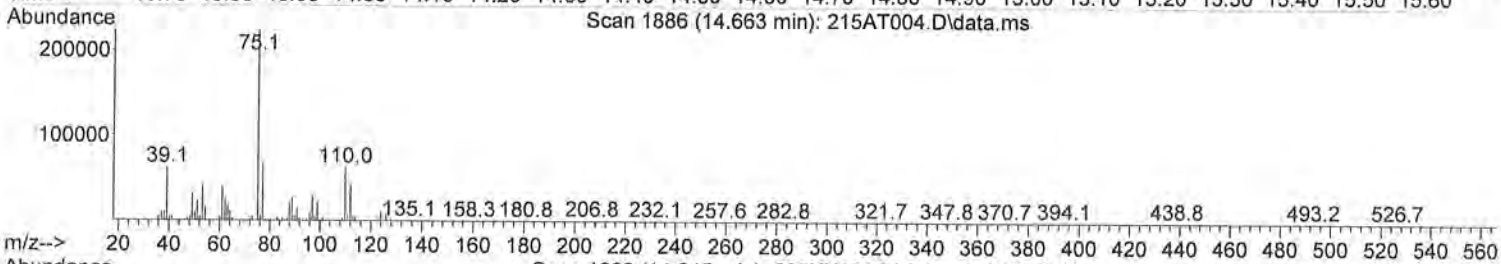
Review by/Date:

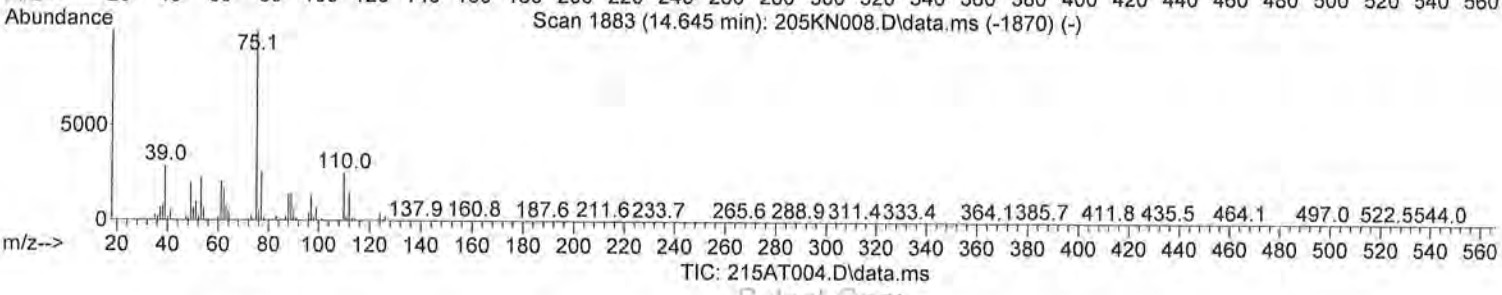
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT004.D
Acq On : 25 Jan 2021 9:20 am
Operator : KKW
Sample : BS1
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 25 09:49:13 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration







TIC: 215AT004.D\data.ms

(77) 1,2,3-Trichloropropane

14.663min (-0.008) 10.91 ug/L

response 79411

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.60	155.57#
97.00	49.10	79.99#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

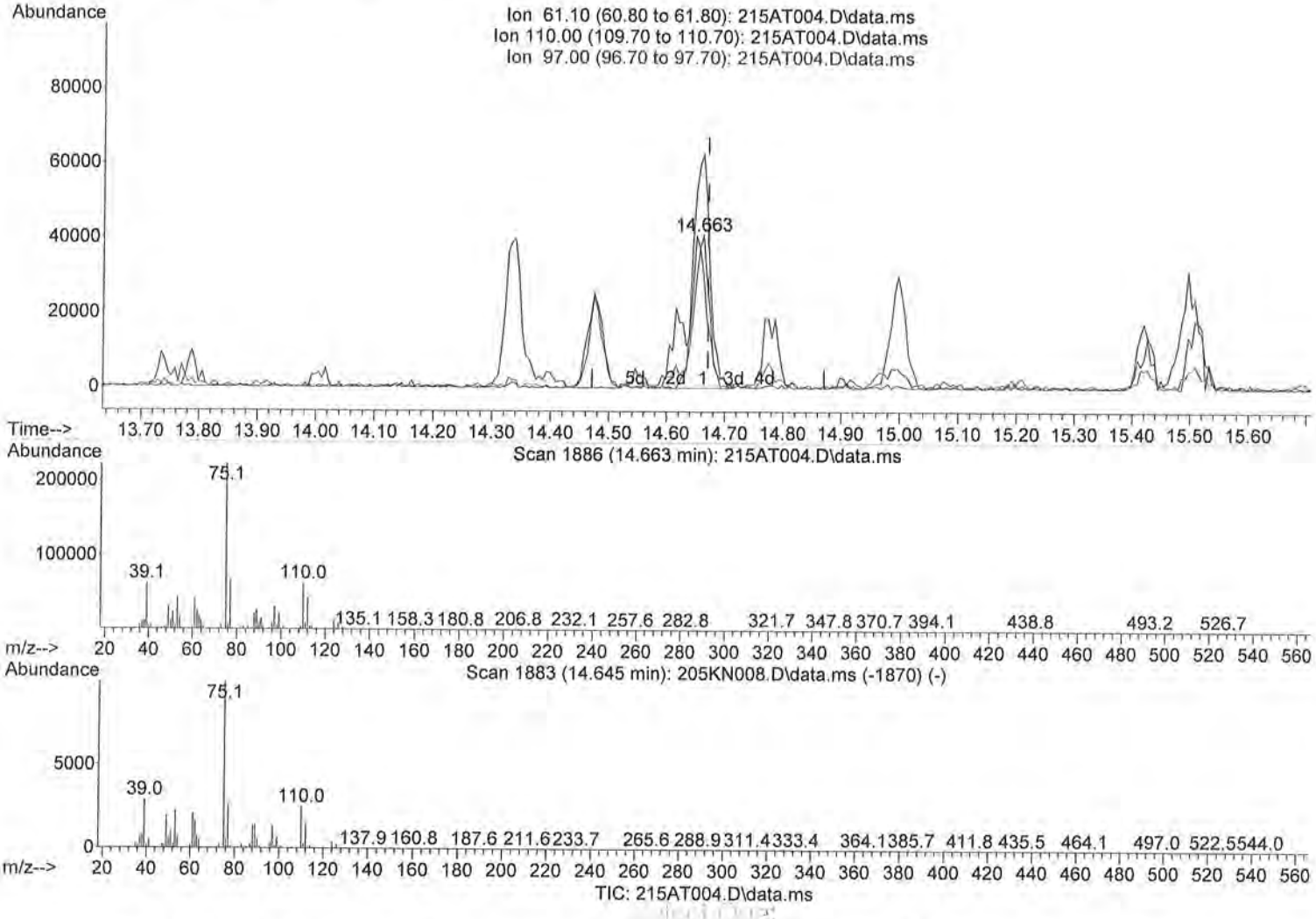
Review by/Date W 1/26/21

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT004.D
Acq On : 25 Jan 2021 9:20 am
Operator : KKW
Sample : BS1
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 25 09:49:13 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



(77) 1,2,3-Trichloropropane

14.663min (-0.008) 15.67 ug/L m

response 114066

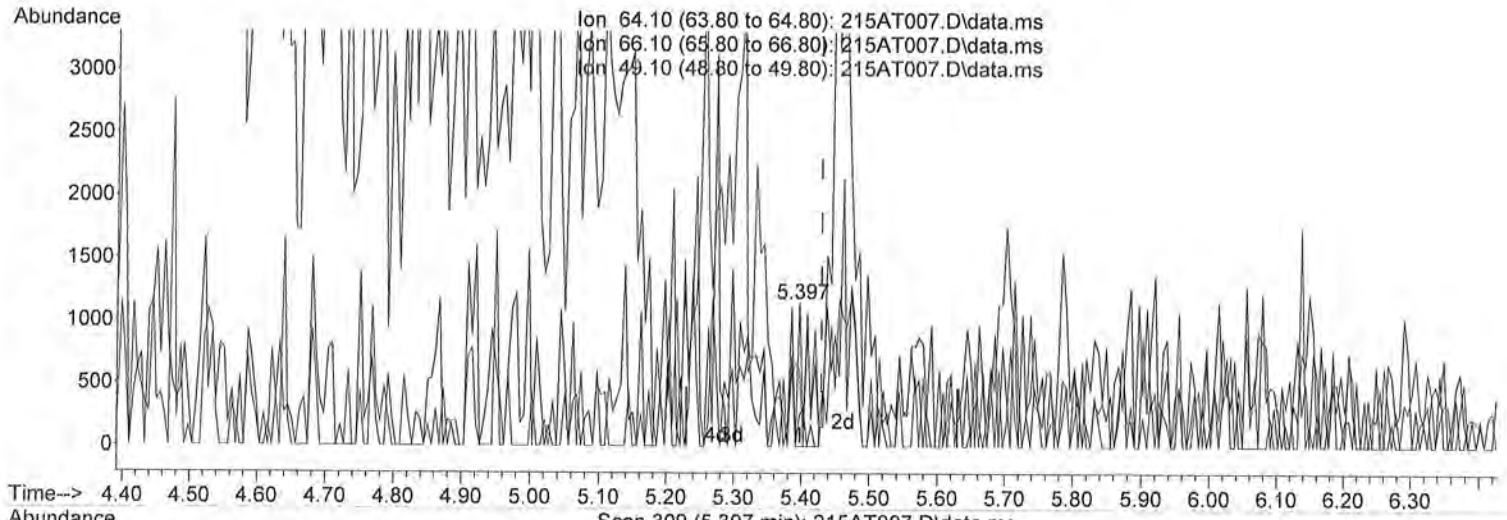
Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.60	108.31#
97.00	49.10	55.68
0.00	0.00	0.00

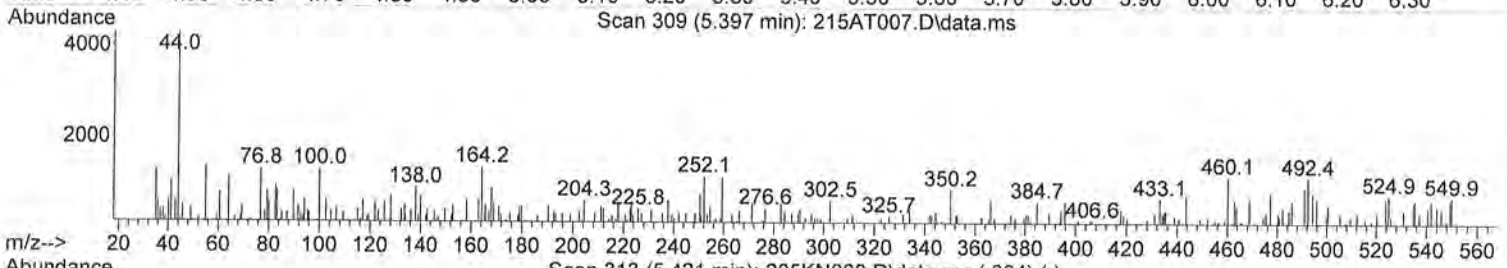
Select one:
[ ] Original Integration [X] Manual Integration
Select reason for manual integration:
[X] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date W 01/26/21
Review by/Date:

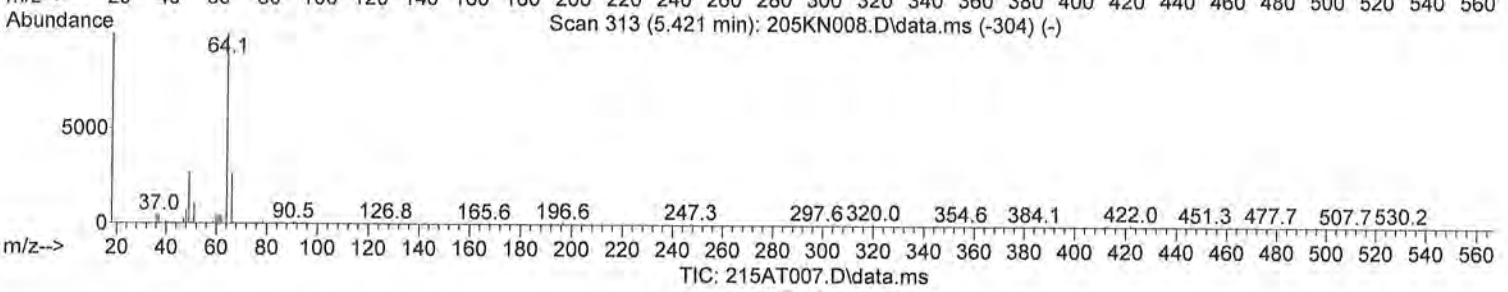
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT007.D
Acq On : 25 Jan 2021 10:48 am
Operator : KKW
Sample : AA64632-CRL1
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 25 11:18:42 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration







TIC: 215AT007.D\data.ms

(6) Chloroethane

5.397min (-0.033) 0.16 ug/L

response 1195

Ion	Exp%	Act%
64.10	100.00	100.00
66.10	32.30	106.03#
49.10	27.50	88.37#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

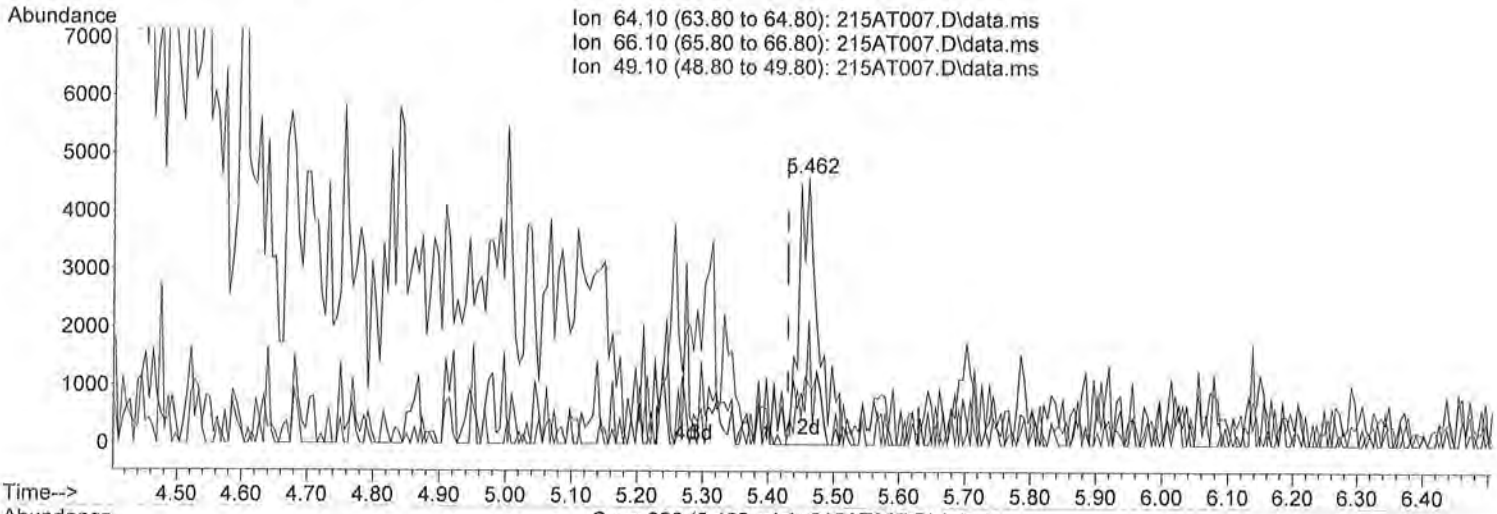
Review by/Date W 01/26/21

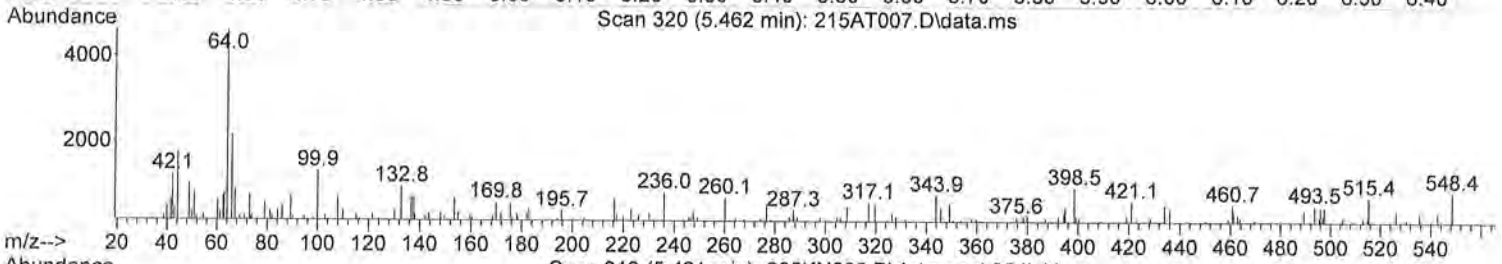
Review by/Date:

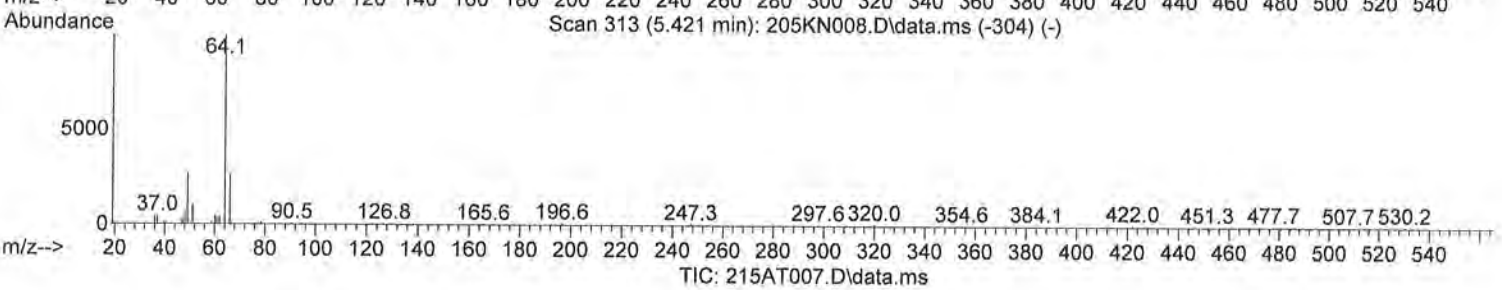
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT007.D
Acq On : 25 Jan 2021 10:48 am
Operator : KKW
Sample : AA64632-CRL1
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 25 11:18:42 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration







TIC: 215AT007.D\data.ms

(6) Chloroethane

5.462min (+ 0.032) 1.32 ug/L m

response 10161

Ion	Exp%	Act%
64.10	100.00	100.00
66.10	32.30	12.47#
49.10	27.50	10.39#
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

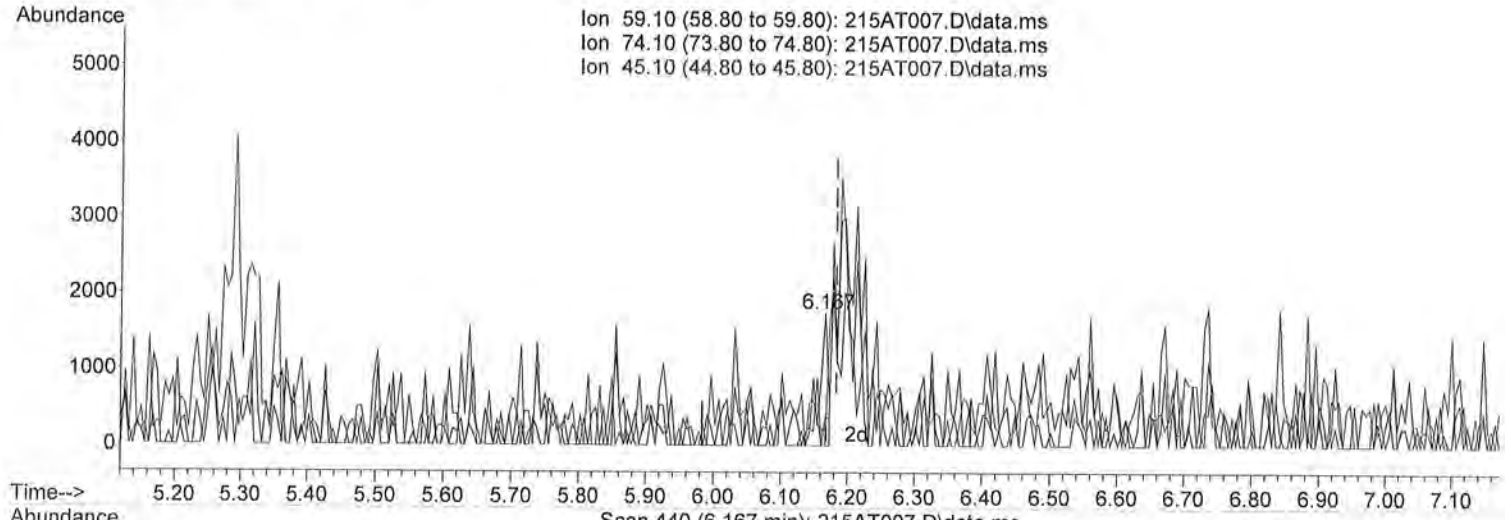
Review by/Date W 01/26/21

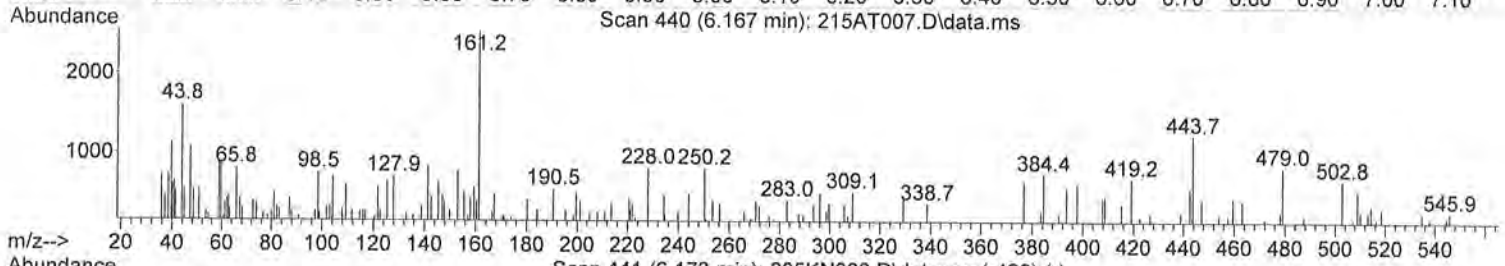
Review by/Date:

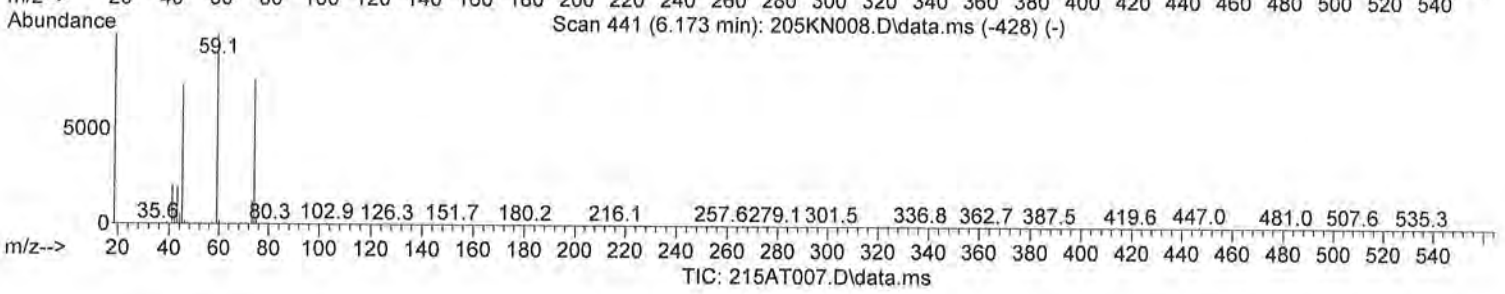
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT007.D
Acq On : 25 Jan 2021 10:48 am
Operator : KKW
Sample : AA64632-CRL1
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 25 11:18:42 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration







TIC: 215AT007.D\data.ms

(8) Diethyl ether

6.167min (-0.017) 0.14 ug/L

response 1684

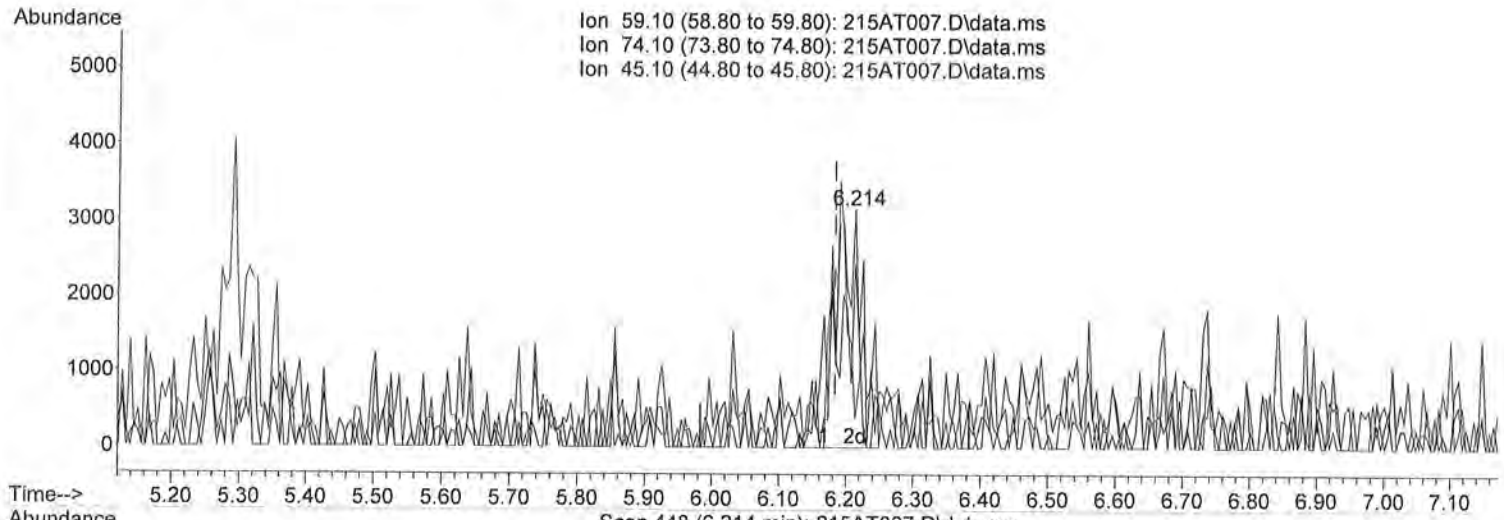
Ion	Exp%	Act%
59.10	100.00	100.00
74.10	72.50	213.06#
45.10	72.00	506.89#
0.00	0.00	0.00

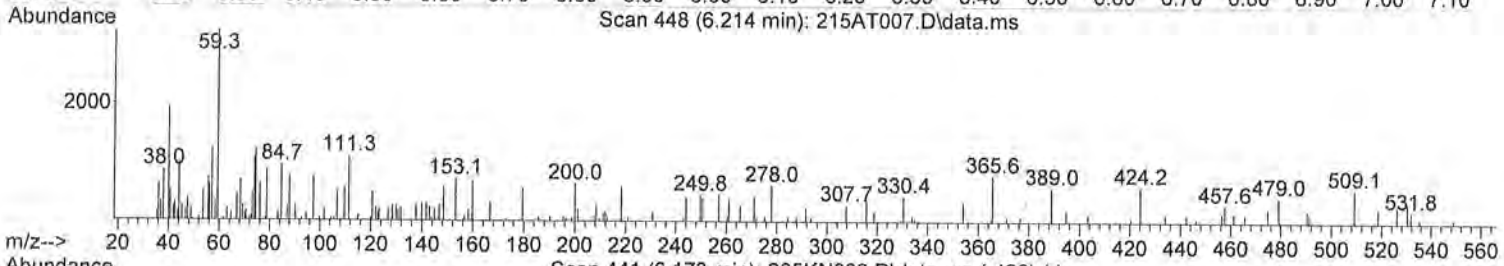
Select Type:
[X] Initial Integration [ ] Manual Integration
Select reason for manual integration:
[ ] Poor Integration (peak tailing, baseline selection)
[X] Incorrect peak selection/Peak not found
[ ] Ramp integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date W 01/28/21
Review by/Date:

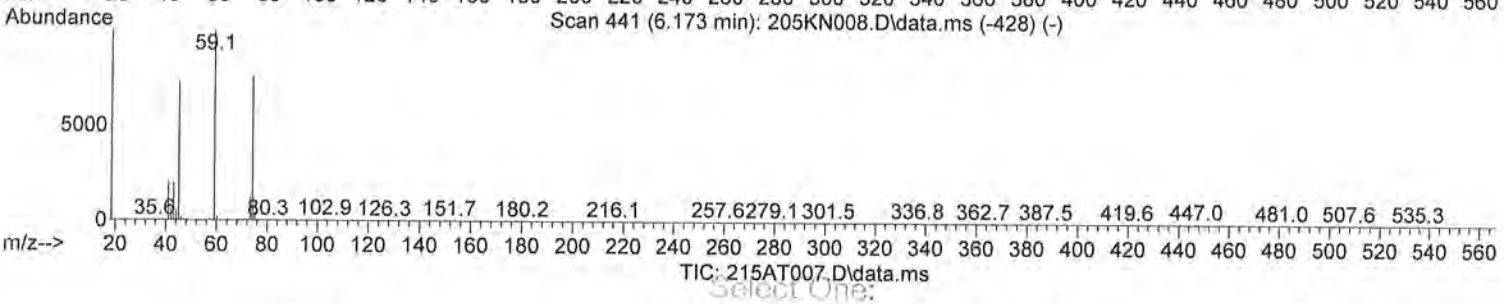
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT007.D
Acq On : 25 Jan 2021 10:48 am
Operator : KKW
Sample : AA64632-CRL1
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 25 11:18:42 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration







TIC: 215AT007.D\data.ms

(8) Diethyl ether

6.214min (+ 0.030) 0.69 ug/L m

response 8400

Ion	Exp%	Act%
59.10	100.00	100.00
74.10	72.50	42.71#
45.10	72.00	101.62#
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

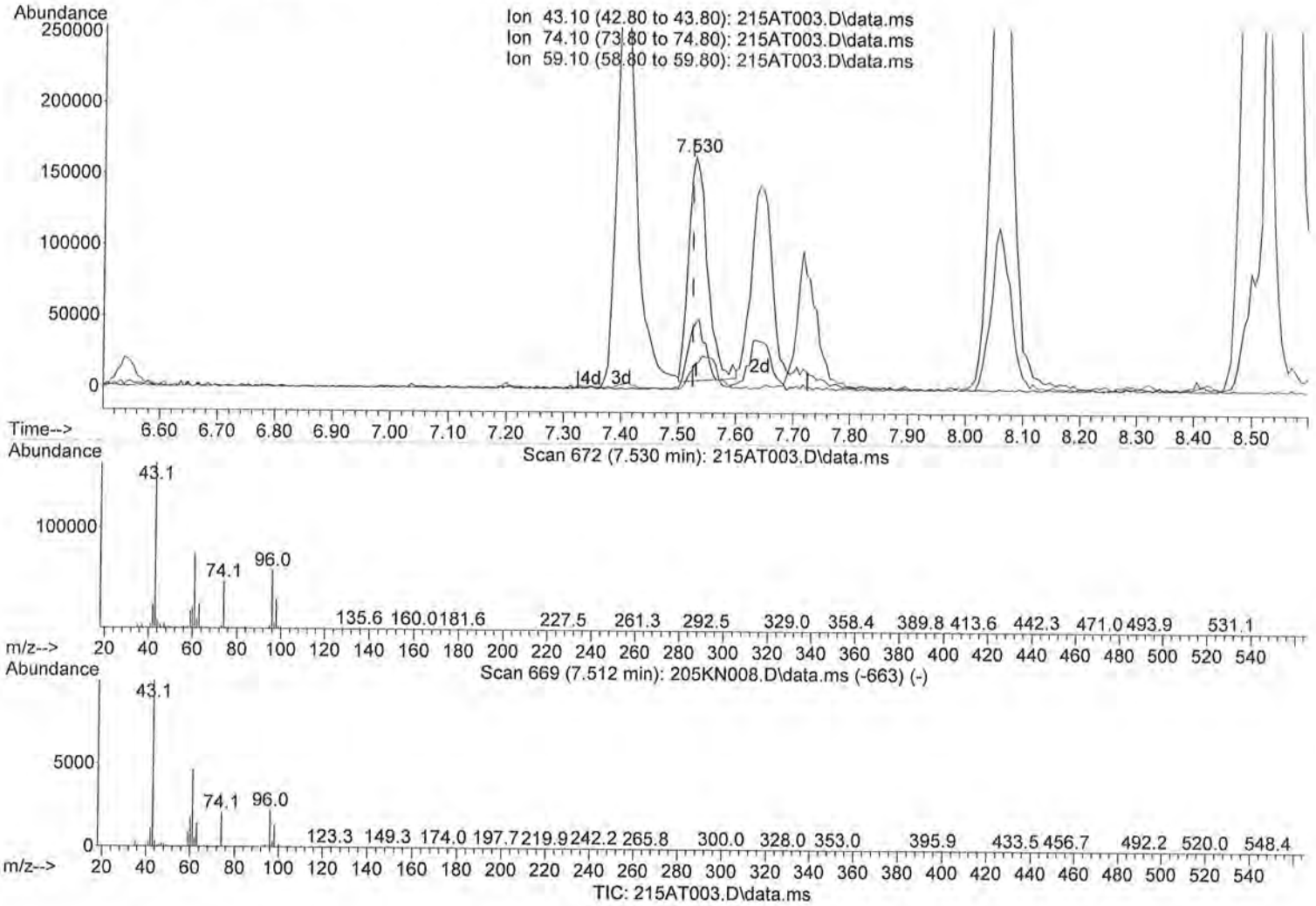
Review by/Date: W 1/26/21

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT003.D
Acq On : 25 Jan 2021 8:47 am
Operator : KKW
Sample : CCV1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jan 25 14:39:42 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



(17) Methyl Acetate

7.530min (+ 0.004) 28.65 ug/L

response 359128

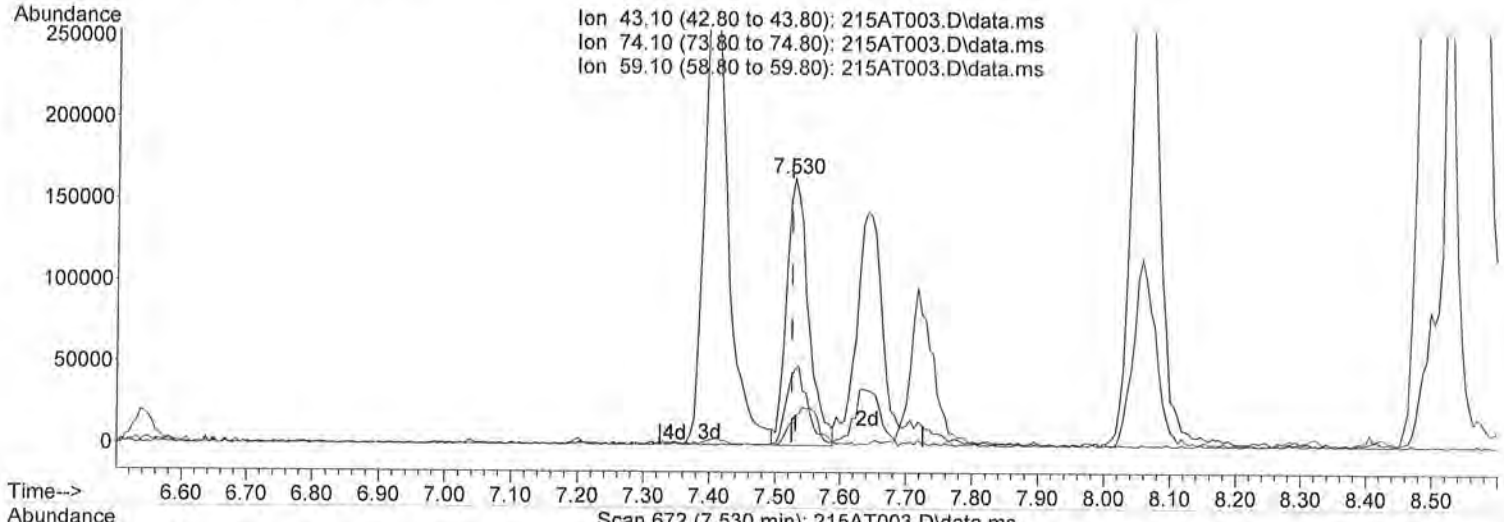
Ion	Exp%	Act%
43.10	100.00	100.00
74.10	22.30	30.95#
59.10	18.50	20.24
0.00	0.00	0.00

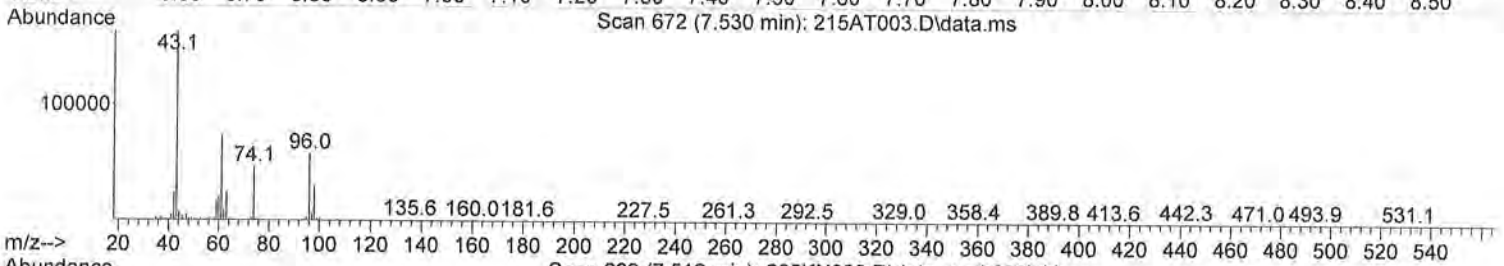
Select One:
[X] Original Integration [ ] Manual Integration
Select reason for manual integration:
[X] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date W 01/26/21
Review by/Date:

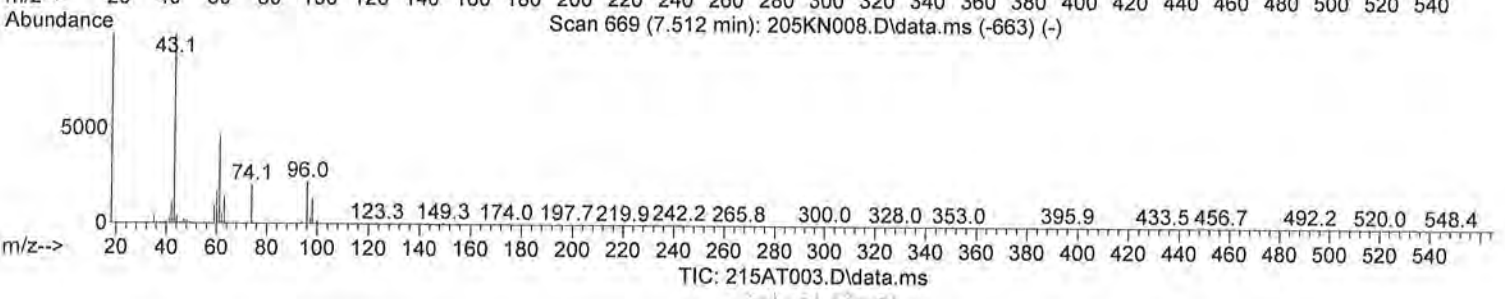
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT003.D
Acq On : 25 Jan 2021 8:47 am
Operator : KKW
Sample : CCV1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jan 25 14:39:42 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration







TIC: 215AT003.D\data.ms

(17) Methyl Acetate

7.530min (+ 0.004) 31.16 ug/L m

response 390571

Ion	Exp%	Act%
43.10	100.00	100.00
74.10	22.30	28.46#
59.10	18.50	18.61
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

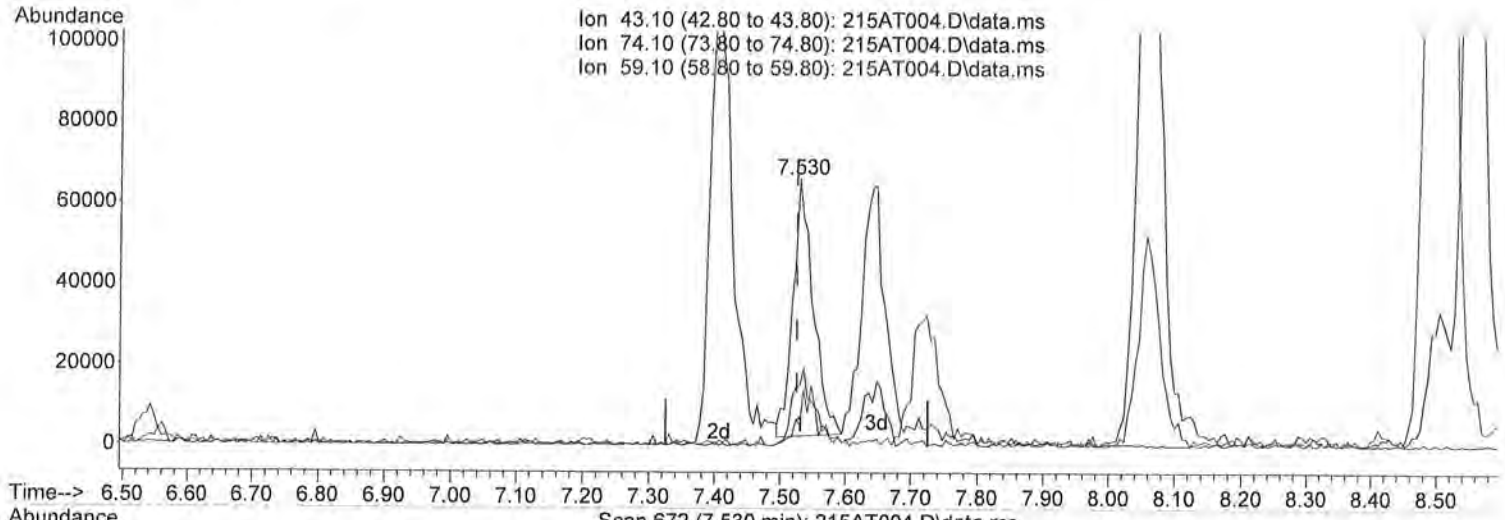
Review by/Date W 01/26/21

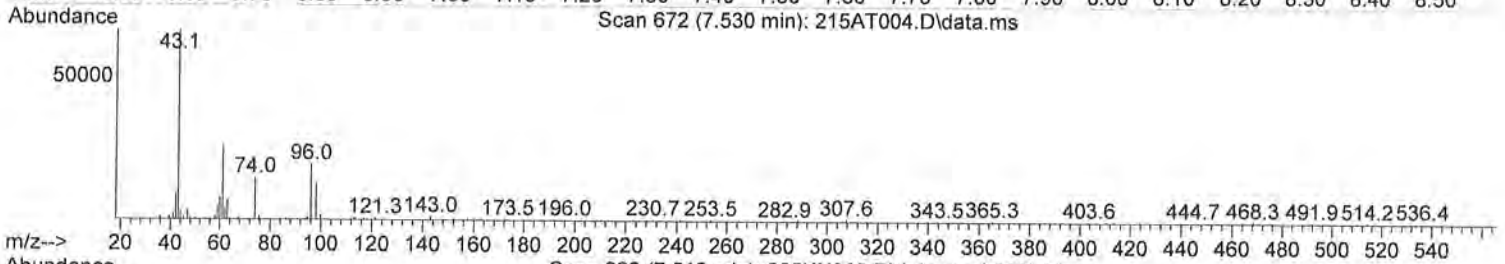
Review by/Date:

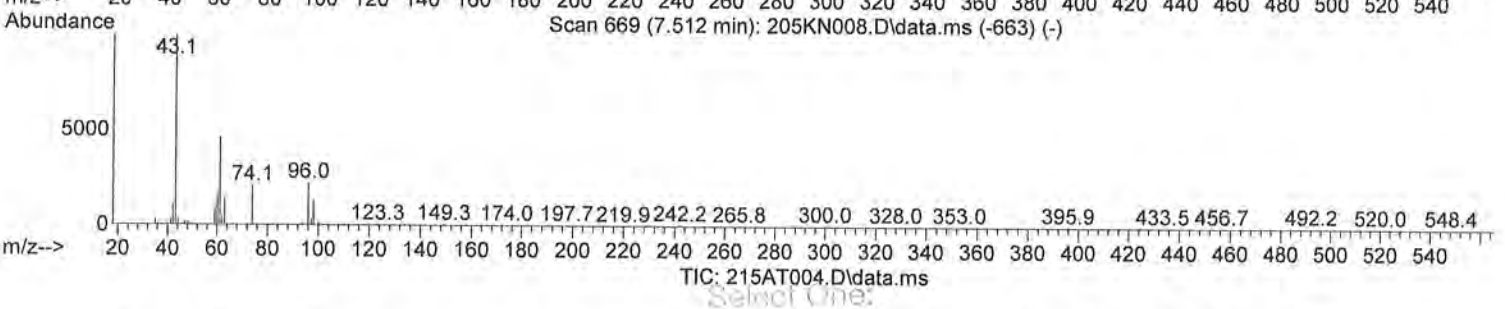
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT004.D
Acq On : 25 Jan 2021 9:20 am
Operator : KKW
Sample : BS1
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 25 09:49:13 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration







TIC: 215AT004.D\data.ms

(17) Methyl Acetate

7.530min (+ 0.004) 11.75 ug/L

response 137995

Ion	Exp%	Act%
43.10	100.00	100.00
74.10	22.30	31.15#
59.10	18.50	22.60#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Valley integration

[ ] Baseline drop for split peaks

[ ] RT reintegration

[ ] Other:

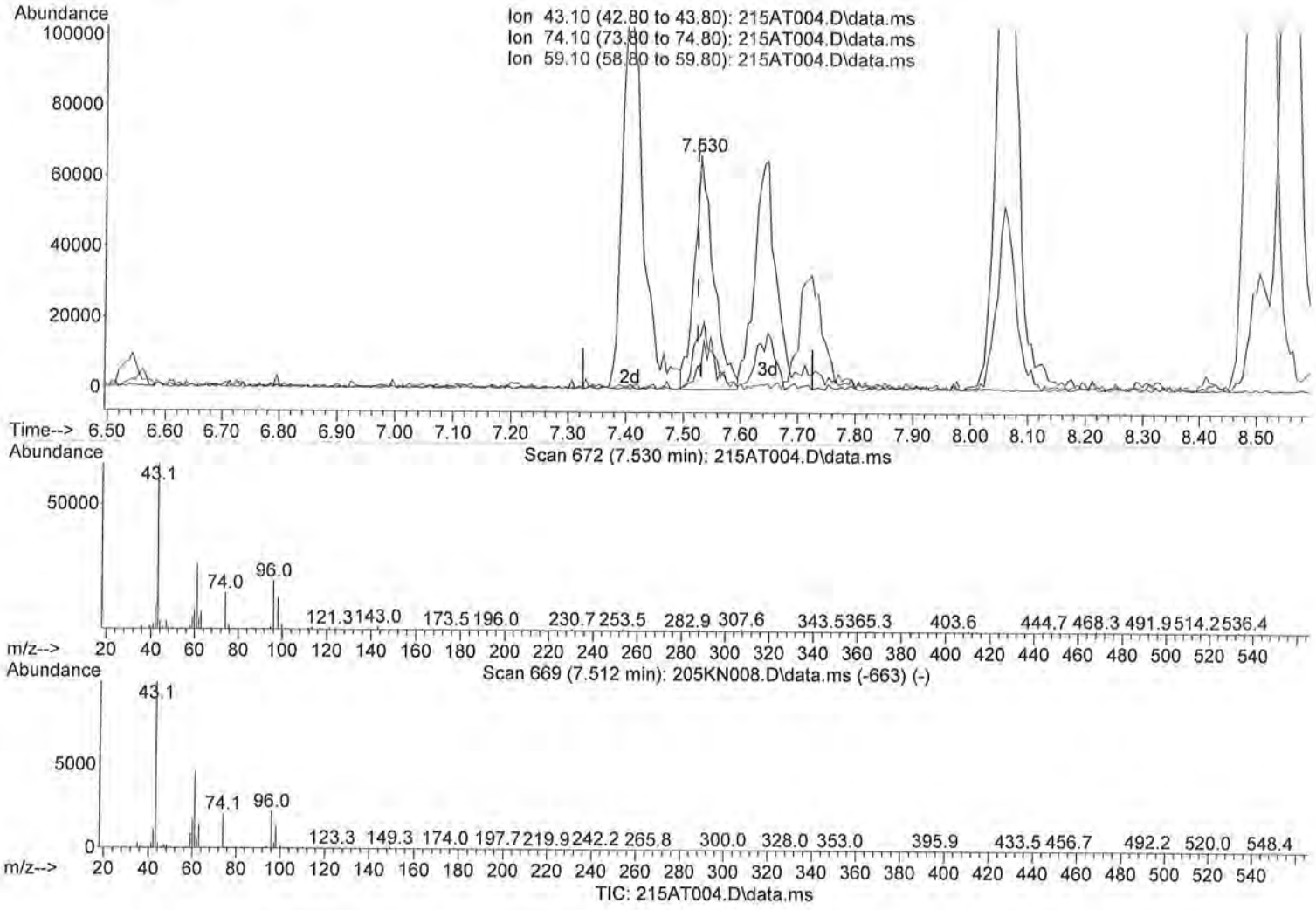
Review by/Date: Wojcicki

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT004.D
Acq On : 25 Jan 2021 9:20 am
Operator : KKW
Sample : BS1
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 25 09:49:13 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



(17) Methyl Acetate

7.530min (+ 0.004) 13.05 ug/L m

response 153220

Ion	Exp%	Act%
43.10	100.00	100.00
74.10	22.30	28.05#
59.10	18.50	20.35
0.00	0.00	0.00

Select One:
[ ] Original Integration [X] Manual Integration
Select reason for manual integration:
[X] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date KW 01/26/21
Review by/Date:

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT003.D
Acq On : 25 Jan 2021 8:47 am
Operator : KKW
Sample : CCV1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jan 25 14:39:42 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.862	168	1707380	50.00	ug/L	#	0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.456	114	3441893	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	2103106	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.497	152	1782629	50.00	ug/L	#	0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.439	113	946313	53.74	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 107.48%				
52) D8-Toluene	11.790	98	4192403	49.31	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 98.62%				
73) Bromofluorobenzene	14.334	95	1925711	51.27	ug/L		-0.01
Spiked Amount 50.000	Range 75 - 120		Recovery = 102.54%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.987	85	414244	18.79	ug/L		99
3) Chloromethane	4.410	50	303207	11.95	ug/L		96
4) Vinyl Chloride	4.592	62	391993	19.03	ug/L		90
5) Bromomethane	5.238	94	102311	18.55	ug/L		98
6) Chloroethane	5.438	64	185801	20.50	ug/L		98
7) Trichlorofluoromethane	5.697	101	515442	20.11	ug/L		98
8) Diethyl ether	6.190	59	550823	38.65	ug/L		90
9) 1,1-Dichloroethene	6.543	96	727130	49.33	ug/L	#	80
10) Trichlorotrifluoroethane	6.560	151	489789	49.61	ug/L		96
11) Acrolein	7.024	56	1190747	401.65	ug/L		95
12) Iodomethane	6.784	142	2858639	180.82	ug/L	#	87
13) Carbon Disulfide	6.631	76	7451652	154.33	ug/L	#	96
14) 3-chloropropene	7.207	41	882707	30.30	ug/L	#	84
15) Acetone	7.401	43	712871	177.71	ug/L		97
16) Methylene Chloride	7.348	84	802789	44.91	ug/L	#	76
17) Methyl Acetate	7.530	43	390571m	31.16	ug/L		
18) t-1,2-Dichloroethene	7.553	96	835754	49.00	ug/L		83
19) Methyl tert-butyl ether	7.641	73	1961816	45.45	ug/L	#	87
20) Acetonitrile	8.029	41	1007800	309.91	ug/L		98
21) Isopropyl ether	8.059	45	2050058	35.78	ug/L	#	87
22) Chloroprene	8.288	88	744216	45.56	ug/L		83
23) 1,1-Dichloroethane	8.323	63	1446741	41.24	ug/L	#	99
24) Acrylonitrile	8.393	53	2074669	391.60	ug/L		98
25) Vinyl Acetate	8.546	43	6984281	194.30	ug/L	#	92
26) c-1,2-Dichloroethene	8.958	96	900128	49.82	ug/L		84
27) 2,2-Dichloropropane	9.081	77	1268733	42.43	ug/L		96
28) Bromochloromethane	9.193	128	363164	56.91	ug/L		94
29) Cyclohexane	9.198	56	1377156	36.08	ug/L	#	84
30) Chloroform	9.228	83	1505666	44.94	ug/L		98
32) Dibromofluoromethane	9.439	113	946313	53.74	ug/L	#	91
33) 2-Butanone	9.551	72	439048	225.00	ug/L	#	60
34) 1,1,1-Trichloroethane	9.498	97	1267863	45.84	ug/L		96
35) 1,1-Dichloropropene	9.616	75	1184356	42.09	ug/L		91
36) Propionitrile	9.904	54	905284	376.94	ug/L		93
37) Methacrylonitrile	9.921	41	4280105	360.96	ug/L		85
38) Isobutyl Alcohol	9.909	43	1031378	719.18	ug/L	#	91
40) Carbon Tetrachloride	9.422	117	1000847	38.81	ug/L		99
41) Benzene	9.886	78	3474927	44.16	ug/L		94
42) 1,2-Dichloroethane	10.097	62	1028081	35.82	ug/L	#	95
43) Trichloroethene	10.462	130	789862	49.70	ug/L	#	86
44) Methyl cyclohexane	10.462	83	1612864	40.85	ug/L		88
45) Dibromomethane	10.914	93	473684	42.37	ug/L		98
46) 1,2-Dichloropropane	10.996	63	795761	34.80	ug/L		92
47) Bromodichloromethane	11.026	83	1047635	41.32	ug/L		93
48) Methyl Methacrylate	11.085	69	502239	34.37	ug/L	#	89
49) 1,4-Dioxane	11.202	88	164569	824.79	ug/L		86
50) 2-Chloroethyl vinyl ether	11.496	63	2531834	228.33	ug/L	#	86
51) C-1,3-Dichloropropene	11.613	75	1412023	41.11	ug/L		89

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT003.D
Acq On : 25 Jan 2021 8:47 am
Operator : KKW
Sample : CCV1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jan 25 14:39:42 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

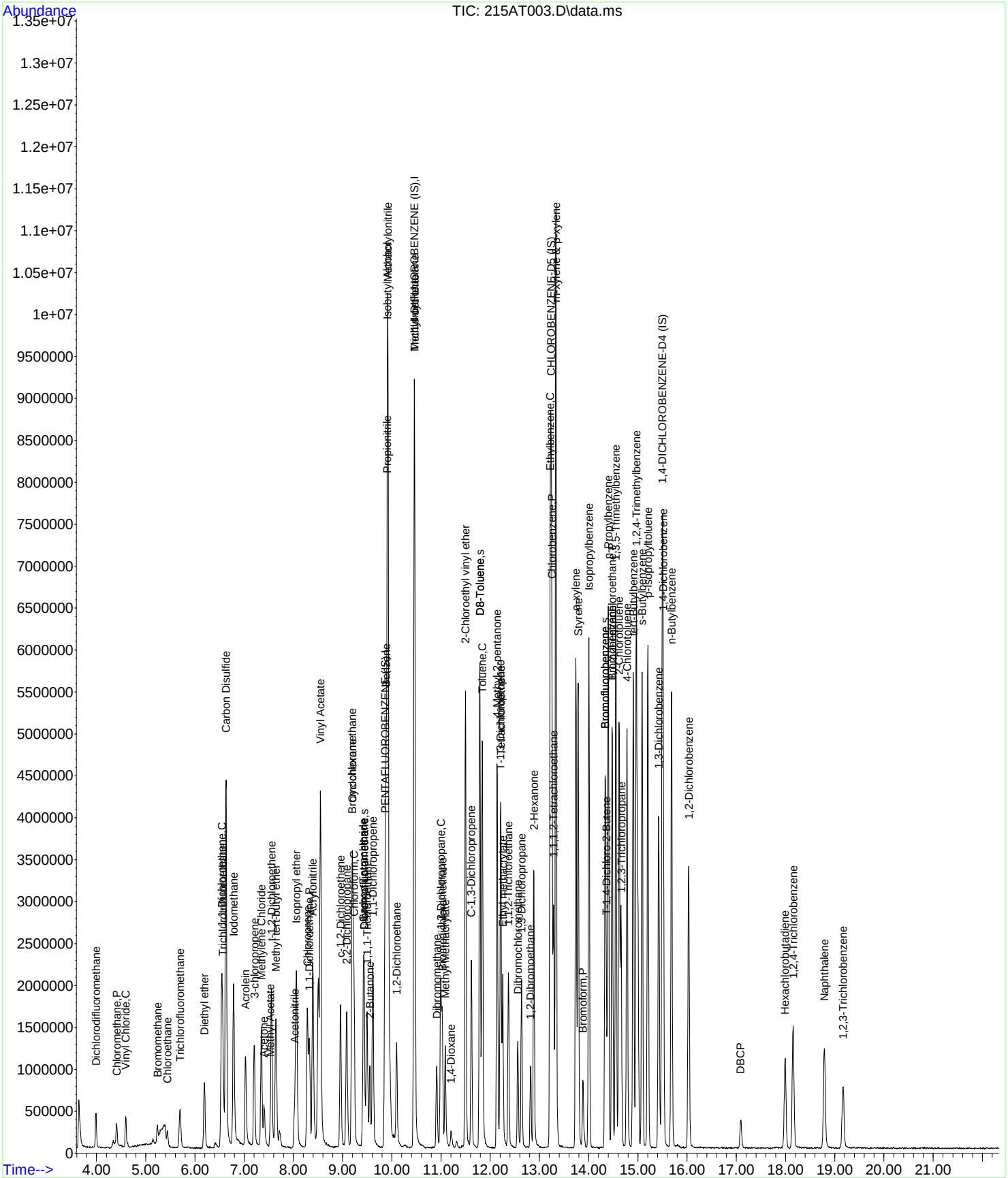
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.790	98	4192403	49.31	ug/L		95
54) 4-Methyl-2-pentanone	12.136	100	616654	264.07	ug/L	#	67
56) Toluene	11.837	92	2302492	51.31	ug/L		95
57) T-1,3-Dichloropropene	12.207	75	1215025	45.50	ug/L		92
58) Tetrachloroethene	12.213	164	575740	46.64	ug/L		97
59) Ethyl methacrylate	12.254	69	1061974	44.46	ug/L		94
60) 1,1,2-Trichloroethane	12.371	97	724681	47.79	ug/L		94
61) Dibromochloromethane	12.559	129	722815	51.74	ug/L		96
62) 1,3-Dichloropropane	12.636	76	1300515	46.33	ug/L	#	83
63) 1,2-Dibromoethane	12.818	107	732613	51.91	ug/L		96
64) 2-Hexanone	12.888	43	2002184	193.74	ug/L	#	91
65) Ethylbenzene	13.217	106	1416560	51.94	ug/L	#	86
66) Chlorobenzene	13.253	112	2420701	53.54	ug/L		99
67) 1,1,1,2-Tetrachloroethane	13.288	131	750349	55.47	ug/L		98
68) m-xylene & p-xylene	13.335	106	3500119	110.57	ug/L		86
69) o-xylene	13.740	106	1757865	54.15	ug/L		91
70) Styrene	13.787	104	3044656	57.44	ug/L	#	86
71) Bromoform	13.881	173	375581	46.88	ug/L		100
72) Isopropylbenzene	14.005	105	4583362	53.64	ug/L		95
74) Bromofluorobenzene	14.334	95	1925711	51.27	ug/L	#	81
75) n-Propylbenzene	14.398	91	5764799	50.47	ug/L		95
76) 1,1,2,2-Tetrachloroethane	14.475	83	1035745	48.88	ug/L		99
77) 1,2,3-Trichloropropane	14.663	61	295490m	38.14	ug/L		
78) T-1,4-Dichloro-2-Butene	14.357	53	334878	40.04	ug/L		96
80) Bromobenzene	14.475	156	955643	53.24	ug/L		84
81) 1,2,4-Trimethylbenzene	14.968	105	4228436	50.67	ug/L		96
82) 2-Chlorotoluene	14.616	91	3467016	49.42	ug/L		93
83) 4-Chlorotoluene	14.780	91	3606274	49.23	ug/L		93
84) tert-Butylbenzene	14.910	119	3296690	52.00	ug/L		92
85) 1,3,5-Trimethylbenzene	14.551	105	4116826	50.92	ug/L		94
86) p-Isopropyltoluene	15.203	119	4138457	52.55	ug/L		94
87) s-Butylbenzene	15.086	105	4923355	51.90	ug/L		98
88) 1,3-Dichlorobenzene	15.421	146	1911043	53.15	ug/L		94
89) 1,4-Dichlorobenzene	15.515	146	1955081	50.72	ug/L	#	90
90) n-Butylbenzene	15.685	91	3893923	47.55	ug/L		96
91) 1,2-Dichlorobenzene	16.032	146	1720840	50.70	ug/L		95
92) DBCP	17.083	157	124238	44.72	ug/L		98
93) Hexachlorobutadiene	17.988	225	245398	30.88	ug/L	#	86
94) 1,2,4-Trichlorobenzene	18.153	180	645101	37.85	ug/L		96
95) Naphthalene	18.787	128	1664097	46.02	ug/L	#	91
96) 1,2,3-Trichlorobenzene	19.169	180	368024	36.69	ug/L		93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT003.D
Acq On : 25 Jan 2021 8:47 am
Operator : KKW
Sample : CCV1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jan 25 14:39:42 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT004.D
Acq On : 25 Jan 2021 9:20 am
Operator : KKW
Sample : BS1
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 25 09:49:13 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.862	168	1599715	50.00	ug/L	#	0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.456	114	3376621	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	1975824	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.497	152	1733612	50.00	ug/L	#	0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.434	113	913225	55.35	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 110.70%				
52) D8-Toluene	11.790	98	4070469	48.80	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 97.60%				
73) Bromofluorobenzene	14.334	95	1849539	52.42	ug/L		-0.01
Spiked Amount 50.000	Range 75 - 120		Recovery = 104.84%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.987	85	250008	12.11	ug/L		97
3) Chloromethane	4.410	50	220160	9.26	ug/L		97
4) Vinyl Chloride	4.592	62	326668	16.92	ug/L		92
5) Bromomethane	5.238	94	43051	8.70	ug/L	#	93
6) Chloroethane	5.444	64	185537	21.85	ug/L		97
7) Trichlorofluoromethane	5.703	101	478942	19.94	ug/L		97
8) Diethyl ether	6.190	59	225527	16.89	ug/L		93
9) 1,1-Dichloroethene	6.537	96	282163	20.43	ug/L		81
10) Trichlorotrifluoroethane	6.560	151	193160	20.88	ug/L		99
11) Acrolein	7.030	56	221325	79.68	ug/L		92
12) Iodomethane	6.790	142	276449	18.66	ug/L	#	85
13) Carbon Disulfide	6.631	76	919349	20.32	ug/L		96
14) 3-chloropropene	7.201	41	408624	14.97	ug/L	#	85
15) Acetone	7.406	43	268584	71.46	ug/L		96
16) Methylene Chloride	7.348	84	333504	19.91	ug/L		78
17) Methyl Acetate	7.530	43	153220m	13.05	ug/L		
18) t-1,2-Dichloroethene	7.559	96	344456	21.55	ug/L	#	81
19) Methyl tert-butyl ether	7.641	73	800570	19.79	ug/L	#	89
20) Acetonitrile	8.053	41	277610	91.11	ug/L	#	89
21) Isopropyl ether	8.059	45	859556	16.01	ug/L	#	88
22) Chloroprene	8.276	88	316685	20.69	ug/L		84
23) 1,1-Dichloroethane	8.323	63	610601	18.58	ug/L		99
24) Acrylonitrile	8.399	53	107069	21.57	ug/L		93
25) Vinyl Acetate	8.552	43	475146	14.11	ug/L		96
26) c-1,2-Dichloroethene	8.958	96	369345	21.82	ug/L		86
27) 2,2-Dichloropropane	9.075	77	487162	17.55	ug/L		96
28) Bromochloromethane	9.193	128	149116	24.94	ug/L		95
29) Cyclohexane	9.199	56	583308	16.31	ug/L		87
30) Chloroform	9.228	83	618576	19.71	ug/L		97
32) Dibromofluoromethane	9.434	113	913225	55.35	ug/L	#	89
33) 2-Butanone	9.557	72	161180	89.62	ug/L	#	60
34) 1,1,1-Trichloroethane	9.492	97	504957	19.49	ug/L		98
35) 1,1-Dichloropropene	9.616	75	483559	18.34	ug/L		90
36) Propionitrile	9.909	54	40427	17.97	ug/L	#	1
37) Methacrylonitrile	9.915	41	259036	23.32	ug/L		86
38) Isobutyl Alcohol	9.915	43	242905	180.78	ug/L	#	39
40) Carbon Tetrachloride	9.416	117	404074	15.97	ug/L		87
41) Benzene	9.886	78	1458868	18.90	ug/L		94
42) 1,2-Dichloroethane	10.097	62	424178	15.06	ug/L	#	98
43) Trichloroethene	10.462	130	322095	20.66	ug/L		89
44) Methyl cyclohexane	10.462	83	686250	17.72	ug/L		89
45) Dibromomethane	10.914	93	198074	18.06	ug/L		97
46) 1,2-Dichloropropane	10.996	63	346732	16.00	ug/L	#	96
47) Bromodichloromethane	11.026	83	418243	17.71	ug/L		94
48) Methyl Methacrylate	11.085	69	194107	13.54	ug/L	#	81
49) 1,4-Dioxane	11.208	88	70343	359.36	ug/L	#	76
50) 2-Chloroethyl vinyl ether	11.496	63	885646	81.41	ug/L	#	85
51) C-1,3-Dichloropropene	11.619	75	553642	17.32	ug/L		89

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT004.D
Acq On : 25 Jan 2021 9:20 am
Operator : KKW
Sample : BS1
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 25 09:49:13 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

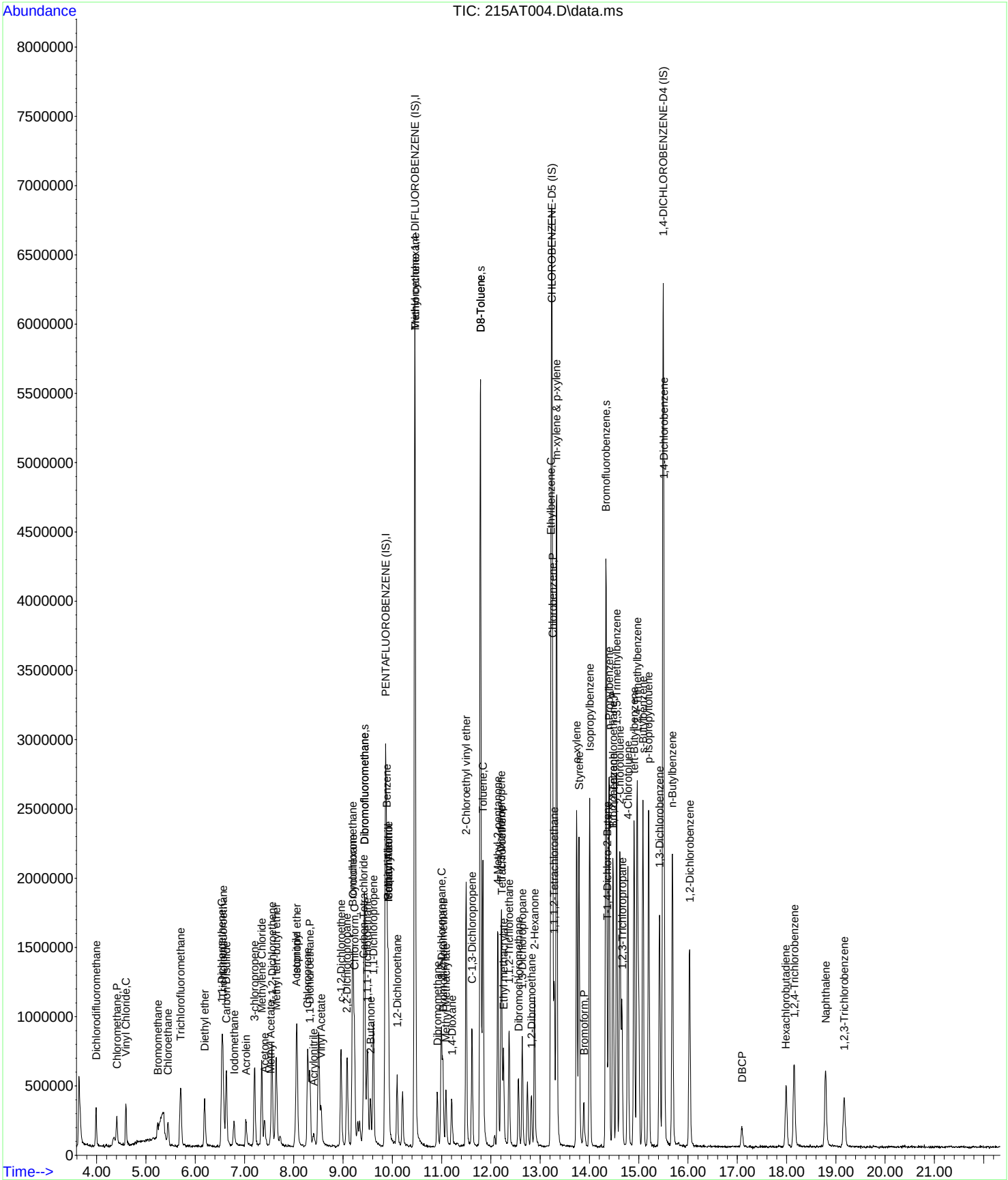
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.790	98	4070469	48.80	ug/L		96
54) 4-Methyl-2-pentanone	12.136	100	207312	90.49	ug/L	#	68
56) Toluene	11.837	92	957739	22.72	ug/L		96
57) T-1,3-Dichloropropene	12.207	75	515288	20.54	ug/L	#	92
58) Tetrachloroethene	12.219	164	241822	20.85	ug/L		97
59) Ethyl methacrylate	12.260	69	388869	17.33	ug/L		97
60) 1,1,2-Trichloroethane	12.371	97	304984	21.41	ug/L	#	91
61) Dibromochloromethane	12.559	129	288792	23.69	ug/L	#	97
62) 1,3-Dichloropropane	12.636	76	522310	19.80	ug/L	#	83
63) 1,2-Dibromoethane	12.824	107	291727	22.00	ug/L		91
64) 2-Hexanone	12.883	43	660038	67.98	ug/L	#	90
65) Ethylbenzene	13.217	106	554484	21.64	ug/L		94
66) Chlorobenzene	13.253	112	1023082	24.09	ug/L		100
67) 1,1,1,2-Tetrachloroethane	13.282	131	298525	23.49	ug/L		93
68) m-xylene & p-xylene	13.329	106	1483783	49.89	ug/L		86
69) o-xylene	13.740	106	715610	23.46	ug/L		92
70) Styrene	13.787	104	1250837	25.12	ug/L	#	84
71) Bromoform	13.887	173	146327	21.42	ug/L		96
72) Isopropylbenzene	14.005	105	1893484	23.59	ug/L		95
74) Bromofluorobenzene	14.440	95	3161	N.D.			
75) n-Propylbenzene	14.398	91	2354245	21.94	ug/L		94
76) 1,1,2,2-Tetrachloroethane	14.481	83	418500	21.02	ug/L		93
77) 1,2,3-Trichloropropane	14.663	61	114066m	15.67	ug/L		
78) T-1,4-Dichloro-2-Butene	14.357	53	116087	14.77	ug/L	#	62
80) Bromobenzene	14.481	156	396580	22.72	ug/L	#	81
81) 1,2,4-Trimethylbenzene	14.968	105	1738445	21.42	ug/L		95
82) 2-Chlorotoluene	14.616	91	1433409	21.01	ug/L		94
83) 4-Chlorotoluene	14.780	91	1495047	20.99	ug/L		96
84) tert-Butylbenzene	14.904	119	1364202	22.13	ug/L		91
85) 1,3,5-Trimethylbenzene	14.551	105	1702022	21.65	ug/L		95
86) p-Isopropyltoluene	15.197	119	1742068	22.75	ug/L		94
87) s-Butylbenzene	15.086	105	2060254	22.33	ug/L		97
88) 1,3-Dichlorobenzene	15.421	146	824531	23.58	ug/L		93
89) 1,4-Dichlorobenzene	15.509	146	796267	21.24	ug/L		96
90) n-Butylbenzene	15.679	91	1589616	19.96	ug/L		96
91) 1,2-Dichlorobenzene	16.032	146	744442	22.55	ug/L		93
92) DBCP	17.095	157	52997	20.34	ug/L		95
93) Hexachlorobutadiene	17.983	225	89905	12.12	ug/L	#	85
94) 1,2,4-Trichlorobenzene	18.159	180	283146	17.35	ug/L		98
95) Naphthalene	18.793	128	766547	22.30	ug/L	#	91
96) 1,2,3-Trichlorobenzene	19.169	180	169302	17.97	ug/L		93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT004.D
Acq On : 25 Jan 2021 9:20 am
Operator : KKW
Sample : BS1
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 25 09:49:13 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT006.D
Acq On : 25 Jan 2021 10:19 am
Operator : KKW
Sample : BLK1
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jan 25 14:40:31 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) PENTAFLUOROBENZENE (IS)	9.857	168	1492905	50.00 ug/L	# 0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.456	114	3146822	50.00 ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	1772986	50.00 ug/L	# 0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1644956	50.00 ug/L	# 0.00
System Monitoring Compounds					
31) Dibromofluoromethane	9.439	113	853751	55.45 ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 110.90%		
52) D8-Toluene	11.790	98	3741534	48.14 ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 96.28%		
73) Bromofluorobenzene	14.340	95	1723396	54.43 ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 108.86%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.	
3) Chloromethane	4.398	50	3161	N.D.	
4) Vinyl Chloride	4.404	62	1200	N.D.	
5) Bromomethane	5.256	94	3501	0.79 ug/L #	45
6) Chloroethane	0.000		0	N.D. d	
7) Trichlorofluoromethane	0.000		0	N.D.	
8) Diethyl ether	0.000		0	N.D. d	
9) 1,1-Dichloroethene	0.000		0	N.D. d	
10) Trichlorotrifluoroethane	0.000		0	N.D.	
11) Acrolein	0.000		0	N.D. d	
12) Iodomethane	0.000		0	N.D. d	
13) Carbon Disulfide	0.000		0	N.D. d	
14) 3-chloropropene	0.000		0	N.D. d	
15) Acetone	0.000		0	N.D. d	
16) Methylene Chloride	0.000		0	N.D. d	
17) Methyl Acetate	0.000		0	N.D. d	
18) t-1,2-Dichloroethene	0.000		0	N.D.	
19) Methyl tert-butyl ether	0.000		0	N.D. d	
20) Acetonitrile	0.000		0	N.D. d	
21) Isopropyl ether	0.000		0	N.D. d	
22) Chloroprene	0.000		0	N.D. d	
23) 1,1-Dichloroethane	0.000		0	N.D.	
24) Acrylonitrile	0.000		0	N.D. d	
25) Vinyl Acetate	0.000		0	N.D. d	
26) c-1,2-Dichloroethene	0.000		0	N.D. d	
27) 2,2-Dichloropropane	0.000		0	N.D. d	
28) Bromochloromethane	0.000		0	N.D. d	
29) Cyclohexane	0.000		0	N.D.	
30) Chloroform	9.240	83	1706	N.D.	
32) Dibromofluoromethane	9.439	113	853751	55.45 ug/L #	87
33) 2-Butanone	0.000		0	N.D. d	
34) 1,1,1-Trichloroethane	0.000		0	N.D. d	
35) 1,1-Dichloropropene	0.000		0	N.D. d	
36) Propionitrile	0.000		0	N.D.	
37) Methacrylonitrile	0.000		0	N.D. d	
38) Isobutyl Alcohol	0.000		0	N.D. d	
40) Carbon Tetrachloride	0.000		0	N.D. d	
41) Benzene	0.000		0	N.D. d	
42) 1,2-Dichloroethane	0.000		0	N.D. d	
43) Trichloroethene	0.000		0	N.D.	
44) Methyl cyclohexane	0.000		0	N.D. d	
45) Dibromomethane	0.000		0	N.D. d	
46) 1,2-Dichloropropane	0.000		0	N.D. d	
47) Bromodichloromethane	0.000		0	N.D. d	
48) Methyl Methacrylate	0.000		0	N.D. d	
49) 1,4-Dioxane	0.000		0	N.D. d	
50) 2-Chloroethyl vinyl ether	11.531	63	1103	N.D.	
51) C-1,3-Dichloropropene	11.772	75	1945	N.D.	

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT006.D
Acq On : 25 Jan 2021 10:19 am
Operator : KKW
Sample : BLK1
Misc :
ALS Vial : 5 Sample Multiplier: 1

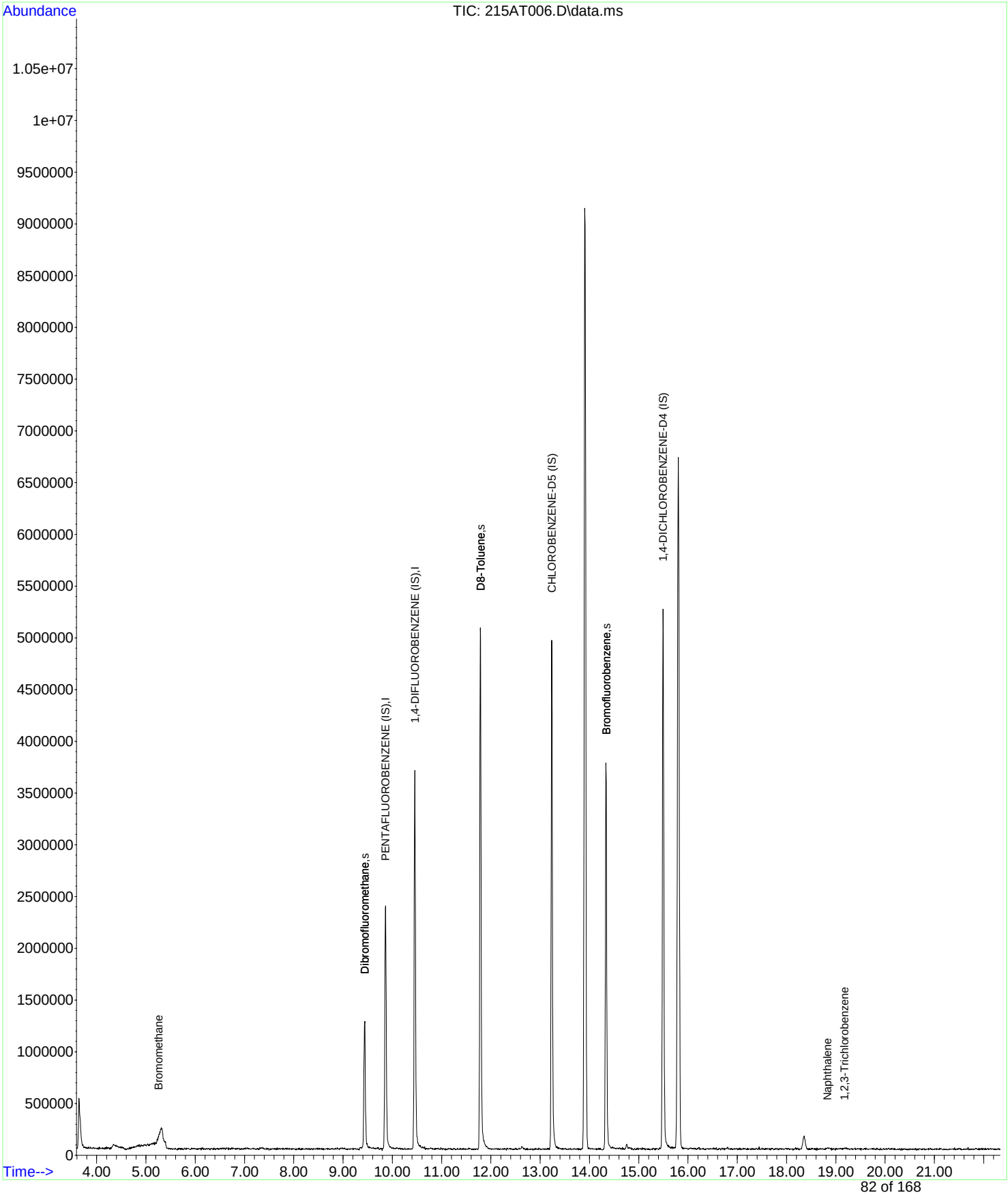
Quant Time: Jan 25 14:40:31 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.790	98	3741534	48.14 ug/L	95
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	11.843	92	1134	N.D.	
57) T-1,3-Dichloropropene	12.219	75	1015	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	0.000		0	N.D.	
60) 1,1,2-Trichloroethane	12.336	97	1829	N.D.	
61) Dibromochloromethane	12.606	129	1551	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	12.853	107	1145	N.D.	
64) 2-Hexanone	12.918	43	1623	N.D.	
65) Ethylbenzene	13.341	106	1141	N.D.	
66) Chlorobenzene	13.241	112	1398	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	13.341	106	1141	N.D.	
69) o-xylene	13.905	106	3943	N.D.	
70) Styrene	13.840	104	2013	N.D.	
71) Bromoform	0.000		0	N.D. d	
72) Isopropylbenzene	13.999	105	1144	N.D.	
74) Bromofluorobenzene	14.340	95	1723396	54.43 ug/L #	81
75) n-Propylbenzene	14.398	91	3621	N.D.	
76) 1,1,2,2-Tetrachloroethane	14.492	83	1031	N.D.	
77) 1,2,3-Trichloropropane	14.616	61	1292	N.D.	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D. d	
80) Bromobenzene	14.475	156	1124	N.D.	
81) 1,2,4-Trimethylbenzene	14.980	105	2934	N.D.	
82) 2-Chlorotoluene	14.628	91	1366	N.D.	
83) 4-Chlorotoluene	14.798	91	2334	N.D.	
84) tert-Butylbenzene	14.892	119	1726	N.D.	
85) 1,3,5-Trimethylbenzene	14.557	105	2326	N.D.	
86) p-Isopropyltoluene	15.198	119	5045	N.D.	
87) s-Butylbenzene	15.109	105	2907	N.D.	
88) 1,3-Dichlorobenzene	15.438	146	2920	N.D.	
89) 1,4-Dichlorobenzene	15.521	146	6621	N.D.	
90) n-Butylbenzene	15.726	91	3779	N.D.	
91) 1,2-Dichlorobenzene	16.049	146	2426	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	18.182	180	1816	N.D.	
95) Naphthalene	18.829	128	21738	0.68 ug/L #	80
96) 1,2,3-Trichlorobenzene	19.175	180	2376	0.28 ug/L #	59

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT006.D
Acq On : 25 Jan 2021 10:19 am
Operator : KKW
Sample : BLK1
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jan 25 14:40:31 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT007.D
Acq On : 25 Jan 2021 10:48 am
Operator : KKW
Sample : AA64632-CRL1
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 25 11:18:42 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) PENTAFLUOROBENZENE (IS)	9.863	168	1450199	50.00	ug/L	# 0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.456	114	3054870	50.00	ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	1722975	50.00	ug/L	# 0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1562753	50.00	ug/L	# 0.00
System Monitoring Compounds						
31) Dibromofluoromethane	9.434	113	811223	54.24	ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 108.48%			
52) D8-Toluene	11.784	98	3584887	47.51	ug/L	-0.01
Spiked Amount 50.000	Range 85 - 120		Recovery = 95.02%			
73) Bromofluorobenzene	14.334	95	1623753	52.77	ug/L	-0.01
Spiked Amount 50.000	Range 75 - 120		Recovery = 105.54%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.987	85	11751	0.63	ug/L #	90
3) Chloromethane	4.410	50	14843	0.69	ug/L #	56
4) Vinyl Chloride	4.592	62	12380	0.71	ug/L #	1
5) Bromomethane	5.239	94	9731	2.24	ug/L #	90
6) Chloroethane	5.462	64	10161m	1.32	ug/L	
7) Trichlorofluoromethane	5.720	101	15552	0.71	ug/L #	93
8) Diethyl ether	6.214	59	8400m	0.69	ug/L	
9) 1,1-Dichloroethene	6.531	96	8104	0.65	ug/L #	88
10) Trichlorotrifluoroethane	6.566	151	6423	0.77	ug/L	85
11) Acrolein	7.042	56	20426	8.11	ug/L	90
12) Iodomethane	6.796	142	13928	1.04	ug/L #	90
13) Carbon Disulfide	6.631	76	102163	2.49	ug/L #	94
14) 3-chloropropene	7.201	41	11729	0.47	ug/L #	84
15) Acetone	7.407	43	10078	2.96	ug/L #	74
16) Methylene Chloride	7.348	84	11780	0.78	ug/L #	72
17) Methyl Acetate	7.653	43	5180	0.49	ug/L	92
18) t-1,2-Dichloroethene	7.554	96	10376	0.72	ug/L	83
19) Methyl tert-butyl ether	7.630	73	24665	0.67	ug/L #	91
20) Acetonitrile	8.041	41	12425	4.50	ug/L #	56
21) Isopropyl ether	8.065	45	29763	0.61	ug/L #	89
22) Chloroprene	8.294	88	8625	0.62	ug/L	97
23) 1,1-Dichloroethane	8.323	63	19059	0.64	ug/L #	87
24) Acrylonitrile	8.405	53	20945	4.65	ug/L	93
25) Vinyl Acetate	8.564	43	79627	2.61	ug/L	97
26) c-1,2-Dichloroethene	8.964	96	13688	0.89	ug/L #	71
27) 2,2-Dichloropropane	9.093	77	15069	0.60	ug/L #	82
28) Bromochloromethane	9.193	128	4949	0.91	ug/L #	66
29) Cyclohexane	9.205	56	15602	0.48	ug/L #	73
30) Chloroform	9.234	83	20547	0.72	ug/L	97
32) Dibromofluoromethane	9.434	113	811223	54.24	ug/L #	89
33) 2-Butanone	9.563	72	4178	2.59	ug/L	86
34) 1,1,1-Trichloroethane	9.492	97	17804	0.76	ug/L #	92
35) 1,1-Dichloropropene	9.610	75	14484	0.61	ug/L #	70
36) Propionitrile	9.927	54	8687	4.26	ug/L #	30
37) Methacrylonitrile	9.927	41	49064	4.87	ug/L #	79
38) Isobutyl Alcohol	9.904	43	10979	9.01	ug/L #	50
40) Carbon Tetrachloride	9.422	117	14143	0.62	ug/L #	57
41) Benzene	9.892	78	52557	0.75	ug/L	99
42) 1,2-Dichloroethane	10.092	62	16539	0.65	ug/L #	90
43) Trichloroethene	10.468	130	10641	0.75	ug/L #	1
44) Methyl cyclohexane	10.450	83	55677	1.59	ug/L #	54
45) Dibromomethane	10.920	93	7514	0.76	ug/L #	85
46) 1,2-Dichloropropane	11.002	63	11723	0.62	ug/L #	78
47) Bromodichloromethane	11.032	83	11433	0.56	ug/L #	92
48) Methyl Methacrylate	11.114	69	5717	0.44	ug/L #	49
49) 1,4-Dioxane	11.208	88	1025	5.79	ug/L #	67
50) 2-Chloroethyl vinyl ether	11.508	63	27779	2.82	ug/L #	97
51) C-1,3-Dichloropropene	11.619	75	19507	0.70	ug/L	90

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT007.D
Acq On : 25 Jan 2021 10:48 am
Operator : KKW
Sample : AA64632-CRL1
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 25 11:18:42 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

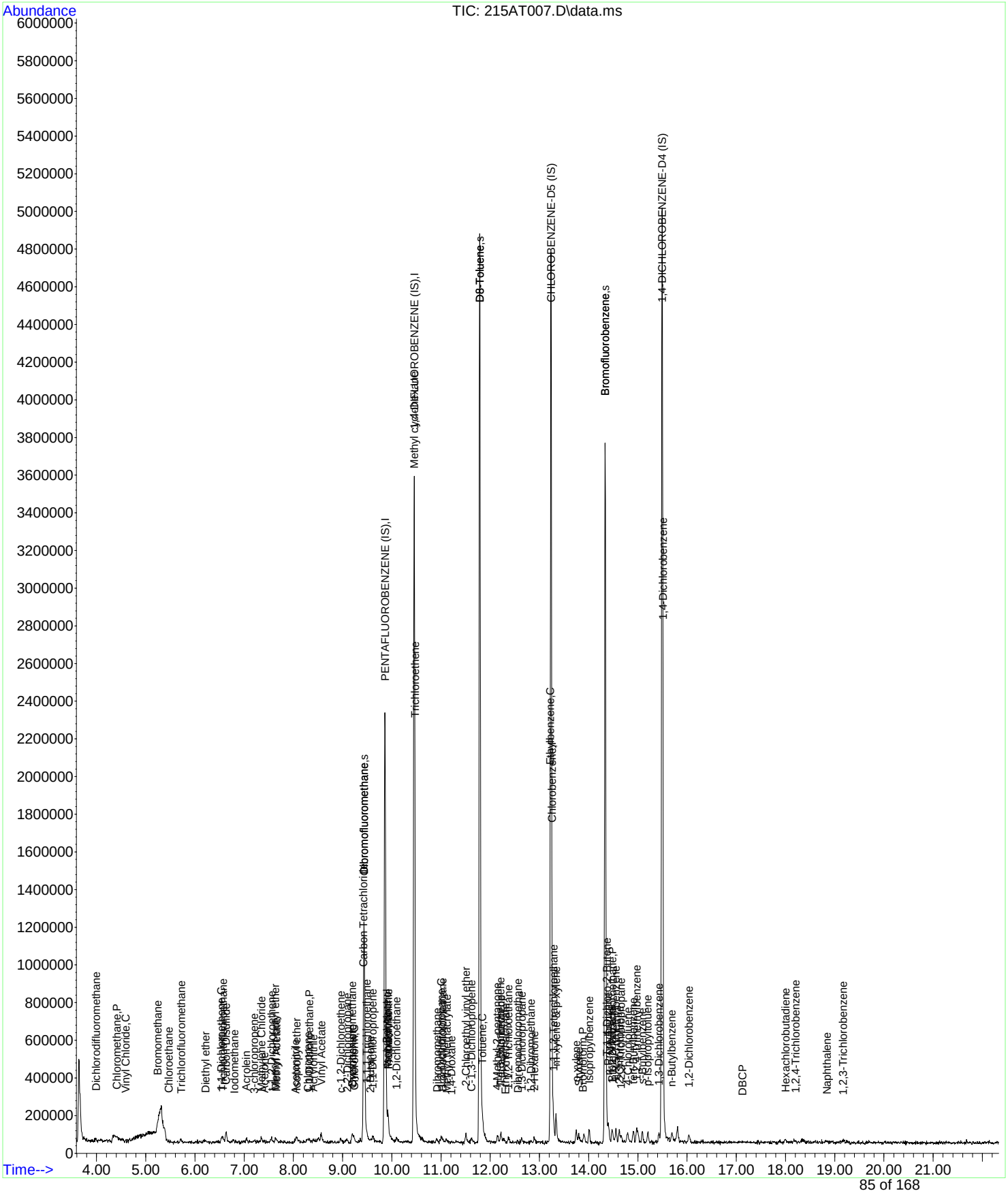
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.784	98	3584887	47.51	ug/L	#	95
54) 4-Methyl-2-pentanone	12.136	100	6032	2.91	ug/L	#	78
56) Toluene	11.837	92	33757	0.92	ug/L		80
57) T-1,3-Dichloropropene	12.207	75	15608	0.71	ug/L		98
58) Tetrachloroethene	12.219	164	8021	0.79	ug/L	#	73
59) Ethyl methacrylate	12.307	69	8824	0.45	ug/L	#	10
60) 1,1,2-Trichloroethane	12.366	97	10430	0.84	ug/L		92
61) Dibromochloromethane	12.560	129	6116	0.61	ug/L	#	74
62) 1,3-Dichloropropane	12.642	76	16977	0.74	ug/L	#	82
63) 1,2-Dibromoethane	12.824	107	9717	0.84	ug/L	#	78
64) 2-Hexanone	12.894	43	18526	2.19	ug/L	#	87
65) Ethylbenzene	13.218	106	16741	0.75	ug/L	#	87
66) Chlorobenzene	13.253	112	38842	1.05	ug/L	#	85
67) 1,1,1,2-Tetrachloroethane	13.288	131	10005	0.90	ug/L		88
68) m-xylene & p-xylene	13.335	106	41123	1.59	ug/L		91
69) o-xylene	13.746	106	21293	0.80	ug/L		99
70) Styrene	13.799	104	33034	0.76	ug/L	#	85
71) Bromoform	13.882	173	1706	0.31	ug/L	#	45
72) Isopropylbenzene	14.011	105	50893	0.73	ug/L		95
74) Bromofluorobenzene	14.334	95	1623753	52.77	ug/L		85
75) n-Propylbenzene	14.399	91	71766	0.77	ug/L		98
76) 1,1,2,2-Tetrachloroethane	14.481	83	15463	0.89	ug/L	#	92
77) 1,2,3-Trichloropropane	14.657	61	3957	0.62	ug/L	#	58
78) T-1,4-Dichloro-2-Butene	14.369	53	5802	0.85	ug/L	#	1
80) Bromobenzene	14.475	156	14060	0.89	ug/L	#	72
81) 1,2,4-Trimethylbenzene	14.974	105	46360	0.63	ug/L	#	89
82) 2-Chlorotoluene	14.628	91	44453	0.72	ug/L		98
83) 4-Chlorotoluene	14.792	91	46151	0.72	ug/L		94
84) tert-Butylbenzene	14.904	119	31834	0.57	ug/L	#	89
85) 1,3,5-Trimethylbenzene	14.551	105	50076	0.71	ug/L		97
86) p-Isopropyltoluene	15.198	119	42222	0.61	ug/L	#	89
87) s-Butylbenzene	15.092	105	52804	0.63	ug/L	#	92
88) 1,3-Dichlorobenzene	15.427	146	25599	0.81	ug/L	#	87
89) 1,4-Dichlorobenzene	15.509	146	33578	0.99	ug/L	#	1
90) n-Butylbenzene	15.685	91	43256	0.60	ug/L	#	95
91) 1,2-Dichlorobenzene	16.032	146	23741	0.80	ug/L		97
92) DBCP	17.125	157	1612	0.71	ug/L		100
93) Hexachlorobutadiene	18.000	225	3143	0.48	ug/L	#	77
94) 1,2,4-Trichlorobenzene	18.206	180	9004	0.62	ug/L	#	66
95) Naphthalene	18.840	128	12224	0.40	ug/L	#	76
96) 1,2,3-Trichlorobenzene	19.170	180	3417	0.42	ug/L	#	39

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT007.D
Acq On : 25 Jan 2021 10:48 am
Operator : KKW
Sample : AA64632-CRL1
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 25 11:18:42 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT009.D
Acq On : 25 Jan 2021 11:47 am
Operator : KKW
Sample : AE00066-10
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jan 25 14:43:39 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) PENTAFLUOROBENZENE (IS)	9.863	168	1353992	50.00	ug/L	# 0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.456	114	2910142	50.00	ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	1676020	50.00	ug/L	# 0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1554117	50.00	ug/L	# 0.00
System Monitoring Compounds						
31) Dibromofluoromethane	9.434	113	795997	57.00	ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 114.00%			
52) D8-Toluene	11.784	98	3394727	47.23	ug/L	-0.01
Spiked Amount 50.000	Range 85 - 120		Recovery = 94.46%			
73) Bromofluorobenzene	14.334	95	1586337	53.00	ug/L	-0.01
Spiked Amount 50.000	Range 75 - 120		Recovery = 106.00%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.		
3) Chloromethane	0.000		0	N.D.	d	
4) Vinyl Chloride	4.428	62	1884	N.D.		
5) Bromomethane	0.000		0	N.D.	d	
6) Chloroethane	0.000		0	N.D.	d	
7) Trichlorofluoromethane	0.000		0	N.D.		
8) Diethyl ether	0.000		0	N.D.		
9) 1,1-Dichloroethene	0.000		0	N.D.		
10) Trichlorotrifluoroethane	0.000		0	N.D.		
11) Acrolein	0.000		0	N.D.	d	
12) Iodomethane	0.000		0	N.D.	d	
13) Carbon Disulfide	0.000		0	N.D.	d	
14) 3-chloropropene	0.000		0	N.D.	d	
15) Acetone	0.000		0	N.D.	d	
16) Methylene Chloride	0.000		0	N.D.	d	
17) Methyl Acetate	0.000		0	N.D.	d	
18) t-1,2-Dichloroethene	0.000		0	N.D.		
19) Methyl tert-butyl ether	0.000		0	N.D.		
20) Acetonitrile	0.000		0	N.D.	d	
21) Isopropyl ether	0.000		0	N.D.		
22) Chloroprene	0.000		0	N.D.		
23) 1,1-Dichloroethane	0.000		0	N.D.	d	
24) Acrylonitrile	0.000		0	N.D.	d	
25) Vinyl Acetate	8.541	43	1376	N.D.		
26) c-1,2-Dichloroethene	9.058	96	1574	N.D.		
27) 2,2-Dichloropropane	9.063	77	1229	N.D.		
28) Bromochloromethane	0.000		0	N.D.		
29) Cyclohexane	9.199	56	1194	N.D.		
30) Chloroform	0.000		0	N.D.		
32) Dibromofluoromethane	9.434	113	795997	57.00	ug/L #	91
33) 2-Butanone	0.000		0	N.D.	d	
34) 1,1,1-Trichloroethane	0.000		0	N.D.		
35) 1,1-Dichloropropene	0.000		0	N.D.	d	
36) Propionitrile	0.000		0	N.D.	d	
37) Methacrylonitrile	0.000		0	N.D.	d	
38) Isobutyl Alcohol	0.000		0	N.D.	d	
40) Carbon Tetrachloride	9.428	117	1731	N.D.		
41) Benzene	9.892	78	2666	N.D.		
42) 1,2-Dichloroethane	0.000		0	N.D.		
43) Trichloroethene	0.000		0	N.D.		
44) Methyl cyclohexane	0.000		0	N.D.	d	
45) Dibromomethane	0.000		0	N.D.		
46) 1,2-Dichloropropane	0.000		0	N.D.	d	
47) Bromodichloromethane	0.000		0	N.D.		
48) Methyl Methacrylate	0.000		0	N.D.		
49) 1,4-Dioxane	0.000		0	N.D.	d	
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.	d	
51) C-1,3-Dichloropropene	11.649	75	1313	N.D.		

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT009.D
Acq On : 25 Jan 2021 11:47 am
Operator : KKW
Sample : AE00066-10
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jan 25 14:43:39 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

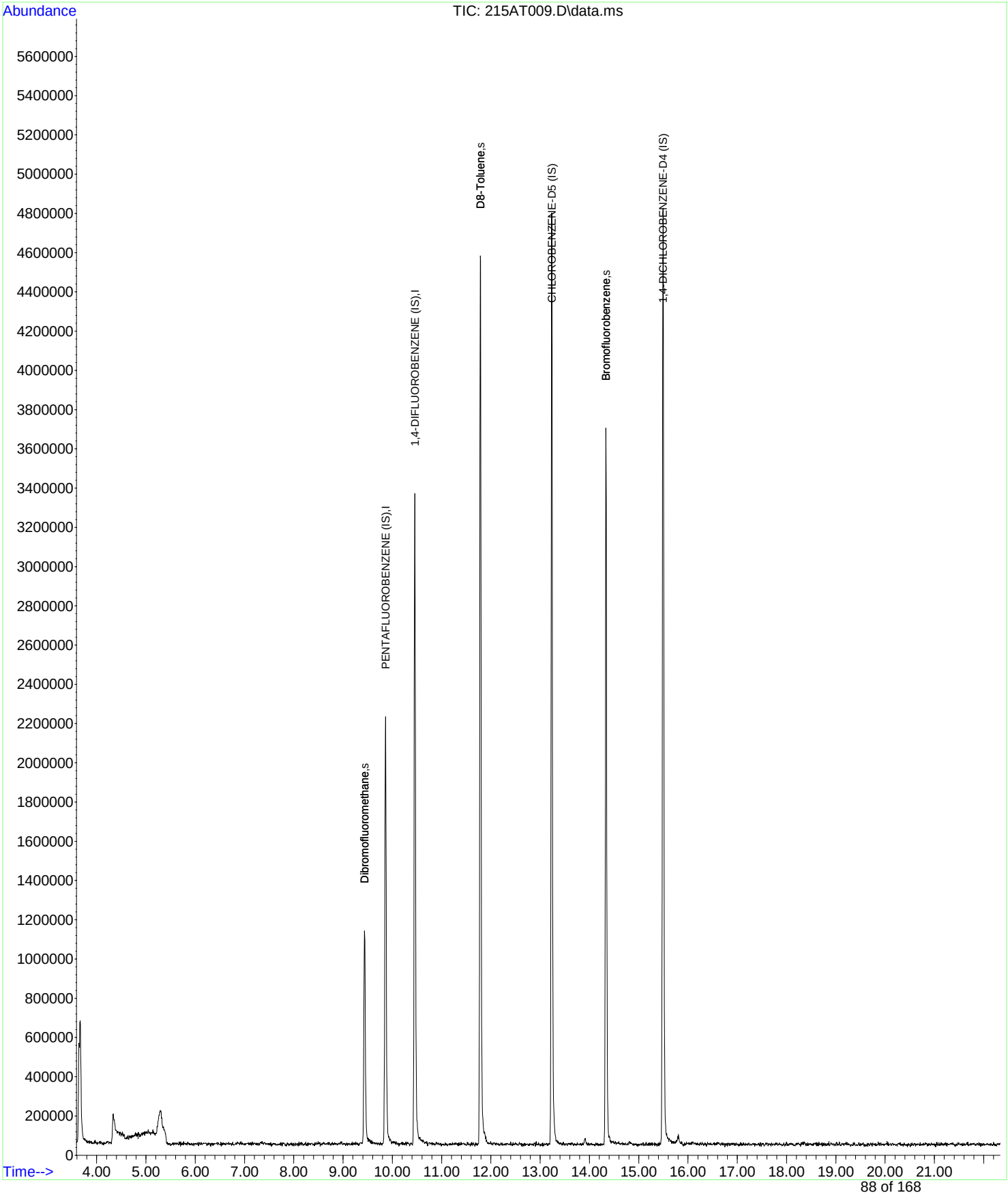
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.784	98	3394727	47.23 ug/L	95
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	11.848	92	1413	N.D.	
57) T-1,3-Dichloropropene	12.207	75	1813	N.D.	
58) Tetrachloroethene	12.324	164	1057	N.D.	
59) Ethyl methacrylate	12.248	69	2450	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	12.736	76	1085	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	0.000		0	N.D. d	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	13.212	112	1135	N.D.	
67) 1,1,1,2-Tetrachloroethane	13.229	131	1023	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	13.752	106	1563	N.D.	
70) Styrene	13.899	104	1278	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	14.128	105	1072	N.D.	
74) Bromofluorobenzene	14.334	95	1586337	53.00 ug/L	85
75) n-Propylbenzene	14.334	91	5137	N.D.	
76) 1,1,2,2-Tetrachloroethane	14.387	83	1542	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D. d	
78) T-1,4-Dichloro-2-Butene	14.334	53	1316	N.D.	
80) Bromobenzene	14.504	156	1082	N.D.	
81) 1,2,4-Trimethylbenzene	14.986	105	1204	N.D.	
82) 2-Chlorotoluene	0.000		0	N.D.	
83) 4-Chlorotoluene	14.927	91	1001	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	14.557	105	2338	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	14.986	105	1204	N.D.	
88) 1,3-Dichlorobenzene	15.503	146	4443	N.D.	
89) 1,4-Dichlorobenzene	15.503	146	4443	N.D.	
90) n-Butylbenzene	15.738	91	1391	N.D.	
91) 1,2-Dichlorobenzene	16.055	146	1006	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	18.858	128	1200	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT009.D
Acq On : 25 Jan 2021 11:47 am
Operator : KKW
Sample : AE00066-10
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jan 25 14:43:39 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT021.D
Acq On : 25 Jan 2021 5:41 pm
Operator : KKW
Sample : AE00488-01
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Jan 26 07:01:04 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) PENTAFLUOROBENZENE (IS)	9.868	168	1335751	50.00 ug/L	# 0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.456	114	2864408	50.00 ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.241	82	1575881	50.00 ug/L	# 0.00
79) 1,4-DICHLOROBENZENE-D4...	15.497	152	1522111	50.00 ug/L	# 0.00
System Monitoring Compounds					
31) Dibromofluoromethane	9.439	113	765367	55.55 ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 111.10%		
52) D8-Toluene	11.790	98	3332732	47.10 ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 94.20%		
73) Bromofluorobenzene	14.340	95	1498794	53.26 ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 106.52%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	4.040	85	1720	N.D.	
3) Chloromethane	4.410	50	2974	N.D.	
4) Vinyl Chloride	0.000		0	N.D.	
5) Bromomethane	0.000		0	N.D. d	
6) Chloroethane	0.000		0	N.D. d	
7) Trichlorofluoromethane	0.000		0	N.D.	
8) Diethyl ether	6.032	59	1088	N.D.	
9) 1,1-Dichloroethene	0.000		0	N.D.	
10) Trichlorotrifluoroethane	0.000		0	N.D.	
11) Acrolein	0.000		0	N.D. d	
12) Iodomethane	0.000		0	N.D. d	
13) Carbon Disulfide	6.619	76	3042	N.D.	
14) 3-chloropropene	7.166	41	1583	N.D.	
15) Acetone	0.000		0	N.D. d	
16) Methylene Chloride	0.000		0	N.D.	
17) Methyl Acetate	7.465	43	1399	N.D.	
18) t-1,2-Dichloroethene	0.000		0	N.D.	
19) Methyl tert-butyl ether	7.465	73	1195	N.D.	
20) Acetonitrile	0.000		0	N.D. d	
21) Isopropyl ether	8.059	45	1078	N.D.	
22) Chloroprene	0.000		0	N.D.	
23) 1,1-Dichloroethane	8.241	63	1156	N.D.	
24) Acrylonitrile	0.000		0	N.D. d	
25) Vinyl Acetate	8.646	43	1464	N.D.	
26) c-1,2-Dichloroethene	0.000		0	N.D.	
27) 2,2-Dichloropropane	9.104	77	1229	N.D.	
28) Bromochloromethane	0.000		0	N.D.	
29) Cyclohexane	9.181	56	1047	N.D.	
30) Chloroform	9.287	83	1200	N.D.	
32) Dibromofluoromethane	9.439	113	765367	55.55 ug/L #	87
33) 2-Butanone	0.000		0	N.D. d	
34) 1,1,1-Trichloroethane	0.000		0	N.D.	
35) 1,1-Dichloropropene	9.598	75	1389	N.D.	
36) Propionitrile	0.000		0	N.D. d	
37) Methacrylonitrile	9.945	41	1344	N.D.	
38) Isobutyl Alcohol	0.000		0	N.D. d	
40) Carbon Tetrachloride	9.434	117	1365	N.D.	
41) Benzene	9.892	78	4403	N.D.	
42) 1,2-Dichloroethane	10.092	62	1024	N.D.	
43) Trichloroethene	0.000		0	N.D.	
44) Methyl cyclohexane	0.000		0	N.D. d	
45) Dibromomethane	0.000		0	N.D.	
46) 1,2-Dichloropropane	11.049	63	1122	N.D.	
47) Bromodichloromethane	11.043	83	2065	N.D.	
48) Methyl Methacrylate	11.126	69	1211	N.D.	
49) 1,4-Dioxane	0.000		0	N.D. d	
50) 2-Chloroethyl vinyl ether	11.525	63	1197	N.D.	
51) C-1,3-Dichloropropene	11.666	75	1269	N.D.	

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT021.D
Acq On : 25 Jan 2021 5:41 pm
Operator : KKW
Sample : AE00488-01
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Jan 26 07:01:04 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

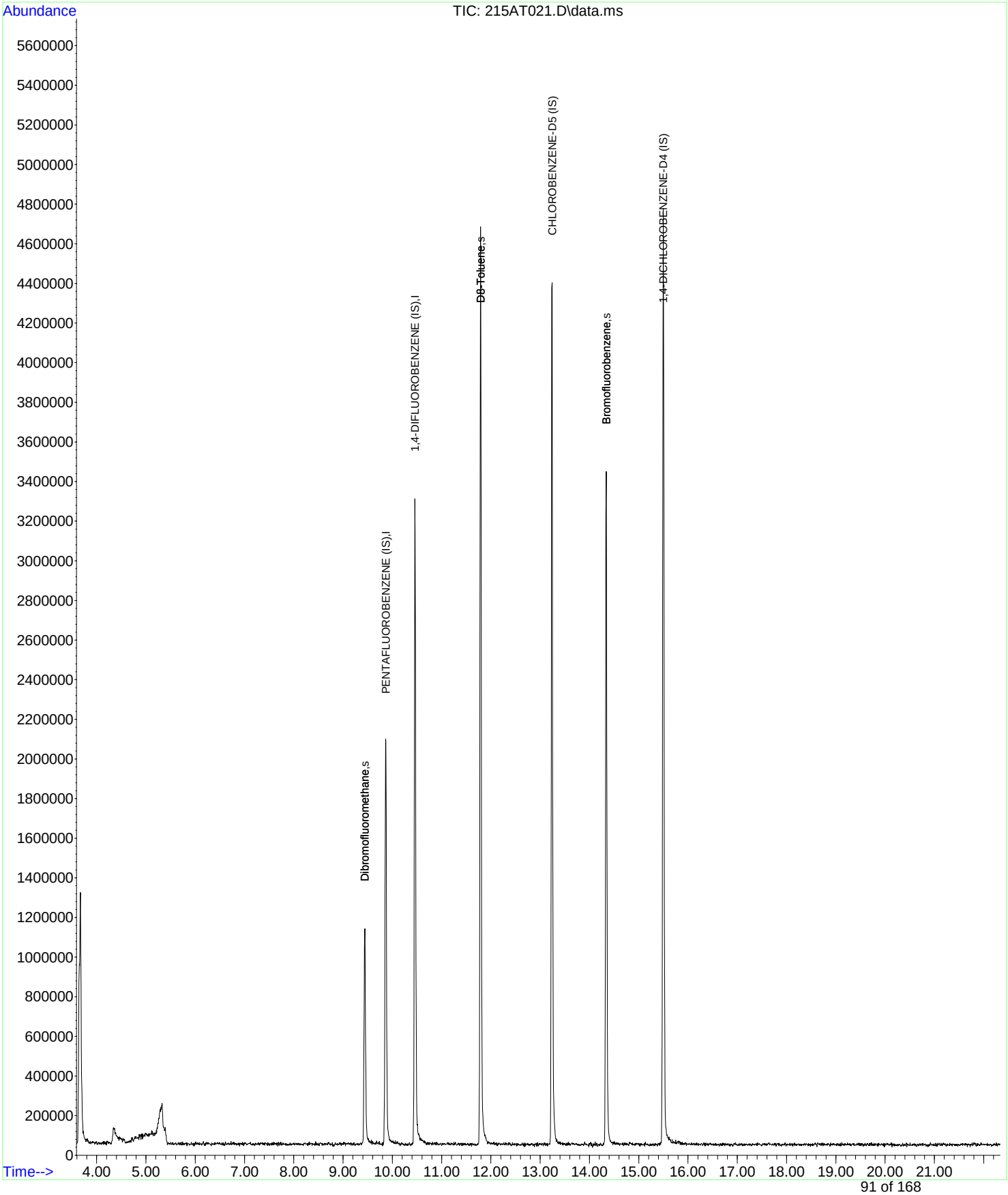
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.790	98	3327329	47.03 ug/L #	94
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	11.825	92	1551	N.D.	
57) T-1,3-Dichloropropene	0.000		0	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	0.000		0	N.D.	
60) 1,1,2-Trichloroethane	12.412	97	1096	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	12.642	76	1063	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	12.736	43	1073	N.D.	
65) Ethylbenzene	13.235	106	1354	N.D.	
66) Chlorobenzene	0.000		0	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	0.000		0	N.D.	
70) Styrene	13.635	104	1237	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	0.000		0	N.D.	
74) Bromofluorobenzene	14.340	95	1498794	53.26 ug/L	86
75) n-Propylbenzene	14.398	91	1158	N.D.	
76) 1,1,2,2-Tetrachloroethane	14.351	83	1557	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D.	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D.	
80) Bromobenzene	14.346	156	1356	N.D.	
81) 1,2,4-Trimethylbenzene	14.980	105	1285	N.D.	
82) 2-Chlorotoluene	14.769	91	1254	N.D.	
83) 4-Chlorotoluene	14.769	91	1254	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	0.000		0	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	14.980	105	1285	N.D.	
88) 1,3-Dichlorobenzene	15.521	146	1573	N.D.	
89) 1,4-Dichlorobenzene	15.521	146	1573	N.D.	
90) n-Butylbenzene	15.832	91	1059	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	0.000		0	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT021.D
Acq On : 25 Jan 2021 5:41 pm
Operator : KKW
Sample : AE00488-01
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Jan 26 07:01:04 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT022.D
Acq On : 25 Jan 2021 6:10 pm
Operator : KKW
Sample : AE00488-02
Misc :
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Jan 26 07:01:08 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) PENTAFLUOROBENZENE (IS)	9.863	168	1360126	50.00 ug/L	# 0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.456	114	2880951	50.00 ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	1590418	50.00 ug/L	# 0.00
79) 1,4-DICHLOROBENZENE-D4...	15.497	152	1528822	50.00 ug/L	# 0.00
System Monitoring Compounds					
31) Dibromofluoromethane	9.439	113	769078	54.82 ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 109.64%		
52) D8-Toluene	11.790	98	3409636	47.92 ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 95.84%		
73) Bromofluorobenzene	14.340	95	1514588	53.33 ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 106.66%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.934	85	1197	N.D.	
3) Chloromethane	4.386	50	3549	N.D.	
4) Vinyl Chloride	4.598	62	216514	13.19 ug/L	95
5) Bromomethane	0.000		0	N.D. d	
6) Chloroethane	0.000		0	N.D. d	
7) Trichlorofluoromethane	5.591	101	1452	N.D.	
8) Diethyl ether	6.126	59	1448	N.D.	
9) 1,1-Dichloroethene	6.384	96	1244	N.D.	
10) Trichlorotrifluoroethane	0.000		0	N.D.	
11) Acrolein	0.000		0	N.D. d	
12) Iodomethane	6.807	142	1858	N.D.	
13) Carbon Disulfide	6.643	76	4945	N.D.	
14) 3-chloropropene	7.289	41	1327	N.D.	
15) Acetone	0.000		0	N.D. d	
16) Methylene Chloride	0.000		0	N.D.	
17) Methyl Acetate	7.512	43	1861	N.D.	
18) t-1,2-Dichloroethene	7.565	96	7726	0.57 ug/L #	83
19) Methyl tert-butyl ether	7.771	73	1318	N.D.	
20) Acetonitrile	0.000		0	N.D. d	
21) Isopropyl ether	8.159	45	1345	N.D.	
22) Chloroprene	0.000		0	N.D.	
23) 1,1-Dichloroethane	0.000		0	N.D.	
24) Acrylonitrile	0.000		0	N.D. d	
25) Vinyl Acetate	8.517	43	1871	N.D.	
26) c-1,2-Dichloroethene	8.964	96	5023	0.35 ug/L #	64
27) 2,2-Dichloropropane	0.000		0	N.D.	
28) Bromochloromethane	0.000		0	N.D. d	
29) Cyclohexane	9.263	56	1247	N.D.	
30) Chloroform	0.000		0	N.D.	
32) Dibromofluoromethane	9.439	113	769579	54.86 ug/L #	90
33) 2-Butanone	0.000		0	N.D. d	
34) 1,1,1-Trichloroethane	9.375	97	1133	N.D.	
35) 1,1-Dichloropropene	9.604	75	1522	N.D.	
36) Propionitrile	0.000		0	N.D.	
37) Methacrylonitrile	9.992	41	1036	N.D.	
38) Isobutyl Alcohol	0.000		0	N.D. d	
40) Carbon Tetrachloride	0.000		0	N.D. d	
41) Benzene	9.898	78	3632	N.D.	
42) 1,2-Dichloroethane	0.000		0	N.D.	
43) Trichloroethene	10.344	130	1043	N.D.	
44) Methyl cyclohexane	0.000		0	N.D. d	
45) Dibromomethane	10.897	93	1545	N.D.	
46) 1,2-Dichloropropane	10.920	63	1569	N.D.	
47) Bromodichloromethane	11.049	83	1500	N.D.	
48) Methyl Methacrylate	11.008	69	1138	N.D.	
49) 1,4-Dioxane	0.000		0	N.D. d	
50) 2-Chloroethyl vinyl ether	11.519	63	1741	N.D.	
51) C-1,3-Dichloropropene	11.725	75	1185	N.D.	

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT022.D
Acq On : 25 Jan 2021 6:10 pm
Operator : KKW
Sample : AE00488-02
Misc :
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Jan 26 07:01:08 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

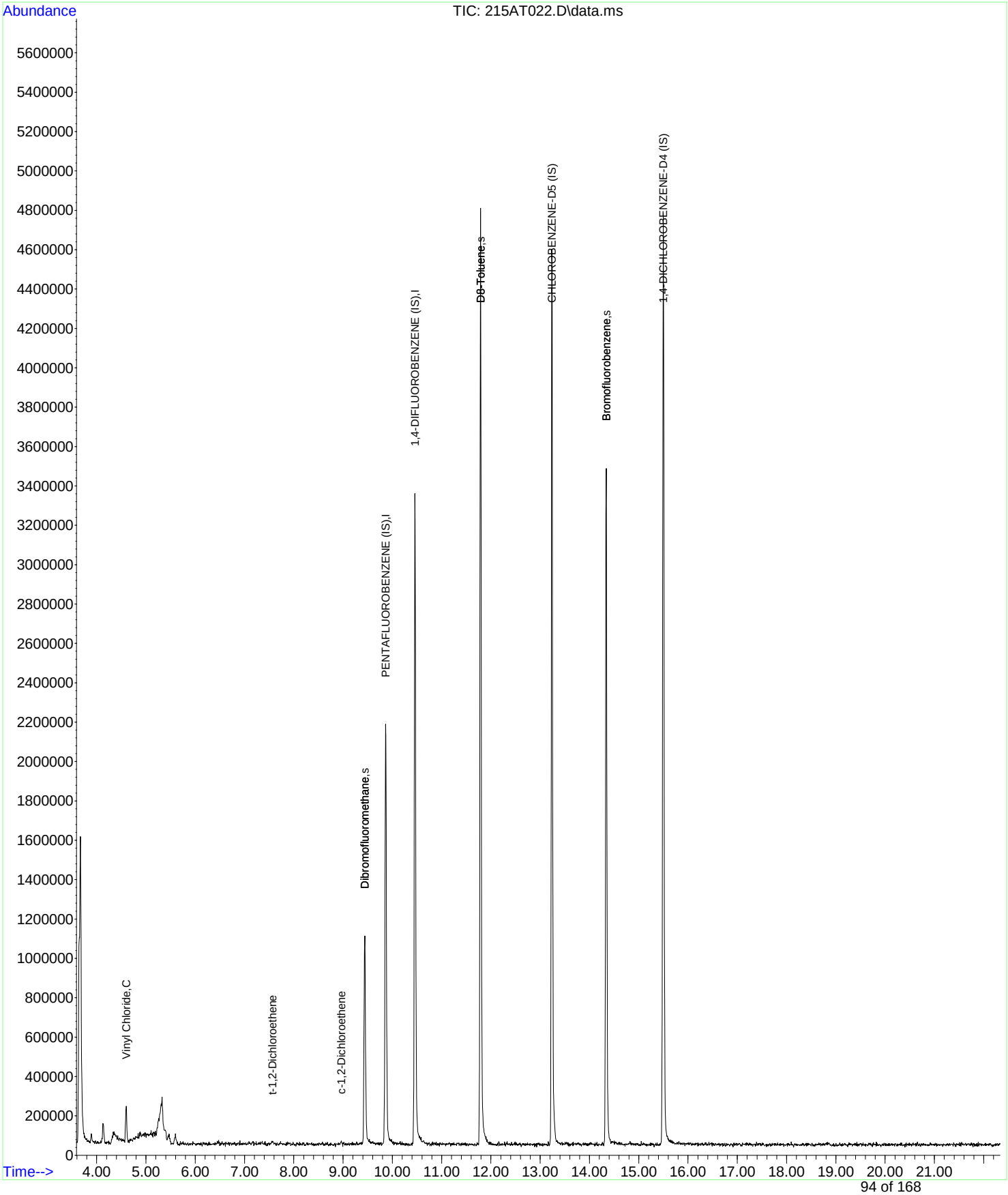
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.790	98	3405201	47.85 ug/L	96
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	11.837	92	4176	N.D.	
57) T-1,3-Dichloropropene	0.000		0	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	12.160	69	1327	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	12.642	129	1069	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	12.865	43	1430	N.D.	
65) Ethylbenzene	13.165	106	1024	N.D.	
66) Chlorobenzene	13.223	112	1982	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	13.746	106	3016	N.D.	
70) Styrene	0.000		0	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	14.011	105	3096	N.D.	
74) Bromofluorobenzene	14.340	95	1514588	53.33 ug/L	86
75) n-Propylbenzene	14.328	91	5287	N.D.	
76) 1,1,2,2-Tetrachloroethane	14.346	83	1932	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D. d	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D. d	
80) Bromobenzene	14.351	156	2496	N.D.	
81) 1,2,4-Trimethylbenzene	14.839	105	1368	N.D.	
82) 2-Chlorotoluene	0.000		0	N.D.	
83) 4-Chlorotoluene	0.000		0	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	0.000		0	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	0.000		0	N.D.	
88) 1,3-Dichlorobenzene	15.509	146	2948	N.D.	
89) 1,4-Dichlorobenzene	15.509	146	2948	N.D.	
90) n-Butylbenzene	15.621	91	1217	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	18.934	128	1242	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT022.D
Acq On : 25 Jan 2021 6:10 pm
Operator : KKW
Sample : AE00488-02
Misc :
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Jan 26 07:01:08 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT023.D
Acq On : 25 Jan 2021 6:39 pm
Operator : KKW
Sample : MS1
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Jan 26 07:01:12 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.863	168	1347954	50.00	ug/L	#	0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.456	114	2823243	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	1642590	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.497	152	1598011	50.00	ug/L	#	0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.440	113	780379	56.13	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 112.26%				
52) D8-Toluene	11.790	98	3398323	48.73	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 97.46%				
73) Bromofluorobenzene	14.340	95	1592165	54.28	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 108.56%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.987	85	229617	13.20	ug/L		99
3) Chloromethane	4.410	50	193354	9.65	ug/L		91
4) Vinyl Chloride	4.592	62	271709	16.71	ug/L	#	85
5) Bromomethane	5.239	94	41937	10.00	ug/L	#	94
6) Chloroethane	5.456	64	161715	22.60	ug/L		96
7) Trichlorofluoromethane	5.709	101	457475	22.61	ug/L		95
8) Diethyl ether	6.190	59	179409	15.94	ug/L		87
9) 1,1-Dichloroethene	6.543	96	264312	22.71	ug/L	#	75
10) Trichlorotrifluoroethane	6.566	151	179429	23.02	ug/L		97
11) Acrolein	7.031	56	136758	58.43	ug/L		98
12) Iodomethane	6.790	142	125818	10.08	ug/L	#	88
13) Carbon Disulfide	6.631	76	811034	21.28	ug/L		97
14) 3-chloropropene	7.207	41	314536	13.68	ug/L	#	74
15) Acetone	7.407	43	206264	65.13	ug/L		94
16) Methylene Chloride	7.354	84	295553	20.94	ug/L	#	69
17) Methyl Acetate	7.536	43	100027	10.11	ug/L	#	85
18) t-1,2-Dichloroethene	7.554	96	297918	22.12	ug/L	#	81
19) Methyl tert-butyl ether	7.648	73	684222	20.08	ug/L		91
20) Acetonitrile	8.071	41	219981	85.68	ug/L	#	89
21) Isopropyl ether	8.059	45	681310	15.06	ug/L	#	85
22) Chloroprene	8.288	88	269069	20.86	ug/L		87
23) 1,1-Dichloroethane	8.323	63	531536	19.19	ug/L		99
24) Acrylonitrile	8.405	53	79166	18.93	ug/L	#	80
25) Vinyl Acetate	8.558	43	285974	10.08	ug/L	#	88
26) c-1,2-Dichloroethene	8.964	96	313797	22.00	ug/L		83
27) 2,2-Dichloropropane	9.087	77	438665	18.75	ug/L		95
28) Bromochloromethane	9.193	128	145331	28.85	ug/L		99
29) Cyclohexane	9.199	56	491909	16.33	ug/L	#	82
30) Chloroform	9.234	83	551805	20.86	ug/L		98
32) Dibromofluoromethane	9.440	113	780379	56.13	ug/L	#	89
33) 2-Butanone	9.551	72	132730	87.61	ug/L	#	46
34) 1,1,1-Trichloroethane	9.492	97	478387	21.91	ug/L		98
35) 1,1-Dichloropropene	9.622	75	432665	19.47	ug/L		91
36) Propionitrile	9.915	54	29792	15.71	ug/L	#	1
37) Methacrylonitrile	9.921	41	194280	20.75	ug/L		87
38) Isobutyl Alcohol	9.910	43	204798	180.88	ug/L	#	51
40) Carbon Tetrachloride	9.428	117	378465	17.89	ug/L		89
41) Benzene	9.886	78	1294453	20.06	ug/L		94
42) 1,2-Dichloroethane	10.098	62	369867	15.71	ug/L	#	94
43) Trichloroethene	10.462	130	316790	24.30	ug/L	#	87
44) Methyl cyclohexane	10.462	83	613828	18.95	ug/L		86
45) Dibromomethane	10.908	93	171489	18.70	ug/L		91
46) 1,2-Dichloropropane	10.997	63	286445	15.81	ug/L		92
47) Bromodichloromethane	11.026	83	375658	18.97	ug/L		95
48) Methyl Methacrylate	11.091	69	150717	12.57	ug/L		84
49) 1,4-Dioxane	11.208	88	44329	270.85	ug/L		88
50) 2-Chloroethyl vinyl ether	11.484	63	1413	N.D.			
51) C-1,3-Dichloropropene	11.619	75	454993	17.03	ug/L	#	88

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT023.D
Acq On : 25 Jan 2021 6:39 pm
Operator : KKW
Sample : MS1
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Jan 26 07:01:12 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

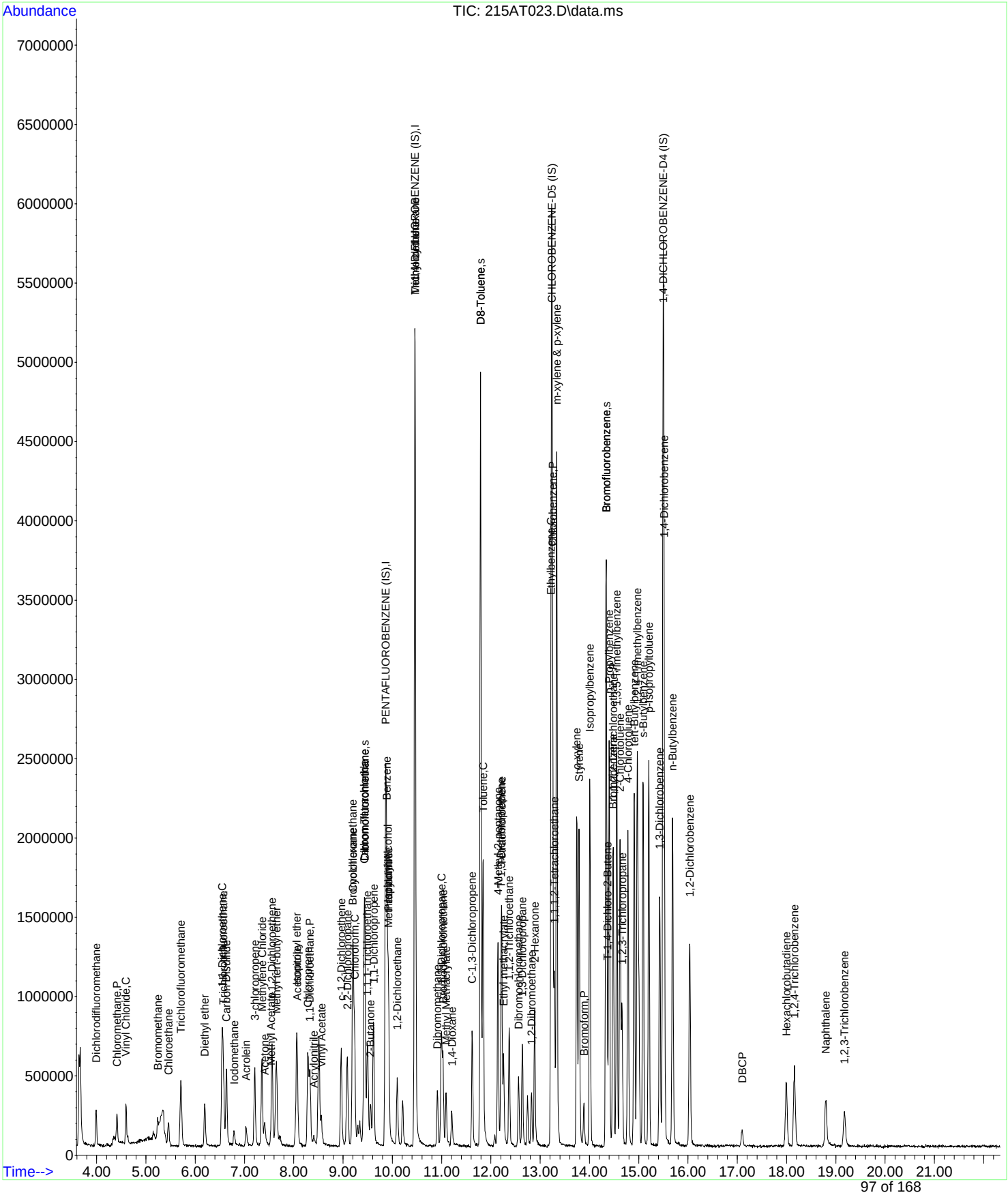
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.790	98	3398323	48.73	ug/L		94
54) 4-Methyl-2-pentanone	12.142	100	167072	87.22	ug/L	#	67
56) Toluene	11.843	92	853548	24.35	ug/L		95
57) T-1,3-Dichloropropene	12.207	75	424897	20.37	ug/L	#	89
58) Tetrachloroethene	12.219	164	235915	24.47	ug/L		98
59) Ethyl methacrylate	12.254	69	306207	16.41	ug/L	#	92
60) 1,1,2-Trichloroethane	12.371	97	260372	21.99	ug/L		93
61) Dibromochloromethane	12.560	129	257809	25.33	ug/L	#	94
62) 1,3-Dichloropropane	12.636	76	437733	19.96	ug/L	#	83
63) 1,2-Dibromoethane	12.824	107	252864	22.94	ug/L		91
64) 2-Hexanone	12.889	43	504186	62.46	ug/L	#	91
65) Ethylbenzene	13.218	106	507998	23.85	ug/L		90
66) Chlorobenzene	13.253	112	951973	26.96	ug/L		98
67) 1,1,1,2-Tetrachloroethane	13.288	131	291445	27.58	ug/L		98
68) m-xylene & p-xylene	13.335	106	1355962	54.84	ug/L		85
69) o-xylene	13.741	106	646162	25.48	ug/L		90
70) Styrene	13.788	104	1155091	27.90	ug/L	#	81
71) Bromoform	13.887	173	123615	21.74	ug/L		100
72) Isopropylbenzene	14.005	105	1742837	26.11	ug/L		95
74) Bromofluorobenzene	14.340	95	1592165	54.28	ug/L		85
75) n-Propylbenzene	14.399	91	2255066	25.28	ug/L	#	95
76) 1,1,2,2-Tetrachloroethane	14.481	83	378225	22.86	ug/L		99
77) 1,2,3-Trichloropropane	14.663	61	73412	12.13	ug/L	#	36
78) T-1,4-Dichloro-2-Butene	14.363	53	97520	14.93	ug/L	#	40
80) Bromobenzene	14.475	156	368941	22.93	ug/L		82
81) 1,2,4-Trimethylbenzene	14.968	105	1629477	21.78	ug/L		95
82) 2-Chlorotoluene	14.622	91	1341922	21.34	ug/L	#	91
83) 4-Chlorotoluene	14.780	91	1384353	21.08	ug/L		93
84) tert-Butylbenzene	14.910	119	1308173	23.02	ug/L		88
85) 1,3,5-Trimethylbenzene	14.551	105	1577193	21.76	ug/L		93
86) p-Isopropyltoluene	15.204	119	1692540	23.98	ug/L		94
87) s-Butylbenzene	15.092	105	2015095	23.70	ug/L		96
88) 1,3-Dichlorobenzene	15.421	146	803544	24.93	ug/L	#	90
89) 1,4-Dichlorobenzene	15.515	146	790858	22.89	ug/L		98
90) n-Butylbenzene	15.685	91	1498231	20.41	ug/L		94
91) 1,2-Dichlorobenzene	16.032	146	694804	22.84	ug/L		92
92) DBCP	17.101	157	34083	14.32	ug/L		94
93) Hexachlorobutadiene	17.994	225	86853	12.68	ug/L		88
94) 1,2,4-Trichlorobenzene	18.159	180	220878	14.71	ug/L		99
95) Naphthalene	18.793	128	445261	14.16	ug/L	#	90
96) 1,2,3-Trichlorobenzene	19.175	180	113669	13.21	ug/L		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT023.D
Acq On : 25 Jan 2021 6:39 pm
Operator : KKW
Sample : MS1
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Jan 26 07:01:12 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT024.D
Acq On : 25 Jan 2021 7:09 pm
Operator : KKW
Sample : MSD1
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Jan 26 07:01:17 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.862	168	1455730	50.00	ug/L	#	0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.456	114	3018464	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	1707516	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.497	152	1611682	50.00	ug/L	#	0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.439	113	833708	55.53	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 111.06%				
52) D8-Toluene	11.790	98	3585542	48.09	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 96.18%				
73) Bromofluorobenzene	14.340	95	1669530	54.75	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 109.50%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.993	85	238069	12.67	ug/L		97
3) Chloromethane	4.410	50	194433	8.99	ug/L		98
4) Vinyl Chloride	4.598	62	271314	15.45	ug/L	#	81
5) Bromomethane	5.238	94	50149	11.03	ug/L	#	93
6) Chloroethane	5.450	64	162062	20.97	ug/L		96
7) Trichlorofluoromethane	5.703	101	447574	20.48	ug/L		95
8) Diethyl ether	6.196	59	208032	17.12	ug/L		92
9) 1,1-Dichloroethene	6.537	96	258607	20.58	ug/L	#	80
10) Trichlorotrifluoroethane	6.572	151	176639	20.99	ug/L		97
11) Acrolein	7.030	56	142593	56.41	ug/L		98
12) Iodomethane	6.790	142	174239	12.93	ug/L	#	85
13) Carbon Disulfide	6.631	76	776090	18.85	ug/L	#	95
14) 3-chloropropene	7.207	41	337174	13.57	ug/L	#	82
15) Acetone	7.406	43	238213	69.65	ug/L		99
16) Methylene Chloride	7.348	84	290424	19.06	ug/L	#	74
17) Methyl Acetate	7.536	43	101977	9.54	ug/L	#	87
18) t-1,2-Dichloroethene	7.553	96	298360	20.52	ug/L		83
19) Methyl tert-butyl ether	7.641	73	700243	19.03	ug/L	#	87
20) Acetonitrile	8.065	41	239324	86.32	ug/L	#	86
21) Isopropyl ether	8.065	45	733180	15.01	ug/L	#	88
22) Chloroprene	8.288	88	283585	20.36	ug/L		82
23) 1,1-Dichloroethane	8.329	63	539460	18.03	ug/L		99
24) Acrylonitrile	8.411	53	84355	18.67	ug/L	#	81
25) Vinyl Acetate	8.558	43	301441	9.84	ug/L	#	94
26) c-1,2-Dichloroethene	8.958	96	321758	20.89	ug/L		83
27) 2,2-Dichloropropane	9.081	77	434850	17.22	ug/L	#	94
28) Bromochloromethane	9.193	128	144687	26.59	ug/L		96
29) Cyclohexane	9.204	56	488822	15.02	ug/L	#	80
30) Chloroform	9.228	83	582764	20.40	ug/L		96
32) Dibromofluoromethane	9.439	113	833708	55.53	ug/L	#	89
33) 2-Butanone	9.557	72	136387	83.40	ug/L	#	54
34) 1,1,1-Trichloroethane	9.498	97	478608	20.30	ug/L		99
35) 1,1-Dichloropropene	9.616	75	432595	18.03	ug/L		92
36) Propionitrile	9.915	54	34382	16.79	ug/L	#	1
37) Methacrylonitrile	9.921	41	198144	19.60	ug/L		89
38) Isobutyl Alcohol	9.915	43	218824	178.96	ug/L	#	34
40) Carbon Tetrachloride	9.422	117	358876	15.87	ug/L		91
41) Benzene	9.886	78	1320601	19.14	ug/L		92
42) 1,2-Dichloroethane	10.097	62	389899	15.49	ug/L	#	94
43) Trichloroethene	10.462	130	299476	21.49	ug/L	#	91
44) Methyl cyclohexane	10.456	83	628695	18.16	ug/L	#	87
45) Dibromomethane	10.914	93	171627	17.51	ug/L		92
46) 1,2-Dichloropropane	10.996	63	294861	15.24	ug/L		91
47) Bromodichloromethane	11.026	83	374244	17.73	ug/L		97
48) Methyl Methacrylate	11.085	69	151152	11.79	ug/L	#	85
49) 1,4-Dioxane	11.214	88	56023	320.16	ug/L	#	82
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.	d		
51) C-1,3-Dichloropropene	11.619	75	442910	15.56	ug/L	#	89

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT024.D
Acq On : 25 Jan 2021 7:09 pm
Operator : KKW
Sample : MSD1
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Jan 26 07:01:17 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration

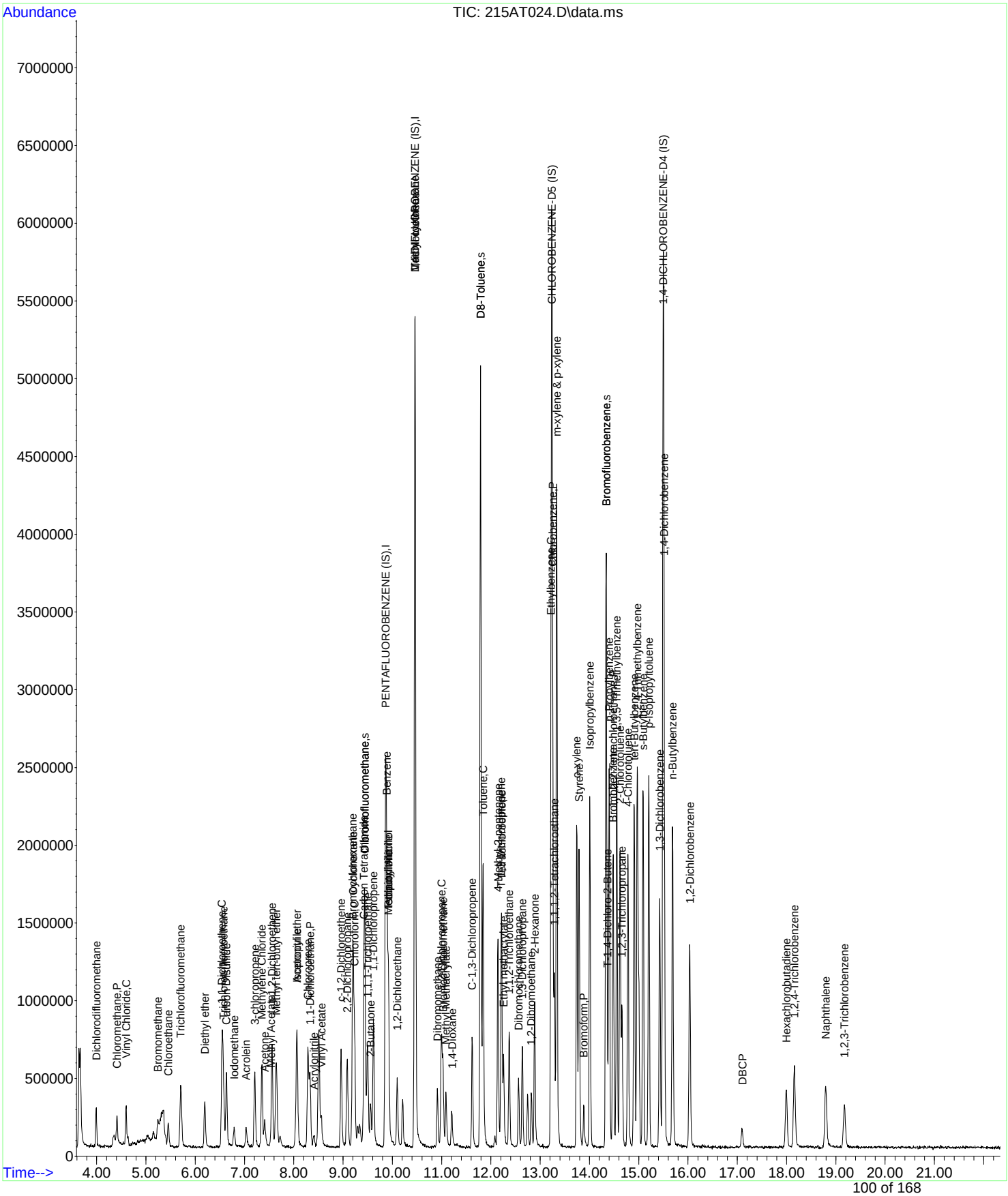
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.790	98	3585542	48.09	ug/L		96
54) 4-Methyl-2-pentanone	12.142	100	177683	86.76	ug/L	#	67
56) Toluene	11.843	92	852360	23.39	ug/L		95
57) T-1,3-Dichloropropene	12.207	75	421185	19.43	ug/L		91
58) Tetrachloroethene	12.219	164	227306	22.68	ug/L		94
59) Ethyl methacrylate	12.254	69	318812	16.44	ug/L	#	93
60) 1,1,2-Trichloroethane	12.365	97	262135	21.29	ug/L		92
61) Dibromochloromethane	12.559	129	247371	23.49	ug/L		98
62) 1,3-Dichloropropane	12.636	76	437204	19.18	ug/L		86
63) 1,2-Dibromoethane	12.818	107	251969	21.99	ug/L		86
64) 2-Hexanone	12.888	43	553615	65.98	ug/L	#	89
65) Ethylbenzene	13.217	106	495675	22.39	ug/L		89
66) Chlorobenzene	13.253	112	945720	25.77	ug/L		97
67) 1,1,1,2-Tetrachloroethane	13.288	131	282943	25.76	ug/L		98
68) m-xylene & p-xylene	13.335	106	1322370	51.45	ug/L		86
69) o-xylene	13.740	106	648069	24.59	ug/L		87
70) Styrene	13.787	104	1120338	26.03	ug/L	#	84
71) Bromoform	13.881	173	125542	21.27	ug/L		100
72) Isopropylbenzene	14.005	105	1695433	24.44	ug/L		96
74) Bromofluorobenzene	14.340	95	1669530	54.75	ug/L	#	83
75) n-Propylbenzene	14.398	91	2185415	23.57	ug/L		94
76) 1,1,2,2-Tetrachloroethane	14.481	83	378369	22.00	ug/L		99
77) 1,2,3-Trichloropropane	14.657	61	65040	10.34	ug/L	#	18
78) T-1,4-Dichloro-2-Butene	14.363	53	98606	14.52	ug/L	#	58
80) Bromobenzene	14.475	156	371836	22.91	ug/L	#	75
81) 1,2,4-Trimethylbenzene	14.968	105	1604735	21.27	ug/L		93
82) 2-Chlorotoluene	14.622	91	1307531	20.61	ug/L		91
83) 4-Chlorotoluene	14.780	91	1346168	20.33	ug/L		91
84) tert-Butylbenzene	14.910	119	1297666	22.64	ug/L		90
85) 1,3,5-Trimethylbenzene	14.551	105	1520245	20.80	ug/L		92
86) p-Isopropyltoluene	15.203	119	1675163	23.53	ug/L		92
87) s-Butylbenzene	15.092	105	1996638	23.28	ug/L		98
88) 1,3-Dichlorobenzene	15.427	146	779530	23.98	ug/L	#	91
89) 1,4-Dichlorobenzene	15.515	146	766399	21.99	ug/L		98
90) n-Butylbenzene	15.685	91	1471863	19.88	ug/L	#	92
91) 1,2-Dichlorobenzene	16.038	146	693012	22.58	ug/L	#	92
92) DBCP	17.107	157	42506	17.62	ug/L		94
93) Hexachlorobutadiene	17.994	225	92932	13.43	ug/L	#	93
94) 1,2,4-Trichlorobenzene	18.159	180	244401	16.13	ug/L		98
95) Naphthalene	18.793	128	595598	18.70	ug/L	#	90
96) 1,2,3-Trichlorobenzene	19.175	180	132691	15.23	ug/L		91

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\012521\
Data File : 215AT024.D
Acq On : 25 Jan 2021 7:09 pm
Operator : KKW
Sample : MSD1
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Jan 26 07:01:17 2021
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2011113
QLast Update : Fri Nov 20 09:50:30 2020
Response via : Initial Calibration



ANALYSIS SEQUENCE

AA63653

Instrument: OVGCMS5

Calibration ID: 2011113

Printed: 11/20/2020 10:14:21AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA63653-TUN1	QC		1		A0F0994			
AA63653-CAL1	QC		2		A0K1094	A0H0536		
AA63653-CAL2	QC		3		A0K1095	A0H0536		
AA63653-CAL3	QC		4		A0K1096	A0H0536		
AA63653-CAL4	QC		5		A0K1097	A0H0536		
AA63653-CAL5	QC		6		A0K1098	A0H0536		
AA63653-CAL6	QC		7		A0K1099	A0H0536		
AA63653-CAL7	QC		8		A0K1100	A0H0536		
AA63653-CAL8	QC		9		A0K1101	A0H0536		
AA63653-SCV1	QC		10		A0K1038	A0H0536		

Samples Loaded By Date

Data Processed By Date

VOLATILES GC/MS LOGBOOK (EPA Method 624.1 / SW-846 Method 8260D)

Tune Start Date: 11/12/20	Surrogate: AOF0892	8260 Mix: AOK0852
Sequence: AA63653 / AA63657	Internal: AOH0535	8260 Add: AOK0725
Batch: OK19040	LCS Mix 2⁰: AOK0835	8260 Ac/Ac: AOK1075
Method: 8260	LCS Acrolein 2⁰: AOK0868	8260 Gases: AOE1012
Analyst: JCN	LCS Gas 2⁰: AOK1023	Instrument #: MS-5
Instrument EM Voltage: 1706		

205KN

Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)	Comments	LIMS
001	Tun			1				
002	Tun			1			Pass	
003	CAL1 1ppb			2			✓	
004	CAL2 2ppb			3			✓	
005	CAL3 5ppb			4			✓	
006	CAL4 10ppb			5			✓	
007	CAL5 20ppb			6			✓ Undersp.ked Acrolein / Acrylonitrile	
008	CAL6 50ppb			7			✓	
009	CAL7 80ppb			8			✓	
010	CAL8 100ppb			9			✓	
011	Rnse			10				
012	SCV		1/20	11		N	✓	
013	BS		1/20	12		1/20	✓	
014	BLK			13			✓	
015	AD06553-03	H	1	14	✓	N	✓ MS/MSD	
016	AD06553-13	E	1	15	✓	N	✓	
017	AD06553-14	D	1	16	✓	N	✓	
018	AD06553-15	D	1	17	✓	N	✓	
019	AD06553-16	D	1	18	✓	N	✓	
020	AD06553-17	E	1	19	✓	N	✓	
021	AD06553-18	D	1	20	✓	N	✓	

Response Factor Report OVGCMS5

Method Path : C:\msdchem\1\methods\
Method File : 111920W.M
Title : ENCO SOP VGCMS05; Element Cal
Last Update : Thu Nov 19 13:02:55 2020
Response Via : Initial Calibration

Calibration Files
1 =205KN003.D 2 =205KN004.D 5 =205KN005.D 20 =205KN007.D 100 =205KN010.D 50 =205KN008.D 80 =205KN009.D 10 =205KN(

	Compound	1	2	5	20	100	50	80	10	Avg	%RSD
1) I	PENTAFLUOROBENZENE...	----------	ISTD	----------							
2)	Dichlorodifluo...	0.732	0.531	0.620	0.629	0.673	0.688	0.709	0.583	0.645	10.47
3) P	Chloromethane	0.964	0.768	0.753	0.667	0.733	0.662	0.754	0.644	0.743	13.64
4) C	Vinyl Chloride	0.639	0.496	0.594	0.610	0.665	0.618	0.687	0.518	0.603	11.04
5)	Bromomethane	0.549	0.394	0.247	0.154	0.219	0.181	0.205	0.180	0.266	51.25
6)	Chloroethane	0.510	0.336	0.273	0.297	0.260	0.264	0.323			29.51
7)	Trichlorofluor...	0.796	0.619	0.687	0.758	0.815	0.793	0.830	0.707	0.751	9.78
8)	Diethyl ether	0.518	0.368	0.387	0.388	0.432	0.430	0.456	0.360	0.417	12.66
9) C	1,1-Dichloroet...	0.530	0.372	0.392	0.413	0.456	0.449	0.465	0.375	0.432	12.52
10)	Trichlorotrifl...	0.261	0.264	0.293	0.261	0.306	0.306	0.313	0.308	0.289	7.99
11)	Acrolein	0.103	0.071	0.088	0.042	0.093	0.099	0.101	0.098	0.087#	24.14
12)	Iodomethane	0.324	0.307	0.371	0.456	0.460	0.473	0.466	0.432	0.411	16.35
13)	Carbon Disulfide	1.626	1.279	1.418	1.452	1.296	1.421	1.393	1.427	1.414	7.52
14)	3-chloropropene	1.169	0.669	0.682	0.774	0.864	0.852	0.844	0.712	0.821	19.61
15)	Acetone	0.164	0.076	0.113	0.108	0.115	0.117	0.122	0.127	0.118	20.50
16)	Methylene Chlo...	0.949	0.680	0.585	0.479	0.515	0.526	0.538	0.495	0.596	26.19
17)	Methyl Acetate	0.752	0.373	0.342	0.331	0.358	0.362	0.385	0.374	0.410	34.05
18)	t-1,2-Dichloro...	0.632	0.429	0.448	0.474	0.518	0.520	0.544	0.431	0.499	13.82
19)	Methyl tert-bu...	1.208	1.067	1.181	1.219	1.336	1.418	1.459	1.226	1.264	10.33
20)	Acetonitrile	0.133	0.087	0.083	0.083	0.092	0.096	0.101	0.093	0.096#	16.96
21)	Isopropyl ether	1.694	1.497	1.582	1.599	1.799	1.820	1.914	1.521	1.678	9.10
22)	Chloroprene	0.511	0.397	0.476	0.495	0.500	0.505	0.508	0.435	0.478	8.66
23) P	1,1-Dichloroet...	1.150	0.746	1.073	0.985	1.079	1.109	1.134	0.943	1.027	13.07
24)	Acrylonitrile	0.171	0.135	0.157	0.083	0.167	0.177	0.183	0.168	0.155	21.11
25)	Vinyl Acetate	1.109	0.868	1.055	1.064	1.035	1.119	1.124	1.046	1.053	7.80
26)	c-1,2-Dichloro...	0.554	0.424	0.524	0.525	0.553	0.576	0.602	0.474	0.529	10.76
27)	2,2-Dichloropr...	0.987	0.574	0.726	0.745	0.872	0.884	0.932	0.636	0.795	18.48
28)	Bromochloromet...	0.174	0.176	0.238	0.191	0.160	0.194	0.174	0.188	0.187	12.53
29)	Cyclohexane	1.446	0.816	1.112	1.011	1.098	1.139	1.151	0.901	1.084	17.43
30) C	Chloroform	1.008	0.818	1.017	0.944	0.995	1.032	1.078	0.957	0.981	7.97
31) s	Dibromofluorom...	0.499	0.517	0.518	0.502	0.484	0.557	0.508	0.540	0.516	4.57
32)	Dibromofluorom...	0.499	0.517	0.518	0.502	0.484	0.557	0.508	0.540	0.516	4.57
33)	2-Butanone	0.095	0.029	0.061	0.046	0.058	0.058	0.061	0.045	0.057#	33.56
34)	1,1,1-Trichlor...	0.886	0.648	0.744	0.804	0.874	0.894	0.933	0.697	0.810	12.79
35)	1,1-Dichloropr...	0.995	0.693	0.799	0.777	0.841	0.869	0.895	0.723	0.824	11.87
36)	Propionitrile	0.073	0.071	0.073	0.070	0.065	0.070	0.072	0.069	0.070#	3.49
37)	Methacrylonitrile	0.399	0.336	0.360	0.337	0.311	0.348	0.341	0.345	0.347	7.26
38)	Isobutyl Alcohol	0.039	0.041	0.042	0.039	0.041	0.045	0.045	0.043	0.042#	5.18

Method Path : C:\msdchem\1\methods\
Method File : 111920W.M

39)	I	1,4-DIFLUOROBENZEN...	----------	ISTD	----------							
40)		Carbon Tetrach...	0.356	0.266	0.280	0.310	0.381	0.359	0.377	0.269	0.325	15.08
41)		Benzene	1.369	0.895	1.012	1.161	1.252	1.202	1.234	1.020	1.143	13.58
42)		1,2-Dichloroet...	0.530	0.325	0.356	0.380	0.419	0.395	0.426	0.327	0.395	16.85
43)		Trichloroethene	0.243	0.207	0.209	0.223	0.254	0.244	0.248	0.219	0.231	8.07
44)		Methyl cyclohe...	1.297	0.764	0.651	0.549	0.571	0.571	0.580	0.498	0.685	37.89
45)		Dibromomethane	0.175	0.131	0.166	0.162	0.171	0.170	0.178	0.145	0.162	9.97
46)	C	1,2-Dichloropr...	0.417	0.274	0.279	0.316	0.368	0.337	0.367	0.304	0.333	14.80
47)		Bromodichlorom...	0.339	0.218	0.314	0.331	0.411	0.377	0.405	0.312	0.338	18.35
48)		Methyl Methacr...	0.209	0.116	0.173	0.191	0.216	0.207	0.211	0.180	0.188	17.59
49)		1,4-Dioxane	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.003#	15.13
50)		2-Chloroethyl ...	0.164	0.132	0.148	0.164	0.174	0.176	0.176	0.155	0.161	9.70
51)		C-1,3-Dichloro...	0.388	0.337	0.396	0.444	0.557	0.515	0.549	0.386	0.447	18.77
52)	s	D8-Toluene	1.242	1.219	1.181	1.198	1.256	1.317	1.203	1.265	1.235	3.56
53)		D8-Toluene	1.242	1.219	1.181	1.198	1.256	1.317	1.203	1.265	1.235	3.56
54)		4-Methyl-2-pen...	0.054	0.035	0.032	0.032	0.034	0.034	0.035	0.031	0.036#	20.52
55)		CHLOROBENZENE-D5 (IS)	----------	ISTD	----------							
56)	C	Toluene	1.301	0.813	1.029	1.066	1.109	1.126	1.145	0.947	1.067	13.57
57)		T-1,3-Dichloro...	0.578	0.396	0.539	0.558	0.630	0.608	0.660	0.515	0.561	14.59
58)		Tetrachloroethene	0.355	0.217	0.245	0.289	0.295	0.281	0.297	0.261	0.280	14.66
59)		Ethyl methacry...	0.788	0.476	0.467	0.517	0.560	0.573	0.583	0.495	0.557	18.49
60)		1,1,2-Trichlor...	0.426	0.257	0.309	0.332	0.358	0.354	0.369	0.316	0.340	14.59
61)		Dibromochlorom...	0.262	0.193	0.219	0.271	0.363	0.324	0.377	0.234	0.280	24.18
62)		1,3-Dichloropr...	0.786	0.497	0.586	0.666	0.713	0.696	0.746	0.649	0.667	13.77
63)		1,2-Dibromoethane	0.378	0.275	0.309	0.325	0.360	0.368	0.378	0.290	0.336	12.25
64)		2-Hexanone	0.280	0.209	0.227	0.239	0.255	0.255	0.265	0.235	0.246	9.21
65)	C	Ethylbenzene	0.837	0.505	0.535	0.608	0.646	0.639	0.660	0.582	0.626	16.13
66)	P	Chlorobenzene	1.227	0.919	1.089	1.029	1.086	1.084	1.135	1.030	1.075	8.30
67)		1,1,1,2-Tetrac...	0.325	0.266	0.294	0.319	0.372	0.355	0.375	0.267	0.322	13.59
68)		m-xylene & p-x...	0.771	0.630	0.752	0.782	0.767	0.793	0.800	0.727	0.753	7.24
69)		o-xylene	0.827	0.550	0.798	0.758	0.823	0.841	0.863	0.715	0.772	13.16
70)		Styrene	1.185	0.949	1.198	1.329	1.404	1.372	1.466	1.179	1.260	13.20
71)	P	Bromoform	0.224	0.133	0.111	0.151	0.225	0.198	0.216	0.134	0.174	26.86
72)		Isopropylbenzene	2.119	1.613	1.958	2.054	2.160	2.204	2.274	1.869	2.031	10.53
73)	s	Bromofluoroben...	0.942	0.897	0.855	0.869	0.844	0.927	0.868	0.941	0.893	4.41
74)		Bromofluoroben...	0.942	0.897	0.855	0.869	0.844	0.927	0.868	0.941	0.893	4.41
75)		n-Propylbenzene	2.779	2.232	2.681	2.705	2.871	2.885	3.015	2.557	2.716	8.87
76)	P	1,1,2,2-Tetrac...	0.575	0.424	0.467	0.489	0.518	0.530	0.560	0.467	0.504	10.18
77)		1,2,3-Trichlor...	0.235	0.146	0.161	0.180	0.187	0.187	0.189	0.188	0.184	13.95
78)		T-1,4-Dichloro...	0.121	0.127	0.190	0.191	0.198	0.188	0.206	0.188	0.176	18.47
79)		1,4-DICHLOROBENZEN...	----------	ISTD	----------							
80)		Bromobenzene	0.491	0.463	0.517	0.513	0.522	0.515	0.541	0.466	0.503	5.46
81)		1,2,4-Trimethy...	2.482	1.775	2.358	2.398	2.416	2.462	2.548	2.288	2.341	10.33
82)		2-Chlorotoluene	2.119	1.605	1.920	2.021	2.048	2.052	2.168	1.808	1.968	9.39
83)		4-Chlorotoluene	2.103	1.725	2.035	2.091	2.145	2.166	2.252	1.920	2.055	8.04

Method Path : C:\msdchem\1\methods\
Method File : 111920W.M

84)	tert-Butylbenzene	1.917	1.425	1.700	1.829	1.869	1.859	1.971	1.656	1.778	9.97
85)	1,3,5-Trimethy...	2.490	1.694	2.251	2.291	2.388	2.406	2.450	2.172	2.268	11.25
86)	p-Isopropyltol...	2.229	1.689	2.180	2.250	2.350	2.377	2.484	2.112	2.209	10.91
87)	s-Butylbenzene	2.516	2.130	2.702	2.757	2.812	2.890	2.983	2.495	2.661	10.24
88)	1,3-Dichlorobe...	1.060	0.831	0.915	1.006	1.121	1.076	1.133	0.926	1.009	10.77
89)	1,4-Dichlorobe...	1.342	0.942	0.985	1.048	1.121	1.090	1.143	0.977	1.081	11.81
90)	n-Butylbenzene	2.456	1.647	2.037	2.410	2.489	2.528	2.635	2.174	2.297	14.24
91)	1,2-Dichlorobe...	1.133	0.693	0.930	0.896	1.007	1.003	1.071	0.881	0.952	14.22
92)	DBCP	0.146	0.037	0.037	0.067	0.082	0.078	0.086	0.067	0.075#	45.78
93)	Hexachlorobuta...	0.179	0.172	0.213	0.199	0.252	0.230	0.254	0.186	0.211	15.26
94)	1,2,4-Trichlor...	0.444	0.216	0.367	0.393	0.486	0.481	0.524	0.368	0.410	23.82
95)	Naphthalene	0.860	0.626	0.684	0.841	1.037	1.012	1.109	0.795	0.870	19.70
96)	1,2,3-Trichlor...	0.242	0.250	0.204	0.239	0.307	0.284	0.319	0.234	0.260	15.18

(#) = Out of Range

Manual Integration Review Form

ENVIRONMENTAL CONSERVATION LABORATORIES, INC. ☐ Cary ☐ Jacksonville ☒ Orlando

I hereby attest that the manual integrations contained in this package have been thoroughly reviewed and are in agreement with the associated hardcopy data.

The electronic files listed below have been reviewed for accuracy, completeness and comply with ENCO labs QA-11 Manual Integration Policy including:

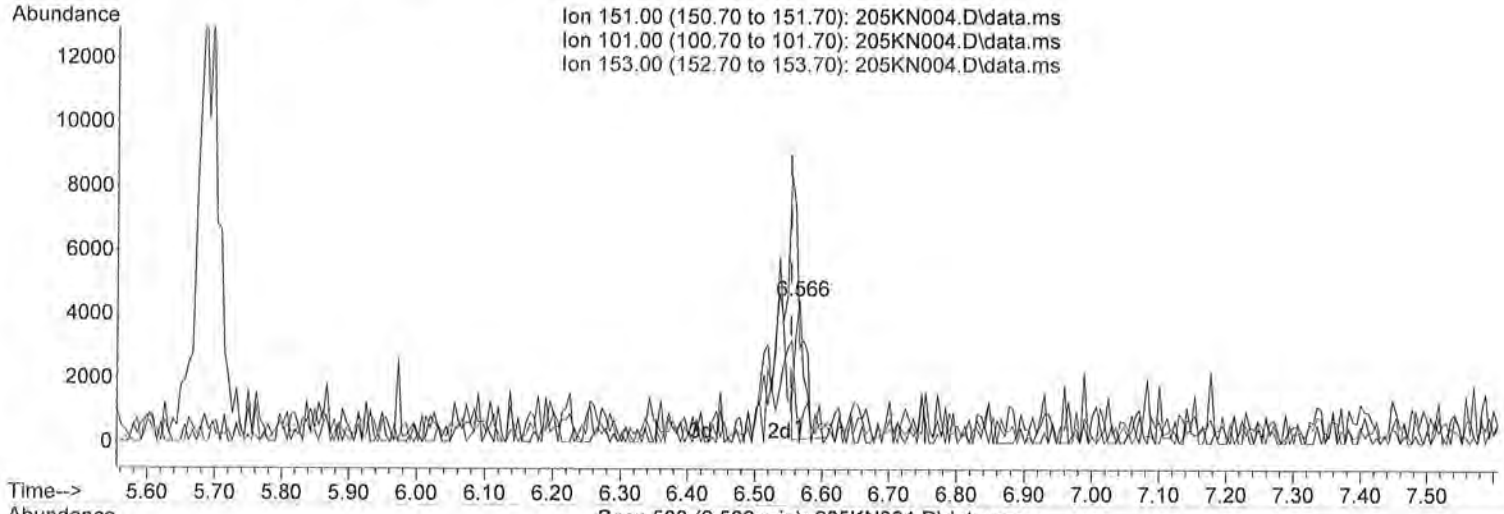
- "Before" and "After" chromatograms are provided
- Manual integrations are indicated on expanded scale "after" chromatograms at a scale large enough to see the manual integration performed.
- Reintegration technique marked if available on the data system
- Technical justification for manual integration
- Appropriate flags indicating which analytes were manually integrated are included in the raw data
- Analyst's initials and date.

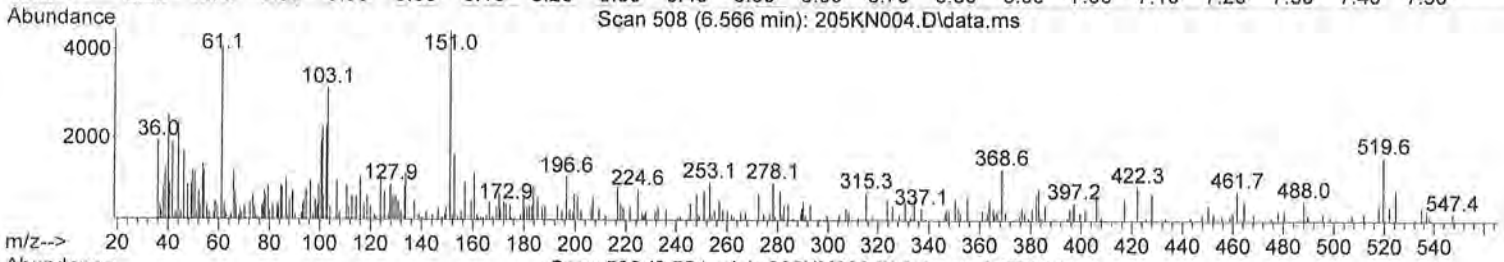
Instrument ID:	OVGCMS-5
Sequence/Batch ID:	AA63653
Data File Prefix:	205KN
Date and Time Range of MIs:	11/19/20 12:16 - 11/20/20 0737
Reviewer Print Name:	Karie Gonzalez
Reviewer Signature:	Karie Gonzalez
Date of Review:	11/20/2020

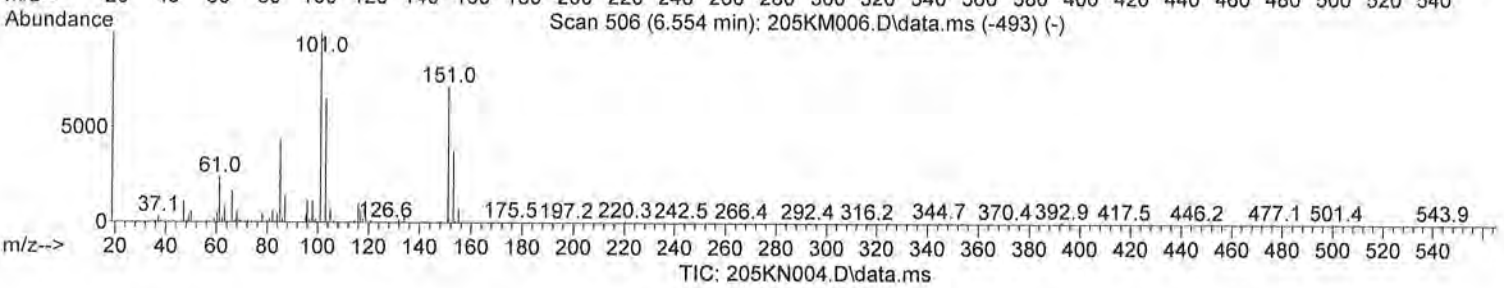
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN004.D\data.ms

(10) Trichlorotrifluoroethane

6.566min (+ 0.012) 0.52 ug/L

response 4301

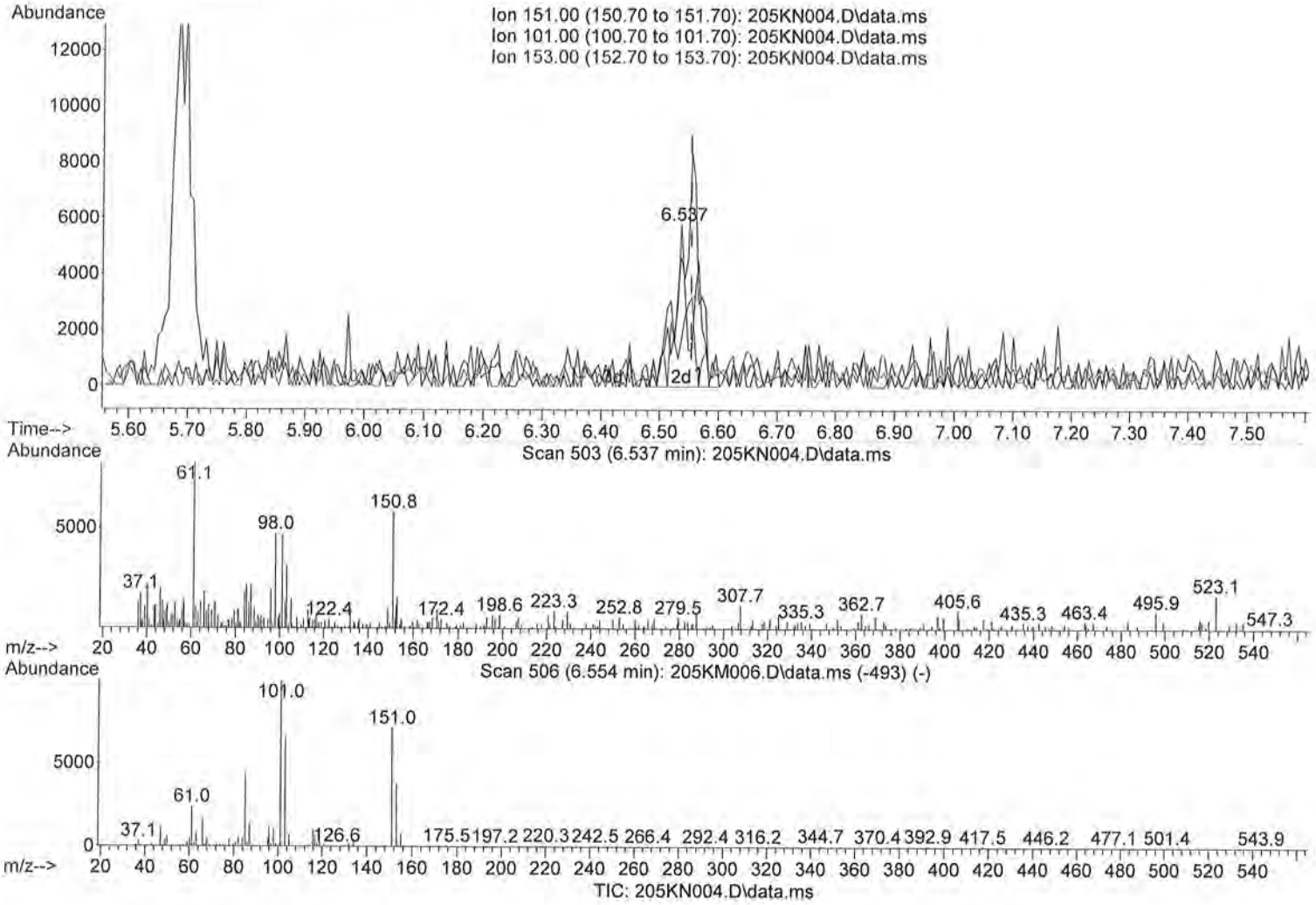
Ion	Exp%	Act%
151.00	100.00	100.00
101.00	154.20	0.00#
153.00	62.50	40.66#
0.00	0.00	0.00

Review:
[X] Manual Integration
Reason for manual integration:
[X] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Reviewed by/Date: 11/23/20
Reviewed by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



(10) Trichlorotrifluoroethane

6.537min (-0.017) 1.54 ug/L m

response 12736

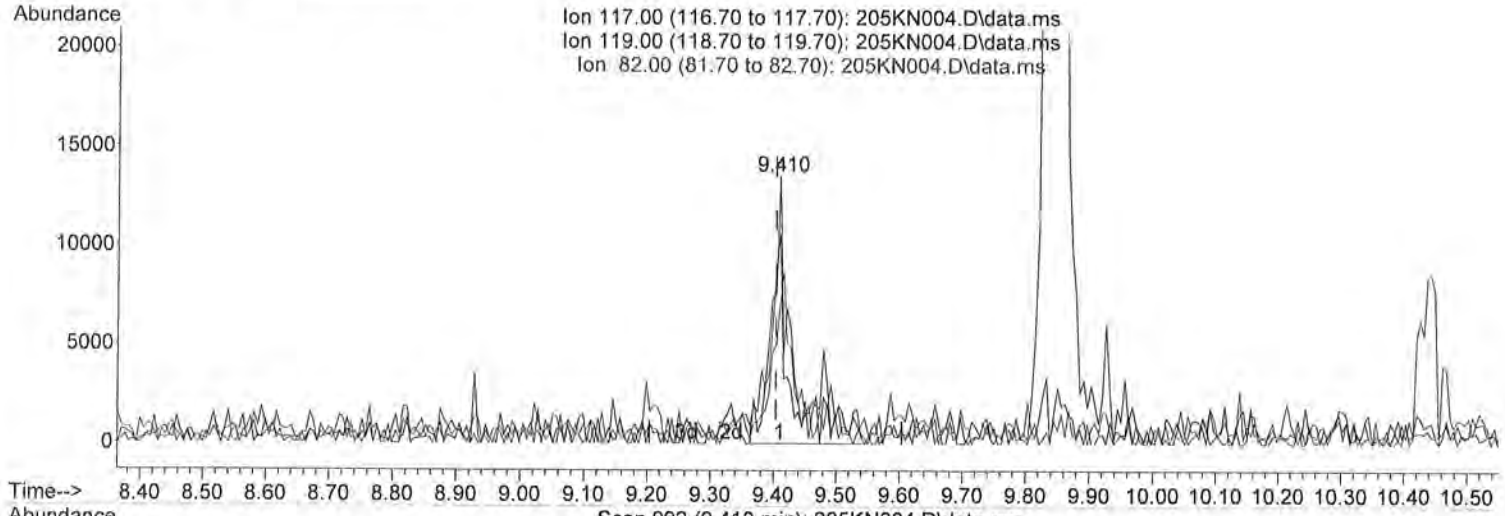
Ion	Exp%	Act%
151.00	100.00	100.00
101.00	154.20	0.00#
153.00	62.50	13.73#
0.00	0.00	0.00

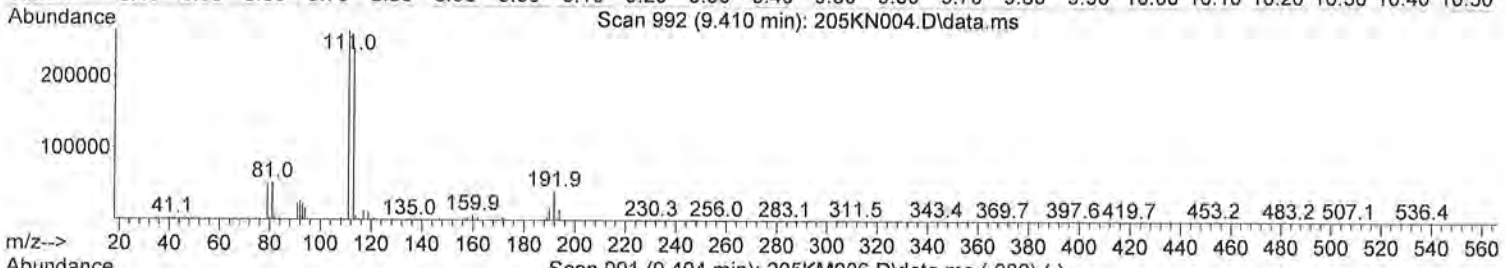
Reason for manual integration:
[X] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date: 11/20/20
Review by/Date:

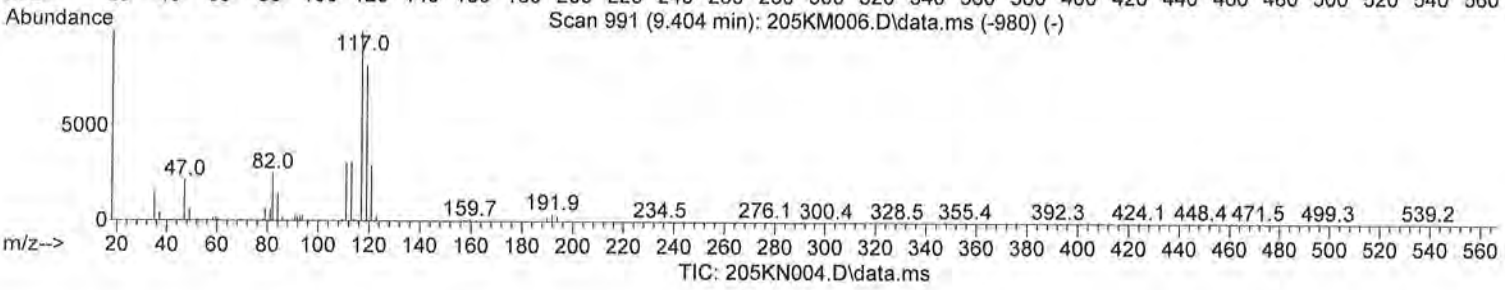
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN004.D\data.ms

(40) Carbon Tetrachloride

9.410min (+ 0.006) 2.08 ug/L

response 32862

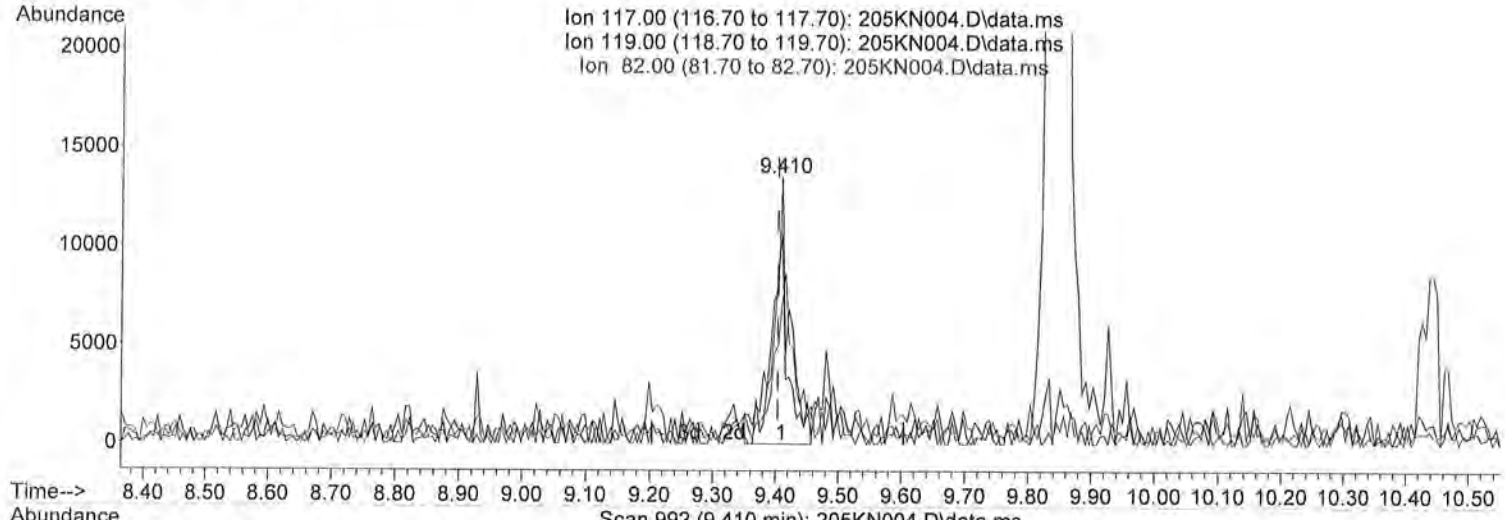
Ion	Exp%	Act%
117.00	100.00	100.00
119.00	93.20	54.94#
82.00	27.60	58.67#
0.00	0.00	0.00

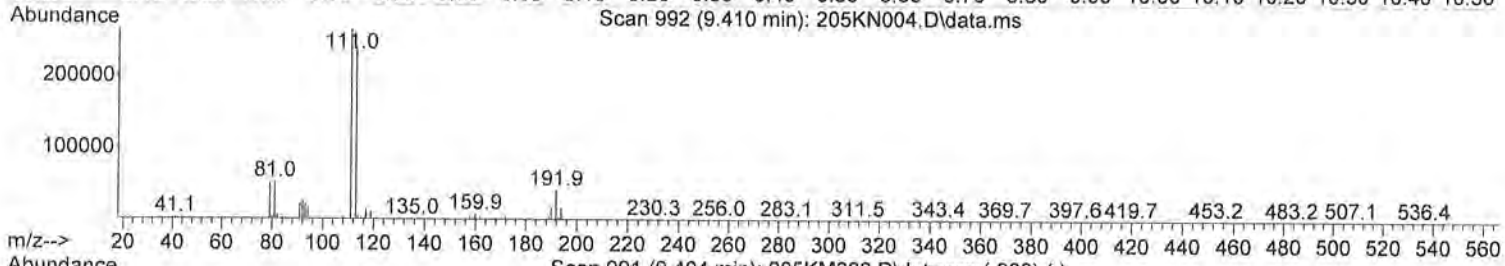
[X] Manual Integration [ ] Manual Integration
Select reason for manual integration:
[X] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date: W 11/23/20
Review by/Date:

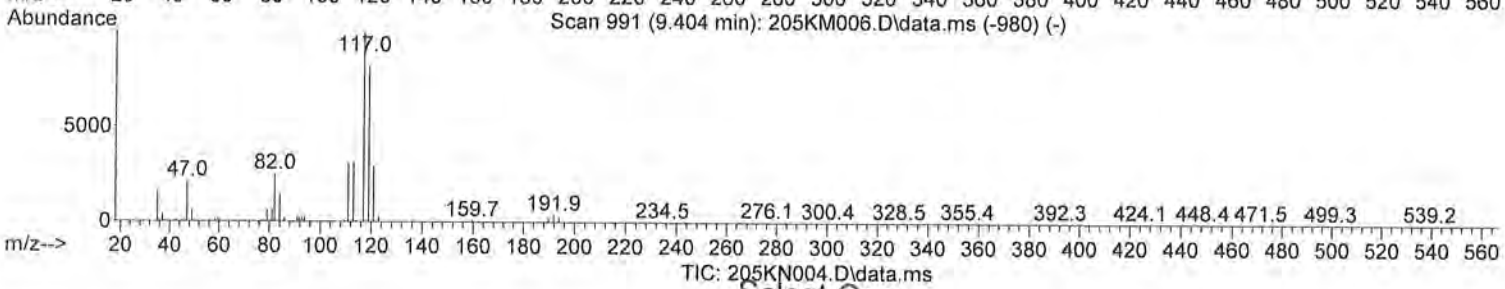
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN004.D\data.ms

(40) Carbon Tetrachloride

9.410min (+ 0.006) 1.62 ug/L m

response 25567

Ion	Exp%	Act%
117.00	100.00	100.00
119.00	93.20	70.61#
82.00	27.60	75.41#
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

[ ] Other:

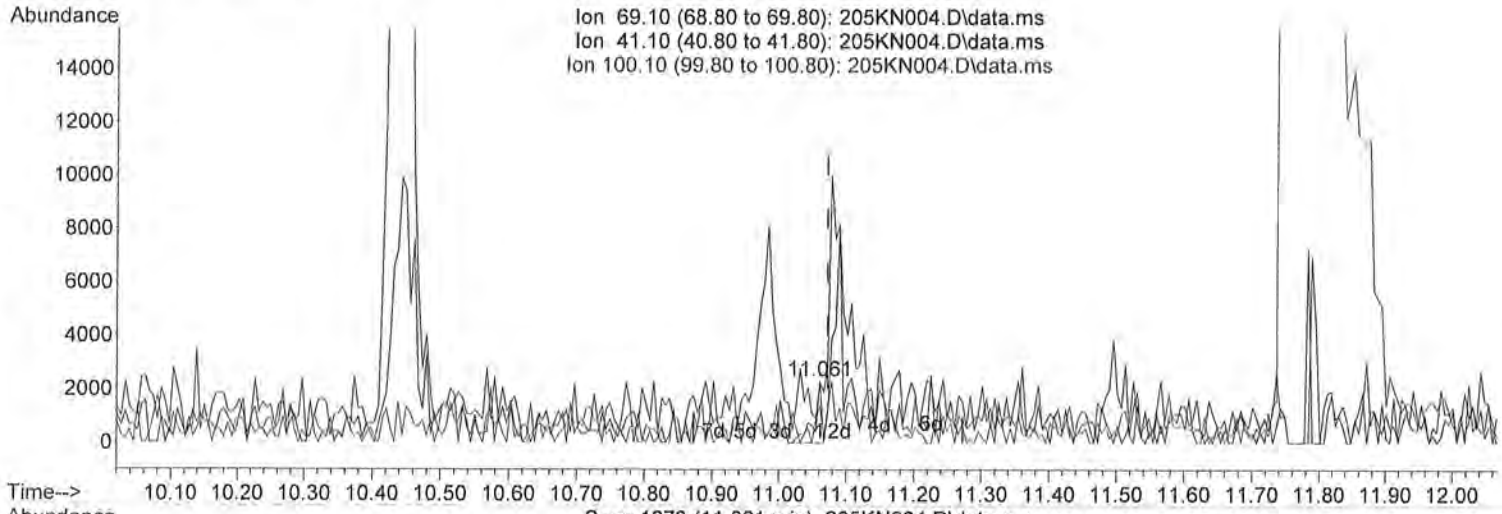
Review by/Date 11/20/20

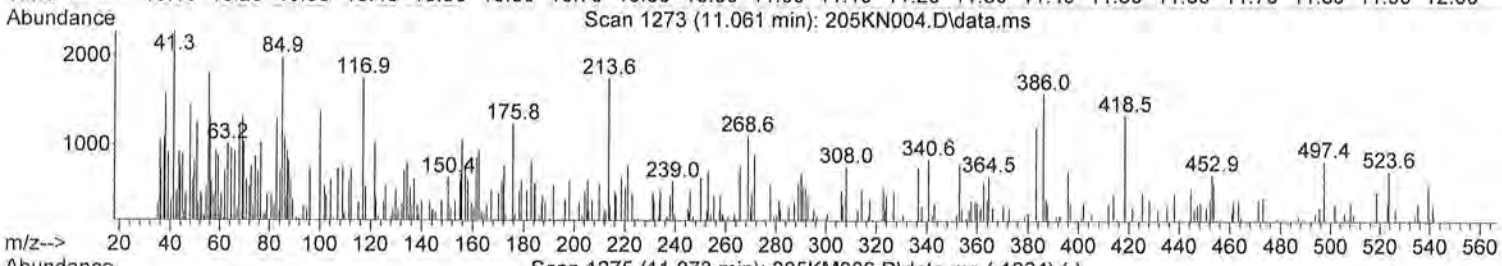
Review by/Date:

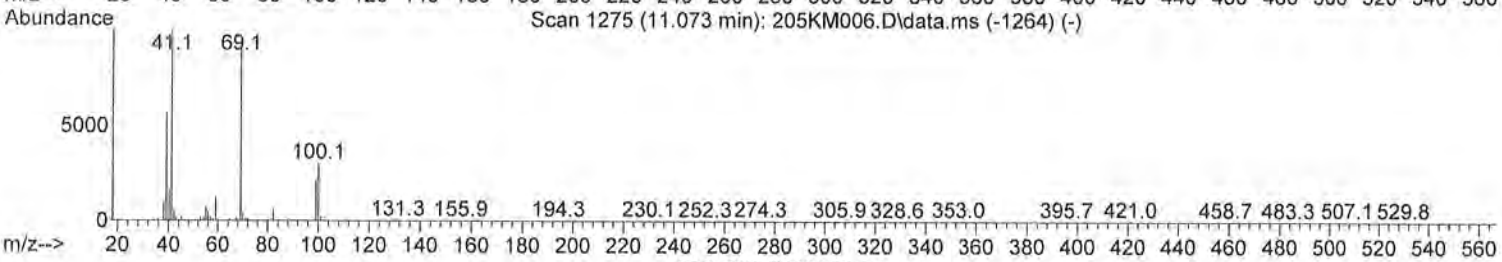
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN004.D\data.ms

(48) Methyl Methacrylate

11.061min (-0.012) 0.14 ug/L

response 1750

Ion	Exp%	Act%
69.10	100.00	100.00
41.10	124.40	141.03
100.10	35.70	69.43#
0.00	0.00	0.00

Select One:

[✓] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (baseline selection)

[ ] Missed peak(s) found

[ ] Incorrect peak(s) found

[ ] Overlapping peaks

[ ] Re-integration

[ ] Other:

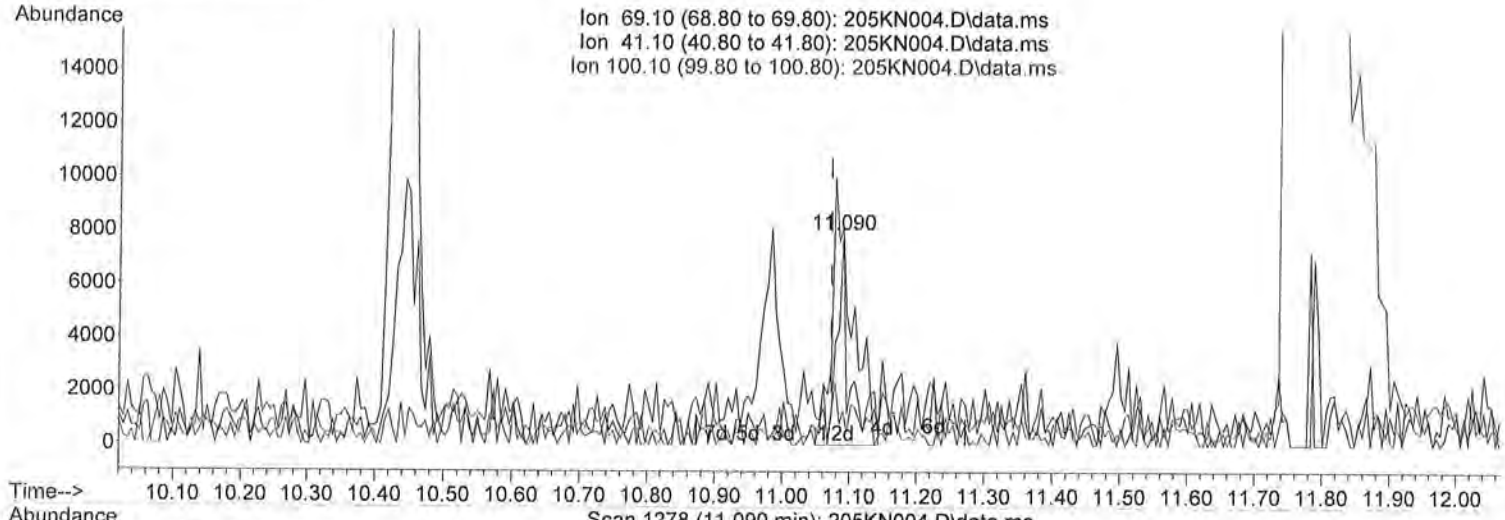
Review by/Date 11/19/20

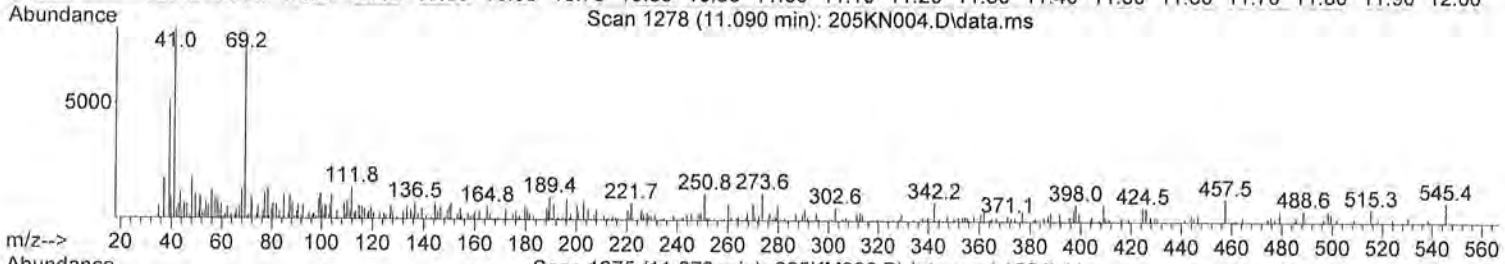
Review by/Date:

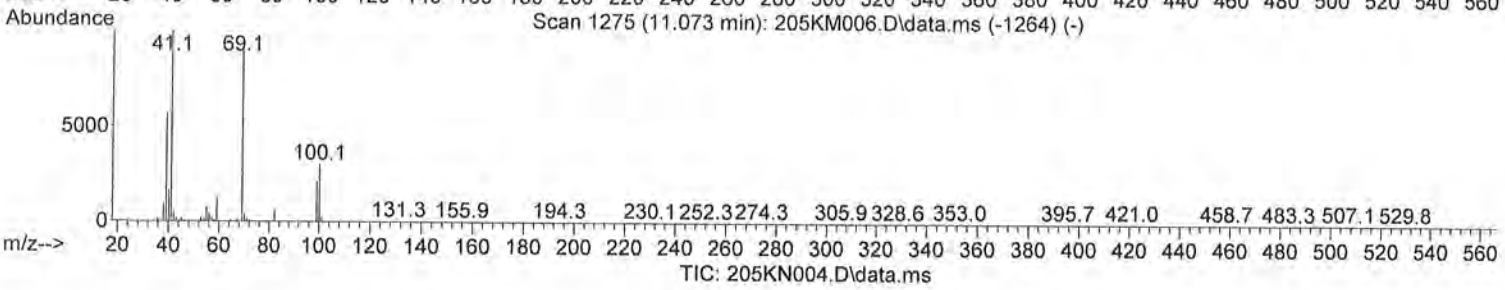
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN004.D\data.ms

(48) Methyl Methacrylate

11.090min (+ 0.017) 0.86 ug/L m

response 11122

Ion	Exp%	Act%
69.10	100.00	100.00
41.10	124.40	22.19#
100.10	35.70	10.92#
0.00	0.00	0.00

Select One:
[ ] Original Integration [X] Manual Integration
[ ] Other:
Review by/Date 11/20/20

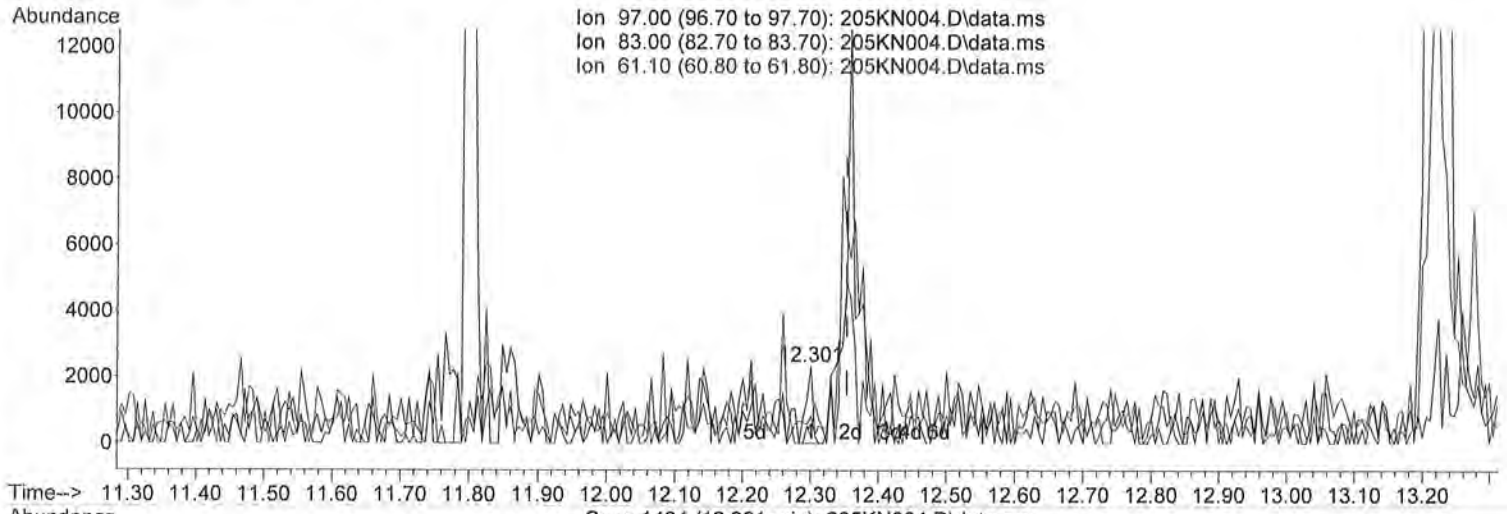
111920W.M Thu Nov 19 12:17:22 2020

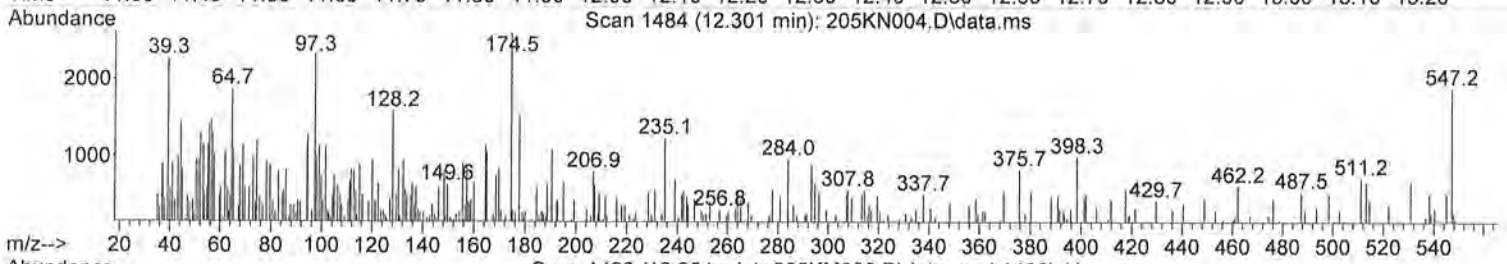
Review by/Date: Page: 1

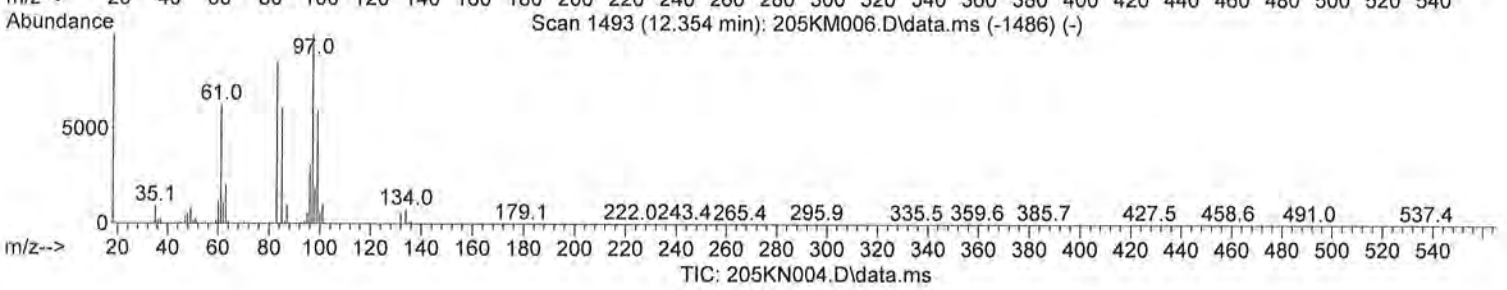
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN004.D\data.ms

(60) 1,1,2-Trichloroethane

12.301min (-0.053) 0.12 ug/L

response 1625

Ion	Exp%	Act%
97.00	100.00	100.00
83.00	90.90	103.69
61.10	65.40	78.09
0.00	0.00	0.00

Select One:

[ ] Manual Integration

[ ] Unassigned peak selection/Peak not found

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

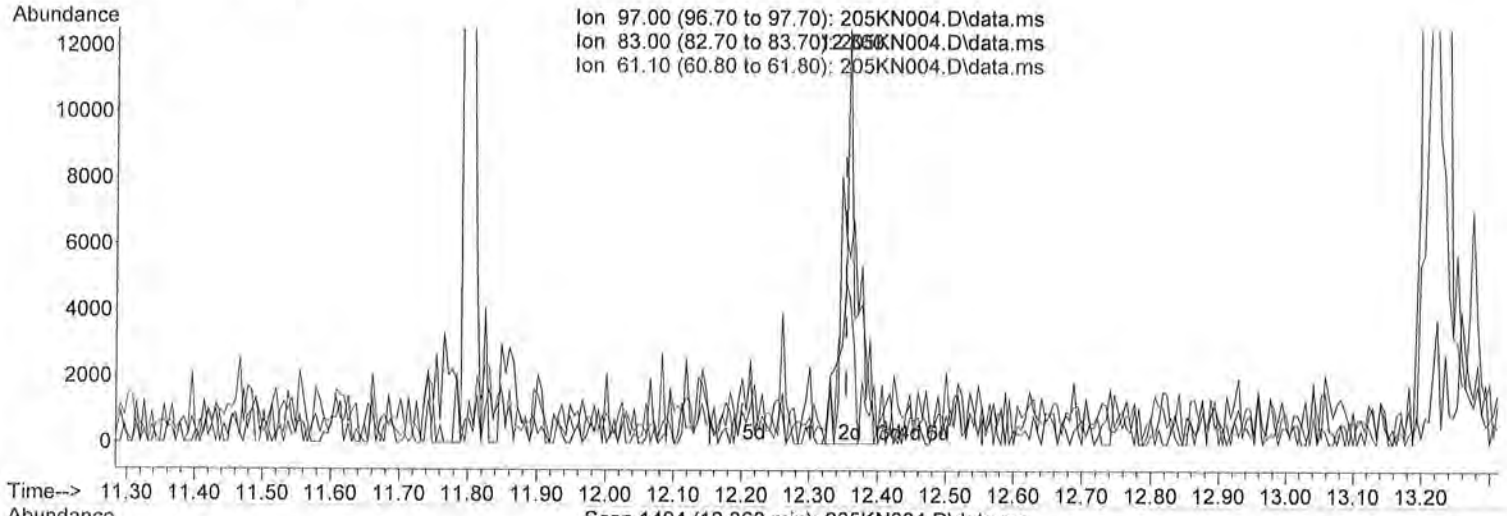
Review by/Date

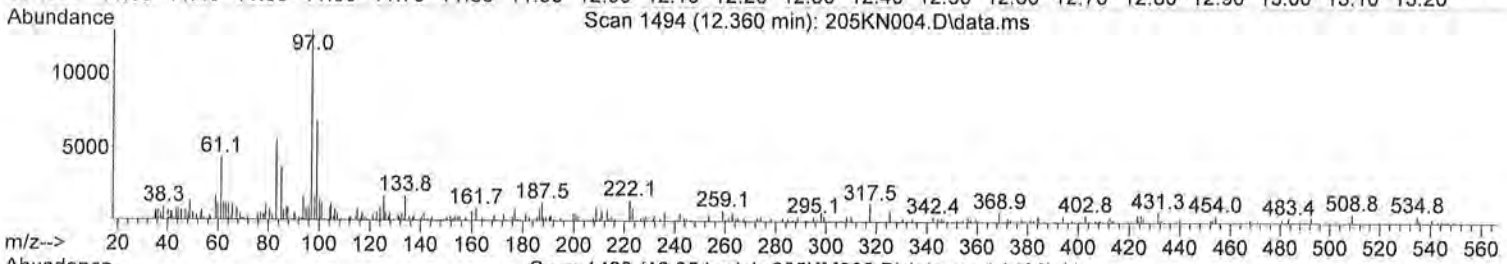
Review by/Date:

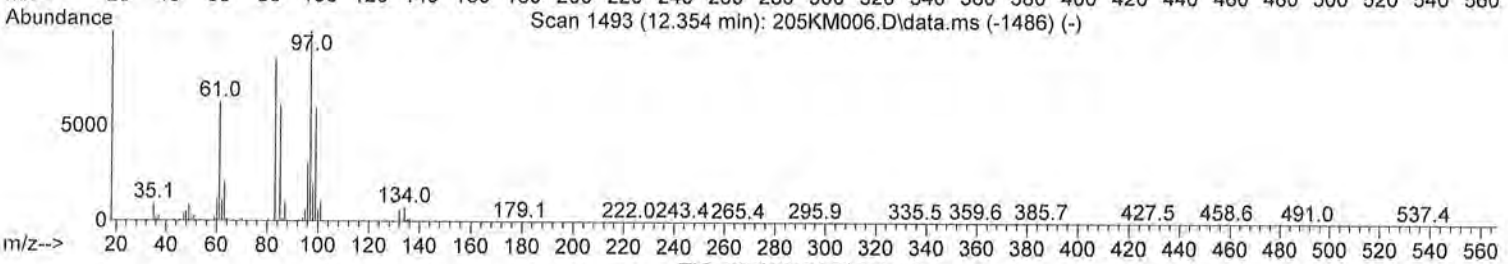
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN004.D\data.ms

(60) 1,1,2-Trichloroethane

12.360min (+ 0.006) 1.20 ug/L m

response 16136

Ion	Exp%	Act%
97.00	100.00	100.00
83.00	90.90	10.44#
61.10	65.40	7.86#
0.00	0.00	0.00

Select One:

[ ] Original (Uncorrected) [illegible] Integration

[ ] [illegible] ation

[ ] [illegible] baseline selection)

[illegible] result not found

[ ] [illegible] gration

[ ] [illegible] to appr peaks

[ ] ISTD reintegration

[ ] Other:

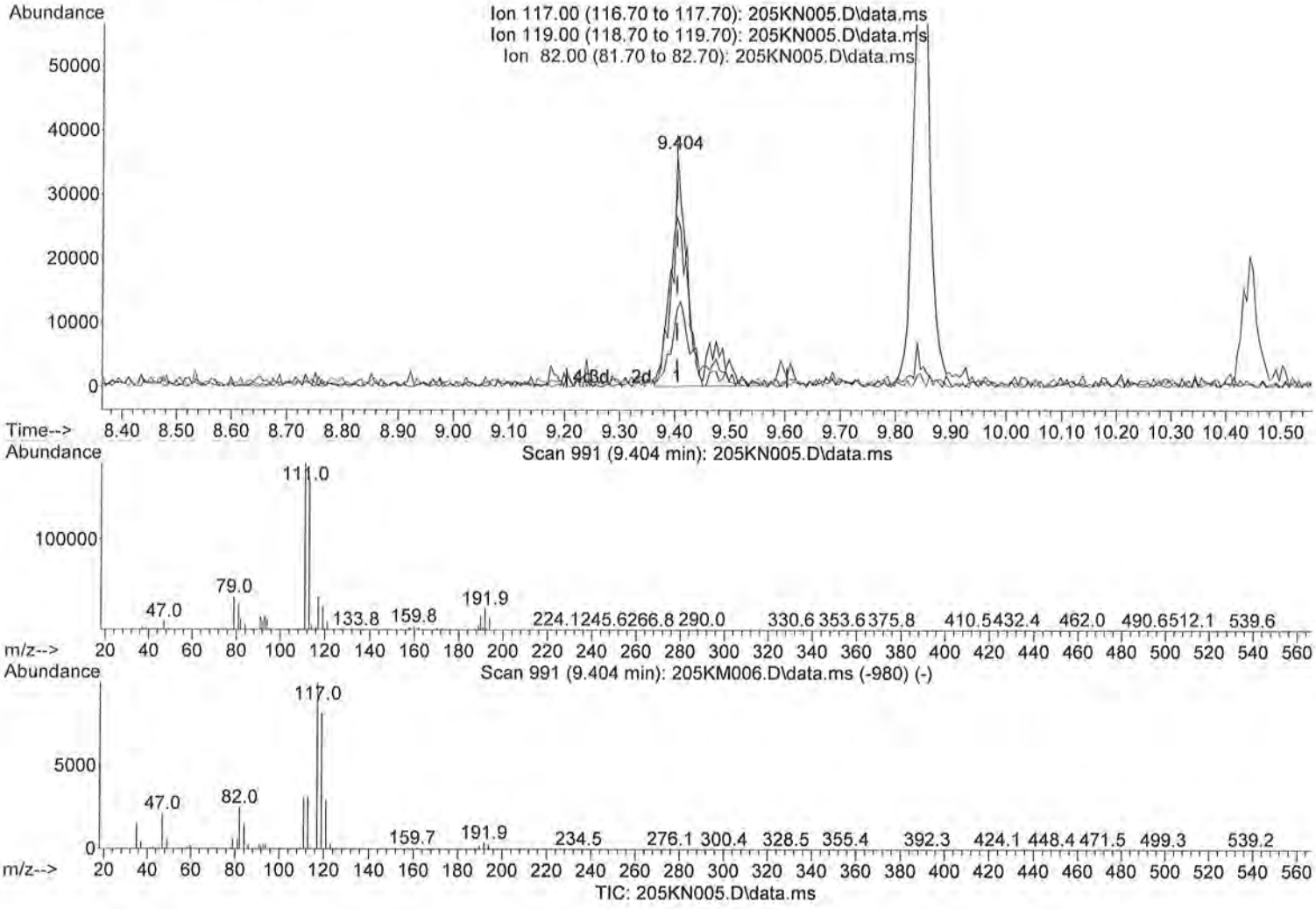
Review by/Date W 11/19/20

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN005.D
Acq On : 19 Nov 2020 9:47 am
Operator : KKW
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 19 12:13:14 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



(40) Carbon Tetrachloride

9.404min (+ 0.000) 4.90 ug/L

response 78732

Ion	Exp%	Act%
117.00	100.00	100.00
119.00	93.20	79.64
82.00	27.60	40.68#
0.00	0.00	0.00

Select One:

[ ] Other:

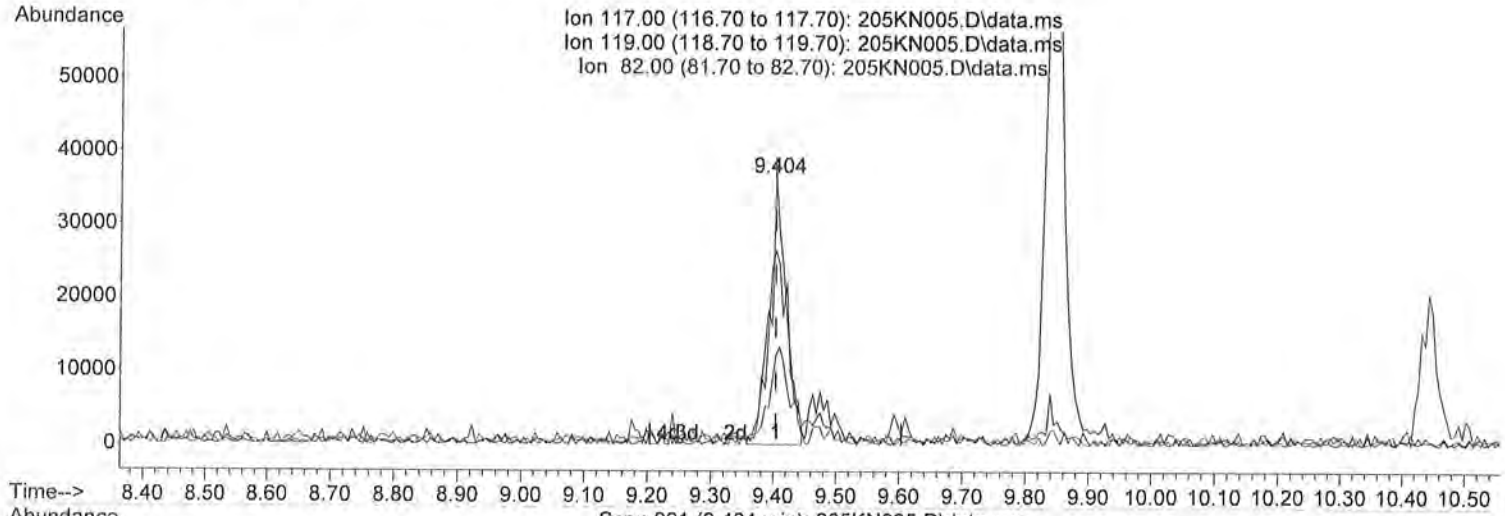
Review by/Date Wnkeski

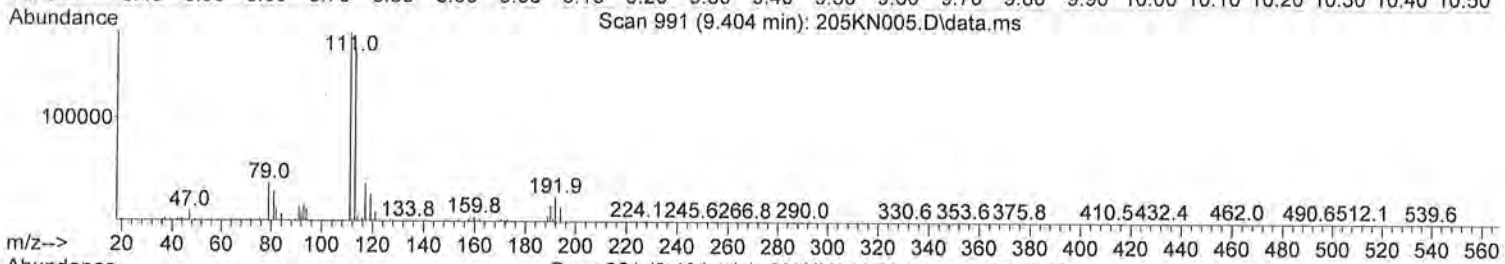
Review by/Date:

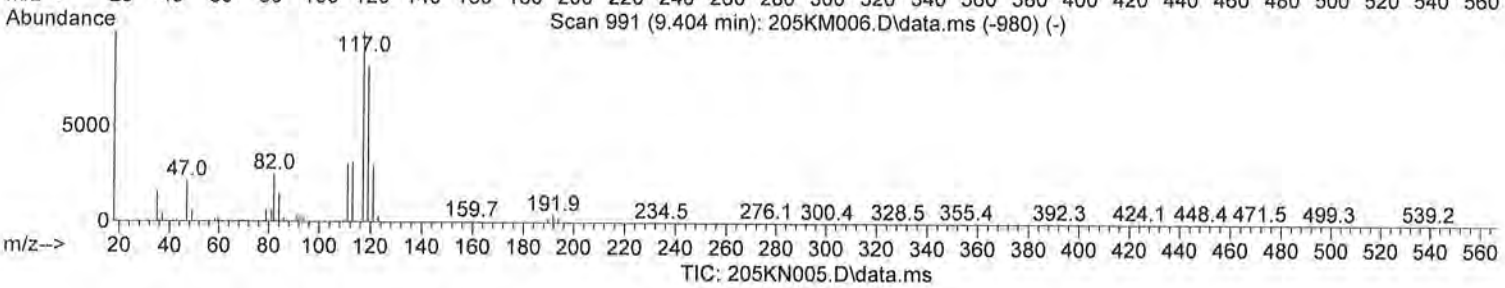
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN005.D
Acq On : 19 Nov 2020 9:47 am
Operator : KKW
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 19 12:13:14 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN005.D\data.ms

(40) Carbon Tetrachloride

9.404min (+ 0.000) 4.27 ug/L m

response 68664

Ion	Exp%	Act%
117.00	100.00	100.00
119.00	93.20	91.32
82.00	27.60	46.64#
0.00	0.00	0.00

Select One:

[ ] Other:

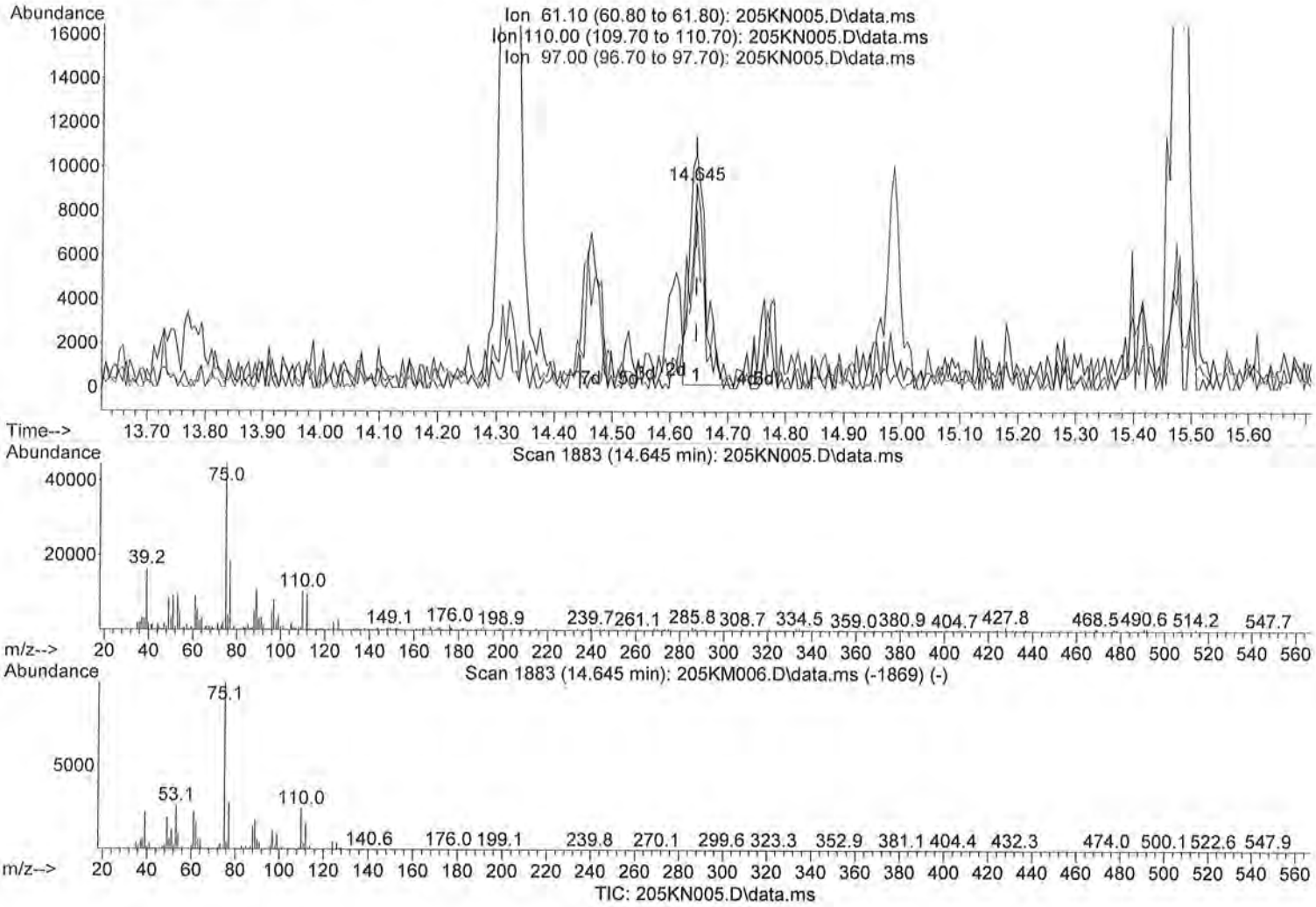
Review by/Date: 11/20/20

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN005.D
Acq On : 19 Nov 2020 9:47 am
Operator : KKW
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 19 12:13:14 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 2.18 ug/L

response 16030

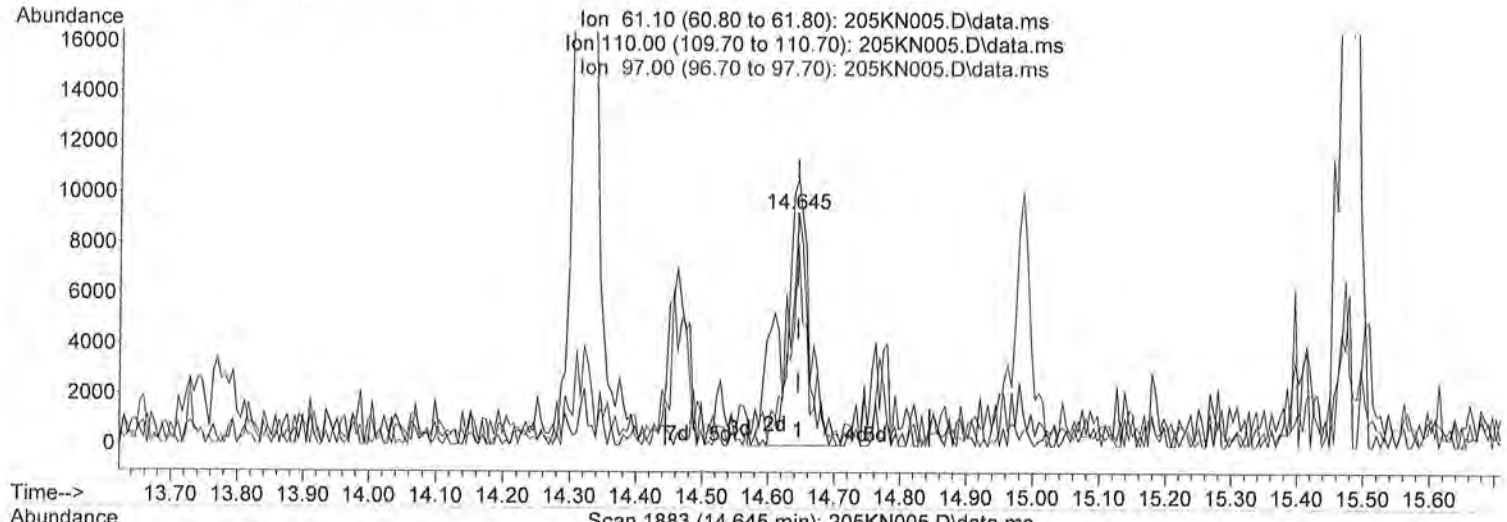
Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	142.51#
97.00	45.60	94.38#
0.00	0.00	0.00

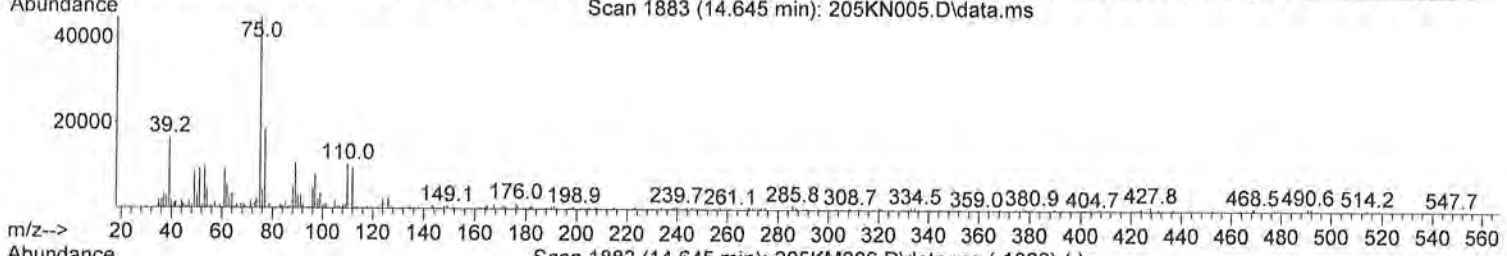
Select One:
[x] Original integration [ ] Manual Integration
Select reason for manual integration:
[x] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date W 11/20/20
Review by/Date:

Quantitation Report (Qedit)

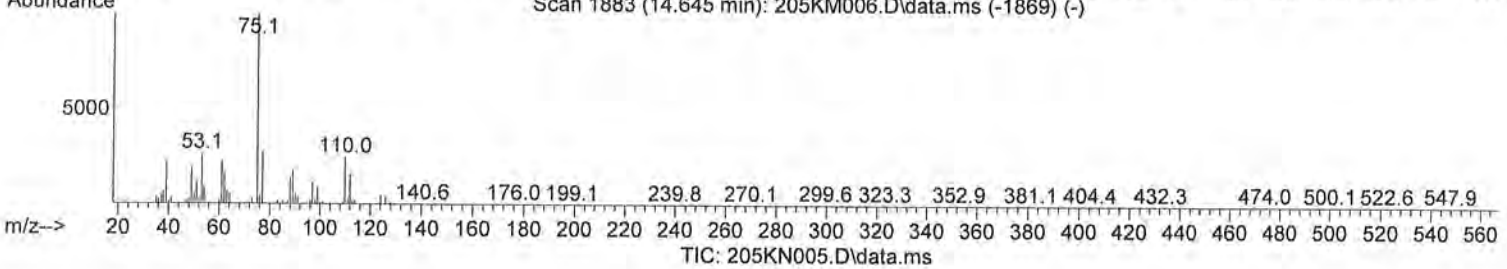
Data Path : C:\msdchem\1\data\111920\
Data File : 205KN005.D
Acq On : 19 Nov 2020 9:47 am
Operator : KKW
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 19 12:13:14 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration





Scan 1883 (14.645 min): 205KN005.D\data.ms



Scan 1883 (14.645 min): 205KM006.D\data.ms (-1869) (-)

TIC: 205KN005.D\data.ms

(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 3.52 ug/L m

response 25913

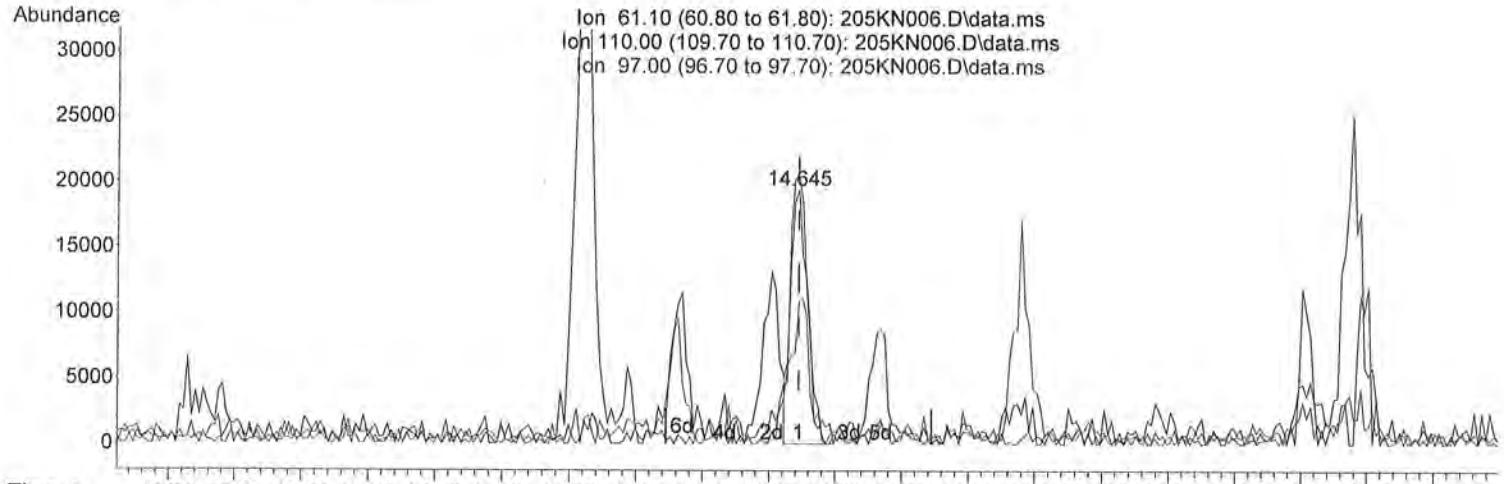
Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	88.16
97.00	45.60	58.38#
0.00	0.00	0.00

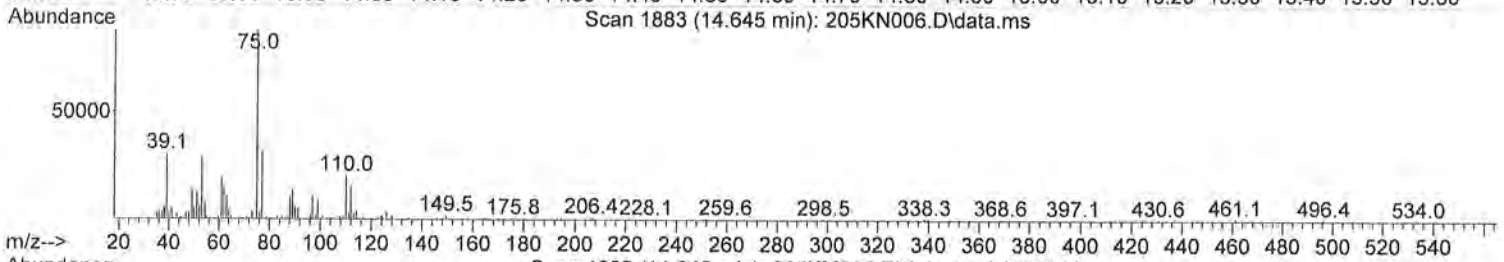
Select One:
[ ] Original Integration [ ] Manual Integration
Select reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date
Review by/Date:

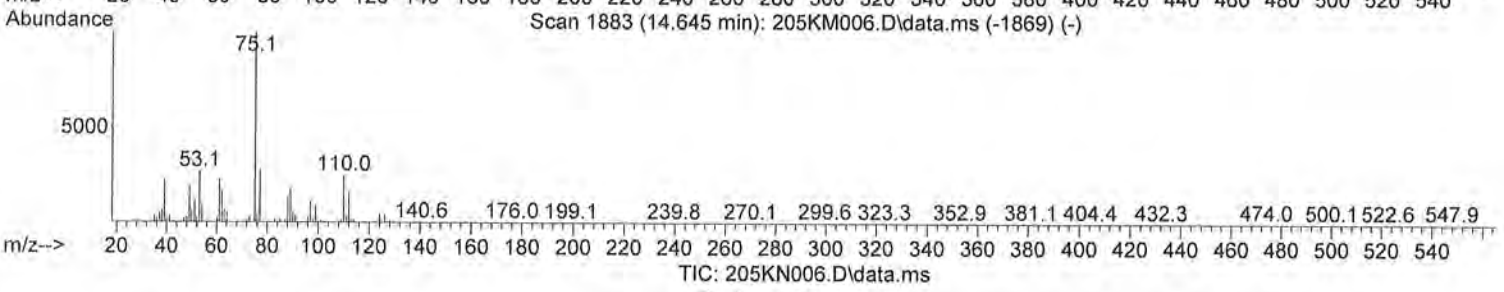
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN006.D
Acq On : 19 Nov 2020 10:18 am
Operator : KKW
Sample : CAL4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 19 12:13:19 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN006.D\data.ms

(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 4.92 ug/L

response 35588

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	115.40#
97.00	45.60	74.17#
0.00	0.00	0.00

Select One:

[ ] Manual Integration

[ ] Manual integration: (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Manual integration

[ ] Baseline drop for split peaks

[ ] IS/TD reintegration

[ ] Other:

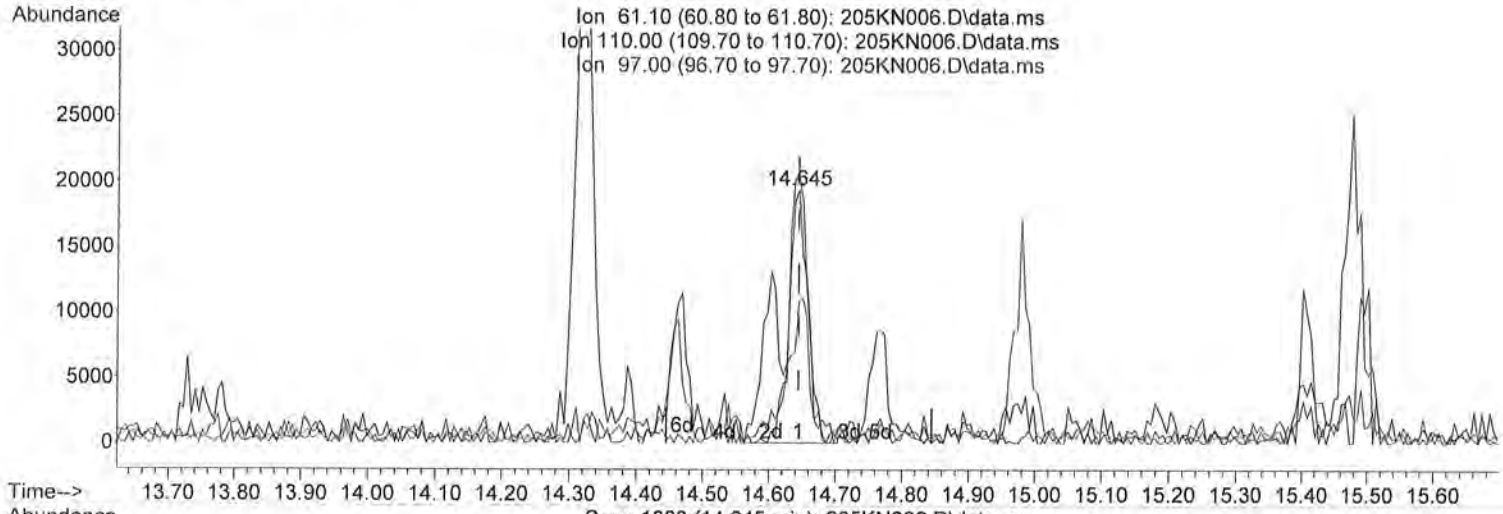
Review by/Date 11/19/20

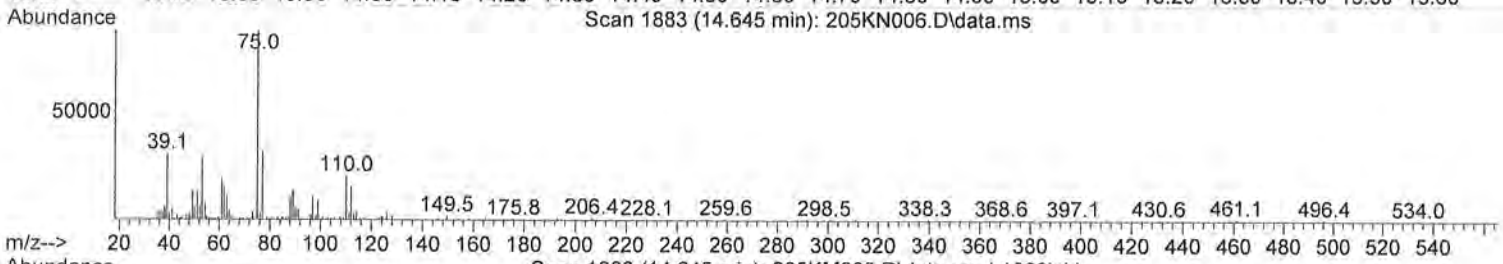
Review by/Date:

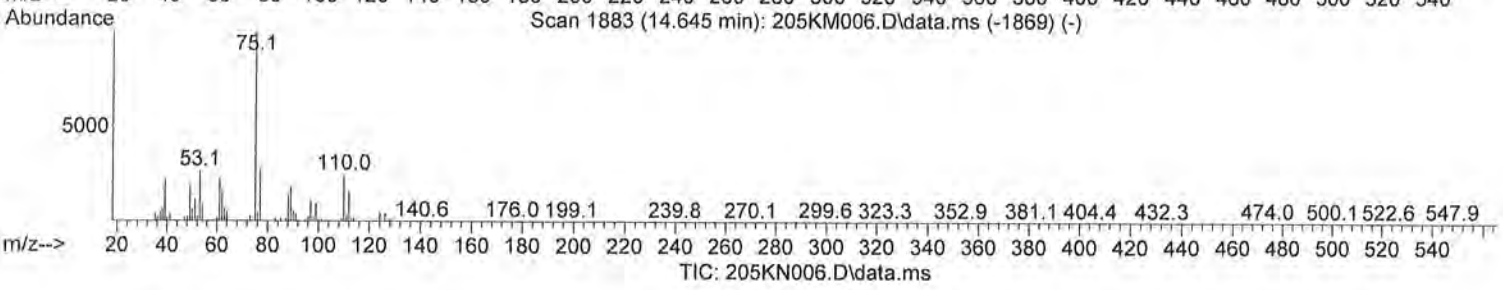
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN006.D
Acq On : 19 Nov 2020 10:18 am
Operator : KKW
Sample : CAL4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 19 12:13:19 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN006.D\data.ms

(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 8.20 ug/L m

response 59327

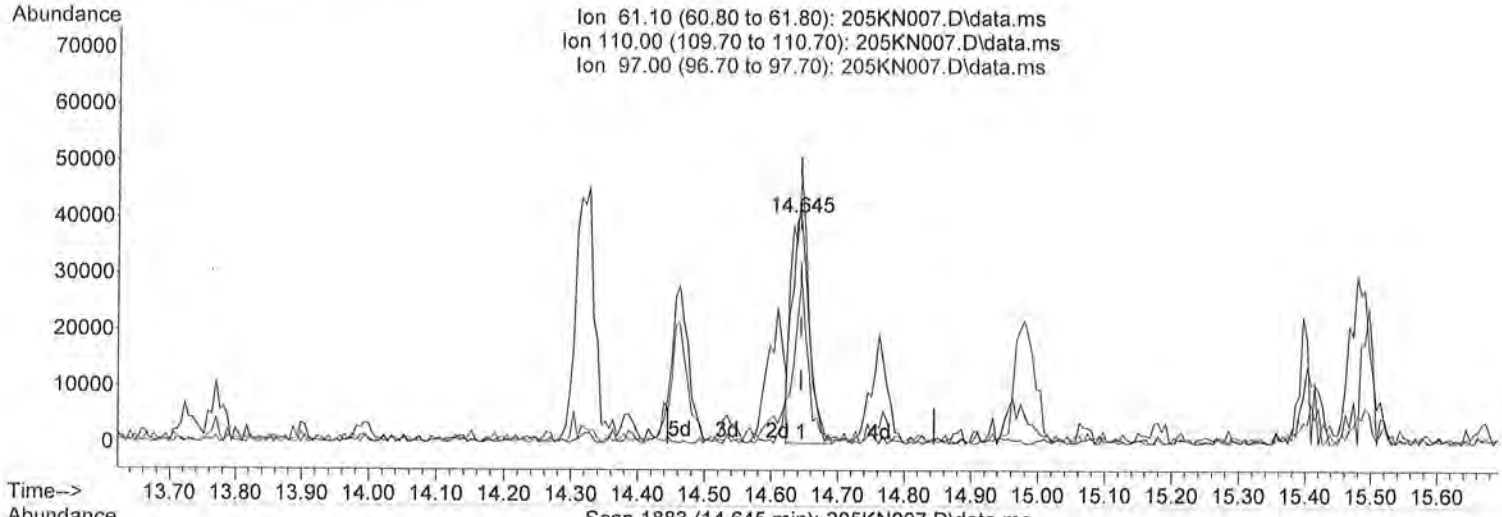
Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	69.22
97.00	45.60	44.49
0.00	0.00	0.00

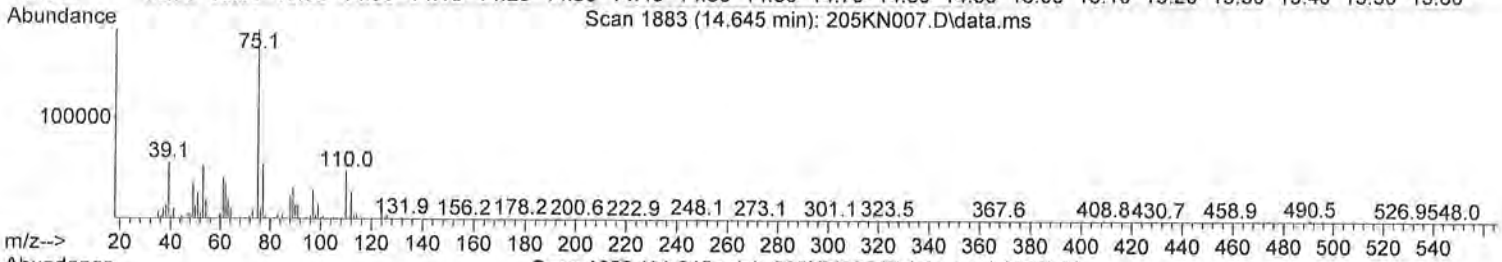
Select One:
[ ] Manual Integration
[ ] Integration:
[ ] peak selection/Peak not found
[ ] Hump Integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date 11/23/20
Review by/Date:

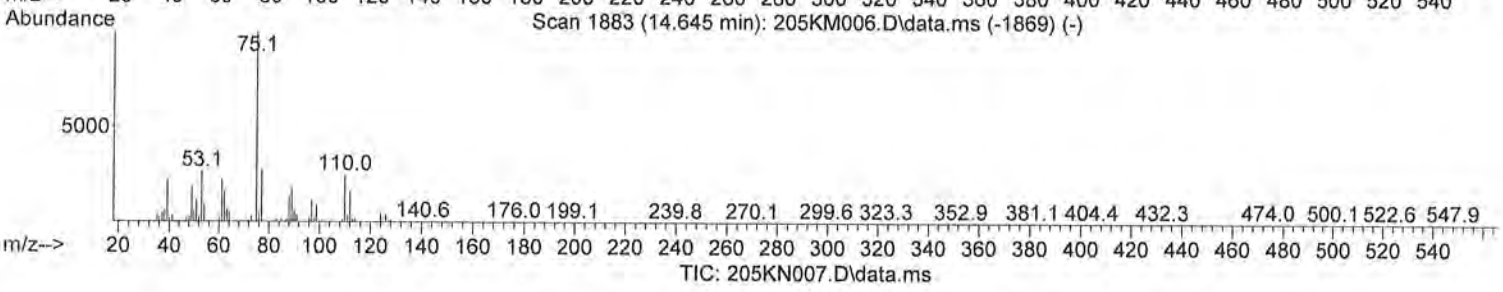
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN007.D
Acq On : 19 Nov 2020 10:49 am
Operator : KKW
Sample : CAL5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 19 12:13:23 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN007.D\data.ms

(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 9.98 ug/L

response 72138

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	122.36#
97.00	45.60	76.42#
0.00	0.00	0.00

Select One:

[X] Manual Integration [ ] Manual Integration

[ ] Reason for manual integration:

[ ] Poor resolution (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Co-elution

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

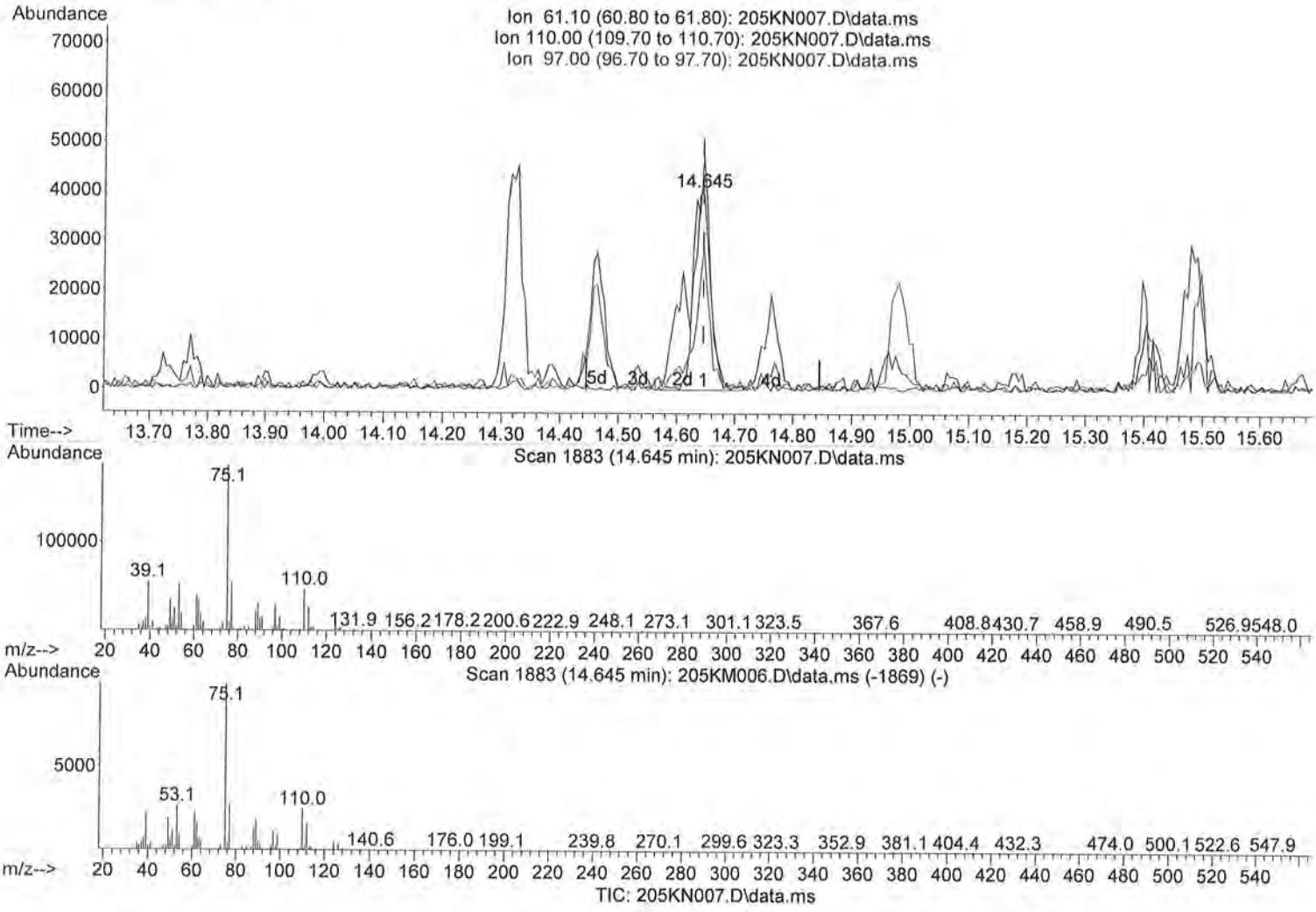
Review by/Date W 11/20/20

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN007.D
Acq On : 19 Nov 2020 10:49 am
Operator : KKW
Sample : CAL5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 19 12:13:23 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 15.74 ug/L m

response 113773

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	77.58
97.00	45.60	48.45
0.00	0.00	0.00

Select One:

[ ] Manual Integration

[ ] Integration:

[ ] (peak tailing, baseline selection)

[ ] Peak not found

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

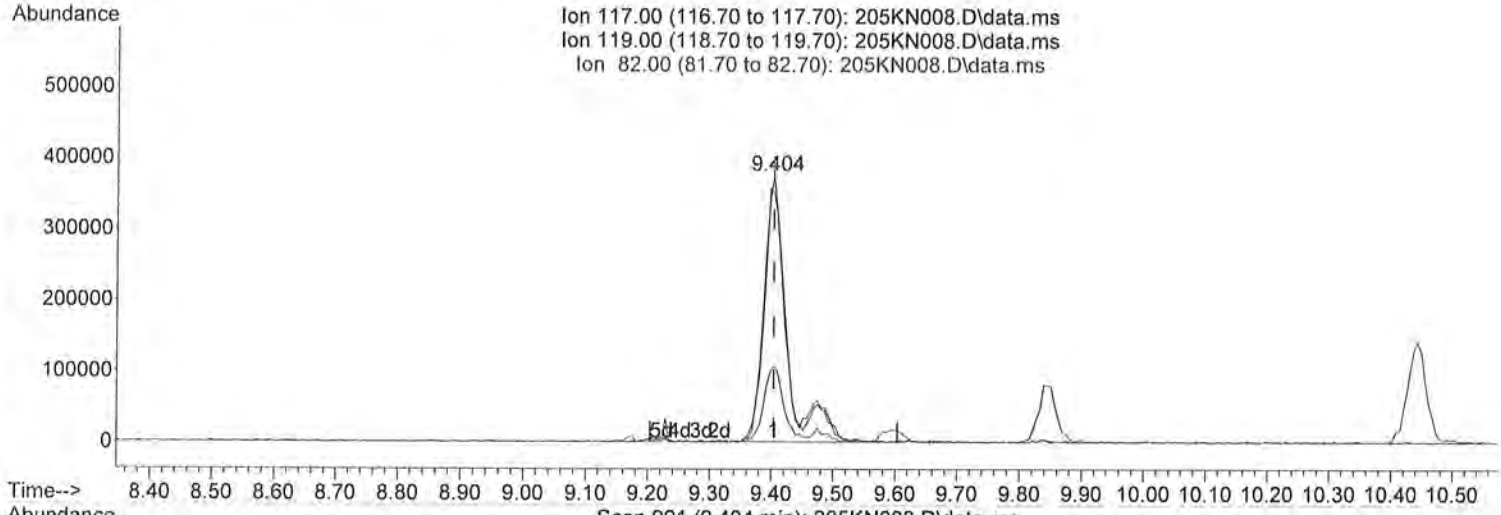
Review by/Date

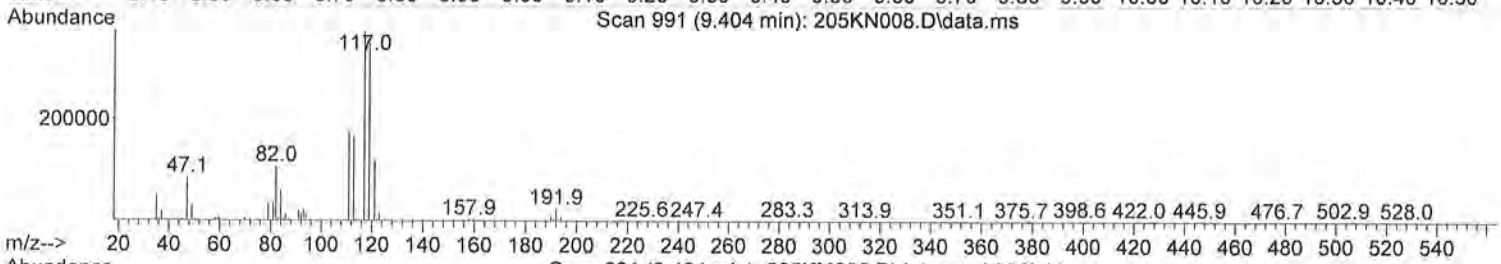
Review by/Date:

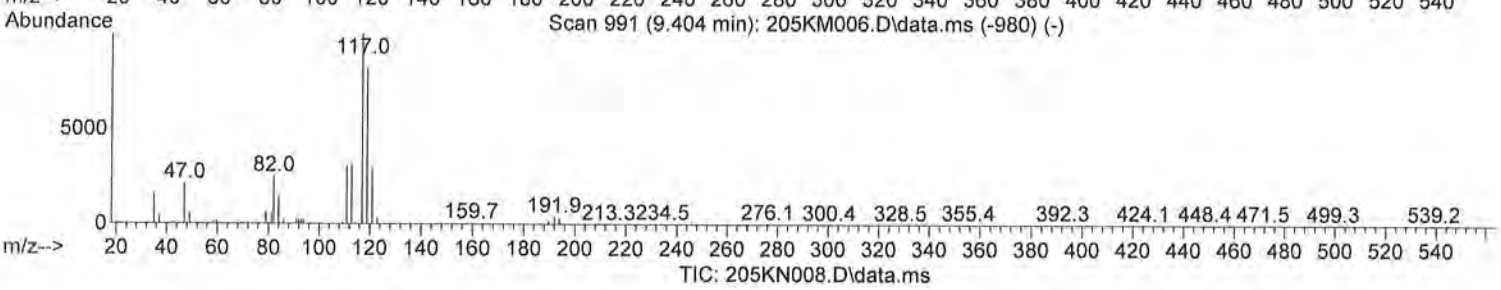
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN008.D
Acq On : 19 Nov 2020 11:20 am
Operator : KKW
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 19 12:13:26 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN008.D\data.ms

(40) Carbon Tetrachloride

9.404min (+ 0.000) 63.70 ug/L

response 983486

Ion	Exp%	Act%
117.00	100.00	100.00
119.00	93.20	93.44
82.00	27.60	24.71
0.00	0.00	0.00

Select One:

[X] Acceptable as reported, manual integration

[X] Acceptable as reported, Mean

[ ] Reintegrate (peak finding, baseline selection)

[ ] Compound identification Weak, not found

[ ] Peak not found

[ ] Baseline drop for spiit peaks

[ ] IS ID reintegration

[ ] Other:

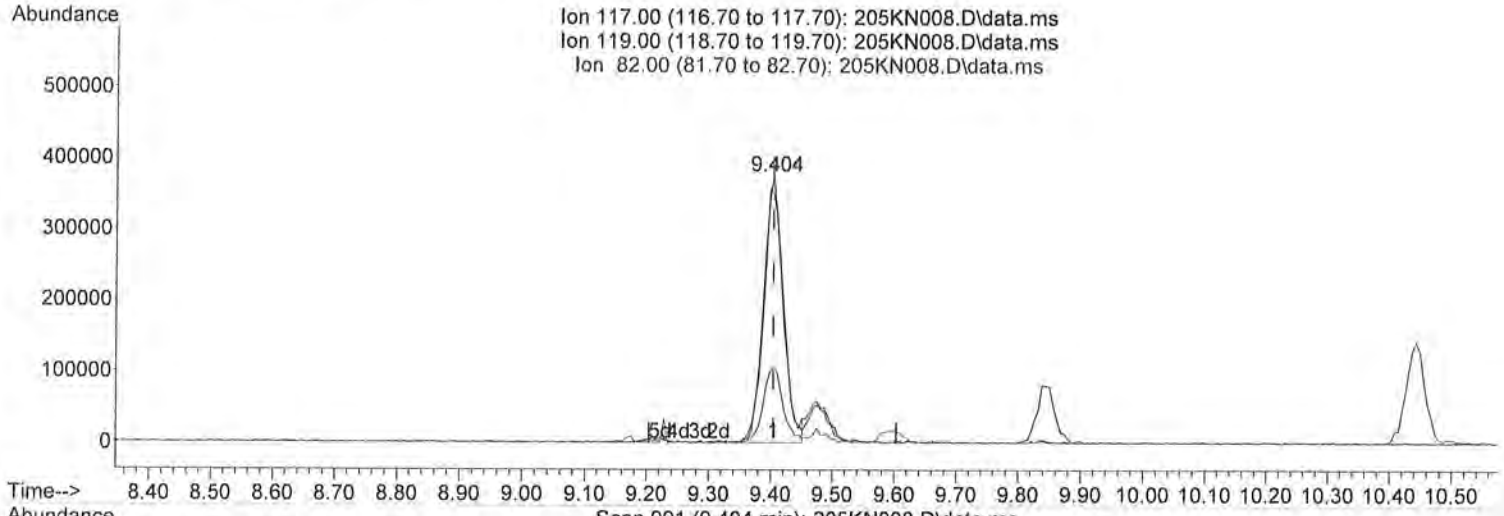
Review by/Date KJ 11/19/20

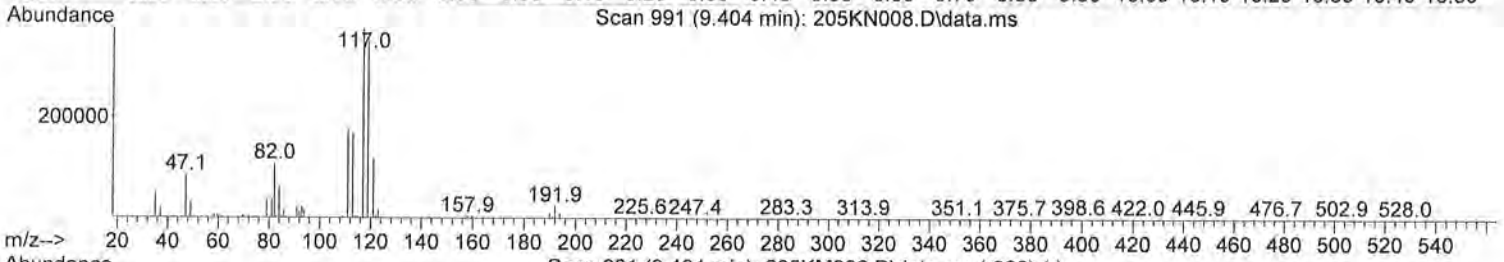
Review by/Date:

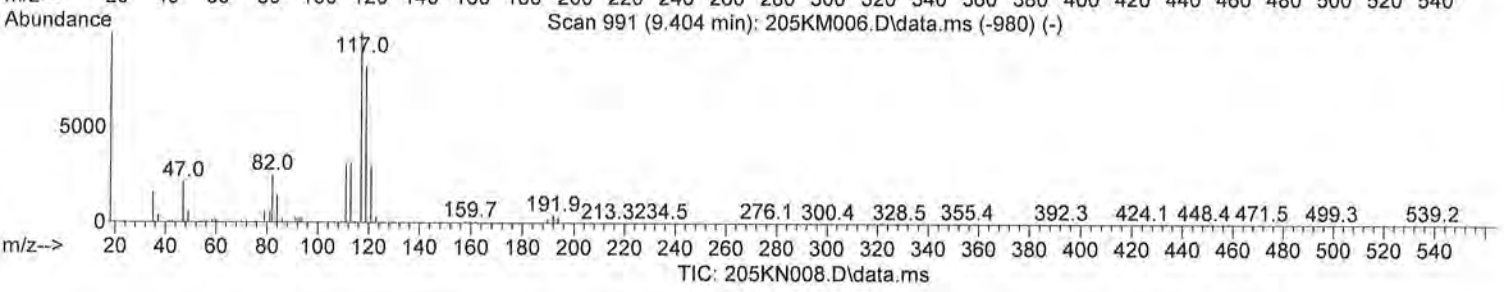
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN008.D
Acq On : 19 Nov 2020 11:20 am
Operator : KKW
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 19 12:13:26 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN008.D\data.ms

(40) Carbon Tetrachloride

9.404min (+ 0.000) 54.69 ug/L m

response 844268

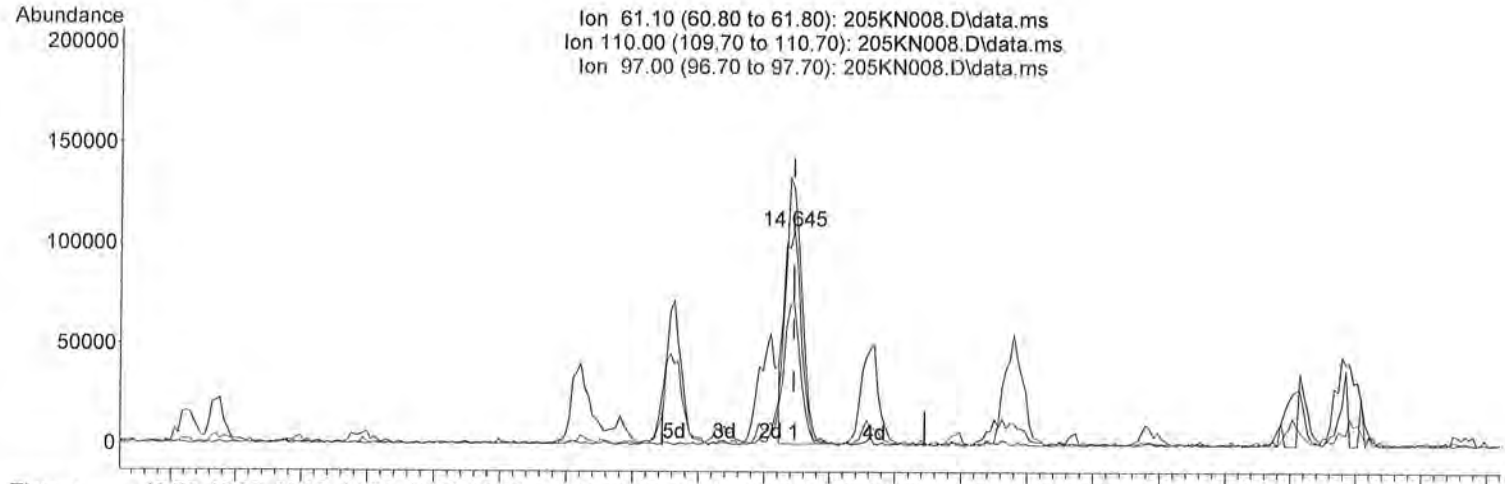
Ion	Exp%	Act%
117.00	100.00	100.00
119.00	93.20	108.85
82.00	27.60	28.79
0.00	0.00	0.00

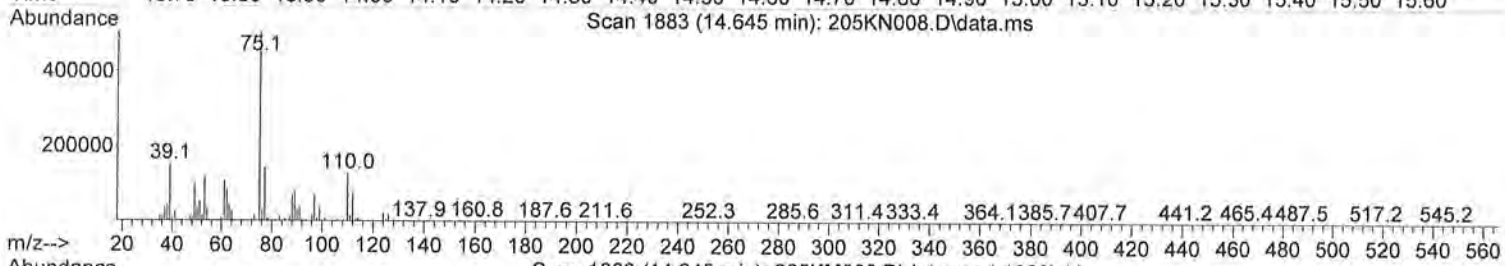
Select Item:
[ ] Omit integration [X] Manual Integration
Select reason for manual integration:
[X] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date W 11/20/20
Review by/Data:

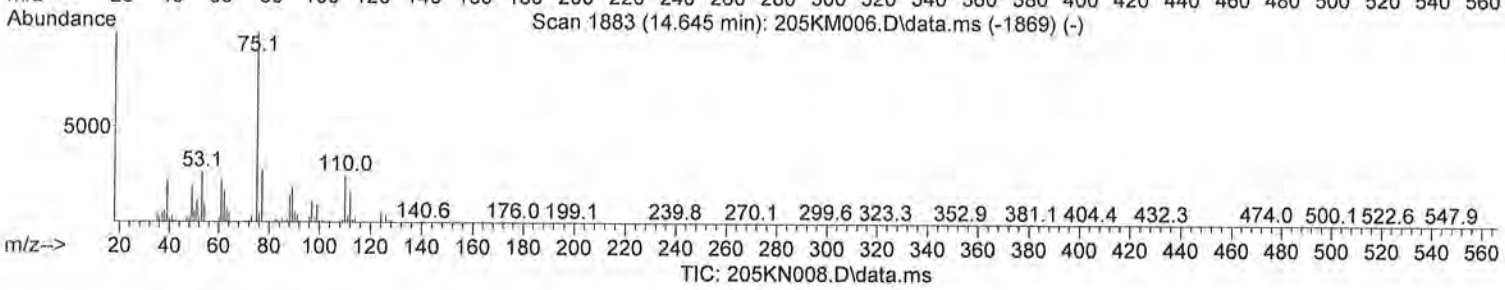
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN008.D
Acq On : 19 Nov 2020 11:20 am
Operator : KKW
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 19 12:13:26 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN008.D\data.ms

(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 26.33 ug/L

response 194191

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	128.20#
97.00	45.60	76.22#
0.00	0.00	0.00

Select One:

[ ] Manual Integration

[ ] Other (peak selection/Peak not found

[ ] Poor integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

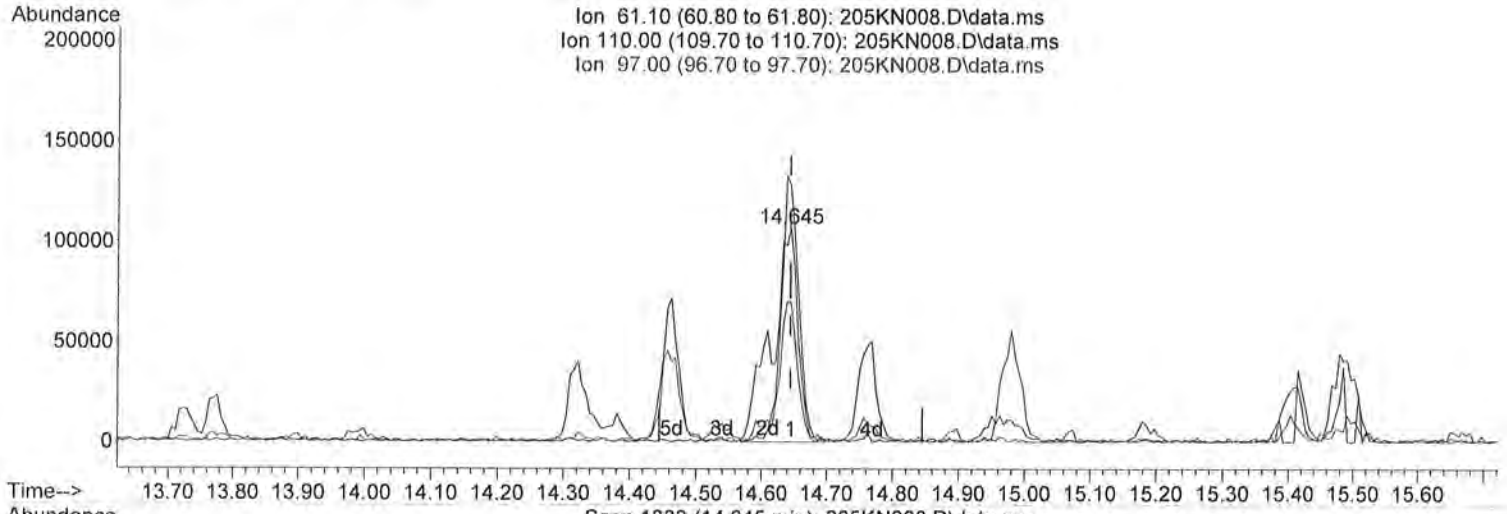
Review by/Date W 11/20/20

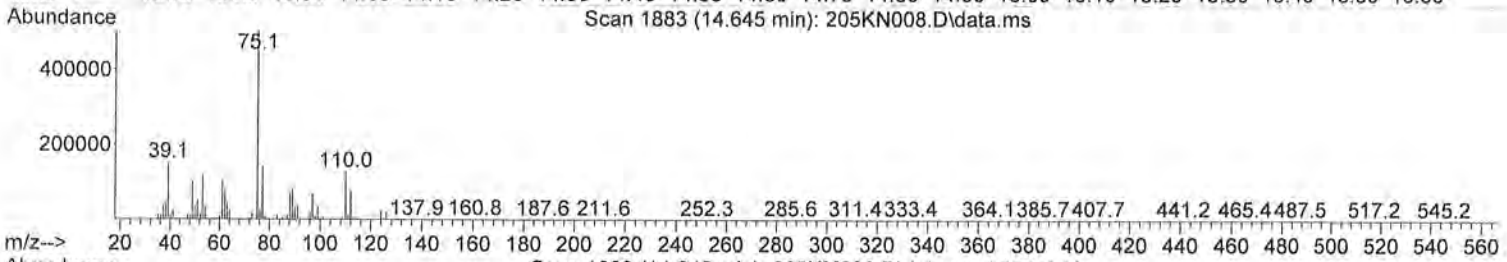
Review by/Date:

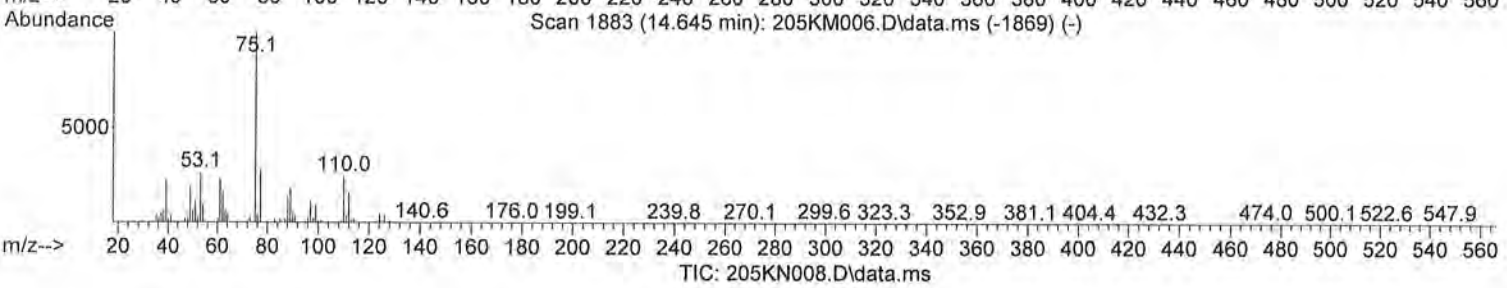
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN008.D
Acq On : 19 Nov 2020 11:20 am
Operator : KKW
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 19 12:13:26 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN008.D\data.ms

(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 40.84 ug/L m

response 301262

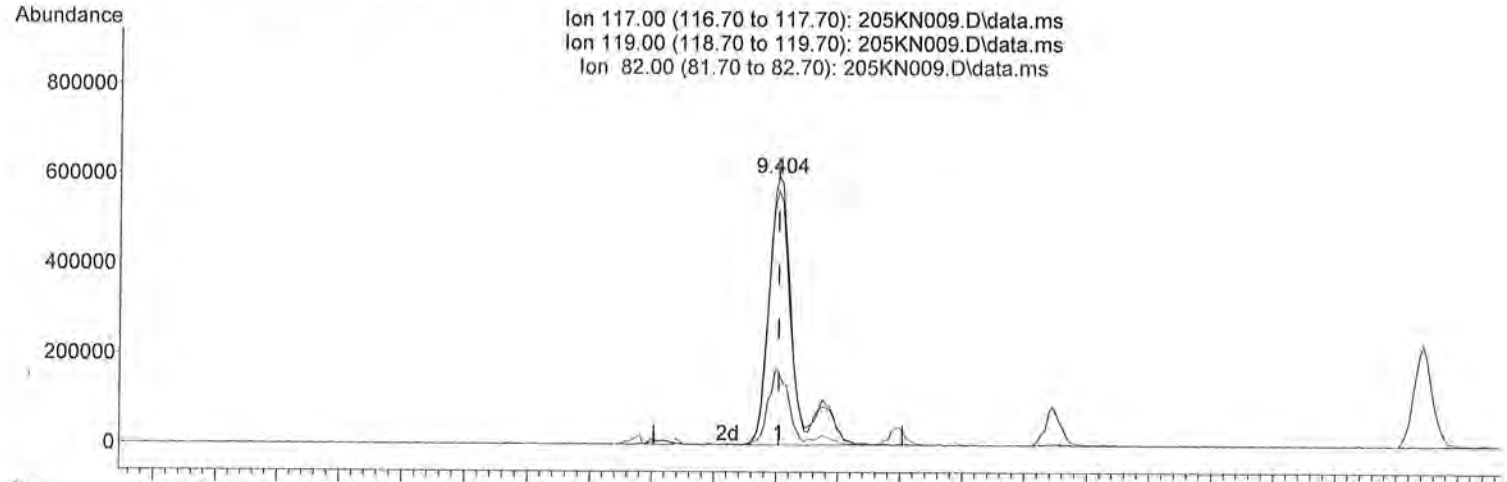
Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	82.64
97.00	45.60	49.13
0.00	0.00	0.00

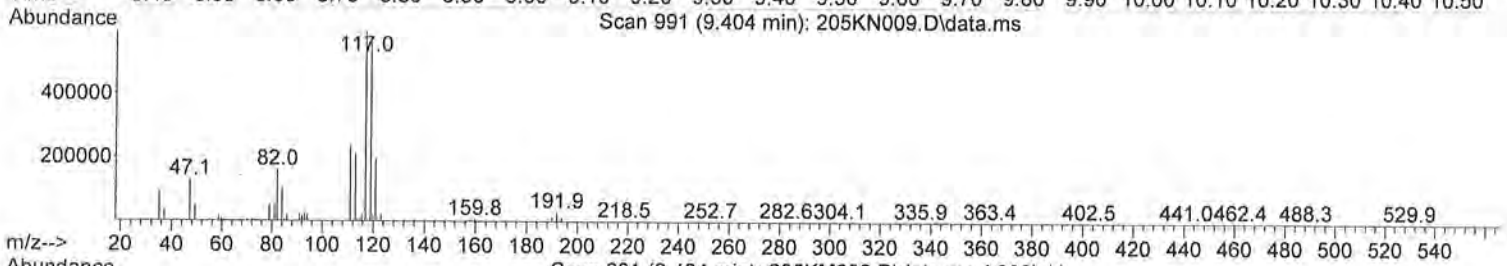
Select Case:
[ ] Accept as is / Manual Integration
[ ] Reintegrate (peak finding, baseline selection)
[ ] Incorrect Peak Selection/Peak not found
[ ] Change Integration
[ ] Baseline drop (or split peaks
[ ] IS/D reintegration
[ ] Other:
Review by/Date W 11/20/20
Review by/Date:

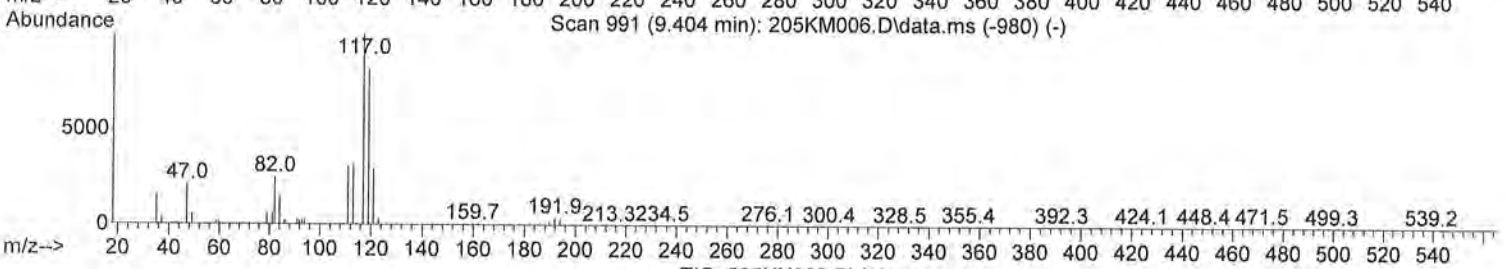
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN009.D
Acq On : 19 Nov 2020 11:51 am
Operator : KKW
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 19 12:26:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN009.D\data.ms

(40) Carbon Tetrachloride

9.404min (+ 0.000) 107.51 ug/L

response 1638930

Ion	Exp%	Act%
117.00	100.00	100.00
119.00	93.20	81.21
82.00	27.60	26.61
0.00	0.00	0.00

Select One:

[ ] Other:

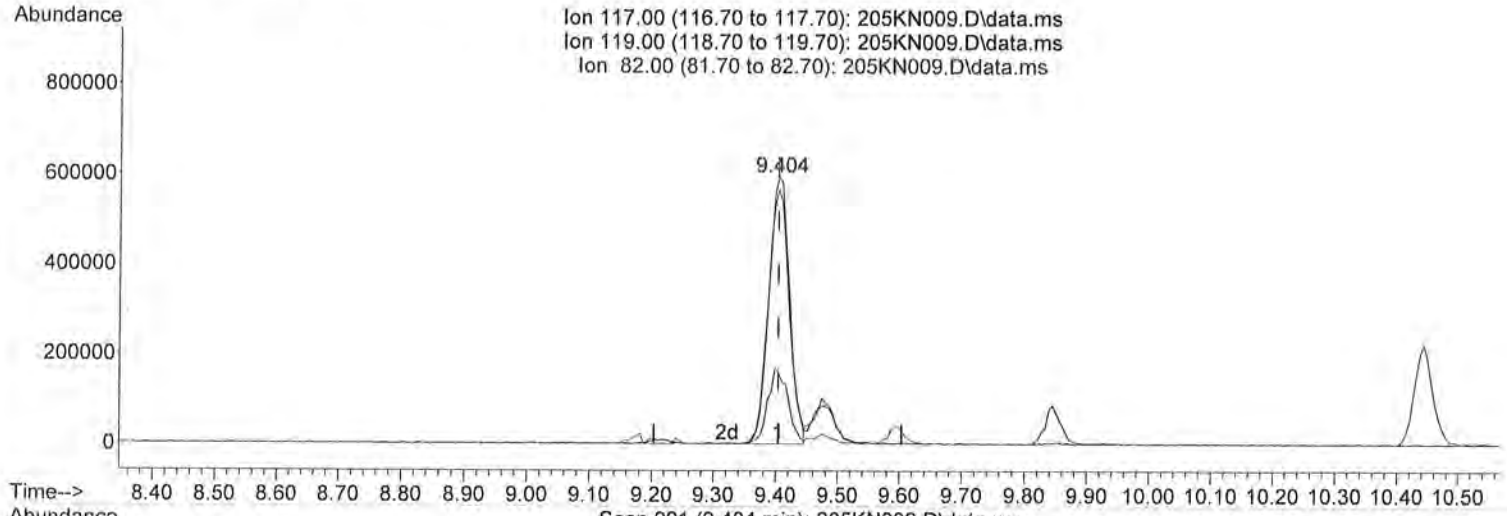
Review by/Date W 11/20/20

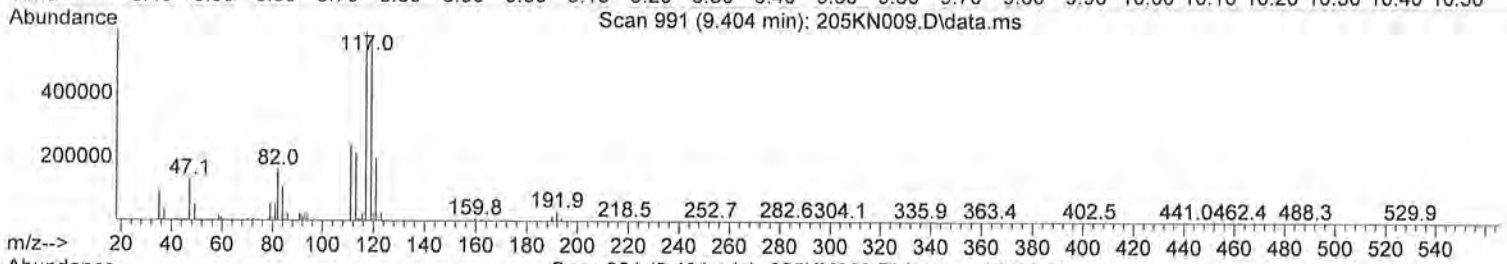
Review by/Date:

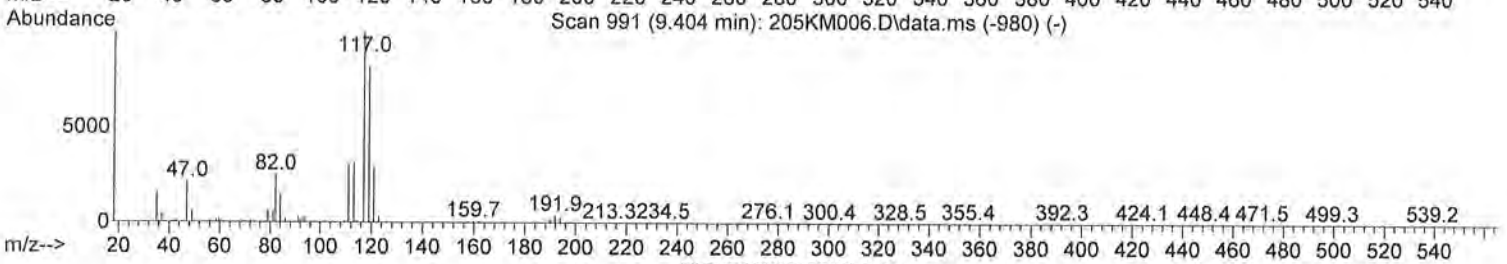
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN009.D
Acq On : 19 Nov 2020 11:51 am
Operator : KKW
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 19 12:26:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN009.D\data.ms

(40) Carbon Tetrachloride

9.404min (+ 0.000) 91.88 ug/L m

response 1400654

Ion	Exp%	Act%
117.00	100.00	100.00
119.00	93.20	95.03
82.00	27.60	31.13
0.00	0.00	0.00

11/23/20

Select Qua

[ ] Other:

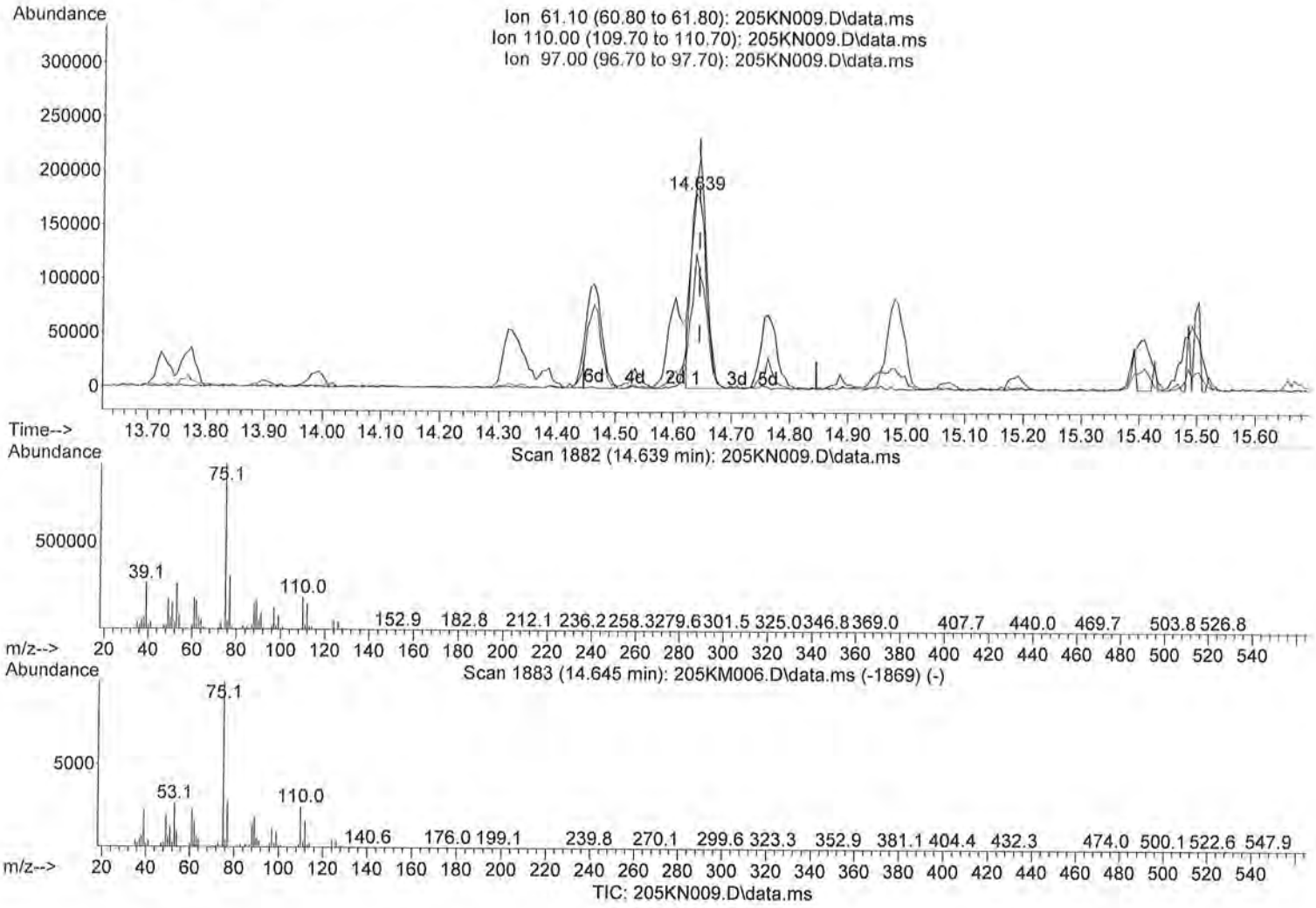
Review by/Date: 11/23/20

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN009.D
Acq On : 19 Nov 2020 11:51 am
Operator : KKW
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 19 12:26:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



TIC: 205KN009.D\data.ms

(77) 1,2,3-Trichloropropane

14.639min (-0.006) 43.53 ug/L

response 321564

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	120.75#
97.00	45.60	76.71#
0.00	0.00	0.00

Select One:

[X] [illegible] integration

[X] [illegible] baseline selection)

[illegible] peak not found

[illegible] for split peaks

[ ] Manual integration

[ ] Other:

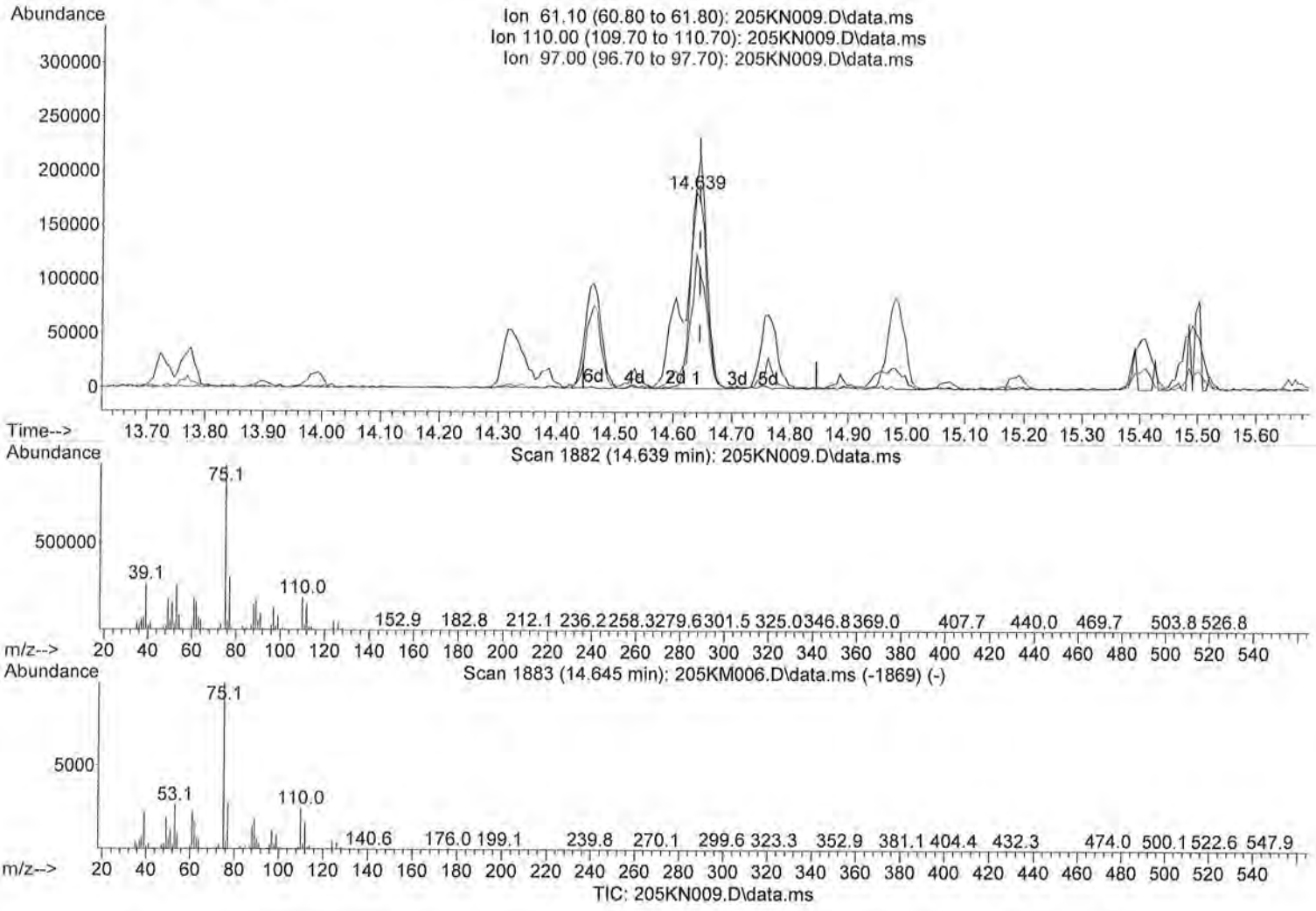
Review by/Date: [illegible] 11/20/20

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN009.D
Acq On : 19 Nov 2020 11:51 am
Operator : KKW
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 19 12:26:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



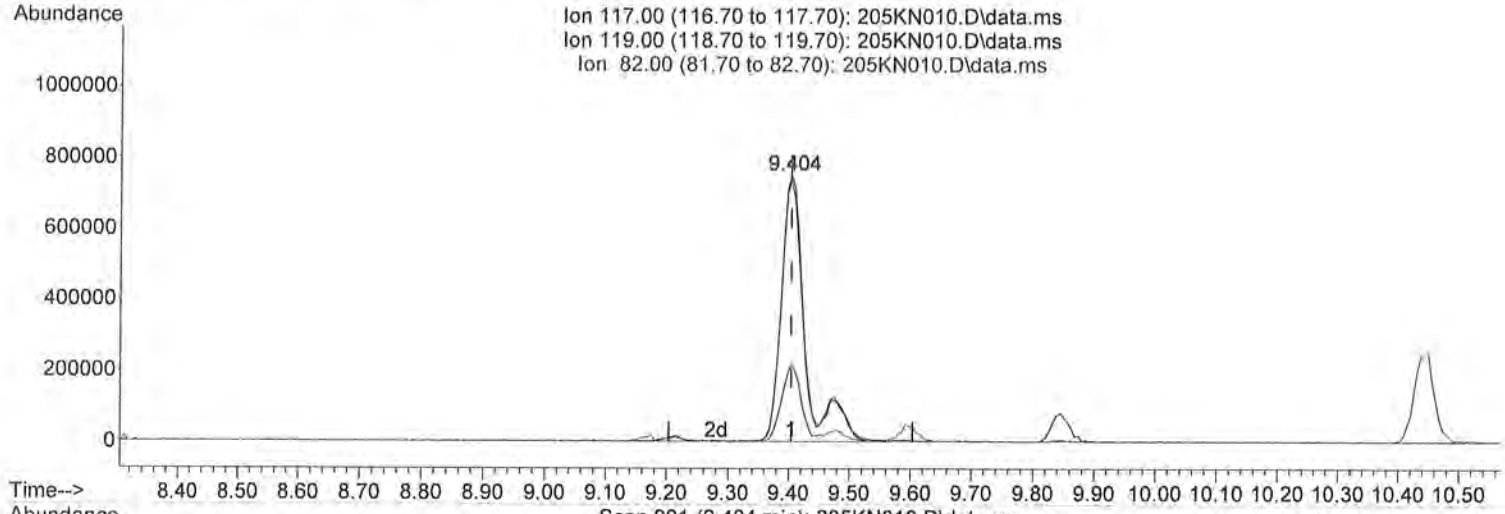
(77) 1,2,3-Trichloropropane		
14.639min (-0.006)	66.05 ug/L m	
response	487875	
Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	79.59
97.00	45.60	50.56
0.00	0.00	0.00

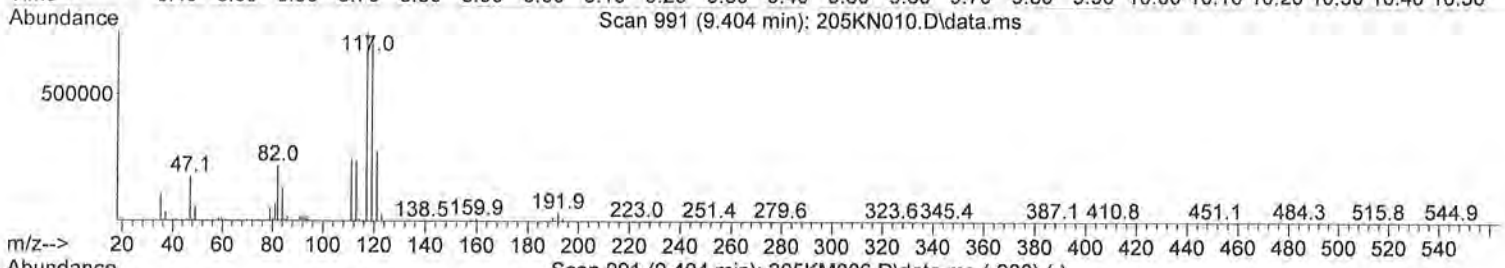
Select One:
[ ] Original Integration [X] Manual Integration
Sat
[ ]
[ ]
[ ]
[ ] Unsat
Review by/Date W 11/20/20
Review by/Date:

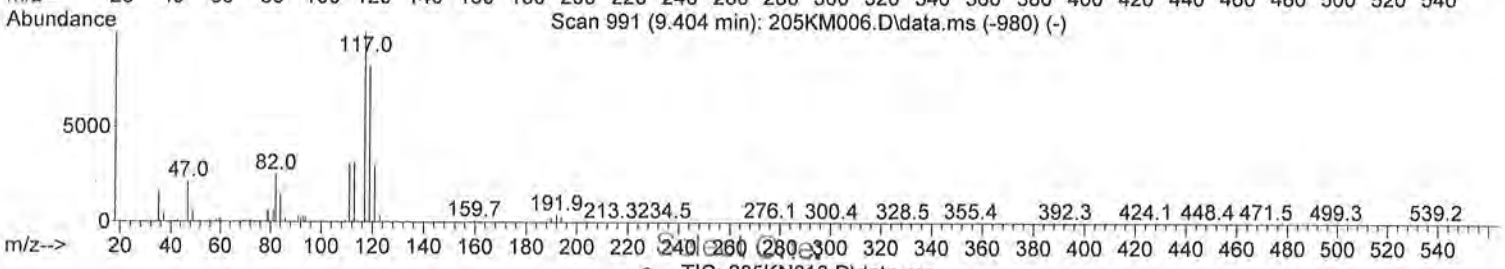
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN010.D
Acq On : 19 Nov 2020 12:22 pm
Operator : KKW
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 19 12:45:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN010.D\data.ms

(40) Carbon Tetrachloride

9.404min (+ 0.000) 137.08 ug/L

response 2070325

Ion	Exp%	Act%
117.00	100.00	100.00
119.00	93.20	95.53
82.00	27.60	26.74
0.00	0.00	0.00

[X] Original Integration [ ] Manual Integration

Select reason for manual integration

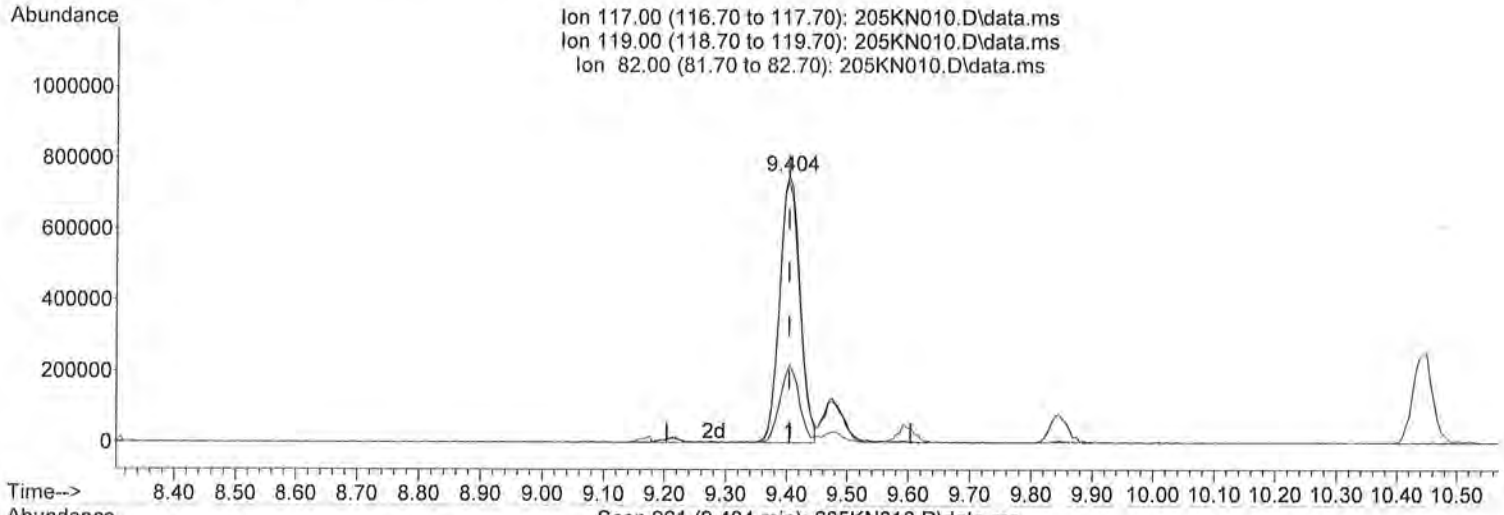
Review by/Date: 11/19/20

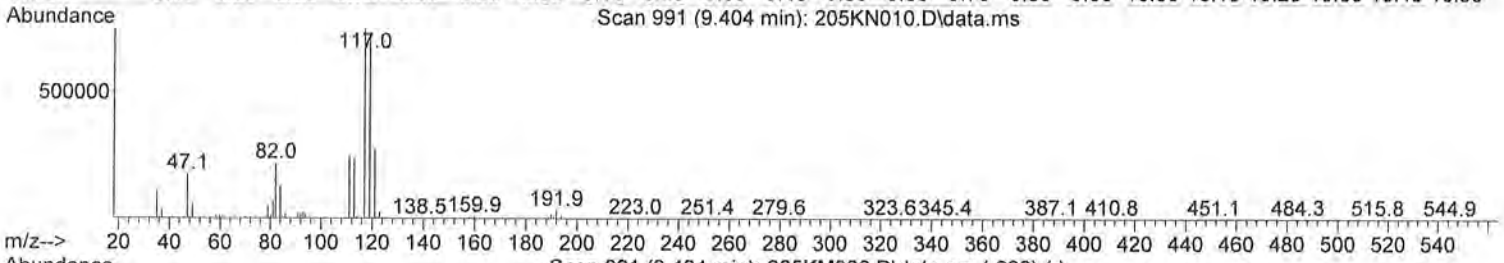
Review by/Date:

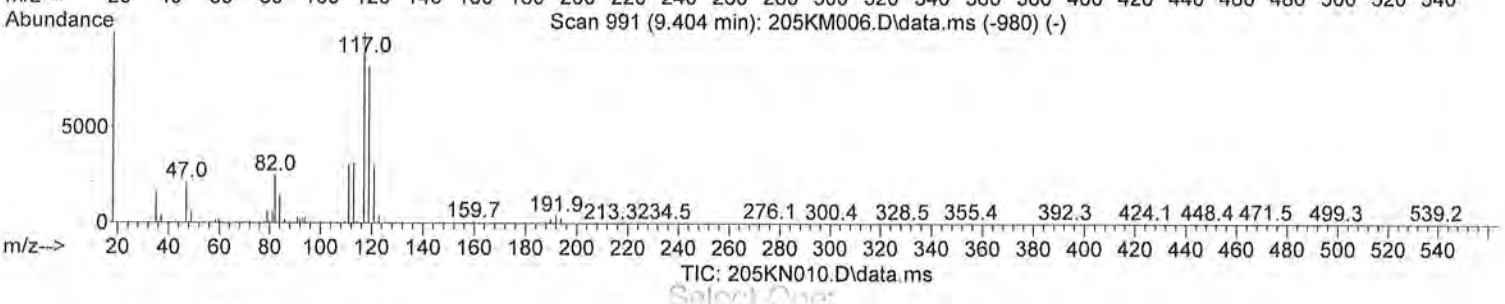
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN010.D
Acq On : 19 Nov 2020 12:22 pm
Operator : KKW
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 19 12:45:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration







TIC: 205KN010.D\data.ms

(40) Carbon Tetrachloride

9.404min (+ 0.000) 116.24 ug/L m

response 1755533

Ion	Exp%	Act%
117.00	100.00	100.00
119.00	93.20	112.66#
82.00	27.60	31.54
0.00	0.00	0.00

Select One:

[ ] Manual Integration

[ ] Manual integration:

[ ] Incorrect peak selection (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Reintegration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

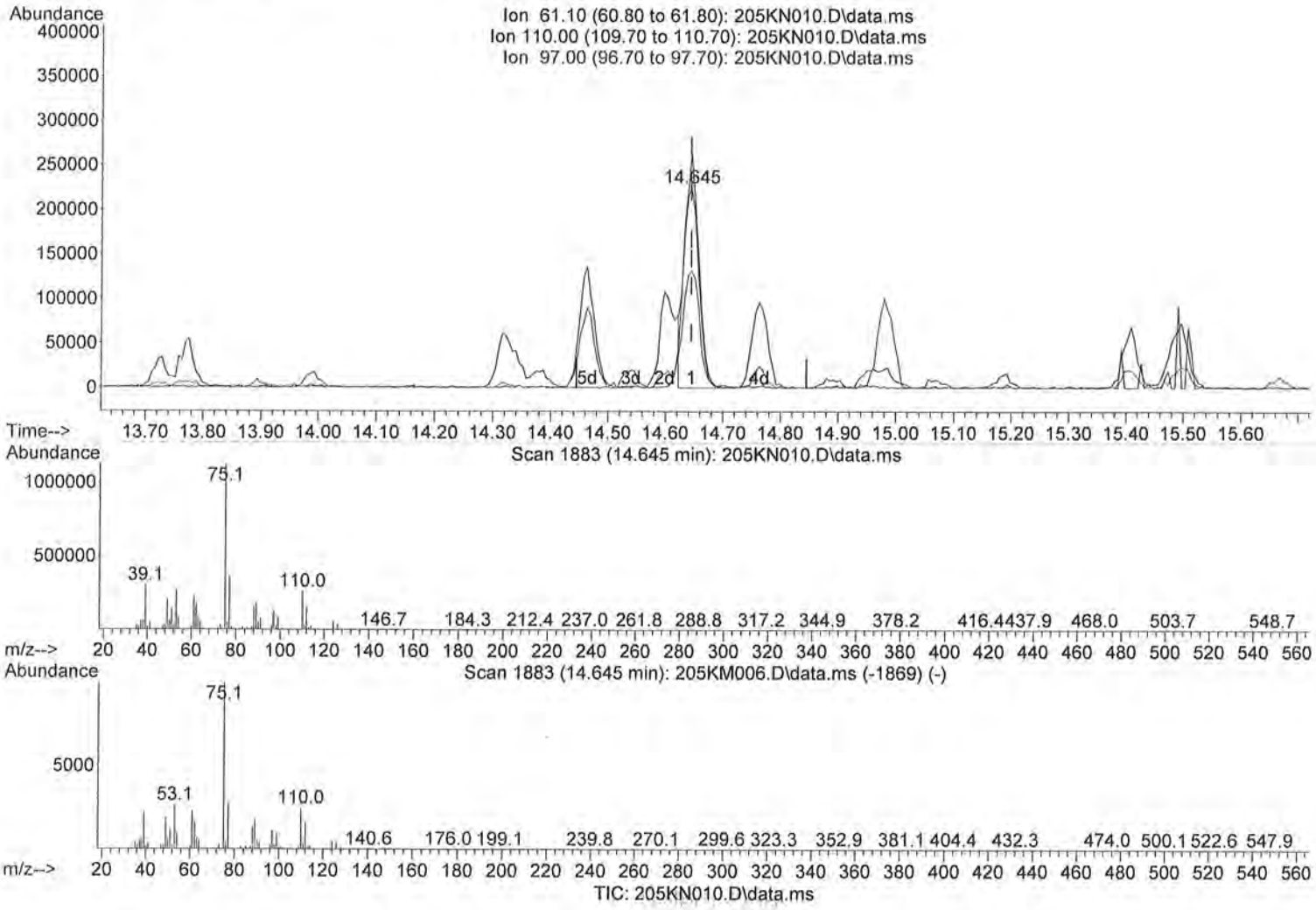
Review by/Date: W 11/20/20

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN010.D
Acq On : 19 Nov 2020 12:22 pm
Operator : KKW
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 19 12:45:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 54.53 ug/L

response 415382

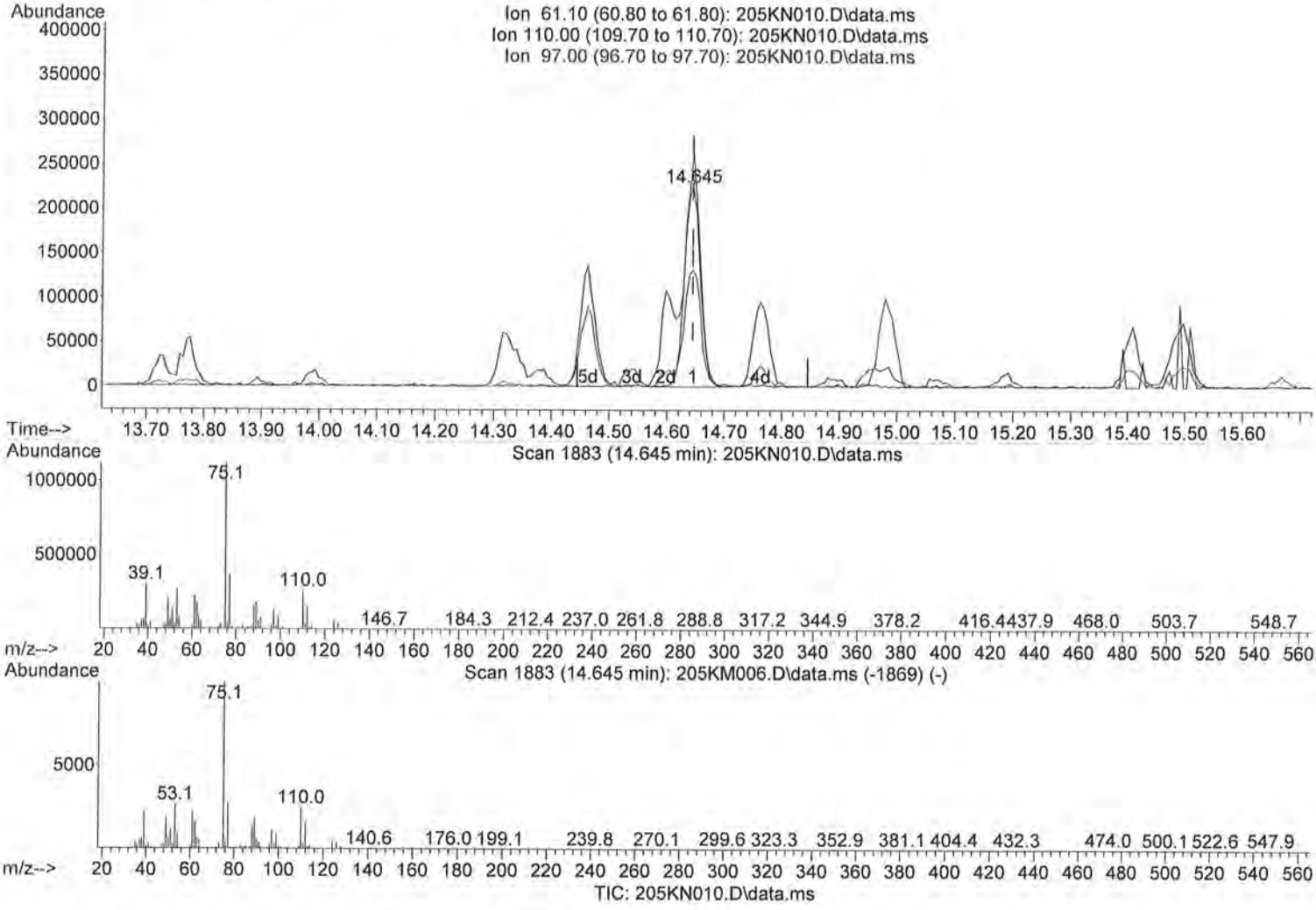
Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	115.68#
97.00	45.60	72.11#
0.00	0.00	0.00

[ ] Manual Integration
[ ] Reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date W 11/20/20
Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN010.D
Acq On : 19 Nov 2020 12:22 pm
Operator : KKW
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 19 12:45:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 81.80 ug/L m

response 623122

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.80	77.12
97.00	45.60	48.07
0.00	0.00	0.00

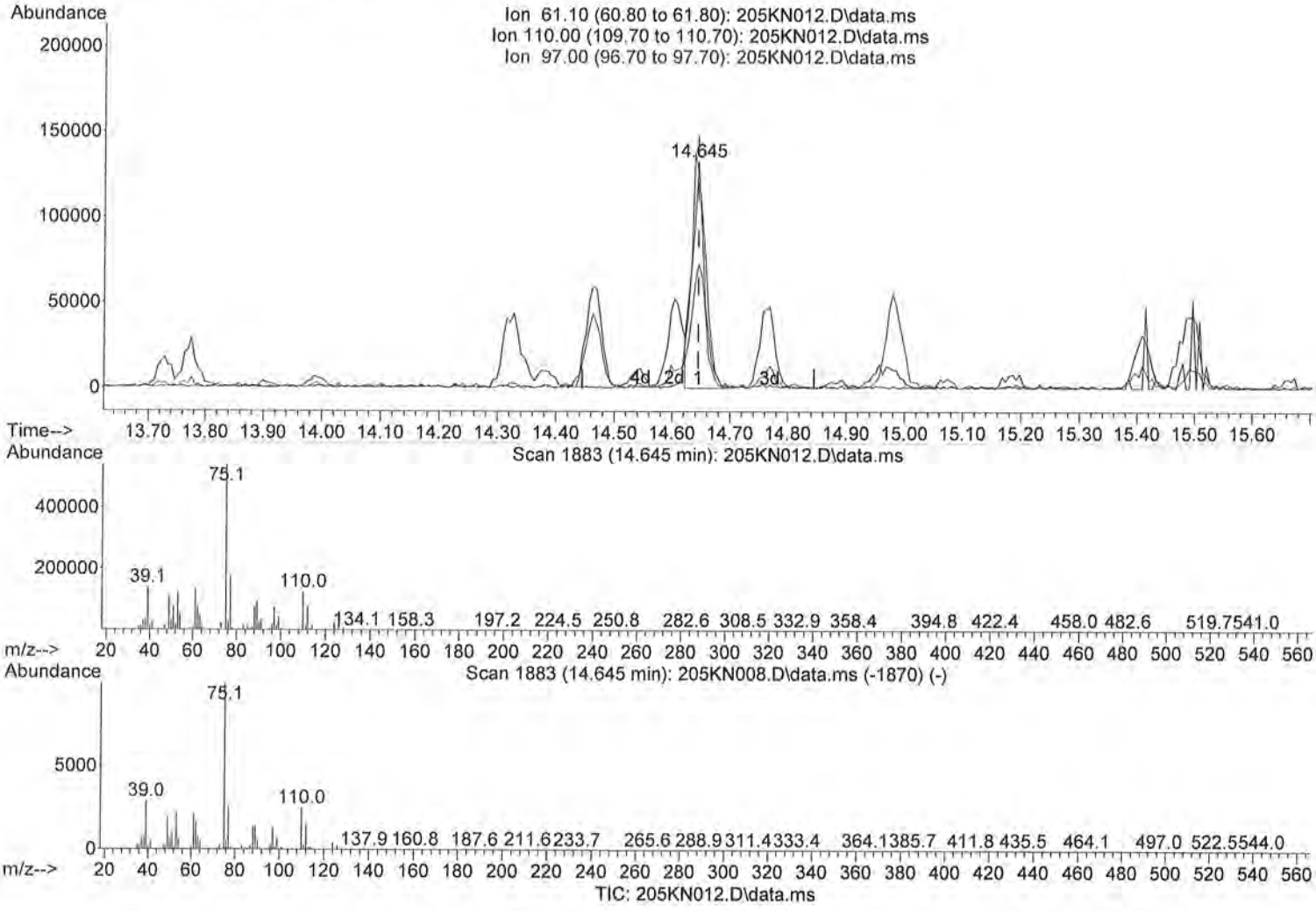
Manual Integration

111920W.M Thu Nov 19 12:46:41 2020 Page: 1

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN012.D
Acq On : 19 Nov 2020 1:24 pm
Operator : KKW
Sample : SCV
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Nov 20 07:34:48 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 13:02:55 2020
Response via : Initial Calibration



(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 31.90 ug/L

response 194193

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.60	122.25#
97.00	49.10	75.45#
0.00	0.00	0.00

Select One:

[ ] Other:

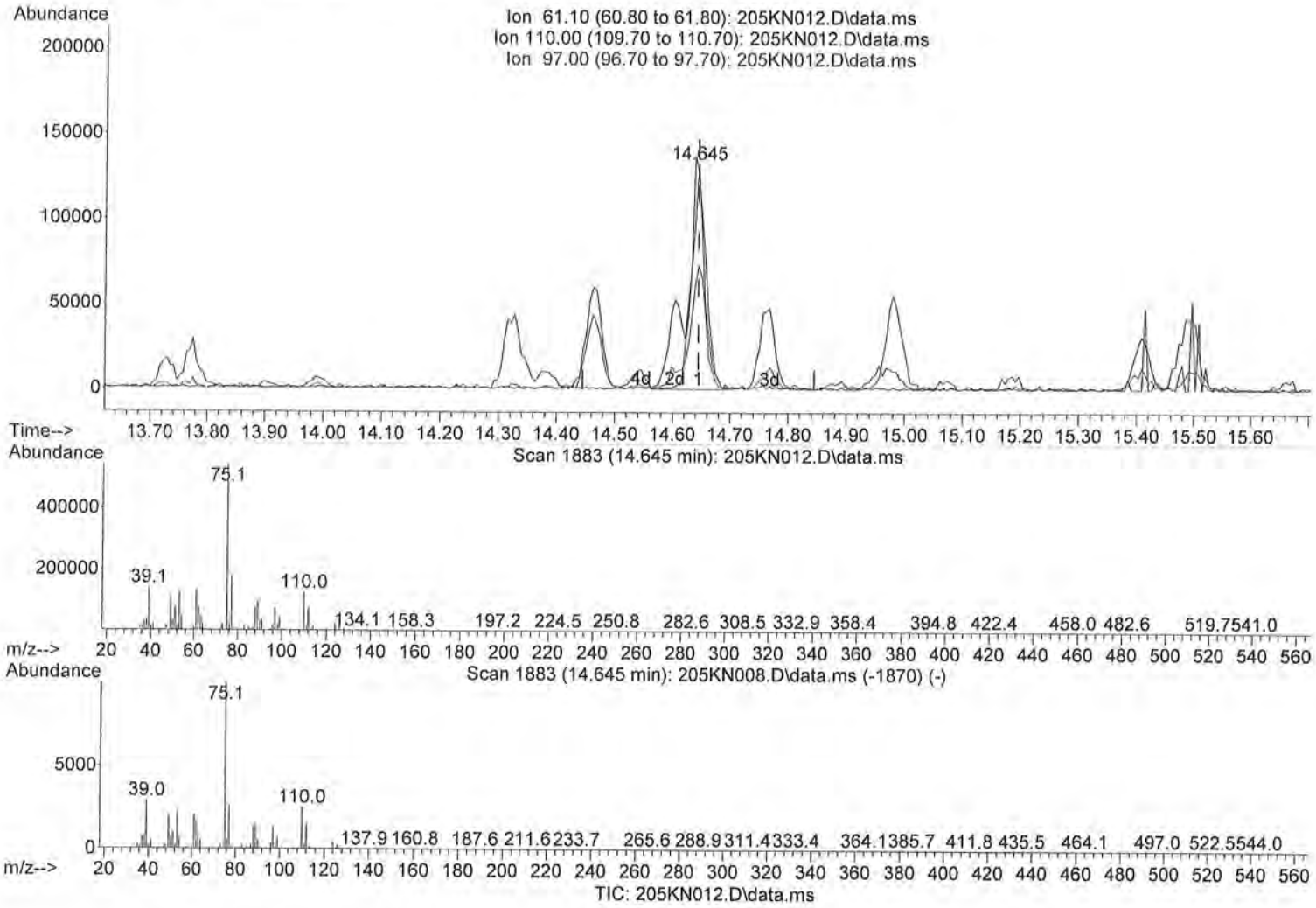
Review by/Date

Review by/Date

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN012.D
Acq On : 19 Nov 2020 1:24 pm
Operator : KKW
Sample : SCV
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Nov 20 07:34:48 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 13:02:55 2020
Response via : Initial Calibration



(77) 1,2,3-Trichloropropane

14.645min (+ 0.000) 47.38 ug/L m

response 288427

Ion	Exp%	Act%
61.10	100.00	100.00
110.00	82.60	82.31
97.00	49.10	50.80
0.00	0.00	0.00

Select One:

[] Original Integration [X] Manual Integration

Select reason for manual integration

[X]

[] Other:

Review by/Date

Review by/Date:

111920W.M Fri Nov 20 07:37:13 2020 Page: 1

Compound List Report OVGCMS5

Method Path : C:\msdchem\1\methods\
Method File : 111920W.M
Title : ENCO SOP VGCMS05; Element Cal
Last Update : Thu Nov 19 13:02:55 2020
Response Via : Initial Calibration

Total Cpnds : 96

PK#	Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1 I	PENTAFLUOROBENZENE (IS)	168	9.845	1.000	A	3	A	B
2	Dichlorodifluoromethane	85	3.969	0.403	A	2	A	B
3 P	Chloromethane	50	4.392	0.446	A	1	A	B
4 C	Vinyl Chloride	62	4.574	0.465	A	1	A	B
5	Bromomethane	94	5.221	0.530	QO	2	A	B
6	Chloroethane	64	5.421	0.551	LO	2	A	B
7	Trichlorofluoromethane	101	5.679	0.577	A	2	A	B
8	Diethyl ether	59	6.173	0.627	A	2	A	B
9 C	1,1-Dichloroethene	96	6.519	0.662	A	2	A	B
10	Trichlorotrifluoroethane	151	6.543	0.665	A	2	A	B
11	Acrolein	56	7.007	0.712	A	1	A	B
12	Iodomethane	142	6.766	0.687	LO	2	A	B
13	Carbon Disulfide	76	6.613	0.672	A	2	A	B
14	3-chloropropene	41	7.183	0.730	LO	2	A	B
15	Acetone	43	7.389	0.751	LO	1	A	R
16	Methylene Chloride	84	7.330	0.745	LO	1	A	R
17	Methyl Acetate	43	7.512	0.763	LO	2	A	B
18	t-1,2-Dichloroethene	96	7.542	0.766	A	2	A	B
19	Methyl tert-butyl ether	73	7.624	0.774	A	2	A	B
20	Acetonitrile	41	8.006	0.813	LO	2	A	B
21	Isopropyl ether	45	8.047	0.817	A	2	A	B
22	Chloroprene	88	8.264	0.839	A	2	A	B
23 P	1,1-Dichloroethane	63	8.305	0.844	A	3	A	B
24	Acrylonitrile	53	8.376	0.851	A	2	A	B
25	Vinyl Acetate	43	8.529	0.866	A	1	A	B
26	c-1,2-Dichloroethene	96	8.940	0.908	A	2	A	B
27	2,2-Dichloropropane	77	9.063	0.921	QO	2	A	B
28	Bromochloromethane	128	9.175	0.932	A	1	A	B
29	Cyclohexane	56	9.181	0.933	LO	2	A	B
30 C	Chloroform	83	9.210	0.936	A	2	A	B
31 S	Dibromofluoromethane	113	9.416	0.956	A	2	A	B
32	Dibromofluoromethane	113	9.428	0.958	A	2	A	B
33	2-Butanone	72	9.539	0.969	QO	1	A	R
34	1,1,1-Trichloroethane	97	9.481	0.963	A	2	A	B
35	1,1-Dichloropropene	75	9.592	0.974	A	2	A	B
36	Propionitrile	54	9.892	1.005	A	2	A	B
37	Methacrylonitrile	41	9.904	1.006	A	1	A	R
38	Isobutyl Alcohol	43	9.898	1.005	A	2	A	B
39 I	1,4-DIFLUOROBENZENE (IS)	114	10.438	1.000	A	2	A	B
40	Carbon Tetrachloride	117	9.404	0.901	LO	2	A	B
41	Benzene	78	9.868	0.945	A	1	A	B
42	1,2-Dichloroethane	62	10.080	0.966	LO	2	A	B
43	Trichloroethene	130	10.444	1.001	A	2	A	B
44	Methyl cyclohexane	83	10.438	1.000	LO	2	A	B
45	Dibromomethane	93	10.891	1.043	A	2	A	B
46 C	1,2-Dichloropropane	63	10.973	1.051	QO	2	A	B
47	Bromodichloromethane	83	11.008	1.055	QO	2	A	B
48	Methyl Methacrylate	69	11.073	1.061	LO	2	A	B
49	1,4-Dioxane	88	11.190	1.072	LO	1	A	R
50	2-Chloroethyl vinyl ether	63	11.478	1.100	A	2	A	B
51	C-1,3-Dichloropropene	75	11.602	1.111	QO	2	A	B
52 S	D8-Toluene	98	11.772	1.128	A	2	A	B
53	D8-Toluene	98	11.778	1.128	A	2	A	B
54	4-Methyl-2-pentanone	100	12.125	1.162	LO	2	A	B

55	I	CHLOROBENZENE-D5 (IS)	82	13.217	1.000	A	2	A	B
56	C	Toluene	92	11.819	0.894	A	2	A	B
57		T-1,3-Dichloropropene	75	12.189	0.922	LO	2	A	B
58		Tetrachloroethene	164	12.201	0.923	LO	2	A	B
59		Ethyl methacrylate	69	12.236	0.926	LO	2	A	B
60		1,1,2-Trichloroethane	97	12.354	0.935	LO	2	A	B
61		Dibromochloromethane	129	12.542	0.949	QO	2	A	B
62		1,3-Dichloropropane	76	12.618	0.955	A	2	A	B
63		1,2-Dibromoethane	107	12.806	0.969	A	2	A	B
64		2-Hexanone	43	12.871	0.974	A	2	A	B
65	C	Ethylbenzene	106	13.200	0.999	LO	2	A	B
66	P	Chlorobenzene	112	13.235	1.001	A	1	A	B
67		1,1,1,2-Tetrachloroethane	131	13.270	1.004	A	2	A	B
68		m-xylene & p-xylene	106	13.317	1.008	A	1	A	B
69		o-xylene	106	13.729	1.039	A	1	A	B
70		Styrene	104	13.770	1.042	A	2	A	B
71	P	Bromoform	173	13.870	1.049	QO	1	A	B
72		Isopropylbenzene	105	13.987	1.058	A	2	A	B
73	S	Bromofluorobenzene	95	14.322	1.084	A	2	A	B
74		Bromofluorobenzene	95	14.322	1.084	A	2	A	B
75		n-Propylbenzene	91	14.381	1.088	A	2	A	B
76	P	1,1,2,2-Tetrachloroethane	83	14.463	1.094	A	3	A	B
77		1,2,3-Trichloropropane	61	14.645	1.108	A	2	A	B
78		T-1,4-Dichloro-2-Butene	53	14.346	1.085	LO	2	A	B
79	I	1,4-DICHLOROBENZENE-D4 (IS)	152	15.474	1.000	A	3	A	B
80		Bromobenzene	156	14.457	0.934	A	2	A	B
81		1,2,4-Trimethylbenzene	105	14.951	0.966	A	2	A	B
82		2-Chlorotoluene	91	14.604	0.944	A	2	A	R
83		4-Chlorotoluene	91	14.763	0.954	A	2	A	R
84		tert-Butylbenzene	119	14.892	0.962	A	2	A	B
85		1,3,5-Trimethylbenzene	105	14.539	0.940	A	2	A	B
86		p-Isopropyltoluene	119	15.186	0.981	A	2	A	B
87		s-Butylbenzene	105	15.068	0.974	A	2	A	B
88		1,3-Dichlorobenzene	146	15.409	0.996	A	2	A	R
89		1,4-Dichlorobenzene	146	15.497	1.002	A	2	A	R
90		n-Butylbenzene	91	15.668	1.013	A	2	A	B
91		1,2-Dichlorobenzene	146	16.014	1.035	A	2	A	B
92		DBCP	157	17.078	1.104	QO	1	A	B
93		Hexachlorobutadiene	225	17.965	1.161	QO	2	A	B
94		1,2,4-Trichlorobenzene	180	18.129	1.172	QO	2	A	B
95		Naphthalene	128	18.758	1.212	QO	2	A	B
96		1,2,3-Trichlorobenzene	180	19.146	1.237	QO	2	A	B

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

Compound Name Duplication Report

Quant Method: C:\msdchem\1\methods\111920W.M
Number of Compounds: 96

31 Dibromofluoromethane = 32 Dibromofluoromethane
52 D8-Toluene = 53 D8-Toluene
73 Bromofluorobenzene = 74 Bromofluorobenzene

3 Duplicate Names Detected!!!

111920W.M Fri Nov 20 09:31:15 2020

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN003.D
Acq On : 19 Nov 2020 8:46 am
Operator : KKW
Sample : CAL1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 19 12:13:03 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.851	168	1250058	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2384669	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.223	82	1608704	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.480	152	1323293	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.422	113	623489	70.75	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 141.50%#				
52) D8-Toluene	11.778	98	2961300	71.07	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 142.14%#				
73) Bromofluorobenzene	14.322	95	1515651	80.75	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 161.50%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.975	85	18296	1.05	ug/L		92
3) Chloromethane	4.398	50	24090	1.04	ug/L	#	64
4) Vinyl Chloride	4.575	62	15975	0.86	ug/L	#	40
5) Bromomethane	5.227	94	13720	3.79	ug/L	#	85
6) Chloroethane	5.444	64	12739	1.59	ug/L	#	87
7) Trichlorofluoromethane	5.679	101	19911	1.01	ug/L	#	38
8) Diethyl ether	6.184	59	12948	0.98	ug/L	#	54
9) 1,1-Dichloroethene	6.525	96	13263	1.04	ug/L	#	87
10) Trichlorotrifluoroethane	6.543	151	6524	0.76	ug/L	#	61
11) Acrolein	7.025	56	25649	6.51	ug/L		99
12) Iodomethane	6.778	142	40512	4.66	ug/L	#	89
13) Carbon Disulfide	6.613	76	203203	8.96	ug/L		95
14) 3-chloropropene	7.189	41	29238	1.45	ug/L	#	78
15) Acetone	7.401	43	20512	4.24	ug/L	#	82
16) Methylene Chloride	7.336	84	23731	0.91	ug/L	#	70
17) Methyl Acetate	7.530	43	18811	1.38	ug/L	#	94
18) t-1,2-Dichloroethene	7.536	96	15808	1.14	ug/L	#	1
19) Methyl tert-butyl ether	7.618	73	30197	0.83	ug/L	#	76
20) Acetonitrile	8.047	41	33337	11.03	ug/L	#	68
21) Isopropyl ether	8.053	45	42345	0.90	ug/L	#	90
22) Chloroprene	8.276	88	12782	1.01	ug/L	#	75
23) 1,1-Dichloroethane	8.311	63	28756	1.00	ug/L	#	95
24) Acrylonitrile	8.388	53	42630	5.96	ug/L		91
25) Vinyl Acetate	8.546	43	138673	4.83	ug/L	#	100
26) c-1,2-Dichloroethene	8.946	96	13851	0.87	ug/L	#	82
27) 2,2-Dichloropropane	9.069	77	24680	1.13	ug/L	#	71
28) Bromochloromethane	9.193	128	4358	0.77	ug/L	#	5
29) Cyclohexane	9.181	56	36143	1.30	ug/L		91
30) Chloroform	9.234	83	25212	0.94	ug/L	#	77
32) Dibromofluoromethane	9.422	113	623489	70.75	ug/L	#	84
33) 2-Butanone	9.563	72	11859	5.48	ug/L	#	52
34) 1,1,1-Trichloroethane	9.481	97	22143	1.02	ug/L	#	85
35) 1,1-Dichloropropene	9.604	75	24888	1.18	ug/L	#	94
36) Propionitrile	9.898	54	18232	7.06	ug/L	#	47
37) Methacrylonitrile	9.904	41	99844	8.86	ug/L		98
38) Isobutyl Alcohol	9.898	43	19639	12.58	ug/L	#	67
40) Carbon Tetrachloride	9.398	117	16992	1.09	ug/L	#	63
41) Benzene	9.880	78	65290	1.05	ug/L	#	80
42) 1,2-Dichloroethane	10.098	62	25267	1.28	ug/L		93
43) Trichloroethene	10.444	130	11606	0.88	ug/L	#	1
44) Methyl cyclohexane	10.438	83	61837	1.83	ug/L	#	78
45) Dibromomethane	10.897	93	8357	0.94	ug/L		90
46) 1,2-Dichloropropane	10.979	63	19883	1.09	ug/L	#	86
47) Bromodichloromethane	11.014	83	16171	0.95	ug/L	#	84
48) Methyl Methacrylate	11.096	69	9981	0.78	ug/L	#	86
49) 1,4-Dioxane	11.191	88	2274	7.99	ug/L	#	1
50) 2-Chloroethyl vinyl ether	11.484	63	38992	4.48	ug/L	#	91
51) C-1,3-Dichloropropene	11.602	75	18485	0.77	ug/L	#	74

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN003.D
Acq On : 19 Nov 2020 8:46 am
Operator : KKW
Sample : CAL1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 19 12:13:03 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

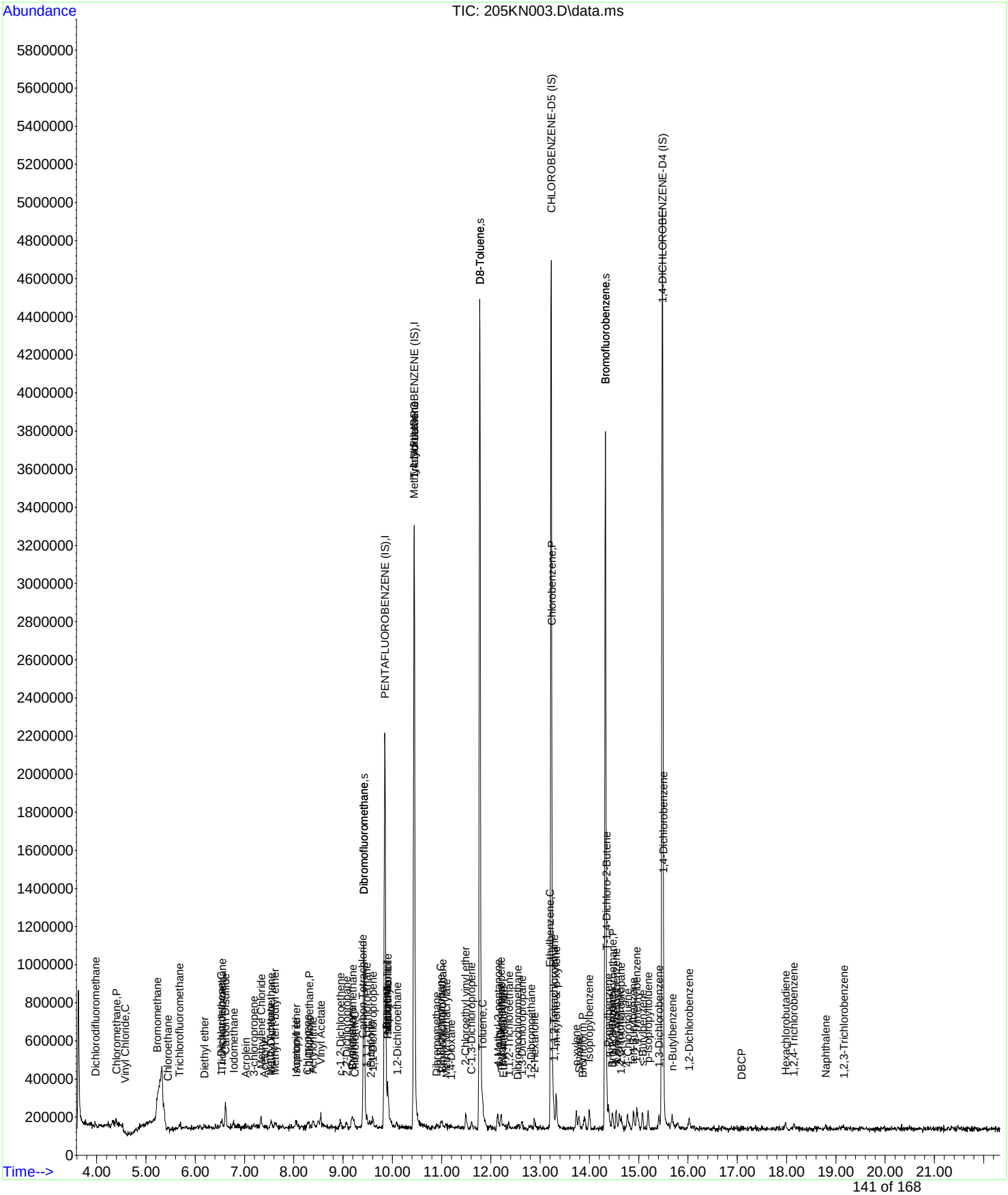
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	2961300	71.07	ug/L		97
54) 4-Methyl-2-pentanone	12.142	100	12783	5.15	ug/L	#	58
56) Toluene	11.831	92	41866	0.91	ug/L	#	79
57) T-1,3-Dichloropropene	12.201	75	18604	0.81	ug/L	#	81
58) Tetrachloroethene	12.219	164	11415	1.09	ug/L		89
59) Ethyl methacrylate	12.248	69	25350	1.17	ug/L	#	83
60) 1,1,2-Trichloroethane	12.366	97	13702	0.99	ug/L	#	72
61) Dibromochloromethane	12.542	129	8416	0.76	ug/L	#	87
62) 1,3-Dichloropropane	12.630	76	25304	0.97	ug/L	#	82
63) 1,2-Dibromoethane	12.818	107	12150	0.91	ug/L	#	81
64) 2-Hexanone	12.883	43	45037	3.33	ug/L	#	97
65) Ethylbenzene	13.200	106	26930	1.14	ug/L	#	79
66) Chlorobenzene	13.235	112	39482	0.98	ug/L	#	42
67) 1,1,1,2-Tetrachloroethane	13.282	131	10455	0.84	ug/L	#	85
68) m-xylene & p-xylene	13.323	106	49610	1.75	ug/L		95
69) o-xylene	13.729	106	26619	0.91	ug/L		95
70) Styrene	13.793	104	38113	0.74	ug/L	#	77
71) Bromoform	13.864	173	7220	1.08	ug/L		96
72) Isopropylbenzene	13.993	105	68183	0.90	ug/L	#	96
74) Bromofluorobenzene	14.322	95	1515651	80.75	ug/L	#	82
75) n-Propylbenzene	14.387	91	89415	0.94	ug/L		97
76) 1,1,2,2-Tetrachloroethane	14.469	83	18496	0.88	ug/L	#	97
77) 1,2,3-Trichloropropane	14.639	61	7568	1.03	ug/L	#	59
78) T-1,4-Dichloro-2-Butene	14.346	53	3904	0.50	ug/L	#	25
80) Bromobenzene	14.457	156	12991	0.77	ug/L	#	62
81) 1,2,4-Trimethylbenzene	14.957	105	65688	1.02	ug/L		88
82) 2-Chlorotoluene	14.610	91	56094	1.00	ug/L		99
83) 4-Chlorotoluene	14.775	91	55670	0.96	ug/L	#	89
84) tert-Butylbenzene	14.886	119	50745	0.92	ug/L		95
85) 1,3,5-Trimethylbenzene	14.540	105	65899	1.02	ug/L	#	91
86) p-Isopropyltoluene	15.192	119	58999	0.89	ug/L	#	91
87) s-Butylbenzene	15.080	105	66592	0.81	ug/L	#	90
88) 1,3-Dichlorobenzene	15.415	146	28042	0.90	ug/L		91
89) 1,4-Dichlorobenzene	15.503	146	35527	1.06	ug/L	#	1
90) n-Butylbenzene	15.685	91	64987	0.95	ug/L		99
91) 1,2-Dichlorobenzene	16.020	146	29991	1.01	ug/L		95
92) DBCP	17.090	157	3870	1.12	ug/L	#	38
93) Hexachlorobutadiene	17.983	225	4733	0.53	ug/L	#	14
94) 1,2,4-Trichlorobenzene	18.141	180	11751	0.74	ug/L	#	59
95) Naphthalene	18.794	128	22751	0.55	ug/L	#	79
96) 1,2,3-Trichlorobenzene	19.164	180	6414	0.50	ug/L	#	71

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN003.D
Acq On : 19 Nov 2020 8:46 am
Operator : KKW
Sample : CAL1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 19 12:13:03 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.845	168	1204238	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.438	114	2405138	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.217	82	1568806	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.480	152	1312583	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.422	113	684693	80.65	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 161.30%#				
52) D8-Toluene	11.772	98	3225098	76.74	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 153.48%#				
73) Bromofluorobenzene	14.322	95	1548116	84.58	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 169.16%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.969	85	25586	1.52	ug/L	#	95
3) Chloromethane	4.392	50	36985	1.66	ug/L		96
4) Vinyl Chloride	4.574	62	23897	1.33	ug/L	#	72
5) Bromomethane	5.221	94	18964	5.44	ug/L	#	71
6) Chloroethane	5.432	64	16169	2.09	ug/L		91
7) Trichlorofluoromethane	5.685	101	29809	1.57	ug/L	#	77
8) Diethyl ether	6.173	59	17712	1.39	ug/L		89
9) 1,1-Dichloroethene	6.525	96	17932	1.46	ug/L		89
10) Trichlorotrifluoroethane	6.537	151	12736m	1.54	ug/L		
11) Acrolein	7.019	56	34067	8.97	ug/L		93
12) Iodomethane	6.772	142	74024	8.84	ug/L	#	86
13) Carbon Disulfide	6.613	76	308072	14.10	ug/L		96
14) 3-chloropropene	7.183	41	32217	1.66	ug/L	#	76
15) Acetone	7.401	43	18401	3.95	ug/L		92
16) Methylene Chloride	7.336	84	32753	1.31	ug/L	#	75
17) Methyl Acetate	7.530	43	17987	1.37	ug/L	#	63
18) t-1,2-Dichloroethene	7.553	96	20681	1.55	ug/L	#	1
19) Methyl tert-butyl ether	7.624	73	51397	1.46	ug/L	#	89
20) Acetonitrile	8.053	41	41973	14.42	ug/L	#	73
21) Isopropyl ether	8.047	45	72128	1.58	ug/L		98
22) Chloroprene	8.276	88	19106	1.56	ug/L	#	94
23) 1,1-Dichloroethane	8.305	63	35911	1.30	ug/L	#	93
24) Acrylonitrile	8.388	53	64927	9.43	ug/L	#	89
25) Vinyl Acetate	8.546	43	209163	7.56	ug/L	#	100
26) c-1,2-Dichloroethene	8.958	96	20443	1.33	ug/L		89
27) 2,2-Dichloropropane	9.069	77	27636	1.31	ug/L	#	82
28) Bromochloromethane	9.181	128	8462	1.55	ug/L	#	77
29) Cyclohexane	9.181	56	39303	1.47	ug/L		89
30) Chloroform	9.222	83	39382	1.52	ug/L	#	85
32) Dibromofluoromethane	9.422	113	684725	80.65	ug/L	#	87
33) 2-Butanone	9.545	72	6992	3.35	ug/L	#	1
34) 1,1,1-Trichloroethane	9.475	97	31237	1.49	ug/L		96
35) 1,1-Dichloropropene	9.598	75	33405	1.64	ug/L	#	83
36) Propionitrile	9.898	54	34088	13.71	ug/L	#	62
37) Methacrylonitrile	9.904	41	161695	14.89	ug/L		99
38) Isobutyl Alcohol	9.904	43	39900	26.53	ug/L	#	100
40) Carbon Tetrachloride	9.410	117	25567m	1.62	ug/L		
41) Benzene	9.874	78	86139	1.38	ug/L		94
42) 1,2-Dichloroethane	10.080	62	31232	1.56	ug/L	#	78
43) Trichloroethene	10.444	130	19889	1.49	ug/L	#	1
44) Methyl cyclohexane	10.444	83	73539	2.16	ug/L	#	76
45) Dibromomethane	10.897	93	12606	1.40	ug/L	#	86
46) 1,2-Dichloropropane	10.979	63	26377	1.43	ug/L	#	92
47) Bromodichloromethane	11.008	83	21020	1.23	ug/L	#	69
48) Methyl Methacrylate	11.090	69	11122m	0.86	ug/L		
49) 1,4-Dioxane	11.184	88	3651	12.73	ug/L	#	57
50) 2-Chloroethyl vinyl ether	11.490	63	63403	7.23	ug/L	#	90
51) C-1,3-Dichloropropene	11.602	75	32438	1.34	ug/L	#	82

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

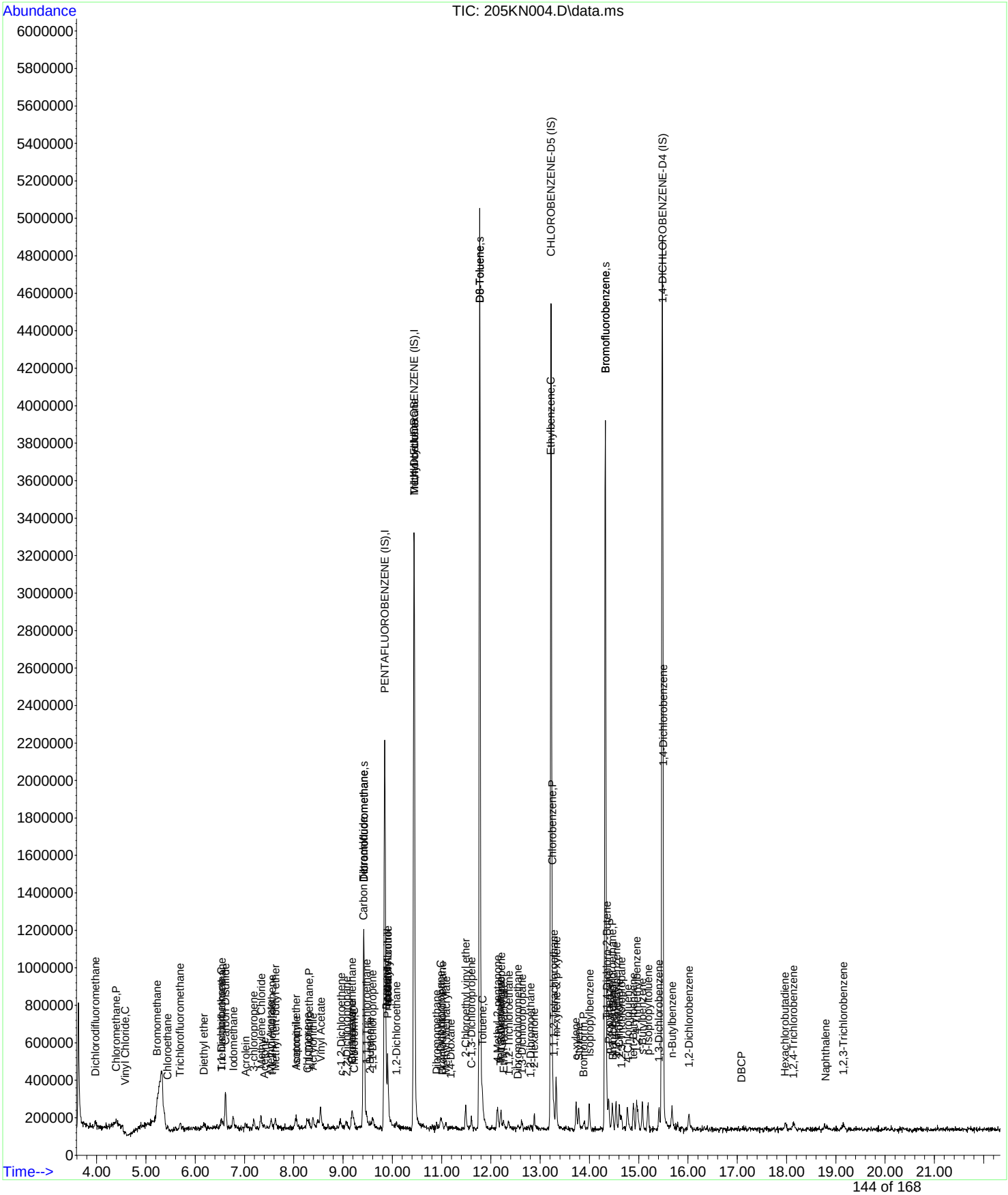
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.772	98	3225098	76.74	ug/L		98
54) 4-Methyl-2-pentanone	12.130	100	16767	6.70	ug/L		87
56) Toluene	11.831	92	50990	1.14	ug/L	#	83
57) T-1,3-Dichloropropene	12.207	75	24871	1.11	ug/L	#	82
58) Tetrachloroethene	12.195	164	13605	1.33	ug/L		97
59) Ethyl methacrylate	12.254	69	29880	1.41	ug/L		95
60) 1,1,2-Trichloroethane	12.360	97	16136m	1.20	ug/L		
61) Dibromochloromethane	12.542	129	12102	1.12	ug/L	#	88
62) 1,3-Dichloropropane	12.630	76	31210	1.23	ug/L	#	69
63) 1,2-Dibromoethane	12.800	107	17274	1.32	ug/L	#	85
64) 2-Hexanone	12.877	43	65549	4.97	ug/L	#	95
65) Ethylbenzene	13.212	106	31671	1.37	ug/L	#	83
66) Chlorobenzene	13.241	112	57651	1.47	ug/L	#	68
67) 1,1,1,2-Tetrachloroethane	13.276	131	16700	1.37	ug/L	#	82
68) m-xylene & p-xylene	13.329	106	79130	2.86	ug/L		91
69) o-xylene	13.723	106	34486	1.21	ug/L		73
70) Styrene	13.781	104	59534	1.18	ug/L	#	81
71) Bromoform	13.876	173	8315	1.27	ug/L	#	40
72) Isopropylbenzene	13.999	105	101194	1.37	ug/L		95
74) Bromofluorobenzene	14.322	95	1548116	84.58	ug/L		84
75) n-Propylbenzene	14.393	91	140081	1.51	ug/L	#	92
76) 1,1,2,2-Tetrachloroethane	14.463	83	26618	1.30	ug/L	#	88
77) 1,2,3-Trichloropropane	14.645	61	9189	1.28	ug/L		95
78) T-1,4-Dichloro-2-Butene	14.351	53	7999	1.05	ug/L	#	1
80) Bromobenzene	14.469	156	24323	1.46	ug/L		98
81) 1,2,4-Trimethylbenzene	14.957	105	93218	1.45	ug/L		98
82) 2-Chlorotoluene	14.604	91	84274	1.51	ug/L		92
83) 4-Chlorotoluene	14.774	91	90552	1.57	ug/L	#	94
84) tert-Butylbenzene	14.886	119	74805	1.37	ug/L		94
85) 1,3,5-Trimethylbenzene	14.545	105	88928	1.38	ug/L		92
86) p-Isopropyltoluene	15.192	119	88659	1.35	ug/L		94
87) s-Butylbenzene	15.074	105	111856	1.37	ug/L	#	92
88) 1,3-Dichlorobenzene	15.409	146	43620	1.41	ug/L	#	93
89) 1,4-Dichlorobenzene	15.497	146	49462	1.48	ug/L	#	1
90) n-Butylbenzene	15.673	91	86450	1.28	ug/L		93
91) 1,2-Dichlorobenzene	16.014	146	36400	1.23	ug/L	#	84
92) DBCP	17.084	157	1967	0.58	ug/L		97
93) Hexachlorobutadiene	17.965	225	9033	1.02	ug/L	#	80
94) 1,2,4-Trichlorobenzene	18.135	180	11315	0.72	ug/L	#	35
95) Naphthalene	18.787	128	32865	0.80	ug/L	#	83
96) 1,2,3-Trichlorobenzene	19.146	180	13123	1.04	ug/L	#	80

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN004.D
Acq On : 19 Nov 2020 9:16 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 19 12:13:09 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN005.D
Acq On : 19 Nov 2020 9:47 am
Operator : KKW
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 19 12:13:14 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.845	168	1203996	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.438	114	2450219	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.217	82	1607155	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.480	152	1325758	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.422	113	748431	88.17	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 176.34%#				
52) D8-Toluene	11.772	98	3472304	81.11	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 162.22%#				
73) Bromofluorobenzene	14.322	95	1649261	87.95	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 175.90%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.975	85	74605	4.45	ug/L	#	84
3) Chloromethane	4.392	50	90702	4.06	ug/L		95
4) Vinyl Chloride	4.580	62	71482	3.99	ug/L		96
5) Bromomethane	5.221	94	29725	8.53	ug/L	#	76
6) Chloroethane	5.421	64	32917	4.25	ug/L		99
7) Trichlorofluoromethane	5.685	101	82668	4.36	ug/L	#	96
8) Diethyl ether	6.173	59	46647	3.66	ug/L		94
9) 1,1-Dichloroethene	6.525	96	47209	3.83	ug/L		88
10) Trichlorotrifluoroethane	6.543	151	35223	4.26	ug/L		98
11) Acrolein	7.013	56	106122	27.96	ug/L		88
12) Iodomethane	6.772	142	223049	26.65	ug/L	#	86
13) Carbon Disulfide	6.613	76	853754	39.09	ug/L		98
14) 3-chloropropene	7.189	41	82112	4.23	ug/L	#	84
15) Acetone	7.395	43	68203	14.65	ug/L		93
16) Methylene Chloride	7.324	84	70431	2.81	ug/L		96
17) Methyl Acetate	7.524	43	41189	3.14	ug/L	#	75
18) t-1,2-Dichloroethene	7.542	96	53904	4.03	ug/L	#	1
19) Methyl tert-butyl ether	7.630	73	142206	4.05	ug/L		98
20) Acetonitrile	8.023	41	100254	34.44	ug/L		94
21) Isopropyl ether	8.053	45	190415	4.18	ug/L		97
22) Chloroprene	8.264	88	57323	4.68	ug/L		99
23) 1,1-Dichloroethane	8.300	63	129239	4.67	ug/L	#	91
24) Acrylonitrile	8.382	53	189148	27.46	ug/L		89
25) Vinyl Acetate	8.535	43	635408	22.98	ug/L	#	100
26) c-1,2-Dichloroethene	8.946	96	63131	4.10	ug/L		88
27) 2,2-Dichloropropane	9.069	77	87442	4.14	ug/L	#	95
28) Bromochloromethane	9.187	128	28669	5.26	ug/L		99
29) Cyclohexane	9.181	56	133857	5.00	ug/L		89
30) Chloroform	9.216	83	122395	4.72	ug/L		92
32) Dibromofluoromethane	9.422	113	748431	88.17	ug/L	#	89
33) 2-Butanone	9.539	72	36738	17.61	ug/L		70
34) 1,1,1-Trichloroethane	9.475	97	89627	4.28	ug/L		95
35) 1,1-Dichloropropene	9.592	75	96148	4.73	ug/L		93
36) Propionitrile	9.898	54	87631	35.25	ug/L	#	73
37) Methacrylonitrile	9.904	41	433810	39.95	ug/L		98
38) Isobutyl Alcohol	9.904	43	101382	67.43	ug/L	#	98
40) Carbon Tetrachloride	9.404	117	68664m	4.27	ug/L		
41) Benzene	9.874	78	248057	3.89	ug/L		97
42) 1,2-Dichloroethane	10.080	62	87269	4.29	ug/L	#	95
43) Trichloroethene	10.438	130	51268	3.78	ug/L	#	1
44) Methyl cyclohexane	10.444	83	159388	4.59	ug/L	#	83
45) Dibromomethane	10.897	93	40717	4.45	ug/L	#	84
46) 1,2-Dichloropropane	10.985	63	68338	3.64	ug/L		99
47) Bromodichloromethane	11.014	83	76839	4.42	ug/L		95
48) Methyl Methacrylate	11.079	69	42500	3.24	ug/L		96
49) 1,4-Dioxane	11.202	88	15649	53.54	ug/L		92
50) 2-Chloroethyl vinyl ether	11.484	63	180854	20.24	ug/L	#	97
51) C-1,3-Dichloropropene	11.608	75	97087	3.92	ug/L		98

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN005.D
Acq On : 19 Nov 2020 9:47 am
Operator : KKW
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 19 12:13:14 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

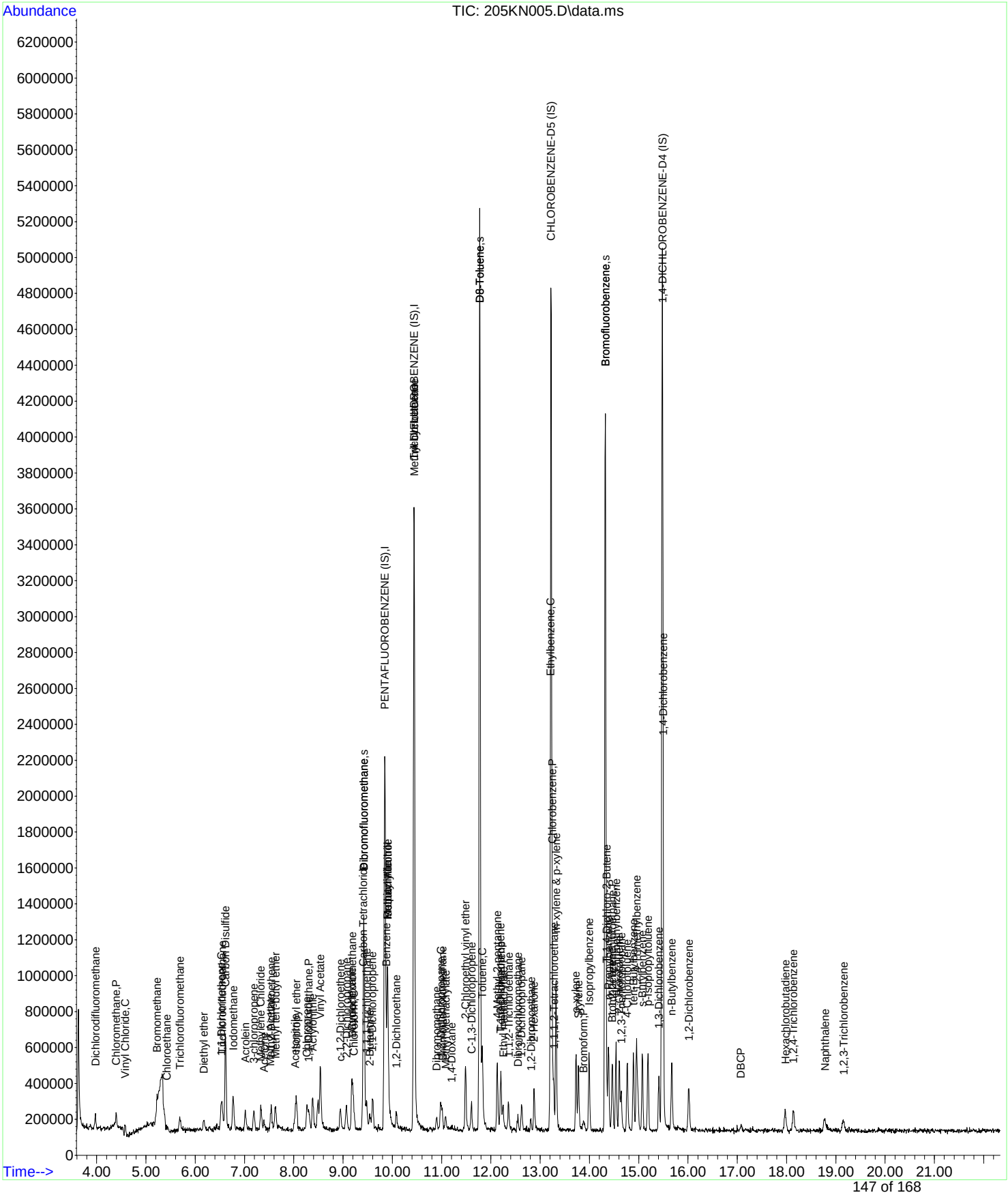
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.772	98	3472304	81.11	ug/L		98
54) 4-Methyl-2-pentanone	12.125	100	38753	15.19	ug/L		86
56) Toluene	11.825	92	165393	3.60	ug/L		98
57) T-1,3-Dichloropropene	12.195	75	86647	3.76	ug/L		92
58) Tetrachloroethene	12.207	164	39337	3.74	ug/L	#	86
59) Ethyl methacrylate	12.248	69	74987	3.46	ug/L	#	89
60) 1,1,2-Trichloroethane	12.360	97	49583	3.58	ug/L		91
61) Dibromochloromethane	12.548	129	35140	3.19	ug/L	#	91
62) 1,3-Dichloropropane	12.618	76	94212	3.62	ug/L	#	84
63) 1,2-Dibromoethane	12.812	107	49651	3.71	ug/L		94
64) 2-Hexanone	12.871	43	182740	13.52	ug/L	#	93
65) Ethylbenzene	13.206	106	86003	3.64	ug/L	#	80
66) Chlorobenzene	13.241	112	174992	4.36	ug/L		99
67) 1,1,1,2-Tetrachloroethane	13.282	131	47239	3.79	ug/L		98
68) m-xylene & p-xylene	13.323	106	241684	8.52	ug/L		97
69) o-xylene	13.723	106	128266	4.39	ug/L		94
70) Styrene	13.776	104	192498	3.74	ug/L		96
71) Bromoform	13.875	173	17891	2.67	ug/L	#	58
72) Isopropylbenzene	13.993	105	314697	4.15	ug/L		97
74) Bromofluorobenzene	14.322	95	1649261	87.95	ug/L	#	83
75) n-Propylbenzene	14.387	91	430878	4.54	ug/L		98
76) 1,1,2,2-Tetrachloroethane	14.463	83	75011	3.57	ug/L	#	97
77) 1,2,3-Trichloropropane	14.645	61	25913m	3.52	ug/L		
78) T-1,4-Dichloro-2-Butene	14.346	53	30582	3.90	ug/L	#	25
80) Bromobenzene	14.457	156	68481	4.07	ug/L		95
81) 1,2,4-Trimethylbenzene	14.957	105	312679	4.83	ug/L		96
82) 2-Chlorotoluene	14.604	91	254584	4.52	ug/L		98
83) 4-Chlorotoluene	14.763	91	269745	4.64	ug/L		96
84) tert-Butylbenzene	14.892	119	225427	4.10	ug/L		95
85) 1,3,5-Trimethylbenzene	14.539	105	298492	4.59	ug/L		97
86) p-Isopropyltoluene	15.186	119	288991	4.35	ug/L		97
87) s-Butylbenzene	15.074	105	358245	4.33	ug/L		99
88) 1,3-Dichlorobenzene	15.409	146	121305	3.89	ug/L	#	88
89) 1,4-Dichlorobenzene	15.497	146	130629	3.88	ug/L	#	1
90) n-Butylbenzene	15.668	91	270003	3.95	ug/L		94
91) 1,2-Dichlorobenzene	16.014	146	123325	4.13	ug/L		98
92) DBCP	17.072	157	4885	1.42	ug/L		94
93) Hexachlorobutadiene	17.977	225	28258	3.17	ug/L	#	73
94) 1,2,4-Trichlorobenzene	18.135	180	48590	3.06	ug/L	#	88
95) Naphthalene	18.782	128	90648	2.20	ug/L	#	76
96) 1,2,3-Trichlorobenzene	19.158	180	27107	2.12	ug/L	#	63

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN005.D
Acq On : 19 Nov 2020 9:47 am
Operator : KKW
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 19 12:13:14 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN006.D
Acq On : 19 Nov 2020 10:18 am
Operator : KKW
Sample : CAL4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 19 12:13:19 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.845	168	1172592	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.438	114	2346408	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.223	82	1580434	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.480	152	1299188	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.422	113	633611	76.64	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 153.28%#				
52) D8-Toluene	11.772	98	2967040	72.37	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 144.74%#				
73) Bromofluorobenzene	14.322	95	1486454	80.61	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 161.22%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.969	85	136642	8.36	ug/L	#	98
3) Chloromethane	4.392	50	150941	6.94	ug/L		98
4) Vinyl Chloride	4.574	62	121568	6.97	ug/L		97
5) Bromomethane	5.221	94	42104	12.41	ug/L	#	85
6) Chloroethane	5.438	64	61911	8.21	ug/L	#	92
7) Trichlorofluoromethane	5.685	101	165911	8.98	ug/L		92
8) Diethyl ether	6.173	59	84419	6.81	ug/L		94
9) 1,1-Dichloroethene	6.525	96	87918	7.33	ug/L		97
10) Trichlorotrifluoroethane	6.537	151	72300	8.97	ug/L		92
11) Acrolein	7.019	56	230022	62.23	ug/L		98
12) Iodomethane	6.766	142	506927	62.20	ug/L	#	91
13) Carbon Disulfide	6.613	76	1673298	78.66	ug/L		99
14) 3-chloropropene	7.183	41	167038	8.84	ug/L		98
15) Acetone	7.389	43	148978	32.85	ug/L		90
16) Methylene Chloride	7.324	84	116078	4.75	ug/L		95
17) Methyl Acetate	7.518	43	87612	6.86	ug/L	#	91
18) t-1,2-Dichloroethene	7.536	96	101037	7.76	ug/L	#	1
19) Methyl tert-butyl ether	7.630	73	287472	8.40	ug/L		95
20) Acetonitrile	8.012	41	217380	76.68	ug/L		97
21) Isopropyl ether	8.041	45	356646	8.05	ug/L		96
22) Chloroprene	8.270	88	101968	8.55	ug/L		94
23) 1,1-Dichloroethane	8.305	63	221157	8.21	ug/L		96
24) Acrylonitrile	8.382	53	395143	58.91	ug/L		97
25) Vinyl Acetate	8.535	43	1226867	45.56	ug/L	#	100
26) c-1,2-Dichloroethene	8.940	96	111210	7.41	ug/L		89
27) 2,2-Dichloropropane	9.058	77	149262	7.26	ug/L	#	92
28) Bromochloromethane	9.169	128	44116	8.31	ug/L		92
29) Cyclohexane	9.187	56	211253	8.10	ug/L		93
30) Chloroform	9.210	83	224502	8.89	ug/L		96
32) Dibromofluoromethane	9.422	113	633611	76.64	ug/L	#	91
33) 2-Butanone	9.551	72	52854	26.02	ug/L	#	56
34) 1,1,1-Trichloroethane	9.469	97	163488	8.02	ug/L		95
35) 1,1-Dichloropropene	9.592	75	169450	8.57	ug/L		95
36) Propionitrile	9.892	54	162895	67.28	ug/L	#	73
37) Methacrylonitrile	9.898	41	807949	76.39	ug/L		93
38) Isobutyl Alcohol	9.892	43	201685	137.74	ug/L	#	97
40) Carbon Tetrachloride	9.398	117	126351	8.21	ug/L	#	93
41) Benzene	9.868	78	478492	7.84	ug/L		98
42) 1,2-Dichloroethane	10.086	62	153491	7.87	ug/L		96
43) Trichloroethene	10.438	130	102612	7.91	ug/L	#	58
44) Methyl cyclohexane	10.444	83	233746	7.02	ug/L		94
45) Dibromomethane	10.897	93	68274	7.78	ug/L	#	90
46) 1,2-Dichloropropane	10.973	63	142560	7.94	ug/L		99
47) Bromodichloromethane	11.008	83	146577	8.80	ug/L		96
48) Methyl Methacrylate	11.073	69	84258	6.70	ug/L		99
49) 1,4-Dioxane	11.196	88	27005	96.48	ug/L		98
50) 2-Chloroethyl vinyl ether	11.484	63	363921	42.52	ug/L	#	99
51) C-1,3-Dichloropropene	11.602	75	181119	7.64	ug/L		91

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN006.D
Acq On : 19 Nov 2020 10:18 am
Operator : KKW
Sample : CAL4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 19 12:13:19 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

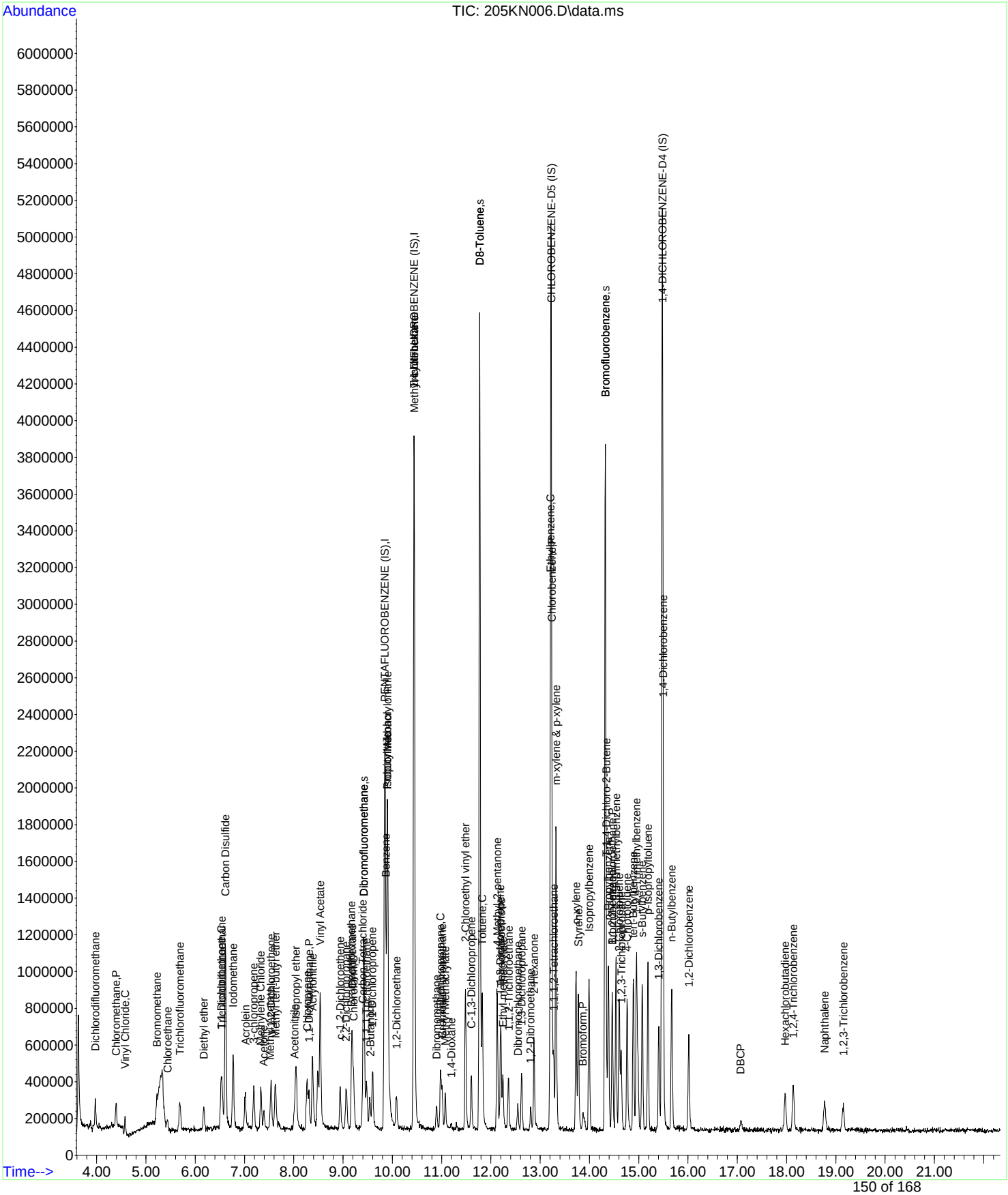
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.772	98	2967040	72.37	ug/L		98
54) 4-Methyl-2-pentanone	12.125	100	73800	30.21	ug/L		96
56) Toluene	11.825	92	299260	6.63	ug/L		94
57) T-1,3-Dichloropropene	12.189	75	162803	7.18	ug/L		97
58) Tetrachloroethene	12.207	164	82473	7.98	ug/L		91
59) Ethyl methacrylate	12.242	69	156564	7.34	ug/L		97
60) 1,1,2-Trichloroethane	12.360	97	99991	7.35	ug/L		95
61) Dibromochloromethane	12.548	129	73988	6.82	ug/L		96
62) 1,3-Dichloropropane	12.624	76	205100	8.00	ug/L		99
63) 1,2-Dibromoethane	12.800	107	91595	6.95	ug/L	#	97
64) 2-Hexanone	12.877	43	371113	27.92	ug/L		99
65) Ethylbenzene	13.206	106	183869	7.91	ug/L		93
66) Chlorobenzene	13.235	112	325558	8.26	ug/L		98
67) 1,1,1,2-Tetrachloroethane	13.276	131	84396	6.89	ug/L	#	91
68) m-xylene & p-xylene	13.323	106	459298	16.47	ug/L		100
69) o-xylene	13.729	106	226034	7.87	ug/L		98
70) Styrene	13.776	104	372814	7.36	ug/L		97
71) Bromoform	13.864	173	42258	6.41	ug/L		95
72) Isopropylbenzene	13.993	105	590842	7.93	ug/L		97
74) Bromofluorobenzene	14.322	95	1486454	80.61	ug/L	#	83
75) n-Propylbenzene	14.381	91	808182	8.66	ug/L		98
76) 1,1,2,2-Tetrachloroethane	14.463	83	147516	7.14	ug/L	#	98
77) 1,2,3-Trichloropropane	14.645	61	59327m	8.20	ug/L		
78) T-1,4-Dichloro-2-Butene	14.340	53	59486	7.72	ug/L	#	1
80) Bromobenzene	14.463	156	121209	7.35	ug/L		91
81) 1,2,4-Trimethylbenzene	14.951	105	594469	9.37	ug/L		98
82) 2-Chlorotoluene	14.604	91	469789	8.52	ug/L		97
83) 4-Chlorotoluene	14.763	91	498816	8.75	ug/L		98
84) tert-Butylbenzene	14.886	119	430271	7.98	ug/L		93
85) 1,3,5-Trimethylbenzene	14.539	105	564368	8.87	ug/L		98
86) p-Isopropyltoluene	15.186	119	548845	8.44	ug/L		99
87) s-Butylbenzene	15.068	105	648219	7.99	ug/L		99
88) 1,3-Dichlorobenzene	15.403	146	240604	7.88	ug/L	#	89
89) 1,4-Dichlorobenzene	15.497	146	253916	7.69	ug/L	#	36
90) n-Butylbenzene	15.668	91	564995	8.44	ug/L		99
91) 1,2-Dichlorobenzene	16.014	146	229022	7.83	ug/L		99
92) DBCP	17.066	157	17355	5.14	ug/L		92
93) Hexachlorobutadiene	17.971	225	48211	5.52	ug/L	#	93
94) 1,2,4-Trichlorobenzene	18.135	180	95682	6.14	ug/L		98
95) Naphthalene	18.770	128	206620	5.11	ug/L	#	91
96) 1,2,3-Trichlorobenzene	19.152	180	60810	4.85	ug/L	#	87

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN006.D
Acq On : 19 Nov 2020 10:18 am
Operator : KKW
Sample : CAL4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 19 12:13:19 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN007.D
Acq On : 19 Nov 2020 10:49 am
Operator : KKW
Sample : CAL5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 19 12:13:23 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.845	168	1203065	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.438	114	2330356	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.217	82	1579586	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.480	152	1295652	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.422	113	785195	92.57	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 185.14%#				
52) D8-Toluene	11.772	98	3631138	89.18	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 178.36%#				
73) Bromofluorobenzene	14.322	95	1784745	96.84	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 193.68%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.975	85	302749	18.06	ug/L	#	96
3) Chloromethane	4.392	50	320743	14.37	ug/L		100
4) Vinyl Chloride	4.574	62	293406	16.39	ug/L		96
5) Bromomethane	5.221	94	73935	21.23	ug/L	#	91
6) Chloroethane	5.438	64	142983	18.49	ug/L	#	91
7) Trichlorofluoromethane	5.685	101	364707	19.24	ug/L		95
8) Diethyl ether	6.179	59	186506	14.66	ug/L		96
9) 1,1-Dichloroethene	6.525	96	198942	16.17	ug/L		97
10) Trichlorotrifluoroethane	6.549	151	125657	15.20	ug/L		88
11) Acrolein	7.007	56	200300	52.81	ug/L		96
12) Iodomethane	6.766	142	1096522	131.13	ug/L	#	92
13) Carbon Disulfide	6.613	76	3494366	160.10	ug/L		99
14) 3-chloropropene	7.183	41	372388	19.21	ug/L		94
15) Acetone	7.389	43	259911	55.85	ug/L		99
16) Methylene Chloride	7.336	84	230585	9.20	ug/L		94
17) Methyl Acetate	7.518	43	159405	12.17	ug/L	#	93
18) t-1,2-Dichloroethene	7.542	96	228051	17.07	ug/L	#	1
19) Methyl tert-butyl ether	7.624	73	586463	16.71	ug/L		96
20) Acetonitrile	8.006	41	398425	136.97	ug/L	#	60
21) Isopropyl ether	8.047	45	769298	16.92	ug/L		98
22) Chloroprene	8.270	88	238292	19.47	ug/L		93
23) 1,1-Dichloroethane	8.306	63	474217	17.17	ug/L		98
24) Acrylonitrile	8.376	53	397768	57.80	ug/L		94
25) Vinyl Acetate	8.535	43	2559621	92.65	ug/L	#	100
26) c-1,2-Dichloroethene	8.940	96	252680	16.41	ug/L		97
27) 2,2-Dichloropropane	9.069	77	358578	17.00	ug/L		99
28) Bromochloromethane	9.169	128	91814	16.86	ug/L		100
29) Cyclohexane	9.187	56	486603	18.19	ug/L		97
30) Chloroform	9.210	83	454400	17.54	ug/L		99
32) Dibromofluoromethane	9.422	113	785195	92.57	ug/L	#	89
33) 2-Butanone	9.539	72	109766	52.66	ug/L		72
34) 1,1,1-Trichloroethane	9.481	97	386747	18.48	ug/L		99
35) 1,1-Dichloropropene	9.598	75	374086	18.43	ug/L		100
36) Propionitrile	9.886	54	337913	136.04	ug/L	#	79
37) Methacrylonitrile	9.898	41	1621006	149.38	ug/L		94
38) Isobutyl Alcohol	9.898	43	378850	252.19	ug/L	#	97
40) Carbon Tetrachloride	9.404	117	288935	18.91	ug/L	#	94
41) Benzene	9.868	78	1081865	17.84	ug/L		100
42) 1,2-Dichloroethane	10.080	62	354638	18.31	ug/L		95
43) Trichloroethene	10.444	130	207547	16.10	ug/L	#	78
44) Methyl cyclohexane	10.444	83	512091	15.49	ug/L		96
45) Dibromomethane	10.903	93	150740	17.31	ug/L		88
46) 1,2-Dichloropropane	10.979	63	294721	16.53	ug/L		98
47) Bromodichloromethane	11.008	83	308117	18.62	ug/L		98
48) Methyl Methacrylate	11.067	69	177753	14.23	ug/L		98
49) 1,4-Dioxane	11.190	88	54003	194.27	ug/L		93
50) 2-Chloroethyl vinyl ether	11.484	63	766428	90.17	ug/L		99
51) C-1,3-Dichloropropene	11.602	75	413509	17.57	ug/L		98

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN007.D
Acq On : 19 Nov 2020 10:49 am
Operator : KKW
Sample : CAL5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 19 12:13:23 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

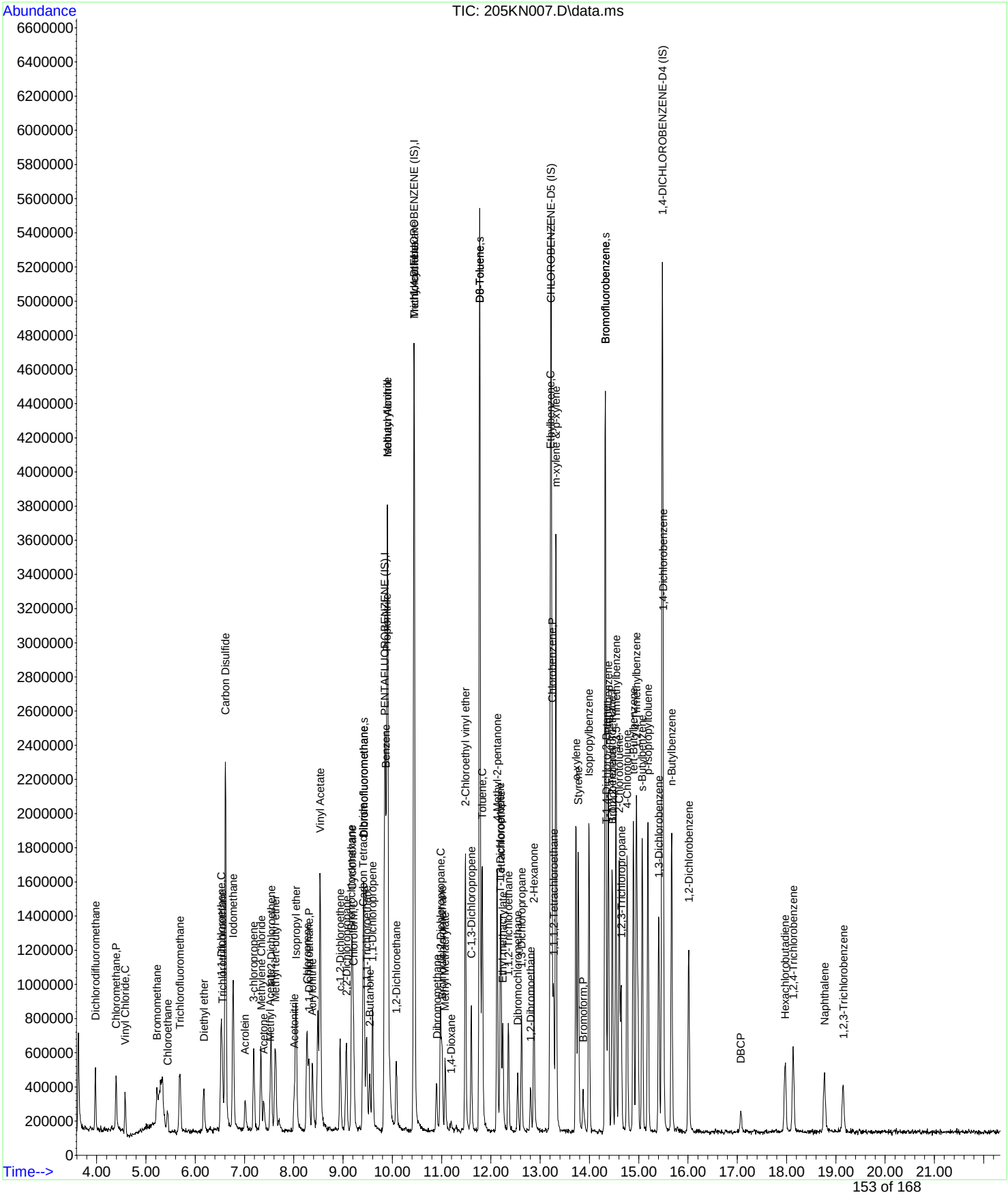
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.772	98	3630051	89.15	ug/L		97
54) 4-Methyl-2-pentanone	12.125	100	151280	62.35	ug/L		93
56) Toluene	11.825	92	673431	14.93	ug/L		98
57) T-1,3-Dichloropropene	12.189	75	352662	15.56	ug/L		98
58) Tetrachloroethene	12.201	164	182474	17.67	ug/L		95
59) Ethyl methacrylate	12.236	69	326927	15.34	ug/L		99
60) 1,1,2-Trichloroethane	12.354	97	209734	15.43	ug/L		98
61) Dibromochloromethane	12.542	129	171344	15.80	ug/L		95
62) 1,3-Dichloropropane	12.624	76	420496	16.42	ug/L		94
63) 1,2-Dibromoethane	12.806	107	205658	15.62	ug/L	#	97
64) 2-Hexanone	12.871	43	754731	56.82	ug/L		96
65) Ethylbenzene	13.206	106	384105	16.52	ug/L		95
66) Chlorobenzene	13.241	112	650080	16.50	ug/L		96
67) 1,1,1,2-Tetrachloroethane	13.276	131	201298	16.44	ug/L		98
68) m-xylene & p-xylene	13.317	106	987588	35.44	ug/L		99
69) o-xylene	13.729	106	478796	16.67	ug/L		93
70) Styrene	13.770	104	839743	16.59	ug/L		99
71) Bromoform	13.870	173	95673	14.53	ug/L		99
72) Isopropylbenzene	13.987	105	1298038	17.44	ug/L		97
74) Bromofluorobenzene	14.322	95	1784745	96.84	ug/L	#	80
75) n-Propylbenzene	14.381	91	1709278	18.32	ug/L		98
76) 1,1,2,2-Tetrachloroethane	14.457	83	309106	14.97	ug/L		98
77) 1,2,3-Trichloropropane	14.645	61	113773m	15.74	ug/L		
78) T-1,4-Dichloro-2-Butene	14.340	53	120576	15.65	ug/L	#	52
80) Bromobenzene	14.463	156	265636	16.16	ug/L		94
81) 1,2,4-Trimethylbenzene	14.951	105	1242925	19.64	ug/L		97
82) 2-Chlorotoluene	14.604	91	1047191	19.04	ug/L		98
83) 4-Chlorotoluene	14.763	91	1083494	19.06	ug/L		99
84) tert-Butylbenzene	14.892	119	947987	17.64	ug/L		97
85) 1,3,5-Trimethylbenzene	14.539	105	1187445	18.70	ug/L		99
86) p-Isopropyltoluene	15.186	119	1166109	17.97	ug/L		100
87) s-Butylbenzene	15.068	105	1428842	17.67	ug/L		98
88) 1,3-Dichlorobenzene	15.409	146	521603	17.12	ug/L		90
89) 1,4-Dichlorobenzene	15.497	146	543117	16.49	ug/L	#	70
90) n-Butylbenzene	15.668	91	1248886	18.71	ug/L		97
91) 1,2-Dichlorobenzene	16.014	146	464540	15.93	ug/L		89
92) DBCP	17.072	157	34505	10.24	ug/L		98
93) Hexachlorobutadiene	17.971	225	103201	11.85	ug/L		95
94) 1,2,4-Trichlorobenzene	18.135	180	203777	13.12	ug/L	#	94
95) Naphthalene	18.770	128	436068	10.81	ug/L		100
96) 1,2,3-Trichlorobenzene	19.152	180	123784	9.90	ug/L	#	87

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN007.D
Acq On : 19 Nov 2020 10:49 am
Operator : KKW
Sample : CAL5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 19 12:13:23 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN008.D
Acq On : 19 Nov 2020 11:20 am
Operator : KKW
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 19 12:13:26 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.845	168	1217120	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.438	114	2353990	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.217	82	1612072	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.474	152	1366836	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.416	113	678489	79.07	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 158.14%#				
52) D8-Toluene	11.772	98	3101508	75.41	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 150.82%#				
73) Bromofluorobenzene	14.322	95	1494289	79.44	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 158.88%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.969	85	836993	49.35	ug/L		99
3) Chloromethane	4.392	50	805584	35.67	ug/L		97
4) Vinyl Chloride	4.574	62	752003	41.53	ug/L		98
5) Bromomethane	5.221	94	219770	62.38	ug/L		90
6) Chloroethane	5.421	64	316629	40.47	ug/L		96
7) Trichlorofluoromethane	5.679	101	965285	50.35	ug/L		99
8) Diethyl ether	6.173	59	522992	40.63	ug/L		98
9) 1,1-Dichloroethene	6.519	96	546417	43.90	ug/L		95
10) Trichlorotrifluoroethane	6.543	151	372819	44.57	ug/L		94
11) Acrolein	7.007	56	1204139	313.84	ug/L		99
12) Iodomethane	6.766	142	2879969	340.42	ug/L	#	90
13) Carbon Disulfide	6.613	76	8649511	391.72	ug/L		99
14) 3-chloropropene	7.183	41	1037538	52.90	ug/L		97
15) Acetone	7.389	43	709256	150.65	ug/L		98
16) Methylene Chloride	7.330	84	640448	25.25	ug/L		100
17) Methyl Acetate	7.512	43	441064	33.30	ug/L	#	96
18) t-1,2-Dichloroethene	7.542	96	633261	46.87	ug/L	#	1
19) Methyl tert-butyl ether	7.624	73	1725407	48.58	ug/L		96
20) Acetonitrile	8.006	41	1168765	397.17	ug/L		98
21) Isopropyl ether	8.047	45	2215010	48.14	ug/L		99
22) Chloroprene	8.264	88	614319	49.62	ug/L		97
23) 1,1-Dichloroethane	8.305	63	1349675	48.29	ug/L		100
24) Acrylonitrile	8.376	53	2151787	309.07	ug/L		99
25) Vinyl Acetate	8.529	43	6808531	243.61	ug/L	#	100
26) c-1,2-Dichloroethene	8.940	96	700871	44.98	ug/L		95
27) 2,2-Dichloropropane	9.063	77	1076528	50.46	ug/L		98
28) Bromochloromethane	9.175	128	235594	42.76	ug/L		95
29) Cyclohexane	9.181	56	1386813	51.24	ug/L		96
30) Chloroform	9.210	83	1255758	47.91	ug/L		99
32) Dibromofluoromethane	9.416	113	678489	79.07	ug/L	#	89
33) 2-Butanone	9.539	72	353229	167.51	ug/L		95
34) 1,1,1-Trichloroethane	9.481	97	1088150	51.41	ug/L		99
35) 1,1-Dichloropropene	9.592	75	1057919	51.52	ug/L		98
36) Propionitrile	9.892	54	847412	337.21	ug/L	#	73
37) Methacrylonitrile	9.904	41	4240505	386.26	ug/L		95
38) Isobutyl Alcohol	9.898	43	1088288	716.08	ug/L	#	89
40) Carbon Tetrachloride	9.404	117	844268m	54.69	ug/L		
41) Benzene	9.868	78	2829189	46.19	ug/L		99
42) 1,2-Dichloroethane	10.080	62	930071	47.54	ug/L		96
43) Trichloroethene	10.444	130	575171	44.17	ug/L		95
44) Methyl cyclohexane	10.438	83	1343230	40.23	ug/L		98
45) Dibromomethane	10.891	93	399997	45.46	ug/L		91
46) 1,2-Dichloropropane	10.973	63	793038	44.02	ug/L		97
47) Bromodichloromethane	11.008	83	887527	53.08	ug/L		99
48) Methyl Methacrylate	11.073	69	486732	38.58	ug/L		99
49) 1,4-Dioxane	11.190	88	137914	491.15	ug/L		95
50) 2-Chloroethyl vinyl ether	11.478	63	2074511	241.63	ug/L		99
51) C-1,3-Dichloropropene	11.602	75	1213246	51.02	ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN008.D
Acq On : 19 Nov 2020 11:20 am
Operator : KKW
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 19 12:13:26 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

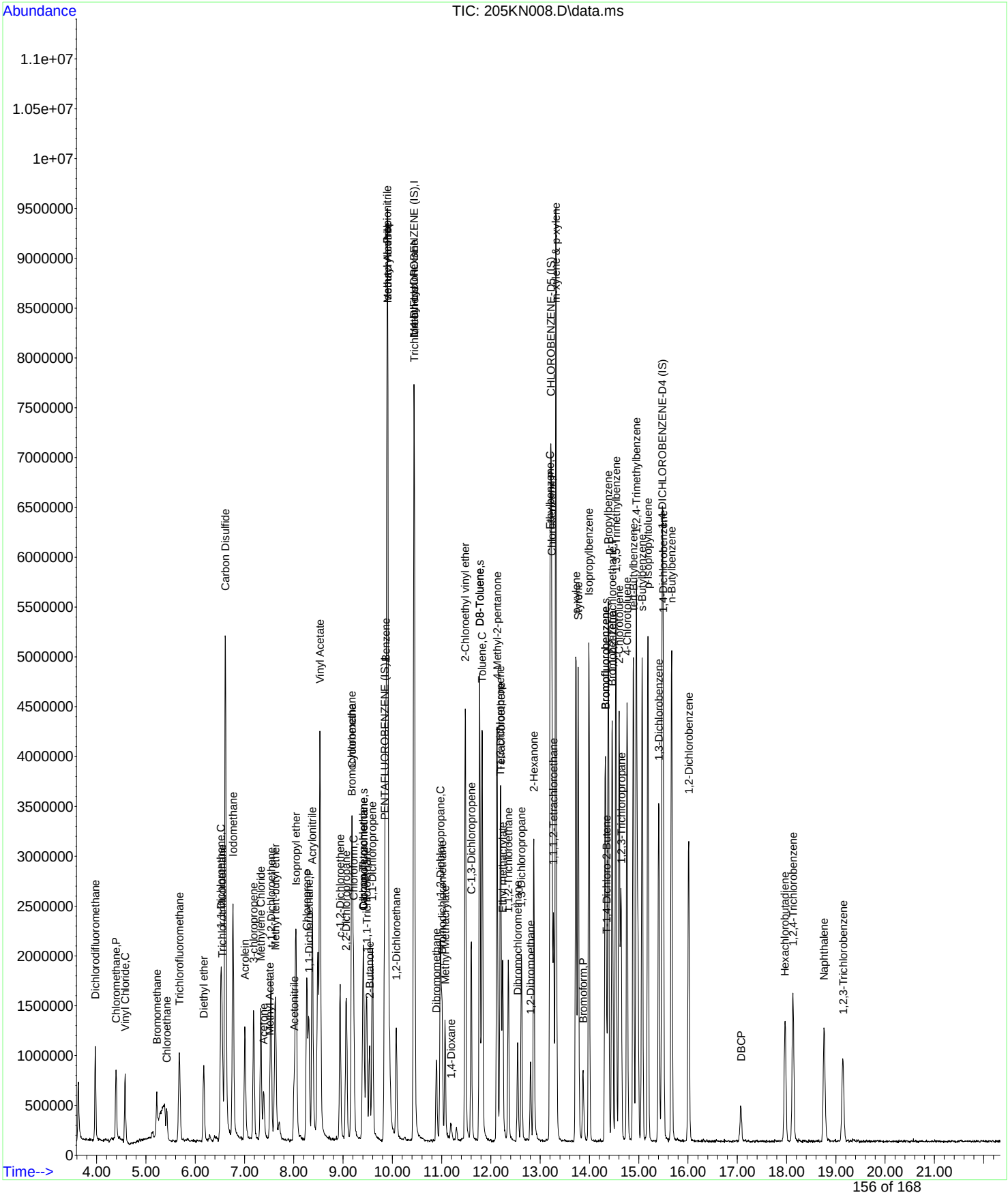
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.772	98	3099476	75.36	ug/L		99
54) 4-Methyl-2-pentanone	12.125	100	395380	161.32	ug/L		95
56) Toluene	11.819	92	1814837	39.43	ug/L		99
57) T-1,3-Dichloropropene	12.189	75	980489	42.40	ug/L		96
58) Tetrachloroethene	12.201	164	452738	42.95	ug/L		97
59) Ethyl methacrylate	12.236	69	923118	42.43	ug/L		99
60) 1,1,2-Trichloroethane	12.354	97	571249	41.17	ug/L		98
61) Dibromochloromethane	12.542	129	522815	47.25	ug/L		99
62) 1,3-Dichloropropane	12.618	76	1122001	42.93	ug/L		95
63) 1,2-Dibromoethane	12.806	107	593930	44.20	ug/L		96
64) 2-Hexanone	12.871	43	2057085	151.75	ug/L		96
65) Ethylbenzene	13.200	106	1029541	43.40	ug/L		98
66) Chlorobenzene	13.235	112	1747854	43.46	ug/L		98
67) 1,1,1,2-Tetrachloroethane	13.270	131	572785	45.85	ug/L		99
68) m-xylene & p-xylene	13.317	106	2555424	89.85	ug/L		99
69) o-xylene	13.729	106	1356099	46.27	ug/L		98
70) Styrene	13.770	104	2212182	42.81	ug/L		98
71) Bromoform	13.870	173	319258	47.50	ug/L		100
72) Isopropylbenzene	13.987	105	3552836	46.76	ug/L		97
74) Bromofluorobenzene	14.322	95	1494289	79.44	ug/L	#	83
75) n-Propylbenzene	14.381	91	4650659	48.83	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.463	83	853912	40.52	ug/L		98
77) 1,2,3-Trichloropropane	14.645	61	301262m	40.84	ug/L		
78) T-1,4-Dichloro-2-Butene	14.346	53	303268	38.58	ug/L	#	82
80) Bromobenzene	14.457	156	703749	40.57	ug/L		93
81) 1,2,4-Trimethylbenzene	14.951	105	3364816	50.40	ug/L		99
82) 2-Chlorotoluene	14.604	91	2804184	48.32	ug/L		98
83) 4-Chlorotoluene	14.763	91	2961213	49.37	ug/L		99
84) tert-Butylbenzene	14.892	119	2540489	44.80	ug/L		94
85) 1,3,5-Trimethylbenzene	14.539	105	3288125	49.10	ug/L		99
86) p-Isopropyltoluene	15.186	119	3248592	47.46	ug/L		97
87) s-Butylbenzene	15.068	105	3950643	46.31	ug/L		99
88) 1,3-Dichlorobenzene	15.409	146	1470644	45.76	ug/L		94
89) 1,4-Dichlorobenzene	15.497	146	1490431	42.91	ug/L		92
90) n-Butylbenzene	15.668	91	3454884	49.07	ug/L		100
91) 1,2-Dichlorobenzene	16.014	146	1370743	44.57	ug/L		97
92) DBCP	17.078	157	106714	30.01	ug/L		97
93) Hexachlorobutadiene	17.965	225	314949	34.28	ug/L		97
94) 1,2,4-Trichlorobenzene	18.129	180	657865	40.15	ug/L		97
95) Naphthalene	18.758	128	1383722	32.51	ug/L		99
96) 1,2,3-Trichlorobenzene	19.146	180	388718	29.46	ug/L		93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN008.D
Acq On : 19 Nov 2020 11:20 am
Operator : KKW
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 19 12:13:26 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN009.D
Acq On : 19 Nov 2020 11:51 am
Operator : KKW
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 19 12:26:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.845	168	1208553	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.438	114	2324329	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.217	82	1614423	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.480	152	1389872	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.416	113	859067	100.82	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 201.64%#				
52) D8-Toluene	11.772	98	3914979	96.40	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 192.80%#				
73) Bromofluorobenzene	14.322	95	1962092	104.16	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 208.32%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.969	85	1371350	81.43	ug/L		100
3) Chloromethane	4.392	50	1458184	65.02	ug/L		98
4) Vinyl Chloride	4.574	62	1327646	73.85	ug/L		97
5) Bromomethane	5.215	94	396760	113.42	ug/L		97
6) Chloroethane	5.421	64	338272	43.55	ug/L		97
7) Trichlorofluoromethane	5.667	101	1605213	84.32	ug/L		99
8) Diethyl ether	6.173	59	882717	69.07	ug/L		99
9) 1,1-Dichloroethene	6.519	96	899184	72.75	ug/L		96
10) Trichlorotrifluoroethane	6.543	151	605807	72.94	ug/L		94
11) Acrolein	7.007	56	1957408	513.78	ug/L		98
12) Iodomethane	6.766	142	4503159	536.06	ug/L	#	90
13) Carbon Disulfide	6.607	76	13463864	614.08	ug/L		99
14) 3-chloropropene	7.183	41	1631725	83.79	ug/L		98
15) Acetone	7.389	43	1177504	251.89	ug/L		97
16) Methylene Chloride	7.330	84	1040221	41.30	ug/L		99
17) Methyl Acetate	7.512	43	745030	56.64	ug/L		98
18) t-1,2-Dichloroethene	7.536	96	1051524	78.37	ug/L	#	1
19) Methyl tert-butyl ether	7.624	73	2822105	80.03	ug/L		95
20) Acetonitrile	8.006	41	1944065	665.32	ug/L		98
21) Isopropyl ether	8.047	45	3700268	81.00	ug/L		99
22) Chloroprene	8.258	88	983163	79.98	ug/L		98
23) 1,1-Dichloroethane	8.305	63	2193522	79.05	ug/L		99
24) Acrylonitrile	8.376	53	3548204	513.26	ug/L		99
25) Vinyl Acetate	8.529	43	10869613	391.68	ug/L	#	100
26) c-1,2-Dichloroethene	8.940	96	1163928	75.23	ug/L		96
27) 2,2-Dichloropropane	9.063	77	1802386	85.09	ug/L		98
28) Bromochloromethane	9.175	128	336411	61.49	ug/L		86
29) Cyclohexane	9.181	56	2224726	82.79	ug/L		96
30) Chloroform	9.210	83	2084702	80.10	ug/L		99
32) Dibromofluoromethane	9.416	113	859067	100.82	ug/L	#	89
33) 2-Butanone	9.533	72	589997	281.78	ug/L		98
34) 1,1,1-Trichloroethane	9.475	97	1804040	85.83	ug/L		98
35) 1,1-Dichloropropene	9.592	75	1731510	84.93	ug/L		98
36) Propionitrile	9.886	54	1385608	555.28	ug/L	#	78
37) Methacrylonitrile	9.904	41	6602548	605.68	ug/L		98
38) Isobutyl Alcohol	9.898	43	1741977	1154.32	ug/L	#	92
40) Carbon Tetrachloride	9.404	117	1400654m	91.88	ug/L		
41) Benzene	9.868	78	4588735	75.86	ug/L		100
42) 1,2-Dichloroethane	10.080	62	1583942	82.00	ug/L		96
43) Trichloroethene	10.444	130	922489	71.75	ug/L		98
44) Methyl cyclohexane	10.444	83	2157736	65.44	ug/L		97
45) Dibromomethane	10.897	93	662363	76.24	ug/L		94
46) 1,2-Dichloropropane	10.979	63	1365225	76.75	ug/L		98
47) Bromodichloromethane	11.008	83	1507069	91.29	ug/L		98
48) Methyl Methacrylate	11.073	69	784575	62.98	ug/L		97
49) 1,4-Dioxane	11.196	88	226181	815.78	ug/L		90
50) 2-Chloroethyl vinyl ether	11.484	63	3267574	385.45	ug/L		98
51) C-1,3-Dichloropropene	11.602	75	2042491	87.00	ug/L		97

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN009.D
Acq On : 19 Nov 2020 11:51 am
Operator : KKW
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 19 12:26:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

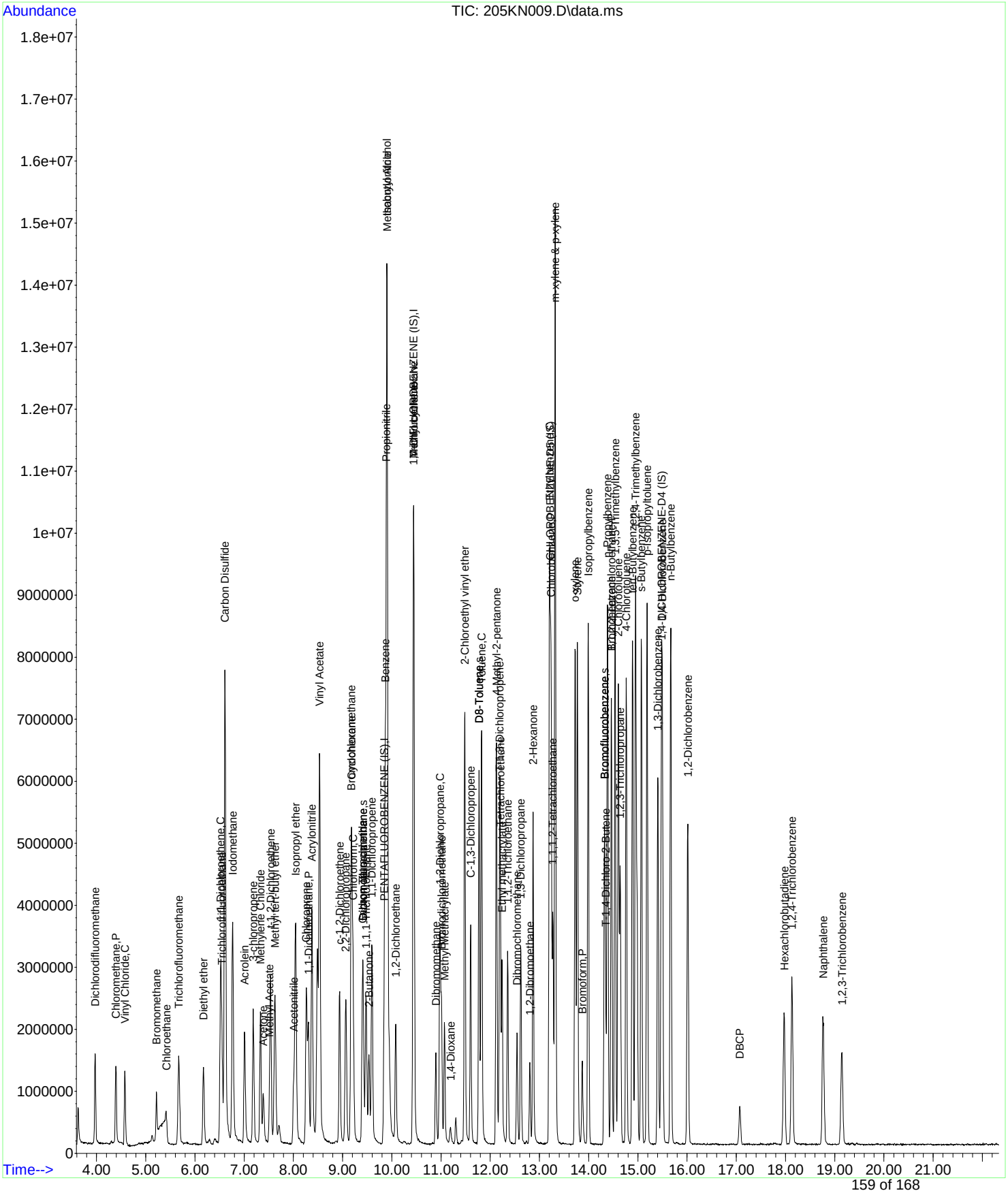
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.772	98	3914979	96.40	ug/L		98
54) 4-Methyl-2-pentanone	12.125	100	642904	265.66	ug/L		98
56) Toluene	11.825	92	2957735	64.17	ug/L		99
57) T-1,3-Dichloropropene	12.189	75	1705784	73.65	ug/L		99
58) Tetrachloroethene	12.207	164	766005	72.57	ug/L		98
59) Ethyl methacrylate	12.236	69	1505263	69.09	ug/L		99
60) 1,1,2-Trichloroethane	12.354	97	953126	68.60	ug/L		99
61) Dibromochloromethane	12.542	129	973442	87.85	ug/L		98
62) 1,3-Dichloropropane	12.618	76	1926010	73.59	ug/L		96
63) 1,2-Dibromoethane	12.806	107	977066	72.60	ug/L		100
64) 2-Hexanone	12.871	43	3425404	252.32	ug/L		98
65) Ethylbenzene	13.206	106	1705057	71.77	ug/L		99
66) Chlorobenzene	13.235	112	2931384	72.78	ug/L		100
67) 1,1,1,2-Tetrachloroethane	13.270	131	967791	77.35	ug/L		98
68) m-xylene & p-xylene	13.317	106	4131704	145.06	ug/L		98
69) o-xylene	13.723	106	2228011	75.92	ug/L		96
70) Styrene	13.770	104	3788012	73.20	ug/L		98
71) Bromoform	13.870	173	558705	83.00	ug/L		95
72) Isopropylbenzene	13.993	105	5873794	77.19	ug/L		97
74) Bromofluorobenzene	14.322	95	1962092	104.16	ug/L	#	83
75) n-Propylbenzene	14.381	91	7786988	81.65	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.463	83	1447067	68.57	ug/L		96
77) 1,2,3-Trichloropropane	14.639	61	487875m	66.05	ug/L		
78) T-1,4-Dichloro-2-Butene	14.346	53	531782	67.54	ug/L		93
80) Bromobenzene	14.463	156	1203554	68.24	ug/L		93
81) 1,2,4-Trimethylbenzene	14.951	105	5665226	83.44	ug/L		99
82) 2-Chlorotoluene	14.604	91	4821335	81.71	ug/L		98
83) 4-Chlorotoluene	14.763	91	5008377	82.12	ug/L		98
84) tert-Butylbenzene	14.892	119	4383506	76.02	ug/L		97
85) 1,3,5-Trimethylbenzene	14.539	105	5448477	80.00	ug/L		99
86) p-Isopropyltoluene	15.186	119	5524575	79.38	ug/L		98
87) s-Butylbenzene	15.068	105	6633423	76.47	ug/L		99
88) 1,3-Dichlorobenzene	15.403	146	2520522	77.12	ug/L		92
89) 1,4-Dichlorobenzene	15.497	146	2541465	71.95	ug/L		97
90) n-Butylbenzene	15.668	91	5860785	81.86	ug/L		99
91) 1,2-Dichlorobenzene	16.014	146	2382455	76.18	ug/L		97
92) DBCP	17.072	157	190666	52.73	ug/L		100
93) Hexachlorobutadiene	17.977	225	565022	60.48	ug/L		98
94) 1,2,4-Trichlorobenzene	18.129	180	1164591	69.90	ug/L		97
95) Naphthalene	18.764	128	2466369	56.99	ug/L	#	85
96) 1,2,3-Trichlorobenzene	19.146	180	710050	52.92	ug/L		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN009.D
Acq On : 19 Nov 2020 11:51 am
Operator : KKW
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 19 12:26:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN010.D
Acq On : 19 Nov 2020 12:22 pm
Operator : KKW
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 19 12:45:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.845	168	1285587	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.438	114	2302813	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.218	82	1664856	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.480	152	1435917	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.422	113	933861	103.03	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 206.06%#				
52) D8-Toluene	11.772	98	4337450	107.80	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 215.60%#				
73) Bromofluorobenzene	14.322	95	2108455	108.54	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 217.08%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.969	85	1729312	96.53	ug/L		99
3) Chloromethane	4.392	50	1884981	79.02	ug/L		99
4) Vinyl Chloride	4.575	62	1709609	89.39	ug/L		97
5) Bromomethane	5.221	94	562300	151.12	ug/L		92
6) Chloroethane	5.427	64	330195	39.96	ug/L		93
7) Trichlorofluoromethane	5.667	101	2094954	103.45	ug/L		99
8) Diethyl ether	6.173	59	1111643	81.77	ug/L		100
9) 1,1-Dichloroethene	6.519	96	1173403	89.25	ug/L		99
10) Trichlorotrifluoroethane	6.543	151	786588	89.03	ug/L		98
11) Acrolein	7.007	56	2396965	591.46	ug/L		98
12) Iodomethane	6.766	142	5907666	661.12	ug/L	#	93
13) Carbon Disulfide	6.608	76	16659424	714.30	ug/L		99
14) 3-chloropropene	7.183	41	2222281	107.28	ug/L		97
15) Acetone	7.389	43	1481571	297.94	ug/L		96
16) Methylene Chloride	7.330	84	1324748	49.44	ug/L		99
17) Methyl Acetate	7.512	43	920388	65.78	ug/L	#	94
18) t-1,2-Dichloroethene	7.536	96	1331120	93.26	ug/L	#	1
19) Methyl tert-butyl ether	7.624	73	3435059	91.57	ug/L		95
20) Acetonitrile	8.012	41	2370312	762.58	ug/L		99
21) Isopropyl ether	8.041	45	4624660	95.17	ug/L		99
22) Chloroprene	8.259	88	1285297	98.29	ug/L		99
23) 1,1-Dichloroethane	8.306	63	2773122	93.94	ug/L		99
24) Acrylonitrile	8.376	53	4303032	585.15	ug/L		98
25) Vinyl Acetate	8.529	43	13302716	450.63	ug/L	#	100
26) c-1,2-Dichloroethene	8.940	96	1421324	86.36	ug/L		92
27) 2,2-Dichloropropane	9.064	77	2243269	99.55	ug/L		98
28) Bromochloromethane	9.175	128	412367	70.85	ug/L		94
29) Cyclohexane	9.181	56	2822334	98.73	ug/L		96
30) Chloroform	9.210	83	2558648	92.42	ug/L		100
32) Dibromofluoromethane	9.422	113	933861	103.03	ug/L	#	90
33) 2-Butanone	9.534	72	741450	332.90	ug/L		97
34) 1,1,1-Trichloroethane	9.475	97	2246059	100.46	ug/L		98
35) 1,1-Dichloropropene	9.598	75	2161746	99.68	ug/L		97
36) Propionitrile	9.892	54	1676766	631.70	ug/L	#	75
37) Methacrylonitrile	9.904	41	8006829	690.49	ug/L		97
38) Isobutyl Alcohol	9.898	43	2112005	1315.66	ug/L	#	92
40) Carbon Tetrachloride	9.404	117	1755533m	116.24	ug/L		
41) Benzene	9.868	78	5766714	96.23	ug/L		99
42) 1,2-Dichloroethane	10.080	62	1930831	100.90	ug/L		98
43) Trichloroethene	10.444	130	1169448	91.81	ug/L		97
44) Methyl cyclohexane	10.444	83	2631438	80.56	ug/L		97
45) Dibromomethane	10.891	93	789742	91.75	ug/L		93
46) 1,2-Dichloropropane	10.979	63	1695005	96.18	ug/L		99
47) Bromodichloromethane	11.008	83	1894020	115.80	ug/L		99
48) Methyl Methacrylate	11.067	69	994020	80.53	ug/L		98
49) 1,4-Dioxane	11.191	88	257887	938.82	ug/L		96
50) 2-Chloroethyl vinyl ether	11.484	63	4011514	477.62	ug/L		100
51) C-1,3-Dichloropropene	11.602	75	2565944	110.31	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN010.D
Acq On : 19 Nov 2020 12:22 pm
Operator : KKW
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 19 12:45:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration

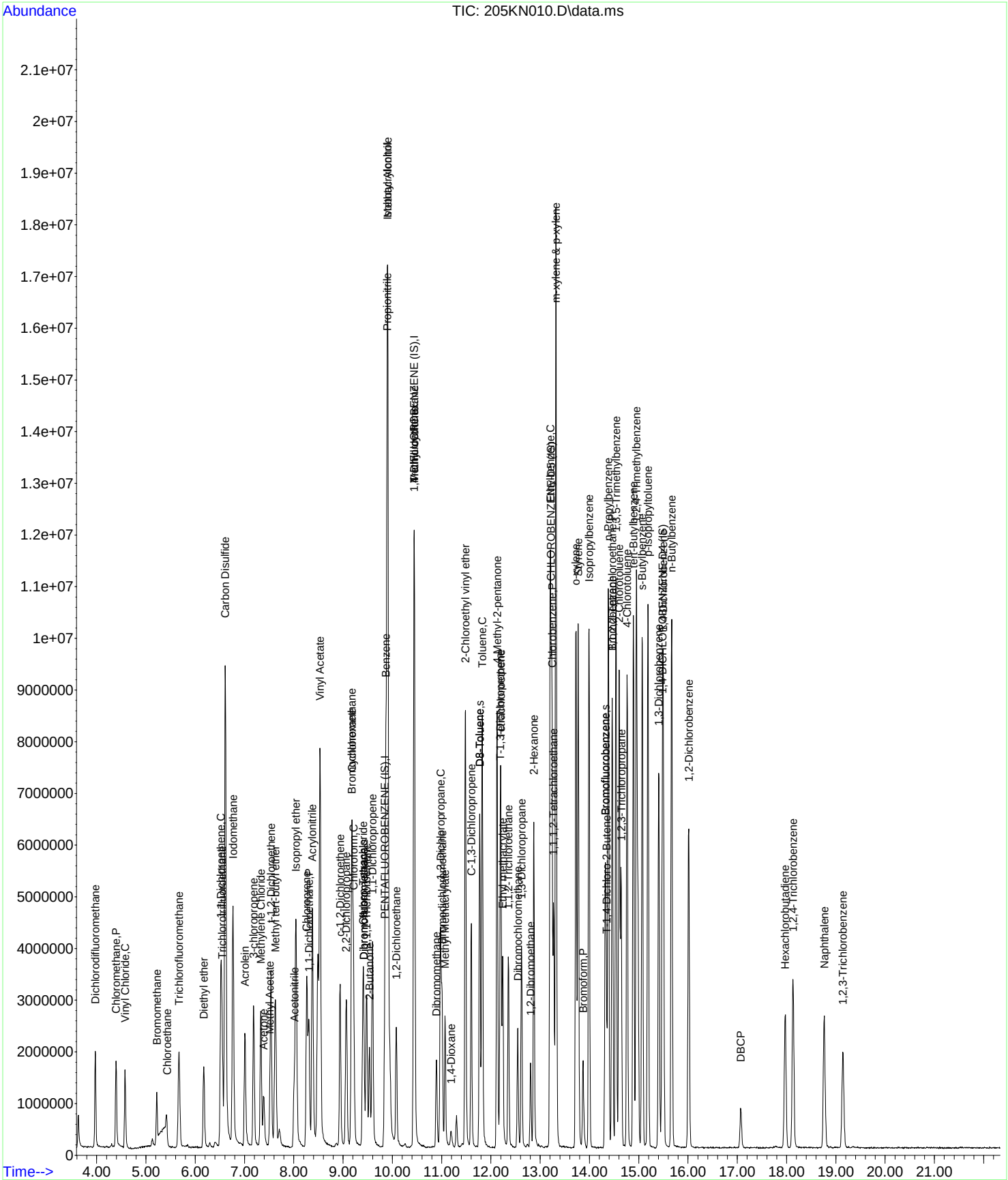
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.772	98	4337573	107.80 ug/L	98
54) 4-Methyl-2-pentanone	12.125	100	775468	323.43 ug/L	93
56) Toluene	11.825	92	3691514	77.66 ug/L	99
57) T-1,3-Dichloropropene	12.189	75	2097211	87.81 ug/L	98
58) Tetrachloroethene	12.201	164	983418	90.35 ug/L	97
59) Ethyl methacrylate	12.236	69	1865494	83.03 ug/L	98
60) 1,1,2-Trichloroethane	12.354	97	1193110	83.27 ug/L	98
61) Dibromochloromethane	12.548	129	1209740	105.87 ug/L	99
62) 1,3-Dichloropropane	12.624	76	2375424	88.01 ug/L	98
63) 1,2-Dibromoethane	12.806	107	1199542	86.44 ug/L	99
64) 2-Hexanone	12.871	43	4248110	303.44 ug/L	98
65) Ethylbenzene	13.206	106	2150547	87.78 ug/L	100
66) Chlorobenzene	13.241	112	3615945	87.06 ug/L	100
67) 1,1,1,2-Tetrachloroethane	13.270	131	1239896	96.10 ug/L	99
68) m-xylene & p-xylene	13.317	106	5107094	173.87 ug/L	95
69) o-xylene	13.723	106	2739594	90.52 ug/L	96
70) Styrene	13.770	104	4673554	87.58 ug/L	98
71) Bromoform	13.870	173	749514	107.97 ug/L	99
72) Isopropylbenzene	13.993	105	7193576	91.67 ug/L	98
74) Bromofluorobenzene	14.322	95	2108455	108.54 ug/L	84
75) n-Propylbenzene	14.381	91	9558022	97.18 ug/L	99
76) 1,1,2,2-Tetrachloroethane	14.463	83	1725499	79.29 ug/L	97
77) 1,2,3-Trichloropropane	14.645	61	623122m	81.80 ug/L	
78) T-1,4-Dichloro-2-Butene	14.346	53	657623	81.00 ug/L #	91
80) Bromobenzene	14.463	156	1499222	82.28 ug/L	95
81) 1,2,4-Trimethylbenzene	14.951	105	6937425	98.90 ug/L	99
82) 2-Chlorotoluene	14.604	91	5882946	96.50 ug/L	99
83) 4-Chlorotoluene	14.763	91	6159101	97.75 ug/L	99
84) tert-Butylbenzene	14.892	119	5367420	90.10 ug/L	96
85) 1,3,5-Trimethylbenzene	14.540	105	6856962	97.46 ug/L	99
86) p-Isopropyltoluene	15.186	119	6748507	93.85 ug/L	98
87) s-Butylbenzene	15.068	105	8074381	90.10 ug/L	99
88) 1,3-Dichlorobenzene	15.403	146	3220656	95.38 ug/L	96
89) 1,4-Dichlorobenzene	15.497	146	3220603	88.26 ug/L	97
90) n-Butylbenzene	15.668	91	7147393	96.63 ug/L	100
91) 1,2-Dichlorobenzene	16.014	146	2892946	89.54 ug/L	97
92) DBCP	17.072	157	236625	63.35 ug/L	99
93) Hexachlorobutadiene	17.971	225	722622	74.88 ug/L	98
94) 1,2,4-Trichlorobenzene	18.130	180	1395430	81.07 ug/L	96
95) Naphthalene	18.764	128	2976771	66.58 ug/L #	89
96) 1,2,3-Trichlorobenzene	19.140	180	880580	63.53 ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN010.D
Acq On : 19 Nov 2020 12:22 pm
Operator : KKW
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 19 12:45:16 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 10:41:27 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN012.D
Acq On : 19 Nov 2020 1:24 pm
Operator : KKW
Sample : SCV
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Nov 20 07:34:48 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 13:02:55 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.851	168	1335071	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2438645	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.223	82	1652574	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.480	152	1403353	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.422	113	685210	49.76	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 99.52%				
52) D8-Toluene	11.772	98	3142816	52.18	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 104.36%				
73) Bromofluorobenzene	14.322	95	1543298	52.29	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 104.58%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.975	85	354802	20.59	ug/L		99
3) Chloromethane	4.392	50	396453	19.98	ug/L		99
4) Vinyl Chloride	4.574	62	333797	20.72	ug/L		99
5) Bromomethane	5.221	94	110552	24.95	ug/L	#	94
6) Chloroethane	5.432	64	153751	21.69	ug/L		99
7) Trichlorofluoromethane	5.685	101	412512	20.58	ug/L		98
8) Diethyl ether	6.173	59	554603	49.76	ug/L		97
9) 1,1-Dichloroethene	6.525	96	564914	49.01	ug/L		93
10) Trichlorotrifluoroethane	6.549	151	394789	51.14	ug/L		94
11) Acrolein	7.007	56	547444	236.15	ug/L		99
12) Iodomethane	6.772	142	594142	48.06	ug/L		94
13) Carbon Disulfide	6.613	76	1963334	52.00	ug/L		98
14) 3-chloropropene	7.189	41	1102445	48.40	ug/L		95
15) Acetone	7.389	43	750521	239.27	ug/L		97
16) Methylene Chloride	7.336	84	659865	47.21	ug/L		98
17) Methyl Acetate	7.518	43	372876	38.04	ug/L		94
18) t-1,2-Dichloroethene	7.542	96	638351	47.86	ug/L		99
19) Methyl tert-butyl ether	7.630	73	1657107	49.09	ug/L		99
20) Acetonitrile	8.041	41	785041	308.73	ug/L	#	90
21) Isopropyl ether	8.047	45	2283591	50.97	ug/L		98
22) Chloroprene	8.264	88	634995	49.71	ug/L		93
23) 1,1-Dichloroethane	8.311	63	1308548	47.70	ug/L		99
24) Acrylonitrile	8.376	53	249323	60.18	ug/L	#	99
25) Vinyl Acetate	8.535	43	1300608	46.27	ug/L		100
26) c-1,2-Dichloroethene	8.940	96	705586	49.95	ug/L		96
27) 2,2-Dichloropropane	9.063	77	1095632	46.78	ug/L		99
28) Bromochloromethane	9.175	128	266834	53.48	ug/L		96
29) Cyclohexane	9.181	56	1373332	46.02	ug/L		96
30) Chloroform	9.216	83	1281179	48.90	ug/L		100
32) Dibromofluoromethane	9.422	113	685210	49.76	ug/L	#	91
33) 2-Butanone	9.533	72	375785	245.67	ug/L		89
34) 1,1,1-Trichloroethane	9.481	97	1094873	50.62	ug/L		99
35) 1,1-Dichloropropene	9.598	75	1049130	47.68	ug/L		99
36) Propionitrile	9.898	54	103230	54.97	ug/L	#	1
37) Methacrylonitrile	9.904	41	623847	67.28	ug/L	#	82
38) Isobutyl Alcohol	9.898	43	631905	563.50	ug/L	#	72
40) Carbon Tetrachloride	9.410	117	1013178	55.46	ug/L		87
41) Benzene	9.868	78	2985915	53.56	ug/L		99
42) 1,2-Dichloroethane	10.080	62	932453	45.85	ug/L		96
43) Trichloroethene	10.444	130	605829	53.80	ug/L		95
44) Methyl cyclohexane	10.444	83	1328496	47.49	ug/L		98
45) Dibromomethane	10.897	93	387497	48.92	ug/L		94
46) 1,2-Dichloropropane	10.979	63	828991	49.81	ug/L		96
47) Bromodichloromethane	11.008	83	913394	49.93	ug/L		99
48) Methyl Methacrylate	11.073	69	508778	49.14	ug/L		96
49) 1,4-Dioxane	11.190	88	124499	880.66	ug/L		100
50) 2-Chloroethyl vinyl ether	11.484	63	2098051	267.05	ug/L		99
51) C-1,3-Dichloropropene	11.602	75	1207357	48.81	ug/L		100

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN012.D
Acq On : 19 Nov 2020 1:24 pm
Operator : KKW
Sample : SCV
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Nov 20 07:34:48 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 13:02:55 2020
Response via : Initial Calibration

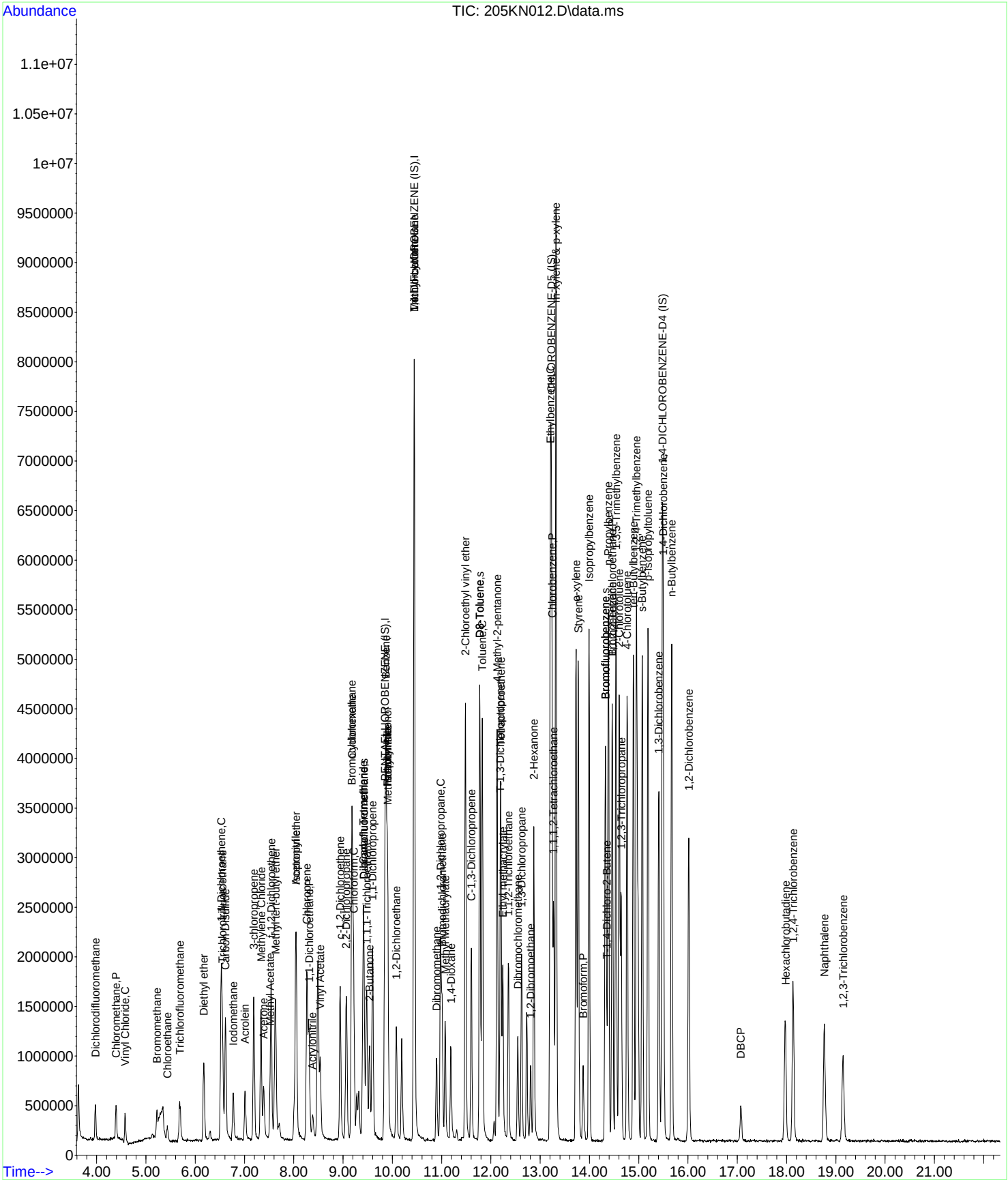
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.772	98	3142816	52.18	ug/L		97
54) 4-Methyl-2-pentanone	12.125	100	383259	231.64	ug/L		95
56) Toluene	11.825	92	1866440	52.93	ug/L		98
57) T-1,3-Dichloropropene	12.189	75	1033154	49.24	ug/L		99
58) Tetrachloroethene	12.201	164	470073	48.46	ug/L		97
59) Ethyl methacrylate	12.242	69	931908	49.65	ug/L		99
60) 1,1,2-Trichloroethane	12.354	97	593568	49.82	ug/L		99
61) Dibromochloromethane	12.548	129	570220	51.92	ug/L		99
62) 1,3-Dichloropropane	12.624	76	1136370	51.51	ug/L		97
63) 1,2-Dibromoethane	12.806	107	573185	51.69	ug/L		93
64) 2-Hexanone	12.871	43	2041750	251.42	ug/L		100
65) Ethylbenzene	13.206	106	1045939	48.81	ug/L		98
66) Chlorobenzene	13.241	112	1837265	51.72	ug/L		99
67) 1,1,1,2-Tetrachloroethane	13.270	131	607147	57.12	ug/L		98
68) m-xylene & p-xylene	13.317	106	2627132	105.62	ug/L		99
69) o-xylene	13.729	106	1344899	52.72	ug/L		99
70) Styrene	13.776	104	2296941	55.15	ug/L		99
71) Bromoform	13.870	173	332797	51.92	ug/L		100
72) Isopropylbenzene	13.993	105	3652042	54.39	ug/L		99
74) Bromofluorobenzene	14.322	95	1543298	52.29	ug/L		85
75) n-Propylbenzene	14.381	91	4786801	53.33	ug/L		100
76) 1,1,2,2-Tetrachloroethane	14.463	83	859359	51.62	ug/L		98
77) 1,2,3-Trichloropropane	14.645	61	288427m	47.38	ug/L		
78) T-1,4-Dichloro-2-Butene	14.351	53	318781	48.51	ug/L		95
80) Bromobenzene	14.463	156	749613	53.05	ug/L		96
81) 1,2,4-Trimethylbenzene	14.951	105	3477379	52.93	ug/L		99
82) 2-Chlorotoluene	14.604	91	2933062	53.11	ug/L		99
83) 4-Chlorotoluene	14.763	91	3049254	52.88	ug/L		99
84) tert-Butylbenzene	14.892	119	2595739	52.01	ug/L		96
85) 1,3,5-Trimethylbenzene	14.539	105	3405478	53.50	ug/L		100
86) p-Isopropyltoluene	15.186	119	3361992	54.23	ug/L		98
87) s-Butylbenzene	15.068	105	4051789	54.26	ug/L		99
88) 1,3-Dichlorobenzene	15.403	146	1547832	54.68	ug/L		99
89) 1,4-Dichlorobenzene	15.497	146	1537044	50.65	ug/L		98
90) n-Butylbenzene	15.668	91	3443258	53.41	ug/L		99
91) 1,2-Dichlorobenzene	16.014	146	1386436	51.89	ug/L		98
92) DBCP	17.072	157	121400	54.71	ug/L		84
93) Hexachlorobutadiene	17.983	225	335097	51.35	ug/L		98
94) 1,2,4-Trichlorobenzene	18.135	180	663064	49.00	ug/L		98
95) Naphthalene	18.764	128	1360689	47.72	ug/L	#	88
96) 1,2,3-Trichlorobenzene	19.146	180	408536	50.47	ug/L		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\111920\
Data File : 205KN012.D
Acq On : 19 Nov 2020 1:24 pm
Operator : KKW
Sample : SCV
Misc :
ALS Vial : 11 Sample Multiplier: 1

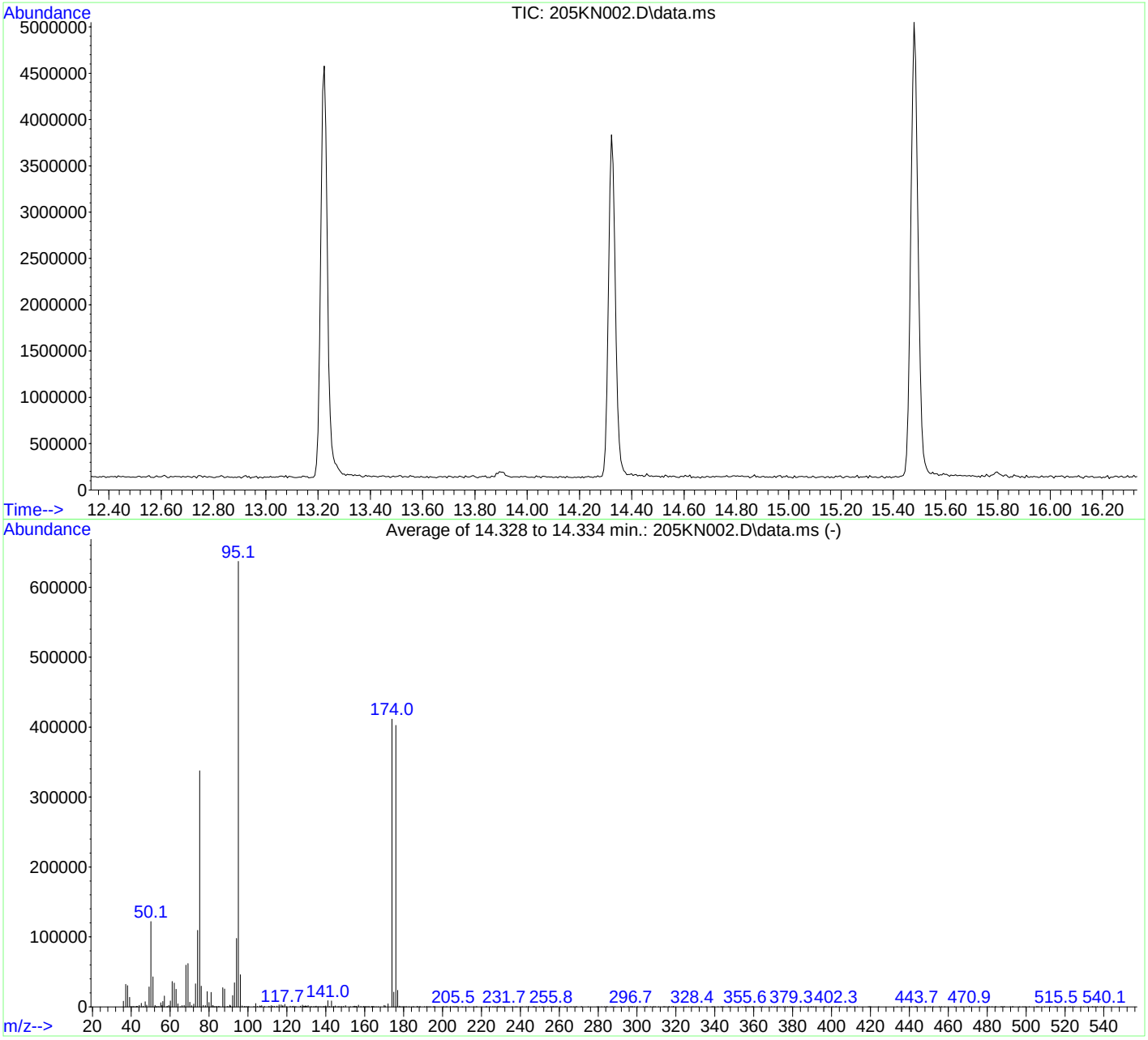
Quant Time: Nov 20 07:34:48 2020
Quant Method : C:\msdchem\1\methods\111920W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu Nov 19 13:02:55 2020
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\111920\
Data File : 205KN002.D
Acq On : 19 Nov 2020 8:07 am
Operator : KKW
Sample : TUN1
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\methods\111920W.M
Title : ENCO SOP VGCMS05; Element Cal 2011113
Last Update : Fri Nov 20 09:50:30 2020



Spectrum Information: Average of 14.328 to 14.334 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
95	174	50	200	154.9	636951	PASS
96	95	5	9	7.2	46014	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	200	64.6	411328	PASS
175	174	5	9	5.1	21111	PASS
176	174	95	105	97.9	402612	PASS
177	176	5	10	5.8	23424	PASS

TETRA TECH ISG
TtNUS, Information Systems Group

Completion Ticket

On 2/10/2021 at 10:19 AM the following files were submitted to Tetra Tech by kdylnicki@encolabs.com with ENCO:

TE016AE00488A1.txt, TE016AE00488A3.txt

If you need to identify this session at a later date refer to Ticket Key:

2021210_6429849927_ledd_ENCO

You may print this page by clicking on the "Print This Page" button

Thank you for using the Data Checker, to upload more files click the "Upload/Check Files" link on navigation menu.

Print this Page Back To Upload

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I Lori S. Mangrum, as the designated Quality Assurance Officer, hereby attest that all electronic deliverables have been thoroughly reviewed and are in agreement with the associated hardcopy data. The enclosed electronic files have been reviewed for accuracy (including significant figures), completeness and format. The laboratory will be responsible for any labor time necessary to correct enclosed electronic deliverables that have been found to be in error. I can be reached at (407) 826-5314 if there are any questions or problems with the enclosed electronic deliverables.

Signature:_____ Title: Quality Assurance Manager Date: February 10, 2021

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Flags/Notes and Definitions	15
Chain of Custody	17
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EPA 8260D Package	19

ENCO Laboratories

Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Thursday, January 28, 2021
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AE00488

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Thursday, January 21, 2021.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

www.encolabs.com

Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Client PM: Alex Murphy
Project Number: 112G08970
ENCO Project ID: AE00488
SDG: AE00488-TE016

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling and processing will be discussed in the Remarks section below.

Remarks

List of instruments used:

Analytical and Preparation Method	SOP Reference Instrument
EPA 8260D / 5030B_MS	OVGCMS5

Analysis: EPA 8260D

Manual integrations were performed on samples associated with EPA 8260D. All data & explanations are included in the raw data section of the report.

Affected Samples: 1A25020-BS1, CRCA-ASEFFLUENT-20210119[AE00488-01], CRCA-ASINFLUENT-20210119]
The associated laboratory control sample exhibited low bias for methyl acetate; the associated sample had ND (non-detect) results, but sensitivity was verified by analyzing a standard with a concentration equivalent to the reporting limit.

Affected Samples: 1A25020-MS1, 1A25020-MSD1
Matrix spike recovery was outside acceptance limits for m,p-xylenes, methyl acetate, and styrene.

Affected Samples: AA64632-CCV1
The continuing calibration verification standard exhibited low bias for multiple analytes; the associated sample had ND (non-detect) results, but sensitivity was verified by analyzing a standard with a concentration equivalent to the reporting limit.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Kaitlin Dylnicki
Project Manager

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-ASEFFLUENT-20210119	Lab ID: AE00488-01	Sampled: 01/19/21 13:40	Received: 01/21/21 15:10

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 17:41

Client ID: CRCA-ASINFLUENT-20210119	Lab ID: AE00488-02	Sampled: 01/19/21 13:50	Received: 01/21/21 15:10

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 18:10

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-ASINFLUENT-20210119 **Lab ID:** AE00488-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	13		0.71	2.5	ug/L	EPA 8260D	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20210119 **Lab Sample ID:** AE00488-01 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:40 **Work Order:** AE00488

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 17:41	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:41	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20210119 **Lab Sample ID:** AE00488-01 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:40 **Work Order:** AE00488

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 17:41	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*107 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 17:41*	*KKW*	
Dibromofluoromethane	*56*	*1*	*50.0*	*111 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 17:41*	*KKW*	
Toluene-d8	*47*	*1*	*50.0*	*94 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 17:41*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20210119 **Lab Sample ID:** AE00488-02 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:50 **Work Order:** AE00488

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 18:10	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 18:10	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	

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ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20210119 **Lab Sample ID:** AE00488-02 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:50 **Work Order:** AE00488

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Vinyl chloride [75-01-4]^	**13**		ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 18:10	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*107 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 18:10*	*KKW*	
Dibromofluoromethane	*55*	*1*	*50.0*	*110 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 18:10*	*KKW*	
Toluene-d8	*48*	*1*	*50.0*	*96 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 18:10*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS

Blank (1A25020-BLK1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 10:19

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

Blank (1A25020-BLK1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 10:19

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*54*			*ug/L*	*50.0*		*109*	*41-142*			
Dibromofluoromethane	*55*			*ug/L*	*50.0*		*111*	*53-146*			
Toluene-d8	*48*	*I*		*ug/L*	*50.0*		*96*	*41-146*			

LCS (1A25020-BS1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 09:20

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	19		2.5	ug/L	20.0		97	57-148			
1,1,2,2-Tetrachloroethane	21		2.5	ug/L	20.0		105	60-139			
1,1,2-Trichloroethane	21		2.5	ug/L	20.0		107	57-141			
1,1-Dichloroethane	19		2.5	ug/L	20.0		93	57-142			
1,1-Dichloroethene	20		2.5	ug/L	20.0		102	47-139			
1,2,4-Trichlorobenzene	17		2.5	ug/L	20.0		87	52-159			
1,2-Dibromo-3-chloropropane	20		2.5	ug/L	20.0		102	48-150			
1,2-Dibromoethane	22		2.5	ug/L	20.0		110	57-140			
1,2-Dichlorobenzene	23		2.5	ug/L	20.0		113	63-131			
1,2-Dichloroethane	15		2.5	ug/L	20.0		75	50-156			
1,2-Dichloropropane	16		2.5	ug/L	20.0		80	61-133			
1,3-Dichlorobenzene	24		2.5	ug/L	20.0		118	66-129			
1,4-Dichlorobenzene	21		2.5	ug/L	20.0		106	65-133			
2-Butanone	90		12	ug/L	100		90	10-180			
2-Hexanone	68		12	ug/L	100		68	12-180			
4-Methyl-2-pentanone	90		12	ug/L	100		90	19-180			
Acetone	71		25	ug/L	100		71	10-180			
Benzene	19		2.5	ug/L	20.0		94	56-136			
Bromodichloromethane	18		2.5	ug/L	20.0		89	58-135			
Bromoform	21		2.5	ug/L	20.0		107	46-148			
Bromomethane	8.7		2.5	ug/L	20.0		44	10-173			
Carbon disulfide	20		12	ug/L	20.0		102	43-153			
Carbon Tetrachloride	16		2.5	ug/L	20.0		80	54-156			
Chlorobenzene	24		2.5	ug/L	20.0		120	51-139			
Chloroethane	22		2.5	ug/L	20.0		109	27-180			
Chloroform	20		2.5	ug/L	20.0		99	58-139			
Chloromethane	9.3		2.5	ug/L	20.0		46	33-154			
cis-1,2-Dichloroethene	22		2.5	ug/L	20.0		109	56-128			
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0		87	64-128			
Cyclohexane	16		2.5	ug/L	20.0		82	70-130			
Dibromochloromethane	24		2.5	ug/L	20.0		118	50-140			
Dichlorodifluoromethane	12		2.5	ug/L	20.0		61	10-180			
Ethylbenzene	22		2.5	ug/L	20.0		108	63-133			
Freon 113	21		2.5	ug/L	20.0		104	47-173			
Isopropylbenzene	24		2.5	ug/L	20.0		118	60-132			
m,p-Xylenes	50		5.0	ug/L	40.0		125	64-133			
Methyl acetate	13		2.5	ug/L	20.0		65	70-130			A-07
Methyl cyclohexane	18		2.5	ug/L	20.0		89	70-130			
Methylene Chloride	20		12	ug/L	20.0		100	43-142			
Methyl-tert-Butyl Ether	20		2.5	ug/L	20.0		99	51-145			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

LCS (1A25020-BS1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 09:20

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
o-Xylene	23		2.5	ug/L	20.0		117	61-129			
Styrene	25		2.5	ug/L	20.0		126	59-136			
Tetrachloroethene	21		2.5	ug/L	20.0		104	60-147			
Toluene	23		2.5	ug/L	20.0		114	64-131			
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0		108	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0		103	65-149			
Trichloroethene	21		2.5	ug/L	20.0		103	62-135			
Trichlorofluoromethane	20		2.5	ug/L	20.0		100	56-155			
Vinyl chloride	17		2.5	ug/L	20.0		85	20-167			
4-Bromofluorobenzene	*52*			*ug/L*	*50.0*		*105*	*41-142*			
Dibromofluoromethane	*55*			*ug/L*	*50.0*		*111*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*98*	*41-146*			

Matrix Spike (1A25020-MS1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 18:39

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	22		2.5	ug/L	20.0	0.80 U	110	57-148			
1,1,2,2-Tetrachloroethane	23		2.5	ug/L	20.0	0.54 U	114	60-139			
1,1,2-Trichloroethane	22		2.5	ug/L	20.0	0.76 U	110	57-141			
1,1-Dichloroethane	19		2.5	ug/L	20.0	0.62 U	96	57-142			
1,1-Dichloroethene	23		2.5	ug/L	20.0	0.94 U	114	47-139			
1,2,4-Trichlorobenzene	15		2.5	ug/L	20.0	0.70 U	74	52-159			
1,2-Dibromo-3-chloropropane	14		2.5	ug/L	20.0	0.96 U	72	48-150			
1,2-Dibromoethane	23		2.5	ug/L	20.0	0.78 U	115	57-140			
1,2-Dichlorobenzene	23		2.5	ug/L	20.0	0.73 U	114	63-131			
1,2-Dichloroethane	16		2.5	ug/L	20.0	0.63 U	79	50-156			
1,2-Dichloropropane	16		2.5	ug/L	20.0	0.80 U	79	61-133			
1,3-Dichlorobenzene	25		2.5	ug/L	20.0	0.77 U	125	66-129			
1,4-Dichlorobenzene	23		2.5	ug/L	20.0	0.76 U	114	65-133			
2-Butanone	88		12	ug/L	100	4.5 U	88	10-180			
2-Hexanone	62		12	ug/L	100	2.5 U	62	12-180			
4-Methyl-2-pentanone	87		12	ug/L	100	2.5 U	87	19-180			
Acetone	65		25	ug/L	100	10 U	65	10-180			
Benzene	20		2.5	ug/L	20.0	0.71 U	100	56-136			
Bromodichloromethane	19		2.5	ug/L	20.0	0.52 U	95	58-135			
Bromoform	22		2.5	ug/L	20.0	0.75 U	109	46-148			
Bromomethane	10		2.5	ug/L	20.0	0.95 U	50	10-173			
Carbon disulfide	21		12	ug/L	20.0	2.5 U	106	43-153			
Carbon Tetrachloride	18		2.5	ug/L	20.0	0.94 U	89	54-156			
Chlorobenzene	27		2.5	ug/L	20.0	0.72 U	135	51-139			
Chloroethane	23		2.5	ug/L	20.0	0.98 U	113	27-180			
Chloroform	21		2.5	ug/L	20.0	0.80 U	104	58-139			
Chloromethane	9.6		2.5	ug/L	20.0	0.82 U	48	33-154			
cis-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.53 U	110	56-128			
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0	0.59 U	85	64-128			
Cyclohexane	16		2.5	ug/L	20.0	0.93 U	82	70-130			
Dibromochloromethane	25		2.5	ug/L	20.0	0.50 U	127	50-140			
Dichlorodifluoromethane	13		2.5	ug/L	20.0	0.74 U	66	10-180			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

Matrix Spike (1A25020-MS1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 18:39

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	24		2.5	ug/L	20.0	0.69 U	119	63-133			
Freon 113	23		2.5	ug/L	20.0	0.73 U	115	47-173			
Isopropylbenzene	26		2.5	ug/L	20.0	0.67 U	131	60-132			
m,p-Xylenes	55		5.0	ug/L	40.0	1.3 U	137	64-133			QM-07
Methyl acetate	10		2.5	ug/L	20.0	0.95 U	51	70-130			QM-19
Methyl cyclohexane	19		2.5	ug/L	20.0	0.64 U	95	70-130			
Methylene Chloride	21		12	ug/L	20.0	2.5 U	105	43-142			
Methyl-tert-Butyl Ether	20		2.5	ug/L	20.0	0.60 U	100	51-145			
o-Xylene	25		2.5	ug/L	20.0	0.53 U	127	61-129			
Styrene	28		2.5	ug/L	20.0	0.61 U	140	59-136			QM-07
Tetrachloroethene	24		2.5	ug/L	20.0	0.76 U	122	60-147			
Toluene	24		2.5	ug/L	20.0	0.72 U	122	64-131			
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.73 U	111	54-134			
trans-1,3-Dichloropropene	20		2.5	ug/L	20.0	0.73 U	102	65-149			
Trichloroethene	24		2.5	ug/L	20.0	0.89 U	122	62-135			
Trichlorofluoromethane	23		2.5	ug/L	20.0	0.94 U	113	56-155			
Vinyl chloride	17		2.5	ug/L	20.0	0.71 U	84	20-167			
4-Bromofluorobenzene	*54*			*ug/L*	*50.0*		*109*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*112*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*97*	*41-146*			

Matrix Spike Dup (1A25020-MSD1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 19:09

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	20		2.5	ug/L	20.0	0.80 U	102	57-148	8	25	
1,1,2,2-Tetrachloroethane	22		2.5	ug/L	20.0	0.54 U	110	60-139	4	17	
1,1,2-Trichloroethane	21		2.5	ug/L	20.0	0.76 U	106	57-141	3	16	
1,1-Dichloroethane	18		2.5	ug/L	20.0	0.62 U	90	57-142	6	24	
1,1-Dichloroethene	21		2.5	ug/L	20.0	0.94 U	103	47-139	10	16	
1,2,4-Trichlorobenzene	16		2.5	ug/L	20.0	0.70 U	81	52-159	9	24	
1,2-Dibromo-3-chloropropane	18		2.5	ug/L	20.0	0.96 U	88	48-150	21	21	
1,2-Dibromoethane	22		2.5	ug/L	20.0	0.78 U	110	57-140	4	16	
1,2-Dichlorobenzene	23		2.5	ug/L	20.0	0.73 U	113	63-131	1	25	
1,2-Dichloroethane	15		2.5	ug/L	20.0	0.63 U	77	50-156	1	18	
1,2-Dichloropropane	15		2.5	ug/L	20.0	0.80 U	76	61-133	4	26	
1,3-Dichlorobenzene	24		2.5	ug/L	20.0	0.77 U	120	66-129	4	23	
1,4-Dichlorobenzene	22		2.5	ug/L	20.0	0.76 U	110	65-133	4	23	
2-Butanone	83		12	ug/L	100	4.5 U	83	10-180	5	29	
2-Hexanone	66		12	ug/L	100	2.5 U	66	12-180	5	28	
4-Methyl-2-pentanone	87		12	ug/L	100	2.5 U	87	19-180	0.5	24	
Acetone	70		25	ug/L	100	10 U	70	10-180	7	19	
Benzene	19		2.5	ug/L	20.0	0.71 U	96	56-136	5	14	
Bromodichloromethane	18		2.5	ug/L	20.0	0.52 U	89	58-135	7	19	
Bromoform	21		2.5	ug/L	20.0	0.75 U	106	46-148	2	18	
Bromomethane	11		2.5	ug/L	20.0	0.95 U	55	10-173	10	29	
Carbon disulfide	19		12	ug/L	20.0	2.5 U	94	43-153	12	26	
Carbon Tetrachloride	16		2.5	ug/L	20.0	0.94 U	79	54-156	12	27	
Chlorobenzene	26		2.5	ug/L	20.0	0.72 U	129	51-139	5	13	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

Matrix Spike Dup (1A25020-MSD1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 19:09

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloroethane	21		2.5	ug/L	20.0	0.98 U	105	27-180	7	22	
Chloroform	20		2.5	ug/L	20.0	0.80 U	102	58-139	2	17	
Chloromethane	9.0		2.5	ug/L	20.0	0.82 U	45	33-154	7	31	
cis-1,2-Dichloroethene	21		2.5	ug/L	20.0	0.53 U	104	56-128	5	17	
cis-1,3-Dichloropropene	16		2.5	ug/L	20.0	0.59 U	78	64-128	9	20	
Cyclohexane	15		2.5	ug/L	20.0	0.93 U	75	70-130	8	20	
Dibromochloromethane	23		2.5	ug/L	20.0	0.50 U	117	50-140	8	18	
Dichlorodifluoromethane	13		2.5	ug/L	20.0	0.74 U	63	10-180	4	26	
Ethylbenzene	22		2.5	ug/L	20.0	0.69 U	112	63-133	6	18	
Freon 113	21		2.5	ug/L	20.0	0.73 U	105	47-173	9	30	
Isopropylbenzene	24		2.5	ug/L	20.0	0.67 U	122	60-132	7	23	
m,p-Xylenes	51		5.0	ug/L	40.0	1.3 U	129	64-133	6	18	
Methyl acetate	9.5		2.5	ug/L	20.0	0.95 U	48	70-130	6	20	QM-19
Methyl cyclohexane	18		2.5	ug/L	20.0	0.64 U	91	70-130	4	20	
Methylene Chloride	19		12	ug/L	20.0	2.5 U	95	43-142	9	23	
Methyl-tert-Butyl Ether	19		2.5	ug/L	20.0	0.60 U	95	51-145	5	22	
o-Xylene	25		2.5	ug/L	20.0	0.53 U	123	61-129	4	16	
Styrene	26		2.5	ug/L	20.0	0.61 U	130	59-136	7	32	
Tetrachloroethene	23		2.5	ug/L	20.0	0.76 U	113	60-147	8	21	
Toluene	23		2.5	ug/L	20.0	0.72 U	117	64-131	4	16	
trans-1,2-Dichloroethene	21		2.5	ug/L	20.0	0.73 U	103	54-134	8	20	
trans-1,3-Dichloropropene	19		2.5	ug/L	20.0	0.73 U	97	65-149	5	17	
Trichloroethene	21		2.5	ug/L	20.0	0.89 U	107	62-135	12	20	
Trichlorofluoromethane	20		2.5	ug/L	20.0	0.94 U	102	56-155	10	22	
Vinyl chloride	15		2.5	ug/L	20.0	0.71 U	77	20-167	8	24	
4-Bromofluorobenzene	*55*			*ug/L*	*50.0*		*110*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*111*	*53-146*			
Toluene-d8	*48*	*I*		*ug/L*	*50.0*		*96*	*41-146*			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
A-07	Analyte biased low in LCS but detected in the reporting limit standard. Since the analyte in the associated sample was not detected, there is no impact on data quality.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-19	The spike recovery was outside acceptance limits for the MS and/or MSD.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported result is an estimated value.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence (85% or greater confidence) to make a “tentative identification".
Q	One or more quality control criteria failed.

AE00488

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 1410 | PAGE 1 OF 1

PROJECT NO: 112G08970	FACILITY: CIRCA	PROJECT MANAGER: ALEX MURPHY	PHONE NUMBER: 321-292-0842	LABORATORY NAME AND CONTACT: ENCO
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER: DAN FORESTER	PHONE NUMBER: 304-780-1426	ADDRESS
		CARRIER/WAYBILL NUMBER		CITY, STATE: ORLANDO, FL

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): G
PRESERVATIVE USED: HCl

TYPE OF ANALYSIS: 8260D TCL SOM01.2 CLP-LIKE CUSTOMLIST

DATE YEAR 2021	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS		COMMENTS
19JAN	1340	CIRCA-ASEFFLUENT-20210119	CIRCA	/	/	GW	G	3	X	(cooled on ice)
19JAN	1350	CIRCA-ASINFLUENT-20210119	CIRCA	/	/	GW	G	3	X	

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	19JAN21	1400	1. RECEIVED BY	19JAN21	1400
2. RELINQUISHED BY	1-21-21	1500	2. RECEIVED BY	1/21/21	15:00
3. RELINQUISHED BY	1/21/21	15:00	3. RECEIVED BY	1/21/21	1500
COMMENTS	1-21-21	1500	James W Gregory	1/21/21	1510

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R FORM NO. TtNUS-001

C-025

1/22/2021

Environmental Conservation Labs, Inc.

Alex Murphy
Tetra Tech, Inc. (TE016)
11 Riverside Drive, Suite 204
Cocoa, FL 32922
Phone: (321) 636-6470
Fax: (321) 636-6473

Reference : **Sample Receipt Confirmation - *Please Review***
Project Name / Number : NASA KSC CRCA / 112G08970
Purchase Order # : 1165883

Lab Reference # : AE00488 Lab Receipt Date: 21-Jan-21 15:10
Anticipated ***(Estimated)*** Completion Date: 28-Jan-21 19:00

This is an automated notification from our laboratory information management system (LIMS), indicating the samples we have recently received and their associated analyses. Should any of the following information be in error, please contact us immediately.

Thank you for choosing Environmental Conservation Laboratories. Should any events occur that delay the processing of your samples or inhibit our ability to complete the project within the projected time frame you will be contacted.

Sincerely,

Kaitlin Dylnicki

Client: Tetra Tech, Inc. (TE016) **Project Name:** NASA KSC CRCA
Requested TAT: 5 **Project Number:** 112G08970

Analysis	TAT	Expires	Status
Sample ID: CRCA-ASEFFLUENT-20210119(Lab ID: AE00488-01), Matrix: Ground Water, Sampled: 19-Jan-21 13:40 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received
Sample ID: CRCA-ASINFLUENT-20210119(Lab ID: AE00488-02), Matrix: Ground Water, Sampled: 19-Jan-21 13:50 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received

Analysis Groups included in this work order

ENCO Orlando

SDG: AE00488-TE016

CLASS: 01_VOA_MS

METHOD: EPA 8260D

ANALYSES DATA PACKAGE COVER PAGE

EPA 8260D

Laboratory: ENCO Orlando

SDG: AE00488-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-ASEFFLUENT-20210119	AE00488-01
CRCA-ASINFLUENT-20210119	AE00488-02

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLUENT-20210119

Laboratory: ENCO Orlando SDG: AE00488-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00488-01 File ID: 215AT021.D

Sampled: 01/19/21 13:40 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 17:41

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLUENT-20210119

Laboratory: ENCO Orlando SDG: AE00488-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00488-01 File ID: 215AT021.D

Sampled: 01/19/21 13:40 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 17:41

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	56	111	53 - 146	
Toluene-d8	50.0	47	94	41 - 146	
4-Bromofluorobenzene	50.0	53	107	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1335751	9.868	1217120	9.845	
1,4-Difluorobenzene	2864408	10.456	2353990	10.438	
Chlorobenzene-d5	1575881	13.241	1612072	13.217	
1,4-Dichlorobenzene-d4	1522111	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLUENT-20210119

Laboratory: ENCO Orlando SDG: AE00488-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00488-02 File ID: 215AT022.D

Sampled: 01/19/21 13:50 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 18:10

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	13		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLUENT-20210119

Laboratory: ENCO Orlando SDG: AE00488-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00488-02 File ID: 215AT022.D

Sampled: 01/19/21 13:50 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 18:10

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	55	110	53 - 146	
Toluene-d8	50.0	48	96	41 - 146	
4-Bromofluorobenzene	50.0	53	107	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1360126	9.863	1217120	9.845	
1,4-Difluorobenzene	2880951	10.456	2353990	10.438	
Chlorobenzene-d5	1590418	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1528822	15.497	1366836	15.474	

* Values outside of QC limits

HOLDING TIME SUMMARY

EPA 8260D

Laboratory: ENCO Orlando

SDG: AE00488-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-ASEFFLUENT-20210119	01/19/21 13:40	01/21/21 15:10	01/25/21 00:00	5.43	NA	01/25/21 17:41	6.00	14.00	
CRCA-ASINFLUENT-20210119	01/19/21 13:50	01/21/21 15:10	01/25/21 00:00	5.42	NA	01/25/21 18:10	6.00	14.00	

PREPARATION BATCH SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Batch: 1A25020 Batch Matrix: Water Preparation: EPA 5030B_MS

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1A25020-BLK1	215AT006.D	01/25/21 00:00	
LCS	1A25020-BS1	215AT004.D	01/25/21 00:00	
CRCA-MW0032-058.0-20210120	1A25020-MS1	215AT023.D	01/25/21 00:00	
CRCA-MW0032-058.0-20210120	1A25020-MSD1	215AT024.D	01/25/21 00:00	
CRCA-ASEFFLUENT-20210119	AE00488-01	215AT021.D	01/25/21 00:00	
CRCA-ASINFLUENT-20210119	AE00488-02	215AT022.D	01/25/21 00:00	

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00488-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1A25020-BLK1	File ID:	215AT006.D
Prepared:	01/25/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	01/25/21 10:19	Instrument:	OVGCMS5		
Batch:	1A25020	Sequence:	AA64632	Calibration:	2011113

CAS NO.	COMPOUND	CONC. (ug/L)	Q
75-71-8	Dichlorodifluoromethane	0.74	U
74-87-3	Chloromethane	0.82	U
75-01-4	Vinyl chloride	0.71	U
74-83-9	Bromomethane	0.95	U
75-00-3	Chloroethane	0.98	U
75-69-4	Trichlorofluoromethane	0.94	U
76-13-1	Freon 113	0.73	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	0.94	U
75-15-0	Carbon disulfide	2.5	U
75-09-2	Methylene Chloride	2.5	U
1634-04-4	Methyl-tert-Butyl Ether	0.60	U
156-60-5	trans-1,2-Dichloroethene	0.73	U
156-59-2	cis-1,2-Dichloroethene	0.53	U
75-34-3	1,1-Dichloroethane	0.62	U
78-93-3	2-Butanone	4.5	U
67-66-3	Chloroform	0.80	U
71-55-6	1,1,1-Trichloroethane	0.80	U
79-20-9	Methyl acetate	0.95	U
110-82-7	Cyclohexane	0.93	U
108-87-2	Methyl cyclohexane	0.64	U
56-23-5	Carbon Tetrachloride	0.94	U
107-06-2	1,2-Dichloroethane	0.63	U
71-43-2	Benzene	0.71	U
79-01-6	Trichloroethene	0.89	U
78-87-5	1,2-Dichloropropane	0.80	U
75-27-4	Bromodichloromethane	0.52	U
108-10-1	4-Methyl-2-pentanone	2.5	U
591-78-6	2-Hexanone	2.5	U
10061-01-5	cis-1,3-Dichloropropene	0.59	U

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00488-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1A25020-BLK1	File ID:	215AT006.D
Prepared:	01/25/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	01/25/21 10:19	Instrument:	OVGCMS5		
Batch:	1A25020	Sequence:	AA64632	Calibration:	2011113

CAS NO.	COMPOUND	CONC. (ug/L)	Q
108-88-3	Toluene	0.72	U
10061-02-6	trans-1,3-Dichloropropene	0.73	U
79-00-5	1,1,2-Trichloroethane	0.76	U
127-18-4	Tetrachloroethene	0.76	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.78	U
108-90-7	Chlorobenzene	0.72	U
100-41-4	Ethylbenzene	0.69	U
108-38-3/106-42-3	m,p-Xylenes	1.3	U
95-47-6	o-Xylene	0.53	U
75-25-2	Bromoform	0.75	U
100-42-5	Styrene	0.61	U
98-82-8	Isopropylbenzene	0.67	U
79-34-5	1,1,2,2-Tetrachloroethane	0.54	U
120-82-1	1,2,4-Trichlorobenzene	0.70	U
541-73-1	1,3-Dichlorobenzene	0.77	U
106-46-7	1,4-Dichlorobenzene	0.76	U
95-50-1	1,2-Dichlorobenzene	0.73	U
96-12-8	1,2-Dibromo-3-chloropropane	0.96	U
1330-20-7	Xylenes (Total)	1.3	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	55	111	53 - 146	
Toluene-d8	50.0	48	96	41 - 146	
4-Bromofluorobenzene	50.0	54	109	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1492905	9.857	1217120	9.845	
1,4-Difluorobenzene	3146822	10.456	2353990	10.438	
Chlorobenzene-d5	1772986	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1644956	15.491	1366836	15.474	

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00488-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1A25020	Laboratory ID:	1A25020-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	12	61	10 - 180
Chloromethane	20.0	9.3	46	33 - 154
Vinyl chloride	20.0	17	85	20 - 167
Bromomethane	20.0	8.7	44	10 - 173
Chloroethane	20.0	22	109	27 - 180
Trichlorofluoromethane	20.0	20	100	56 - 155
Freon 113	20.0	21	104	47 - 173
Acetone	100	71	71	10 - 180
1,1-Dichloroethene	20.0	20	102	47 - 139
Carbon disulfide	20.0	20	102	43 - 153
Methylene Chloride	20.0	20	100	43 - 142
Methyl-tert-Butyl Ether	20.0	20	99	51 - 145
trans-1,2-Dichloroethene	20.0	22	108	54 - 134
cis-1,2-Dichloroethene	20.0	22	109	56 - 128
1,1-Dichloroethane	20.0	19	93	57 - 142
2-Butanone	100	90	90	10 - 180
Chloroform	20.0	20	99	58 - 139
1,1,1-Trichloroethane	20.0	19	97	57 - 148
Methyl acetate	20.0	13	65 *	70 - 130
Cyclohexane	20.0	16	82	70 - 130
Methyl cyclohexane	20.0	18	89	70 - 130
Carbon Tetrachloride	20.0	16	80	54 - 156
1,2-Dichloroethane	20.0	15	75	50 - 156
Benzene	20.0	19	94	56 - 136
Trichloroethene	20.0	21	103	62 - 135
1,2-Dichloropropane	20.0	16	80	61 - 133
Bromodichloromethane	20.0	18	89	58 - 135
4-Methyl-2-pentanone	100	90	90	19 - 180
2-Hexanone	100	68	68	12 - 180
cis-1,3-Dichloropropene	20.0	17	87	64 - 128

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00488-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1A25020	Laboratory ID:	1A25020-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Toluene	20.0	23	114	64 - 131
trans-1,3-Dichloropropene	20.0	21	103	65 - 149
1,1,2-Trichloroethane	20.0	21	107	57 - 141
Tetrachloroethene	20.0	21	104	60 - 147
Dibromochloromethane	20.0	24	118	50 - 140
1,2-Dibromoethane	20.0	22	110	57 - 140
Chlorobenzene	20.0	24	120	51 - 139
Ethylbenzene	20.0	22	108	63 - 133
m,p-Xylenes	40.0	50	125	64 - 133
o-Xylene	20.0	23	117	61 - 129
Bromoform	20.0	21	107	46 - 148
Styrene	20.0	25	126	59 - 136
Isopropylbenzene	20.0	24	118	60 - 132
1,1,2,2-Tetrachloroethane	20.0	21	105	60 - 139
1,2,4-Trichlorobenzene	20.0	17	87	52 - 159
1,3-Dichlorobenzene	20.0	24	118	66 - 129
1,4-Dichlorobenzene	20.0	21	106	65 - 133
1,2-Dichlorobenzene	20.0	23	113	63 - 131
1,2-Dibromo-3-chloropropane	20.0	20	102	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0032-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A25020
Laboratory ID: 1A25020-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0032-058.0-20210120

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	ND	13	66	10 - 180
Chloromethane	20.0	ND	9.6	48	33 - 154
Vinyl chloride	20.0	ND	17	84	20 - 167
Bromomethane	20.0	ND	10	50	10 - 173
Chloroethane	20.0	ND	23	113	27 - 180
Trichlorofluoromethane	20.0	ND	23	113	56 - 155
Freon 113	20.0	ND	23	115	47 - 173
Acetone	100	ND	65	65	10 - 180
1,1-Dichloroethene	20.0	ND	23	114	47 - 139
Carbon disulfide	20.0	ND	21	106	43 - 153
Methylene Chloride	20.0	ND	21	105	43 - 142
Methyl-tert-Butyl Ether	20.0	ND	20	100	51 - 145
trans-1,2-Dichloroethene	20.0	ND	22	111	54 - 134
cis-1,2-Dichloroethene	20.0	ND	22	110	56 - 128
1,1-Dichloroethane	20.0	ND	19	96	57 - 142
2-Butanone	100	ND	88	88	10 - 180
Chloroform	20.0	ND	21	104	58 - 139
1,1,1-Trichloroethane	20.0	ND	22	110	57 - 148
Methyl acetate	20.0	ND	10	51 *	70 - 130
Cyclohexane	20.0	ND	16	82	70 - 130
Methyl cyclohexane	20.0	ND	19	95	70 - 130
Carbon Tetrachloride	20.0	ND	18	89	54 - 156
1,2-Dichloroethane	20.0	ND	16	79	50 - 156
Benzene	20.0	ND	20	100	56 - 136
Trichloroethene	20.0	ND	24	122	62 - 135
1,2-Dichloropropane	20.0	ND	16	79	61 - 133
Bromodichloromethane	20.0	ND	19	95	58 - 135
4-Methyl-2-pentanone	100	ND	87	87	19 - 180
2-Hexanone	100	ND	62	62	12 - 180
cis-1,3-Dichloropropene	20.0	ND	17	85	64 - 128
Toluene	20.0	ND	24	122	64 - 131

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0032-058.0-20210120

Laboratory:	ENCO Orlando	SDG:	AE00488-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1A25020	Laboratory ID:	1A25020-MS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

Source Sample Name: CRCA-MW0032-058.0-20210120

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
trans-1,3-Dichloropropene	20.0	ND	20	102	65 - 149
1,1,2-Trichloroethane	20.0	ND	22	110	57 - 141
Tetrachloroethene	20.0	ND	24	122	60 - 147
Dibromochloromethane	20.0	ND	25	127	50 - 140
1,2-Dibromoethane	20.0	ND	23	115	57 - 140
Chlorobenzene	20.0	ND	27	135	51 - 139
Ethylbenzene	20.0	ND	24	119	63 - 133
m,p-Xylenes	40.0	ND	55	137 *	64 - 133
o-Xylene	20.0	ND	25	127	61 - 129
Bromoform	20.0	ND	22	109	46 - 148
Styrene	20.0	ND	28	140 *	59 - 136
Isopropylbenzene	20.0	ND	26	131	60 - 132
1,1,2,2-Tetrachloroethane	20.0	ND	23	114	60 - 139
1,2,4-Trichlorobenzene	20.0	ND	15	74	52 - 159
1,3-Dichlorobenzene	20.0	ND	25	125	66 - 129
1,4-Dichlorobenzene	20.0	ND	23	114	65 - 133
1,2-Dichlorobenzene	20.0	ND	23	114	63 - 131
1,2-Dibromo-3-chloropropane	20.0	ND	14	72	48 - 150

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0032-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A25020
Laboratory ID: 1A25020-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0032-058.0-20210120

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #		% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20.0	13	63		4	26	10 - 180
Chloromethane	20.0	9.0	45		7	31	33 - 154
Vinyl chloride	20.0	15	77		8	24	20 - 167
Bromomethane	20.0	11	55		10	29	10 - 173
Chloroethane	20.0	21	105		7	22	27 - 180
Trichlorofluoromethane	20.0	20	102		10	22	56 - 155
Freon 113	20.0	21	105		9	30	47 - 173
Acetone	100	70	70		7	19	10 - 180
1,1-Dichloroethene	20.0	21	103		10	16	47 - 139
Carbon disulfide	20.0	19	94		12	26	43 - 153
Methylene Chloride	20.0	19	95		9	23	43 - 142
Methyl-tert-Butyl Ether	20.0	19	95		5	22	51 - 145
trans-1,2-Dichloroethene	20.0	21	103		8	20	54 - 134
cis-1,2-Dichloroethene	20.0	21	104		5	17	56 - 128
1,1-Dichloroethane	20.0	18	90		6	24	57 - 142
2-Butanone	100	83	83		5	29	10 - 180
Chloroform	20.0	20	102		2	17	58 - 139
1,1,1-Trichloroethane	20.0	20	102		8	25	57 - 148
Methyl acetate	20.0	9.5	48	*	6	20	70 - 130
Cyclohexane	20.0	15	75		8	20	70 - 130
Methyl cyclohexane	20.0	18	91		4	20	70 - 130
Carbon Tetrachloride	20.0	16	79		12	27	54 - 156
1,2-Dichloroethane	20.0	15	77		1	18	50 - 156
Benzene	20.0	19	96		5	14	56 - 136
Trichloroethene	20.0	21	107		12	20	62 - 135
1,2-Dichloropropane	20.0	15	76		4	26	61 - 133
Bromodichloromethane	20.0	18	89		7	19	58 - 135
4-Methyl-2-pentanone	100	87	87		0.5	24	19 - 180
2-Hexanone	100	66	66		5	28	12 - 180
cis-1,3-Dichloropropene	20.0	16	78		9	20	64 - 128
Toluene	20.0	23	117		4	16	64 - 131
trans-1,3-Dichloropropene	20.0	19	97		5	17	65 - 149

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0032-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A25020
Laboratory ID: 1A25020-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0032-058.0-20210120

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,2-Trichloroethane	20.0	21	106	3	16	57 - 141
Tetrachloroethene	20.0	23	113	8	21	60 - 147
Dibromochloromethane	20.0	23	117	8	18	50 - 140
1,2-Dibromoethane	20.0	22	110	4	16	57 - 140
Chlorobenzene	20.0	26	129	5	13	51 - 139
Ethylbenzene	20.0	22	112	6	18	63 - 133
m,p-Xylenes	40.0	51	129	6	18	64 - 133
o-Xylene	20.0	25	123	4	16	61 - 129
Bromoform	20.0	21	106	2	18	46 - 148
Styrene	20.0	26	130	7	32	59 - 136
Isopropylbenzene	20.0	24	122	7	23	60 - 132
1,1,2,2-Tetrachloroethane	20.0	22	110	4	17	60 - 139
1,2,4-Trichlorobenzene	20.0	16	81	9	24	52 - 159
1,3-Dichlorobenzene	20.0	24	120	4	23	66 - 129
1,4-Dichlorobenzene	20.0	22	110	4	23	65 - 133
1,2-Dichlorobenzene	20.0	23	113	1	25	63 - 131
1,2-Dibromo-3-chloropropane	20.0	18	88	21	21	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA63653
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA63653-SCV1)			Lab File ID: 205KN012.D		Analyzed: 11/19/20 13:24			
Dibromofluoromethane	50.0	100	70 - 130	9.422	9.4205	0.0015	+/-0.5	
Toluene-d8	50.0	104	70 - 130	11.772	11.77275	-0.0008	+/-0.5	
4-Bromofluorobenzene	50.0	105	70 - 130	14.322	14.322	0.0000	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64632
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA64632-CCV1)			Lab File ID: 215AT003.D		Analyzed: 01/25/21 08:47			
Dibromofluoromethane	50.0	107	80 - 120	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	99	80 - 120	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	103	80 - 120	14.334	14.322	0.0120	+/-0.5	
LCS (1A25020-BS1)			Lab File ID: 215AT004.D		Analyzed: 01/25/21 09:20			
Dibromofluoromethane	50.0	111	53 - 146	9.434	9.4205	0.0135	+/-0.5	
Toluene-d8	50.0	98	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	105	41 - 142	14.334	14.322	0.0120	+/-0.5	
Blank (1A25020-BLK1)			Lab File ID: 215AT006.D		Analyzed: 01/25/21 10:19			
Dibromofluoromethane	50.0	111	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	96	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	14.34	14.322	0.0180	+/-0.5	
Instrument RL Check (AA64632-CRL1)			Lab File ID: 215AT007.D		Analyzed: 01/25/21 10:48			
Dibromofluoromethane	50.0	108	1 - 199	9.434	9.4205	0.0135	+/-0.5	
Toluene-d8	50.0	95	1 - 199	11.784	11.77275	0.0113	+/-0.5	
4-Bromofluorobenzene	50.0	106	1 - 199	14.334	14.322	0.0120	+/-0.5	
CRCA-ASEFFLUENT-20210119 (AE00488-01)			Lab File ID: 215AT021.D		Analyzed: 01/25/21 17:41			
Dibromofluoromethane	50.0	111	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	94	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	107	41 - 142	14.34	14.322	0.0180	+/-0.5	
CRCA-ASINFLUENT-20210119 (AE00488-02)			Lab File ID: 215AT022.D		Analyzed: 01/25/21 18:10			
Dibromofluoromethane	50.0	110	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	96	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	107	41 - 142	14.34	14.322	0.0180	+/-0.5	
Matrix Spike (1A25020-MS1)			Lab File ID: 215AT023.D		Analyzed: 01/25/21 18:39			
Dibromofluoromethane	50.0	112	53 - 146	9.44	9.4205	0.0195	+/-0.5	
Toluene-d8	50.0	97	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	14.34	14.322	0.0180	+/-0.5	
Matrix Spike Dup (1A25020-MSD1)			Lab File ID: 215AT024.D		Analyzed: 01/25/21 19:09			
Dibromofluoromethane	50.0	111	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	96	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	110	41 - 142	14.34	14.322	0.0180	+/-0.5	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA63653
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA63653-CAL1)			Lab File ID: 205KN003.D			Analyzed: 11/19/20 08:46			
Pentafluorobenzene	1250058	9.851	1217120	9.845	103	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2384669	10.444	2353990	10.438	101	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1608704	13.223	1612072	13.217	100	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1323293	15.48	1366836	15.474	97	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL2)			Lab File ID: 205KN004.D			Analyzed: 11/19/20 09:16			
Pentafluorobenzene	1204238	9.845	1217120	9.845	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2405138	10.438	2353990	10.438	102	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1568806	13.217	1612072	13.217	97	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1312583	15.48	1366836	15.474	96	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL3)			Lab File ID: 205KN005.D			Analyzed: 11/19/20 09:47			
Pentafluorobenzene	1203996	9.845	1217120	9.845	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2450219	10.438	2353990	10.438	104	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1607155	13.217	1612072	13.217	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1325758	15.48	1366836	15.474	97	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL4)			Lab File ID: 205KN006.D			Analyzed: 11/19/20 10:18			
Pentafluorobenzene	1172592	9.845	1217120	9.845	96	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2346408	10.438	2353990	10.438	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1580434	13.223	1612072	13.217	98	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1299188	15.48	1366836	15.474	95	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL5)			Lab File ID: 205KN007.D			Analyzed: 11/19/20 10:49			
Pentafluorobenzene	1203065	9.845	1217120	9.845	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2330356	10.438	2353990	10.438	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1579586	13.217	1612072	13.217	98	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1295652	15.48	1366836	15.474	95	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL6)			Lab File ID: 205KN008.D			Analyzed: 11/19/20 11:20			
Pentafluorobenzene	1217120	9.845	1217120	9.845	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2353990	10.438	2353990	10.438	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1612072	13.217	1612072	13.217	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1366836	15.474	1366836	15.474	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA63653-CAL7)			Lab File ID: 205KN009.D			Analyzed: 11/19/20 11:51			
Pentafluorobenzene	1208553	9.845	1217120	9.845	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2324329	10.438	2353990	10.438	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1614423	13.217	1612072	13.217	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1389872	15.48	1366836	15.474	102	50 - 200	0.0060	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA63653
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA63653-CAL8)			Lab File ID: 205KN010.D			Analyzed: 11/19/20 12:22			
Pentafluorobenzene	1285587	9.845	1217120	9.845	106	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2302813	10.438	2353990	10.438	98	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1664856	13.218	1612072	13.217	103	50 - 200	0.0010	+/-0.50	
1,4-Dichlorobenzene-d4	1435917	15.48	1366836	15.474	105	50 - 200	0.0060	+/-0.50	
Secondary Cal Check (AA63653-SCV1)			Lab File ID: 205KN012.D			Analyzed: 11/19/20 13:24			
Pentafluorobenzene	1335071	9.851	1217120	9.845	110	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2438645	10.444	2353990	10.438	104	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1652574	13.223	1612072	13.217	103	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1403353	15.48	1366836	15.474	103	50 - 200	0.0060	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64632
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA64632-CCV1)			Lab File ID: 215AT003.D			Analyzed: 01/25/21 08:47			
Pentafluorobenzene	1707380	9.862	1217120	9.845	140	50 - 200	0.0170	+/-0.50	
1,4-Difluorobenzene	3441893	10.456	2353990	10.438	146	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	2103106	13.235	1612072	13.217	130	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1782629	15.497	1366836	15.474	130	50 - 200	0.0230	+/-0.50	
LCS (1A25020-BS1)			Lab File ID: 215AT004.D			Analyzed: 01/25/21 09:20			
Pentafluorobenzene	1599715	9.862	1217120	9.845	131	50 - 200	0.0170	+/-0.50	
1,4-Difluorobenzene	3376621	10.456	2353990	10.438	143	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1975824	13.235	1612072	13.217	123	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1733612	15.497	1366836	15.474	127	50 - 200	0.0230	+/-0.50	
Blank (1A25020-BLK1)			Lab File ID: 215AT006.D			Analyzed: 01/25/21 10:19			
Pentafluorobenzene	1492905	9.857	1217120	9.845	123	50 - 200	0.0120	+/-0.50	
1,4-Difluorobenzene	3146822	10.456	2353990	10.438	134	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1772986	13.235	1612072	13.217	110	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1644956	15.491	1366836	15.474	120	50 - 200	0.0170	+/-0.50	
Instrument RL Check (AA64632-CRL1)			Lab File ID: 215AT007.D			Analyzed: 01/25/21 10:48			
Pentafluorobenzene	1450199	9.863	1217120	9.845	119	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	3054870	10.456	2353990	10.438	130	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1722975	13.235	1612072	13.217	107	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1562753	15.491	1366836	15.474	114	50 - 200	0.0170	+/-0.50	
CRCA-ASEFFLUENT-20210119 (AE00488-01)			Lab File ID: 215AT021.D			Analyzed: 01/25/21 17:41			
Pentafluorobenzene	1335751	9.868	1217120	9.845	110	50 - 200	0.0230	+/-0.50	
1,4-Difluorobenzene	2864408	10.456	2353990	10.438	122	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1575881	13.241	1612072	13.217	98	50 - 200	0.0240	+/-0.50	
1,4-Dichlorobenzene-d4	1522111	15.497	1366836	15.474	111	50 - 200	0.0230	+/-0.50	
CRCA-ASINFLUENT-20210119 (AE00488-02)			Lab File ID: 215AT022.D			Analyzed: 01/25/21 18:10			
Pentafluorobenzene	1360126	9.863	1217120	9.845	112	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	2880951	10.456	2353990	10.438	122	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1590418	13.235	1612072	13.217	99	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1528822	15.497	1366836	15.474	112	50 - 200	0.0230	+/-0.50	
Matrix Spike (1A25020-MS1)			Lab File ID: 215AT023.D			Analyzed: 01/25/21 18:39			
Pentafluorobenzene	1347954	9.863	1217120	9.845	111	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	2823243	10.456	2353990	10.438	120	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1642590	13.235	1612072	13.217	102	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1598011	15.497	1366836	15.474	117	50 - 200	0.0230	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64632
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Matrix Spike Dup (1A25020-MSD1)			Lab File ID: 215AT024.D			Analyzed: 01/25/21 19:09			
Pentafluorobenzene	1455730	9.862	1217120	9.845	120	50 - 200	0.0170	+/-0.50	
1,4-Difluorobenzene	3018464	10.456	2353990	10.438	128	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1707516	13.235	1612072	13.217	106	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1611682	15.497	1366836	15.474	118	50 - 200	0.0230	+/-0.50	

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00488-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA63653		
Calibration:	2011113	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA63653-TUN1	205KN002.D	11/19/20 08:07
Cal Standard	AA63653-CAL1	205KN003.D	11/19/20 08:46
Cal Standard	AA63653-CAL2	205KN004.D	11/19/20 09:16
Cal Standard	AA63653-CAL3	205KN005.D	11/19/20 09:47
Cal Standard	AA63653-CAL4	205KN006.D	11/19/20 10:18
Cal Standard	AA63653-CAL5	205KN007.D	11/19/20 10:49
Cal Standard	AA63653-CAL6	205KN008.D	11/19/20 11:20
Cal Standard	AA63653-CAL7	205KN009.D	11/19/20 11:51
Cal Standard	AA63653-CAL8	205KN010.D	11/19/20 12:22
Secondary Cal Check	AA63653-SCV1	205KN012.D	11/19/20 13:24

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00488-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64632		
Calibration:	2011113	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA64632-CCV1	215AT003.D	01/25/21 08:47
LCS	1A25020-BS1	215AT004.D	01/25/21 09:20
Blank	1A25020-BLK1	215AT006.D	01/25/21 10:19
Instrument RL Check	AA64632-CRL1	215AT007.D	01/25/21 10:48
CRCA-ASEFFLUENT-20210119	AE00488-01	215AT021.D	01/25/21 17:41
CRCA-ASINFLUENT-20210119	AE00488-02	215AT022.D	01/25/21 18:10
CRCA-MW0032-058.0-20210120	1A25020-MS1	215AT023.D	01/25/21 18:39
CRCA-MW0032-058.0-20210120	1A25020-MSD1	215AT024.D	01/25/21 19:09

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00488-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	205KN002.D	Injection Date:	11/19/20
Instrument ID:	OVGCMS5	Injection Time:	08:07
Sequence:	AA63653	Lab Sample ID:	AA63653-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	155	PASS
96	5 - 9% of 95	7.22	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	64.6	PASS
175	5 - 9% of 174	5.13	PASS
176	95 - 105% of 174	97.9	PASS
177	5 - 10% of 176	5.82	PASS

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00488-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2011113
Lab File ID:	215AT003.D	Calibration Date:	11/19/20 00:00
Sequence:	AA64632	Injection Date:	01/25/21
Lab Sample ID:	AA64632-CCV1	Injection Time:	08:47

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Dichlorodifluoromethane	A	20.0	19	0.6454795	0.6065492		-6	20	
Chloromethane	A	20.0	12	0.7429916	0.4439653		-40	20	*
Vinyl chloride	A	20.0	19	0.6032767	0.5739686		-4.9	20	
Bromomethane	A	20.0	19	0.2658711	0.149807		-7.2	20	
Chloroethane	A	20.0	20	0.3233106	0.2720557		2.5	20	
Trichlorofluoromethane	A	20.0	20	0.739293	0.7547265		2.1	20	
Freon 113	A	50.0	50	0.2891047	0.2868658		-0.8	20	
Acetone	A	250	180	0.1178043	8.350467E-02		-29	20	*
1,1-Dichloroethene	A	50.0	49	0.4316853	0.4258747		-1.3	20	
Carbon disulfide	A	250	150	1.413985	0.8728756		-38	20	*
Methylene Chloride	A	50.0	45	0.5959536	0.4701877		-10	20	
Methyl-tert-Butyl Ether	A	50.0	45	1.264184	1.149021		-9.1	20	
trans-1,2-Dichloroethene	A	50.0	49	0.4994822	0.489495		-2	20	
cis-1,2-Dichloroethene	A	50.0	50	0.5290745	0.5271984		-0.4	20	
1,1-Dichloroethane	A	50.0	41	1.027426	0.8473456		-18	20	
2-Butanone	A	250	220	5.654494E-02	5.142944E-02		-10	20	
Chloroform	A	50.0	45	0.9811366	0.8818576		-10	20	
1,1,1-Trichloroethane	A	50.0	46	0.8099887	0.7425781		-8.3	20	
Methyl acetate	A	50.0	31	0.4097982	0.2287546		-38	20	*
Cyclohexane	A	50.0	36	1.084118	0.8065902		-28	20	*
Methyl cyclohexane	A	50.0	41	0.6851364	0.4685979		-18	20	
Carbon Tetrachloride	A	50.0	39	0.3247415	0.2907839		-22	20	*
1,2-Dichloroethane	A	50.0	36	0.3947961	0.2986964		-28	20	*
Benzene	A	50.0	44	1.143102	1.009598		-12	20	
Trichloroethene	A	50.0	50	0.2308676	0.2294848		-0.6	20	
1,2-Dichloropropane	A	50.0	35	0.3327441	0.2311986		-30	20	*
Bromodichloromethane	A	50.0	41	0.3384447	0.3043776		-17	20	
4-Methyl-2-pentanone	A	250	260	3.573082E-02	3.583226E-02		5.6	20	
2-Hexanone	A	250	190	0.1672315	0.116342		-30	20	*

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00488-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2011113
Lab File ID:	215AT003.D	Calibration Date:	11/19/20 00:00
Sequence:	AA64632	Injection Date:	01/25/21
Lab Sample ID:	AA64632-CCV1	Injection Time:	08:47

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
cis-1,3-Dichloropropene	A	50.0	41	0.4465376	0.410246		-18	20	
Toluene	A	50.0	51	1.066872	1.094805		2.6	20	
trans-1,3-Dichloropropene	A	50.0	46	0.5606682	0.5777288		-9	20	
1,1,2-Trichloroethane	A	50.0	48	0.3401845	0.3445765		-4.4	20	
Tetrachloroethene	A	50.0	47	0.2798513	0.273757		-6.7	20	
Dibromochloromethane	A	50.0	52	0.2803526	0.3436893		3.5	20	
1,2-Dibromoethane	A	50.0	52	0.3355065	0.3483481		3.8	20	
Chlorobenzene	A	50.0	54	1.074819	1.151012		7.1	20	
Ethylbenzene	A	50.0	52	0.6263821	0.6735562		3.9	20	
m,p-Xylenes	A	100	110	0.7525839	0.8321309		11	20	
o-Xylene	A	50.0	54	0.7718014	0.8358423		8.3	20	
Bromoform	A	50.0	47	0.1740972	0.178584		-6.2	20	
Styrene	A	50.0	57	1.260238	1.447695		15	20	
Isopropylbenzene	A	50.0	54	2.031474	2.17933		7.3	20	
1,1,2,2-Tetrachloroethane	A	50.0	49	0.5037271	0.4924835		-2.2	20	
1,2,4-Trichlorobenzene	A	50.0	38	0.4097947	0.3618818		-24	20	*
1,3-Dichlorobenzene	A	50.0	53	1.008577	1.072036		6.3	20	
1,4-Dichlorobenzene	A	50.0	51	1.081206	1.09674		1.4	20	
1,2-Dichlorobenzene	A	50.0	51	0.9520015	0.9653383		1.4	20	
1,2-Dibromo-3-chloropropane	A	50.0	45	7.396002E-02	6.969369E-02		-11	20	

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00488-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA63653	Instrument:	OVGCMS5
Calibration:	2011113		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A0F0994	MS Tune (lower conc.)	AA63653-TUN1	205KN002.D	11/19/20 08:07
A0K1094	8260 CAL 1 PPB	AA63653-CAL1	205KN003.D	11/19/20 08:46
A0K1095	8260 CAL 2 PPB	AA63653-CAL2	205KN004.D	11/19/20 09:16
A0K1096	8260 CAL 5 PPB	AA63653-CAL3	205KN005.D	11/19/20 09:47
A0K1097	8260 CAL 10 PPB	AA63653-CAL4	205KN006.D	11/19/20 10:18
A0K1098	8260 CAL 20 PPB	AA63653-CAL5	205KN007.D	11/19/20 10:49
A0K1099	8260 CAL 50 PPB	AA63653-CAL6	205KN008.D	11/19/20 11:20
A0K1100	8260 CAL 80 PPB	AA63653-CAL7	205KN009.D	11/19/20 11:51
A0K1101	8260 CAL 100 PPB	AA63653-CAL8	205KN010.D	11/19/20 12:22
A0K1038	8260 SCV 50 PPB/20 Gases (Surr. Lower Conc.)	AA63653-SCV1	205KN012.D	11/19/20 13:24

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	1	0.731806	2	0.5311658	5	0.6196449	10	0.5826494	20	0.6291202	50	0.6876832
Chloromethane	1	0.9635553	2	0.7678092	5	0.7533414	10	0.6436211	20	0.6665122	50	0.6618772
Vinyl chloride	1	0.6389704	2	0.4961021	5	0.5937063	10	0.518373	20	0.6097052	50	0.6178544
Bromomethane	1	0.5487745	2	0.3936929	5	0.2468862	10	0.1795339	20	0.1536388	50	0.1805656
Chloroethane	1	0.5095364	2	0.3356687	5	0.2733979	10	0.2639921	20	0.2971223	50	0.2601461
Trichlorofluoromethane	1	0.796403	2	0.6188353	5	0.6866136	10	0.7074541	20	0.7578705	50	0.7930894
Freon 113	1	0.2609479	2	0.2643996	5	0.2925508	10	0.3082914	20	0.2611185	50	0.3063124
Acetone	5	0.1640884	10	7.640101E-02	25	0.1132944	50	0.1270502	100	0.1080203	250	0.1165466
1,1-Dichloroethene	1	0.5304954	2	0.3722686	5	0.3921026	10	0.3748874	20	0.4134066	50	0.4489426
Carbon disulfide	5	1.625549	10	1.279116	25	1.418201	50	1.427008	100	1.452276	250	1.421308
Methylene Chloride	1	0.949196	2	0.6799528	5	0.584977	10	0.4949633	20	0.4791616	50	0.5261996
Methyl-tert-Butyl Ether	1	1.207824	2	1.067003	5	1.181117	10	1.225797	20	1.218685	50	1.417615
trans-1,2-Dichloroethene	1	0.6322907	2	0.4293379	5	0.4477091	10	0.4308276	20	0.4738958	50	0.5202946
cis-1,2-Dichloroethene	1	0.5540143	2	0.424397	5	0.5243456	10	0.4742059	20	0.5250755	50	0.5758438
1,1-Dichloroethane	1	1.150187	2	0.7455129	5	1.073417	10	0.9430262	20	0.9854351	50	1.108909
2-Butanone	5	0.0948676	10	2.903081E-02	25	6.102678E-02	50	0.0450745	100	4.561931E-02	250	5.804341E-02
Chloroform	1	1.008433	2	0.8175709	5	1.016573	10	0.9572895	20	0.9442549	50	1.031745
1,1,1-Trichloroethane	1	0.8856789	2	0.6484806	5	0.7444128	10	0.6971223	20	0.8036702	50	0.8940367
Methyl acetate	1	0.7524051	2	0.3734104	5	0.3421025	10	0.3735826	20	0.3312477	50	0.3623833
Cyclohexane	1	1.445653	2	0.8159309	5	1.111773	10	0.900795	20	1.011174	50	1.139422
Methyl cyclohexane	1	1.296553	2	0.7643948	5	0.6505051	10	0.4980933	20	0.5493699	50	0.5706184
Carbon Tetrachloride	1	0.3562759	2	0.265754	5	0.2802362	10	0.2692435	20	0.3099687	50	0.358654
1,2-Dichloroethane	1	0.52978	2	0.3246383	5	0.3561682	10	0.3270765	20	0.3804547	50	0.3951041
Benzene	1	1.368953	2	0.8953644	5	1.012387	10	1.019627	20	1.160622	50	1.20187
Trichloroethene	1	0.2433461	2	0.2067345	5	0.2092384	10	0.2186576	20	0.2226559	50	0.2443388
1,2-Dichloropropane	1	0.4168922	2	0.2741735	5	0.2789057	10	0.3037835	20	0.3161759	50	0.336891
Bromodichloromethane	1	0.3390617	2	0.2184906	5	0.3136005	10	0.3123434	20	0.3305471	50	0.3770309
4-Methyl-2-pentanone	5	5.360492E-02	10	3.485663E-02	25	3.163227E-02	50	3.145233E-02	100	3.245856E-02	250	3.359233E-02
2-Hexanone	5	0.1888606	10	0.1362687	25	0.1491622	50	0.1581622	100	0.1619347	250	0.1747743
cis-1,3-Dichloropropene	1	0.38758	2	0.337174	5	0.3962381	10	0.3859495	20	0.4436114	50	0.5153998
Toluene	1	1.301234	2	0.8125606	5	1.029104	10	0.9467653	20	1.065835	50	1.125779

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	1	0.5782294	2	0.3963364	5	0.5391328	10	0.5150579	20	0.5581557	50	0.6082166
1,1,2-Trichloroethane	1	0.4258708	2	0.2571382	5	0.3085141	10	0.3163403	20	0.3319446	50	0.354357
Tetrachloroethene	1	0.3547887	2	0.216805	5	0.2447617	10	0.2609188	20	0.2888004	50	0.2808423
Dibromochloromethane	1	0.261577	2	0.1928537	5	0.2186472	10	0.2340749	20	0.271185	50	0.3243124
1,2-Dibromoethane	1	0.3776332	2	0.275273	5	0.3089372	10	0.289778	20	0.3254935	50	0.3684265
Chlorobenzene	1	1.227137	2	0.9187082	5	1.088831	10	1.029964	20	1.028877	50	1.084228
Ethylbenzene	1	0.8370092	2	0.5046991	5	0.5351257	10	0.5817041	20	0.6079204	50	0.6386446
m,p-Xylenes	2	0.7709622	4	0.6304954	10	0.7519001	20	0.7265378	40	0.7815244	100	0.7925899
o-Xylene	1	0.827343	2	0.5495581	5	0.7980935	10	0.715101	20	0.7577872	50	0.8412149
Bromoform	1	0.2244042	2	0.1325052	5	0.1113209	10	0.1336911	20	0.151421	50	0.198042
Styrene	1	1.184587	2	0.9487151	5	1.197756	10	1.179467	20	1.329056	50	1.37226
Isopropylbenzene	1	2.11919	2	1.612596	5	1.9581	10	1.86924	20	2.054396	50	2.203894
1,1,2,2-Tetrachloroethane	1	0.5748727	2	0.4241761	5	0.4667316	10	0.4666946	20	0.48922	50	0.5296984
1,2,4-Trichlorobenzene	1	0.444006	2	0.2155102	5	0.3665073	10	0.3682377	20	0.3931939	50	0.481305
1,3-Dichlorobenzene	1	1.059554	2	0.8308046	5	0.914986	10	0.9259784	20	1.006449	50	1.075948
1,4-Dichlorobenzene	1	1.342371	2	0.9420738	5	0.9853156	10	0.9772104	20	1.047961	50	1.090424
1,2-Dichlorobenzene	1	1.133196	2	0.6932895	5	0.9302226	10	0.8814044	20	0.8963441	50	1.002858
1,2-Dibromo-3-chloropropane	1	0.1462261	2	0.0374643	5	3.684685E-02	10	6.679172E-02	20	6.657845E-02	50	7.807374E-02
Dibromofluoromethane	50	0.4987681	55	0.5168814	57.5	0.5405413	50	0.5403508	65	0.5020478	50	0.5574545
Toluene-d8	50	1.241808	55	1.219018	57.5	1.232296	50	1.264503	65	1.198608	50	1.317554
4-Bromofluorobenzene	50	0.9421565	55	0.8971015	57.5	0.892347	50	0.9405353	65	0.8691396	50	0.9269369

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	80	0.70919	100	0.6725768								
Chloromethane	80	0.754096	100	0.7331207								
Vinyl chloride	80	0.6865886	100	0.6649138								
Bromomethane	80	0.2051834	100	0.2186939								
Chloroethane	80	~~0.1749365~~	100	~~0.1284219~~								
Trichlorofluoromethane	80	~~0.8301317~~	100	0.814785								
Freon 113	80	0.3132915	100	0.3059256								
Acetone	400	0.1217886	500	0.1152447								
1,1-Dichloroethene	80	0.4650106	100	0.4563686								
Carbon disulfide	400	1.39256	500	1.295861								
Methylene Chloride	80	0.5379475	100	0.5152308								
Methyl-tert-Butyl Ether	80	1.459444	100	1.335989								
trans-1,2-Dichloroethene	80	0.5437929	100	0.517709								
cis-1,2-Dichloroethene	80	0.6019223	100	0.5527918								
1,1-Dichloroethane	80	1.134374	100	1.078543								
2-Butanone	400	6.102308E-02	500	5.767404E-02								
Chloroform	80	1.078098	100	0.9951283								
1,1,1-Trichloroethane	80	0.9329545	100	0.8735539								
Methyl acetate	80	0.3852903	100	0.3579641								
Cyclohexane	80	1.150511	100	1.097683								
Methyl cyclohexane	80	0.580204	100	0.5713529								
Carbon Tetrachloride	80	0.3766286	100	0.3811714								
1,2-Dichloroethane	80	0.4259138	100	0.4192331								
Benzene	80	1.233887	100	1.252102								
Trichloroethene	80	0.2480525	100	0.2539173								
1,2-Dichloropropane	80	0.3671019	100	0.3680292								
Bromodichloromethane	80	0.405243	100	0.4112405								
4-Methyl-2-pentanone	400	3.457471E-02	500	3.367481E-02								
2-Hexanone	400	0.1842147	500	0.1844748								
cis-1,3-Dichloropropene	80	0.5492152	100	0.5571325								
Toluene	80	1.145043	100	1.108659								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	80	0.6603691	100	0.6298476								
1,1,2-Trichloroethane	80	0.3689886	100	0.3583223								
Tetrachloroethene	80	0.2965475	100	0.2953463								
Dibromochloromethane	80	0.3768537	100	0.3633167								
1,2-Dibromoethane	80	0.3782567	100	0.360254								
Chlorobenzene	80	1.134842	100	1.085963								
Ethylbenzene	80	0.6600876	100	0.6458658								
m,p-Xylenes	160	0.7997641	200	0.7668973								
o-Xylene	80	0.8625415	100	0.8227721								
Bromoform	80	0.2162944	100	0.2250987								
Styrene	80	1.466473	100	1.403591								
Isopropylbenzene	80	2.273953	100	2.16042								
1,1,2,2-Tetrachloroethane	80	0.5602106	100	0.5182127								
1,2,4-Trichlorobenzene	80	0.5236953	100	0.485902								
1,3-Dichlorobenzene	80	1.133433	100	1.121463								
1,4-Dichlorobenzene	80	1.14285	100	1.121445								
1,2-Dichlorobenzene	80	1.071346	100	1.007351								
1,2-Dibromo-3-chloropropane	80	8.573901E-02	100	~~8.239508E-02~~								
Dibromofluoromethane	70	0.5077306	75	0.4842722								
Toluene-d8	70	1.203106	75	1.255696								
4-Bromofluorobenzene	70	0.8681085	75	0.8442992								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	0.6454795	10.47099	3.97125	7.848416E-02			20	
Chloromethane	0.7429916	13.64009	4.39275	4.507071E-02			20	
Vinyl chloride	0.6032767	11.0407	4.575	4.400144E-02			20	
Bromomethane	0.2658711	51.25071	5.221	5.968524E-02		0.9984319	0.99	
Chloroethane	0.3233106	29.51129	5.432333	0.1760207	0.9952741		0.99	
Trichlorofluoromethane	0.739293	9.643804	5.680714	0.1191043			20	
Freon 113	0.2891047	7.985007	6.54225	5.909168E-02			20	
Acetone	0.1178043	20.49874	7.39275	7.521591E-02	0.9984468		0.99	
1,1-Dichloroethene	0.4316853	12.51718	6.52275	4.626374E-02			20	
Carbon disulfide	1.413985	7.516358	6.611625	4.231748E-02			20	
Methylene Chloride	0.5959536	26.19116	7.33075	6.734604E-02	0.9988511		0.99	
Methyl-tert-Butyl Ether	1.264184	10.32773	7.62475	5.009821E-02			20	
trans-1,2-Dichloroethene	0.4994822	13.81611	7.540375	0.0786285			20	
cis-1,2-Dichloroethene	0.5290745	10.75978	8.94375	6.951434E-02			20	
1,1-Dichloroethane	1.027426	13.07056	8.305375	3.359958E-02			20	
2-Butanone	5.654494E-02	33.55672	9.542875	0.1054762		0.9965506	0.99	
Chloroform	0.9811366	7.973652	9.21525	9.664849E-02			20	
1,1,1-Trichloroethane	0.8099887	12.78922	9.4765	4.549804E-02			20	
Methyl acetate	0.4097982	34.05137	7.5195	0.1021645	0.9973892		0.99	
Cyclohexane	1.084118	17.43103	9.1825	2.763801E-02	0.9983605		0.99	
Methyl cyclohexane	0.6851364	37.89251	10.4425	2.481194E-02	0.9994238		0.99	
Carbon Tetrachloride	0.3247415	15.07661	9.40325	3.946246E-02	0.997318		0.99	
1,2-Dichloroethane	0.3947961	16.85402	10.083	6.413568E-02	0.998277		0.99	
Benzene	1.143102	13.57666	9.871	4.625673E-02			20	
Trichloroethene	0.2308676	8.071231	10.4425	2.481194E-02			20	
1,2-Dichloropropane	0.3327441	14.79548	10.97825	3.768472E-02		0.9995583	0.99	
Bromodichloromethane	0.3384447	18.35051	11.0095	2.483783E-02		0.9995909	0.99	
4-Methyl-2-pentanone	3.573082E-02	20.51705	12.12775	4.882009E-02	0.9995377		0.99	
2-Hexanone	0.1672315	11.31414	12.874	0.0309941			20	
cis-1,3-Dichloropropene	0.4465376	18.76753	11.60275	0.0283524		0.999376	0.99	

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Toluene	1.066872	13.57287	11.82575	3.641946E-02			20	
trans-1,3-Dichloropropene	0.5606682	14.59159	12.1935	6.110681E-02	0.9976126		0.99	
1,1,2-Trichloroethane	0.3401845	14.58738	12.35775	3.776279E-02	0.9991086		0.99	
Tetrachloroethene	0.2798513	14.65878	12.20475	6.050502E-02	0.9992435		0.99	
Dibromochloromethane	0.2803526	24.18079	12.54425	2.540952E-02		0.9966995	0.99	
1,2-Dibromoethane	0.3355065	12.24976	12.80675	5.029451E-02			20	
Chlorobenzene	1.074819	8.299772	13.238	2.555814E-02			20	
Ethylbenzene	0.6263821	16.13499	13.20525	2.269002E-02	0.9993938		0.99	
m,p-Xylenes	0.7525839	7.241605	13.32075	3.483174E-02			20	
o-Xylene	0.7718014	13.16143	13.726	2.743597E-02			20	
Bromoform	0.1740972	26.85684	13.86988	2.962488E-02		0.9990525	0.99	
Styrene	1.260238	13.19508	13.77575	6.052145E-02			20	
Isopropylbenzene	2.031474	10.53359	13.99225	2.532555E-02			20	
1,1,2,2-Tetrachloroethane	0.5037271	10.18228	14.463	1.928567E-02			20	
1,2,4-Trichlorobenzene	0.4097947	23.81543	18.13363	0.0263798		0.9955535	0.99	
1,3-Dichlorobenzene	1.008577	10.77426	15.4075	2.626486E-02			20	
1,4-Dichlorobenzene	1.081206	11.81261	15.49775	7.350592E-03			20	
1,2-Dichlorobenzene	0.9520015	14.21603	16.01475	1.858857E-02			20	
1,2-Dibromo-3-chloropropane	7.396002E-02	49.9638	17.07629	4.554431E-02		0.9992021	0.99	
Dibromofluoromethane	0.5185058	4.852246	9.4205	3.503454E-02			20	
Toluene-d8	1.241574	3.107317	11.77275	1.495661E-03			20	
4-Bromofluorobenzene	0.8975781	4.047299	14.322	1.411585E-02			20	

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE00488-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2011113 **Laboratory ID:** AA63653-SCV1

Sequence: AA63653 **Standard ID:** A0K1038

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Cyclohexane	50.0	46	-8.0	30.00
Ethylbenzene	50.0	49	-2.4	30.00
Carbon Tetrachloride	50.0	55	10.9	30.00
1,3-Dichlorobenzene	50.0	55	9.4	30.00
4-Bromofluorobenzene	50.0	52	4.6	30.00
Toluene-d8	50.0	52	4.4	30.00
Dibromofluoromethane	50.0	50	-0.5	30.00
Methyl-tert-Butyl Ether	50.0	49	-1.8	30.00
trans-1,2-Dichloroethene	50.0	48	-4.3	30.00
cis-1,2-Dichloroethene	50.0	50	-0.1	30.00
Tetrachloroethene	50.0	48	-3.1	30.00
Acetone	250	240	-4.3	30.00
1,2,4-Trichlorobenzene	50.0	49	-2.0	30.00
Chloroform	50.0	49	-2.2	30.00
Chlorobenzene	50.0	52	3.4	30.00
Toluene	50.0	53	5.9	30.00
Methyl cyclohexane	50.0	47	-5.0	30.00
m,p-Xylenes	100	110	5.6	30.00
4-Methyl-2-pentanone	250	230	-7.3	30.00
1,2-Dichloroethane	50.0	46	-8.3	30.00
1,2-Dibromoethane	50.0	52	3.4	30.00
1,4-Dichlorobenzene	50.0	51	1.3	30.00
trans-1,3-Dichloropropene	50.0	49	-1.5	30.00
cis-1,3-Dichloropropene	50.0	49	-2.4	30.00
Styrene	50.0	55	10.3	30.00
Dibromochloromethane	50.0	52	3.8	30.00
1,1-Dichloroethene	50.0	49	-2.0	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE00488-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2011113 **Laboratory ID:** AA63653-SCV1

Sequence: AA63653 **Standard ID:** A0K1038

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
1,2-Dibromo-3-chloropropane	50.0	55	9.4	30.00
1,2-Dichlorobenzene	50.0	52	3.8	30.00
o-Xylene	50.0	53	5.4	30.00
1,1,2,2-Tetrachloroethane	50.0	52	3.2	30.00
Methyl acetate	50.0	38	-23.9	30.00
Trichloroethene	50.0	54	7.6	30.00
1,1,2-Trichloroethane	50.0	50	-0.4	30.00
2-Butanone	250	250	-1.7	30.00
1,2-Dichloropropane	50.0	50	-0.4	30.00
Freon 113	50.0	51	2.3	30.00
2-Hexanone	250	250	0.6	30.00
Trichlorofluoromethane	20.0	21	2.9	30.00
Isopropylbenzene	50.0	54	8.8	30.00
1,1-Dichloroethane	50.0	48	-4.6	30.00
Bromodichloromethane	50.0	50	-0.1	30.00
Bromoform	50.0	52	3.8	30.00
Carbon disulfide	50.0	52	4.0	30.00
Methylene Chloride	50.0	47	-5.6	30.00
Vinyl chloride	20.0	21	3.6	30.00
Chloroethane	20.0	22	8.4	30.00
Chloromethane	20.0	20	-0.1	30.00
Bromomethane	20.0	25	24.8	30.00
1,1,1-Trichloroethane	50.0	51	1.2	30.00
Benzene	50.0	54	7.1	30.00
Dichlorodifluoromethane	20.0	21	3.0	30.00

* Values outside of QC limits

TETRA TECH ISG
TtNUS, Information Systems Group

Completion Ticket

On 2/10/2021 at 10:19 AM the following files were submitted to Tetra Tech by kdylnicki@encolabs.com with ENCO:

TE016AE00488A1.txt, TE016AE00488A3.txt

If you need to identify this session at a later date refer to Ticket Key:

2021210_6429849927_ledd_ENCO

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I Lori S. Mangrum, as the designated Quality Assurance Officer, hereby attest that all electronic deliverables have been thoroughly reviewed and are in agreement with the associated hardcopy data. The enclosed electronic files have been reviewed for accuracy (including significant figures), completeness and format. The laboratory will be responsible for any labor time necessary to correct enclosed electronic deliverables that have been found to be in error. I can be reached at (407) 826-5314 if there are any questions or problems with the enclosed electronic deliverables.

Signature:_____ Title: Quality Assurance Manager Date: February 10, 2021

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ENCO Laboratories

Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Thursday, January 28, 2021
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AE00488

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Thursday, January 21, 2021.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

www.encolabs.com

Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Client PM: Alex Murphy
Project Number: 112G08970
ENCO Project ID: AE00488
SDG: AE00488-TE016

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling and processing will be discussed in the Remarks section below.

Remarks

List of instruments used:

Analytical and Preparation Method	SOP Reference Instrument
EPA 8260D / 5030B_MS	OVGCMS5

Analysis: EPA 8260D

Manual integrations were performed on samples associated with EPA 8260D. All data & explanations are included in the raw data section of the report.

Affected Samples: 1A25020-BS1, CRCA-ASEFFLUENT-20210119[AE00488-01], CRCA-ASINFLUENT-20210119]
The associated laboratory control sample exhibited low bias for methyl acetate; the associated sample had ND (non-detect) results, but sensitivity was verified by analyzing a standard with a concentration equivalent to the reporting limit.

Affected Samples: 1A25020-MS1, 1A25020-MSD1
Matrix spike recovery was outside acceptance limits for m,p-xylenes, methyl acetate, and styrene.

Affected Samples: AA64632-CCV1
The continuing calibration verification standard exhibited low bias for multiple analytes; the associated sample had ND (non-detect) results, but sensitivity was verified by analyzing a standard with a concentration equivalent to the reporting limit.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Kaitlin Dylnicki
Project Manager

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-ASEFFLUENT-20210119	Lab ID: AE00488-01	Sampled: 01/19/21 13:40	Received: 01/21/21 15:10

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 17:41

Client ID: CRCA-ASINFLUENT-20210119	Lab ID: AE00488-02	Sampled: 01/19/21 13:50	Received: 01/21/21 15:10

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 18:10

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-ASINFLUENT-20210119 **Lab ID:** AE00488-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	13		0.71	2.5	ug/L	EPA 8260D	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20210119 **Lab Sample ID:** AE00488-01 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:40 **Work Order:** AE00488

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 17:41	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:41	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20210119 **Lab Sample ID:** AE00488-01 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:40 **Work Order:** AE00488

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 17:41	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 17:41	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*107 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 17:41*	*KKW*	
Dibromofluoromethane	*56*	*1*	*50.0*	*111 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 17:41*	*KKW*	
Toluene-d8	*47*	*1*	*50.0*	*94 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 17:41*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20210119 **Lab Sample ID:** AE00488-02 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:50 **Work Order:** AE00488

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 18:10	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 18:10	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	

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ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20210119 **Lab Sample ID:** AE00488-02 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:50 **Work Order:** AE00488

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Vinyl chloride [75-01-4]^	**13**		ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 18:10	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 18:10	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*107 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 18:10*	*KKW*	
Dibromofluoromethane	*55*	*1*	*50.0*	*110 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 18:10*	*KKW*	
Toluene-d8	*48*	*1*	*50.0*	*96 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 18:10*	*KKW*	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS

Blank (1A25020-BLK1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 10:19

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

Blank (1A25020-BLK1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 10:19

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*54*			*ug/L*	*50.0*		*109*	*41-142*			
Dibromofluoromethane	*55*			*ug/L*	*50.0*		*111*	*53-146*			
Toluene-d8	*48*	*I*		*ug/L*	*50.0*		*96*	*41-146*			

LCS (1A25020-BS1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 09:20

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	19		2.5	ug/L	20.0		97	57-148			
1,1,2,2-Tetrachloroethane	21		2.5	ug/L	20.0		105	60-139			
1,1,2-Trichloroethane	21		2.5	ug/L	20.0		107	57-141			
1,1-Dichloroethane	19		2.5	ug/L	20.0		93	57-142			
1,1-Dichloroethene	20		2.5	ug/L	20.0		102	47-139			
1,2,4-Trichlorobenzene	17		2.5	ug/L	20.0		87	52-159			
1,2-Dibromo-3-chloropropane	20		2.5	ug/L	20.0		102	48-150			
1,2-Dibromoethane	22		2.5	ug/L	20.0		110	57-140			
1,2-Dichlorobenzene	23		2.5	ug/L	20.0		113	63-131			
1,2-Dichloroethane	15		2.5	ug/L	20.0		75	50-156			
1,2-Dichloropropane	16		2.5	ug/L	20.0		80	61-133			
1,3-Dichlorobenzene	24		2.5	ug/L	20.0		118	66-129			
1,4-Dichlorobenzene	21		2.5	ug/L	20.0		106	65-133			
2-Butanone	90		12	ug/L	100		90	10-180			
2-Hexanone	68		12	ug/L	100		68	12-180			
4-Methyl-2-pentanone	90		12	ug/L	100		90	19-180			
Acetone	71		25	ug/L	100		71	10-180			
Benzene	19		2.5	ug/L	20.0		94	56-136			
Bromodichloromethane	18		2.5	ug/L	20.0		89	58-135			
Bromoform	21		2.5	ug/L	20.0		107	46-148			
Bromomethane	8.7		2.5	ug/L	20.0		44	10-173			
Carbon disulfide	20		12	ug/L	20.0		102	43-153			
Carbon Tetrachloride	16		2.5	ug/L	20.0		80	54-156			
Chlorobenzene	24		2.5	ug/L	20.0		120	51-139			
Chloroethane	22		2.5	ug/L	20.0		109	27-180			
Chloroform	20		2.5	ug/L	20.0		99	58-139			
Chloromethane	9.3		2.5	ug/L	20.0		46	33-154			
cis-1,2-Dichloroethene	22		2.5	ug/L	20.0		109	56-128			
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0		87	64-128			
Cyclohexane	16		2.5	ug/L	20.0		82	70-130			
Dibromochloromethane	24		2.5	ug/L	20.0		118	50-140			
Dichlorodifluoromethane	12		2.5	ug/L	20.0		61	10-180			
Ethylbenzene	22		2.5	ug/L	20.0		108	63-133			
Freon 113	21		2.5	ug/L	20.0		104	47-173			
Isopropylbenzene	24		2.5	ug/L	20.0		118	60-132			
m,p-Xylenes	50		5.0	ug/L	40.0		125	64-133			
Methyl acetate	13		2.5	ug/L	20.0		65	70-130			A-07
Methyl cyclohexane	18		2.5	ug/L	20.0		89	70-130			
Methylene Chloride	20		12	ug/L	20.0		100	43-142			
Methyl-tert-Butyl Ether	20		2.5	ug/L	20.0		99	51-145			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

LCS (1A25020-BS1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 09:20

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
o-Xylene	23		2.5	ug/L	20.0		117	61-129			
Styrene	25		2.5	ug/L	20.0		126	59-136			
Tetrachloroethene	21		2.5	ug/L	20.0		104	60-147			
Toluene	23		2.5	ug/L	20.0		114	64-131			
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0		108	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0		103	65-149			
Trichloroethene	21		2.5	ug/L	20.0		103	62-135			
Trichlorofluoromethane	20		2.5	ug/L	20.0		100	56-155			
Vinyl chloride	17		2.5	ug/L	20.0		85	20-167			
4-Bromofluorobenzene	*52*			*ug/L*	*50.0*		*105*	*41-142*			
Dibromofluoromethane	*55*			*ug/L*	*50.0*		*111*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*98*	*41-146*			

Matrix Spike (1A25020-MS1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 18:39

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	22		2.5	ug/L	20.0	0.80 U	110	57-148			
1,1,2,2-Tetrachloroethane	23		2.5	ug/L	20.0	0.54 U	114	60-139			
1,1,2-Trichloroethane	22		2.5	ug/L	20.0	0.76 U	110	57-141			
1,1-Dichloroethane	19		2.5	ug/L	20.0	0.62 U	96	57-142			
1,1-Dichloroethene	23		2.5	ug/L	20.0	0.94 U	114	47-139			
1,2,4-Trichlorobenzene	15		2.5	ug/L	20.0	0.70 U	74	52-159			
1,2-Dibromo-3-chloropropane	14		2.5	ug/L	20.0	0.96 U	72	48-150			
1,2-Dibromoethane	23		2.5	ug/L	20.0	0.78 U	115	57-140			
1,2-Dichlorobenzene	23		2.5	ug/L	20.0	0.73 U	114	63-131			
1,2-Dichloroethane	16		2.5	ug/L	20.0	0.63 U	79	50-156			
1,2-Dichloropropane	16		2.5	ug/L	20.0	0.80 U	79	61-133			
1,3-Dichlorobenzene	25		2.5	ug/L	20.0	0.77 U	125	66-129			
1,4-Dichlorobenzene	23		2.5	ug/L	20.0	0.76 U	114	65-133			
2-Butanone	88		12	ug/L	100	4.5 U	88	10-180			
2-Hexanone	62		12	ug/L	100	2.5 U	62	12-180			
4-Methyl-2-pentanone	87		12	ug/L	100	2.5 U	87	19-180			
Acetone	65		25	ug/L	100	10 U	65	10-180			
Benzene	20		2.5	ug/L	20.0	0.71 U	100	56-136			
Bromodichloromethane	19		2.5	ug/L	20.0	0.52 U	95	58-135			
Bromoform	22		2.5	ug/L	20.0	0.75 U	109	46-148			
Bromomethane	10		2.5	ug/L	20.0	0.95 U	50	10-173			
Carbon disulfide	21		12	ug/L	20.0	2.5 U	106	43-153			
Carbon Tetrachloride	18		2.5	ug/L	20.0	0.94 U	89	54-156			
Chlorobenzene	27		2.5	ug/L	20.0	0.72 U	135	51-139			
Chloroethane	23		2.5	ug/L	20.0	0.98 U	113	27-180			
Chloroform	21		2.5	ug/L	20.0	0.80 U	104	58-139			
Chloromethane	9.6		2.5	ug/L	20.0	0.82 U	48	33-154			
cis-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.53 U	110	56-128			
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0	0.59 U	85	64-128			
Cyclohexane	16		2.5	ug/L	20.0	0.93 U	82	70-130			
Dibromochloromethane	25		2.5	ug/L	20.0	0.50 U	127	50-140			
Dichlorodifluoromethane	13		2.5	ug/L	20.0	0.74 U	66	10-180			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

Matrix Spike (1A25020-MS1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 18:39

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	24		2.5	ug/L	20.0	0.69 U	119	63-133			
Freon 113	23		2.5	ug/L	20.0	0.73 U	115	47-173			
Isopropylbenzene	26		2.5	ug/L	20.0	0.67 U	131	60-132			
m,p-Xylenes	55		5.0	ug/L	40.0	1.3 U	137	64-133			QM-07
Methyl acetate	10		2.5	ug/L	20.0	0.95 U	51	70-130			QM-19
Methyl cyclohexane	19		2.5	ug/L	20.0	0.64 U	95	70-130			
Methylene Chloride	21		12	ug/L	20.0	2.5 U	105	43-142			
Methyl-tert-Butyl Ether	20		2.5	ug/L	20.0	0.60 U	100	51-145			
o-Xylene	25		2.5	ug/L	20.0	0.53 U	127	61-129			
Styrene	28		2.5	ug/L	20.0	0.61 U	140	59-136			QM-07
Tetrachloroethene	24		2.5	ug/L	20.0	0.76 U	122	60-147			
Toluene	24		2.5	ug/L	20.0	0.72 U	122	64-131			
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.73 U	111	54-134			
trans-1,3-Dichloropropene	20		2.5	ug/L	20.0	0.73 U	102	65-149			
Trichloroethene	24		2.5	ug/L	20.0	0.89 U	122	62-135			
Trichlorofluoromethane	23		2.5	ug/L	20.0	0.94 U	113	56-155			
Vinyl chloride	17		2.5	ug/L	20.0	0.71 U	84	20-167			
4-Bromofluorobenzene	*54*			*ug/L*	*50.0*		*109*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*112*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*97*	*41-146*			

Matrix Spike Dup (1A25020-MSD1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 19:09

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	20		2.5	ug/L	20.0	0.80 U	102	57-148	8	25	
1,1,2,2-Tetrachloroethane	22		2.5	ug/L	20.0	0.54 U	110	60-139	4	17	
1,1,2-Trichloroethane	21		2.5	ug/L	20.0	0.76 U	106	57-141	3	16	
1,1-Dichloroethane	18		2.5	ug/L	20.0	0.62 U	90	57-142	6	24	
1,1-Dichloroethene	21		2.5	ug/L	20.0	0.94 U	103	47-139	10	16	
1,2,4-Trichlorobenzene	16		2.5	ug/L	20.0	0.70 U	81	52-159	9	24	
1,2-Dibromo-3-chloropropane	18		2.5	ug/L	20.0	0.96 U	88	48-150	21	21	
1,2-Dibromoethane	22		2.5	ug/L	20.0	0.78 U	110	57-140	4	16	
1,2-Dichlorobenzene	23		2.5	ug/L	20.0	0.73 U	113	63-131	1	25	
1,2-Dichloroethane	15		2.5	ug/L	20.0	0.63 U	77	50-156	1	18	
1,2-Dichloropropane	15		2.5	ug/L	20.0	0.80 U	76	61-133	4	26	
1,3-Dichlorobenzene	24		2.5	ug/L	20.0	0.77 U	120	66-129	4	23	
1,4-Dichlorobenzene	22		2.5	ug/L	20.0	0.76 U	110	65-133	4	23	
2-Butanone	83		12	ug/L	100	4.5 U	83	10-180	5	29	
2-Hexanone	66		12	ug/L	100	2.5 U	66	12-180	5	28	
4-Methyl-2-pentanone	87		12	ug/L	100	2.5 U	87	19-180	0.5	24	
Acetone	70		25	ug/L	100	10 U	70	10-180	7	19	
Benzene	19		2.5	ug/L	20.0	0.71 U	96	56-136	5	14	
Bromodichloromethane	18		2.5	ug/L	20.0	0.52 U	89	58-135	7	19	
Bromoform	21		2.5	ug/L	20.0	0.75 U	106	46-148	2	18	
Bromomethane	11		2.5	ug/L	20.0	0.95 U	55	10-173	10	29	
Carbon disulfide	19		12	ug/L	20.0	2.5 U	94	43-153	12	26	
Carbon Tetrachloride	16		2.5	ug/L	20.0	0.94 U	79	54-156	12	27	
Chlorobenzene	26		2.5	ug/L	20.0	0.72 U	129	51-139	5	13	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

Matrix Spike Dup (1A25020-MSD1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 19:09

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloroethane	21		2.5	ug/L	20.0	0.98 U	105	27-180	7	22	
Chloroform	20		2.5	ug/L	20.0	0.80 U	102	58-139	2	17	
Chloromethane	9.0		2.5	ug/L	20.0	0.82 U	45	33-154	7	31	
cis-1,2-Dichloroethene	21		2.5	ug/L	20.0	0.53 U	104	56-128	5	17	
cis-1,3-Dichloropropene	16		2.5	ug/L	20.0	0.59 U	78	64-128	9	20	
Cyclohexane	15		2.5	ug/L	20.0	0.93 U	75	70-130	8	20	
Dibromochloromethane	23		2.5	ug/L	20.0	0.50 U	117	50-140	8	18	
Dichlorodifluoromethane	13		2.5	ug/L	20.0	0.74 U	63	10-180	4	26	
Ethylbenzene	22		2.5	ug/L	20.0	0.69 U	112	63-133	6	18	
Freon 113	21		2.5	ug/L	20.0	0.73 U	105	47-173	9	30	
Isopropylbenzene	24		2.5	ug/L	20.0	0.67 U	122	60-132	7	23	
m,p-Xylenes	51		5.0	ug/L	40.0	1.3 U	129	64-133	6	18	
Methyl acetate	9.5		2.5	ug/L	20.0	0.95 U	48	70-130	6	20	QM-19
Methyl cyclohexane	18		2.5	ug/L	20.0	0.64 U	91	70-130	4	20	
Methylene Chloride	19		12	ug/L	20.0	2.5 U	95	43-142	9	23	
Methyl-tert-Butyl Ether	19		2.5	ug/L	20.0	0.60 U	95	51-145	5	22	
o-Xylene	25		2.5	ug/L	20.0	0.53 U	123	61-129	4	16	
Styrene	26		2.5	ug/L	20.0	0.61 U	130	59-136	7	32	
Tetrachloroethene	23		2.5	ug/L	20.0	0.76 U	113	60-147	8	21	
Toluene	23		2.5	ug/L	20.0	0.72 U	117	64-131	4	16	
trans-1,2-Dichloroethene	21		2.5	ug/L	20.0	0.73 U	103	54-134	8	20	
trans-1,3-Dichloropropene	19		2.5	ug/L	20.0	0.73 U	97	65-149	5	17	
Trichloroethene	21		2.5	ug/L	20.0	0.89 U	107	62-135	12	20	
Trichlorofluoromethane	20		2.5	ug/L	20.0	0.94 U	102	56-155	10	22	
Vinyl chloride	15		2.5	ug/L	20.0	0.71 U	77	20-167	8	24	
4-Bromofluorobenzene	*55*			*ug/L*	*50.0*		*110*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*111*	*53-146*			
Toluene-d8	*48*	*I*		*ug/L*	*50.0*		*96*	*41-146*			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
A-07	Analyte biased low in LCS but detected in the reporting limit standard. Since the analyte in the associated sample was not detected, there is no impact on data quality.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-19	The spike recovery was outside acceptance limits for the MS and/or MSD.

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B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported result is an estimated value.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence (85% or greater confidence) to make a “tentative identification".
Q	One or more quality control criteria failed.

AE00488

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 1410 | PAGE 1 OF 1

PROJECT NO: 112G08970	FACILITY: CIRCA	PROJECT MANAGER: ALEX MURPHY	PHONE NUMBER: 321-292-0842	LABORATORY NAME AND CONTACT: ENCO
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER: DAN FORESTER	PHONE NUMBER: 304-780-1426	ADDRESS
		CARRIER/WAYBILL NUMBER		CITY, STATE: ORLANDO, FL

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): G
PRESERVATIVE USED: HCl

TYPE OF ANALYSIS: 8260D TCL SOM01.2 CLP-LIKE CUSTOMLIST

DATE YEAR 2021	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS		COMMENTS
19JAN	1340	CIRCA-ASEFFLUENT-20210119	CIRCA	/	/	GW	G	3	X	(cooled on ice)
19JAN	1350	CIRCA-ASINFLUENT-20210119	CIRCA	/	/	GW	G	3	X	

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	19JAN21	1400	1. RECEIVED BY	19JAN21	1400
2. RELINQUISHED BY	1-21-21	1500	2. RECEIVED BY	1/21/21	15:00
3. RELINQUISHED BY	1/21/21	15:00	3. RECEIVED BY	1/21/21	1500
COMMENTS	1-21-21	1500	James W Gregory	1/21/21	1510

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R FORM NO. TtNUS-001

C-025

1/22/2021

Environmental Conservation Labs, Inc.

Alex Murphy
Tetra Tech, Inc. (TE016)
11 Riverside Drive, Suite 204
Cocoa, FL 32922
Phone: (321) 636-6470
Fax: (321) 636-6473

Reference : **Sample Receipt Confirmation - *Please Review***
Project Name / Number : NASA KSC CRCA / 112G08970
Purchase Order # : 1165883

Lab Reference # : AE00488 Lab Receipt Date: 21-Jan-21 15:10
Anticipated ***(Estimated)*** Completion Date: 28-Jan-21 19:00

This is an automated notification from our laboratory information management system (LIMS), indicating the samples we have recently received and their associated analyses. Should any of the following information be in error, please contact us immediately.

Thank you for choosing Environmental Conservation Laboratories. Should any events occur that delay the processing of your samples or inhibit our ability to complete the project within the projected time frame you will be contacted.

Sincerely,

Kaitlin Dylnicki

Client: Tetra Tech, Inc. (TE016) **Project Name:** NASA KSC CRCA
Requested TAT: 5 **Project Number:** 112G08970

Analysis	TAT	Expires	Status
Sample ID: CRCA-ASEFFLUENT-20210119(Lab ID: AE00488-01), Matrix: Ground Water, Sampled: 19-Jan-21 13:40 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received
Sample ID: CRCA-ASINFLUENT-20210119(Lab ID: AE00488-02), Matrix: Ground Water, Sampled: 19-Jan-21 13:50 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received

Analysis Groups included in this work order

ENCO Orlando

SDG: AE00488-TE016

CLASS: 01_VOA_MS

METHOD: EPA 8260D

ANALYSES DATA PACKAGE COVER PAGE

EPA 8260D

Laboratory: ENCO Orlando

SDG: AE00488-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-ASEFFLUENT-20210119	AE00488-01
CRCA-ASINFLUENT-20210119	AE00488-02

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLUENT-20210119

Laboratory: ENCO Orlando SDG: AE00488-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00488-01 File ID: 215AT021.D

Sampled: 01/19/21 13:40 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 17:41

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLUENT-20210119

Laboratory: ENCO Orlando SDG: AE00488-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00488-01 File ID: 215AT021.D

Sampled: 01/19/21 13:40 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 17:41

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	56	111	53 - 146	
Toluene-d8	50.0	47	94	41 - 146	
4-Bromofluorobenzene	50.0	53	107	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1335751	9.868	1217120	9.845	
1,4-Difluorobenzene	2864408	10.456	2353990	10.438	
Chlorobenzene-d5	1575881	13.241	1612072	13.217	
1,4-Dichlorobenzene-d4	1522111	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLUENT-20210119

Laboratory: ENCO Orlando SDG: AE00488-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00488-02 File ID: 215AT022.D

Sampled: 01/19/21 13:50 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 18:10

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	13		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLUENT-20210119

Laboratory: ENCO Orlando SDG: AE00488-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00488-02 File ID: 215AT022.D

Sampled: 01/19/21 13:50 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 18:10

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	55	110	53 - 146	
Toluene-d8	50.0	48	96	41 - 146	
4-Bromofluorobenzene	50.0	53	107	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1360126	9.863	1217120	9.845	
1,4-Difluorobenzene	2880951	10.456	2353990	10.438	
Chlorobenzene-d5	1590418	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1528822	15.497	1366836	15.474	

* Values outside of QC limits

HOLDING TIME SUMMARY

EPA 8260D

Laboratory: ENCO Orlando

SDG: AE00488-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-ASEFFLUENT-20210119	01/19/21 13:40	01/21/21 15:10	01/25/21 00:00	5.43	NA	01/25/21 17:41	6.00	14.00	
CRCA-ASINFLUENT-20210119	01/19/21 13:50	01/21/21 15:10	01/25/21 00:00	5.42	NA	01/25/21 18:10	6.00	14.00	

PREPARATION BATCH SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Batch: 1A25020 Batch Matrix: Water Preparation: EPA 5030B_MS

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1A25020-BLK1	215AT006.D	01/25/21 00:00	
LCS	1A25020-BS1	215AT004.D	01/25/21 00:00	
CRCA-MW0032-058.0-20210120	1A25020-MS1	215AT023.D	01/25/21 00:00	
CRCA-MW0032-058.0-20210120	1A25020-MSD1	215AT024.D	01/25/21 00:00	
CRCA-ASEFFLUENT-20210119	AE00488-01	215AT021.D	01/25/21 00:00	
CRCA-ASINFLUENT-20210119	AE00488-02	215AT022.D	01/25/21 00:00	

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00488-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1A25020-BLK1	File ID:	215AT006.D
Prepared:	01/25/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	01/25/21 10:19	Instrument:	OVGCMS5		
Batch:	1A25020	Sequence:	AA64632	Calibration:	2011113

CAS NO.	COMPOUND	CONC. (ug/L)	Q
75-71-8	Dichlorodifluoromethane	0.74	U
74-87-3	Chloromethane	0.82	U
75-01-4	Vinyl chloride	0.71	U
74-83-9	Bromomethane	0.95	U
75-00-3	Chloroethane	0.98	U
75-69-4	Trichlorofluoromethane	0.94	U
76-13-1	Freon 113	0.73	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	0.94	U
75-15-0	Carbon disulfide	2.5	U
75-09-2	Methylene Chloride	2.5	U
1634-04-4	Methyl-tert-Butyl Ether	0.60	U
156-60-5	trans-1,2-Dichloroethene	0.73	U
156-59-2	cis-1,2-Dichloroethene	0.53	U
75-34-3	1,1-Dichloroethane	0.62	U
78-93-3	2-Butanone	4.5	U
67-66-3	Chloroform	0.80	U
71-55-6	1,1,1-Trichloroethane	0.80	U
79-20-9	Methyl acetate	0.95	U
110-82-7	Cyclohexane	0.93	U
108-87-2	Methyl cyclohexane	0.64	U
56-23-5	Carbon Tetrachloride	0.94	U
107-06-2	1,2-Dichloroethane	0.63	U
71-43-2	Benzene	0.71	U
79-01-6	Trichloroethene	0.89	U
78-87-5	1,2-Dichloropropane	0.80	U
75-27-4	Bromodichloromethane	0.52	U
108-10-1	4-Methyl-2-pentanone	2.5	U
591-78-6	2-Hexanone	2.5	U
10061-01-5	cis-1,3-Dichloropropene	0.59	U

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00488-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1A25020-BLK1	File ID:	215AT006.D
Prepared:	01/25/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	01/25/21 10:19	Instrument:	OVGCMS5		
Batch:	1A25020	Sequence:	AA64632	Calibration:	2011113

CAS NO.	COMPOUND	CONC. (ug/L)	Q
108-88-3	Toluene	0.72	U
10061-02-6	trans-1,3-Dichloropropene	0.73	U
79-00-5	1,1,2-Trichloroethane	0.76	U
127-18-4	Tetrachloroethene	0.76	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.78	U
108-90-7	Chlorobenzene	0.72	U
100-41-4	Ethylbenzene	0.69	U
108-38-3/106-42-3	m,p-Xylenes	1.3	U
95-47-6	o-Xylene	0.53	U
75-25-2	Bromoform	0.75	U
100-42-5	Styrene	0.61	U
98-82-8	Isopropylbenzene	0.67	U
79-34-5	1,1,2,2-Tetrachloroethane	0.54	U
120-82-1	1,2,4-Trichlorobenzene	0.70	U
541-73-1	1,3-Dichlorobenzene	0.77	U
106-46-7	1,4-Dichlorobenzene	0.76	U
95-50-1	1,2-Dichlorobenzene	0.73	U
96-12-8	1,2-Dibromo-3-chloropropane	0.96	U
1330-20-7	Xylenes (Total)	1.3	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	55	111	53 - 146	
Toluene-d8	50.0	48	96	41 - 146	
4-Bromofluorobenzene	50.0	54	109	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1492905	9.857	1217120	9.845	
1,4-Difluorobenzene	3146822	10.456	2353990	10.438	
Chlorobenzene-d5	1772986	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1644956	15.491	1366836	15.474	

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00488-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1A25020	Laboratory ID:	1A25020-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	12	61	10 - 180
Chloromethane	20.0	9.3	46	33 - 154
Vinyl chloride	20.0	17	85	20 - 167
Bromomethane	20.0	8.7	44	10 - 173
Chloroethane	20.0	22	109	27 - 180
Trichlorofluoromethane	20.0	20	100	56 - 155
Freon 113	20.0	21	104	47 - 173
Acetone	100	71	71	10 - 180
1,1-Dichloroethene	20.0	20	102	47 - 139
Carbon disulfide	20.0	20	102	43 - 153
Methylene Chloride	20.0	20	100	43 - 142
Methyl-tert-Butyl Ether	20.0	20	99	51 - 145
trans-1,2-Dichloroethene	20.0	22	108	54 - 134
cis-1,2-Dichloroethene	20.0	22	109	56 - 128
1,1-Dichloroethane	20.0	19	93	57 - 142
2-Butanone	100	90	90	10 - 180
Chloroform	20.0	20	99	58 - 139
1,1,1-Trichloroethane	20.0	19	97	57 - 148
Methyl acetate	20.0	13	65 *	70 - 130
Cyclohexane	20.0	16	82	70 - 130
Methyl cyclohexane	20.0	18	89	70 - 130
Carbon Tetrachloride	20.0	16	80	54 - 156
1,2-Dichloroethane	20.0	15	75	50 - 156
Benzene	20.0	19	94	56 - 136
Trichloroethene	20.0	21	103	62 - 135
1,2-Dichloropropane	20.0	16	80	61 - 133
Bromodichloromethane	20.0	18	89	58 - 135
4-Methyl-2-pentanone	100	90	90	19 - 180
2-Hexanone	100	68	68	12 - 180
cis-1,3-Dichloropropene	20.0	17	87	64 - 128

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00488-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1A25020	Laboratory ID:	1A25020-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Toluene	20.0	23	114	64 - 131
trans-1,3-Dichloropropene	20.0	21	103	65 - 149
1,1,2-Trichloroethane	20.0	21	107	57 - 141
Tetrachloroethene	20.0	21	104	60 - 147
Dibromochloromethane	20.0	24	118	50 - 140
1,2-Dibromoethane	20.0	22	110	57 - 140
Chlorobenzene	20.0	24	120	51 - 139
Ethylbenzene	20.0	22	108	63 - 133
m,p-Xylenes	40.0	50	125	64 - 133
o-Xylene	20.0	23	117	61 - 129
Bromoform	20.0	21	107	46 - 148
Styrene	20.0	25	126	59 - 136
Isopropylbenzene	20.0	24	118	60 - 132
1,1,2,2-Tetrachloroethane	20.0	21	105	60 - 139
1,2,4-Trichlorobenzene	20.0	17	87	52 - 159
1,3-Dichlorobenzene	20.0	24	118	66 - 129
1,4-Dichlorobenzene	20.0	21	106	65 - 133
1,2-Dichlorobenzene	20.0	23	113	63 - 131
1,2-Dibromo-3-chloropropane	20.0	20	102	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0032-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A25020
Laboratory ID: 1A25020-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0032-058.0-20210120

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	ND	13	66	10 - 180
Chloromethane	20.0	ND	9.6	48	33 - 154
Vinyl chloride	20.0	ND	17	84	20 - 167
Bromomethane	20.0	ND	10	50	10 - 173
Chloroethane	20.0	ND	23	113	27 - 180
Trichlorofluoromethane	20.0	ND	23	113	56 - 155
Freon 113	20.0	ND	23	115	47 - 173
Acetone	100	ND	65	65	10 - 180
1,1-Dichloroethene	20.0	ND	23	114	47 - 139
Carbon disulfide	20.0	ND	21	106	43 - 153
Methylene Chloride	20.0	ND	21	105	43 - 142
Methyl-tert-Butyl Ether	20.0	ND	20	100	51 - 145
trans-1,2-Dichloroethene	20.0	ND	22	111	54 - 134
cis-1,2-Dichloroethene	20.0	ND	22	110	56 - 128
1,1-Dichloroethane	20.0	ND	19	96	57 - 142
2-Butanone	100	ND	88	88	10 - 180
Chloroform	20.0	ND	21	104	58 - 139
1,1,1-Trichloroethane	20.0	ND	22	110	57 - 148
Methyl acetate	20.0	ND	10	51 *	70 - 130
Cyclohexane	20.0	ND	16	82	70 - 130
Methyl cyclohexane	20.0	ND	19	95	70 - 130
Carbon Tetrachloride	20.0	ND	18	89	54 - 156
1,2-Dichloroethane	20.0	ND	16	79	50 - 156
Benzene	20.0	ND	20	100	56 - 136
Trichloroethene	20.0	ND	24	122	62 - 135
1,2-Dichloropropane	20.0	ND	16	79	61 - 133
Bromodichloromethane	20.0	ND	19	95	58 - 135
4-Methyl-2-pentanone	100	ND	87	87	19 - 180
2-Hexanone	100	ND	62	62	12 - 180
cis-1,3-Dichloropropene	20.0	ND	17	85	64 - 128
Toluene	20.0	ND	24	122	64 - 131

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0032-058.0-20210120

Laboratory:	ENCO Orlando	SDG:	AE00488-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1A25020	Laboratory ID:	1A25020-MS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

Source Sample Name: CRCA-MW0032-058.0-20210120

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
trans-1,3-Dichloropropene	20.0	ND	20	102	65 - 149
1,1,2-Trichloroethane	20.0	ND	22	110	57 - 141
Tetrachloroethene	20.0	ND	24	122	60 - 147
Dibromochloromethane	20.0	ND	25	127	50 - 140
1,2-Dibromoethane	20.0	ND	23	115	57 - 140
Chlorobenzene	20.0	ND	27	135	51 - 139
Ethylbenzene	20.0	ND	24	119	63 - 133
m,p-Xylenes	40.0	ND	55	137 *	64 - 133
o-Xylene	20.0	ND	25	127	61 - 129
Bromoform	20.0	ND	22	109	46 - 148
Styrene	20.0	ND	28	140 *	59 - 136
Isopropylbenzene	20.0	ND	26	131	60 - 132
1,1,2,2-Tetrachloroethane	20.0	ND	23	114	60 - 139
1,2,4-Trichlorobenzene	20.0	ND	15	74	52 - 159
1,3-Dichlorobenzene	20.0	ND	25	125	66 - 129
1,4-Dichlorobenzene	20.0	ND	23	114	65 - 133
1,2-Dichlorobenzene	20.0	ND	23	114	63 - 131
1,2-Dibromo-3-chloropropane	20.0	ND	14	72	48 - 150

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0032-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A25020
Laboratory ID: 1A25020-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0032-058.0-20210120

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #		% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20.0	13	63		4	26	10 - 180
Chloromethane	20.0	9.0	45		7	31	33 - 154
Vinyl chloride	20.0	15	77		8	24	20 - 167
Bromomethane	20.0	11	55		10	29	10 - 173
Chloroethane	20.0	21	105		7	22	27 - 180
Trichlorofluoromethane	20.0	20	102		10	22	56 - 155
Freon 113	20.0	21	105		9	30	47 - 173
Acetone	100	70	70		7	19	10 - 180
1,1-Dichloroethene	20.0	21	103		10	16	47 - 139
Carbon disulfide	20.0	19	94		12	26	43 - 153
Methylene Chloride	20.0	19	95		9	23	43 - 142
Methyl-tert-Butyl Ether	20.0	19	95		5	22	51 - 145
trans-1,2-Dichloroethene	20.0	21	103		8	20	54 - 134
cis-1,2-Dichloroethene	20.0	21	104		5	17	56 - 128
1,1-Dichloroethane	20.0	18	90		6	24	57 - 142
2-Butanone	100	83	83		5	29	10 - 180
Chloroform	20.0	20	102		2	17	58 - 139
1,1,1-Trichloroethane	20.0	20	102		8	25	57 - 148
Methyl acetate	20.0	9.5	48	*	6	20	70 - 130
Cyclohexane	20.0	15	75		8	20	70 - 130
Methyl cyclohexane	20.0	18	91		4	20	70 - 130
Carbon Tetrachloride	20.0	16	79		12	27	54 - 156
1,2-Dichloroethane	20.0	15	77		1	18	50 - 156
Benzene	20.0	19	96		5	14	56 - 136
Trichloroethene	20.0	21	107		12	20	62 - 135
1,2-Dichloropropane	20.0	15	76		4	26	61 - 133
Bromodichloromethane	20.0	18	89		7	19	58 - 135
4-Methyl-2-pentanone	100	87	87		0.5	24	19 - 180
2-Hexanone	100	66	66		5	28	12 - 180
cis-1,3-Dichloropropene	20.0	16	78		9	20	64 - 128
Toluene	20.0	23	117		4	16	64 - 131
trans-1,3-Dichloropropene	20.0	19	97		5	17	65 - 149

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0032-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A25020
Laboratory ID: 1A25020-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0032-058.0-20210120

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,2-Trichloroethane	20.0	21	106	3	16	57 - 141
Tetrachloroethene	20.0	23	113	8	21	60 - 147
Dibromochloromethane	20.0	23	117	8	18	50 - 140
1,2-Dibromoethane	20.0	22	110	4	16	57 - 140
Chlorobenzene	20.0	26	129	5	13	51 - 139
Ethylbenzene	20.0	22	112	6	18	63 - 133
m,p-Xylenes	40.0	51	129	6	18	64 - 133
o-Xylene	20.0	25	123	4	16	61 - 129
Bromoform	20.0	21	106	2	18	46 - 148
Styrene	20.0	26	130	7	32	59 - 136
Isopropylbenzene	20.0	24	122	7	23	60 - 132
1,1,2,2-Tetrachloroethane	20.0	22	110	4	17	60 - 139
1,2,4-Trichlorobenzene	20.0	16	81	9	24	52 - 159
1,3-Dichlorobenzene	20.0	24	120	4	23	66 - 129
1,4-Dichlorobenzene	20.0	22	110	4	23	65 - 133
1,2-Dichlorobenzene	20.0	23	113	1	25	63 - 131
1,2-Dibromo-3-chloropropane	20.0	18	88	21	21	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA63653
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA63653-SCV1)			Lab File ID: 205KN012.D		Analyzed: 11/19/20 13:24			
Dibromofluoromethane	50.0	100	70 - 130	9.422	9.4205	0.0015	+/-0.5	
Toluene-d8	50.0	104	70 - 130	11.772	11.77275	-0.0008	+/-0.5	
4-Bromofluorobenzene	50.0	105	70 - 130	14.322	14.322	0.0000	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64632
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA64632-CCV1)			Lab File ID: 215AT003.D		Analyzed: 01/25/21 08:47			
Dibromofluoromethane	50.0	107	80 - 120	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	99	80 - 120	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	103	80 - 120	14.334	14.322	0.0120	+/-0.5	
LCS (1A25020-BS1)			Lab File ID: 215AT004.D		Analyzed: 01/25/21 09:20			
Dibromofluoromethane	50.0	111	53 - 146	9.434	9.4205	0.0135	+/-0.5	
Toluene-d8	50.0	98	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	105	41 - 142	14.334	14.322	0.0120	+/-0.5	
Blank (1A25020-BLK1)			Lab File ID: 215AT006.D		Analyzed: 01/25/21 10:19			
Dibromofluoromethane	50.0	111	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	96	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	14.34	14.322	0.0180	+/-0.5	
Instrument RL Check (AA64632-CRL1)			Lab File ID: 215AT007.D		Analyzed: 01/25/21 10:48			
Dibromofluoromethane	50.0	108	1 - 199	9.434	9.4205	0.0135	+/-0.5	
Toluene-d8	50.0	95	1 - 199	11.784	11.77275	0.0113	+/-0.5	
4-Bromofluorobenzene	50.0	106	1 - 199	14.334	14.322	0.0120	+/-0.5	
CRCA-ASEFFLUENT-20210119 (AE00488-01)			Lab File ID: 215AT021.D		Analyzed: 01/25/21 17:41			
Dibromofluoromethane	50.0	111	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	94	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	107	41 - 142	14.34	14.322	0.0180	+/-0.5	
CRCA-ASINFLUENT-20210119 (AE00488-02)			Lab File ID: 215AT022.D		Analyzed: 01/25/21 18:10			
Dibromofluoromethane	50.0	110	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	96	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	107	41 - 142	14.34	14.322	0.0180	+/-0.5	
Matrix Spike (1A25020-MS1)			Lab File ID: 215AT023.D		Analyzed: 01/25/21 18:39			
Dibromofluoromethane	50.0	112	53 - 146	9.44	9.4205	0.0195	+/-0.5	
Toluene-d8	50.0	97	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	14.34	14.322	0.0180	+/-0.5	
Matrix Spike Dup (1A25020-MSD1)			Lab File ID: 215AT024.D		Analyzed: 01/25/21 19:09			
Dibromofluoromethane	50.0	111	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	96	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	110	41 - 142	14.34	14.322	0.0180	+/-0.5	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA63653
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA63653-CAL1)			Lab File ID: 205KN003.D			Analyzed: 11/19/20 08:46			
Pentafluorobenzene	1250058	9.851	1217120	9.845	103	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2384669	10.444	2353990	10.438	101	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1608704	13.223	1612072	13.217	100	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1323293	15.48	1366836	15.474	97	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL2)			Lab File ID: 205KN004.D			Analyzed: 11/19/20 09:16			
Pentafluorobenzene	1204238	9.845	1217120	9.845	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2405138	10.438	2353990	10.438	102	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1568806	13.217	1612072	13.217	97	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1312583	15.48	1366836	15.474	96	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL3)			Lab File ID: 205KN005.D			Analyzed: 11/19/20 09:47			
Pentafluorobenzene	1203996	9.845	1217120	9.845	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2450219	10.438	2353990	10.438	104	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1607155	13.217	1612072	13.217	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1325758	15.48	1366836	15.474	97	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL4)			Lab File ID: 205KN006.D			Analyzed: 11/19/20 10:18			
Pentafluorobenzene	1172592	9.845	1217120	9.845	96	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2346408	10.438	2353990	10.438	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1580434	13.223	1612072	13.217	98	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1299188	15.48	1366836	15.474	95	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL5)			Lab File ID: 205KN007.D			Analyzed: 11/19/20 10:49			
Pentafluorobenzene	1203065	9.845	1217120	9.845	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2330356	10.438	2353990	10.438	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1579586	13.217	1612072	13.217	98	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1295652	15.48	1366836	15.474	95	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL6)			Lab File ID: 205KN008.D			Analyzed: 11/19/20 11:20			
Pentafluorobenzene	1217120	9.845	1217120	9.845	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2353990	10.438	2353990	10.438	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1612072	13.217	1612072	13.217	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1366836	15.474	1366836	15.474	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA63653-CAL7)			Lab File ID: 205KN009.D			Analyzed: 11/19/20 11:51			
Pentafluorobenzene	1208553	9.845	1217120	9.845	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2324329	10.438	2353990	10.438	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1614423	13.217	1612072	13.217	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1389872	15.48	1366836	15.474	102	50 - 200	0.0060	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA63653
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA63653-CAL8)			Lab File ID: 205KN010.D			Analyzed: 11/19/20 12:22			
Pentafluorobenzene	1285587	9.845	1217120	9.845	106	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2302813	10.438	2353990	10.438	98	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1664856	13.218	1612072	13.217	103	50 - 200	0.0010	+/-0.50	
1,4-Dichlorobenzene-d4	1435917	15.48	1366836	15.474	105	50 - 200	0.0060	+/-0.50	
Secondary Cal Check (AA63653-SCV1)			Lab File ID: 205KN012.D			Analyzed: 11/19/20 13:24			
Pentafluorobenzene	1335071	9.851	1217120	9.845	110	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2438645	10.444	2353990	10.438	104	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1652574	13.223	1612072	13.217	103	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1403353	15.48	1366836	15.474	103	50 - 200	0.0060	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64632
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA64632-CCV1)			Lab File ID: 215AT003.D			Analyzed: 01/25/21 08:47			
Pentafluorobenzene	1707380	9.862	1217120	9.845	140	50 - 200	0.0170	+/-0.50	
1,4-Difluorobenzene	3441893	10.456	2353990	10.438	146	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	2103106	13.235	1612072	13.217	130	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1782629	15.497	1366836	15.474	130	50 - 200	0.0230	+/-0.50	
LCS (1A25020-BS1)			Lab File ID: 215AT004.D			Analyzed: 01/25/21 09:20			
Pentafluorobenzene	1599715	9.862	1217120	9.845	131	50 - 200	0.0170	+/-0.50	
1,4-Difluorobenzene	3376621	10.456	2353990	10.438	143	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1975824	13.235	1612072	13.217	123	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1733612	15.497	1366836	15.474	127	50 - 200	0.0230	+/-0.50	
Blank (1A25020-BLK1)			Lab File ID: 215AT006.D			Analyzed: 01/25/21 10:19			
Pentafluorobenzene	1492905	9.857	1217120	9.845	123	50 - 200	0.0120	+/-0.50	
1,4-Difluorobenzene	3146822	10.456	2353990	10.438	134	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1772986	13.235	1612072	13.217	110	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1644956	15.491	1366836	15.474	120	50 - 200	0.0170	+/-0.50	
Instrument RL Check (AA64632-CRL1)			Lab File ID: 215AT007.D			Analyzed: 01/25/21 10:48			
Pentafluorobenzene	1450199	9.863	1217120	9.845	119	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	3054870	10.456	2353990	10.438	130	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1722975	13.235	1612072	13.217	107	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1562753	15.491	1366836	15.474	114	50 - 200	0.0170	+/-0.50	
CRCA-ASEFFLUENT-20210119 (AE00488-01)			Lab File ID: 215AT021.D			Analyzed: 01/25/21 17:41			
Pentafluorobenzene	1335751	9.868	1217120	9.845	110	50 - 200	0.0230	+/-0.50	
1,4-Difluorobenzene	2864408	10.456	2353990	10.438	122	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1575881	13.241	1612072	13.217	98	50 - 200	0.0240	+/-0.50	
1,4-Dichlorobenzene-d4	1522111	15.497	1366836	15.474	111	50 - 200	0.0230	+/-0.50	
CRCA-ASINFLUENT-20210119 (AE00488-02)			Lab File ID: 215AT022.D			Analyzed: 01/25/21 18:10			
Pentafluorobenzene	1360126	9.863	1217120	9.845	112	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	2880951	10.456	2353990	10.438	122	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1590418	13.235	1612072	13.217	99	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1528822	15.497	1366836	15.474	112	50 - 200	0.0230	+/-0.50	
Matrix Spike (1A25020-MS1)			Lab File ID: 215AT023.D			Analyzed: 01/25/21 18:39			
Pentafluorobenzene	1347954	9.863	1217120	9.845	111	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	2823243	10.456	2353990	10.438	120	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1642590	13.235	1612072	13.217	102	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1598011	15.497	1366836	15.474	117	50 - 200	0.0230	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64632
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Matrix Spike Dup (1A25020-MSD1)			Lab File ID: 215AT024.D			Analyzed: 01/25/21 19:09			
Pentafluorobenzene	1455730	9.862	1217120	9.845	120	50 - 200	0.0170	+/-0.50	
1,4-Difluorobenzene	3018464	10.456	2353990	10.438	128	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1707516	13.235	1612072	13.217	106	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1611682	15.497	1366836	15.474	118	50 - 200	0.0230	+/-0.50	

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00488-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA63653		
Calibration:	2011113	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA63653-TUN1	205KN002.D	11/19/20 08:07
Cal Standard	AA63653-CAL1	205KN003.D	11/19/20 08:46
Cal Standard	AA63653-CAL2	205KN004.D	11/19/20 09:16
Cal Standard	AA63653-CAL3	205KN005.D	11/19/20 09:47
Cal Standard	AA63653-CAL4	205KN006.D	11/19/20 10:18
Cal Standard	AA63653-CAL5	205KN007.D	11/19/20 10:49
Cal Standard	AA63653-CAL6	205KN008.D	11/19/20 11:20
Cal Standard	AA63653-CAL7	205KN009.D	11/19/20 11:51
Cal Standard	AA63653-CAL8	205KN010.D	11/19/20 12:22
Secondary Cal Check	AA63653-SCV1	205KN012.D	11/19/20 13:24

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00488-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64632		
Calibration:	2011113	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA64632-CCV1	215AT003.D	01/25/21 08:47
LCS	1A25020-BS1	215AT004.D	01/25/21 09:20
Blank	1A25020-BLK1	215AT006.D	01/25/21 10:19
Instrument RL Check	AA64632-CRL1	215AT007.D	01/25/21 10:48
CRCA-ASEFFLUENT-20210119	AE00488-01	215AT021.D	01/25/21 17:41
CRCA-ASINFLUENT-20210119	AE00488-02	215AT022.D	01/25/21 18:10
CRCA-MW0032-058.0-20210120	1A25020-MS1	215AT023.D	01/25/21 18:39
CRCA-MW0032-058.0-20210120	1A25020-MSD1	215AT024.D	01/25/21 19:09

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00488-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	205KN002.D	Injection Date:	11/19/20
Instrument ID:	OVGCMS5	Injection Time:	08:07
Sequence:	AA63653	Lab Sample ID:	AA63653-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	155	PASS
96	5 - 9% of 95	7.22	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	64.6	PASS
175	5 - 9% of 174	5.13	PASS
176	95 - 105% of 174	97.9	PASS
177	5 - 10% of 176	5.82	PASS

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00488-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2011113
Lab File ID:	215AT003.D	Calibration Date:	11/19/20 00:00
Sequence:	AA64632	Injection Date:	01/25/21
Lab Sample ID:	AA64632-CCV1	Injection Time:	08:47

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Dichlorodifluoromethane	A	20.0	19	0.6454795	0.6065492		-6	20	
Chloromethane	A	20.0	12	0.7429916	0.4439653		-40	20	*
Vinyl chloride	A	20.0	19	0.6032767	0.5739686		-4.9	20	
Bromomethane	A	20.0	19	0.2658711	0.149807		-7.2	20	
Chloroethane	A	20.0	20	0.3233106	0.2720557		2.5	20	
Trichlorofluoromethane	A	20.0	20	0.739293	0.7547265		2.1	20	
Freon 113	A	50.0	50	0.2891047	0.2868658		-0.8	20	
Acetone	A	250	180	0.1178043	8.350467E-02		-29	20	*
1,1-Dichloroethene	A	50.0	49	0.4316853	0.4258747		-1.3	20	
Carbon disulfide	A	250	150	1.413985	0.8728756		-38	20	*
Methylene Chloride	A	50.0	45	0.5959536	0.4701877		-10	20	
Methyl-tert-Butyl Ether	A	50.0	45	1.264184	1.149021		-9.1	20	
trans-1,2-Dichloroethene	A	50.0	49	0.4994822	0.489495		-2	20	
cis-1,2-Dichloroethene	A	50.0	50	0.5290745	0.5271984		-0.4	20	
1,1-Dichloroethane	A	50.0	41	1.027426	0.8473456		-18	20	
2-Butanone	A	250	220	5.654494E-02	5.142944E-02		-10	20	
Chloroform	A	50.0	45	0.9811366	0.8818576		-10	20	
1,1,1-Trichloroethane	A	50.0	46	0.8099887	0.7425781		-8.3	20	
Methyl acetate	A	50.0	31	0.4097982	0.2287546		-38	20	*
Cyclohexane	A	50.0	36	1.084118	0.8065902		-28	20	*
Methyl cyclohexane	A	50.0	41	0.6851364	0.4685979		-18	20	
Carbon Tetrachloride	A	50.0	39	0.3247415	0.2907839		-22	20	*
1,2-Dichloroethane	A	50.0	36	0.3947961	0.2986964		-28	20	*
Benzene	A	50.0	44	1.143102	1.009598		-12	20	
Trichloroethene	A	50.0	50	0.2308676	0.2294848		-0.6	20	
1,2-Dichloropropane	A	50.0	35	0.3327441	0.2311986		-30	20	*
Bromodichloromethane	A	50.0	41	0.3384447	0.3043776		-17	20	
4-Methyl-2-pentanone	A	250	260	3.573082E-02	3.583226E-02		5.6	20	
2-Hexanone	A	250	190	0.1672315	0.116342		-30	20	*

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00488-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2011113
Lab File ID:	215AT003.D	Calibration Date:	11/19/20 00:00
Sequence:	AA64632	Injection Date:	01/25/21
Lab Sample ID:	AA64632-CCV1	Injection Time:	08:47

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
cis-1,3-Dichloropropene	A	50.0	41	0.4465376	0.410246		-18	20	
Toluene	A	50.0	51	1.066872	1.094805		2.6	20	
trans-1,3-Dichloropropene	A	50.0	46	0.5606682	0.5777288		-9	20	
1,1,2-Trichloroethane	A	50.0	48	0.3401845	0.3445765		-4.4	20	
Tetrachloroethene	A	50.0	47	0.2798513	0.273757		-6.7	20	
Dibromochloromethane	A	50.0	52	0.2803526	0.3436893		3.5	20	
1,2-Dibromoethane	A	50.0	52	0.3355065	0.3483481		3.8	20	
Chlorobenzene	A	50.0	54	1.074819	1.151012		7.1	20	
Ethylbenzene	A	50.0	52	0.6263821	0.6735562		3.9	20	
m,p-Xylenes	A	100	110	0.7525839	0.8321309		11	20	
o-Xylene	A	50.0	54	0.7718014	0.8358423		8.3	20	
Bromoform	A	50.0	47	0.1740972	0.178584		-6.2	20	
Styrene	A	50.0	57	1.260238	1.447695		15	20	
Isopropylbenzene	A	50.0	54	2.031474	2.17933		7.3	20	
1,1,2,2-Tetrachloroethane	A	50.0	49	0.5037271	0.4924835		-2.2	20	
1,2,4-Trichlorobenzene	A	50.0	38	0.4097947	0.3618818		-24	20	*
1,3-Dichlorobenzene	A	50.0	53	1.008577	1.072036		6.3	20	
1,4-Dichlorobenzene	A	50.0	51	1.081206	1.09674		1.4	20	
1,2-Dichlorobenzene	A	50.0	51	0.9520015	0.9653383		1.4	20	
1,2-Dibromo-3-chloropropane	A	50.0	45	7.396002E-02	6.969369E-02		-11	20	

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00488-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA63653	Instrument:	OVGCMS5
Calibration:	2011113		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A0F0994	MS Tune (lower conc.)	AA63653-TUN1	205KN002.D	11/19/20 08:07
A0K1094	8260 CAL 1 PPB	AA63653-CAL1	205KN003.D	11/19/20 08:46
A0K1095	8260 CAL 2 PPB	AA63653-CAL2	205KN004.D	11/19/20 09:16
A0K1096	8260 CAL 5 PPB	AA63653-CAL3	205KN005.D	11/19/20 09:47
A0K1097	8260 CAL 10 PPB	AA63653-CAL4	205KN006.D	11/19/20 10:18
A0K1098	8260 CAL 20 PPB	AA63653-CAL5	205KN007.D	11/19/20 10:49
A0K1099	8260 CAL 50 PPB	AA63653-CAL6	205KN008.D	11/19/20 11:20
A0K1100	8260 CAL 80 PPB	AA63653-CAL7	205KN009.D	11/19/20 11:51
A0K1101	8260 CAL 100 PPB	AA63653-CAL8	205KN010.D	11/19/20 12:22
A0K1038	8260 SCV 50 PPB/20 Gases (Surr. Lower Conc.)	AA63653-SCV1	205KN012.D	11/19/20 13:24

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	1	0.731806	2	0.5311658	5	0.6196449	10	0.5826494	20	0.6291202	50	0.6876832
Chloromethane	1	0.9635553	2	0.7678092	5	0.7533414	10	0.6436211	20	0.6665122	50	0.6618772
Vinyl chloride	1	0.6389704	2	0.4961021	5	0.5937063	10	0.518373	20	0.6097052	50	0.6178544
Bromomethane	1	0.5487745	2	0.3936929	5	0.2468862	10	0.1795339	20	0.1536388	50	0.1805656
Chloroethane	1	0.5095364	2	0.3356687	5	0.2733979	10	0.2639921	20	0.2971223	50	0.2601461
Trichlorofluoromethane	1	0.796403	2	0.6188353	5	0.6866136	10	0.7074541	20	0.7578705	50	0.7930894
Freon 113	1	0.2609479	2	0.2643996	5	0.2925508	10	0.3082914	20	0.2611185	50	0.3063124
Acetone	5	0.1640884	10	7.640101E-02	25	0.1132944	50	0.1270502	100	0.1080203	250	0.1165466
1,1-Dichloroethene	1	0.5304954	2	0.3722686	5	0.3921026	10	0.3748874	20	0.4134066	50	0.4489426
Carbon disulfide	5	1.625549	10	1.279116	25	1.418201	50	1.427008	100	1.452276	250	1.421308
Methylene Chloride	1	0.949196	2	0.6799528	5	0.584977	10	0.4949633	20	0.4791616	50	0.5261996
Methyl-tert-Butyl Ether	1	1.207824	2	1.067003	5	1.181117	10	1.225797	20	1.218685	50	1.417615
trans-1,2-Dichloroethene	1	0.6322907	2	0.4293379	5	0.4477091	10	0.4308276	20	0.4738958	50	0.5202946
cis-1,2-Dichloroethene	1	0.5540143	2	0.424397	5	0.5243456	10	0.4742059	20	0.5250755	50	0.5758438
1,1-Dichloroethane	1	1.150187	2	0.7455129	5	1.073417	10	0.9430262	20	0.9854351	50	1.108909
2-Butanone	5	0.0948676	10	2.903081E-02	25	6.102678E-02	50	0.0450745	100	4.561931E-02	250	5.804341E-02
Chloroform	1	1.008433	2	0.8175709	5	1.016573	10	0.9572895	20	0.9442549	50	1.031745
1,1,1-Trichloroethane	1	0.8856789	2	0.6484806	5	0.7444128	10	0.6971223	20	0.8036702	50	0.8940367
Methyl acetate	1	0.7524051	2	0.3734104	5	0.3421025	10	0.3735826	20	0.3312477	50	0.3623833
Cyclohexane	1	1.445653	2	0.8159309	5	1.111773	10	0.900795	20	1.011174	50	1.139422
Methyl cyclohexane	1	1.296553	2	0.7643948	5	0.6505051	10	0.4980933	20	0.5493699	50	0.5706184
Carbon Tetrachloride	1	0.3562759	2	0.265754	5	0.2802362	10	0.2692435	20	0.3099687	50	0.358654
1,2-Dichloroethane	1	0.52978	2	0.3246383	5	0.3561682	10	0.3270765	20	0.3804547	50	0.3951041
Benzene	1	1.368953	2	0.8953644	5	1.012387	10	1.019627	20	1.160622	50	1.20187
Trichloroethene	1	0.2433461	2	0.2067345	5	0.2092384	10	0.2186576	20	0.2226559	50	0.2443388
1,2-Dichloropropane	1	0.4168922	2	0.2741735	5	0.2789057	10	0.3037835	20	0.3161759	50	0.336891
Bromodichloromethane	1	0.3390617	2	0.2184906	5	0.3136005	10	0.3123434	20	0.3305471	50	0.3770309
4-Methyl-2-pentanone	5	5.360492E-02	10	3.485663E-02	25	3.163227E-02	50	3.145233E-02	100	3.245856E-02	250	3.359233E-02
2-Hexanone	5	0.1888606	10	0.1362687	25	0.1491622	50	0.1581622	100	0.1619347	250	0.1747743
cis-1,3-Dichloropropene	1	0.38758	2	0.337174	5	0.3962381	10	0.3859495	20	0.4436114	50	0.5153998
Toluene	1	1.301234	2	0.8125606	5	1.029104	10	0.9467653	20	1.065835	50	1.125779

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	1	0.5782294	2	0.3963364	5	0.5391328	10	0.5150579	20	0.5581557	50	0.6082166
1,1,2-Trichloroethane	1	0.4258708	2	0.2571382	5	0.3085141	10	0.3163403	20	0.3319446	50	0.354357
Tetrachloroethene	1	0.3547887	2	0.216805	5	0.2447617	10	0.2609188	20	0.2888004	50	0.2808423
Dibromochloromethane	1	0.261577	2	0.1928537	5	0.2186472	10	0.2340749	20	0.271185	50	0.3243124
1,2-Dibromoethane	1	0.3776332	2	0.275273	5	0.3089372	10	0.289778	20	0.3254935	50	0.3684265
Chlorobenzene	1	1.227137	2	0.9187082	5	1.088831	10	1.029964	20	1.028877	50	1.084228
Ethylbenzene	1	0.8370092	2	0.5046991	5	0.5351257	10	0.5817041	20	0.6079204	50	0.6386446
m,p-Xylenes	2	0.7709622	4	0.6304954	10	0.7519001	20	0.7265378	40	0.7815244	100	0.7925899
o-Xylene	1	0.827343	2	0.5495581	5	0.7980935	10	0.715101	20	0.7577872	50	0.8412149
Bromoform	1	0.2244042	2	0.1325052	5	0.1113209	10	0.1336911	20	0.151421	50	0.198042
Styrene	1	1.184587	2	0.9487151	5	1.197756	10	1.179467	20	1.329056	50	1.37226
Isopropylbenzene	1	2.11919	2	1.612596	5	1.9581	10	1.86924	20	2.054396	50	2.203894
1,1,2,2-Tetrachloroethane	1	0.5748727	2	0.4241761	5	0.4667316	10	0.4666946	20	0.48922	50	0.5296984
1,2,4-Trichlorobenzene	1	0.444006	2	0.2155102	5	0.3665073	10	0.3682377	20	0.3931939	50	0.481305
1,3-Dichlorobenzene	1	1.059554	2	0.8308046	5	0.914986	10	0.9259784	20	1.006449	50	1.075948
1,4-Dichlorobenzene	1	1.342371	2	0.9420738	5	0.9853156	10	0.9772104	20	1.047961	50	1.090424
1,2-Dichlorobenzene	1	1.133196	2	0.6932895	5	0.9302226	10	0.8814044	20	0.8963441	50	1.002858
1,2-Dibromo-3-chloropropane	1	0.1462261	2	0.0374643	5	3.684685E-02	10	6.679172E-02	20	6.657845E-02	50	7.807374E-02
Dibromofluoromethane	50	0.4987681	55	0.5168814	57.5	0.5405413	50	0.5403508	65	0.5020478	50	0.5574545
Toluene-d8	50	1.241808	55	1.219018	57.5	1.232296	50	1.264503	65	1.198608	50	1.317554
4-Bromofluorobenzene	50	0.9421565	55	0.8971015	57.5	0.892347	50	0.9405353	65	0.8691396	50	0.9269369

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	80	0.70919	100	0.6725768								
Chloromethane	80	0.754096	100	0.7331207								
Vinyl chloride	80	0.6865886	100	0.6649138								
Bromomethane	80	0.2051834	100	0.2186939								
Chloroethane	80	~~0.1749365~~	100	~~0.1284219~~								
Trichlorofluoromethane	80	~~0.8301317~~	100	0.814785								
Freon 113	80	0.3132915	100	0.3059256								
Acetone	400	0.1217886	500	0.1152447								
1,1-Dichloroethene	80	0.4650106	100	0.4563686								
Carbon disulfide	400	1.39256	500	1.295861								
Methylene Chloride	80	0.5379475	100	0.5152308								
Methyl-tert-Butyl Ether	80	1.459444	100	1.335989								
trans-1,2-Dichloroethene	80	0.5437929	100	0.517709								
cis-1,2-Dichloroethene	80	0.6019223	100	0.5527918								
1,1-Dichloroethane	80	1.134374	100	1.078543								
2-Butanone	400	6.102308E-02	500	5.767404E-02								
Chloroform	80	1.078098	100	0.9951283								
1,1,1-Trichloroethane	80	0.9329545	100	0.8735539								
Methyl acetate	80	0.3852903	100	0.3579641								
Cyclohexane	80	1.150511	100	1.097683								
Methyl cyclohexane	80	0.580204	100	0.5713529								
Carbon Tetrachloride	80	0.3766286	100	0.3811714								
1,2-Dichloroethane	80	0.4259138	100	0.4192331								
Benzene	80	1.233887	100	1.252102								
Trichloroethene	80	0.2480525	100	0.2539173								
1,2-Dichloropropane	80	0.3671019	100	0.3680292								
Bromodichloromethane	80	0.405243	100	0.4112405								
4-Methyl-2-pentanone	400	3.457471E-02	500	3.367481E-02								
2-Hexanone	400	0.1842147	500	0.1844748								
cis-1,3-Dichloropropene	80	0.5492152	100	0.5571325								
Toluene	80	1.145043	100	1.108659								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	80	0.6603691	100	0.6298476								
1,1,2-Trichloroethane	80	0.3689886	100	0.3583223								
Tetrachloroethene	80	0.2965475	100	0.2953463								
Dibromochloromethane	80	0.3768537	100	0.3633167								
1,2-Dibromoethane	80	0.3782567	100	0.360254								
Chlorobenzene	80	1.134842	100	1.085963								
Ethylbenzene	80	0.6600876	100	0.6458658								
m,p-Xylenes	160	0.7997641	200	0.7668973								
o-Xylene	80	0.8625415	100	0.8227721								
Bromoform	80	0.2162944	100	0.2250987								
Styrene	80	1.466473	100	1.403591								
Isopropylbenzene	80	2.273953	100	2.16042								
1,1,2,2-Tetrachloroethane	80	0.5602106	100	0.5182127								
1,2,4-Trichlorobenzene	80	0.5236953	100	0.485902								
1,3-Dichlorobenzene	80	1.133433	100	1.121463								
1,4-Dichlorobenzene	80	1.14285	100	1.121445								
1,2-Dichlorobenzene	80	1.071346	100	1.007351								
1,2-Dibromo-3-chloropropane	80	8.573901E-02	100	~~8.239508E-02~~								
Dibromofluoromethane	70	0.5077306	75	0.4842722								
Toluene-d8	70	1.203106	75	1.255696								
4-Bromofluorobenzene	70	0.8681085	75	0.8442992								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	0.6454795	10.47099	3.97125	7.848416E-02			20	
Chloromethane	0.7429916	13.64009	4.39275	4.507071E-02			20	
Vinyl chloride	0.6032767	11.0407	4.575	4.400144E-02			20	
Bromomethane	0.2658711	51.25071	5.221	5.968524E-02		0.9984319	0.99	
Chloroethane	0.3233106	29.51129	5.432333	0.1760207	0.9952741		0.99	
Trichlorofluoromethane	0.739293	9.643804	5.680714	0.1191043			20	
Freon 113	0.2891047	7.985007	6.54225	5.909168E-02			20	
Acetone	0.1178043	20.49874	7.39275	7.521591E-02	0.9984468		0.99	
1,1-Dichloroethene	0.4316853	12.51718	6.52275	4.626374E-02			20	
Carbon disulfide	1.413985	7.516358	6.611625	4.231748E-02			20	
Methylene Chloride	0.5959536	26.19116	7.33075	6.734604E-02	0.9988511		0.99	
Methyl-tert-Butyl Ether	1.264184	10.32773	7.62475	5.009821E-02			20	
trans-1,2-Dichloroethene	0.4994822	13.81611	7.540375	0.0786285			20	
cis-1,2-Dichloroethene	0.5290745	10.75978	8.94375	6.951434E-02			20	
1,1-Dichloroethane	1.027426	13.07056	8.305375	3.359958E-02			20	
2-Butanone	5.654494E-02	33.55672	9.542875	0.1054762		0.9965506	0.99	
Chloroform	0.9811366	7.973652	9.21525	9.664849E-02			20	
1,1,1-Trichloroethane	0.8099887	12.78922	9.4765	4.549804E-02			20	
Methyl acetate	0.4097982	34.05137	7.5195	0.1021645	0.9973892		0.99	
Cyclohexane	1.084118	17.43103	9.1825	2.763801E-02	0.9983605		0.99	
Methyl cyclohexane	0.6851364	37.89251	10.4425	2.481194E-02	0.9994238		0.99	
Carbon Tetrachloride	0.3247415	15.07661	9.40325	3.946246E-02	0.997318		0.99	
1,2-Dichloroethane	0.3947961	16.85402	10.083	6.413568E-02	0.998277		0.99	
Benzene	1.143102	13.57666	9.871	4.625673E-02			20	
Trichloroethene	0.2308676	8.071231	10.4425	2.481194E-02			20	
1,2-Dichloropropane	0.3327441	14.79548	10.97825	3.768472E-02		0.9995583	0.99	
Bromodichloromethane	0.3384447	18.35051	11.0095	2.483783E-02		0.9995909	0.99	
4-Methyl-2-pentanone	3.573082E-02	20.51705	12.12775	4.882009E-02	0.9995377		0.99	
2-Hexanone	0.1672315	11.31414	12.874	0.0309941			20	
cis-1,3-Dichloropropene	0.4465376	18.76753	11.60275	0.0283524		0.999376	0.99	

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00488-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Toluene	1.066872	13.57287	11.82575	3.641946E-02			20	
trans-1,3-Dichloropropene	0.5606682	14.59159	12.1935	6.110681E-02	0.9976126		0.99	
1,1,2-Trichloroethane	0.3401845	14.58738	12.35775	3.776279E-02	0.9991086		0.99	
Tetrachloroethene	0.2798513	14.65878	12.20475	6.050502E-02	0.9992435		0.99	
Dibromochloromethane	0.2803526	24.18079	12.54425	2.540952E-02		0.9966995	0.99	
1,2-Dibromoethane	0.3355065	12.24976	12.80675	5.029451E-02			20	
Chlorobenzene	1.074819	8.299772	13.238	2.555814E-02			20	
Ethylbenzene	0.6263821	16.13499	13.20525	2.269002E-02	0.9993938		0.99	
m,p-Xylenes	0.7525839	7.241605	13.32075	3.483174E-02			20	
o-Xylene	0.7718014	13.16143	13.726	2.743597E-02			20	
Bromoform	0.1740972	26.85684	13.86988	2.962488E-02		0.9990525	0.99	
Styrene	1.260238	13.19508	13.77575	6.052145E-02			20	
Isopropylbenzene	2.031474	10.53359	13.99225	2.532555E-02			20	
1,1,2,2-Tetrachloroethane	0.5037271	10.18228	14.463	1.928567E-02			20	
1,2,4-Trichlorobenzene	0.4097947	23.81543	18.13363	0.0263798		0.9955535	0.99	
1,3-Dichlorobenzene	1.008577	10.77426	15.4075	2.626486E-02			20	
1,4-Dichlorobenzene	1.081206	11.81261	15.49775	7.350592E-03			20	
1,2-Dichlorobenzene	0.9520015	14.21603	16.01475	1.858857E-02			20	
1,2-Dibromo-3-chloropropane	7.396002E-02	49.9638	17.07629	4.554431E-02		0.9992021	0.99	
Dibromofluoromethane	0.5185058	4.852246	9.4205	3.503454E-02			20	
Toluene-d8	1.241574	3.107317	11.77275	1.495661E-03			20	
4-Bromofluorobenzene	0.8975781	4.047299	14.322	1.411585E-02			20	

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE00488-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2011113 **Laboratory ID:** AA63653-SCV1

Sequence: AA63653 **Standard ID:** A0K1038

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Cyclohexane	50.0	46	-8.0	30.00
Ethylbenzene	50.0	49	-2.4	30.00
Carbon Tetrachloride	50.0	55	10.9	30.00
1,3-Dichlorobenzene	50.0	55	9.4	30.00
4-Bromofluorobenzene	50.0	52	4.6	30.00
Toluene-d8	50.0	52	4.4	30.00
Dibromofluoromethane	50.0	50	-0.5	30.00
Methyl-tert-Butyl Ether	50.0	49	-1.8	30.00
trans-1,2-Dichloroethene	50.0	48	-4.3	30.00
cis-1,2-Dichloroethene	50.0	50	-0.1	30.00
Tetrachloroethene	50.0	48	-3.1	30.00
Acetone	250	240	-4.3	30.00
1,2,4-Trichlorobenzene	50.0	49	-2.0	30.00
Chloroform	50.0	49	-2.2	30.00
Chlorobenzene	50.0	52	3.4	30.00
Toluene	50.0	53	5.9	30.00
Methyl cyclohexane	50.0	47	-5.0	30.00
m,p-Xylenes	100	110	5.6	30.00
4-Methyl-2-pentanone	250	230	-7.3	30.00
1,2-Dichloroethane	50.0	46	-8.3	30.00
1,2-Dibromoethane	50.0	52	3.4	30.00
1,4-Dichlorobenzene	50.0	51	1.3	30.00
trans-1,3-Dichloropropene	50.0	49	-1.5	30.00
cis-1,3-Dichloropropene	50.0	49	-2.4	30.00
Styrene	50.0	55	10.3	30.00
Dibromochloromethane	50.0	52	3.8	30.00
1,1-Dichloroethene	50.0	49	-2.0	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE00488-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2011113 **Laboratory ID:** AA63653-SCV1

Sequence: AA63653 **Standard ID:** A0K1038

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
1,2-Dibromo-3-chloropropane	50.0	55	9.4	30.00
1,2-Dichlorobenzene	50.0	52	3.8	30.00
o-Xylene	50.0	53	5.4	30.00
1,1,2,2-Tetrachloroethane	50.0	52	3.2	30.00
Methyl acetate	50.0	38	-23.9	30.00
Trichloroethene	50.0	54	7.6	30.00
1,1,2-Trichloroethane	50.0	50	-0.4	30.00
2-Butanone	250	250	-1.7	30.00
1,2-Dichloropropane	50.0	50	-0.4	30.00
Freon 113	50.0	51	2.3	30.00
2-Hexanone	250	250	0.6	30.00
Trichlorofluoromethane	20.0	21	2.9	30.00
Isopropylbenzene	50.0	54	8.8	30.00
1,1-Dichloroethane	50.0	48	-4.6	30.00
Bromodichloromethane	50.0	50	-0.1	30.00
Bromoform	50.0	52	3.8	30.00
Carbon disulfide	50.0	52	4.0	30.00
Methylene Chloride	50.0	47	-5.6	30.00
Vinyl chloride	20.0	21	3.6	30.00
Chloroethane	20.0	22	8.4	30.00
Chloromethane	20.0	20	-0.1	30.00
Bromomethane	20.0	25	24.8	30.00
1,1,1-Trichloroethane	50.0	51	1.2	30.00
Benzene	50.0	54	7.1	30.00
Dichlorodifluoromethane	20.0	21	3.0	30.00

* Values outside of QC limits

TETRA TECH ISG
TtNUS, Information Systems Group

Completion Ticket

On 2/10/2021 at 10:19 AM the following files were submitted to Tetra Tech by kdylnicki@encolabs.com with ENCO:

TE016AE00488A1.txt, TE016AE00488A3.txt

If you need to identify this session at a later date refer to Ticket Key:

2021210_6429849927_ledd_ENCO

You may print this page by clicking on the "Print This Page" button

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I Lori S. Mangrum, as the designated Quality Assurance Officer, hereby attest that all electronic deliverables have been thoroughly reviewed and are in agreement with the associated hardcopy data. The enclosed electronic files have been reviewed for accuracy (including significant figures), completeness and format. The laboratory will be responsible for any labor time necessary to correct enclosed electronic deliverables that have been found to be in error. I can be reached at (407) 826-5314 if there are any questions or problems with the enclosed electronic deliverables.

Signature:_____ Title: Quality Assurance Manager Date: February 10, 2021

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ENCO Laboratories

Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Thursday, January 28, 2021
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AE00066

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Thursday, January 21, 2021.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

www.encolabs.com

Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Client PM: Alex Murphy
Project Number: 112G08970
ENCO Project ID: AE00066
SDG: AE00066-TE016

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling and processing will be discussed in the Remarks section below.

Remarks

List of instruments used:

Analytical and Preparation Method	SOP Reference Instrument
EPA 8260D / 5030B_MS	OVGCMS2, OVGCMS5
TO-15	OVGCMS7
RSK-175	OVGCFID2

Analysis: EPA 8260D

Manual integrations were performed on samples associated with EPA 8260D. All data & explanations are included in the raw data section of the report.

Affected Samples: 1A25020-BS1, CRCA-MW0030-058.0-20210119[AE00066-01], CRCA-MW0029-035.0-20210119[AE00066-02], CRCA-MW0028-058.0-20210119[AE00066-03], CRCA-MW0027-035.0-20210119[AE00066-04], CRCA-MW0015-027.5-20210119[AE00066-05], CRCA-MW0013-027.5-20210119[AE00066-06], CRCA-MW0012-027.5-20210119[AE00066-07], CRCA-MW0002-032.5-20210119[AE00066-08], CRCA-MW0031-058.0-20210120[AE00066-09], CRCA-MW0032-058.0-20210120[AE00066-10], CRCA-MW0019-058.0-20210120[AE00066-12]
The associated laboratory control sample exhibited low bias for methyl acetate; the associated sample had ND (non-detect) results, but sensitivity was verified by analyzing a standard with a concentration equivalent to the reporting limit.

Affected Samples: CRCA-MW0032-058.0-20210120[AE00066-10], 1A25020-MS1, 1A25020-MSD1
Matrix spike recovery was outside acceptance limits for m,p-xylenes, methyl acetate, and/or styrene.

Affected Samples: 1A26010-BS1, CRCA-MW0018-058.0-20210120[AE00066-11RE1]
The associated laboratory control sample for multiple analytes exhibited high bias. Analyte(s) not detected in the sample.

Affected Samples: AA64658-CCV1, CRCA-MW0018-058.0-20210120[AE00066-11RE1]
The associated calibration verification standard for methyl acetate exhibited high bias. Analyte(s) not detected in the sample

Affected Samples: CRCA-MW0018-058.0-20210120[AE00066-11]
Sample was analyzed at a dilution due to suspected matrix interference.

Affected Samples: CRCA-MW0018-058.0-20210120[AE00066-11]
Initial analysis was over diluted. Sample was reanalyzed at a lower dilution.

Affected Samples: 1A26010-MS1, 1A26010-MSD1
Matrix spike recovery was outside acceptance limits for carbon disulfide, cyclohexane, and/or methyl acetate.

Affected Samples: AA64632-CCV1, AA64658-CCV1
The continuing calibration verification standard exhibited low bias for multiple analytes; the associated sample had ND (non-detect) results, but sensitivity was verified by analyzing a standard with a concentration equivalent to the reporting limit.

Analysis: TO-15

The calibration curve and the continuing calibration standards are in ppbv. Raw data is reported in pptv. Per request, results may be reported in a unit other than ppbv which is obtained through a conversion factor set up in the laboratories' database.

Methylene chloride is a common laboratory contaminant.

Affected Samples: 1A25023-BLK1, CRCA-VMP01-20210120[AE00066-13RE1], CRCA-VMP02-20210120[AE00066-14], CRCA-VMP03-20210120[AE00066-15RE1], CRCA-SYSAIR-20210120[AE00066-17]
Result for methylene chloride may be biased high due to positive results in the associated method blank.

Affected Samples: CRCA-VMP01-20210120[AE00066-13], CRCA-VMP03-20210120[AE00066-15], CRCA-VMP04-20210120[AE00066-16]
Sample was analyzed at a dilution due to suspected matrix interference.

Affected Samples: CRCA-VMP01-20210120[AE00066-13], CRCA-VMP03-20210120[AE00066-15], CRCA-VMP04-20210120[AE00066-16],
Initial analysis was over diluted. Sample was reanalyzed at a lower dilution.

Affected Samples: CRCA-VMP04-20210120[AE00066-16RE1]
Sample was analyzed at a dilution due to the presence of high non-target analytes.

Affected Samples: AA64317-SCV1
SCV recovery for trans-1,3-dichloropropene was outside acceptance limits. Analyte was not detected in the samples.

Analysis: RSK-175

Manual integrations were performed on samples associated with RSK-175. All data & explanations are included in the raw data section of the report.

Affected Samples: CRCA-MW0031-058.0-20210120[AE00066-09], CRCA-MW0018-058.0-20210120[AE00066-11], CRCA-MW0019-058.0-20210120[AE00066-12]
The associated calibration verification standard for ethane exhibited high bias. Analyte(s) not detected in the sample.

Affected Samples: CRCA-MW0031-058.0-20210120[AE00066-09], 1A26006-DUP1
Precision between duplicate samples was outside acceptance limits for methane.

Affected Samples: AA64653-CCV2, CRCA-MW0018-058.0-20210120[AE00066-11]
Initial result for methane was above the calibration range of the instrument. Sample was reanalyzed at a dilution.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-MW0030-058.0-20210119 **Lab ID: AE00066-01** **Sampled: 01/19/21 11:05** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 12:17

Client ID: CRCA-MW0029-035.0-20210119 **Lab ID: AE00066-02** **Sampled: 01/19/21 11:40** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 12:46

Client ID: CRCA-MW0028-058.0-20210119 **Lab ID: AE00066-03** **Sampled: 01/19/21 12:20** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 13:15

Client ID: CRCA-MW0027-035.0-20210119 **Lab ID: AE00066-04** **Sampled: 01/19/21 13:00** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 13:45

Client ID: CRCA-MW0015-027.5-20210119 **Lab ID: AE00066-05** **Sampled: 01/19/21 13:35** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 14:14

Client ID: CRCA-MW0013-027.5-20210119 **Lab ID: AE00066-06** **Sampled: 01/19/21 14:30** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 14:44

Client ID: CRCA-MW0012-027.5-20210119 **Lab ID: AE00066-07** **Sampled: 01/19/21 15:10** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 15:13

Client ID: CRCA-MW0002-032.5-20210119 **Lab ID: AE00066-08** **Sampled: 01/19/21 15:45** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/02/21	01/25/21 00:00	01/25/21 15:43

Client ID: CRCA-MW0031-058.0-20210120 **Lab ID: AE00066-09** **Sampled: 01/20/21 12:15** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/03/21	01/25/21 00:00	01/25/21 16:12
RSK 175	Same	02/03/21	01/26/21 00:00	01/26/21 11:20

Client ID: CRCA-MW0032-058.0-20210120 **Lab ID: AE00066-10** **Sampled: 01/20/21 13:00** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/03/21	01/25/21 00:00	01/25/21 11:47

Client ID: CRCA-MW0018-058.0-20210120 **Lab ID: AE00066-11** **Sampled: 01/20/21 14:00** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	02/03/21	01/26/21 00:00	01/26/21 11:36

Client ID: CRCA-MW0018-058.0-20210120 **Lab ID: AE00066-11RE1** **Sampled: 01/20/21 14:00** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/03/21	01/26/21 00:00	01/26/21 15:52
RSK 175	Same	02/03/21	01/26/21 00:00	01/26/21 12:16

Client ID: CRCA-MW0019-058.0-20210120 **Lab ID: AE00066-12** **Sampled: 01/20/21 16:00** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	02/03/21	01/25/21 00:00	01/25/21 17:11
RSK 175	Same	02/03/21	01/26/21 00:00	01/26/21 11:52

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-VMP01-20210120 **Lab ID: AE00066-13RE1** **Sampled: 01/20/21 11:03** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	02/19/21	01/25/21 09:00	01/25/21 10:36

Client ID: CRCA-VMP02-20210120 **Lab ID: AE00066-14** **Sampled: 01/20/21 11:06** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	02/19/21	01/25/21 09:00	01/25/21 11:18

Client ID: CRCA-VMP03-20210120 **Lab ID: AE00066-15RE1** **Sampled: 01/20/21 11:15** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	02/19/21	01/25/21 09:00	01/25/21 14:06

Client ID: CRCA-VMP04-20210120 **Lab ID: AE00066-16RE1** **Sampled: 01/20/21 11:22** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	02/19/21	01/25/21 09:00	01/25/21 14:47

Client ID: CRCA-SYSAIR-20210120 **Lab ID: AE00066-17** **Sampled: 01/20/21 17:03** **Received: 01/21/21 15:10**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
TO-15	NO PREP 2	02/19/21	01/25/21 09:00	01/25/21 13:21

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-MW0027-035.0-20210119 **Lab ID:** AE00066-04

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	7.0		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0013-027.5-20210119 **Lab ID:** AE00066-06

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	2.1	I	0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0002-032.5-20210119 **Lab ID:** AE00066-08

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	3.1		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0031-058.0-20210120 **Lab ID:** AE00066-09

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	0.152		0.00400	0.00500	mg/L	RSK 175	QM-12
Vinyl chloride	29		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0018-058.0-20210120 **Lab ID:** AE00066-11

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethene	0.0216		0.00510	0.00600	mg/L	RSK 175	

Client ID: CRCA-MW0018-058.0-20210120 **Lab ID:** AE00066-11RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	2.09		0.0400	0.0500	mg/L	RSK 175	
Vinyl chloride	97		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0019-058.0-20210120 **Lab ID:** AE00066-12

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	0.510		0.00400	0.00500	mg/L	RSK 175	
Vinyl chloride	2.8		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-VMP01-20210120 **Lab ID:** AE00066-13RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	5.9		0.47	3.4	ppbv	TO-15	
Freon 113	3.9		0.43	3.4	ppbv	TO-15	
Methylene chloride	0.75	IV	0.27	3.4	ppbv	TO-15	J-01, O-01

Client ID: CRCA-VMP02-20210120 **Lab ID:** AE00066-14

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	3.5	I	0.94	6.8	ppbv	TO-15	
Freon 113	120		0.86	6.8	ppbv	TO-15	
Methylene chloride	0.97	IV	0.54	6.8	ppbv	TO-15	J-01, O-01
trans-1,2-Dichloroethene	5.5	I	0.86	6.8	ppbv	TO-15	

Client ID: CRCA-VMP03-20210120 **Lab ID:** AE00066-15RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	4.1		0.56	4.0	ppbv	TO-15	
Chloroform	1.9	I	0.60	4.0	ppbv	TO-15	
Freon 113	8.1		0.51	4.0	ppbv	TO-15	
Methylene chloride	1.1	IV	0.32	4.0	ppbv	TO-15	J-01, O-01

Client ID: CRCA-VMP04-20210120 **Lab ID:** AE00066-16RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	31		0.98	7.0	ppbv	TO-15	
Freon 113	34		0.90	7.0	ppbv	TO-15	
Methylene chloride	1.1	IV	0.56	7.0	ppbv	TO-15	J-01, O-01, R-05

Client ID: CRCA-SYSAIR-20210120 **Lab ID:** AE00066-17

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Acetone	2.6	I	0.46	3.3	ppbv	TO-15	
Methylene chloride	0.99	IV	0.26	3.3	ppbv	TO-15	J-01, O-01
trans-1,2-Dichloroethene	0.96	I	0.42	3.3	ppbv	TO-15	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0030-058.0-20210119 **Lab Sample ID:** AE00066-01 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 11:05 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 12:17	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:17	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0030-058.0-20210119 **Lab Sample ID:** AE00066-01 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 11:05 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 12:17	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 12:17	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*106 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 12:17*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*115 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 12:17*	*KKW*	
Toluene-d8	*48*	*1*	*50.0*	*97 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 12:17*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0029-035.0-20210119 **Lab Sample ID:** AE00066-02 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 11:40 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 12:46	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:46	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0029-035.0-20210119 **Lab Sample ID:** AE00066-02 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 11:40 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 12:46	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 12:46	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*107 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 12:46*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*114 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 12:46*	*KKW*	
Toluene-d8	*48*	*1*	*50.0*	*96 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 12:46*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0028-058.0-20210119 **Lab Sample ID:** AE00066-03 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 12:20 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 13:15	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:15	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0028-058.0-20210119 **Lab Sample ID:** AE00066-03 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 12:20 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 13:15	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 13:15	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*105 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 13:15*	*KKW*	
Dibromofluoromethane	*56*	*1*	*50.0*	*111 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 13:15*	*KKW*	
Toluene-d8	*48*	*1*	*50.0*	*95 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 13:15*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0027-035.0-20210119 **Lab Sample ID:** AE00066-04 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 13:45	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:45	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0027-035.0-20210119 **Lab Sample ID:** AE00066-04 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Vinyl chloride [75-01-4]^	**7.0**		ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 13:45	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 13:45	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*52*	*1*	*50.0*	*104 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 13:45*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*115 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 13:45*	*KKW*	
Toluene-d8	*46*	*1*	*50.0*	*93 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 13:45*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0015-027.5-20210119 **Lab Sample ID:** AE00066-05 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:35 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 14:14	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:14	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0015-027.5-20210119 **Lab Sample ID:** AE00066-05 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 13:35 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 14:14	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 14:14	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*54*	*1*	*50.0*	*108 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 14:14*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*114 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 14:14*	*KKW*	
Toluene-d8	*47*	*1*	*50.0*	*94 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 14:14*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0013-027.5-20210119 **Lab Sample ID:** AE00066-06 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 14:30 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 14:44	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:44	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0013-027.5-20210119 **Lab Sample ID:** AE00066-06 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 14:30 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Vinyl chloride [75-01-4]^	**2.1**	I	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 14:44	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 14:44	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*55*	*1*	*50.0*	*109 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 14:44*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*114 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 14:44*	*KKW*	
Toluene-d8	*48*	*1*	*50.0*	*96 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 14:44*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0012-027.5-20210119 **Lab Sample ID:** AE00066-07 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 15:10 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 15:13	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:13	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0012-027.5-20210119 **Lab Sample ID:** AE00066-07 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 15:10 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 15:13	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 15:13	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*54*	*1*	*50.0*	*109 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 15:13*	*KKW*	
Dibromofluoromethane	*59*	*1*	*50.0*	*118 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 15:13*	*KKW*	
Toluene-d8	*48*	*1*	*50.0*	*96 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 15:13*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0002-032.5-20210119 **Lab Sample ID:** AE00066-08 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 15:45 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 15:43	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:43	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0002-032.5-20210119 **Lab Sample ID:** AE00066-08 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/19/21 15:45 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Vinyl chloride [75-01-4]^	**3.1**		ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 15:43	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 15:43	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*55*	*1*	*50.0*	*109 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 15:43*	*KKW*	
Dibromofluoromethane	*56*	*1*	*50.0*	*113 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 15:43*	*KKW*	
Toluene-d8	*49*	*1*	*50.0*	*97 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 15:43*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0031-058.0-20210120 **Lab Sample ID:** AE00066-09 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 12:15 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 16:12	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 16:12	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0031-058.0-20210120 **Lab Sample ID:** AE00066-09 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 12:15 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Vinyl chloride [75-01-4]^	**29**		ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 16:12	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 16:12	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*52*	*1*	*50.0*	*105 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 16:12*	*KKW*	
Dibromofluoromethane	*59*	*1*	*50.0*	*118 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 16:12*	*KKW*	
Toluene-d8	*47*	*1*	*50.0*	*93 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 16:12*	*KKW*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1A26006	RSK 175	01/26/21 11:20	JMW	QV-01
Ethene [74-85-1]^	0.00510	U	mg/L	1	0.00510	0.00600	1A26006	RSK 175	01/26/21 11:20	JMW	
Methane [74-82-8]^	**0.152**		mg/L	1	0.00400	0.00500	1A26006	RSK 175	01/26/21 11:20	JMW	QM-12

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0032-058.0-20210120 **Lab Sample ID:** AE00066-10 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 13:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 11:47	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 11:47	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 11:47	KKW	QM-07
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	A-07, QM-19
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	QM-07
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0032-058.0-20210120 **Lab Sample ID:** AE00066-10 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 13:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 11:47	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 11:47	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*106 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 11:47*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*114 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 11:47*	*KKW*	
Toluene-d8	*47*	*1*	*50.0*	*94 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 11:47*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0018-058.0-20210120 **Lab Sample ID:** AE00066-11 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 14:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A26010	EPA 8260D	01/26/21 15:52	KG	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A26010	EPA 8260D	01/26/21 15:52	KG	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A26010	EPA 8260D	01/26/21 15:52	KG	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A26010	EPA 8260D	01/26/21 15:52	KG	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A26010	EPA 8260D	01/26/21 15:52	KG	QL-02
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	QL-02
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	QL-02
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A26010	EPA 8260D	01/26/21 15:52	KG	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	QL-02, QV-01
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A26010	EPA 8260D	01/26/21 15:52	KG	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	QL-02
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0018-058.0-20210120 **Lab Sample ID:** AE00066-11 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 14:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Vinyl chloride [75-01-4]^	**97**		ug/L	1	0.71	2.5	1A26010	EPA 8260D	01/26/21 15:52	KG	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A26010	EPA 8260D	01/26/21 15:52	KG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*54*	*1*	*50.0*	*108 %*	*41-142*	*1A26010*	*EPA 8260D*	*01/26/21 15:52*	*KG*	
Dibromofluoromethane	*55*	*1*	*50.0*	*110 %*	*53-146*	*1A26010*	*EPA 8260D*	*01/26/21 15:52*	*KG*	
Toluene-d8	*55*	*1*	*50.0*	*109 %*	*41-146*	*1A26010*	*EPA 8260D*	*01/26/21 15:52*	*KG*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1A26006	RSK 175	01/26/21 11:36	JMW	QV-01
Ethene [74-85-1]^	**0.0216**		mg/L	1	0.00510	0.00600	1A26006	RSK 175	01/26/21 11:36	JMW	
Methane [74-82-8]^	**2.09**		mg/L	10	0.0400	0.0500	1A26006	RSK 175	01/26/21 12:16	JMW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0019-058.0-20210120 **Lab Sample ID:** AE00066-12 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 16:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1A25020	EPA 8260D	01/25/21 17:11	KKW	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:11	KKW	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	A-07
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0019-058.0-20210120 **Lab Sample ID:** AE00066-12 **Received:** 01/21/21 15:10

Matrix: Ground Water **Sampled:** 01/20/21 16:00 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Vinyl chloride [75-01-4]^	**2.8**		ug/L	1	0.71	2.5	1A25020	EPA 8260D	01/25/21 17:11	KKW	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1A25020	EPA 8260D	01/25/21 17:11	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*55*	*1*	*50.0*	*110 %*	*41-142*	*1A25020*	*EPA 8260D*	*01/25/21 17:11*	*KKW*	
Dibromofluoromethane	*57*	*1*	*50.0*	*113 %*	*53-146*	*1A25020*	*EPA 8260D*	*01/25/21 17:11*	*KKW*	
Toluene-d8	*47*	*1*	*50.0*	*95 %*	*41-146*	*1A25020*	*EPA 8260D*	*01/25/21 17:11*	*KKW*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1A26006	RSK 175	01/26/21 11:52	JMW	QV-01
Ethene [74-85-1]^	0.00510	U	mg/L	1	0.00510	0.00600	1A26006	RSK 175	01/26/21 11:52	JMW	
Methane [74-82-8]^	**0.510**		mg/L	1	0.00400	0.00500	1A26006	RSK 175	01/26/21 11:52	JMW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-VMP01-20210120 | **Lab Sample ID:** AE00066-13 | **Received:** 01/21/21 15:10

Matrix: Air | **Sampled:** 01/20/21 11:03 | **Work Order:** AE00066

Project: NASA KSC CRCA | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.46	U	ppbv	1.34	0.46	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.48	U	ppbv	1.34	0.48	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.47	U	ppbv	1.34	0.47	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,1-Dichloroethane [75-34-3]^	0.48	U	ppbv	1.34	0.48	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,1-Dichloroethene [75-35-4]^	0.51	U	ppbv	1.34	0.51	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,2-Dibromoethane [106-93-4]^	0.48	U	ppbv	1.34	0.48	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.36	U	ppbv	1.34	0.36	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,2-Dichloroethane [107-06-2]^	0.50	U	ppbv	1.34	0.50	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,2-Dichloropropane [78-87-5]^	0.54	U	ppbv	1.34	0.54	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.38	U	ppbv	1.34	0.38	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.42	U	ppbv	1.34	0.42	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
3-Chloropropene [107-05-1]^	0.52	U	ppbv	1.34	0.52	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Acetone [67-64-1]^	**5.9**		ppbv	1.34	0.47	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Bromodichloromethane [75-27-4]^	0.46	U	ppbv	1.34	0.46	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Bromoethene [593-60-2]^	0.44	U	ppbv	1.34	0.44	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Bromoform [75-25-2]^	0.51	U	ppbv	1.34	0.51	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Bromomethane [74-83-9]^	0.44	U	ppbv	1.34	0.44	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Carbon tetrachloride [56-23-5]^	0.36	U	ppbv	1.34	0.36	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Chlorobenzene [108-90-7]^	0.44	U	ppbv	1.34	0.44	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Chloroethane [75-00-3]^	0.43	U	ppbv	1.34	0.43	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Chloroform [67-66-3]^	0.51	U	ppbv	1.34	0.51	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Chloromethane [74-87-3]^	0.64	U	ppbv	1.34	0.64	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
cis-1,2-Dichloroethene [156-59-2]^	0.51	U	ppbv	1.34	0.51	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	0.51	U	ppbv	1.34	0.51	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Dibromochloromethane [124-48-1]^	0.44	U	ppbv	1.34	0.44	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ppbv	1.34	0.74	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Freon 113 [76-13-1]^	**3.9**		ppbv	1.34	0.43	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Freon 114 [76-14-2]^	0.70	U	ppbv	1.34	0.70	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Hexachlorobutadiene [87-68-3]^	0.50	U	ppbv	1.34	0.50	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Methylene chloride [75-09-2]^	**0.75**	IV	ppbv	1.34	0.27	3.4	1A25023	TO-15	01/25/21 10:36	rgg	J-01, O-01
Propene [115-07-1]^	0.74	U	ppbv	1.34	0.74	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Tetrachloroethene [127-18-4]^	0.42	U	ppbv	1.34	0.42	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
trans-1,2-Dichloroethene [156-60-5]^	0.43	U	ppbv	1.34	0.43	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.46	U	ppbv	1.34	0.46	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Trichloroethene [79-01-6]^	0.47	U	ppbv	1.34	0.47	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Trichlorofluoromethane [75-69-4]^	0.46	U	ppbv	1.34	0.46	3.4	1A25023	TO-15	01/25/21 10:36	rgg	
Vinyl chloride [75-01-4]^	0.75	U	ppbv	1.34	0.75	3.4	1A25023	TO-15	01/25/21 10:36	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*28*	*1*	*31.0*	*90 %*	*70-130*	*1A25023*	*TO-15*	*01/25/21 10:36*	*rgg*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-VMP02-20210120 | **Lab Sample ID:** AE00066-14 | **Received:** 01/21/21 15:10

Matrix: Air | **Sampled:** 01/20/21 11:06 | **Work Order:** AE00066

Project: NASA KSC CRCA | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.92	U	ppbv	1.35	0.92	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.97	U	ppbv	1.35	0.97	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.94	U	ppbv	1.35	0.94	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,1-Dichloroethane [75-34-3]^	0.97	U	ppbv	1.35	0.97	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,1-Dichloroethene [75-35-4]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,2-Dibromoethane [106-93-4]^	0.97	U	ppbv	1.35	0.97	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ppbv	1.35	0.73	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,2-Dichloroethane [107-06-2]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,2-Dichloropropane [78-87-5]^	1.1	U	ppbv	1.35	1.1	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.76	U	ppbv	1.35	0.76	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.84	U	ppbv	1.35	0.84	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
3-Chloropropene [107-05-1]^	1.1	U	ppbv	1.35	1.1	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Acetone [67-64-1]^	**3.5**	I	ppbv	1.35	0.94	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Bromodichloromethane [75-27-4]^	0.92	U	ppbv	1.35	0.92	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Bromoethene [593-60-2]^	0.89	U	ppbv	1.35	0.89	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Bromoform [75-25-2]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Bromomethane [74-83-9]^	0.89	U	ppbv	1.35	0.89	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Carbon tetrachloride [56-23-5]^	0.73	U	ppbv	1.35	0.73	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Chlorobenzene [108-90-7]^	0.89	U	ppbv	1.35	0.89	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Chloroethane [75-00-3]^	0.86	U	ppbv	1.35	0.86	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Chloroform [67-66-3]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Chloromethane [74-87-3]^	1.3	U	ppbv	1.35	1.3	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
cis-1,2-Dichloroethene [156-59-2]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Dibromochloromethane [124-48-1]^	0.89	U	ppbv	1.35	0.89	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Dichlorodifluoromethane [75-71-8]^	1.5	U	ppbv	1.35	1.5	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Freon 113 [76-13-1]^	**120**		ppbv	1.35	0.86	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Freon 114 [76-14-2]^	1.4	U	ppbv	1.35	1.4	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Hexachlorobutadiene [87-68-3]^	1.0	U	ppbv	1.35	1.0	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Methylene chloride [75-09-2]^	**0.97**	IV	ppbv	1.35	0.54	6.8	1A25023	TO-15	01/25/21 11:18	rgg	J-01, O-01
Propene [115-07-1]^	1.5	U	ppbv	1.35	1.5	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Tetrachloroethene [127-18-4]^	0.84	U	ppbv	1.35	0.84	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
trans-1,2-Dichloroethene [156-60-5]^	**5.5**	I	ppbv	1.35	0.86	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.92	U	ppbv	1.35	0.92	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Trichloroethene [79-01-6]^	0.94	U	ppbv	1.35	0.94	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Trichlorofluoromethane [75-69-4]^	0.92	U	ppbv	1.35	0.92	6.8	1A25023	TO-15	01/25/21 11:18	rgg	
Vinyl chloride [75-01-4]^	1.5	U	ppbv	1.35	1.5	6.8	1A25023	TO-15	01/25/21 11:18	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*27*	*1*	*31.0*	*87 %*	*70-130*	*1A25023*	*TO-15*	*01/25/21 11:18*	*rgg*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-VMP03-20210120 **Lab Sample ID:** AE00066-15 **Received:** 01/21/21 15:10

Matrix: Air **Sampled:** 01/20/21 11:15 **Work Order:** AE00066

Project: NASA KSC CRCA **Sampled By:** Melissa Bennett **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.54	U	ppbv	1.59	0.54	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.57	U	ppbv	1.59	0.57	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.56	U	ppbv	1.59	0.56	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,1-Dichloroethane [75-34-3]^	0.57	U	ppbv	1.59	0.57	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,1-Dichloroethene [75-35-4]^	0.60	U	ppbv	1.59	0.60	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,2-Dibromoethane [106-93-4]^	0.57	U	ppbv	1.59	0.57	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.43	U	ppbv	1.59	0.43	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,2-Dichloroethane [107-06-2]^	0.59	U	ppbv	1.59	0.59	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,2-Dichloropropane [78-87-5]^	0.64	U	ppbv	1.59	0.64	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.45	U	ppbv	1.59	0.45	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.49	U	ppbv	1.59	0.49	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
3-Chloropropene [107-05-1]^	0.62	U	ppbv	1.59	0.62	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Acetone [67-64-1]^	**4.1**		ppbv	1.59	0.56	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Bromodichloromethane [75-27-4]^	0.54	U	ppbv	1.59	0.54	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Bromoethene [593-60-2]^	0.52	U	ppbv	1.59	0.52	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Bromoform [75-25-2]^	0.60	U	ppbv	1.59	0.60	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Bromomethane [74-83-9]^	0.52	U	ppbv	1.59	0.52	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Carbon tetrachloride [56-23-5]^	0.43	U	ppbv	1.59	0.43	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Chlorobenzene [108-90-7]^	0.52	U	ppbv	1.59	0.52	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Chloroethane [75-00-3]^	0.51	U	ppbv	1.59	0.51	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Chloroform [67-66-3]^	**1.9**	I	ppbv	1.59	0.60	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Chloromethane [74-87-3]^	0.76	U	ppbv	1.59	0.76	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
cis-1,2-Dichloroethene [156-59-2]^	0.60	U	ppbv	1.59	0.60	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	0.60	U	ppbv	1.59	0.60	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Dibromochloromethane [124-48-1]^	0.52	U	ppbv	1.59	0.52	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Dichlorodifluoromethane [75-71-8]^	0.87	U	ppbv	1.59	0.87	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Freon 113 [76-13-1]^	**8.1**		ppbv	1.59	0.51	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Freon 114 [76-14-2]^	0.83	U	ppbv	1.59	0.83	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Hexachlorobutadiene [87-68-3]^	0.59	U	ppbv	1.59	0.59	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Methylene chloride [75-09-2]^	**1.1**	IV	ppbv	1.59	0.32	4.0	1A25023	TO-15	01/25/21 14:06	rgg	J-01, O-01
Propene [115-07-1]^	0.87	U	ppbv	1.59	0.87	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Tetrachloroethene [127-18-4]^	0.49	U	ppbv	1.59	0.49	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
trans-1,2-Dichloroethene [156-60-5]^	0.51	U	ppbv	1.59	0.51	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.54	U	ppbv	1.59	0.54	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Trichloroethene [79-01-6]^	0.56	U	ppbv	1.59	0.56	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Trichlorofluoromethane [75-69-4]^	0.54	U	ppbv	1.59	0.54	4.0	1A25023	TO-15	01/25/21 14:06	rgg	
Vinyl chloride [75-01-4]^	0.89	U	ppbv	1.59	0.89	4.0	1A25023	TO-15	01/25/21 14:06	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*27*	*1*	*31.0*	*88 %*	*70-130*	*1A25023*	*TO-15*	*01/25/21 14:06*	*rgg*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-VMP04-20210120 | **Lab Sample ID:** AE00066-16 | **Received:** 01/21/21 15:10

Matrix: Air | **Sampled:** 01/20/21 11:22 | **Work Order:** AE00066

Project: NASA KSC CRCA | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.95	U	ppbv	1.4	0.95	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,1,2,2-Tetrachloroethane [79-34-5]^	1.0	U	ppbv	1.4	1.0	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,1,2-Trichloroethane [79-00-5]^	0.98	U	ppbv	1.4	0.98	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,1-Dichloroethane [75-34-3]^	1.0	U	ppbv	1.4	1.0	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,1-Dichloroethene [75-35-4]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,2-Dibromoethane [106-93-4]^	1.0	U	ppbv	1.4	1.0	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,2-Dichlorobenzene [95-50-1]^	0.76	U	ppbv	1.4	0.76	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,2-Dichloroethane [107-06-2]^	1.0	U	ppbv	1.4	1.0	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,2-Dichloropropane [78-87-5]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,3-Dichlorobenzene [541-73-1]^	0.78	U	ppbv	1.4	0.78	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
1,4-Dichlorobenzene [106-46-7]^	0.87	U	ppbv	1.4	0.87	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
3-Chloropropene [107-05-1]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Acetone [67-64-1]^	**31**		ppbv	1.4	0.98	7.0	1A25023	TO-15	01/25/21 14:47	rgg	
Bromodichloromethane [75-27-4]^	0.95	U	ppbv	1.4	0.95	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Bromoethene [593-60-2]^	0.92	U	ppbv	1.4	0.92	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Bromoform [75-25-2]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Bromomethane [74-83-9]^	0.92	U	ppbv	1.4	0.92	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Carbon tetrachloride [56-23-5]^	0.76	U	ppbv	1.4	0.76	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Chlorobenzene [108-90-7]^	0.92	U	ppbv	1.4	0.92	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Chloroethane [75-00-3]^	0.90	U	ppbv	1.4	0.90	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Chloroform [67-66-3]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Chloromethane [74-87-3]^	1.3	U	ppbv	1.4	1.3	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
cis-1,2-Dichloroethene [156-59-2]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
cis-1,3-Dichloropropene [10061-01-5]^	1.1	U	ppbv	1.4	1.1	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Dibromochloromethane [124-48-1]^	0.92	U	ppbv	1.4	0.92	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Dichlorodifluoromethane [75-71-8]^	1.5	U	ppbv	1.4	1.5	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Freon 113 [76-13-1]^	**34**		ppbv	1.4	0.90	7.0	1A25023	TO-15	01/25/21 14:47	rgg	
Freon 114 [76-14-2]^	1.5	U	ppbv	1.4	1.5	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Hexachlorobutadiene [87-68-3]^	1.0	U	ppbv	1.4	1.0	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Methylene chloride [75-09-2]^	**1.1**	IV	ppbv	1.4	0.56	7.0	1A25023	TO-15	01/25/21 14:47	rgg	J-01, O-01, R-05
Propene [115-07-1]^	1.5	U	ppbv	1.4	1.5	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Tetrachloroethene [127-18-4]^	0.87	U	ppbv	1.4	0.87	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
trans-1,2-Dichloroethene [156-60-5]^	0.90	U	ppbv	1.4	0.90	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
trans-1,3-Dichloropropene [10061-02-6]^	0.95	U	ppbv	1.4	0.95	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Trichloroethene [79-01-6]^	0.98	U	ppbv	1.4	0.98	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Trichlorofluoromethane [75-69-4]^	0.95	U	ppbv	1.4	0.95	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05
Vinyl chloride [75-01-4]^	1.6	U	ppbv	1.4	1.6	7.0	1A25023	TO-15	01/25/21 14:47	rgg	R-05

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*28*	*1*	*31.0*	*89 %*	*70-130*	*1A25023*	*TO-15*	*01/25/21 14:47*	*rgg*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-SYSAIR-20210120 | **Lab Sample ID:** AE00066-17 | **Received:** 01/21/21 15:10

Matrix: Air | **Sampled:** 01/20/21 17:03 | **Work Order:** AE00066

Project: NASA KSC CRCA | **Sampled By:** Melissa Bennett | **% Solids:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.45	U	ppbv	1.32	0.45	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.48	U	ppbv	1.32	0.48	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,1,2-Trichloroethane [79-00-5]^	0.46	U	ppbv	1.32	0.46	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,1-Dichloroethane [75-34-3]^	0.48	U	ppbv	1.32	0.48	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,1-Dichloroethene [75-35-4]^	0.50	U	ppbv	1.32	0.50	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,2-Dibromoethane [106-93-4]^	0.48	U	ppbv	1.32	0.48	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,2-Dichlorobenzene [95-50-1]^	0.36	U	ppbv	1.32	0.36	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,2-Dichloroethane [107-06-2]^	0.49	U	ppbv	1.32	0.49	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,2-Dichloropropane [78-87-5]^	0.53	U	ppbv	1.32	0.53	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,3-Dichlorobenzene [541-73-1]^	0.37	U	ppbv	1.32	0.37	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
1,4-Dichlorobenzene [106-46-7]^	0.41	U	ppbv	1.32	0.41	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
3-Chloropropene [107-05-1]^	0.51	U	ppbv	1.32	0.51	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Acetone [67-64-1]^	**2.6**	I	ppbv	1.32	0.46	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Bromodichloromethane [75-27-4]^	0.45	U	ppbv	1.32	0.45	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Bromoethene [593-60-2]^	0.44	U	ppbv	1.32	0.44	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Bromoform [75-25-2]^	0.50	U	ppbv	1.32	0.50	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Bromomethane [74-83-9]^	0.44	U	ppbv	1.32	0.44	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Carbon tetrachloride [56-23-5]^	0.36	U	ppbv	1.32	0.36	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Chlorobenzene [108-90-7]^	0.44	U	ppbv	1.32	0.44	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Chloroethane [75-00-3]^	0.42	U	ppbv	1.32	0.42	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Chloroform [67-66-3]^	0.50	U	ppbv	1.32	0.50	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Chloromethane [74-87-3]^	0.63	U	ppbv	1.32	0.63	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
cis-1,2-Dichloroethene [156-59-2]^	0.50	U	ppbv	1.32	0.50	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
cis-1,3-Dichloropropene [10061-01-5]^	0.50	U	ppbv	1.32	0.50	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Dibromochloromethane [124-48-1]^	0.44	U	ppbv	1.32	0.44	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Dichlorodifluoromethane [75-71-8]^	0.73	U	ppbv	1.32	0.73	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Freon 113 [76-13-1]^	0.42	U	ppbv	1.32	0.42	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Freon 114 [76-14-2]^	0.69	U	ppbv	1.32	0.69	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Hexachlorobutadiene [87-68-3]^	0.49	U	ppbv	1.32	0.49	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Methylene chloride [75-09-2]^	**0.99**	IV	ppbv	1.32	0.26	3.3	1A25023	TO-15	01/25/21 13:21	rgg	J-01, O-01
Propene [115-07-1]^	0.73	U	ppbv	1.32	0.73	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Tetrachloroethene [127-18-4]^	0.41	U	ppbv	1.32	0.41	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
trans-1,2-Dichloroethene [156-60-5]^	**0.96**	I	ppbv	1.32	0.42	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
trans-1,3-Dichloropropene [10061-02-6]^	0.45	U	ppbv	1.32	0.45	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Trichloroethene [79-01-6]^	0.46	U	ppbv	1.32	0.46	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Trichlorofluoromethane [75-69-4]^	0.45	U	ppbv	1.32	0.45	3.3	1A25023	TO-15	01/25/21 13:21	rgg	
Vinyl chloride [75-01-4]^	0.74	U	ppbv	1.32	0.74	3.3	1A25023	TO-15	01/25/21 13:21	rgg	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*28*	*1*	*31.0*	*89 %*	*70-130*	*1A25023*	*TO-15*	*01/25/21 13:21*	*rgg*	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS

Blank (1A25020-BLK1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 10:19

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

Blank (1A25020-BLK1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 10:19

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*54*			*ug/L*	*50.0*		*109*	*41-142*			
Dibromofluoromethane	*55*			*ug/L*	*50.0*		*111*	*53-146*			
Toluene-d8	*48*	*I*		*ug/L*	*50.0*		*96*	*41-146*			

LCS (1A25020-BS1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 09:20

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	19		2.5	ug/L	20.0		97	57-148			
1,1,2,2-Tetrachloroethane	21		2.5	ug/L	20.0		105	60-139			
1,1,2-Trichloroethane	21		2.5	ug/L	20.0		107	57-141			
1,1-Dichloroethane	19		2.5	ug/L	20.0		93	57-142			
1,1-Dichloroethene	20		2.5	ug/L	20.0		102	47-139			
1,2,4-Trichlorobenzene	17		2.5	ug/L	20.0		87	52-159			
1,2-Dibromo-3-chloropropane	20		2.5	ug/L	20.0		102	48-150			
1,2-Dibromoethane	22		2.5	ug/L	20.0		110	57-140			
1,2-Dichlorobenzene	23		2.5	ug/L	20.0		113	63-131			
1,2-Dichloroethane	15		2.5	ug/L	20.0		75	50-156			
1,2-Dichloropropane	16		2.5	ug/L	20.0		80	61-133			
1,3-Dichlorobenzene	24		2.5	ug/L	20.0		118	66-129			
1,4-Dichlorobenzene	21		2.5	ug/L	20.0		106	65-133			
2-Butanone	90		12	ug/L	100		90	10-180			
2-Hexanone	68		12	ug/L	100		68	12-180			
4-Methyl-2-pentanone	90		12	ug/L	100		90	19-180			
Acetone	71		25	ug/L	100		71	10-180			
Benzene	19		2.5	ug/L	20.0		94	56-136			
Bromodichloromethane	18		2.5	ug/L	20.0		89	58-135			
Bromoform	21		2.5	ug/L	20.0		107	46-148			
Bromomethane	8.7		2.5	ug/L	20.0		44	10-173			
Carbon disulfide	20		12	ug/L	20.0		102	43-153			
Carbon Tetrachloride	16		2.5	ug/L	20.0		80	54-156			
Chlorobenzene	24		2.5	ug/L	20.0		120	51-139			
Chloroethane	22		2.5	ug/L	20.0		109	27-180			
Chloroform	20		2.5	ug/L	20.0		99	58-139			
Chloromethane	9.3		2.5	ug/L	20.0		46	33-154			
cis-1,2-Dichloroethene	22		2.5	ug/L	20.0		109	56-128			
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0		87	64-128			
Cyclohexane	16		2.5	ug/L	20.0		82	70-130			
Dibromochloromethane	24		2.5	ug/L	20.0		118	50-140			
Dichlorodifluoromethane	12		2.5	ug/L	20.0		61	10-180			
Ethylbenzene	22		2.5	ug/L	20.0		108	63-133			
Freon 113	21		2.5	ug/L	20.0		104	47-173			
Isopropylbenzene	24		2.5	ug/L	20.0		118	60-132			
m,p-Xylenes	50		5.0	ug/L	40.0		125	64-133			
Methyl acetate	13		2.5	ug/L	20.0		65	70-130			A-07
Methyl cyclohexane	18		2.5	ug/L	20.0		89	70-130			
Methylene Chloride	20		12	ug/L	20.0		100	43-142			
Methyl-tert-Butyl Ether	20		2.5	ug/L	20.0		99	51-145			

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

LCS (1A25020-BS1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 09:20

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
o-Xylene	23		2.5	ug/L	20.0		117	61-129			
Styrene	25		2.5	ug/L	20.0		126	59-136			
Tetrachloroethene	21		2.5	ug/L	20.0		104	60-147			
Toluene	23		2.5	ug/L	20.0		114	64-131			
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0		108	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0		103	65-149			
Trichloroethene	21		2.5	ug/L	20.0		103	62-135			
Trichlorofluoromethane	20		2.5	ug/L	20.0		100	56-155			
Vinyl chloride	17		2.5	ug/L	20.0		85	20-167			
4-Bromofluorobenzene	*52*			*ug/L*	*50.0*		*105*	*41-142*			
Dibromofluoromethane	*55*			*ug/L*	*50.0*		*111*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*98*	*41-146*			

Matrix Spike (1A25020-MS1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 18:39

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	22		2.5	ug/L	20.0	0.80 U	110	57-148			
1,1,2,2-Tetrachloroethane	23		2.5	ug/L	20.0	0.54 U	114	60-139			
1,1,2-Trichloroethane	22		2.5	ug/L	20.0	0.76 U	110	57-141			
1,1-Dichloroethane	19		2.5	ug/L	20.0	0.62 U	96	57-142			
1,1-Dichloroethene	23		2.5	ug/L	20.0	0.94 U	114	47-139			
1,2,4-Trichlorobenzene	15		2.5	ug/L	20.0	0.70 U	74	52-159			
1,2-Dibromo-3-chloropropane	14		2.5	ug/L	20.0	0.96 U	72	48-150			
1,2-Dibromoethane	23		2.5	ug/L	20.0	0.78 U	115	57-140			
1,2-Dichlorobenzene	23		2.5	ug/L	20.0	0.73 U	114	63-131			
1,2-Dichloroethane	16		2.5	ug/L	20.0	0.63 U	79	50-156			
1,2-Dichloropropane	16		2.5	ug/L	20.0	0.80 U	79	61-133			
1,3-Dichlorobenzene	25		2.5	ug/L	20.0	0.77 U	125	66-129			
1,4-Dichlorobenzene	23		2.5	ug/L	20.0	0.76 U	114	65-133			
2-Butanone	88		12	ug/L	100	4.5 U	88	10-180			
2-Hexanone	62		12	ug/L	100	2.5 U	62	12-180			
4-Methyl-2-pentanone	87		12	ug/L	100	2.5 U	87	19-180			
Acetone	65		25	ug/L	100	10 U	65	10-180			
Benzene	20		2.5	ug/L	20.0	0.71 U	100	56-136			
Bromodichloromethane	19		2.5	ug/L	20.0	0.52 U	95	58-135			
Bromoform	22		2.5	ug/L	20.0	0.75 U	109	46-148			
Bromomethane	10		2.5	ug/L	20.0	0.95 U	50	10-173			
Carbon disulfide	21		12	ug/L	20.0	2.5 U	106	43-153			
Carbon Tetrachloride	18		2.5	ug/L	20.0	0.94 U	89	54-156			
Chlorobenzene	27		2.5	ug/L	20.0	0.72 U	135	51-139			
Chloroethane	23		2.5	ug/L	20.0	0.98 U	113	27-180			
Chloroform	21		2.5	ug/L	20.0	0.80 U	104	58-139			
Chloromethane	9.6		2.5	ug/L	20.0	0.82 U	48	33-154			
cis-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.53 U	110	56-128			
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0	0.59 U	85	64-128			
Cyclohexane	16		2.5	ug/L	20.0	0.93 U	82	70-130			
Dibromochloromethane	25		2.5	ug/L	20.0	0.50 U	127	50-140			
Dichlorodifluoromethane	13		2.5	ug/L	20.0	0.74 U	66	10-180			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

Matrix Spike (1A25020-MS1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 18:39

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	24		2.5	ug/L	20.0	0.69 U	119	63-133			
Freon 113	23		2.5	ug/L	20.0	0.73 U	115	47-173			
Isopropylbenzene	26		2.5	ug/L	20.0	0.67 U	131	60-132			
m,p-Xylenes	55		5.0	ug/L	40.0	1.3 U	137	64-133			QM-07
Methyl acetate	10		2.5	ug/L	20.0	0.95 U	51	70-130			QM-19
Methyl cyclohexane	19		2.5	ug/L	20.0	0.64 U	95	70-130			
Methylene Chloride	21		12	ug/L	20.0	2.5 U	105	43-142			
Methyl-tert-Butyl Ether	20		2.5	ug/L	20.0	0.60 U	100	51-145			
o-Xylene	25		2.5	ug/L	20.0	0.53 U	127	61-129			
Styrene	28		2.5	ug/L	20.0	0.61 U	140	59-136			QM-07
Tetrachloroethene	24		2.5	ug/L	20.0	0.76 U	122	60-147			
Toluene	24		2.5	ug/L	20.0	0.72 U	122	64-131			
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.73 U	111	54-134			
trans-1,3-Dichloropropene	20		2.5	ug/L	20.0	0.73 U	102	65-149			
Trichloroethene	24		2.5	ug/L	20.0	0.89 U	122	62-135			
Trichlorofluoromethane	23		2.5	ug/L	20.0	0.94 U	113	56-155			
Vinyl chloride	17		2.5	ug/L	20.0	0.71 U	84	20-167			
4-Bromofluorobenzene	*54*			*ug/L*	*50.0*		*109*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*112*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*97*	*41-146*			

Matrix Spike Dup (1A25020-MSD1) Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 19:09

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	20		2.5	ug/L	20.0	0.80 U	102	57-148	8	25	
1,1,2,2-Tetrachloroethane	22		2.5	ug/L	20.0	0.54 U	110	60-139	4	17	
1,1,2-Trichloroethane	21		2.5	ug/L	20.0	0.76 U	106	57-141	3	16	
1,1-Dichloroethane	18		2.5	ug/L	20.0	0.62 U	90	57-142	6	24	
1,1-Dichloroethene	21		2.5	ug/L	20.0	0.94 U	103	47-139	10	16	
1,2,4-Trichlorobenzene	16		2.5	ug/L	20.0	0.70 U	81	52-159	9	24	
1,2-Dibromo-3-chloropropane	18		2.5	ug/L	20.0	0.96 U	88	48-150	21	21	
1,2-Dibromoethane	22		2.5	ug/L	20.0	0.78 U	110	57-140	4	16	
1,2-Dichlorobenzene	23		2.5	ug/L	20.0	0.73 U	113	63-131	1	25	
1,2-Dichloroethane	15		2.5	ug/L	20.0	0.63 U	77	50-156	1	18	
1,2-Dichloropropane	15		2.5	ug/L	20.0	0.80 U	76	61-133	4	26	
1,3-Dichlorobenzene	24		2.5	ug/L	20.0	0.77 U	120	66-129	4	23	
1,4-Dichlorobenzene	22		2.5	ug/L	20.0	0.76 U	110	65-133	4	23	
2-Butanone	83		12	ug/L	100	4.5 U	83	10-180	5	29	
2-Hexanone	66		12	ug/L	100	2.5 U	66	12-180	5	28	
4-Methyl-2-pentanone	87		12	ug/L	100	2.5 U	87	19-180	0.5	24	
Acetone	70		25	ug/L	100	10 U	70	10-180	7	19	
Benzene	19		2.5	ug/L	20.0	0.71 U	96	56-136	5	14	
Bromodichloromethane	18		2.5	ug/L	20.0	0.52 U	89	58-135	7	19	
Bromoform	21		2.5	ug/L	20.0	0.75 U	106	46-148	2	18	
Bromomethane	11		2.5	ug/L	20.0	0.95 U	55	10-173	10	29	
Carbon disulfide	19		12	ug/L	20.0	2.5 U	94	43-153	12	26	
Carbon Tetrachloride	16		2.5	ug/L	20.0	0.94 U	79	54-156	12	27	
Chlorobenzene	26		2.5	ug/L	20.0	0.72 U	129	51-139	5	13	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25020 - EPA 5030B_MS - Continued

Matrix Spike Dup (1A25020-MSD1) Continued Prepared: 01/25/2021 00:00 Analyzed: 01/25/2021 19:09

Source: AE00066-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloroethane	21		2.5	ug/L	20.0	0.98 U	105	27-180	7	22	
Chloroform	20		2.5	ug/L	20.0	0.80 U	102	58-139	2	17	
Chloromethane	9.0		2.5	ug/L	20.0	0.82 U	45	33-154	7	31	
cis-1,2-Dichloroethene	21		2.5	ug/L	20.0	0.53 U	104	56-128	5	17	
cis-1,3-Dichloropropene	16		2.5	ug/L	20.0	0.59 U	78	64-128	9	20	
Cyclohexane	15		2.5	ug/L	20.0	0.93 U	75	70-130	8	20	
Dibromochloromethane	23		2.5	ug/L	20.0	0.50 U	117	50-140	8	18	
Dichlorodifluoromethane	13		2.5	ug/L	20.0	0.74 U	63	10-180	4	26	
Ethylbenzene	22		2.5	ug/L	20.0	0.69 U	112	63-133	6	18	
Freon 113	21		2.5	ug/L	20.0	0.73 U	105	47-173	9	30	
Isopropylbenzene	24		2.5	ug/L	20.0	0.67 U	122	60-132	7	23	
m,p-Xylenes	51		5.0	ug/L	40.0	1.3 U	129	64-133	6	18	
Methyl acetate	9.5		2.5	ug/L	20.0	0.95 U	48	70-130	6	20	QM-19
Methyl cyclohexane	18		2.5	ug/L	20.0	0.64 U	91	70-130	4	20	
Methylene Chloride	19		12	ug/L	20.0	2.5 U	95	43-142	9	23	
Methyl-tert-Butyl Ether	19		2.5	ug/L	20.0	0.60 U	95	51-145	5	22	
o-Xylene	25		2.5	ug/L	20.0	0.53 U	123	61-129	4	16	
Styrene	26		2.5	ug/L	20.0	0.61 U	130	59-136	7	32	
Tetrachloroethene	23		2.5	ug/L	20.0	0.76 U	113	60-147	8	21	
Toluene	23		2.5	ug/L	20.0	0.72 U	117	64-131	4	16	
trans-1,2-Dichloroethene	21		2.5	ug/L	20.0	0.73 U	103	54-134	8	20	
trans-1,3-Dichloropropene	19		2.5	ug/L	20.0	0.73 U	97	65-149	5	17	
Trichloroethene	21		2.5	ug/L	20.0	0.89 U	107	62-135	12	20	
Trichlorofluoromethane	20		2.5	ug/L	20.0	0.94 U	102	56-155	10	22	
Vinyl chloride	15		2.5	ug/L	20.0	0.71 U	77	20-167	8	24	
4-Bromofluorobenzene	*55*			*ug/L*	*50.0*		*110*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*111*	*53-146*			
Toluene-d8	*48*	*I*		*ug/L*	*50.0*		*96*	*41-146*			

Batch 1A25023 - NO PREP 2

Blank (1A25023-BLK1) Prepared: 01/24/2021 17:30 Analyzed: 01/25/2021 00:37

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.34	U	2.5	ppbv							
1,1,2,2-Tetrachloroethane	0.36	U	2.5	ppbv							
1,1,2-Trichloroethane	0.35	U	2.5	ppbv							
1,1-Dichloroethane	0.36	U	2.5	ppbv							
1,1-Dichloroethene	0.38	U	2.5	ppbv							
1,2-Dibromoethane	0.36	U	2.5	ppbv							
1,2-Dichlorobenzene	0.27	U	2.5	ppbv							
1,2-Dichloroethane	0.37	U	2.5	ppbv							
1,2-Dichloropropane	0.40	U	2.5	ppbv							
1,3-Dichlorobenzene	0.28	U	2.5	ppbv							
1,4-Dichlorobenzene	0.31	U	2.5	ppbv							
3-Chloropropene	0.39	U	2.5	ppbv							
Acetone	0.35	U	2.5	ppbv							
Bromodichloromethane	0.34	U	2.5	ppbv							
Bromoethene	0.33	U	2.5	ppbv							

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25023 - NO PREP 2 - Continued

Blank (1A25023-BLK1) Continued Prepared: 01/24/2021 17:30 Analyzed: 01/25/2021 00:37

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Bromoform	0.38	U	2.5	ppbv							
Bromomethane	0.33	U	2.5	ppbv							
Carbon tetrachloride	0.27	U	2.5	ppbv							
Chlorobenzene	0.33	U	2.5	ppbv							
Chloroethane	0.32	U	2.5	ppbv							
Chloroform	0.38	U	2.5	ppbv							
Chloromethane	0.48	U	2.5	ppbv							
cis-1,2-Dichloroethene	0.38	U	2.5	ppbv							
cis-1,3-Dichloropropene	0.38	U	2.5	ppbv							
Dibromochloromethane	0.33	U	2.5	ppbv							
Dichlorodifluoromethane	0.55	U	2.5	ppbv							
Freon 113	0.32	U	2.5	ppbv							
Freon 114	0.52	U	2.5	ppbv							
Hexachlorobutadiene	0.37	U	2.5	ppbv							
Methylene chloride	**0.29**	**I**	2.5	ppbv							J-01, O-01
Propene	0.55	U	2.5	ppbv							
Tetrachloroethene	0.31	U	2.5	ppbv							
trans-1,2-Dichloroethene	0.32	U	2.5	ppbv							
trans-1,3-Dichloropropene	0.34	U	2.5	ppbv							
Trichloroethene	0.35	U	2.5	ppbv							
Trichlorofluoromethane	0.34	U	2.5	ppbv							
Vinyl chloride	0.56	U	2.5	ppbv							
4-Bromofluorobenzene	*27*			*ppbv*	*31.0*		*87*	*70-130*			

LCS (1A25023-BS1) Prepared: 01/24/2021 17:30 Analyzed: 01/24/2021 22:34

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	10		2.5	ppbv	10.0		100	70-130			
1,1,2,2-Tetrachloroethane	12		2.5	ppbv	10.0		119	52-163			
1,1,2-Trichloroethane	12		2.5	ppbv	10.0		117	70-134			
1,1-Dichloroethane	12		2.5	ppbv	10.0		119	70-130			
1,1-Dichloroethene	11		2.5	ppbv	10.0		113	67-142			
1,2-Dibromoethane	12		2.5	ppbv	10.0		118	70-141			
1,2-Dichlorobenzene	10		2.5	ppbv	10.0		102	37-180			
1,2-Dichloroethane	10		2.5	ppbv	10.0		102	70-130			
1,2-Dichloropropane	12		2.5	ppbv	10.0		121	70-130			
1,3-Dichlorobenzene	9.8		2.5	ppbv	10.0		98	47-178			
1,4-Dichlorobenzene	9.2		2.5	ppbv	10.0		92	45-180			
3-Chloropropene	11		2.5	ppbv	10.0		113	70-130			
Acetone	10		2.5	ppbv	10.0		104	65-130			
Bromodichloromethane	11		2.5	ppbv	10.0		109	70-130			
Bromoethene	9.5		2.5	ppbv	10.0		95	69-132			
Bromoform	11		2.5	ppbv	10.0		110	62-149			
Bromomethane	9.9		2.5	ppbv	10.0		99	69-130			
Carbon tetrachloride	8.3		2.5	ppbv	10.0		83	22-166			
Chlorobenzene	11		2.5	ppbv	10.0		107	70-134			
Chloroethane	10		2.5	ppbv	10.0		101	69-131			
Chloroform	11		2.5	ppbv	10.0		111	70-130			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25023 - NO PREP 2 - Continued

LCS (1A25023-BS1) Continued Prepared: 01/24/2021 17:30 Analyzed: 01/24/2021 22:34

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloromethane	10		2.5	ppbv	10.0		100	55-142			
cis-1,2-Dichloroethene	12		2.5	ppbv	10.0		122	70-130			
cis-1,3-Dichloropropene	12		2.5	ppbv	10.0		122	70-137			
Dibromochloromethane	11		2.5	ppbv	10.0		110	70-130			
Dichlorodifluoromethane	9.3		2.5	ppbv	10.0		93	61-137			
Freon 113	11		2.5	ppbv	10.0		111	67-140			
Freon 114	9.8		2.5	ppbv	10.0		98	62-147			
Hexachlorobutadiene	9.1		2.5	ppbv	10.0		91	24-180			
Methylene chloride	13		2.5	ppbv	10.0		128	59-136			
Propene	8.9		2.5	ppbv	10.0		89	63-132			
Tetrachloroethene	10		2.5	ppbv	10.0		104	70-141			
trans-1,2-Dichloroethene	11		2.5	ppbv	10.0		113	70-130			
trans-1,3-Dichloropropene	16		2.5	ppbv	10.0		156	59-166			
Trichloroethene	11		2.5	ppbv	10.0		114	70-130			
Trichlorofluoromethane	9.7		2.5	ppbv	10.0		97	46-161			
Vinyl chloride	11		2.5	ppbv	10.0		106	53-148			
4-Bromofluorobenzene	*32*			*ppbv*	*31.0*		*102*	*70-130*			

LCS Dup (1A25023-BSD1) Prepared: 01/24/2021 17:30 Analyzed: 01/24/2021 23:13

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	9.1		2.5	ppbv	10.0		91	70-130	9	25	
1,1,2,2-Tetrachloroethane	11		2.5	ppbv	10.0		111	52-163	7	25	
1,1,2-Trichloroethane	11		2.5	ppbv	10.0		110	70-134	6	25	
1,1-Dichloroethane	11		2.5	ppbv	10.0		110	70-130	8	25	
1,1-Dichloroethene	10		2.5	ppbv	10.0		103	67-142	9	25	
1,2-Dibromoethane	11		2.5	ppbv	10.0		110	70-141	7	25	
1,2-Dichlorobenzene	9.5		2.5	ppbv	10.0		95	37-180	7	25	
1,2-Dichloroethane	8.8		2.5	ppbv	10.0		88	70-130	15	25	
1,2-Dichloropropane	11		2.5	ppbv	10.0		113	70-130	7	25	
1,3-Dichlorobenzene	9.1		2.5	ppbv	10.0		91	47-178	7	25	
1,4-Dichlorobenzene	8.5		2.5	ppbv	10.0		85	45-180	8	25	
3-Chloropropene	10		2.5	ppbv	10.0		105	70-130	7	25	
Acetone	9.5		2.5	ppbv	10.0		95	65-130	10	25	
Bromodichloromethane	10		2.5	ppbv	10.0		100	70-130	8	25	
Bromoethene	8.6		2.5	ppbv	10.0		86	69-132	10	25	
Bromoform	10		2.5	ppbv	10.0		103	62-149	7	25	
Bromomethane	8.6		2.5	ppbv	10.0		86	69-130	14	25	
Carbon tetrachloride	7.5		2.5	ppbv	10.0		75	22-166	10	25	
Chlorobenzene	10		2.5	ppbv	10.0		100	70-134	6	25	
Chloroethane	8.7		2.5	ppbv	10.0		87	69-131	14	25	
Chloroform	10		2.5	ppbv	10.0		101	70-130	9	25	
Chloromethane	8.8		2.5	ppbv	10.0		88	55-142	12	25	
cis-1,2-Dichloroethene	11		2.5	ppbv	10.0		114	70-130	6	25	
cis-1,3-Dichloropropene	11		2.5	ppbv	10.0		113	70-137	7	25	
Dibromochloromethane	10		2.5	ppbv	10.0		103	70-130	7	25	
Dichlorodifluoromethane	8.1		2.5	ppbv	10.0		81	61-137	13	25	
Freon 113	10		2.5	ppbv	10.0		103	67-140	8	25	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A25023 - NO PREP 2 - Continued

LCS Dup (1A25023-BSD1) Continued Prepared: 01/24/2021 17:30 Analyzed: 01/24/2021 23:13

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Freon 114	8.8		2.5	ppbv	10.0		88	62-147	11	25	
Hexachlorobutadiene	8.5		2.5	ppbv	10.0		85	24-180	7	25	
Methylene chloride	12		2.5	ppbv	10.0		123	59-136	5	25	
Propene	7.8		2.5	ppbv	10.0		78	63-132	13	25	
Tetrachloroethene	9.8		2.5	ppbv	10.0		98	70-141	6	25	
trans-1,2-Dichloroethene	10		2.5	ppbv	10.0		105	70-130	7	25	
trans-1,3-Dichloropropene	15		2.5	ppbv	10.0		146	59-166	7	25	
Trichloroethene	11		2.5	ppbv	10.0		108	70-130	5	25	
Trichlorofluoromethane	8.7		2.5	ppbv	10.0		87	46-161	11	25	
Vinyl chloride	9.2		2.5	ppbv	10.0		92	53-148	14	25	
4-Bromofluorobenzene	*31*			*ppbv*	*31.0*		*100*	*70-130*			

Batch 1A26010 - EPA 5030B_MS

Blank (1A26010-BLK1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 11:19

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A26010 - EPA 5030B_MS - Continued

Blank (1A26010-BLK1) Continued Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 11:19

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*51*			*ug/L*	*50.0*		*103*	*41-142*			
Dibromofluoromethane	*58*			*ug/L*	*50.0*		*116*	*53-146*			
Toluene-d8	*51*			*ug/L*	*50.0*		*102*	*41-146*			

LCS (1A26010-BS1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 08:43

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	25		2.5	ug/L	20.0		127	57-148			
1,1,2,2-Tetrachloroethane	23		2.5	ug/L	20.0		115	60-139			
1,1,2-Trichloroethane	23		2.5	ug/L	20.0		114	57-141			
1,1-Dichloroethane	24		2.5	ug/L	20.0		119	57-142			
1,1-Dichloroethene	25		2.5	ug/L	20.0		125	47-139			
1,2,4-Trichlorobenzene	25		2.5	ug/L	20.0		127	52-159			
1,2-Dibromo-3-chloropropane	27		2.5	ug/L	20.0		137	48-150			
1,2-Dibromoethane	23		2.5	ug/L	20.0		116	57-140			
1,2-Dichlorobenzene	22		2.5	ug/L	20.0		109	63-131			
1,2-Dichloroethane	24		2.5	ug/L	20.0		119	50-156			
1,2-Dichloropropane	24		2.5	ug/L	20.0		118	61-133			
1,3-Dichlorobenzene	21		2.5	ug/L	20.0		105	66-129			
1,4-Dichlorobenzene	20		2.5	ug/L	20.0		101	65-133			
2-Butanone	130		12	ug/L	100		126	10-180			
2-Hexanone	110		12	ug/L	100		114	12-180			
4-Methyl-2-pentanone	110		12	ug/L	100		114	19-180			
Acetone	160		25	ug/L	100		156	10-180			
Benzene	21		2.5	ug/L	20.0		106	56-136			
Bromodichloromethane	23		2.5	ug/L	20.0		117	58-135			
Bromoform	23		2.5	ug/L	20.0		113	46-148			
Bromomethane	20		2.5	ug/L	20.0		101	10-173			
Carbon disulfide	36		12	ug/L	20.0		178	43-153			QL-02
Carbon Tetrachloride	23		2.5	ug/L	20.0		115	54-156			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A26010 - EPA 5030B_MS - Continued

LCS (1A26010-BS1) Continued Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 08:43

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chlorobenzene	20		2.5	ug/L	20.0		101	51-139			
Chloroethane	25		2.5	ug/L	20.0		124	27-180			
Chloroform	28		2.5	ug/L	20.0		140	58-139			QL-02
Chloromethane	19		2.5	ug/L	20.0		97	33-154			
cis-1,2-Dichloroethene	25		2.5	ug/L	20.0		124	56-128			
cis-1,3-Dichloropropene	23		2.5	ug/L	20.0		116	64-128			
Cyclohexane	26		2.5	ug/L	20.0		132	70-130			QL-02
Dibromochloromethane	22		2.5	ug/L	20.0		112	50-140			
Dichlorodifluoromethane	14		2.5	ug/L	20.0		69	10-180			
Ethylbenzene	20		2.5	ug/L	20.0		100	63-133			
Freon 113	28		2.5	ug/L	20.0		142	47-173			
Isopropylbenzene	21		2.5	ug/L	20.0		104	60-132			
m,p-Xylenes	40		5.0	ug/L	40.0		99	64-133			
Methyl acetate	30		2.5	ug/L	20.0		148	70-130			QL-02
Methyl cyclohexane	23		2.5	ug/L	20.0		116	70-130			
Methylene Chloride	27		12	ug/L	20.0		136	43-142			
Methyl-tert-Butyl Ether	28		2.5	ug/L	20.0		141	51-145			
o-Xylene	20		2.5	ug/L	20.0		102	61-129			
Styrene	21		2.5	ug/L	20.0		103	59-136			
Tetrachloroethene	19		2.5	ug/L	20.0		97	60-147			
Toluene	20		2.5	ug/L	20.0		101	64-131			
trans-1,2-Dichloroethene	27		2.5	ug/L	20.0		135	54-134			QL-02
trans-1,3-Dichloropropene	23		2.5	ug/L	20.0		116	65-149			
Trichloroethene	22		2.5	ug/L	20.0		112	62-135			
Trichlorofluoromethane	25		2.5	ug/L	20.0		123	56-155			
Vinyl chloride	24		2.5	ug/L	20.0		118	20-167			
4-Bromofluorobenzene	*51*			*ug/L*	*50.0*		*103*	*41-142*			
Dibromofluoromethane	*57*			*ug/L*	*50.0*		*114*	*53-146*			
Toluene-d8	*51*			*ug/L*	*50.0*		*103*	*41-146*			

Matrix Spike (1A26010-MS1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 09:24

Source: AD08635-03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	25		2.5	ug/L	20.0	0.80 U	125	57-148			
1,1,2,2-Tetrachloroethane	22		2.5	ug/L	20.0	0.54 U	112	60-139			
1,1,2-Trichloroethane	22		2.5	ug/L	20.0	0.76 U	109	57-141			
1,1-Dichloroethane	23		2.5	ug/L	20.0	0.62 U	115	57-142			
1,1-Dichloroethene	25		2.5	ug/L	20.0	0.94 U	126	47-139			
1,2,4-Trichlorobenzene	24		2.5	ug/L	20.0	0.70 U	122	52-159			
1,2-Dibromo-3-chloropropane	27		2.5	ug/L	20.0	0.96 U	136	48-150			
1,2-Dibromoethane	22		2.5	ug/L	20.0	0.78 U	110	57-140			
1,2-Dichlorobenzene	20		2.5	ug/L	20.0	0.73 U	102	63-131			
1,2-Dichloroethane	22		2.5	ug/L	20.0	0.63 U	112	50-156			
1,2-Dichloropropane	23		2.5	ug/L	20.0	0.80 U	115	61-133			
1,3-Dichlorobenzene	20		2.5	ug/L	20.0	0.77 U	99	66-129			
1,4-Dichlorobenzene	19		2.5	ug/L	20.0	0.76 U	97	65-133			
2-Butanone	140		12	ug/L	100	4.5 U	137	10-180			
2-Hexanone	120		12	ug/L	100	2.5 U	123	12-180			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A26010 - EPA 5030B_MS - Continued

Matrix Spike (1A26010-MS1) Continued Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 09:24

Source: AD08635-03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
4-Methyl-2-pentanone	120		12	ug/L	100	2.5 U	119	19-180			
Acetone	150		25	ug/L	100	10 U	152	10-180			
Benzene	20		2.5	ug/L	20.0	0.71 U	102	56-136			
Bromodichloromethane	22		2.5	ug/L	20.0	0.52 U	110	58-135			
Bromoform	22		2.5	ug/L	20.0	0.75 U	108	46-148			
Bromomethane	22		2.5	ug/L	20.0	0.95 U	108	10-173			
Carbon disulfide	35		12	ug/L	20.0	2.5 U	173	43-153			QM-19
Carbon Tetrachloride	23		2.5	ug/L	20.0	0.94 U	114	54-156			
Chlorobenzene	20		2.5	ug/L	20.0	0.72 U	98	51-139			
Chloroethane	25		2.5	ug/L	20.0	0.98 U	125	27-180			
Chloroform	27		2.5	ug/L	20.0	0.80 U	134	58-139			
Chloromethane	20		2.5	ug/L	20.0	0.82 U	98	33-154			
cis-1,2-Dichloroethene	24		2.5	ug/L	20.0	0.53 U	118	56-128			
cis-1,3-Dichloropropene	22		2.5	ug/L	20.0	0.59 U	111	64-128			
Cyclohexane	27		2.5	ug/L	20.0	0.93 U	134	70-130			QM-19
Dibromochloromethane	21		2.5	ug/L	20.0	0.50 U	107	50-140			
Dichlorodifluoromethane	15		2.5	ug/L	20.0	0.74 U	75	10-180			
Ethylbenzene	20		2.5	ug/L	20.0	0.69 U	98	63-133			
Freon 113	29		2.5	ug/L	20.0	0.73 U	146	47-173			
Isopropylbenzene	20		2.5	ug/L	20.0	0.67 U	100	60-132			
m,p-Xylenes	39		5.0	ug/L	40.0	1.3 U	97	64-133			
Methyl acetate	29		2.5	ug/L	20.0	0.95 U	144	70-130			QM-19
Methyl cyclohexane	23		2.5	ug/L	20.0	0.64 U	114	70-130			
Methylene Chloride	26		12	ug/L	20.0	2.5 U	129	43-142			
Methyl-tert-Butyl Ether	28		2.5	ug/L	20.0	0.60 U	139	51-145			
o-Xylene	19		2.5	ug/L	20.0	0.53 U	97	61-129			
Styrene	20		2.5	ug/L	20.0	0.61 U	98	59-136			
Tetrachloroethene	19		2.5	ug/L	20.0	0.76 U	96	60-147			
Toluene	20		2.5	ug/L	20.0	0.72 U	98	64-131			
trans-1,2-Dichloroethene	26		2.5	ug/L	20.0	0.73 U	130	54-134			
trans-1,3-Dichloropropene	22		2.5	ug/L	20.0	0.73 U	110	65-149			
Trichloroethene	21		2.5	ug/L	20.0	0.89 U	106	62-135			
Trichlorofluoromethane	26		2.5	ug/L	20.0	0.94 U	128	56-155			
Vinyl chloride	25		2.5	ug/L	20.0	0.71 U	125	20-167			
4-Bromofluorobenzene	*50*			*ug/L*	*50.0*		*101*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*112*	*53-146*			
Toluene-d8	*50*			*ug/L*	*50.0*		*101*	*41-146*			

Matrix Spike Dup (1A26010-MSD1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 09:53

Source: AD08635-03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	25		2.5	ug/L	20.0	0.80 U	124	57-148	1	25	
1,1,2,2-Tetrachloroethane	23		2.5	ug/L	20.0	0.54 U	114	60-139	3	17	
1,1,2-Trichloroethane	21		2.5	ug/L	20.0	0.76 U	106	57-141	3	16	
1,1-Dichloroethane	23		2.5	ug/L	20.0	0.62 U	115	57-142	0.2	24	
1,1-Dichloroethene	24		2.5	ug/L	20.0	0.94 U	120	47-139	5	16	
1,2,4-Trichlorobenzene	24		2.5	ug/L	20.0	0.70 U	119	52-159	2	24	
1,2-Dibromo-3-chloropropane	28		2.5	ug/L	20.0	0.96 U	141	48-150	4	21	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1A26010 - EPA 5030B_MS - Continued

Matrix Spike Dup (1A26010-MSD1) Continued Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 09:53

Source: AD08635-03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,2-Dibromoethane	22		2.5	ug/L	20.0	0.78 U	110	57-140	0.09	16	
1,2-Dichlorobenzene	20		2.5	ug/L	20.0	0.73 U	100	63-131	2	25	
1,2-Dichloroethane	22		2.5	ug/L	20.0	0.63 U	112	50-156	0.6	18	
1,2-Dichloropropane	23		2.5	ug/L	20.0	0.80 U	113	61-133	2	26	
1,3-Dichlorobenzene	19		2.5	ug/L	20.0	0.77 U	94	66-129	5	23	
1,4-Dichlorobenzene	19		2.5	ug/L	20.0	0.76 U	94	65-133	4	23	
2-Butanone	130		12	ug/L	100	4.5 U	129	10-180	6	29	
2-Hexanone	130		12	ug/L	100	2.5 U	133	12-180	8	28	
4-Methyl-2-pentanone	130		12	ug/L	100	2.5 U	125	19-180	5	24	
Acetone	160		25	ug/L	100	10 U	157	10-180	3	19	
Benzene	20		2.5	ug/L	20.0	0.71 U	101	56-136	0.5	14	
Bromodichloromethane	22		2.5	ug/L	20.0	0.52 U	110	58-135	0.1	19	
Bromoform	21		2.5	ug/L	20.0	0.75 U	107	46-148	0.9	18	
Bromomethane	23		2.5	ug/L	20.0	0.95 U	114	10-173	5	29	
Carbon disulfide	33		12	ug/L	20.0	2.5 U	163	43-153	6	26	QM-19
Carbon Tetrachloride	23		2.5	ug/L	20.0	0.94 U	113	54-156	0.4	27	
Chlorobenzene	19		2.5	ug/L	20.0	0.72 U	95	51-139	3	13	
Chloroethane	25		2.5	ug/L	20.0	0.98 U	125	27-180	0.2	22	
Chloroform	27		2.5	ug/L	20.0	0.80 U	133	58-139	1	17	
Chloromethane	19		2.5	ug/L	20.0	0.82 U	96	33-154	3	31	
cis-1,2-Dichloroethene	23		2.5	ug/L	20.0	0.53 U	115	56-128	2	17	
cis-1,3-Dichloropropene	22		2.5	ug/L	20.0	0.59 U	111	64-128	0.2	20	
Cyclohexane	26		2.5	ug/L	20.0	0.93 U	128	70-130	5	20	
Dibromochloromethane	21		2.5	ug/L	20.0	0.50 U	107	50-140	0.3	18	
Dichlorodifluoromethane	14		2.5	ug/L	20.0	0.74 U	70	10-180	6	26	
Ethylbenzene	19		2.5	ug/L	20.0	0.69 U	95	63-133	3	18	
Freon 113	29		2.5	ug/L	20.0	0.73 U	144	47-173	2	30	
Isopropylbenzene	19		2.5	ug/L	20.0	0.67 U	97	60-132	3	23	
m,p-Xylenes	38		5.0	ug/L	40.0	1.3 U	94	64-133	3	18	
Methyl acetate	31		2.5	ug/L	20.0	0.95 U	155	70-130	7	20	QM-19
Methyl cyclohexane	22		2.5	ug/L	20.0	0.64 U	112	70-130	2	20	
Methylene Chloride	26		12	ug/L	20.0	2.5 U	128	43-142	1	23	
Methyl-tert-Butyl Ether	28		2.5	ug/L	20.0	0.60 U	141	51-145	1	22	
o-Xylene	19		2.5	ug/L	20.0	0.53 U	96	61-129	1	16	
Styrene	19		2.5	ug/L	20.0	0.61 U	97	59-136	2	32	
Tetrachloroethene	18		2.5	ug/L	20.0	0.76 U	92	60-147	4	21	
Toluene	19		2.5	ug/L	20.0	0.72 U	95	64-131	3	16	
trans-1,2-Dichloroethene	26		2.5	ug/L	20.0	0.73 U	128	54-134	2	20	
trans-1,3-Dichloropropene	22		2.5	ug/L	20.0	0.73 U	108	65-149	2	17	
Trichloroethene	21		2.5	ug/L	20.0	0.89 U	106	62-135	0.4	20	
Trichlorofluoromethane	26		2.5	ug/L	20.0	0.94 U	131	56-155	3	22	
Vinyl chloride	24		2.5	ug/L	20.0	0.71 U	120	20-167	4	24	
4-Bromofluorobenzene	*55*			*ug/L*	*50.0*		*109*	*41-142*			
Dibromofluoromethane	*60*			*ug/L*	*50.0*		*121*	*53-146*			
Toluene-d8	*55*			*ug/L*	*50.0*		*109*	*41-146*			

Dissolved Gases by GC - Quality Control

Batch 1A26006 - Same

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Dissolved Gases by GC - Quality Control

Batch 1A26006 - Same - Continued

Blank (1A26006-BLK1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 10:17

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.00510	U	0.00600	mg/L							
Ethene	0.00510	U	0.00600	mg/L							
Methane	0.00400	U	0.00500	mg/L							

LCS (1A26006-BS1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 09:33

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.395		0.00600	mg/L	0.323		122	70-130			
Ethene	0.348		0.00600	mg/L	0.302		115	70-130			
Methane	0.187		0.00500	mg/L	0.172		109	70-130			

LCS Dup (1A26006-BSD1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 09:54

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.401		0.00600	mg/L	0.323		124	70-130	1	30	
Ethene	0.354		0.00600	mg/L	0.302		117	70-130	2	30	
Methane	0.192		0.00500	mg/L	0.172		112	70-130	3	30	

Duplicate (1A26006-DUP1) Prepared: 01/26/2021 00:00 Analyzed: 01/26/2021 12:39

Source: AE00066-09

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.00510	U	0.00600	mg/L		0.00510 U				30	QV-01
Ethene	0.00510	U	0.00600	mg/L		0.00510 U				30	
Methane	0.442		0.00500	mg/L		0.152			98	30	QM-12

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
A-07	Analyte biased low in LCS but detected in the reporting limit standard. Since the analyte in the associated sample was not detected, there is no impact on data quality.
J-01	Result may be biased high due to positive results in the associated method blank at a concentration above the MDL and/or greater than one-half the MRL.
O-01	This compound is a common laboratory contaminant.
QL-02	The associated laboratory control sample exhibited high bias; since the result is ND, there is no impact.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-12	Precision between duplicate samples was outside acceptance limits.
QM-19	The spike recovery was outside acceptance limits for the MS and/or MSD.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.
R-05	The sample was diluted due to the presence of high levels of non-target analytes resulting in elevated reporting limits.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported result is an estimated value.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence (85% or greater confidence) to make a “tentative identification".
Q	One or more quality control criteria failed.

AE000606

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 2220 | PAGE 1 OF 2

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G08970	KSC- CRCA	Alex Murphy	321-292-0842	ENCO, Kaitlin Dylnicki
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER: Melissa Bennett	PHONE NUMBER: 321-914-9394	ADDRESS
		CARRIER/WAYBILL NUMBER		CITY, STATE: Orlando, FL

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE (YEAR 2021)	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	TYPE OF ANALYSIS: VOC	MEE	COMMENTS
								CONTAINER TYPE PLASTIC (P) or GLASS (G)	G	G	
								PRESERVATIVE USED	HCl	ice	
1/19	1105	CRCA-MW0030-058.0-20210119	30	53	63	GW	G	3	X		
1/19	1140	CRCA-MW0029-035.0-20210119	29	30	40	GW	G	3	X		
1/19	1220	CRCA-MW0028-058.0-20210119	28	53	63	GW	G	3	X		
1/19	1300	CRCA-MW0027-035.0-20210119	27	30	40	GW	G	3	X		
1/19	1335	CRCA-MW0015-027.5-20210119	15	25	30	GW	G	3	X		
1/19	1430	CRCA-MW0013-027.5-20210119	13	25	30	GW	G	3	X		
1/19	1510	CRCA-MW0012-027.5-20210119	12	25	30	GW	G	3	X		
1/19	1545	CRCA-MW0002-032.5-20210119	2	30	35	GW	G	3	X		
1/20	1215	CRCA-MW0031-058.0-20210120	31	53	63	GW	G	6	X	X	
1/20	1300	CRCA-MW0032-058.0-20210120	32	53	63	GW	G	6	X	X MB	VOC analysis only
1/20	1400	CRCA-MW0018-058.0-20210120	18	53	63	GW	G	6	X	X	
1/20	1600	CRCA-MW0019-058.0-20210120	19	53	63	GW	G	6	X	X	

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	1-21-21	1500	1. RECEIVED BY	1/21/21	1500
2. RELINQUISHED BY	1/21/21	1500	2. RECEIVED BY	1/21/21	1500
3. RELINQUISHED BY	1/21/21		3. RECEIVED BY	1/22/21	1510

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

(-025 4.29, 6001 24.19C, 1002 23.9

4/02R FORM NO. TtNUS-001

AE000166

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 2222 | PAGE 2 OF 2

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G08970	CRCA	Alex Murphy	321-292-0842	ENCO
SAMPLERS (SIGNATURE)		**FIELD OPERATIONS LEADER** Melissa Bennett	**PHONE NUMBER** 321-914-9394	**ADDRESS**
		CARRIER/WAYBILL NUMBER		**CITY, STATE** Orlando, FL

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2021	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TYPE OF ANALYSIS: VOC TO-15	COMMENTS
											Summa /	
1/20	1103	CRCA-VMP01-20210120	VMP1	—	—	air	G	1			X	1001-1103
1/20	1106	CRCA-VMP02-20210120	VMP2	—	—	air	G	1			X	1008-1106
1/20	1115	CRCA-VMP03-20210120	VMP3	—	—	air	G	1			X	1014-1115
1/20	1122	CRCA-VMP04-20210120	VMP4	—	—	air	G	1			X	1022-1122
1/20	1703	CRCA-SYSAIR-20210120	SYS	—	-	air	G	1			X	1900-1703

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	1-21-21	1500	1. RECEIVED BY KE	Date	15:10
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY KE	DATE 1/21/21	TIME 15:10	3. RECEIVED BY	DATE 1-21-21	TIME 1500
COMMENTS	1-21-21	15 10	James W Gregory	1/21/21	1510

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

C-025 4.2°C Box 1 24.1 °C, Box 2 23.1°C

4/02R FORM NO. TtNUS-001

Environmental Conservation Laboratories, Inc.
10775 Central Port Drive, Orlando, FL 32824
4810 Executive Park Court, Suite 211,Jacksonville, FL 32216
102-A Woodwinds Industrial Ct, Cary, NC 27511

www.encolabs.com

COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

General Information

SITE LOCATION:	KSC- CRCA .
SITE ADDRESS:	Contractor Road
SAMPLER ID:	CRCA- VMPol- 20210120
SAMPLING DATE:	1-20-21
OPERATOR:	Tetra tech / melisse Bennett
SHIPPING DATE:	1/13/21
CANISTER SERIAL NO.:	1158
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	JAK-P-14

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	60°F	-14 mmHg	1001	1HR
STOP		-14mmHg	1103	

Signature/Title: / Env. Engineer

Environmental Conservation Laboratories, Inc.
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4810 Executive Park Court, Suite 211,Jacksonville, FL 32216
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COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15
CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

2

General Information

SITE LOCATION:	KSC- CBCA
SITE ADDRESS:	Contractor Road
SAMPLER ID:	CBCA – VM002-20210120
SAMPLING DATE:	1-2021
OPERATOR:	Tetra tech / melissa Bennett
SHIPPING DATE:	113121
CANISTER SERIAL NO.:	15863
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	JAY-R-056

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	60°F	-30mmHg	1008	1HR
STOP		-13mmHg	1100	1HR

Signature/Title: [signature] / Env. Engineer

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102-A Woodwinds Industrial Ct, Cary, NC 27511

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COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

3

General Information

SITE LOCATION:	KSC- CRCA
SITE ADDRESS:	Contractor Road
SAMPLER ID:	CRCA- VMP03-20210120
SAMPLING DATE:	1-20-21
OPERATOR:	Tetra tech / Melissa Bennett
SHIPPING DATE:	1/13/21
CANISTER SERIAL NO.:	1S-069
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	1A10-14-059

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	60°F	-30mmHg	1014	1HR
STOP	60°F	-13 mmHg	1115	1HR

Signature/Title: [signature] / Env. Engineer

Environmental Conservation Laboratories, Inc.
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4810 Executive Park Court, Suite 211,Jacksonville, FL 32216
102-A Woodwinds Industrial Ct, Cary, NC 27511

www.enco labs.com

COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

4

General Information

SITE LOCATION:	KSC- CRCA
SITE ADDRESS:	Contractor Road
SAMPLER ID:	CRCA-UMP04-20210120
SAMPLING DATE:	1-20-21
OPERATOR:	Tetra tech / Melissa Bennett
SHIPPING DATE:	1/15/21
CANISTER SERIAL NO.:	0S-070
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	JAV-R-04

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	60°F	-30 mm Hg	1022	1 HR
STOP	60°F	-9 mm Hg	1122	1 HR

Signature/Title: [signature] / Env. Engineer

Environmental Conservation Laboratories, Inc.
10775 Central Port Drive, Orlando, FL 32824
4810 Executive Park Court, Suite 211,Jacksonville, FL 32216
102-A Woodwinds Industrial Ct, Cary, NC 27511

ENCO
www.encolabs.com

COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

SYSAIR

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

General Information

SITE LOCATION:	KSC- CRCA ,
SITE ADDRESS:	Contractor Road
SAMPLER ID:	CRCA- SYSAIR-20210120
SAMPLING DATE:	1-20-21
OPERATOR:	Tetra tech / Melissa Bennett
SHIPPING DATE:	1/21/21
CANISTER SERIAL NO.:	18-016
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	6685

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	55°F	-30mm Hg	0900	8 HR
STOP	72°F	0mmHg	1703	8 HR

Signature/Title: [signature] / Env. Engineer

1/22/2021

Environmental Conservation Labs, Inc.

Alex Murphy
Tetra Tech, Inc. (TE016)
11 Riverside Drive, Suite 204
Cocoa, FL 32922
Phone: (321) 636-6470
Fax: (321) 636-6473

Reference : **Sample Receipt Confirmation - *Please Review***
Project Name / Number : NASA KSC CRCA / 112G08970
Purchase Order # : 1165883

Lab Reference # : AE00066 Lab Receipt Date: 21-Jan-21 15:10
Anticipated ***(Estimated)*** Completion Date: 28-Jan-21 19:00

This is an automated notification from our laboratory information management system (LIMS), indicating the samples we have recently received and their associated analyses. Should any of the following information be in error, please contact us immediately.

Thank you for choosing Environmental Conservation Laboratories. Should any events occur that delay the processing of your samples or inhibit our ability to complete the project within the projected time frame you will be contacted.

Sincerely,

Kaitlin Dylnicki

Client: Tetra Tech, Inc. (TE016) **Project Name:** NASA KSC CRCA
Requested TAT: 5 **Project Number:** 112G08970

Analysis	TAT	Expires	Status
Sample ID: CRCA-MW0030-058.0-20210119(Lab ID: AE00066-01), Matrix: Ground Water, Sampled: 19-Jan-21 11:05 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received
Sample ID: CRCA-MW0029-035.0-20210119(Lab ID: AE00066-02), Matrix: Ground Water, Sampled: 19-Jan-21 11:40 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received
Sample ID: CRCA-MW0028-058.0-20210119(Lab ID: AE00066-03), Matrix: Ground Water, Sampled: 19-Jan-21 12:20 (GMT-05:00) Eastern Time (US & Canada)			
Sample Comments: Time on Vials is 1215			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received
Sample ID: CRCA-MW0027-035.0-20210119(Lab ID: AE00066-04), Matrix: Ground Water, Sampled: 19-Jan-21 13:00 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received
Sample ID: CRCA-MW0015-027.5-20210119(Lab ID: AE00066-05), Matrix: Ground Water, Sampled: 19-Jan-21 13:35 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received
Sample ID: CRCA-MW0013-027.5-20210119(Lab ID: AE00066-06), Matrix: Ground Water, Sampled: 19-Jan-21 14:30 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received
Sample ID: CRCA-MW0012-0.275-20210119(Lab ID: AE00066-07), Matrix: Ground Water, Sampled: 19-Jan-21 15:10 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received
Sample ID: CRCA-MW0002-032.5-20210119(Lab ID: AE00066-08), Matrix: Ground Water, Sampled: 19-Jan-21 15:45 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	02-Feb-21 23:59	Received

Client: Tetra Tech, Inc. (TE016)
Requested TAT: 5

Project Name: NASA KSC CRCA
Project Number: 112G08970

Analysis	TAT	Expires	Status
Sample ID: CRCA-MW0031-058.0-20210120(Lab ID: AE00066-09), Matrix: Ground Water, Sampled: 20-Jan-21 12:15 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	03-Feb-21 23:59	Received
RSK175	5	03-Feb-21 23:59	Received
Sample ID: CRCA-MW0032-058.0-20210120(Lab ID: AE00066-10), Matrix: Ground Water, Sampled: 20-Jan-21 13:00 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	03-Feb-21 23:59	Received
Sample ID: CRCA-MW0018-058.0-20210120(Lab ID: AE00066-11), Matrix: Ground Water, Sampled: 20-Jan-21 14:00 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	03-Feb-21 23:59	Received
RSK175	5	03-Feb-21 23:59	Received
Sample ID: CRCA-MW0019-058.0-20210120(Lab ID: AE00066-12), Matrix: Ground Water, Sampled: 20-Jan-21 16:00 (GMT-05:00) Eastern Time (US & Canada)			
8260D TCL SOM01.2 CLP-LIKE	5	03-Feb-21 23:59	Received
RSK175	5	03-Feb-21 23:59	Received
Sample ID: CRCA-VMP01-20210120(Lab ID: AE00066-13), Matrix: Air, Sampled: 20-Jan-21 11:03 (GMT-05:00) Eastern Time (US & Canada)			
Sample Comments: 1001-1103			
TO15 (SUMMA)	5	19-Feb-21 23:59	Received
Sample ID: CRCA-VMP02-20210120(Lab ID: AE00066-14), Matrix: Air, Sampled: 20-Jan-21 11:06 (GMT-05:00) Eastern Time (US & Canada)			
Sample Comments: 1008-1106			
TO15 (SUMMA)	5	19-Feb-21 23:59	Received
Sample ID: CRCA-VMP03-20210120(Lab ID: AE00066-15), Matrix: Air, Sampled: 20-Jan-21 11:15 (GMT-05:00) Eastern Time (US & Canada)			
Sample Comments: 1014-1115			
TO15 (SUMMA)	5	19-Feb-21 23:59	Received
Sample ID: CRCA-VMP04-20210120(Lab ID: AE00066-16), Matrix: Air, Sampled: 20-Jan-21 11:22 (GMT-05:00) Eastern Time (US & Canada)			
Sample Comments: 1022-1122			
TO15 (SUMMA)	5	19-Feb-21 23:59	Received
Sample ID: CRCA-SYSAIR-20210120(Lab ID: AE00066-17), Matrix: Air, Sampled: 20-Jan-21 17:03 (GMT-05:00) Eastern Time (US & Canada)			
Sample Comments: 1900-1703			
TO15 (SUMMA)	5	19-Feb-21 23:59	Received

Analysis Groups included in this work order

ENCO Orlando

SDG: AE00066-TE016

CLASS: 01_VOA_MS

METHOD: EPA 8260D

ANALYSES DATA PACKAGE COVER PAGE

EPA 8260D

Laboratory: ENCO Orlando

SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-MW0030-058.0-20210119	AE00066-01
CRCA-MW0029-035.0-20210119	AE00066-02
CRCA-MW0028-058.0-20210119	AE00066-03
CRCA-MW0027-035.0-20210119	AE00066-04
CRCA-MW0015-027.5-20210119	AE00066-05
CRCA-MW0013-027.5-20210119	AE00066-06
CRCA-MW0012-027.5-20210119	AE00066-07
CRCA-MW0002-032.5-20210119	AE00066-08
CRCA-MW0031-058.0-20210120	AE00066-09
CRCA-MW0032-058.0-20210120	AE00066-10
CRCA-MW0018-058.0-20210120	AE00066-11
CRCA-MW0018-058.0-20210120	AE00066-11RE1
CRCA-MW0019-058.0-20210120	AE00066-12

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0030-058.0-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-01 File ID: 215AT010.D

Sampled: 01/19/21 11:05 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 12:17

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0030-058.0-20210119

Laboratory: ENCO Orlando | SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) | Project: NASA KSC CRCA

Matrix: Ground Water | Laboratory ID: AE00066-01 | File ID: 215AT010.D

Sampled: 01/19/21 11:05 | Prepared: 01/25/21 00:00 | Analyzed: 01/25/21 12:17

Solids: | Preparation: EPA 5030B_MS | Initial/Final: 5 mL / 5 mL

Batch: 1A25020 | Sequence: AA64632 | Calibration: 2011113 | Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	57	115	53 - 146	
Toluene-d8	50.0	48	97	41 - 146	
4-Bromofluorobenzene	50.0	53	106	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1351808	9.863	1217120	9.845	
1,4-Difluorobenzene	2866333	10.456	2353990	10.438	
Chlorobenzene-d5	1635734	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1522320	15.491	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0029-035.0-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-02 File ID: 215AT011.D

Sampled: 01/19/21 11:40 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 12:46

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0029-035.0-20210119

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE00066-02
File ID: 215AT011.D
Sampled: 01/19/21 11:40
Prepared: 01/25/21 00:00
Analyzed: 01/25/21 12:46
Solids:
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Batch: 1A25020
Sequence: AA64632
Calibration: 2011113
Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	57	114	53 - 146	
Toluene-d8	50.0	48	96	41 - 146	
4-Bromofluorobenzene	50.0	53	107	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1334319	9.863	1217120	9.845	
1,4-Difluorobenzene	2846320	10.456	2353990	10.438	
Chlorobenzene-d5	1622830	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1514443	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0028-058.0-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-03 File ID: 215AT012.D

Sampled: 01/19/21 12:20 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 13:15

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0028-058.0-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-03 File ID: 215AT012.D

Sampled: 01/19/21 12:20 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 13:15

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	56	111	53 - 146	
Toluene-d8	50.0	48	95	41 - 146	
4-Bromofluorobenzene	50.0	53	105	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1325539	9.862	1217120	9.845	
1,4-Difluorobenzene	2841226	10.456	2353990	10.438	
Chlorobenzene-d5	1602227	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1534202	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0027-035.0-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-04 File ID: 215AT013.D

Sampled: 01/19/21 13:00 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 13:45

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	7.0		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0027-035.0-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-04 File ID: 215AT013.D

Sampled: 01/19/21 13:00 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 13:45

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	57	115	53 - 146	
Toluene-d8	50.0	46	93	41 - 146	
4-Bromofluorobenzene	50.0	52	104	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1342454	9.863	1217120	9.845	
1,4-Difluorobenzene	2980618	10.462	2353990	10.438	
Chlorobenzene-d5	1652145	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1560174	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0015-027.5-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-05 File ID: 215AT014.D

Sampled: 01/19/21 13:35 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 14:14

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0015-027.5-20210119

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE00066-05
File ID: 215AT014.D
Sampled: 01/19/21 13:35
Prepared: 01/25/21 00:00
Analyzed: 01/25/21 14:14
Solids:
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Batch: 1A25020
Sequence: AA64632
Calibration: 2011113
Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	57	114	53 - 146	
Toluene-d8	50.0	47	94	41 - 146	
4-Bromofluorobenzene	50.0	54	108	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1353784	9.868	1217120	9.845	
1,4-Difluorobenzene	2923690	10.462	2353990	10.438	
Chlorobenzene-d5	1584476	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1534322	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0013-027.5-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-06 File ID: 215AT015.D

Sampled: 01/19/21 14:30 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 14:44

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	2.1	J	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0013-027.5-20210119

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE00066-06
File ID: 215AT015.D
Sampled: 01/19/21 14:30
Prepared: 01/25/21 00:00
Analyzed: 01/25/21 14:44
Solids:
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Batch: 1A25020
Sequence: AA64632
Calibration: 2011113
Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	57	114	53 - 146	
Toluene-d8	50.0	48	96	41 - 146	
4-Bromofluorobenzene	50.0	55	109	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1323227	9.868	1217120	9.845	
1,4-Difluorobenzene	2812403	10.462	2353990	10.438	
Chlorobenzene-d5	1560555	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1499588	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0012-027.5-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-07 File ID: 215AT016.D

Sampled: 01/19/21 15:10 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 15:13

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0012-027.5-20210119

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE00066-07
File ID: 215AT016.D
Sampled: 01/19/21 15:10
Prepared: 01/25/21 00:00
Analyzed: 01/25/21 15:13
Solids:
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Batch: 1A25020
Sequence: AA64632
Calibration: 2011113
Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	59	118	53 - 146	
Toluene-d8	50.0	48	96	41 - 146	
4-Bromofluorobenzene	50.0	54	109	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1311393	9.868	1217120	9.845	
1,4-Difluorobenzene	2857206	10.462	2353990	10.438	
Chlorobenzene-d5	1588971	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1519324	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0002-032.5-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-08 File ID: 215AT017.D

Sampled: 01/19/21 15:45 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 15:43

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	3.1		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0002-032.5-20210119

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-08 File ID: 215AT017.D

Sampled: 01/19/21 15:45 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 15:43

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	56	113	53 - 146	
Toluene-d8	50.0	49	97	41 - 146	
4-Bromofluorobenzene	50.0	55	109	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1324243	9.863	1217120	9.845	
1,4-Difluorobenzene	2844356	10.456	2353990	10.438	
Chlorobenzene-d5	1569592	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1496442	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0031-058.0-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-09 File ID: 215AT018.D

Sampled: 01/20/21 12:15 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 16:12

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	29		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0031-058.0-20210120

Laboratory: ENCO Orlando | SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) | Project: NASA KSC CRCA

Matrix: Ground Water | Laboratory ID: AE00066-09 | File ID: 215AT018.D

Sampled: 01/20/21 12:15 | Prepared: 01/25/21 00:00 | Analyzed: 01/25/21 16:12

Solids: | Preparation: EPA 5030B_MS | Initial/Final: 5 mL / 5 mL

Batch: 1A25020 | Sequence: AA64632 | Calibration: 2011113 | Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	59	118	53 - 146	
Toluene-d8	50.0	47	93	41 - 146	
4-Bromofluorobenzene	50.0	52	105	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1346166	9.863	1217120	9.845	
1,4-Difluorobenzene	3057273	10.462	2353990	10.438	
Chlorobenzene-d5	1666053	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1548120	15.497	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0032-058.0-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-10 File ID: 215AT009.D

Sampled: 01/20/21 13:00 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 11:47

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0032-058.0-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-10 File ID: 215AT009.D

Sampled: 01/20/21 13:00 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 11:47

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	57	114	53 - 146	
Toluene-d8	50.0	47	94	41 - 146	
4-Bromofluorobenzene	50.0	53	106	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1353992	9.863	1217120	9.845	
1,4-Difluorobenzene	2910142	10.456	2353990	10.438	
Chlorobenzene-d5	1676020	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1554117	15.491	1366836	15.474	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0018-058.0-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-11RE1 File ID: 212AU017.D

Sampled: 01/20/21 14:00 Prepared: 01/26/21 00:00 Analyzed: 01/26/21 15:52

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A26010 Sequence: AA64658 Calibration: 2101077 Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	97		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0018-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE00066-11RE1
File ID: 212AU017.D
Sampled: 01/20/21 14:00
Prepared: 01/26/21 00:00
Analyzed: 01/26/21 15:52
Solids:
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Batch: 1A26010
Sequence: AA64658
Calibration: 2101077
Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	55	110	53 - 146	
Toluene-d8	50.0	55	109	41 - 146	
4-Bromofluorobenzene	50.0	54	108	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	193931	11.47	253281	11.45	
1,4-Difluorobenzene	383784	12.02	506895	11.99	
Chlorobenzene-d5	191378	14.62	216205	14.59	
1,4-Dichlorobenzene-d4	134955	16.99	135032	16.96	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0019-058.0-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-12 File ID: 215AT020.D

Sampled: 01/20/21 16:00 Prepared: 01/25/21 00:00 Analyzed: 01/25/21 17:11

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1A25020 Sequence: AA64632 Calibration: 2011113 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	2.8		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0019-058.0-20210120

Laboratory: ENCO Orlando | SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) | Project: NASA KSC CRCA

Matrix: Ground Water | Laboratory ID: AE00066-12 | File ID: 215AT020.D

Sampled: 01/20/21 16:00 | Prepared: 01/25/21 00:00 | Analyzed: 01/25/21 17:11

Solids: | Preparation: EPA 5030B_MS | Initial/Final: 5 mL / 5 mL

Batch: 1A25020 | Sequence: AA64632 | Calibration: 2011113 | Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	57	113	53 - 146	
Toluene-d8	50.0	47	95	41 - 146	
4-Bromofluorobenzene	50.0	55	110	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1326429	9.868	1217120	9.845	
1,4-Difluorobenzene	2844280	10.462	2353990	10.438	
Chlorobenzene-d5	1585901	13.241	1612072	13.217	
1,4-Dichlorobenzene-d4	1547465	15.497	1366836	15.474	

* Values outside of QC limits

HOLDING TIME SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-MW0030-058.0-20210119	01/19/21 11:05	01/21/21 15:10	01/25/21 00:00	5.54	NA	01/25/21 12:17	6.00	14.00	
CRCA-MW0029-035.0-20210119	01/19/21 11:40	01/21/21 15:10	01/25/21 00:00	5.51	NA	01/25/21 12:46	6.00	14.00	
CRCA-MW0028-058.0-20210119	01/19/21 12:20	01/21/21 15:10	01/25/21 00:00	5.49	NA	01/25/21 13:15	6.00	14.00	
CRCA-MW0027-035.0-20210119	01/19/21 13:00	01/21/21 15:10	01/25/21 00:00	5.46	NA	01/25/21 13:45	6.00	14.00	
CRCA-MW0015-027.5-20210119	01/19/21 13:35	01/21/21 15:10	01/25/21 00:00	5.43	NA	01/25/21 14:14	6.00	14.00	
CRCA-MW0013-027.5-20210119	01/19/21 14:30	01/21/21 15:10	01/25/21 00:00	5.40	NA	01/25/21 14:44	6.00	14.00	
CRCA-MW0012-027.5-20210119	01/19/21 15:10	01/21/21 15:10	01/25/21 00:00	5.37	NA	01/25/21 15:13	6.00	14.00	
CRCA-MW0002-032.5-20210119	01/19/21 15:45	01/21/21 15:10	01/25/21 00:00	5.34	NA	01/25/21 15:43	6.00	14.00	
CRCA-MW0031-058.0-20210120	01/20/21 12:15	01/21/21 15:10	01/25/21 00:00	4.49	NA	01/25/21 16:12	5.00	14.00	
CRCA-MW0032-058.0-20210120	01/20/21 13:00	01/21/21 15:10	01/25/21 00:00	4.46	NA	01/25/21 11:47	5.00	14.00	
CRCA-MW0018-058.0-20210120	01/20/21 14:00	01/21/21 15:10	01/26/21 00:00	5.42	NA	01/26/21 15:52	6.00	14.00	
CRCA-MW0019-058.0-20210120	01/20/21 16:00	01/21/21 15:10	01/25/21 00:00	4.33	NA	01/25/21 17:11	5.00	14.00	

PREPARATION BATCH SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1A25020 Batch Matrix: Water Preparation: EPA 5030B_MS

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1A25020-BLK1	215AT006.D	01/25/21 00:00	
LCS	1A25020-BS1	215AT004.D	01/25/21 00:00	
CRCA-MW0032-058.0-20210120	1A25020-MS1	215AT023.D	01/25/21 00:00	
CRCA-MW0032-058.0-20210120	1A25020-MSD1	215AT024.D	01/25/21 00:00	
CRCA-MW0030-058.0-20210119	AE00066-01	215AT010.D	01/25/21 00:00	
CRCA-MW0029-035.0-20210119	AE00066-02	215AT011.D	01/25/21 00:00	
CRCA-MW0028-058.0-20210119	AE00066-03	215AT012.D	01/25/21 00:00	
CRCA-MW0027-035.0-20210119	AE00066-04	215AT013.D	01/25/21 00:00	
CRCA-MW0015-027.5-20210119	AE00066-05	215AT014.D	01/25/21 00:00	
CRCA-MW0013-027.5-20210119	AE00066-06	215AT015.D	01/25/21 00:00	
CRCA-MW0012-027.5-20210119	AE00066-07	215AT016.D	01/25/21 00:00	
CRCA-MW0002-032.5-20210119	AE00066-08	215AT017.D	01/25/21 00:00	
CRCA-MW0031-058.0-20210120	AE00066-09	215AT018.D	01/25/21 00:00	
CRCA-MW0032-058.0-20210120	AE00066-10	215AT009.D	01/25/21 00:00	
CRCA-MW0019-058.0-20210120	AE00066-12	215AT020.D	01/25/21 00:00	

PREPARATION BATCH SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1A26010 Batch Matrix: Water Preparation: EPA 5030B_MS

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1A26010-BLK1	212AU008.D	01/26/21 00:00	
LCS	1A26010-BS1	212AU003.D	01/26/21 00:00	
MW-3R	1A26010-MS1	212AU004.D	01/26/21 00:00	
MW-3R	1A26010-MSD1	212AU005.D	01/26/21 00:00	
CRCA-MW0018-058.0-20210120	AE00066-11RE1	212AU017.D	01/26/21 00:00	

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1A25020-BLK1	File ID:	215AT006.D
Prepared:	01/25/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	01/25/21 10:19	Instrument:	OVGCMS5		
Batch:	1A25020	Sequence:	AA64632	Calibration:	2011113

CAS NO.	COMPOUND	CONC. (ug/L)	Q
75-71-8	Dichlorodifluoromethane	0.74	U
74-87-3	Chloromethane	0.82	U
75-01-4	Vinyl chloride	0.71	U
74-83-9	Bromomethane	0.95	U
75-00-3	Chloroethane	0.98	U
75-69-4	Trichlorofluoromethane	0.94	U
76-13-1	Freon 113	0.73	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	0.94	U
75-15-0	Carbon disulfide	2.5	U
75-09-2	Methylene Chloride	2.5	U
1634-04-4	Methyl-tert-Butyl Ether	0.60	U
156-60-5	trans-1,2-Dichloroethene	0.73	U
156-59-2	cis-1,2-Dichloroethene	0.53	U
75-34-3	1,1-Dichloroethane	0.62	U
78-93-3	2-Butanone	4.5	U
67-66-3	Chloroform	0.80	U
71-55-6	1,1,1-Trichloroethane	0.80	U
79-20-9	Methyl acetate	0.95	U
110-82-7	Cyclohexane	0.93	U
108-87-2	Methyl cyclohexane	0.64	U
56-23-5	Carbon Tetrachloride	0.94	U
107-06-2	1,2-Dichloroethane	0.63	U
71-43-2	Benzene	0.71	U
79-01-6	Trichloroethene	0.89	U
78-87-5	1,2-Dichloropropane	0.80	U
75-27-4	Bromodichloromethane	0.52	U
108-10-1	4-Methyl-2-pentanone	2.5	U
591-78-6	2-Hexanone	2.5	U
10061-01-5	cis-1,3-Dichloropropene	0.59	U

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1A25020-BLK1	File ID:	215AT006.D
Prepared:	01/25/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	01/25/21 10:19	Instrument:	OVGCMS5		
Batch:	1A25020	Sequence:	AA64632	Calibration:	2011113

CAS NO.	COMPOUND	CONC. (ug/L)	Q
108-88-3	Toluene	0.72	U
10061-02-6	trans-1,3-Dichloropropene	0.73	U
79-00-5	1,1,2-Trichloroethane	0.76	U
127-18-4	Tetrachloroethene	0.76	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.78	U
108-90-7	Chlorobenzene	0.72	U
100-41-4	Ethylbenzene	0.69	U
108-38-3/106-42-3	m,p-Xylenes	1.3	U
95-47-6	o-Xylene	0.53	U
75-25-2	Bromoform	0.75	U
100-42-5	Styrene	0.61	U
98-82-8	Isopropylbenzene	0.67	U
79-34-5	1,1,2,2-Tetrachloroethane	0.54	U
120-82-1	1,2,4-Trichlorobenzene	0.70	U
541-73-1	1,3-Dichlorobenzene	0.77	U
106-46-7	1,4-Dichlorobenzene	0.76	U
95-50-1	1,2-Dichlorobenzene	0.73	U
96-12-8	1,2-Dibromo-3-chloropropane	0.96	U
1330-20-7	Xylenes (Total)	1.3	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	55	111	53 - 146	
Toluene-d8	50.0	48	96	41 - 146	
4-Bromofluorobenzene	50.0	54	109	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1492905	9.857	1217120	9.845	
1,4-Difluorobenzene	3146822	10.456	2353990	10.438	
Chlorobenzene-d5	1772986	13.235	1612072	13.217	
1,4-Dichlorobenzene-d4	1644956	15.491	1366836	15.474	

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1A26010-BLK1	File ID:	212AU008.D
Prepared:	01/26/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	01/26/21 11:19	Instrument:	OVGCMS2		
Batch:	1A26010	Sequence:	AA64658	Calibration:	2101077

CAS NO.	COMPOUND	CONC. (ug/L)	Q
75-71-8	Dichlorodifluoromethane	0.74	U
74-87-3	Chloromethane	0.82	U
75-01-4	Vinyl chloride	0.71	U
74-83-9	Bromomethane	0.95	U
75-00-3	Chloroethane	0.98	U
75-69-4	Trichlorofluoromethane	0.94	U
76-13-1	Freon 113	0.73	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	0.94	U
75-15-0	Carbon disulfide	2.5	U
75-09-2	Methylene Chloride	2.5	U
1634-04-4	Methyl-tert-Butyl Ether	0.60	U
156-60-5	trans-1,2-Dichloroethene	0.73	U
156-59-2	cis-1,2-Dichloroethene	0.53	U
75-34-3	1,1-Dichloroethane	0.62	U
78-93-3	2-Butanone	4.5	U
67-66-3	Chloroform	0.80	U
71-55-6	1,1,1-Trichloroethane	0.80	U
79-20-9	Methyl acetate	0.95	U
110-82-7	Cyclohexane	0.93	U
108-87-2	Methyl cyclohexane	0.64	U
56-23-5	Carbon Tetrachloride	0.94	U
107-06-2	1,2-Dichloroethane	0.63	U
71-43-2	Benzene	0.71	U
79-01-6	Trichloroethene	0.89	U
78-87-5	1,2-Dichloropropane	0.80	U
75-27-4	Bromodichloromethane	0.52	U
108-10-1	4-Methyl-2-pentanone	2.5	U
591-78-6	2-Hexanone	2.5	U
10061-01-5	cis-1,3-Dichloropropene	0.59	U

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1A26010-BLK1	File ID:	212AU008.D
Prepared:	01/26/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	01/26/21 11:19	Instrument:	OVGCMS2		
Batch:	1A26010	Sequence:	AA64658	Calibration:	2101077

CAS NO.	COMPOUND	CONC. (ug/L)	Q
108-88-3	Toluene	0.72	U
10061-02-6	trans-1,3-Dichloropropene	0.73	U
79-00-5	1,1,2-Trichloroethane	0.76	U
127-18-4	Tetrachloroethene	0.76	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.78	U
108-90-7	Chlorobenzene	0.72	U
100-41-4	Ethylbenzene	0.69	U
108-38-3/106-42-3	m,p-Xylenes	1.3	U
95-47-6	o-Xylene	0.53	U
75-25-2	Bromoform	0.75	U
100-42-5	Styrene	0.61	U
98-82-8	Isopropylbenzene	0.67	U
79-34-5	1,1,2,2-Tetrachloroethane	0.54	U
120-82-1	1,2,4-Trichlorobenzene	0.70	U
541-73-1	1,3-Dichlorobenzene	0.77	U
106-46-7	1,4-Dichlorobenzene	0.76	U
95-50-1	1,2-Dichlorobenzene	0.73	U
96-12-8	1,2-Dibromo-3-chloropropane	0.96	U
1330-20-7	Xylenes (Total)	1.3	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	58	116	53 - 146	
Toluene-d8	50.0	51	102	41 - 146	
4-Bromofluorobenzene	50.0	51	103	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	294699	11.47	253281	11.45	
1,4-Difluorobenzene	604071	12.02	506895	11.99	
Chlorobenzene-d5	274826	14.62	216205	14.59	
1,4-Dichlorobenzene-d4	171064	16.98	135032	16.96	

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1A25020	Laboratory ID:	1A25020-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	12	61	10 - 180
Chloromethane	20.0	9.3	46	33 - 154
Vinyl chloride	20.0	17	85	20 - 167
Bromomethane	20.0	8.7	44	10 - 173
Chloroethane	20.0	22	109	27 - 180
Trichlorofluoromethane	20.0	20	100	56 - 155
Freon 113	20.0	21	104	47 - 173
Acetone	100	71	71	10 - 180
1,1-Dichloroethene	20.0	20	102	47 - 139
Carbon disulfide	20.0	20	102	43 - 153
Methylene Chloride	20.0	20	100	43 - 142
Methyl-tert-Butyl Ether	20.0	20	99	51 - 145
trans-1,2-Dichloroethene	20.0	22	108	54 - 134
cis-1,2-Dichloroethene	20.0	22	109	56 - 128
1,1-Dichloroethane	20.0	19	93	57 - 142
2-Butanone	100	90	90	10 - 180
Chloroform	20.0	20	99	58 - 139
1,1,1-Trichloroethane	20.0	19	97	57 - 148
Methyl acetate	20.0	13	65 *	70 - 130
Cyclohexane	20.0	16	82	70 - 130
Methyl cyclohexane	20.0	18	89	70 - 130
Carbon Tetrachloride	20.0	16	80	54 - 156
1,2-Dichloroethane	20.0	15	75	50 - 156
Benzene	20.0	19	94	56 - 136
Trichloroethene	20.0	21	103	62 - 135
1,2-Dichloropropane	20.0	16	80	61 - 133
Bromodichloromethane	20.0	18	89	58 - 135
4-Methyl-2-pentanone	100	90	90	19 - 180
2-Hexanone	100	68	68	12 - 180
cis-1,3-Dichloropropene	20.0	17	87	64 - 128

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1A25020	Laboratory ID:	1A25020-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Toluene	20.0	23	114	64 - 131
trans-1,3-Dichloropropene	20.0	21	103	65 - 149
1,1,2-Trichloroethane	20.0	21	107	57 - 141
Tetrachloroethene	20.0	21	104	60 - 147
Dibromochloromethane	20.0	24	118	50 - 140
1,2-Dibromoethane	20.0	22	110	57 - 140
Chlorobenzene	20.0	24	120	51 - 139
Ethylbenzene	20.0	22	108	63 - 133
m,p-Xylenes	40.0	50	125	64 - 133
o-Xylene	20.0	23	117	61 - 129
Bromoform	20.0	21	107	46 - 148
Styrene	20.0	25	126	59 - 136
Isopropylbenzene	20.0	24	118	60 - 132
1,1,2,2-Tetrachloroethane	20.0	21	105	60 - 139
1,2,4-Trichlorobenzene	20.0	17	87	52 - 159
1,3-Dichlorobenzene	20.0	24	118	66 - 129
1,4-Dichlorobenzene	20.0	21	106	65 - 133
1,2-Dichlorobenzene	20.0	23	113	63 - 131
1,2-Dibromo-3-chloropropane	20.0	20	102	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1A26010	Laboratory ID:	1A26010-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	14	69	10 - 180
Chloromethane	20.0	19	97	33 - 154
Vinyl chloride	20.0	24	118	20 - 167
Bromomethane	20.0	20	101	10 - 173
Chloroethane	20.0	25	124	27 - 180
Trichlorofluoromethane	20.0	25	123	56 - 155
Freon 113	20.0	28	142	47 - 173
Acetone	100	160	156	10 - 180
1,1-Dichloroethene	20.0	25	125	47 - 139
Carbon disulfide	20.0	36	178 *	43 - 153
Methylene Chloride	20.0	27	136	43 - 142
Methyl-tert-Butyl Ether	20.0	28	141	51 - 145
trans-1,2-Dichloroethene	20.0	27	135 *	54 - 134
cis-1,2-Dichloroethene	20.0	25	124	56 - 128
1,1-Dichloroethane	20.0	24	119	57 - 142
2-Butanone	100	130	126	10 - 180
Chloroform	20.0	28	140 *	58 - 139
1,1,1-Trichloroethane	20.0	25	127	57 - 148
Methyl acetate	20.0	30	148 *	70 - 130
Cyclohexane	20.0	26	132 *	70 - 130
Methyl cyclohexane	20.0	23	116	70 - 130
Carbon Tetrachloride	20.0	23	115	54 - 156
1,2-Dichloroethane	20.0	24	119	50 - 156
Benzene	20.0	21	106	56 - 136
Trichloroethene	20.0	22	112	62 - 135
1,2-Dichloropropane	20.0	24	118	61 - 133
Bromodichloromethane	20.0	23	117	58 - 135
4-Methyl-2-pentanone	100	110	114	19 - 180
2-Hexanone	100	110	114	12 - 180
cis-1,3-Dichloropropene	20.0	23	116	64 - 128

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1A26010	Laboratory ID:	1A26010-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Toluene	20.0	20	101	64 - 131
trans-1,3-Dichloropropene	20.0	23	116	65 - 149
1,1,2-Trichloroethane	20.0	23	114	57 - 141
Tetrachloroethene	20.0	19	97	60 - 147
Dibromochloromethane	20.0	22	112	50 - 140
1,2-Dibromoethane	20.0	23	116	57 - 140
Chlorobenzene	20.0	20	101	51 - 139
Ethylbenzene	20.0	20	100	63 - 133
m,p-Xylenes	40.0	40	99	64 - 133
o-Xylene	20.0	20	102	61 - 129
Bromoform	20.0	23	113	46 - 148
Styrene	20.0	21	103	59 - 136
Isopropylbenzene	20.0	21	104	60 - 132
1,1,2,2-Tetrachloroethane	20.0	23	115	60 - 139
1,2,4-Trichlorobenzene	20.0	25	127	52 - 159
1,3-Dichlorobenzene	20.0	21	105	66 - 129
1,4-Dichlorobenzene	20.0	20	101	65 - 133
1,2-Dichlorobenzene	20.0	22	109	63 - 131
1,2-Dibromo-3-chloropropane	20.0	27	137	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0032-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A25020
Laboratory ID: 1A25020-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0032-058.0-20210120

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	ND	13	66	10 - 180
Chloromethane	20.0	ND	9.6	48	33 - 154
Vinyl chloride	20.0	ND	17	84	20 - 167
Bromomethane	20.0	ND	10	50	10 - 173
Chloroethane	20.0	ND	23	113	27 - 180
Trichlorofluoromethane	20.0	ND	23	113	56 - 155
Freon 113	20.0	ND	23	115	47 - 173
Acetone	100	ND	65	65	10 - 180
1,1-Dichloroethene	20.0	ND	23	114	47 - 139
Carbon disulfide	20.0	ND	21	106	43 - 153
Methylene Chloride	20.0	ND	21	105	43 - 142
Methyl-tert-Butyl Ether	20.0	ND	20	100	51 - 145
trans-1,2-Dichloroethene	20.0	ND	22	111	54 - 134
cis-1,2-Dichloroethene	20.0	ND	22	110	56 - 128
1,1-Dichloroethane	20.0	ND	19	96	57 - 142
2-Butanone	100	ND	88	88	10 - 180
Chloroform	20.0	ND	21	104	58 - 139
1,1,1-Trichloroethane	20.0	ND	22	110	57 - 148
Methyl acetate	20.0	ND	10	51 *	70 - 130
Cyclohexane	20.0	ND	16	82	70 - 130
Methyl cyclohexane	20.0	ND	19	95	70 - 130
Carbon Tetrachloride	20.0	ND	18	89	54 - 156
1,2-Dichloroethane	20.0	ND	16	79	50 - 156
Benzene	20.0	ND	20	100	56 - 136
Trichloroethene	20.0	ND	24	122	62 - 135
1,2-Dichloropropane	20.0	ND	16	79	61 - 133
Bromodichloromethane	20.0	ND	19	95	58 - 135
4-Methyl-2-pentanone	100	ND	87	87	19 - 180
2-Hexanone	100	ND	62	62	12 - 180
cis-1,3-Dichloropropene	20.0	ND	17	85	64 - 128
Toluene	20.0	ND	24	122	64 - 131

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0032-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A25020
Laboratory ID: 1A25020-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0032-058.0-20210120

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
trans-1,3-Dichloropropene	20.0	ND	20	102	65 - 149
1,1,2-Trichloroethane	20.0	ND	22	110	57 - 141
Tetrachloroethene	20.0	ND	24	122	60 - 147
Dibromochloromethane	20.0	ND	25	127	50 - 140
1,2-Dibromoethane	20.0	ND	23	115	57 - 140
Chlorobenzene	20.0	ND	27	135	51 - 139
Ethylbenzene	20.0	ND	24	119	63 - 133
m,p-Xylenes	40.0	ND	55	137 *	64 - 133
o-Xylene	20.0	ND	25	127	61 - 129
Bromoform	20.0	ND	22	109	46 - 148
Styrene	20.0	ND	28	140 *	59 - 136
Isopropylbenzene	20.0	ND	26	131	60 - 132
1,1,2,2-Tetrachloroethane	20.0	ND	23	114	60 - 139
1,2,4-Trichlorobenzene	20.0	ND	15	74	52 - 159
1,3-Dichlorobenzene	20.0	ND	25	125	66 - 129
1,4-Dichlorobenzene	20.0	ND	23	114	65 - 133
1,2-Dichlorobenzene	20.0	ND	23	114	63 - 131
1,2-Dibromo-3-chloropropane	20.0	ND	14	72	48 - 150

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0032-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A25020
Laboratory ID: 1A25020-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0032-058.0-20210120

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20.0	13	63	4	26	10 - 180
Chloromethane	20.0	9.0	45	7	31	33 - 154
Vinyl chloride	20.0	15	77	8	24	20 - 167
Bromomethane	20.0	11	55	10	29	10 - 173
Chloroethane	20.0	21	105	7	22	27 - 180
Trichlorofluoromethane	20.0	20	102	10	22	56 - 155
Freon 113	20.0	21	105	9	30	47 - 173
Acetone	100	70	70	7	19	10 - 180
1,1-Dichloroethene	20.0	21	103	10	16	47 - 139
Carbon disulfide	20.0	19	94	12	26	43 - 153
Methylene Chloride	20.0	19	95	9	23	43 - 142
Methyl-tert-Butyl Ether	20.0	19	95	5	22	51 - 145
trans-1,2-Dichloroethene	20.0	21	103	8	20	54 - 134
cis-1,2-Dichloroethene	20.0	21	104	5	17	56 - 128
1,1-Dichloroethane	20.0	18	90	6	24	57 - 142
2-Butanone	100	83	83	5	29	10 - 180
Chloroform	20.0	20	102	2	17	58 - 139
1,1,1-Trichloroethane	20.0	20	102	8	25	57 - 148
Methyl acetate	20.0	9.5	48 *	6	20	70 - 130
Cyclohexane	20.0	15	75	8	20	70 - 130
Methyl cyclohexane	20.0	18	91	4	20	70 - 130
Carbon Tetrachloride	20.0	16	79	12	27	54 - 156
1,2-Dichloroethane	20.0	15	77	1	18	50 - 156
Benzene	20.0	19	96	5	14	56 - 136
Trichloroethene	20.0	21	107	12	20	62 - 135
1,2-Dichloropropane	20.0	15	76	4	26	61 - 133
Bromodichloromethane	20.0	18	89	7	19	58 - 135
4-Methyl-2-pentanone	100	87	87	0.5	24	19 - 180
2-Hexanone	100	66	66	5	28	12 - 180
cis-1,3-Dichloropropene	20.0	16	78	9	20	64 - 128
Toluene	20.0	23	117	4	16	64 - 131
trans-1,3-Dichloropropene	20.0	19	97	5	17	65 - 149

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0032-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A25020
Laboratory ID: 1A25020-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0032-058.0-20210120

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,2-Trichloroethane	20.0	21	106	3	16	57 - 141
Tetrachloroethene	20.0	23	113	8	21	60 - 147
Dibromochloromethane	20.0	23	117	8	18	50 - 140
1,2-Dibromoethane	20.0	22	110	4	16	57 - 140
Chlorobenzene	20.0	26	129	5	13	51 - 139
Ethylbenzene	20.0	22	112	6	18	63 - 133
m,p-Xylenes	40.0	51	129	6	18	64 - 133
o-Xylene	20.0	25	123	4	16	61 - 129
Bromoform	20.0	21	106	2	18	46 - 148
Styrene	20.0	26	130	7	32	59 - 136
Isopropylbenzene	20.0	24	122	7	23	60 - 132
1,1,2,2-Tetrachloroethane	20.0	22	110	4	17	60 - 139
1,2,4-Trichlorobenzene	20.0	16	81	9	24	52 - 159
1,3-Dichlorobenzene	20.0	24	120	4	23	66 - 129
1,4-Dichlorobenzene	20.0	22	110	4	23	65 - 133
1,2-Dichlorobenzene	20.0	23	113	1	25	63 - 131
1,2-Dibromo-3-chloropropane	20.0	18	88	21	21	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-3R

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A26010
Laboratory ID: 1A26010-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-3R

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	ND	15	75	10 - 180
Chloromethane	20.0	ND	20	98	33 - 154
Vinyl chloride	20.0	ND	25	125	20 - 167
Bromomethane	20.0	ND	22	108	10 - 173
Chloroethane	20.0	ND	25	125	27 - 180
Trichlorofluoromethane	20.0	ND	26	128	56 - 155
Freon 113	20.0	ND	29	146	47 - 173
Acetone	100	ND	150	152	10 - 180
1,1-Dichloroethene	20.0	ND	25	126	47 - 139
Carbon disulfide	20.0	ND	35	173 *	43 - 153
Methylene Chloride	20.0	ND	26	129	43 - 142
Methyl-tert-Butyl Ether	20.0	ND	28	139	51 - 145
trans-1,2-Dichloroethene	20.0	ND	26	130	54 - 134
cis-1,2-Dichloroethene	20.0	ND	24	118	56 - 128
1,1-Dichloroethane	20.0	ND	23	115	57 - 142
2-Butanone	100	ND	140	137	10 - 180
Chloroform	20.0	ND	27	134	58 - 139
1,1,1-Trichloroethane	20.0	ND	25	125	57 - 148
Methyl acetate	20.0	ND	29	144 *	70 - 130
Cyclohexane	20.0	ND	27	134 *	70 - 130
Methyl cyclohexane	20.0	ND	23	114	70 - 130
Carbon Tetrachloride	20.0	ND	23	114	54 - 156
1,2-Dichloroethane	20.0	ND	22	112	50 - 156
Benzene	20.0	ND	20	102	56 - 136
Trichloroethene	20.0	ND	21	106	62 - 135
1,2-Dichloropropane	20.0	ND	23	115	61 - 133
Bromodichloromethane	20.0	ND	22	110	58 - 135
4-Methyl-2-pentanone	100	ND	120	119	19 - 180
2-Hexanone	100	ND	120	123	12 - 180
cis-1,3-Dichloropropene	20.0	ND	22	111	64 - 128
Toluene	20.0	ND	20	98	64 - 131

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-3R

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A26010
Laboratory ID: 1A26010-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-3R

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
trans-1,3-Dichloropropene	20.0	ND	22	110	65 - 149
1,1,2-Trichloroethane	20.0	ND	22	109	57 - 141
Tetrachloroethene	20.0	ND	19	96	60 - 147
Dibromochloromethane	20.0	ND	21	107	50 - 140
1,2-Dibromoethane	20.0	ND	22	110	57 - 140
Chlorobenzene	20.0	ND	20	98	51 - 139
Ethylbenzene	20.0	ND	20	98	63 - 133
m,p-Xylenes	40.0	ND	39	97	64 - 133
o-Xylene	20.0	ND	19	97	61 - 129
Bromoform	20.0	ND	22	108	46 - 148
Styrene	20.0	ND	20	98	59 - 136
Isopropylbenzene	20.0	ND	20	100	60 - 132
1,1,2,2-Tetrachloroethane	20.0	ND	22	112	60 - 139
1,2,4-Trichlorobenzene	20.0	ND	24	122	52 - 159
1,3-Dichlorobenzene	20.0	ND	20	99	66 - 129
1,4-Dichlorobenzene	20.0	ND	19	97	65 - 133
1,2-Dichlorobenzene	20.0	ND	20	102	63 - 131
1,2-Dibromo-3-chloropropane	20.0	ND	27	136	48 - 150

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-3R

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A26010
Laboratory ID: 1A26010-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-3R

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #		% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20.0	14	70		6	26	10 - 180
Chloromethane	20.0	19	96		3	31	33 - 154
Vinyl chloride	20.0	24	120		4	24	20 - 167
Bromomethane	20.0	23	114		5	29	10 - 173
Chloroethane	20.0	25	125		0.2	22	27 - 180
Trichlorofluoromethane	20.0	26	131		3	22	56 - 155
Freon 113	20.0	29	144		2	30	47 - 173
Acetone	100	160	157		3	19	10 - 180
1,1-Dichloroethene	20.0	24	120		5	16	47 - 139
Carbon disulfide	20.0	33	163	*	6	26	43 - 153
Methylene Chloride	20.0	26	128		1	23	43 - 142
Methyl-tert-Butyl Ether	20.0	28	141		1	22	51 - 145
trans-1,2-Dichloroethene	20.0	26	128		2	20	54 - 134
cis-1,2-Dichloroethene	20.0	23	115		2	17	56 - 128
1,1-Dichloroethane	20.0	23	115		0.2	24	57 - 142
2-Butanone	100	130	129		6	29	10 - 180
Chloroform	20.0	27	133		1	17	58 - 139
1,1,1-Trichloroethane	20.0	25	124		1	25	57 - 148
Methyl acetate	20.0	31	155	*	7	20	70 - 130
Cyclohexane	20.0	26	128		5	20	70 - 130
Methyl cyclohexane	20.0	22	112		2	20	70 - 130
Carbon Tetrachloride	20.0	23	113		0.4	27	54 - 156
1,2-Dichloroethane	20.0	22	112		0.6	18	50 - 156
Benzene	20.0	20	101		0.5	14	56 - 136
Trichloroethene	20.0	21	106		0.4	20	62 - 135
1,2-Dichloropropane	20.0	23	113		2	26	61 - 133
Bromodichloromethane	20.0	22	110		0.1	19	58 - 135
4-Methyl-2-pentanone	100	130	125		5	24	19 - 180
2-Hexanone	100	130	133		8	28	12 - 180
cis-1,3-Dichloropropene	20.0	22	111		0.2	20	64 - 128
Toluene	20.0	19	95		3	16	64 - 131
trans-1,3-Dichloropropene	20.0	22	108		2	17	65 - 149

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-3R

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1A26010
Laboratory ID: 1A26010-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-3R

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,2-Trichloroethane	20.0	21	106	3	16	57 - 141
Tetrachloroethene	20.0	18	92	4	21	60 - 147
Dibromochloromethane	20.0	21	107	0.3	18	50 - 140
1,2-Dibromoethane	20.0	22	110	0.09	16	57 - 140
Chlorobenzene	20.0	19	95	3	13	51 - 139
Ethylbenzene	20.0	19	95	3	18	63 - 133
m,p-Xylenes	40.0	38	94	3	18	64 - 133
o-Xylene	20.0	19	96	1	16	61 - 129
Bromoform	20.0	21	107	0.9	18	46 - 148
Styrene	20.0	19	97	2	32	59 - 136
Isopropylbenzene	20.0	19	97	3	23	60 - 132
1,1,2,2-Tetrachloroethane	20.0	23	114	3	17	60 - 139
1,2,4-Trichlorobenzene	20.0	24	119	2	24	52 - 159
1,3-Dichlorobenzene	20.0	19	94	5	23	66 - 129
1,4-Dichlorobenzene	20.0	19	94	4	23	65 - 133
1,2-Dichlorobenzene	20.0	20	100	2	25	63 - 131
1,2-Dibromo-3-chloropropane	20.0	28	141	4	21	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA63653
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA63653-SCV1)			Lab File ID: 205KN012.D		Analyzed: 11/19/20 13:24			
Dibromofluoromethane	50.0	100	70 - 130	9.422	9.4205	0.0015	+/-0.5	
Toluene-d8	50.0	104	70 - 130	11.772	11.77275	-0.0008	+/-0.5	
4-Bromofluorobenzene	50.0	105	70 - 130	14.322	14.322	0.0000	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64539
Instrument: OVGCMS2
Matrix: Water
Calibration: 2101077

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA64539-SCV1)			Lab File ID: 212AN013.D		Analyzed: 01/19/21 13:38			
Dibromofluoromethane	50.0	99	70 - 130	11.04	11.05125	-0.0113	+/-0.5	
Toluene-d8	50.0	105	70 - 130	13.22	13.21875	0.0013	+/-0.5	
4-Bromofluorobenzene	50.0	105	70 - 130	15.71	15.71125	-0.0012	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64632
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA64632-CCV1)			Lab File ID: 215AT003.D		Analyzed: 01/25/21 08:47			
Dibromofluoromethane	50.0	107	80 - 120	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	99	80 - 120	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	103	80 - 120	14.334	14.322	0.0120	+/-0.5	
LCS (1A25020-BS1)			Lab File ID: 215AT004.D		Analyzed: 01/25/21 09:20			
Dibromofluoromethane	50.0	111	53 - 146	9.434	9.4205	0.0135	+/-0.5	
Toluene-d8	50.0	98	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	105	41 - 142	14.334	14.322	0.0120	+/-0.5	
Blank (1A25020-BLK1)			Lab File ID: 215AT006.D		Analyzed: 01/25/21 10:19			
Dibromofluoromethane	50.0	111	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	96	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	14.34	14.322	0.0180	+/-0.5	
Instrument RL Check (AA64632-CRL1)			Lab File ID: 215AT007.D		Analyzed: 01/25/21 10:48			
Dibromofluoromethane	50.0	108	1 - 199	9.434	9.4205	0.0135	+/-0.5	
Toluene-d8	50.0	95	1 - 199	11.784	11.77275	0.0113	+/-0.5	
4-Bromofluorobenzene	50.0	106	1 - 199	14.334	14.322	0.0120	+/-0.5	
CRCA-MW0032-058.0-20210120 (AE00066-10)			Lab File ID: 215AT009.D		Analyzed: 01/25/21 11:47			
Dibromofluoromethane	50.0	114	53 - 146	9.434	9.4205	0.0135	+/-0.5	
Toluene-d8	50.0	94	41 - 146	11.784	11.77275	0.0113	+/-0.5	
4-Bromofluorobenzene	50.0	106	41 - 142	14.334	14.322	0.0120	+/-0.5	
CRCA-MW0030-058.0-20210119 (AE00066-01)			Lab File ID: 215AT010.D		Analyzed: 01/25/21 12:17			
Dibromofluoromethane	50.0	115	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	97	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	106	41 - 142	14.334	14.322	0.0120	+/-0.5	
CRCA-MW0029-035.0-20210119 (AE00066-02)			Lab File ID: 215AT011.D		Analyzed: 01/25/21 12:46			
Dibromofluoromethane	50.0	114	53 - 146	9.44	9.4205	0.0195	+/-0.5	
Toluene-d8	50.0	96	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	107	41 - 142	14.34	14.322	0.0180	+/-0.5	
CRCA-MW0028-058.0-20210119 (AE00066-03)			Lab File ID: 215AT012.D		Analyzed: 01/25/21 13:15			
Dibromofluoromethane	50.0	111	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	95	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	105	41 - 142	14.34	14.322	0.0180	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64632
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
CRCA-MW0027-035.0-20210119 (AE00066-04)			Lab File ID: 215AT013.D		Analyzed: 01/25/21 13:45			
Dibromofluoromethane	50.0	115	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	93	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	104	41 - 142	14.34	14.322	0.0180	+/-0.5	
CRCA-MW0015-027.5-20210119 (AE00066-05)			Lab File ID: 215AT014.D		Analyzed: 01/25/21 14:14			
Dibromofluoromethane	50.0	114	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	94	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	108	41 - 142	14.34	14.322	0.0180	+/-0.5	
CRCA-MW0013-027.5-20210119 (AE00066-06)			Lab File ID: 215AT015.D		Analyzed: 01/25/21 14:44			
Dibromofluoromethane	50.0	114	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	96	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	14.34	14.322	0.0180	+/-0.5	
CRCA-MW0012-027.5-20210119 (AE00066-07)			Lab File ID: 215AT016.D		Analyzed: 01/25/21 15:13			
Dibromofluoromethane	50.0	118	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	96	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	14.34	14.322	0.0180	+/-0.5	
CRCA-MW0002-032.5-20210119 (AE00066-08)			Lab File ID: 215AT017.D		Analyzed: 01/25/21 15:43			
Dibromofluoromethane	50.0	113	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	97	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	14.34	14.322	0.0180	+/-0.5	
CRCA-MW0031-058.0-20210120 (AE00066-09)			Lab File ID: 215AT018.D		Analyzed: 01/25/21 16:12			
Dibromofluoromethane	50.0	118	53 - 146	9.44	9.4205	0.0195	+/-0.5	
Toluene-d8	50.0	93	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	105	41 - 142	14.34	14.322	0.0180	+/-0.5	
CRCA-MW0019-058.0-20210120 (AE00066-12)			Lab File ID: 215AT020.D		Analyzed: 01/25/21 17:11			
Dibromofluoromethane	50.0	113	53 - 146	9.445	9.4205	0.0245	+/-0.5	
Toluene-d8	50.0	95	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	110	41 - 142	14.34	14.322	0.0180	+/-0.5	
Matrix Spike (1A25020-MS1)			Lab File ID: 215AT023.D		Analyzed: 01/25/21 18:39			
Dibromofluoromethane	50.0	112	53 - 146	9.44	9.4205	0.0195	+/-0.5	
Toluene-d8	50.0	97	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	14.34	14.322	0.0180	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64632
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Matrix Spike Dup (1A25020-MSD1)			Lab File ID: 215AT024.D		Analyzed: 01/25/21 19:09			
Dibromofluoromethane	50.0	111	53 - 146	9.439	9.4205	0.0185	+/-0.5	
Toluene-d8	50.0	96	41 - 146	11.79	11.77275	0.0172	+/-0.5	
4-Bromofluorobenzene	50.0	110	41 - 142	14.34	14.322	0.0180	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64658
Instrument: OVGCMS2
Matrix: Water
Calibration: 2101077

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA64658-CCV1)				Lab File ID: 212AU002.D		Analyzed: 01/26/21 08:06		
Dibromofluoromethane	50.0	100	80 - 120	11.08	11.05125	0.0288	+/-0.5	
Toluene-d8	50.0	99	80 - 120	13.24	13.21875	0.0213	+/-0.5	
4-Bromofluorobenzene	50.0	100	80 - 120	15.74	15.71125	0.0288	+/-0.5	
LCS (1A26010-BS1)				Lab File ID: 212AU003.D		Analyzed: 01/26/21 08:43		
Dibromofluoromethane	50.0	114	53 - 146	11.08	11.05125	0.0288	+/-0.5	
Toluene-d8	50.0	103	41 - 146	13.24	13.21875	0.0213	+/-0.5	
4-Bromofluorobenzene	50.0	103	41 - 142	15.74	15.71125	0.0288	+/-0.5	
Matrix Spike (1A26010-MS1)				Lab File ID: 212AU004.D		Analyzed: 01/26/21 09:24		
Dibromofluoromethane	50.0	112	53 - 146	11.09	11.05125	0.0388	+/-0.5	
Toluene-d8	50.0	101	41 - 146	13.25	13.21875	0.0313	+/-0.5	
4-Bromofluorobenzene	50.0	101	41 - 142	15.74	15.71125	0.0288	+/-0.5	
Matrix Spike Dup (1A26010-MSD1)				Lab File ID: 212AU005.D		Analyzed: 01/26/21 09:53		
Dibromofluoromethane	50.0	121	53 - 146	11.08	11.05125	0.0288	+/-0.5	
Toluene-d8	50.0	109	41 - 146	13.24	13.21875	0.0213	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	15.73	15.71125	0.0188	+/-0.5	
Blank (1A26010-BLK1)				Lab File ID: 212AU008.D		Analyzed: 01/26/21 11:19		
Dibromofluoromethane	50.0	116	53 - 146	11.09	11.05125	0.0388	+/-0.5	
Toluene-d8	50.0	102	41 - 146	13.24	13.21875	0.0213	+/-0.5	
4-Bromofluorobenzene	50.0	103	41 - 142	15.74	15.71125	0.0288	+/-0.5	
Instrument RL Check (AA64658-CRL1)				Lab File ID: 212AU009.D		Analyzed: 01/26/21 12:02		
Dibromofluoromethane	50.0	116	1 - 199	11.08	11.05125	0.0288	+/-0.5	
Toluene-d8	50.0	102	1 - 199	13.24	13.21875	0.0213	+/-0.5	
4-Bromofluorobenzene	50.0	101	1 - 199	15.74	15.71125	0.0288	+/-0.5	
CRCA-MW0018-058.0-20210120 (AE00066-11RE1)				Lab File ID: 212AU017.D		Analyzed: 01/26/21 15:52		
Dibromofluoromethane	50.0	110	53 - 146	11.07	11.05125	0.0188	+/-0.5	
Toluene-d8	50.0	109	41 - 146	13.24	13.21875	0.0213	+/-0.5	
4-Bromofluorobenzene	50.0	108	41 - 142	15.74	15.71125	0.0288	+/-0.5	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA63653
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA63653-CAL1)			Lab File ID: 205KN003.D			Analyzed: 11/19/20 08:46			
Pentafluorobenzene	1250058	9.851	1217120	9.845	103	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2384669	10.444	2353990	10.438	101	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1608704	13.223	1612072	13.217	100	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1323293	15.48	1366836	15.474	97	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL2)			Lab File ID: 205KN004.D			Analyzed: 11/19/20 09:16			
Pentafluorobenzene	1204238	9.845	1217120	9.845	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2405138	10.438	2353990	10.438	102	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1568806	13.217	1612072	13.217	97	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1312583	15.48	1366836	15.474	96	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL3)			Lab File ID: 205KN005.D			Analyzed: 11/19/20 09:47			
Pentafluorobenzene	1203996	9.845	1217120	9.845	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2450219	10.438	2353990	10.438	104	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1607155	13.217	1612072	13.217	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1325758	15.48	1366836	15.474	97	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL4)			Lab File ID: 205KN006.D			Analyzed: 11/19/20 10:18			
Pentafluorobenzene	1172592	9.845	1217120	9.845	96	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2346408	10.438	2353990	10.438	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1580434	13.223	1612072	13.217	98	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1299188	15.48	1366836	15.474	95	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL5)			Lab File ID: 205KN007.D			Analyzed: 11/19/20 10:49			
Pentafluorobenzene	1203065	9.845	1217120	9.845	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2330356	10.438	2353990	10.438	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1579586	13.217	1612072	13.217	98	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1295652	15.48	1366836	15.474	95	50 - 200	0.0060	+/-0.50	
Cal Standard (AA63653-CAL6)			Lab File ID: 205KN008.D			Analyzed: 11/19/20 11:20			
Pentafluorobenzene	1217120	9.845	1217120	9.845	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2353990	10.438	2353990	10.438	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1612072	13.217	1612072	13.217	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1366836	15.474	1366836	15.474	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA63653-CAL7)			Lab File ID: 205KN009.D			Analyzed: 11/19/20 11:51			
Pentafluorobenzene	1208553	9.845	1217120	9.845	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2324329	10.438	2353990	10.438	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1614423	13.217	1612072	13.217	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1389872	15.48	1366836	15.474	102	50 - 200	0.0060	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA63653
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA63653-CAL8)			Lab File ID: 205KN010.D			Analyzed: 11/19/20 12:22			
Pentafluorobenzene	1285587	9.845	1217120	9.845	106	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2302813	10.438	2353990	10.438	98	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1664856	13.218	1612072	13.217	103	50 - 200	0.0010	+/-0.50	
1,4-Dichlorobenzene-d4	1435917	15.48	1366836	15.474	105	50 - 200	0.0060	+/-0.50	
Secondary Cal Check (AA63653-SCV1)			Lab File ID: 205KN012.D			Analyzed: 11/19/20 13:24			
Pentafluorobenzene	1335071	9.851	1217120	9.845	110	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2438645	10.444	2353990	10.438	104	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1652574	13.223	1612072	13.217	103	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1403353	15.48	1366836	15.474	103	50 - 200	0.0060	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64539
Instrument: OVGCMS2
Matrix: Water
Calibration: 2101077

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA64539-CAL1)			Lab File ID: 212AN002.D			Analyzed: 01/19/21 08:23			
Pentafluorobenzene	274242	11.44	253281	11.45	108	50 - 200	-0.0100	+/-0.50	
1,4-Difluorobenzene	530522	12	506895	11.99	105	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	220188	14.59	216205	14.59	102	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	135369	16.96	135032	16.96	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64539-CAL2)			Lab File ID: 212AN003.D			Analyzed: 01/19/21 08:52			
Pentafluorobenzene	267255	11.44	253281	11.45	106	50 - 200	-0.0100	+/-0.50	
1,4-Difluorobenzene	516243	12	506895	11.99	102	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	215044	14.59	216205	14.59	99	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	132912	16.96	135032	16.96	98	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64539-CAL3)			Lab File ID: 212AN004.D			Analyzed: 01/19/21 09:20			
Pentafluorobenzene	259637	11.45	253281	11.45	103	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	509917	12	506895	11.99	101	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	220093	14.6	216205	14.59	102	50 - 200	0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	135848	16.95	135032	16.96	101	50 - 200	-0.0100	+/-0.50	
Cal Standard (AA64539-CAL4)			Lab File ID: 212AN006.D			Analyzed: 01/19/21 10:17			
Pentafluorobenzene	253281	11.45	253281	11.45	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	506895	11.99	506895	11.99	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	216205	14.59	216205	14.59	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	135032	16.96	135032	16.96	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64539-CAL5)			Lab File ID: 212AN007.D			Analyzed: 01/19/21 10:46			
Pentafluorobenzene	285339	11.45	253281	11.45	113	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	550117	12	506895	11.99	109	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	239824	14.59	216205	14.59	111	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	149699	16.95	135032	16.96	111	50 - 200	-0.0100	+/-0.50	
Cal Standard (AA64539-CAL6)			Lab File ID: 212AN008.D			Analyzed: 01/19/21 11:15			
Pentafluorobenzene	320158	11.45	253281	11.45	126	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	592335	12	506895	11.99	117	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	268151	14.59	216205	14.59	124	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	170474	16.95	135032	16.96	126	50 - 200	-0.0100	+/-0.50	
Cal Standard (AA64539-CAL7)			Lab File ID: 212AN009.D			Analyzed: 01/19/21 11:43			
Pentafluorobenzene	331924	11.45	253281	11.45	131	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	589225	12	506895	11.99	116	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	284238	14.59	216205	14.59	131	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	179167	16.96	135032	16.96	133	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64539
Instrument: OVGCMS2
Matrix: Water
Calibration: 2101077

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA64539-CAL8)			Lab File ID: 212AN010.D			Analyzed: 01/19/21 12:12			
Pentafluorobenzene	335499	11.45	253281	11.45	132	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	624473	12	506895	11.99	123	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	294938	14.6	216205	14.59	136	50 - 200	0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	191016	16.95	135032	16.96	141	50 - 200	-0.0100	+/-0.50	
Secondary Cal Check (AA64539-SCV1)			Lab File ID: 212AN013.D			Analyzed: 01/19/21 13:38			
Pentafluorobenzene	232904	11.44	253281	11.45	92	50 - 200	-0.0100	+/-0.50	
1,4-Difluorobenzene	448821	12	506895	11.99	89	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	230350	14.59	216205	14.59	107	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	165080	16.95	135032	16.96	122	50 - 200	-0.0100	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64632
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA64632-CCV1)			Lab File ID: 215AT003.D			Analyzed: 01/25/21 08:47			
Pentafluorobenzene	1707380	9.862	1217120	9.845	140	50 - 200	0.0170	+/-0.50	
1,4-Difluorobenzene	3441893	10.456	2353990	10.438	146	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	2103106	13.235	1612072	13.217	130	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1782629	15.497	1366836	15.474	130	50 - 200	0.0230	+/-0.50	
LCS (1A25020-BS1)			Lab File ID: 215AT004.D			Analyzed: 01/25/21 09:20			
Pentafluorobenzene	1599715	9.862	1217120	9.845	131	50 - 200	0.0170	+/-0.50	
1,4-Difluorobenzene	3376621	10.456	2353990	10.438	143	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1975824	13.235	1612072	13.217	123	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1733612	15.497	1366836	15.474	127	50 - 200	0.0230	+/-0.50	
Blank (1A25020-BLK1)			Lab File ID: 215AT006.D			Analyzed: 01/25/21 10:19			
Pentafluorobenzene	1492905	9.857	1217120	9.845	123	50 - 200	0.0120	+/-0.50	
1,4-Difluorobenzene	3146822	10.456	2353990	10.438	134	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1772986	13.235	1612072	13.217	110	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1644956	15.491	1366836	15.474	120	50 - 200	0.0170	+/-0.50	
Instrument RL Check (AA64632-CRL1)			Lab File ID: 215AT007.D			Analyzed: 01/25/21 10:48			
Pentafluorobenzene	1450199	9.863	1217120	9.845	119	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	3054870	10.456	2353990	10.438	130	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1722975	13.235	1612072	13.217	107	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1562753	15.491	1366836	15.474	114	50 - 200	0.0170	+/-0.50	
CRCA-MW0032-058.0-20210120 (AE00066-10)			Lab File ID: 215AT009.D			Analyzed: 01/25/21 11:47			
Pentafluorobenzene	1353992	9.863	1217120	9.845	111	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	2910142	10.456	2353990	10.438	124	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1676020	13.235	1612072	13.217	104	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1554117	15.491	1366836	15.474	114	50 - 200	0.0170	+/-0.50	
CRCA-MW0030-058.0-20210119 (AE00066-01)			Lab File ID: 215AT010.D			Analyzed: 01/25/21 12:17			
Pentafluorobenzene	1351808	9.863	1217120	9.845	111	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	2866333	10.456	2353990	10.438	122	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1635734	13.235	1612072	13.217	101	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1522320	15.491	1366836	15.474	111	50 - 200	0.0170	+/-0.50	
CRCA-MW0029-035.0-20210119 (AE00066-02)			Lab File ID: 215AT011.D			Analyzed: 01/25/21 12:46			
Pentafluorobenzene	1334319	9.863	1217120	9.845	110	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	2846320	10.456	2353990	10.438	121	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1622830	13.235	1612072	13.217	101	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1514443	15.497	1366836	15.474	111	50 - 200	0.0230	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA64632
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
CRCA-MW0028-058.0-20210119 (AE00066-03)			Lab File ID: 215AT012.D			Analyzed: 01/25/21 13:15			
Pentafluorobenzene	1325539	9.862	1217120	9.845	109	50 - 200	0.0170	+/-0.50	
1,4-Difluorobenzene	2841226	10.456	2353990	10.438	121	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1602227	13.235	1612072	13.217	99	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1534202	15.497	1366836	15.474	112	50 - 200	0.0230	+/-0.50	
CRCA-MW0027-035.0-20210119 (AE00066-04)			Lab File ID: 215AT013.D			Analyzed: 01/25/21 13:45			
Pentafluorobenzene	1342454	9.863	1217120	9.845	110	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	2980618	10.462	2353990	10.438	127	50 - 200	0.0240	+/-0.50	
Chlorobenzene-d5	1652145	13.235	1612072	13.217	102	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1560174	15.497	1366836	15.474	114	50 - 200	0.0230	+/-0.50	
CRCA-MW0015-027.5-20210119 (AE00066-05)			Lab File ID: 215AT014.D			Analyzed: 01/25/21 14:14			
Pentafluorobenzene	1353784	9.868	1217120	9.845	111	50 - 200	0.0230	+/-0.50	
1,4-Difluorobenzene	2923690	10.462	2353990	10.438	124	50 - 200	0.0240	+/-0.50	
Chlorobenzene-d5	1584476	13.235	1612072	13.217	98	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1534322	15.497	1366836	15.474	112	50 - 200	0.0230	+/-0.50	
CRCA-MW0013-027.5-20210119 (AE00066-06)			Lab File ID: 215AT015.D			Analyzed: 01/25/21 14:44			
Pentafluorobenzene	1323227	9.868	1217120	9.845	109	50 - 200	0.0230	+/-0.50	
1,4-Difluorobenzene	2812403	10.462	2353990	10.438	119	50 - 200	0.0240	+/-0.50	
Chlorobenzene-d5	1560555	13.235	1612072	13.217	97	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1499588	15.497	1366836	15.474	110	50 - 200	0.0230	+/-0.50	
CRCA-MW0012-027.5-20210119 (AE00066-07)			Lab File ID: 215AT016.D			Analyzed: 01/25/21 15:13			
Pentafluorobenzene	1311393	9.868	1217120	9.845	108	50 - 200	0.0230	+/-0.50	
1,4-Difluorobenzene	2857206	10.462	2353990	10.438	121	50 - 200	0.0240	+/-0.50	
Chlorobenzene-d5	1588971	13.235	1612072	13.217	99	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1519324	15.497	1366836	15.474	111	50 - 200	0.0230	+/-0.50	
CRCA-MW0002-032.5-20210119 (AE00066-08)			Lab File ID: 215AT017.D			Analyzed: 01/25/21 15:43			
Pentafluorobenzene	1324243	9.863	1217120	9.845	109	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	2844356	10.456	2353990	10.438	121	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1569592	13.235	1612072	13.217	97	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1496442	15.497	1366836	15.474	109	50 - 200	0.0230	+/-0.50	
CRCA-MW0031-058.0-20210120 (AE00066-09)			Lab File ID: 215AT018.D			Analyzed: 01/25/21 16:12			
Pentafluorobenzene	1346166	9.863	1217120	9.845	111	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	3057273	10.462	2353990	10.438	130	50 - 200	0.0240	+/-0.50	
Chlorobenzene-d5	1666053	13.235	1612072	13.217	103	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1548120	15.497	1366836	15.474	113	50 - 200	0.0230	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA64632
Instrument: OVGCMS5
Matrix: Water
Calibration: 2011113

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
CRCA-MW0019-058.0-20210120 (AE00066-12)			Lab File ID: 215AT020.D			Analyzed: 01/25/21 17:11			
Pentafluorobenzene	1326429	9.868	1217120	9.845	109	50 - 200	0.0230	+/-0.50	
1,4-Difluorobenzene	2844280	10.462	2353990	10.438	121	50 - 200	0.0240	+/-0.50	
Chlorobenzene-d5	1585901	13.241	1612072	13.217	98	50 - 200	0.0240	+/-0.50	
1,4-Dichlorobenzene-d4	1547465	15.497	1366836	15.474	113	50 - 200	0.0230	+/-0.50	
Matrix Spike (1A25020-MS1)			Lab File ID: 215AT023.D			Analyzed: 01/25/21 18:39			
Pentafluorobenzene	1347954	9.863	1217120	9.845	111	50 - 200	0.0180	+/-0.50	
1,4-Difluorobenzene	2823243	10.456	2353990	10.438	120	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1642590	13.235	1612072	13.217	102	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1598011	15.497	1366836	15.474	117	50 - 200	0.0230	+/-0.50	
Matrix Spike Dup (1A25020-MSD1)			Lab File ID: 215AT024.D			Analyzed: 01/25/21 19:09			
Pentafluorobenzene	1455730	9.862	1217120	9.845	120	50 - 200	0.0170	+/-0.50	
1,4-Difluorobenzene	3018464	10.456	2353990	10.438	128	50 - 200	0.0180	+/-0.50	
Chlorobenzene-d5	1707516	13.235	1612072	13.217	106	50 - 200	0.0180	+/-0.50	
1,4-Dichlorobenzene-d4	1611682	15.497	1366836	15.474	118	50 - 200	0.0230	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64658
Instrument: OVGCMS2
Matrix: Water
Calibration: 2101077

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA64658-CCV1)			Lab File ID: 212AU002.D			Analyzed: 01/26/21 08:06			
Pentafluorobenzene	380115	11.47	253281	11.45	150	50 - 200	0.0200	+/-0.50	
1,4-Difluorobenzene	741405	12.03	506895	11.99	146	50 - 200	0.0400	+/-0.50	
Chlorobenzene-d5	366094	14.62	216205	14.59	169	50 - 200	0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	237068	16.98	135032	16.96	176	50 - 200	0.0200	+/-0.50	
LCS (1A26010-BS1)			Lab File ID: 212AU003.D			Analyzed: 01/26/21 08:43			
Pentafluorobenzene	324503	11.48	253281	11.45	128	50 - 200	0.0300	+/-0.50	
1,4-Difluorobenzene	677646	12.02	506895	11.99	134	50 - 200	0.0300	+/-0.50	
Chlorobenzene-d5	321367	14.62	216205	14.59	149	50 - 200	0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	201276	16.99	135032	16.96	149	50 - 200	0.0300	+/-0.50	
Matrix Spike (1A26010-MS1)			Lab File ID: 212AU004.D			Analyzed: 01/26/21 09:24			
Pentafluorobenzene	331145	11.47	253281	11.45	131	50 - 200	0.0200	+/-0.50	
1,4-Difluorobenzene	698701	12.02	506895	11.99	138	50 - 200	0.0300	+/-0.50	
Chlorobenzene-d5	329572	14.62	216205	14.59	152	50 - 200	0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	204382	16.99	135032	16.96	151	50 - 200	0.0300	+/-0.50	
Matrix Spike Dup (1A26010-MSD1)			Lab File ID: 212AU005.D			Analyzed: 01/26/21 09:53			
Pentafluorobenzene	305426	11.47	253281	11.45	121	50 - 200	0.0200	+/-0.50	
1,4-Difluorobenzene	636767	12.02	506895	11.99	126	50 - 200	0.0300	+/-0.50	
Chlorobenzene-d5	309741	14.61	216205	14.59	143	50 - 200	0.0200	+/-0.50	
1,4-Dichlorobenzene-d4	201759	16.98	135032	16.96	149	50 - 200	0.0200	+/-0.50	
Blank (1A26010-BLK1)			Lab File ID: 212AU008.D			Analyzed: 01/26/21 11:19			
Pentafluorobenzene	294699	11.47	253281	11.45	116	50 - 200	0.0200	+/-0.50	
1,4-Difluorobenzene	604071	12.02	506895	11.99	119	50 - 200	0.0300	+/-0.50	
Chlorobenzene-d5	274826	14.62	216205	14.59	127	50 - 200	0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	171064	16.98	135032	16.96	127	50 - 200	0.0200	+/-0.50	
Instrument RL Check (AA64658-CRL1)			Lab File ID: 212AU009.D			Analyzed: 01/26/21 12:02			
Pentafluorobenzene	287383	11.48	253281	11.45	113	50 - 200	0.0300	+/-0.50	
1,4-Difluorobenzene	593855	12.03	506895	11.99	117	50 - 200	0.0400	+/-0.50	
Chlorobenzene-d5	273190	14.62	216205	14.59	126	50 - 200	0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	169027	16.98	135032	16.96	125	50 - 200	0.0200	+/-0.50	
CRCA-MW0018-058.0-20210120 (AE00066-11RE1)			Lab File ID: 212AU017.D			Analyzed: 01/26/21 15:52			
Pentafluorobenzene	193931	11.47	253281	11.45	77	50 - 200	0.0200	+/-0.50	
1,4-Difluorobenzene	383784	12.02	506895	11.99	76	50 - 200	0.0300	+/-0.50	
Chlorobenzene-d5	191378	14.62	216205	14.59	89	50 - 200	0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	134955	16.99	135032	16.96	100	50 - 200	0.0300	+/-0.50	

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA63653		
Calibration:	2011113	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA63653-TUN1	205KN002.D	11/19/20 08:07
Cal Standard	AA63653-CAL1	205KN003.D	11/19/20 08:46
Cal Standard	AA63653-CAL2	205KN004.D	11/19/20 09:16
Cal Standard	AA63653-CAL3	205KN005.D	11/19/20 09:47
Cal Standard	AA63653-CAL4	205KN006.D	11/19/20 10:18
Cal Standard	AA63653-CAL5	205KN007.D	11/19/20 10:49
Cal Standard	AA63653-CAL6	205KN008.D	11/19/20 11:20
Cal Standard	AA63653-CAL7	205KN009.D	11/19/20 11:51
Cal Standard	AA63653-CAL8	205KN010.D	11/19/20 12:22
Secondary Cal Check	AA63653-SCV1	205KN012.D	11/19/20 13:24

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64539		
Calibration:	2101077	Instrument:	OVGCMS2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA64539-TUN1	212AN001.D	01/19/21 07:42
Cal Standard	AA64539-CAL1	212AN002.D	01/19/21 08:23
Cal Standard	AA64539-CAL2	212AN003.D	01/19/21 08:52
Cal Standard	AA64539-CAL3	212AN004.D	01/19/21 09:20
Cal Standard	AA64539-CAL4	212AN006.D	01/19/21 10:17
Cal Standard	AA64539-CAL5	212AN007.D	01/19/21 10:46
Cal Standard	AA64539-CAL6	212AN008.D	01/19/21 11:15
Cal Standard	AA64539-CAL7	212AN009.D	01/19/21 11:43
Cal Standard	AA64539-CAL8	212AN010.D	01/19/21 12:12
Secondary Cal Check	AA64539-SCV1	212AN013.D	01/19/21 13:38

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64632		
Calibration:	2011113	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA64632-CCV1	215AT003.D	01/25/21 08:47
LCS	1A25020-BS1	215AT004.D	01/25/21 09:20
Blank	1A25020-BLK1	215AT006.D	01/25/21 10:19
Instrument RL Check	AA64632-CRL1	215AT007.D	01/25/21 10:48
CRCA-MW0032-058.0-20210120	AE00066-10	215AT009.D	01/25/21 11:47
CRCA-MW0030-058.0-20210119	AE00066-01	215AT010.D	01/25/21 12:17
CRCA-MW0029-035.0-20210119	AE00066-02	215AT011.D	01/25/21 12:46
CRCA-MW0028-058.0-20210119	AE00066-03	215AT012.D	01/25/21 13:15
CRCA-MW0027-035.0-20210119	AE00066-04	215AT013.D	01/25/21 13:45
CRCA-MW0015-027.5-20210119	AE00066-05	215AT014.D	01/25/21 14:14
CRCA-MW0013-027.5-20210119	AE00066-06	215AT015.D	01/25/21 14:44
CRCA-MW0012-027.5-20210119	AE00066-07	215AT016.D	01/25/21 15:13
CRCA-MW0002-032.5-20210119	AE00066-08	215AT017.D	01/25/21 15:43
CRCA-MW0031-058.0-20210120	AE00066-09	215AT018.D	01/25/21 16:12
CRCA-MW0019-058.0-20210120	AE00066-12	215AT020.D	01/25/21 17:11
CRCA-MW0032-058.0-20210120	1A25020-MS1	215AT023.D	01/25/21 18:39
CRCA-MW0032-058.0-20210120	1A25020-MSD1	215AT024.D	01/25/21 19:09

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64658		
Calibration:	2101077	Instrument:	OVGCMS2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA64658-TUN1	212AU001.D	01/26/21 07:32
Calibration Check	AA64658-CCV1	212AU002.D	01/26/21 08:06
LCS	1A26010-BS1	212AU003.D	01/26/21 08:43
MW-3R	1A26010-MS1	212AU004.D	01/26/21 09:24
MW-3R	1A26010-MSD1	212AU005.D	01/26/21 09:53
Blank	1A26010-BLK1	212AU008.D	01/26/21 11:19
Instrument RL Check	AA64658-CRL1	212AU009.D	01/26/21 12:02
CRCA-MW0018-058.0-20210120	AE00066-11RE1	212AU017.D	01/26/21 15:52

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	205KN002.D	Injection Date:	11/19/20
Instrument ID:	OVGCMS5	Injection Time:	08:07
Sequence:	AA63653	Lab Sample ID:	AA63653-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	155	PASS
96	5 - 9% of 95	7.22	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	64.6	PASS
175	5 - 9% of 174	5.13	PASS
176	95 - 105% of 174	97.9	PASS
177	5 - 10% of 176	5.82	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	212AN001.D	Injection Date:	01/19/21
Instrument ID:	OVGCMS2	Injection Time:	07:42
Sequence:	AA64539	Lab Sample ID:	AA64539-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	147	PASS
96	5 - 9% of 95	6.93	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	68	PASS
175	5 - 9% of 174	8.03	PASS
176	95 - 105% of 174	95.5	PASS
177	5 - 10% of 176	6.96	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	212AU001.D	Injection Date:	01/26/21
Instrument ID:	OVGCMS2	Injection Time:	07:32
Sequence:	AA64658	Lab Sample ID:	AA64658-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	157	PASS
96	5 - 9% of 95	6.64	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	63.7	PASS
175	5 - 9% of 174	7.39	PASS
176	95 - 105% of 174	97.2	PASS
177	5 - 10% of 176	6.78	PASS

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2011113
Lab File ID:	215AT003.D	Calibration Date:	11/19/20 00:00
Sequence:	AA64632	Injection Date:	01/25/21
Lab Sample ID:	AA64632-CCV1	Injection Time:	08:47

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Dichlorodifluoromethane	A	20.0	19	0.6454795	0.6065492		-6	20	
Chloromethane	A	20.0	12	0.7429916	0.4439653		-40	20	*
Vinyl chloride	A	20.0	19	0.6032767	0.5739686		-4.9	20	
Bromomethane	A	20.0	19	0.2658711	0.149807		-7.2	20	
Chloroethane	A	20.0	20	0.3233106	0.2720557		2.5	20	
Trichlorofluoromethane	A	20.0	20	0.739293	0.7547265		2.1	20	
Freon 113	A	50.0	50	0.2891047	0.2868658		-0.8	20	
Acetone	A	250	180	0.1178043	8.350467E-02		-29	20	*
1,1-Dichloroethene	A	50.0	49	0.4316853	0.4258747		-1.3	20	
Carbon disulfide	A	250	150	1.413985	0.8728756		-38	20	*
Methylene Chloride	A	50.0	45	0.5959536	0.4701877		-10	20	
Methyl-tert-Butyl Ether	A	50.0	45	1.264184	1.149021		-9.1	20	
trans-1,2-Dichloroethene	A	50.0	49	0.4994822	0.489495		-2	20	
cis-1,2-Dichloroethene	A	50.0	50	0.5290745	0.5271984		-0.4	20	
1,1-Dichloroethane	A	50.0	41	1.027426	0.8473456		-18	20	
2-Butanone	A	250	220	5.654494E-02	5.142944E-02		-10	20	
Chloroform	A	50.0	45	0.9811366	0.8818576		-10	20	
1,1,1-Trichloroethane	A	50.0	46	0.8099887	0.7425781		-8.3	20	
Methyl acetate	A	50.0	31	0.4097982	0.2287546		-38	20	*
Cyclohexane	A	50.0	36	1.084118	0.8065902		-28	20	*
Methyl cyclohexane	A	50.0	41	0.6851364	0.4685979		-18	20	
Carbon Tetrachloride	A	50.0	39	0.3247415	0.2907839		-22	20	*
1,2-Dichloroethane	A	50.0	36	0.3947961	0.2986964		-28	20	*
Benzene	A	50.0	44	1.143102	1.009598		-12	20	
Trichloroethene	A	50.0	50	0.2308676	0.2294848		-0.6	20	
1,2-Dichloropropane	A	50.0	35	0.3327441	0.2311986		-30	20	*
Bromodichloromethane	A	50.0	41	0.3384447	0.3043776		-17	20	
4-Methyl-2-pentanone	A	250	260	3.573082E-02	3.583226E-02		5.6	20	
2-Hexanone	A	250	190	0.1672315	0.116342		-30	20	*

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2011113
Lab File ID:	215AT003.D	Calibration Date:	11/19/20 00:00
Sequence:	AA64632	Injection Date:	01/25/21
Lab Sample ID:	AA64632-CCV1	Injection Time:	08:47

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
cis-1,3-Dichloropropene	A	50.0	41	0.4465376	0.410246		-18	20	
Toluene	A	50.0	51	1.066872	1.094805		2.6	20	
trans-1,3-Dichloropropene	A	50.0	46	0.5606682	0.5777288		-9	20	
1,1,2-Trichloroethane	A	50.0	48	0.3401845	0.3445765		-4.4	20	
Tetrachloroethene	A	50.0	47	0.2798513	0.273757		-6.7	20	
Dibromochloromethane	A	50.0	52	0.2803526	0.3436893		3.5	20	
1,2-Dibromoethane	A	50.0	52	0.3355065	0.3483481		3.8	20	
Chlorobenzene	A	50.0	54	1.074819	1.151012		7.1	20	
Ethylbenzene	A	50.0	52	0.6263821	0.6735562		3.9	20	
m,p-Xylenes	A	100	110	0.7525839	0.8321309		11	20	
o-Xylene	A	50.0	54	0.7718014	0.8358423		8.3	20	
Bromoform	A	50.0	47	0.1740972	0.178584		-6.2	20	
Styrene	A	50.0	57	1.260238	1.447695		15	20	
Isopropylbenzene	A	50.0	54	2.031474	2.17933		7.3	20	
1,1,2,2-Tetrachloroethane	A	50.0	49	0.5037271	0.4924835		-2.2	20	
1,2,4-Trichlorobenzene	A	50.0	38	0.4097947	0.3618818		-24	20	*
1,3-Dichlorobenzene	A	50.0	53	1.008577	1.072036		6.3	20	
1,4-Dichlorobenzene	A	50.0	51	1.081206	1.09674		1.4	20	
1,2-Dichlorobenzene	A	50.0	51	0.9520015	0.9653383		1.4	20	
1,2-Dibromo-3-chloropropane	A	50.0	45	7.396002E-02	6.969369E-02		-11	20	

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS2	Calibration:	2101077
Lab File ID:	212AU002.D	Calibration Date:	01/20/21 08:19
Sequence:	AA64658	Injection Date:	01/26/21
Lab Sample ID:	AA64658-CCV1	Injection Time:	08:06

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Dichlorodifluoromethane	A	50.0	46	1.033247	0.9560186		-7.5	20	
Chloromethane	A	50.0	43	1.11095	0.8811912		-14	20	
Vinyl chloride	A	50.0	51	1.029662	0.8920274		2.4	20	
Bromomethane	A	50.0	50	1.131179	0.5546506		0.90	20	
Chloroethane	A	50.0	52	0.7149129	0.6073004		3.8	20	
Trichlorofluoromethane	A	50.0	49	1.442281	1.409345		-2.3	20	
Freon 113	A	50.0	58	0.5578733	0.5662076		17	20	
Acetone	A	250	300	0.1225261	0.127594		19	20	
1,1-Dichloroethene	A	50.0	52	0.4841962	0.5072833		4.8	20	
Carbon disulfide	A	250	200	1.377947	0.9361635		-22	20	*
Methylene Chloride	A	50.0	57	0.6110932	0.5700038		13	20	
Methyl-tert-Butyl Ether	A	50.0	60	1.081225	1.292033		20	20	
trans-1,2-Dichloroethene	A	50.0	56	0.5698231	0.5869434		13	20	
cis-1,2-Dichloroethene	A	50.0	53	0.6149954	0.6469963		5.2	20	
1,1-Dichloroethane	A	50.0	53	1.143718	1.202412		5.1	20	
2-Butanone	A	250	280	3.064923E-02	3.390974E-02		11	20	
Chloroform	A	50.0	59	1.095255	1.119782		18	20	
1,1,1-Trichloroethane	A	50.0	53	0.9125193	0.975831		6.9	20	
Methyl acetate	A	50.0	65	5.586777E-02	6.273628E-02		31	20	*
Cyclohexane	A	50.0	54	0.9488744	1.019076		7.4	20	
Methyl cyclohexane	A	50.0	52	0.3837839	0.3984705		3.8	20	
Carbon Tetrachloride	A	50.0	53	0.4901592	0.5204079		6.2	20	
1,2-Dichloroethane	A	50.0	57	0.3853295	0.4362879		13	20	
Benzene	A	50.0	53	1.144684	1.216519		6.3	20	
Trichloroethene	A	50.0	53	0.3210324	0.3386934		5.5	20	
1,2-Dichloropropane	A	50.0	55	0.3172264	0.3218915		11	20	
Bromodichloromethane	A	50.0	53	0.3964913	0.4239289		6.9	20	
4-Methyl-2-pentanone	A	250	280	2.733494E-02	2.885494E-02		12	20	
2-Hexanone	A	250	280	0.1612112	0.1821674		14	20	

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS2	Calibration:	2101077
Lab File ID:	212AU002.D	Calibration Date:	01/20/21 08:19
Sequence:	AA64658	Injection Date:	01/26/21
Lab Sample ID:	AA64658-CCV1	Injection Time:	08:06

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
cis-1,3-Dichloropropene	A	50.0	56	0.4505496	0.5022612		12	20
Toluene	A	50.0	48	1.520353	1.445754		-4.9	20
trans-1,3-Dichloropropene	A	50.0	51	0.8113847	0.8306173		2.4	20
1,1,2-Trichloroethane	A	50.0	51	0.4232997	0.432348		2.1	20
Tetrachloroethene	A	50.0	46	0.4265574	0.394609		-7.5	20
Dibromochloromethane	A	50.0	51	0.6218249	0.6359487		2.3	20
1,2-Dibromoethane	A	50.0	53	0.4673533	0.4960038		6.1	20
Chlorobenzene	A	50.0	48	1.702551	1.642045		-3.6	20
Ethylbenzene	A	50.0	49	0.8469553	0.821748		-3	20
m,p-Xylenes	A	100	99	1.006971	0.9926877		-1.4	20
o-Xylene	A	50.0	51	0.9666193	0.9816441		1.6	20
Bromoform	A	50.0	54	0.2646587	0.2849459		7.7	20
Styrene	A	50.0	52	1.697042	1.768628		4.2	20
Isopropylbenzene	A	50.0	51	2.452443	2.500123		1.9	20
1,1,2,2-Tetrachloroethane	A	50.0	53	0.4182472	0.4432086		6.0	20
1,2,4-Trichlorobenzene	A	50.0	48	0.4155094	0.3997039		-3.8	20
1,3-Dichlorobenzene	A	50.0	48	1.471736	1.401083		-4.8	20
1,4-Dichlorobenzene	A	50.0	48	1.525519	1.450398		-4.9	20
1,2-Dichlorobenzene	A	50.0	47	1.232439	1.169221		-5.1	20
1,2-Dibromo-3-chloropropane	A	50.0	54	6.383229E-02	7.325324E-02		7.5	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA63653
Instrument: OVGCMS5
Calibration: 2011113

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A0F0994	MS Tune (lower conc.)	AA63653-TUN1	205KN002.D	11/19/20 08:07
A0K1094	8260 CAL 1 PPB	AA63653-CAL1	205KN003.D	11/19/20 08:46
A0K1095	8260 CAL 2 PPB	AA63653-CAL2	205KN004.D	11/19/20 09:16
A0K1096	8260 CAL 5 PPB	AA63653-CAL3	205KN005.D	11/19/20 09:47
A0K1097	8260 CAL 10 PPB	AA63653-CAL4	205KN006.D	11/19/20 10:18
A0K1098	8260 CAL 20 PPB	AA63653-CAL5	205KN007.D	11/19/20 10:49
A0K1099	8260 CAL 50 PPB	AA63653-CAL6	205KN008.D	11/19/20 11:20
A0K1100	8260 CAL 80 PPB	AA63653-CAL7	205KN009.D	11/19/20 11:51
A0K1101	8260 CAL 100 PPB	AA63653-CAL8	205KN010.D	11/19/20 12:22
A0K1038	8260 SCV 50 PPB/20 Gases (Surr. Lower Conc.)	AA63653-SCV1	205KN012.D	11/19/20 13:24

INITIAL CALIBRATION STANDARDS

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64539	Instrument:	OVGCMS2
Calibration:	2101077		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A0I0903	MS Tune	AA64539-TUN1	212AN001.D	01/19/21 07:42
A1A0926	8260 Cal 1PPB	AA64539-CAL1	212AN002.D	01/19/21 08:23
A1A0927	8260 Cal 2 PPB	AA64539-CAL2	212AN003.D	01/19/21 08:52
A1A0928	8260 Cal 5 PPB	AA64539-CAL3	212AN004.D	01/19/21 09:20
A1A0929	8260 Cal 10 PPB	AA64539-CAL4	212AN006.D	01/19/21 10:17
A1A0930	8260 Cal 20 PPB	AA64539-CAL5	212AN007.D	01/19/21 10:46
A1A0932	8260 Cal 50 PPB	AA64539-CAL6	212AN008.D	01/19/21 11:15
A1A0934	8260 Cal 80PPB	AA64539-CAL7	212AN009.D	01/19/21 11:43
A1A0935	8260 Cal 100 PPB	AA64539-CAL8	212AN010.D	01/19/21 12:12
A1A0936	8260 SCV 50 PPB	AA64539-SCV1	212AN013.D	01/19/21 13:38

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	1	0.731806	2	0.5311658	5	0.6196449	10	0.5826494	20	0.6291202	50	0.6876832
Chloromethane	1	0.9635553	2	0.7678092	5	0.7533414	10	0.6436211	20	0.6665122	50	0.6618772
Vinyl chloride	1	0.6389704	2	0.4961021	5	0.5937063	10	0.518373	20	0.6097052	50	0.6178544
Bromomethane	1	0.5487745	2	0.3936929	5	0.2468862	10	0.1795339	20	0.1536388	50	0.1805656
Chloroethane	1	0.5095364	2	0.3356687	5	0.2733979	10	0.2639921	20	0.2971223	50	0.2601461
Trichlorofluoromethane	1	0.796403	2	0.6188353	5	0.6866136	10	0.7074541	20	0.7578705	50	0.7930894
Freon 113	1	0.2609479	2	0.2643996	5	0.2925508	10	0.3082914	20	0.2611185	50	0.3063124
Acetone	5	0.1640884	10	7.640101E-02	25	0.1132944	50	0.1270502	100	0.1080203	250	0.1165466
1,1-Dichloroethene	1	0.5304954	2	0.3722686	5	0.3921026	10	0.3748874	20	0.4134066	50	0.4489426
Carbon disulfide	5	1.625549	10	1.279116	25	1.418201	50	1.427008	100	1.452276	250	1.421308
Methylene Chloride	1	0.949196	2	0.6799528	5	0.584977	10	0.4949633	20	0.4791616	50	0.5261996
Methyl-tert-Butyl Ether	1	1.207824	2	1.067003	5	1.181117	10	1.225797	20	1.218685	50	1.417615
trans-1,2-Dichloroethene	1	0.6322907	2	0.4293379	5	0.4477091	10	0.4308276	20	0.4738958	50	0.5202946
cis-1,2-Dichloroethene	1	0.5540143	2	0.424397	5	0.5243456	10	0.4742059	20	0.5250755	50	0.5758438
1,1-Dichloroethane	1	1.150187	2	0.7455129	5	1.073417	10	0.9430262	20	0.9854351	50	1.108909
2-Butanone	5	0.0948676	10	2.903081E-02	25	6.102678E-02	50	0.0450745	100	4.561931E-02	250	5.804341E-02
Chloroform	1	1.008433	2	0.8175709	5	1.016573	10	0.9572895	20	0.9442549	50	1.031745
1,1,1-Trichloroethane	1	0.8856789	2	0.6484806	5	0.7444128	10	0.6971223	20	0.8036702	50	0.8940367
Methyl acetate	1	0.7524051	2	0.3734104	5	0.3421025	10	0.3735826	20	0.3312477	50	0.3623833
Cyclohexane	1	1.445653	2	0.8159309	5	1.111773	10	0.900795	20	1.011174	50	1.139422
Methyl cyclohexane	1	1.296553	2	0.7643948	5	0.6505051	10	0.4980933	20	0.5493699	50	0.5706184
Carbon Tetrachloride	1	0.3562759	2	0.265754	5	0.2802362	10	0.2692435	20	0.3099687	50	0.358654
1,2-Dichloroethane	1	0.52978	2	0.3246383	5	0.3561682	10	0.3270765	20	0.3804547	50	0.3951041
Benzene	1	1.368953	2	0.8953644	5	1.012387	10	1.019627	20	1.160622	50	1.20187
Trichloroethene	1	0.2433461	2	0.2067345	5	0.2092384	10	0.2186576	20	0.2226559	50	0.2443388
1,2-Dichloropropane	1	0.4168922	2	0.2741735	5	0.2789057	10	0.3037835	20	0.3161759	50	0.336891
Bromodichloromethane	1	0.3390617	2	0.2184906	5	0.3136005	10	0.3123434	20	0.3305471	50	0.3770309
4-Methyl-2-pentanone	5	5.360492E-02	10	3.485663E-02	25	3.163227E-02	50	3.145233E-02	100	3.245856E-02	250	3.359233E-02
2-Hexanone	5	0.1888606	10	0.1362687	25	0.1491622	50	0.1581622	100	0.1619347	250	0.1747743
cis-1,3-Dichloropropene	1	0.38758	2	0.337174	5	0.3962381	10	0.3859495	20	0.4436114	50	0.5153998
Toluene	1	1.301234	2	0.8125606	5	1.029104	10	0.9467653	20	1.065835	50	1.125779

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	1	0.5782294	2	0.3963364	5	0.5391328	10	0.5150579	20	0.5581557	50	0.6082166
1,1,2-Trichloroethane	1	0.4258708	2	0.2571382	5	0.3085141	10	0.3163403	20	0.3319446	50	0.354357
Tetrachloroethene	1	0.3547887	2	0.216805	5	0.2447617	10	0.2609188	20	0.2888004	50	0.2808423
Dibromochloromethane	1	0.261577	2	0.1928537	5	0.2186472	10	0.2340749	20	0.271185	50	0.3243124
1,2-Dibromoethane	1	0.3776332	2	0.275273	5	0.3089372	10	0.289778	20	0.3254935	50	0.3684265
Chlorobenzene	1	1.227137	2	0.9187082	5	1.088831	10	1.029964	20	1.028877	50	1.084228
Ethylbenzene	1	0.8370092	2	0.5046991	5	0.5351257	10	0.5817041	20	0.6079204	50	0.6386446
m,p-Xylenes	2	0.7709622	4	0.6304954	10	0.7519001	20	0.7265378	40	0.7815244	100	0.7925899
o-Xylene	1	0.827343	2	0.5495581	5	0.7980935	10	0.715101	20	0.7577872	50	0.8412149
Bromoform	1	0.2244042	2	0.1325052	5	0.1113209	10	0.1336911	20	0.151421	50	0.198042
Styrene	1	1.184587	2	0.9487151	5	1.197756	10	1.179467	20	1.329056	50	1.37226
Isopropylbenzene	1	2.11919	2	1.612596	5	1.9581	10	1.86924	20	2.054396	50	2.203894
1,1,2,2-Tetrachloroethane	1	0.5748727	2	0.4241761	5	0.4667316	10	0.4666946	20	0.48922	50	0.5296984
1,2,4-Trichlorobenzene	1	0.444006	2	0.2155102	5	0.3665073	10	0.3682377	20	0.3931939	50	0.481305
1,3-Dichlorobenzene	1	1.059554	2	0.8308046	5	0.914986	10	0.9259784	20	1.006449	50	1.075948
1,4-Dichlorobenzene	1	1.342371	2	0.9420738	5	0.9853156	10	0.9772104	20	1.047961	50	1.090424
1,2-Dichlorobenzene	1	1.133196	2	0.6932895	5	0.9302226	10	0.8814044	20	0.8963441	50	1.002858
1,2-Dibromo-3-chloropropane	1	0.1462261	2	0.0374643	5	3.684685E-02	10	6.679172E-02	20	6.657845E-02	50	7.807374E-02
Dibromofluoromethane	50	0.4987681	55	0.5168814	57.5	0.5405413	50	0.5403508	65	0.5020478	50	0.5574545
Toluene-d8	50	1.241808	55	1.219018	57.5	1.232296	50	1.264503	65	1.198608	50	1.317554
4-Bromofluorobenzene	50	0.9421565	55	0.8971015	57.5	0.892347	50	0.9405353	65	0.8691396	50	0.9269369

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	80	0.70919	100	0.6725768								
Chloromethane	80	0.754096	100	0.7331207								
Vinyl chloride	80	0.6865886	100	0.6649138								
Bromomethane	80	0.2051834	100	0.2186939								
Chloroethane	80	~~0.1749365~~	100	~~0.1284219~~								
Trichlorofluoromethane	80	~~0.8301317~~	100	0.814785								
Freon 113	80	0.3132915	100	0.3059256								
Acetone	400	0.1217886	500	0.1152447								
1,1-Dichloroethene	80	0.4650106	100	0.4563686								
Carbon disulfide	400	1.39256	500	1.295861								
Methylene Chloride	80	0.5379475	100	0.5152308								
Methyl-tert-Butyl Ether	80	1.459444	100	1.335989								
trans-1,2-Dichloroethene	80	0.5437929	100	0.517709								
cis-1,2-Dichloroethene	80	0.6019223	100	0.5527918								
1,1-Dichloroethane	80	1.134374	100	1.078543								
2-Butanone	400	6.102308E-02	500	5.767404E-02								
Chloroform	80	1.078098	100	0.9951283								
1,1,1-Trichloroethane	80	0.9329545	100	0.8735539								
Methyl acetate	80	0.3852903	100	0.3579641								
Cyclohexane	80	1.150511	100	1.097683								
Methyl cyclohexane	80	0.580204	100	0.5713529								
Carbon Tetrachloride	80	0.3766286	100	0.3811714								
1,2-Dichloroethane	80	0.4259138	100	0.4192331								
Benzene	80	1.233887	100	1.252102								
Trichloroethene	80	0.2480525	100	0.2539173								
1,2-Dichloropropane	80	0.3671019	100	0.3680292								
Bromodichloromethane	80	0.405243	100	0.4112405								
4-Methyl-2-pentanone	400	3.457471E-02	500	3.367481E-02								
2-Hexanone	400	0.1842147	500	0.1844748								
cis-1,3-Dichloropropene	80	0.5492152	100	0.5571325								
Toluene	80	1.145043	100	1.108659								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	80	0.6603691	100	0.6298476								
1,1,2-Trichloroethane	80	0.3689886	100	0.3583223								
Tetrachloroethene	80	0.2965475	100	0.2953463								
Dibromochloromethane	80	0.3768537	100	0.3633167								
1,2-Dibromoethane	80	0.3782567	100	0.360254								
Chlorobenzene	80	1.134842	100	1.085963								
Ethylbenzene	80	0.6600876	100	0.6458658								
m,p-Xylenes	160	0.7997641	200	0.7668973								
o-Xylene	80	0.8625415	100	0.8227721								
Bromoform	80	0.2162944	100	0.2250987								
Styrene	80	1.466473	100	1.403591								
Isopropylbenzene	80	2.273953	100	2.16042								
1,1,2,2-Tetrachloroethane	80	0.5602106	100	0.5182127								
1,2,4-Trichlorobenzene	80	0.5236953	100	0.485902								
1,3-Dichlorobenzene	80	1.133433	100	1.121463								
1,4-Dichlorobenzene	80	1.14285	100	1.121445								
1,2-Dichlorobenzene	80	1.071346	100	1.007351								
1,2-Dibromo-3-chloropropane	80	8.573901E-02	100	~~8.239508E-02~~								
Dibromofluoromethane	70	0.5077306	75	0.4842722								
Toluene-d8	70	1.203106	75	1.255696								
4-Bromofluorobenzene	70	0.8681085	75	0.8442992								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	0.6454795	10.47099	3.97125	7.848416E-02			20	
Chloromethane	0.7429916	13.64009	4.39275	4.507071E-02			20	
Vinyl chloride	0.6032767	11.0407	4.575	4.400144E-02			20	
Bromomethane	0.2658711	51.25071	5.221	5.968524E-02		0.9984319	0.99	
Chloroethane	0.3233106	29.51129	5.432333	0.1760207	0.9952741		0.99	
Trichlorofluoromethane	0.739293	9.643804	5.680714	0.1191043			20	
Freon 113	0.2891047	7.985007	6.54225	5.909168E-02			20	
Acetone	0.1178043	20.49874	7.39275	7.521591E-02	0.9984468		0.99	
1,1-Dichloroethene	0.4316853	12.51718	6.52275	4.626374E-02			20	
Carbon disulfide	1.413985	7.516358	6.611625	4.231748E-02			20	
Methylene Chloride	0.5959536	26.19116	7.33075	6.734604E-02	0.9988511		0.99	
Methyl-tert-Butyl Ether	1.264184	10.32773	7.62475	5.009821E-02			20	
trans-1,2-Dichloroethene	0.4994822	13.81611	7.540375	0.0786285			20	
cis-1,2-Dichloroethene	0.5290745	10.75978	8.94375	6.951434E-02			20	
1,1-Dichloroethane	1.027426	13.07056	8.305375	3.359958E-02			20	
2-Butanone	5.654494E-02	33.55672	9.542875	0.1054762		0.9965506	0.99	
Chloroform	0.9811366	7.973652	9.21525	9.664849E-02			20	
1,1,1-Trichloroethane	0.8099887	12.78922	9.4765	4.549804E-02			20	
Methyl acetate	0.4097982	34.05137	7.5195	0.1021645	0.9973892		0.99	
Cyclohexane	1.084118	17.43103	9.1825	2.763801E-02	0.9983605		0.99	
Methyl cyclohexane	0.6851364	37.89251	10.4425	2.481194E-02	0.9994238		0.99	
Carbon Tetrachloride	0.3247415	15.07661	9.40325	3.946246E-02	0.997318		0.99	
1,2-Dichloroethane	0.3947961	16.85402	10.083	6.413568E-02	0.998277		0.99	
Benzene	1.143102	13.57666	9.871	4.625673E-02			20	
Trichloroethene	0.2308676	8.071231	10.4425	2.481194E-02			20	
1,2-Dichloropropane	0.3327441	14.79548	10.97825	3.768472E-02		0.9995583	0.99	
Bromodichloromethane	0.3384447	18.35051	11.0095	2.483783E-02		0.9995909	0.99	
4-Methyl-2-pentanone	3.573082E-02	20.51705	12.12775	4.882009E-02	0.9995377		0.99	
2-Hexanone	0.1672315	11.31414	12.874	0.0309941			20	
cis-1,3-Dichloropropene	0.4465376	18.76753	11.60275	0.0283524		0.999376	0.99	

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2011113
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 11/19/20 00:00

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Toluene	1.066872	13.57287	11.82575	3.641946E-02			20	
trans-1,3-Dichloropropene	0.5606682	14.59159	12.1935	6.110681E-02	0.9976126		0.99	
1,1,2-Trichloroethane	0.3401845	14.58738	12.35775	3.776279E-02	0.9991086		0.99	
Tetrachloroethene	0.2798513	14.65878	12.20475	6.050502E-02	0.9992435		0.99	
Dibromochloromethane	0.2803526	24.18079	12.54425	2.540952E-02		0.9966995	0.99	
1,2-Dibromoethane	0.3355065	12.24976	12.80675	5.029451E-02			20	
Chlorobenzene	1.074819	8.299772	13.238	2.555814E-02			20	
Ethylbenzene	0.6263821	16.13499	13.20525	2.269002E-02	0.9993938		0.99	
m,p-Xylenes	0.7525839	7.241605	13.32075	3.483174E-02			20	
o-Xylene	0.7718014	13.16143	13.726	2.743597E-02			20	
Bromoform	0.1740972	26.85684	13.86988	2.962488E-02		0.9990525	0.99	
Styrene	1.260238	13.19508	13.77575	6.052145E-02			20	
Isopropylbenzene	2.031474	10.53359	13.99225	2.532555E-02			20	
1,1,2,2-Tetrachloroethane	0.5037271	10.18228	14.463	1.928567E-02			20	
1,2,4-Trichlorobenzene	0.4097947	23.81543	18.13363	0.0263798		0.9955535	0.99	
1,3-Dichlorobenzene	1.008577	10.77426	15.4075	2.626486E-02			20	
1,4-Dichlorobenzene	1.081206	11.81261	15.49775	7.350592E-03			20	
1,2-Dichlorobenzene	0.9520015	14.21603	16.01475	1.858857E-02			20	
1,2-Dibromo-3-chloropropane	7.396002E-02	49.9638	17.07629	4.554431E-02		0.9992021	0.99	
Dibromofluoromethane	0.5185058	4.852246	9.4205	3.503454E-02			20	
Toluene-d8	1.241574	3.107317	11.77275	1.495661E-03			20	
4-Bromofluorobenzene	0.8975781	4.047299	14.322	1.411585E-02			20	

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101077
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 01/20/21 08:19

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	1	1.132212	2	1.081738	5	1.099689	10	0.9908757	20	1.094479	50	0.9374184
Chloromethane	1	1.280621	2	1.261155	5	1.178299	10	1.149889	20	1.044477	50	0.9030385
Vinyl chloride	1	1.381626	2	1.187443	5	1.103079	10	0.9382662	20	1.028873	50	0.8768452
Bromomethane	1	2.625054	2	1.906138	5	1.381352	10	0.7525831	20	0.6973898	50	0.6149682
Chloroethane	1	0.9797916	2	0.9941816	5	0.7439232	10	0.6397637	20	0.6898111	50	0.5744008
Trichlorofluoromethane	1	1.534411	2	1.54824	5	1.602083	10	1.423735	20	1.54284	50	1.316135
Freon 113	1	0.7066751	2	0.6330097	5	0.6307267	10	0.5083287	20	0.5216339	50	0.4952992
Acetone	5	0.1833417	10	0.1265084	25	0.1302819	50	0.1118284	100	0.1097414	250	0.1026437
1,1-Dichloroethene	1	0.5963711	2	0.5344147	5	0.5371345	10	0.4420584	20	0.4535395	50	0.4376901
Carbon disulfide	5	2.042393	10	1.374044	25	1.478171	50	1.292343	100	1.260119	250	1.179003
Methylene Chloride	1	0.8707638	2	0.7437653	5	0.6598828	10	0.5665447	20	0.5367037	50	0.5029548
Methyl-tert-Butyl Ether	1	1.329483	2	1.195768	5	1.202217	10	0.9708387	20	0.9983125	50	0.9777235
trans-1,2-Dichloroethene	1	0.7695758	2	0.5947503	5	0.6165531	10	0.498399	20	0.5198553	50	0.5187938
cis-1,2-Dichloroethene	1	0.7542608	2	0.637032	5	0.6603835	10	0.5646693	20	0.5735283	50	0.5714241
1,1-Dichloroethane	1	1.446533	2	1.270509	5	1.239846	10	1.012512	20	1.033911	50	1.032356
2-Butanone	5	3.868846E-02	10	2.780116E-02	25	3.598871E-02	50	2.905469E-02	100	2.924066E-02	250	2.735337E-02
Chloroform	1	1.505422	2	1.211577	5	1.217508	10	0.9774717	20	0.9999071	50	0.9604477
1,1,1-Trichloroethane	1	1.138593	2	0.9810855	5	1.012876	10	0.8336985	20	0.8699214	50	0.8261889
Methyl acetate	1	7.438686E-02	2	5.743578E-02	5	7.036747E-02	10	4.986556E-02	20	5.030858E-02	50	4.855103E-02
Cyclohexane	1	1.164665	2	0.9651831	5	1.022081	10	0.8718577	20	0.9151921	50	0.8862811
Methyl cyclohexane	1	0.4343835	2	0.4173906	5	0.4051248	10	0.3600154	20	0.3617094	50	0.3636473
Carbon Tetrachloride	1	0.573209	2	0.4979244	5	0.5309295	10	0.4268537	20	0.4694365	50	0.4673335
1,2-Dichloroethane	1	0.4762291	2	0.4163737	5	0.4099687	10	0.3343197	20	0.3517888	50	0.34586
Benzene	1	1.322	2	1.197789	5	1.187095	10	0.9822448	20	1.07658	50	1.131535
Trichloroethene	1	0.4028108	2	0.3090115	5	0.3382511	10	0.2795944	20	0.3059167	50	0.31468
1,2-Dichloropropane	1	0.4320273	2	0.3405857	5	0.3344858	10	0.269395	20	0.2858346	50	0.2901264
Bromodichloromethane	1	0.4902718	2	0.4275119	5	0.4138517	10	0.3445289	20	0.3659631	50	0.3728853
4-Methyl-2-pentanone	5	4.227911E-02	10	2.894955E-02	25	2.651804E-02	50	0.0209787	100	2.290058E-02	250	0.0246077
2-Hexanone	5	0.2244205	10	0.1524863	25	0.1620852	50	0.1333905	100	0.1424361	250	0.1490342
cis-1,3-Dichloropropene	1	0.5277821	2	0.4596672	5	0.4604475	10	0.397173	20	0.4169022	50	0.435696
Toluene	1	1.93085	2	1.604323	5	1.626449	10	1.315349	20	1.44065	50	1.43267

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101077
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 01/20/21 08:19

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	1	1.007775	2	0.8574989	5	0.8440523	10	0.7149002	20	0.7694288	50	0.7675824
1,1,2-Trichloroethane	1	0.4870838	2	0.4590921	5	0.463077	10	0.3893758	20	0.386325	50	0.4071512
Tetrachloroethene	1	0.4802714	2	0.456302	5	0.4521271	10	0.3714068	20	0.4173894	50	0.4104367
Dibromochloromethane	1	0.7584428	2	0.6812559	5	0.631324	10	0.5430032	20	0.5818434	50	0.5952504
1,2-Dibromoethane	1	0.5243247	2	0.4953637	5	0.4966083	10	0.417636	20	0.4381025	50	0.4559483
Chlorobenzene	1	2.11819	2	1.802189	5	1.775022	10	1.468861	20	1.606084	50	1.631965
Ethylbenzene	1	1.041156	2	0.8874928	5	0.8746757	10	0.7065054	20	0.7892454	50	0.8139481
m,p-Xylenes	2	1.165708	4	1.02944	10	1.041991	20	0.8726556	40	0.9424046	100	1.002018
o-Xylene	1	1.029121	2	1.050715	5	0.9833116	10	0.8158229	20	0.8958653	50	0.9672722
Bromoform	1	0.3240413	2	0.270061	5	0.2604354	10	0.2252492	20	0.2460033	50	0.2572319
Styrene	1	1.928806	2	1.678842	5	1.731177	10	1.390463	20	1.595608	50	1.737077
Isopropylbenzene	1	2.877768	2	2.424969	5	2.457643	10	2.07294	20	2.279474	50	2.440278
1,1,2,2-Tetrachloroethane	1	0.502298	2	0.4332834	5	0.439496	10	0.3753151	20	0.3956026	50	0.3977983
1,2,4-Trichlorobenzene	1	0.4554218	2	0.4435265	5	0.4487368	10	0.339364	20	0.3842878	50	0.3834837
1,3-Dichlorobenzene	1	1.879308	2	1.490272	5	1.513677	10	1.212824	20	1.364455	50	1.390077
1,4-Dichlorobenzene	1	1.879308	2	1.644885	5	1.594724	10	1.283585	20	1.405738	50	1.420117
1,2-Dichlorobenzene	1	1.465254	2	1.267192	5	1.292768	10	1.043234	20	1.155936	50	1.174126
1,2-Dibromo-3-chloropropane	1	2.290037E-02	2	0.0500331	5	0.1032036	10	6.861337E-02	20	6.164036E-02	50	6.539414E-02
Dibromofluoromethane	50	0.5849469	55	0.5870287	60	0.6232323	50	0.6010518	65	0.5550645	50	0.5308566
Toluene-d8	50	0.8400387	55	0.8475554	60	0.9054921	50	0.8401661	65	0.8216728	50	0.820902
4-Bromofluorobenzene	50	0.6795148	55	0.6811249	60	0.7212633	50	0.6607664	65	0.6658056	50	0.6643235

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101077
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 01/20/21 08:19

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	80	0.9487262	100	0.9808405								
Chloromethane	80	0.9876056	100	1.082517								
Vinyl chloride	80	0.8397385	100	0.8814244								
Bromomethane	80	0.5499226	100	0.5220224								
Chloroethane	80	0.5479944	100	0.5494368								
Trichlorofluoromethane	80	1.264915	100	1.305889								
Freon 113	80	0.4862521	100	0.481061								
Acetone	400	0.1077735	500	0.1080897								
1,1-Dichloroethene	80	0.4385567	100	0.4338046								
Carbon disulfide	400	1.191802	500	1.205703								
Methylene Chloride	80	0.5100339	100	0.4980969								
Methyl-tert-Butyl Ether	80	0.9954462	100	0.9800074								
trans-1,2-Dichloroethene	80	0.5195184	100	0.5211387								
cis-1,2-Dichloroethene	80	0.5806544	100	0.5780107								
1,1-Dichloroethane	80	1.059753	100	1.054324								
2-Butanone	400	2.858297E-02	500	2.848384E-02								
Chloroform	80	0.9604834	100	0.9292233								
1,1,1-Trichloroethane	80	0.8182671	100	0.8195241								
Methyl acetate	80	4.854086E-02	100	4.748598E-02								
Cyclohexane	80	0.8841406	100	0.8815943								
Methyl cyclohexane	80	0.3607928	100	0.3672072								
Carbon Tetrachloride	80	0.4885612	100	0.4670258								
1,2-Dichloroethane	80	0.381621	100	0.3664746								
Benzene	80	1.178177	100	1.082052								
Trichloroethene	80	0.3011965	100	0.3167983								
1,2-Dichloropropane	80	0.2986052	100	0.2867514								
Bromodichloromethane	80	0.3869447	100	0.3699728								
4-Methyl-2-pentanone	400	2.679176E-02	500	2.565411E-02								
2-Hexanone	400	0.1650352	500	0.1608018								
cis-1,3-Dichloropropene	80	0.4601054	100	0.4466238								
Toluene	80	1.425498	100	1.387039								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101077
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 01/20/21 08:19

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	80	0.7689001	100	0.7609396								
1,1,2-Trichloroethane	80	0.4049094	100	0.3893835								
Tetrachloroethene	80	0.4147976	100	0.4097285								
Dibromochloromethane	80	0.5953088	100	0.5881711								
1,2-Dibromoethane	80	0.4608022	100	0.4500403								
Chlorobenzene	80	1.621379	100	1.596715								
Ethylbenzene	80	0.833241	100	0.8293777								
m,p-Xylenes	160	1.009728	200	0.9918246								
o-Xylene	80	0.9935402	100	0.9973062								
Bromoform	80	0.2686547	100	0.2655931								
Styrene	80	1.775666	100	1.738694								
Isopropylbenzene	80	2.541679	100	2.524793								
1,1,2,2-Tetrachloroethane	80	0.4070247	100	0.3951593								
1,2,4-Trichlorobenzene	80	0.443591	100	0.4256633								
1,3-Dichlorobenzene	80	1.473057	100	1.450216								
1,4-Dichlorobenzene	80	1.497691	100	1.478101								
1,2-Dichlorobenzene	80	1.254849	100	1.206153								
1,2-Dibromo-3-chloropropane	80	7.296265E-02	100	6.591071E-02								
Dibromofluoromethane	70	0.5194197	75	0.5456668								
Toluene-d8	70	0.8430687	75	0.8532165								
4-Bromofluorobenzene	70	0.6624278	75	0.7001856								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2101077
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 01/20/21 08:19

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	1.033247	7.422996	5.8775	0.1198878			20	
Chloromethane	1.11095	11.8379	6.345	8.425355E-02	0.9927055		0.99	
Vinyl chloride	1.029662	18.1291	6.54	1.353011E-02	0.9974044		0.99	
Bromomethane	1.131179	68.49097	7.18875	0.1738033	0.996		0.99	
Chloroethane	0.7149129	25.36914	7.4225	6.189921E-02		0.9982915	0.99	
Trichlorofluoromethane	1.442281	9.141456	7.68625	6.810643E-02			20	
Freon 113	0.5578733	15.42109	8.51125	4.342495E-02	0.9993003		0.99	
Acetone	0.1225261	21.53556	9.225	0.1017803	0.9992732		0.99	
1,1-Dichloroethene	0.4841962	12.92318	8.47	1.404484E-02			20	
Carbon disulfide	1.377947	20.82942	8.58875	0.0394861	0.999531		0.99	
Methylene Chloride	0.6110932	22.26659	9.18375	5.802199E-02	0.9990741		0.99	
Methyl-tert-Butyl Ether	1.081225	12.9278	9.5025	4.782094E-02			20	
trans-1,2-Dichloroethene	0.5698231	15.94811	9.41375	5.524527E-02	0.9998645		0.99	
cis-1,2-Dichloroethene	0.6149954	10.75752	10.65125	3.471958E-02			20	
1,1-Dichloroethane	1.143718	13.77425	10.08875	3.844483E-02			20	
2-Butanone	3.064923E-02	13.82049	11.15625	9.569697E-02			20	
Chloroform	1.095255	18.37698	10.87	9.768114E-03	0.9990787		0.99	
1,1,1-Trichloroethane	0.9125193	13.02548	11.1675	3.725675E-02			20	
Methyl acetate	5.586777E-02	19.136	9.36625	0.0994785	0.9990959		0.99	
Cyclohexane	0.9488744	10.68026	10.935	4.938657E-02			20	
Methyl cyclohexane	0.3837839	7.882556	12.05625	3.694256E-02			20	
Carbon Tetrachloride	0.4901592	9.161404	11.13	1.615315E-02			20	
1,2-Dichloroethane	0.3853295	12.20707	11.64875	7.128164E-02			20	
Benzene	1.144684	8.878515	11.5075	0.0379681			20	
Trichloroethene	0.3210324	11.491	12.02	1.613154E-02			20	
1,2-Dichloropropane	0.3172264	16.55493	12.47125	4.719873E-02	0.9992204		0.99	
Bromodichloromethane	0.3964913	11.69154	12.48625	3.738691E-02			20	
4-Methyl-2-pentanone	2.733494E-02	23.83835	13.49125	1.808956E-02	0.9977426		0.99	
2-Hexanone	0.1612112	17.16777	14.1925	5.296872E-02	0.9975808		0.99	
cis-1,3-Dichloropropene	0.4505496	8.577485	13.0325	3.879666E-02			20	

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101077
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 01/20/21 08:19

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Toluene	1.520353	12.90949	13.2625	3.467364E-02			20	
trans-1,3-Dichloropropene	0.8113847	11.32455	13.55375	3.988811E-02			20	
1,1,2-Trichloroethane	0.4232997	9.449146	13.70875	1.851086E-02			20	
Tetrachloroethene	0.4265574	8.038834	13.6375	3.135631E-02			20	
Dibromochloromethane	0.6218249	10.9814	13.90625	0.0389754			20	
1,2-Dibromoethane	0.4673533	7.537445	14.16125	2.800208E-02			20	
Chlorobenzene	1.702551	11.63378	14.61	1.172072E-02			20	
Ethylbenzene	0.8469553	11.35726	14.57	1.758415E-02			20	
m,p-Xylenes	1.006971	8.342498	14.685	3.483417E-02			20	
o-Xylene	0.9666193	7.885543	15.10375	3.299662E-02			20	
Bromoform	0.2646587	10.63585	15.2325	4.612938E-02			20	
Styrene	1.697042	9.156187	15.14375	3.225299E-02			20	
Isopropylbenzene	2.452443	9.361543	15.37125	0.0191395			20	
1,1,2,2-Tetrachloroethane	0.4182472	9.553144	15.80625	3.206999E-02			20	
1,2,4-Trichlorobenzene	0.4155094	10.03589	19.93875	5.693414E-02			20	
1,3-Dichlorobenzene	1.471736	12.94042	16.8825	0.0122198			20	
1,4-Dichlorobenzene	1.525519	11.91359	16.9675	0.1844742			20	
1,2-Dichlorobenzene	1.232439	9.951522	17.54375	3.282852E-02			20	
1,2-Dibromo-3-chloropropane	6.383229E-02	35.19873	18.65875	5.922873E-02	0.9945011		0.99	
Dibromofluoromethane	0.5684084	6.37686	11.05125	2.725859E-02			20	
Toluene-d8	0.846514	3.122799	13.21875	0.0214707			20	
4-Bromofluorobenzene	0.6794265	3.164043	15.71125	2.770036E-02			20	

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE00066-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2011113 **Laboratory ID:** AA63653-SCV1

Sequence: AA63653 **Standard ID:** A0K1038

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Cyclohexane	50.0	46	-8.0	30.00
Ethylbenzene	50.0	49	-2.4	30.00
Carbon Tetrachloride	50.0	55	10.9	30.00
1,3-Dichlorobenzene	50.0	55	9.4	30.00
4-Bromofluorobenzene	50.0	52	4.6	30.00
Toluene-d8	50.0	52	4.4	30.00
Dibromofluoromethane	50.0	50	-0.5	30.00
Methyl-tert-Butyl Ether	50.0	49	-1.8	30.00
trans-1,2-Dichloroethene	50.0	48	-4.3	30.00
cis-1,2-Dichloroethene	50.0	50	-0.1	30.00
Tetrachloroethene	50.0	48	-3.1	30.00
Acetone	250	240	-4.3	30.00
1,2,4-Trichlorobenzene	50.0	49	-2.0	30.00
Chloroform	50.0	49	-2.2	30.00
Chlorobenzene	50.0	52	3.4	30.00
Toluene	50.0	53	5.9	30.00
Methyl cyclohexane	50.0	47	-5.0	30.00
m,p-Xylenes	100	110	5.6	30.00
4-Methyl-2-pentanone	250	230	-7.3	30.00
1,2-Dichloroethane	50.0	46	-8.3	30.00
1,2-Dibromoethane	50.0	52	3.4	30.00
1,4-Dichlorobenzene	50.0	51	1.3	30.00
trans-1,3-Dichloropropene	50.0	49	-1.5	30.00
cis-1,3-Dichloropropene	50.0	49	-2.4	30.00
Styrene	50.0	55	10.3	30.00
Dibromochloromethane	50.0	52	3.8	30.00
1,1-Dichloroethene	50.0	49	-2.0	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE00066-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2011113 **Laboratory ID:** AA63653-SCV1

Sequence: AA63653 **Standard ID:** A0K1038

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
1,2-Dibromo-3-chloropropane	50.0	55	9.4	30.00
1,2-Dichlorobenzene	50.0	52	3.8	30.00
o-Xylene	50.0	53	5.4	30.00
1,1,2,2-Tetrachloroethane	50.0	52	3.2	30.00
Methyl acetate	50.0	38	-23.9	30.00
Trichloroethene	50.0	54	7.6	30.00
1,1,2-Trichloroethane	50.0	50	-0.4	30.00
2-Butanone	250	250	-1.7	30.00
1,2-Dichloropropane	50.0	50	-0.4	30.00
Freon 113	50.0	51	2.3	30.00
2-Hexanone	250	250	0.6	30.00
Trichlorofluoromethane	20.0	21	2.9	30.00
Isopropylbenzene	50.0	54	8.8	30.00
1,1-Dichloroethane	50.0	48	-4.6	30.00
Bromodichloromethane	50.0	50	-0.1	30.00
Bromoform	50.0	52	3.8	30.00
Carbon disulfide	50.0	52	4.0	30.00
Methylene Chloride	50.0	47	-5.6	30.00
Vinyl chloride	20.0	21	3.6	30.00
Chloroethane	20.0	22	8.4	30.00
Chloromethane	20.0	20	-0.1	30.00
Bromomethane	20.0	25	24.8	30.00
1,1,1-Trichloroethane	50.0	51	1.2	30.00
Benzene	50.0	54	7.1	30.00
Dichlorodifluoromethane	20.0	21	3.0	30.00

* Values outside of QC limits

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2101077
Laboratory ID: AA64539-SCV1
Sequence: AA64539
Standard ID: A1A0936

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Cyclohexane	50.0	52	3.4	30.00
Ethylbenzene	50.0	49	-2.1	30.00
Carbon Tetrachloride	50.0	50	-0.2	30.00
1,3-Dichlorobenzene	50.0	50	-0.3	30.00
4-Bromofluorobenzene	50.0	53	5.0	30.00
Toluene-d8	50.0	52	4.5	30.00
Dibromofluoromethane	50.0	49	-1.1	30.00
Methyl-tert-Butyl Ether	50.0	50	0.7	30.00
trans-1,2-Dichloroethene	50.0	51	1.3	30.00
cis-1,2-Dichloroethene	50.0	48	-4.8	30.00
Tetrachloroethene	50.0	46	-7.5	30.00
Acetone	250	310	24.9	30.00
1,2,4-Trichlorobenzene	50.0	59	17.8	30.00
Chloroform	50.0	55	9.8	30.00
Chlorobenzene	50.0	49	-2.0	30.00
Toluene	50.0	46	-7.4	30.00
Methyl cyclohexane	50.0	50	0.5	30.00
m,p-Xylenes	100	110	5.5	30.00
4-Methyl-2-pentanone	250	250	0.1	30.00
1,2-Dichloroethane	50.0	49	-1.8	30.00
1,2-Dibromoethane	50.0	47	-5.7	30.00
1,4-Dichlorobenzene	50.0	48	-4.2	30.00
trans-1,3-Dichloropropene	50.0	48	-3.7	30.00
cis-1,3-Dichloropropene	50.0	51	1.7	30.00
Styrene	50.0	54	8.8	30.00
Dibromochloromethane	50.0	46	-7.3	30.00
1,1-Dichloroethene	50.0	46	-7.4	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE00066-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2101077 **Laboratory ID:** AA64539-SCV1

Sequence: AA64539 **Standard ID:** A1A0936

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
1,2-Dibromo-3-chloropropane	50.0	55	10.8	30.00
1,2-Dichlorobenzene	50.0	52	3.6	30.00
o-Xylene	50.0	53	5.1	30.00
1,1,2,2-Tetrachloroethane	50.0	53	5.6	30.00
Methyl acetate	50.0	55	9.1	30.00
Trichloroethene	50.0	49	-1.5	30.00
1,1,2-Trichloroethane	50.0	47	-6.2	30.00
2-Butanone	250	250	1.9	30.00
1,2-Dichloropropane	50.0	51	2.2	30.00
Freon 113	50.0	55	9.7	30.00
2-Hexanone	250	260	3.5	30.00
Trichlorofluoromethane	50.0	51	2.5	30.00
Isopropylbenzene	50.0	53	6.2	30.00
1,1-Dichloroethane	50.0	47	-5.6	30.00
Bromodichloromethane	50.0	49	-1.8	30.00
Bromoform	50.0	52	3.5	30.00
Carbon disulfide	50.0	64	28.6	30.00
Methylene Chloride	50.0	53	5.9	30.00
Vinyl chloride	50.0	56	12.6	30.00
Chloroethane	50.0	56	11.9	30.00
Chloromethane	50.0	55	10.5	30.00
Bromomethane	50.0	47	-5.9	30.00
1,1,1-Trichloroethane	50.0	51	1.2	30.00
Benzene	50.0	49	-1.6	30.00
Dichlorodifluoromethane	50.0	50	0.1	30.00

* Values outside of QC limits

ENCO Orlando

SDG: AE00066-TE016

CLASS: 06_VOA_AIR

METHOD: TO-15

ANALYSES DATA PACKAGE COVER PAGE

TO-15

Laboratory: ENCO Orlando

SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-VMP01-20210120	AE00066-13
CRCA-VMP01-20210120	AE00066-13RE1
CRCA-VMP02-20210120	AE00066-14
CRCA-VMP03-20210120	AE00066-15
CRCA-VMP03-20210120	AE00066-15RE1
CRCA-VMP04-20210120	AE00066-16
CRCA-VMP04-20210120	AE00066-16RE1
CRCA-SYSAIR-20210120	AE00066-17

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP01-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Air Laboratory ID: AE00066-13RE1 File ID: 217AS012.D

Sampled: 01/20/21 11:03 Prepared: 01/25/21 09:00 Analyzed: 01/25/21 10:36

Solids: Preparation: NO PREP 2 Initial/Final: 400 mL / 400 mL

Batch: 1A25023 Sequence: AA64633 Calibration: 2101005 Instrument: OVGCMS7

CAS NO.	COMPOUND	DILUTION	CONC. (ppbv)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1.34	0.74	UD	0.74	3.4
115-07-1	Propene	1.34	0.74	UD	0.74	3.4
74-87-3	Chloromethane	1.34	0.64	UD	0.64	3.4
75-01-4	Vinyl chloride	1.34	0.75	UD	0.75	3.4
74-83-9	Bromomethane	1.34	0.44	UD	0.44	3.4
75-00-3	Chloroethane	1.34	0.43	UD	0.43	3.4
75-69-4	Trichlorofluoromethane	1.34	0.46	UD	0.46	3.4
593-60-2	Bromoethene	1.34	0.44	UD	0.44	3.4
75-34-3	1,1-Dichloroethane	1.34	0.48	UD	0.48	3.4
67-64-1	Acetone	1.34	5.9	D	0.47	3.4
75-09-2	Methylene chloride	1.34	0.75	JBD	0.27	3.4
76-13-1	Freon 113	1.34	3.9	D	0.43	3.4
107-05-1	3-Chloropropene	1.34	0.52	UD	0.52	3.4
156-60-5	trans-1,2-Dichloroethene	1.34	0.43	UD	0.43	3.4
75-35-4	1,1-Dichloroethene	1.34	0.51	UD	0.51	3.4
156-59-2	cis-1,2-Dichloroethene	1.34	0.51	UD	0.51	3.4
67-66-3	Chloroform	1.34	0.51	UD	0.51	3.4
107-06-2	1,2-Dichloroethane	1.34	0.50	UD	0.50	3.4
71-55-6	1,1,1-Trichloroethane	1.34	0.46	UD	0.46	3.4
56-23-5	Carbon tetrachloride	1.34	0.36	UD	0.36	3.4
78-87-5	1,2-Dichloropropane	1.34	0.54	UD	0.54	3.4
79-01-6	Trichloroethene	1.34	0.47	UD	0.47	3.4
75-27-4	Bromodichloromethane	1.34	0.46	UD	0.46	3.4
10061-01-5	cis-1,3-Dichloropropene	1.34	0.51	UD	0.51	3.4
10061-02-6	trans-1,3-Dichloropropene	1.34	0.46	UD	0.46	3.4
79-00-5	1,1,2-Trichloroethane	1.34	0.47	UD	0.47	3.4
106-93-4	1,2-Dibromoethane	1.34	0.48	UD	0.48	3.4
127-18-4	Tetrachloroethene	1.34	0.42	UD	0.42	3.4
124-48-1	Dibromochloromethane	1.34	0.44	UD	0.44	3.4
108-90-7	Chlorobenzene	1.34	0.44	UD	0.44	3.4
75-25-2	Bromoform	1.34	0.51	UD	0.51	3.4
79-34-5	1,1,2,2-Tetrachloroethane	1.34	0.48	UD	0.48	3.4
541-73-1	1,3-Dichlorobenzene	1.34	0.38	UD	0.38	3.4
106-46-7	1,4-Dichlorobenzene	1.34	0.42	UD	0.42	3.4
95-50-1	1,2-Dichlorobenzene	1.34	0.36	UD	0.36	3.4
87-68-3	Hexachlorobutadiene	1.34	0.50	UD	0.50	3.4
76-14-2	Freon 114	1.34	0.70	UD	0.70	3.4

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	28	90	70 - 130	

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP01-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Air Laboratory ID: AE00066-13RE1 File ID: 217AS012.D

Sampled: 01/20/21 11:03 Prepared: 01/25/21 09:00 Analyzed: 01/25/21 10:36

Solids: Preparation: NO PREP 2 Initial/Final: 400 mL / 400 mL

Batch: 1A25023 Sequence: AA64633 Calibration: 2101005 Instrument: OVGCMS7

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	394787	10.98	368179	11	
1,4-Difluorobenzene	1326946	12.49	1236730	12.5	
Chlorobenzene-d5	966269	15.89	944742	15.9	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP02-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Air Laboratory ID: AE00066-14 File ID: 217AS013.D

Sampled: 01/20/21 11:06 Prepared: 01/25/21 09:00 Analyzed: 01/25/21 11:18

Solids: Preparation: NO PREP 2 Initial/Final: 200 mL / 400 mL

Batch: 1A25023 Sequence: AA64633 Calibration: 2101005 Instrument: OVGCMS7

CAS NO.	COMPOUND	DILUTION	CONC. (ppbv)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1.35	1.5	UD	1.5	6.8
115-07-1	Propene	1.35	1.5	UD	1.5	6.8
74-87-3	Chloromethane	1.35	1.3	UD	1.3	6.8
75-01-4	Vinyl chloride	1.35	1.5	UD	1.5	6.8
74-83-9	Bromomethane	1.35	0.89	UD	0.89	6.8
75-00-3	Chloroethane	1.35	0.86	UD	0.86	6.8
75-69-4	Trichlorofluoromethane	1.35	0.92	UD	0.92	6.8
593-60-2	Bromoethene	1.35	0.89	UD	0.89	6.8
75-34-3	1,1-Dichloroethane	1.35	0.97	UD	0.97	6.8
67-64-1	Acetone	1.35	3.5	JD	0.94	6.8
75-09-2	Methylene chloride	1.35	0.97	JBD	0.54	6.8
76-13-1	Freon 113	1.35	120	DE	0.86	6.8
107-05-1	3-Chloropropene	1.35	1.1	UD	1.1	6.8
156-60-5	trans-1,2-Dichloroethene	1.35	5.5	JD	0.86	6.8
75-35-4	1,1-Dichloroethene	1.35	1.0	UD	1.0	6.8
156-59-2	cis-1,2-Dichloroethene	1.35	1.0	UD	1.0	6.8
67-66-3	Chloroform	1.35	1.0	UD	1.0	6.8
107-06-2	1,2-Dichloroethane	1.35	1.0	UD	1.0	6.8
71-55-6	1,1,1-Trichloroethane	1.35	0.92	UD	0.92	6.8
56-23-5	Carbon tetrachloride	1.35	0.73	UD	0.73	6.8
78-87-5	1,2-Dichloropropane	1.35	1.1	UD	1.1	6.8
79-01-6	Trichloroethene	1.35	0.94	UD	0.94	6.8
75-27-4	Bromodichloromethane	1.35	0.92	UD	0.92	6.8
10061-01-5	cis-1,3-Dichloropropene	1.35	1.0	UD	1.0	6.8
10061-02-6	trans-1,3-Dichloropropene	1.35	0.92	UD	0.92	6.8
79-00-5	1,1,2-Trichloroethane	1.35	0.94	UD	0.94	6.8
106-93-4	1,2-Dibromoethane	1.35	0.97	UD	0.97	6.8
127-18-4	Tetrachloroethene	1.35	0.84	UD	0.84	6.8
124-48-1	Dibromochloromethane	1.35	0.89	UD	0.89	6.8
108-90-7	Chlorobenzene	1.35	0.89	UD	0.89	6.8
75-25-2	Bromoform	1.35	1.0	UD	1.0	6.8
79-34-5	1,1,2,2-Tetrachloroethane	1.35	0.97	UD	0.97	6.8
541-73-1	1,3-Dichlorobenzene	1.35	0.76	UD	0.76	6.8
106-46-7	1,4-Dichlorobenzene	1.35	0.84	UD	0.84	6.8
95-50-1	1,2-Dichlorobenzene	1.35	0.73	UD	0.73	6.8
87-68-3	Hexachlorobutadiene	1.35	1.0	UD	1.0	6.8
76-14-2	Freon 114	1.35	1.4	UD	1.4	6.8

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	27	87	70 - 130	

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP02-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Air
Laboratory ID: AE00066-14
File ID: 217AS013.D
Sampled: 01/20/21 11:06
Prepared: 01/25/21 09:00
Analyzed: 01/25/21 11:18
Solids:
Preparation: NO PREP 2
Initial/Final: 200 mL / 400 mL
Batch: 1A25023
Sequence: AA64633
Calibration: 2101005
Instrument: OVGCMS7

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	376564	10.98	368179	11	
1,4-Difluorobenzene	1276814	12.49	1236730	12.5	
Chlorobenzene-d5	910527	15.89	944742	15.9	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP03-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Air Laboratory ID: AE00066-15RE1 File ID: 217AS017.D

Sampled: 01/20/21 11:15 Prepared: 01/25/21 09:00 Analyzed: 01/25/21 14:06

Solids: Preparation: NO PREP 2 Initial/Final: 400 mL / 400 mL

Batch: 1A25023 Sequence: AA64633 Calibration: 2101005 Instrument: OVGCMS7

CAS NO.	COMPOUND	DILUTION	CONC. (ppbv)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1.59	0.87	UD	0.87	4.0
115-07-1	Propene	1.59	0.87	UD	0.87	4.0
74-87-3	Chloromethane	1.59	0.76	UD	0.76	4.0
75-01-4	Vinyl chloride	1.59	0.89	UD	0.89	4.0
74-83-9	Bromomethane	1.59	0.52	UD	0.52	4.0
75-00-3	Chloroethane	1.59	0.51	UD	0.51	4.0
75-69-4	Trichlorofluoromethane	1.59	0.54	UD	0.54	4.0
593-60-2	Bromoethene	1.59	0.52	UD	0.52	4.0
75-34-3	1,1-Dichloroethane	1.59	0.57	UD	0.57	4.0
67-64-1	Acetone	1.59	4.1	D	0.56	4.0
75-09-2	Methylene chloride	1.59	1.1	JBD	0.32	4.0
76-13-1	Freon 113	1.59	8.1	D	0.51	4.0
107-05-1	3-Chloropropene	1.59	0.62	UD	0.62	4.0
156-60-5	trans-1,2-Dichloroethene	1.59	0.51	UD	0.51	4.0
75-35-4	1,1-Dichloroethene	1.59	0.60	UD	0.60	4.0
156-59-2	cis-1,2-Dichloroethene	1.59	0.60	UD	0.60	4.0
67-66-3	Chloroform	1.59	1.9	JD	0.60	4.0
107-06-2	1,2-Dichloroethane	1.59	0.59	UD	0.59	4.0
71-55-6	1,1,1-Trichloroethane	1.59	0.54	UD	0.54	4.0
56-23-5	Carbon tetrachloride	1.59	0.43	UD	0.43	4.0
78-87-5	1,2-Dichloropropane	1.59	0.64	UD	0.64	4.0
79-01-6	Trichloroethene	1.59	0.56	UD	0.56	4.0
75-27-4	Bromodichloromethane	1.59	0.54	UD	0.54	4.0
10061-01-5	cis-1,3-Dichloropropene	1.59	0.60	UD	0.60	4.0
10061-02-6	trans-1,3-Dichloropropene	1.59	0.54	UD	0.54	4.0
79-00-5	1,1,2-Trichloroethane	1.59	0.56	UD	0.56	4.0
106-93-4	1,2-Dibromoethane	1.59	0.57	UD	0.57	4.0
127-18-4	Tetrachloroethene	1.59	0.49	UD	0.49	4.0
124-48-1	Dibromochloromethane	1.59	0.52	UD	0.52	4.0
108-90-7	Chlorobenzene	1.59	0.52	UD	0.52	4.0
75-25-2	Bromoform	1.59	0.60	UD	0.60	4.0
79-34-5	1,1,2,2-Tetrachloroethane	1.59	0.57	UD	0.57	4.0
541-73-1	1,3-Dichlorobenzene	1.59	0.45	UD	0.45	4.0
106-46-7	1,4-Dichlorobenzene	1.59	0.49	UD	0.49	4.0
95-50-1	1,2-Dichlorobenzene	1.59	0.43	UD	0.43	4.0
87-68-3	Hexachlorobutadiene	1.59	0.59	UD	0.59	4.0
76-14-2	Freon 114	1.59	0.83	UD	0.83	4.0

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	27	88	70 - 130	

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP03-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Air
Laboratory ID: AE00066-15RE1
File ID: 217AS017.D
Sampled: 01/20/21 11:15
Prepared: 01/25/21 09:00
Analyzed: 01/25/21 14:06
Solids:
Preparation: NO PREP 2
Initial/Final: 400 mL / 400 mL
Batch: 1A25023
Sequence: AA64633
Calibration: 2101005
Instrument: OVGCMS7

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	374110	10.99	368179	11	
1,4-Difluorobenzene	1263633	12.5	1236730	12.5	
Chlorobenzene-d5	911241	15.9	944742	15.9	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP04-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Air Laboratory ID: AE00066-16RE1 File ID: 217AS018.D

Sampled: 01/20/21 11:22 Prepared: 01/25/21 09:00 Analyzed: 01/25/21 14:47

Solids: Preparation: NO PREP 2 Initial/Final: 200 mL / 400 mL

Batch: 1A25023 Sequence: AA64633 Calibration: 2101005 Instrument: OVGCMS7

CAS NO.	COMPOUND	DILUTION	CONC. (ppbv)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1.4	1.5	UD	1.5	7.0
115-07-1	Propene	1.4	1.5	UD	1.5	7.0
74-87-3	Chloromethane	1.4	1.3	UD	1.3	7.0
75-01-4	Vinyl chloride	1.4	1.6	UD	1.6	7.0
74-83-9	Bromomethane	1.4	0.92	UD	0.92	7.0
75-00-3	Chloroethane	1.4	0.90	UD	0.90	7.0
75-69-4	Trichlorofluoromethane	1.4	0.95	UD	0.95	7.0
593-60-2	Bromoethene	1.4	0.92	UD	0.92	7.0
75-34-3	1,1-Dichloroethane	1.4	1.0	UD	1.0	7.0
67-64-1	Acetone	1.4	31	D	0.98	7.0
75-09-2	Methylene chloride	1.4	1.1	JBD	0.56	7.0
76-13-1	Freon 113	1.4	34	D	0.90	7.0
107-05-1	3-Chloropropene	1.4	1.1	UD	1.1	7.0
156-60-5	trans-1,2-Dichloroethene	1.4	0.90	UD	0.90	7.0
75-35-4	1,1-Dichloroethene	1.4	1.1	UD	1.1	7.0
156-59-2	cis-1,2-Dichloroethene	1.4	1.1	UD	1.1	7.0
67-66-3	Chloroform	1.4	1.1	UD	1.1	7.0
107-06-2	1,2-Dichloroethane	1.4	1.0	UD	1.0	7.0
71-55-6	1,1,1-Trichloroethane	1.4	0.95	UD	0.95	7.0
56-23-5	Carbon tetrachloride	1.4	0.76	UD	0.76	7.0
78-87-5	1,2-Dichloropropane	1.4	1.1	UD	1.1	7.0
79-01-6	Trichloroethene	1.4	0.98	UD	0.98	7.0
75-27-4	Bromodichloromethane	1.4	0.95	UD	0.95	7.0
10061-01-5	cis-1,3-Dichloropropene	1.4	1.1	UD	1.1	7.0
10061-02-6	trans-1,3-Dichloropropene	1.4	0.95	UD	0.95	7.0
79-00-5	1,1,2-Trichloroethane	1.4	0.98	UD	0.98	7.0
106-93-4	1,2-Dibromoethane	1.4	1.0	UD	1.0	7.0
127-18-4	Tetrachloroethene	1.4	0.87	UD	0.87	7.0
124-48-1	Dibromochloromethane	1.4	0.92	UD	0.92	7.0
108-90-7	Chlorobenzene	1.4	0.92	UD	0.92	7.0
75-25-2	Bromoform	1.4	1.1	UD	1.1	7.0
79-34-5	1,1,2,2-Tetrachloroethane	1.4	1.0	UD	1.0	7.0
541-73-1	1,3-Dichlorobenzene	1.4	0.78	UD	0.78	7.0
106-46-7	1,4-Dichlorobenzene	1.4	0.87	UD	0.87	7.0
95-50-1	1,2-Dichlorobenzene	1.4	0.76	UD	0.76	7.0
87-68-3	Hexachlorobutadiene	1.4	1.0	UD	1.0	7.0
76-14-2	Freon 114	1.4	1.5	UD	1.5	7.0

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	28	89	70 - 130	

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-VMP04-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Air Laboratory ID: AE00066-16RE1 File ID: 217AS018.D

Sampled: 01/20/21 11:22 Prepared: 01/25/21 09:00 Analyzed: 01/25/21 14:47

Solids: Preparation: NO PREP 2 Initial/Final: 200 mL / 400 mL

Batch: 1A25023 Sequence: AA64633 Calibration: 2101005 Instrument: OVGCMS7

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	405636	10.99	368179	11	
1,4-Difluorobenzene	1356274	12.49	1236730	12.5	
Chlorobenzene-d5	989168	15.9	944742	15.9	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-SYSAIR-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Air Laboratory ID: AE00066-17 File ID: 217AS016.D

Sampled: 01/20/21 17:03 Prepared: 01/25/21 09:00 Analyzed: 01/25/21 13:21

Solids: Preparation: NO PREP 2 Initial/Final: 400 mL / 400 mL

Batch: 1A25023 Sequence: AA64633 Calibration: 2101005 Instrument: OVGCMS7

CAS NO.	COMPOUND	DILUTION	CONC. (ppbv)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1.32	0.73	UD	0.73	3.3
115-07-1	Propene	1.32	0.73	UD	0.73	3.3
74-87-3	Chloromethane	1.32	0.63	UD	0.63	3.3
75-01-4	Vinyl chloride	1.32	0.74	UD	0.74	3.3
74-83-9	Bromomethane	1.32	0.44	UD	0.44	3.3
75-00-3	Chloroethane	1.32	0.42	UD	0.42	3.3
75-69-4	Trichlorofluoromethane	1.32	0.45	UD	0.45	3.3
593-60-2	Bromoethene	1.32	0.44	UD	0.44	3.3
75-34-3	1,1-Dichloroethane	1.32	0.48	UD	0.48	3.3
67-64-1	Acetone	1.32	2.6	JD	0.46	3.3
75-09-2	Methylene chloride	1.32	0.99	JBD	0.26	3.3
76-13-1	Freon 113	1.32	0.42	UD	0.42	3.3
107-05-1	3-Chloropropene	1.32	0.51	UD	0.51	3.3
156-60-5	trans-1,2-Dichloroethene	1.32	0.96	JD	0.42	3.3
75-35-4	1,1-Dichloroethene	1.32	0.50	UD	0.50	3.3
156-59-2	cis-1,2-Dichloroethene	1.32	0.50	UD	0.50	3.3
67-66-3	Chloroform	1.32	0.50	UD	0.50	3.3
107-06-2	1,2-Dichloroethane	1.32	0.49	UD	0.49	3.3
71-55-6	1,1,1-Trichloroethane	1.32	0.45	UD	0.45	3.3
56-23-5	Carbon tetrachloride	1.32	0.36	UD	0.36	3.3
78-87-5	1,2-Dichloropropane	1.32	0.53	UD	0.53	3.3
79-01-6	Trichloroethene	1.32	0.46	UD	0.46	3.3
75-27-4	Bromodichloromethane	1.32	0.45	UD	0.45	3.3
10061-01-5	cis-1,3-Dichloropropene	1.32	0.50	UD	0.50	3.3
10061-02-6	trans-1,3-Dichloropropene	1.32	0.45	UD	0.45	3.3
79-00-5	1,1,2-Trichloroethane	1.32	0.46	UD	0.46	3.3
106-93-4	1,2-Dibromoethane	1.32	0.48	UD	0.48	3.3
127-18-4	Tetrachloroethene	1.32	0.41	UD	0.41	3.3
124-48-1	Dibromochloromethane	1.32	0.44	UD	0.44	3.3
108-90-7	Chlorobenzene	1.32	0.44	UD	0.44	3.3
75-25-2	Bromoform	1.32	0.50	UD	0.50	3.3
79-34-5	1,1,2,2-Tetrachloroethane	1.32	0.48	UD	0.48	3.3
541-73-1	1,3-Dichlorobenzene	1.32	0.37	UD	0.37	3.3
106-46-7	1,4-Dichlorobenzene	1.32	0.41	UD	0.41	3.3
95-50-1	1,2-Dichlorobenzene	1.32	0.36	UD	0.36	3.3
87-68-3	Hexachlorobutadiene	1.32	0.49	UD	0.49	3.3
76-14-2	Freon 114	1.32	0.69	UD	0.69	3.3

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	28	89	70 - 130	

ORGANIC ANALYSIS DATA SHEET

TO-15

CRCA-SYSAIR-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Air
Laboratory ID: AE00066-17
File ID: 217AS016.D
Sampled: 01/20/21 17:03
Prepared: 01/25/21 09:00
Analyzed: 01/25/21 13:21
Solids:
Preparation: NO PREP 2
Initial/Final: 400 mL / 400 mL
Batch: 1A25023
Sequence: AA64633
Calibration: 2101005
Instrument: OVGCMS7

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	379518	10.99	368179	11	
1,4-Difluorobenzene	1282254	12.49	1236730	12.5	
Chlorobenzene-d5	929975	15.9	944742	15.9	

* Values outside of QC limits

HOLDING TIME SUMMARY

TO-15

Laboratory: ENCO Orlando

SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-VMP01-20210120	01/20/21 11:03	01/21/21 15:10	01/25/21 09:00	4.91	NA	01/25/21 10:36	5.00	30.00	
CRCA-VMP02-20210120	01/20/21 11:06	01/21/21 15:10	01/25/21 09:00	4.91	NA	01/25/21 11:18	5.00	30.00	
CRCA-VMP03-20210120	01/20/21 11:15	01/21/21 15:10	01/25/21 09:00	4.91	NA	01/25/21 14:06	5.00	30.00	
CRCA-VMP04-20210120	01/20/21 11:22	01/21/21 15:10	01/25/21 09:00	4.90	NA	01/25/21 14:47	5.00	30.00	
CRCA-SYSAIR-20210120	01/20/21 17:03	01/21/21 15:10	01/25/21 09:00	4.66	NA	01/25/21 13:21	5.00	30.00	

PREPARATION BATCH SUMMARY

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Batch: 1A25023 Batch Matrix: Air Preparation: NO PREP 2

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1A25023-BLK1	217AS009.D	01/24/21 17:30	
LCS	1A25023-BS1	217AS006.D	01/24/21 17:30	
LCS Dup	1A25023-BSD1	217AS007.D	01/24/21 17:30	
CRCA-VMP01-20210120	AE00066-13RE1	217AS012.D	01/25/21 09:00	
CRCA-VMP02-20210120	AE00066-14	217AS013.D	01/25/21 09:00	
CRCA-VMP03-20210120	AE00066-15RE1	217AS017.D	01/25/21 09:00	
CRCA-VMP04-20210120	AE00066-16RE1	217AS018.D	01/25/21 09:00	
CRCA-SYSAIR-20210120	AE00066-17	217AS016.D	01/25/21 09:00	

METHOD BLANK DATA SHEET
TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Air	Laboratory ID:	1A25023-BLK1	File ID:	217AS009.D
Prepared:	01/24/21 17:30	Preparation:	NO PREP 2	Initial/Final:	400 mL / 400 mL
Analyzed:	01/25/21 00:37	Instrument:	OVGCMS7		
Batch:	1A25023	Sequence:	AA64633	Calibration:	2101005

CAS NO.	COMPOUND	CONC. (ppbv)	Q
75-71-8	Dichlorodifluoromethane	0.55	U
115-07-1	Propene	0.55	U
74-87-3	Chloromethane	0.48	U
75-01-4	Vinyl chloride	0.56	U
74-83-9	Bromomethane	0.33	U
75-00-3	Chloroethane	0.32	U
75-69-4	Trichlorofluoromethane	0.34	U
593-60-2	Bromoethene	0.33	U
75-34-3	1,1-Dichloroethane	0.36	U
67-64-1	Acetone	0.35	U
75-09-2	Methylene chloride	0.29	J
76-13-1	Freon 113	0.32	U
107-05-1	3-Chloropropene	0.39	U
156-60-5	trans-1,2-Dichloroethene	0.32	U
75-35-4	1,1-Dichloroethene	0.38	U
156-59-2	cis-1,2-Dichloroethene	0.38	U
67-66-3	Chloroform	0.38	U
107-06-2	1,2-Dichloroethane	0.37	U
71-55-6	1,1,1-Trichloroethane	0.34	U
56-23-5	Carbon tetrachloride	0.27	U
78-87-5	1,2-Dichloropropane	0.40	U
79-01-6	Trichloroethene	0.35	U
75-27-4	Bromodichloromethane	0.34	U
10061-01-5	cis-1,3-Dichloropropene	0.38	U
10061-02-6	trans-1,3-Dichloropropene	0.34	U
79-00-5	1,1,2-Trichloroethane	0.35	U
106-93-4	1,2-Dibromoethane	0.36	U
127-18-4	Tetrachloroethene	0.31	U
124-48-1	Dibromochloromethane	0.33	U
108-90-7	Chlorobenzene	0.33	U

METHOD BLANK DATA SHEET
TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Air	Laboratory ID:	1A25023-BLK1	File ID:	217AS009.D
Prepared:	01/24/21 17:30	Preparation:	NO PREP 2	Initial/Final:	400 mL / 400 mL
Analyzed:	01/25/21 00:37	Instrument:	OVGCMS7		
Batch:	1A25023	Sequence:	AA64633	Calibration:	2101005

CAS NO.	COMPOUND	CONC. (ppbv)	Q
75-25-2	Bromoform	0.38	U
79-34-5	1,1,2,2-Tetrachloroethane	0.36	U
541-73-1	1,3-Dichlorobenzene	0.28	U
106-46-7	1,4-Dichlorobenzene	0.31	U
95-50-1	1,2-Dichlorobenzene	0.27	U
87-68-3	Hexachlorobutadiene	0.37	U
76-14-2	Freon 114	0.52	U

SYSTEM MONITORING COMPOUND	ADDED (ppbv)	CONC (ppbv)	% REC	QC LIMITS	Q
4-Bromofluorobenzene	31.0	27	87	70 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Bromochloromethane	396636	10.99	368179	11	
1,4-Difluorobenzene	1324496	12.49	1236730	12.5	
Chlorobenzene-d5	957252	15.89	944742	15.9	

LCS / LCS DUPLICATE RECOVERY

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Air		
Batch:	1A25023	Laboratory ID:	1A25023-BS1
Preparation:	NO PREP 2	Initial/Final:	400 mL / 400 mL

COMPOUND	SPIKE ADDED (ppbv)	LCS CONCENTRATION (ppbv)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	10.0	9.3	93	61 - 137
Propene	10.0	8.9	89	63 - 132
Chloromethane	10.0	10	100	55 - 142
Vinyl chloride	10.0	11	106	53 - 148
Bromomethane	10.0	9.9	99	69 - 130
Chloroethane	10.0	10	101	69 - 131
Trichlorofluoromethane	10.0	9.7	97	46 - 161
Bromoethene	10.0	9.5	95	69 - 132
1,1-Dichloroethane	10.0	12	119	70 - 130
Acetone	10.0	10	104	65 - 130
Methylene chloride	10.0	13	128	59 - 136
Freon 113	10.0	11	111	67 - 140
3-Chloropropene	10.0	11	113	70 - 130
trans-1,2-Dichloroethene	10.0	11	113	70 - 130
1,1-Dichloroethene	10.0	11	113	67 - 142
cis-1,2-Dichloroethene	10.0	12	122	70 - 130
Chloroform	10.0	11	111	70 - 130
1,2-Dichloroethane	10.0	10	102	70 - 130
1,1,1-Trichloroethane	10.0	10	100	70 - 130
Carbon tetrachloride	10.0	8.3	83	22 - 166
1,2-Dichloropropane	10.0	12	121	70 - 130
Trichloroethene	10.0	11	114	70 - 130
Bromodichloromethane	10.0	11	109	70 - 130
cis-1,3-Dichloropropene	10.0	12	122	70 - 137
trans-1,3-Dichloropropene	10.0	16	156	59 - 166
1,1,2-Trichloroethane	10.0	12	117	70 - 134
1,2-Dibromoethane	10.0	12	118	70 - 141
Tetrachloroethene	10.0	10	104	70 - 141
Dibromochloromethane	10.0	11	110	70 - 130
Chlorobenzene	10.0	11	107	70 - 134

LCS / LCS DUPLICATE RECOVERY

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Air		
Batch:	1A25023	Laboratory ID:	1A25023-BS1
Preparation:	NO PREP 2	Initial/Final:	400 mL / 400 mL

COMPOUND	SPIKE ADDED (ppbv)	LCS CONCENTRATION (ppbv)	LCS % REC. #	QC LIMITS REC.
Bromoform	10.0	11	110	62 - 149
1,1,2,2-Tetrachloroethane	10.0	12	119	52 - 163
1,3-Dichlorobenzene	10.0	9.8	98	47 - 178
1,4-Dichlorobenzene	10.0	9.2	92	45 - 180
1,2-Dichlorobenzene	10.0	10	102	37 - 180
Hexachlorobutadiene	10.0	9.1	91	24 - 180
Freon 114	10.0	9.8	98	62 - 147

COMPOUND	SPIKE ADDED (ppbv)	LCSD CONCENTRATION (ppbv)	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	10.0	8.1	81	13	25	61 - 137
Propene	10.0	7.8	78	13	25	63 - 132
Chloromethane	10.0	8.8	88	12	25	55 - 142
Vinyl chloride	10.0	9.2	92	14	25	53 - 148
Bromomethane	10.0	8.6	86	14	25	69 - 130
Chloroethane	10.0	8.7	87	14	25	69 - 131
Trichlorofluoromethane	10.0	8.7	87	11	25	46 - 161
Bromoethene	10.0	8.6	86	10	25	69 - 132
1,1-Dichloroethane	10.0	11	110	8	25	70 - 130
Acetone	10.0	9.5	95	10	25	65 - 130
Methylene chloride	10.0	12	123	5	25	59 - 136
Freon 113	10.0	10	103	8	25	67 - 140
3-Chloropropene	10.0	10	105	7	25	70 - 130
trans-1,2-Dichloroethene	10.0	10	105	7	25	70 - 130
1,1-Dichloroethene	10.0	10	103	9	25	67 - 142
cis-1,2-Dichloroethene	10.0	11	114	6	25	70 - 130
Chloroform	10.0	10	101	9	25	70 - 130
1,2-Dichloroethane	10.0	8.8	88	15	25	70 - 130
1,1,1-Trichloroethane	10.0	9.1	91	9	25	70 - 130
Carbon tetrachloride	10.0	7.5	75	10	25	22 - 166

LCS / LCS DUPLICATE RECOVERY

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Air		
Batch:	1A25023	Laboratory ID:	1A25023-BSD1
Preparation:	NO PREP 2	Initial/Final:	400 mL / 400 mL

COMPOUND	SPIKE ADDED (ppbv)	LCSD CONCENTRATION (ppbv)	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,2-Dichloropropane	10.0	11	113	7	25	70 - 130
Trichloroethene	10.0	11	108	5	25	70 - 130
Bromodichloromethane	10.0	10	100	8	25	70 - 130
cis-1,3-Dichloropropene	10.0	11	113	7	25	70 - 137
trans-1,3-Dichloropropene	10.0	15	146	7	25	59 - 166
1,1,2-Trichloroethane	10.0	11	110	6	25	70 - 134
1,2-Dibromoethane	10.0	11	110	7	25	70 - 141
Tetrachloroethene	10.0	9.8	98	6	25	70 - 141
Dibromochloromethane	10.0	10	103	7	25	70 - 130
Chlorobenzene	10.0	10	100	6	25	70 - 134
Bromoform	10.0	10	103	7	25	62 - 149
1,1,2,2-Tetrachloroethane	10.0	11	111	7	25	52 - 163
1,3-Dichlorobenzene	10.0	9.1	91	7	25	47 - 178
1,4-Dichlorobenzene	10.0	8.5	85	8	25	45 - 180
1,2-Dichlorobenzene	10.0	9.5	95	7	25	37 - 180
Hexachlorobutadiene	10.0	8.5	85	7	25	24 - 180
Freon 114	10.0	8.8	88	11	25	62 - 147

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64317
Instrument: OVGCMS7
Matrix: Air
Calibration: 2101005

Surrogate Compound	Spike Level ppbv	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA64317-SCV1)			Lab File ID: 207LZ017.D		Analyzed: 12/31/20 23:23			
4-Bromofluorobenzene	31.0	101	0 - 200	17.33	17.33	0.0000	+/-1.0	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64633
Instrument: OVGCMS7
Matrix: Air
Calibration: 2101005

Surrogate Compound	Spike Level ppbv	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA64633-CCV1)			Lab File ID: 217AS004.D		Analyzed: 01/24/21 21:16			
4-Bromofluorobenzene	31.0	101	0 - 200	17.32	17.33	-0.0100	+/-1.0	
Instrument RL Check (AA64633-CRL1)			Lab File ID: 217AS005.D		Analyzed: 01/24/21 21:55			
4-Bromofluorobenzene	31.0	91	0 - 200	17.32	17.33	-0.0100	+/-1.0	
LCS (1A25023-BS1)			Lab File ID: 217AS006.D		Analyzed: 01/24/21 22:34			
4-Bromofluorobenzene	31.0	102	70 - 130	17.32	17.33	-0.0100	+/-1.0	
LCS Dup (1A25023-BSD1)			Lab File ID: 217AS007.D		Analyzed: 01/24/21 23:13			
4-Bromofluorobenzene	31.0	100	70 - 130	17.32	17.33	-0.0100	+/-1.0	
Blank (1A25023-BLK1)			Lab File ID: 217AS009.D		Analyzed: 01/25/21 00:37			
4-Bromofluorobenzene	31.0	87	70 - 130	17.32	17.33	-0.0100	+/-1.0	
CRCA-VMP01-20210120 (AE00066-13RE1)			Lab File ID: 217AS012.D		Analyzed: 01/25/21 10:36			
4-Bromofluorobenzene	31.0	90	70 - 130	17.32	17.33	-0.0100	+/-1.0	
CRCA-VMP02-20210120 (AE00066-14)			Lab File ID: 217AS013.D		Analyzed: 01/25/21 11:18			
4-Bromofluorobenzene	31.0	87	70 - 130	17.33	17.33	0.0000	+/-1.0	
CRCA-SYSAIR-20210120 (AE00066-17)			Lab File ID: 217AS016.D		Analyzed: 01/25/21 13:21			
4-Bromofluorobenzene	31.0	89	70 - 130	17.33	17.33	0.0000	+/-1.0	
CRCA-VMP03-20210120 (AE00066-15RE1)			Lab File ID: 217AS017.D		Analyzed: 01/25/21 14:06			
4-Bromofluorobenzene	31.0	88	70 - 130	17.33	17.33	0.0000	+/-1.0	
CRCA-VMP04-20210120 (AE00066-16RE1)			Lab File ID: 217AS018.D		Analyzed: 01/25/21 14:47			
4-Bromofluorobenzene	31.0	89	70 - 130	17.33	17.33	0.0000	+/-1.0	

INTERNAL STANDARD AREA AND RT SUMMARY
TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA64317
Instrument: OVGCMS7
Matrix: Air
Calibration: 2101005

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA64317-CAL1)			Lab File ID: 207LZ005.D			Analyzed: 12/31/20 15:30			
Bromochloromethane	373148	10.99	368179	11	101	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1252006	12.49	1236730	12.5	101	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	940921	15.9	944742	15.9	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64317-CAL2)			Lab File ID: 207LZ006.D			Analyzed: 12/31/20 16:10			
Bromochloromethane	374682	10.99	368179	11	102	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1271464	12.49	1236730	12.5	103	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	980132	15.9	944742	15.9	104	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64317-CAL3)			Lab File ID: 207LZ007.D			Analyzed: 12/31/20 16:48			
Bromochloromethane	375020	10.99	368179	11	102	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1254271	12.49	1236730	12.5	101	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	928803	15.9	944742	15.9	98	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64317-CAL4)			Lab File ID: 207LZ008.D			Analyzed: 12/31/20 17:27			
Bromochloromethane	356879	10.98	368179	11	97	60 - 140	-0.0200	+/-0.50	
1,4-Difluorobenzene	1194813	12.49	1236730	12.5	97	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	889493	15.9	944742	15.9	94	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64317-CAL5)			Lab File ID: 207LZ009.D			Analyzed: 12/31/20 18:08			
Bromochloromethane	359052	10.99	368179	11	98	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1218151	12.49	1236730	12.5	98	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	912184	15.9	944742	15.9	97	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64317-CAL6)			Lab File ID: 207LZ010.D			Analyzed: 12/31/20 18:46			
Bromochloromethane	364591	10.99	368179	11	99	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1225340	12.49	1236730	12.5	99	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	929328	15.9	944742	15.9	98	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64317-CAL7)			Lab File ID: 207LZ011.D			Analyzed: 12/31/20 19:25			
Bromochloromethane	368179	11	368179	11	100	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	1236730	12.5	1236730	12.5	100	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	944742	15.9	944742	15.9	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64317-CAL8)			Lab File ID: 207LZ012.D			Analyzed: 12/31/20 20:06			
Bromochloromethane	377607	11	368179	11	103	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	1273648	12.5	1236730	12.5	103	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	978882	15.9	944742	15.9	104	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64317-CAL9)			Lab File ID: 207LZ013.D			Analyzed: 12/31/20 20:51			
Bromochloromethane	394710	11	368179	11	107	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene	1251209	12.5	1236730	12.5	101	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	933690	15.9	944742	15.9	99	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA64317
Instrument: OVGCMS7
Matrix: Air
Calibration: 2101005

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA64317-SCV1)			Lab File ID: 207LZ017.D			Analyzed: 12/31/20 23:23			
Bromochloromethane	376726	10.99	368179	11	102	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1252079	12.5	1236730	12.5	101	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	969254	15.89	944742	15.9	103	50 - 200	-0.0100	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64633
Instrument: OVGCMS7
Matrix: Air
Calibration: 2101005

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA64633-CCV1)			Lab File ID: 217AS004.D			Analyzed: 01/24/21 21:16			
Bromochloromethane	392339	10.99	368179	11	107	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1301381	12.49	1236730	12.5	105	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	987702	15.89	944742	15.9	105	50 - 200	-0.0100	+/-0.50	
Instrument RL Check (AA64633-CRL1)			Lab File ID: 217AS005.D			Analyzed: 01/24/21 21:55			
Bromochloromethane	403704	10.98	368179	11	110	60 - 140	-0.0200	+/-0.50	
1,4-Difluorobenzene	1353586	12.49	1236730	12.5	109	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	996591	15.89	944742	15.9	105	50 - 200	-0.0100	+/-0.50	
LCS (1A25023-BS1)			Lab File ID: 217AS006.D			Analyzed: 01/24/21 22:34			
Bromochloromethane	390017	10.99	368179	11	106	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1295134	12.49	1236730	12.5	105	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	976746	15.89	944742	15.9	103	50 - 200	-0.0100	+/-0.50	
LCS Dup (1A25023-BSD1)			Lab File ID: 217AS007.D			Analyzed: 01/24/21 23:13			
Bromochloromethane	408298	10.99	368179	11	111	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1353473	12.49	1236730	12.5	109	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	1023882	15.89	944742	15.9	108	50 - 200	-0.0100	+/-0.50	
Blank (1A25023-BLK1)			Lab File ID: 217AS009.D			Analyzed: 01/25/21 00:37			
Bromochloromethane	396636	10.99	368179	11	108	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1324496	12.49	1236730	12.5	107	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	957252	15.89	944742	15.9	101	50 - 200	-0.0100	+/-0.50	
CRCA-VMP01-20210120 (AE00066-13RE1)			Lab File ID: 217AS012.D			Analyzed: 01/25/21 10:36			
Bromochloromethane	394787	10.98	368179	11	107	60 - 140	-0.0200	+/-0.50	
1,4-Difluorobenzene	1326946	12.49	1236730	12.5	107	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	966269	15.89	944742	15.9	102	50 - 200	-0.0100	+/-0.50	
CRCA-VMP02-20210120 (AE00066-14)			Lab File ID: 217AS013.D			Analyzed: 01/25/21 11:18			
Bromochloromethane	376564	10.98	368179	11	102	60 - 140	-0.0200	+/-0.50	
1,4-Difluorobenzene	1276814	12.49	1236730	12.5	103	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	910527	15.89	944742	15.9	96	50 - 200	-0.0100	+/-0.50	
CRCA-SYSAIR-20210120 (AE00066-17)			Lab File ID: 217AS016.D			Analyzed: 01/25/21 13:21			
Bromochloromethane	379518	10.99	368179	11	103	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1282254	12.49	1236730	12.5	104	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	929975	15.9	944742	15.9	98	50 - 200	0.0000	+/-0.50	
CRCA-VMP03-20210120 (AE00066-15RE1)			Lab File ID: 217AS017.D			Analyzed: 01/25/21 14:06			
Bromochloromethane	374110	10.99	368179	11	102	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1263633	12.5	1236730	12.5	102	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5	911241	15.9	944742	15.9	96	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA64633
Instrument: OVGCMS7
Matrix: Air
Calibration: 2101005

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
CRCA-VMP04-20210120 (AE00066-16RE1)			Lab File ID: 217AS018.D			Analyzed: 01/25/21 14:47			
Bromochloromethane	405636	10.99	368179	11	110	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene	1356274	12.49	1236730	12.5	110	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5	989168	15.9	944742	15.9	105	50 - 200	0.0000	+/-0.50	

ANALYSIS BATCH (SEQUENCE) SUMMARY

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64317		
Calibration:	2101005	Instrument:	OVGCMS7

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA64317-TUN1	207LZ003.D	12/31/20 11:50
Cal Standard	AA64317-CAL1	207LZ005.D	12/31/20 15:30
Cal Standard	AA64317-CAL2	207LZ006.D	12/31/20 16:10
Cal Standard	AA64317-CAL3	207LZ007.D	12/31/20 16:48
Cal Standard	AA64317-CAL4	207LZ008.D	12/31/20 17:27
Cal Standard	AA64317-CAL5	207LZ009.D	12/31/20 18:08
Cal Standard	AA64317-CAL6	207LZ010.D	12/31/20 18:46
Cal Standard	AA64317-CAL7	207LZ011.D	12/31/20 19:25
Cal Standard	AA64317-CAL8	207LZ012.D	12/31/20 20:06
Cal Standard	AA64317-CAL9	207LZ013.D	12/31/20 20:51
Secondary Cal Check	AA64317-SCV1	207LZ017.D	12/31/20 23:23

ANALYSIS BATCH (SEQUENCE) SUMMARY

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64633		
Calibration:	2101005	Instrument:	OVGCMS7

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA64633-TUN1	217AS003.D	01/24/21 20:13
Calibration Check	AA64633-CCV1	217AS004.D	01/24/21 21:16
Instrument RL Check	AA64633-CRL1	217AS005.D	01/24/21 21:55
LCS	1A25023-BS1	217AS006.D	01/24/21 22:34
LCS Dup	1A25023-BSD1	217AS007.D	01/24/21 23:13
Blank	1A25023-BLK1	217AS009.D	01/25/21 00:37
CRCA-VMP01-20210120	AE00066-13RE1	217AS012.D	01/25/21 10:36
CRCA-VMP02-20210120	AE00066-14	217AS013.D	01/25/21 11:18
CRCA-SYSAIR-20210120	AE00066-17	217AS016.D	01/25/21 13:21
CRCA-VMP03-20210120	AE00066-15RE1	217AS017.D	01/25/21 14:06
CRCA-VMP04-20210120	AE00066-16RE1	217AS018.D	01/25/21 14:47

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	207LZ003.D	Injection Date:	12/31/20
Instrument ID:	OVGCMS7	Injection Time:	11:50
Sequence:	AA64317	Lab Sample ID:	AA64317-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8 - 40% of 95	25.8	PASS
75	30 - 66% of 95	47.4	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.65	PASS
173	Less than 2% of 174	0	PASS
174	50 - 120% of 95	72	PASS
175	4 - 9% of 174	5.68	PASS
176	95 - 101% of 174	99.9	PASS
177	5 - 9% of 176	6.72	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	217AS003.D	Injection Date:	01/24/21
Instrument ID:	OVGCMS7	Injection Time:	20:13
Sequence:	AA64633	Lab Sample ID:	AA64633-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8 - 40% of 95	24.3	PASS
75	30 - 66% of 95	44.1	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.79	PASS
173	Less than 2% of 174	0	PASS
174	50 - 120% of 95	70.2	PASS
175	4 - 9% of 174	5.38	PASS
176	95 - 101% of 174	101	PASS
177	5 - 9% of 176	6.55	PASS

CONTINUING CALIBRATION CHECK

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS7	Calibration:	2101005
Lab File ID:	217AS004.D	Calibration Date:	12/31/20 11:50
Sequence:	AA64633	Injection Date:	01/24/21
Lab Sample ID:	AA64633-CCV1	Injection Time:	21:16

		CONC. (ppbv)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Dichlorodifluoromethane	A	10.0	9.4	5.909758	5.571931		-5.7	30
Propene	A	10.0	9.7	3.46891	3.347509		-3.5	30
Chloromethane	A	10.0	11	3.270463	3.477462		6.3	30
Vinyl chloride	A	10.0	11	2.909119	3.098262		6.5	30
Bromomethane	A	10.0	8.7	2.155586	1.86725		-13	30
Chloroethane	A	10.0	9.1	1.196796	1.084687		-9.4	30
Trichlorofluoromethane	A	10.0	8.8	3.437972	3.024969		-12	30
Bromoethene	A	10.0	9.0	1.796391	1.62381		-9.6	30
1,1-Dichloroethane	A	10.0	10	4.245974	4.44449		4.7	30
Acetone	A	10.0	10	5.226221	5.376271		2.9	30
Methylene chloride	A	10.0	11	1.858963	2.116016		14	30
Freon 113	A	10.0	9.8	2.911353	2.848145		-2.2	30
3-Chloropropene	A	10.0	11	4.465711	4.794069		7.4	30
trans-1,2-Dichloroethene	A	10.0	11	3.501546	3.714652		6.1	30
1,1-Dichloroethene	A	10.0	10	4.047849	4.131448		2.1	30
cis-1,2-Dichloroethene	A	10.0	11	2.164079	2.307536		6.6	30
Chloroform	A	10.0	9.8	4.470508	4.388644		-1.8	30
1,2-Dichloroethane	A	10.0	9.1	3.063206	2.785582		-9.1	30
1,1,1-Trichloroethane	A	10.0	9.0	3.961147	3.564211		-10	30
Carbon tetrachloride	A	10.0	8.6	3.970871	3.432433		-14	30
1,2-Dichloropropane	A	10.0	11	0.7791529	0.8254162		5.9	30
Trichloroethene	A	10.0	10	0.7646966	0.7661047		0.20	30
Bromodichloromethane	A	10.0	10	1.331697	1.373903		3.2	30
cis-1,3-Dichloropropene	A	10.0	10	1.13546	1.14883		1.2	30
trans-1,3-Dichloropropene	A	10.0	11	0.7768079	0.702079		6.6	30
1,1,2-Trichloroethane	A	10.0	10	0.6845185	0.700483		2.3	30
1,2-Dibromoethane	A	10.0	10	1.077347	1.086352		0.80	30
Tetrachloroethene	A	10.0	9.4	0.9008099	0.8440822		-6.3	30
Dibromochloromethane	A	10.0	10	0.9321549	0.9778625		4.9	30

CONTINUING CALIBRATION CHECK

TO-15

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS7	Calibration:	2101005
Lab File ID:	217AS004.D	Calibration Date:	12/31/20 11:50
Sequence:	AA64633	Injection Date:	01/24/21
Lab Sample ID:	AA64633-CCV1	Injection Time:	21:16

		CONC. (ppbv)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Chlorobenzene	A	10.0	9.5	1.827847	1.731006		-5.3	30
Bromoform	A	10.0	11	1.163951	1.236068		6.2	30
1,1,2,2-Tetrachloroethane	A	10.0	10	1.719508	1.543626		-0.2	30
1,3-Dichlorobenzene	A	10.0	8.6	1.111419	0.9707873		-14	30
1,4-Dichlorobenzene	A	10.0	8.1	0.9386015	0.8564639		-19	30
1,2-Dichlorobenzene	A	10.0	9.3	1.129182	0.9221265		-7.5	30
Hexachlorobutadiene	A	10.0	10	1.190627	0.3855925		0.50	30
Freon 114	A	10.0	9.7	3.615481	3.499855		-3.2	30

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64317
Instrument: OVGCMS7

Calibration: 2101005

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A0L0713	Air- VIRTUAL TUN-121120	AA64317-TUN1	207LZ003.D	12/31/20 11:50
A0L1267	Air- Virtual CAL1 123120	AA64317-CAL1	207LZ005.D	12/31/20 15:30
A0L1268	Air- Virtual CAL2 123120	AA64317-CAL2	207LZ006.D	12/31/20 16:10
A0L1269	Air- Virtual CAL3 123120	AA64317-CAL3	207LZ007.D	12/31/20 16:48
A0L1270	Air- Virtual CAL4 123120	AA64317-CAL4	207LZ008.D	12/31/20 17:27
A0L1271	Air- Virtual CAL5 123120	AA64317-CAL5	207LZ009.D	12/31/20 18:08
A0L1272	Air- Virtual CAL6 123120	AA64317-CAL6	207LZ010.D	12/31/20 18:46
A0L1273	Air- Virtual CAL7 123120	AA64317-CAL7	207LZ011.D	12/31/20 19:25
A0L1274	Air- Virtual CAL8 123120	AA64317-CAL8	207LZ012.D	12/31/20 20:06
A0L1275	Air- Virtual CAL9 123120	AA64317-CAL9	207LZ013.D	12/31/20 20:51
A0L1276	Air- Virtual SCV 123120	AA64317-SCV1	207LZ017.D	12/31/20 23:23

INITIAL CALIBRATION DATA

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101005
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 12/31/20 11:50

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF
Dichlorodifluoromethane	0.125	6.880101	0.25	6.46307	0.5	6.55892	1.25	6.475759	2.5	6.347673	5	5.180784
Propene	0.125	5.166722	0.25	3.918085	0.5	3.628708	1.25	3.34844	2.5	3.259381	5	2.6502
Chloromethane	0.125	3.432075	0.25	3.317085	0.5	3.377745	1.25	3.392706	2.5	3.422284	5	2.898886
Vinyl chloride	0.125	2.926303	0.25	2.910351	0.5	3.025108	1.25	2.903209	2.5	3.127041	5	2.606207
Bromomethane	0.125	2.69701	0.25	2.348071	0.5	2.223615	1.25	2.279177	2.5	2.168719	5	1.855863
Chloroethane	0.125	1.403004	0.25	1.301616	0.5	1.248861	1.25	1.252373	2.5	1.208704	5	1.008265
Trichlorofluoromethane	0.125	3.751755	0.25	3.61229	0.5	3.714842	1.25	3.731129	2.5	3.656952	5	3.000595
Bromoethene	0.125	1.847632	0.25	1.915523	0.5	1.893627	1.25	1.921505	2.5	1.90031	5	1.566176
1,1-Dichloroethane	0.125	4.587842	0.25	4.427082	0.5	4.502117	1.25	4.411519	2.5	4.354947	5	3.613587
Acetone	0.125	~~8.840053~~	0.25	~~7.938764~~	0.5	~~6.312917~~	1.25	5.890989	2.5	5.909937	5	4.526588
Methylene chloride	0.125	~~2.279632~~	0.25	~~2.149503~~	0.5	~~2.038782~~	1.25	2.007813	2.5	1.956844	5	1.620185
Freon 113	0.125	3.213417	0.25	3.054313	0.5	3.068258	1.25	3.065888	2.5	3.041704	5	2.441884
3-Chloropropene	0.125	5.221221	0.25	4.37744	0.5	4.685462	1.25	4.571835	2.5	4.473334	5	3.74963
trans-1,2-Dichloroethene	0.125	3.659374	0.25	3.577871	0.5	3.722116	1.25	3.652743	2.5	3.616235	5	3.033875
1,1-Dichloroethene	0.125	4.333294	0.25	4.132208	0.5	4.270663	1.25	4.268089	2.5	4.245297	5	3.504379
cis-1,2-Dichloroethene	0.125	2.361379	0.25	2.314645	0.5	2.269906	1.25	2.200582	2.5	2.184674	5	1.812244
Chloroform	0.125	4.986611	0.25	4.827528	0.5	4.756221	1.25	4.724647	2.5	4.634925	5	3.852189
1,2-Dichloroethane	0.125	3.45866	0.25	3.277702	0.5	3.270615	1.25	3.26241	2.5	3.196526	5	2.67297
1,1,1-Trichloroethane	0.125	4.546636	0.25	4.35659	0.5	4.310341	1.25	4.287824	2.5	4.185724	5	3.398078
Carbon tetrachloride	0.125	4.508753	0.25	4.30066	0.5	4.37085	1.25	4.338066	2.5	4.300139	5	3.453023
1,2-Dichloropropane	0.125	0.9056314	0.25	0.8308186	0.5	0.8147235	1.25	0.7831177	2.5	0.7741099	5	0.641737
Trichloroethene	0.125	0.9135547	0.25	0.7955145	0.5	0.7908482	1.25	0.7879539	2.5	0.7603373	5	0.6314858
Bromodichloromethane	0.125	1.390735	0.25	1.32732	0.5	1.384071	1.25	1.385696	2.5	1.37739	5	1.201869
cis-1,3-Dichloropropene	0.125	1.466798	0.25	1.270073	0.5	1.169293	1.25	1.11879	2.5	1.066899	5	0.919683
trans-1,3-Dichloropropene	0.125	1.149074	0.25	0.9235653	0.5	0.7734485	1.25	0.7374121	2.5	0.6990371	5	0.6082157
1,1,2-Trichloroethane	0.125	0.885229	0.25	0.7505553	0.5	0.6969291	1.25	0.6704728	2.5	0.6593885	5	0.5529321
1,2-Dibromoethane	0.125	1.449169	0.25	1.184933	0.5	1.064449	1.25	1.038214	2.5	1.002301	5	0.8779901
Tetrachloroethene	0.125	1.237815	0.25	1.017385	0.5	0.9396853	1.25	0.911662	2.5	0.8898493	5	0.7195064
Dibromochloromethane	0.125	0.9973435	0.25	0.9393644	0.5	0.9030074	1.25	0.9199645	2.5	0.916509	5	0.8581506
Chlorobenzene	0.125	2.647576	0.25	2.210825	0.5	1.867804	1.25	1.779592	2.5	1.705377	5	1.433636
Bromoform	0.125	1.313904	0.25	1.153171	0.5	1.082994	1.25	1.047519	2.5	1.04506	5	1.073963

INITIAL CALIBRATION DATA

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101005
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 12/31/20 11:50

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF
1,1,2,2-Tetrachloroethane	0.125	3.355793	0.25	2.357707	0.5	1.595921	1.25	1.338458	2.5	1.238526	5	1.221836
1,3-Dichlorobenzene	0.125	2.246947	0.25	1.556876	0.5	0.9183153	1.25	0.7635226	2.5	0.7169343	5	0.7228623
1,4-Dichlorobenzene	0.125	1.798349	0.25	1.290312	0.5	0.7310743	1.25	0.6060504	2.5	0.5870324	5	0.6175462
1,2-Dichlorobenzene	0.125	2.594862	0.25	1.748544	0.5	0.9581666	1.25	0.7459296	2.5	0.6719118	5	0.6888911
Hexachlorobutadiene	0.125	4.434064	0.25	2.65514	0.5	1.091672	1.25	0.6082809	2.5	0.4176	5	0.3728628
4-Bromofluorobenzene	31	0.3913357	31	0.4006491	31	0.3970659	31	0.399884	31	0.4068192	31	0.4208729
Freon 114	0.125	3.779669	0.25	3.607326	0.5	3.76725	1.25	3.744958	2.5	3.889755	5	3.26996

INITIAL CALIBRATION DATA (Continued)

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101005
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 12/31/20 11:50

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF
Dichlorodifluoromethane	10	5.615951	25	5.419369	50	4.246195						
Propene	10	3.008182	25	3.11672	50	3.123749						
Chloromethane	10	3.169506	25	3.251157	50	3.172724						
Vinyl chloride	10	2.853906	25	2.959224	50	2.87072						
Bromomethane	10	1.930807	25	1.977297	50	1.919713						
Chloroethane	10	1.110843	25	1.128034	50	1.109461						
Trichlorofluoromethane	10	3.233858	25	3.218693	50	3.021634						
Bromoethene	10	1.699582	25	1.741409	50	1.681756						
1,1-Dichloroethane	10	3.96112	25	4.132328	50	4.223222						
Acetone	10	4.897522	25	5.085341	50	5.046947						
Methylene chloride	10	1.776514	25	1.866688	50	1.925732						
Freon 113	10	2.707914	25	2.85663	50	2.752168						
3-Chloropropene	10	4.19237	25	4.433256	50	4.486855						
trans-1,2-Dichloroethene	10	3.33264	25	3.467828	50	3.451228						
1,1-Dichloroethene	10	3.862532	25	3.935975	50	3.878202						
cis-1,2-Dichloroethene	10	2.030001	25	2.119635	50	2.183642						
Chloroform	10	4.155904	25	4.228046	50	4.068504						
1,2-Dichloroethane	10	2.910748	25	2.902288	50	2.616938						
1,1,1-Trichloroethane	10	3.669862	25	3.606957	50	3.288307						
Carbon tetrachloride	10	3.694978	25	3.61008	50	3.16129						
1,2-Dichloropropane	10	0.7108671	25	0.7490648	50	0.8023065						
Trichloroethene	10	0.7060494	25	0.7406131	50	0.7559124						
Bromodichloromethane	10	1.303312	25	1.315934	50	1.298943						
cis-1,3-Dichloropropene	10	1.008858	25	1.070744	50	1.128002						
trans-1,3-Dichloropropene	10	0.6649786	25	0.658732	50	~~0.6284878~~						
1,1,2-Trichloroethane	10	0.6177992	25	0.6484286	50	0.6789318						
1,2-Dibromoethane	10	0.9720885	25	1.032365	50	1.074613						
Tetrachloroethene	10	0.8026817	25	0.8236732	50	0.7650315						
Dibromochloromethane	10	0.9408311	25	0.9708301	50	0.9433932						
Chlorobenzene	10	1.587282	25	1.631059	50	1.587469						
Bromoform	10	1.206311	25	1.275365	50	1.277273						

INITIAL CALIBRATION DATA (Continued)

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101005
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 12/31/20 11:50

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF	ppbv	RF
1,1,2,2-Tetrachloroethane	10	1.334683	25	1.448604	50	1.584043						
1,3-Dichlorobenzene	10	0.8604144	25	1.050722	50	1.166179						
1,4-Dichlorobenzene	10	0.7563342	25	0.9658522	50	1.094863						
1,2-Dichlorobenzene	10	0.7972424	25	0.9320236	50	1.025071						
Hexachlorobutadiene	10	0.3747693	25	0.3752485	50	0.3860044						
4-Bromofluorobenzene	31	0.4342106	31	0.4570122	31	0.5070762						
Freon 114	10	3.553778	25	3.567669	50	3.358967						

INITIAL CALIBRATION DATA (Continued)

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101005
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 12/31/20 11:50

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	5.909758	14.41643	4.554445	0.3657128			30	
Propene	3.46891	21.11997	4.434444	0.4079925			30	
Chloromethane	3.270463	5.251503	5.056667	0.3954954			30	
Vinyl chloride	2.909119	4.862303	5.304445	0.3416295			30	
Bromomethane	2.155586	12.47015	6.132222	0.2415321			30	
Chloroethane	1.196796	10.00664	6.456667	0.1737744			30	
Trichlorofluoromethane	3.437972	9.162249	6.782222	0.1918591			30	
Bromoethene	1.796391	7.130515	6.71	0.2358246			30	
1,1-Dichloroethane	4.245974	7.206655	10.02	6.831281E-02			30	
Acetone	5.226221	10.68406	8.961667	4.651208E-02			30	
Methylene chloride	1.858963	7.610124	8.843334	9.214839E-02			30	
Freon 113	2.911353	8.301482	7.925556	0.1285941			30	
3-Chloropropene	4.465711	8.770412	8.683333	0.1404623			30	
trans-1,2-Dichloroethene	3.501546	6.111153	9.106667	0.1230645			30	
1,1-Dichloroethene	4.047849	6.747121	7.827778	0.1533387			30	
cis-1,2-Dichloroethene	2.164079	7.639813	10.73333	4.565553E-02			30	
Chloroform	4.470508	8.908179	11.06333	4.393534E-02			30	
1,2-Dichloroethane	3.063206	9.680406	12.04222	3.036601E-02			30	
1,1,1-Trichloroethane	3.961147	11.8354	11.35778	5.881745E-02			30	
Carbon tetrachloride	3.970871	12.37318	11.27333	4.399863E-02			30	
1,2-Dichloropropane	0.7791529	9.621557	13.10111	3.082214E-02			30	
Trichloroethene	0.7646966	9.937085	12.48222	2.837714E-02			30	
Bromodichloromethane	1.331697	4.616314	13.14222	3.087056E-02			30	
cis-1,3-Dichloropropene	1.13546	13.95501	13.86556	3.722169E-02			30	
trans-1,3-Dichloropropene	0.7768079	22.95632	14.59	8.747303E-03	0.9995491		0.99	
1,1,2-Trichloroethane	0.6845185	13.54061	14.78889	1.842179E-02			30	
1,2-Dibromoethane	1.077347	15.03899	15.33111	1.893985E-02			30	
Tetrachloroethene	0.9008099	17.36702	14.60556	3.242749E-02			30	
Dibromochloromethane	0.9321549	4.277446	15.01222	3.204912E-02			30	
Chlorobenzene	1.827847	20.71857	15.92111	0.0130558			30	

INITIAL CALIBRATION DATA (Continued)

TO-15

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2101005
Instrument: OVGCMS7
Matrix: Air
Calibration Date: 12/31/20 11:50

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Bromoform	1.163951	9.213024	16.72222	2.792253E-02			30	
1,1,2,2-Tetrachloroethane	1.719508	40.93741	17.51778	1.861973E-02	0.9968896		0.99	
1,3-Dichlorobenzene	1.111419	45.2394	18.63222	2.725701E-02	0.9934773		0.99	
1,4-Dichlorobenzene	0.9386015	42.97438	18.74	2.050293E-03	0.9909597		0.99	
1,2-Dichlorobenzene	1.129182	56.6263	19.29	1.680822E-02	0.9949822		0.99	
Hexachlorobutadiene	1.190627	119.732	21.13	8.897437E-03	0.9973281		0.99	
4-Bromofluorobenzene	0.4238806	8.874238	17.33	1.878086E-02			30	
Freon 114	3.615481	5.645776	4.94	0.3921453			30	

SECOND-SOURCE CALIBRATION VERIFICATION

TO-15

Laboratory: ENCO Orlando **SDG:** AE00066-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2101005 **Laboratory ID:** AA64317-SCV1

Sequence: AA64317 **Standard ID:** A0L1276

ANALYTE	EXPECTED (ppbv)	FOUND (ppbv)	% DRIFT	QC LIMIT
Dibromochloromethane	10.0	11	11.4	30.00
Chloroform	10.0	11	6.9	30.00
Acetone	10.0	10	0.4	30.00
Bromoethene	10.0	10	2.6	30.00
Carbon tetrachloride	10.0	11	5.1	30.00
1,3-Dichlorobenzene	10.0	8.9	-11.5	30.00
trans-1,2-Dichloroethene	10.0	10	4.1	30.00
cis-1,3-Dichloropropene	10.0	11	11.9	30.00
Tetrachloroethene	10.0	10	3.3	30.00
Chloromethane	10.0	9.8	-1.6	30.00
Propene	10.0	8.7	-12.7	30.00
Chlorobenzene	10.0	10	-0.08	30.00
1,2-Dichloroethane	10.0	11	9.4	30.00
3-Chloropropene	10.0	10	0.4	30.00
1,2-Dibromoethane	10.0	11	8.8	30.00
1,4-Dichlorobenzene	10.0	8.4	-16.4	30.00
trans-1,3-Dichloropropene	10.0	15	54.4 *	30.00
cis-1,2-Dichloroethene	10.0	11	6.7	30.00
1,1-Dichloroethene	10.0	11	8.3	30.00
Hexachlorobutadiene	10.0	11	6.7	30.00
1,1,2,2-Tetrachloroethane	10.0	10	3.9	30.00
Trichloroethene	10.0	11	6.9	30.00
1,1,2-Trichloroethane	10.0	11	5.9	30.00
1,2-Dichloropropane	10.0	11	5.9	30.00
Freon 114	10.0	10	4.0	30.00
Freon 113	10.0	11	6.3	30.00
1,1,1-Trichloroethane	10.0	11	7.1	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

TO-15

Laboratory: ENCO Orlando **SDG:** AE00066-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2101005 **Laboratory ID:** AA64317-SCV1

Sequence: AA64317 **Standard ID:** A0L1276

ANALYTE	EXPECTED (ppbv)	FOUND (ppbv)	% DRIFT	QC LIMIT
Trichlorofluoromethane	10.0	11	8.5	30.00
Bromomethane	10.0	11	6.2	30.00
1,1-Dichloroethane	10.0	11	6.8	30.00
Bromodichloromethane	10.0	11	8.4	30.00
Bromoform	10.0	11	13.1	30.00
Methylene chloride	10.0	11	9.5	30.00
Vinyl chloride	10.0	10	2.5	30.00
Chloroethane	10.0	10	2.4	30.00
1,2-Dichlorobenzene	10.0	9.5	-4.8	30.00
Dichlorodifluoromethane	10.0	11	10.2	30.00

* Values outside of QC limits

ENCO Orlando

SDG: AE00066-TE016

CLASS: 06_VOA_AIR_RSK

METHOD: RSK 175

ANALYSES DATA PACKAGE COVER PAGE

RSK 175

Laboratory: ENCO Orlando

SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-MW0031-058.0-20210120	AE00066-09
CRCA-MW0018-058.0-20210120	AE00066-11
CRCA-MW0018-058.0-20210120	AE00066-11RE1
CRCA-MW0019-058.0-20210120	AE00066-12

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0031-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE00066-09
File ID: 21AU009.D
Sampled: 01/20/21 12:15
Prepared: 01/26/21 00:00
Analyzed: 01/26/21 11:20
Solids:
Preparation: Same
Initial/Final: 1 mL / 1 mL
Batch: 1A26006
Sequence: AA64653
Calibration: 2006012
Instrument: OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-82-8	Methane	1	0.152		0.00400	0.00500
74-85-1	Ethene	1	0.00510	U	0.00510	0.00600
74-84-0	Ethane	1	0.00510	U	0.00510	0.00600

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0018-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE00066-11
File ID: 21AU010.D
Sampled: 01/20/21 14:00
Prepared: 01/26/21 00:00
Analyzed: 01/26/21 11:36
Solids:
Preparation: Same
Initial/Final: 1 mL / 1 mL
Batch: 1A26006
Sequence: AA64653
Calibration: 2006012
Instrument: OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-85-1	Ethene	1	0.0216		0.00510	0.00600
74-84-0	Ethane	1	0.00510	U	0.00510	0.00600

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0018-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE00066-11RE1
File ID: 21AU012.D
Sampled: 01/20/21 14:00
Prepared: 01/26/21 00:00
Analyzed: 01/26/21 12:16
Solids:
Preparation: Same
Initial/Final: 1 mL / 1 mL
Batch: 1A26006
Sequence: AA64653
Calibration: 2006012
Instrument: OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-82-8	Methane	10	2.09	D	0.0400	0.0500

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0019-058.0-20210120

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE00066-12 File ID: 21AU011.D

Sampled: 01/20/21 16:00 Prepared: 01/26/21 00:00 Analyzed: 01/26/21 11:52

Solids: Preparation: Same Initial/Final: 1 mL / 1 mL

Batch: 1A26006 Sequence: AA64653 Calibration: 2006012 Instrument: OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-82-8	Methane	1	0.510		0.00400	0.00500
74-85-1	Ethene	1	0.00510	U	0.00510	0.00600
74-84-0	Ethane	1	0.00510	U	0.00510	0.00600

* Values outside of QC limits

HOLDING TIME SUMMARY

RSK 175

Laboratory: ENCO Orlando

SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-MW0031-058.0-20210120	01/20/21 12:15	01/21/21 15:10	01/26/21 00:00	5.49	NA	01/26/21 11:20	6.00	14.00	
CRCA-MW0018-058.0-20210120	01/20/21 14:00	01/21/21 15:10	01/26/21 00:00	5.42	NA	01/26/21 11:36	6.00	14.00	
CRCA-MW0018-058.0-20210120	01/20/21 14:00	01/21/21 15:10	01/26/21 00:00	5.42	NA	01/26/21 12:16	6.00	14.00	
CRCA-MW0019-058.0-20210120	01/20/21 16:00	01/21/21 15:10	01/26/21 00:00	5.33	NA	01/26/21 11:52	6.00	14.00	

PREPARATION BATCH SUMMARY

RSK 175

Laboratory: ENCO Orlando SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1A26006 Batch Matrix: Water Preparation: Same

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1A26006-BLK1	21AU005.D	01/26/21 00:00	
LCS	1A26006-BS1	21AU003.D	01/26/21 00:00	
LCS Dup	1A26006-BSD1	21AU004.D	01/26/21 00:00	
CRCA-MW0031-058.0-20210120	1A26006-DUP1	21AU013.D	01/26/21 00:00	
CRCA-MW0031-058.0-20210120	AE00066-09	21AU009.D	01/26/21 00:00	
CRCA-MW0018-058.0-20210120	AE00066-11	21AU010.D	01/26/21 00:00	
CRCA-MW0018-058.0-20210120	AE00066-11RE1	21AU012.D	01/26/21 00:00	
CRCA-MW0019-058.0-20210120	AE00066-12	21AU011.D	01/26/21 00:00	

METHOD BLANK DATA SHEET
RSK 175

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1A26006-BLK1	File ID:	21AU005.D
Prepared:	01/26/21 00:00	Preparation:	Same	Initial/Final:	1 mL / 1 mL
Analyzed:	01/26/21 10:17	Instrument:	OVGCFID2		
Batch:	1A26006	Sequence:	AA64653	Calibration:	2006012

CAS NO.	COMPOUND	CONC. (mg/L)	Q
74-82-8	Methane	0.00400	U
74-85-1	Ethene	0.00510	U
74-84-0	Ethane	0.00510	U

LCS / LCS DUPLICATE RECOVERY

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1A26006	Laboratory ID:	1A26006-BS1
Preparation:	Same	Initial/Final:	1 mL / 1 mL

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC. #	QC LIMITS REC.
Methane	0.172	0.187	109	70 - 130
Ethene	0.302	0.348	115	70 - 130
Ethane	0.323	0.395	122	70 - 130

COMPOUND	SPIKE ADDED (mg/L)	LCSD CONCENTRATION (mg/L)	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Methane	0.172	0.192	112	3	30	70 - 130
Ethene	0.302	0.354	117	2	30	70 - 130
Ethane	0.323	0.401	124	1	30	70 - 130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

DUPLICATES

RSK 175

CRCA-MW0031-058.0-20210120

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Water
Laboratory ID: 1A26006-DUP1
Batch: 1A26006
Lab Source ID: AE00066-09
Preparation: Same
Initial/Final: 1 mL / 1 mL
Source Sample Name: CRCA-MW0031-058.0-20210120
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/L)	C	DUPLICATE CONCENTRATION (mg/L)	C	RPD %	Q	METHOD
Methane	30	0.152		0.442		98	*	RSK 175
Ethene	30	0.000196		ND				RSK 175
Ethane	30	0.000295		ND				RSK 175

* Values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA60736		
Calibration:	2006012	Instrument:	OVGCFID2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	AA60736-CAL8	20F1009.D	06/01/20 12:05
Cal Standard	AA60736-CAL9	20F1010.D	06/01/20 12:21
Cal Standard	AA60736-CALA	20F1011.D	06/01/20 12:37
Cal Standard	AA60736-CALB	20F1012.D	06/01/20 12:53
Cal Standard	AA60736-CALC	20F1013.D	06/01/20 13:09
Cal Standard	AA60736-CALD	20F1014.D	06/01/20 13:25
Cal Standard	AA60736-CALE	20F1015.D	06/01/20 13:40
Secondary Cal Check	AA60736-SCV1	20F1019.D	06/01/20 15:20

ANALYSIS BATCH (SEQUENCE) SUMMARY

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64653		
Calibration:	2006012	Instrument:	OVGCFID2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA64653-CCV2	21AU002.D	01/26/21 08:53
LCS	1A26006-BS1	21AU003.D	01/26/21 09:33
LCS Dup	1A26006-BSD1	21AU004.D	01/26/21 09:54
Blank	1A26006-BLK1	21AU005.D	01/26/21 10:17
CRCA-MW0031-058.0-20210120	AE00066-09	21AU009.D	01/26/21 11:20
CRCA-MW0018-058.0-20210120	AE00066-11	21AU010.D	01/26/21 11:36
CRCA-MW0019-058.0-20210120	AE00066-12	21AU011.D	01/26/21 11:52
CRCA-MW0018-058.0-20210120	AE00066-11RE1	21AU012.D	01/26/21 12:16
CRCA-MW0031-058.0-20210120	1A26006-DUP1	21AU013.D	01/26/21 12:39
Calibration Check	AA64653-CCV3	21AU014.D	01/26/21 12:54

CONTINUING CALIBRATION CHECK

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCFID2	Calibration:	2006012
Lab File ID:	21AU002.D	Calibration Date:	06/01/20 15:24
Sequence:	AA64653	Injection Date:	01/26/21
Lab Sample ID:	AA64653-CCV2	Injection Time:	08:53

		CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Methane	A	0.174	0.194	1.126908E+08	1.255182E+08		11	20	
Ethene	A	0.302	0.354	7.423174E+07	8.694755E+07		17	20	
Ethane	A	0.323	0.402	9.625369E+07	1.197335E+08		24	20	*

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

CONTINUING CALIBRATION CHECK

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCFID2	Calibration:	2006012
Lab File ID:	21AU014.D	Calibration Date:	06/01/20 15:24
Sequence:	AA64653	Injection Date:	01/26/21
Lab Sample ID:	AA64653-CCV3	Injection Time:	12:54

		CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Methane	A	0.174	0.186	1.126908E+08	1.203125E+08		6.8	20
Ethene	A	0.302	0.338	7.423174E+07	8.309354E+07		12	20
Ethane	A	0.323	0.383	9.625369E+07	1.141398E+08		19	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE00066-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA60736	Instrument:	OVGCFID2
Calibration:	2006012		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A0F0616	RSK175-Cal 1 06/01/2020	AA60736-CAL8	20F1009.D	06/01/20 12:05
A0F0617	RSK175-Cal 2 06/01/2020	AA60736-CAL9	20F1010.D	06/01/20 12:21
A0F0618	RSK175-Cal 3 06/01/2020	AA60736-CALA	20F1011.D	06/01/20 12:37
A0F0619	RSK175-Cal 4 06/01/2020	AA60736-CALB	20F1012.D	06/01/20 12:53
A0F0620	RSK175-Cal 5 06/01/2020	AA60736-CALC	20F1013.D	06/01/20 13:09
A0F0621	RSK175-Cal 6 06/01/2020	AA60736-CALD	20F1014.D	06/01/20 13:25
A0F0622	RSK175-Cal 7 06/01/2020	AA60736-CALE	20F1015.D	06/01/20 13:40
A0E1329	RSK175- SCV/BS water CO2 and MEE	AA60736-SCV1	20F1019.D	06/01/20 15:20

INITIAL CALIBRATION DATA

RSK 175

Laboratory: ENCO Orlando

SDG: AE00066-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Calibration: 2006012

Instrument: OVGCFID2

Matrix: Water

Calibration Date: 06/01/20 15:24

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Methane												
Ethene												
Ethane												

INITIAL CALIBRATION DATA (Continued)

RSK 175

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2006012
Instrument: OVGCFID2
Matrix: Water
Calibration Date: 06/01/20 15:24

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Methane			0.000869	1.542071E+08	0.00869	1.148276E+08	0.0348	1.096007E+08	0.0869	1.14924E+08	0.174	1.027563E+08
Ethene			0.00151	8.601126E+07	0.0151	7.321662E+07	0.0603	7.770179E+07	0.151	7.66896E+07	0.302	7.178556E+07
Ethane			0.00161	8.453354E+07	0.0161	1.035332E+08	0.0646	1.030982E+08	0.161	1.064607E+08	0.323	9.54717E+07

INITIAL CALIBRATION DATA

RSK 175

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2006012
Instrument: OVGCFID2
Matrix: Water
Calibration Date: 06/01/20 15:24

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Methane	0.348	1.073666E+08	0.695	8.515321E+07								
Ethene	0.603	7.388967E+07	1.21	6.03277E+07								
Ethane	0.646	1.002134E+08	1.29	8.046512E+07								

INITIAL CALIBRATION DATA (Continued)

RSK 175

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2006012
Instrument: OVGCFID2
Matrix: Water
Calibration Date: 06/01/20 15:24

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Methane	1.126908E+08	18.57182	1.965857	4.844227E-02			20	
Ethene	7.423174E+07	10.39554	3.747571	9.783909E-02			20	
Ethane	9.625369E+07	10.44924	4.679286	0.1221713			20	

SECOND-SOURCE CALIBRATION VERIFICATION

RSK 175

Laboratory: ENCO Orlando
SDG: AE00066-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2006012
Laboratory ID: AA60736-SCV1
Sequence: AA60736
Standard ID: A0E1329

ANALYTE	EXPECTED (mg/L)	FOUND (mg/L)	% DRIFT	QC LIMIT
Ethene	0.302	0.300	-0.6	25.00
Ethane	0.323	0.333	3.0	25.00
Methane	0.172	0.167	-2.7	25.00

* Values outside of QC limits

TETRA TECH ISG
TtNUS, Information Systems Group

Completion Ticket

On 2/4/2021 at 1:15 PM the following files were submitted to Tetra Tech by kdylnicki@encolabs.com with ENCO:

TE016AE00066A1.txt, TE016AE00066A3.txt

If you need to identify this session at a later date refer to Ticket Key:

202124_3028038536_ledd_ENCO

You may print this page by clicking on the "Print This Page" button

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I Lori S. mangrum, as the designated Quality Assurance Officer, hereby attest that all electronic deliverables have been thoroughly reviewed and are in agreement with the associated hardcopy data. The enclosed electronic files have been reviewed for accuracy (including significant figures), completeness and format. The laboratory will be responsible for any labor time necessary to correct enclosed electronic deliverables that have been found to be in error. I can be reached at (407) 826-5314 if there are any questions or problems with the enclosed electronic deliverables.

Signature:_____ Title: Quality Assurance Manager Date: February 10, 2021

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ENCO Laboratories

Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Tuesday, February 23, 2021
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AE01304

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Wednesday, February 17, 2021.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

www.encolabs.com

Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Client PM: Alex Murphy
Project Number: 112G08970
ENCO Project ID: AE01304
SDG: AE01304-TE016

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling and processing will be discussed in the Remarks section below.

Remarks

List of instruments used:

Analytical Method and Preparation Method	SOP Reference Instrument
EPA 8260D / EPA 5030B_MS	OVGCMS2

Analysis: EPA 8260D

Manual integrations were performed on samples associated with EPA 8260D. All data & explanations are included in the raw data section of the report

Affected Samples: CRCA-ASEFFLUENT-20210217[AE01304-01], CRCA-ASINFLUENT-20210217[AE01304-02]
Sample was reanalyzed due to suspected carry over.

Affected Samples: AA65034-CCV1, CRCA-ASEFFLUENT-20210217[AE01304-01], CRCA-ASINFLUENT-20210217[AE01304-02]
The associated continuing calibration verification standard exhibited high bias for bromomethane. The analyte was not detected in the sample.

Affected Samples: 1B19011-MS1, 1B19011-MSD1
Precision between matrix spike and matrix spike duplicate of the same sample was outside acceptance limits for bromomethane.

Affected Samples: 1B19011-MS1, 1B19011-MSD1
Matrix spike recovery for methyl cyclohexane was outside acceptance limits.

Affected Samples: AA65034-CCV1
The continuing calibration verification standard exhibited low bias for multiple analytes; the associated sample had ND (non-detect) results, but sensitivity was verified by analyzing a standard with a concentration equivalent to the reporting limit.

Affected Samples: AA65054-CCV1
Recovery for multiple analytes was outside acceptance limits. Reported analytes not affected.

Affected Samples: AA64808-SCV1
Recovery for 2-butanone was outside acceptance limits. Analyte not detected in the sample.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Kaitlin Dylnicki
Project Manager

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-ASEFFLUENT-20210217	Lab ID: AE01304-01	Sampled: 02/17/21 08:00	Received: 02/17/21 14:06

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	03/03/21	02/19/21 00:00	02/19/21 14:23

Client ID: CRCA-ASEFFLUENT-20210217	Lab ID: AE01304-01RE1	Sampled: 02/17/21 08:00	Received: 02/17/21 14:06

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	03/03/21	02/21/21 11:25	02/21/21 16:48

Client ID: CRCA-ASINFLUENT-20210217	Lab ID: AE01304-02	Sampled: 02/17/21 08:15	Received: 02/17/21 14:06

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	03/03/21	02/19/21 00:00	02/19/21 14:51

Client ID: CRCA-ASINFLUENT-20210217	Lab ID: AE01304-02RE1	Sampled: 02/17/21 08:15	Received: 02/17/21 14:06

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	03/03/21	02/21/21 11:25	02/21/21 17:17

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-ASINFLUENT-20210217 **Lab ID:** AE01304-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	19		0.71	2.5	ug/L	EPA 8260D	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20210217 **Lab Sample ID:** AE01304-01 **Received:** 02/17/21 14:06

Matrix: Ground Water **Sampled:** 02/17/21 08:00 **Work Order:** AE01304

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1B19011	EPA 8260D	02/19/21 14:23	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1B19011	EPA 8260D	02/19/21 14:23	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1B21002	EPA 8260D	02/21/21 16:48	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1B21002	EPA 8260D	02/21/21 16:48	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	

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ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20210217 **Lab Sample ID:** AE01304-01 **Received:** 02/17/21 14:06

Matrix: Ground Water **Sampled:** 02/17/21 08:00 **Work Order:** AE01304

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1B19011	EPA 8260D	02/19/21 14:23	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*45*	*1*	*50.0*	*89 %*	*41-142*	*1B19011*	*EPA 8260D*	*02/19/21 14:23*	*kkw*	
4-Bromofluorobenzene	*46*	*1*	*50.0*	*93 %*	*41-142*	*1B21002*	*EPA 8260D*	*02/21/21 16:48*	*kkw*	
Dibromofluoromethane	*59*	*1*	*50.0*	*118 %*	*53-146*	*1B19011*	*EPA 8260D*	*02/19/21 14:23*	*kkw*	
Dibromofluoromethane	*55*	*1*	*50.0*	*109 %*	*53-146*	*1B21002*	*EPA 8260D*	*02/21/21 16:48*	*kkw*	
Toluene-d8	*51*	*1*	*50.0*	*102 %*	*41-146*	*1B19011*	*EPA 8260D*	*02/19/21 14:23*	*kkw*	
Toluene-d8	*49*	*1*	*50.0*	*97 %*	*41-146*	*1B21002*	*EPA 8260D*	*02/21/21 16:48*	*kkw*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20210217 **Lab Sample ID:** AE01304-02 **Received:** 02/17/21 14:06

Matrix: Ground Water **Sampled:** 02/17/21 08:15 **Work Order:** AE01304

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1B19011	EPA 8260D	02/19/21 14:51	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1B19011	EPA 8260D	02/19/21 14:51	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1B21002	EPA 8260D	02/21/21 17:17	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1B21002	EPA 8260D	02/21/21 17:17	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	

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ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20210217 **Lab Sample ID:** AE01304-02 **Received:** 02/17/21 14:06

Matrix: Ground Water **Sampled:** 02/17/21 08:15 **Work Order:** AE01304

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Vinyl chloride [75-01-4]^	**19**		ug/L	1	0.71	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1B19011	EPA 8260D	02/19/21 14:51	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*45*	*1*	*50.0*	*90 %*	*41-142*	*1B19011*	*EPA 8260D*	*02/19/21 14:51*	*kkw*	
4-Bromofluorobenzene	*46*	*1*	*50.0*	*92 %*	*41-142*	*1B21002*	*EPA 8260D*	*02/21/21 17:17*	*kkw*	
Dibromofluoromethane	*59*	*1*	*50.0*	*118 %*	*53-146*	*1B19011*	*EPA 8260D*	*02/19/21 14:51*	*kkw*	
Dibromofluoromethane	*54*	*1*	*50.0*	*108 %*	*53-146*	*1B21002*	*EPA 8260D*	*02/21/21 17:17*	*kkw*	
Toluene-d8	*53*	*1*	*50.0*	*105 %*	*41-146*	*1B19011*	*EPA 8260D*	*02/19/21 14:51*	*kkw*	
Toluene-d8	*49*	*1*	*50.0*	*98 %*	*41-146*	*1B21002*	*EPA 8260D*	*02/21/21 17:17*	*kkw*	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1B19011 - EPA 5030B_MS

Blank (1B19011-BLK1) Prepared: 02/19/2021 00:00 Analyzed: 02/19/2021 11:30

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1B19011 - EPA 5030B_MS - Continued

Blank (1B19011-BLK1) Continued Prepared: 02/19/2021 00:00 Analyzed: 02/19/2021 11:30

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*51*			*ug/L*	*50.0*		*102*	*41-142*			
Dibromofluoromethane	*55*			*ug/L*	*50.0*		*110*	*53-146*			
Toluene-d8	*58*			*ug/L*	*50.0*		*117*	*41-146*			

LCS (1B19011-BS1) Prepared: 02/19/2021 00:00 Analyzed: 02/19/2021 09:07

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	21		2.5	ug/L	20.0		107	57-148			
1,1,2,2-Tetrachloroethane	15		2.5	ug/L	20.0		73	60-139			
1,1,2-Trichloroethane	14		2.5	ug/L	20.0		70	57-141			
1,1-Dichloroethane	22		2.5	ug/L	20.0		111	57-142			
1,1-Dichloroethene	20		2.5	ug/L	20.0		100	47-139			
1,2,4-Trichlorobenzene	21		2.5	ug/L	20.0		105	52-159			
1,2-Dibromo-3-chloropropane	16		2.5	ug/L	20.0		78	48-150			
1,2-Dibromoethane	15		2.5	ug/L	20.0		76	57-140			
1,2-Dichlorobenzene	19		2.5	ug/L	20.0		97	63-131			
1,2-Dichloroethane	17		2.5	ug/L	20.0		85	50-156			
1,2-Dichloropropane	19		2.5	ug/L	20.0		95	61-133			
1,3-Dichlorobenzene	20		2.5	ug/L	20.0		99	66-129			
1,4-Dichlorobenzene	19		2.5	ug/L	20.0		96	65-133			
2-Butanone	99		12	ug/L	100		99	10-180			
2-Hexanone	74		12	ug/L	100		74	12-180			
4-Methyl-2-pentanone	74		12	ug/L	100		74	19-180			
Acetone	81		25	ug/L	100		81	10-180			
Benzene	21		2.5	ug/L	20.0		106	56-136			
Bromodichloromethane	17		2.5	ug/L	20.0		87	58-135			
Bromoform	14		2.5	ug/L	20.0		68	46-148			
Bromomethane	13		2.5	ug/L	20.0		65	10-173			
Carbon disulfide	24		12	ug/L	20.0		120	43-153			
Carbon Tetrachloride	21		2.5	ug/L	20.0		103	54-156			
Chlorobenzene	20		2.5	ug/L	20.0		100	51-139			
Chloroethane	22		2.5	ug/L	20.0		108	27-180			
Chloroform	20		2.5	ug/L	20.0		102	58-139			
Chloromethane	18		2.5	ug/L	20.0		88	33-154			
cis-1,2-Dichloroethene	20		2.5	ug/L	20.0		101	56-128			
cis-1,3-Dichloropropene	16		2.5	ug/L	20.0		80	64-128			
Cyclohexane	25		2.5	ug/L	20.0		123	70-130			
Dibromochloromethane	14		2.5	ug/L	20.0		71	50-140			
Dichlorodifluoromethane	11		2.5	ug/L	20.0		57	10-180			
Ethylbenzene	21		2.5	ug/L	20.0		107	63-133			
Freon 113	23		2.5	ug/L	20.0		114	47-173			
Isopropylbenzene	22		2.5	ug/L	20.0		110	60-132			
m,p-Xylenes	45		5.0	ug/L	40.0		111	64-133			
Methyl acetate	14		2.5	ug/L	20.0		70	70-130			
Methyl cyclohexane	22		2.5	ug/L	20.0		112	70-130			
Methylene Chloride	20		12	ug/L	20.0		100	43-142			
Methyl-tert-Butyl Ether	14		2.5	ug/L	20.0		72	51-145			

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1B19011 - EPA 5030B_MS - Continued

LCS (1B19011-BS1) Continued Prepared: 02/19/2021 00:00 Analyzed: 02/19/2021 09:07

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
o-Xylene	21		2.5	ug/L	20.0		107	61-129			
Styrene	21		2.5	ug/L	20.0		106	59-136			
Tetrachloroethene	20		2.5	ug/L	20.0		99	60-147			
Toluene	20		2.5	ug/L	20.0		102	64-131			
trans-1,2-Dichloroethene	21		2.5	ug/L	20.0		104	54-134			
trans-1,3-Dichloropropene	14		2.5	ug/L	20.0		72	65-149			
Trichloroethene	21		2.5	ug/L	20.0		105	62-135			
Trichlorofluoromethane	20		2.5	ug/L	20.0		100	56-155			
Vinyl chloride	17		2.5	ug/L	20.0		87	20-167			
4-Bromofluorobenzene	*50*			*ug/L*	*50.0*		*100*	*41-142*			
Dibromofluoromethane	*53*			*ug/L*	*50.0*		*105*	*53-146*			
Toluene-d8	*57*			*ug/L*	*50.0*		*114*	*41-146*			

Matrix Spike (1B19011-MS1) Prepared: 02/19/2021 00:00 Analyzed: 02/19/2021 09:35

Source: AE00742-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	25		2.5	ug/L	20.0	0.80 U	127	57-148			
1,1,2,2-Tetrachloroethane	14		2.5	ug/L	20.0	0.54 U	72	60-139			
1,1,2-Trichloroethane	16		2.5	ug/L	20.0	0.76 U	81	57-141			
1,1-Dichloroethane	26		2.5	ug/L	20.0	0.62 U	130	57-142			
1,1-Dichloroethene	24		2.5	ug/L	20.0	0.94 U	121	47-139			
1,2,4-Trichlorobenzene	19		2.5	ug/L	20.0	0.70 U	97	52-159			
1,2-Dibromo-3-chloropropane	17		2.5	ug/L	20.0	0.96 U	87	48-150			
1,2-Dibromoethane	17		2.5	ug/L	20.0	0.78 U	83	57-140			
1,2-Dichlorobenzene	19		2.5	ug/L	20.0	0.73 U	97	63-131			
1,2-Dichloroethane	18		2.5	ug/L	20.0	0.63 U	90	50-156			
1,2-Dichloropropane	21		2.5	ug/L	20.0	0.80 U	103	61-133			
1,3-Dichlorobenzene	21		2.5	ug/L	20.0	0.77 U	103	66-129			
1,4-Dichlorobenzene	20		2.5	ug/L	20.0	0.76 U	98	65-133			
2-Butanone	100		12	ug/L	100	4.5 U	102	10-180			
2-Hexanone	68		12	ug/L	100	2.5 U	68	12-180			
4-Methyl-2-pentanone	72		12	ug/L	100	2.5 U	72	19-180			
Acetone	89		25	ug/L	100	36	52	10-180			
Benzene	24		2.5	ug/L	20.0	2.2	107	56-136			
Bromodichloromethane	18		2.5	ug/L	20.0	0.52 U	91	58-135			
Bromoform	14		2.5	ug/L	20.0	0.75 U	70	46-148			
Bromomethane	15		2.5	ug/L	20.0	0.95 U	75	10-173			QM-11
Carbon disulfide	25		12	ug/L	20.0	3.0	111	43-153			
Carbon Tetrachloride	24		2.5	ug/L	20.0	0.94 U	118	54-156			
Chlorobenzene	21		2.5	ug/L	20.0	0.72 U	104	51-139			
Chloroethane	23		2.5	ug/L	20.0	0.98 U	117	27-180			
Chloroform	23		2.5	ug/L	20.0	0.80 U	117	58-139			
Chloromethane	19		2.5	ug/L	20.0	0.82 U	96	33-154			
cis-1,2-Dichloroethene	23		2.5	ug/L	20.0	0.53 U	117	56-128			
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0	0.59 U	87	64-128			
Cyclohexane	32		2.5	ug/L	20.0	17	79	70-130			
Dibromochloromethane	17		2.5	ug/L	20.0	0.50 U	84	50-140			
Dichlorodifluoromethane	13		2.5	ug/L	20.0	0.74 U	65	10-180			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1B19011 - EPA 5030B_MS - Continued

Matrix Spike (1B19011-MS1) Continued Prepared: 02/19/2021 00:00 Analyzed: 02/19/2021 09:35

Source: AE00742-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	23		2.5	ug/L	20.0	5.4	87	63-133			
Freon 113	27		2.5	ug/L	20.0	0.73 U	137	47-173			
Isopropylbenzene	24		2.5	ug/L	20.0	9.8	70	60-132			
m,p-Xylenes	42		5.0	ug/L	40.0	1.3 U	106	64-133			
Methyl acetate	16		2.5	ug/L	20.0	0.95 U	78	70-130			
Methyl cyclohexane	26		2.5	ug/L	20.0	0.64 U	131	70-130			QM-07
Methylene Chloride	22		12	ug/L	20.0	2.5 U	112	43-142			
Methyl-tert-Butyl Ether	16		2.5	ug/L	20.0	0.60 U	81	51-145			
o-Xylene	21		2.5	ug/L	20.0	0.53 U	103	61-129			
Styrene	20		2.5	ug/L	20.0	0.61 U	100	59-136			
Tetrachloroethene	23		2.5	ug/L	20.0	0.76 U	116	60-147			
Toluene	23		2.5	ug/L	20.0	0.72 U	114	64-131			
trans-1,2-Dichloroethene	24		2.5	ug/L	20.0	0.73 U	121	54-134			
trans-1,3-Dichloropropene	17		2.5	ug/L	20.0	0.73 U	84	65-149			
Trichloroethene	22		2.5	ug/L	20.0	0.89 U	112	62-135			
Trichlorofluoromethane	23		2.5	ug/L	20.0	0.94 U	117	56-155			
Vinyl chloride	20		2.5	ug/L	20.0	0.71 U	99	20-167			
4-Bromofluorobenzene	*45*	*I*		*ug/L*	*50.0*		*90*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*113*	*53-146*			
Toluene-d8	*52*			*ug/L*	*50.0*		*104*	*41-146*			

Matrix Spike Dup (1B19011-MSD1) Prepared: 02/19/2021 00:00 Analyzed: 02/19/2021 10:04

Source: AE00742-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	24		2.5	ug/L	20.0	0.80 U	118	57-148	8	25	
1,1,2,2-Tetrachloroethane	15		2.5	ug/L	20.0	0.54 U	77	60-139	6	17	
1,1,2-Trichloroethane	15		2.5	ug/L	20.0	0.76 U	75	57-141	8	16	
1,1-Dichloroethane	24		2.5	ug/L	20.0	0.62 U	119	57-142	8	24	
1,1-Dichloroethene	22		2.5	ug/L	20.0	0.94 U	111	47-139	8	16	
1,2,4-Trichlorobenzene	23		2.5	ug/L	20.0	0.70 U	114	52-159	17	24	
1,2-Dibromo-3-chloropropane	20		2.5	ug/L	20.0	0.96 U	98	48-150	12	21	
1,2-Dibromoethane	16		2.5	ug/L	20.0	0.78 U	81	57-140	3	16	
1,2-Dichlorobenzene	20		2.5	ug/L	20.0	0.73 U	101	63-131	4	25	
1,2-Dichloroethane	18		2.5	ug/L	20.0	0.63 U	92	50-156	2	18	
1,2-Dichloropropane	21		2.5	ug/L	20.0	0.80 U	103	61-133	0.1	26	
1,3-Dichlorobenzene	21		2.5	ug/L	20.0	0.77 U	105	66-129	2	23	
1,4-Dichlorobenzene	20		2.5	ug/L	20.0	0.76 U	100	65-133	2	23	
2-Butanone	120		12	ug/L	100	4.5 U	117	10-180	14	29	
2-Hexanone	87		12	ug/L	100	2.5 U	87	12-180	23	28	
4-Methyl-2-pentanone	84		12	ug/L	100	2.5 U	84	19-180	15	24	
Acetone	90		25	ug/L	100	36	53	10-180	1	19	
Benzene	23		2.5	ug/L	20.0	2.2	104	56-136	3	14	
Bromodichloromethane	18		2.5	ug/L	20.0	0.52 U	91	58-135	0	19	
Bromoform	15		2.5	ug/L	20.0	0.75 U	73	46-148	4	18	
Bromomethane	22		2.5	ug/L	20.0	0.95 U	111	10-173	39	29	QM-11
Carbon disulfide	23		12	ug/L	20.0	3.0	102	43-153	8	26	
Carbon Tetrachloride	22		2.5	ug/L	20.0	0.94 U	112	54-156	5	27	
Chlorobenzene	21		2.5	ug/L	20.0	0.72 U	105	51-139	0.4	13	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1B19011 - EPA 5030B_MS - Continued

Matrix Spike Dup (1B19011-MSD1) Continued Prepared: 02/19/2021 00:00 Analyzed: 02/19/2021 10:04

Source: AE00742-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloroethane	23		2.5	ug/L	20.0	0.98 U	116	27-180	0.2	22	
Chloroform	22		2.5	ug/L	20.0	0.80 U	112	58-139	5	17	
Chloromethane	19		2.5	ug/L	20.0	0.82 U	94	33-154	2	31	
cis-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.53 U	110	56-128	6	17	
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0	0.59 U	87	64-128	0.3	20	
Cyclohexane	31		2.5	ug/L	20.0	17	71	70-130	5	20	
Dibromochloromethane	15		2.5	ug/L	20.0	0.50 U	77	50-140	8	18	
Dichlorodifluoromethane	12		2.5	ug/L	20.0	0.74 U	61	10-180	5	26	
Ethylbenzene	24		2.5	ug/L	20.0	5.4	91	63-133	3	18	
Freon 113	25		2.5	ug/L	20.0	0.73 U	127	47-173	8	30	
Isopropylbenzene	26		2.5	ug/L	20.0	9.8	80	60-132	8	23	
m,p-Xylenes	47		5.0	ug/L	40.0	1.3 U	117	64-133	10	18	
Methyl acetate	16		2.5	ug/L	20.0	0.95 U	80	70-130	2	20	
Methyl cyclohexane	26		2.5	ug/L	20.0	0.64 U	131	70-130	0.08	20	QM-07
Methylene Chloride	22		12	ug/L	20.0	2.5 U	110	43-142	2	23	
Methyl-tert-Butyl Ether	18		2.5	ug/L	20.0	0.60 U	88	51-145	8	22	
o-Xylene	23		2.5	ug/L	20.0	0.53 U	114	61-129	11	16	
Styrene	23		2.5	ug/L	20.0	0.61 U	113	59-136	12	32	
Tetrachloroethene	20		2.5	ug/L	20.0	0.76 U	102	60-147	13	21	
Toluene	21		2.5	ug/L	20.0	0.72 U	107	64-131	6	16	
trans-1,2-Dichloroethene	23		2.5	ug/L	20.0	0.73 U	114	54-134	6	20	
trans-1,3-Dichloropropene	16		2.5	ug/L	20.0	0.73 U	79	65-149	7	17	
Trichloroethene	22		2.5	ug/L	20.0	0.89 U	108	62-135	4	20	
Trichlorofluoromethane	22		2.5	ug/L	20.0	0.94 U	108	56-155	8	22	
Vinyl chloride	20		2.5	ug/L	20.0	0.71 U	98	20-167	0.5	24	
4-Bromofluorobenzene	*51*			*ug/L*	*50.0*		*102*	*41-142*			
Dibromofluoromethane	*54*			*ug/L*	*50.0*		*109*	*53-146*			
Toluene-d8	*57*			*ug/L*	*50.0*		*113*	*41-146*			

Batch 1B21002 - EPA 5030B_MS

Blank (1B21002-BLK1) Prepared: 02/21/2021 00:00 Analyzed: 02/21/2021 13:27

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1B21002 - EPA 5030B_MS - Continued

Blank (1B21002-BLK1) Continued Prepared: 02/21/2021 00:00 Analyzed: 02/21/2021 13:27

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*54*			*ug/L*	*50.0*		*109*	*41-142*			
Dibromofluoromethane	*47*	*I*		*ug/L*	*50.0*		*94*	*53-146*			
Toluene-d8	*55*			*ug/L*	*50.0*		*110*	*41-146*			

LCS (1B21002-BS1) Prepared: 02/21/2021 00:00 Analyzed: 02/21/2021 10:35

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	22		2.5	ug/L	20.0		108	57-148			
1,1,2,2-Tetrachloroethane	16		2.5	ug/L	20.0		79	60-139			
1,1,2-Trichloroethane	17		2.5	ug/L	20.0		87	57-141			
1,1-Dichloroethane	22		2.5	ug/L	20.0		109	57-142			
1,1-Dichloroethene	20		2.5	ug/L	20.0		102	47-139			
1,2,4-Trichlorobenzene	20		2.5	ug/L	20.0		100	52-159			

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1B21002 - EPA 5030B_MS - Continued

LCS (1B21002-BS1) Continued Prepared: 02/21/2021 00:00 Analyzed: 02/21/2021 10:35

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,2-Dibromo-3-chloropropane	19		2.5	ug/L	20.0		95	48-150			
1,2-Dibromoethane	18		2.5	ug/L	20.0		92	57-140			
1,2-Dichlorobenzene	20		2.5	ug/L	20.0		101	63-131			
1,2-Dichloroethane	18		2.5	ug/L	20.0		91	50-156			
1,2-Dichloropropane	19		2.5	ug/L	20.0		95	61-133			
1,3-Dichlorobenzene	21		2.5	ug/L	20.0		103	66-129			
1,4-Dichlorobenzene	19		2.5	ug/L	20.0		97	65-133			
2-Butanone	110		12	ug/L	100		106	10-180			
2-Hexanone	72		12	ug/L	100		72	12-180			
4-Methyl-2-pentanone	69		12	ug/L	100		69	19-180			
Acetone	85		25	ug/L	100		85	10-180			
Benzene	20		2.5	ug/L	20.0		100	56-136			
Bromodichloromethane	18		2.5	ug/L	20.0		89	58-135			
Bromoform	16		2.5	ug/L	20.0		78	46-148			
Bromomethane	20		2.5	ug/L	20.0		99	10-173			
Carbon disulfide	23		12	ug/L	20.0		117	43-153			
Carbon Tetrachloride	21		2.5	ug/L	20.0		103	54-156			
Chlorobenzene	20		2.5	ug/L	20.0		99	51-139			
Chloroethane	20		2.5	ug/L	20.0		98	27-180			
Chloroform	21		2.5	ug/L	20.0		103	58-139			
Chloromethane	16		2.5	ug/L	20.0		78	33-154			
cis-1,2-Dichloroethene	20		2.5	ug/L	20.0		102	56-128			
cis-1,3-Dichloropropene	16		2.5	ug/L	20.0		81	64-128			
Cyclohexane	24		2.5	ug/L	20.0		118	70-130			
Dibromochloromethane	18		2.5	ug/L	20.0		89	50-140			
Dichlorodifluoromethane	9.6		2.5	ug/L	20.0		48	10-180			
Ethylbenzene	21		2.5	ug/L	20.0		103	63-133			
Freon 113	22		2.5	ug/L	20.0		112	47-173			
Isopropylbenzene	20		2.5	ug/L	20.0		101	60-132			
m,p-Xylenes	39		5.0	ug/L	40.0		98	64-133			
Methyl acetate	15		2.5	ug/L	20.0		77	70-130			
Methyl cyclohexane	21		2.5	ug/L	20.0		107	70-130			
Methylene Chloride	20		12	ug/L	20.0		101	43-142			
Methyl-tert-Butyl Ether	15		2.5	ug/L	20.0		74	51-145			
o-Xylene	20		2.5	ug/L	20.0		98	61-129			
Styrene	19		2.5	ug/L	20.0		97	59-136			
Tetrachloroethene	21		2.5	ug/L	20.0		105	60-147			
Toluene	21		2.5	ug/L	20.0		105	64-131			
trans-1,2-Dichloroethene	21		2.5	ug/L	20.0		104	54-134			
trans-1,3-Dichloropropene	18		2.5	ug/L	20.0		90	65-149			
Trichloroethene	20		2.5	ug/L	20.0		98	62-135			
Trichlorofluoromethane	20		2.5	ug/L	20.0		98	56-155			
Vinyl chloride	16		2.5	ug/L	20.0		80	20-167			
4-Bromofluorobenzene	*48*	*I*		*ug/L*	*50.0*		*96*	*41-142*			
Dibromofluoromethane	*54*			*ug/L*	*50.0*		*109*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*99*	*41-146*			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1B21002 - EPA 5030B_MS - Continued

Matrix Spike (1B21002-MS1) Prepared: 02/21/2021 00:00 Analyzed: 02/21/2021 11:04

Source: AE01325-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	23		2.5	ug/L	20.0	0.80 U	114	57-148			
1,1,2,2-Tetrachloroethane	16		2.5	ug/L	20.0	0.54 U	78	60-139			
1,1,2-Trichloroethane	17		2.5	ug/L	20.0	0.76 U	86	57-141			
1,1-Dichloroethane	47		2.5	ug/L	20.0	23	122	57-142			
1,1-Dichloroethene	35		2.5	ug/L	20.0	12	117	47-139			
1,2,4-Trichlorobenzene	20		2.5	ug/L	20.0	0.70 U	98	52-159			
1,2-Dibromo-3-chloropropane	18		2.5	ug/L	20.0	0.96 U	90	48-150			
1,2-Dibromoethane	18		2.5	ug/L	20.0	0.78 U	90	57-140			
1,2-Dichlorobenzene	20		2.5	ug/L	20.0	0.73 U	101	63-131			
1,2-Dichloroethane	18		2.5	ug/L	20.0	0.63 U	90	50-156			
1,2-Dichloropropane	19		2.5	ug/L	20.0	0.80 U	97	61-133			
1,3-Dichlorobenzene	21		2.5	ug/L	20.0	0.77 U	105	66-129			
1,4-Dichlorobenzene	20		2.5	ug/L	20.0	0.76 U	102	65-133			
2-Butanone	100		12	ug/L	100	4.5 U	102	10-180			
2-Hexanone	69		12	ug/L	100	2.5 U	69	12-180			
4-Methyl-2-pentanone	67		12	ug/L	100	2.5 U	67	19-180			
Acetone	78		25	ug/L	100	10 U	78	10-180			
Benzene	21		2.5	ug/L	20.0	0.71 U	104	56-136			
Bromodichloromethane	18		2.5	ug/L	20.0	0.52 U	90	58-135			
Bromoform	15		2.5	ug/L	20.0	0.75 U	77	46-148			
Bromomethane	22		2.5	ug/L	20.0	0.95 U	108	10-173			
Carbon disulfide	22		12	ug/L	20.0	2.5 U	110	43-153			
Carbon Tetrachloride	22		2.5	ug/L	20.0	0.94 U	111	54-156			
Chlorobenzene	20		2.5	ug/L	20.0	0.72 U	101	51-139			
Chloroethane	22		2.5	ug/L	20.0	0.98 U	109	27-180			
Chloroform	22		2.5	ug/L	20.0	0.80 U	108	58-139			
Chloromethane	17		2.5	ug/L	20.0	0.82 U	83	33-154			
cis-1,2-Dichloroethene	21		2.5	ug/L	20.0	0.53 U	106	56-128			
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0	0.59 U	84	64-128			
Cyclohexane	25		2.5	ug/L	20.0	0.93 U	127	70-130			
Dibromochloromethane	18		2.5	ug/L	20.0	0.50 U	91	50-140			
Dichlorodifluoromethane	11		2.5	ug/L	20.0	0.74 U	53	10-180			
Ethylbenzene	21		2.5	ug/L	20.0	0.69 U	105	63-133			
Freon 113	24		2.5	ug/L	20.0	0.73 U	121	47-173			
Isopropylbenzene	21		2.5	ug/L	20.0	0.67 U	104	60-132			
m,p-Xylenes	41		5.0	ug/L	40.0	1.3 U	102	64-133			
Methyl acetate	16		2.5	ug/L	20.0	0.95 U	80	70-130			
Methyl cyclohexane	23		2.5	ug/L	20.0	0.64 U	114	70-130			
Methylene Chloride	21		12	ug/L	20.0	2.5 U	104	43-142			
Methyl-tert-Butyl Ether	15		2.5	ug/L	20.0	0.60 U	76	51-145			
o-Xylene	20		2.5	ug/L	20.0	0.53 U	100	61-129			
Styrene	20		2.5	ug/L	20.0	0.61 U	99	59-136			
Tetrachloroethene	22		2.5	ug/L	20.0	0.76 U	110	60-147			
Toluene	22		2.5	ug/L	20.0	0.72 U	109	64-131			
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.73 U	109	54-134			
trans-1,3-Dichloropropene	18		2.5	ug/L	20.0	0.73 U	90	65-149			
Trichloroethene	21		2.5	ug/L	20.0	0.89 U	104	62-135			
Trichlorofluoromethane	21		2.5	ug/L	20.0	0.94 U	107	56-155			
Vinyl chloride	18		2.5	ug/L	20.0	0.71 U	90	20-167			

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1B21002 - EPA 5030B_MS - Continued

Matrix Spike (1B21002-MS1) Continued Prepared: 02/21/2021 00:00 Analyzed: 02/21/2021 11:04

Source: AE01325-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
4-Bromofluorobenzene	*47*	*I*		*ug/L*	*50.0*		*94*	*41-142*			
Dibromofluoromethane	*53*			*ug/L*	*50.0*		*106*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*98*	*41-146*			

Matrix Spike Dup (1B21002-MSD1) Prepared: 02/21/2021 00:00 Analyzed: 02/21/2021 11:32

Source: AE01325-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	22		2.5	ug/L	20.0	0.80 U	110	57-148	3	25	
1,1,2,2-Tetrachloroethane	15		2.5	ug/L	20.0	0.54 U	76	60-139	3	17	
1,1,2-Trichloroethane	17		2.5	ug/L	20.0	0.76 U	86	57-141	0.6	16	
1,1-Dichloroethane	46		2.5	ug/L	20.0	23	117	57-142	2	24	
1,1-Dichloroethene	34		2.5	ug/L	20.0	12	110	47-139	4	16	
1,2,4-Trichlorobenzene	20		2.5	ug/L	20.0	0.70 U	99	52-159	0.5	24	
1,2-Dibromo-3-chloropropane	17		2.5	ug/L	20.0	0.96 U	83	48-150	8	21	
1,2-Dibromoethane	18		2.5	ug/L	20.0	0.78 U	89	57-140	0.4	16	
1,2-Dichlorobenzene	20		2.5	ug/L	20.0	0.73 U	98	63-131	3	25	
1,2-Dichloroethane	18		2.5	ug/L	20.0	0.63 U	88	50-156	2	18	
1,2-Dichloropropane	19		2.5	ug/L	20.0	0.80 U	94	61-133	2	26	
1,3-Dichlorobenzene	21		2.5	ug/L	20.0	0.77 U	105	66-129	0.1	23	
1,4-Dichlorobenzene	20		2.5	ug/L	20.0	0.76 U	102	65-133	0.1	23	
2-Butanone	97		12	ug/L	100	4.5 U	97	10-180	5	29	
2-Hexanone	64		12	ug/L	100	2.5 U	64	12-180	7	28	
4-Methyl-2-pentanone	67		12	ug/L	100	2.5 U	67	19-180	0.5	24	
Acetone	77		25	ug/L	100	10 U	77	10-180	2	19	
Benzene	21		2.5	ug/L	20.0	0.71 U	103	56-136	1	14	
Bromodichloromethane	18		2.5	ug/L	20.0	0.52 U	88	58-135	3	19	
Bromoform	15		2.5	ug/L	20.0	0.75 U	75	46-148	3	18	
Bromomethane	20		2.5	ug/L	20.0	0.95 U	101	10-173	6	29	
Carbon disulfide	21		12	ug/L	20.0	2.5 U	103	43-153	7	26	
Carbon Tetrachloride	22		2.5	ug/L	20.0	0.94 U	109	54-156	2	27	
Chlorobenzene	20		2.5	ug/L	20.0	0.72 U	101	51-139	0.1	13	
Chloroethane	20		2.5	ug/L	20.0	0.98 U	99	27-180	9	22	
Chloroform	21		2.5	ug/L	20.0	0.80 U	105	58-139	3	17	
Chloromethane	16		2.5	ug/L	20.0	0.82 U	82	33-154	0.5	31	
cis-1,2-Dichloroethene	21		2.5	ug/L	20.0	0.53 U	103	56-128	3	17	
cis-1,3-Dichloropropene	16		2.5	ug/L	20.0	0.59 U	81	64-128	4	20	
Cyclohexane	25		2.5	ug/L	20.0	0.93 U	124	70-130	2	20	
Dibromochloromethane	18		2.5	ug/L	20.0	0.50 U	89	50-140	3	18	
Dichlorodifluoromethane	10		2.5	ug/L	20.0	0.74 U	51	10-180	4	26	
Ethylbenzene	21		2.5	ug/L	20.0	0.69 U	106	63-133	1	18	
Freon 113	24		2.5	ug/L	20.0	0.73 U	118	47-173	3	30	
Isopropylbenzene	21		2.5	ug/L	20.0	0.67 U	103	60-132	1	23	
m,p-Xylenes	40		5.0	ug/L	40.0	1.3 U	100	64-133	2	18	
Methyl acetate	15		2.5	ug/L	20.0	0.95 U	73	70-130	9	20	
Methyl cyclohexane	22		2.5	ug/L	20.0	0.64 U	112	70-130	2	20	
Methylene Chloride	20		12	ug/L	20.0	2.5 U	101	43-142	3	23	
Methyl-tert-Butyl Ether	14		2.5	ug/L	20.0	0.60 U	68	51-145	12	22	
o-Xylene	20		2.5	ug/L	20.0	0.53 U	99	61-129	0.9	16	
Styrene	20		2.5	ug/L	20.0	0.61 U	99	59-136	0.5	32	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1B21002 - EPA 5030B_MS - Continued

Matrix Spike Dup (1B21002-MSD1) Continued Prepared: 02/21/2021 00:00 Analyzed: 02/21/2021 11:32

Source: AE01325-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Tetrachloroethene	22		2.5	ug/L	20.0	0.76 U	111	60-147	0.3	21	
Toluene	21		2.5	ug/L	20.0	0.72 U	107	64-131	1	16	
trans-1,2-Dichloroethene	21		2.5	ug/L	20.0	0.73 U	105	54-134	4	20	
trans-1,3-Dichloropropene	18		2.5	ug/L	20.0	0.73 U	91	65-149	1	17	
Trichloroethene	20		2.5	ug/L	20.0	0.89 U	102	62-135	2	20	
Trichlorofluoromethane	21		2.5	ug/L	20.0	0.94 U	103	56-155	4	22	
Vinyl chloride	17		2.5	ug/L	20.0	0.71 U	84	20-167	6	24	
4-Bromofluorobenzene	*47*	*I*		*ug/L*	*50.0*		*95*	*41-142*			
Dibromofluoromethane	*53*			*ug/L*	*50.0*		*106*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*98*	*41-146*			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-11	Precision between duplicate matrix spikes of the same sample was outside acceptance limits.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported result is an estimated value.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence (85% or greater confidence) to make a “tentative identification".
Q	One or more quality control criteria failed.

AE01304

Tetra Tech, Inc.

CHAIN OF CUSTODY | **NUMBER** No. 1407 | **PAGE** 1 **OF** 1

PROJECT NO: 112G08970	**FACILITY:** CRCA	**PROJECT MANAGER** ALEX MURPHY	**PHONE NUMBER**	**LABORATORY NAME AND CONTACT:** ENCO
SAMPLERS (SIGNATURE)		**FIELD OPERATIONS LEADER** DAN FORESTIER	**PHONE NUMBER** 304-780-1426	**ADDRESS**
		CARRIER/WAYBILL NUMBER COURIER		**CITY, STATE** ORLANDO, FL

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE (YEAR 2021)	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TYPE OF ANALYSIS (See Comment Below)	COMMENTS
									G	HCL		
17 FEB	0800	CRCA-A$EFFLUENT-20210217 CRCA		/	/	GW	G	3			X	
17 FEB	0815	CRCA-A$INFLUENT-20210217		/	/	GW	G	3			X	

1. RELINQUISHED BY		DATE 17 FEB 21	TIME 1406	1. RECEIVED BY Jamison W. Gregory		DATE 2/17/21	TIME 1406
2. RELINQUISHED BY		DATE	TIME	2. RECEIVED BY		DATE	TIME
3. RELINQUISHED BY		DATE	TIME	3. RECEIVED BY		DATE	TIME

COMMENTS 8260D TCL SOMO 1.2 CLP-LIKE CUSTOM LIST SM Red 1.2°C

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

ENCO Orlando

SDG: AE01304-TE016

CLASS: 01_VOA_MS

METHOD: EPA 8260D

ANALYSES DATA PACKAGE COVER PAGE

EPA 8260D

Laboratory: ENCO Orlando

SDG: AE01304-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-ASEFFLUENT-20210217	AE01304-01
CRCA-ASEFFLUENT-20210217	AE01304-01RE1
CRCA-ASINFLUENT-20210217	AE01304-02
CRCA-ASINFLUENT-20210217	AE01304-02RE1

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLUENT-20210217

Laboratory: ENCO Orlando SDG: AE01304-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE01304-01 File ID: 212BN014.D

Sampled: 02/17/21 08:00 Prepared: 02/19/21 00:00 Analyzed: 02/19/21 14:23

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1B19011 Sequence: AA65034 Calibration: 2102033 Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLUENT-20210217

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE01304-01
File ID: 212BN014.D
Sampled: 02/17/21 08:00
Prepared: 02/19/21 00:00
Analyzed: 02/19/21 14:23
Solids:
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Batch: 1B19011
Sequence: AA65034
Calibration: 2102033
Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	59	118	53 - 146	
Toluene-d8	50.0	51	102	41 - 146	
4-Bromofluorobenzene	50.0	45	89	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	290820	11.5	270209	11.46	
1,4-Difluorobenzene	563806	12.05	483052	12.01	
Chlorobenzene-d5	263894	14.64	235561	14.61	
1,4-Dichlorobenzene-d4	160611	17	156580	16.98	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLUENT-20210217

Laboratory: ENCO Orlando | SDG: AE01304-TE016

Client: Tetra Tech, Inc. (TE016) | Project: NASA KSC CRCA

Matrix: Ground Water | Laboratory ID: AE01304-01RE1 | File ID: 212BP016.D

Sampled: 02/17/21 08:00 | Prepared: 02/21/21 11:25 | Analyzed: 02/21/21 16:48

Solids: | Preparation: EPA 5030B_MS | Initial/Final: 5 mL / 5 mL

Batch: 1B21002 | Sequence: AA65054 | Calibration: 2102033 | Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	55	109	53 - 146	
Toluene-d8	50.0	49	97	41 - 146	
4-Bromofluorobenzene	50.0	46	93	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	354275	11.47	270209	11.46	
1,4-Difluorobenzene	657991	12.02	483052	12.01	
Chlorobenzene-d5	291130	14.61	235561	14.61	
1,4-Dichlorobenzene-d4	176907	16.97	156580	16.98	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLUENT-20210217

Laboratory: ENCO Orlando SDG: AE01304-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE01304-02 File ID: 212BN015.D

Sampled: 02/17/21 08:15 Prepared: 02/19/21 00:00 Analyzed: 02/19/21 14:51

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1B19011 Sequence: AA65034 Calibration: 2102033 Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	19		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLUENT-20210217

Laboratory: ENCO Orlando SDG: AE01304-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE01304-02 File ID: 212BN015.D

Sampled: 02/17/21 08:15 Prepared: 02/19/21 00:00 Analyzed: 02/19/21 14:51

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1B19011 Sequence: AA65034 Calibration: 2102033 Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	59	118	53 - 146	
Toluene-d8	50.0	53	105	41 - 146	
4-Bromofluorobenzene	50.0	45	90	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	299820	11.5	270209	11.46	
1,4-Difluorobenzene	578040	12.04	483052	12.01	
Chlorobenzene-d5	272946	14.63	235561	14.61	
1,4-Dichlorobenzene-d4	167917	17.01	156580	16.98	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLUENT-20210217

Laboratory: ENCO Orlando SDG: AE01304-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE01304-02RE1 File ID: 212BP017.D

Sampled: 02/17/21 08:15 Prepared: 02/21/21 11:25 Analyzed: 02/21/21 17:17

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1B21002 Sequence: AA65054 Calibration: 2102033 Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	54	108	53 - 146	
Toluene-d8	50.0	49	98	41 - 146	
4-Bromofluorobenzene	50.0	46	92	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	365353	11.47	270209	11.46	
1,4-Difluorobenzene	667282	12.02	483052	12.01	
Chlorobenzene-d5	298600	14.62	235561	14.61	
1,4-Dichlorobenzene-d4	180151	16.98	156580	16.98	

* Values outside of QC limits

HOLDING TIME SUMMARY

EPA 8260D

Laboratory: ENCO Orlando

SDG: AE01304-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-ASEFFLUENT-20210217	02/17/21 08:00	02/17/21 14:06	02/19/21 00:00	1.67	NA	02/19/21 14:23	2.00	14.00	
CRCA-ASEFFLUENT-20210217	02/17/21 08:00	02/17/21 14:06	02/21/21 11:25	4.14	NA	02/21/21 16:48	4.00	14.00	
CRCA-ASINFLUENT-20210217	02/17/21 08:15	02/17/21 14:06	02/19/21 00:00	1.66	NA	02/19/21 14:51	2.00	14.00	
CRCA-ASINFLUENT-20210217	02/17/21 08:15	02/17/21 14:06	02/21/21 11:25	4.13	NA	02/21/21 17:17	4.00	14.00	

PREPARATION BATCH SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AE01304-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1B19011 Batch Matrix: Water Preparation: EPA 5030B_MS

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1B19011-BLK1	212BN008.D	02/19/21 00:00	
LCS	1B19011-BS1	212BN003.D	02/19/21 00:00	
MW-3	1B19011-MS1	212BN004.D	02/19/21 00:00	
MW-3	1B19011-MSD1	212BN005.D	02/19/21 00:00	
CRCA-ASEFFLUENT-20210217	AE01304-01	212BN014.D	02/19/21 00:00	
CRCA-ASINFLUENT-20210217	AE01304-02	212BN015.D	02/19/21 00:00	

PREPARATION BATCH SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AE01304-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1B21002 Batch Matrix: Water Preparation: EPA 5030B_MS

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1B21002-BLK1	212BP009.D	02/21/21 00:00	
LCS	1B21002-BS1	212BP003.D	02/21/21 00:00	
WP-A15	1B21002-MS1	212BP004.D	02/21/21 00:00	
WP-A15	1B21002-MSD1	212BP005.D	02/21/21 00:00	
CRCA-ASEFFLUENT-20210217	AE01304-01RE1	212BP016.D	02/21/21 11:25	
CRCA-ASINFLUENT-20210217	AE01304-02RE1	212BP017.D	02/21/21 11:25	

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE01304-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1B19011-BLK1	File ID:	212BN008.D
Prepared:	02/19/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	02/19/21 11:30	Instrument:	OVGCMS2		
Batch:	1B19011	Sequence:	AA65034	Calibration:	2102033

CAS NO.	COMPOUND	CONC. (ug/L)	Q
75-71-8	Dichlorodifluoromethane	0.74	U
74-87-3	Chloromethane	0.82	U
75-01-4	Vinyl chloride	0.71	U
74-83-9	Bromomethane	0.95	U
75-00-3	Chloroethane	0.98	U
75-69-4	Trichlorofluoromethane	0.94	U
76-13-1	Freon 113	0.73	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	0.94	U
75-15-0	Carbon disulfide	2.5	U
75-09-2	Methylene Chloride	2.5	U
1634-04-4	Methyl-tert-Butyl Ether	0.60	U
156-60-5	trans-1,2-Dichloroethene	0.73	U
156-59-2	cis-1,2-Dichloroethene	0.53	U
75-34-3	1,1-Dichloroethane	0.62	U
78-93-3	2-Butanone	4.5	U
67-66-3	Chloroform	0.80	U
71-55-6	1,1,1-Trichloroethane	0.80	U
79-20-9	Methyl acetate	0.95	U
110-82-7	Cyclohexane	0.93	U
108-87-2	Methyl cyclohexane	0.64	U
56-23-5	Carbon Tetrachloride	0.94	U
107-06-2	1,2-Dichloroethane	0.63	U
71-43-2	Benzene	0.71	U
79-01-6	Trichloroethene	0.89	U
78-87-5	1,2-Dichloropropane	0.80	U
75-27-4	Bromodichloromethane	0.52	U
108-10-1	4-Methyl-2-pentanone	2.5	U
591-78-6	2-Hexanone	2.5	U
10061-01-5	cis-1,3-Dichloropropene	0.59	U

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE01304-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1B19011-BLK1	File ID:	212BN008.D
Prepared:	02/19/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	02/19/21 11:30	Instrument:	OVGCMS2		
Batch:	1B19011	Sequence:	AA65034	Calibration:	2102033

CAS NO.	COMPOUND	CONC. (ug/L)	Q
108-88-3	Toluene	0.72	U
10061-02-6	trans-1,3-Dichloropropene	0.73	U
79-00-5	1,1,2-Trichloroethane	0.76	U
127-18-4	Tetrachloroethene	0.76	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.78	U
108-90-7	Chlorobenzene	0.72	U
100-41-4	Ethylbenzene	0.69	U
108-38-3/106-42-3	m,p-Xylenes	1.3	U
95-47-6	o-Xylene	0.53	U
75-25-2	Bromoform	0.75	U
100-42-5	Styrene	0.61	U
98-82-8	Isopropylbenzene	0.67	U
79-34-5	1,1,2,2-Tetrachloroethane	0.54	U
120-82-1	1,2,4-Trichlorobenzene	0.70	U
541-73-1	1,3-Dichlorobenzene	0.77	U
106-46-7	1,4-Dichlorobenzene	0.76	U
95-50-1	1,2-Dichlorobenzene	0.73	U
96-12-8	1,2-Dibromo-3-chloropropane	0.96	U
1330-20-7	Xylenes (Total)	1.3	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	55	110	53 - 146	
Toluene-d8	50.0	58	117	41 - 146	
4-Bromofluorobenzene	50.0	51	102	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	169030	11.48	270209	11.46	
1,4-Difluorobenzene	315501	12.03	483052	12.01	
Chlorobenzene-d5	180156	14.63	235561	14.61	
1,4-Dichlorobenzene-d4	145188	17	156580	16.98	

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE01304-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1B21002-BLK1	File ID:	212BP009.D
Prepared:	02/21/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	02/21/21 13:27	Instrument:	OVGCMS2		
Batch:	1B21002	Sequence:	AA65054	Calibration:	2102033

CAS NO.	COMPOUND	CONC. (ug/L)	Q
75-71-8	Dichlorodifluoromethane	0.74	U
74-87-3	Chloromethane	0.82	U
75-01-4	Vinyl chloride	0.71	U
74-83-9	Bromomethane	0.95	U
75-00-3	Chloroethane	0.98	U
75-69-4	Trichlorofluoromethane	0.94	U
76-13-1	Freon 113	0.73	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	0.94	U
75-15-0	Carbon disulfide	2.5	U
75-09-2	Methylene Chloride	2.5	U
1634-04-4	Methyl-tert-Butyl Ether	0.60	U
156-60-5	trans-1,2-Dichloroethene	0.73	U
156-59-2	cis-1,2-Dichloroethene	0.53	U
75-34-3	1,1-Dichloroethane	0.62	U
78-93-3	2-Butanone	4.5	U
67-66-3	Chloroform	0.80	U
71-55-6	1,1,1-Trichloroethane	0.80	U
79-20-9	Methyl acetate	0.95	U
110-82-7	Cyclohexane	0.93	U
108-87-2	Methyl cyclohexane	0.64	U
56-23-5	Carbon Tetrachloride	0.94	U
107-06-2	1,2-Dichloroethane	0.63	U
71-43-2	Benzene	0.71	U
79-01-6	Trichloroethene	0.89	U
78-87-5	1,2-Dichloropropane	0.80	U
75-27-4	Bromodichloromethane	0.52	U
108-10-1	4-Methyl-2-pentanone	2.5	U
591-78-6	2-Hexanone	2.5	U
10061-01-5	cis-1,3-Dichloropropene	0.59	U

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE01304-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1B21002-BLK1	File ID:	212BP009.D
Prepared:	02/21/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	02/21/21 13:27	Instrument:	OVGCMS2		
Batch:	1B21002	Sequence:	AA65054	Calibration:	2102033

CAS NO.	COMPOUND	CONC. (ug/L)	Q
108-88-3	Toluene	0.72	U
10061-02-6	trans-1,3-Dichloropropene	0.73	U
79-00-5	1,1,2-Trichloroethane	0.76	U
127-18-4	Tetrachloroethene	0.76	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.78	U
108-90-7	Chlorobenzene	0.72	U
100-41-4	Ethylbenzene	0.69	U
108-38-3/106-42-3	m,p-Xylenes	1.3	U
95-47-6	o-Xylene	0.53	U
75-25-2	Bromoform	0.75	U
100-42-5	Styrene	0.61	U
98-82-8	Isopropylbenzene	0.67	U
79-34-5	1,1,2,2-Tetrachloroethane	0.54	U
120-82-1	1,2,4-Trichlorobenzene	0.70	U
541-73-1	1,3-Dichlorobenzene	0.77	U
106-46-7	1,4-Dichlorobenzene	0.76	U
95-50-1	1,2-Dichlorobenzene	0.73	U
96-12-8	1,2-Dibromo-3-chloropropane	0.96	U
1330-20-7	Xylenes (Total)	1.3	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	47	94	53 - 146	
Toluene-d8	50.0	55	110	41 - 146	
4-Bromofluorobenzene	50.0	54	109	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	181255	11.45	270209	11.46	
1,4-Difluorobenzene	318306	12	483052	12.01	
Chlorobenzene-d5	172070	14.61	235561	14.61	
1,4-Dichlorobenzene-d4	144168	16.97	156580	16.98	

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE01304-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1B19011	Laboratory ID:	1B19011-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	11	57	10 - 180
Chloromethane	20.0	18	88	33 - 154
Vinyl chloride	20.0	17	87	20 - 167
Bromomethane	20.0	13	65	10 - 173
Chloroethane	20.0	22	108	27 - 180
Trichlorofluoromethane	20.0	20	100	56 - 155
Freon 113	20.0	23	114	47 - 173
Acetone	100	81	81	10 - 180
1,1-Dichloroethene	20.0	20	100	47 - 139
Carbon disulfide	20.0	24	120	43 - 153
Methylene Chloride	20.0	20	100	43 - 142
Methyl-tert-Butyl Ether	20.0	14	72	51 - 145
trans-1,2-Dichloroethene	20.0	21	104	54 - 134
cis-1,2-Dichloroethene	20.0	20	101	56 - 128
1,1-Dichloroethane	20.0	22	111	57 - 142
2-Butanone	100	99	99	10 - 180
Chloroform	20.0	20	102	58 - 139
1,1,1-Trichloroethane	20.0	21	107	57 - 148
Methyl acetate	20.0	14	70	70 - 130
Cyclohexane	20.0	25	123	70 - 130
Methyl cyclohexane	20.0	22	112	70 - 130
Carbon Tetrachloride	20.0	21	103	54 - 156
1,2-Dichloroethane	20.0	17	85	50 - 156
Benzene	20.0	21	106	56 - 136
Trichloroethene	20.0	21	105	62 - 135
1,2-Dichloropropane	20.0	19	95	61 - 133
Bromodichloromethane	20.0	17	87	58 - 135
4-Methyl-2-pentanone	100	74	74	19 - 180
2-Hexanone	100	74	74	12 - 180
cis-1,3-Dichloropropene	20.0	16	80	64 - 128

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE01304-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1B19011	Laboratory ID:	1B19011-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Toluene	20.0	20	102	64 - 131
trans-1,3-Dichloropropene	20.0	14	72	65 - 149
1,1,2-Trichloroethane	20.0	14	70	57 - 141
Tetrachloroethene	20.0	20	99	60 - 147
Dibromochloromethane	20.0	14	71	50 - 140
1,2-Dibromoethane	20.0	15	76	57 - 140
Chlorobenzene	20.0	20	100	51 - 139
Ethylbenzene	20.0	21	107	63 - 133
m,p-Xylenes	40.0	45	111	64 - 133
o-Xylene	20.0	21	107	61 - 129
Bromoform	20.0	14	68	46 - 148
Styrene	20.0	21	106	59 - 136
Isopropylbenzene	20.0	22	110	60 - 132
1,1,2,2-Tetrachloroethane	20.0	15	73	60 - 139
1,2,4-Trichlorobenzene	20.0	21	105	52 - 159
1,3-Dichlorobenzene	20.0	20	99	66 - 129
1,4-Dichlorobenzene	20.0	19	96	65 - 133
1,2-Dichlorobenzene	20.0	19	97	63 - 131
1,2-Dibromo-3-chloropropane	20.0	16	78	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE01304-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1B21002	Laboratory ID:	1B21002-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	9.6	48	10 - 180
Chloromethane	20.0	16	78	33 - 154
Vinyl chloride	20.0	16	80	20 - 167
Bromomethane	20.0	20	99	10 - 173
Chloroethane	20.0	20	98	27 - 180
Trichlorofluoromethane	20.0	20	98	56 - 155
Freon 113	20.0	22	112	47 - 173
Acetone	100	85	85	10 - 180
1,1-Dichloroethene	20.0	20	102	47 - 139
Carbon disulfide	20.0	23	117	43 - 153
Methylene Chloride	20.0	20	101	43 - 142
Methyl-tert-Butyl Ether	20.0	15	74	51 - 145
trans-1,2-Dichloroethene	20.0	21	104	54 - 134
cis-1,2-Dichloroethene	20.0	20	102	56 - 128
1,1-Dichloroethane	20.0	22	109	57 - 142
2-Butanone	100	110	106	10 - 180
Chloroform	20.0	21	103	58 - 139
1,1,1-Trichloroethane	20.0	22	108	57 - 148
Methyl acetate	20.0	15	77	70 - 130
Cyclohexane	20.0	24	118	70 - 130
Methyl cyclohexane	20.0	21	107	70 - 130
Carbon Tetrachloride	20.0	21	103	54 - 156
1,2-Dichloroethane	20.0	18	91	50 - 156
Benzene	20.0	20	100	56 - 136
Trichloroethene	20.0	20	98	62 - 135
1,2-Dichloropropane	20.0	19	95	61 - 133
Bromodichloromethane	20.0	18	89	58 - 135
4-Methyl-2-pentanone	100	69	69	19 - 180
2-Hexanone	100	72	72	12 - 180
cis-1,3-Dichloropropene	20.0	16	81	64 - 128

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE01304-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1B21002	Laboratory ID:	1B21002-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Toluene	20.0	21	105	64 - 131
trans-1,3-Dichloropropene	20.0	18	90	65 - 149
1,1,2-Trichloroethane	20.0	17	87	57 - 141
Tetrachloroethene	20.0	21	105	60 - 147
Dibromochloromethane	20.0	18	89	50 - 140
1,2-Dibromoethane	20.0	18	92	57 - 140
Chlorobenzene	20.0	20	99	51 - 139
Ethylbenzene	20.0	21	103	63 - 133
m,p-Xylenes	40.0	39	98	64 - 133
o-Xylene	20.0	20	98	61 - 129
Bromoform	20.0	16	78	46 - 148
Styrene	20.0	19	97	59 - 136
Isopropylbenzene	20.0	20	101	60 - 132
1,1,2,2-Tetrachloroethane	20.0	16	79	60 - 139
1,2,4-Trichlorobenzene	20.0	20	100	52 - 159
1,3-Dichlorobenzene	20.0	21	103	66 - 129
1,4-Dichlorobenzene	20.0	19	97	65 - 133
1,2-Dichlorobenzene	20.0	20	101	63 - 131
1,2-Dibromo-3-chloropropane	20.0	19	95	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-3

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1B19011
Laboratory ID: 1B19011-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-3

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	ND	13	65	10 - 180
Chloromethane	20.0	ND	19	96	33 - 154
Vinyl chloride	20.0	ND	20	99	20 - 167
Bromomethane	20.0	ND	15	75	10 - 173
Chloroethane	20.0	ND	23	117	27 - 180
Trichlorofluoromethane	20.0	ND	23	117	56 - 155
Freon 113	20.0	ND	27	137	47 - 173
Acetone	100	36	89	52	10 - 180
1,1-Dichloroethene	20.0	ND	24	121	47 - 139
Carbon disulfide	20.0	3.0	25	111	43 - 153
Methylene Chloride	20.0	ND	22	112	43 - 142
Methyl-tert-Butyl Ether	20.0	ND	16	81	51 - 145
trans-1,2-Dichloroethene	20.0	ND	24	121	54 - 134
cis-1,2-Dichloroethene	20.0	ND	23	117	56 - 128
1,1-Dichloroethane	20.0	ND	26	130	57 - 142
2-Butanone	100	ND	100	102	10 - 180
Chloroform	20.0	ND	23	117	58 - 139
1,1,1-Trichloroethane	20.0	ND	25	127	57 - 148
Methyl acetate	20.0	ND	16	78	70 - 130
Cyclohexane	20.0	17	32	79	70 - 130
Methyl cyclohexane	20.0	ND	26	131 *	70 - 130
Carbon Tetrachloride	20.0	ND	24	118	54 - 156
1,2-Dichloroethane	20.0	ND	18	90	50 - 156
Benzene	20.0	2.2	24	107	56 - 136
Trichloroethene	20.0	ND	22	112	62 - 135
1,2-Dichloropropane	20.0	ND	21	103	61 - 133
Bromodichloromethane	20.0	ND	18	91	58 - 135
4-Methyl-2-pentanone	100	ND	72	72	19 - 180
2-Hexanone	100	ND	68	68	12 - 180
cis-1,3-Dichloropropene	20.0	ND	17	87	64 - 128
Toluene	20.0	ND	23	114	64 - 131

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-3

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1B19011
Laboratory ID: 1B19011-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-3

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
trans-1,3-Dichloropropene	20.0	ND	17	84	65 - 149
1,1,2-Trichloroethane	20.0	ND	16	81	57 - 141
Tetrachloroethene	20.0	ND	23	116	60 - 147
Dibromochloromethane	20.0	ND	17	84	50 - 140
1,2-Dibromoethane	20.0	ND	17	83	57 - 140
Chlorobenzene	20.0	ND	21	104	51 - 139
Ethylbenzene	20.0	5.4	23	87	63 - 133
m,p-Xylenes	40.0	ND	42	106	64 - 133
o-Xylene	20.0	ND	21	103	61 - 129
Bromoform	20.0	ND	14	70	46 - 148
Styrene	20.0	ND	20	100	59 - 136
Isopropylbenzene	20.0	9.8	24	70	60 - 132
1,1,2,2-Tetrachloroethane	20.0	ND	14	72	60 - 139
1,2,4-Trichlorobenzene	20.0	ND	19	97	52 - 159
1,3-Dichlorobenzene	20.0	ND	21	103	66 - 129
1,4-Dichlorobenzene	20.0	ND	20	98	65 - 133
1,2-Dichlorobenzene	20.0	ND	19	97	63 - 131
1,2-Dibromo-3-chloropropane	20.0	ND	17	87	48 - 150

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-3

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1B19011
Laboratory ID: 1B19011-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-3

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20.0	12	61	5	26	10 - 180
Chloromethane	20.0	19	94	2	31	33 - 154
Vinyl chloride	20.0	20	98	0.5	24	20 - 167
Bromomethane	20.0	22	111	39 *	29	10 - 173
Chloroethane	20.0	23	116	0.2	22	27 - 180
Trichlorofluoromethane	20.0	22	108	8	22	56 - 155
Freon 113	20.0	25	127	8	30	47 - 173
Acetone	100	90	53	1	19	10 - 180
1,1-Dichloroethene	20.0	22	111	8	16	47 - 139
Carbon disulfide	20.0	23	102	8	26	43 - 153
Methylene Chloride	20.0	22	110	2	23	43 - 142
Methyl-tert-Butyl Ether	20.0	18	88	8	22	51 - 145
trans-1,2-Dichloroethene	20.0	23	114	6	20	54 - 134
cis-1,2-Dichloroethene	20.0	22	110	6	17	56 - 128
1,1-Dichloroethane	20.0	24	119	8	24	57 - 142
2-Butanone	100	120	117	14	29	10 - 180
Chloroform	20.0	22	112	5	17	58 - 139
1,1,1-Trichloroethane	20.0	24	118	8	25	57 - 148
Methyl acetate	20.0	16	80	2	20	70 - 130
Cyclohexane	20.0	31	71	5	20	70 - 130
Methyl cyclohexane	20.0	26	131 *	0.08	20	70 - 130
Carbon Tetrachloride	20.0	22	112	5	27	54 - 156
1,2-Dichloroethane	20.0	18	92	2	18	50 - 156
Benzene	20.0	23	104	3	14	56 - 136
Trichloroethene	20.0	22	108	4	20	62 - 135
1,2-Dichloropropane	20.0	21	103	0.1	26	61 - 133
Bromodichloromethane	20.0	18	91	0	19	58 - 135
4-Methyl-2-pentanone	100	84	84	15	24	19 - 180
2-Hexanone	100	87	87	23	28	12 - 180
cis-1,3-Dichloropropene	20.0	17	87	0.3	20	64 - 128
Toluene	20.0	21	107	6	16	64 - 131
trans-1,3-Dichloropropene	20.0	16	79	7	17	65 - 149

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-3

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1B19011
Laboratory ID: 1B19011-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-3

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,2-Trichloroethane	20.0	15	75	8	16	57 - 141
Tetrachloroethene	20.0	20	102	13	21	60 - 147
Dibromochloromethane	20.0	15	77	8	18	50 - 140
1,2-Dibromoethane	20.0	16	81	3	16	57 - 140
Chlorobenzene	20.0	21	105	0.4	13	51 - 139
Ethylbenzene	20.0	24	91	3	18	63 - 133
m,p-Xylenes	40.0	47	117	10	18	64 - 133
o-Xylene	20.0	23	114	11	16	61 - 129
Bromoform	20.0	15	73	4	18	46 - 148
Styrene	20.0	23	113	12	32	59 - 136
Isopropylbenzene	20.0	26	80	8	23	60 - 132
1,1,2,2-Tetrachloroethane	20.0	15	77	6	17	60 - 139
1,2,4-Trichlorobenzene	20.0	23	114	17	24	52 - 159
1,3-Dichlorobenzene	20.0	21	105	2	23	66 - 129
1,4-Dichlorobenzene	20.0	20	100	2	23	65 - 133
1,2-Dichlorobenzene	20.0	20	101	4	25	63 - 131
1,2-Dibromo-3-chloropropane	20.0	20	98	12	21	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

WP-A15

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1B21002
Laboratory ID: 1B21002-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: WP-A15

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	ND	11	53	10 - 180
Chloromethane	20.0	ND	17	83	33 - 154
Vinyl chloride	20.0	ND	18	90	20 - 167
Bromomethane	20.0	ND	22	108	10 - 173
Chloroethane	20.0	ND	22	109	27 - 180
Trichlorofluoromethane	20.0	ND	21	107	56 - 155
Freon 113	20.0	ND	24	121	47 - 173
Acetone	100	ND	78	78	10 - 180
1,1-Dichloroethene	20.0	12	35	117	47 - 139
Carbon disulfide	20.0	ND	22	110	43 - 153
Methylene Chloride	20.0	ND	21	104	43 - 142
Methyl-tert-Butyl Ether	20.0	ND	15	76	51 - 145
trans-1,2-Dichloroethene	20.0	ND	22	109	54 - 134
cis-1,2-Dichloroethene	20.0	ND	21	106	56 - 128
1,1-Dichloroethane	20.0	23	47	122	57 - 142
2-Butanone	100	ND	100	102	10 - 180
Chloroform	20.0	ND	22	108	58 - 139
1,1,1-Trichloroethane	20.0	ND	23	114	57 - 148
Methyl acetate	20.0	ND	16	80	70 - 130
Cyclohexane	20.0	ND	25	127	70 - 130
Methyl cyclohexane	20.0	ND	23	114	70 - 130
Carbon Tetrachloride	20.0	ND	22	111	54 - 156
1,2-Dichloroethane	20.0	ND	18	90	50 - 156
Benzene	20.0	ND	21	104	56 - 136
Trichloroethene	20.0	ND	21	104	62 - 135
1,2-Dichloropropane	20.0	ND	19	97	61 - 133
Bromodichloromethane	20.0	ND	18	90	58 - 135
4-Methyl-2-pentanone	100	ND	67	67	19 - 180
2-Hexanone	100	ND	69	69	12 - 180
cis-1,3-Dichloropropene	20.0	ND	17	84	64 - 128
Toluene	20.0	ND	22	109	64 - 131

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

WP-A15

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1B21002
Laboratory ID: 1B21002-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: WP-A15

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
trans-1,3-Dichloropropene	20.0	ND	18	90	65 - 149
1,1,2-Trichloroethane	20.0	ND	17	86	57 - 141
Tetrachloroethene	20.0	ND	22	110	60 - 147
Dibromochloromethane	20.0	ND	18	91	50 - 140
1,2-Dibromoethane	20.0	ND	18	90	57 - 140
Chlorobenzene	20.0	ND	20	101	51 - 139
Ethylbenzene	20.0	ND	21	105	63 - 133
m,p-Xylenes	40.0	ND	41	102	64 - 133
o-Xylene	20.0	ND	20	100	61 - 129
Bromoform	20.0	ND	15	77	46 - 148
Styrene	20.0	ND	20	99	59 - 136
Isopropylbenzene	20.0	ND	21	104	60 - 132
1,1,2,2-Tetrachloroethane	20.0	ND	16	78	60 - 139
1,2,4-Trichlorobenzene	20.0	ND	20	98	52 - 159
1,3-Dichlorobenzene	20.0	ND	21	105	66 - 129
1,4-Dichlorobenzene	20.0	ND	20	102	65 - 133
1,2-Dichlorobenzene	20.0	ND	20	101	63 - 131
1,2-Dibromo-3-chloropropane	20.0	ND	18	90	48 - 150

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

WP-A15

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1B21002
Laboratory ID: 1B21002-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: WP-A15

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20.0	10	51	4	26	10 - 180
Chloromethane	20.0	16	82	0.5	31	33 - 154
Vinyl chloride	20.0	17	84	6	24	20 - 167
Bromomethane	20.0	20	101	6	29	10 - 173
Chloroethane	20.0	20	99	9	22	27 - 180
Trichlorofluoromethane	20.0	21	103	4	22	56 - 155
Freon 113	20.0	24	118	3	30	47 - 173
Acetone	100	77	77	2	19	10 - 180
1,1-Dichloroethene	20.0	34	110	4	16	47 - 139
Carbon disulfide	20.0	21	103	7	26	43 - 153
Methylene Chloride	20.0	20	101	3	23	43 - 142
Methyl-tert-Butyl Ether	20.0	14	68	12	22	51 - 145
trans-1,2-Dichloroethene	20.0	21	105	4	20	54 - 134
cis-1,2-Dichloroethene	20.0	21	103	3	17	56 - 128
1,1-Dichloroethane	20.0	46	117	2	24	57 - 142
2-Butanone	100	97	97	5	29	10 - 180
Chloroform	20.0	21	105	3	17	58 - 139
1,1,1-Trichloroethane	20.0	22	110	3	25	57 - 148
Methyl acetate	20.0	15	73	9	20	70 - 130
Cyclohexane	20.0	25	124	2	20	70 - 130
Methyl cyclohexane	20.0	22	112	2	20	70 - 130
Carbon Tetrachloride	20.0	22	109	2	27	54 - 156
1,2-Dichloroethane	20.0	18	88	2	18	50 - 156
Benzene	20.0	21	103	1	14	56 - 136
Trichloroethene	20.0	20	102	2	20	62 - 135
1,2-Dichloropropane	20.0	19	94	2	26	61 - 133
Bromodichloromethane	20.0	18	88	3	19	58 - 135
4-Methyl-2-pentanone	100	67	67	0.5	24	19 - 180
2-Hexanone	100	64	64	7	28	12 - 180
cis-1,3-Dichloropropene	20.0	16	81	4	20	64 - 128
Toluene	20.0	21	107	1	16	64 - 131
trans-1,3-Dichloropropene	20.0	18	91	1	17	65 - 149

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

WP-A15

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1B21002
Laboratory ID: 1B21002-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: WP-A15

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,2-Trichloroethane	20.0	17	86	0.6	16	57 - 141
Tetrachloroethene	20.0	22	111	0.3	21	60 - 147
Dibromochloromethane	20.0	18	89	3	18	50 - 140
1,2-Dibromoethane	20.0	18	89	0.4	16	57 - 140
Chlorobenzene	20.0	20	101	0.1	13	51 - 139
Ethylbenzene	20.0	21	106	1	18	63 - 133
m,p-Xylenes	40.0	40	100	2	18	64 - 133
o-Xylene	20.0	20	99	0.9	16	61 - 129
Bromoform	20.0	15	75	3	18	46 - 148
Styrene	20.0	20	99	0.5	32	59 - 136
Isopropylbenzene	20.0	21	103	1	23	60 - 132
1,1,2,2-Tetrachloroethane	20.0	15	76	3	17	60 - 139
1,2,4-Trichlorobenzene	20.0	20	99	0.5	24	52 - 159
1,3-Dichlorobenzene	20.0	21	105	0.1	23	66 - 129
1,4-Dichlorobenzene	20.0	20	102	0.1	23	65 - 133
1,2-Dichlorobenzene	20.0	20	98	3	25	63 - 131
1,2-Dibromo-3-chloropropane	20.0	17	83	8	21	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64808
Instrument: OVGCMS2
Matrix: Water
Calibration: 2102033

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA64808-SCV1)			Lab File ID: 212B4012.D		Analyzed: 02/04/21 13:15			
Dibromofluoromethane	50.0	99	70 - 130	11.07	11.06875	0.0013	+/-0.5	
Toluene-d8	50.0	97	70 - 130	13.24	13.2325	0.0075	+/-0.5	
4-Bromofluorobenzene	50.0	99	70 - 130	15.73	15.73	0.0000	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA65034
Instrument: OVGCMS2
Matrix: Water
Calibration: 2102033

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA65034-CCV1)			Lab File ID: 212BN002.D		Analyzed: 02/19/21 08:35			
Dibromofluoromethane	50.0	108	80 - 120	11.08	11.06875	0.0113	+/-0.5	
Toluene-d8	50.0	111	80 - 120	13.25	13.2325	0.0175	+/-0.5	
4-Bromofluorobenzene	50.0	100	80 - 120	15.75	15.73	0.0200	+/-0.5	
LCS (1B19011-BS1)			Lab File ID: 212BN003.D		Analyzed: 02/19/21 09:07			
Dibromofluoromethane	50.0	105	53 - 146	11.08	11.06875	0.0113	+/-0.5	
Toluene-d8	50.0	114	41 - 146	13.25	13.2325	0.0175	+/-0.5	
4-Bromofluorobenzene	50.0	100	41 - 142	15.75	15.73	0.0200	+/-0.5	
Matrix Spike (1B19011-MS1)			Lab File ID: 212BN004.D		Analyzed: 02/19/21 09:35			
Dibromofluoromethane	50.0	113	53 - 146	11.1	11.06875	0.0313	+/-0.5	
Toluene-d8	50.0	104	41 - 146	13.26	13.2325	0.0275	+/-0.5	
4-Bromofluorobenzene	50.0	90	41 - 142	15.75	15.73	0.0200	+/-0.5	
Matrix Spike Dup (1B19011-MSD1)			Lab File ID: 212BN005.D		Analyzed: 02/19/21 10:04			
Dibromofluoromethane	50.0	109	53 - 146	11.08	11.06875	0.0113	+/-0.5	
Toluene-d8	50.0	113	41 - 146	13.25	13.2325	0.0175	+/-0.5	
4-Bromofluorobenzene	50.0	102	41 - 142	15.75	15.73	0.0200	+/-0.5	
Blank (1B19011-BLK1)			Lab File ID: 212BN008.D		Analyzed: 02/19/21 11:30			
Dibromofluoromethane	50.0	110	53 - 146	11.08	11.06875	0.0113	+/-0.5	
Toluene-d8	50.0	117	41 - 146	13.25	13.2325	0.0175	+/-0.5	
4-Bromofluorobenzene	50.0	102	41 - 142	15.75	15.73	0.0200	+/-0.5	
Instrument RL Check (AA65034-CRL1)			Lab File ID: 212BN009.D		Analyzed: 02/19/21 11:59			
Dibromofluoromethane	50.0	110	1 - 199	11.08	11.06875	0.0113	+/-0.5	
Toluene-d8	50.0	117	1 - 199	13.25	13.2325	0.0175	+/-0.5	
4-Bromofluorobenzene	50.0	105	1 - 199	15.76	15.73	0.0300	+/-0.5	
CRCA-ASEFFLUENT-20210217 (AE01304-01)			Lab File ID: 212BN014.D		Analyzed: 02/19/21 14:23			
Dibromofluoromethane	50.0	118	53 - 146	11.1	11.06875	0.0313	+/-0.5	
Toluene-d8	50.0	102	41 - 146	13.26	13.2325	0.0275	+/-0.5	
4-Bromofluorobenzene	50.0	89	41 - 142	15.76	15.73	0.0300	+/-0.5	
CRCA-ASINFLUENT-20210217 (AE01304-02)			Lab File ID: 212BN015.D		Analyzed: 02/19/21 14:51			
Dibromofluoromethane	50.0	118	53 - 146	11.1	11.06875	0.0313	+/-0.5	
Toluene-d8	50.0	105	41 - 146	13.26	13.2325	0.0275	+/-0.5	
4-Bromofluorobenzene	50.0	90	41 - 142	15.76	15.73	0.0300	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA65054
Instrument: OVGCMS2
Matrix: Water
Calibration: 2102033

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA65054-CCV1)			Lab File ID: 212BP002.D		Analyzed: 02/21/21 10:04			
Dibromofluoromethane	50.0	111	80 - 120	11.07	11.06875	0.0013	+/-0.5	
Toluene-d8	50.0	100	80 - 120	13.23	13.2325	-0.0025	+/-0.5	
4-Bromofluorobenzene	50.0	97	80 - 120	15.73	15.73	0.0000	+/-0.5	
LCS (1B21002-BS1)			Lab File ID: 212BP003.D		Analyzed: 02/21/21 10:35			
Dibromofluoromethane	50.0	109	53 - 146	11.07	11.06875	0.0013	+/-0.5	
Toluene-d8	50.0	99	41 - 146	13.23	13.2325	-0.0025	+/-0.5	
4-Bromofluorobenzene	50.0	96	41 - 142	15.73	15.73	0.0000	+/-0.5	
Matrix Spike (1B21002-MS1)			Lab File ID: 212BP004.D		Analyzed: 02/21/21 11:04			
Dibromofluoromethane	50.0	106	53 - 146	11.07	11.06875	0.0013	+/-0.5	
Toluene-d8	50.0	98	41 - 146	13.23	13.2325	-0.0025	+/-0.5	
4-Bromofluorobenzene	50.0	94	41 - 142	15.73	15.73	0.0000	+/-0.5	
Matrix Spike Dup (1B21002-MSD1)			Lab File ID: 212BP005.D		Analyzed: 02/21/21 11:32			
Dibromofluoromethane	50.0	106	53 - 146	11.07	11.06875	0.0013	+/-0.5	
Toluene-d8	50.0	98	41 - 146	13.23	13.2325	-0.0025	+/-0.5	
4-Bromofluorobenzene	50.0	95	41 - 142	15.73	15.73	0.0000	+/-0.5	
Blank (1B21002-BLK1)			Lab File ID: 212BP009.D		Analyzed: 02/21/21 13:27			
Dibromofluoromethane	50.0	94	53 - 146	11.05	11.06875	-0.0187	+/-0.5	
Toluene-d8	50.0	110	41 - 146	13.23	13.2325	-0.0025	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	15.73	15.73	0.0000	+/-0.5	
Instrument RL Check (AA65054-CRL1)			Lab File ID: 212BP010.D		Analyzed: 02/21/21 13:56			
Dibromofluoromethane	50.0	106	1 - 199	11.08	11.06875	0.0113	+/-0.5	
Toluene-d8	50.0	96	1 - 199	13.24	13.2325	0.0075	+/-0.5	
4-Bromofluorobenzene	50.0	91	1 - 199	15.73	15.73	0.0000	+/-0.5	
CRCA-ASEFFLUENT-20210217 (AE01304-01RE1)			Lab File ID: 212BP016.D		Analyzed: 02/21/21 16:48			
Dibromofluoromethane	50.0	109	53 - 146	11.07	11.06875	0.0013	+/-0.5	
Toluene-d8	50.0	97	41 - 146	13.23	13.2325	-0.0025	+/-0.5	
4-Bromofluorobenzene	50.0	93	41 - 142	15.73	15.73	0.0000	+/-0.5	
CRCA-ASINFLUENT-20210217 (AE01304-02RE1)			Lab File ID: 212BP017.D		Analyzed: 02/21/21 17:17			
Dibromofluoromethane	50.0	108	53 - 146	11.07	11.06875	0.0013	+/-0.5	
Toluene-d8	50.0	98	41 - 146	13.24	13.2325	0.0075	+/-0.5	
4-Bromofluorobenzene	50.0	92	41 - 142	15.74	15.73	0.0100	+/-0.5	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA64808
Instrument: OVGCMS2
Matrix: Water
Calibration: 2102033

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA64808-CAL1)			Lab File ID: 212B4002.D			Analyzed: 02/04/21 08:28			
Pentafluorobenzene	178435	11.46	270209	11.46	66	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	304980	12.01	483052	12.01	63	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	172086	14.61	235561	14.61	73	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	142234	16.98	156580	16.98	91	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64808-CAL2)			Lab File ID: 212B4003.D			Analyzed: 02/04/21 08:57			
Pentafluorobenzene	199854	11.45	270209	11.46	74	50 - 200	-0.0100	+/-0.50	
1,4-Difluorobenzene	343837	12.01	483052	12.01	71	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	187069	14.61	235561	14.61	79	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	145922	16.98	156580	16.98	93	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64808-CAL3)			Lab File ID: 212B4004.D			Analyzed: 02/04/21 09:26			
Pentafluorobenzene	215886	11.45	270209	11.46	80	50 - 200	-0.0100	+/-0.50	
1,4-Difluorobenzene	379240	12.01	483052	12.01	79	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	199483	14.61	235561	14.61	85	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	149519	16.98	156580	16.98	95	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64808-CAL4)			Lab File ID: 212B4005.D			Analyzed: 02/04/21 09:54			
Pentafluorobenzene	270209	11.46	270209	11.46	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	483052	12.01	483052	12.01	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	235561	14.61	235561	14.61	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	156580	16.98	156580	16.98	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64808-CAL5)			Lab File ID: 212B4006.D			Analyzed: 02/04/21 10:23			
Pentafluorobenzene	251747	11.46	270209	11.46	93	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	453865	12.01	483052	12.01	94	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	225182	14.61	235561	14.61	96	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	152185	16.97	156580	16.98	97	50 - 200	-0.0100	+/-0.50	
Cal Standard (AA64808-CAL6)			Lab File ID: 212B4007.D			Analyzed: 02/04/21 10:52			
Pentafluorobenzene	268442	11.47	270209	11.46	99	50 - 200	0.0100	+/-0.50	
1,4-Difluorobenzene	494605	12.02	483052	12.01	102	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	245390	14.61	235561	14.61	104	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	165726	16.97	156580	16.98	106	50 - 200	-0.0100	+/-0.50	
Cal Standard (AA64808-CAL7)			Lab File ID: 212B4008.D			Analyzed: 02/04/21 11:20			
Pentafluorobenzene	261684	11.47	270209	11.46	97	50 - 200	0.0100	+/-0.50	
1,4-Difluorobenzene	489998	12.02	483052	12.01	101	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	245966	14.61	235561	14.61	104	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	165062	16.97	156580	16.98	105	50 - 200	-0.0100	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA64808
Instrument: OVGCMS2
Matrix: Water
Calibration: 2102033

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA64808-CAL8)			Lab File ID: 212B4009.D			Analyzed: 02/04/21 11:49			
Pentafluorobenzene	260297	11.46	270209	11.46	96	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	490462	12.01	483052	12.01	102	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	244146	14.61	235561	14.61	104	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	165719	16.98	156580	16.98	106	50 - 200	0.0000	+/-0.50	
Secondary Cal Check (AA64808-SCV1)			Lab File ID: 212B4012.D			Analyzed: 02/04/21 13:15			
Pentafluorobenzene	249415	11.47	270209	11.46	92	50 - 200	0.0100	+/-0.50	
1,4-Difluorobenzene	452987	12.02	483052	12.01	94	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	227625	14.61	235561	14.61	97	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	158064	16.98	156580	16.98	101	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA65034
Instrument: OVGCMS2
Matrix: Water
Calibration: 2102033

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA65034-CCV1)			Lab File ID: 212BN002.D			Analyzed: 02/19/21 08:35			
Pentafluorobenzene	181209	11.48	270209	11.46	67	50 - 200	0.0200	+/-0.50	
1,4-Difluorobenzene	350197	12.03	483052	12.01	72	50 - 200	0.0200	+/-0.50	
Chlorobenzene-d5	185349	14.63	235561	14.61	79	50 - 200	0.0200	+/-0.50	
1,4-Dichlorobenzene-d4	134963	17	156580	16.98	86	50 - 200	0.0200	+/-0.50	
LCS (1B19011-BS1)			Lab File ID: 212BN003.D			Analyzed: 02/19/21 09:07			
Pentafluorobenzene	177746	11.48	270209	11.46	66	50 - 200	0.0200	+/-0.50	
1,4-Difluorobenzene	332781	12.03	483052	12.01	69	50 - 200	0.0200	+/-0.50	
Chlorobenzene-d5	177928	14.63	235561	14.61	76	50 - 200	0.0200	+/-0.50	
1,4-Dichlorobenzene-d4	132137	17	156580	16.98	84	50 - 200	0.0200	+/-0.50	
Matrix Spike (1B19011-MS1)			Lab File ID: 212BN004.D			Analyzed: 02/19/21 09:35			
Pentafluorobenzene	276104	11.49	270209	11.46	102	50 - 200	0.0300	+/-0.50	
1,4-Difluorobenzene	537501	12.04	483052	12.01	111	50 - 200	0.0300	+/-0.50	
Chlorobenzene-d5	252013	14.63	235561	14.61	107	50 - 200	0.0200	+/-0.50	
1,4-Dichlorobenzene-d4	151683	17	156580	16.98	97	50 - 200	0.0200	+/-0.50	
Matrix Spike Dup (1B19011-MSD1)			Lab File ID: 212BN005.D			Analyzed: 02/19/21 10:04			
Pentafluorobenzene	180930	11.48	270209	11.46	67	50 - 200	0.0200	+/-0.50	
1,4-Difluorobenzene	346530	12.03	483052	12.01	72	50 - 200	0.0200	+/-0.50	
Chlorobenzene-d5	187565	14.63	235561	14.61	80	50 - 200	0.0200	+/-0.50	
1,4-Dichlorobenzene-d4	142181	17	156580	16.98	91	50 - 200	0.0200	+/-0.50	
Blank (1B19011-BLK1)			Lab File ID: 212BN008.D			Analyzed: 02/19/21 11:30			
Pentafluorobenzene	169030	11.48	270209	11.46	63	50 - 200	0.0200	+/-0.50	
1,4-Difluorobenzene	315501	12.03	483052	12.01	65	50 - 200	0.0200	+/-0.50	
Chlorobenzene-d5	180156	14.63	235561	14.61	76	50 - 200	0.0200	+/-0.50	
1,4-Dichlorobenzene-d4	145188	17	156580	16.98	93	50 - 200	0.0200	+/-0.50	
Instrument RL Check (AA65034-CRL1)			Lab File ID: 212BN009.D			Analyzed: 02/19/21 11:59			
Pentafluorobenzene	173391	11.48	270209	11.46	64	50 - 200	0.0200	+/-0.50	
1,4-Difluorobenzene	323832	12.03	483052	12.01	67	50 - 200	0.0200	+/-0.50	
Chlorobenzene-d5	184958	14.64	235561	14.61	79	50 - 200	0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	148746	17	156580	16.98	95	50 - 200	0.0200	+/-0.50	
CRCA-ASEFFLUENT-20210217 (AE01304-01)			Lab File ID: 212BN014.D			Analyzed: 02/19/21 14:23			
Pentafluorobenzene	290820	11.5	270209	11.46	108	50 - 200	0.0400	+/-0.50	
1,4-Difluorobenzene	563806	12.05	483052	12.01	117	50 - 200	0.0400	+/-0.50	
Chlorobenzene-d5	263894	14.64	235561	14.61	112	50 - 200	0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	160611	17	156580	16.98	103	50 - 200	0.0200	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA65034
Instrument: OVGCMS2
Matrix: Water
Calibration: 2102033

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
CRCA-ASINFLUENT-20210217 (AE01304-02)			Lab File ID: 212BN015.D			Analyzed: 02/19/21 14:51			
Pentafluorobenzene	299820	11.5	270209	11.46	111	50 - 200	0.0400	+/-0.50	
1,4-Difluorobenzene	578040	12.04	483052	12.01	120	50 - 200	0.0300	+/-0.50	
Chlorobenzene-d5	272946	14.63	235561	14.61	116	50 - 200	0.0200	+/-0.50	
1,4-Dichlorobenzene-d4	167917	17.01	156580	16.98	107	50 - 200	0.0300	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA65054
Instrument: OVGCMS2
Matrix: Water
Calibration: 2102033

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA65054-CCV1)			Lab File ID: 212BP002.D			Analyzed: 02/21/21 10:04			
Pentafluorobenzene	322098	11.46	270209	11.46	119	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	624565	12.01	483052	12.01	129	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	283735	14.6	235561	14.61	120	50 - 200	-0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	172407	16.97	156580	16.98	110	50 - 200	-0.0100	+/-0.50	
LCS (1B21002-BS1)			Lab File ID: 212BP003.D			Analyzed: 02/21/21 10:35			
Pentafluorobenzene	335443	11.46	270209	11.46	124	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	628249	12.01	483052	12.01	130	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	276119	14.61	235561	14.61	117	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	167444	16.97	156580	16.98	107	50 - 200	-0.0100	+/-0.50	
Matrix Spike (1B21002-MS1)			Lab File ID: 212BP004.D			Analyzed: 02/21/21 11:04			
Pentafluorobenzene	348143	11.46	270209	11.46	129	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	652694	12.01	483052	12.01	135	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	288560	14.6	235561	14.61	122	50 - 200	-0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	172089	16.97	156580	16.98	110	50 - 200	-0.0100	+/-0.50	
Matrix Spike Dup (1B21002-MSD1)			Lab File ID: 212BP005.D			Analyzed: 02/21/21 11:32			
Pentafluorobenzene	343187	11.46	270209	11.46	127	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	641716	12.01	483052	12.01	133	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	280426	14.61	235561	14.61	119	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	165185	16.97	156580	16.98	105	50 - 200	-0.0100	+/-0.50	
Blank (1B21002-BLK1)			Lab File ID: 212BP009.D			Analyzed: 02/21/21 13:27			
Pentafluorobenzene	181255	11.45	270209	11.46	67	50 - 200	-0.0100	+/-0.50	
1,4-Difluorobenzene	318306	12	483052	12.01	66	50 - 200	-0.0100	+/-0.50	
Chlorobenzene-d5	172070	14.61	235561	14.61	73	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	144168	16.97	156580	16.98	92	50 - 200	-0.0100	+/-0.50	
Instrument RL Check (AA65054-CRL1)			Lab File ID: 212BP010.D			Analyzed: 02/21/21 13:56			
Pentafluorobenzene	357316	11.47	270209	11.46	132	50 - 200	0.0100	+/-0.50	
1,4-Difluorobenzene	651865	12.02	483052	12.01	135	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	286103	14.61	235561	14.61	121	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	170352	16.98	156580	16.98	109	50 - 200	0.0000	+/-0.50	
CRCA-ASEFFLUENT-20210217 (AE01304-01RE1)			Lab File ID: 212BP016.D			Analyzed: 02/21/21 16:48			
Pentafluorobenzene	354275	11.47	270209	11.46	131	50 - 200	0.0100	+/-0.50	
1,4-Difluorobenzene	657991	12.02	483052	12.01	136	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	291130	14.61	235561	14.61	124	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	176907	16.97	156580	16.98	113	50 - 200	-0.0100	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA65054
Instrument: OVGCMS2
Matrix: Water
Calibration: 2102033

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
CRCA-ASINFLUENT-20210217 (AE01304-02RE1)			Lab File ID: 212BP017.D			Analyzed: 02/21/21 17:17			
Pentafluorobenzene	365353	11.47	270209	11.46	135	50 - 200	0.0100	+/-0.50	
1,4-Difluorobenzene	667282	12.02	483052	12.01	138	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	298600	14.62	235561	14.61	127	50 - 200	0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	180151	16.98	156580	16.98	115	50 - 200	0.0000	+/-0.50	

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE01304-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64808		
Calibration:	2102033	Instrument:	OVGCMS2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA64808-TUN1	212B4001.D	02/04/21 07:46
Cal Standard	AA64808-CAL1	212B4002.D	02/04/21 08:28
Cal Standard	AA64808-CAL2	212B4003.D	02/04/21 08:57
Cal Standard	AA64808-CAL3	212B4004.D	02/04/21 09:26
Cal Standard	AA64808-CAL4	212B4005.D	02/04/21 09:54
Cal Standard	AA64808-CAL5	212B4006.D	02/04/21 10:23
Cal Standard	AA64808-CAL6	212B4007.D	02/04/21 10:52
Cal Standard	AA64808-CAL7	212B4008.D	02/04/21 11:20
Cal Standard	AA64808-CAL8	212B4009.D	02/04/21 11:49
Secondary Cal Check	AA64808-SCV1	212B4012.D	02/04/21 13:15

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE01304-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA65034		
Calibration:	2102033	Instrument:	OVGCMS2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA65034-CCV1	212BN002.D	02/19/21 08:35
LCS	1B19011-BS1	212BN003.D	02/19/21 09:07
MW-3	1B19011-MS1	212BN004.D	02/19/21 09:35
MW-3	1B19011-MSD1	212BN005.D	02/19/21 10:04
Blank	1B19011-BLK1	212BN008.D	02/19/21 11:30
Instrument RL Check	AA65034-CRL1	212BN009.D	02/19/21 11:59
CRCA-ASEFFLUENT-20210217	AE01304-01	212BN014.D	02/19/21 14:23
CRCA-ASINFLUENT-20210217	AE01304-02	212BN015.D	02/19/21 14:51

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE01304-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA65054		
Calibration:	2102033	Instrument:	OVGCMS2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA65054-CCV1	212BP002.D	02/21/21 10:04
LCS	1B21002-BS1	212BP003.D	02/21/21 10:35
WP-A15	1B21002-MS1	212BP004.D	02/21/21 11:04
WP-A15	1B21002-MSD1	212BP005.D	02/21/21 11:32
Blank	1B21002-BLK1	212BP009.D	02/21/21 13:27
Instrument RL Check	AA65054-CRL1	212BP010.D	02/21/21 13:56
CRCA-ASEFFLUENT-20210217	AE01304-01RE1	212BP016.D	02/21/21 16:48
CRCA-ASINFLUENT-20210217	AE01304-02RE1	212BP017.D	02/21/21 17:17

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE01304-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	212B4001.D	Injection Date:	02/04/21
Instrument ID:	OVGCMS2	Injection Time:	07:46
Sequence:	AA64808	Lab Sample ID:	AA64808-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	132	PASS
96	5 - 9% of 95	6.62	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	75.7	PASS
175	5 - 9% of 174	7.26	PASS
176	95 - 105% of 174	96.3	PASS
177	5 - 10% of 176	6.87	PASS

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE01304-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS2	Calibration:	2102033
Lab File ID:	212BN002.D	Calibration Date:	02/05/21 09:02
Sequence:	AA65034	Injection Date:	02/19/21
Lab Sample ID:	AA65034-CCV1	Injection Time:	08:35

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Dichlorodifluoromethane	A	50.0	51	1.054413	1.044142		1.0	20	
Chloromethane	A	50.0	53	1.003268	1.055257		5.2	20	
Vinyl chloride	A	50.0	53	0.9128604	0.9644333		5.6	20	
Bromomethane	A	50.0	81	0.5607726	0.5264253		61	20	*
Chloroethane	A	50.0	59	0.5053238	0.5234012		17	20	
Trichlorofluoromethane	A	50.0	53	0.9153286	0.9750068		6.5	20	
Freon 113	A	50.0	55	0.5252336	0.5812625		11	20	
Acetone	A	250	220	0.1217703	9.751723E-02		-12	20	
1,1-Dichloroethene	A	50.0	49	0.5294919	0.520515		-1.6	20	
Carbon disulfide	A	250	300	2.00533	2.3878		19	20	
Methylene Chloride	A	50.0	49	0.6476308	0.5828353		-2.6	20	
Methyl-tert-Butyl Ether	A	50.0	40	1.312879	1.053562		-20	20	
trans-1,2-Dichloroethene	A	50.0	49	0.5934929	0.5805286		-2.2	20	
cis-1,2-Dichloroethene	A	50.0	50	0.6402571	0.6381306		-0.3	20	
1,1-Dichloroethane	A	50.0	54	1.147441	1.237814		7.9	20	
2-Butanone	A	250	210	4.359378E-02	0.0322037		-17	20	
Chloroform	A	50.0	50	1.084474	1.081332		-0.3	20	
1,1,1-Trichloroethane	A	50.0	52	0.8134746	0.8527722		4.8	20	
Methyl acetate	A	50.0	38	8.201479E-02	5.270158E-02		-25	20	*
Cyclohexane	A	50.0	56	0.9589924	1.068424		11	20	
Methyl cyclohexane	A	50.0	52	0.4061613	0.4233617		4.2	20	
Carbon Tetrachloride	A	50.0	49	0.4519301	0.4468456		-1.1	20	
1,2-Dichloroethane	A	50.0	41	0.4235912	0.343341		-19	20	
Benzene	A	50.0	48	1.215592	1.157531		-4.8	20	
Trichloroethene	A	50.0	49	0.3303171	0.3259108		-1.3	20	
1,2-Dichloropropane	A	50.0	46	0.3972719	0.3498517		-7.1	20	
Bromodichloromethane	A	50.0	42	0.4774664	0.3829844		-16	20	
4-Methyl-2-pentanone	A	250	220	3.231915E-02	2.474264E-02		-14	20	
2-Hexanone	A	250	240	0.1710998	0.1501738		-6	20	

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE01304-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS2	Calibration:	2102033
Lab File ID:	212BN002.D	Calibration Date:	02/05/21 09:02
Sequence:	AA65034	Injection Date:	02/19/21
Lab Sample ID:	AA65034-CCV1	Injection Time:	08:35

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
cis-1,3-Dichloropropene	A	50.0	41	0.6050803	0.5016833		-17	20	
Toluene	A	50.0	48	1.447043	1.401847		-3.1	20	
trans-1,3-Dichloropropene	A	50.0	36	0.935145	0.6784876		-27	20	*
1,1,2-Trichloroethane	A	50.0	35	0.4686471	0.3298534		-30	20	*
Tetrachloroethene	A	50.0	46	0.4322202	0.4007251		-7.3	20	
Dibromochloromethane	A	50.0	36	0.6477466	0.4696006		-28	20	*
1,2-Dibromoethane	A	50.0	39	0.4889192	0.3770455		-23	20	*
Chlorobenzene	A	50.0	47	1.568211	1.464734		-6.6	20	
Ethylbenzene	A	50.0	50	0.811089	0.819152		1.0	20	
m,p-Xylenes	A	100	100	0.9669566	0.9964176		3.0	20	
o-Xylene	A	50.0	52	0.9874885	1.019649		3.3	20	
Bromoform	A	50.0	33	0.3083202	0.2037993		-34	20	*
Styrene	A	50.0	51	1.748504	1.684546		2.4	20	
Isopropylbenzene	A	50.0	52	2.44146	2.522566		3.3	20	
1,1,2,2-Tetrachloroethane	A	50.0	35	0.5122098	0.341		-29	20	*
1,2,4-Trichlorobenzene	A	50.0	47	0.548923	0.5180679		-5.6	20	
1,3-Dichlorobenzene	A	50.0	47	1.487847	1.385143		-6.9	20	
1,4-Dichlorobenzene	A	50.0	46	1.492944	1.381475		-7.5	20	
1,2-Dichlorobenzene	A	50.0	46	1.27471	1.171158		-8.1	20	
1,2-Dibromo-3-chloropropane	A	50.0	34	9.403054E-02	5.937183E-02		-31	20	*

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE01304-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS2	Calibration:	2102033
Lab File ID:	212BP002.D	Calibration Date:	02/05/21 09:02
Sequence:	AA65054	Injection Date:	02/21/21
Lab Sample ID:	AA65054-CCV1	Injection Time:	10:04

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Dichlorodifluoromethane	A	50.0	48	1.054413	0.9948277		-3.8	20	
Chloromethane	A	50.0	48	1.003268	0.9623096		-4.1	20	
Vinyl chloride	A	50.0	50	0.9128604	0.9166527		0.40	20	
Bromomethane	A	50.0	78	0.5607726	0.5056505		55	20	*
Chloroethane	A	50.0	60	0.5053238	0.5371999		21	20	*
Trichlorofluoromethane	A	50.0	54	0.9153286	0.9904532		8.2	20	
Freon 113	A	50.0	53	0.5252336	0.5580165		6.2	20	
Acetone	A	250	230	0.1217703	0.1014691		-8.1	20	
1,1-Dichloroethene	A	50.0	48	0.5294919	0.508783		-3.8	20	
Carbon disulfide	A	250	270	2.00533	2.144994		7.0	20	
Methylene Chloride	A	50.0	48	0.6476308	0.5756385		-3.8	20	
Methyl-tert-Butyl Ether	A	50.0	38	1.312879	1.005619		-23	20	*
trans-1,2-Dichloroethene	A	50.0	49	0.5934929	0.5873244		-1	20	
cis-1,2-Dichloroethene	A	50.0	50	0.6402571	0.6426709		0.40	20	
1,1-Dichloroethane	A	50.0	53	1.147441	1.21997		6.3	20	
2-Butanone	A	250	210	4.359378E-02	3.239946E-02		-17	20	
Chloroform	A	50.0	51	1.084474	1.096803		1.1	20	
1,1,1-Trichloroethane	A	50.0	53	0.8134746	0.8561307		5.2	20	
Methyl acetate	A	50.0	40	8.201479E-02	5.588672E-02		-20	20	
Cyclohexane	A	50.0	52	0.9589924	1.005163		4.8	20	
Methyl cyclohexane	A	50.0	48	0.4061613	0.3862913		-4.9	20	
Carbon Tetrachloride	A	50.0	50	0.4519301	0.4554802		0.80	20	
1,2-Dichloroethane	A	50.0	44	0.4235912	0.3736761		-12	20	
Benzene	A	50.0	44	1.215592	1.072346		-12	20	
Trichloroethene	A	50.0	47	0.3303171	0.3124287		-5.4	20	
1,2-Dichloropropane	A	50.0	46	0.3972719	0.3483849		-7.5	20	
Bromodichloromethane	A	50.0	44	0.4774664	0.3972877		-12	20	
4-Methyl-2-pentanone	A	250	200	3.231915E-02	2.343071E-02		-19	20	
2-Hexanone	A	250	210	0.1710998	0.1369683		-14	20	

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE01304-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS2	Calibration:	2102033
Lab File ID:	212BP002.D	Calibration Date:	02/05/21 09:02
Sequence:	AA65054	Injection Date:	02/21/21
Lab Sample ID:	AA65054-CCV1	Injection Time:	10:04

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
cis-1,3-Dichloropropene	A	50.0	42	0.6050803	0.5090183		-16	20	
Toluene	A	50.0	49	1.447043	1.432333		-1	20	
trans-1,3-Dichloropropene	A	50.0	44	0.935145	0.8144043		-13	20	
1,1,2-Trichloroethane	A	50.0	42	0.4686471	0.3949566		-16	20	
Tetrachloroethene	A	50.0	49	0.4322202	0.4217703		-2.4	20	
Dibromochloromethane	A	50.0	44	0.6477466	0.5724884		-12	20	
1,2-Dibromoethane	A	50.0	46	0.4889192	0.4476219		-8.4	20	
Chlorobenzene	A	50.0	47	1.568211	1.464765		-6.6	20	
Ethylbenzene	A	50.0	49	0.811089	0.7886972		-2.8	20	
m,p-Xylenes	A	100	94	0.9669566	0.9052531		-6.4	20	
o-Xylene	A	50.0	47	0.9874885	0.9366345		-5.1	20	
Bromoform	A	50.0	38	0.3083202	0.2355508		-24	20	*
Styrene	A	50.0	46	1.748504	1.506596		-8.4	20	
Isopropylbenzene	A	50.0	47	2.44146	2.303269		-5.7	20	
1,1,2,2-Tetrachloroethane	A	50.0	37	0.5122098	0.3585141		-25	20	*
1,2,4-Trichlorobenzene	A	50.0	43	0.548923	0.476135		-13	20	
1,3-Dichlorobenzene	A	50.0	49	1.487847	1.44964		-2.6	20	
1,4-Dichlorobenzene	A	50.0	47	1.492944	1.391405		-6.8	20	
1,2-Dichlorobenzene	A	50.0	47	1.27471	1.206337		-5.4	20	
1,2-Dibromo-3-chloropropane	A	50.0	42	9.403054E-02	7.242165E-02		-16	20	

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE01304-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64808	Instrument:	OVGCMS2
Calibration:	2102033		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A0I0903	MS Tune	AA64808-TUN1	212B4001.D	02/04/21 07:46
A1B0650	8260 Cal 1PPB	AA64808-CAL1	212B4002.D	02/04/21 08:28
A1B0651	8260 Cal 2 PPB	AA64808-CAL2	212B4003.D	02/04/21 08:57
A1B0652	8260 Cal 5 PPB	AA64808-CAL3	212B4004.D	02/04/21 09:26
A1B0653	8260 Cal 10 PPB	AA64808-CAL4	212B4005.D	02/04/21 09:54
A1B0654	8260 Cal 20 PPB	AA64808-CAL5	212B4006.D	02/04/21 10:23
A1B0655	8260 Cal 50 PPB	AA64808-CAL6	212B4007.D	02/04/21 10:52
A1B0656	8260 Cal 80PPB	AA64808-CAL7	212B4008.D	02/04/21 11:20
A1B0657	8260 Cal 100 PPB	AA64808-CAL8	212B4009.D	02/04/21 11:49
A1B0663	8260 SCV 50 PPB	AA64808-SCV1	212B4012.D	02/04/21 13:15

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2102033
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 02/05/21 09:02

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	1	1.337462	2	1.247911	5	0.9449432	10	0.8895337	20	0.9380152	50	0.9944346
Chloromethane	1	1.172416	2	1.131201	5	0.8616121	10	0.8303943	20	0.8614303	50	0.9522727
Vinyl chloride	1	1.036512	2	1.069531	5	0.8144113	10	0.8046179	20	0.8372592	50	0.8877784
Bromomethane	1	0.9356348	2	0.9942258	5	0.8005614	10	0.4639002	20	0.3631126	50	0.3399654
Chloroethane	1	0.6865245	2	0.6149489	5	0.4903051	10	0.4394931	20	0.4655666	50	0.4563071
Trichlorofluoromethane	1	0.9294701	2	1.021496	5	0.8167273	10	0.8307273	20	0.87436	50	0.9344477
Freon 113	1	0.5806036	2	0.4828525	5	0.4785859	10	0.4796842	20	0.5200062	50	0.5380902
Acetone	5	0.1835963	10	0.1462067	25	0.1069917	50	0.1019988	100	0.1024521	250	0.1109946
1,1-Dichloroethene	1	0.7047384	2	0.5700411	5	0.4713599	10	0.4408624	20	0.4770166	50	0.5025033
Carbon disulfide	5	2.351332	10	2.261026	25	1.876879	50	1.871984	100	1.898783	250	1.915777
Methylene Chloride	1	0.9754252	2	0.7118947	5	0.6029108	10	0.5451891	20	0.5619431	50	0.5763368
Methyl-tert-Butyl Ether	1	1.508673	2	1.361744	5	1.239497	10	1.13823	20	1.21501	50	1.320684
trans-1,2-Dichloroethene	1	0.7700283	2	0.6059423	5	0.5522822	10	0.5096055	20	0.5451306	50	0.5632688
cis-1,2-Dichloroethene	1	0.7366828	2	0.6851251	5	0.5860964	10	0.5619539	20	0.5953	50	0.6226969
1,1-Dichloroethane	1	1.168773	2	1.188493	5	1.147411	10	1.048688	20	1.121354	50	1.137851
2-Butanone	5	5.150335E-02	10	6.279584E-02	25	4.476437E-02	50	3.696768E-02	100	3.535097E-02	250	0.039429
Chloroform	1	1.099	2	1.230398	5	0.9986289	10	0.9957662	20	1.045097	50	1.066729
1,1,1-Trichloroethane	1	0.9129375	2	0.8576261	5	0.7663767	10	0.7245873	20	0.7687182	50	0.7966786
Methyl acetate	1	0.1384258	2	0.1138331	5	7.439111E-02	10	0.0582327	20	0.0618776	50	6.750807E-02
Cyclohexane	1	1.015496	2	0.9368089	5	0.9209027	10	0.8668475	20	0.9303388	50	0.9637724
Methyl cyclohexane	1	0.5339694	2	0.4282552	5	0.3777819	10	0.3395597	20	0.3721206	50	0.385174
Carbon Tetrachloride	1	0.5021641	2	0.4661366	5	0.4361618	10	0.4050185	20	0.4345675	50	0.4458204
1,2-Dichloroethane	1	0.5036396	2	0.4797331	5	0.4094505	10	0.3674035	20	0.3871195	50	0.4036251
Benzene	1	1.483376	2	1.321047	5	1.185661	10	1.078528	20	1.154269	50	1.155142
Trichloroethene	1	0.3657617	2	0.3319887	5	0.3135745	10	0.2888923	20	0.3201668	50	0.3277059
1,2-Dichloropropane	1	0.5416749	2	0.4611197	5	0.3624881	10	0.331455	20	0.356681	50	0.3638479
Bromodichloromethane	1	0.636927	2	0.5252489	5	0.4513237	10	0.4099041	20	0.4357794	50	0.4481051
4-Methyl-2-pentanone	5	4.593744E-02	10	4.153131E-02	25	3.145238E-02	50	2.627046E-02	100	2.622145E-02	250	2.947039E-02
2-Hexanone	5	0.2275887	10	0.2062605	25	0.164951	50	0.140871	100	0.1459256	250	0.1618071
cis-1,3-Dichloropropene	1	0.7313594	2	0.6453639	5	0.5855659	10	0.5205651	20	0.5551651	50	0.5882977
Toluene	1	1.682008	2	1.548359	5	1.389492	10	1.284062	20	1.353594	50	1.403602

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2102033
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 02/05/21 09:02

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	1	1.08899	2	0.9941519	5	0.8988736	10	0.8307402	20	0.8643342	50	0.9195607
1,1,2-Trichloroethane	1	0.5770371	2	0.499281	5	0.4457021	10	0.4150305	20	0.4267104	50	0.4539549
Tetrachloroethene	1	0.4166521	2	0.4243087	5	0.433671	10	0.4059883	20	0.4300299	50	0.4376014
Dibromochloromethane	1	0.7092384	2	0.6548386	5	0.6184487	10	0.5671143	20	0.6139367	50	0.6600187
1,2-Dibromoethane	1	0.534907	2	0.5086359	5	0.4468551	10	0.4239454	20	0.4558424	50	0.5006602
Chlorobenzene	1	1.801715	2	1.701912	5	1.552112	10	1.376756	20	1.478215	50	1.50954
Ethylbenzene	1	0.9512686	2	0.87441	5	0.7796654	10	0.7004767	20	0.7649923	50	0.7764294
m,p-Xylenes	2	1.182548	4	1.091776	10	0.9567733	20	0.8290952	40	0.8966747	100	0.9041403
o-Xylene	1	1.223226	2	1.085027	5	0.9547179	10	0.8329265	20	0.904757	50	0.9337911
Bromoform	1	0.3196076	2	0.3179308	5	0.2969677	10	0.2696117	20	0.2884556	50	0.3188312
Styrene	1	2.291006	2	2.008751	5	1.718843	10	1.440052	20	1.579334	50	1.631627
Isopropylbenzene	1	2.967412	2	2.684972	5	2.373335	10	2.076044	20	2.257785	50	2.332226
1,1,2,2-Tetrachloroethane	1	0.7231849	2	0.5689077	5	0.4999925	10	0.422502	20	0.4366579	50	0.4776641
1,2,4-Trichlorobenzene	1	0.5821393	2	0.5708529	5	0.5302336	10	0.4676523	20	0.5045832	50	0.5469993
1,3-Dichlorobenzene	1	1.699312	2	1.541063	5	1.424836	10	1.281517	20	1.377731	50	1.460091
1,4-Dichlorobenzene	1	1.731302	2	1.626725	5	1.43547	10	1.27941	20	1.374856	50	1.43371
1,2-Dichlorobenzene	1	1.411407	2	1.297268	5	1.202121	10	1.094393	20	1.195289	50	1.279721
1,2-Dibromo-3-chloropropane	1	0.115303	2	0.1363742	5	8.908567E-02	10	7.797931E-02	20	0.0747117	50	8.462764E-02
Dibromofluoromethane	50	0.4778211	55	0.4794	60	0.5204522	50	0.5129844	65	0.5266185	50	0.5190879
Toluene-d8	50	0.9247951	55	0.9066638	60	0.9224941	50	0.8475009	65	0.8643167	50	0.8499914
4-Bromofluorobenzene	50	0.7781051	55	0.7428421	60	0.7573995	50	0.6855634	65	0.6970191	50	0.7137536

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2102033
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 02/05/21 09:02

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	80	1.035242	100	1.047761								
Chloromethane	80	1.072116	100	1.1447								
Vinyl chloride	80	0.919451	100	0.9333223								
Bromomethane	80	0.3140309	100	0.2747496								
Chloroethane	80	0.4502759	100	0.4391695								
Trichlorofluoromethane	80	0.9525157	100	0.9628847								
Freon 113	80	0.5629022	100	0.559144								
Acetone	400	0.1126038	500	0.1093182								
1,1-Dichloroethene	80	0.5349415	100	0.5344722								
Carbon disulfide	400	1.936238	500	1.930624								
Methylene Chloride	80	0.6084772	100	0.5988698								
Methyl-tert-Butyl Ether	80	1.3757	100	1.343492								
trans-1,2-Dichloroethene	80	0.6005144	100	0.601171								
cis-1,2-Dichloroethene	80	0.6682201	100	0.6659816								
1,1-Dichloroethane	80	1.191903	100	1.175054								
2-Butanone	400	3.974689E-02	500	3.819214E-02								
Chloroform	80	1.12568	100	1.114494								
1,1,1-Trichloroethane	80	0.8442339	100	0.8366385								
Methyl acetate	80	7.265203E-02	100	6.919788E-02								
Cyclohexane	80	1.022295	100	1.015478								
Methyl cyclohexane	80	0.4074991	100	0.4049305								
Carbon Tetrachloride	80	0.4658795	100	0.4596921								
1,2-Dichloroethane	80	0.4244163	100	0.4133419								
Benzene	80	1.185794	100	1.160917								
Trichloroethene	80	0.3487323	100	0.3457149								
1,2-Dichloropropane	80	0.3850092	100	0.3758997								
Bromodichloromethane	80	0.4611358	100	0.4513071								
4-Methyl-2-pentanone	400	2.936849E-02	500	2.830128E-02								
2-Hexanone	400	0.1644803	500	0.1569143								
cis-1,3-Dichloropropene	80	0.6138686	100	0.6004563								
Toluene	80	1.464834	100	1.450392								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2102033
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 02/05/21 09:02

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	80	0.944719	100	0.9397901								
1,1,2-Trichloroethane	80	0.4719758	100	0.4594853								
Tetrachloroethene	80	0.4558023	100	0.453708								
Dibromochloromethane	80	0.6888681	100	0.6695092								
1,2-Dibromoethane	80	0.5258527	100	0.5146552								
Chlorobenzene	80	1.57383	100	1.551606								
Ethylbenzene	80	0.8238054	100	0.8176644								
m,p-Xylenes	160	0.9405886	200	0.9340569								
o-Xylene	80	0.9866201	100	0.9788426								
Bromoform	80	0.3338063	100	0.3213507								
Styrene	80	1.700654	100	1.617764								
Isopropylbenzene	80	2.434442	100	2.405466								
1,1,2,2-Tetrachloroethane	80	0.4942502	100	0.4745193								
1,2,4-Trichlorobenzene	80	0.5989757	100	0.5899474								
1,3-Dichlorobenzene	80	1.580311	100	1.537917								
1,4-Dichlorobenzene	80	1.54164	100	1.520438								
1,2-Dichlorobenzene	80	1.37604	100	1.341439								
1,2-Dibromo-3-chloropropane	80	8.877725E-02	100	0.0853855								
Dibromofluoromethane	70	0.5389652	75	0.5564387								
Toluene-d8	70	0.8634773	75	0.8811705								
4-Bromofluorobenzene	70	0.6991704	75	0.7103018								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2102033
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 02/05/21 09:02

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	1.054413	14.96476	5.89	0.425663	0.9989438		0.99	
Chloromethane	1.003268	14.21594	6.3575	0.4096043			20	
Vinyl chloride	0.9128604	10.80098	6.5525	0.4218322			20	
Bromomethane	0.5607726	53.31909	7.205	0.2224201	0.995		0.99	
Chloroethane	0.5053238	18.44314	7.43875	0.3001491	0.9993979		0.99	
Trichlorofluoromethane	0.9153286	7.618433	7.70125	0.2347553			20	
Freon 113	0.5252336	7.841525	8.525	0.2177851			20	
Acetone	0.1217703	23.55152	9.24125	0.1068927	0.9993213		0.99	
1,1-Dichloroethene	0.5294919	15.49619	8.49	0.2090049	0.9985825		0.99	
Carbon disulfide	2.00533	9.40711	8.6075	0.2035073			20	
Methylene Chloride	0.6476308	21.8686	9.20125	0.1698144	0.9992379		0.99	
Methyl-tert-Butyl Ether	1.312879	8.690892	9.52125	0.1027142			20	
trans-1,2-Dichloroethene	0.5934929	13.26964	9.43	9.908017E-02			20	
cis-1,2-Dichloroethene	0.6402571	9.173725	10.6675	6.592946E-02			20	
1,1-Dichloroethane	1.147441	4.088278	10.105	0.1294405			20	
2-Butanone	4.359378E-02	21.34022	11.17125	2.697663E-02	0.998794		0.99	
Chloroform	1.084474	7.074928	10.8875	6.626004E-02			20	
1,1,1-Trichloroethane	0.8134746	7.45283	11.18375	6.557541E-02			20	
Methyl acetate	8.201479E-02	34.75121	9.38375	0.1269103	0.9976746		0.99	
Cyclohexane	0.9589924	5.801573	10.95125	0.0901754			20	
Methyl cyclohexane	0.4061613	14.316	12.0725	5.566972E-02			20	
Carbon Tetrachloride	0.4519301	6.351877	11.14625	4.887193E-02			20	
1,2-Dichloroethane	0.4235912	10.83723	11.66625	4.571402E-02			20	
Benzene	1.215592	10.48916	11.525	3.962501E-02			20	
Trichloroethene	0.3303171	7.183729	12.0375	3.180391E-02			20	
1,2-Dichloropropane	0.3972719	17.50226	12.48875	2.369355E-02	0.9991427		0.99	
Bromodichloromethane	0.4774664	15.12562	12.5075	3.780596E-02	0.9996007		0.99	
4-Methyl-2-pentanone	3.231915E-02	22.73138	13.5125	3.595128E-02	0.9988323		0.99	
2-Hexanone	0.1710998	17.59475	14.21375	3.634812E-02	0.9986558		0.99	
cis-1,3-Dichloropropene	0.6050803	10.44582	13.05	5.878714E-03			20	

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2102033
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 02/05/21 09:02

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Toluene	1.447043	8.515849	13.28125	3.206579E-02			20	
trans-1,3-Dichloropropene	0.935145	8.54874	13.57	1.887996E-02			20	
1,1,2-Trichloroethane	0.4686471	10.86762	13.72875	3.105124E-02			20	
Tetrachloroethene	0.4322202	3.956219	13.65875	2.708465E-02			20	
Dibromochloromethane	0.6477466	7.06254	13.92375	3.714265E-02			20	
1,2-Dibromoethane	0.4889192	8.380836	14.18	1.800044E-02			20	
Chlorobenzene	1.568211	8.389421	14.62875	1.586376E-02			20	
Ethylbenzene	0.811089	9.367978	14.58625	3.565448E-02			20	
m,p-Xylenes	0.9669566	11.84517	14.7025	0.0312652			20	
o-Xylene	0.9874885	12.0948	15.12125	0.0216312			20	
Bromoform	0.3083202	6.903605	15.25125	2.216697E-02			20	
Styrene	1.748504	15.58365	15.16125	2.057437E-02	0.9987786		0.99	
Isopropylbenzene	2.44146	11.17545	15.39125	2.410882E-02			20	
1,1,2,2-Tetrachloroethane	0.5122098	18.75023	15.82625	3.123078E-02	0.9988524		0.99	
1,2,4-Trichlorobenzene	0.548923	8.347295	19.96375	5.777523E-02			20	
1,3-Dichlorobenzene	1.487847	8.72802	16.90375	2.854841E-02			20	
1,4-Dichlorobenzene	1.492944	9.613437	17	0			20	
1,2-Dichlorobenzene	1.27471	8.282759	17.5675	0.0407313			20	
1,2-Dibromo-3-chloropropane	9.403054E-02	22.34967	18.67875	4.540835E-02	0.9983926		0.99	
Dibromofluoromethane	0.516471	5.231026	11.06875	7.431838E-02			20	
Toluene-d8	0.8825512	3.569832	13.2325	3.066695E-02			20	
4-Bromofluorobenzene	0.7230194	4.528641	15.73	1.698639E-02			20	

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2102033
Laboratory ID: AA64808-SCV1
Sequence: AA64808
Standard ID: A1B0663

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Cyclohexane	50.0	59	17.1	30.00
Ethylbenzene	50.0	48	-3.2	30.00
Carbon Tetrachloride	50.0	54	7.4	30.00
1,3-Dichlorobenzene	50.0	48	-4.7	30.00
4-Bromofluorobenzene	50.0	49	-1.3	30.00
Toluene-d8	50.0	49	-2.8	30.00
Dibromofluoromethane	50.0	49	-1.2	30.00
Methyl-tert-Butyl Ether	50.0	55	9.6	30.00
trans-1,2-Dichloroethene	50.0	52	3.2	30.00
cis-1,2-Dichloroethene	50.0	53	5.3	30.00
Tetrachloroethene	50.0	53	5.1	30.00
Acetone	250	280	11.5	30.00
1,2,4-Trichlorobenzene	50.0	48	-3.1	30.00
Chloroform	50.0	52	4.8	30.00
Chlorobenzene	50.0	49	-2.2	30.00
Toluene	50.0	51	1.9	30.00
Methyl cyclohexane	50.0	54	8.0	30.00
m,p-Xylenes	100	94	-6.1	30.00
4-Methyl-2-pentanone	250	260	2.9	30.00
1,2-Dichloroethane	50.0	51	1.8	30.00
1,2-Dibromoethane	50.0	51	2.9	30.00
1,4-Dichlorobenzene	50.0	46	-7.3	30.00
trans-1,3-Dichloropropene	50.0	51	1.3	30.00
cis-1,3-Dichloropropene	50.0	49	-2.1	30.00
Styrene	50.0	50	-0.7	30.00
Dibromochloromethane	50.0	50	-0.2	30.00
1,1-Dichloroethene	50.0	50	0.08	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE01304-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2102033 **Laboratory ID:** AA64808-SCV1

Sequence: AA64808 **Standard ID:** A1B0663

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
1,2-Dibromo-3-chloropropane	50.0	48	-4.5	30.00
1,2-Dichlorobenzene	50.0	48	-3.4	30.00
o-Xylene	50.0	48	-4.9	30.00
1,1,2,2-Tetrachloroethane	50.0	48	-3.2	30.00
Methyl acetate	50.0	51	2.0	30.00
Trichloroethene	50.0	53	5.3	30.00
1,1,2-Trichloroethane	50.0	48	-3.4	30.00
2-Butanone	250	370	47.5 *	30.00
1,2-Dichloropropane	50.0	52	3.1	30.00
Freon 113	50.0	57	14.3	30.00
2-Hexanone	250	250	-0.7	30.00
Trichlorofluoromethane	50.0	54	8.0	30.00
Isopropylbenzene	50.0	47	-5.2	30.00
1,1-Dichloroethane	50.0	54	8.6	30.00
Bromodichloromethane	50.0	51	1.1	30.00
Bromoform	50.0	51	1.5	30.00
Carbon disulfide	50.0	50	0.4	30.00
Methylene Chloride	50.0	53	6.8	30.00
Vinyl chloride	50.0	50	-0.5	30.00
Chloroethane	50.0	55	9.3	30.00
Chloromethane	50.0	50	0.6	30.00
Bromomethane	50.0	40	-20.6	30.00
1,1,1-Trichloroethane	50.0	53	6.5	30.00
Benzene	50.0	55	9.4	30.00
Dichlorodifluoromethane	50.0	42	-15.3	30.00

* Values outside of QC limits

ANALYSIS SEQUENCE

AA65034

Instrument: OVGCMS2

Calibration ID: 2102033

Printed: 2/19/2021 1:00:38PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA65034-CCV1	QC		1	2	A1B1022	A1B0764		
1B19011-BS1	QC		2	3		A1B0764		
1B19011-MS1	QC		3	6		A1B0764		
1B19011-MSD1	QC		4	4		A1B0764		
1B19011-BLK1	QC		5	7		A1B0764		
AA65034-CRL1	QC		6	8	A1B1021	A1B0764		
AE00742-01	8260D Arom	G	7	9		A1B0764		history 1x MTBE kkw021821
AE00742-01	8260D	G	8			A1B0764		BatchQC
AE00742-01	8260D TICs	G	9			A1B0764		BatchQC
AE00742-01	60D TCL SOM01.2 CLP-LIK	G	10			A1B0764		BatchQC
AE00742-01	8260D SLRC	G	11			A1B0764		BatchQC
AE00742-01	8260D Halo	G	12			A1B0764		BatchQC
AE00061-04RE1	8260D	B	13	10		A1B0764		rr@5x acetone low in ccv Re-extract a
AE00061-04RE2	8260D	B	14	11		A1B0764		rr@50x cis12dce Re-extract added 2/1
AE00061-05RE1	8260D	B	15	12		A1B0764		rr@1x overdilute Re-extract added 2/1
AE01304-01	60D TCL SOM01.2 CLP-LIK	A	16	13		A1B0764	Tetra Tech, Inc. (TE016)	history ND kkw021821 custom
AE01304-02	60D TCL SOM01.2 CLP-LIK	A	17	14		A1B0764	Tetra Tech, Inc. (TE016)	history 1x & 5x for VC custom
AE00061-08RE1	8260D	C	18	15		A1B0764		rr@25x overdilute Re-extract added 2/
AE00061-11RE1	8260D	C	19	16		A1B0764		rr@20x acetone low in CCV & cis12dc
AE00061-12RE1	8260D	B	20	17		A1B0764		rr@20x overdilute Re-extract added 2/
AE00476-14RE1	8260D Halo	B	21	18		A1B0764		rr@200x overdilute Re-extract added 1
AE00476-15RE1	8260D Halo	B	22	19		A1B0764		rr@5x overdilute Re-extract added 2/1
AE00545-01	8260D TICs	B	23	20		A1B0764		need Limonene

Samples Loaded By Date

Data Processed By Date

ANALYSIS SEQUENCE

AA65034

Instrument: OVGCMS2

Calibration ID: 2102033

Printed: 2/19/2021 1:00:38PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AE00545-01	8260D	B	24	20x		A1B0764		run 20x jmw 2/15/21 Full List
AE00545-07	8260D TICs	A	25	21		A1B0764		need Limonene
AE00545-07	8260D	A	26	221		A1B0764		screen on 2/15/21 Full List
AE00545-10	8260D TICs	B	27	22		A1B0764		need Limonene
AE00545-10	8260D	B	28	23		A1B0764		screen on 2/15/21 Full List
AE00743-01	8260D SLRC	E	29	23		A1B0764		screen on Minus 14dioxane, JAJ 5/7/2
AE00743-02	8260D SLRC	D	30	24		A1B0764		screen on Minus 14dioxane, JAJ 5/7/2

Samples Loaded By — Date: 2/22/21

Data Processed By — Date: 2/22/21

PREPARATION BENCH SHEET

Printed: 2/19/2021 1:00:19PM

1B19011

ENCO Orlando

Analysis
8260D [EPA 8260D]
8260D Arom [EPA 8260D]
8260D Halo [EPA 8260D]
8260D SLRC [EPA 8260D]
8260D TCL SOM01.2 CLP-LIKE [EPA 8260D]
8260D TICs [EPA 8260D]

Surrogate Solution
___ A0I0902 8260 surr working

Prepared using: EPA 5030B_MS

Spiking Solution
A1B0890 8260 2nd source Gases/Acrolein virtual
A1B1033 8260 2nd source Mega Mix

Matrix: Water

Lab Number Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
1B19011-BLK1	Blank		QC			5	5			1	
1B19011-BS1	LCS		QC			5	5	A1B1033 A1B0890	2 2	1	
1B19011-MS1	Matrix Spike [AE00742-01]		QC	<2	N	5	5			1	
1B19011-MSD1	Matrix Spike Dup [AE00742-01]		QC	<2	N	5	5			1	
AE00061-04RE1	E4NG B[MS3]	19-Feb-21	8260D	<2	N	5	5			1	rr@5x acetone low in ccv Re-extract added 2/18/2021 by KKW
AE00061-04RE2	E4NG B[MS3]	19-Feb-21	8260D	<2	N	5	5			1	rr@50x cis12dce Re-extract added 2/18/2021 by KKW
AE00061-05RE1	C5M B[MS3]	19-Feb-21	8260D	<2	N	5	5			1	rr@1x overdilute Re-extract added 2/18/2021 by KKW
AE00061-08RE1	A18Y C[MS3]	19-Feb-21	8260D	<2	N	5	5			1	rr@25x overdilute Re-extract added 2/18/2021 by KKW
AE00061-11RE1	F60 C[MS3]	19-Feb-21	8260D	<2	N	5	5			1	rr@20x acetone low in CCV & cis12dce Re-extract added 2/18/2021 by KKW
AE00061-12RE1	G3F B[MS3]	19-Feb-21	8260D	<2	N	5	5			1	rr@20x overdilute Re-extract added 2/18/2021 by KKW
AE00476-14RE1	Duplicate_021121 B[MS3]	19-Feb-21	8260D Halo	<2	N	5	5			1	rr@200x overdilute Re-extract added 2/19/2021 by KKW
AE00476-15RE1	IDW_021121 B[MS3]	19-Feb-21	8260D Halo	<2	N	5	5			1	rr@5x overdilute Re-extract added 2/19/2021 by KKW
AE00545-01	MW-9R B[MS2]	19-Feb-21	8260D TICs	<2	N	5	5			1	need Limonene
AE00545-01	MW-9R B[MS2]	19-Feb-21	8260D	<2	N	5	5			1	run 20x jmw 2/15/21 Full List

PREPARATION BENCH SHEET

1B19011

ENCO Orlando

Printed: 2/19/2021 1:00:19PM

Prepared using: EPA 5030B_MS

Surrogate Solution
___ A0I0902 8260 surr working

Spiking Solution
A1B0890 8260 2nd source Gases/Acrolein virtual
A1B1033 8260 2nd source Mega Mix

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
AE00545-07		MW-13R A[MS3]	19-Feb-21	8260D	<2	N	5	5			1	screen on 2/15/21 Full List
AE00545-07		MW-13R A[MS3]	19-Feb-21	8260D TICs	<2	N	5	5			1	need Limonene
AE00545-10		MW-2R B[MS4]	19-Feb-21	8260D	<2	N	5	5			1	screen on 2/15/21 Full List
AE00545-10		MW-2R B[MS4]	19-Feb-21	8260D TICs	<2	N	5	5			1	need Limonene
AE00742-01		MW-3 G[MS5]		8260D			5	5			1	Added for BatchQC in: 1B19011
AE00742-01		MW-3 G[MS5]	24-Feb-21	8260D Arom	<2	N	5	5			1	history 1x MTBE kkw021821
AE00742-01		MW-3 G[MS5]		8260D SLRC			5	5			1	Added for BatchQC in: 1B19011
AE00742-01		MW-3 G[MS5]		8260D TICs			5	5			1	Added for BatchQC in: 1B19011
AE00742-01		MW-3 G[MS5]		8260D Halo			5	5			1	Added for BatchQC in: 1B19011
AE00742-01		MW-3 G[MS5]		8260D TCL SOM01.2 CLP-LIKE			5	5			1	Added for BatchQC in: 1B19011
AE00743-01		MP-34US E[MS5]	24-Feb-21	8260D SLRC	<2	N	5	5			1	screen on Minus 14dioxane, JAJ 5/7/20.
AE00743-02		MP-35US D[MS5]	24-Feb-21	8260D SLRC	<2	N	5	5			1	screen on Minus 14dioxane, JAJ 5/7/20.
AE01304-01	C	CRCA-ASEFFLUENT-2021021A[MS45	24-Feb-21	8260D TCL SOM01.2 CLP-LIKE	<2	N	5	5			1	history ND kkw021821 custom
AE01304-02	C	CRCA-ASINFLUENT-2021021A[MS45	24-Feb-21	8260D TCL SOM01.2 CLP-LIKE	<2	N	5	5			1	history 1x & 5x for VC custom

(1) Before solvent extraction proceeds, verify that there is no residual chlorine above 0.5 mg/L. Any sample above this must be treated to remove excess chlorine before extraction, and this documented as a comment.

PREPARATION BENCH SHEET

Printed: 2/19/2021 1:00:19PM

1B19011

ENCO Orlando

Prepared using: EPA 5030B_MS

Surrogate Solution	
___ A0I0902	8260 surr working

Spiking Solution	
A1B0890	8260 2nd source Gases/Acrolein virtual
A1B1033	8260 2nd source Mega Mix

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments

Instrument 2

Start Date 02/19/21

StopDate 02/19/21

Instrument ID OVGCMS 2

Standard ID#	Description	Manufacture Lot#
A0A1401	pH Test Papers (1.0 to 12.0)	231018
A1B0635	P&T Anti-Foam working solution	N/A
A1B0955	Residual Chlorine Strips (Potassium Iodide S	102916

02/22/21

Samples Prepared By Date

Samples Prepared By Date

Manual Integration Review Form

ENVIRONMENTAL CONSERVATION LABORATORIES, INC. ☐ Cary ☐ Jacksonville ☒ Orlando

I hereby attest that the manual integrations contained in this package have been thoroughly reviewed and are in agreement with the associated hardcopy data.

The electronic files listed below have been reviewed for accuracy, completeness and comply with ENCO labs QA-11 Manual Integration Policy including:

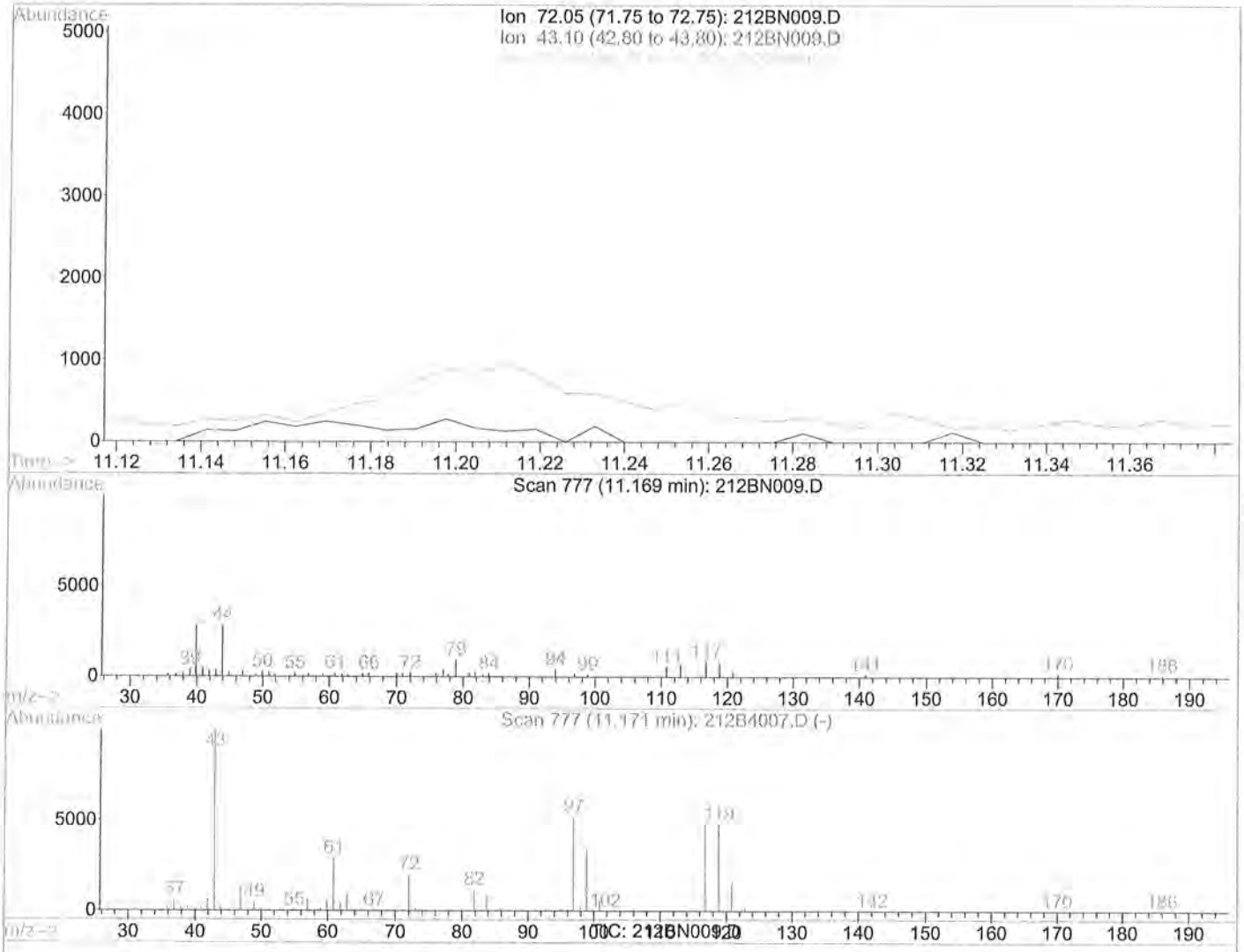
- "Before" and "After" chromatograms are provided
- Manual integrations are indicated on expanded scale "after" chromatograms at a scale large enough to see the manual integration performed.
- Reintegration technique marked if available on the data system
- Technical justification for manual integration
- Appropriate flags indicating which analytes were manually integrated are included in the raw data
- Analyst's initials and date.

Instrument ID:	OVGcms.2
Sequence/Batch ID:	AA65034 / 1818011
Data File Prefix:	22BN
Date and Time Range of MIs:	02/21/21 0931-0933
Reviewer Print Name:	Neil Christiana
Reviewer Signature:	
Date of Review:	2/22/21

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\021921\212BN009.D Vial: 8
Acq On : 19 Feb 2021 11:59 am Operator: kkw
Sample : aa65034-crl1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 19 12:21 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Multiple Level Calibration



(25) 2-Butanone

11.17min 0.00ug/kg

response 0

Ion	Exp%	Act%
72.05	100	0.00
43.10	502.20	0.00#
57.00	33.30	0.00#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[ ] Uncorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

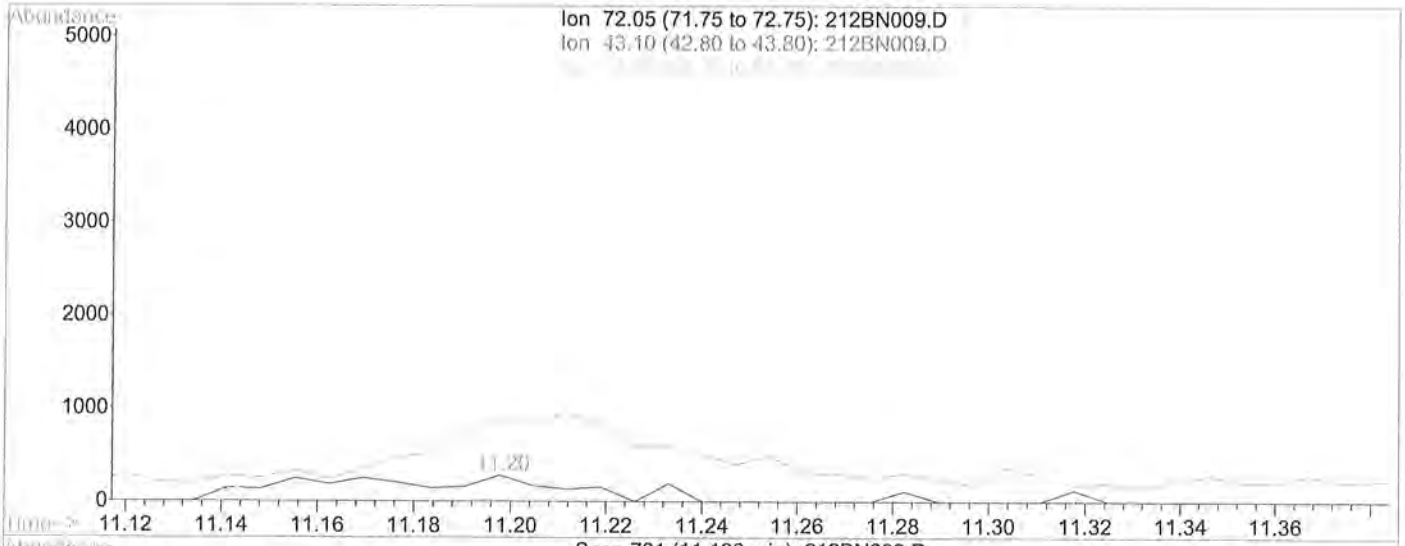
Review by/Date W 02/22/21

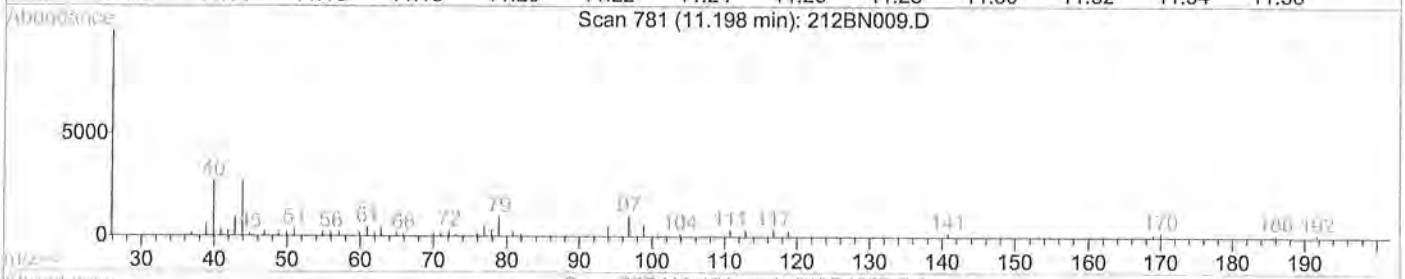
Review by/Date:

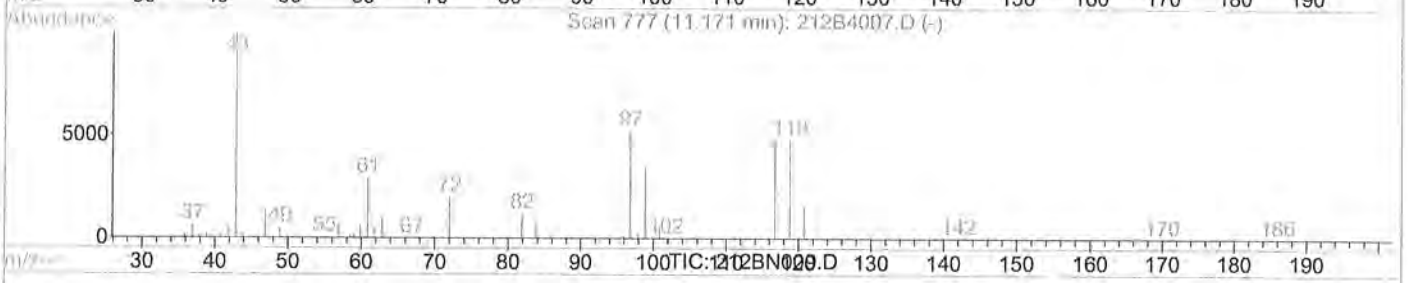
Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\021921\212BN009.D Vial: 8
Acq On : 19 Feb 2021 11:59 am Operator: kkw
Sample : aa65034-cr11 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 21 9:31 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Multiple Level Calibration







(25) 2-Butanone

11.20min 6.78ug/kg m

response 913

Ion	Exp%	Act%
72.05	100	100
43.10	502.20	0.00#
57.00	33.30	0.00#
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Uncorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

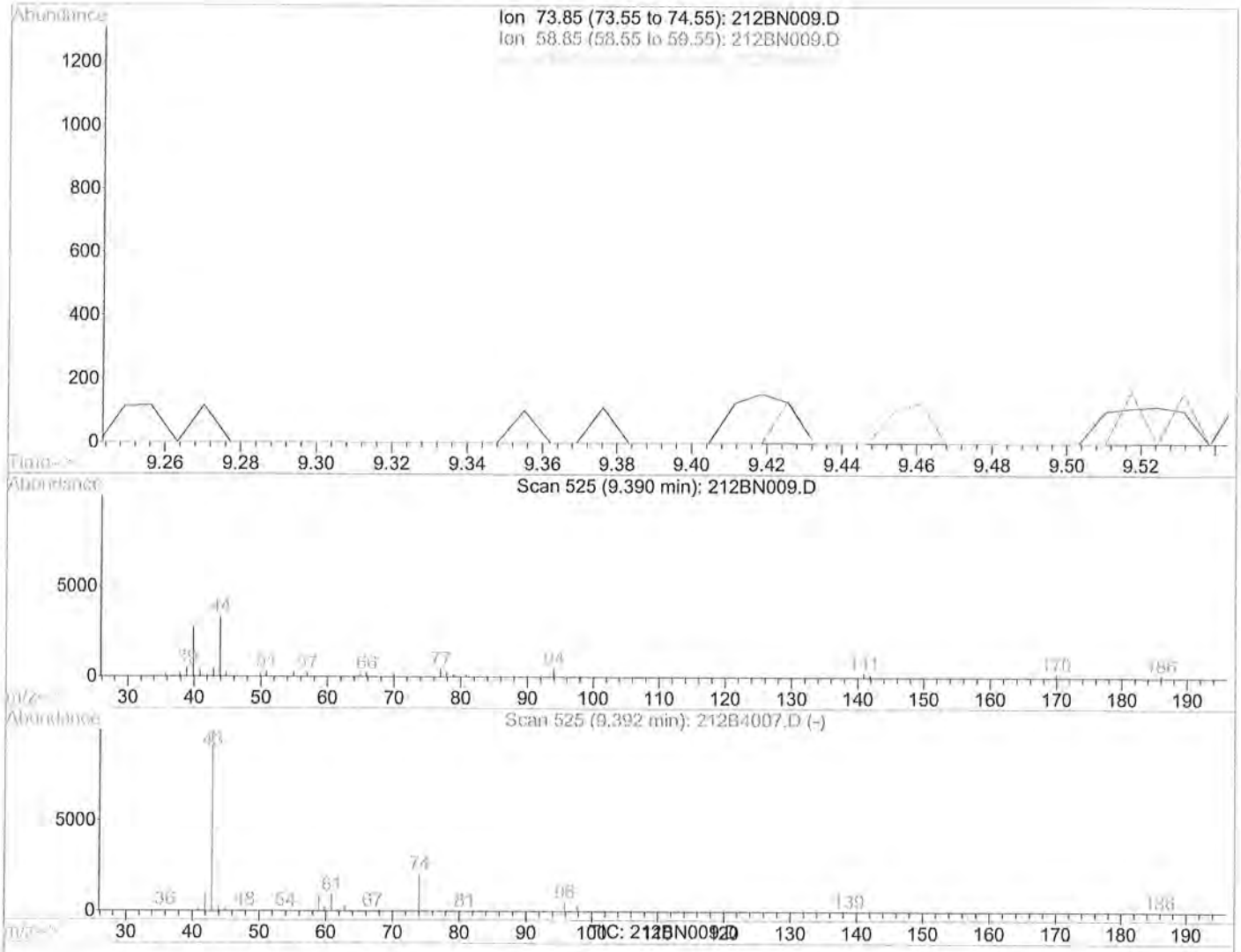
Review by/Date W 2/22/21

Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\021921\212BN009.D Vial: 8
Acq On : 19 Feb 2021 11:59 am Operator: kkw
Sample : aa65034-cr11 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 21 9:31 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Multiple Level Calibration



(36) Methyl Acetate

9.39min 0.00ug/kg

response 0

Ion	Exp%	Act%
73.85	100	0.00
58.85	39.20	0.00#
42.90	542.30	0.00#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

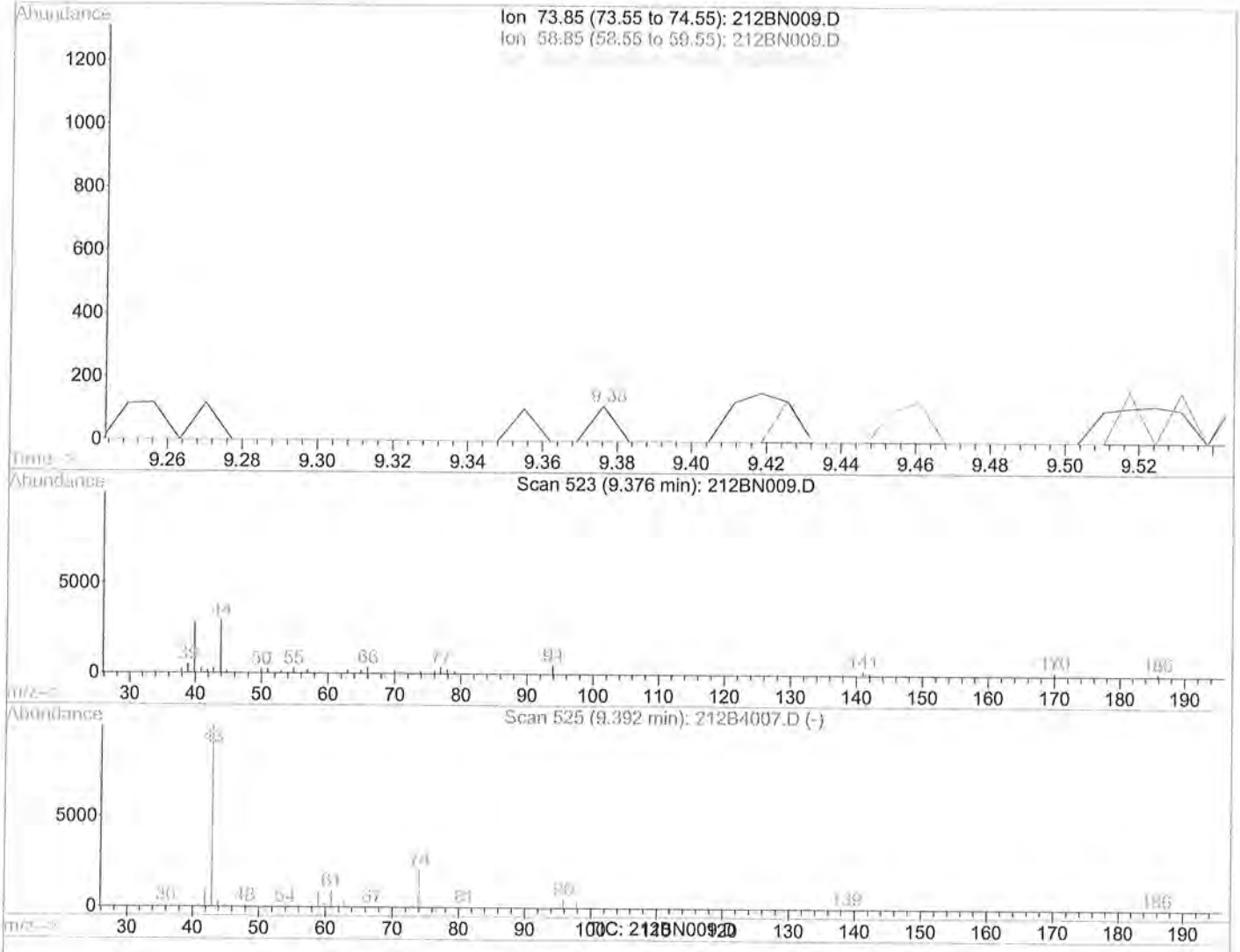
Review by/Date W 2/22/21

Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\021921\212BN009.D Vial: 8
Acq On : 19 Feb 2021 11:59 am Operator: kkw
Sample : aa65034-crl1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 21 9:32 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Multiple Level Calibration



(36) Methyl Acetate

9.38min 0.37ug/kg m

response 90

Ion	Exp%	Act%
73.85	100	100
58.85	39.20	0.00#
42.90	542.30	0.00#
0.00	0.00	0.00

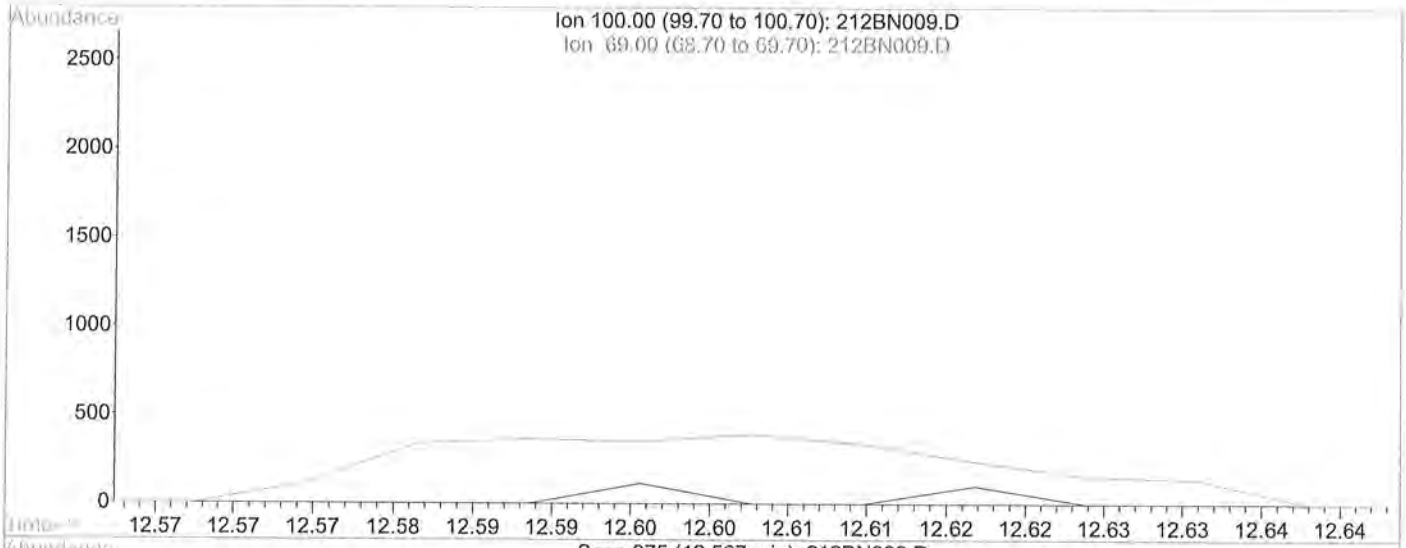
Select One:
[ ] Original Integration [X] Manual Integration
Select reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[X] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date W 02/22/21
Review by/Date:

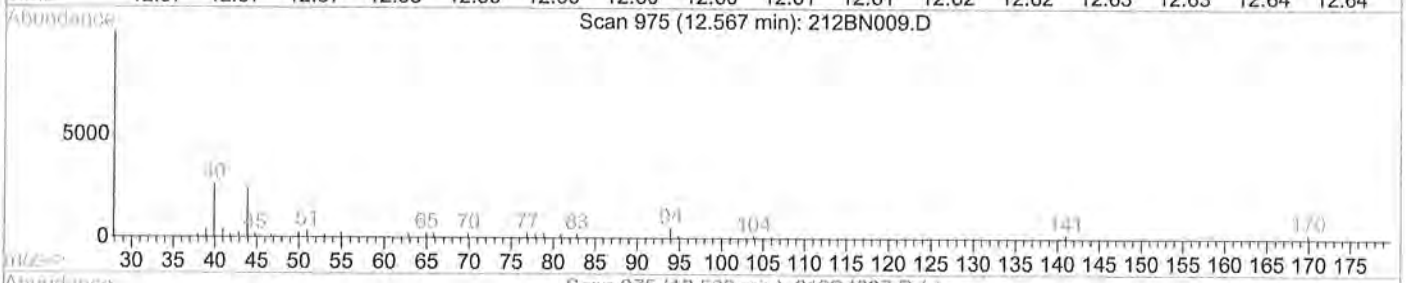
212BN009.D 020421.M Sun Feb 21 09:32:21 2021

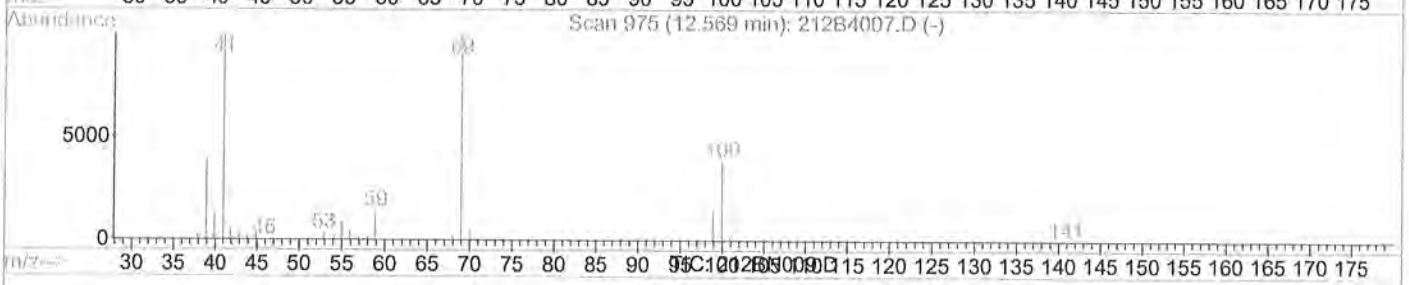
Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\021921\212BN009.D Vial: 8
Acq On : 19 Feb 2021 11:59 am Operator: kkw
Sample : aa65034-cr11 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 21 9:32 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Multiple Level Calibration







(46) Methyl Methacrylate

12.57min 0.00ug/kg

response 0

Ion	Exp%	Act%
100.00	100	0.00
69.00	261.20	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

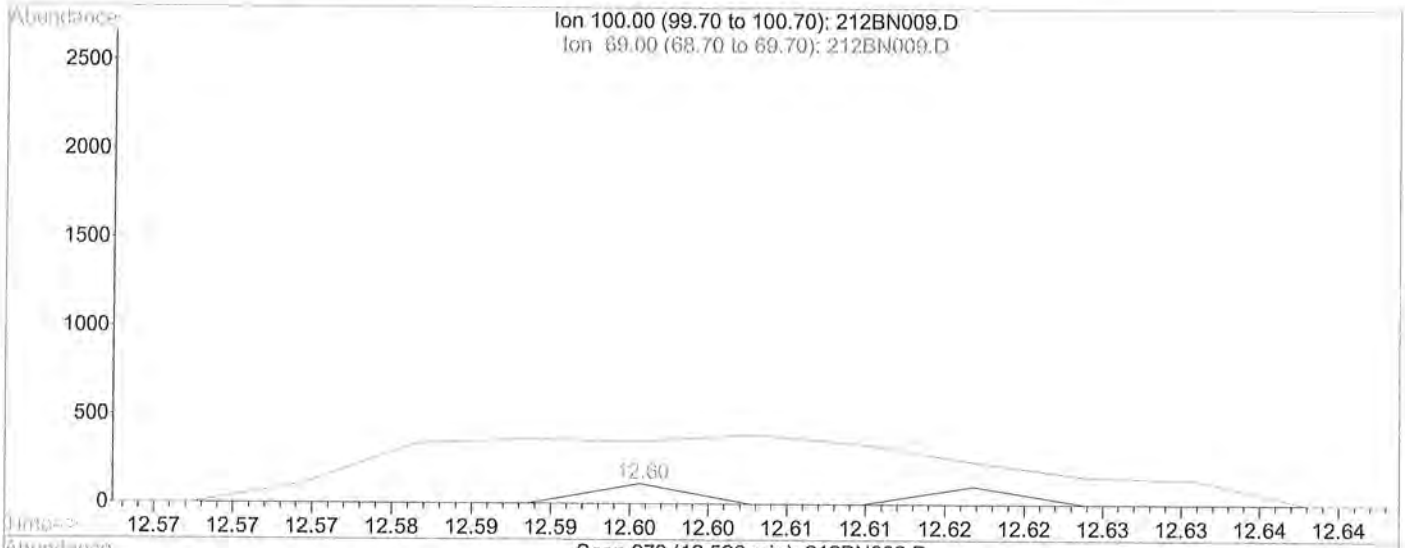
Review by/Date Workup

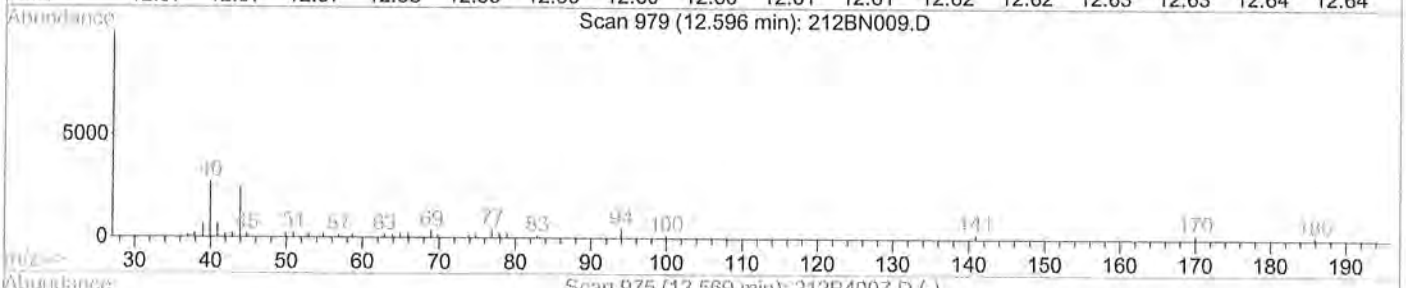
Review by/Date:

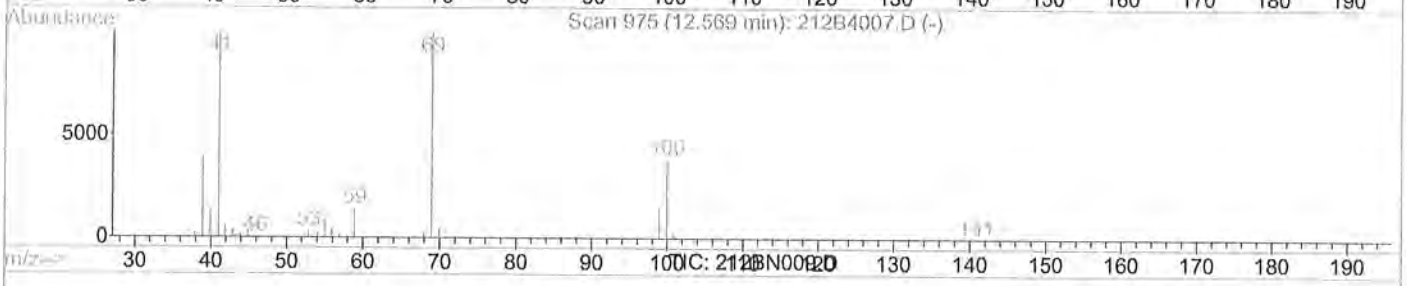
Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\021921\212BN009.D Vial: 8
Acq On : 19 Feb 2021 11:59 am Operator: kkw
Sample : aa65034-cr11 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 21 9:32 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Multiple Level Calibration







(46) Methyl Methacrylate

12.60min 0.11ug/kg m

response 48

Ion	Exp%	Act%
100.00	100	100
69.00	261.20	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

[] Original Integration [X] Manual Integration

Select reason for manual integration:

[] Poor integration (peak tailing, baseline selection)

[X] Uncorrect peak selection/Peak not found

[] Hump integration

[] Baseline drop for split peaks

[] ISTD reintegration

[] Other:

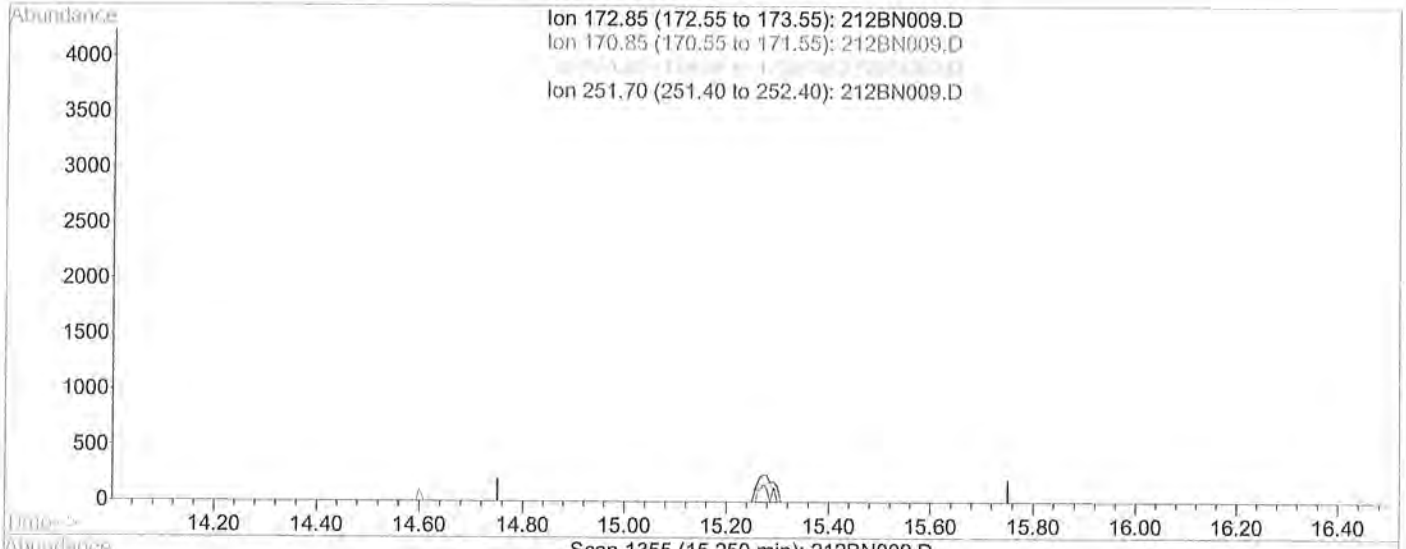
Review by/Date W 2/22/21

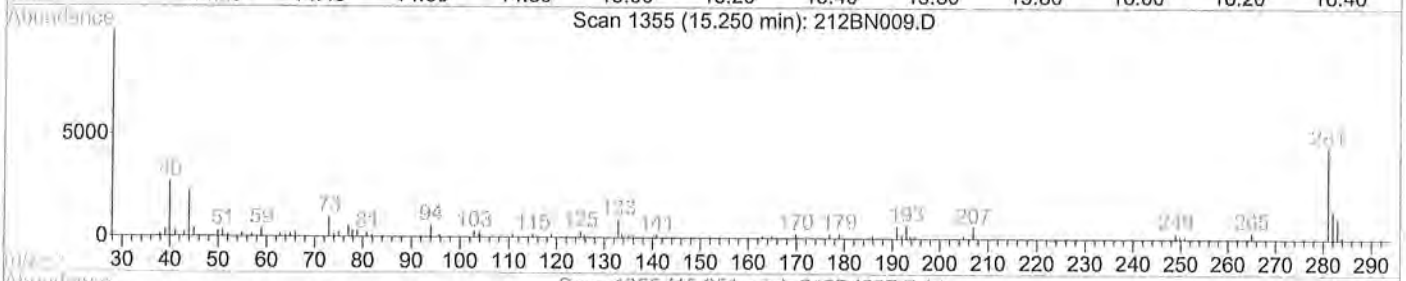
Review by/Date:

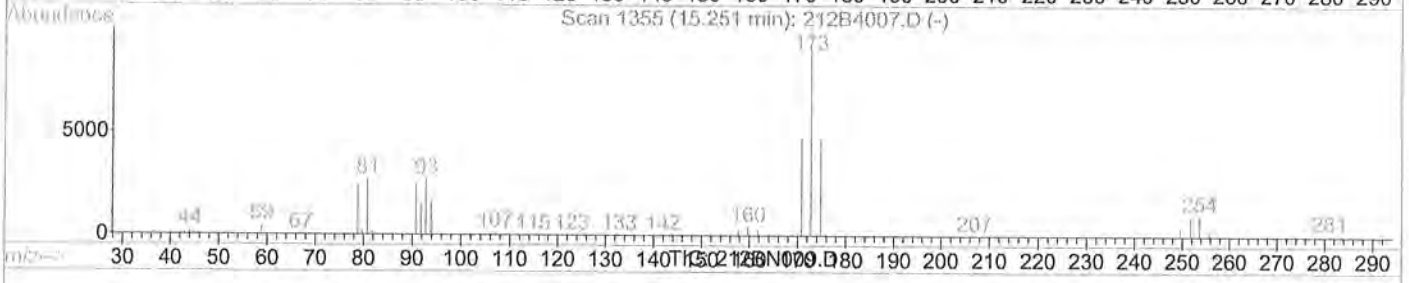
Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\021921\212BN009.D Vial: 8
Acq On : 19 Feb 2021 11:59 am Operator: kkw
Sample : aa65034-cr11 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 21 9:32 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Multiple Level Calibration







(70) Bromoform (**)

15.25min 0.00ug/kg

response 0

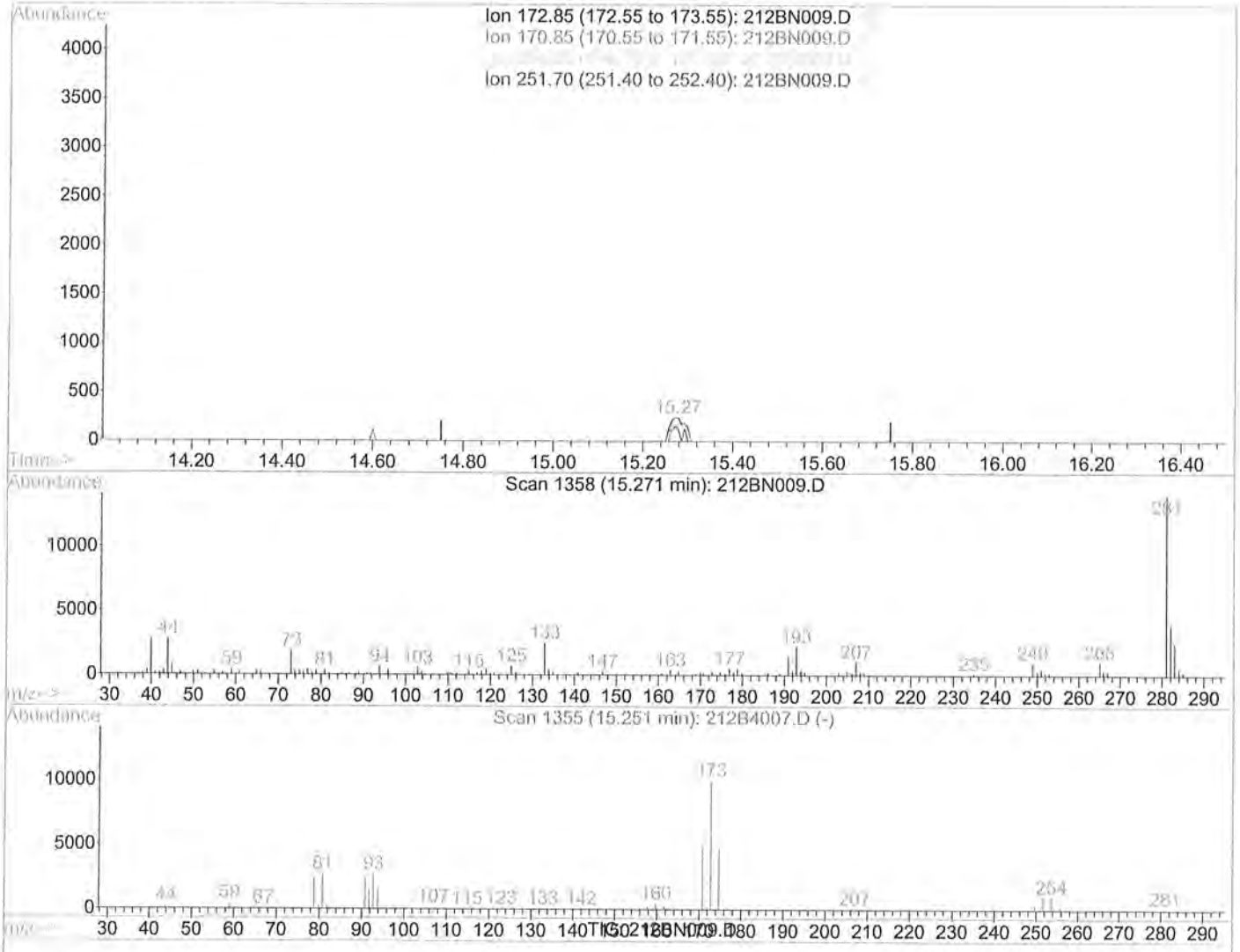
Ion	Exp%	Act%
172.85	100	0.00
170.85	51.10	0.00#
174.85	49.20	0.00#
251.70	9.80	0.00

Select reason:
[x] Original Integration [ ] Manual Integration
Select reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[x] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date Workh, 2/22/21
Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\021921\212BN009.D Vial: 8
Acq On : 19 Feb 2021 11:59 am Operator: kkw
Sample : aa65034-cr11 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 21 9:32 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Multiple Level Calibration



(70) Bromoform (**)

15.27min 0.49ug/kg m

response 560

Ion	Exp%	Act%
172.85	100	100
170.85	51.10	0.00#
174.85	49.20	0.00#
251.70	9.80	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Uncorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

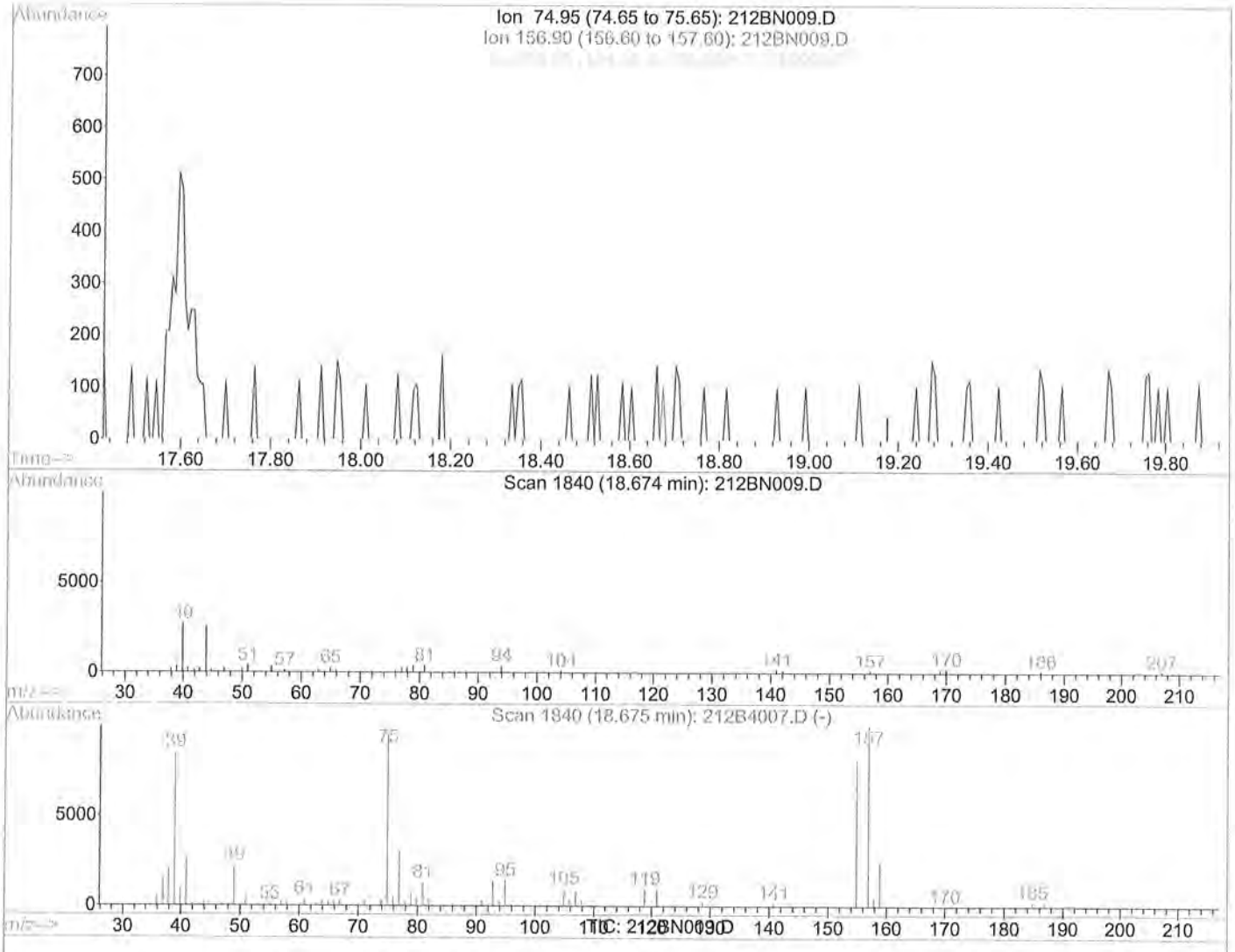
Review by/Date Workley

Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\021921\212BN009.D Vial: 8
Acq On : 19 Feb 2021 11:59 am Operator: kkw
Sample : aa65034-crl1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 21 9:32 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Multiple Level Calibration



(92) DBCP

18.68min 0.00ug/kg

response 0

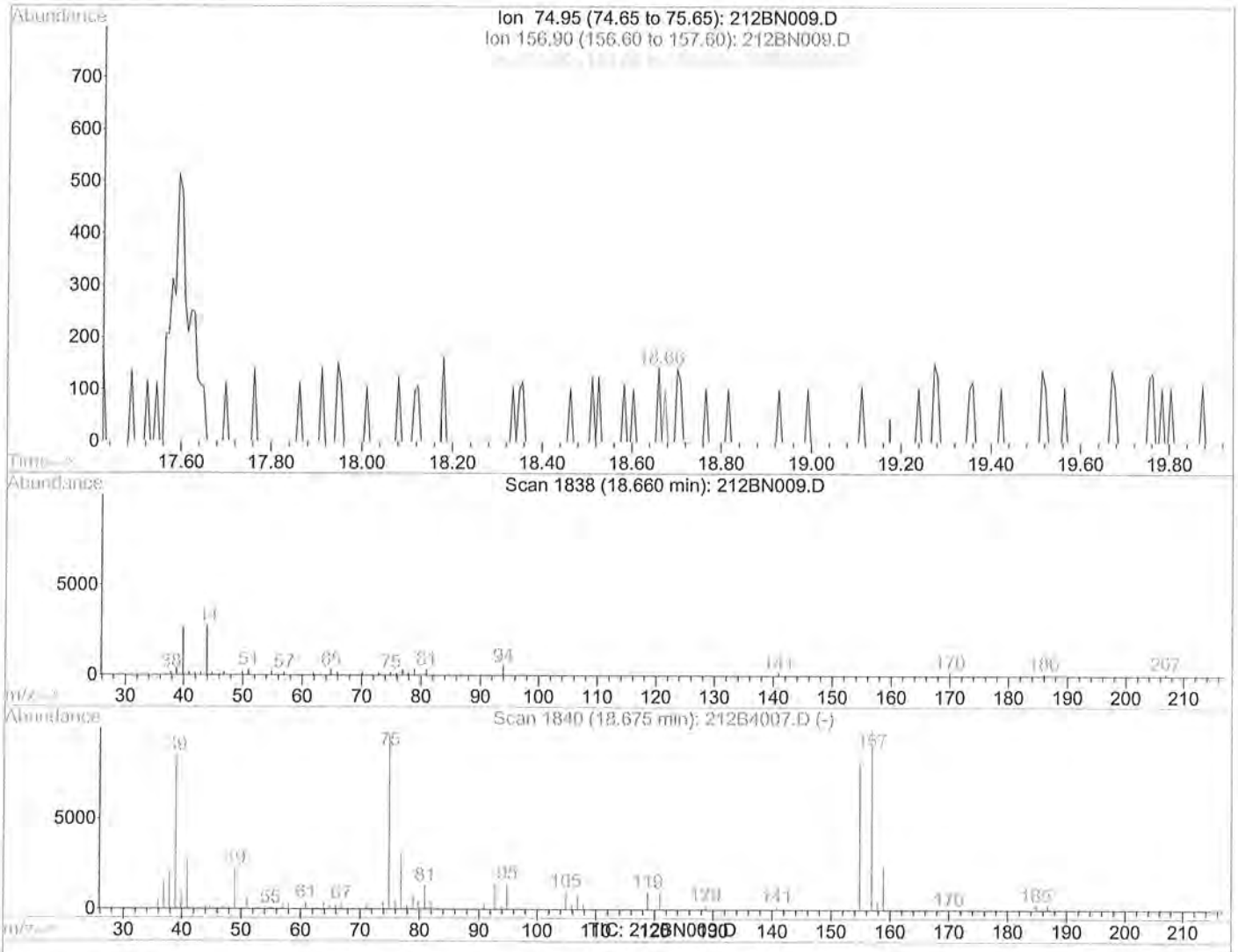
Ion	Exp%	Act%
74.95	100	0.00
156.90	108.90	0.00#
154.90	84.90	0.00#
0.00	0.00	0.00

Select One:
[X] Original Integration [ ] Manual Integration
Select reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[X] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date W 2/22/21
Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\021921\212BN009.D Vial: 8
Acq On : 19 Feb 2021 11:59 am Operator: kkw
Sample : aa65034-cr11 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 21 9:33 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Multiple Level Calibration



(92) DBCP

18.66min 0.66ug/kg m

response 170

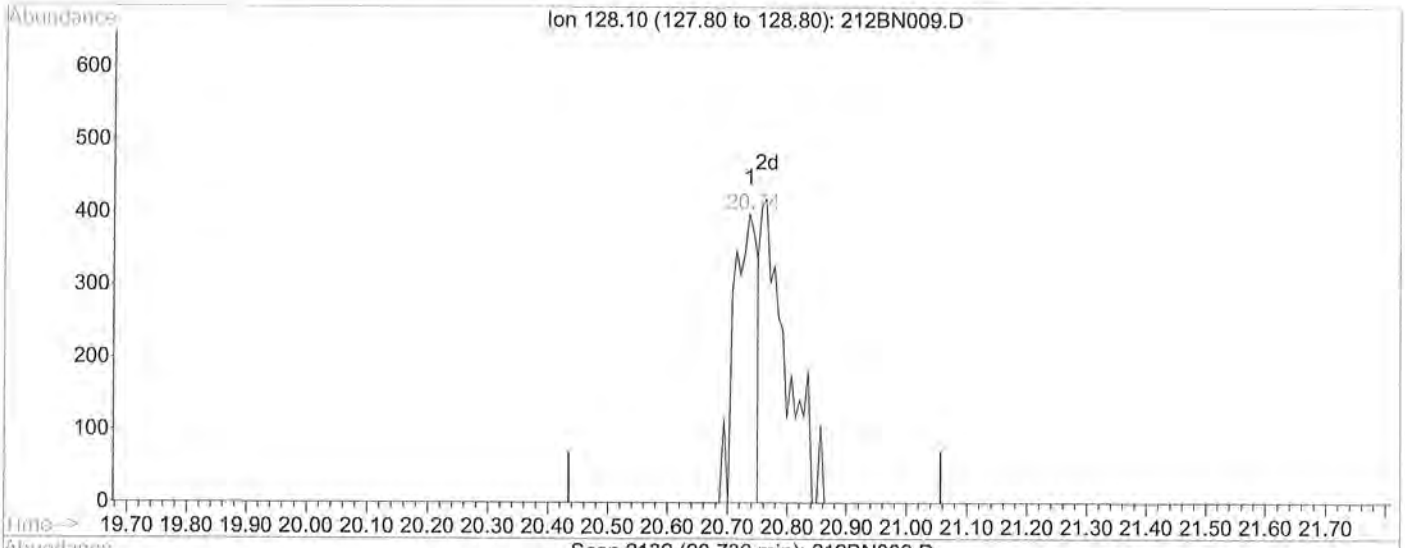
Ion	Exp%	Act%
74.95	100	100
156.90	108.90	0.00#
154.90	84.90	0.00#
0.00	0.00	0.00

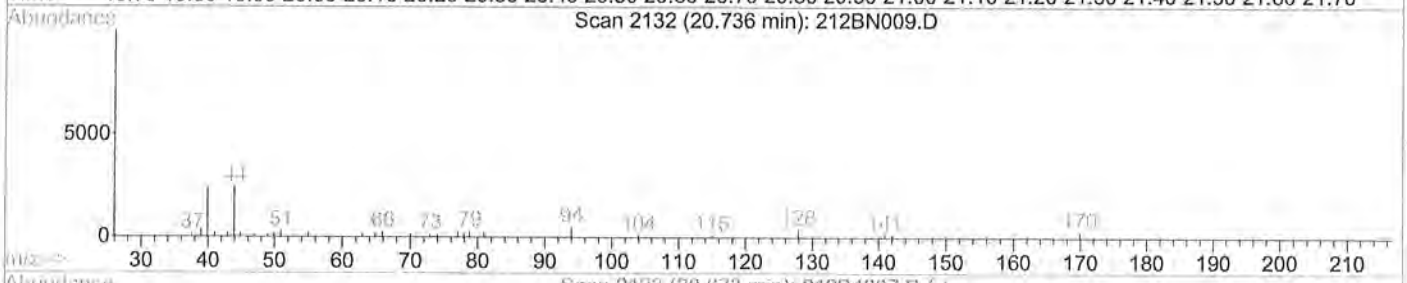
[ ] Original Integration [X] Manual Integration
Select reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[X] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date W 2/21/21
Review by/Date:

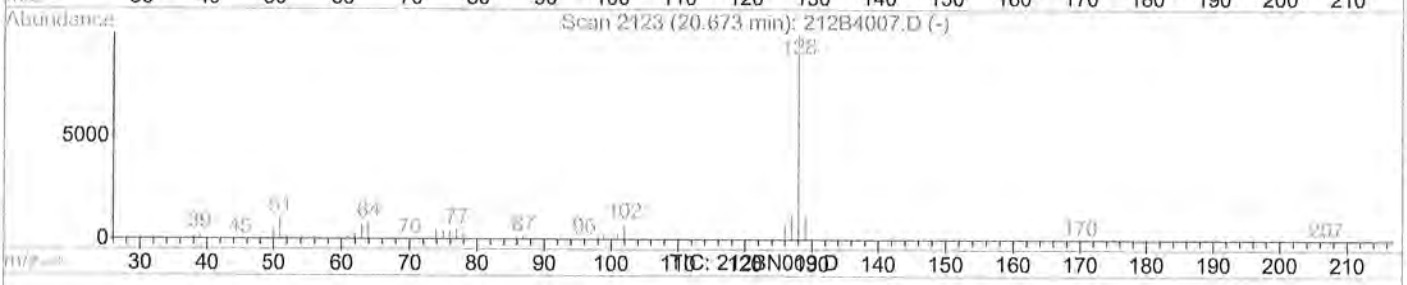
Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\021921\212BN009.D Vial: 8
Acq On : 19 Feb 2021 11:59 am Operator: kkw
Sample : aa65034-crl1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 21 9:33 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Multiple Level Calibration







(93) Naphthalene

20.74min 0.65ug/kg

response 1071

Ion	Exp%	Act%
128.10	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

[x] Original Integration [ ] Manual Integration

Select reason for manual integration:

[x] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

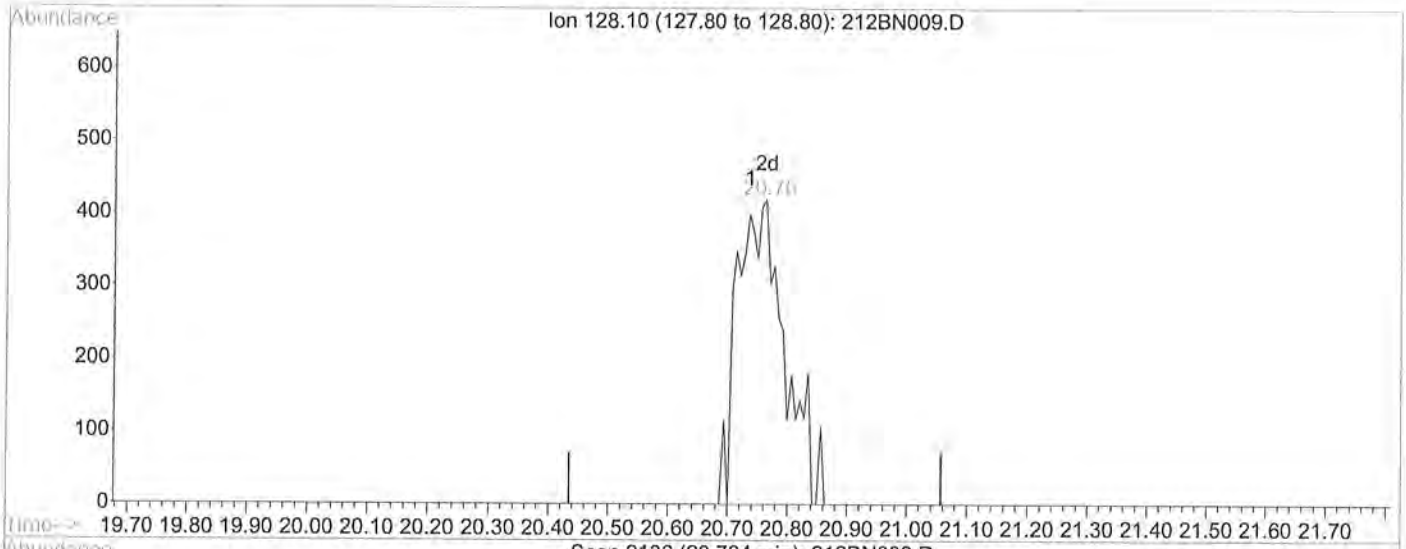
Review by/Date 2/22/21

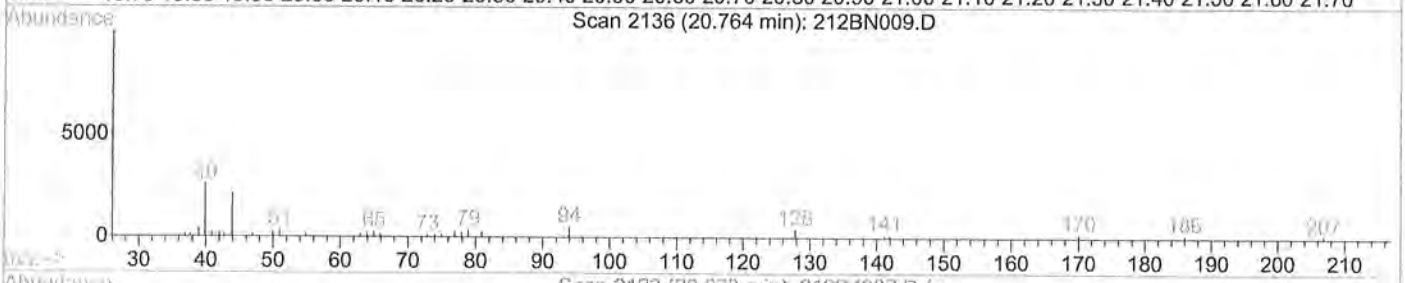
Review by/Date:

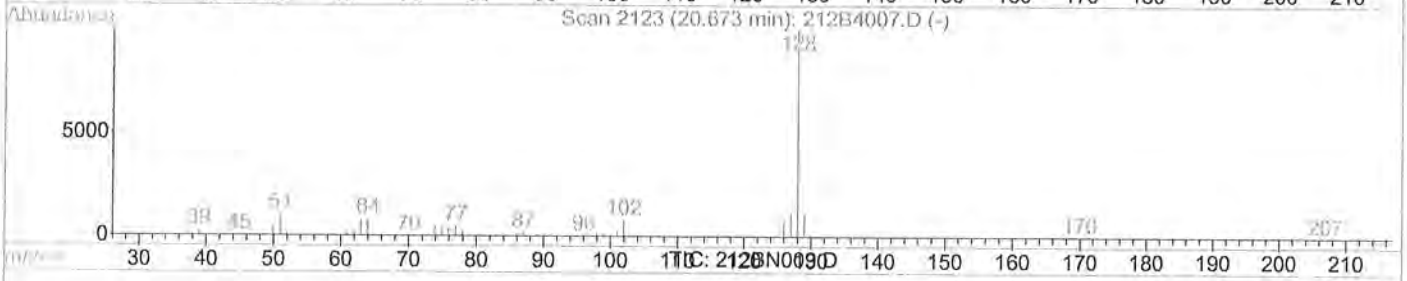
Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\021921\212BN009.D Vial: 8
Acq On : 19 Feb 2021 11:59 am Operator: kkw
Sample : aa65034-cr11 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 21 9:33 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Multiple Level Calibration







(93) Naphthalene

20.76min 1.38ug/kg m

response 2303

Ion	Exp%	Act%
128.10	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date KW 2/22/21

Review by/Date:

Sequence Name: C:\HPCHEM\1\SEQUENCE\212BN.S
Comment:
Operator: kkw
Data Path: C:\HPchem\1\DATA\021921\
Pre-Seq Cmd:
Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line	Type	Vial	DataFile	Method	Sample Name
1	Sample	1	212BN001	8260S	rinse
2	Sample	2	212BN002	8260S	ccv1
3	Sample	3	212BN003	8260S	bs1
4	Sample	4	212BN004	8260S	ms1
5	Sample	4	212BN005	8260S	msd1
6	Sample	5	212BN006	8260S	rinse
7	Sample	6	212BN007	8260S	rinse
8	Sample	7	212BN008	8260S	1b19011-blk1
9	Sample	8	212BN009	8260S	aa65034-crl1
10	Sample	9	212BN010	8260S	~~AE00061-04RE1@5x~~
11	Sample	10	212BN011	8260S	AE00061-04RE1@50X
12	Sample	11	212BN012	8260S	AE00061-04re2@50x
13	Sample	12	212BN013	8260S	AE00061-05re1
14	Sample	13	212BN014	8260S	AE01304-01
15	Sample	14	212BN015	8260S	AE01304-02
16	Sample	15	212BN016	8260S	AE00061-08re1@25
17	Sample	16	212BN017	8260S	AE00061-11re1@20
18	Sample	17	212BN018	8260S	AE00061-12re1@20
19	Sample	18	212BN019	8260S	AE00061-14re1@200
20	Sample	19	212BN020	8260S	AE00061-15re1@5
21	Sample	20	212BN021	8260S	AE00545-01@20
22	Sample	21	212BN022	8260S	AE00545-07@25
23	Sample	22	212BN023	8260S	AE00545-10@25
24	Sample	23	212BN024	8260S	AE00743-01
25	Sample	24	212BN025	8260S	AE00743-02
26	Sample	25	212BN026	8260S	rinse
27	Sample	26	212BN027	8260S	AA65042-CCV1
28	Sample	27	212BN028	8260S	1B19032-BS1
29	Sample	28	212BN029	8260S	1B19032-MS1
30	Sample	28	212BN030	8260S	1B19032-MSD1
31	Sample	29	212BN031	8260S	RINSE
32	Sample	30	212BN032	8260S	RINSE
33	Sample	31	212BN033	8260S	1B19032-BLK1
34	Sample	32	212BN034	8260S	AA65042-CRL1
35	Sample	33	212BN035	8260S	AE00742-04
36	Sample	34	212BN036	8260S	AE01273-01
37	Sample	35	212BN037	8260S	AE01061-01
38	Sample	36	212BN038	8260S	AE01061-02
39	Sample	37	212BN039	8260S	AE01098-04
40	Sample	38	212BN040	8260S	AE01098-05
41	Sample	39	212BN041	8260S	AE01098-06
42	Sample	40	212BN042	8260S	AE01098-07
43	Sample	41	212BN043	8260S	AE01098-08

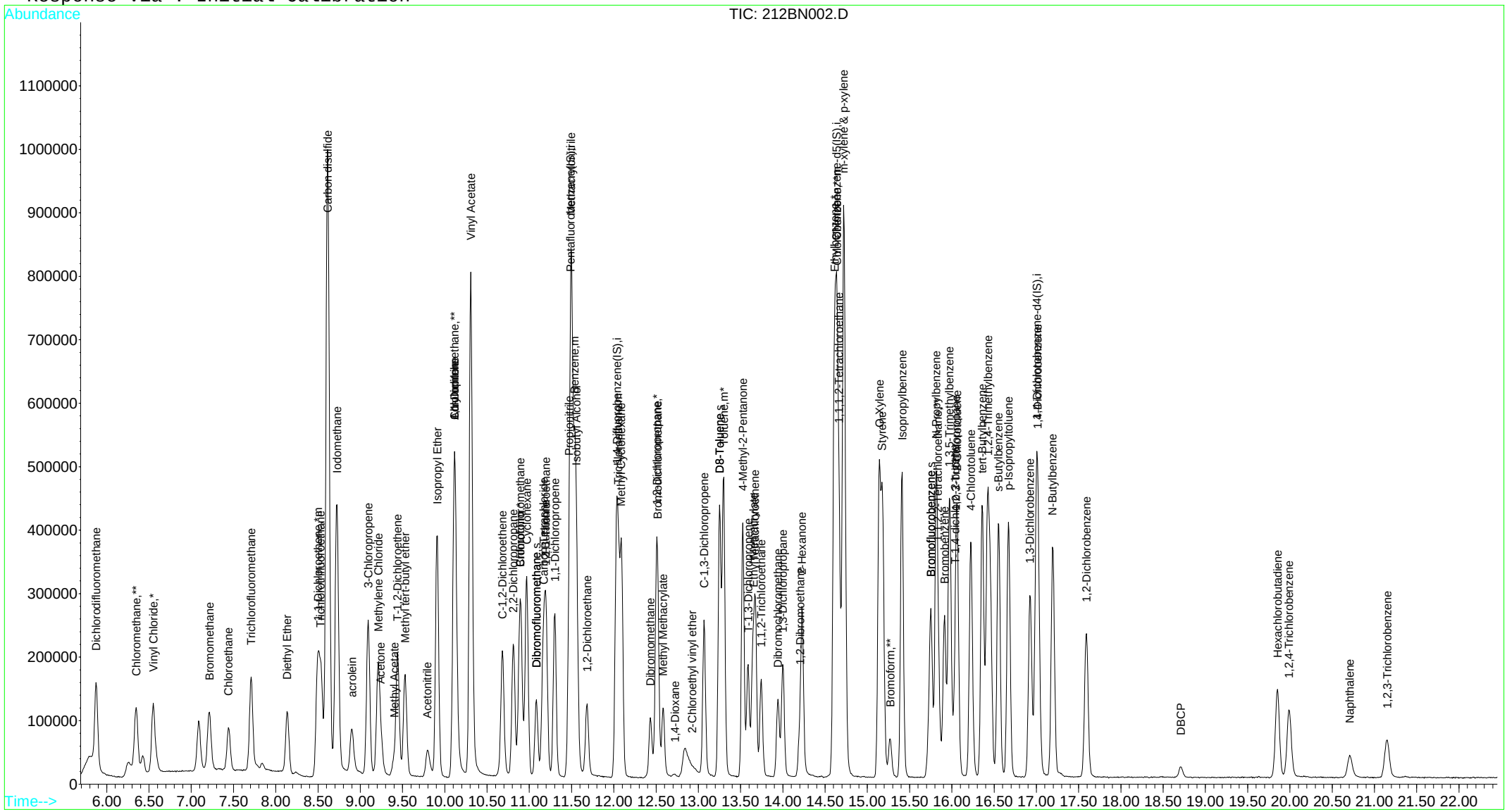
Sequence Name: C:\HPCHEM\1\SEQUENCE\212BN.S

Line	Type	Vial	DataFile	Method	Sample Name
44	Sample	42	212BN044	8260S	AE01098-09
45	Sample	43	212BN045	8260S	AE01264-01
46	Sample	44	212BN046	8260S	AE01264-02
47	Sample	45	212BN047	8260S	AE01264-03
48	Sample	46	212BN048	8260S	AE01264-04
49	Sample	47	212BN049	8260S	AE01264-05
50	Sample	48	212BN050	8260S	AE00743-03

Quantitation Report

Data File : C:\HPCHEM\1\DATA\021921\212BN002.D Vial: 2
Acq On : 19 Feb 2021 8:35 am Operator: kkw
Sample : ccv1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 19 8:59 2021 Quant Results File: 020421.RES

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\021921\212BN002.D Vial: 2
Acq On : 19 Feb 2021 8:35 am Operator: kkw
Sample : ccv1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 19 8:59 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.48	168	181209	50.00	ug/kg	0.01
38) 1,4-Difluorobenzene(IS)	12.03	114	350197	50.00	ug/kg	0.01
56) Chlorobenzene-d5(IS)	14.63	82	185349	50.00	ug/kg	0.02
79) 1,4-Dichlorobenzene-d4(IS)	17.00	152	134963	50.00	ug/kg	0.03
System Monitoring Compounds						
30) Dibromofluoromethane	11.08	113	100937	53.93	ug/kg	0.01
Spiked Amount 50.000	Range 53 - 146		Recovery = 107.86%			
54) D8-Toluene	13.25	98	344134	55.67	ug/kg	0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 111.34%			
75) Bromofluorobenzene	15.75	95	133811	49.93	ug/kg	0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 99.86%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.87	85	189208	50.51	ug/kg	99
3) Chloromethane	6.35	50	191222	52.59	ug/kg	100
4) Vinyl Chloride	6.55	62	174764	52.82	ug/kg	95
5) Bromomethane	7.21	96	95393	80.69	ug/kg	93
6) Chloroethane	7.44	64	94845	58.72	ug/kg	99
7) Trichlorofluoromethane	7.71	101	176680	53.26	ug/kg	99
8) Trichlorotrifluoroethane	8.54	101	105330	55.33	ug/kg	95
9) acrolein	8.90	56	110154	365.79	ug/kg	99
10) Acetone	9.25	43	88355	220.74	ug/kg	98
11) 1,1-Dichloroethene	8.49	96	94322	49.22	ug/kg	97
12) 3-Chloropropene	9.09	76	71518	53.74	ug/kg	93
13) Acetonitrile	9.79	41	82605	462.67	ug/kg	96
14) Iodomethane	8.73	142	778521	316.13	ug/kg	98
15) Carbon disulfide	8.61	76	2163454	297.68	ug/kg	100
16) Methylene Chloride	9.21	84	105615	48.72	ug/kg	96
17) Methyl tert-butyl ether	9.53	73	190915	40.12	ug/kg	99
18) Acrylonitrile	10.12	53	457877	472.07	ug/kg	94
19) T-1,2-Dichloroethene	9.44	96	105197	48.91	ug/kg	96
20) Isopropyl Ether	9.91	45	492649	50.92	ug/kg	97
21) C-1,2-Dichloroethene	10.68	96	115635	49.83	ug/kg	98
22) 1,1-Dichloroethane	10.12	63	224303	53.94	ug/kg	99
23) Vinyl Acetate	10.31	43	1270508	243.19	ug/kg	99
24) Chloroprene	10.11	88	115057	58.66	ug/kg	70
25) 2-Butanone	11.18	72	29178	207.43	ug/kg	92
26) Propionitrile	11.46	54	85149	434.68	ug/kg	100
27) 2,2-Dichloropropane	10.81	77	160359	47.92	ug/kg	96
28) Methacrylonitrile	11.50	67	276185	424.48	ug/kg	94
29) Chloroform	10.90	83	195947	49.86	ug/kg	99
31) Dibromofluoromethane	11.08	113	100937	53.93	ug/kg	100
32) Bromochloromethane	10.89	128	49049	44.37	ug/kg	94
33) 1,1,1-Trichloroethane	11.20	97	154530	52.42	ug/kg	99
34) 1,1-Dichloropropene	11.30	75	157273	51.38	ug/kg	100
35) Diethyl Ether	8.13	59	72536	40.44	ug/kg	99
36) Methyl Acetate	9.40	74	9550	37.68	ug/kg#	92
37) Cyclohexane	10.97	56	193608	55.71	ug/kg	96
39) Methyl Cyclohexane	12.09	55	148260	52.12	ug/kg	95
40) Carbon Tetrachloride	11.16	117	156484	49.44	ug/kg	100
41) 1,2-Dichloroethane	11.68	62	120237	40.53	ug/kg	99
42) Benzene	11.54	78	405364	47.61	ug/kg	95
43) Isobutyl Alcohol	11.56	43	108423	698.04	ug/kg#	68
44) Trichloroethene	12.06	130	114133	49.33	ug/kg	98
45) 1,2-Dichloropropane	12.50	63	122517	46.43	ug/kg	99
46) Methyl Methacrylate	12.59	100	19577	42.91	ug/kg	96
47) 1,4-Dioxane	12.71	88	4269	536.49	ug/kg	88
48) Bromodichloromethane	12.52	83	134120	42.21	ug/kg	100
49) Dibromomethane	12.43	93	52669	39.44	ug/kg	96
50) 4-Methyl-2-Pentanone	13.53	100	43324	215.10	ug/kg	89
51) 2-Chloroethyl vinyl ether	12.93	63	1250	15.59	ug/kg#	100
52) 2-Hexanone	14.23	43	262952	235.01	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\021921\212BN002.D Vial: 2
Acq On : 19 Feb 2021 8:35 am Operator: kkw
Sample : ccv1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 19 8:59 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

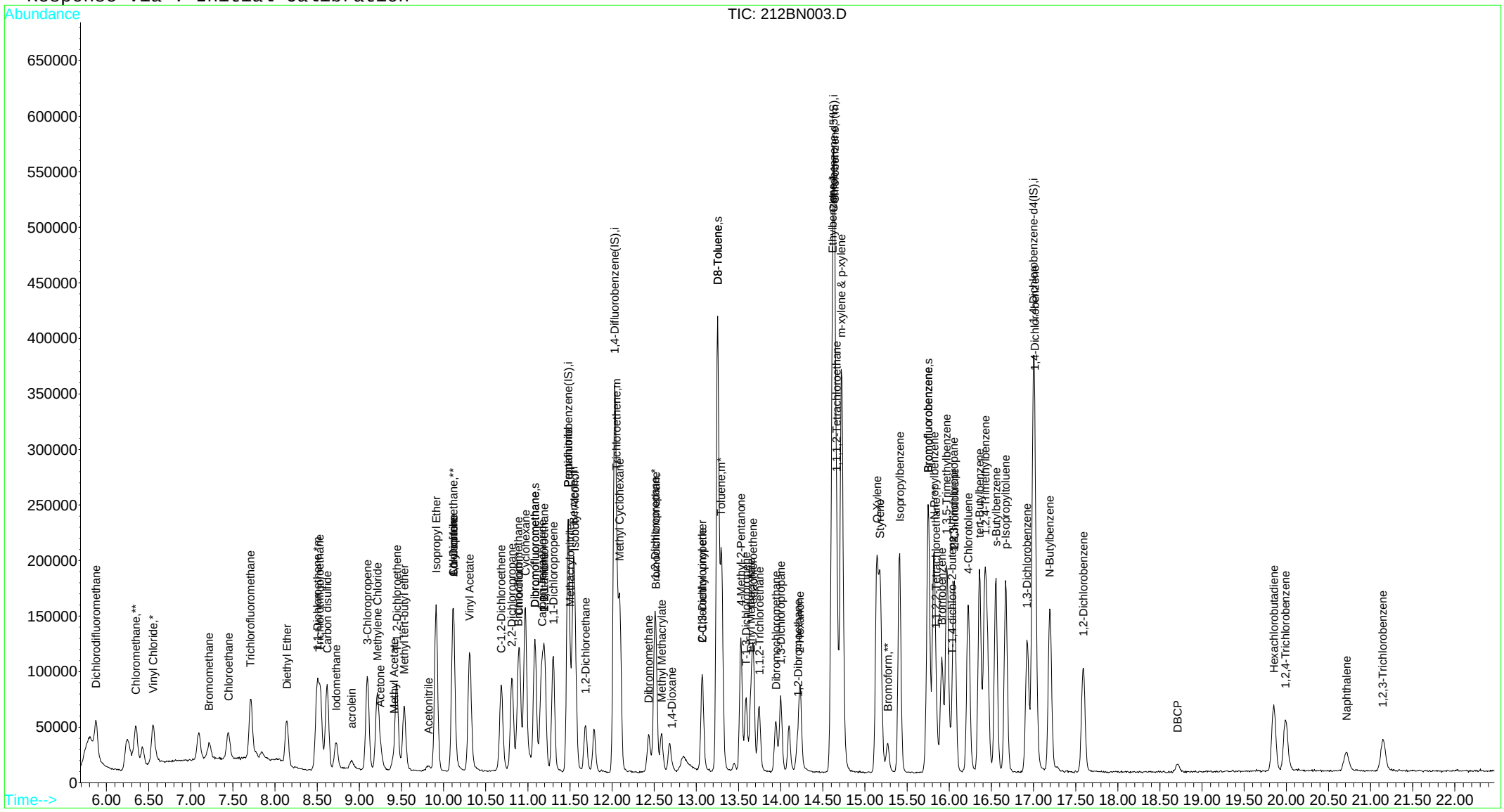
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.07	75	175688	41.46	ug/kg	97
55) D8-Toluene	13.25	98	344134	55.67	ug/kg	93
57) Toluene	13.30	92	259831	48.44	ug/kg	99
58) Ethyl Methacrylate	13.65	69	111787	42.91	ug/kg	93
59) T-1,3-Dichloropropene	13.59	75	125757	36.28	ug/kg	98
60) 1,1,2-Trichloroethane	13.75	97	61138	35.19	ug/kg	98
61) 1,3-Dichloropropane	14.00	76	132645	37.18	ug/kg	99
62) Tetrachloroethene	13.67	164	74274	46.36	ug/kg	96
63) Dibromochloromethane	13.94	129	87040	36.25	ug/kg	98
64) 1,2-Dibromoethane	14.20	107	69885	38.56	ug/kg	99
65) Chlorobenzene	14.65	112	271487	46.70	ug/kg	99
66) 1,1,1,2-Tetrachloroethane	14.67	131	93063	41.12	ug/kg#	61
67) Ethylbenzene	14.61	106	151829	50.50	ug/kg	97
68) m-xylene & p-xylene	14.72	106	369370	103.05	ug/kg	100
69) O-Xylene	15.14	106	188991	51.63	ug/kg	100
70) Bromoform	15.27	173	37774	33.05	ug/kg	99
71) Styrene	15.18	104	312229	51.19	ug/kg	99
72) Isopropylbenzene	15.41	105	467555	51.66	ug/kg	100
73) 1,2,3-Trichloropropane	16.04	75	78126	36.68	ug/kg	97
74) 1,1,2,2-Tetrachloroethane	15.84	83	63204	35.49	ug/kg	99
76) Bromofluorobenzene	15.75	95	133811	49.93	ug/kg#	70
77) T-1,4-dichloro-2-butene	16.03	53	18342	38.19	ug/kg	98
78) N-Propylbenzene	15.81	91	565169	54.91	ug/kg	100
80) Bromobenzene	15.91	156	98263	43.07	ug/kg	92
81) 1,3,5-Trimethylbenzene	15.98	105	383332	54.37	ug/kg	99
82) 2-Chlorotoluene	16.06	91	319508	49.80	ug/kg	99
83) 4-Chlorotoluene	16.22	91	339118	50.51	ug/kg	99
84) 1,2,4-Trimethylbenzene	16.42	105	385835	54.02	ug/kg	100
85) s-Butylbenzene	16.55	105	453172	52.44	ug/kg	99
86) tert-Butylbenzene	16.36	119	328262	53.08	ug/kg	99
87) p-Isopropyltoluene	16.67	119	395892	52.78	ug/kg	99
88) 1,3-Dichlorobenzene	16.93	146	186943	46.55	ug/kg	98
89) 1,4-Dichlorobenzene	17.02	146	186448	46.27	ug/kg	97
90) 1,2-Dichlorobenzene	17.59	146	158063	45.94	ug/kg	98
91) N-Butylbenzene	17.20	91	345045	53.87	ug/kg	99
92) DBCP	18.70	75	8013	34.45	ug/kg	93
93) Naphthalene	20.71	128	66235	38.03	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.99	180	69920	47.19	ug/kg	99
95) Hexachlorobutadiene	19.85	225	48008	54.26	ug/kg	99
96) 1,2,3-Trichlorobenzene	21.14	180	40542	42.17	ug/kg	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\021921\212BN003.D Vial: 3
Acq On : 19 Feb 2021 9:07 am Operator: kkw
Sample : bs1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 19 9:32 2021 Quant Results File: 020421.RES

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\021921\212BN003.D Vial: 3
Acq On : 19 Feb 2021 9:07 am Operator: kkw
Sample : bs1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 19 9:32 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.48	168	177746	50.00	ug/kg	0.01
38) 1,4-Difluorobenzene(IS)	12.03	114	332781	50.00	ug/kg	0.01
56) Chlorobenzene-d5(IS)	14.63	82	177928	50.00	ug/kg	0.02
79) 1,4-Dichlorobenzene-d4(IS)	17.00	152	132137	50.00	ug/kg	0.03
System Monitoring Compounds						
30) Dibromofluoromethane	11.08	113	96547	52.59	ug/kg	0.01
Spiked Amount 50.000	Range 53 - 146		Recovery = 105.18%			
54) D8-Toluene	13.25	98	335444	57.11	ug/kg	0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 114.22%			
75) Bromofluorobenzene	15.75	95	128504	49.95	ug/kg	0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 99.90%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.87	85	41640	11.33	ug/kg	96
3) Chloromethane	6.35	50	62901	17.64	ug/kg	99
4) Vinyl Chloride	6.55	62	56433	17.39	ug/kg	84
5) Bromomethane	7.22	96	15096	13.02	ug/kg	98
6) Chloroethane	7.45	64	34152	21.56	ug/kg	96
7) Trichlorofluoromethane	7.71	101	65043	19.99	ug/kg	98
8) Trichlorotrifluoroethane	8.54	101	42524	22.77	ug/kg	97
9) acrolein	8.91	56	12164	41.18	ug/kg	99
10) Acetone	9.26	43	31827	81.06	ug/kg	97
11) 1,1-Dichloroethene	8.49	96	37482	19.94	ug/kg	96
12) 3-Chloropropene	9.09	76	26805	20.53	ug/kg	95
13) Acetonitrile	9.82	41	12059	68.86	ug/kg	85
14) Iodomethane	8.73	142	51590	24.53	ug/kg	96
15) Carbon disulfide	8.62	76	171744	24.09	ug/kg	100
16) Methylene Chloride	9.21	84	42647	20.06	ug/kg	96
17) Methyl tert-butyl ether	9.53	73	66855	14.32	ug/kg	97
18) Acrylonitrile	10.11	53	90026	94.63	ug/kg#	73
19) T-1,2-Dichloroethene	9.45	96	43995	20.85	ug/kg	96
20) Isopropyl Ether	9.91	45	190990	20.13	ug/kg	97
21) C-1,2-Dichloroethene	10.68	96	46178	20.29	ug/kg	97
22) 1,1-Dichloroethane	10.12	63	90531	22.19	ug/kg	100
23) Vinyl Acetate	10.31	43	79811	15.57	ug/kg	95
24) Chloroprene	10.11	88	38633	20.08	ug/kg	13
25) 2-Butanone	11.19	72	13682	99.16	ug/kg	59
26) Propionitrile	11.48	54	2790	14.52	ug/kg	100
27) 2,2-Dichloropropane	10.81	77	64936	19.78	ug/kg	99
28) Methacrylonitrile	11.51	67	10012	15.69	ug/kg	76
29) Chloroform	10.90	83	78931	20.47	ug/kg	96
31) Dibromofluoromethane	11.08	113	96547	52.59	ug/kg	100
32) Bromochloromethane	10.88	128	19641	18.11	ug/kg	94
33) 1,1,1-Trichloroethane	11.20	97	61891	21.40	ug/kg	97
34) 1,1-Dichloropropene	11.30	75	63825	21.26	ug/kg	100
35) Diethyl Ether	8.13	59	29348	16.68	ug/kg	99
36) Methyl Acetate	9.40	74	3498	14.07	ug/kg	96
37) Cyclohexane	10.96	56	83714	24.56	ug/kg	95
39) Methyl Cyclohexane	12.09	55	60455	22.36	ug/kg	99
40) Carbon Tetrachloride	11.16	117	62028	20.62	ug/kg	100
41) 1,2-Dichloroethane	11.68	62	47676	16.91	ug/kg	97
42) Benzene	11.54	78	171970	21.26	ug/kg#	65
43) Isobutyl Alcohol	11.56	43	29120	197.29	ug/kg#	1
44) Trichloroethene	12.06	130	46261	21.04	ug/kg	94
45) 1,2-Dichloropropane	12.50	63	47498	18.94	ug/kg	99
46) Methyl Methacrylate	12.59	100	6406	14.78	ug/kg	97
47) 1,4-Dioxane	12.71	88	1751	231.57	ug/kg#	75
48) Bromodichloromethane	12.52	83	52272	17.31	ug/kg	99
49) Dibromomethane	12.43	93	19281	15.19	ug/kg	96
50) 4-Methyl-2-Pentanone	13.53	100	14137	73.86	ug/kg	95
51) 2-Chloroethyl vinyl ether	13.08	63	961	12.61	ug/kg#	100
52) 2-Hexanone	14.23	43	79054	74.35	ug/kg	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\021921\212BN003.D Vial: 3
Acq On : 19 Feb 2021 9:07 am Operator: kkw
Sample : bs1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 19 9:32 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.07	75	64290	15.96	ug/kg	98
55) D8-Toluene	13.25	98	335444	57.11	ug/kg	93
57) Toluene	13.30	92	104766	20.35	ug/kg	99
58) Ethyl Methacrylate	13.64	69	35630	14.25	ug/kg	100
59) T-1,3-Dichloropropene	13.59	75	47961	14.41	ug/kg	99
60) 1,1,2-Trichloroethane	13.75	97	23327	13.99	ug/kg	97
61) 1,3-Dichloropropane	14.00	76	50067	14.62	ug/kg	96
62) Tetrachloroethene	13.68	164	30407	19.77	ug/kg	97
63) Dibromochloromethane	13.94	129	32753	14.21	ug/kg	98
64) 1,2-Dibromoethane	14.20	107	26427	15.19	ug/kg	98
65) Chlorobenzene	14.65	112	111180	19.92	ug/kg	97
66) 1,1,1,2-Tetrachloroethane	14.67	131	37088	17.07	ug/kg#	1
67) Ethylbenzene	14.61	106	61547	21.32	ug/kg	96
68) m-xylene & p-xylene	14.73	106	153180	44.52	ug/kg	98
69) O-Xylene	15.14	106	75273	21.42	ug/kg	99
70) Bromoform	15.26	173	14963	13.64	ug/kg	98
71) Styrene	15.18	104	124345	21.24	ug/kg	99
72) Isopropylbenzene	15.41	105	191995	22.10	ug/kg	100
73) 1,2,3-Trichloropropane	16.05	75	28956	14.16	ug/kg	91
74) 1,1,2,2-Tetrachloroethane	15.85	83	25013	14.63	ug/kg	99
76) Bromofluorobenzene	15.75	95	128504	49.95	ug/kg#	77
77) T-1,4-dichloro-2-butene	16.03	53	6208	13.46	ug/kg	91
78) N-Propylbenzene	15.82	91	236965	23.98	ug/kg	100
80) Bromobenzene	15.91	156	39516	17.69	ug/kg	96
81) 1,3,5-Trimethylbenzene	15.98	105	159939	23.17	ug/kg	99
82) 2-Chlorotoluene	16.06	91	131730	20.97	ug/kg	100
83) 4-Chlorotoluene	16.22	91	139781	21.26	ug/kg	100
84) 1,2,4-Trimethylbenzene	16.42	105	158658	22.69	ug/kg	99
85) s-Butylbenzene	16.56	105	193382	22.86	ug/kg	99
86) tert-Butylbenzene	16.36	119	137486	22.71	ug/kg	98
87) p-Isopropyltoluene	16.67	119	168183	22.90	ug/kg	99
88) 1,3-Dichlorobenzene	16.92	146	78100	19.86	ug/kg	97
89) 1,4-Dichlorobenzene	17.02	146	75850	19.22	ug/kg	96
90) 1,2-Dichlorobenzene	17.59	146	65404	19.42	ug/kg	98
91) N-Butylbenzene	17.20	91	142277	22.69	ug/kg	99
92) DBCP	18.71	75	3562	15.64	ug/kg	90
93) Naphthalene	20.71	128	35149	21.89	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.99	180	30429	20.98	ug/kg	99
95) Hexachlorobutadiene	19.85	225	20138	23.25	ug/kg	100
96) 1,2,3-Trichlorobenzene	21.15	180	20680	21.97	ug/kg	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\021921\212BN004.D Vial: 4
Acq On : 19 Feb 2021 9:35 am Operator: kkw
Sample : ms1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 21 9:29 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.49	168	276104	50.00	ug/kg	0.02
38) 1,4-Difluorobenzene(IS)	12.04	114	537501	50.00	ug/kg	0.02
56) Chlorobenzene-d5(IS)	14.63	82	252013	50.00	ug/kg	0.02
79) 1,4-Dichlorobenzene-d4(IS)	17.00	152	151683	50.00	ug/kg	0.03
System Monitoring Compounds						
30) Dibromofluoromethane	11.10	113	160731	56.36	ug/kg	0.03
Spiked Amount 50.000	Range 53 - 146		Recovery = 112.72%			
54) D8-Toluene	13.26	98	493178	51.98	ug/kg	0.03
Spiked Amount 50.000	Range 41 - 146		Recovery = 103.96%			
75) Bromofluorobenzene	15.75	95	163215	44.79	ug/kg	0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 89.58%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.93	85	73684	12.91	ug/kg	98
3) Chloromethane	6.41	50	106779	19.27	ug/kg	99
4) Vinyl Chloride	6.61	62	99707	19.78	ug/kg	97
5) Bromomethane	7.27	96	27007	14.99	ug/kg	98
6) Chloroethane	7.49	64	57408	23.33	ug/kg	99
7) Trichlorofluoromethane	7.75	101	118191	23.38	ug/kg	99
8) Trichlorotrifluoroethane	8.57	101	79635	27.46	ug/kg	96
9) acrolein	8.94	56	20647	45.00	ug/kg	98
10) Acetone	9.28	43	54135	88.76	ug/kg	96
11) 1,1-Dichloroethene	8.54	96	70560	24.16	ug/kg	96
12) 3-Chloropropene	9.13	76	47525	23.44	ug/kg	93
13) Acetonitrile	9.84	41	20720	76.17	ug/kg	93
14) Iodomethane	8.76	142	85181	26.05	ug/kg	97
15) Carbon disulfide	8.66	76	279048	25.20	ug/kg	100
16) Methylene Chloride	9.24	84	73963	22.39	ug/kg	95
17) Methyl tert-butyl ether	9.56	73	117017	16.14	ug/kg	95
18) Acrylonitrile	10.13	53	166680	112.78	ug/kg#	73
19) T-1,2-Dichloroethene	9.48	96	79021	24.11	ug/kg	96
20) Isopropyl Ether	9.94	45	332364	22.55	ug/kg	98
21) C-1,2-Dichloroethene	10.70	96	82782	23.41	ug/kg	98
22) 1,1-Dichloroethane	10.14	63	164228	25.92	ug/kg	99
23) Vinyl Acetate	10.34	43	137387	17.26	ug/kg	95
24) Chloroprene	10.13	88	71368	23.88	ug/kg	13
25) 2-Butanone	11.21	72	21902	102.19	ug/kg	61
26) Propionitrile	11.49	54	4301	14.41	ug/kg	100
27) 2,2-Dichloropropane	10.83	77	122410	24.01	ug/kg	99
28) Methacrylonitrile	11.52	67	16347	16.49	ug/kg	71
29) Chloroform	10.92	83	140612	23.48	ug/kg	100
31) Dibromofluoromethane	11.10	113	160731	56.36	ug/kg	100
32) Bromochloromethane	10.90	128	33262	19.75	ug/kg	91
33) 1,1,1-Trichloroethane	11.21	97	114119	25.40	ug/kg	98
34) 1,1-Dichloropropene	11.31	75	114624	24.58	ug/kg	99
35) Diethyl Ether	8.18	59	51923	19.00	ug/kg	99
36) Methyl Acetate	9.42	74	6040	15.64	ug/kg#	80
37) Cyclohexane	10.99	56	171956	32.47	ug/kg	93
39) Methyl Cyclohexane	12.10	55	114014	26.11	ug/kg	96
40) Carbon Tetrachloride	11.18	117	114598	23.59	ug/kg	99
41) 1,2-Dichloroethane	11.69	62	82138	18.04	ug/kg	99
42) Benzene	11.55	78	308277	23.59	ug/kg#	65
43) Isobutyl Alcohol	11.57	43	47172	197.87	ug/kg#	1
44) Trichloroethene	12.07	130	79872	22.49	ug/kg	95
45) 1,2-Dichloropropane	12.51	63	83712	20.67	ug/kg	94
46) Methyl Methacrylate	12.59	100	10526	15.03	ug/kg	86
47) 1,4-Dioxane	12.72	88	3233	264.71	ug/kg	92
48) Bromodichloromethane	12.53	83	89061	18.26	ug/kg	97
49) Dibromomethane	12.45	93	33157	16.18	ug/kg	95
50) 4-Methyl-2-Pentanone	13.54	100	22368	72.35	ug/kg	98
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.	d	
52) 2-Hexanone	14.23	43	117556	68.45	ug/kg	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\021921\212BN004.D Vial: 4
Acq On : 19 Feb 2021 9:35 am Operator: kkw
Sample : ms1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 21 9:29 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

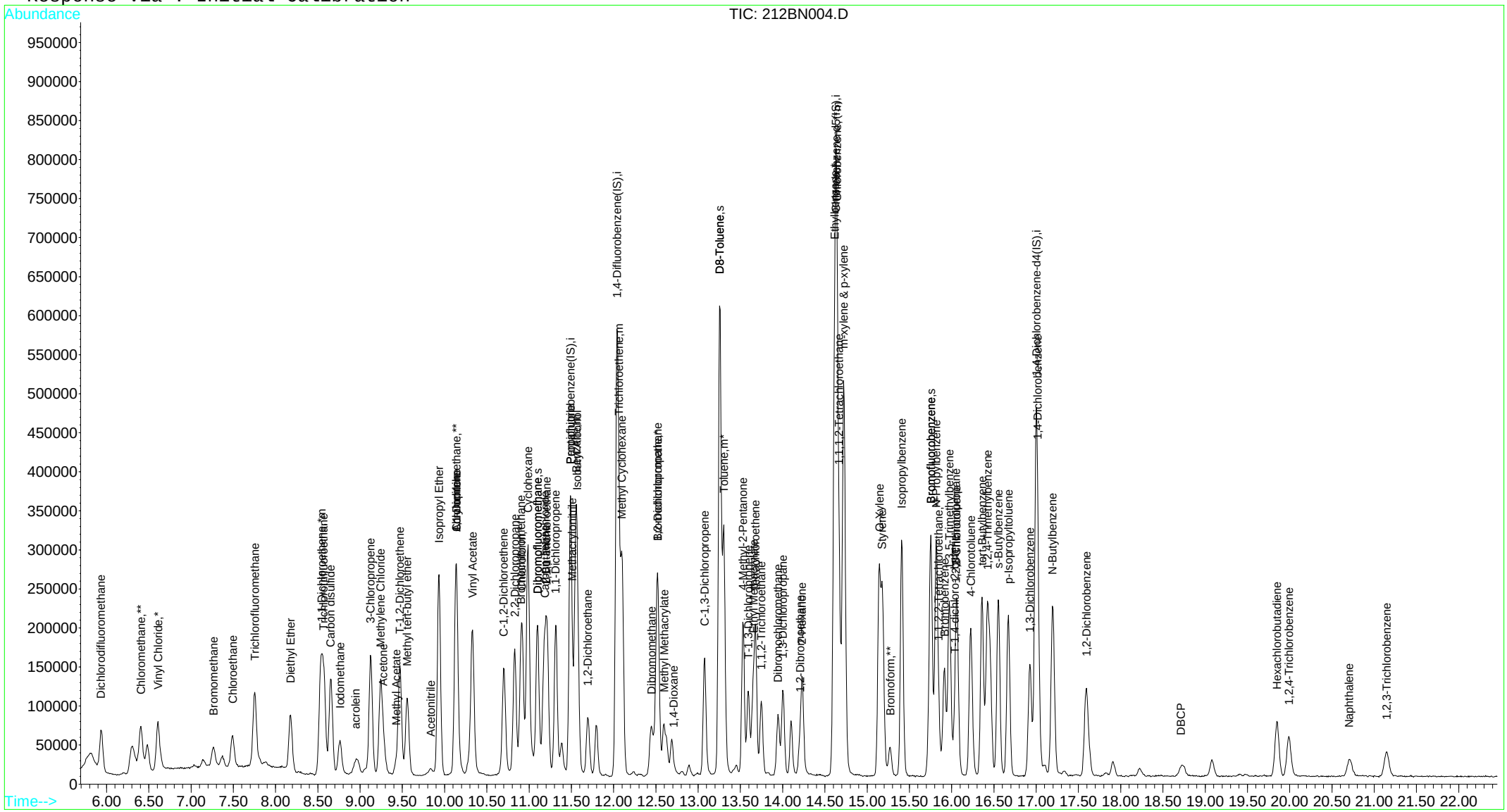
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.08	75	113104	17.39	ug/kg	98
55) D8-Toluene	13.26	98	493178	51.98	ug/kg	93
57) Toluene	13.30	92	165580	22.70	ug/kg	98
58) Ethyl Methacrylate	13.65	69	58650	16.56	ug/kg	95
59) T-1,3-Dichloropropene	13.59	75	79206	16.80	ug/kg	98
60) 1,1,2-Trichloroethane	13.75	97	38464	16.28	ug/kg	98
61) 1,3-Dichloropropane	14.00	76	80337	16.56	ug/kg	99
62) Tetrachloroethene	13.68	164	50575	23.22	ug/kg	95
63) Dibromochloromethane	13.95	129	54885	16.81	ug/kg	98
64) 1,2-Dibromoethane	14.20	107	40976	16.63	ug/kg	100
65) Chlorobenzene	14.65	112	164568	20.82	ug/kg	97
66) 1,1,1,2-Tetrachloroethane	14.67	131	59527	19.34	ug/kg#	1
67) Ethylbenzene	14.61	106	93563	22.89	ug/kg	97
68) m-xylene & p-xylene	14.72	106	206630	42.40	ug/kg	99
69) O-Xylene	15.15	106	102264	20.55	ug/kg	99
70) Bromoform	15.27	173	21795	14.02	ug/kg	99
71) Styrene	15.18	104	166418	20.07	ug/kg	99
72) Isopropylbenzene	15.41	105	291726	23.71	ug/kg	100
73) 1,2,3-Trichloropropane	16.04	75	40511	13.99	ug/kg	96
74) 1,1,2,2-Tetrachloroethane	15.85	83	35114	14.50	ug/kg	99
76) Bromofluorobenzene	15.75	95	163215	44.79	ug/kg#	76
77) T-1,4-dichloro-2-butene	16.03	53	7597	11.63	ug/kg#	66
78) N-Propylbenzene	15.82	91	357352	25.54	ug/kg	99
80) Bromobenzene	15.92	156	53002	20.67	ug/kg	92
81) 1,3,5-Trimethylbenzene	15.97	105	189180	23.87	ug/kg	100
82) 2-Chlorotoluene	16.06	91	168951	23.43	ug/kg	99
83) 4-Chlorotoluene	16.23	91	171303	22.70	ug/kg	98
84) 1,2,4-Trimethylbenzene	16.42	105	187880	23.41	ug/kg	100
85) s-Butylbenzene	16.55	105	249715	25.71	ug/kg	99
86) tert-Butylbenzene	16.36	119	174152	25.06	ug/kg	99
87) p-Isopropyltoluene	16.67	119	197787	23.46	ug/kg	99
88) 1,3-Dichlorobenzene	16.92	146	93222	20.65	ug/kg	98
89) 1,4-Dichlorobenzene	17.02	146	88346	19.51	ug/kg	97
90) 1,2-Dichlorobenzene	17.59	146	75326	19.48	ug/kg	99
91) N-Butylbenzene	17.19	91	173536	24.10	ug/kg	98
92) DBCP	18.70	75	4559	17.44	ug/kg	83
93) Naphthalene	20.71	128	43536	23.48	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.99	180	32190	19.33	ug/kg	98
95) Hexachlorobutadiene	19.85	225	22976	23.10	ug/kg	98
96) 1,2,3-Trichlorobenzene	21.15	180	21830	20.21	ug/kg	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\021921\212BN004.D Vial: 4
Acq On : 19 Feb 2021 9:35 am Operator: kkw
Sample : ms1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 21 9:29 2021 Quant Results File: 020421.RES

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\021921\212BN005.D Vial: 4
Acq On : 19 Feb 2021 10:04 am Operator: kkw
Sample : msd1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 21 9:29 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.48	168	180930	50.00	ug/kg	0.00
38) 1,4-Difluorobenzene(IS)	12.03	114	346530	50.00	ug/kg	0.00
56) Chlorobenzene-d5(IS)	14.63	82	187565	50.00	ug/kg	0.02
79) 1,4-Dichlorobenzene-d4(IS)	17.00	152	142181	50.00	ug/kg	0.02
System Monitoring Compounds						
30) Dibromofluoromethane	11.08	113	101756	54.45	ug/kg	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 108.90%			
54) D8-Toluene	13.25	98	347012	56.73	ug/kg	0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 113.46%			
75) Bromofluorobenzene	15.75	95	138780	51.17	ug/kg	0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 102.34%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.88	85	45928	12.28	ug/kg	95
3) Chloromethane	6.34	50	68466	18.86	ug/kg	99
4) Vinyl Chloride	6.55	62	64993	19.68	ug/kg	95
5) Bromomethane	7.21	96	26160	22.16	ug/kg	99
6) Chloroethane	7.44	64	37542	23.28	ug/kg	99
7) Trichlorofluoromethane	7.71	101	71423	21.56	ug/kg	99
8) Trichlorotrifluoroethane	8.53	101	48146	25.33	ug/kg	97
9) acrolein	8.91	56	13786	45.85	ug/kg	100
10) Acetone	9.25	43	35872	89.76	ug/kg	97
11) 1,1-Dichloroethene	8.50	96	42610	22.27	ug/kg	98
12) 3-Chloropropene	9.10	76	28182	21.21	ug/kg	92
13) Acetonitrile	9.81	41	13917	78.07	ug/kg	87
14) Iodomethane	8.72	142	50985	23.83	ug/kg	99
15) Carbon disulfide	8.62	76	169326	23.33	ug/kg	99
16) Methylene Chloride	9.21	84	47546	21.97	ug/kg	95
17) Methyl tert-butyl ether	9.53	73	83188	17.51	ug/kg	95
18) Acrylonitrile	10.11	53	102604	105.95	ug/kg#	73
19) T-1,2-Dichloroethene	9.44	96	48888	22.76	ug/kg	99
20) Isopropyl Ether	9.91	45	213263	22.08	ug/kg	97
21) C-1,2-Dichloroethene	10.69	96	50931	21.98	ug/kg	96
22) 1,1-Dichloroethane	10.11	63	99120	23.87	ug/kg	98
23) Vinyl Acetate	10.32	43	88327	16.93	ug/kg	95
24) Chloroprene	10.11	88	43289	22.11	ug/kg	14
25) 2-Butanone	11.19	72	16450	117.13	ug/kg	51
26) Propionitrile	11.48	54	2681	13.71	ug/kg	100
27) 2,2-Dichloropropane	10.81	77	71954	21.53	ug/kg	99
28) Methacrylonitrile	11.51	67	10814	16.65	ug/kg	80
29) Chloroform	10.90	83	88013	22.43	ug/kg	99
31) Dibromofluoromethane	11.08	113	101756	54.45	ug/kg	100
32) Bromochloromethane	10.88	128	22141	20.06	ug/kg	96
33) 1,1,1-Trichloroethane	11.19	97	69352	23.56	ug/kg	99
34) 1,1-Dichloropropene	11.30	75	70735	23.14	ug/kg	99
35) Diethyl Ether	8.13	59	32804	18.32	ug/kg	99
36) Methyl Acetate	9.39	74	4032	15.93	ug/kg#	90
37) Cyclohexane	10.97	56	106717	30.75	ug/kg	90
39) Methyl Cyclohexane	12.09	55	73546	26.13	ug/kg	95
40) Carbon Tetrachloride	11.17	117	70233	22.42	ug/kg	99
41) 1,2-Dichloroethane	11.68	62	53862	18.35	ug/kg	99
42) Benzene	11.54	78	193683	22.99	ug/kg#	64
43) Isobutyl Alcohol	11.56	43	35947	233.88	ug/kg#	1
44) Trichloroethene	12.06	130	49469	21.61	ug/kg	94
45) 1,2-Dichloropropane	12.51	63	53917	20.65	ug/kg	93
46) Methyl Methacrylate	12.58	100	7549	16.72	ug/kg	89
47) 1,4-Dioxane	12.72	88	2824	358.65	ug/kg	91
48) Bromodichloromethane	12.52	83	57410	18.26	ug/kg	98
49) Dibromomethane	12.44	93	21465	16.24	ug/kg	95
50) 4-Methyl-2-Pentanone	13.52	100	16746	84.02	ug/kg	98
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.	d	
52) 2-Hexanone	14.23	43	95892	86.61	ug/kg	97

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\021921\212BN005.D Vial: 4
Acq On : 19 Feb 2021 10:04 am Operator: kkw
Sample : msd1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 21 9:29 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

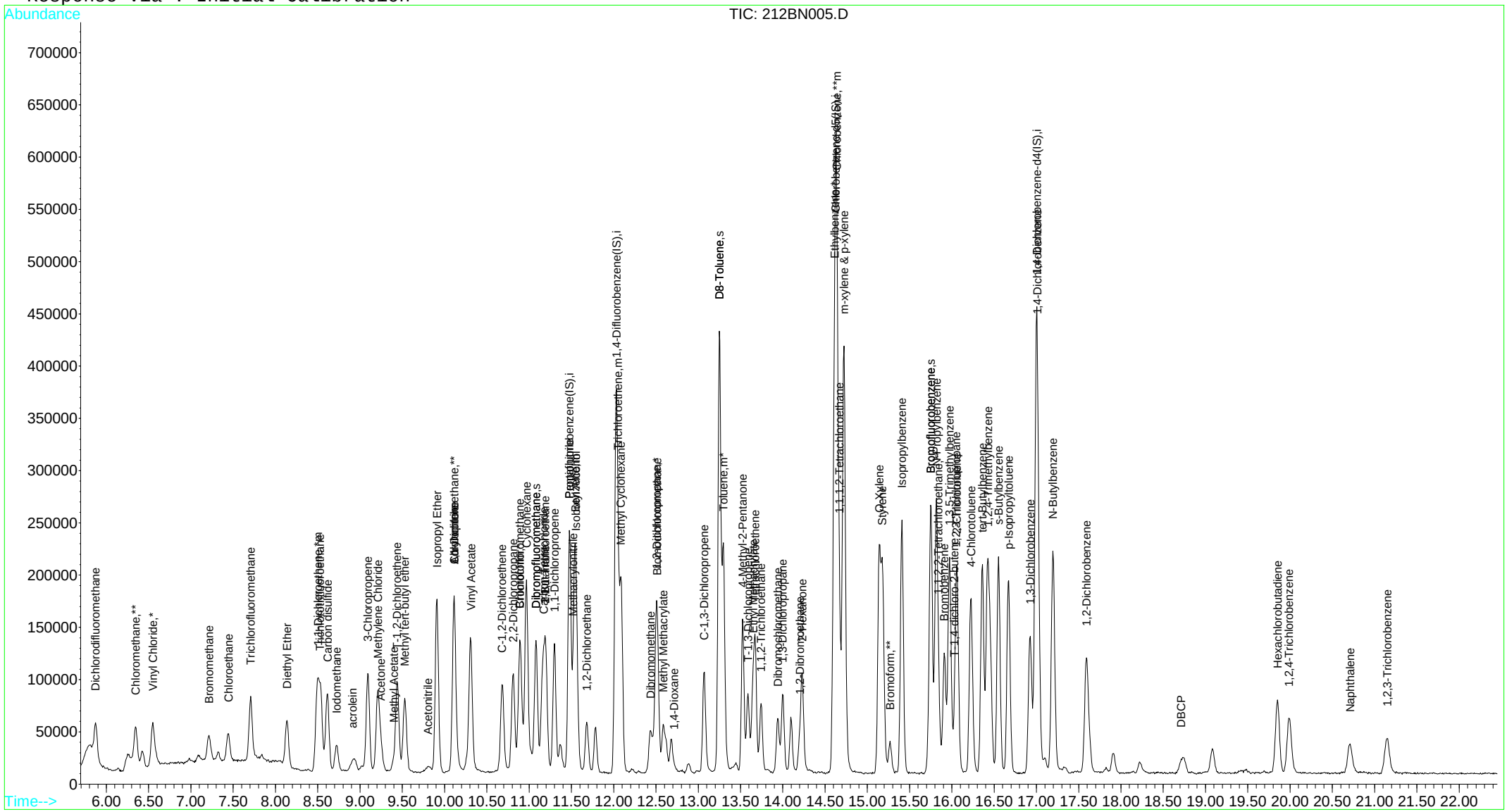
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.06	75	73164	17.45	ug/kg	97
55) D8-Toluene	13.25	98	347012	56.73	ug/kg	92
57) Toluene	13.30	92	116294	21.42	ug/kg	99
58) Ethyl Methacrylate	13.64	69	41893	15.89	ug/kg	94
59) T-1,3-Dichloropropene	13.59	75	55094	15.71	ug/kg	97
60) 1,1,2-Trichloroethane	13.74	97	26347	14.99	ug/kg	98
61) 1,3-Dichloropropane	14.00	76	55789	15.45	ug/kg	99
62) Tetrachloroethene	13.67	164	33014	20.36	ug/kg	95
63) Dibromochloromethane	13.94	129	37536	15.45	ug/kg	97
64) 1,2-Dibromoethane	14.19	107	29546	16.11	ug/kg	100
65) Chlorobenzene	14.65	112	123006	20.91	ug/kg	97
66) 1,1,1,2-Tetrachloroethane	14.67	131	41131	17.96	ug/kg#	1
67) Ethylbenzene	14.60	106	71588	23.53	ug/kg	98
68) m-xylene & p-xylene	14.72	106	169348	46.69	ug/kg	100
69) O-Xylene	15.14	106	84668	22.86	ug/kg	100
70) Bromoform	15.27	173	16884	14.60	ug/kg	99
71) Styrene	15.18	104	139770	22.64	ug/kg	100
72) Isopropylbenzene	15.41	105	236010	25.77	ug/kg	100
73) 1,2,3-Trichloropropane	16.04	75	33173	15.39	ug/kg	96
74) 1,1,2,2-Tetrachloroethane	15.85	83	27724	15.38	ug/kg	98
76) Bromofluorobenzene	15.75	95	138780	51.17	ug/kg#	76
77) T-1,4-dichloro-2-butene	16.02	53	6198	12.75	ug/kg#	66
78) N-Propylbenzene	15.82	91	304225	29.21	ug/kg	100
80) Bromobenzene	15.91	156	43958	18.29	ug/kg	92
81) 1,3,5-Trimethylbenzene	15.97	105	177367	23.88	ug/kg	99
82) 2-Chlorotoluene	16.06	91	146465	21.67	ug/kg	99
83) 4-Chlorotoluene	16.22	91	154276	21.81	ug/kg	99
84) 1,2,4-Trimethylbenzene	16.43	105	177301	23.56	ug/kg	99
85) s-Butylbenzene	16.55	105	220392	24.21	ug/kg	100
86) tert-Butylbenzene	16.36	119	152403	23.39	ug/kg	99
87) p-Isopropyltoluene	16.67	119	183129	23.17	ug/kg	99
88) 1,3-Dichlorobenzene	16.93	146	88767	20.98	ug/kg	99
89) 1,4-Dichlorobenzene	17.02	146	84532	19.91	ug/kg	98
90) 1,2-Dichlorobenzene	17.59	146	73302	20.22	ug/kg	98
91) N-Butylbenzene	17.20	91	168377	24.95	ug/kg	97
92) DBCP	18.71	75	4817	19.66	ug/kg	83
93) Naphthalene	20.71	128	52933	29.74	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.99	180	35714	22.88	ug/kg	97
95) Hexachlorobutadiene	19.85	225	22203	23.82	ug/kg	98
96) 1,2,3-Trichlorobenzene	21.15	180	24511	24.20	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\021921\212BN005.D Vial: 4
Acq On : 19 Feb 2021 10:04 am Operator: kkw
Sample : msd1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 21 9:29 2021 Quant Results File: 020421.RES

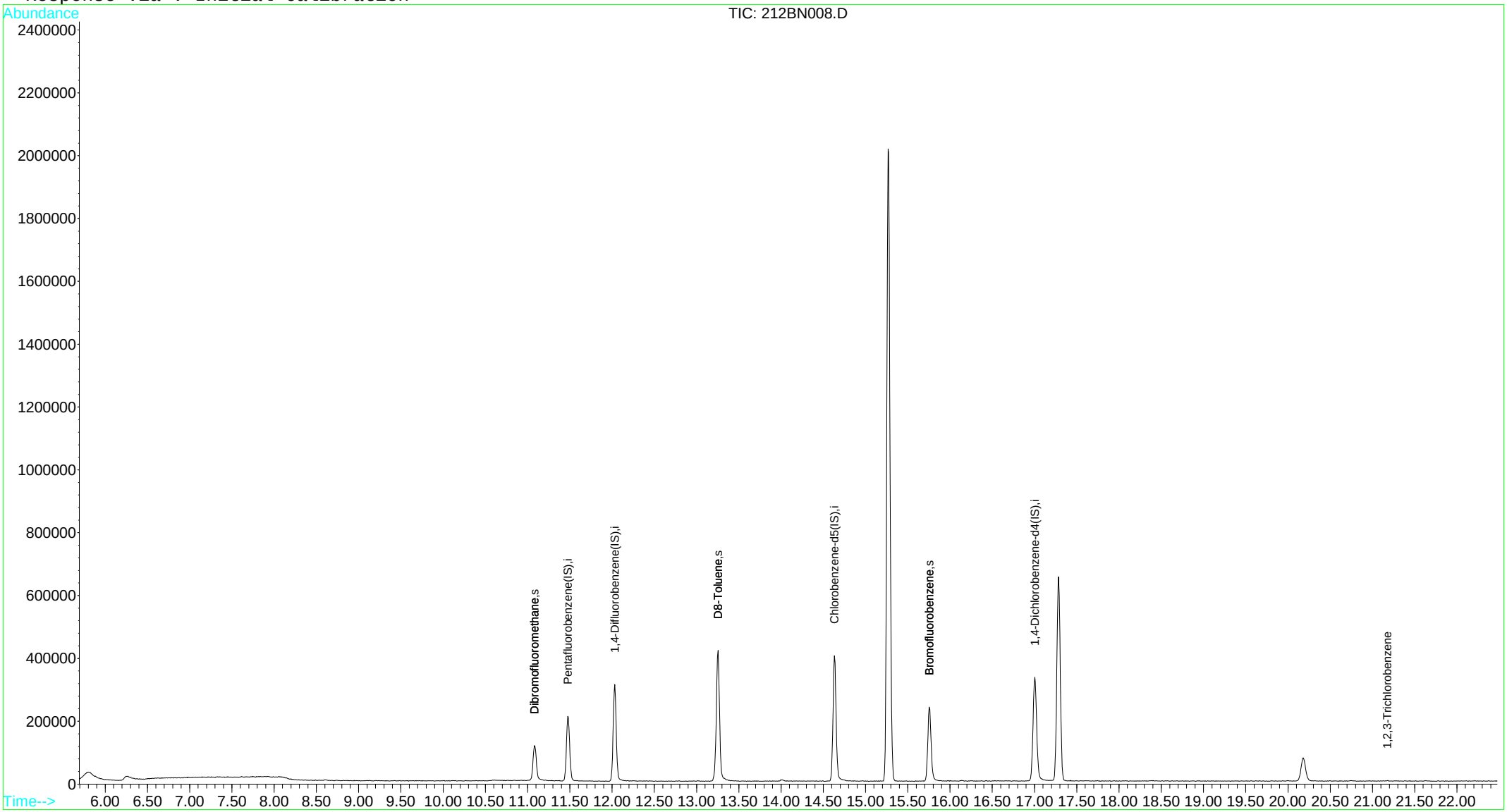
Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\021921\212BN008.D Vial: 7
Acq On : 19 Feb 2021 11:30 am Operator: kkw
Sample : 1b19011-blk1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 21 9:31 2021 Quant Results File: 020421.RES

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration



Quantitation Report (QT/LSC Reviewed)

Data File : C:\HPCHEM\1\DATA\021921\212BN008.D Vial: 7
Acq On : 19 Feb 2021 11:30 am Operator: kkw
Sample : 1b19011-blk1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 21 9:31 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.48	168	169030	50.00	ug/kg	0.01
38) 1,4-Difluorobenzene(IS)	12.03	114	315501	50.00	ug/kg	0.01
56) Chlorobenzene-d5(IS)	14.63	82	180156	50.00	ug/kg	0.02
79) 1,4-Dichlorobenzene-d4(IS)	17.00	152	145188	50.00	ug/kg	0.03
System Monitoring Compounds						
30) Dibromofluoromethane	11.08	113	96266	55.14	ug/kg	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 110.28%			
54) D8-Toluene	13.25	98	325700	58.49	ug/kg	0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 116.98%			
75) Bromofluorobenzene	15.75	95	132694	50.94	ug/kg	0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 101.88%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.		
3) Chloromethane	0.00	50	0	N.D. d		
4) Vinyl Chloride	0.00	62	0	N.D.		
5) Bromomethane	0.00	96	0	N.D.		
6) Chloroethane	0.00	64	0	N.D. d		
7) Trichlorofluoromethane	0.00	101	0	N.D.		
8) Trichlorotrifluoroethane	0.00	101	0	N.D.		
9) acrolein	0.00	56	0	N.D.		
10) Acetone	0.00	43	0	N.D. d		
11) 1,1-Dichloroethene	0.00	96	0	N.D.		
12) 3-Chloropropene	0.00	76	0	N.D.		
13) Acetonitrile	0.00	41	0	N.D.		
14) Iodomethane	0.00	142	0	N.D.		
15) Carbon disulfide	0.00	76	0	N.D. d		
16) Methylene Chloride	0.00	84	0	N.D.		
17) Methyl tert-butyl ether	0.00	73	0	N.D.		
18) Acrylonitrile	0.00	53	0	N.D.		
19) T-1,2-Dichloroethene	0.00	96	0	N.D.		
20) Isopropyl Ether	0.00	45	0	N.D.		
21) C-1,2-Dichloroethene	0.00	96	0	N.D.		
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	0.00	43	0	N.D.		
24) Chloroprene	0.00	88	0	N.D.		
25) 2-Butanone	0.00	72	0	N.D.		
26) Propionitrile	0.00	54	0	N.D.		
27) 2,2-Dichloropropane	0.00	77	0	N.D.		
28) Methacrylonitrile	0.00	67	0	N.D. d		
29) Chloroform	0.00	83	0	N.D.		
31) Dibromofluoromethane	11.08	113	96266	55.14	ug/kg	100
32) Bromochloromethane	0.00	128	0	N.D.		
33) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
34) 1,1-Dichloropropene	0.00	75	0	N.D.		
35) Diethyl Ether	0.00	59	0	N.D.		
36) Methyl Acetate	0.00	74	0	N.D.		
37) Cyclohexane	0.00	56	0	N.D.		
39) Methyl Cyclohexane	0.00	55	0	N.D. d		
40) Carbon Tetrachloride	0.00	117	0	N.D.		
41) 1,2-Dichloroethane	0.00	62	0	N.D.		
42) Benzene	0.00	78	0	N.D. d		
43) Isobutyl Alcohol	0.00	43	0	N.D.		
44) Trichloroethene	0.00	130	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D. d		
46) Methyl Methacrylate	0.00	100	0	N.D.		
47) 1,4-Dioxane	0.00	88	0	N.D.		
48) Bromodichloromethane	0.00	83	0	N.D.		
49) Dibromomethane	0.00	93	0	N.D.		
50) 4-Methyl-2-Pentanone	0.00	100	0	N.D.		
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	0.00	43	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\021921\212BN008.D Vial: 7
Acq On : 19 Feb 2021 11:30 am Operator: kkw
Sample : 1b19011-blk1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 21 9:31 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

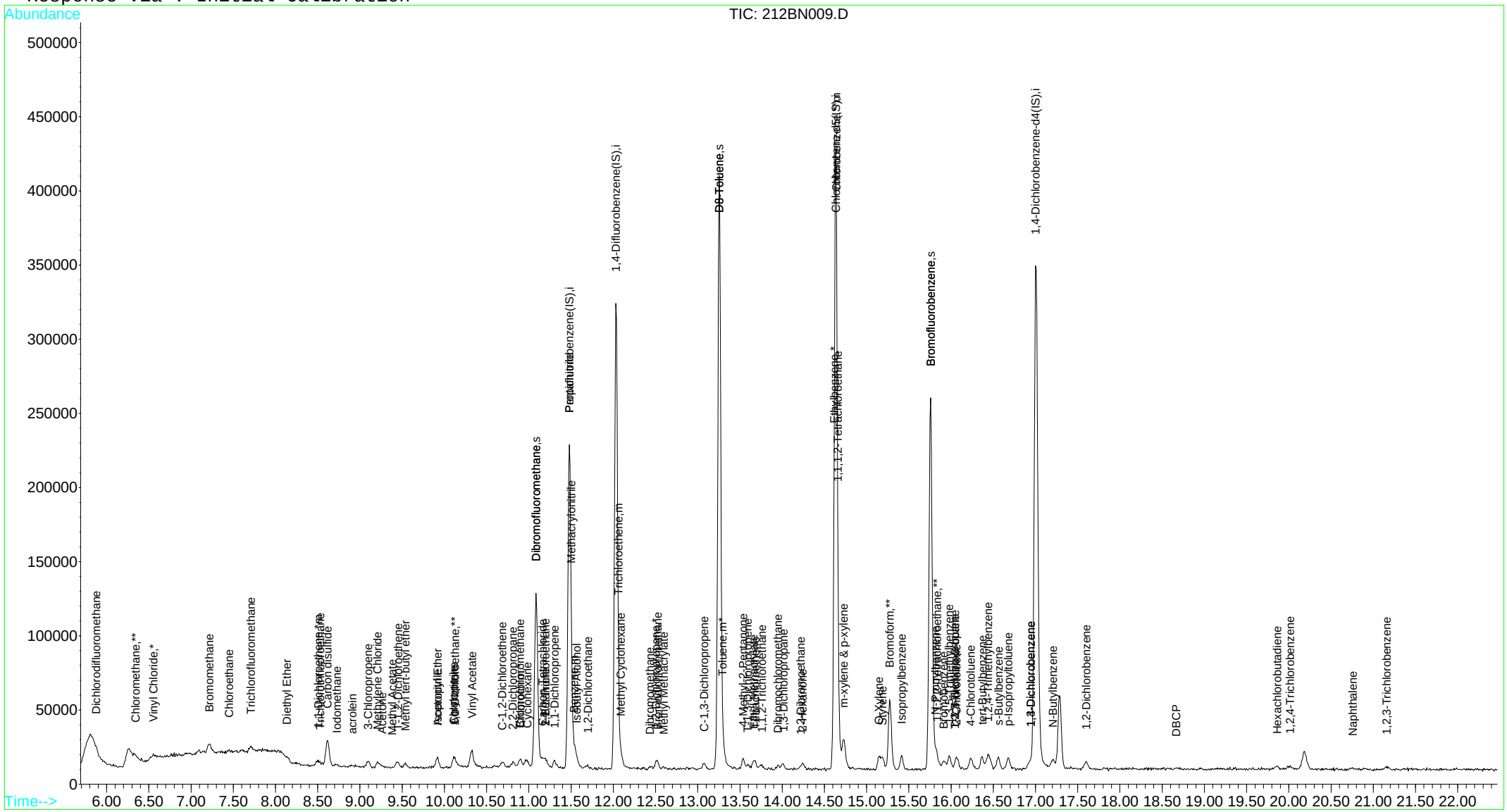
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	0.00	75	0	N.D. d	
55) D8-Toluene	13.25	98	325700	58.49 ug/kg	92
57) Toluene	0.00	92	0	N.D.	
58) Ethyl Methacrylate	0.00	69	0	N.D.	
59) T-1,3-Dichloropropene	0.00	75	0	N.D.	
60) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
61) 1,3-Dichloropropane	0.00	76	0	N.D.	
62) Tetrachloroethene	0.00	164	0	N.D.	
63) Dibromochloromethane	0.00	129	0	N.D.	
64) 1,2-Dibromoethane	0.00	107	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
67) Ethylbenzene	0.00	106	0	N.D.	
68) m-xylene & p-xylene	0.00	106	0	N.D.	
69) O-Xylene	0.00	106	0	N.D. d	
70) Bromoform	0.00	173	0	N.D. d	
71) Styrene	0.00	104	0	N.D. d	
72) Isopropylbenzene	0.00	105	0	N.D. d	
73) 1,2,3-Trichloropropane	0.00	75	0	N.D.	
74) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
76) Bromofluorobenzene	15.75	95	132694	50.94 ug/kg#	78
77) T-1,4-dichloro-2-butene	0.00	53	0	N.D.	
78) N-Propylbenzene	0.00	91	0	N.D. d	
80) Bromobenzene	0.00	156	0	N.D.	
81) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
82) 2-Chlorotoluene	0.00	91	0	N.D.	
83) 4-Chlorotoluene	0.00	91	0	N.D.	
84) 1,2,4-Trimethylbenzene	0.00	105	0	N.D. d	
85) s-Butylbenzene	0.00	105	0	N.D. d	
86) tert-Butylbenzene	0.00	119	0	N.D.	
87) p-Isopropyltoluene	0.00	119	0	N.D. d	
88) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
89) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) N-Butylbenzene	0.00	91	0	N.D. d	
92) DBCP	0.00	75	0	N.D.	
93) Naphthalene	0.00	128	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Hexachlorobutadiene	0.00	225	0	N.D.	
96) 1,2,3-Trichlorobenzene	21.17	180	896	0.87 ug/kg#	69

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\021921\212BN009.D Vial: 8
Acq On : 19 Feb 2021 11:59 am Operator: kkw
Sample : aa65034-crl1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 21 9:33 2021 Quant Results File: 020421.RES

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\021921\212BN009.D Vial: 8
Acq On : 19 Feb 2021 11:59 am Operator: kkw
Sample : aa65034-crl1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 21 9:33 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.48	168	173391	50.00	ug/kg	0.01
38) 1,4-Difluorobenzene(IS)	12.03	114	323832	50.00	ug/kg	0.01
56) Chlorobenzene-d5(IS)	14.64	82	184958	50.00	ug/kg	0.03
79) 1,4-Dichlorobenzene-d4(IS)	17.00	152	148746	50.00	ug/kg	0.03
System Monitoring Compounds						
30) Dibromofluoromethane	11.08	113	98883	55.21	ug/kg	0.01
Spiked Amount 50.000	Range 53 - 146		Recovery = 110.42%			
54) D8-Toluene	13.25	98	335367	58.67	ug/kg	0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 117.34%			
75) Bromofluorobenzene	15.76	95	140684	52.60	ug/kg	0.03
Spiked Amount 50.000	Range 41 - 142		Recovery = 105.20%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.87	85	2668	0.74	ug/kg#	52
3) Chloromethane	6.34	50	3859	1.11	ug/kg#	81
4) Vinyl Chloride	6.55	62	3246	1.03	ug/kg#	1
5) Bromomethane	7.22	96	6620	5.85	ug/kg	95
6) Chloroethane	7.44	64	1757	1.14	ug/kg#	59
7) Trichlorofluoromethane	7.70	101	2667	0.84	ug/kg	91
8) Trichlorotrifluoroethane	8.53	101	1486	0.82	ug/kg	93
9) acrolein	8.91	56	2450	8.50	ug/kg	74
10) Acetone	9.27	43	1227	3.20	ug/kg#	46
11) 1,1-Dichloroethene	8.50	96	1478	0.81	ug/kg	81
12) 3-Chloropropene	9.09	76	2139	1.68	ug/kg#	40
13) Acetonitrile	9.92	41	1884	11.03	ug/kg	65
14) Iodomethane	8.73	142	3081	1.52	ug/kg#	77
15) Carbon disulfide	8.61	76	40567	5.83	ug/kg	100
16) Methylene Chloride	9.21	84	2099	1.01	ug/kg	94
17) Methyl tert-butyl ether	9.54	73	3438	0.76	ug/kg	81
18) Acrylonitrile	10.11	53	4914	5.29	ug/kg#	72
19) T-1,2-Dichloroethene	9.45	96	1884	0.92	ug/kg	92
20) Isopropyl Ether	9.92	45	9659	1.04	ug/kg#	92
21) C-1,2-Dichloroethene	10.68	96	1934	0.87	ug/kg#	74
22) 1,1-Dichloroethane	10.12	63	4529	1.14	ug/kg#	85
23) Vinyl Acetate	10.33	43	23171	4.64	ug/kg	97
24) Chloroprene	10.12	88	1761	0.94	ug/kg	28
25) 2-Butanone	11.20	72	913m	6.78	ug/kg	
26) Propionitrile	11.49	54	1501	8.01	ug/kg	100
27) 2,2-Dichloropropane	10.81	77	3042	0.95	ug/kg	98
28) Methacrylonitrile	11.51	67	5480	8.80	ug/kg	100
29) Chloroform	10.91	83	3725	0.99	ug/kg	92
31) Dibromofluoromethane	11.08	113	98883	55.21	ug/kg	100
32) Bromochloromethane	10.89	128	796	0.75	ug/kg#	65
33) 1,1,1-Trichloroethane	11.20	97	2396	0.85	ug/kg	94
34) 1,1-Dichloropropene	11.30	75	3136	1.07	ug/kg	90
35) Diethyl Ether	8.14	59	1310	0.76	ug/kg#	77
36) Methyl Acetate	9.38	74	90m	0.37	ug/kg	
37) Cyclohexane	10.98	56	3061	0.92	ug/kg#	85
39) Methyl Cyclohexane	12.09	55	2596	0.99	ug/kg	87
40) Carbon Tetrachloride	11.17	117	2338	0.80	ug/kg	98
41) 1,2-Dichloroethane	11.69	62	2466	0.90	ug/kg#	82
42) Benzene	11.54	78	7927	1.01	ug/kg	97
43) Isobutyl Alcohol	11.57	43	1760	12.25	ug/kg#	29
44) Trichloroethene	12.07	130	1861	0.87	ug/kg#	1
45) 1,2-Dichloropropane	12.50	63	3028	1.24	ug/kg	87
46) Methyl Methacrylate	12.60	100	48m	0.11	ug/kg	
47) 1,4-Dioxane	0.00	88	0	N.D.		
48) Bromodichloromethane	12.53	83	2265	0.77	ug/kg#	90
49) Dibromomethane	12.44	93	732	0.59	ug/kg#	79
50) 4-Methyl-2-Pentanone	13.53	100	1119	6.01	ug/kg	76
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	14.24	43	4907	4.74	ug/kg#	89

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\021921\212BN009.D Vial: 8
Acq On : 19 Feb 2021 11:59 am Operator: kkw
Sample : aa65034-crl1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 21 9:33 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.08	75	3012	0.77	ug/kg	94
55) D8-Toluene	13.25	98	335367	58.67	ug/kg	93
57) Toluene	13.30	92	4785	0.89	ug/kg	99
58) Ethyl Methacrylate	13.65	69	2367	0.91	ug/kg#	80
59) T-1,3-Dichloropropene	13.60	75	2342	0.68	ug/kg#	67
60) 1,1,2-Trichloroethane	13.75	97	1054	0.61	ug/kg	94
61) 1,3-Dichloropropane	14.01	76	2930	0.82	ug/kg	93
62) Tetrachloroethene	13.68	164	1323	0.83	ug/kg	94
63) Dibromochloromethane	13.94	129	1514	0.63	ug/kg#	85
64) 1,2-Dibromoethane	14.21	107	1208	0.67	ug/kg#	94
65) Chlorobenzene	14.65	112	5354	0.92	ug/kg#	48
66) 1,1,1,2-Tetrachloroethane	14.66	131	1672	0.74	ug/kg#	1
67) Ethylbenzene	14.61	106	2672	0.89	ug/kg	84
68) m-xylene & p-xylene	14.73	106	6954	1.94	ug/kg	92
69) O-Xylene	15.14	106	3604	0.99	ug/kg	96
70) Bromoform	15.27	173	560m	0.49	ug/kg	
71) Styrene	15.19	104	6478	1.06	ug/kg	93
72) Isopropylbenzene	15.42	105	8892	0.98	ug/kg	98
73) 1,2,3-Trichloropropane	16.04	75	1962	0.92	ug/kg#	46
74) 1,1,2,2-Tetrachloroethane	15.84	83	1215	0.68	ug/kg#	88
76) Bromofluorobenzene	15.76	95	140684	52.60	ug/kg#	78
77) T-1,4-dichloro-2-butene	16.04	53	619	1.29	ug/kg#	49
78) N-Propylbenzene	15.82	91	10572	1.03	ug/kg	95
80) Bromobenzene	15.91	156	1901	0.76	ug/kg	91
81) 1,3,5-Trimethylbenzene	15.98	105	7234	0.93	ug/kg	97
82) 2-Chlorotoluene	16.07	91	6563	0.93	ug/kg	100
83) 4-Chlorotoluene	16.23	91	7152	0.97	ug/kg	97
84) 1,2,4-Trimethylbenzene	16.44	105	7890	1.00	ug/kg	100
85) s-Butylbenzene	16.56	105	9029	0.95	ug/kg	94
86) tert-Butylbenzene	16.37	119	6470	0.95	ug/kg	98
87) p-Isopropyltoluene	16.68	119	7565	0.92	ug/kg	94
88) 1,3-Dichlorobenzene	16.94	146	3763	0.85	ug/kg	93
89) 1,4-Dichlorobenzene	16.94	146	3763	0.85	ug/kg	93
90) 1,2-Dichlorobenzene	17.60	146	3047	0.80	ug/kg	91
91) N-Butylbenzene	17.20	91	6279	0.89	ug/kg	96
92) DBCP	18.66	75	170m	0.66	ug/kg	
93) Naphthalene	20.76	128	2303m	1.38	ug/kg	
94) 1,2,4-Trichlorobenzene	20.02	180	1455	0.89	ug/kg#	82
95) Hexachlorobutadiene	19.85	225	938	0.96	ug/kg#	19
96) 1,2,3-Trichlorobenzene	21.16	180	624	0.59	ug/kg#	38

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\021921\212BN010.D Vial: 9
Acq On : 19 Feb 2021 12:28 pm Operator: kkw
Sample : AE00742-01 Inst : OVGCMS2
Misc : 5 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 21 9:35 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.50	168	296268	50.00	ug/kg	0.03
38) 1,4-Difluorobenzene(IS)	12.05	114	574166	50.00	ug/kg	0.03
56) Chlorobenzene-d5(IS)	14.64	82	269633	50.00	ug/kg	0.03
79) 1,4-Dichlorobenzene-d4(IS)	17.01	152	164498	50.00	ug/kg	0.04
System Monitoring Compounds						
30) Dibromofluoromethane	11.11	113	177646	58.05	ug/kg	0.04
Spiked Amount 50.000	Range 53 - 146		Recovery = 116.10%			
54) D8-Toluene	13.26	98	515808	50.90	ug/kg	0.03
Spiked Amount 50.000	Range 41 - 146		Recovery = 101.80%			
75) Bromofluorobenzene	15.76	95	172408	44.22	ug/kg	0.03
Spiked Amount 50.000	Range 41 - 142		Recovery = 88.44%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.		
3) Chloromethane	0.00	50	0	N.D. d		
4) Vinyl Chloride	0.00	62	0	N.D.		
5) Bromomethane	0.00	96	0	N.D. d		
6) Chloroethane	0.00	64	0	N.D.		
7) Trichlorofluoromethane	0.00	101	0	N.D.		
8) Trichlorotrifluoroethane	0.00	101	0	N.D.		
9) acrolein	0.00	56	0	N.D.		
10) Acetone	9.29	43	4753	7.26	ug/kg	71
11) 1,1-Dichloroethene	0.00	96	0	N.D.		
12) 3-Chloropropene	0.00	76	0	N.D.		
13) Acetonitrile	0.00	41	0	N.D. d		
14) Iodomethane	0.00	142	0	N.D.		
15) Carbon disulfide	8.66	76	7128	0.60	ug/kg	94
16) Methylene Chloride	0.00	84	0	N.D.		
17) Methyl tert-butyl ether	0.00	73	0	N.D. d		
18) Acrylonitrile	0.00	53	0	N.D. d		
19) T-1,2-Dichloroethene	0.00	96	0	N.D.		
20) Isopropyl Ether	0.00	45	0	N.D.		
21) C-1,2-Dichloroethene	0.00	96	0	N.D.		
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	0.00	43	0	N.D. d		
24) Chloroprene	0.00	88	0	N.D.		
25) 2-Butanone	0.00	72	0	N.D.		
26) Propionitrile	0.00	54	0	N.D. d		
27) 2,2-Dichloropropane	0.00	77	0	N.D. d		
28) Methacrylonitrile	0.00	67	0	N.D. d		
29) Chloroform	0.00	83	0	N.D. d		
31) Dibromofluoromethane	11.11	113	177646	58.05	ug/kg	100
32) Bromochloromethane	0.00	128	0	N.D.		
33) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
34) 1,1-Dichloropropene	0.00	75	0	N.D.		
35) Diethyl Ether	0.00	59	0	N.D.		
36) Methyl Acetate	0.00	74	0	N.D.		
37) Cyclohexane	11.00	56	18842	3.32	ug/kg#	55
39) Methyl Cyclohexane	0.00	55	0	N.D. d		
40) Carbon Tetrachloride	0.00	117	0	N.D.		
41) 1,2-Dichloroethane	0.00	62	0	N.D.		
42) Benzene	11.57	78	6329	0.45	ug/kg#	59
43) Isobutyl Alcohol	0.00	43	0	N.D. d		
44) Trichloroethene	0.00	130	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D. d		
46) Methyl Methacrylate	0.00	100	0	N.D.		
47) 1,4-Dioxane	0.00	88	0	N.D.		
48) Bromodichloromethane	0.00	83	0	N.D.		
49) Dibromomethane	0.00	93	0	N.D.		
50) 4-Methyl-2-Pentanone	0.00	100	0	N.D.		
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	0.00	43	0	N.D. d		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\021921\212BN010.D Vial: 9
Acq On : 19 Feb 2021 12:28 pm Operator: kkw
Sample : AE00742-01 Inst : OVGCMS2
Misc : 5 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 21 9:35 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

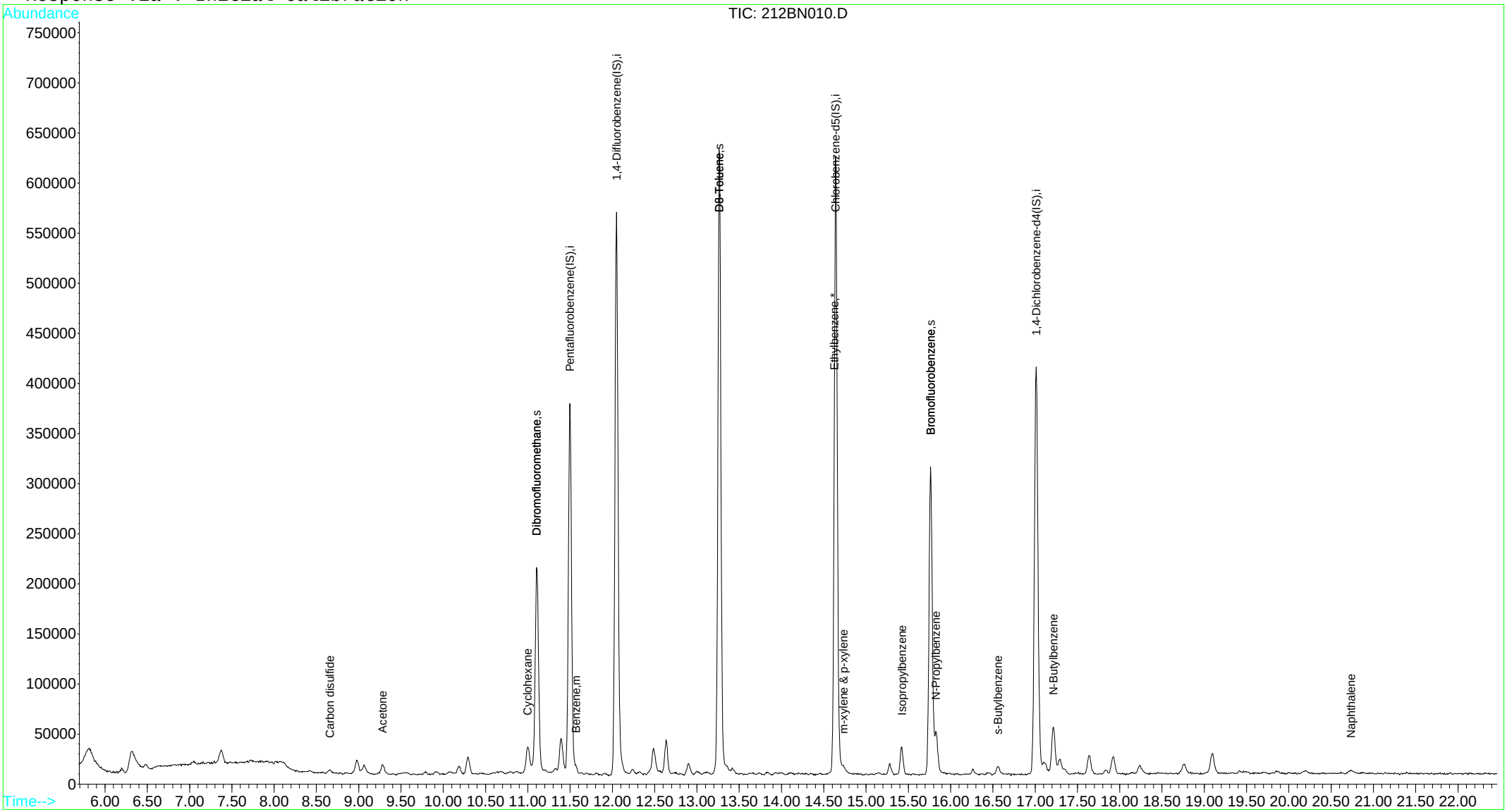
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	0.00	75	0	N.D.	
55) D8-Toluene	13.26	98	515808	50.90 ug/kg	92
57) Toluene	0.00	92	0	N.D. d	
58) Ethyl Methacrylate	0.00	69	0	N.D. d	
59) T-1,3-Dichloropropene	0.00	75	0	N.D.	
60) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
61) 1,3-Dichloropropane	0.00	76	0	N.D.	
62) Tetrachloroethene	0.00	164	0	N.D.	
63) Dibromochloromethane	0.00	129	0	N.D.	
64) 1,2-Dibromoethane	0.00	107	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
67) Ethylbenzene	14.62	106	4743	1.08 ug/kg	86
68) m-xylene & p-xylene	14.73	106	1088	0.21 ug/kg	69
69) O-Xylene	0.00	106	0	N.D.	
70) Bromoform	0.00	173	0	N.D.	
71) Styrene	0.00	104	0	N.D. d	
72) Isopropylbenzene	15.42	105	25663	1.95 ug/kg	99
73) 1,2,3-Trichloropropane	0.00	75	0	N.D.	
74) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
76) Bromofluorobenzene	15.76	95	172408	44.22 ug/kg#	78
77) T-1,4-dichloro-2-butene	0.00	53	0	N.D.	
78) N-Propylbenzene	15.83	91	46630	3.11 ug/kg	99
80) Bromobenzene	0.00	156	0	N.D.	
81) 1,3,5-Trimethylbenzene	0.00	105	0	N.D. d	
82) 2-Chlorotoluene	0.00	91	0	N.D.	
83) 4-Chlorotoluene	0.00	91	0	N.D.	
84) 1,2,4-Trimethylbenzene	0.00	105	0	N.D. d	
85) s-Butylbenzene	16.57	105	5665	0.54 ug/kg	71
86) tert-Butylbenzene	0.00	119	0	N.D.	
87) p-Isopropyltoluene	0.00	119	0	N.D.	
88) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
89) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) N-Butylbenzene	17.21	91	9205	1.18 ug/kg#	60
92) DBCP	0.00	75	0	N.D.	
93) Naphthalene	20.73	128	6223	3.35 ug/kg	100
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Hexachlorobutadiene	0.00	225	0	N.D.	
96) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\021921\212BN010.D Vial: 9
Acq On : 19 Feb 2021 12:28 pm Operator: kkw
Sample : AE00742-01 Inst : OVGCMS2
Misc : 5 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 21 9:35 2021 Quant Results File: 020421.RES

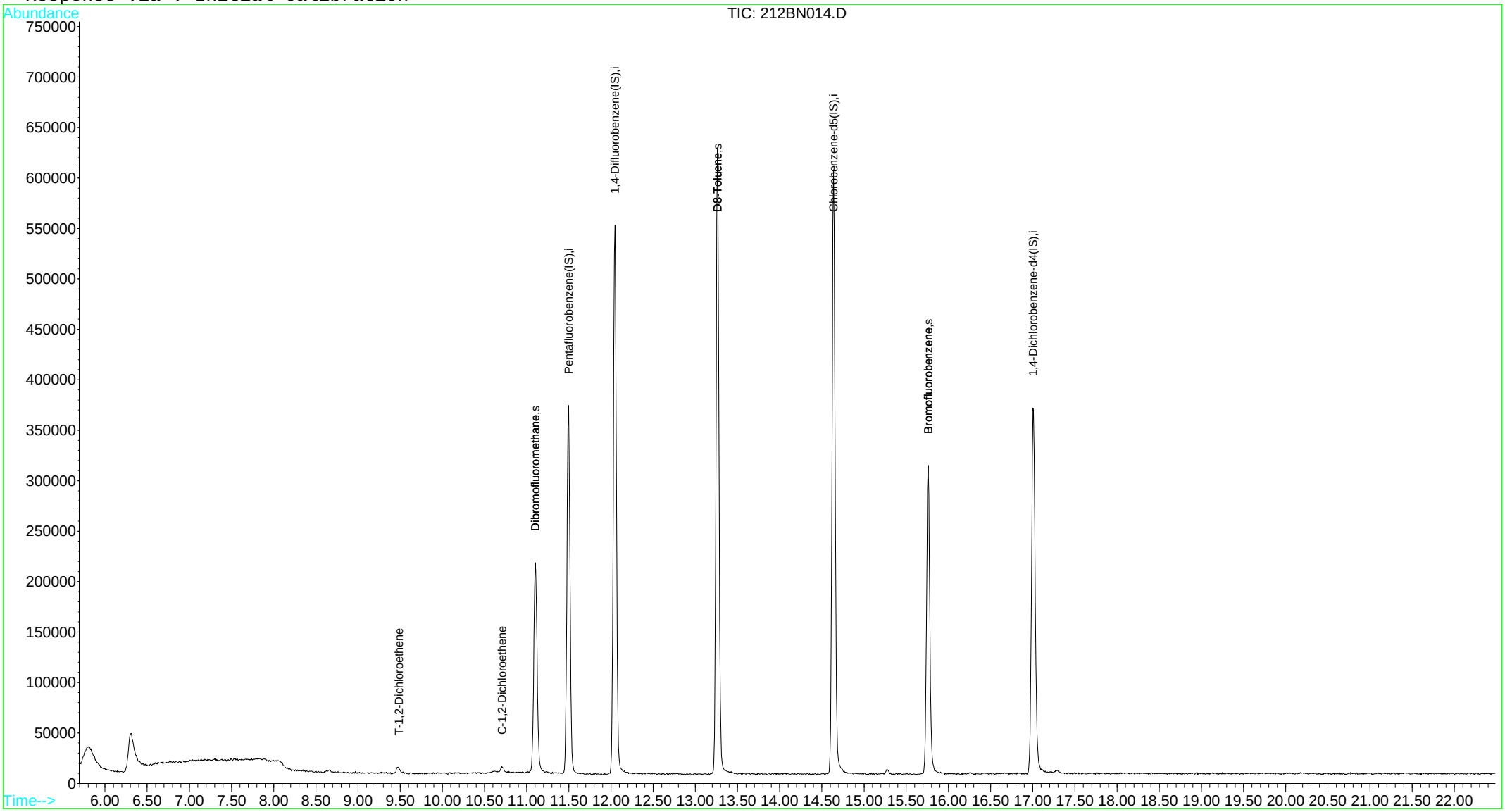
Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\021921\212BN014.D Vial: 13
Acq On : 19 Feb 2021 2:23 pm Operator: kkw
Sample : AE01304-01 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 21 9:41 2021 Quant Results File: 020421.RES

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\021921\212BN014.D Vial: 13
Acq On : 19 Feb 2021 2:23 pm Operator: kkw
Sample : AE01304-01 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 21 9:41 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.50	168	290820	50.00	ug/kg	0.03
38) 1,4-Difluorobenzene(IS)	12.05	114	563806	50.00	ug/kg	0.03
56) Chlorobenzene-d5(IS)	14.64	82	263894	50.00	ug/kg	0.03
79) 1,4-Dichlorobenzene-d4(IS)	17.00	152	160611	50.00	ug/kg	0.03
System Monitoring Compounds						
30) Dibromofluoromethane	11.10	113	177111	58.96	ug/kg	0.03
Spiked Amount 50.000	Range 53 - 146		Recovery = 117.92%			
54) D8-Toluene	13.26	98	508388	51.09	ug/kg	0.03
Spiked Amount 50.000	Range 41 - 146		Recovery = 102.18%			
75) Bromofluorobenzene	15.76	95	170042	44.56	ug/kg	0.03
Spiked Amount 50.000	Range 41 - 142		Recovery = 89.12%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.		
3) Chloromethane	0.00	50	0	N.D. d		
4) Vinyl Chloride	0.00	62	0	N.D. d		
5) Bromomethane	0.00	96	0	N.D.		
6) Chloroethane	0.00	64	0	N.D. d		
7) Trichlorofluoromethane	0.00	101	0	N.D.		
8) Trichlorotrifluoroethane	0.00	101	0	N.D.		
9) acrolein	0.00	56	0	N.D.		
10) Acetone	0.00	43	0	N.D. d		
11) 1,1-Dichloroethene	0.00	96	0	N.D.		
12) 3-Chloropropene	0.00	76	0	N.D.		
13) Acetonitrile	0.00	41	0	N.D.		
14) Iodomethane	0.00	142	0	N.D.		
15) Carbon disulfide	0.00	76	0	N.D. d		
16) Methylene Chloride	0.00	84	0	N.D.		
17) Methyl tert-butyl ether	0.00	73	0	N.D.		
18) Acrylonitrile	0.00	53	0	N.D.		
19) T-1,2-Dichloroethene	9.48	96	3409	0.99	ug/kg	94
20) Isopropyl Ether	0.00	45	0	N.D. d		
21) C-1,2-Dichloroethene	10.71	96	3360	0.90	ug/kg	90
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	0.00	43	0	N.D. d		
24) Chloroprene	0.00	88	0	N.D.		
25) 2-Butanone	0.00	72	0	N.D.		
26) Propionitrile	0.00	54	0	N.D.		
27) 2,2-Dichloropropane	0.00	77	0	N.D.		
28) Methacrylonitrile	0.00	67	0	N.D. d		
29) Chloroform	0.00	83	0	N.D.		
31) Dibromofluoromethane	11.10	113	177111	58.96	ug/kg	100
32) Bromochloromethane	0.00	128	0	N.D.		
33) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
34) 1,1-Dichloropropene	0.00	75	0	N.D.		
35) Diethyl Ether	0.00	59	0	N.D.		
36) Methyl Acetate	0.00	74	0	N.D.		
37) Cyclohexane	0.00	56	0	N.D.		
39) Methyl Cyclohexane	0.00	55	0	N.D. d		
40) Carbon Tetrachloride	0.00	117	0	N.D. d		
41) 1,2-Dichloroethane	0.00	62	0	N.D.		
42) Benzene	0.00	78	0	N.D. d		
43) Isobutyl Alcohol	0.00	43	0	N.D. d		
44) Trichloroethene	0.00	130	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Methyl Methacrylate	0.00	100	0	N.D.		
47) 1,4-Dioxane	0.00	88	0	N.D.		
48) Bromodichloromethane	0.00	83	0	N.D.		
49) Dibromomethane	0.00	93	0	N.D.		
50) 4-Methyl-2-Pentanone	0.00	100	0	N.D. d		
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	0.00	43	0	N.D. d		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\021921\212BN014.D Vial: 13
Acq On : 19 Feb 2021 2:23 pm Operator: kkw
Sample : AE01304-01 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 21 9:41 2021 Quant Results File: 020421.RES

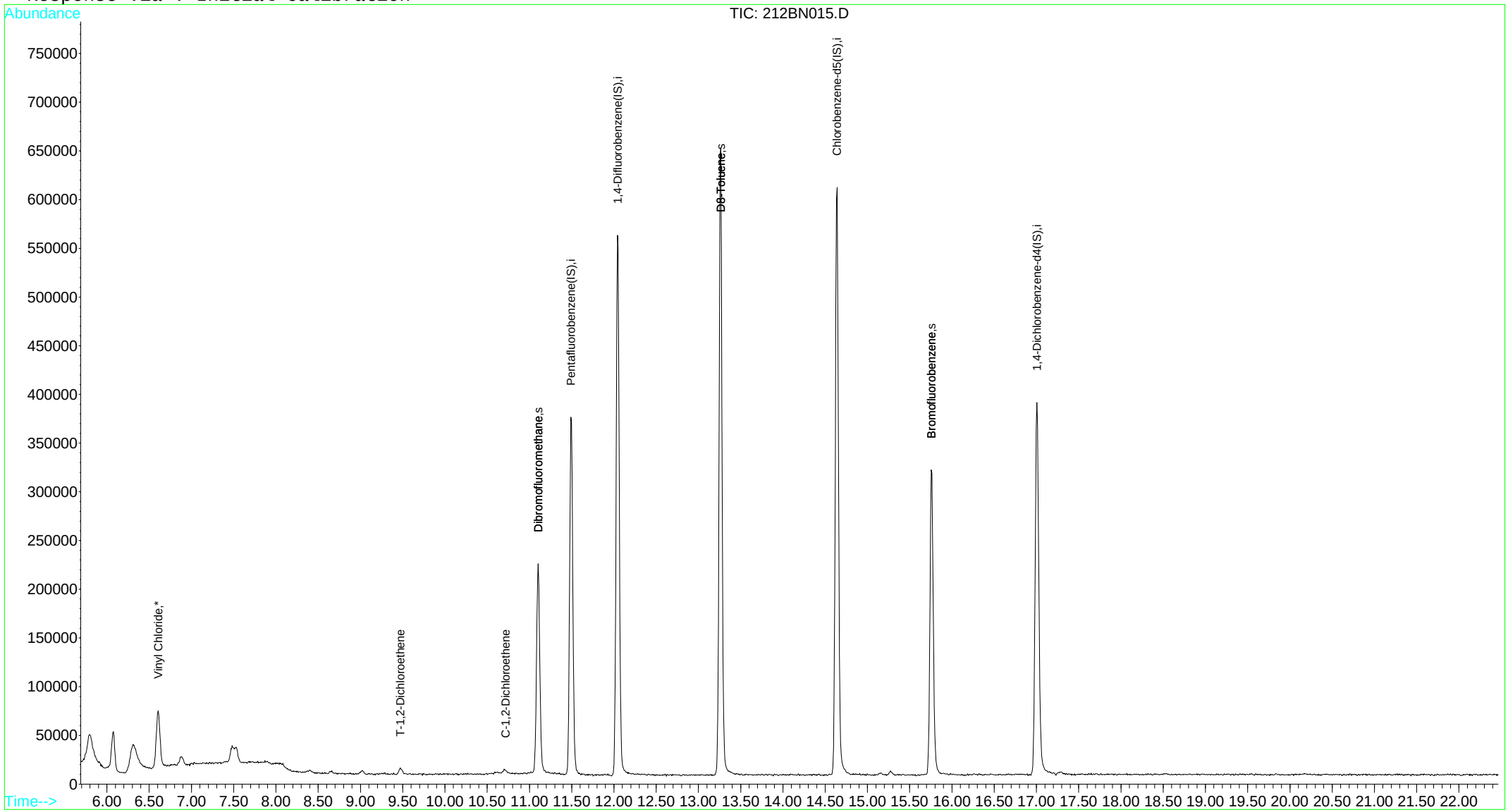
Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	0.00	75	0	N.D.	
55) D8-Toluene	13.26	98	508388	51.09 ug/kg	93
57) Toluene	0.00	92	0	N.D.	
58) Ethyl Methacrylate	0.00	69	0	N.D.	
59) T-1,3-Dichloropropene	0.00	75	0	N.D.	
60) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
61) 1,3-Dichloropropane	0.00	76	0	N.D.	
62) Tetrachloroethene	0.00	164	0	N.D.	
63) Dibromochloromethane	0.00	129	0	N.D.	
64) 1,2-Dibromoethane	0.00	107	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
67) Ethylbenzene	0.00	106	0	N.D.	
68) m-xylene & p-xylene	0.00	106	0	N.D.	
69) O-Xylene	0.00	106	0	N.D.	
70) Bromoform	0.00	173	0	N.D.	
71) Styrene	0.00	104	0	N.D.	
72) Isopropylbenzene	0.00	105	0	N.D.	
73) 1,2,3-Trichloropropane	0.00	75	0	N.D.	
74) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
76) Bromofluorobenzene	15.76	95	170042	44.56 ug/kg#	79
77) T-1,4-dichloro-2-butene	0.00	53	0	N.D.	
78) N-Propylbenzene	0.00	91	0	N.D. d	
80) Bromobenzene	0.00	156	0	N.D.	
81) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
82) 2-Chlorotoluene	0.00	91	0	N.D.	
83) 4-Chlorotoluene	0.00	91	0	N.D.	
84) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.	
85) s-Butylbenzene	0.00	105	0	N.D.	
86) tert-Butylbenzene	0.00	119	0	N.D.	
87) p-Isopropyltoluene	0.00	119	0	N.D.	
88) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
89) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) N-Butylbenzene	0.00	91	0	N.D.	
92) DBCP	0.00	75	0	N.D.	
93) Naphthalene	0.00	128	0	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Hexachlorobutadiene	0.00	225	0	N.D.	
96) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.	

Quantitation Report

Data File : C:\HPCHEM\1\DATA\021921\212BN015.D Vial: 14
Acq On : 19 Feb 2021 2:51 pm Operator: kkw
Sample : AE01304-02 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 21 9:42 2021 Quant Results File: 020421.RES

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\021921\212BN015.D Vial: 14
Acq On : 19 Feb 2021 2:51 pm Operator: kkw
Sample : AE01304-02 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 21 9:42 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.50	168	299820	50.00	ug/kg	0.03
38) 1,4-Difluorobenzene(IS)	12.04	114	578040	50.00	ug/kg	0.02
56) Chlorobenzene-d5(IS)	14.63	82	272946	50.00	ug/kg	0.02
79) 1,4-Dichlorobenzene-d4(IS)	17.01	152	167917	50.00	ug/kg	0.03
System Monitoring Compounds						
30) Dibromofluoromethane	11.10	113	183333	59.20	ug/kg	0.03
Spiked Amount 50.000	Range 53 - 146		Recovery = 118.40%			
54) D8-Toluene	13.26	98	535723	52.51	ug/kg	0.03
Spiked Amount 50.000	Range 41 - 146		Recovery = 105.02%			
75) Bromofluorobenzene	15.76	95	177623	45.00	ug/kg	0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 90.00%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.		
3) Chloromethane	0.00	50	0	N.D. d		
4) Vinyl Chloride	6.61	62	104207	19.04	ug/kg	93
5) Bromomethane	0.00	96	0	N.D.		
6) Chloroethane	0.00	64	0	N.D. d		
7) Trichlorofluoromethane	0.00	101	0	N.D.		
8) Trichlorotrifluoroethane	0.00	101	0	N.D.		
9) acrolein	0.00	56	0	N.D.		
10) Acetone	0.00	43	0	N.D.		
11) 1,1-Dichloroethene	0.00	96	0	N.D.		
12) 3-Chloropropene	0.00	76	0	N.D.		
13) Acetonitrile	0.00	41	0	N.D. d		
14) Iodomethane	0.00	142	0	N.D.		
15) Carbon disulfide	0.00	76	0	N.D. d		
16) Methylene Chloride	0.00	84	0	N.D.		
17) Methyl tert-butyl ether	0.00	73	0	N.D.		
18) Acrylonitrile	0.00	53	0	N.D.		
19) T-1,2-Dichloroethene	9.48	96	3646	1.02	ug/kg	97
20) Isopropyl Ether	0.00	45	0	N.D.		
21) C-1,2-Dichloroethene	10.71	96	2488	0.65	ug/kg	89
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	0.00	43	0	N.D. d		
24) Chloroprene	0.00	88	0	N.D.		
25) 2-Butanone	0.00	72	0	N.D.		
26) Propionitrile	0.00	54	0	N.D.		
27) 2,2-Dichloropropane	0.00	77	0	N.D.		
28) Methacrylonitrile	0.00	67	0	N.D. d		
29) Chloroform	0.00	83	0	N.D.		
31) Dibromofluoromethane	11.10	113	183333	59.20	ug/kg	100
32) Bromochloromethane	0.00	128	0	N.D.		
33) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
34) 1,1-Dichloropropene	0.00	75	0	N.D.		
35) Diethyl Ether	0.00	59	0	N.D.		
36) Methyl Acetate	0.00	74	0	N.D.		
37) Cyclohexane	0.00	56	0	N.D.		
39) Methyl Cyclohexane	0.00	55	0	N.D. d		
40) Carbon Tetrachloride	0.00	117	0	N.D.		
41) 1,2-Dichloroethane	0.00	62	0	N.D.		
42) Benzene	0.00	78	0	N.D. d		
43) Isobutyl Alcohol	0.00	43	0	N.D. d		
44) Trichloroethene	0.00	130	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Methyl Methacrylate	0.00	100	0	N.D.		
47) 1,4-Dioxane	0.00	88	0	N.D.		
48) Bromodichloromethane	0.00	83	0	N.D.		
49) Dibromomethane	0.00	93	0	N.D.		
50) 4-Methyl-2-Pentanone	0.00	100	0	N.D. d		
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	0.00	43	0	N.D. d		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\021921\212BN015.D Vial: 14
Acq On : 19 Feb 2021 2:51 pm Operator: kkw
Sample : AE01304-02 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 21 9:42 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53)	C-1,3-Dichloropropene	0.00	75	0	N.D.	
55)	D8-Toluene	13.26	98	535723	52.51 ug/kg	93
57)	Toluene	0.00	92	0	N.D. d	
58)	Ethyl Methacrylate	0.00	69	0	N.D.	
59)	T-1,3-Dichloropropene	0.00	75	0	N.D.	
60)	1,1,2-Trichloroethane	0.00	97	0	N.D.	
61)	1,3-Dichloropropane	0.00	76	0	N.D.	
62)	Tetrachloroethene	0.00	164	0	N.D.	
63)	Dibromochloromethane	0.00	129	0	N.D.	
64)	1,2-Dibromoethane	0.00	107	0	N.D.	
65)	Chlorobenzene	0.00	112	0	N.D.	
66)	1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
67)	Ethylbenzene	0.00	106	0	N.D.	
68)	m-xylene & p-xylene	0.00	106	0	N.D.	
69)	O-Xylene	0.00	106	0	N.D. d	
70)	Bromoform	0.00	173	0	N.D.	
71)	Styrene	0.00	104	0	N.D.	
72)	Isopropylbenzene	0.00	105	0	N.D.	
73)	1,2,3-Trichloropropane	0.00	75	0	N.D.	
74)	1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
76)	Bromofluorobenzene	15.76	95	177623	45.00 ug/kg#	79
77)	T-1,4-dichloro-2-butene	0.00	53	0	N.D.	
78)	N-Propylbenzene	0.00	91	0	N.D. d	
80)	Bromobenzene	0.00	156	0	N.D.	
81)	1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
82)	2-Chlorotoluene	0.00	91	0	N.D.	
83)	4-Chlorotoluene	0.00	91	0	N.D.	
84)	1,2,4-Trimethylbenzene	0.00	105	0	N.D.	
85)	s-Butylbenzene	0.00	105	0	N.D.	
86)	tert-Butylbenzene	0.00	119	0	N.D.	
87)	p-Isopropyltoluene	0.00	119	0	N.D.	
88)	1,3-Dichlorobenzene	0.00	146	0	N.D.	
89)	1,4-Dichlorobenzene	0.00	146	0	N.D.	
90)	1,2-Dichlorobenzene	0.00	146	0	N.D.	
91)	N-Butylbenzene	0.00	91	0	N.D.	
92)	DBCP	0.00	75	0	N.D.	
93)	Naphthalene	0.00	128	0	N.D.	
94)	1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95)	Hexachlorobutadiene	0.00	225	0	N.D.	
96)	1,2,3-Trichlorobenzene	0.00	180	0	N.D.	

ANALYSIS SEQUENCE

AA65054

Instrument: OVGCMS2

Calibration ID: 2102033

Printed: 2/21/2021 11:30:19AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA65054-CCV1	QC		1		A1B1022	A1B0764		
1B21002-BS1	QC		2			A1B0764		
1B21002-MS1	QC		3			A1B0764		
1B21002-MSD1	QC		4			A1B0764		
1B21002-BLK1	QC		5			A1B0764		
AA65054-CRL1	QC		6		A1B1021	A1B0764		
AE01325-01	8260D TICs	C	7			A1B0764		BatchQC
AE01325-01	60D TCL SOM01.2 CLP-LIK	C	8			A1B0764		BatchQC
AE01325-01	8260D Halo	C	9			A1B0764		BatchQC
AE01325-01	8260D Arom/Halo	C	10			A1B0764		history 1x kkw021821
AE01325-01	8260D Appendix 1 FL	C	11			A1B0764		BatchQC
AE01325-01	8260D	C	12			A1B0764		BatchQC
AE01325-02	8260D Halo	B	13			A1B0764		history 1x kkw021821
AE01325-03	8260D Halo	B	14			A1B0764		history 1x kkw021821
AE01325-04	8260D Arom/Halo	B	15			A1B0764		history 1x kkw021821
AE01325-05	8260D Arom/Halo	A	16			A1B0764		TB
AE01304-01RE1	60D TCL SOM01.2 CLP-LIK	B	17			A1B0764	Tetra Tech, Inc. (TE016)	rr@1x possible trans & cis12dce CO F
AE01304-02RE1	60D TCL SOM01.2 CLP-LIK	B	18			A1B0764	Tetra Tech, Inc. (TE016)	rr@1x possible trans & cis12dce CO F
AE00545-01RE1	8260D	A	19			A1B0764		rr@200x isopropyltoluene Re-extract a
AE00545-07RE1	8260D TICs	B	20			A1B0764		Re-extract added 2/21/2021 by KKW
AE00545-07RE1	8260D	B	21			A1B0764		rr@2x overdilute Re-extract added 2/2
AE00545-10RE1	8260D TICs	C	22			A1B0764		Re-extract added 2/21/2021 by KKW
AE00545-10RE1	8260D	C	23			A1B0764		rr@2.5x overdilute Re-extract added 2

Samples Loaded By Date

Data Processed By 02/22/21 Date

ANALYSIS SEQUENCE

AA65054

Instrument: OVGCMS2

Calibration ID: 2102033

Printed: 2/21/2021 11:30:19AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AE01326-01	8260D	E	24			A1B0764		History 1x jmw 2/19/21 Benzene, MeC
AE01326-02	8260D Appendix 1 FL	F	25			A1B0764		
AE01326-03	8260D Appendix 1 FL	F	26			A1B0764		
AE01326-04	8260D	B	27			A1B0764		History 1x ND jmw 2/19/21 Benzene, I
AE01326-05	8260D Appendix 1 FL	F	28			A1B0764		
AE01326-06	8260D Appendix 1 FL	A	29			A1B0764		

Samples Loaded By Date

Data Processed By Date

Sequence Name: C:\HPCHEM\1\SEQUENCE\212BP.S
Comment:
Operator: kkw
Data Path: C:\HPchem\1\DATA\022121\
Pre-Seq Cmd:
Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line	Type	Vial	DataFile	Method	Sample Name
1	Sample	1	212BP001	8260S	rinse
2	Sample	2	212BP002	8260S	ccv1
3	Sample	3	212BP003	8260S	bs1
4	Sample	4	212BP004	8260S	ms1
5	Sample	4	212BP005	8260S	msd1
6	Sample	5	212BP006	8260S	rinse
7	Sample	6	212BP007	8260S	rinse
8	Sample	7	212BP008	8260S	rinse
9	Sample	8	212BP009	8260S	blk1
10	Sample	9	212BP010	8260S	crl1
11	Sample	10	212BP011	8260S	AE01325-01
12	Sample	11	212BP012	8260S	AE01325-02
13	Sample	12	212BP013	8260S	AE01325-03
14	Sample	13	212BP014	8260S	AE01325-04
15	Sample	14	212BP015	8260S	AE01325-05
16	Sample	15	212BP016	8260S	AE01304-01RE1
17	Sample	16	212BP017	8260S	AE01304-02RE1
18	Sample	17	212BP018	8260S	AE00545-01RE1@200X
19	Sample	18	212BP019	8260S	AE00545-07RE1@2X 9 targets
20	Sample	19	212BP020	8260S	AE00545-10RE1@2X
21	Sample	20	212BP021	8260S	AE01326-01
22	Sample	21	212BP022	8260S	AE01326-02
23	Sample	22	212BP023	8260S	AE01326-03
24	Sample	23	212BP024	8260S	AE01326-04
25	Sample	24	212BP025	8260S	AE01326-05
26	Sample	25	212BP026	8260S	AE01326-06

PREPARATION BENCH SHEET

Printed: 2/21/2021 11:28:44AM

1B21002

ENCO Orlando

Analysis
8260D [EPA 8260D]
8260D Appendix 1 FL [EPA 8260D]
8260D Arom/Halo [EPA 8260D]
8260D Halo [EPA 8260D]
8260D TCL SOM01.2 CLP-LIKE [EPA 8260D]
8260D TICs [EPA 8260D]

Surrogate Solution
___ A0I0902 8260 surr working

Prepared using: EPA 5030B_MS

Spiking Solution
A1B0890 8260 2nd source Gases/Acrolein virtual
A1B1033 8260 2nd source Mega Mix

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl[(1)]	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
1B21002-BLK1		Blank		QC			5	5			1	
1B21002-BS1		LCS		QC			5	5	A1B1033 A1B0890	2 2	1	
1B21002-MS1		Matrix Spike [AE01325-01]		QC			5	5	A1B1033 A1B0890	2 2	1	
1B21002-MSD1		Matrix Spike Dup [AE01325-01]		QC			5	5	A1B1033 A1B0890	2 2	1	
AE00545-01RE1		MW-9R A[MS2]	19-Feb-21	8260D			5	5			1	rr@200x isopropyltoluene Re-extract added 2/21/2021 by KKW
AE00545-07RE1		MW-13R B[MS3]	19-Feb-21	8260D TICs			5	5			1	Re-extract added 2/21/2021 by KKW
AE00545-07RE1		MW-13R B[MS3]	19-Feb-21	8260D			5	5			1	rr@2x overdilute Re-extract added 2/21/2021 by KKW
AE00545-10RE1		MW-2R C[MS4]	19-Feb-21	8260D TICs			5	5			1	Re-extract added 2/21/2021 by KKW
AE00545-10RE1		MW-2R C[MS4]	19-Feb-21	8260D			5	5			1	rr@2.5x overdilute Re-extract added 2/21/2021 by KKW
AE01304-01RE1	C	CRCA-ASEFFLUENT-2021021B[MS45	24-Feb-21	8260D TCL SOM01.2 CLP-LIKE			5	5			1	rr@1x possible trans & cis12dce CO Re-extract added 2/21/2021 by KKW
AE01304-02RE1	C	CRCA-ASINFLUENT-2021021B[MS45	24-Feb-21	8260D TCL SOM01.2 CLP-LIKE			5	5			1	rr@1x possible trans & cis12dce CO Re-extract added 2/21/2021 by KKW
AE01325-01		WP-A15 C[MS7]	25-Feb-21	8260D Arom/Halo			5	5			1	history 1x kkw021821
AE01325-01		WP-A15 C[MS7]		8260D Halo			5	5			1	Added for BatchQC in: 1B21002
AE01325-01		WP-A15 C[MS7]		8260D TCL SOM01.2 CLP-LIKE			5	5			1	Added for BatchQC in: 1B21002
AE01325-01		WP-A15 C[MS7]		8260D Appendix 1 FL			5	5			1	Added for BatchQC in: 1B21002

PREPARATION BENCH SHEET

Printed: 2/21/2021 11:28:44AM

1B21002

ENCO Orlando

Prepared using: EPA 5030B_MS

Surrogate Solution
__ A0I0902 8260 surr working

Spiking Solution
A1B0890 8260 2nd source Gases/Acrolein virtual
A1B1033 8260 2nd source Mega Mix

Matrix: Water

Lab Number Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl[(1)]	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
AE01325-01	WP-A15 C[MS7]		8260D TICs			5	5			1	Added for BatchQC in: 1B21002
AE01325-01	WP-A15 C[MS7]		8260D			5	5			1	Added for BatchQC in: 1B21002
AE01325-02	WP-A2 B[MS7]	25-Feb-21	8260D Halo			5	5			1	history 1x kkw021821
AE01325-03	WP-A1 B[MS7]	25-Feb-21	8260D Halo			5	5			1	history 1x kkw021821
AE01325-04	WP-A3R B[MS7]	25-Feb-21	8260D Arom/Halo			5	5			1	history 1x kkw021821
AE01325-05	TRIP BLANK 3 A[MS7]	25-Feb-21	8260D Arom/Halo			5	5			1	TB
AE01326-01	MW-19D E[MS6]	25-Feb-21	8260D			5	5			1	History 1x jmw 2/19/21 Benzene, MeCl, VC Only - Water
AE01326-02	MW-14 F[MS6]	25-Feb-21	8260D Appendix 1 FL			5	5			1	
AE01326-03	EQUIPMENT BLANK 1 F[MS6]	25-Feb-21	8260D Appendix 1 FL			5	5			1	
AE01326-04	MW-18D B[MS6]	25-Feb-21	8260D			5	5			1	History 1x ND jmw 2/19/21 Benzene, MeCl, VC Only - Water
AE01326-05	MW-22 F[MS6]	25-Feb-21	8260D Appendix 1 FL			5	5			1	
AE01326-06	TRIP BLANK 4 A[MS6]	25-Feb-21	8260D Appendix 1 FL			5	5			1	

(1) Before solvent extraction proceeds, verify that there is no residual chlorine above 0.5 mg/L. Any sample above this must be treated to remove excess chlorine before extraction, and this documented as a comment.

PREPARATION BENCH SHEET

Printed: 2/21/2021 11:28:44AM

1B21002

ENCO Orlando

Prepared using: EPA 5030B_MS

Surrogate Solution	
___ A0I0902	8260 surr working

Spiking Solution	
A1B0890	8260 2nd source Gases/Acrolein virtual
A1B1033	8260 2nd source Mega Mix

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments

Instrument 2

Start Date _____

StopDate _____

Instrument ID _____

Standard ID#	Description	Manufacture Lot#
A0A1401	pH Test Papers (1.0 to 12.0)	231018
A1B0635	P&T Anti-Foam working solution	N/A
A1B0955	Residual Chlorine Strips (Potassium Iodide S	102916

_____ _____

Samples Prepared By Date

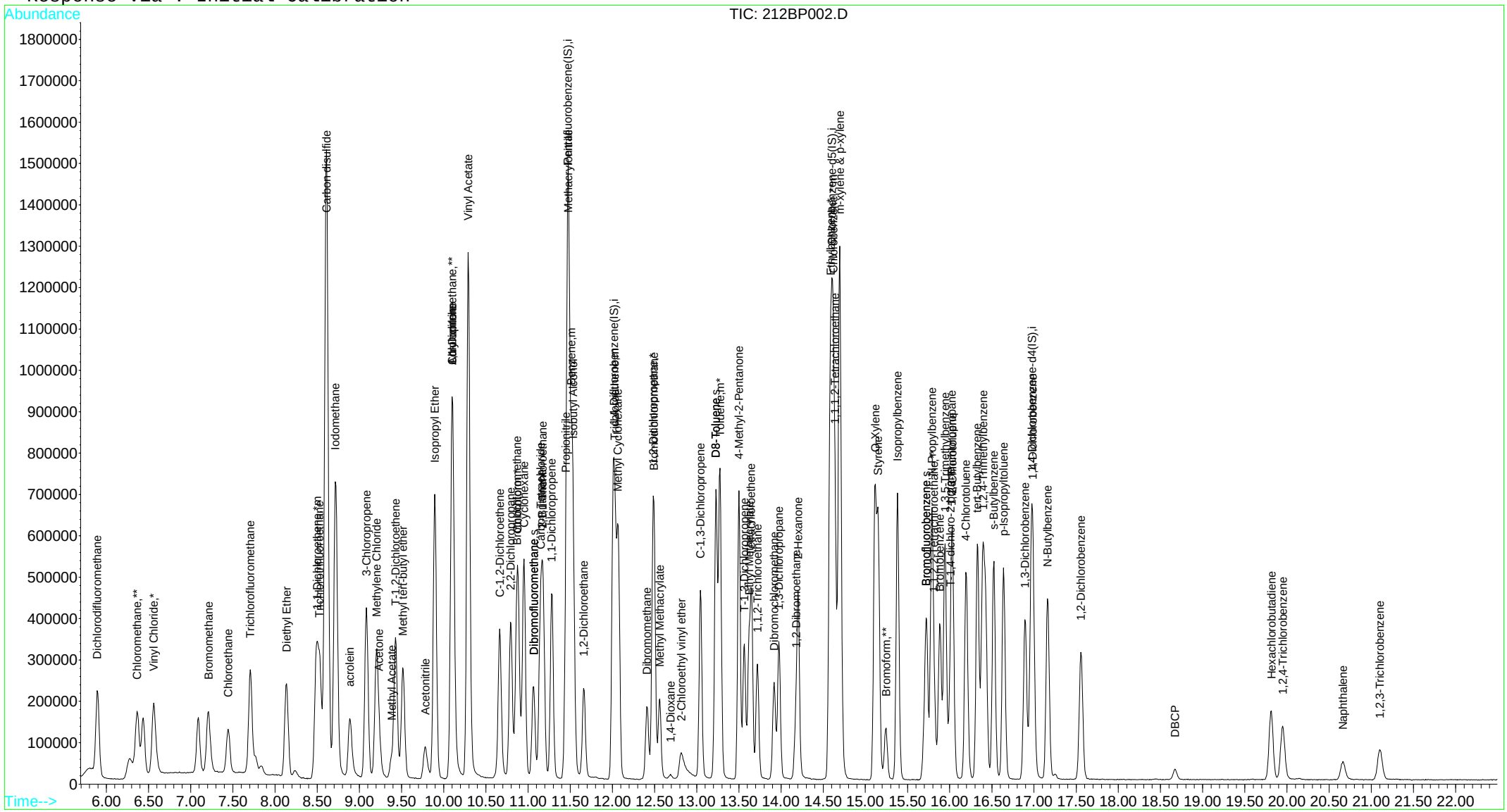
_____ _____

Samples Prepared By Date

Quantitation Report

Data File : C:\HPCHEM\1\DATA\022121\212BP002.D Vial: 2
Acq On : 21 Feb 2021 10:04 am Operator: kkw
Sample : ccv1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 21 10:30 2021 Quant Results File: 020421.RES

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\022121\212BP002.D Vial: 2
Acq On : 21 Feb 2021 10:04 am Operator: kkw
Sample : ccv1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 21 10:30 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.46	168	322098	50.00	ug/kg	0.00
38) 1,4-Difluorobenzene(IS)	12.01	114	624565	50.00	ug/kg	0.00
56) Chlorobenzene-d5(IS)	14.60	82	283735	50.00	ug/kg	0.00
79) 1,4-Dichlorobenzene-d4(IS)	16.97	152	172407	50.00	ug/kg	0.00
System Monitoring Compounds						
30) Dibromofluoromethane	11.07	113	184145	55.35	ug/kg	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 110.70%			
54) D8-Toluene	13.23	98	553985	50.25	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 146		Recovery = 100.50%			
75) Bromofluorobenzene	15.73	95	198770	48.45	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 142		Recovery = 96.90%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.89	85	320432	48.12	ug/kg	99
3) Chloromethane	6.36	50	309958	47.96	ug/kg	99
4) Vinyl Chloride	6.56	62	295252	50.21	ug/kg	83
5) Bromomethane	7.21	96	162869	77.50	ug/kg	94
6) Chloroethane	7.44	64	173031	60.27	ug/kg	96
7) Trichlorofluoromethane	7.71	101	319023	54.10	ug/kg	100
8) Trichlorotrifluoroethane	8.53	101	179736	53.12	ug/kg	96
9) acrolein	8.89	56	215867	403.28	ug/kg	99
10) Acetone	9.24	43	163415	229.68	ug/kg	97
11) 1,1-Dichloroethene	8.49	96	163878	48.11	ug/kg	97
12) 3-Chloropropene	9.08	76	121815	51.50	ug/kg	91
13) Acetonitrile	9.78	41	147829	465.82	ug/kg	99
14) Iodomethane	8.72	142	1294480	298.11	ug/kg	97
15) Carbon disulfide	8.61	76	3454491	267.41	ug/kg	100
16) Methylene Chloride	9.20	84	185412	48.12	ug/kg	96
17) Methyl tert-butyl ether	9.51	73	323908	38.30	ug/kg	99
18) Acrylonitrile	10.10	53	797879	462.79	ug/kg	96
19) T-1,2-Dichloroethene	9.43	96	189176	49.48	ug/kg	97
20) Isopropyl Ether	9.89	45	881715	51.27	ug/kg	98
21) C-1,2-Dichloroethene	10.66	96	207003	50.19	ug/kg	96
22) 1,1-Dichloroethane	10.10	63	392950	53.16	ug/kg	99
23) Vinyl Acetate	10.29	43	2160838	232.70	ug/kg	99
24) Chloroprene	10.09	88	181910	52.18	ug/kg	85
25) 2-Butanone	11.17	72	52179	208.69	ug/kg	88
26) Propionitrile	11.44	54	147512	423.65	ug/kg	100
27) 2,2-Dichloropropane	10.79	77	289484	48.66	ug/kg	93
28) Methacrylonitrile	11.48	67	472681	408.71	ug/kg	93
29) Chloroform	10.88	83	353278	50.57	ug/kg	99
31) Dibromofluoromethane	11.07	113	184145	55.35	ug/kg	100
32) Bromochloromethane	10.86	128	92328	46.99	ug/kg	94
33) 1,1,1-Trichloroethane	11.18	97	275758	52.62	ug/kg	100
34) 1,1-Dichloropropene	11.29	75	274023	50.36	ug/kg	100
35) Diethyl Ether	8.13	59	145098	45.51	ug/kg	99
36) Methyl Acetate	9.38	74	18001	39.96	ug/kg#	83
37) Cyclohexane	10.95	56	323761	52.41	ug/kg	95
39) Methyl Cyclohexane	12.07	55	241264	47.55	ug/kg	96
40) Carbon Tetrachloride	11.14	117	284477	50.39	ug/kg	99
41) 1,2-Dichloroethane	11.66	62	233385	44.11	ug/kg	99
42) Benzene	11.52	78	669750	44.11	ug/kg	97
43) Isobutyl Alcohol	11.54	43	150184	542.15	ug/kg#	20
44) Trichloroethene	12.03	130	195132	47.29	ug/kg	99
45) 1,2-Dichloropropane	12.49	63	217589	46.24	ug/kg	98
46) Methyl Methacrylate	12.56	100	33876	41.63	ug/kg	98
47) 1,4-Dioxane	12.68	88	9461	666.66	ug/kg	95
48) Bromodichloromethane	12.50	83	248132	43.79	ug/kg	99
49) Dibromomethane	12.41	93	99089	41.60	ug/kg	95
50) 4-Methyl-2-Pentanone	13.50	100	73170	203.69	ug/kg	88
51) 2-Chloroethyl vinyl ether	12.81	63	2641	18.46	ug/kg#	100
52) 2-Hexanone	14.20	43	427728	214.35	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\022121\212BP002.D Vial: 2
Acq On : 21 Feb 2021 10:04 am Operator: kkw
Sample : ccv1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 21 10:30 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

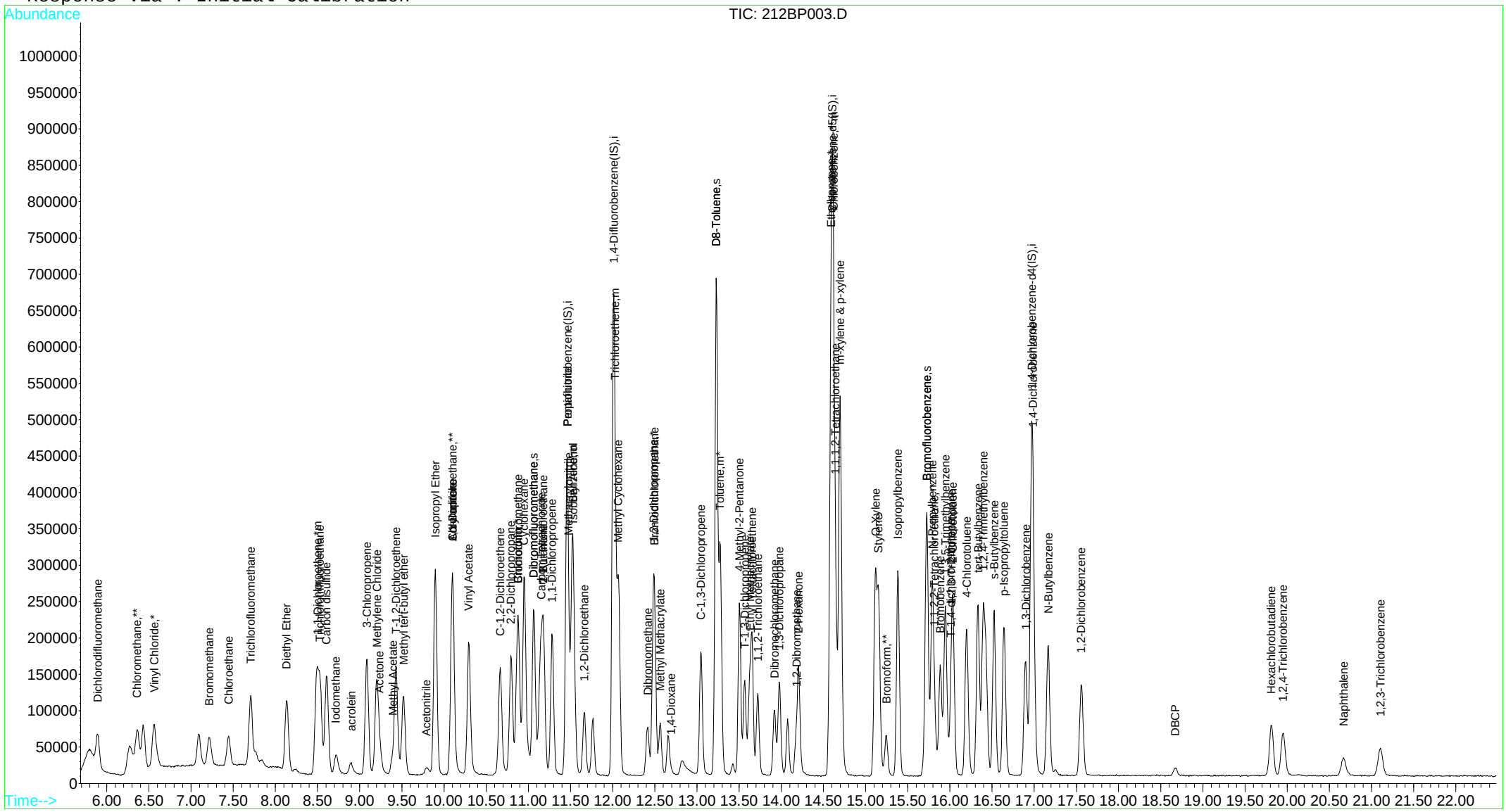
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.04	75	317915	42.06	ug/kg	96
55) D8-Toluene	13.23	98	553985	50.25	ug/kg	93
57) Toluene	13.28	92	406403	49.49	ug/kg	99
58) Ethyl Methacrylate	13.62	69	183156	45.92	ug/kg	96
59) T-1,3-Dichloropropene	13.57	75	231075	43.54	ug/kg	98
60) 1,1,2-Trichloroethane	13.71	97	112063	42.14	ug/kg	99
61) 1,3-Dichloropropane	13.98	76	239492	43.85	ug/kg	99
62) Tetrachloroethene	13.65	164	119671	48.79	ug/kg	95
63) Dibromochloromethane	13.92	129	162435	44.19	ug/kg	99
64) 1,2-Dibromoethane	14.17	107	127006	45.78	ug/kg	98
65) Chlorobenzene	14.63	112	415605	46.70	ug/kg	99
66) 1,1,1,2-Tetrachloroethane	14.65	131	161043	46.48	ug/kg#	68
67) Ethylbenzene	14.58	106	223781	48.62	ug/kg	99
68) m-xylene & p-xylene	14.70	106	513704	93.62	ug/kg	100
69) O-Xylene	15.11	106	265756	47.43	ug/kg	99
70) Bromoform	15.25	173	66834	38.20	ug/kg	100
71) Styrene	15.15	104	427474	45.78	ug/kg	98
72) Isopropylbenzene	15.38	105	653518	47.17	ug/kg	100
73) 1,2,3-Trichloropropane	16.02	75	123592	37.90	ug/kg	99
74) 1,1,2,2-Tetrachloroethane	15.82	83	101723	37.31	ug/kg	99
76) Bromofluorobenzene	15.73	95	198770	48.45	ug/kg#	69
77) T-1,4-dichloro-2-butene	16.00	53	28325	38.52	ug/kg	99
78) N-Propylbenzene	15.79	91	749285	47.56	ug/kg	100
80) Bromobenzene	15.89	156	141844	48.67	ug/kg	92
81) 1,3,5-Trimethylbenzene	15.95	105	479982	53.29	ug/kg	99
82) 2-Chlorotoluene	16.03	91	433439	52.88	ug/kg	99
83) 4-Chlorotoluene	16.19	91	453997	52.93	ug/kg	100
84) 1,2,4-Trimethylbenzene	16.39	105	467802	51.27	ug/kg	100
85) s-Butylbenzene	16.52	105	579165	52.46	ug/kg	99
86) tert-Butylbenzene	16.33	119	429954	54.43	ug/kg	99
87) p-Isopropyltoluene	16.64	119	484680	50.58	ug/kg	99
88) 1,3-Dichlorobenzene	16.89	146	249928	48.72	ug/kg	97
89) 1,4-Dichlorobenzene	16.99	146	239888	46.60	ug/kg	99
90) 1,2-Dichlorobenzene	17.55	146	207981	47.32	ug/kg	97
91) N-Butylbenzene	17.16	91	408723	49.95	ug/kg	99
92) DBCP	18.67	75	12486	42.03	ug/kg	87
93) Naphthalene	20.66	128	82640	37.25	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.95	180	82089	43.37	ug/kg	97
95) Hexachlorobutadiene	19.81	225	57749	51.09	ug/kg	100
96) 1,2,3-Trichlorobenzene	21.11	180	49967	40.69	ug/kg	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\022121\212BP003.D Vial: 3
Acq On : 21 Feb 2021 10:35 am Operator: kkw
Sample : bs1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 7:11 2021 Quant Results File: 020421.RES

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\022121\212BP003.D Vial: 3
Acq On : 21 Feb 2021 10:35 am Operator: kkw
Sample : bs1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 7:11 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.46	168	335443	50.00	ug/kg	0.00
38) 1,4-Difluorobenzene(IS)	12.01	114	628249	50.00	ug/kg	-0.01
56) Chlorobenzene-d5(IS)	14.61	82	276119	50.00	ug/kg	0.00
79) 1,4-Dichlorobenzene-d4(IS)	16.97	152	167444	50.00	ug/kg	0.00
System Monitoring Compounds						
30) Dibromofluoromethane	11.07	113	188821	54.49	ug/kg	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 108.98%			
54) D8-Toluene	13.23	98	547356	49.36	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 146		Recovery = 98.72%			
75) Bromofluorobenzene	15.73	95	192651	48.25	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 142		Recovery = 96.50%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.89	85	66752	9.63	ug/kg	96
3) Chloromethane	6.36	50	104551	15.53	ug/kg	98
4) Vinyl Chloride	6.56	62	98542	16.09	ug/kg	71
5) Bromomethane	7.22	96	43299	19.78	ug/kg	94
6) Chloroethane	7.45	64	58900	19.70	ug/kg	98
7) Trichlorofluoromethane	7.71	101	119844	19.52	ug/kg	99
8) Trichlorotrifluoroethane	8.53	101	79206	22.48	ug/kg	97
9) acrolein	8.90	56	25121	45.06	ug/kg	97
10) Acetone	9.24	43	63296	85.42	ug/kg	96
11) 1,1-Dichloroethene	8.49	96	72114	20.33	ug/kg	97
12) 3-Chloropropene	9.08	76	48179	19.56	ug/kg	93
13) Acetonitrile	9.80	41	21189	64.11	ug/kg	87
14) Iodomethane	8.72	142	59599	15.09	ug/kg	97
15) Carbon disulfide	8.60	76	313960	23.34	ug/kg	100
16) Methylene Chloride	9.20	84	80813	20.14	ug/kg	96
17) Methyl tert-butyl ether	9.52	73	131147	14.89	ug/kg	98
18) Acrylonitrile	10.09	53	170401	94.91	ug/kg#	74
19) T-1,2-Dichloroethene	9.43	96	83170	20.89	ug/kg	98
20) Isopropyl Ether	9.90	45	363963	20.32	ug/kg	98
21) C-1,2-Dichloroethene	10.67	96	87323	20.33	ug/kg	98
22) 1,1-Dichloroethane	10.11	63	168149	21.84	ug/kg	99
23) Vinyl Acetate	10.30	43	158278	16.37	ug/kg	97
24) Chloroprene	10.09	88	71892	19.80	ug/kg	14
25) 2-Butanone	11.17	72	27642	106.16	ug/kg	62
26) Propionitrile	11.46	54	5428	14.97	ug/kg	100
27) 2,2-Dichloropropane	10.79	77	123882	20.00	ug/kg	86
28) Methacrylonitrile	11.48	67	20632	17.13	ug/kg	84
29) Chloroform	10.88	83	150479	20.68	ug/kg	99
31) Dibromofluoromethane	11.07	113	188821	54.49	ug/kg	100
32) Bromochloromethane	10.87	128	39232	19.17	ug/kg	95
33) 1,1,1-Trichloroethane	11.18	97	117688	21.56	ug/kg	98
34) 1,1-Dichloropropene	11.28	75	117127	20.67	ug/kg	100
35) Diethyl Ether	8.13	59	61472	18.52	ug/kg	99
36) Methyl Acetate	9.39	74	7249	15.45	ug/kg#	83
37) Cyclohexane	10.96	56	152023	23.63	ug/kg	94
39) Methyl Cyclohexane	12.07	55	109273	21.41	ug/kg	96
40) Carbon Tetrachloride	11.15	117	117462	20.69	ug/kg	99
41) 1,2-Dichloroethane	11.66	62	96919	18.21	ug/kg	98
42) Benzene	11.52	78	304465	19.93	ug/kg#	65
43) Isobutyl Alcohol	11.54	43	40059	143.76	ug/kg#	1
44) Trichloroethene	12.04	130	81012	19.52	ug/kg	93
45) 1,2-Dichloropropane	12.48	63	89714	18.95	ug/kg	98
46) Methyl Methacrylate	12.56	100	12191	14.89	ug/kg	91
47) 1,4-Dioxane	12.70	88	4192	293.65	ug/kg	95
48) Bromodichloromethane	12.50	83	101090	17.74	ug/kg	100
49) Dibromomethane	12.41	93	38846	16.21	ug/kg	95
50) 4-Methyl-2-Pentanone	13.50	100	24880	68.85	ug/kg	87
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.	d	
52) 2-Hexanone	14.20	43	143980	71.73	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\022121\212BP003.D Vial: 3
Acq On : 21 Feb 2021 10:35 am Operator: kkw
Sample : bs1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 7:11 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

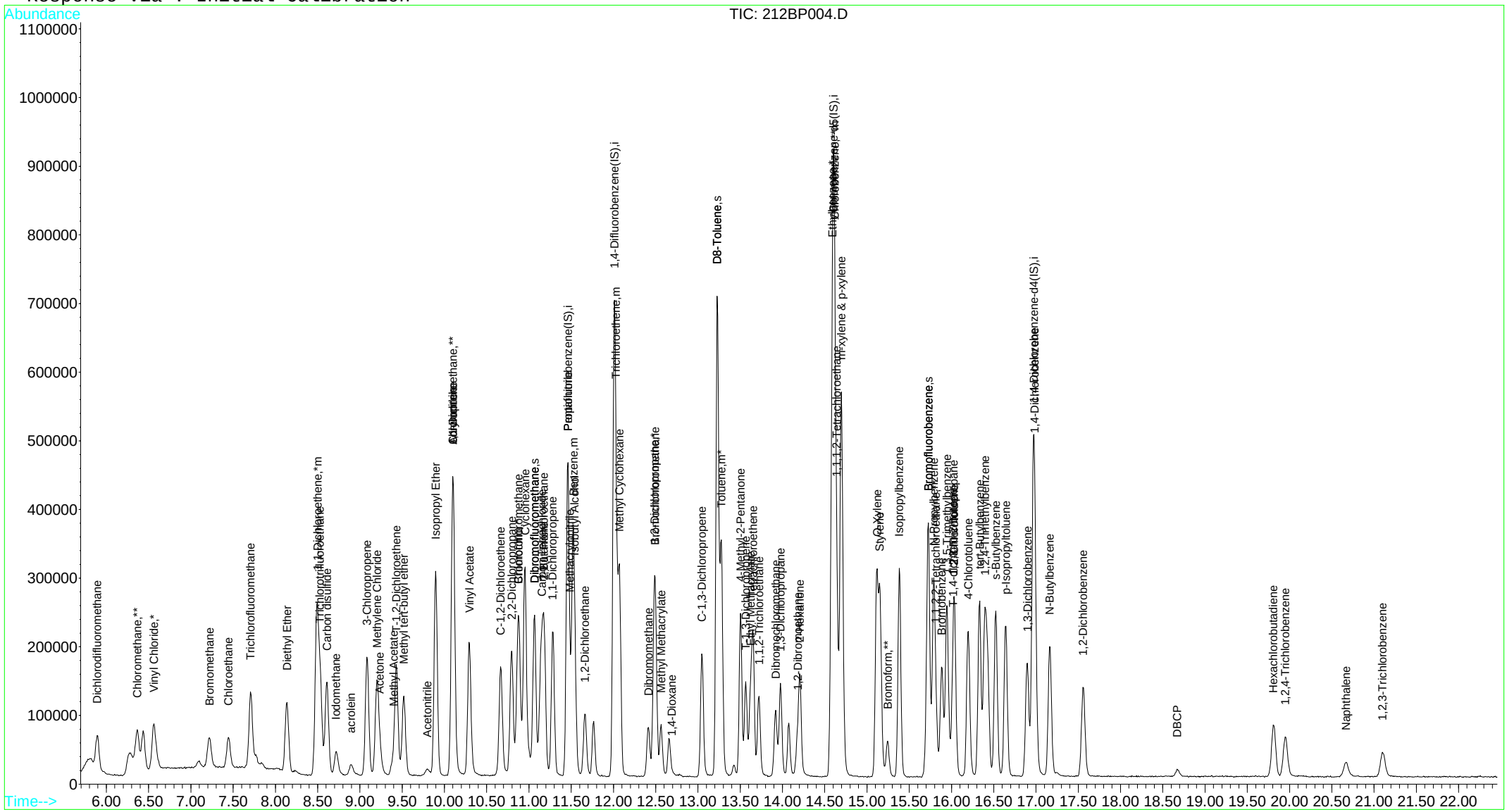
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.04	75	123754	16.28	ug/kg	97
55) D8-Toluene	13.23	98	547356	49.36	ug/kg	93
57) Toluene	13.28	92	168336	21.07	ug/kg	99
58) Ethyl Methacrylate	13.62	69	65227	16.81	ug/kg	98
59) T-1,3-Dichloropropene	13.57	75	92779	17.97	ug/kg	99
60) 1,1,2-Trichloroethane	13.72	97	45171	17.45	ug/kg	99
61) 1,3-Dichloropropane	13.98	76	93400	17.57	ug/kg	98
62) Tetrachloroethene	13.65	164	50097	20.99	ug/kg	95
63) Dibromochloromethane	13.92	129	63629	17.79	ug/kg	98
64) 1,2-Dibromoethane	14.17	107	49599	18.37	ug/kg	97
65) Chlorobenzene	14.63	112	171262	19.78	ug/kg	98
66) 1,1,1,2-Tetrachloroethane	14.65	131	67075	19.89	ug/kg#	1
67) Ethylbenzene	14.58	106	92165	20.58	ug/kg	97
68) m-xylene & p-xylene	14.70	106	209296	39.19	ug/kg	100
69) O-Xylene	15.11	106	106960	19.61	ug/kg	99
70) Bromoform	15.25	173	26721	15.69	ug/kg	99
71) Styrene	15.16	104	176045	19.37	ug/kg	99
72) Isopropylbenzene	15.38	105	271855	20.16	ug/kg	99
73) 1,2,3-Trichloropropane	16.01	75	47503	14.97	ug/kg	98
74) 1,1,2,2-Tetrachloroethane	15.82	83	42146	15.89	ug/kg	99
76) Bromofluorobenzene	15.73	95	192651	48.25	ug/kg#	75
77) T-1,4-dichloro-2-butene	16.00	53	8689	12.14	ug/kg#	62
78) N-Propylbenzene	15.79	91	301955	19.69	ug/kg	99
80) Bromobenzene	15.89	156	57810	20.42	ug/kg	94
81) 1,3,5-Trimethylbenzene	15.95	105	198478	22.69	ug/kg	98
82) 2-Chlorotoluene	16.03	91	179063	22.49	ug/kg	100
83) 4-Chlorotoluene	16.20	91	183539	22.03	ug/kg	99
84) 1,2,4-Trimethylbenzene	16.40	105	194235	21.92	ug/kg	100
85) s-Butylbenzene	16.53	105	246181	22.96	ug/kg	98
86) tert-Butylbenzene	16.33	119	179130	23.35	ug/kg	99
87) p-Isopropyltoluene	16.64	119	200837	21.58	ug/kg	99
88) 1,3-Dichlorobenzene	16.90	146	102360	20.54	ug/kg	98
89) 1,4-Dichlorobenzene	16.99	146	97175	19.44	ug/kg	97
90) 1,2-Dichlorobenzene	17.56	146	85999	20.15	ug/kg	99
91) N-Butylbenzene	17.17	91	169952	21.38	ug/kg	98
92) DBCP	18.68	75	5465	18.94	ug/kg	85
93) Naphthalene	20.66	128	48068	23.48	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.96	180	36873	20.06	ug/kg	98
95) Hexachlorobutadiene	19.82	225	23681	21.57	ug/kg	99
96) 1,2,3-Trichlorobenzene	21.11	180	25963	21.77	ug/kg	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\022121\212BP004.D Vial: 4
Acq On : 21 Feb 2021 11:04 am Operator: kkw
Sample : ms1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 7:10 2021 Quant Results File: 020421.RES

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\022121\212BP004.D Vial: 4
Acq On : 21 Feb 2021 11:04 am Operator: kkw
Sample : ms1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 7:10 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.46	168	348143	50.00	ug/kg	0.00
38) 1,4-Difluorobenzene(IS)	12.01	114	652694	50.00	ug/kg	0.00
56) Chlorobenzene-d5(IS)	14.60	82	288560	50.00	ug/kg	0.00
79) 1,4-Dichlorobenzene-d4(IS)	16.97	152	172089	50.00	ug/kg	0.00
System Monitoring Compounds						
30) Dibromofluoromethane	11.07	113	191269	53.19	ug/kg	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 106.38%			
54) D8-Toluene	13.23	98	563793	48.94	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 146		Recovery = 97.88%			
75) Bromofluorobenzene	15.73	95	196144	47.01	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 142		Recovery = 94.02%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.89	85	76930	10.69	ug/kg	99
3) Chloromethane	6.37	50	115486	16.53	ug/kg	99
4) Vinyl Chloride	6.56	62	113903	17.92	ug/kg	87
5) Bromomethane	7.22	96	48906	21.53	ug/kg	98
6) Chloroethane	7.45	64	67381	21.71	ug/kg	99
7) Trichlorofluoromethane	7.71	101	136641	21.44	ug/kg	100
8) Trichlorotrifluoroethane	8.53	101	88773	24.27	ug/kg	95
9) acrolein	8.90	56	25405	43.91	ug/kg	99
10) Acetone	9.24	43	60287	78.39	ug/kg	96
11) 1,1-Dichloroethene	8.49	96	130658	35.49	ug/kg	97
12) 3-Chloropropene	9.09	76	52515	20.54	ug/kg	91
13) Acetonitrile	9.80	41	20311	59.21	ug/kg	81
14) Iodomethane	8.72	142	70020	17.06	ug/kg	96
15) Carbon disulfide	8.61	76	308433	22.09	ug/kg	100
16) Methylene Chloride	9.20	84	86273	20.71	ug/kg	95
17) Methyl tert-butyl ether	9.52	73	138943	15.20	ug/kg	98
18) Acrylonitrile	10.09	53	186643	100.16	ug/kg#	73
19) T-1,2-Dichloroethene	9.43	96	90176	21.82	ug/kg	96
20) Isopropyl Ether	9.90	45	385272	20.73	ug/kg	97
21) C-1,2-Dichloroethene	10.66	96	94710	21.24	ug/kg	98
22) 1,1-Dichloroethane	10.11	63	376998	47.19	ug/kg	99
23) Vinyl Acetate	10.30	43	168513	16.79	ug/kg	95
24) Chloroprene	10.09	88	77201	20.49	ug/kg	16
25) 2-Butanone	11.17	72	27649	102.31	ug/kg	57
26) Propionitrile	11.46	54	5030	13.37	ug/kg	100
27) 2,2-Dichloropropane	10.80	77	139129	21.64	ug/kg	87
28) Methacrylonitrile	11.49	67	19607	15.69	ug/kg	80
29) Chloroform	10.88	83	163176	21.61	ug/kg	98
31) Dibromofluoromethane	11.07	113	191269	53.19	ug/kg	100
32) Bromochloromethane	10.87	128	41845	19.70	ug/kg	98
33) 1,1,1-Trichloroethane	11.18	97	129161	22.80	ug/kg	99
34) 1,1-Dichloropropene	11.28	75	129180	21.97	ug/kg	100
35) Diethyl Ether	8.13	59	65685	19.06	ug/kg	98
36) Methyl Acetate	9.39	74	7808	16.04	ug/kg#	93
37) Cyclohexane	10.95	56	169760	25.42	ug/kg	95
39) Methyl Cyclohexane	12.07	55	121204	22.86	ug/kg	96
40) Carbon Tetrachloride	11.14	117	131166	22.23	ug/kg	100
41) 1,2-Dichloroethane	11.66	62	99589	18.01	ug/kg	97
42) Benzene	11.52	78	330660	20.84	ug/kg#	65
43) Isobutyl Alcohol	11.55	43	41886	144.69	ug/kg#	1
44) Trichloroethene	12.03	130	89446	20.74	ug/kg	94
45) 1,2-Dichloropropane	12.49	63	95165	19.35	ug/kg	98
46) Methyl Methacrylate	12.56	100	12916	15.19	ug/kg	96
47) 1,4-Dioxane	12.70	88	3244	218.74	ug/kg	99
48) Bromodichloromethane	12.50	83	107026	18.07	ug/kg	99
49) Dibromomethane	12.41	93	41172	16.54	ug/kg	95
50) 4-Methyl-2-Pentanone	13.50	100	25275	67.33	ug/kg	88
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.	d	
52) 2-Hexanone	14.21	43	143348	68.74	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\022121\212BP004.D Vial: 4
Acq On : 21 Feb 2021 11:04 am Operator: kkw
Sample : ms1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 7:10 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

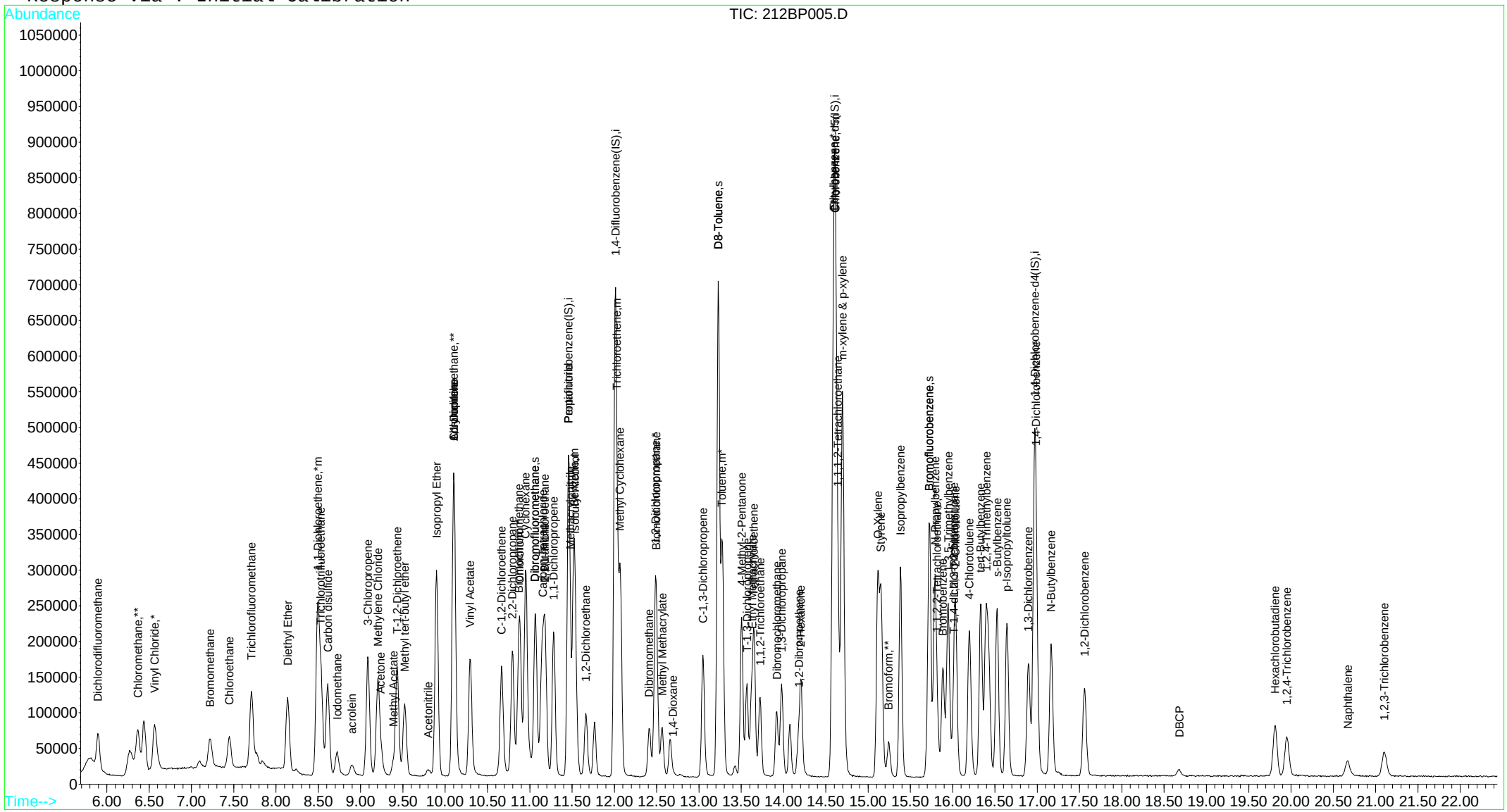
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	13.04	75	131950	16.71 ug/kg	96
55) D8-Toluene	13.23	98	563793	48.94 ug/kg	93
57) Toluene	13.28	92	181421	21.72 ug/kg	99
58) Ethyl Methacrylate	13.62	69	69158	17.05 ug/kg	98
59) T-1,3-Dichloropropene	13.57	75	97207	18.01 ug/kg	98
60) 1,1,2-Trichloroethane	13.72	97	46564	17.22 ug/kg	98
61) 1,3-Dichloropropane	13.98	76	98989	17.82 ug/kg	98
62) Tetrachloroethene	13.65	164	55029	22.06 ug/kg	95
63) Dibromochloromethane	13.92	129	67952	18.18 ug/kg	98
64) 1,2-Dibromoethane	14.17	107	50568	17.92 ug/kg	99
65) Chlorobenzene	14.63	112	182959	20.22 ug/kg	98
66) 1,1,1,2-Tetrachloroethane	14.65	131	68699	19.50 ug/kg#	1
67) Ethylbenzene	14.58	106	97862	20.91 ug/kg	99
68) m-xylene & p-xylene	14.70	106	227996	40.86 ug/kg	99
69) O-Xylene	15.11	106	114341	20.06 ug/kg	98
70) Bromoform	15.25	173	27549	15.48 ug/kg	98
71) Styrene	15.15	104	187673	19.76 ug/kg	99
72) Isopropylbenzene	15.38	105	293351	20.82 ug/kg	100
73) 1,2,3-Trichloropropane	16.02	75	47092	14.20 ug/kg	97
74) 1,1,2,2-Tetrachloroethane	15.82	83	43293	15.61 ug/kg	99
76) Bromofluorobenzene	15.73	95	196144	47.01 ug/kg#	75
77) T-1,4-dichloro-2-butene	16.01	53	9489	12.69 ug/kg#	75
78) N-Propylbenzene	15.79	91	329190	20.54 ug/kg	100
80) Bromobenzene	15.89	156	61438	21.12 ug/kg	90
81) 1,3,5-Trimethylbenzene	15.95	105	210596	23.43 ug/kg	99
82) 2-Chlorotoluene	16.04	91	191568	23.42 ug/kg	99
83) 4-Chlorotoluene	16.20	91	196283	22.93 ug/kg	99
84) 1,2,4-Trimethylbenzene	16.40	105	205367	22.55 ug/kg	99
85) s-Butylbenzene	16.52	105	264098	23.97 ug/kg	99
86) tert-Butylbenzene	16.33	119	188668	23.93 ug/kg	99
87) p-Isopropyltoluene	16.64	119	217773	22.77 ug/kg	99
88) 1,3-Dichlorobenzene	16.90	146	107632	21.02 ug/kg	98
89) 1,4-Dichlorobenzene	16.99	146	104566	20.35 ug/kg	98
90) 1,2-Dichlorobenzene	17.56	146	88786	20.24 ug/kg	98
91) N-Butylbenzene	17.16	91	181867	22.27 ug/kg	98
92) DBCP	18.67	75	5345	18.02 ug/kg	87
93) Naphthalene	20.66	128	41491	19.99 ug/kg	100
94) 1,2,4-Trichlorobenzene	19.95	180	37165	19.67 ug/kg	99
95) Hexachlorobutadiene	19.81	225	25964	23.01 ug/kg	100
96) 1,2,3-Trichlorobenzene	21.11	180	25289	20.63 ug/kg	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\022121\212BP005.D Vial: 4
Acq On : 21 Feb 2021 11:32 am Operator: kkw
Sample : msd1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 7:10 2021 Quant Results File: 020421.RES

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\022121\212BP005.D Vial: 4
Acq On : 21 Feb 2021 11:32 am Operator: kkw
Sample : msd1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 7:10 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.46	168	343187	50.00	ug/kg	-0.01
38) 1,4-Difluorobenzene(IS)	12.01	114	641716	50.00	ug/kg	-0.01
56) Chlorobenzene-d5(IS)	14.61	82	280426	50.00	ug/kg	0.00
79) 1,4-Dichlorobenzene-d4(IS)	16.97	152	165185	50.00	ug/kg	0.00
System Monitoring Compounds						
30) Dibromofluoromethane	11.07	113	188403	53.15	ug/kg	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 106.30%			
54) D8-Toluene	13.23	98	554708	48.97	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 146		Recovery = 97.94%			
75) Bromofluorobenzene	15.73	95	192173	47.39	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 142		Recovery = 94.78%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.89	85	72540	10.22	ug/kg	97
3) Chloromethane	6.37	50	113218	16.44	ug/kg	99
4) Vinyl Chloride	6.56	62	105281	16.80	ug/kg	75
5) Bromomethane	7.23	96	45346	20.25	ug/kg	96
6) Chloroethane	7.45	64	60782	19.87	ug/kg	99
7) Trichlorofluoromethane	7.71	101	129017	20.54	ug/kg	99
8) Trichlorotrifluoroethane	8.53	101	84811	23.53	ug/kg	97
9) acrolein	8.89	56	23721	41.59	ug/kg	100
10) Acetone	9.24	43	58027	76.55	ug/kg	94
11) 1,1-Dichloroethene	8.49	96	124305	34.25	ug/kg	97
12) 3-Chloropropene	9.08	76	51609	20.48	ug/kg	98
13) Acetonitrile	9.80	41	18273	54.04	ug/kg	88
14) Iodomethane	8.72	142	62596	15.49	ug/kg	96
15) Carbon disulfide	8.61	76	284642	20.68	ug/kg	100
16) Methylene Chloride	9.20	84	82887	20.19	ug/kg	96
17) Methyl tert-butyl ether	9.52	73	121790	13.52	ug/kg	98
18) Acrylonitrile	10.09	53	179160	97.53	ug/kg#	73
19) T-1,2-Dichloroethene	9.43	96	85375	20.96	ug/kg	96
20) Isopropyl Ether	9.90	45	371820	20.29	ug/kg	98
21) C-1,2-Dichloroethene	10.67	96	90158	20.52	ug/kg	97
22) 1,1-Dichloroethane	10.11	63	364121	46.23	ug/kg	99
23) Vinyl Acetate	10.30	43	149061	15.07	ug/kg	97
24) Chloroprene	10.09	88	75860	20.42	ug/kg	14
25) 2-Butanone	11.17	72	25813	96.90	ug/kg	57
26) Propionitrile	11.46	54	4634	12.49	ug/kg	100
27) 2,2-Dichloropropane	10.79	77	130450	20.58	ug/kg	94
28) Methacrylonitrile	11.49	67	18962	15.39	ug/kg	76
29) Chloroform	10.89	83	156026	20.96	ug/kg	99
31) Dibromofluoromethane	11.07	113	188403	53.15	ug/kg	100
32) Bromochloromethane	10.86	128	38977	18.62	ug/kg	92
33) 1,1,1-Trichloroethane	11.18	97	123234	22.07	ug/kg	100
34) 1,1-Dichloropropene	11.28	75	123128	21.24	ug/kg	99
35) Diethyl Ether	8.13	59	60443	17.79	ug/kg	98
36) Methyl Acetate	9.38	74	7015	14.62	ug/kg#	85
37) Cyclohexane	10.95	56	163659	24.86	ug/kg	94
39) Methyl Cyclohexane	12.07	55	117180	22.48	ug/kg	96
40) Carbon Tetrachloride	11.15	117	126286	21.77	ug/kg	99
41) 1,2-Dichloroethane	11.66	62	95944	17.65	ug/kg	98
42) Benzene	11.52	78	320330	20.53	ug/kg#	65
43) Isobutyl Alcohol	11.54	43	32407	113.86	ug/kg#	1
44) Trichloroethene	12.04	130	86180	20.33	ug/kg	94
45) 1,2-Dichloropropane	12.48	63	91405	18.90	ug/kg	99
46) Methyl Methacrylate	12.57	100	12512	14.97	ug/kg	100
47) 1,4-Dioxane	12.70	88	2965	203.34	ug/kg	83
48) Bromodichloromethane	12.50	83	102202	17.55	ug/kg	99
49) Dibromomethane	12.41	93	38065	15.55	ug/kg	96
50) 4-Methyl-2-Pentanone	13.50	100	24735	67.02	ug/kg	94
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.	d	
52) 2-Hexanone	14.21	43	130784	63.79	ug/kg	99

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\022121\212BP005.D Vial: 4
Acq On : 21 Feb 2021 11:32 am Operator: kkw
Sample : msd1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 7:10 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

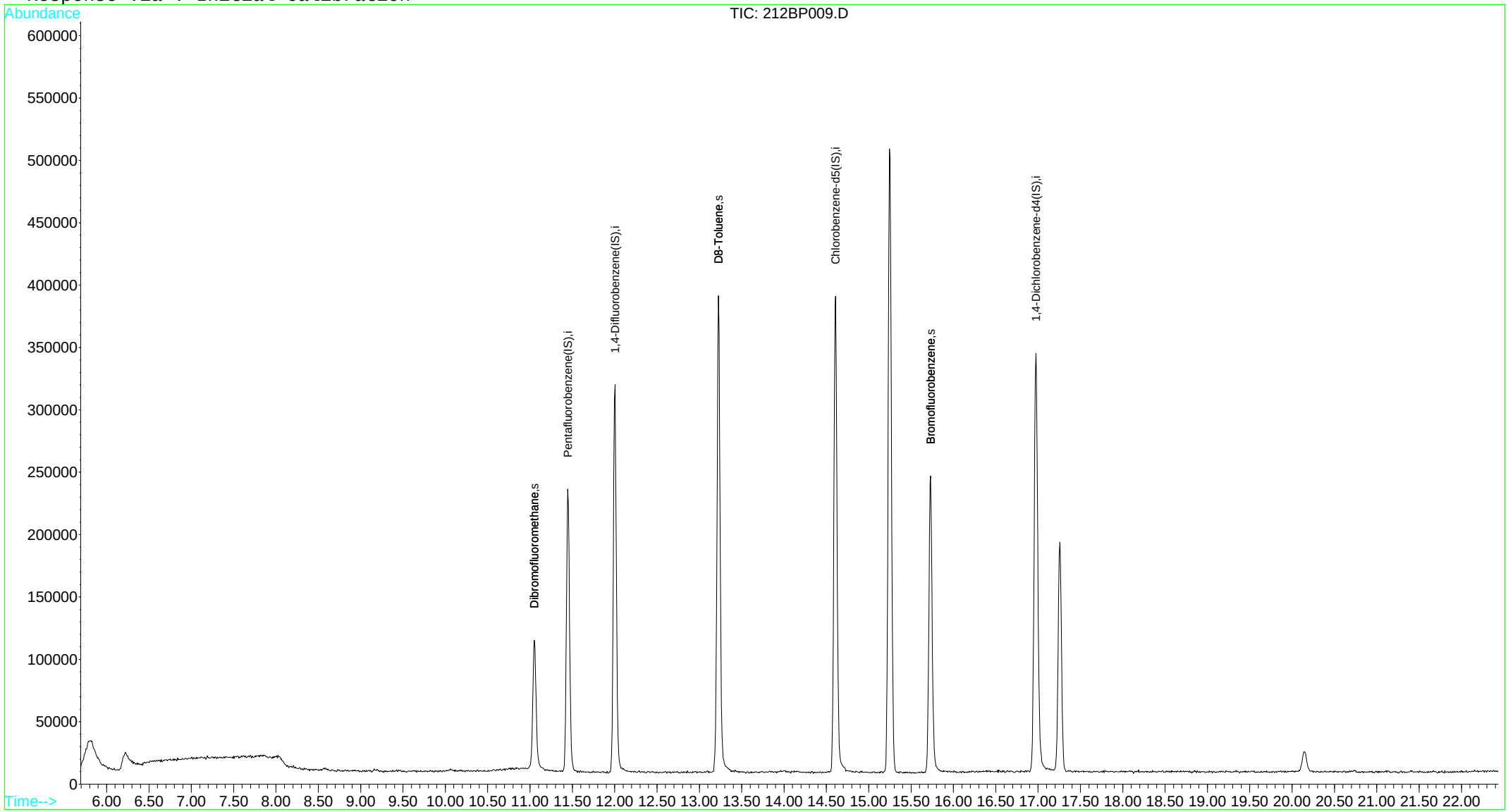
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.05	75	125293	16.13	ug/kg	96
55) D8-Toluene	13.23	98	554708	48.97	ug/kg	93
57) Toluene	13.28	92	174081	21.45	ug/kg	99
58) Ethyl Methacrylate	13.62	69	64820	16.44	ug/kg	97
59) T-1,3-Dichloropropene	13.57	75	95701	18.25	ug/kg	98
60) 1,1,2-Trichloroethane	13.72	97	44989	17.12	ug/kg	98
61) 1,3-Dichloropropane	13.98	76	91645	16.98	ug/kg	98
62) Tetrachloroethene	13.65	164	53640	22.13	ug/kg	95
63) Dibromochloromethane	13.92	129	64399	17.73	ug/kg	98
64) 1,2-Dibromoethane	14.18	107	48909	17.84	ug/kg	100
65) Chlorobenzene	14.62	112	177554	20.19	ug/kg	99
66) 1,1,1,2-Tetrachloroethane	14.65	131	67260	19.64	ug/kg#	1
67) Ethylbenzene	14.58	106	96114	21.13	ug/kg	98
68) m-xylene & p-xylene	14.70	106	216835	39.98	ug/kg	99
69) O-Xylene	15.11	106	110133	19.89	ug/kg	99
70) Bromoform	15.25	173	25868	14.96	ug/kg	99
71) Styrene	15.16	104	183231	19.86	ug/kg	99
72) Isopropylbenzene	15.38	105	282373	20.62	ug/kg	99
73) 1,2,3-Trichloropropane	16.01	75	45317	14.06	ug/kg	99
74) 1,1,2,2-Tetrachloroethane	15.82	83	40918	15.19	ug/kg	99
76) Bromofluorobenzene	15.73	95	192173	47.39	ug/kg#	76
77) T-1,4-dichloro-2-butene	16.00	53	8067	11.10	ug/kg#	50
78) N-Propylbenzene	15.79	91	317758	20.41	ug/kg	100
80) Bromobenzene	15.88	156	59091	21.16	ug/kg	94
81) 1,3,5-Trimethylbenzene	15.95	105	203292	23.56	ug/kg	100
82) 2-Chlorotoluene	16.03	91	184346	23.47	ug/kg	100
83) 4-Chlorotoluene	16.19	91	187094	22.77	ug/kg	98
84) 1,2,4-Trimethylbenzene	16.39	105	201099	23.01	ug/kg	99
85) s-Butylbenzene	16.53	105	257603	24.35	ug/kg	99
86) tert-Butylbenzene	16.33	119	184325	24.35	ug/kg	99
87) p-Isopropyltoluene	16.64	119	210234	22.90	ug/kg	99
88) 1,3-Dichlorobenzene	16.89	146	103229	21.00	ug/kg	98
89) 1,4-Dichlorobenzene	16.99	146	100458	20.37	ug/kg	97
90) 1,2-Dichlorobenzene	17.56	146	82611	19.62	ug/kg	97
91) N-Butylbenzene	17.16	91	177604	22.65	ug/kg	98
92) DBCP	18.69	75	4726	16.60	ug/kg	88
93) Naphthalene	20.67	128	40885	20.48	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.95	180	35849	19.77	ug/kg	99
95) Hexachlorobutadiene	19.82	225	24479	22.60	ug/kg	98
96) 1,2,3-Trichlorobenzene	21.11	180	24012	20.41	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\022121\212BP009.D Vial: 8
Acq On : 21 Feb 2021 1:27 pm Operator: kkw
Sample : blk1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 7:12 2021 Quant Results File: 020421.RES

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\022121\212BP009.D Vial: 8
Acq On : 21 Feb 2021 1:27 pm Operator: kkw
Sample : blk1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 7:12 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.45	168	181255	50.00	ug/kg	-0.02
38) 1,4-Difluorobenzene(IS)	12.00	114	318306	50.00	ug/kg	-0.01
56) Chlorobenzene-d5(IS)	14.61	82	172070	50.00	ug/kg	0.00
79) 1,4-Dichlorobenzene-d4(IS)	16.97	152	144168	50.00	ug/kg	0.00
System Monitoring Compounds						
30) Dibromofluoromethane	11.05	113	87918	46.96	ug/kg	-0.02
Spiked Amount 50.000	Range 53 - 146		Recovery = 93.92%			
54) D8-Toluene	13.23	98	309287	55.05	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 146		Recovery = 110.10%			
75) Bromofluorobenzene	15.73	95	135281	54.37	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 142		Recovery = 108.74%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.		
3) Chloromethane	0.00	50	0	N.D.	d	
4) Vinyl Chloride	0.00	62	0	N.D.		
5) Bromomethane	0.00	96	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Trichlorofluoromethane	0.00	101	0	N.D.		
8) Trichlorotrifluoroethane	0.00	101	0	N.D.		
9) acrolein	0.00	56	0	N.D.		
10) Acetone	0.00	43	0	N.D.		
11) 1,1-Dichloroethene	0.00	96	0	N.D.		
12) 3-Chloropropene	0.00	76	0	N.D.		
13) Acetonitrile	0.00	41	0	N.D.		
14) Iodomethane	0.00	142	0	N.D.		
15) Carbon disulfide	0.00	76	0	N.D.	d	
16) Methylene Chloride	0.00	84	0	N.D.	d	
17) Methyl tert-butyl ether	0.00	73	0	N.D.		
18) Acrylonitrile	0.00	53	0	N.D.		
19) T-1,2-Dichloroethene	0.00	96	0	N.D.		
20) Isopropyl Ether	0.00	45	0	N.D.	d	
21) C-1,2-Dichloroethene	0.00	96	0	N.D.		
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	0.00	43	0	N.D.	d	
24) Chloroprene	0.00	88	0	N.D.		
25) 2-Butanone	0.00	72	0	N.D.		
26) Propionitrile	0.00	54	0	N.D.		
27) 2,2-Dichloropropane	0.00	77	0	N.D.		
28) Methacrylonitrile	0.00	67	0	N.D.	d	
29) Chloroform	0.00	83	0	N.D.		
31) Dibromofluoromethane	11.05	113	87918	46.96	ug/kg	100
32) Bromochloromethane	0.00	128	0	N.D.		
33) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
34) 1,1-Dichloropropene	0.00	75	0	N.D.		
35) Diethyl Ether	0.00	59	0	N.D.		
36) Methyl Acetate	0.00	74	0	N.D.		
37) Cyclohexane	0.00	56	0	N.D.		
39) Methyl Cyclohexane	0.00	55	0	N.D.	d	
40) Carbon Tetrachloride	0.00	117	0	N.D.		
41) 1,2-Dichloroethane	0.00	62	0	N.D.		
42) Benzene	0.00	78	0	N.D.	d	
43) Isobutyl Alcohol	0.00	43	0	N.D.	d	
44) Trichloroethene	0.00	130	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d	
46) Methyl Methacrylate	0.00	100	0	N.D.		
47) 1,4-Dioxane	0.00	88	0	N.D.		
48) Bromodichloromethane	0.00	83	0	N.D.		
49) Dibromomethane	0.00	93	0	N.D.		
50) 4-Methyl-2-Pentanone	0.00	100	0	N.D.	d	
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	0.00	43	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\022121\212BP009.D Vial: 8
Acq On : 21 Feb 2021 1:27 pm Operator: kkw
Sample : blk1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 7:12 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	0.00	75	0	N.D. d	
55) D8-Toluene	13.23	98	309287	55.05 ug/kg	94
57) Toluene	0.00	92	0	N.D.	
58) Ethyl Methacrylate	0.00	69	0	N.D.	
59) T-1,3-Dichloropropene	0.00	75	0	N.D.	
60) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
61) 1,3-Dichloropropane	0.00	76	0	N.D.	
62) Tetrachloroethene	0.00	164	0	N.D.	
63) Dibromochloromethane	0.00	129	0	N.D.	
64) 1,2-Dibromoethane	0.00	107	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
67) Ethylbenzene	0.00	106	0	N.D.	
68) m-xylene & p-xylene	0.00	106	0	N.D.	
69) O-Xylene	0.00	106	0	N.D.	
70) Bromoform	0.00	173	0	N.D.	
71) Styrene	0.00	104	0	N.D. d	
72) Isopropylbenzene	0.00	105	0	N.D. d	
73) 1,2,3-Trichloropropane	0.00	75	0	N.D.	
74) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
76) Bromofluorobenzene	15.73	95	135281	54.37 ug/kg#	78
77) T-1,4-dichloro-2-butene	0.00	53	0	N.D.	
78) N-Propylbenzene	0.00	91	0	N.D.	
80) Bromobenzene	0.00	156	0	N.D.	
81) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
82) 2-Chlorotoluene	0.00	91	0	N.D.	
83) 4-Chlorotoluene	0.00	91	0	N.D.	
84) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.	
85) s-Butylbenzene	0.00	105	0	N.D.	
86) tert-Butylbenzene	0.00	119	0	N.D.	
87) p-Isopropyltoluene	0.00	119	0	N.D. d	
88) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
89) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) N-Butylbenzene	0.00	91	0	N.D.	
92) DBCP	0.00	75	0	N.D.	
93) Naphthalene	0.00	128	0	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Hexachlorobutadiene	0.00	225	0	N.D.	
96) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.	

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\022121\212BP010.D Vial: 9
Acq On : 21 Feb 2021 1:56 pm Operator: kkw
Sample : crl1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 7:12 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.47	168	357316	50.00	ug/kg	0.00
38) 1,4-Difluorobenzene(IS)	12.02	114	651865	50.00	ug/kg	0.00
56) Chlorobenzene-d5(IS)	14.61	82	286103	50.00	ug/kg	0.00
79) 1,4-Dichlorobenzene-d4(IS)	16.98	152	170352	50.00	ug/kg	0.01
System Monitoring Compounds						
30) Dibromofluoromethane	11.08	113	194703	52.75	ug/kg	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 105.50%			
54) D8-Toluene	13.24	98	554091	48.16	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 146		Recovery = 96.32%			
75) Bromofluorobenzene	15.73	95	189158	45.72	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 142		Recovery = 91.44%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.91	85	6171	0.84	ug/kg	86
3) Chloromethane	6.37	50	8657	1.21	ug/kg	89
4) Vinyl Chloride	6.56	62	6564	1.01	ug/kg#	1
5) Bromomethane	7.22	96	12629	5.42	ug/kg	90
6) Chloroethane	7.45	64	5494	1.72	ug/kg	92
7) Trichlorofluoromethane	7.72	101	6835	1.04	ug/kg	96
8) Trichlorotrifluoroethane	8.53	101	3152	0.84	ug/kg	97
9) acrolein	8.90	56	4291	7.23	ug/kg	97
10) Acetone	9.25	43	4510	5.71	ug/kg	60
11) 1,1-Dichloroethene	8.50	96	3658	0.97	ug/kg	95
12) 3-Chloropropene	9.09	76	3602	1.37	ug/kg	67
13) Acetonitrile	9.83	41	1698	4.82	ug/kg#	1
14) Iodomethane	8.71	142	778	0.19	ug/kg#	71
15) Carbon disulfide	8.62	76	83638	5.84	ug/kg	99
16) Methylene Chloride	9.22	84	4973	1.16	ug/kg	98
17) Methyl tert-butyl ether	9.53	73	6980	0.74	ug/kg	71
18) Acrylonitrile	10.29	53	1050	0.55	ug/kg	96
19) T-1,2-Dichloroethene	9.44	96	4472	1.05	ug/kg	98
20) Isopropyl Ether	9.91	45	21237	1.11	ug/kg	95
21) C-1,2-Dichloroethene	10.68	96	4983	1.09	ug/kg	96
22) 1,1-Dichloroethane	10.11	63	10074	1.23	ug/kg	96
23) Vinyl Acetate	10.32	43	48100	4.67	ug/kg	97
24) Chloroprene	10.10	88	3833	0.99	ug/kg	76
25) 2-Butanone	11.17	72	1711	6.17	ug/kg	52
26) Propionitrile	11.48	54	2398	6.21	ug/kg	100
27) 2,2-Dichloropropane	10.81	77	6479	0.98	ug/kg#	1
28) Methacrylonitrile	11.50	67	12313	9.60	ug/kg	84
29) Chloroform	10.89	83	8517	1.10	ug/kg	86
31) Dibromofluoromethane	11.08	113	194703	52.75	ug/kg	100
32) Bromochloromethane	10.88	128	2176	1.00	ug/kg	88
33) 1,1,1-Trichloroethane	11.19	97	5951	1.02	ug/kg	95
34) 1,1-Dichloropropene	11.29	75	6226	1.03	ug/kg	90
35) Diethyl Ether	8.15	59	3517	0.99	ug/kg	92
36) Methyl Acetate	9.41	74	522	1.04	ug/kg#	80
37) Cyclohexane	10.96	56	6138	0.90	ug/kg	91
39) Methyl Cyclohexane	12.08	55	5031	0.95	ug/kg	85
40) Carbon Tetrachloride	11.15	117	5677	0.96	ug/kg	97
41) 1,2-Dichloroethane	11.67	62	5523	1.00	ug/kg	90
42) Benzene	11.53	78	18142	1.14	ug/kg	92
43) Isobutyl Alcohol	11.56	43	3214	11.12	ug/kg#	1
44) Trichloroethene	12.05	130	3953	0.92	ug/kg#	1
45) 1,2-Dichloropropane	12.49	63	5901	1.20	ug/kg	89
46) Methyl Methacrylate	12.58	100	800	0.94	ug/kg	99
47) 1,4-Dioxane	0.00	88	0	N.D.		
48) Bromodichloromethane	12.51	83	5876	0.99	ug/kg	97
49) Dibromomethane	12.42	93	2283	0.92	ug/kg	87
50) 4-Methyl-2-Pentanone	13.53	100	2026	5.40	ug/kg	52
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.	d	
52) 2-Hexanone	14.22	43	8971	4.31	ug/kg	93

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\022121\212BP010.D Vial: 9
Acq On : 21 Feb 2021 1:56 pm Operator: kkw
Sample : crl1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 7:12 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.06	75	6886	0.87	ug/kg	95
55) D8-Toluene	13.24	98	554091	48.16	ug/kg	93
57) Toluene	13.29	92	8851	1.07	ug/kg	96
58) Ethyl Methacrylate	13.65	69	4123	1.03	ug/kg	95
59) T-1,3-Dichloropropene	13.57	75	4983	0.93	ug/kg	92
60) 1,1,2-Trichloroethane	13.73	97	2349	0.88	ug/kg	94
61) 1,3-Dichloropropane	13.99	76	5697	1.03	ug/kg	89
62) Tetrachloroethene	13.66	164	2536	1.03	ug/kg	96
63) Dibromochloromethane	13.92	129	3594	0.97	ug/kg#	88
64) 1,2-Dibromoethane	14.19	107	2772	0.99	ug/kg#	97
65) Chlorobenzene	14.63	112	9436	1.05	ug/kg#	53
66) 1,1,1,2-Tetrachloroethane	14.65	131	3415	0.98	ug/kg#	1
67) Ethylbenzene	14.59	106	4793	1.03	ug/kg	91
68) m-xylene & p-xylene	14.72	106	11383	2.06	ug/kg	99
69) O-Xylene	15.13	106	5331	0.94	ug/kg	89
70) Bromoform	15.26	173	1271	0.72	ug/kg#	94
71) Styrene	15.17	104	9887	1.05	ug/kg	99
72) Isopropylbenzene	15.40	105	13363	0.96	ug/kg	99
73) 1,2,3-Trichloropropane	16.02	75	3261	0.99	ug/kg	67
74) 1,1,2,2-Tetrachloroethane	15.83	83	2354	0.86	ug/kg#	31
76) Bromofluorobenzene	15.73	95	189158	45.72	ug/kg#	78
77) T-1,4-dichloro-2-butene	16.03	53	654	0.88	ug/kg#	73
78) N-Propylbenzene	15.81	91	14883	0.94	ug/kg	96
80) Bromobenzene	15.90	156	3153	1.09	ug/kg	86
81) 1,3,5-Trimethylbenzene	15.96	105	9924	1.12	ug/kg	98
82) 2-Chlorotoluene	16.05	91	10064	1.24	ug/kg	97
83) 4-Chlorotoluene	16.21	91	10134	1.20	ug/kg	97
84) 1,2,4-Trimethylbenzene	16.41	105	9715	1.08	ug/kg	96
85) s-Butylbenzene	16.53	105	11862	1.09	ug/kg	97
86) tert-Butylbenzene	16.34	119	8709	1.12	ug/kg	98
87) p-Isopropyltoluene	16.65	119	9622	1.02	ug/kg	97
88) 1,3-Dichlorobenzene	16.91	146	5296	1.04	ug/kg	94
89) 1,4-Dichlorobenzene	16.91	146	5296	1.04	ug/kg	94
90) 1,2-Dichlorobenzene	17.57	146	4387	1.01	ug/kg	96
91) N-Butylbenzene	17.18	91	7757	0.96	ug/kg	96
92) DBCP	18.66	75	301	1.03	ug/kg#	16
93) Naphthalene	20.72	128	2153	1.13	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.97	180	1689	0.90	ug/kg	88
95) Hexachlorobutadiene	19.83	225	1073	0.96	ug/kg	81
96) 1,2,3-Trichlorobenzene	21.12	180	1123	0.93	ug/kg#	50

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\022121\212BP011.D Vial: 10
Acq On : 21 Feb 2021 2:25 pm Operator: kkw
Sample : AE01325-01 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 7:14 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.45	168	235085	50.00	ug/kg	-0.02
38) 1,4-Difluorobenzene(IS)	12.01	114	420012	50.00	ug/kg	-0.01
56) Chlorobenzene-d5(IS)	14.61	82	215710	50.00	ug/kg	0.00
79) 1,4-Dichlorobenzene-d4(IS)	16.98	152	161331	50.00	ug/kg	0.00
System Monitoring Compounds						
30) Dibromofluoromethane	11.05	113	118287	48.71	ug/kg	-0.02
Spiked Amount 50.000	Range 53 - 146		Recovery = 97.42%			
54) D8-Toluene	13.23	98	390626	52.69	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 146		Recovery = 105.38%			
75) Bromofluorobenzene	15.73	95	159608	51.17	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 142		Recovery = 102.34%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.		
3) Chloromethane	0.00	50	0	N.D. d		
4) Vinyl Chloride	0.00	62	0	N.D.		
5) Bromomethane	0.00	96	0	N.D.		
6) Chloroethane	0.00	64	0	N.D. d		
7) Trichlorofluoromethane	0.00	101	0	N.D.		
8) Trichlorotrifluoroethane	0.00	101	0	N.D.		
9) acrolein	0.00	56	0	N.D.		
10) Acetone	0.00	43	0	N.D. d		
11) 1,1-Dichloroethene	8.46	96	30278	12.18	ug/kg	97
12) 3-Chloropropene	0.00	76	0	N.D.		
13) Acetonitrile	0.00	41	0	N.D.		
14) Iodomethane	0.00	142	0	N.D.		
15) Carbon disulfide	0.00	76	0	N.D. d		
16) Methylene Chloride	0.00	84	0	N.D.		
17) Methyl tert-butyl ether	0.00	73	0	N.D.		
18) Acrylonitrile	0.00	53	0	N.D.		
19) T-1,2-Dichloroethene	0.00	96	0	N.D.		
20) Isopropyl Ether	0.00	45	0	N.D.		
21) C-1,2-Dichloroethene	0.00	96	0	N.D.		
22) 1,1-Dichloroethane	10.09	63	122655	22.74	ug/kg	99
23) Vinyl Acetate	0.00	43	0	N.D. d		
24) Chloroprene	0.00	88	0	N.D.		
25) 2-Butanone	0.00	72	0	N.D.		
26) Propionitrile	0.00	54	0	N.D.		
27) 2,2-Dichloropropane	0.00	77	0	N.D.		
28) Methacrylonitrile	0.00	67	0	N.D. d		
29) Chloroform	0.00	83	0	N.D.		
31) Dibromofluoromethane	11.05	113	118287	48.71	ug/kg	100
32) Bromochloromethane	0.00	128	0	N.D.		
33) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
34) 1,1-Dichloropropene	0.00	75	0	N.D.		
35) Diethyl Ether	0.00	59	0	N.D.		
36) Methyl Acetate	0.00	74	0	N.D.		
37) Cyclohexane	0.00	56	0	N.D.		
39) Methyl Cyclohexane	0.00	55	0	N.D. d		
40) Carbon Tetrachloride	0.00	117	0	N.D.		
41) 1,2-Dichloroethane	0.00	62	0	N.D.		
42) Benzene	0.00	78	0	N.D. d		
43) Isobutyl Alcohol	0.00	43	0	N.D.		
44) Trichloroethene	0.00	130	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Methyl Methacrylate	0.00	100	0	N.D.		
47) 1,4-Dioxane	0.00	88	0	N.D.		
48) Bromodichloromethane	0.00	83	0	N.D.		
49) Dibromomethane	0.00	93	0	N.D.		
50) 4-Methyl-2-Pentanone	0.00	100	0	N.D.		
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	0.00	43	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\022121\212BP011.D Vial: 10
Acq On : 21 Feb 2021 2:25 pm Operator: kkw
Sample : AE01325-01 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 7:14 2021 Quant Results File: 020421.RES

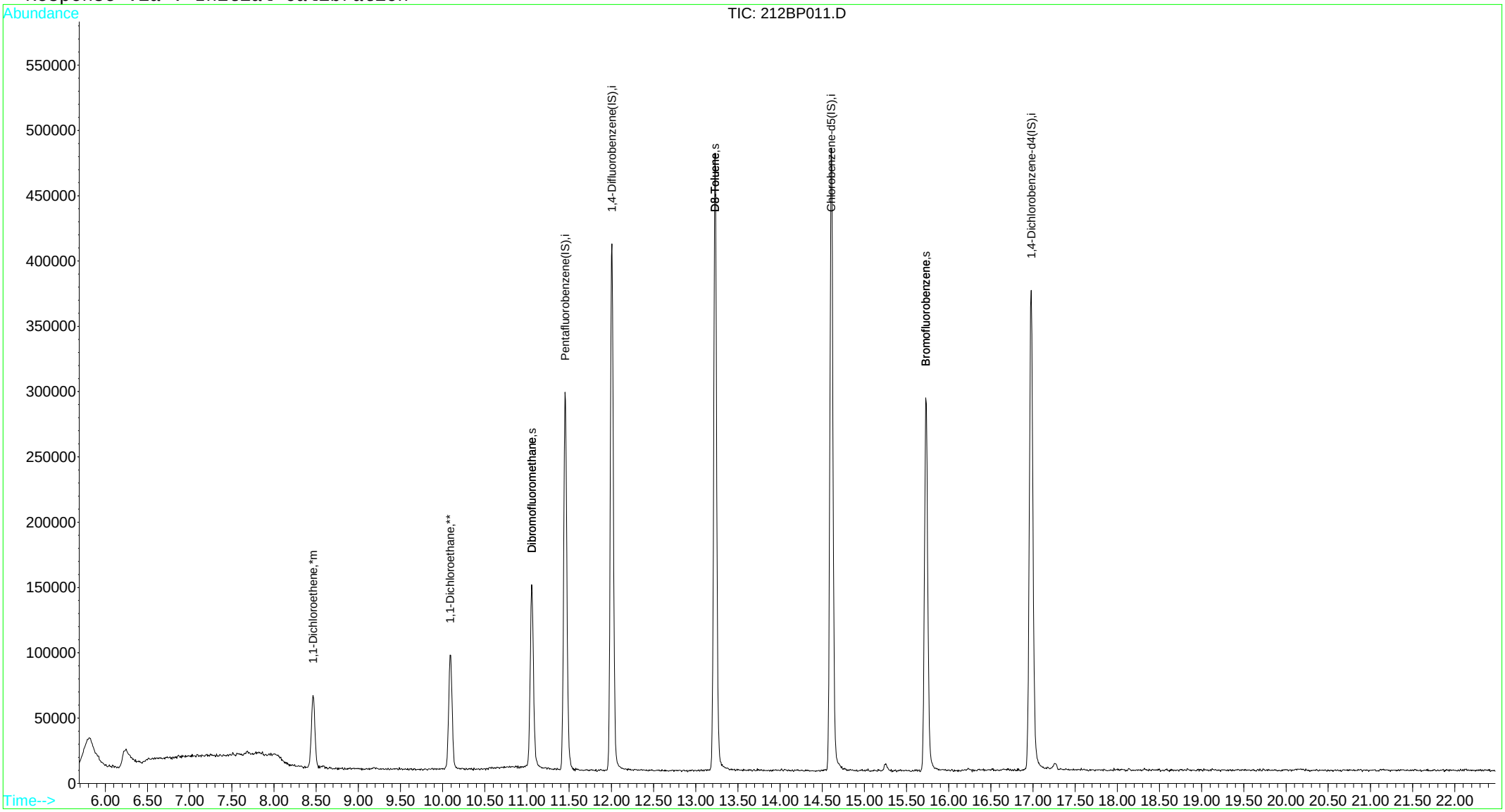
Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53)	C-1,3-Dichloropropene	0.00	75	0	N.D.	
55)	D8-Toluene	13.23	98	390626	52.69 ug/kg	93
57)	Toluene	0.00	92	0	N.D.	
58)	Ethyl Methacrylate	0.00	69	0	N.D.	
59)	T-1,3-Dichloropropene	0.00	75	0	N.D.	
60)	1,1,2-Trichloroethane	0.00	97	0	N.D.	
61)	1,3-Dichloropropane	0.00	76	0	N.D.	
62)	Tetrachloroethene	0.00	164	0	N.D.	
63)	Dibromochloromethane	0.00	129	0	N.D.	
64)	1,2-Dibromoethane	0.00	107	0	N.D.	
65)	Chlorobenzene	0.00	112	0	N.D.	
66)	1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
67)	Ethylbenzene	0.00	106	0	N.D.	
68)	m-xylene & p-xylene	0.00	106	0	N.D.	
69)	O-Xylene	0.00	106	0	N.D.	
70)	Bromoform	0.00	173	0	N.D.	
71)	Styrene	0.00	104	0	N.D.	
72)	Isopropylbenzene	0.00	105	0	N.D.	
73)	1,2,3-Trichloropropane	0.00	75	0	N.D.	
74)	1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
76)	Bromofluorobenzene	15.73	95	159608	51.17 ug/kg#	78
77)	T-1,4-dichloro-2-butene	0.00	53	0	N.D.	
78)	N-Propylbenzene	0.00	91	0	N.D. d	
80)	Bromobenzene	0.00	156	0	N.D.	
81)	1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
82)	2-Chlorotoluene	0.00	91	0	N.D.	
83)	4-Chlorotoluene	0.00	91	0	N.D.	
84)	1,2,4-Trimethylbenzene	0.00	105	0	N.D.	
85)	s-Butylbenzene	0.00	105	0	N.D.	
86)	tert-Butylbenzene	0.00	119	0	N.D.	
87)	p-Isopropyltoluene	0.00	119	0	N.D.	
88)	1,3-Dichlorobenzene	0.00	146	0	N.D.	
89)	1,4-Dichlorobenzene	0.00	146	0	N.D.	
90)	1,2-Dichlorobenzene	0.00	146	0	N.D.	
91)	N-Butylbenzene	0.00	91	0	N.D.	
92)	DBCP	0.00	75	0	N.D.	
93)	Naphthalene	0.00	128	0	N.D.	
94)	1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95)	Hexachlorobutadiene	0.00	225	0	N.D.	
96)	1,2,3-Trichlorobenzene	0.00	180	0	N.D.	

Quantitation Report

Data File : C:\HPCHEM\1\DATA\022121\212BP011.D Vial: 10
Acq On : 21 Feb 2021 2:25 pm Operator: kkw
Sample : AE01325-01 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 7:14 2021 Quant Results File: 020421.RES

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\022121\212BP016.D Vial: 15
Acq On : 21 Feb 2021 4:48 pm Operator: kkw
Sample : AE01304-01RE1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 7:15 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.47	168	354275	50.00	ug/kg	0.00
38) 1,4-Difluorobenzene(IS)	12.02	114	657991	50.00	ug/kg	0.00
56) Chlorobenzene-d5(IS)	14.61	82	291130	50.00	ug/kg	0.00
79) 1,4-Dichlorobenzene-d4(IS)	16.97	152	176907	50.00	ug/kg	0.00
System Monitoring Compounds						
30) Dibromofluoromethane	11.07	113	200157	54.70	ug/kg	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 109.40%			
54) D8-Toluene	13.23	98	563535	48.52	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 146		Recovery = 97.04%			
75) Bromofluorobenzene	15.73	95	194968	46.31	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 142		Recovery = 92.62%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.		
3) Chloromethane	0.00	50	0	N.D.		
4) Vinyl Chloride	0.00	62	0	N.D.		
5) Bromomethane	0.00	96	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Trichlorofluoromethane	0.00	101	0	N.D.		
8) Trichlorotrifluoroethane	0.00	101	0	N.D.		
9) acrolein	0.00	56	0	N.D.		
10) Acetone	0.00	43	0	N.D. d		
11) 1,1-Dichloroethene	0.00	96	0	N.D.		
12) 3-Chloropropene	0.00	76	0	N.D.		
13) Acetonitrile	0.00	41	0	N.D.		
14) Iodomethane	0.00	142	0	N.D.		
15) Carbon disulfide	0.00	76	0	N.D. d		
16) Methylene Chloride	0.00	84	0	N.D.		
17) Methyl tert-butyl ether	0.00	73	0	N.D.		
18) Acrylonitrile	0.00	53	0	N.D.		
19) T-1,2-Dichloroethene	0.00	96	0	N.D.		
20) Isopropyl Ether	0.00	45	0	N.D. d		
21) C-1,2-Dichloroethene	0.00	96	0	N.D.		
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	0.00	43	0	N.D.		
24) Chloroprene	0.00	88	0	N.D.		
25) 2-Butanone	0.00	72	0	N.D.		
26) Propionitrile	0.00	54	0	N.D.		
27) 2,2-Dichloropropane	0.00	77	0	N.D.		
28) Methacrylonitrile	0.00	67	0	N.D. d		
29) Chloroform	0.00	83	0	N.D.		
31) Dibromofluoromethane	11.07	113	200157	54.70	ug/kg	100
32) Bromochloromethane	0.00	128	0	N.D.		
33) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
34) 1,1-Dichloropropene	0.00	75	0	N.D.		
35) Diethyl Ether	0.00	59	0	N.D.		
36) Methyl Acetate	0.00	74	0	N.D.		
37) Cyclohexane	0.00	56	0	N.D.		
39) Methyl Cyclohexane	0.00	55	0	N.D. d		
40) Carbon Tetrachloride	0.00	117	0	N.D. d		
41) 1,2-Dichloroethane	0.00	62	0	N.D.		
42) Benzene	0.00	78	0	N.D. d		
43) Isobutyl Alcohol	0.00	43	0	N.D. d		
44) Trichloroethene	0.00	130	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D. d		
46) Methyl Methacrylate	0.00	100	0	N.D.		
47) 1,4-Dioxane	0.00	88	0	N.D.		
48) Bromodichloromethane	0.00	83	0	N.D.		
49) Dibromomethane	0.00	93	0	N.D.		
50) 4-Methyl-2-Pentanone	0.00	100	0	N.D.		
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	0.00	43	0	N.D. d		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\022121\212BP016.D Vial: 15
Acq On : 21 Feb 2021 4:48 pm Operator: kkw
Sample : AE01304-01RE1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 7:15 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

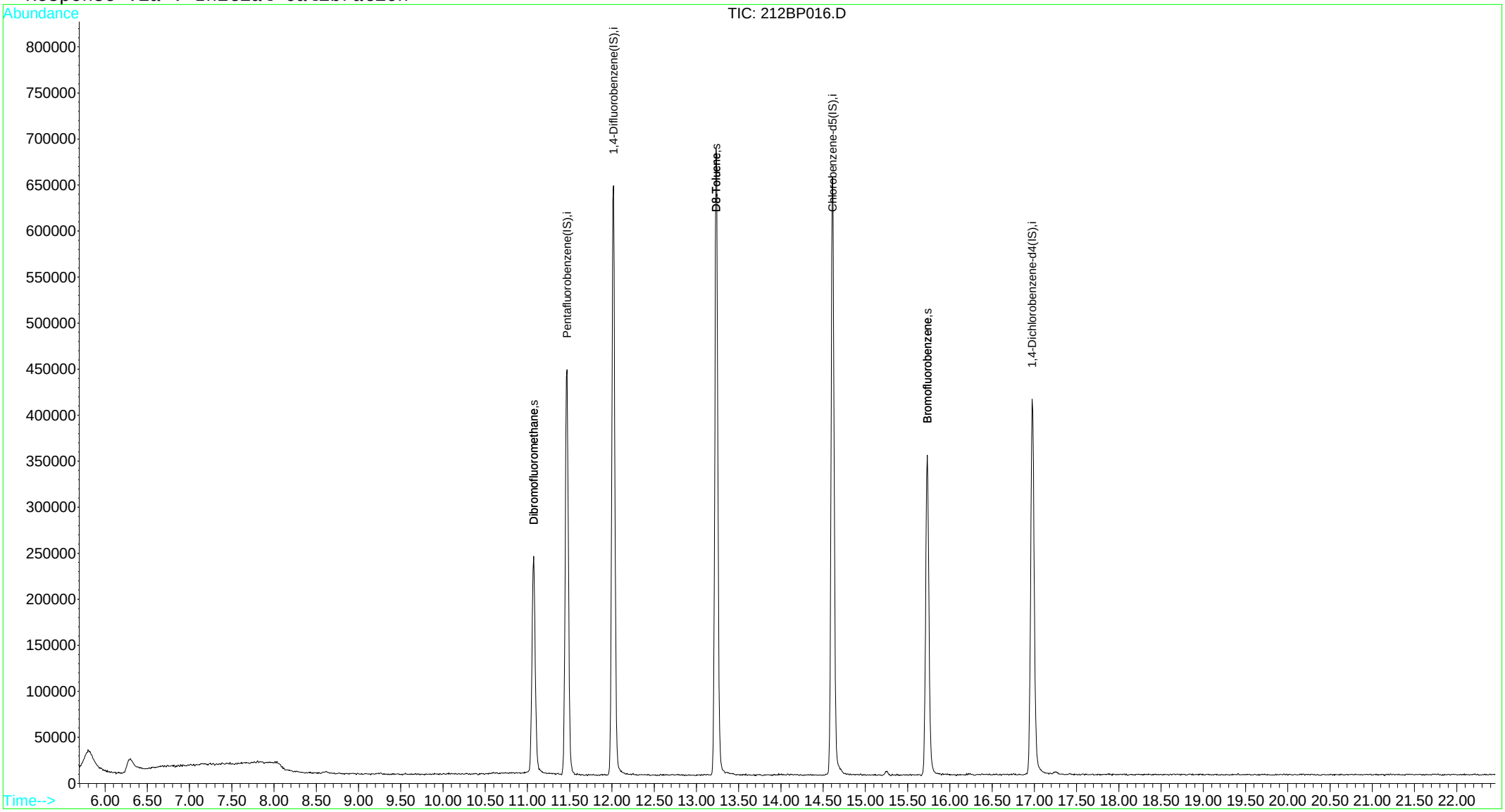
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	0.00	75	0	N.D.	
55) D8-Toluene	13.23	98	563535	48.52 ug/kg	92
57) Toluene	0.00	92	0	N.D.	
58) Ethyl Methacrylate	0.00	69	0	N.D.	
59) T-1,3-Dichloropropene	0.00	75	0	N.D.	
60) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
61) 1,3-Dichloropropane	0.00	76	0	N.D.	
62) Tetrachloroethene	0.00	164	0	N.D.	
63) Dibromochloromethane	0.00	129	0	N.D.	
64) 1,2-Dibromoethane	0.00	107	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
67) Ethylbenzene	0.00	106	0	N.D.	
68) m-xylene & p-xylene	0.00	106	0	N.D.	
69) O-Xylene	0.00	106	0	N.D.	
70) Bromoform	0.00	173	0	N.D.	
71) Styrene	0.00	104	0	N.D.	
72) Isopropylbenzene	0.00	105	0	N.D.	
73) 1,2,3-Trichloropropane	0.00	75	0	N.D.	
74) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
76) Bromofluorobenzene	15.73	95	194968	46.31 ug/kg#	78
77) T-1,4-dichloro-2-butene	0.00	53	0	N.D.	
78) N-Propylbenzene	0.00	91	0	N.D.	
80) Bromobenzene	0.00	156	0	N.D.	
81) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
82) 2-Chlorotoluene	0.00	91	0	N.D.	
83) 4-Chlorotoluene	0.00	91	0	N.D.	
84) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.	
85) s-Butylbenzene	0.00	105	0	N.D.	
86) tert-Butylbenzene	0.00	119	0	N.D.	
87) p-Isopropyltoluene	0.00	119	0	N.D.	
88) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
89) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) N-Butylbenzene	0.00	91	0	N.D.	
92) DBCP	0.00	75	0	N.D.	
93) Naphthalene	0.00	128	0	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Hexachlorobutadiene	0.00	225	0	N.D.	
96) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\022121\212BP016.D Vial: 15
Acq On : 21 Feb 2021 4:48 pm Operator: kkw
Sample : AE01304-01RE1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 7:15 2021 Quant Results File: 020421.RES

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\022121\212BP017.D Vial: 16
Acq On : 21 Feb 2021 5:17 pm Operator: kkw
Sample : AE01304-02RE1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 7:16 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.47	168	365353	50.00	ug/kg	0.00
38) 1,4-Difluorobenzene(IS)	12.02	114	667282	50.00	ug/kg	0.00
56) Chlorobenzene-d5(IS)	14.62	82	298600	50.00	ug/kg	0.00
79) 1,4-Dichlorobenzene-d4(IS)	16.98	152	180151	50.00	ug/kg	0.00
System Monitoring Compounds						
30) Dibromofluoromethane	11.07	113	203389	53.89	ug/kg	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 107.78%			
54) D8-Toluene	13.24	98	577049	48.99	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 146		Recovery = 97.98%			
75) Bromofluorobenzene	15.74	95	199077	46.11	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 142		Recovery = 92.22%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.		
3) Chloromethane	0.00	50	0	N.D. d		
4) Vinyl Chloride	6.57	62	108182	16.22	ug/kg	87
5) Bromomethane	0.00	96	0	N.D. d		
6) Chloroethane	0.00	64	0	N.D. d		
7) Trichlorofluoromethane	0.00	101	0	N.D.		
8) Trichlorotrifluoroethane	0.00	101	0	N.D.		
9) acrolein	0.00	56	0	N.D.		
10) Acetone	0.00	43	0	N.D.		
11) 1,1-Dichloroethene	0.00	96	0	N.D.		
12) 3-Chloropropene	0.00	76	0	N.D.		
13) Acetonitrile	0.00	41	0	N.D. d		
14) Iodomethane	0.00	142	0	N.D.		
15) Carbon disulfide	0.00	76	0	N.D. d		
16) Methylene Chloride	0.00	84	0	N.D.		
17) Methyl tert-butyl ether	0.00	73	0	N.D.		
18) Acrylonitrile	0.00	53	0	N.D.		
19) T-1,2-Dichloroethene	9.45	96	2701	0.62	ug/kg	95
20) Isopropyl Ether	0.00	45	0	N.D.		
21) C-1,2-Dichloroethene	10.69	96	1368	0.29	ug/kg	92
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	0.00	43	0	N.D.		
24) Chloroprene	0.00	88	0	N.D.		
25) 2-Butanone	0.00	72	0	N.D.		
26) Propionitrile	0.00	54	0	N.D.		
27) 2,2-Dichloropropane	0.00	77	0	N.D. d		
28) Methacrylonitrile	0.00	67	0	N.D. d		
29) Chloroform	0.00	83	0	N.D.		
31) Dibromofluoromethane	11.07	113	203389	53.89	ug/kg	100
32) Bromochloromethane	0.00	128	0	N.D.		
33) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
34) 1,1-Dichloropropene	0.00	75	0	N.D.		
35) Diethyl Ether	0.00	59	0	N.D.		
36) Methyl Acetate	0.00	74	0	N.D.		
37) Cyclohexane	0.00	56	0	N.D.		
39) Methyl Cyclohexane	0.00	55	0	N.D. d		
40) Carbon Tetrachloride	0.00	117	0	N.D. d		
41) 1,2-Dichloroethane	0.00	62	0	N.D.		
42) Benzene	0.00	78	0	N.D. d		
43) Isobutyl Alcohol	0.00	43	0	N.D. d		
44) Trichloroethene	0.00	130	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Methyl Methacrylate	0.00	100	0	N.D.		
47) 1,4-Dioxane	0.00	88	0	N.D.		
48) Bromodichloromethane	0.00	83	0	N.D.		
49) Dibromomethane	0.00	93	0	N.D.		
50) 4-Methyl-2-Pentanone	0.00	100	0	N.D.		
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	0.00	43	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\022121\212BP017.D Vial: 16
Acq On : 21 Feb 2021 5:17 pm Operator: kkw
Sample : AE01304-02RE1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 7:16 2021 Quant Results File: 020421.RES

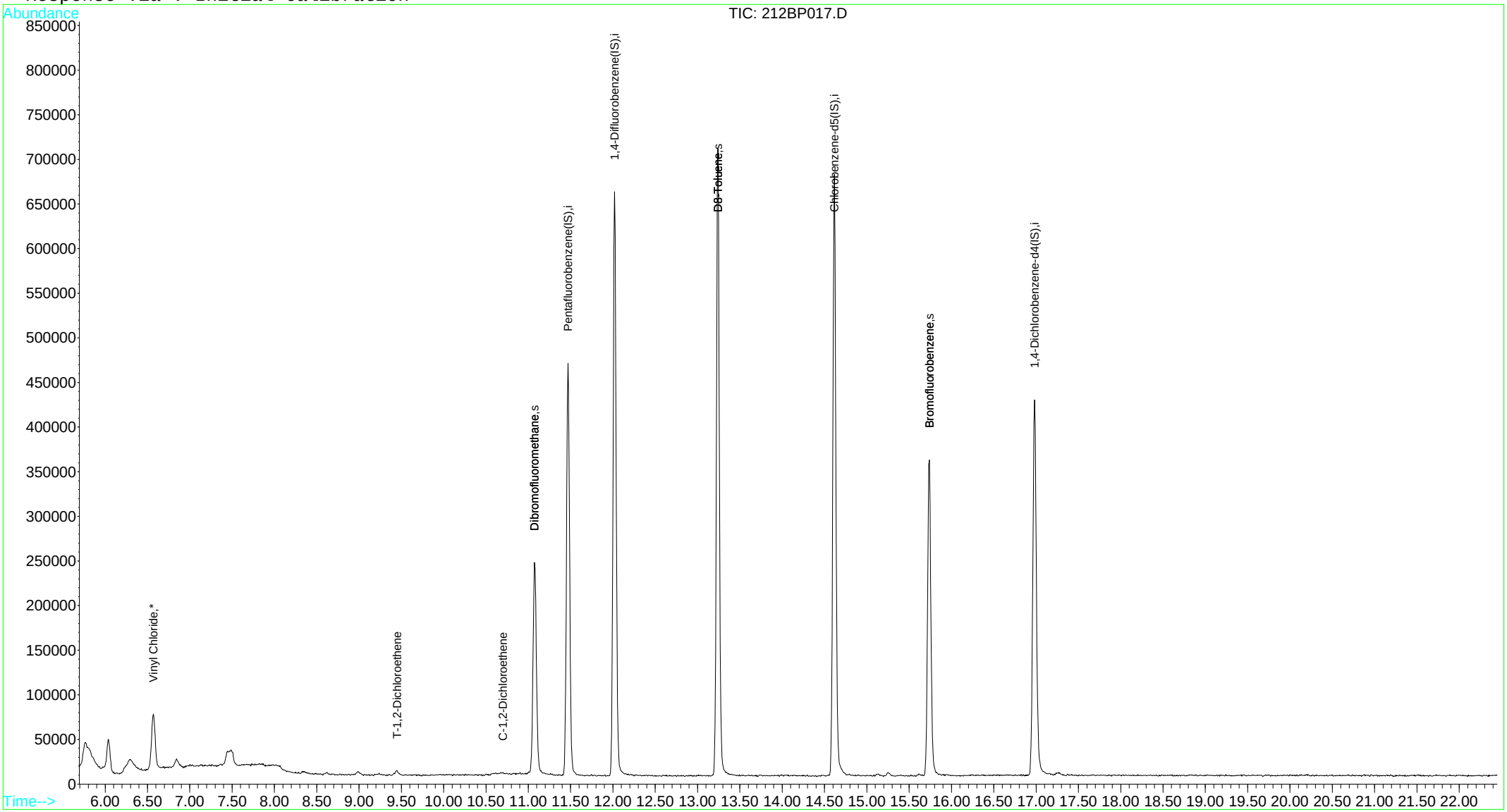
Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	0.00	75	0	N.D.	
55) D8-Toluene	13.24	98	577049	48.99 ug/kg	93
57) Toluene	0.00	92	0	N.D.	
58) Ethyl Methacrylate	0.00	69	0	N.D.	
59) T-1,3-Dichloropropene	0.00	75	0	N.D.	
60) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
61) 1,3-Dichloropropane	0.00	76	0	N.D.	
62) Tetrachloroethene	0.00	164	0	N.D.	
63) Dibromochloromethane	0.00	129	0	N.D.	
64) 1,2-Dibromoethane	0.00	107	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
67) Ethylbenzene	0.00	106	0	N.D.	
68) m-xylene & p-xylene	0.00	106	0	N.D.	
69) O-Xylene	0.00	106	0	N.D. d	
70) Bromoform	0.00	173	0	N.D.	
71) Styrene	0.00	104	0	N.D.	
72) Isopropylbenzene	0.00	105	0	N.D.	
73) 1,2,3-Trichloropropane	0.00	75	0	N.D.	
74) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
76) Bromofluorobenzene	15.74	95	199077	46.11 ug/kg#	78
77) T-1,4-dichloro-2-butene	0.00	53	0	N.D.	
78) N-Propylbenzene	0.00	91	0	N.D. d	
80) Bromobenzene	0.00	156	0	N.D.	
81) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
82) 2-Chlorotoluene	0.00	91	0	N.D.	
83) 4-Chlorotoluene	0.00	91	0	N.D.	
84) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.	
85) s-Butylbenzene	0.00	105	0	N.D.	
86) tert-Butylbenzene	0.00	119	0	N.D.	
87) p-Isopropyltoluene	0.00	119	0	N.D.	
88) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
89) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) N-Butylbenzene	0.00	91	0	N.D.	
92) DBCP	0.00	75	0	N.D.	
93) Naphthalene	0.00	128	0	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Hexachlorobutadiene	0.00	225	0	N.D.	
96) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.	

Quantitation Report

Data File : C:\HPCHEM\1\DATA\022121\212BP017.D Vial: 16
Acq On : 21 Feb 2021 5:17 pm Operator: kkw
Sample : AE01304-02RE1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 7:16 2021 Quant Results File: 020421.RES

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration



ANALYSIS SEQUENCE

AA64808

Instrument: OVGCMS2

Calibration ID: 2102033

Printed: 2/5/2021 10:36:34AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA64808-TUN1	QC		1		A0I0903			
AA64808-CAL1	QC		2		A1B0650	A0K0862		
AA64808-CAL2	QC		3		A1B0651	A0K0862		
AA64808-CAL3	QC		4		A1B0652	A0K0862		
AA64808-CAL4	QC		5		A1B0653	A0K0862		
AA64808-CAL5	QC		6		A1B0654	A0K0862		
AA64808-CAL6	QC		7		A1B0655	A0K0862		
AA64808-CAL7	QC		8		A1B0656	A0K0862		
AA64808-CAL8	QC		9		A1B0657	A0K0862		
AA64808-SCV1	QC		10		A1B0663	A0K0862		

Samples Loaded By Date

Data Processed By Date

Sequence Name: C:\HPCHEM\1\SEQUENCE\212B4.S
Comment:
Operator: nmc
Data Path: C:\HPchem\1\DATA\020421\
Pre-Seq Cmd:
Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Calibration 2102033

Line	Type	Vial	DataFile	Method	Sample Name
1	Sample	1	212B4001	8260S	AA64808-tun1
2	Sample	2	212B4002	8260S	AA64808-cal1
3	Sample	3	212B4003	8260S	AA64808-cal2
4	Sample	4	212B4004	8260S	AA64808-cal3
5	Sample	5	212B4005	8260S	AA64808-cal4
6	Sample	6	212B4006	8260S	AA64808-cal5
7	Sample	7	212B4007	8260S	AA64808-cal6
8	Sample	8	212B4008	8260S	AA64808-cal7
9	Sample	9	212B4009	8260S	AA64808-cal8
10	Sample	10	212B4010	8260S	rinse
11	Sample	11	212B4011	8260S	rinse
12	Sample	12	212B4012	8260S	aa64808-SCV1
13	Sample	13	212B4013	8260S	1b04039-bs1
14	Sample	14	212B4014	8260S	1b04039-ms1
15	Sample	14	212B4015	8260S	1b04039-msd1
16	Sample	15	212B4016	8260S	RINSE
17	Sample	16	212B4017	8260S	RINSE
18	Sample	17	212B4018	8260S	RINSE
19	Sample	18	212B4019	8260S	1B04039-BLK1
20	Sample	19	212B4020	8260S	AE00782-09
21	Sample	20	212B4021	8260S	AE00782-01
22	Sample	21	212B4022	8260S	AE00782-02
23	Sample	22	212B4023	8260S	AE00782-03@200x
24	Sample	23	212B4024	8260S	AE00782-04@5x overdiluted, rrr@ 1x MH 2/5/21
25	Sample	24	212B4025	8260S	AE00782-05
26	Sample	25	212B4026	8260S	AE00782-06
27	Sample	26	212B4027	8260S	AE00782-07
28	Sample	27	212B4028	8260S	AE00782-08

Compound List Report OVGCMS2

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration
Total Cpnds : 96

PK#	Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1 I	Pentafluorobenzene(IS)	168	11.47	1.000	A	2	A	B
2	Dichlorodifluoromethane	85	5.91	0.515	LO	3	A	B
3 **	Chloromethane	50	6.38	0.556	A	2	A	B
4 *	Vinyl Chloride	62	6.57	0.573	A	2	A	B
5	Bromomethane	96	7.22	0.629	LO	2	A	B
6	Chloroethane	64	7.46	0.650	LO	2	A	R
7	Trichlorofluoromethane	101	7.72	0.673	A	2	A	B
8	Trichlorotrifluoroethane	101	8.54	0.744	A	1	A	B
9	acrolein	56	8.90	0.776	A	1	A	B
10	Acetone	43	9.25	0.807	LO	1	A	B
11 *m	1,1-Dichloroethene	96	8.50	0.741	LO	2	A	B
12	3-Chloropropene	76	9.09	0.793	LO	1	A	B
13	Acetonitrile	41	9.79	0.853	A	2	A	B
14	Iodomethane	142	8.73	0.761	QO	2	A	B
15	Carbon disulfide	76	8.62	0.752	A	1	A	B
16	Methylene Chloride	84	9.21	0.804	LO	3	A	B
17	Methyl tert-butyl ether	73	9.53	0.831	A	2	A	B
18	Acrylonitrile	53	10.11	0.882	A	2	A	B
19	T-1,2-Dichloroethene	96	9.44	0.823	A	2	A	B
20	Isopropyl Ether	45	9.90	0.863	A	1	A	B
21	C-1,2-Dichloroethene	96	10.68	0.931	A	2	A	B
22 **	1,1-Dichloroethane	63	10.11	0.882	A	3	A	B
23	Vinyl Acetate	43	10.30	0.898	A	1	A	B
24	Chloroprene	88	10.10	0.881	A	2	A	B
25	2-Butanone	72	11.17	0.974	LO	2	A	B
26	Propionitrile	54	11.45	0.999	A	0	A	B
27	2,2-Dichloropropane	77	10.80	0.942	A	1	A	B
28	Methacrylonitrile	67	11.49	1.002	A	1	A	B
29 *	Chloroform	83	10.90	0.950	A	2	A	B
30 S	Dibromofluoromethane	113	11.07	0.966	A	0	A	B
31	Dibromofluoromethane	113	11.10	0.968	A	0	A	B
32	Bromochloromethane	128	10.87	0.948	A	2	A	B
33	1,1,1-Trichloroethane	97	11.18	0.975	A	2	A	B
34	1,1-Dichloropropene	75	11.29	0.985	A	2	A	B
35	Diethyl Ether	59	8.13	0.709	LO	2	A	B
36	Methyl Acetate	74	9.39	0.819	LO	2	A	B
37	Cyclohexane	56	10.96	0.956	A	2	A	B
38 I	1,4-Difluorobenzene(IS)	114	12.02	1.000	A	2	A	B
39	Methyl Cyclohexane	55	12.07	1.005	A	2	A	B
40	Carbon Tetrachloride	117	11.15	0.928	A	2	A	B
41	1,2-Dichloroethane	62	11.67	0.971	A	2	A	B
42 m	Benzene	78	11.53	0.959	A	2	A	B
43	Isobutyl Alcohol	43	11.54	0.961	A	2	A	B
44 m	Trichloroethene	130	12.04	1.002	A	3	A	B
45 *	1,2-Dichloropropane	63	12.49	1.039	LO	2	A	B
46	Methyl Methacrylate	100	12.57	1.046	A	1	A	B
47	1,4-Dioxane	88	12.70	1.056	LO	1	A	B
48	Bromodichloromethane	83	12.50	1.040	LO	2	A	B
49	Dibromomethane	93	12.41	1.033	LO	2	A	B
50	4-Methyl-2-Pentanone	100	13.51	1.124	LO	3	A	B
51	2-Chloroethyl vinyl ether	63	12.92	1.075	A	2	A	B
52	2-Hexanone	43	14.21	1.182	LO	3	A	B
53	C-1,3-Dichloropropene	75	13.05	1.086	A	2	A	B
54 S	D8-Toluene	98	13.23	1.101	A	2	A	B
55	D8-Toluene	98	13.27	1.104	A	2	A	B
56 I	Chlorobenzene-d5(IS)	82	14.61	1.000	A	2	A	B
57 m*	Toluene	92	13.28	0.909	A	2	A	B
58	Ethyl Methacrylate	69	13.62	0.932	A	3	A	B
59	T-1,3-Dichloropropene	75	13.57	0.929	A	2	A	B
60	1,1,2-Trichloroethane	97	13.73	0.940	A	3	A	B
61	1,3-Dichloropropane	76	13.98	0.957	A	1	A	B
62	Tetrachloroethene	164	13.66	0.935	A	3	A	B
63	Dibromochloromethane	129	13.92	0.953	A	2	A	B
64	1,2-Dibromoethane	107	14.18	0.971	A	2	A	B
65 **m	Chlorobenzene	112	14.63	1.001	A	2	A	B

66		1,1,1,2-Tetrachloroethane	131	14.65	1.003	A	2	A	B
67	*	Ethylbenzene	106	14.59	0.999	A	1	A	B
68		m-xylene & p-xylene	106	14.70	1.006	A	1	A	B
69		O-Xylene	106	15.12	1.035	A	1	A	B
70	**	Bromoform	173	15.25	1.044	A	3	A	B
71		Styrene	104	15.16	1.038	LO	2	A	B
72		Isopropylbenzene	105	15.39	1.053	A	1	A	B
73		1,2,3-Trichloropropane	75	16.02	1.097	LO	1	A	B
74	**	1,1,2,2-Tetrachloroethane	83	15.82	1.083	LO	3	A	B
75	S	Bromofluorobenzene	95	15.73	1.077	A	2	A	B
76		Bromofluorobenzene	95	15.71	1.075	A	2	A	B
77		T-1,4-dichloro-2-butene	53	16.01	1.096	LO	2	A	B
78		N-Propylbenzene	91	15.79	1.081	LO	1	A	B
79	I	1,4-Dichlorobenzene-d4(IS)	152	16.97	1.000	A	2	A	B
80		Bromobenzene	156	15.89	0.936	A	2	A	B
81		1,3,5-Trimethylbenzene	105	15.95	0.940	A	1	A	B
82		2-Chlorotoluene	91	16.04	0.945	A	1	A	B
83		4-Chlorotoluene	91	16.20	0.955	A	1	A	B
84		1,2,4-Trimethylbenzene	105	16.40	0.966	A	1	A	B
85		s-Butylbenzene	105	16.53	0.974	A	1	A	B
86		tert-Butylbenzene	119	16.34	0.963	A	2	A	B
87		p-Isopropyltoluene	119	16.65	0.981	A	2	A	B
88		1,3-Dichlorobenzene	146	16.90	0.996	A	2	A	B
89		1,4-Dichlorobenzene	146	17.00	1.001	A	2	A	B
90		1,2-Dichlorobenzene	146	17.57	1.035	A	2	A	B
91		N-Butylbenzene	91	17.17	1.012	A	2	A	B
92		DBCP	75	18.68	1.100	LO	2	A	B
93		Naphthalene	128	20.67	1.218	QO	0	A	B
94		1,2,4-Trichlorobenzene	180	19.96	1.176	A	2	A	B
95		Hexachlorobutadiene	225	19.82	1.168	A	2	A	B
96		1,2,3-Trichlorobenzene	180	21.11	1.244	A	2	A	B

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

020421.M Fri Feb 05 09:53:19 2021

Compound Name Duplication Report

Quant Method: C:\HPCHEM\1\METHODS\020421.M
Number of Compounds: 96

30 Dibromofluoromethane = 31 Dibromofluoromethane
54 D8-Toluene = 55 D8-Toluene
75 Bromofluorobenzene = 76 Bromofluorobenzene

3 Duplicate Names Detected!!!

Response Factor Report OVGCMS2

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration

Calibration Files
1 =212B4002.D 5 =212B4004.D 20 =212B4006.D
50 =212B4007.D 100 =212B4009.D 10 =212B4005.D

		Compound	1	5	20	50	100	10	Avg	%RSD
1)	i	Pentafluorobenzene(IS	----------	ISTD	----------					
2)		Dichlorodifluoromet	1.337	0.945	0.938	0.994	1.048	0.890	1.054	14.96
3)	**	Chloromethane	1.172	0.862	0.861	0.952	1.145	0.830	1.003	14.22
4)	*	Vinyl Chloride	1.037	0.814	0.837	0.888	0.933	0.805	0.913	10.80
5)		Bromomethane	0.936	0.801	0.363	0.340		0.464	0.602	49.51
6)		Chloroethane	0.687	0.490	0.466	0.456	0.439	0.439	0.505	18.44
7)		Trichlorofluorometh	0.929	0.817	0.874	0.934	0.963	0.831	0.915	7.62
8)		Trichlorotrifluoroe	0.581	0.479	0.520	0.538	0.559	0.480	0.525	7.84
9)		acrolein	0.089	0.080	0.075	0.085	0.089	0.069	0.083#	9.33
10)		Acetone	0.184	0.107	0.102	0.111	0.109	0.102	0.122	23.55
11)	*m	1,1-Dichloroethene	0.705	0.471	0.477	0.503	0.534	0.441	0.529	15.50
12)		3-Chloropropene	0.684	0.381	0.346	0.355	0.373	0.337	0.413	28.12
13)		Acetonitrile	0.058	0.040	0.042	0.053	0.054	0.042	0.049#	14.13
14)		Iodomethane	0.017	0.175	0.577	0.675	0.725	0.415	0.420	71.26
15)		Carbon disulfide	2.351	1.877	1.899	1.916	1.931	1.872	2.005	9.41
16)		Methylene Chloride	0.975	0.603	0.562	0.576	0.599	0.545	0.648	21.87
17)		Methyl tert-butyl e	1.509	1.239	1.215	1.321	1.343	1.138	1.313	8.69
18)		Acrylonitrile	0.324	0.268	0.251	0.262	0.257	0.236	0.268	9.67
19)		T-1,2-Dichloroethen	0.770	0.552	0.545	0.563	0.601	0.510	0.593	13.27
20)		Isopropyl Ether	2.916	2.528	2.533	2.652	2.744	2.388	2.669	6.61
21)		C-1,2-Dichloroethen	0.737	0.586	0.595	0.623	0.666	0.562	0.640	9.17
22)	**	1,1-Dichloroethane	1.169	1.147	1.121	1.138	1.175	1.049	1.147	4.09
23)		Vinyl Acetate	1.525	1.427	1.394	1.467	1.363	1.352	1.442	5.38
24)		Chloroprene	0.611	0.507	0.515	0.543	0.545	0.504	0.541	6.40
25)		2-Butanone	0.052	0.045	0.035	0.039	0.038	0.037	0.044#	21.34
26)		Propionitrile	0.070	0.048	0.046	0.054	0.052	0.048	0.054#	14.26
27)		2,2-Dichloropropane	1.193	0.802	0.856	0.874	0.910	0.797	0.923	14.30
28)		Methacrylonitrile	0.235	0.170	0.160	0.174	0.168	0.158	0.180	14.21
29)	*	Chloroform	1.099	0.999	1.045	1.067	1.114	0.996	1.084	7.07
30)	s	Dibromofluoromethan	0.478	0.520	0.527	0.519	0.556	0.513	0.516	5.23
31)		Dibromofluoromethan	0.478	0.520	0.527	0.519	0.556	0.513	0.516	5.23
32)		Bromochloromethane	0.348	0.286	0.284	0.304	0.319	0.266	0.305	8.49
33)		1,1,1-Trichloroetha	0.913	0.766	0.769	0.797	0.837	0.725	0.813	7.45
34)		1,1-Dichloropropene	1.012	0.785	0.777	0.822	0.868	0.725	0.845	10.46
35)		Diethyl Ether	0.674	0.459	0.436	0.476	0.494	0.423	0.501	15.81
36)		Methyl Acetate	0.138	0.074	0.062	0.068	0.069	0.058	0.082#	34.75
37)		Cyclohexane	1.015	0.921	0.930	0.964	1.015	0.867	0.959	5.80
38)	i	1,4-Difluorobenzene(I	----------	ISTD	----------					
39)		Methyl Cyclohexane	0.534	0.378	0.372	0.385	0.405	0.340	0.406	14.32
40)		Carbon Tetrachlorid	0.502	0.436	0.435	0.446	0.460	0.405	0.452	6.35
41)		1,2-Dichloroethane	0.504	0.409	0.387	0.404	0.413	0.367	0.424	10.84
42)	m	Benzene	1.483	1.186	1.154	1.155	1.161	1.079	1.216	10.49
43)		Isobutyl Alcohol	0.025	0.024	0.020	0.021	0.020	0.019	0.022#	13.07
44)	m	Trichloroethene	0.366	0.314	0.320	0.328	0.346	0.289	0.330	7.18
45)	*	1,2-Dichloropropane	0.542	0.362	0.357	0.364	0.376	0.331	0.397	17.50
46)		Methyl Methacrylate	0.058	0.066	0.063	0.066	0.066	0.061	0.065#	6.56
47)		1,4-Dioxane	0.002	0.001	0.001	0.001	0.001	0.001	0.001#	29.96
48)		Bromodichloromethan	0.637	0.451	0.436	0.448	0.451	0.410	0.477	15.13
49)		Dibromomethane	0.253	0.186	0.169	0.186	0.190	0.159	0.192	14.61
50)		4-Methyl-2-Pentanon	0.046	0.031	0.026	0.029	0.028	0.026	0.032#	22.73
51)		2-Chloroethyl vinyl		0.010	0.007	0.014	0.015	0.005	0.011#	42.49
52)		2-Hexanone	0.228	0.165	0.146	0.162	0.157	0.141	0.171	17.59
53)		C-1,3-Dichloroprope	0.731	0.586	0.555	0.588	0.600	0.521	0.605	10.45
54)	s	D8-Toluene	0.925	0.922	0.864	0.850	0.881	0.848	0.883	3.57
55)		D8-Toluene	0.925	0.922	0.864	0.850	0.881	0.848	0.883	3.57
56)	i	Chlorobenzene-d5(IS)	----------	ISTD	----------					

(#) = Out of Range ### Number of calibration levels exceeded format ###

Response Factor Report OVGCMS2

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration

Calibration Files
1 =212B4002.D 5 =212B4004.D 20 =212B4006.D
50 =212B4007.D 100 =212B4009.D 10 =212B4005.D

		Compound	1	5	20	50	100	10	Avg	%RSD
57)	m*	Toluene	1.682	1.389	1.354	1.404	1.450	1.284	1.447	8.52
58)		Ethyl Methacrylate	0.812	0.657	0.638	0.700	0.680	0.623	0.703	10.66
59)		T-1,3-Dichloroprope	1.089	0.899	0.864	0.920	0.940	0.831	0.935	8.55
60)		1,1,2-Trichloroetha	0.577	0.446	0.427	0.454	0.459	0.415	0.469	10.87
61)		1,3-Dichloropropane	1.086	0.921	0.904	0.952	0.958	0.858	0.962	7.57
62)		Tetrachloroethene	0.417	0.434	0.430	0.438	0.454	0.406	0.432	3.96
63)		Dibromochloromethan	0.709	0.618	0.614	0.660	0.670	0.567	0.648	7.06
64)		1,2-Dibromoethane	0.535	0.447	0.456	0.501	0.515	0.424	0.489	8.38
65)	**m	Chlorobenzene	1.802	1.552	1.478	1.510	1.552	1.377	1.568	8.39
66)		1,1,1,2-Tetrachloro	0.655	0.579	0.591	0.610	0.631	0.550	0.611	5.70
67)	*	Ethylbenzene	0.951	0.780	0.765	0.776	0.818	0.700	0.811	9.37
68)		m-xylene & p-xylene	1.183	0.957	0.897	0.904	0.934	0.829	0.967	11.85
69)		O-Xylene	1.223	0.955	0.905	0.934	0.979	0.833	0.987	12.09
70)	**	Bromoform	0.320	0.297	0.288	0.319	0.321	0.270	0.308	6.90
71)		Styrene	2.291	1.719	1.579	1.632	1.618	1.440	1.749	15.58
72)		Isopropylbenzene	2.967	2.373	2.258	2.332	2.405	2.076	2.441	11.18
73)		1,2,3-Trichloroprop	0.988	0.598	0.491	0.568	0.566	0.507	0.631	25.67
74)	**	1,1,2,2-Tetrachloro	0.723	0.500	0.437	0.478	0.475	0.423	0.512	18.75
75)	s	Bromofluorobenzene	0.778	0.757	0.697	0.714	0.710	0.686	0.723	4.53
76)		Bromofluorobenzene	0.778	0.757	0.697	0.714	0.710	0.686	0.723	4.53
77)		T-1,4-dichloro-2-bu	0.339	0.104	0.104	0.131	0.130	0.085	0.145	55.65
78)		N-Propylbenzene	3.694	2.884	2.551	2.656	2.794	2.392	2.899	15.11
79)	i	1,4-Dichlorobenzene-d	----------	ISTD	----------					
80)		Bromobenzene	0.863	0.784	0.819	0.866	0.897	0.767	0.845	6.05
81)		1,3,5-Trimethylbenz	3.089	2.560	2.444	2.496	2.606	2.294	2.612	9.10
82)		2-Chlorotoluene	2.627	2.305	2.282	2.333	2.419	2.140	2.377	6.13
83)		4-Chlorotoluene	2.769	2.390	2.350	2.438	2.562	2.166	2.487	7.61
84)		1,2,4-Trimethylbenz	3.180	2.601	2.518	2.534	2.533	2.315	2.646	9.75
85)		s-Butylbenzene	3.713	3.050	3.004	3.111	3.289	2.791	3.202	8.67
86)		tert-Butylbenzene	2.433	2.208	2.216	2.271	2.366	2.037	2.291	5.88
87)		p-Isopropyltoluene	3.631	2.604	2.563	2.618	2.707	2.389	2.779	13.63
88)		1,3-Dichlorobenzene	1.699	1.425	1.378	1.460	1.538	1.282	1.488	8.73
89)		1,4-Dichlorobenzene	1.731	1.435	1.375	1.434	1.520	1.279	1.493	9.61
90)		1,2-Dichlorobenzene	1.411	1.202	1.195	1.280	1.341	1.094	1.275	8.28
91)		N-Butylbenzene	3.007	2.251	2.181	2.251	2.355	1.997	2.373	12.66
92)		DBCP	0.115	0.089	0.075	0.085	0.085	0.078	0.094#	22.35
93)		Naphthalene	0.654	0.570	0.580	0.665	0.781	0.491	0.653	15.45
94)		1,2,4-Trichlorobenz	0.582	0.530	0.505	0.547	0.590	0.468	0.549	8.35
95)		Hexachlorobutadiene	0.339	0.316	0.315	0.330	0.356	0.286	0.328	7.33
96)		1,2,3-Trichlorobenz	0.341	0.355	0.327	0.362	0.409	0.291	0.356	10.85

(#) = Out of Range ### Number of calibration levels exceeded format ###

Manual Integration Review Form

ENVIRONMENTAL CONSERVATION LABORATORIES, INC. ☐ Cary ☐ Jacksonville ☑ Orlando

I hereby attest that the manual integrations contained in this package have been thoroughly reviewed and are in agreement with the associated hardcopy data.

The electronic files listed below have been reviewed for accuracy, completeness and comply with ENCO labs QA-11 Manual Integration Policy including:

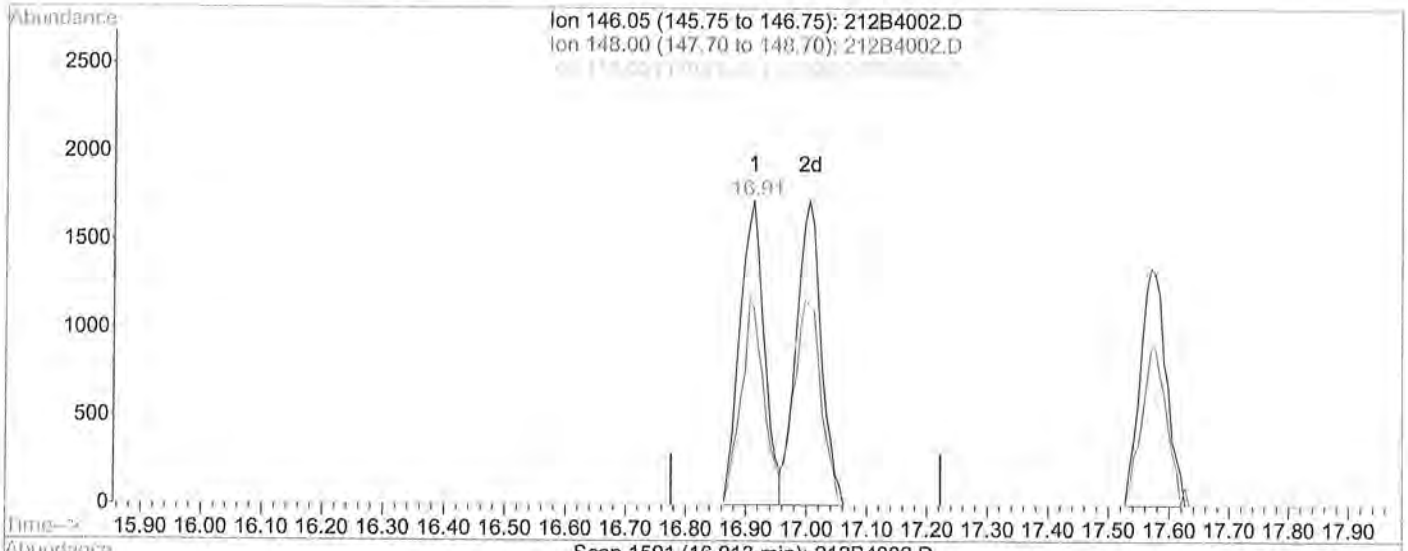
- "Before" and "After" chromatograms are provided
- Manual integrations are indicated on expanded scale "after" chromatograms at a scale large enough to see the manual integration performed.
- Reintegration technique marked if available on the data system
- Technical justification for manual integration
- Appropriate flags indicating which analytes were manually integrated are included in the raw data
- Analyst's initials and date.

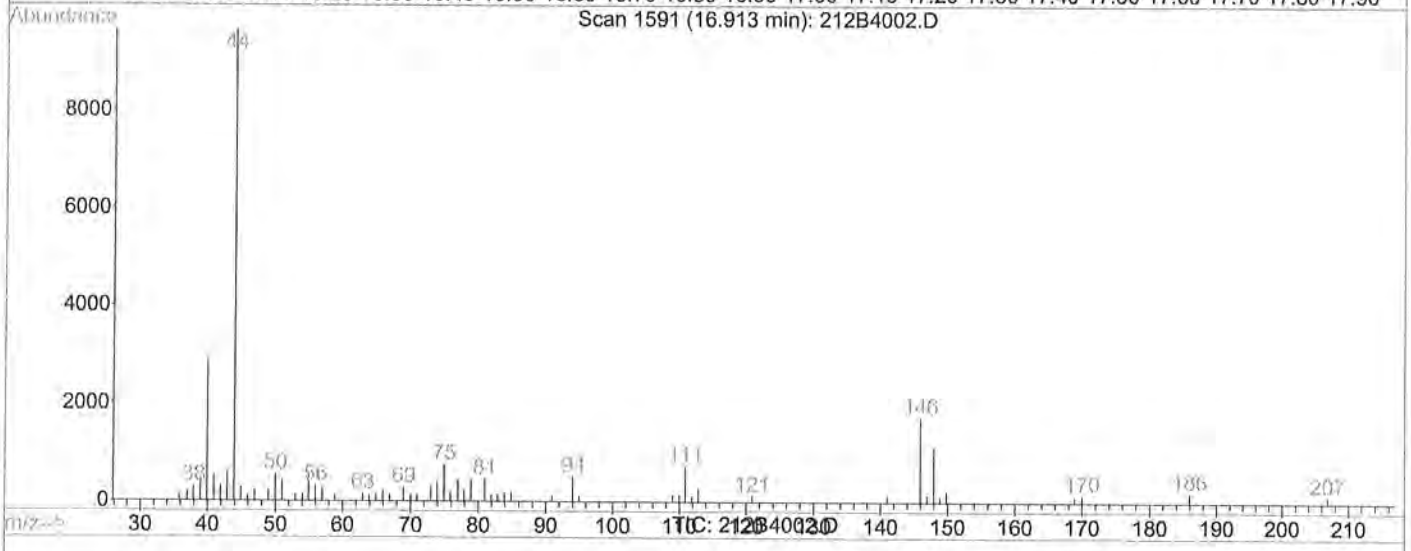
Instrument ID:	OVGCMS2
Sequence/Batch ID:	AA64808
Data File Prefix:	212B
Date and Time Range of MIs:	2/4/21 - 2/5/21 2/4/21 8:38-12:22 2/5/21 9:39-9:40
Reviewer Print Name:	Walosh Kara Watson
Reviewer Signature:	
Date of Review:	02/05/21

Quantitation Report (Qedit)

Data File : C:\HPchem\1\DATA\020421\212B4002.D Vial: 2
Acq On : 4 Feb 2021 8:28 am Operator: nmc
Sample : AA64808-cal1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 4 8:58 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Feb 04 08:57:33 2021
Response via : Multiple Level Calibration





(89) 1,4-Dichlorobenzene

16.91min 1.11ug/kg

response 4834

Ion	Exp%	Act%
146.05	100	100
148.00	64.60	64.11
111.00	43.70	41.87
0.00	0.00	0.00

Select One:

[x] Original Integration [ ] Manual Integration

Select reason for manual integration:

[x] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

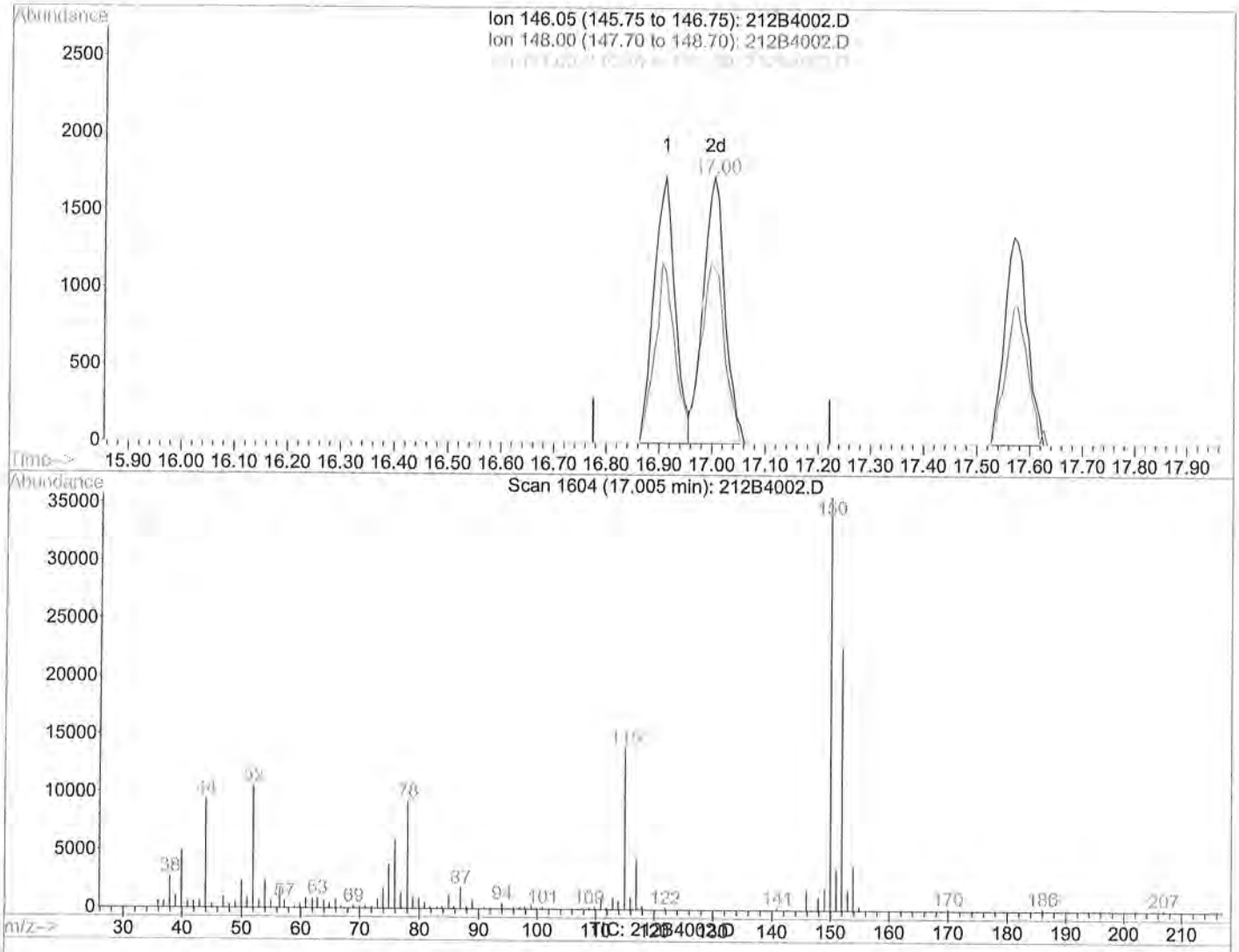
Review by/Date KH 2/4/21

Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPchem\1\DATA\020421\212B4002.D Vial: 2
Acq On : 4 Feb 2021 8:28 am Operator: nmc
Sample : AA64808-cal1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 4 8:58 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Feb 04 08:57:33 2021
Response via : Multiple Level Calibration



(89) 1,4-Dichlorobenzene

17.00min 1.13ug/kg m

response 4925

Ion	Exp%	Act%
146.05	100	100
148.00	64.60	62.92
111.00	43.70	41.10
0.00	0.00	0.00

Select One:

[ ] Original Integration [x] Manual Integration

Select reason for manual integration:

[x] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

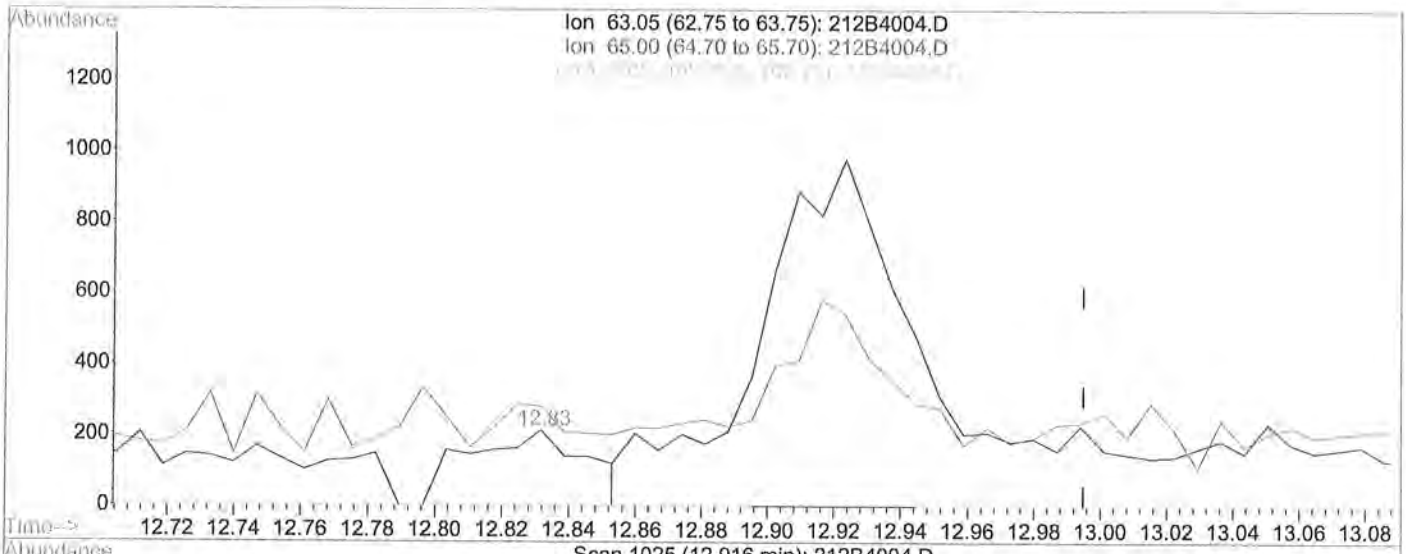
Review by/Date KH 2/4/21

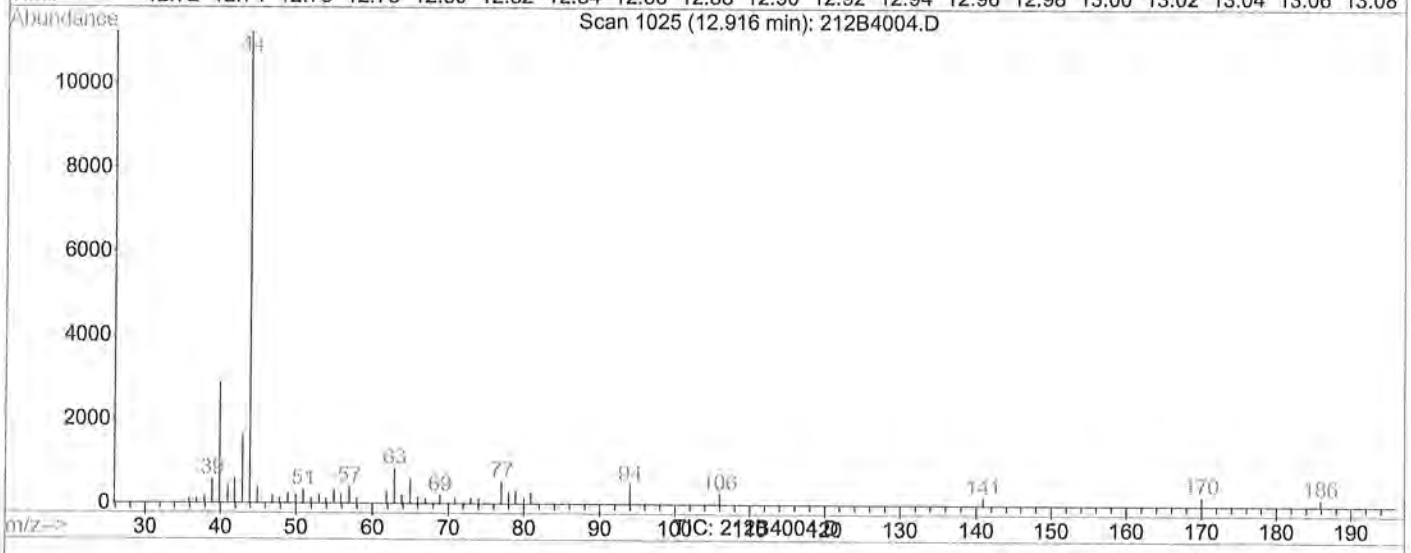
Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\020421\212B4004.D Vial: 4
Acq On : 4 Feb 2021 9:26 am Operator: nmc
Sample : AA64808-cal3 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 4 9:48 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Feb 04 08:57:33 2021
Response via : Multiple Level Calibration





(51) 2-Chloroethyl vinyl ether

12.83min 44.06ug/kg

response 519

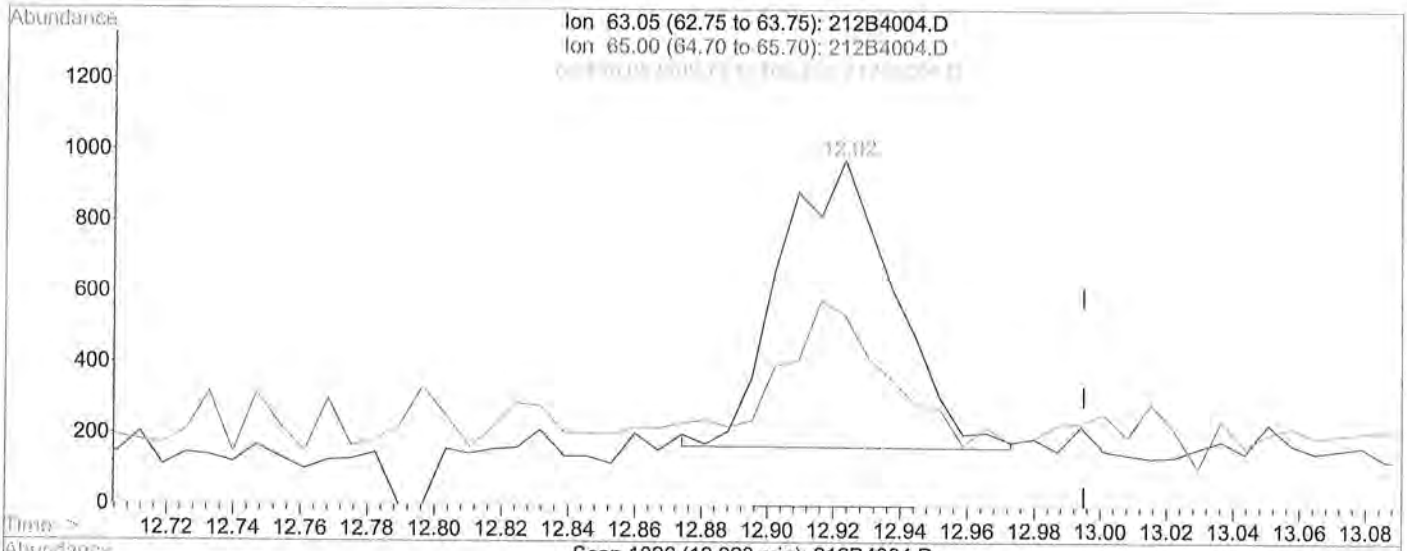
Ion	Exp%	Act%
63.05	100	100
65.00	0.00	0.00
106.05	0.00	0.00
0.00	0.00	0.00

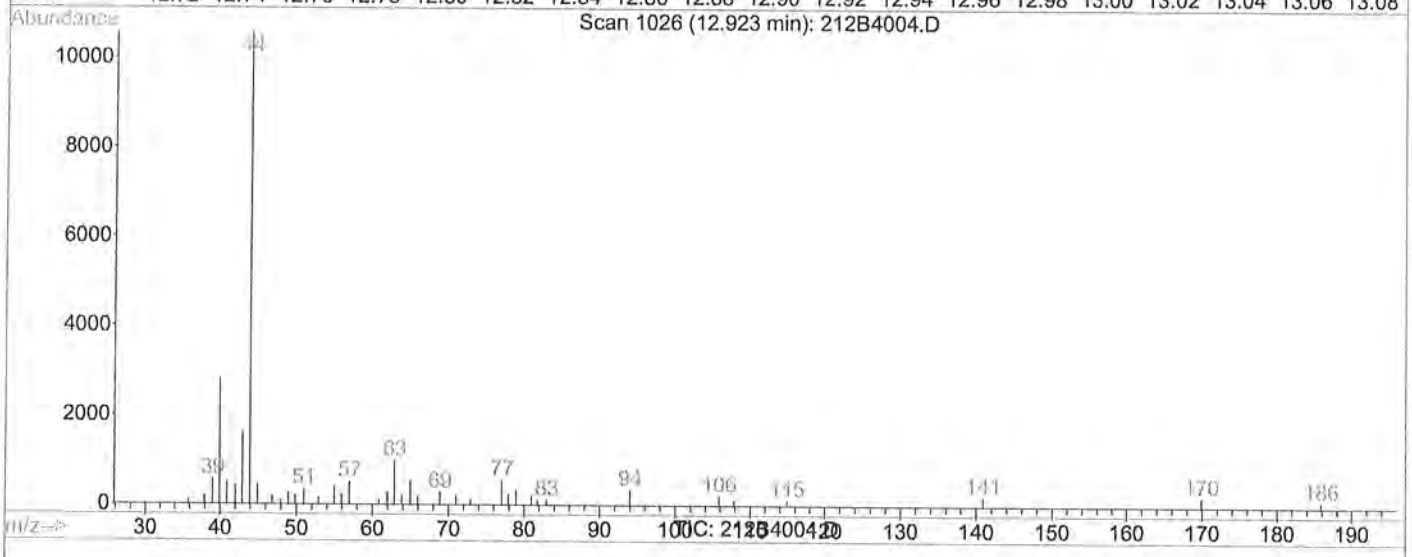
Select One:
[X] Original Integration [ ] Manual Integration
Select reason for manual integration:
[X] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date KS 2/4/21

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\020421\212B4004.D Vial: 4
Acq On : 4 Feb 2021 9:26 am Operator: nmc
Sample : AA64808-cal3 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 4 9:51 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Feb 04 08:57:33 2021
Response via : Multiple Level Calibration





(51) 2-Chloroethyl vinyl ether

12.92min 163.86ug/kg m

response 1930

Ion	Exp%	Act%
63.05	100	100
65.00	0.00	0.00
106.05	0.00	0.00
0.00	0.00	0.00

Select One:

[ ] Original Integration [✓] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

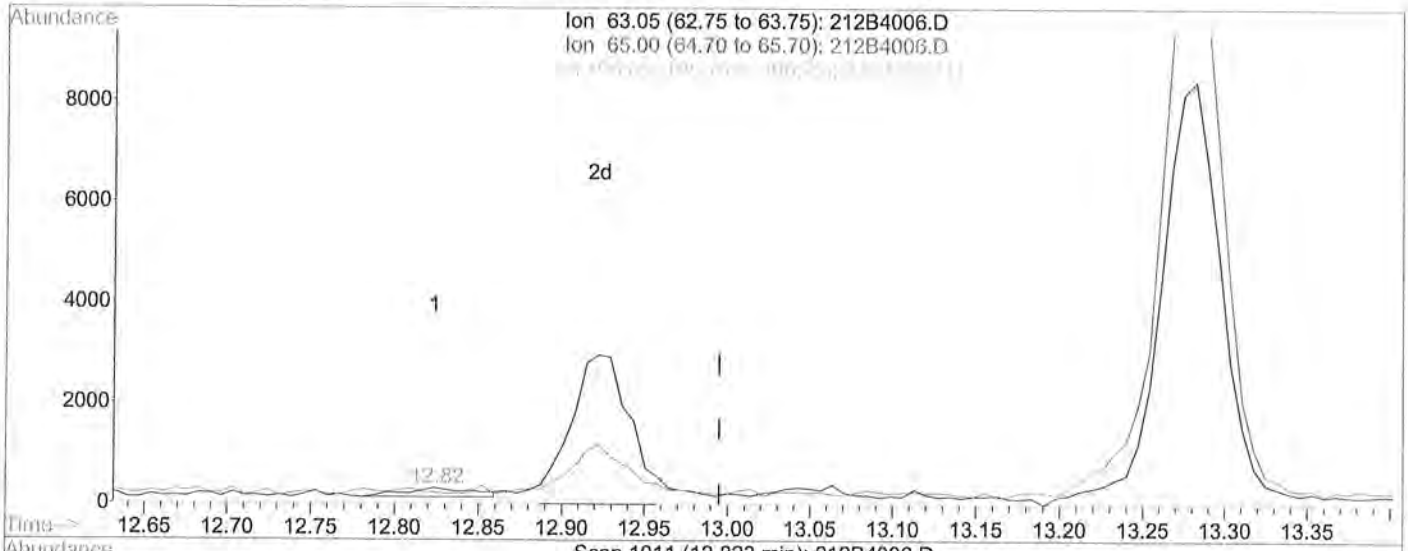
Review by/Date KH 2/4/21

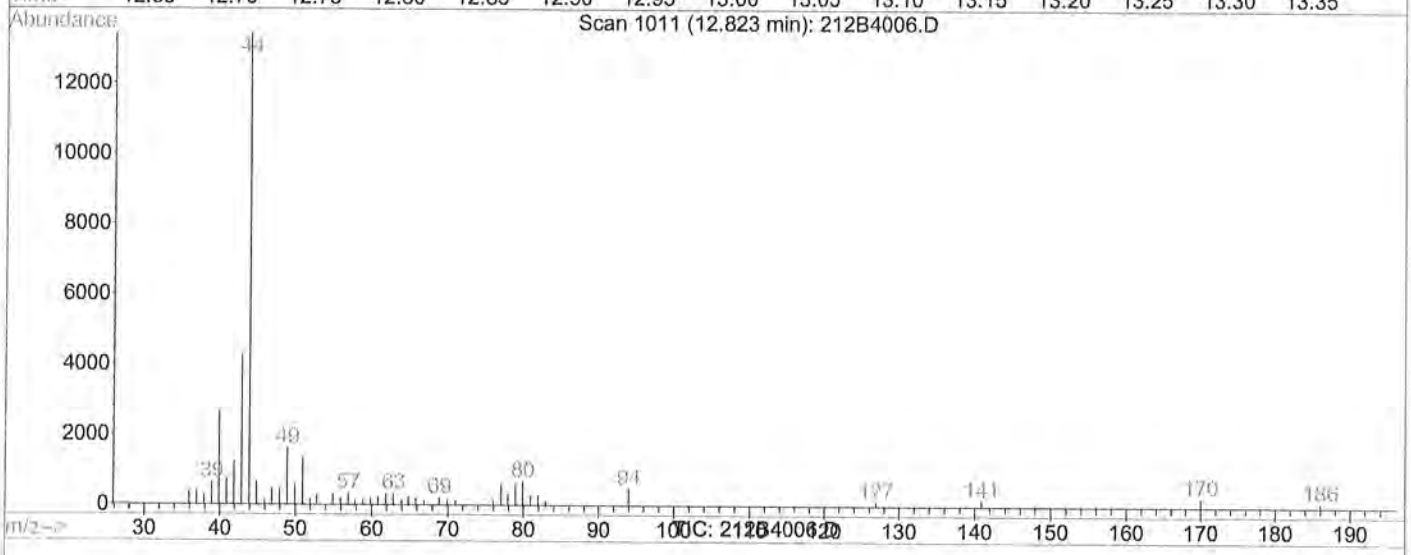
Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\020421\212B4006.D Vial: 6
Acq On : 4 Feb 2021 10:23 am Operator: nmc
Sample : AA64808-cal5 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 4 10:46 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Feb 04 08:57:33 2021
Response via : Multiple Level Calibration





(51) 2-Chloroethyl vinyl ether

12.82min 36.96ug/kg

response 521

Ion	Exp%	Act%
63.05	100	100
65.00	0.00	0.00
106.05	0.00	0.00
0.00	0.00	0.00

Select One:

[•] Original Integration [ ] Manual Integration

Select reason for manual integration:

[•] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

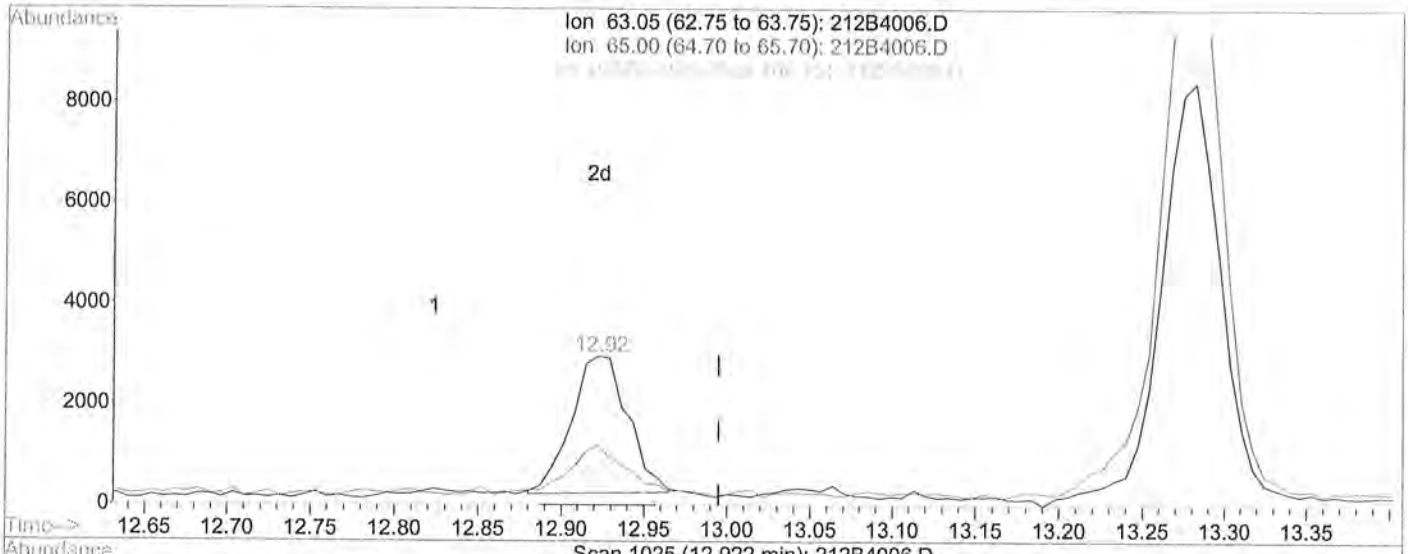
Review by/Date KH 2/4/21

Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\020421\212B4006.D Vial: 6
Acq On : 4 Feb 2021 10:23 am Operator: nmc
Sample : AA64808-cal5 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 4 11:24 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Feb 04 08:57:33 2021
Response via : Multiple Level Calibration



(51) 2-Chloroethyl vinyl ether

12.92min 455.80ug/kg m

response 6425

Ion	Exp%	Act%
63.05	100	100
65.00	0.00	0.00
106.05	0.00	0.00
0.00	0.00	0.00

Select One:

[ ] Original Integration [✓] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date KH 2/4/21

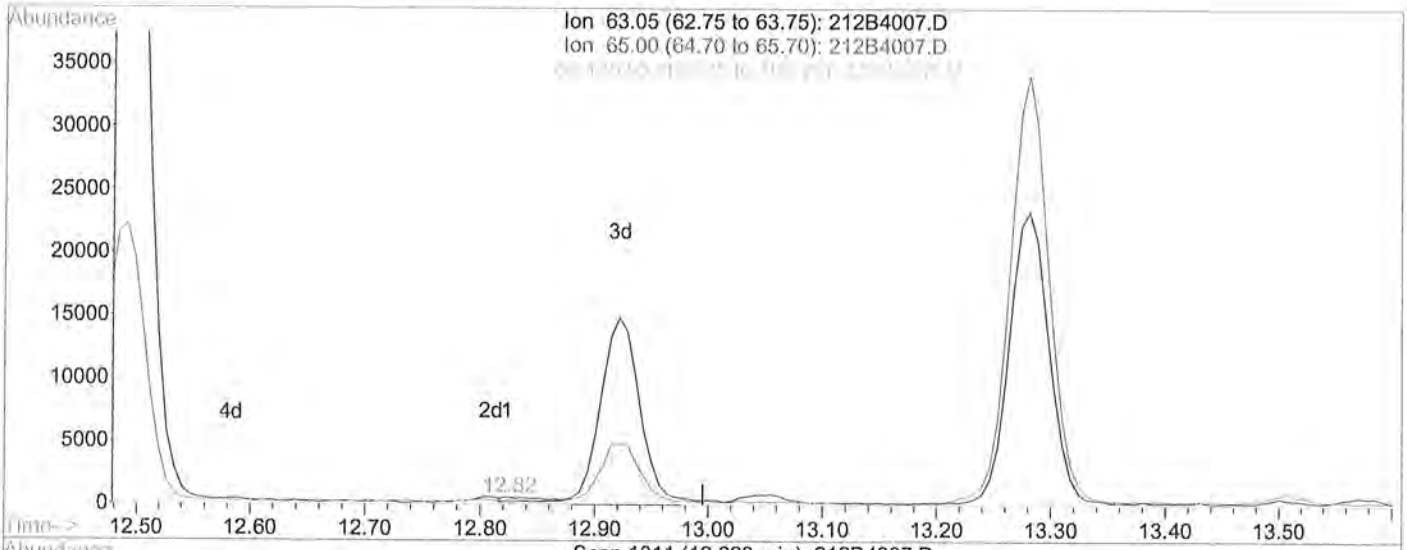
Review by/Date:

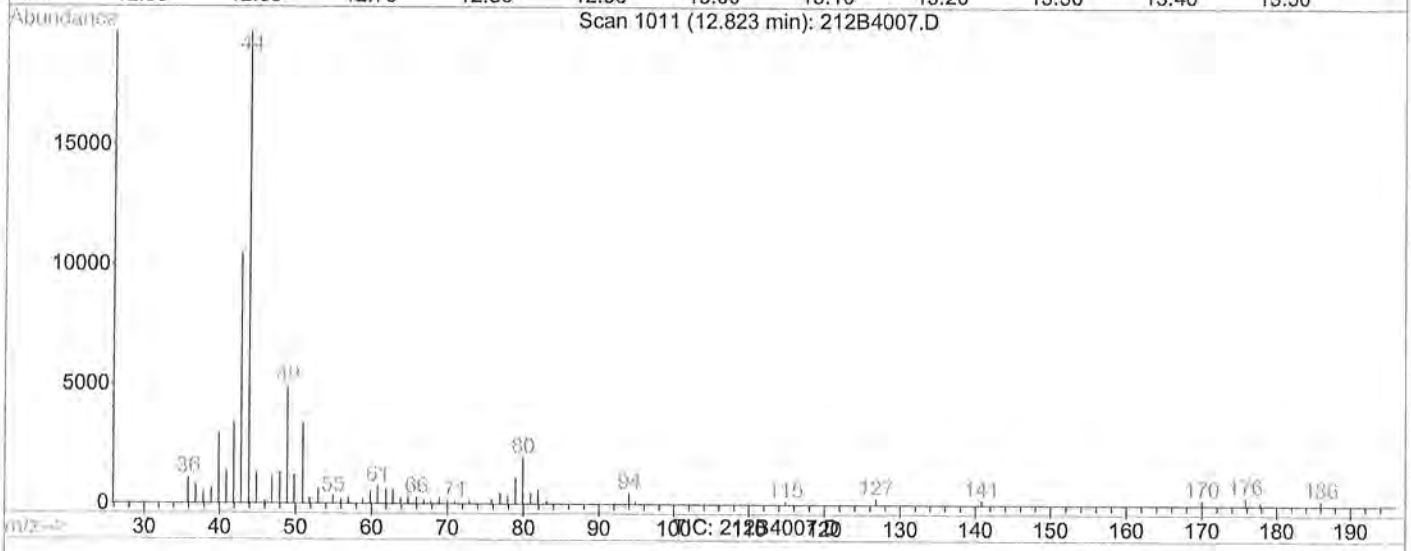
212B4006.D 020421.M Thu Feb 04 11:24:15 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\020421\212B4007.D Vial: 7
Acq On : 4 Feb 2021 10:52 am Operator: nmc
Sample : AA64808-cal6 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 4 11:14 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Feb 04 08:57:33 2021
Response via : Multiple Level Calibration





(51) 2-Chloroethyl vinyl ether

12.82min 57.81ug/kg

response 888

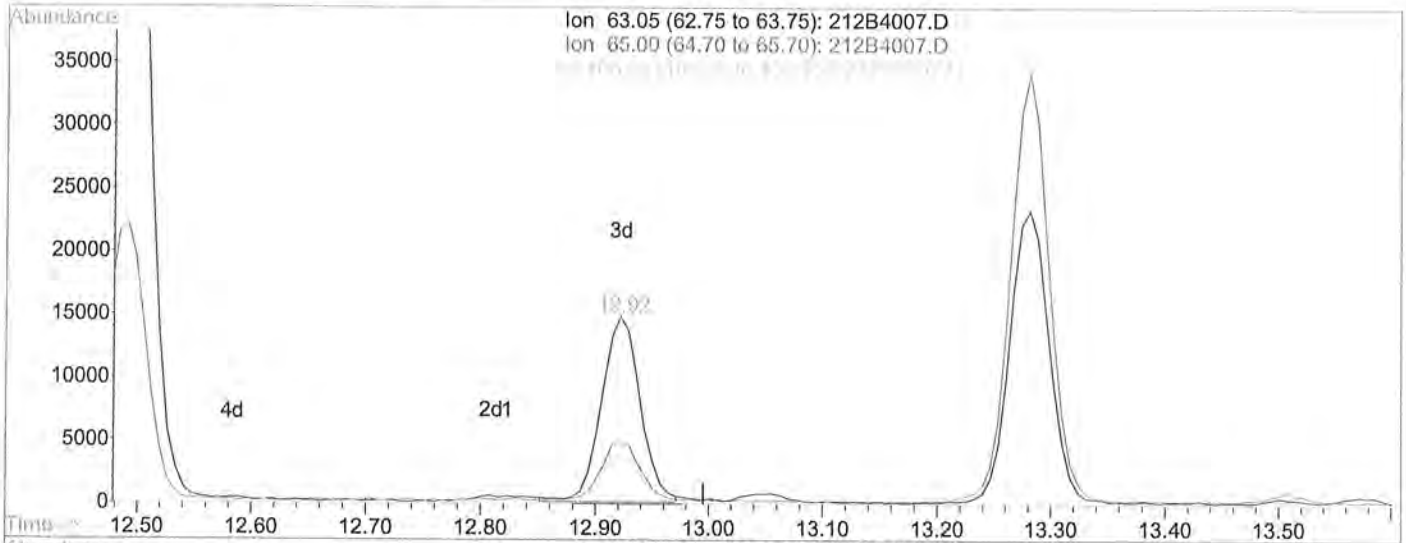
Ion	Exp%	Act%
63.05	100	100
65.00	0.00	0.00
106.05	0.00	0.00
0.00	0.00	0.00

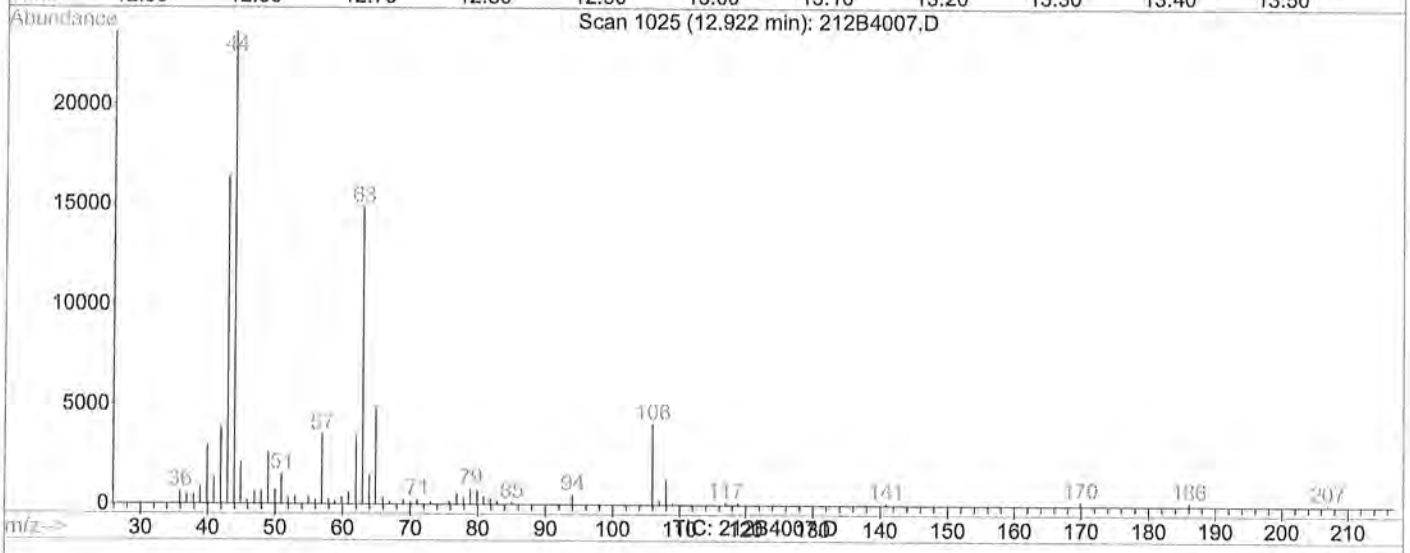
Select One:
[✓] Original Integration [ ] Manual Integration
Select reason for manual integration:
[✓] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date KH 2/9/21
Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\020421\212B4007.D Vial: 7
Acq On : 4 Feb 2021 10:52 am Operator: nmc
Sample : AA64808-cal6 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 4 11:24 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Feb 04 08:57:33 2021
Response via : Multiple Level Calibration





(51) 2-Chloroethyl vinyl ether

12.92min 2277.91ug/kg m

response 34992

Ion	Exp%	Act%
63.05	100	100
65.00	0.00	0.00
106.05	0.00	0.00
0.00	0.00	0.00

Select One:

[ ] Original Integration [✓] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

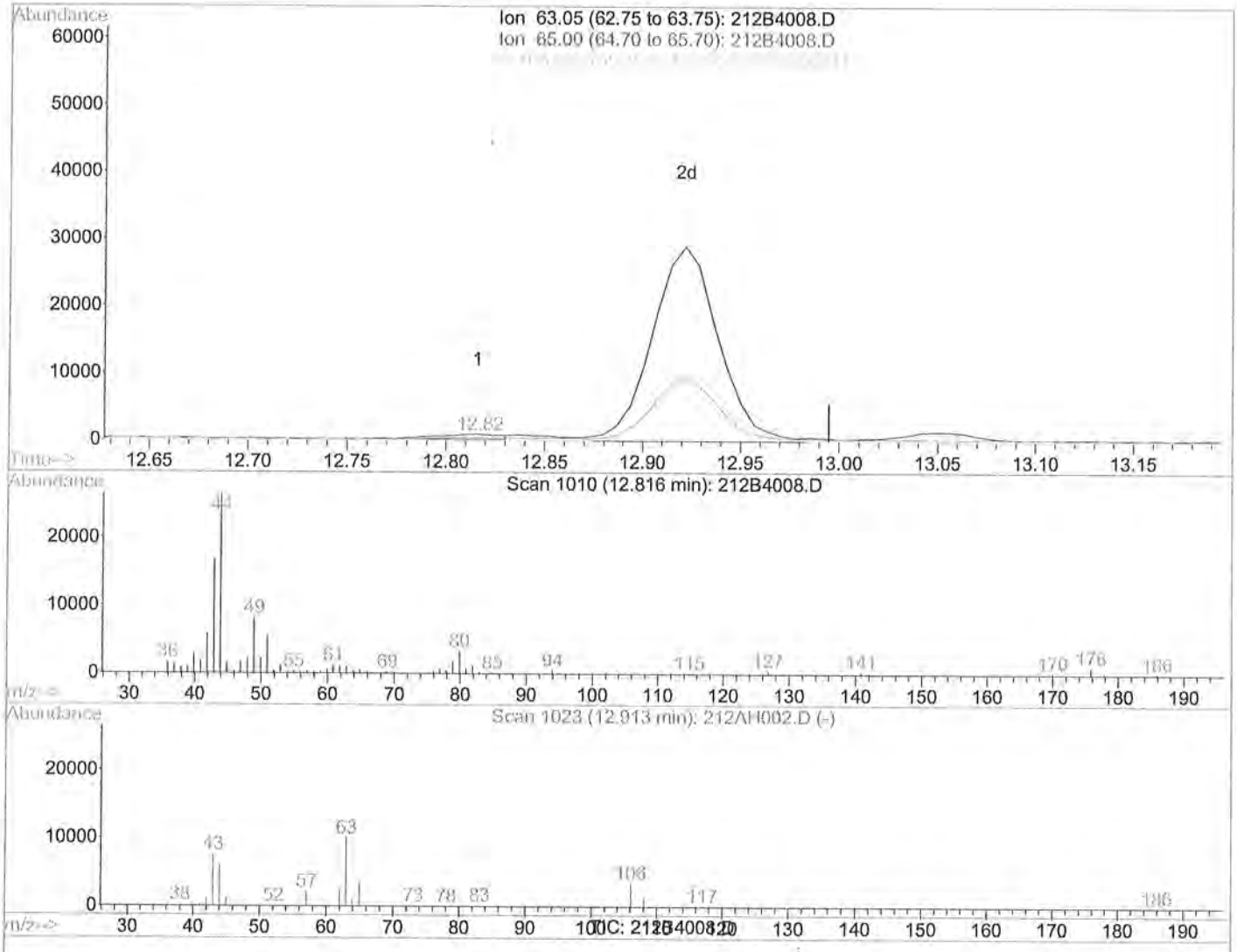
Review by/Date KH 2/4/21

Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\020421\212B4008.D Vial: 8
Acq On : 4 Feb 2021 11:20 am Operator: nmc
Sample : AA64808-cal7 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 4 11:43 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Feb 04 08:57:33 2021
Response via : Multiple Level Calibration



(51) 2-Chloroethyl vinyl ether

12.82min 114.27ug/kg

response 1739

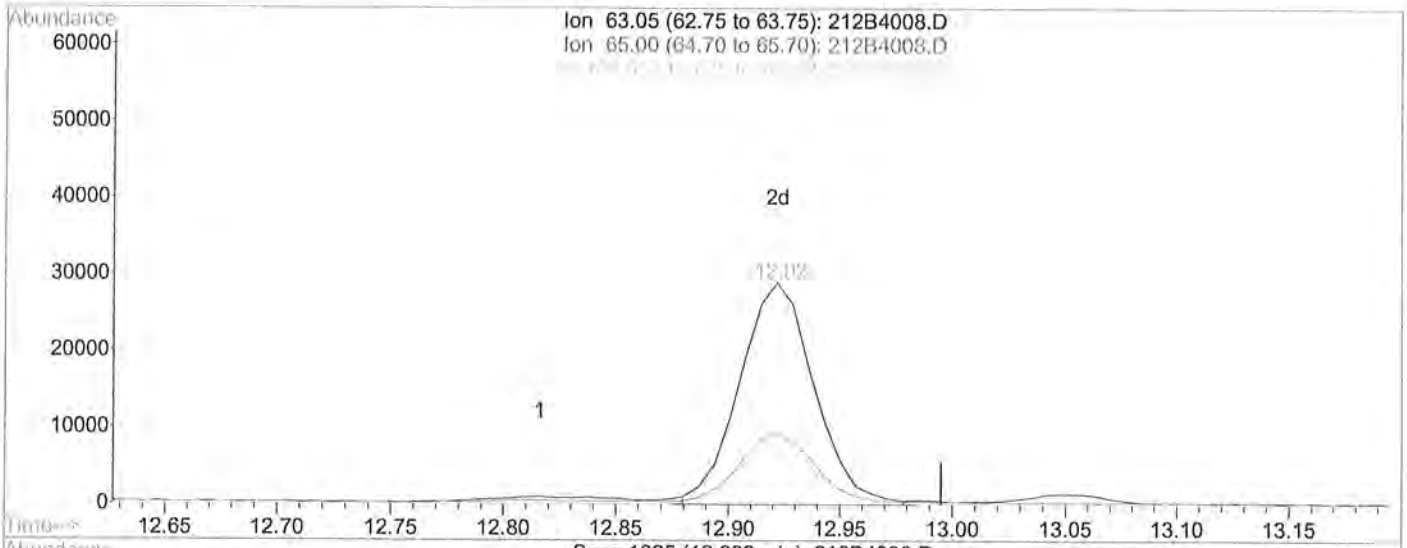
Ion	Exp%	Act%
63.05	100	100
65.00	0.00	42.27#
106.05	0.00	0.00
0.00	0.00	0.00

Select One:
[✓] Original Integration [ ] Manual Integration
Select reason for manual integration:
[✓] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date KLT 2/4/21
Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\020421\212B4008.D Vial: 8
Acq On : 4 Feb 2021 11:20 am Operator: nmc
Sample : AA64808-cal7 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 4 11:45 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Feb 04 08:57:33 2021
Response via : Multiple Level Calibration



(51) 2-Chloroethyl vinyl ether

12.92min 4426.23ug/kg m

response 67360

Ion	Exp%	Act%
63.05	100	100
65.00	0.00	1.09
106.05	0.00	0.00
0.00	0.00	0.00

Select One:

[ ] Original Integration [H] Manual Integration

Select reason for manual integration:

[H] Poor integration (peak tailing, baseline selection)

[H] Incorrect peak selection/Peak not found 1424/14/21

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

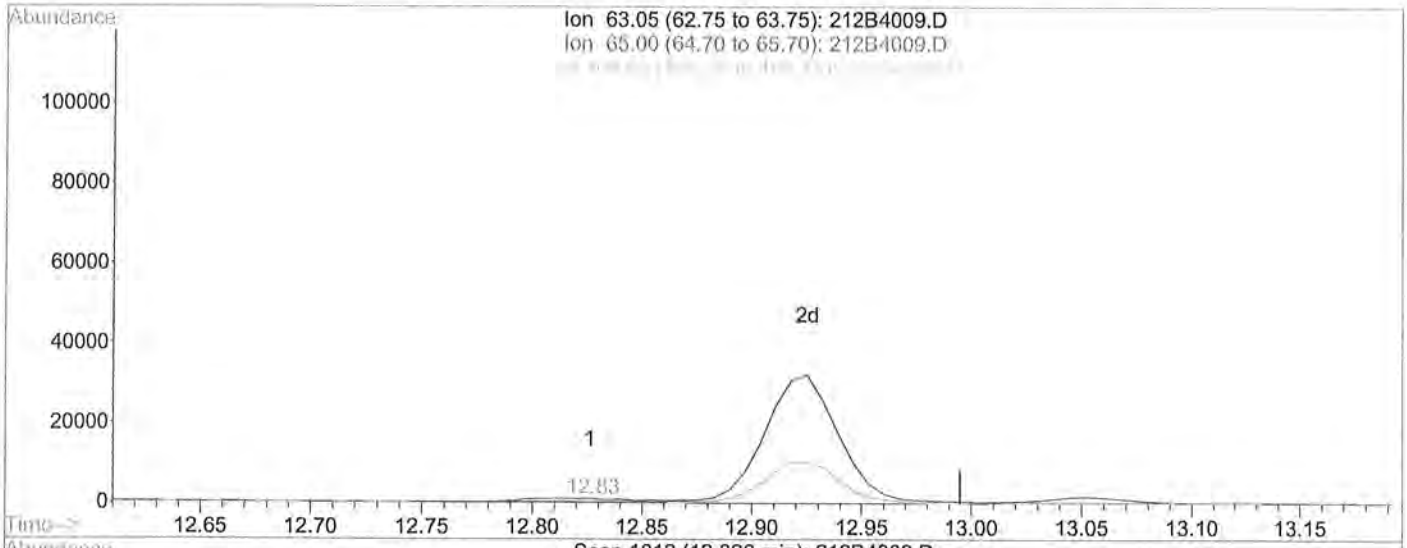
Review by/Date 1424/14/21

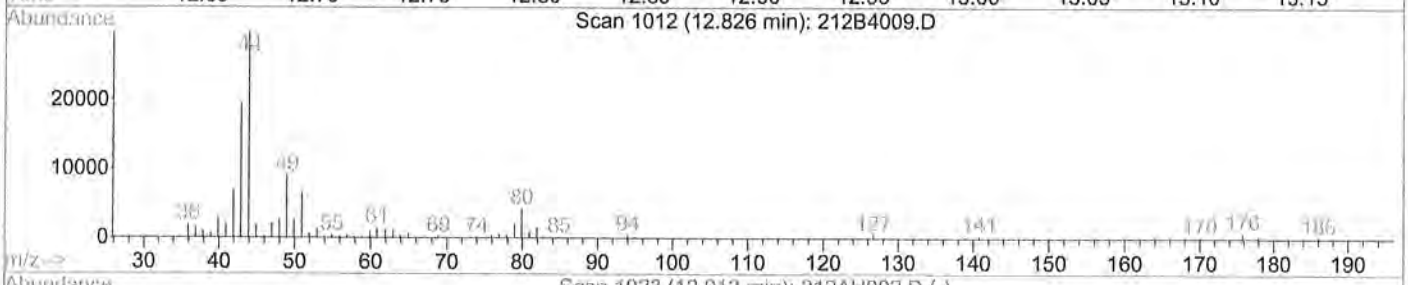
Review by/Date:

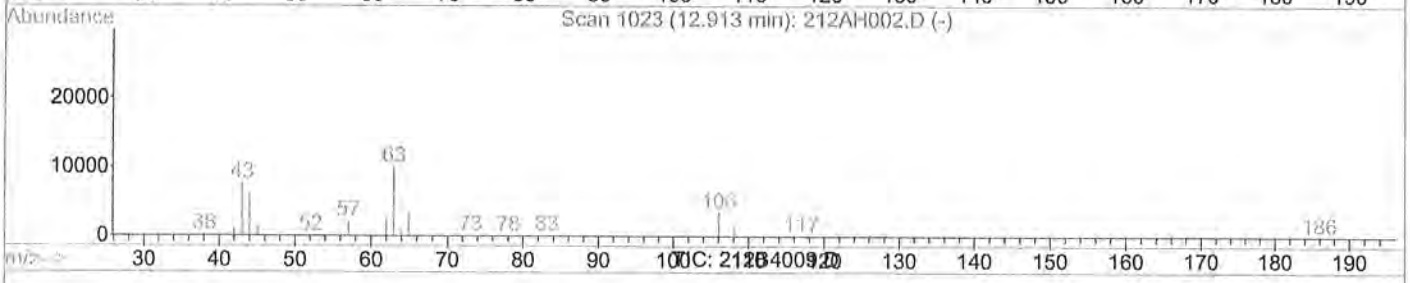
Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\020421\212B4009.D Vial: 9
Acq On : 4 Feb 2021 11:49 am Operator: nmc
Sample : AA64808-cal8 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 4 12:12 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Feb 04 08:57:33 2021
Response via : Multiple Level Calibration







(51) 2-Chloroethyl vinyl ether

12.83min 227.21ug/kg

response 3461

Ion	Exp%	Act%
63.05	100	100
65.00	0.00	0.00
106.05	0.00	0.00
0.00	0.00	0.00

Select One:

[✓] Original Integration [ ] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

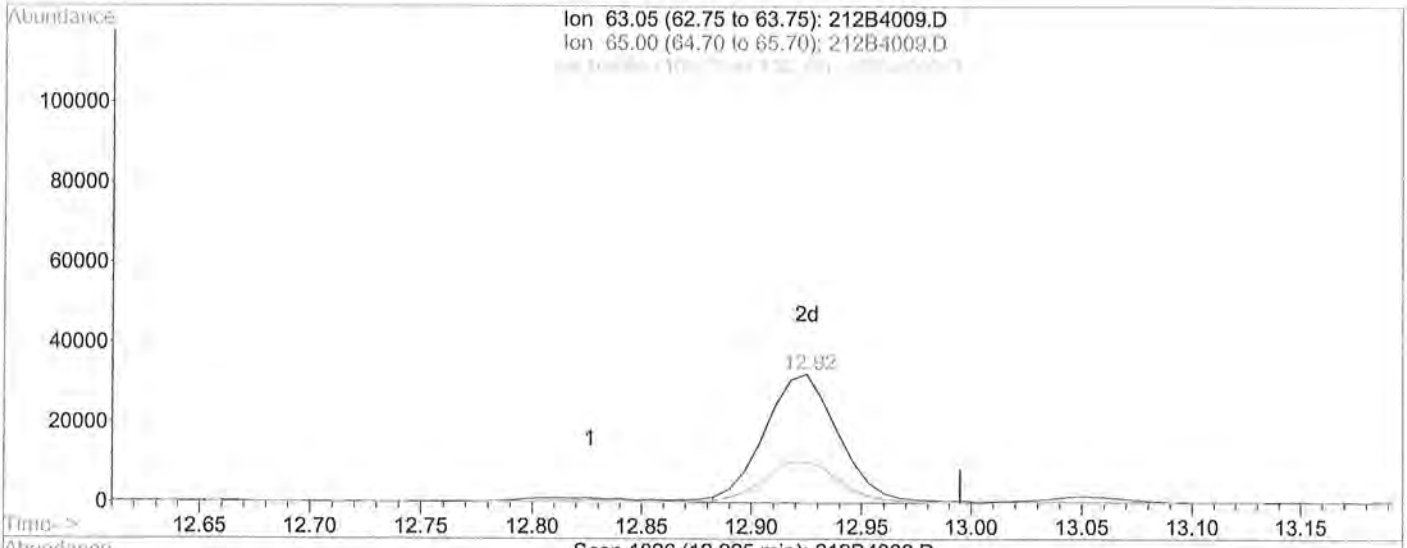
Review by/Date KH 2/4/21

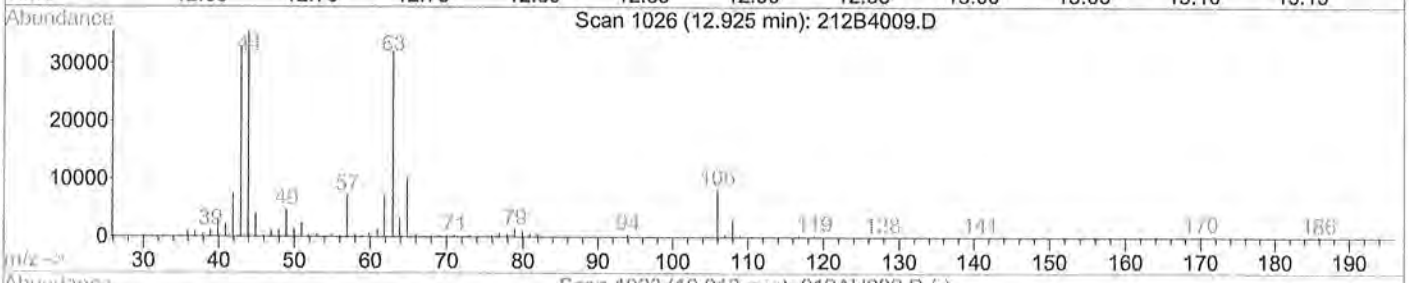
Review by/Date:

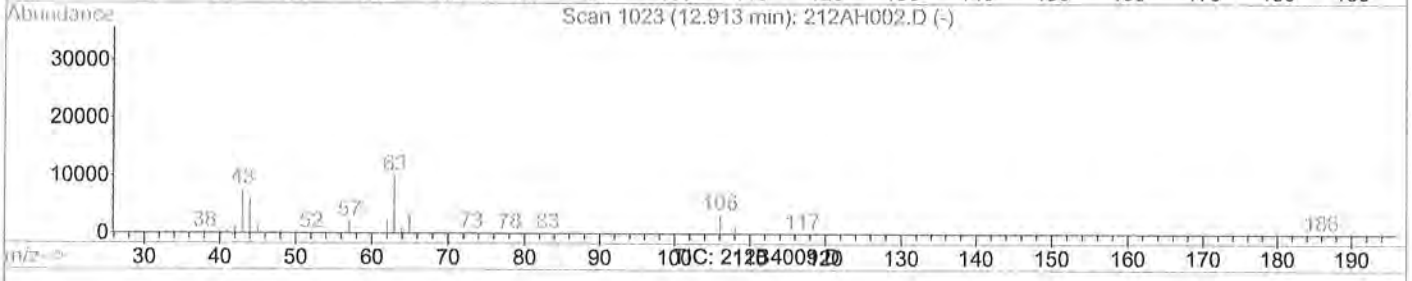
Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\020421\212B4009.D Vial: 9
Acq On : 4 Feb 2021 11:49 am Operator: nmc
Sample : AA64808-cal8 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 4 12:22 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Feb 04 08:57:33 2021
Response via : Multiple Level Calibration







(51) 2-Chloroethyl vinyl ether

12.92min 4904.42ug/kg m

response 74708

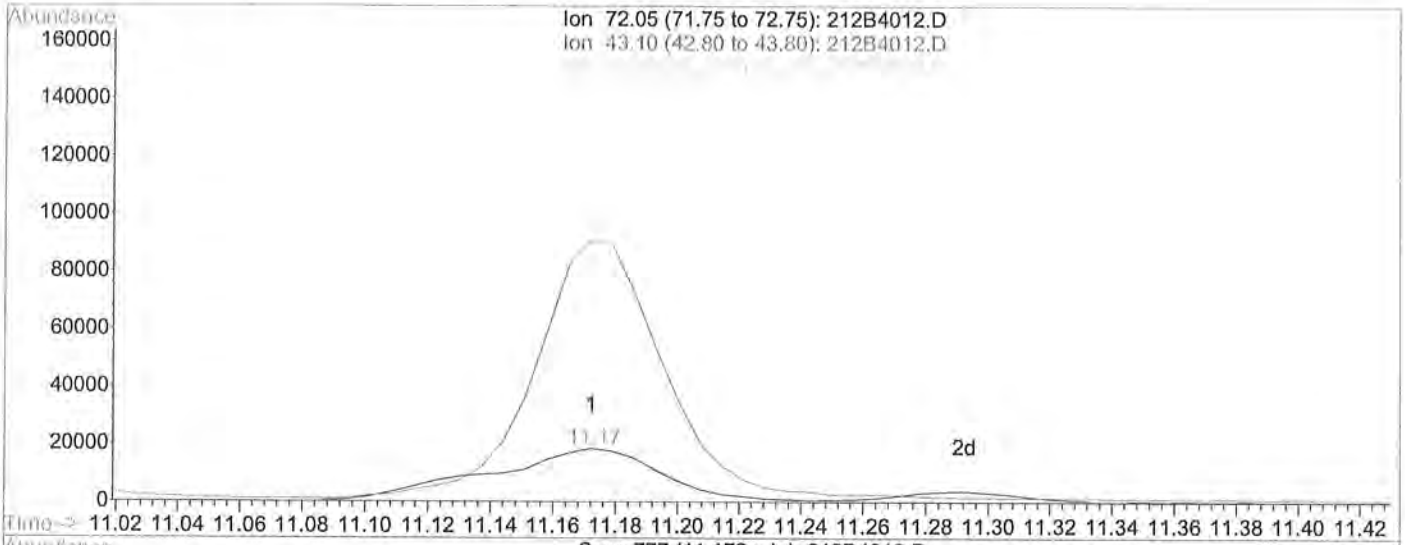
Ion	Exp%	Act%
63.05	100	100
65.00	0.00	0.00
106.05	0.00	0.00
0.00	0.00	0.00

Review:
[ ] Original Integration [✓] Manual Integration
Select reason for manual integration:
[✓] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] (RT) reintegration
[ ] Other:
Review by/Date KB 2/4/21
Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\020421\212B4012.D Vial: 12
Acq On : 4 Feb 2021 1:15 pm Operator: nmc
Sample : aa64808-SCV1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 5 9:35 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Multiple Level Calibration



(25) 2-Butanone

11.17min 368.65ug/kg

response 71375

Ion	Exp%	Act%
72.05	100	100
43.10	502.20	367.81
57.00	33.30	22.55#
0.00	0.00	0.00

Select One:

[✓] Original Integration [ ] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

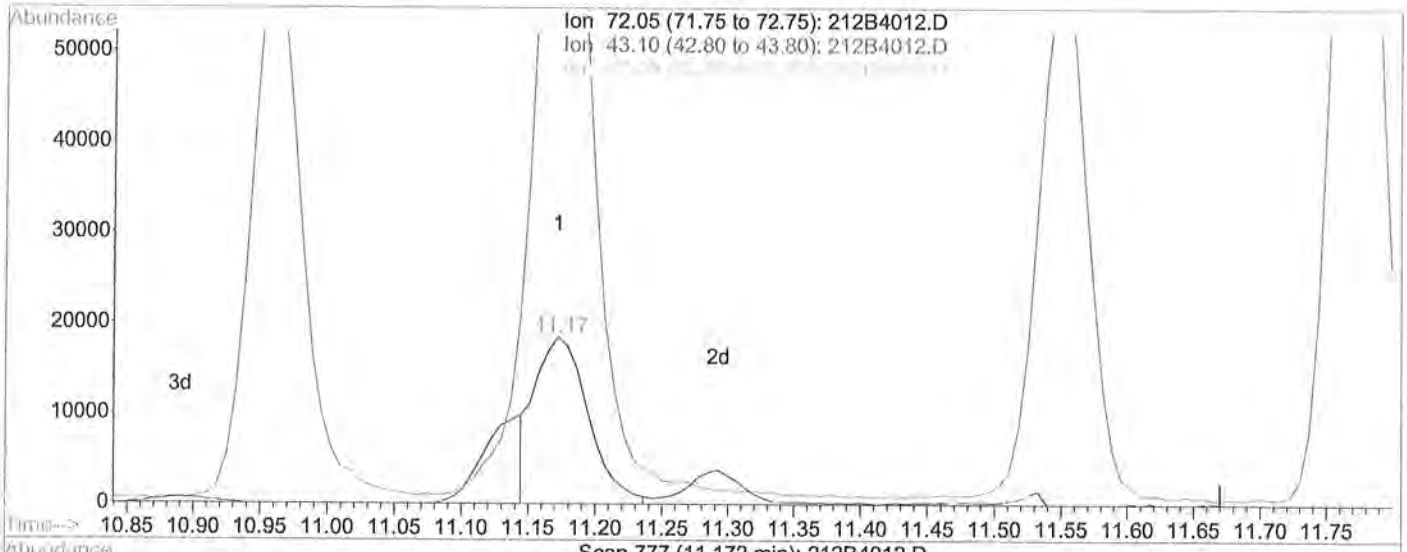
Review by/Date KH 2\5\21

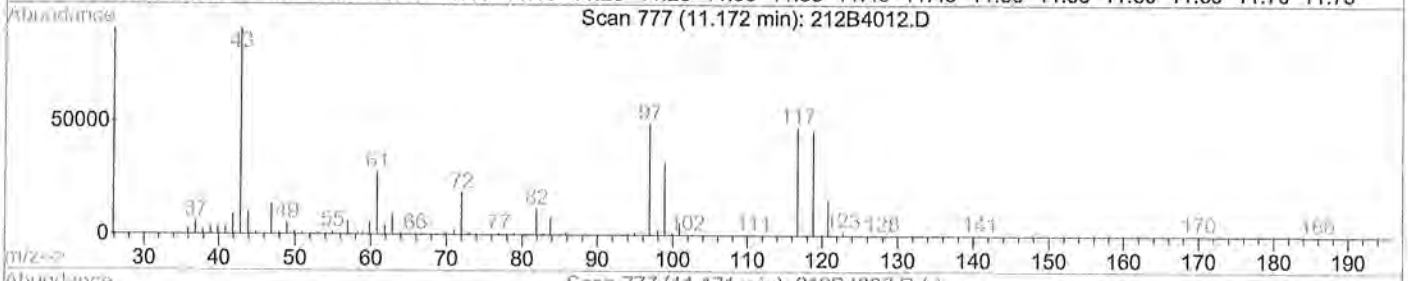
Review by/Date:

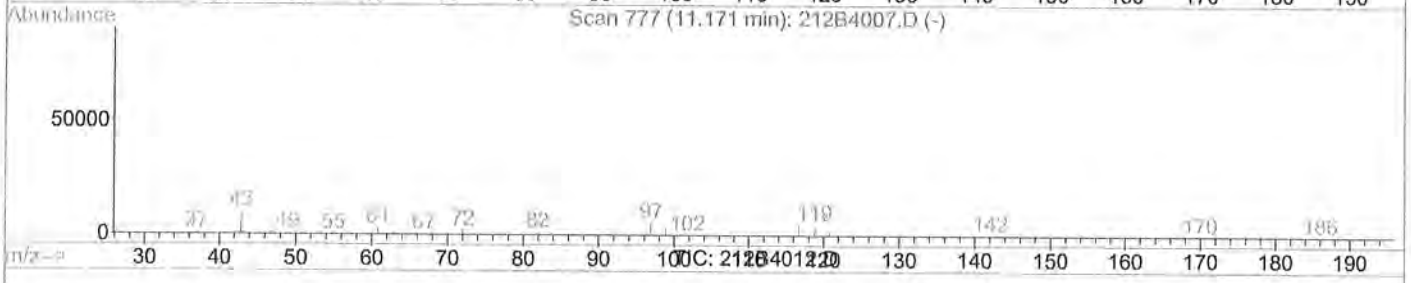
Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\020421\212B4012.D Vial: 12
Acq On : 4 Feb 2021 1:15 pm Operator: nmc
Sample : aa64808-SCV1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 5 9:40 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Multiple Level Calibration







(25) 2-Butanone

11.17min 265.43ug/kg m

response 51389

Ion	Exp%	Act%
72.05	100	100
43.10	502.20	510.86
57.00	33.30	31.33
0.00	0.00	0.00

Select One:

[ ] Original Integration [✓] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

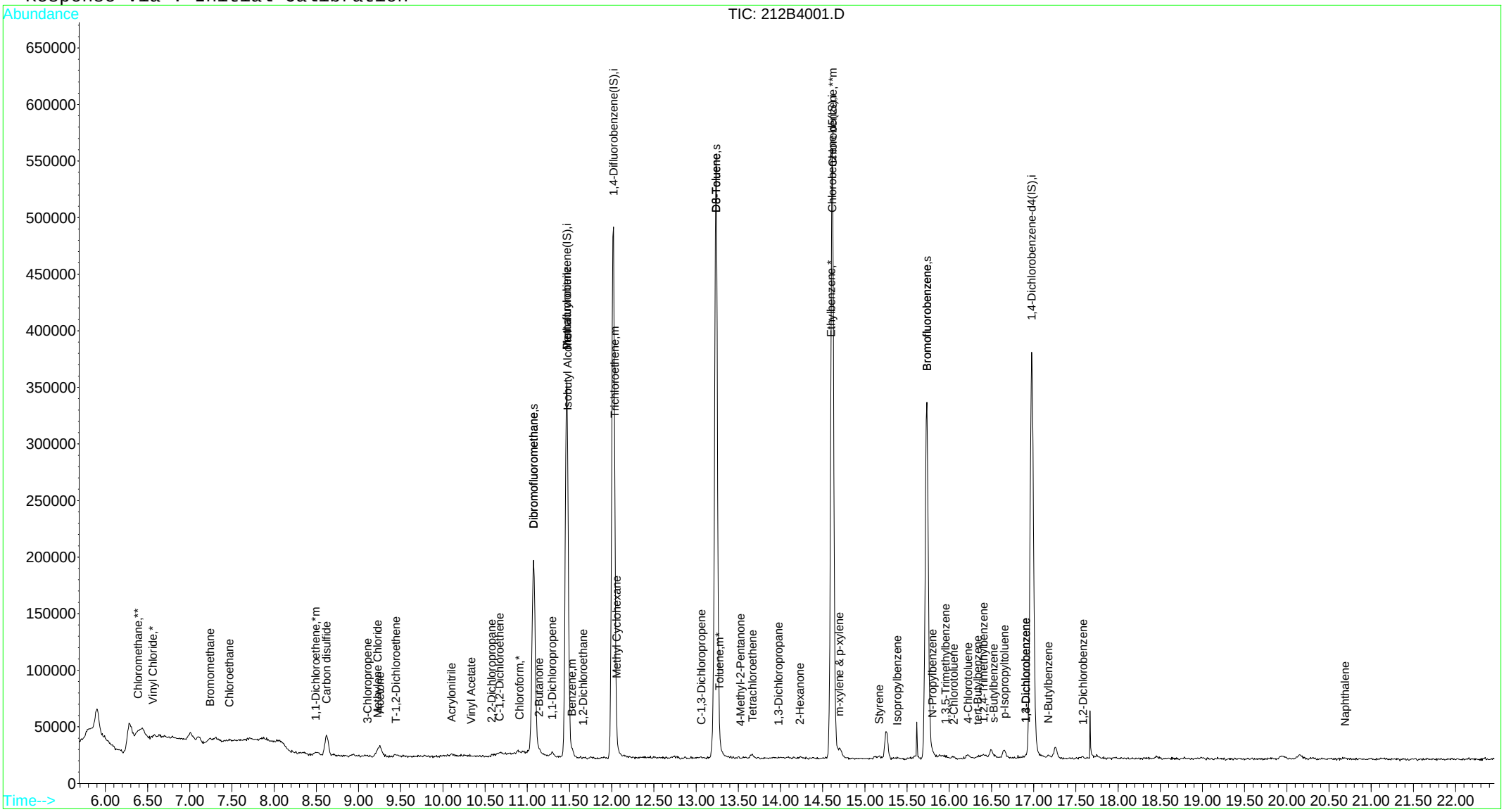
Review by/Date RH 2/5/21

Review by/Date:

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020421\212B4001.D Vial: 1
Acq On : 4 Feb 2021 7:46 am Operator: nmc
Sample : AA64808-tun1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 4 8:08 2021 Quant Results File: 011921.RES

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\020421\212B4001.D Vial: 1
Acq On : 4 Feb 2021 7:46 am Operator: nmc
Sample : AA64808-tun1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 4 8:08 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 29 08:15:08 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.47	168	278207	50.00	ug/kg	0.02
38) 1,4-Difluorobenzene(IS)	12.02	114	479280	50.00	ug/kg	0.02
56) Chlorobenzene-d5(IS)	14.61	82	238060	50.00	ug/kg	0.02
79) 1,4-Dichlorobenzene-d4(IS)	16.98	152	158203	50.00	ug/kg	0.02
System Monitoring Compounds						
30) Dibromofluoromethane	11.07	113	142363	45.01	ug/kg	0.02
Spiked Amount 50.000	Range 53 - 146		Recovery = 90.02%			
54) D8-Toluene	13.24	98	424232	52.28	ug/kg	0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 104.56%			
75) Bromofluorobenzene	15.73	95	170334	52.66	ug/kg	0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 105.32%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.		
3) Chloromethane	6.38	50	4980	0.87	ug/kg	78
4) Vinyl Chloride	6.56	62	3308	0.68	ug/kg#	88
5) Bromomethane	7.24	96	1388	0.45	ug/kg#	92
6) Chloroethane	7.46	64	810	0.23	ug/kg#	43
7) Trichlorofluoromethane	0.00	101	0	N.D.		
8) Trichlorotrifluoroethane	0.00	101	0	N.D.		
9) acrolein	0.00	56	0	N.D.		
10) Acetone	9.25	43	16212	27.14	ug/kg	87
11) 1,1-Dichloroethene	8.49	96	1831	0.68	ug/kg#	68
12) 3-Chloropropene	9.10	76	914	0.63	ug/kg#	1
13) Acetonitrile	0.00	41	0	N.D.		
14) Iodomethane	0.00	142	0	N.D.		
15) Carbon disulfide	8.62	76	41060	6.15	ug/kg	99
16) Methylene Chloride	9.22	84	2713	0.97	ug/kg#	66
17) Methyl tert-butyl ether	0.00	73	0	N.D.		
18) Acrylonitrile	10.10	53	1391	1.07	ug/kg#	28
19) T-1,2-Dichloroethene	9.45	96	1238	0.43	ug/kg	89
20) Isopropyl Ether	0.00	45	0	N.D.		
21) C-1,2-Dichloroethene	10.67	96	1057	0.31	ug/kg	89
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	10.33	43	820	0.09	ug/kg#	80
24) Chloroprene	0.00	88	0	N.D.		
25) 2-Butanone	11.15	72	1374	8.06	ug/kg#	1
26) Propionitrile	0.00	54	0	N.D.		
27) 2,2-Dichloropropane	10.57	77	668	0.15	ug/kg#	1
28) Methacrylonitrile	11.48	67	1162	1.43	ug/kg#	40
29) Chloroform	10.91	83	959	0.18	ug/kg#	38
31) Dibromofluoromethane	11.07	113	142363	45.01	ug/kg	100
32) Bromochloromethane	0.00	128	0	N.D.		
33) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
34) 1,1-Dichloropropene	11.29	75	2703	0.63	ug/kg	91
35) Diethyl Ether	0.00	59	0	N.D.		
36) Methyl Acetate	0.00	74	0	N.D.		
37) Cyclohexane	0.00	56	0	N.D.		
39) Methyl Cyclohexane	12.06	55	674	0.18	ug/kg#	8
40) Carbon Tetrachloride	0.00	117	0	N.D.		
41) 1,2-Dichloroethane	11.66	62	610	0.17	ug/kg#	49
42) Benzene	11.53	78	7408	0.68	ug/kg#	64
43) Isobutyl Alcohol	11.48	43	674	3.69	ug/kg#	1
44) Trichloroethene	12.04	130	925	0.30	ug/kg#	1
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Methyl Methacrylate	0.00	100	0	N.D.		
47) 1,4-Dioxane	0.00	88	0	N.D.		
48) Bromodichloromethane	0.00	83	0	N.D.		
49) Dibromomethane	0.00	93	0	N.D.		
50) 4-Methyl-2-Pentanone	13.53	100	632	2.55	ug/kg#	1
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	14.22	43	640	0.42	ug/kg#	46

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\020421\212B4001.D Vial: 1
Acq On : 4 Feb 2021 7:46 am Operator: nmc
Sample : AA64808-tun1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 4 8:08 2021 Quant Results File: 011921.RES

Quant Method : C:\HPCHEM\1\METHODS\011921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Jan 29 08:15:08 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	13.05	75	904	0.21 ug/kg#	75
55) D8-Toluene	13.24	98	424232	52.28 ug/kg	93
57) Toluene	13.28	92	1988	0.27 ug/kg#	72
58) Ethyl Methacrylate	0.00	69	0	N.D.	
59) T-1,3-Dichloropropene	0.00	75	0	N.D.	
60) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
61) 1,3-Dichloropropane	13.98	76	801	0.22 ug/kg#	42
62) Tetrachloroethene	13.66	164	855	0.42 ug/kg	88
63) Dibromochloromethane	0.00	129	0	N.D.	
64) 1,2-Dibromoethane	0.00	107	0	N.D.	
65) Chlorobenzene	14.63	112	1584	0.20 ug/kg#	1
66) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
67) Ethylbenzene	14.59	106	997	0.25 ug/kg#	62
68) m-xylene & p-xylene	14.70	106	1989	0.41 ug/kg	53
69) O-Xylene	0.00	106	0	N.D.	
70) Bromoform	0.00	173	0	N.D.	
71) Styrene	15.16	104	1541	0.19 ug/kg#	60
72) Isopropylbenzene	15.39	105	1362	0.12 ug/kg#	49
73) 1,2,3-Trichloropropane	0.00	75	0	N.D.	
74) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
76) Bromofluorobenzene	15.73	95	170334	52.66 ug/kg#	82
77) T-1,4-dichloro-2-butene	0.00	53	0	N.D.	
78) N-Propylbenzene	15.81	91	3383	0.26 ug/kg#	52
80) Bromobenzene	0.00	156	0	N.D.	
81) 1,3,5-Trimethylbenzene	15.95	105	1412	0.15 ug/kg#	26
82) 2-Chlorotoluene	16.05	91	2127	0.25 ug/kg#	39
83) 4-Chlorotoluene	16.21	91	3554	0.42 ug/kg	75
84) 1,2,4-Trimethylbenzene	16.40	105	1696	0.19 ug/kg	93
85) s-Butylbenzene	16.53	105	1643	0.15 ug/kg#	1
86) tert-Butylbenzene	16.33	119	654	0.08 ug/kg#	43
87) p-Isopropyltoluene	16.65	119	6314	0.67 ug/kg	82
88) 1,3-Dichlorobenzene	16.90	146	1317	0.28 ug/kg	89
89) 1,4-Dichlorobenzene	16.90	146	1317	0.27 ug/kg	89
90) 1,2-Dichlorobenzene	17.58	146	732	0.19 ug/kg#	23
91) N-Butylbenzene	17.17	91	2278	0.32 ug/kg#	76
92) DBCP	0.00	75	0	N.D.	
93) Naphthalene	20.70	128	715	0.45 ug/kg	100
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Hexachlorobutadiene	0.00	225	0	N.D.	
96) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020421\212B4002.D Vial: 2
Acq On : 4 Feb 2021 8:28 am Operator: nmc
Sample : AA64808-cal1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 4 8:58 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Feb 04 08:57:33 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.46	168	178435	50.00	ug/kg	0.00
38) 1,4-Difluorobenzene(IS)	12.01	114	304980	50.00	ug/kg	0.00
56) Chlorobenzene-d5(IS)	14.61	82	172086	50.00	ug/kg	0.02
79) 1,4-Dichlorobenzene-d4(IS)	16.98	152	142234	50.00	ug/kg	0.03
System Monitoring Compounds						
30) Dibromofluoromethane	11.06	113	85260	42.03	ug/kg	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 84.06%			
54) D8-Toluene	13.23	98	282044	54.62	ug/kg	0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 109.24%			
75) Bromofluorobenzene	15.73	95	133901	57.26	ug/kg	0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 114.52%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.86	85	4773	1.29	ug/kg#	82
3) Chloromethane	6.32	50	4184	1.14	ug/kg	79
4) Vinyl Chloride	6.51	62	3699	1.19	ug/kg#	1
5) Bromomethane	7.18	96	3339	1.70	ug/kg	91
6) Chloroethane	7.40	64	2450	1.09	ug/kg#	54
7) Trichlorofluoromethane	7.68	101	3317	0.64	ug/kg	97
8) Trichlorotrifluoroethane	8.51	101	2072	1.20	ug/kg	94
9) acrolein	8.87	56	3172	121.65	ug/kg	95
10) Acetone	9.24	43	3276	8.55	ug/kg	55
11) 1,1-Dichloroethene	8.46	96	2515	1.46	ug/kg	74
12) 3-Chloropropene	9.06	76	2440	2.63	ug/kg#	16
13) Acetonitrile	9.87	41	2073	13.09	ug/kg	83
14) Iodomethane	8.70	142	309	0.17	ug/kg#	30
15) Carbon disulfide	8.58	76	41956	9.80	ug/kg	99
16) Methylene Chloride	9.18	84	3481	1.94	ug/kg#	71
17) Methyl tert-butyl ether	9.51	73	5384	1.40	ug/kg	87
18) Acrylonitrile	10.09	53	11575	13.87	ug/kg#	77
19) T-1,2-Dichloroethene	9.42	96	2748	1.48	ug/kg	88
20) Isopropyl Ether	9.89	45	10407	1.01	ug/kg	96
21) C-1,2-Dichloroethene	10.66	96	2629	1.20	ug/kg	98
22) 1,1-Dichloroethane	10.09	63	4171	1.02	ug/kg	73
23) Vinyl Acetate	10.30	43	27216	4.79	ug/kg	97
24) Chloroprene	10.09	88	2179	1.35	ug/kg	93
25) 2-Butanone	11.17	72	919	8.40	ug/kg	48
26) Propionitrile	11.46	54	2481	15.81	ug/kg	100
27) 2,2-Dichloropropane	10.79	77	4259	1.53	ug/kg#	1
28) Methacrylonitrile	11.48	67	8381	16.04	ug/kg#	46
29) Chloroform	10.88	83	3922	1.16	ug/kg#	74
31) Dibromofluoromethane	11.06	113	85260	42.03	ug/kg	100
32) Bromochloromethane	10.86	128	1242	1.15	ug/kg	98
33) 1,1,1-Trichloroethane	11.17	97	3258	1.00	ug/kg	92
34) 1,1-Dichloropropene	11.27	75	3610	1.31	ug/kg	96
35) Diethyl Ether	8.10	59	2406	1.72	ug/kg#	90
36) Methyl Acetate	9.36	74	494	2.88	ug/kg#	4
37) Cyclohexane	10.94	56	3624	1.07	ug/kg#	76
39) Methyl Cyclohexane	12.06	55	3257	1.39	ug/kg	97
40) Carbon Tetrachloride	11.14	117	3063	1.02	ug/kg	98
41) 1,2-Dichloroethane	11.66	62	3072	1.31	ug/kg	65
42) Benzene	11.52	78	9048	1.30	ug/kg	92
43) Isobutyl Alcohol	11.55	43	3039	26.14	ug/kg#	67
44) Trichloroethene	12.03	130	2231	1.14	ug/kg#	1
45) 1,2-Dichloropropane	12.49	63	3304	1.86	ug/kg	79
46) Methyl Methacrylate	12.57	100	356	1.09	ug/kg#	22
47) 1,4-Dioxane	12.71	88	245	51.68	ug/kg#	1
48) Bromodichloromethane	12.51	83	3885	1.61	ug/kg	94
49) Dibromomethane	12.43	93	1543	1.50	ug/kg	82
50) 4-Methyl-2-Pentanone	13.52	100	1401	8.90	ug/kg#	44
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.	d	
52) 2-Hexanone	14.22	43	6941	7.10	ug/kg#	86

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\020421\212B4002.D Vial: 2
Acq On : 4 Feb 2021 8:28 am Operator: nmc
Sample : AA64808-cal1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 4 8:58 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Feb 04 08:57:33 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

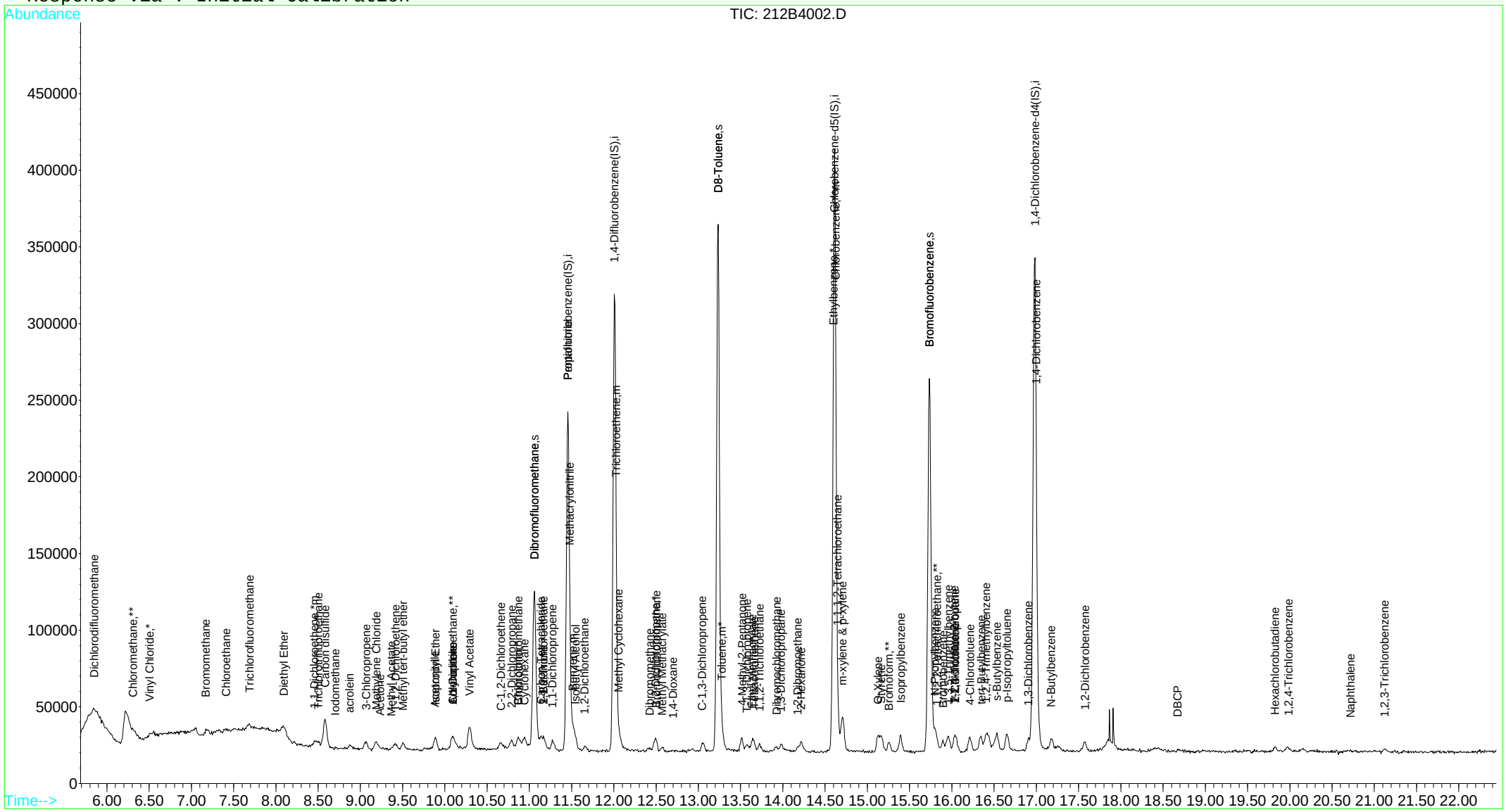
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.05	75	4461	1.62	ug/kg	87
55) D8-Toluene	13.23	98	282044	54.62	ug/kg	92
57) Toluene	13.28	92	5789	1.11	ug/kg	99
58) Ethyl Methacrylate	13.63	69	2793	1.41	ug/kg#	97
59) T-1,3-Dichloropropene	13.57	75	3748	1.34	ug/kg	88
60) 1,1,2-Trichloroethane	13.73	97	1986	1.36	ug/kg	80
61) 1,3-Dichloropropane	13.98	76	3739	1.45	ug/kg	94
62) Tetrachloroethene	13.66	164	1434	0.98	ug/kg	87
63) Dibromochloromethane	13.93	129	2441	1.14	ug/kg#	89
64) 1,2-Dibromoethane	14.18	107	1841	1.14	ug/kg#	89
65) Chlorobenzene	14.63	112	6201	1.06	ug/kg#	56
66) 1,1,1,2-Tetrachloroethane	14.65	131	2253	1.00	ug/kg#	1
67) Ethylbenzene	14.59	106	3274	1.12	ug/kg	80
68) m-xylene & p-xylene	14.71	106	8140	2.35	ug/kg	95
69) O-Xylene	15.12	106	4210	1.27	ug/kg	87
70) Bromoform	15.26	173	1100	1.21	ug/kg#	91
71) Styrene	15.17	104	7885	1.35	ug/kg	94
72) Isopropylbenzene	15.40	105	10213	1.21	ug/kg	98
73) 1,2,3-Trichloropropane	16.04	75	3401	1.94	ug/kg	79
74) 1,1,2,2-Tetrachloroethane	15.83	83	2489	1.73	ug/kg#	86
76) Bromofluorobenzene	15.73	95	133901	57.26	ug/kg#	81
77) T-1,4-dichloro-2-butene	16.02	53	1167	2.63	ug/kg#	51
78) N-Propylbenzene	15.80	91	12713	1.35	ug/kg	94
80) Bromobenzene	15.90	156	2455	1.06	ug/kg	95
81) 1,3,5-Trimethylbenzene	15.95	105	8786	1.06	ug/kg	97
82) 2-Chlorotoluene	16.04	91	7472	0.99	ug/kg	95
83) 4-Chlorotoluene	16.21	91	7876	1.03	ug/kg	96
84) 1,2,4-Trimethylbenzene	16.40	105	9045	1.11	ug/kg	95
85) s-Butylbenzene	16.54	105	10563	1.05	ug/kg	99
86) tert-Butylbenzene	16.35	119	6922	0.92	ug/kg	91
87) p-Isopropyltoluene	16.65	119	10330	1.22	ug/kg	89
88) 1,3-Dichlorobenzene	16.91	146	4834	1.15	ug/kg	97
89) 1,4-Dichlorobenzene	17.00	146	4925m	1.13	ug/kg	
90) 1,2-Dichlorobenzene	17.57	146	4015	1.15	ug/kg	96
91) N-Butylbenzene	17.18	91	8553	1.32	ug/kg	96
92) DBCP	18.66	75	328	1.69	ug/kg#	6
93) Naphthalene	20.71	128	1859	1.29	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.99	180	1656	1.40	ug/kg	90
95) Hexachlorobutadiene	19.83	225	965	1.31	ug/kg#	73
96) 1,2,3-Trichlorobenzene	21.13	180	970	1.26	ug/kg#	73

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020421\212B4002.D Vial: 2
Acq On : 4 Feb 2021 8:28 am Operator: nmc
Sample : AA64808-cal1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 4 8:58 2021 Quant Results File: 020421.RES

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020421\212B4003.D Vial: 3
Acq On : 4 Feb 2021 8:57 am Operator: nmc
Sample : AA64808-cal2 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 4 9:21 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Feb 04 08:57:33 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.45	168	199854	50.00	ug/kg	0.00
38) 1,4-Difluorobenzene(IS)	12.01	114	343837	50.00	ug/kg	0.00
56) Chlorobenzene-d5(IS)	14.61	82	187069	50.00	ug/kg	0.02
79) 1,4-Dichlorobenzene-d4(IS)	16.98	152	145922	50.00	ug/kg	0.02
System Monitoring Compounds						
30) Dibromofluoromethane	11.06	113	105391	46.39	ug/kg	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 92.78%			
54) D8-Toluene	13.23	98	342919	58.91	ug/kg	0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 117.82%			
75) Bromofluorobenzene	15.73	95	152859	60.13	ug/kg	0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 120.26%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.86	85	9976	2.42	ug/kg	98
3) Chloromethane	6.33	50	9043	2.20	ug/kg	92
4) Vinyl Chloride	6.52	62	8550	2.46	ug/kg#	1
5) Bromomethane	7.19	96	7948	3.62	ug/kg	92
6) Chloroethane	7.42	64	4916	1.96	ug/kg	94
7) Trichlorofluoromethane	7.68	101	8166	1.42	ug/kg	96
8) Trichlorotrifluoroethane	8.50	101	3860	1.99	ug/kg	89
9) acrolein	8.88	56	6951	175.95	ug/kg	98
10) Acetone	9.24	43	5844	13.62	ug/kg	85
11) 1,1-Dichloroethene	8.48	96	4557	2.35	ug/kg	84
12) 3-Chloropropene	9.07	76	3698	3.57	ug/kg#	45
13) Acetonitrile	9.80	41	4087	23.05	ug/kg#	64
14) Iodomethane	8.70	142	2251	1.12	ug/kg	81
15) Carbon disulfide	8.59	76	90375	18.85	ug/kg	99
16) Methylene Chloride	9.18	84	5691	2.82	ug/kg#	83
17) Methyl tert-butyl ether	9.51	73	10886	2.52	ug/kg	93
18) Acrylonitrile	10.09	53	22092	23.64	ug/kg	99
19) T-1,2-Dichloroethene	9.42	96	4844	2.33	ug/kg	96
20) Isopropyl Ether	9.89	45	22223	1.92	ug/kg	94
21) C-1,2-Dichloroethene	10.66	96	5477	2.23	ug/kg	97
22) 1,1-Dichloroethane	10.09	63	9501	2.08	ug/kg#	62
23) Vinyl Acetate	10.30	43	62939	9.89	ug/kg	97
24) Chloroprene	10.09	88	4448	2.46	ug/kg	94
25) 2-Butanone	11.17	72	2510	20.49	ug/kg#	16
26) Propionitrile	11.45	54	4825	27.45	ug/kg	100
27) 2,2-Dichloropropane	10.78	77	8230	2.64	ug/kg#	1
28) Methacrylonitrile	11.48	67	15836	27.06	ug/kg	72
29) Chloroform	10.88	83	9836	2.60	ug/kg	95
31) Dibromofluoromethane	11.06	113	105391	46.39	ug/kg	100
32) Bromochloromethane	10.87	128	2490	2.06	ug/kg	96
33) 1,1,1-Trichloroethane	11.18	97	6856	1.88	ug/kg	91
34) 1,1-Dichloropropene	11.27	75	7122	2.31	ug/kg	90
35) Diethyl Ether	8.11	59	4280	2.74	ug/kg	85
36) Methyl Acetate	9.38	74	910	4.74	ug/kg#	1
37) Cyclohexane	10.94	56	7489	1.97	ug/kg	97
39) Methyl Cyclohexane	12.07	55	5890	2.23	ug/kg	96
40) Carbon Tetrachloride	11.14	117	6411	1.90	ug/kg	98
41) 1,2-Dichloroethane	11.66	62	6598	2.49	ug/kg	81
42) Benzene	11.52	78	18169	2.31	ug/kg	94
43) Isobutyl Alcohol	11.55	43	7541	57.54	ug/kg#	68
44) Trichloroethene	12.04	130	4566	2.07	ug/kg#	5
45) 1,2-Dichloropropane	12.48	63	6342	3.17	ug/kg	84
46) Methyl Methacrylate	12.56	100	998	2.72	ug/kg	61
47) 1,4-Dioxane	12.70	88	517	96.73	ug/kg#	59
48) Bromodichloromethane	12.50	83	7224	2.65	ug/kg	99
49) Dibromomethane	12.41	93	2774	2.40	ug/kg	90
50) 4-Methyl-2-Pentanone	13.52	100	2856	16.09	ug/kg	65
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.	d	
52) 2-Hexanone	14.22	43	14184	12.88	ug/kg#	86

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020421\212B4003.D Vial: 3
Acq On : 4 Feb 2021 8:57 am Operator: nmc
Sample : AA64808-cal2 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 4 9:21 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Feb 04 08:57:33 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

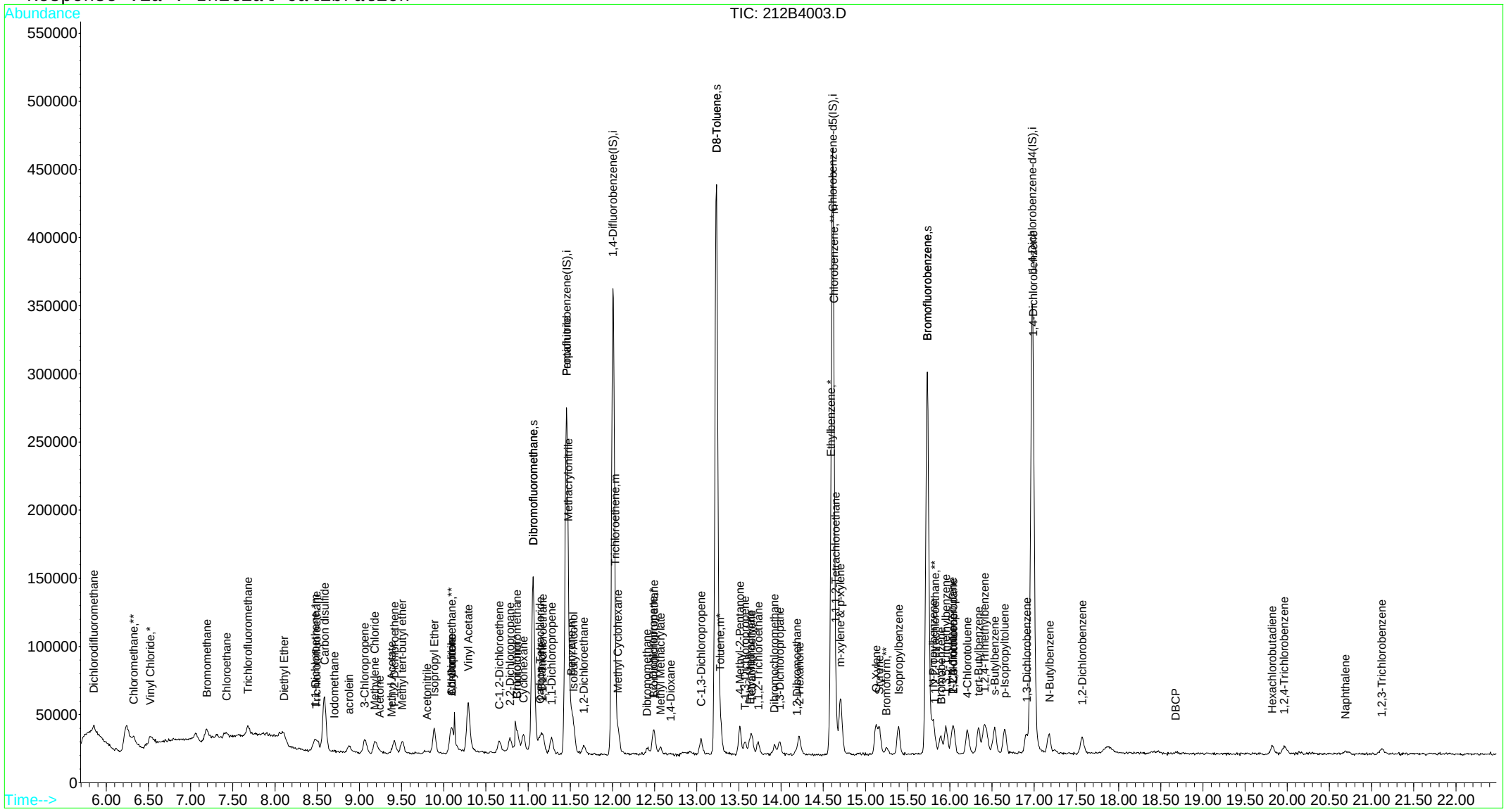
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.05	75	8876	2.86	ug/kg	89
55) D8-Toluene	13.23	98	342919	58.91	ug/kg	93
57) Toluene	13.28	92	11586	2.04	ug/kg	92
58) Ethyl Methacrylate	13.63	69	6147	2.85	ug/kg#	77
59) T-1,3-Dichloropropene	13.57	75	7439	2.45	ug/kg	84
60) 1,1,2-Trichloroethane	13.73	97	3736	2.36	ug/kg	85
61) 1,3-Dichloropropane	13.98	76	7738	2.76	ug/kg	97
62) Tetrachloroethene	13.66	164	3175	1.99	ug/kg	96
63) Dibromochloromethane	13.92	129	4900	2.11	ug/kg#	96
64) 1,2-Dibromoethane	14.18	107	3806	2.18	ug/kg#	91
65) Chlorobenzene	14.63	112	12735	2.00	ug/kg#	65
66) 1,1,1,2-Tetrachloroethane	14.65	131	4739	1.94	ug/kg#	1
67) Ethylbenzene	14.58	106	6543	2.06	ug/kg	84
68) m-xylene & p-xylene	14.71	106	16339	4.34	ug/kg	96
69) O-Xylene	15.13	106	8119	2.24	ug/kg	91
70) Bromoform	15.25	173	2379	2.40	ug/kg#	94
71) Styrene	15.16	104	15031	2.37	ug/kg	95
72) Isopropylbenzene	15.39	105	20091	2.19	ug/kg	100
73) 1,2,3-Trichloropropane	16.03	75	5490	2.88	ug/kg	97
74) 1,1,2,2-Tetrachloroethane	15.83	83	4257	2.72	ug/kg	91
76) Bromofluorobenzene	15.73	95	152859	60.13	ug/kg#	80
77) T-1,4-dichloro-2-butene	16.02	53	1002	2.08	ug/kg#	42
78) N-Propylbenzene	15.80	91	25476	2.50	ug/kg	94
80) Bromobenzene	15.90	156	5004	2.10	ug/kg	99
81) 1,3,5-Trimethylbenzene	15.95	105	16095	1.90	ug/kg	98
82) 2-Chlorotoluene	16.04	91	14271	1.84	ug/kg	98
83) 4-Chlorotoluene	16.21	91	15331	1.95	ug/kg	98
84) 1,2,4-Trimethylbenzene	16.41	105	16404	1.96	ug/kg	98
85) s-Butylbenzene	16.53	105	19438	1.88	ug/kg	97
86) tert-Butylbenzene	16.34	119	13854	1.80	ug/kg	96
87) p-Isopropyltoluene	16.65	119	16960	1.95	ug/kg	91
88) 1,3-Dichlorobenzene	16.91	146	8995	2.09	ug/kg	98
89) 1,4-Dichlorobenzene	17.00	146	9495	2.13	ug/kg	86
90) 1,2-Dichlorobenzene	17.58	146	7572	2.11	ug/kg	97
91) N-Butylbenzene	17.17	91	14654	2.20	ug/kg	96
92) DBCP	18.68	75	796	4.00	ug/kg	69
93) Naphthalene	20.69	128	4187	2.84	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.97	180	3332	2.75	ug/kg	94
95) Hexachlorobutadiene	19.83	225	1874	2.47	ug/kg	96
96) 1,2,3-Trichlorobenzene	21.12	180	2099	2.67	ug/kg	92

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020421\212B4003.D Vial: 3
Acq On : 4 Feb 2021 8:57 am Operator: nmc
Sample : AA64808-cal2 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 4 9:21 2021 Quant Results File: 020421.RES

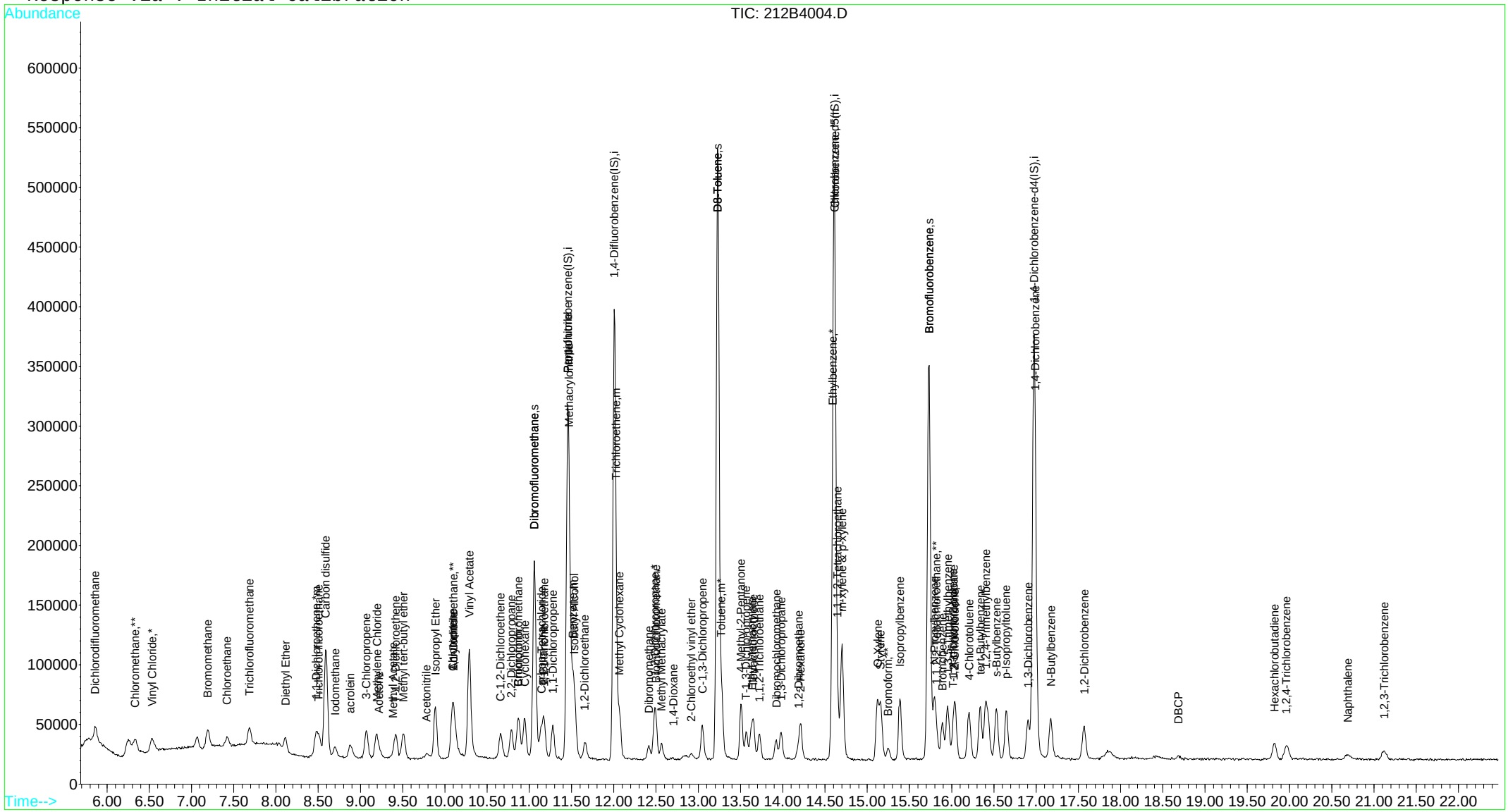
Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\020421\212B4004.D Vial: 4
Acq On : 4 Feb 2021 9:26 am Operator: nmc
Sample : AA64808-cal3 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 4 9:51 2021 Quant Results File: 020421.RES

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020421\212B4004.D Vial: 4
Acq On : 4 Feb 2021 9:26 am Operator: nmc
Sample : AA64808-cal3 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 4 9:51 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Feb 04 08:57:33 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.45	168	215886	50.00	ug/kg	0.00
38) 1,4-Difluorobenzene(IS)	12.01	114	379240	50.00	ug/kg	0.00
56) Chlorobenzene-d5(IS)	14.61	82	199483	50.00	ug/kg	0.02
79) 1,4-Dichlorobenzene-d4(IS)	16.98	152	149519	50.00	ug/kg	0.02
System Monitoring Compounds						
30) Dibromofluoromethane	11.06	113	134830	54.94	ug/kg	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 109.88%			
54) D8-Toluene	13.23	98	419816	65.39	ug/kg	0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 130.78%			
75) Bromofluorobenzene	15.73	95	181306	66.89	ug/kg	0.01
Spiked Amount 50.000	Range 41 - 142		Recovery = 133.78%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.86	85	20400	4.57	ug/kg	98
3) Chloromethane	6.33	50	18601	4.19	ug/kg	94
4) Vinyl Chloride	6.53	62	17582	4.68	ug/kg	92
5) Bromomethane	7.20	96	17283	7.28	ug/kg	93
6) Chloroethane	7.42	64	10585	3.91	ug/kg	98
7) Trichlorofluoromethane	7.68	101	17632	2.83	ug/kg	97
8) Trichlorotrifluoroethane	8.50	101	10332	4.93	ug/kg	91
9) acrolein	8.88	56	17213	274.14	ug/kg	97
10) Acetone	9.22	43	11549	24.91	ug/kg	83
11) 1,1-Dichloroethene	8.47	96	10176	4.87	ug/kg	99
12) 3-Chloropropene	9.07	76	8224	7.34	ug/kg#	47
13) Acetonitrile	9.79	41	8631	45.05	ug/kg	72
14) Iodomethane	8.69	142	18924	8.68	ug/kg	88
15) Carbon disulfide	8.59	76	202596	39.11	ug/kg	100
16) Methylene Chloride	9.19	84	13016	5.98	ug/kg#	84
17) Methyl tert-butyl ether	9.51	73	26759	5.73	ug/kg	95
18) Acrylonitrile	10.11	53	57883	57.34	ug/kg	94
19) T-1,2-Dichloroethene	9.42	96	11923	5.31	ug/kg	95
20) Isopropyl Ether	9.89	45	54574	4.36	ug/kg	95
21) C-1,2-Dichloroethene	10.66	96	12653	4.77	ug/kg	94
22) 1,1-Dichloroethane	10.09	63	24771	5.02	ug/kg#	67
23) Vinyl Acetate	10.29	43	154077	22.42	ug/kg	98
24) Chloroprene	10.09	88	10935	5.59	ug/kg	94
25) 2-Butanone	11.17	72	4832	36.51	ug/kg#	34
26) Propionitrile	11.45	54	10384	54.69	ug/kg	100
27) 2,2-Dichloropropane	10.79	77	17318	5.14	ug/kg	69
28) Methacrylonitrile	11.48	67	36706	58.06	ug/kg	69
29) Chloroform	10.88	83	21559	5.28	ug/kg	91
31) Dibromofluoromethane	11.06	113	134830	54.94	ug/kg	100
32) Bromochloromethane	10.86	128	6170	4.72	ug/kg	97
33) 1,1,1-Trichloroethane	11.18	97	16545	4.20	ug/kg	97
34) 1,1-Dichloropropene	11.28	75	16945	5.10	ug/kg	95
35) Diethyl Ether	8.12	59	9910	5.87	ug/kg	87
36) Methyl Acetate	9.38	74	1606	7.74	ug/kg#	34
37) Cyclohexane	10.94	56	19881	4.85	ug/kg	92
39) Methyl Cyclohexane	12.07	55	14327	4.92	ug/kg	97
40) Carbon Tetrachloride	11.14	117	16541	4.45	ug/kg	99
41) 1,2-Dichloroethane	11.66	62	15528	5.31	ug/kg	96
42) Benzene	11.52	78	44965	5.18	ug/kg	96
43) Isobutyl Alcohol	11.54	43	17984	124.41	ug/kg#	61
44) Trichloroethene	12.03	130	11892	4.88	ug/kg#	65
45) 1,2-Dichloropropane	12.49	63	13747	6.23	ug/kg	88
46) Methyl Methacrylate	12.56	100	2494	6.17	ug/kg	68
47) 1,4-Dioxane	12.70	88	998	169.30	ug/kg#	57
48) Bromodichloromethane	12.51	83	17116	5.69	ug/kg	99
49) Dibromomethane	12.41	93	7050	5.53	ug/kg	97
50) 4-Methyl-2-Pentanone	13.51	100	5964	30.46	ug/kg	71
51) 2-Chloroethyl vinyl ether	12.92	63	1930m	163.86	ug/kg	
52) 2-Hexanone	14.22	43	31278	25.75	ug/kg	90

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\020421\212B4004.D Vial: 4
Acq On : 4 Feb 2021 9:26 am Operator: nmc
Sample : AA64808-cal3 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 4 9:51 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Feb 04 08:57:33 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

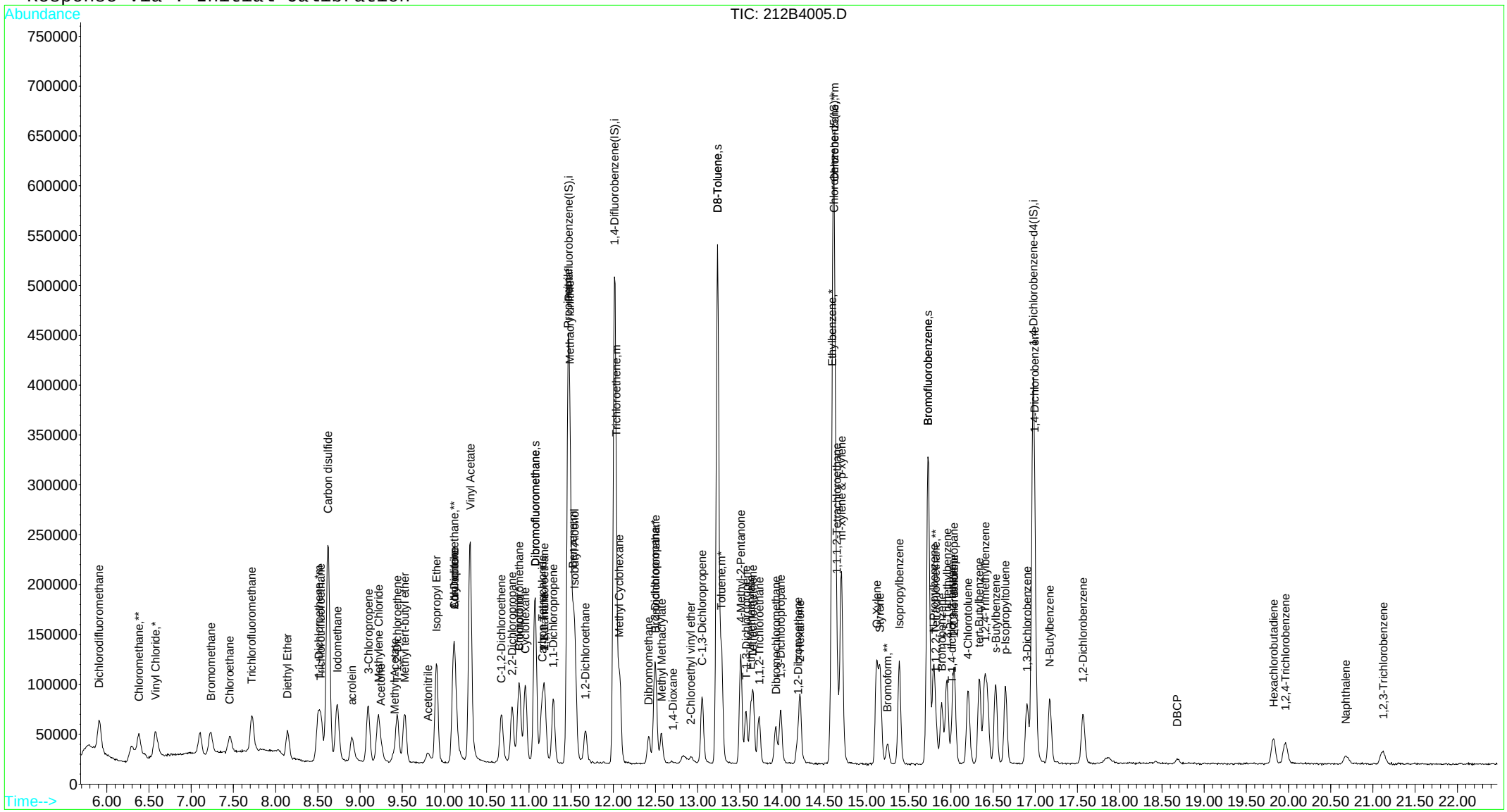
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.05	75	22207	6.50	ug/kg	86
55) D8-Toluene	13.23	98	419816	65.39	ug/kg	92
57) Toluene	13.28	92	27718	4.57	ug/kg	97
58) Ethyl Methacrylate	13.63	69	13097	5.70	ug/kg#	81
59) T-1,3-Dichloropropene	13.57	75	17931	5.54	ug/kg	82
60) 1,1,2-Trichloroethane	13.72	97	8891	5.26	ug/kg	91
61) 1,3-Dichloropropane	13.98	76	18363	6.15	ug/kg	98
62) Tetrachloroethene	13.65	164	8651	5.08	ug/kg	89
63) Dibromochloromethane	13.92	129	12337	4.97	ug/kg#	95
64) 1,2-Dibromoethane	14.18	107	8914	4.78	ug/kg	91
65) Chlorobenzene	14.62	112	30962	4.56	ug/kg	84
66) 1,1,1,2-Tetrachloroethane	14.65	131	11559	4.43	ug/kg#	1
67) Ethylbenzene	14.58	106	15553	4.60	ug/kg	90
68) m-xylene & p-xylene	14.70	106	38172	9.50	ug/kg	95
69) O-Xylene	15.12	106	19045	4.94	ug/kg	90
70) Bromoform	15.25	173	5924	5.61	ug/kg	98
71) Styrene	15.16	104	34288	5.06	ug/kg	96
72) Isopropylbenzene	15.39	105	47344	4.84	ug/kg	99
73) 1,2,3-Trichloropropane	16.02	75	11934	5.86	ug/kg	97
74) 1,1,2,2-Tetrachloroethane	15.83	83	9974	5.98	ug/kg	97
76) Bromofluorobenzene	15.73	95	181306	66.89	ug/kg#	81
77) T-1,4-dichloro-2-butene	16.01	53	2079	4.05	ug/kg#	35
78) N-Propylbenzene	15.80	91	57533	5.29	ug/kg	95
80) Bromobenzene	15.90	156	11724	4.80	ug/kg	98
81) 1,3,5-Trimethylbenzene	15.95	105	38281	4.41	ug/kg	98
82) 2-Chlorotoluene	16.04	91	34461	4.33	ug/kg	98
83) 4-Chlorotoluene	16.21	91	35728	4.44	ug/kg	98
84) 1,2,4-Trimethylbenzene	16.40	105	38890	4.53	ug/kg	98
85) s-Butylbenzene	16.53	105	45605	4.31	ug/kg	96
86) tert-Butylbenzene	16.34	119	33015	4.19	ug/kg	98
87) p-Isopropyltoluene	16.64	119	38937	4.36	ug/kg	98
88) 1,3-Dichlorobenzene	16.91	146	21304	4.84	ug/kg	98
89) 1,4-Dichlorobenzene	17.00	146	21463	4.70	ug/kg	95
90) 1,2-Dichlorobenzene	17.57	146	17974	4.88	ug/kg	96
91) N-Butylbenzene	17.17	91	33663	4.94	ug/kg	99
92) DBCP	18.68	75	1332	6.54	ug/kg	95
93) Naphthalene	20.69	128	8518	5.63	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.96	180	7928	6.38	ug/kg	96
95) Hexachlorobutadiene	19.81	225	4719	6.08	ug/kg	99
96) 1,2,3-Trichlorobenzene	21.12	180	5310	6.59	ug/kg	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020421\212B4005.D Vial: 5
Acq On : 4 Feb 2021 9:54 am Operator: nmc
Sample : AA64808-cal4 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 4 10:17 2021 Quant Results File: 020421.RES

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020421\212B4005.D Vial: 5
Acq On : 4 Feb 2021 9:54 am Operator: nmc
Sample : AA64808-cal4 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 4 10:17 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Feb 04 08:57:33 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.46	168	270209	50.00	ug/kg	0.02
38) 1,4-Difluorobenzene(IS)	12.01	114	483052	50.00	ug/kg	0.02
56) Chlorobenzene-d5(IS)	14.61	82	235561	50.00	ug/kg	0.02
79) 1,4-Dichlorobenzene-d4(IS)	16.98	152	156580	50.00	ug/kg	0.02
System Monitoring Compounds						
30) Dibromofluoromethane	11.08	113	138613	45.12	ug/kg	0.02
Spiked Amount 50.000	Range 53 - 146		Recovery = 90.24%			
54) D8-Toluene	13.24	98	409387	50.06	ug/kg	0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 100.12%			
75) Bromofluorobenzene	15.73	95	161492	50.45	ug/kg	0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 100.90%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.91	85	48072	8.61	ug/kg	99
3) Chloromethane	6.38	50	44876	8.08	ug/kg	97
4) Vinyl Chloride	6.58	62	43483	9.24	ug/kg	94
5) Bromomethane	7.23	96	25070	8.44	ug/kg	98
6) Chloroethane	7.46	64	23751	7.04	ug/kg	94
7) Trichlorofluoromethane	7.72	101	44894	5.76	ug/kg	98
8) Trichlorotrifluoroethane	8.54	101	25923	9.87	ug/kg	94
9) acrolein	8.90	56	37277	365.45	ug/kg	98
10) Acetone	9.25	43	27561	47.50	ug/kg	87
11) 1,1-Dichloroethene	8.51	96	23825	9.11	ug/kg	99
12) 3-Chloropropene	9.10	76	18225	13.00	ug/kg	62
13) Acetonitrile	9.80	41	22528	93.96	ug/kg	97
14) Iodomethane	8.72	142	112160	40.72	ug/kg	88
15) Carbon disulfide	8.62	76	505827	78.02	ug/kg	100
16) Methylene Chloride	9.22	84	29463	10.82	ug/kg	88
17) Methyl tert-butyl ether	9.53	73	61512	10.53	ug/kg	93
18) Acrylonitrile	10.12	53	127773	101.13	ug/kg	96
19) T-1,2-Dichloroethene	9.44	96	27540	9.79	ug/kg	96
20) Isopropyl Ether	9.90	45	129041	8.24	ug/kg	95
21) C-1,2-Dichloroethene	10.67	96	30369	9.14	ug/kg	99
22) 1,1-Dichloroethane	10.12	63	56673	9.17	ug/kg	98
23) Vinyl Acetate	10.31	43	365322	42.47	ug/kg	96
24) Chloroprene	10.11	88	27235	11.13	ug/kg	85
25) 2-Butanone	11.18	72	9989	60.31	ug/kg#	42
26) Propionitrile	11.46	54	25742	108.33	ug/kg	100
27) 2,2-Dichloropropane	10.80	77	43076	10.22	ug/kg	86
28) Methacrylonitrile	11.49	67	85165	107.63	ug/kg	69
29) Chloroform	10.89	83	53813	10.53	ug/kg	94
31) Dibromofluoromethane	11.08	113	138613	45.12	ug/kg	100
32) Bromochloromethane	10.88	128	14381	8.79	ug/kg	94
33) 1,1,1-Trichloroethane	11.19	97	39158	7.94	ug/kg	97
34) 1,1-Dichloropropene	11.29	75	39162	9.42	ug/kg	97
35) Diethyl Ether	8.14	59	22872	10.82	ug/kg	86
36) Methyl Acetate	9.40	74	3147	12.11	ug/kg#	47
37) Cyclohexane	10.96	56	46846	9.14	ug/kg	91
39) Methyl Cyclohexane	12.08	55	32805	8.85	ug/kg	95
40) Carbon Tetrachloride	11.15	117	39129	8.26	ug/kg	99
41) 1,2-Dichloroethane	11.67	62	35495	9.53	ug/kg	98
42) Benzene	11.53	78	104197	9.42	ug/kg	99
43) Isobutyl Alcohol	11.55	43	36703	199.33	ug/kg#	79
44) Trichloroethene	12.04	130	27910	9.00	ug/kg#	82
45) 1,2-Dichloropropane	12.49	63	32022	11.39	ug/kg	87
46) Methyl Methacrylate	12.57	100	5917	11.49	ug/kg	85
47) 1,4-Dioxane	12.71	88	1851	246.52	ug/kg#	62
48) Bromodichloromethane	12.51	83	39601	10.34	ug/kg	99
49) Dibromomethane	12.42	93	15361	9.45	ug/kg	92
50) 4-Methyl-2-Pentanone	13.51	100	12690	50.88	ug/kg	77
51) 2-Chloroethyl vinyl ether	12.92	63	2358	157.17	ug/kg#	100
52) 2-Hexanone	14.21	43	68048	43.98	ug/kg	90

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020421\212B4005.D Vial: 5
Acq On : 4 Feb 2021 9:54 am Operator: nmc
Sample : AA64808-cal4 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 4 10:17 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Feb 04 08:57:33 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

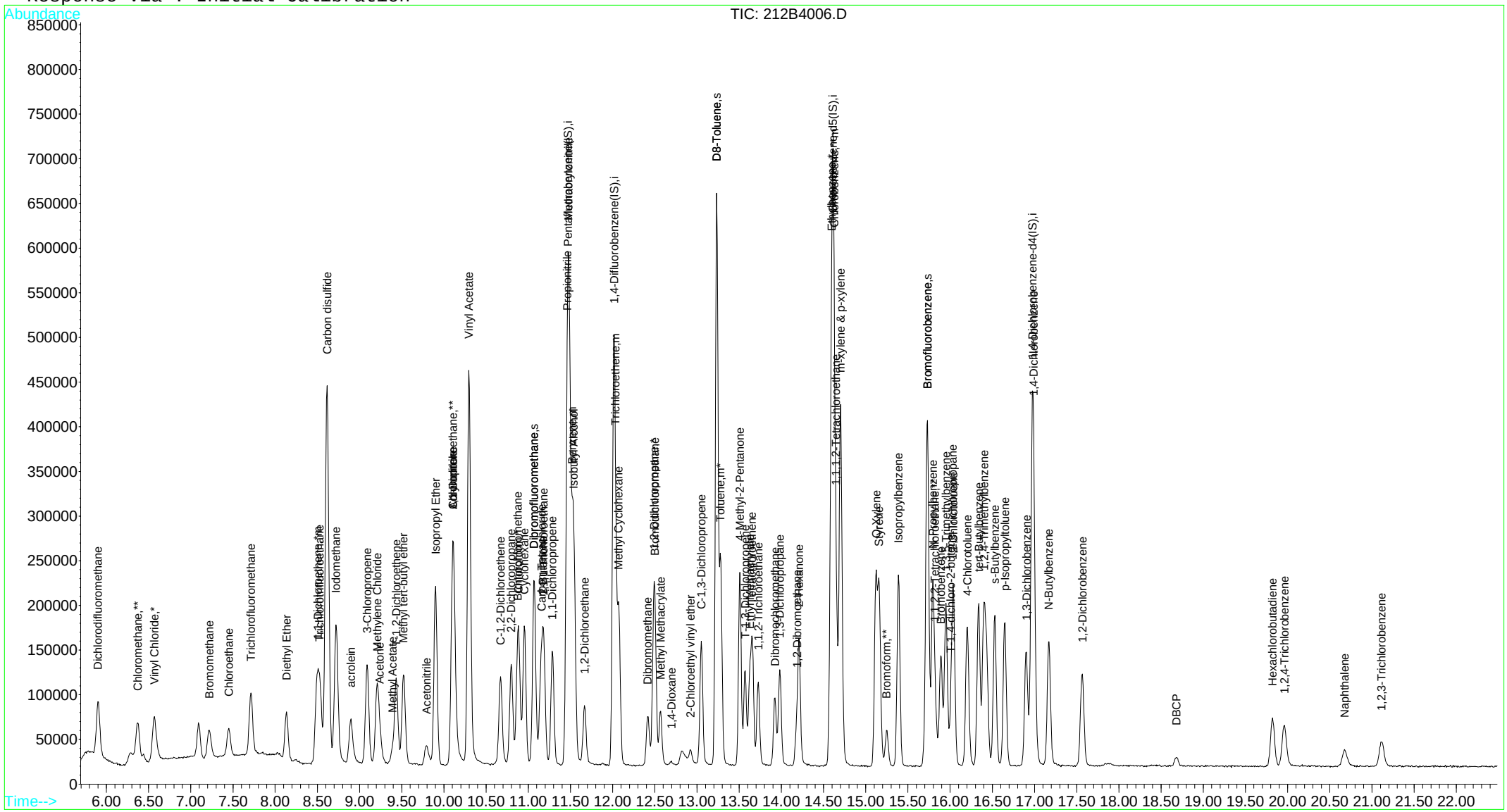
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.05	75	50292	11.55	ug/kg	87
55) D8-Toluene	13.24	98	409387	50.06	ug/kg	91
57) Toluene	13.28	92	60495	8.45	ug/kg	98
58) Ethyl Methacrylate	13.62	69	29352	10.81	ug/kg	81
59) T-1,3-Dichloropropene	13.57	75	39138	10.24	ug/kg	86
60) 1,1,2-Trichloroethane	13.73	97	19553	9.80	ug/kg	98
61) 1,3-Dichloropropane	13.98	76	40443	11.46	ug/kg	97
62) Tetrachloroethene	13.66	164	19127	9.52	ug/kg	91
63) Dibromochloromethane	13.93	129	26718	9.12	ug/kg	96
64) 1,2-Dibromoethane	14.18	107	19973	9.07	ug/kg	98
65) Chlorobenzene	14.63	112	64862	8.09	ug/kg	87
66) 1,1,1,2-Tetrachloroethane	14.65	131	25923	8.41	ug/kg#	1
67) Ethylbenzene	14.58	106	33001	8.27	ug/kg	92
68) m-xylene & p-xylene	14.70	106	78121	16.47	ug/kg	96
69) O-Xylene	15.12	106	39241	8.62	ug/kg	92
70) Bromoform	15.25	173	12702	10.19	ug/kg	97
71) Styrene	15.16	104	67844	8.49	ug/kg	95
72) Isopropylbenzene	15.39	105	97807	8.47	ug/kg	98
73) 1,2,3-Trichloropropane	16.02	75	23863	9.93	ug/kg	94
74) 1,1,2,2-Tetrachloroethane	15.83	83	19905	10.10	ug/kg	97
76) Bromofluorobenzene	15.73	95	161492	50.45	ug/kg#	80
77) T-1,4-dichloro-2-butene	16.00	53	3999	6.60	ug/kg#	26
78) N-Propylbenzene	15.80	91	112715	8.77	ug/kg	97
80) Bromobenzene	15.89	156	24008	9.38	ug/kg	99
81) 1,3,5-Trimethylbenzene	15.95	105	71843	7.90	ug/kg	99
82) 2-Chlorotoluene	16.04	91	67023	8.04	ug/kg	96
83) 4-Chlorotoluene	16.21	91	67827	8.04	ug/kg	99
84) 1,2,4-Trimethylbenzene	16.40	105	72509	8.06	ug/kg	98
85) s-Butylbenzene	16.53	105	87404	7.89	ug/kg	98
86) tert-Butylbenzene	16.33	119	63801	7.74	ug/kg	96
87) p-Isopropyltoluene	16.65	119	74825	8.00	ug/kg	98
88) 1,3-Dichlorobenzene	16.90	146	40132	8.71	ug/kg	98
89) 1,4-Dichlorobenzene	17.00	146	40066	8.39	ug/kg	98
90) 1,2-Dichlorobenzene	17.56	146	34272	8.88	ug/kg	97
91) N-Butylbenzene	17.17	91	62526	8.76	ug/kg	100
92) DBCP	18.68	75	2442	11.44	ug/kg	98
93) Naphthalene	20.68	128	15375	9.70	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.96	180	14645	11.25	ug/kg	93
95) Hexachlorobutadiene	19.82	225	8964	11.02	ug/kg	98
96) 1,2,3-Trichlorobenzene	21.11	180	9113	10.79	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020421\212B4006.D Vial: 6
Acq On : 4 Feb 2021 10:23 am Operator: nmc
Sample : AA64808-cal5 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 4 11:24 2021 Quant Results File: 020421.RES

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020421\212B4006.D Vial: 6
Acq On : 4 Feb 2021 10:23 am Operator: nmc
Sample : AA64808-cal5 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 4 11:24 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Feb 04 08:57:33 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.46	168	251747	50.00	ug/kg	0.01
38) 1,4-Difluorobenzene(IS)	12.01	114	453865	50.00	ug/kg	0.01
56) Chlorobenzene-d5(IS)	14.61	82	225182	50.00	ug/kg	0.02
79) 1,4-Dichlorobenzene-d4(IS)	16.97	152	152185	50.00	ug/kg	0.02
System Monitoring Compounds						
30) Dibromofluoromethane	11.07	113	172347	60.22	ug/kg	0.01
Spiked Amount 50.000	Range 53 - 146		Recovery = 120.44%			
54) D8-Toluene	13.23	98	509968	66.37	ug/kg	0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 132.74%			
75) Bromofluorobenzene	15.73	95	204043	66.68	ug/kg	0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 133.36%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.90	85	94457	18.16	ug/kg	98
3) Chloromethane	6.37	50	86745	16.76	ug/kg	98
4) Vinyl Chloride	6.57	62	84311	19.23	ug/kg	88
5) Bromomethane	7.21	96	36565	13.22	ug/kg	96
6) Chloroethane	7.45	64	46882	15.08	ug/kg	96
7) Trichlorofluoromethane	7.71	101	88047	12.12	ug/kg	98
8) Trichlorotrifluoroethane	8.53	101	52364	21.41	ug/kg	93
9) acrolein	8.90	56	75580	546.52	ug/kg	97
10) Acetone	9.24	43	51584	95.42	ug/kg	90
11) 1,1-Dichloroethene	8.50	96	48035	19.70	ug/kg	98
12) 3-Chloropropene	9.09	76	34808	26.64	ug/kg	62
13) Acetonitrile	9.79	41	42329	189.49	ug/kg	93
14) Iodomethane	8.72	142	290738	111.13	ug/kg	89
15) Carbon disulfide	8.62	76	956026	158.27	ug/kg	100
16) Methylene Chloride	9.21	84	56587	22.30	ug/kg	87
17) Methyl tert-butyl ether	9.53	73	122350	22.47	ug/kg	93
18) Acrylonitrile	10.11	53	252767	214.73	ug/kg	97
19) T-1,2-Dichloroethene	9.43	96	54894	20.95	ug/kg	96
20) Isopropyl Ether	9.90	45	255064	17.47	ug/kg	94
21) C-1,2-Dichloroethene	10.67	96	59946	19.36	ug/kg	96
22) 1,1-Dichloroethane	10.11	63	112919	19.61	ug/kg	100
23) Vinyl Acetate	10.30	43	702107	87.62	ug/kg	97
24) Chloroprene	10.10	88	51874	22.75	ug/kg	91
25) 2-Butanone	11.17	72	17799	115.34	ug/kg	57
26) Propionitrile	11.45	54	46823	211.49	ug/kg	100
27) 2,2-Dichloropropane	10.80	77	86187	21.94	ug/kg	94
28) Methacrylonitrile	11.48	67	161012	218.40	ug/kg	73
29) Chloroform	10.89	83	105240	22.10	ug/kg	94
31) Dibromofluoromethane	11.07	113	172347	60.22	ug/kg	100
32) Bromochloromethane	10.87	128	28607	18.77	ug/kg	94
33) 1,1,1-Trichloroethane	11.19	97	77409	16.85	ug/kg	98
34) 1,1-Dichloropropene	11.28	75	78284	20.20	ug/kg	96
35) Diethyl Ether	8.14	59	43940	22.31	ug/kg	89
36) Methyl Acetate	9.39	74	6231	25.74	ug/kg#	48
37) Cyclohexane	10.95	56	93684	19.61	ug/kg	95
39) Methyl Cyclohexane	12.08	55	67557	19.39	ug/kg	98
40) Carbon Tetrachloride	11.15	117	78894	17.73	ug/kg	98
41) 1,2-Dichloroethane	11.67	62	70280	20.09	ug/kg	98
42) Benzene	11.52	78	209553	20.17	ug/kg	98
43) Isobutyl Alcohol	11.55	43	71606	413.90	ug/kg#	80
44) Trichloroethene	12.04	130	58125	19.95	ug/kg	95
45) 1,2-Dichloropropane	12.49	63	64754	24.51	ug/kg	88
46) Methyl Methacrylate	12.57	100	11483	23.72	ug/kg	86
47) 1,4-Dioxane	12.70	88	3728	528.44	ug/kg	88
48) Bromodichloromethane	12.51	83	79114	21.98	ug/kg	100
49) Dibromomethane	12.41	93	30600	20.04	ug/kg	91
50) 4-Methyl-2-Pentanone	13.51	100	23802	101.57	ug/kg	81
51) 2-Chloroethyl vinyl ether	12.92	63	6425m	455.80	ug/kg	
52) 2-Hexanone	14.21	43	132461	91.11	ug/kg	89

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020421\212B4006.D Vial: 6
Acq On : 4 Feb 2021 10:23 am Operator: nmc
Sample : AA64808-cal5 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 4 11:24 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Feb 04 08:57:33 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.05	75	100788	24.64	ug/kg	85
55) D8-Toluene	13.23	98	509968	66.37	ug/kg	92
57) Toluene	13.28	92	121922	17.81	ug/kg	99
58) Ethyl Methacrylate	13.62	69	57451	22.14	ug/kg	79
59) T-1,3-Dichloropropene	13.57	75	77853	21.31	ug/kg	88
60) 1,1,2-Trichloroethane	13.73	97	38435	20.16	ug/kg	95
61) 1,3-Dichloropropane	13.98	76	81449	24.15	ug/kg	98
62) Tetrachloroethene	13.66	164	38734	20.16	ug/kg	92
63) Dibromochloromethane	13.92	129	55299	19.75	ug/kg	96
64) 1,2-Dibromoethane	14.18	107	41059	19.51	ug/kg	99
65) Chlorobenzene	14.63	112	133147	17.36	ug/kg	90
66) 1,1,1,2-Tetrachloroethane	14.65	131	53236	18.07	ug/kg#	34
67) Ethylbenzene	14.59	106	68905	18.06	ug/kg	94
68) m-xylene & p-xylene	14.70	106	161532	35.62	ug/kg	96
69) O-Xylene	15.12	106	81494	18.72	ug/kg	94
70) Bromoform	15.25	173	25982	21.80	ug/kg	98
71) Styrene	15.16	104	142255	18.61	ug/kg	94
72) Isopropylbenzene	15.39	105	203365	18.41	ug/kg	100
73) 1,2,3-Trichloropropane	16.02	75	44205	19.24	ug/kg	96
74) 1,1,2,2-Tetrachloroethane	15.82	83	39331	20.88	ug/kg	98
76) Bromofluorobenzene	15.73	95	204043	66.68	ug/kg#	79
77) T-1,4-dichloro-2-butene	16.00	53	9370	16.17	ug/kg#	72
78) N-Propylbenzene	15.80	91	229784	18.70	ug/kg	98
80) Bromobenzene	15.89	156	49831	20.03	ug/kg	99
81) 1,3,5-Trimethylbenzene	15.95	105	148766	16.83	ug/kg	100
82) 2-Chlorotoluene	16.04	91	138910	17.15	ug/kg	97
83) 4-Chlorotoluene	16.20	91	143066	17.46	ug/kg	99
84) 1,2,4-Trimethylbenzene	16.40	105	153288	17.54	ug/kg	98
85) s-Butylbenzene	16.53	105	182838	16.98	ug/kg	97
86) tert-Butylbenzene	16.34	119	134893	16.84	ug/kg	96
87) p-Isopropyltoluene	16.65	119	156008	17.17	ug/kg	98
88) 1,3-Dichlorobenzene	16.90	146	83868	18.72	ug/kg	98
89) 1,4-Dichlorobenzene	17.00	146	83693	18.02	ug/kg	99
90) 1,2-Dichlorobenzene	17.56	146	72762	19.40	ug/kg	97
91) N-Butylbenzene	17.17	91	132796	19.13	ug/kg	97
92) DBCP	18.69	75	4548	21.93	ug/kg	91
93) Naphthalene	20.68	128	35321	22.94	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.96	180	30716	24.29	ug/kg	97
95) Hexachlorobutadiene	19.82	225	19162	24.24	ug/kg	99
96) 1,2,3-Trichlorobenzene	21.12	180	19915	24.26	ug/kg	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020421\212B4007.D Vial: 7
Acq On : 4 Feb 2021 10:52 am Operator: nmc
Sample : AA64808-cal6 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 4 11:24 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Feb 04 08:57:33 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.47	168	268442	50.00	ug/kg	0.02
38) 1,4-Difluorobenzene(IS)	12.02	114	494605	50.00	ug/kg	0.02
56) Chlorobenzene-d5(IS)	14.61	82	245390	50.00	ug/kg	0.02
79) 1,4-Dichlorobenzene-d4(IS)	16.97	152	165726	50.00	ug/kg	0.02
System Monitoring Compounds						
30) Dibromofluoromethane	11.07	113	139345	45.66	ug/kg	0.02
Spiked Amount 50.000	Range 53 - 146		Recovery = 91.32%			
54) D8-Toluene	13.23	98	420410	50.21	ug/kg	0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 100.42%			
75) Bromofluorobenzene	15.73	95	175148	52.53	ug/kg	0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 105.06%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.91	85	266948	48.12	ug/kg	99
3) Chloromethane	6.38	50	255630	46.32	ug/kg	99
4) Vinyl Chloride	6.57	62	238317	50.97	ug/kg	99
5) Bromomethane	7.22	96	91261	30.94	ug/kg	95
6) Chloroethane	7.46	64	122492	38.22	ug/kg	97
7) Trichlorofluoromethane	7.72	101	250845	32.39	ug/kg	98
8) Trichlorotrifluoroethane	8.54	101	144446	55.38	ug/kg	93
9) acrolein	8.90	56	229435	932.98	ug/kg	97
10) Acetone	9.25	43	148978	258.43	ug/kg	88
11) 1,1-Dichloroethene	8.50	96	134893	51.89	ug/kg	99
12) 3-Chloropropene	9.09	76	95274	68.39	ug/kg	64
13) Acetonitrile	9.79	41	141470	593.91	ug/kg	98
14) Iodomethane	8.73	142	905737	308.20	ug/kg	88
15) Carbon disulfide	8.62	76	2571375	399.23	ug/kg	100
16) Methylene Chloride	9.21	84	154713	57.17	ug/kg	86
17) Methyl tert-butyl ether	9.53	73	354527	61.07	ug/kg	92
18) Acrylonitrile	10.11	53	703410	560.40	ug/kg	99
19) T-1,2-Dichloroethene	9.44	96	151205	54.13	ug/kg	95
20) Isopropyl Ether	9.90	45	711946	45.74	ug/kg	94
21) C-1,2-Dichloroethene	10.68	96	167158	50.63	ug/kg	95
22) 1,1-Dichloroethane	10.11	63	305447	49.74	ug/kg	99
23) Vinyl Acetate	10.30	43	1968403	230.36	ug/kg	96
24) Chloroprene	10.10	88	145721	59.93	ug/kg	90
25) 2-Butanone	11.17	72	52922	321.61	ug/kg	56
26) Propionitrile	11.45	54	144446	611.87	ug/kg	100
27) 2,2-Dichloropropane	10.80	77	234663	56.01	ug/kg	99
28) Methacrylonitrile	11.49	67	466409	593.31	ug/kg	72
29) Chloroform	10.90	83	286355	56.40	ug/kg	96
31) Dibromofluoromethane	11.07	113	139345	45.66	ug/kg	100
32) Bromochloromethane	10.87	128	81556	50.18	ug/kg	94
33) 1,1,1-Trichloroethane	11.18	97	213862	43.65	ug/kg	99
34) 1,1-Dichloropropene	11.29	75	220679	53.40	ug/kg	96
35) Diethyl Ether	8.13	59	127832	60.87	ug/kg	88
36) Methyl Acetate	9.39	74	18122	70.21	ug/kg#	53
37) Cyclohexane	10.96	56	258717	50.79	ug/kg	94
39) Methyl Cyclohexane	12.07	55	190509	50.18	ug/kg	96
40) Carbon Tetrachloride	11.15	117	220505	45.48	ug/kg	100
41) 1,2-Dichloroethane	11.67	62	199635	52.37	ug/kg	99
42) Benzene	11.53	78	571339	50.46	ug/kg	99
43) Isobutyl Alcohol	11.54	43	208792	1107.47	ug/kg#	77
44) Trichloroethene	12.04	130	162085	51.04	ug/kg	99
45) 1,2-Dichloropropane	12.49	63	179961	62.50	ug/kg	88
46) Methyl Methacrylate	12.57	100	32882	62.34	ug/kg	78
47) 1,4-Dioxane	12.70	88	11121	1446.53	ug/kg	93
48) Bromodichloromethane	12.50	83	221635	56.51	ug/kg	100
49) Dibromomethane	12.41	93	91996	55.30	ug/kg	92
50) 4-Methyl-2-Pentanone	13.51	100	72881	285.39	ug/kg	79
51) 2-Chloroethyl vinyl ether	12.92	63	34992m	2277.91	ug/kg	
52) 2-Hexanone	14.21	43	400153	252.56	ug/kg	89

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\020421\212B4007.D Vial: 7
Acq On : 4 Feb 2021 10:52 am Operator: nmc
Sample : AA64808-cal6 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 4 11:24 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Feb 04 08:57:33 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

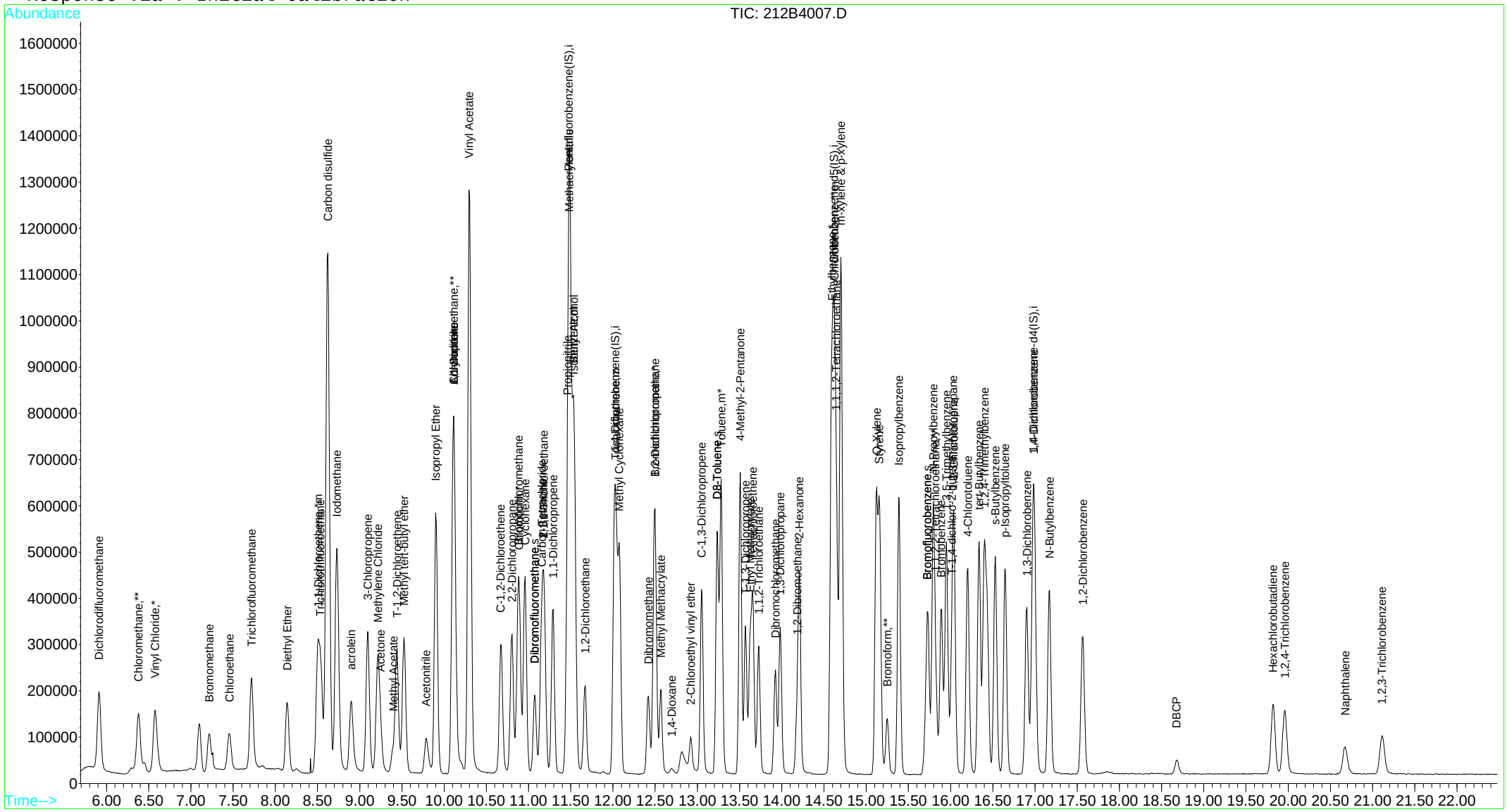
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.05	75	290975	65.29	ug/kg	84
55) D8-Toluene	13.23	98	420410	50.21	ug/kg	92
57) Toluene	13.28	92	344430	46.16	ug/kg	99
58) Ethyl Methacrylate	13.62	69	171860	60.79	ug/kg	78
59) T-1,3-Dichloropropene	13.57	75	225651	56.67	ug/kg	88
60) 1,1,2-Trichloroethane	13.73	97	111396	53.62	ug/kg	96
61) 1,3-Dichloropropane	13.98	76	233514	63.54	ug/kg	99
62) Tetrachloroethene	13.66	164	107383	51.29	ug/kg	92
63) Dibromochloromethane	13.92	129	161962	53.07	ug/kg	96
64) 1,2-Dibromoethane	14.18	107	122857	53.56	ug/kg	98
65) Chlorobenzene	14.63	112	370426	44.33	ug/kg	92
66) 1,1,1,2-Tetrachloroethane	14.65	131	149690	46.64	ug/kg#	69
67) Ethylbenzene	14.59	106	190528	45.84	ug/kg	91
68) m-xylene & p-xylene	14.70	106	443734	89.79	ug/kg	94
69) O-Xylene	15.12	106	229143	48.30	ug/kg	95
70) Bromoform	15.25	173	78238	60.23	ug/kg	99
71) Styrene	15.16	104	400385	48.07	ug/kg	95
72) Isopropylbenzene	15.39	105	572305	47.55	ug/kg	99
73) 1,2,3-Trichloropropane	16.02	75	139421	55.67	ug/kg	99
74) 1,1,2,2-Tetrachloroethane	15.82	83	117214	57.10	ug/kg	98
76) Bromofluorobenzene	15.73	95	175148	52.53	ug/kg#	71
77) T-1,4-dichloro-2-butene	16.01	53	32026	50.71	ug/kg#	84
78) N-Propylbenzene	15.79	91	651757	48.68	ug/kg	98
80) Bromobenzene	15.89	156	143578	52.99	ug/kg	99
81) 1,3,5-Trimethylbenzene	15.95	105	413721	42.98	ug/kg	100
82) 2-Chlorotoluene	16.04	91	386718	43.85	ug/kg	97
83) 4-Chlorotoluene	16.20	91	403979	45.27	ug/kg	98
84) 1,2,4-Trimethylbenzene	16.40	105	419926	44.12	ug/kg	99
85) s-Butylbenzene	16.53	105	515616	43.97	ug/kg	97
86) tert-Butylbenzene	16.34	119	376438	43.15	ug/kg	97
87) p-Isopropyltoluene	16.65	119	433892	43.84	ug/kg	98
88) 1,3-Dichlorobenzene	16.90	146	241975	49.60	ug/kg	97
89) 1,4-Dichlorobenzene	17.00	146	237603	46.99	ug/kg	97
90) 1,2-Dichlorobenzene	17.57	146	212083	51.92	ug/kg	96
91) N-Butylbenzene	17.17	91	373059	49.36	ug/kg	98
92) DBCP	18.68	75	14025	62.10	ug/kg	88
93) Naphthalene	20.67	128	110286	65.76	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.96	180	90652	65.82	ug/kg	98
95) Hexachlorobutadiene	19.82	225	54632	63.46	ug/kg	100
96) 1,2,3-Trichlorobenzene	21.11	180	60018	67.15	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020421\212B4007.D Vial: 7
Acq On : 4 Feb 2021 10:52 am Operator: nmc
Sample : AA64808-cal6 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 4 11:24 2021 Quant Results File: 020421.RES

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020421\212B4008.D Vial: 8
Acq On : 4 Feb 2021 11:20 am Operator: nmc
Sample : AA64808-cal7 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 4 11:45 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Feb 04 08:57:33 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.47	168	261684	50.00	ug/kg	0.02
38) 1,4-Difluorobenzene(IS)	12.02	114	489998	50.00	ug/kg	0.02
56) Chlorobenzene-d5(IS)	14.61	82	245966	50.00	ug/kg	0.02
79) 1,4-Dichlorobenzene-d4(IS)	16.97	152	165062	50.00	ug/kg	0.02
System Monitoring Compounds						
30) Dibromofluoromethane	11.07	113	197454	66.37	ug/kg	0.02
Spiked Amount 50.000	Range 53 - 146		Recovery = 132.74%			
54) D8-Toluene	13.23	98	592343	71.40	ug/kg	0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 142.80%			
75) Bromofluorobenzene	15.73	95	240761	72.03	ug/kg	0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 144.06%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.91	85	433450	80.15	ug/kg	99
3) Chloromethane	6.38	50	448889	83.44	ug/kg	98
4) Vinyl Chloride	6.57	62	384969	84.47	ug/kg	98
5) Bromomethane	7.20	96	131483	45.72	ug/kg	97
6) Chloroethane	7.45	64	188528	62.60	ug/kg	97
7) Trichlorofluoromethane	7.71	101	398813	52.83	ug/kg	99
8) Trichlorotrifluoroethane	8.54	101	235684	92.69	ug/kg	92
9) acrolein	8.90	56	378851	1219.06	ug/kg	98
10) Acetone	9.24	43	235733	419.48	ug/kg	89
11) 1,1-Dichloroethene	8.50	96	223977	88.38	ug/kg	99
12) 3-Chloropropene	9.10	76	152690	112.43	ug/kg	64
13) Acetonitrile	9.79	41	229333	987.63	ug/kg	100
14) Iodomethane	8.73	142	1511188	502.37	ug/kg	88
15) Carbon disulfide	8.62	76	4053461	645.58	ug/kg	100
16) Methylene Chloride	9.21	84	254766	96.57	ug/kg	86
17) Methyl tert-butyl ether	9.53	73	575998	101.79	ug/kg	93
18) Acrylonitrile	10.11	53	1112073	908.86	ug/kg	98
19) T-1,2-Dichloroethene	9.43	96	251432	92.33	ug/kg	96
20) Isopropyl Ether	9.90	45	1178593	77.67	ug/kg	94
21) C-1,2-Dichloroethene	10.67	96	279780	86.92	ug/kg	95
22) 1,1-Dichloroethane	10.11	63	499043	83.37	ug/kg	99
23) Vinyl Acetate	10.30	43	2991005	359.08	ug/kg	96
24) Chloroprene	10.10	88	229843	96.97	ug/kg	90
25) 2-Butanone	11.17	72	83209	518.73	ug/kg	55
26) Propionitrile	11.45	54	227018	986.47	ug/kg	100
27) 2,2-Dichloropropane	10.80	77	387211	94.81	ug/kg	99
28) Methacrylonitrile	11.49	67	728274	950.35	ug/kg	73
29) Chloroform	10.89	83	471316	95.23	ug/kg	96
31) Dibromofluoromethane	11.07	113	197454	66.37	ug/kg	100
32) Bromochloromethane	10.87	128	134771	85.07	ug/kg	94
33) 1,1,1-Trichloroethane	11.19	97	353476	74.01	ug/kg	99
34) 1,1-Dichloropropene	11.29	75	367406	91.21	ug/kg	96
35) Diethyl Ether	8.14	59	212748	103.92	ug/kg	88
36) Methyl Acetate	9.38	74	30419	120.90	ug/kg#	49
37) Cyclohexane	10.96	56	428029	86.19	ug/kg	95
39) Methyl Cyclohexane	12.07	55	319478	84.94	ug/kg	97
40) Carbon Tetrachloride	11.15	117	365248	76.04	ug/kg	100
41) 1,2-Dichloroethane	11.67	62	332741	88.11	ug/kg	99
42) Benzene	11.53	78	929659	82.87	ug/kg	99
43) Isobutyl Alcohol	11.55	43	331884	1776.92	ug/kg#	76
44) Trichloroethene	12.04	130	273405	86.90	ug/kg	98
45) 1,2-Dichloropropane	12.49	63	301846	105.82	ug/kg	88
46) Methyl Methacrylate	12.57	100	52804	101.04	ug/kg	80
47) 1,4-Dioxane	12.69	88	18257	2397.05	ug/kg	97
48) Bromodichloromethane	12.51	83	361529	93.04	ug/kg	100
49) Dibromomethane	12.41	93	152997	92.83	ug/kg	91
50) 4-Methyl-2-Pentanone	13.51	100	115124	455.04	ug/kg	79
51) 2-Chloroethyl vinyl ether	12.92	63	67360m	4426.23	ug/kg	
52) 2-Hexanone	14.21	43	644760	410.77	ug/kg	89

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020421\212B4008.D Vial: 8
Acq On : 4 Feb 2021 11:20 am Operator: nmc
Sample : AA64808-cal7 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 4 11:45 2021 Quant Results File: 020421.RES

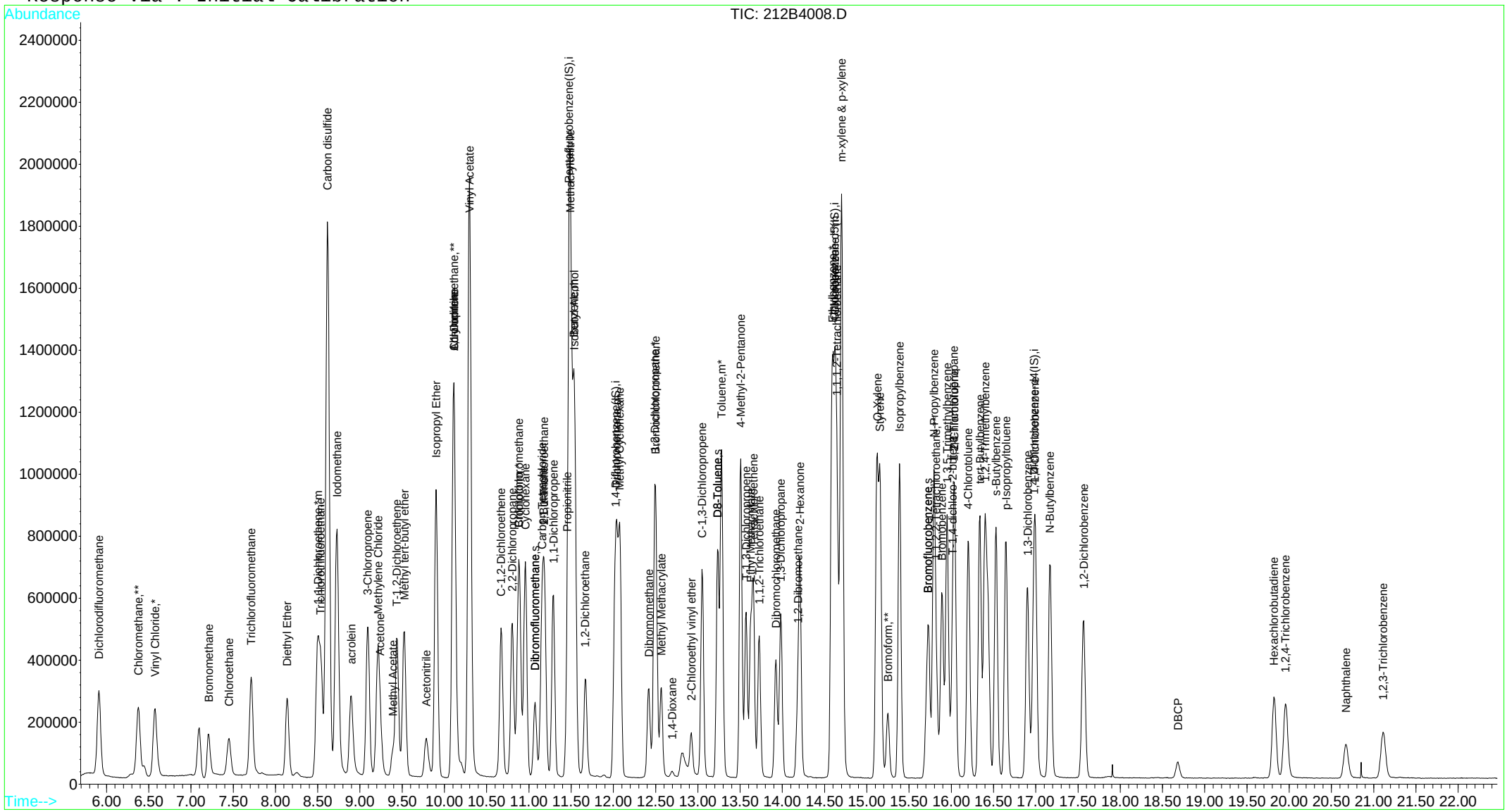
Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Feb 04 08:57:33 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.05	75	481271	109.00	ug/kg	85
55) D8-Toluene	13.23	98	592343	71.40	ug/kg	93
57) Toluene	13.28	92	576479	77.08	ug/kg	98
58) Ethyl Methacrylate	13.62	69	272175	96.04	ug/kg	79
59) T-1,3-Dichloropropene	13.57	75	371790	93.15	ug/kg	89
60) 1,1,2-Trichloroethane	13.73	97	185744	89.20	ug/kg	96
61) 1,3-Dichloropropane	13.98	76	388476	105.46	ug/kg	99
62) Tetrachloroethene	13.66	164	179379	85.48	ug/kg	92
63) Dibromochloromethane	13.92	129	271101	88.63	ug/kg	96
64) 1,2-Dibromoethane	14.18	107	206947	90.01	ug/kg	98
65) Chlorobenzene	14.63	112	619374	73.95	ug/kg	92
66) 1,1,1,2-Tetrachloroethane	14.65	131	250036	77.72	ug/kg#	52
67) Ethylbenzene	14.59	106	324205	77.81	ug/kg	94
68) m-xylene & p-xylene	14.70	106	740329	149.45	ug/kg	94
69) O-Xylene	15.12	106	388280	81.66	ug/kg	95
70) Bromoform	15.25	173	131368	100.90	ug/kg	99
71) Styrene	15.16	104	669285	80.17	ug/kg	96
72) Isopropylbenzene	15.39	105	958064	79.41	ug/kg	100
73) 1,2,3-Trichloropropane	16.02	75	234788	93.54	ug/kg	100
74) 1,1,2,2-Tetrachloroethane	15.82	83	194510	94.54	ug/kg	98
76) Bromofluorobenzene	15.73	95	240761	72.03	ug/kg#	69
77) T-1,4-dichloro-2-butene	16.01	53	51413	81.21	ug/kg#	77
78) N-Propylbenzene	15.80	91	1107797	82.54	ug/kg	98
80) Bromobenzene	15.89	156	240039	88.94	ug/kg	99
81) 1,3,5-Trimethylbenzene	15.95	105	699645	72.97	ug/kg	99
82) 2-Chlorotoluene	16.04	91	651003	74.12	ug/kg	98
83) 4-Chlorotoluene	16.20	91	686642	77.26	ug/kg	98
84) 1,2,4-Trimethylbenzene	16.40	105	706827	74.57	ug/kg	99
85) s-Butylbenzene	16.53	105	877879	75.17	ug/kg	97
86) tert-Butylbenzene	16.34	119	639692	73.62	ug/kg	97
87) p-Isopropyltoluene	16.65	119	743202	75.40	ug/kg	98
88) 1,3-Dichlorobenzene	16.90	146	417359	85.90	ug/kg	97
89) 1,4-Dichlorobenzene	17.00	146	407146	80.85	ug/kg	97
90) 1,2-Dichlorobenzene	17.57	146	363411	89.32	ug/kg	97
91) N-Butylbenzene	17.17	91	642358	85.34	ug/kg	97
92) DBCP	18.68	75	23446	104.24	ug/kg	84
93) Naphthalene	20.67	128	201255	120.49	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.95	180	158189	115.32	ug/kg	97
95) Hexachlorobutadiene	19.82	225	94900	110.67	ug/kg	99
96) 1,2,3-Trichlorobenzene	21.12	180	106768	119.94	ug/kg	98

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020421\212B4008.D Vial: 8
Acq On : 4 Feb 2021 11:20 am Operator: nmc
Sample : AA64808-cal7 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 4 11:45 2021 Quant Results File: 020421.RES

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020421\212B4009.D Vial: 9
Acq On : 4 Feb 2021 11:49 am Operator: nmc
Sample : AA64808-cal8 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 4 12:22 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Feb 04 08:57:33 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.46	168	260297	50.00	ug/kg	0.02
38) 1,4-Difluorobenzene(IS)	12.01	114	490462	50.00	ug/kg	0.02
56) Chlorobenzene-d5(IS)	14.61	82	244146	50.00	ug/kg	0.02
79) 1,4-Dichlorobenzene-d4(IS)	16.98	152	165719	50.00	ug/kg	0.02
System Monitoring Compounds						
30) Dibromofluoromethane	11.08	113	217259	73.42	ug/kg	0.02
Spiked Amount 50.000	Range 53 - 146		Recovery = 146.84%#			
54) D8-Toluene	13.24	98	648271	78.07	ug/kg	0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 156.14%#			
75) Bromofluorobenzene	15.73	95	260126	78.41	ug/kg	0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 156.82%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.91	85	545458	101.40	ug/kg	99
3) Chloromethane	6.37	50	595924	111.36	ug/kg	98
4) Vinyl Chloride	6.57	62	485882	107.18	ug/kg	98
5) Bromomethane	7.21	96	143033	50.00	ug/kg	98
6) Chloroethane	7.45	64	228629	78.19	ug/kg	96
7) Trichlorofluoromethane	7.71	101	501272	66.76	ug/kg	98
8) Trichlorotrifluoroethane	8.54	101	291087	115.09	ug/kg	92
9) acrolein	8.89	56	464280	1354.88	ug/kg	97
10) Acetone	9.25	43	284552	509.05	ug/kg	89
11) 1,1-Dichloroethene	8.50	96	278243	110.38	ug/kg	99
12) 3-Chloropropene	9.09	76	194160	143.73	ug/kg	61
13) Acetonitrile	9.78	41	279660	1210.78	ug/kg	99
14) Iodomethane	8.73	142	1886675	613.78	ug/kg	89
15) Carbon disulfide	8.62	76	5025357	804.64	ug/kg	100
16) Methylene Chloride	9.21	84	311768	118.80	ug/kg	87
17) Methyl tert-butyl ether	9.52	73	699414	124.26	ug/kg	92
18) Acrylonitrile	10.11	53	1338538	1099.78	ug/kg	98
19) T-1,2-Dichloroethene	9.44	96	312966	115.54	ug/kg	95
20) Isopropyl Ether	9.90	45	1428504	94.64	ug/kg	94
21) C-1,2-Dichloroethene	10.67	96	346706	108.29	ug/kg	96
22) 1,1-Dichloroethane	10.12	63	611726	102.74	ug/kg	99
23) Vinyl Acetate	10.30	43	3547967	428.22	ug/kg	97
24) Chloroprene	10.10	88	283721	120.34	ug/kg	86
25) 2-Butanone	11.17	72	99413	623.05	ug/kg	57
26) Propionitrile	11.45	54	272111	1188.72	ug/kg	100
27) 2,2-Dichloropropane	10.81	77	473824	116.64	ug/kg	99
28) Methacrylonitrile	11.48	67	875140	1148.09	ug/kg	72
29) Chloroform	10.89	83	580199	117.85	ug/kg	95
31) Dibromofluoromethane	11.08	113	217259	73.42	ug/kg	100
32) Bromochloromethane	10.87	128	166060	105.38	ug/kg	93
33) 1,1,1-Trichloroethane	11.19	97	435549	91.68	ug/kg	99
34) 1,1-Dichloropropene	11.29	75	451754	112.74	ug/kg	96
35) Diethyl Ether	8.14	59	257260	126.34	ug/kg	88
36) Methyl Acetate	9.39	74	36024	143.94	ug/kg#	53
37) Cyclohexane	10.96	56	528652	107.02	ug/kg	96
39) Methyl Cyclohexane	12.08	55	397206	105.51	ug/kg	98
40) Carbon Tetrachloride	11.15	117	450923	93.78	ug/kg	99
41) 1,2-Dichloroethane	11.67	62	405457	107.27	ug/kg	99
42) Benzene	11.53	78	1138771	101.42	ug/kg	98
43) Isobutyl Alcohol	11.55	43	399981	2139.49	ug/kg#	74
44) Trichloroethene	12.04	130	339120	107.69	ug/kg	97
45) 1,2-Dichloropropane	12.49	63	368729	129.15	ug/kg	88
46) Methyl Methacrylate	12.56	100	64854	123.98	ug/kg	82
47) 1,4-Dioxane	12.69	88	22097	2898.48	ug/kg	96
48) Bromodichloromethane	12.51	83	442698	113.83	ug/kg	100
49) Dibromomethane	12.42	93	186558	113.09	ug/kg	91
50) 4-Methyl-2-Pentanone	13.51	100	138807	548.13	ug/kg	78
51) 2-Chloroethyl vinyl ether	12.92	63	74708m	4904.42	ug/kg	
52) 2-Hexanone	14.21	43	769605	489.85	ug/kg	89

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020421\212B4009.D Vial: 9
Acq On : 4 Feb 2021 11:49 am Operator: nmc
Sample : AA64808-cal8 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 4 12:22 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Feb 04 08:57:33 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

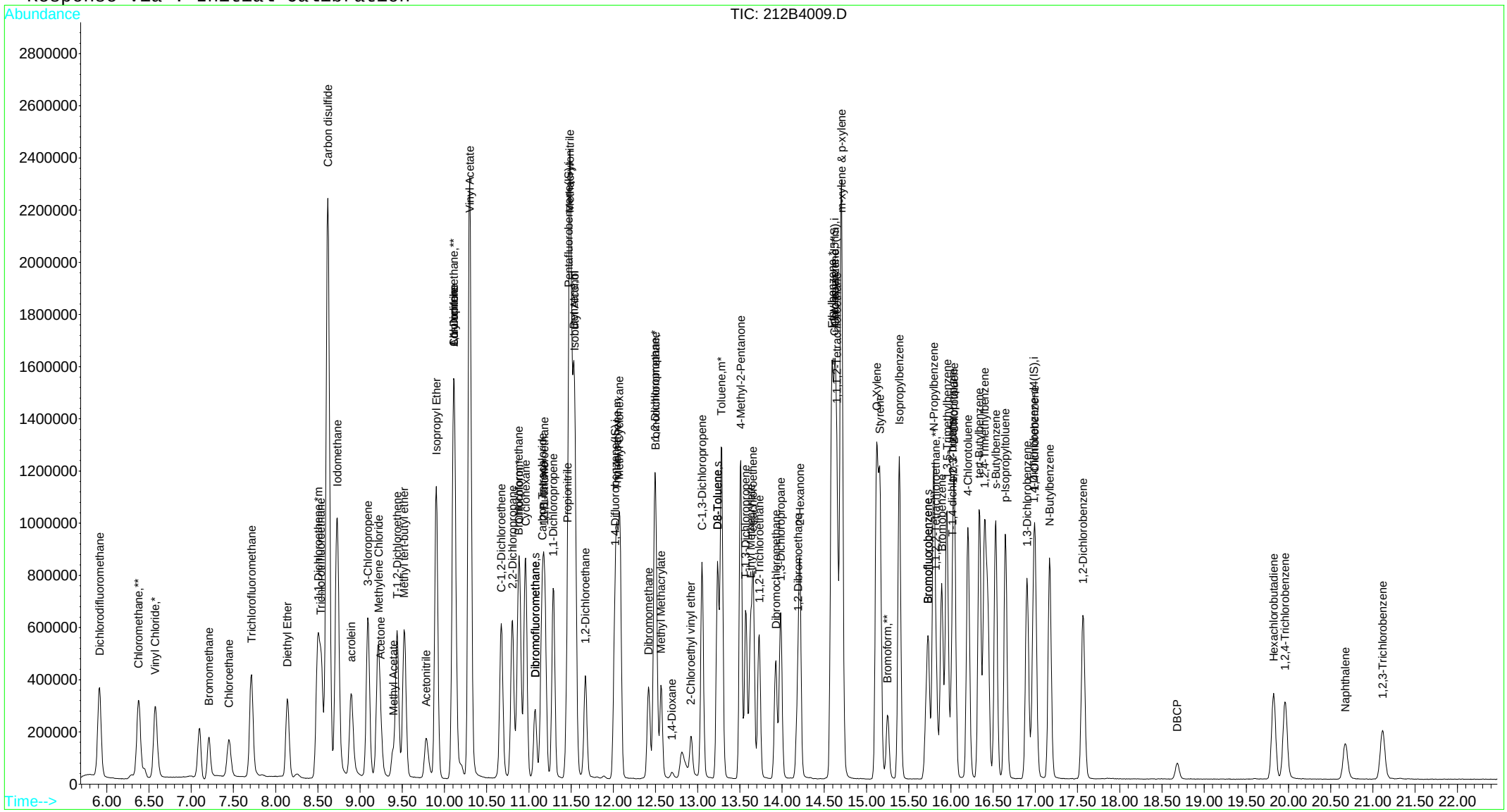
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.05	75	589002	133.27	ug/kg	85
55) D8-Toluene	13.24	98	648271	78.07	ug/kg	92
57) Toluene	13.29	92	708215	95.40	ug/kg	99
58) Ethyl Methacrylate	13.62	69	332153	118.08	ug/kg	79
59) T-1,3-Dichloropropene	13.57	75	458892	115.83	ug/kg	90
60) 1,1,2-Trichloroethane	13.73	97	224363	108.55	ug/kg	95
61) 1,3-Dichloropropane	13.98	76	467561	127.87	ug/kg	99
62) Tetrachloroethene	13.66	164	221542	106.37	ug/kg	92
63) Dibromochloromethane	13.93	129	326916	107.67	ug/kg	96
64) 1,2-Dibromoethane	14.18	107	251302	110.12	ug/kg	100
65) Chlorobenzene	14.63	112	757637	91.13	ug/kg	91
66) 1,1,1,2-Tetrachloroethane	14.65	131	307962	96.44	ug/kg#	73
67) Ethylbenzene	14.59	106	399259	96.54	ug/kg	94
68) m-xylene & p-xylene	14.70	106	912185	185.52	ug/kg	95
69) O-Xylene	15.12	106	477961	101.26	ug/kg	96
70) Bromoform	15.25	173	156913	121.42	ug/kg	99
71) Styrene	15.16	104	789941	95.33	ug/kg	95
72) Isopropylbenzene	15.39	105	1174570	98.08	ug/kg	100
73) 1,2,3-Trichloropropane	16.02	75	276357	110.92	ug/kg	100
74) 1,1,2,2-Tetrachloroethane	15.83	83	231704	113.45	ug/kg	98
76) Bromofluorobenzene	15.73	95	260126	78.41	ug/kg#	69
77) T-1,4-dichloro-2-butene	16.01	53	63553	101.14	ug/kg#	85
78) N-Propylbenzene	15.80	91	1364361	102.42	ug/kg	98
80) Bromobenzene	15.89	156	297415	109.77	ug/kg	99
81) 1,3,5-Trimethylbenzene	15.95	105	863751	89.73	ug/kg	100
82) 2-Chlorotoluene	16.04	91	801852	90.93	ug/kg	98
83) 4-Chlorotoluene	16.20	91	848982	95.14	ug/kg	98
84) 1,2,4-Trimethylbenzene	16.40	105	839398	88.20	ug/kg	100
85) s-Butylbenzene	16.53	105	1090247	92.98	ug/kg	97
86) tert-Butylbenzene	16.33	119	784167	89.88	ug/kg	97
87) p-Isopropyltoluene	16.65	119	897268	90.67	ug/kg	97
88) 1,3-Dichlorobenzene	16.90	146	509724	104.50	ug/kg	97
89) 1,4-Dichlorobenzene	17.00	146	503931	99.67	ug/kg	96
90) 1,2-Dichlorobenzene	17.56	146	444604	108.84	ug/kg	96
91) N-Butylbenzene	17.17	91	780528	103.28	ug/kg	97
92) DBCP	18.68	75	28300	125.32	ug/kg	83
93) Naphthalene	20.67	128	258975	154.43	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.96	180	195531	141.98	ug/kg	98
95) Hexachlorobutadiene	19.82	225	118155	137.25	ug/kg	99
96) 1,2,3-Trichlorobenzene	21.11	180	135487	151.60	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020421\212B4009.D Vial: 9
Acq On : 4 Feb 2021 11:49 am Operator: nmc
Sample : AA64808-cal8 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 4 12:22 2021 Quant Results File: 020421.RES

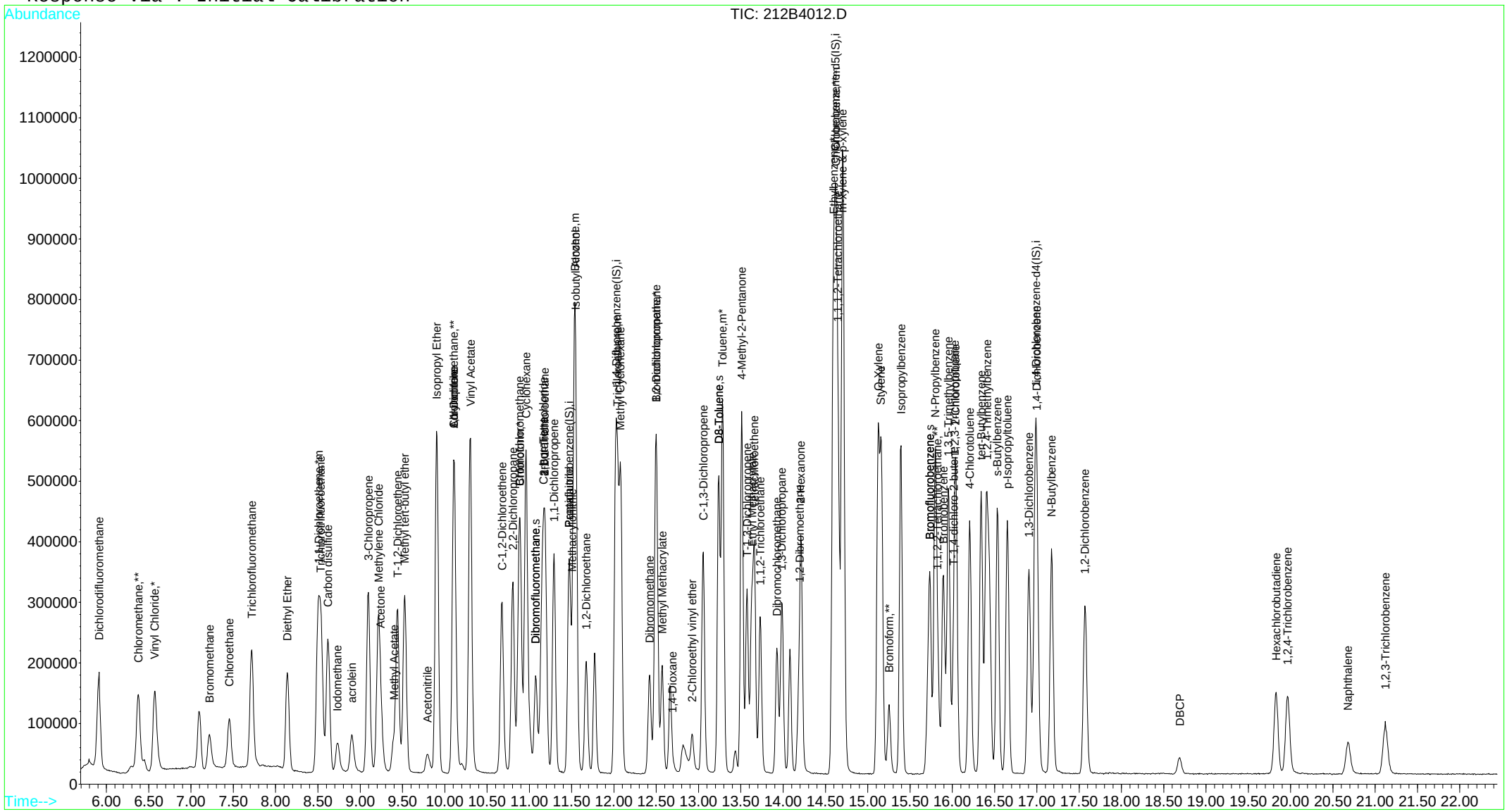
Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\020421\212B4012.D Vial: 12
Acq On : 4 Feb 2021 1:15 pm Operator: nmc
Sample : aa64808-SCV1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 5 9:58 2021 Quant Results File: 020421.RES

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\020421\212B4012.D Vial: 12
Acq On : 4 Feb 2021 1:15 pm Operator: nmc
Sample : aa64808-SCV1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 5 9:58 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.47	168	249415	50.00	ug/kg	0.00
38) 1,4-Difluorobenzene(IS)	12.02	114	452987	50.00	ug/kg	0.00
56) Chlorobenzene-d5(IS)	14.61	82	227625	50.00	ug/kg	0.00
79) 1,4-Dichlorobenzene-d4(IS)	16.98	152	158064	50.00	ug/kg	0.00
System Monitoring Compounds						
30) Dibromofluoromethane	11.07	113	127222	49.38	ug/kg	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 98.76%			
54) D8-Toluene	13.24	98	388748	48.62	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 146		Recovery = 97.24%			
75) Bromofluorobenzene	15.73	95	162469	49.36	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 142		Recovery = 98.72%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.91	85	218350	42.35	ug/kg	100
3) Chloromethane	6.38	50	251844	50.32	ug/kg	100
4) Vinyl Chloride	6.57	62	226573	49.76	ug/kg	99
5) Bromomethane	7.22	96	64617	39.71	ug/kg	96
6) Chloroethane	7.46	64	121536	54.67	ug/kg	100
7) Trichlorofluoromethane	7.72	101	246573	54.00	ug/kg	100
8) Trichlorotrifluoroethane	8.54	101	149793	57.17	ug/kg	100
9) acrolein	8.90	56	94025	226.85	ug/kg	99
10) Acetone	9.24	43	153528	278.67	ug/kg	98
11) 1,1-Dichloroethene	8.50	96	131989	50.04	ug/kg	99
12) 3-Chloropropene	9.10	76	94169	51.41	ug/kg	99
13) Acetonitrile	9.80	41	59983	244.09	ug/kg	95
14) Iodomethane	8.74	142	104776	35.31	ug/kg	99
15) Carbon disulfide	8.62	76	502131	50.20	ug/kg	99
16) Methylene Chloride	9.22	84	159392	53.42	ug/kg	99
17) Methyl tert-butyl ether	9.53	73	358999	54.82	ug/kg	99
18) Acrylonitrile	10.11	53	326380	244.48	ug/kg#	75
19) T-1,2-Dichloroethene	9.44	96	152781	51.61	ug/kg	100
20) Isopropyl Ether	9.90	45	724812	54.43	ug/kg	99
21) C-1,2-Dichloroethene	10.68	96	168133	52.64	ug/kg	100
22) 1,1-Dichloroethane	10.11	63	310832	54.31	ug/kg	100
23) Vinyl Acetate	10.30	43	390593	54.32	ug/kg	98
24) Chloroprene	10.11	88	139355	51.62	ug/kg	13
25) 2-Butanone	11.17	72	71375	368.65	ug/kg#	53
26) Propionitrile	11.46	54	13014	48.27	ug/kg	100
27) 2,2-Dichloropropane	10.81	77	244757	53.14	ug/kg	99
28) Methacrylonitrile	11.50	67	47870	53.45	ug/kg	80
29) Chloroform	10.90	83	283534	52.41	ug/kg	100
31) Dibromofluoromethane	11.07	113	127222	49.38	ug/kg	100
32) Bromochloromethane	10.88	128	83712	55.02	ug/kg	99
33) 1,1,1-Trichloroethane	11.19	97	216055	53.24	ug/kg	99
34) 1,1-Dichloropropene	11.29	75	221190	52.50	ug/kg	100
35) Diethyl Ether	8.14	59	136946	55.48	ug/kg	99
36) Methyl Acetate	9.39	74	17798	51.02	ug/kg#	92
37) Cyclohexane	10.96	56	280078	58.55	ug/kg	98
39) Methyl Cyclohexane	12.08	55	198789	54.02	ug/kg	99
40) Carbon Tetrachloride	11.16	117	219819	53.69	ug/kg	100
41) 1,2-Dichloroethane	11.67	62	195321	50.90	ug/kg	99
42) Benzene	11.53	78	602394	54.70	ug/kg#	65
43) Isobutyl Alcohol	11.55	43	148094	737.09	ug/kg#	1
44) Trichloroethene	12.05	130	157584	52.66	ug/kg	99
45) 1,2-Dichloropropane	12.49	63	175948	51.55	ug/kg	99
46) Methyl Methacrylate	12.57	100	31642	53.61	ug/kg	98
47) 1,4-Dioxane	12.70	88	8982	872.64	ug/kg	91
48) Bromodichloromethane	12.51	83	207705	50.54	ug/kg	100
49) Dibromomethane	12.42	93	87488	50.64	ug/kg	100
50) 4-Methyl-2-Pentanone	13.51	100	67042	257.32	ug/kg	97
51) 2-Chloroethyl vinyl ether	12.92	63	27958	269.50	ug/kg#	100
52) 2-Hexanone	14.22	43	359164	248.16	ug/kg	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\020421\212B4012.D Vial: 12
Acq On : 4 Feb 2021 1:15 pm Operator: nmc
Sample : aa64808-SCV1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 5 9:58 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Fri Feb 05 09:33:58 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	13.06	75	268440	48.97 ug/kg	99
55) D8-Toluene	13.24	98	388748	48.62 ug/kg	92
57) Toluene	13.28	92	335608	50.94 ug/kg	100
58) Ethyl Methacrylate	13.63	69	162964	50.93 ug/kg	99
59) T-1,3-Dichloropropene	13.57	75	215537	50.63 ug/kg	99
60) 1,1,2-Trichloroethane	13.73	97	102996	48.28 ug/kg	99
61) 1,3-Dichloropropane	13.99	76	213450	48.71 ug/kg	99
62) Tetrachloroethene	13.66	164	103371	52.53 ug/kg	99
63) Dibromochloromethane	13.93	129	147150	49.90 ug/kg	100
64) 1,2-Dibromoethane	14.19	107	114526	51.45 ug/kg	100
65) Chlorobenzene	14.63	112	349209	48.91 ug/kg	99
66) 1,1,1,2-Tetrachloroethane	14.65	131	137957	49.63 ug/kg#	71
67) Ethylbenzene	14.59	106	178767	48.41 ug/kg	98
68) m-xylene & p-xylene	14.71	106	413204	93.87 ug/kg	100
69) O-Xylene	15.13	106	213788	47.56 ug/kg	100
70) Bromoform	15.25	173	71238	50.75 ug/kg	100
71) Styrene	15.16	104	372039	49.67 ug/kg	100
72) Isopropylbenzene	15.39	105	526734	47.39 ug/kg	100
73) 1,2,3-Trichloropropane	16.02	75	125188	47.86 ug/kg	98
74) 1,1,2,2-Tetrachloroethane	15.83	83	105898	48.42 ug/kg	99
76) Bromofluorobenzene	15.73	95	162469	49.36 ug/kg#	72
77) T-1,4-dichloro-2-butene	16.01	53	26714	45.29 ug/kg	89
78) N-Propylbenzene	15.80	91	607109	48.03 ug/kg	100
80) Bromobenzene	15.90	156	132737	49.67 ug/kg	97
81) 1,3,5-Trimethylbenzene	15.95	105	387066	46.88 ug/kg	99
82) 2-Chlorotoluene	16.04	91	357645	47.59 ug/kg	100
83) 4-Chlorotoluene	16.21	91	370676	47.14 ug/kg	100
84) 1,2,4-Trimethylbenzene	16.40	105	385764	46.12 ug/kg	99
85) s-Butylbenzene	16.53	105	483073	47.73 ug/kg	100
86) tert-Butylbenzene	16.34	119	349289	48.23 ug/kg	98
87) p-Isopropyltoluene	16.65	119	400393	45.57 ug/kg	99
88) 1,3-Dichlorobenzene	16.90	146	224084	47.64 ug/kg	99
89) 1,4-Dichlorobenzene	17.00	146	218791	46.36 ug/kg	100
90) 1,2-Dichlorobenzene	17.57	146	194650	48.30 ug/kg	99
91) N-Butylbenzene	17.17	91	340846	45.43 ug/kg	99
92) DBCP	18.68	75	13013	47.77 ug/kg	96
93) Naphthalene	20.67	128	99550	47.23 ug/kg	100
94) 1,2,4-Trichlorobenzene	19.96	180	84053	48.44 ug/kg	100
95) Hexachlorobutadiene	19.83	225	49327	47.60 ug/kg	99
96) 1,2,3-Trichlorobenzene	21.11	180	55489	49.29 ug/kg	99

(#) = qualifier out of range (m) = manual integration

TETRA TECH ISG
TtEGS, Information Systems Group

Completion Ticket

On 3/9/2021 at 10:19 AM the following files were submitted to Tetra Tech by kdylnicki@encolabs.com with ENCO:

TE016AE01304A1.txt, TE016AE01304A3.txt

If you need to identify this session at a later date refer to Ticket Key:

202139_157820030_ledd_ENCO

You may print this page by clicking on the "Print This Page" button

Thank you for using the Data Checker, to upload more files click the "Upload/Check Files" link on navigation menu.

Print this Page Back To Upload

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I Lori S. Mangrum, as the designated Quality Assurance Officer, hereby attest that all electronic deliverables have been thoroughly reviewed and are in agreement with the associated hardcopy data. The enclosed electronic files have been reviewed for accuracy (including significant figures), completeness and format. The laboratory will be responsible for any labor time necessary to correct enclosed electronic deliverables that have been found to be in error. I can be reached at (407) 826-5314 if there are any questions or problems with the enclosed electronic deliverables.

Signature:_____ Title: Quality Assurance Manager Date: March 09, 2021

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Project Narrative	3
Flags/Notes and Definitions	20
Chain of Custody	22
EPA 8260D Package	23

ENCO Laboratories

Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Tuesday, February 23, 2021
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AE01304

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Wednesday, February 17, 2021.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

www.encolabs.com

Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Client PM: Alex Murphy
Project Number: 112G08970
ENCO Project ID: AE01304
SDG: AE01304-TE016

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling and processing will be discussed in the Remarks section below.

Remarks

List of instruments used:

Analytical Method and Preparation Method	SOP Reference Instrument
EPA 8260D / EPA 5030B_MS	OVGCMS2

Analysis: EPA 8260D

Manual integrations were performed on samples associated with EPA 8260D. All data & explanations are included in the raw data section of the report

Affected Samples: CRCA-ASEFFLUENT-20210217[AE01304-01], CRCA-ASINFLUENT-20210217[AE01304-02]
Sample was reanalyzed due to suspected carry over.

Affected Samples: AA65034-CCV1, CRCA-ASEFFLUENT-20210217[AE01304-01], CRCA-ASINFLUENT-20210217[AE01304-02]
The associated continuing calibration verification standard exhibited high bias for bromomethane. The analyte was not detected in the sample.

Affected Samples: 1B19011-MS1, 1B19011-MSD1
Precision between matrix spike and matrix spike duplicate of the same sample was outside acceptance limits for bromomethane.

Affected Samples: 1B19011-MS1, 1B19011-MSD1
Matrix spike recovery for methyl cyclohexane was outside acceptance limits.

Affected Samples: AA65034-CCV1
The continuing calibration verification standard exhibited low bias for multiple analytes; the associated sample had ND (non-detect) results, but sensitivity was verified by analyzing a standard with a concentration equivalent to the reporting limit.

Affected Samples: AA65054-CCV1
Recovery for multiple analytes was outside acceptance limits. Reported analytes not affected.

Affected Samples: AA64808-SCV1
Recovery for 2-butanone was outside acceptance limits. Analyte not detected in the sample.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Kaitlin Dylnicki
Project Manager

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-ASEFFLUENT-20210217	Lab ID: AE01304-01	Sampled: 02/17/21 08:00	Received: 02/17/21 14:06

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	03/03/21	02/19/21 00:00	02/19/21 14:23

Client ID: CRCA-ASEFFLUENT-20210217	Lab ID: AE01304-01RE1	Sampled: 02/17/21 08:00	Received: 02/17/21 14:06

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	03/03/21	02/21/21 11:25	02/21/21 16:48

Client ID: CRCA-ASINFLUENT-20210217	Lab ID: AE01304-02	Sampled: 02/17/21 08:15	Received: 02/17/21 14:06

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	03/03/21	02/19/21 00:00	02/19/21 14:51

Client ID: CRCA-ASINFLUENT-20210217	Lab ID: AE01304-02RE1	Sampled: 02/17/21 08:15	Received: 02/17/21 14:06

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	03/03/21	02/21/21 11:25	02/21/21 17:17

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-ASINFLUENT-20210217 **Lab ID:** AE01304-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	19		0.71	2.5	ug/L	EPA 8260D	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20210217 **Lab Sample ID:** AE01304-01 **Received:** 02/17/21 14:06

Matrix: Ground Water **Sampled:** 02/17/21 08:00 **Work Order:** AE01304

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1B19011	EPA 8260D	02/19/21 14:23	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1B19011	EPA 8260D	02/19/21 14:23	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1B21002	EPA 8260D	02/21/21 16:48	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1B21002	EPA 8260D	02/21/21 16:48	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	

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ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20210217 **Lab Sample ID:** AE01304-01 **Received:** 02/17/21 14:06

Matrix: Ground Water **Sampled:** 02/17/21 08:00 **Work Order:** AE01304

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1B19011	EPA 8260D	02/19/21 14:23	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*45*	*1*	*50.0*	*89 %*	*41-142*	*1B19011*	*EPA 8260D*	*02/19/21 14:23*	*kkw*	
4-Bromofluorobenzene	*46*	*1*	*50.0*	*93 %*	*41-142*	*1B21002*	*EPA 8260D*	*02/21/21 16:48*	*kkw*	
Dibromofluoromethane	*59*	*1*	*50.0*	*118 %*	*53-146*	*1B19011*	*EPA 8260D*	*02/19/21 14:23*	*kkw*	
Dibromofluoromethane	*55*	*1*	*50.0*	*109 %*	*53-146*	*1B21002*	*EPA 8260D*	*02/21/21 16:48*	*kkw*	
Toluene-d8	*51*	*1*	*50.0*	*102 %*	*41-146*	*1B19011*	*EPA 8260D*	*02/19/21 14:23*	*kkw*	
Toluene-d8	*49*	*1*	*50.0*	*97 %*	*41-146*	*1B21002*	*EPA 8260D*	*02/21/21 16:48*	*kkw*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20210217 **Lab Sample ID:** AE01304-02 **Received:** 02/17/21 14:06

Matrix: Ground Water **Sampled:** 02/17/21 08:15 **Work Order:** AE01304

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1B19011	EPA 8260D	02/19/21 14:51	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1B19011	EPA 8260D	02/19/21 14:51	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1B21002	EPA 8260D	02/21/21 17:17	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1B21002	EPA 8260D	02/21/21 17:17	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20210217 **Lab Sample ID:** AE01304-02 **Received:** 02/17/21 14:06

Matrix: Ground Water **Sampled:** 02/17/21 08:15 **Work Order:** AE01304

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Vinyl chloride [75-01-4]^	**19**		ug/L	1	0.71	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1B19011	EPA 8260D	02/19/21 14:51	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*45*	*1*	*50.0*	*90 %*	*41-142*	*1B19011*	*EPA 8260D*	*02/19/21 14:51*	*kkw*	
4-Bromofluorobenzene	*46*	*1*	*50.0*	*92 %*	*41-142*	*1B21002*	*EPA 8260D*	*02/21/21 17:17*	*kkw*	
Dibromofluoromethane	*59*	*1*	*50.0*	*118 %*	*53-146*	*1B19011*	*EPA 8260D*	*02/19/21 14:51*	*kkw*	
Dibromofluoromethane	*54*	*1*	*50.0*	*108 %*	*53-146*	*1B21002*	*EPA 8260D*	*02/21/21 17:17*	*kkw*	
Toluene-d8	*53*	*1*	*50.0*	*105 %*	*41-146*	*1B19011*	*EPA 8260D*	*02/19/21 14:51*	*kkw*	
Toluene-d8	*49*	*1*	*50.0*	*98 %*	*41-146*	*1B21002*	*EPA 8260D*	*02/21/21 17:17*	*kkw*	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1B19011 - EPA 5030B_MS

Blank (1B19011-BLK1) Prepared: 02/19/2021 00:00 Analyzed: 02/19/2021 11:30

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1B19011 - EPA 5030B_MS - Continued

Blank (1B19011-BLK1) Continued Prepared: 02/19/2021 00:00 Analyzed: 02/19/2021 11:30

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*51*			*ug/L*	*50.0*		*102*	*41-142*			
Dibromofluoromethane	*55*			*ug/L*	*50.0*		*110*	*53-146*			
Toluene-d8	*58*			*ug/L*	*50.0*		*117*	*41-146*			

LCS (1B19011-BS1) Prepared: 02/19/2021 00:00 Analyzed: 02/19/2021 09:07

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	21		2.5	ug/L	20.0		107	57-148			
1,1,2,2-Tetrachloroethane	15		2.5	ug/L	20.0		73	60-139			
1,1,2-Trichloroethane	14		2.5	ug/L	20.0		70	57-141			
1,1-Dichloroethane	22		2.5	ug/L	20.0		111	57-142			
1,1-Dichloroethene	20		2.5	ug/L	20.0		100	47-139			
1,2,4-Trichlorobenzene	21		2.5	ug/L	20.0		105	52-159			
1,2-Dibromo-3-chloropropane	16		2.5	ug/L	20.0		78	48-150			
1,2-Dibromoethane	15		2.5	ug/L	20.0		76	57-140			
1,2-Dichlorobenzene	19		2.5	ug/L	20.0		97	63-131			
1,2-Dichloroethane	17		2.5	ug/L	20.0		85	50-156			
1,2-Dichloropropane	19		2.5	ug/L	20.0		95	61-133			
1,3-Dichlorobenzene	20		2.5	ug/L	20.0		99	66-129			
1,4-Dichlorobenzene	19		2.5	ug/L	20.0		96	65-133			
2-Butanone	99		12	ug/L	100		99	10-180			
2-Hexanone	74		12	ug/L	100		74	12-180			
4-Methyl-2-pentanone	74		12	ug/L	100		74	19-180			
Acetone	81		25	ug/L	100		81	10-180			
Benzene	21		2.5	ug/L	20.0		106	56-136			
Bromodichloromethane	17		2.5	ug/L	20.0		87	58-135			
Bromoform	14		2.5	ug/L	20.0		68	46-148			
Bromomethane	13		2.5	ug/L	20.0		65	10-173			
Carbon disulfide	24		12	ug/L	20.0		120	43-153			
Carbon Tetrachloride	21		2.5	ug/L	20.0		103	54-156			
Chlorobenzene	20		2.5	ug/L	20.0		100	51-139			
Chloroethane	22		2.5	ug/L	20.0		108	27-180			
Chloroform	20		2.5	ug/L	20.0		102	58-139			
Chloromethane	18		2.5	ug/L	20.0		88	33-154			
cis-1,2-Dichloroethene	20		2.5	ug/L	20.0		101	56-128			
cis-1,3-Dichloropropene	16		2.5	ug/L	20.0		80	64-128			
Cyclohexane	25		2.5	ug/L	20.0		123	70-130			
Dibromochloromethane	14		2.5	ug/L	20.0		71	50-140			
Dichlorodifluoromethane	11		2.5	ug/L	20.0		57	10-180			
Ethylbenzene	21		2.5	ug/L	20.0		107	63-133			
Freon 113	23		2.5	ug/L	20.0		114	47-173			
Isopropylbenzene	22		2.5	ug/L	20.0		110	60-132			
m,p-Xylenes	45		5.0	ug/L	40.0		111	64-133			
Methyl acetate	14		2.5	ug/L	20.0		70	70-130			
Methyl cyclohexane	22		2.5	ug/L	20.0		112	70-130			
Methylene Chloride	20		12	ug/L	20.0		100	43-142			
Methyl-tert-Butyl Ether	14		2.5	ug/L	20.0		72	51-145			

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1B19011 - EPA 5030B_MS - Continued

LCS (1B19011-BS1) Continued Prepared: 02/19/2021 00:00 Analyzed: 02/19/2021 09:07

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
o-Xylene	21		2.5	ug/L	20.0		107	61-129			
Styrene	21		2.5	ug/L	20.0		106	59-136			
Tetrachloroethene	20		2.5	ug/L	20.0		99	60-147			
Toluene	20		2.5	ug/L	20.0		102	64-131			
trans-1,2-Dichloroethene	21		2.5	ug/L	20.0		104	54-134			
trans-1,3-Dichloropropene	14		2.5	ug/L	20.0		72	65-149			
Trichloroethene	21		2.5	ug/L	20.0		105	62-135			
Trichlorofluoromethane	20		2.5	ug/L	20.0		100	56-155			
Vinyl chloride	17		2.5	ug/L	20.0		87	20-167			
4-Bromofluorobenzene	*50*			*ug/L*	*50.0*		*100*	*41-142*			
Dibromofluoromethane	*53*			*ug/L*	*50.0*		*105*	*53-146*			
Toluene-d8	*57*			*ug/L*	*50.0*		*114*	*41-146*			

Matrix Spike (1B19011-MS1) Prepared: 02/19/2021 00:00 Analyzed: 02/19/2021 09:35

Source: AE00742-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	25		2.5	ug/L	20.0	0.80 U	127	57-148			
1,1,2,2-Tetrachloroethane	14		2.5	ug/L	20.0	0.54 U	72	60-139			
1,1,2-Trichloroethane	16		2.5	ug/L	20.0	0.76 U	81	57-141			
1,1-Dichloroethane	26		2.5	ug/L	20.0	0.62 U	130	57-142			
1,1-Dichloroethene	24		2.5	ug/L	20.0	0.94 U	121	47-139			
1,2,4-Trichlorobenzene	19		2.5	ug/L	20.0	0.70 U	97	52-159			
1,2-Dibromo-3-chloropropane	17		2.5	ug/L	20.0	0.96 U	87	48-150			
1,2-Dibromoethane	17		2.5	ug/L	20.0	0.78 U	83	57-140			
1,2-Dichlorobenzene	19		2.5	ug/L	20.0	0.73 U	97	63-131			
1,2-Dichloroethane	18		2.5	ug/L	20.0	0.63 U	90	50-156			
1,2-Dichloropropane	21		2.5	ug/L	20.0	0.80 U	103	61-133			
1,3-Dichlorobenzene	21		2.5	ug/L	20.0	0.77 U	103	66-129			
1,4-Dichlorobenzene	20		2.5	ug/L	20.0	0.76 U	98	65-133			
2-Butanone	100		12	ug/L	100	4.5 U	102	10-180			
2-Hexanone	68		12	ug/L	100	2.5 U	68	12-180			
4-Methyl-2-pentanone	72		12	ug/L	100	2.5 U	72	19-180			
Acetone	89		25	ug/L	100	36	52	10-180			
Benzene	24		2.5	ug/L	20.0	2.2	107	56-136			
Bromodichloromethane	18		2.5	ug/L	20.0	0.52 U	91	58-135			
Bromoform	14		2.5	ug/L	20.0	0.75 U	70	46-148			
Bromomethane	15		2.5	ug/L	20.0	0.95 U	75	10-173			QM-11
Carbon disulfide	25		12	ug/L	20.0	3.0	111	43-153			
Carbon Tetrachloride	24		2.5	ug/L	20.0	0.94 U	118	54-156			
Chlorobenzene	21		2.5	ug/L	20.0	0.72 U	104	51-139			
Chloroethane	23		2.5	ug/L	20.0	0.98 U	117	27-180			
Chloroform	23		2.5	ug/L	20.0	0.80 U	117	58-139			
Chloromethane	19		2.5	ug/L	20.0	0.82 U	96	33-154			
cis-1,2-Dichloroethene	23		2.5	ug/L	20.0	0.53 U	117	56-128			
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0	0.59 U	87	64-128			
Cyclohexane	32		2.5	ug/L	20.0	17	79	70-130			
Dibromochloromethane	17		2.5	ug/L	20.0	0.50 U	84	50-140			
Dichlorodifluoromethane	13		2.5	ug/L	20.0	0.74 U	65	10-180			

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1B19011 - EPA 5030B_MS - Continued

Matrix Spike (1B19011-MS1) Continued Prepared: 02/19/2021 00:00 Analyzed: 02/19/2021 09:35

Source: AE00742-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	23		2.5	ug/L	20.0	5.4	87	63-133			
Freon 113	27		2.5	ug/L	20.0	0.73 U	137	47-173			
Isopropylbenzene	24		2.5	ug/L	20.0	9.8	70	60-132			
m,p-Xylenes	42		5.0	ug/L	40.0	1.3 U	106	64-133			
Methyl acetate	16		2.5	ug/L	20.0	0.95 U	78	70-130			
Methyl cyclohexane	26		2.5	ug/L	20.0	0.64 U	131	70-130			QM-07
Methylene Chloride	22		12	ug/L	20.0	2.5 U	112	43-142			
Methyl-tert-Butyl Ether	16		2.5	ug/L	20.0	0.60 U	81	51-145			
o-Xylene	21		2.5	ug/L	20.0	0.53 U	103	61-129			
Styrene	20		2.5	ug/L	20.0	0.61 U	100	59-136			
Tetrachloroethene	23		2.5	ug/L	20.0	0.76 U	116	60-147			
Toluene	23		2.5	ug/L	20.0	0.72 U	114	64-131			
trans-1,2-Dichloroethene	24		2.5	ug/L	20.0	0.73 U	121	54-134			
trans-1,3-Dichloropropene	17		2.5	ug/L	20.0	0.73 U	84	65-149			
Trichloroethene	22		2.5	ug/L	20.0	0.89 U	112	62-135			
Trichlorofluoromethane	23		2.5	ug/L	20.0	0.94 U	117	56-155			
Vinyl chloride	20		2.5	ug/L	20.0	0.71 U	99	20-167			
4-Bromofluorobenzene	*45*	*I*		*ug/L*	*50.0*		*90*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*113*	*53-146*			
Toluene-d8	*52*			*ug/L*	*50.0*		*104*	*41-146*			

Matrix Spike Dup (1B19011-MSD1) Prepared: 02/19/2021 00:00 Analyzed: 02/19/2021 10:04

Source: AE00742-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	24		2.5	ug/L	20.0	0.80 U	118	57-148	8	25	
1,1,2,2-Tetrachloroethane	15		2.5	ug/L	20.0	0.54 U	77	60-139	6	17	
1,1,2-Trichloroethane	15		2.5	ug/L	20.0	0.76 U	75	57-141	8	16	
1,1-Dichloroethane	24		2.5	ug/L	20.0	0.62 U	119	57-142	8	24	
1,1-Dichloroethene	22		2.5	ug/L	20.0	0.94 U	111	47-139	8	16	
1,2,4-Trichlorobenzene	23		2.5	ug/L	20.0	0.70 U	114	52-159	17	24	
1,2-Dibromo-3-chloropropane	20		2.5	ug/L	20.0	0.96 U	98	48-150	12	21	
1,2-Dibromoethane	16		2.5	ug/L	20.0	0.78 U	81	57-140	3	16	
1,2-Dichlorobenzene	20		2.5	ug/L	20.0	0.73 U	101	63-131	4	25	
1,2-Dichloroethane	18		2.5	ug/L	20.0	0.63 U	92	50-156	2	18	
1,2-Dichloropropane	21		2.5	ug/L	20.0	0.80 U	103	61-133	0.1	26	
1,3-Dichlorobenzene	21		2.5	ug/L	20.0	0.77 U	105	66-129	2	23	
1,4-Dichlorobenzene	20		2.5	ug/L	20.0	0.76 U	100	65-133	2	23	
2-Butanone	120		12	ug/L	100	4.5 U	117	10-180	14	29	
2-Hexanone	87		12	ug/L	100	2.5 U	87	12-180	23	28	
4-Methyl-2-pentanone	84		12	ug/L	100	2.5 U	84	19-180	15	24	
Acetone	90		25	ug/L	100	36	53	10-180	1	19	
Benzene	23		2.5	ug/L	20.0	2.2	104	56-136	3	14	
Bromodichloromethane	18		2.5	ug/L	20.0	0.52 U	91	58-135	0	19	
Bromoform	15		2.5	ug/L	20.0	0.75 U	73	46-148	4	18	
Bromomethane	22		2.5	ug/L	20.0	0.95 U	111	10-173	39	29	QM-11
Carbon disulfide	23		12	ug/L	20.0	3.0	102	43-153	8	26	
Carbon Tetrachloride	22		2.5	ug/L	20.0	0.94 U	112	54-156	5	27	
Chlorobenzene	21		2.5	ug/L	20.0	0.72 U	105	51-139	0.4	13	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1B19011 - EPA 5030B_MS - Continued

Matrix Spike Dup (1B19011-MSD1) Continued Prepared: 02/19/2021 00:00 Analyzed: 02/19/2021 10:04

Source: AE00742-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloroethane	23		2.5	ug/L	20.0	0.98 U	116	27-180	0.2	22	
Chloroform	22		2.5	ug/L	20.0	0.80 U	112	58-139	5	17	
Chloromethane	19		2.5	ug/L	20.0	0.82 U	94	33-154	2	31	
cis-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.53 U	110	56-128	6	17	
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0	0.59 U	87	64-128	0.3	20	
Cyclohexane	31		2.5	ug/L	20.0	17	71	70-130	5	20	
Dibromochloromethane	15		2.5	ug/L	20.0	0.50 U	77	50-140	8	18	
Dichlorodifluoromethane	12		2.5	ug/L	20.0	0.74 U	61	10-180	5	26	
Ethylbenzene	24		2.5	ug/L	20.0	5.4	91	63-133	3	18	
Freon 113	25		2.5	ug/L	20.0	0.73 U	127	47-173	8	30	
Isopropylbenzene	26		2.5	ug/L	20.0	9.8	80	60-132	8	23	
m,p-Xylenes	47		5.0	ug/L	40.0	1.3 U	117	64-133	10	18	
Methyl acetate	16		2.5	ug/L	20.0	0.95 U	80	70-130	2	20	
Methyl cyclohexane	26		2.5	ug/L	20.0	0.64 U	131	70-130	0.08	20	QM-07
Methylene Chloride	22		12	ug/L	20.0	2.5 U	110	43-142	2	23	
Methyl-tert-Butyl Ether	18		2.5	ug/L	20.0	0.60 U	88	51-145	8	22	
o-Xylene	23		2.5	ug/L	20.0	0.53 U	114	61-129	11	16	
Styrene	23		2.5	ug/L	20.0	0.61 U	113	59-136	12	32	
Tetrachloroethene	20		2.5	ug/L	20.0	0.76 U	102	60-147	13	21	
Toluene	21		2.5	ug/L	20.0	0.72 U	107	64-131	6	16	
trans-1,2-Dichloroethene	23		2.5	ug/L	20.0	0.73 U	114	54-134	6	20	
trans-1,3-Dichloropropene	16		2.5	ug/L	20.0	0.73 U	79	65-149	7	17	
Trichloroethene	22		2.5	ug/L	20.0	0.89 U	108	62-135	4	20	
Trichlorofluoromethane	22		2.5	ug/L	20.0	0.94 U	108	56-155	8	22	
Vinyl chloride	20		2.5	ug/L	20.0	0.71 U	98	20-167	0.5	24	
4-Bromofluorobenzene	*51*			*ug/L*	*50.0*		*102*	*41-142*			
Dibromofluoromethane	*54*			*ug/L*	*50.0*		*109*	*53-146*			
Toluene-d8	*57*			*ug/L*	*50.0*		*113*	*41-146*			

Batch 1B21002 - EPA 5030B_MS

Blank (1B21002-BLK1) Prepared: 02/21/2021 00:00 Analyzed: 02/21/2021 13:27

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1B21002 - EPA 5030B_MS - Continued

Blank (1B21002-BLK1) Continued Prepared: 02/21/2021 00:00 Analyzed: 02/21/2021 13:27

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*54*			*ug/L*	*50.0*		*109*	*41-142*			
Dibromofluoromethane	*47*	*I*		*ug/L*	*50.0*		*94*	*53-146*			
Toluene-d8	*55*			*ug/L*	*50.0*		*110*	*41-146*			

LCS (1B21002-BS1) Prepared: 02/21/2021 00:00 Analyzed: 02/21/2021 10:35

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	22		2.5	ug/L	20.0		108	57-148			
1,1,2,2-Tetrachloroethane	16		2.5	ug/L	20.0		79	60-139			
1,1,2-Trichloroethane	17		2.5	ug/L	20.0		87	57-141			
1,1-Dichloroethane	22		2.5	ug/L	20.0		109	57-142			
1,1-Dichloroethene	20		2.5	ug/L	20.0		102	47-139			
1,2,4-Trichlorobenzene	20		2.5	ug/L	20.0		100	52-159			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1B21002 - EPA 5030B_MS - Continued

LCS (1B21002-BS1) Continued Prepared: 02/21/2021 00:00 Analyzed: 02/21/2021 10:35

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,2-Dibromo-3-chloropropane	19		2.5	ug/L	20.0		95	48-150			
1,2-Dibromoethane	18		2.5	ug/L	20.0		92	57-140			
1,2-Dichlorobenzene	20		2.5	ug/L	20.0		101	63-131			
1,2-Dichloroethane	18		2.5	ug/L	20.0		91	50-156			
1,2-Dichloropropane	19		2.5	ug/L	20.0		95	61-133			
1,3-Dichlorobenzene	21		2.5	ug/L	20.0		103	66-129			
1,4-Dichlorobenzene	19		2.5	ug/L	20.0		97	65-133			
2-Butanone	110		12	ug/L	100		106	10-180			
2-Hexanone	72		12	ug/L	100		72	12-180			
4-Methyl-2-pentanone	69		12	ug/L	100		69	19-180			
Acetone	85		25	ug/L	100		85	10-180			
Benzene	20		2.5	ug/L	20.0		100	56-136			
Bromodichloromethane	18		2.5	ug/L	20.0		89	58-135			
Bromoform	16		2.5	ug/L	20.0		78	46-148			
Bromomethane	20		2.5	ug/L	20.0		99	10-173			
Carbon disulfide	23		12	ug/L	20.0		117	43-153			
Carbon Tetrachloride	21		2.5	ug/L	20.0		103	54-156			
Chlorobenzene	20		2.5	ug/L	20.0		99	51-139			
Chloroethane	20		2.5	ug/L	20.0		98	27-180			
Chloroform	21		2.5	ug/L	20.0		103	58-139			
Chloromethane	16		2.5	ug/L	20.0		78	33-154			
cis-1,2-Dichloroethene	20		2.5	ug/L	20.0		102	56-128			
cis-1,3-Dichloropropene	16		2.5	ug/L	20.0		81	64-128			
Cyclohexane	24		2.5	ug/L	20.0		118	70-130			
Dibromochloromethane	18		2.5	ug/L	20.0		89	50-140			
Dichlorodifluoromethane	9.6		2.5	ug/L	20.0		48	10-180			
Ethylbenzene	21		2.5	ug/L	20.0		103	63-133			
Freon 113	22		2.5	ug/L	20.0		112	47-173			
Isopropylbenzene	20		2.5	ug/L	20.0		101	60-132			
m,p-Xylenes	39		5.0	ug/L	40.0		98	64-133			
Methyl acetate	15		2.5	ug/L	20.0		77	70-130			
Methyl cyclohexane	21		2.5	ug/L	20.0		107	70-130			
Methylene Chloride	20		12	ug/L	20.0		101	43-142			
Methyl-tert-Butyl Ether	15		2.5	ug/L	20.0		74	51-145			
o-Xylene	20		2.5	ug/L	20.0		98	61-129			
Styrene	19		2.5	ug/L	20.0		97	59-136			
Tetrachloroethene	21		2.5	ug/L	20.0		105	60-147			
Toluene	21		2.5	ug/L	20.0		105	64-131			
trans-1,2-Dichloroethene	21		2.5	ug/L	20.0		104	54-134			
trans-1,3-Dichloropropene	18		2.5	ug/L	20.0		90	65-149			
Trichloroethene	20		2.5	ug/L	20.0		98	62-135			
Trichlorofluoromethane	20		2.5	ug/L	20.0		98	56-155			
Vinyl chloride	16		2.5	ug/L	20.0		80	20-167			
4-Bromofluorobenzene	*48*	*I*		*ug/L*	*50.0*		*96*	*41-142*			
Dibromofluoromethane	*54*			*ug/L*	*50.0*		*109*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*99*	*41-146*			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1B21002 - EPA 5030B_MS - Continued

Matrix Spike (1B21002-MS1) Prepared: 02/21/2021 00:00 Analyzed: 02/21/2021 11:04

Source: AE01325-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	23		2.5	ug/L	20.0	0.80 U	114	57-148			
1,1,2,2-Tetrachloroethane	16		2.5	ug/L	20.0	0.54 U	78	60-139			
1,1,2-Trichloroethane	17		2.5	ug/L	20.0	0.76 U	86	57-141			
1,1-Dichloroethane	47		2.5	ug/L	20.0	23	122	57-142			
1,1-Dichloroethene	35		2.5	ug/L	20.0	12	117	47-139			
1,2,4-Trichlorobenzene	20		2.5	ug/L	20.0	0.70 U	98	52-159			
1,2-Dibromo-3-chloropropane	18		2.5	ug/L	20.0	0.96 U	90	48-150			
1,2-Dibromoethane	18		2.5	ug/L	20.0	0.78 U	90	57-140			
1,2-Dichlorobenzene	20		2.5	ug/L	20.0	0.73 U	101	63-131			
1,2-Dichloroethane	18		2.5	ug/L	20.0	0.63 U	90	50-156			
1,2-Dichloropropane	19		2.5	ug/L	20.0	0.80 U	97	61-133			
1,3-Dichlorobenzene	21		2.5	ug/L	20.0	0.77 U	105	66-129			
1,4-Dichlorobenzene	20		2.5	ug/L	20.0	0.76 U	102	65-133			
2-Butanone	100		12	ug/L	100	4.5 U	102	10-180			
2-Hexanone	69		12	ug/L	100	2.5 U	69	12-180			
4-Methyl-2-pentanone	67		12	ug/L	100	2.5 U	67	19-180			
Acetone	78		25	ug/L	100	10 U	78	10-180			
Benzene	21		2.5	ug/L	20.0	0.71 U	104	56-136			
Bromodichloromethane	18		2.5	ug/L	20.0	0.52 U	90	58-135			
Bromoform	15		2.5	ug/L	20.0	0.75 U	77	46-148			
Bromomethane	22		2.5	ug/L	20.0	0.95 U	108	10-173			
Carbon disulfide	22		12	ug/L	20.0	2.5 U	110	43-153			
Carbon Tetrachloride	22		2.5	ug/L	20.0	0.94 U	111	54-156			
Chlorobenzene	20		2.5	ug/L	20.0	0.72 U	101	51-139			
Chloroethane	22		2.5	ug/L	20.0	0.98 U	109	27-180			
Chloroform	22		2.5	ug/L	20.0	0.80 U	108	58-139			
Chloromethane	17		2.5	ug/L	20.0	0.82 U	83	33-154			
cis-1,2-Dichloroethene	21		2.5	ug/L	20.0	0.53 U	106	56-128			
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0	0.59 U	84	64-128			
Cyclohexane	25		2.5	ug/L	20.0	0.93 U	127	70-130			
Dibromochloromethane	18		2.5	ug/L	20.0	0.50 U	91	50-140			
Dichlorodifluoromethane	11		2.5	ug/L	20.0	0.74 U	53	10-180			
Ethylbenzene	21		2.5	ug/L	20.0	0.69 U	105	63-133			
Freon 113	24		2.5	ug/L	20.0	0.73 U	121	47-173			
Isopropylbenzene	21		2.5	ug/L	20.0	0.67 U	104	60-132			
m,p-Xylenes	41		5.0	ug/L	40.0	1.3 U	102	64-133			
Methyl acetate	16		2.5	ug/L	20.0	0.95 U	80	70-130			
Methyl cyclohexane	23		2.5	ug/L	20.0	0.64 U	114	70-130			
Methylene Chloride	21		12	ug/L	20.0	2.5 U	104	43-142			
Methyl-tert-Butyl Ether	15		2.5	ug/L	20.0	0.60 U	76	51-145			
o-Xylene	20		2.5	ug/L	20.0	0.53 U	100	61-129			
Styrene	20		2.5	ug/L	20.0	0.61 U	99	59-136			
Tetrachloroethene	22		2.5	ug/L	20.0	0.76 U	110	60-147			
Toluene	22		2.5	ug/L	20.0	0.72 U	109	64-131			
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.73 U	109	54-134			
trans-1,3-Dichloropropene	18		2.5	ug/L	20.0	0.73 U	90	65-149			
Trichloroethene	21		2.5	ug/L	20.0	0.89 U	104	62-135			
Trichlorofluoromethane	21		2.5	ug/L	20.0	0.94 U	107	56-155			
Vinyl chloride	18		2.5	ug/L	20.0	0.71 U	90	20-167			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1B21002 - EPA 5030B_MS - Continued

Matrix Spike (1B21002-MS1) Continued Prepared: 02/21/2021 00:00 Analyzed: 02/21/2021 11:04

Source: AE01325-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
4-Bromofluorobenzene	*47*	*I*		*ug/L*	*50.0*		*94*	*41-142*			
Dibromofluoromethane	*53*			*ug/L*	*50.0*		*106*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*98*	*41-146*			

Matrix Spike Dup (1B21002-MSD1) Prepared: 02/21/2021 00:00 Analyzed: 02/21/2021 11:32

Source: AE01325-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	22		2.5	ug/L	20.0	0.80 U	110	57-148	3	25	
1,1,2,2-Tetrachloroethane	15		2.5	ug/L	20.0	0.54 U	76	60-139	3	17	
1,1,2-Trichloroethane	17		2.5	ug/L	20.0	0.76 U	86	57-141	0.6	16	
1,1-Dichloroethane	46		2.5	ug/L	20.0	23	117	57-142	2	24	
1,1-Dichloroethene	34		2.5	ug/L	20.0	12	110	47-139	4	16	
1,2,4-Trichlorobenzene	20		2.5	ug/L	20.0	0.70 U	99	52-159	0.5	24	
1,2-Dibromo-3-chloropropane	17		2.5	ug/L	20.0	0.96 U	83	48-150	8	21	
1,2-Dibromoethane	18		2.5	ug/L	20.0	0.78 U	89	57-140	0.4	16	
1,2-Dichlorobenzene	20		2.5	ug/L	20.0	0.73 U	98	63-131	3	25	
1,2-Dichloroethane	18		2.5	ug/L	20.0	0.63 U	88	50-156	2	18	
1,2-Dichloropropane	19		2.5	ug/L	20.0	0.80 U	94	61-133	2	26	
1,3-Dichlorobenzene	21		2.5	ug/L	20.0	0.77 U	105	66-129	0.1	23	
1,4-Dichlorobenzene	20		2.5	ug/L	20.0	0.76 U	102	65-133	0.1	23	
2-Butanone	97		12	ug/L	100	4.5 U	97	10-180	5	29	
2-Hexanone	64		12	ug/L	100	2.5 U	64	12-180	7	28	
4-Methyl-2-pentanone	67		12	ug/L	100	2.5 U	67	19-180	0.5	24	
Acetone	77		25	ug/L	100	10 U	77	10-180	2	19	
Benzene	21		2.5	ug/L	20.0	0.71 U	103	56-136	1	14	
Bromodichloromethane	18		2.5	ug/L	20.0	0.52 U	88	58-135	3	19	
Bromoform	15		2.5	ug/L	20.0	0.75 U	75	46-148	3	18	
Bromomethane	20		2.5	ug/L	20.0	0.95 U	101	10-173	6	29	
Carbon disulfide	21		12	ug/L	20.0	2.5 U	103	43-153	7	26	
Carbon Tetrachloride	22		2.5	ug/L	20.0	0.94 U	109	54-156	2	27	
Chlorobenzene	20		2.5	ug/L	20.0	0.72 U	101	51-139	0.1	13	
Chloroethane	20		2.5	ug/L	20.0	0.98 U	99	27-180	9	22	
Chloroform	21		2.5	ug/L	20.0	0.80 U	105	58-139	3	17	
Chloromethane	16		2.5	ug/L	20.0	0.82 U	82	33-154	0.5	31	
cis-1,2-Dichloroethene	21		2.5	ug/L	20.0	0.53 U	103	56-128	3	17	
cis-1,3-Dichloropropene	16		2.5	ug/L	20.0	0.59 U	81	64-128	4	20	
Cyclohexane	25		2.5	ug/L	20.0	0.93 U	124	70-130	2	20	
Dibromochloromethane	18		2.5	ug/L	20.0	0.50 U	89	50-140	3	18	
Dichlorodifluoromethane	10		2.5	ug/L	20.0	0.74 U	51	10-180	4	26	
Ethylbenzene	21		2.5	ug/L	20.0	0.69 U	106	63-133	1	18	
Freon 113	24		2.5	ug/L	20.0	0.73 U	118	47-173	3	30	
Isopropylbenzene	21		2.5	ug/L	20.0	0.67 U	103	60-132	1	23	
m,p-Xylenes	40		5.0	ug/L	40.0	1.3 U	100	64-133	2	18	
Methyl acetate	15		2.5	ug/L	20.0	0.95 U	73	70-130	9	20	
Methyl cyclohexane	22		2.5	ug/L	20.0	0.64 U	112	70-130	2	20	
Methylene Chloride	20		12	ug/L	20.0	2.5 U	101	43-142	3	23	
Methyl-tert-Butyl Ether	14		2.5	ug/L	20.0	0.60 U	68	51-145	12	22	
o-Xylene	20		2.5	ug/L	20.0	0.53 U	99	61-129	0.9	16	
Styrene	20		2.5	ug/L	20.0	0.61 U	99	59-136	0.5	32	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1B21002 - EPA 5030B_MS - Continued

Matrix Spike Dup (1B21002-MSD1) Continued Prepared: 02/21/2021 00:00 Analyzed: 02/21/2021 11:32

Source: AE01325-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Tetrachloroethene	22		2.5	ug/L	20.0	0.76 U	111	60-147	0.3	21	
Toluene	21		2.5	ug/L	20.0	0.72 U	107	64-131	1	16	
trans-1,2-Dichloroethene	21		2.5	ug/L	20.0	0.73 U	105	54-134	4	20	
trans-1,3-Dichloropropene	18		2.5	ug/L	20.0	0.73 U	91	65-149	1	17	
Trichloroethene	20		2.5	ug/L	20.0	0.89 U	102	62-135	2	20	
Trichlorofluoromethane	21		2.5	ug/L	20.0	0.94 U	103	56-155	4	22	
Vinyl chloride	17		2.5	ug/L	20.0	0.71 U	84	20-167	6	24	
4-Bromofluorobenzene	*47*	*I*		*ug/L*	*50.0*		*95*	*41-142*			
Dibromofluoromethane	*53*			*ug/L*	*50.0*		*106*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*98*	*41-146*			

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-11	Precision between duplicate matrix spikes of the same sample was outside acceptance limits.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.

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B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported result is an estimated value.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence (85% or greater confidence) to make a “tentative identification".
Q	One or more quality control criteria failed.

AE01304

Tetra Tech, Inc. | **CHAIN OF CUSTODY** | **NUMBER** No. 1407 | **PAGE** 1 **OF** 1

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G08970	CRCA	ALEX MURPHY		ENCO
SAMPLERS (SIGNATURE)		**FIELD OPERATIONS LEADER** DAN FORESTIER	**PHONE NUMBER** 304-780-1426	**ADDRESS**
		CARRIER/WAYBILL NUMBER COURIER		**CITY, STATE** ORLANDO, FL

STANDARD TAT ☒
RUSH TAT ☐ ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2021	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TYPE OF ANALYSIS See Comment Below	COMMENTS
									G	HCL		
17 FEB	0800	CRCA-A$EFFLUENT-20210217 CRCA		/	/	GW	G	3			X	
17 FEB	0815	CRCA-A$INFLUENT-20210217		/	/	GW	G	3			X	

1. RELINQUISHED BY	DATE 17 FEB 21	TIME 1406	1. RECEIVED BY James W. Gregory	DATE 2/17/21	TIME 1406
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS 8260D TCL SOMO 1.2 CLD-LIKE CUSTOM LIST SM Red 1.2°C

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

ENCO Orlando

SDG: AE01304-TE016

CLASS: 01_VOA_MS

METHOD: EPA 8260D

ANALYSES DATA PACKAGE COVER PAGE

EPA 8260D

Laboratory: ENCO Orlando

SDG: AE01304-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-ASEFFLUENT-20210217	AE01304-01
CRCA-ASEFFLUENT-20210217	AE01304-01RE1
CRCA-ASINFLUENT-20210217	AE01304-02
CRCA-ASINFLUENT-20210217	AE01304-02RE1

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLUENT-20210217

Laboratory: ENCO Orlando SDG: AE01304-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE01304-01 File ID: 212BN014.D

Sampled: 02/17/21 08:00 Prepared: 02/19/21 00:00 Analyzed: 02/19/21 14:23

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1B19011 Sequence: AA65034 Calibration: 2102033 Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLUENT-20210217

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE01304-01
File ID: 212BN014.D
Sampled: 02/17/21 08:00
Prepared: 02/19/21 00:00
Analyzed: 02/19/21 14:23
Solids:
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Batch: 1B19011
Sequence: AA65034
Calibration: 2102033
Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	59	118	53 - 146	
Toluene-d8	50.0	51	102	41 - 146	
4-Bromofluorobenzene	50.0	45	89	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	290820	11.5	270209	11.46	
1,4-Difluorobenzene	563806	12.05	483052	12.01	
Chlorobenzene-d5	263894	14.64	235561	14.61	
1,4-Dichlorobenzene-d4	160611	17	156580	16.98	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLUENT-20210217

Laboratory: ENCO Orlando | SDG: AE01304-TE016

Client: Tetra Tech, Inc. (TE016) | Project: NASA KSC CRCA

Matrix: Ground Water | Laboratory ID: AE01304-01RE1 | File ID: 212BP016.D

Sampled: 02/17/21 08:00 | Prepared: 02/21/21 11:25 | Analyzed: 02/21/21 16:48

Solids: | Preparation: EPA 5030B_MS | Initial/Final: 5 mL / 5 mL

Batch: 1B21002 | Sequence: AA65054 | Calibration: 2102033 | Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	55	109	53 - 146	
Toluene-d8	50.0	49	97	41 - 146	
4-Bromofluorobenzene	50.0	46	93	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	354275	11.47	270209	11.46	
1,4-Difluorobenzene	657991	12.02	483052	12.01	
Chlorobenzene-d5	291130	14.61	235561	14.61	
1,4-Dichlorobenzene-d4	176907	16.97	156580	16.98	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLUENT-20210217

Laboratory: ENCO Orlando SDG: AE01304-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE01304-02 File ID: 212BN015.D

Sampled: 02/17/21 08:15 Prepared: 02/19/21 00:00 Analyzed: 02/19/21 14:51

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1B19011 Sequence: AA65034 Calibration: 2102033 Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	19		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLUENT-20210217

Laboratory: ENCO Orlando SDG: AE01304-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE01304-02 File ID: 212BN015.D

Sampled: 02/17/21 08:15 Prepared: 02/19/21 00:00 Analyzed: 02/19/21 14:51

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1B19011 Sequence: AA65034 Calibration: 2102033 Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	59	118	53 - 146	
Toluene-d8	50.0	53	105	41 - 146	
4-Bromofluorobenzene	50.0	45	90	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	299820	11.5	270209	11.46	
1,4-Difluorobenzene	578040	12.04	483052	12.01	
Chlorobenzene-d5	272946	14.63	235561	14.61	
1,4-Dichlorobenzene-d4	167917	17.01	156580	16.98	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLUENT-20210217

Laboratory: ENCO Orlando SDG: AE01304-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE01304-02RE1 File ID: 212BP017.D

Sampled: 02/17/21 08:15 Prepared: 02/21/21 11:25 Analyzed: 02/21/21 17:17

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1B21002 Sequence: AA65054 Calibration: 2102033 Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	54	108	53 - 146	
Toluene-d8	50.0	49	98	41 - 146	
4-Bromofluorobenzene	50.0	46	92	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	365353	11.47	270209	11.46	
1,4-Difluorobenzene	667282	12.02	483052	12.01	
Chlorobenzene-d5	298600	14.62	235561	14.61	
1,4-Dichlorobenzene-d4	180151	16.98	156580	16.98	

* Values outside of QC limits

HOLDING TIME SUMMARY

EPA 8260D

Laboratory: ENCO Orlando

SDG: AE01304-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-ASEFFLUENT-20210217	02/17/21 08:00	02/17/21 14:06	02/19/21 00:00	1.67	NA	02/19/21 14:23	2.00	14.00	
CRCA-ASEFFLUENT-20210217	02/17/21 08:00	02/17/21 14:06	02/21/21 11:25	4.14	NA	02/21/21 16:48	4.00	14.00	
CRCA-ASINFLUENT-20210217	02/17/21 08:15	02/17/21 14:06	02/19/21 00:00	1.66	NA	02/19/21 14:51	2.00	14.00	
CRCA-ASINFLUENT-20210217	02/17/21 08:15	02/17/21 14:06	02/21/21 11:25	4.13	NA	02/21/21 17:17	4.00	14.00	

PREPARATION BATCH SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AE01304-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1B19011 Batch Matrix: Water Preparation: EPA 5030B_MS

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1B19011-BLK1	212BN008.D	02/19/21 00:00	
LCS	1B19011-BS1	212BN003.D	02/19/21 00:00	
MW-3	1B19011-MS1	212BN004.D	02/19/21 00:00	
MW-3	1B19011-MSD1	212BN005.D	02/19/21 00:00	
CRCA-ASEFFLUENT-20210217	AE01304-01	212BN014.D	02/19/21 00:00	
CRCA-ASINFLUENT-20210217	AE01304-02	212BN015.D	02/19/21 00:00	

PREPARATION BATCH SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AE01304-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1B21002 Batch Matrix: Water Preparation: EPA 5030B_MS

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1B21002-BLK1	212BP009.D	02/21/21 00:00	
LCS	1B21002-BS1	212BP003.D	02/21/21 00:00	
WP-A15	1B21002-MS1	212BP004.D	02/21/21 00:00	
WP-A15	1B21002-MSD1	212BP005.D	02/21/21 00:00	
CRCA-ASEFFLUENT-20210217	AE01304-01RE1	212BP016.D	02/21/21 11:25	
CRCA-ASINFLUENT-20210217	AE01304-02RE1	212BP017.D	02/21/21 11:25	

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE01304-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1B19011-BLK1	File ID:	212BN008.D
Prepared:	02/19/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	02/19/21 11:30	Instrument:	OVGCMS2		
Batch:	1B19011	Sequence:	AA65034	Calibration:	2102033

CAS NO.	COMPOUND	CONC. (ug/L)	Q
75-71-8	Dichlorodifluoromethane	0.74	U
74-87-3	Chloromethane	0.82	U
75-01-4	Vinyl chloride	0.71	U
74-83-9	Bromomethane	0.95	U
75-00-3	Chloroethane	0.98	U
75-69-4	Trichlorofluoromethane	0.94	U
76-13-1	Freon 113	0.73	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	0.94	U
75-15-0	Carbon disulfide	2.5	U
75-09-2	Methylene Chloride	2.5	U
1634-04-4	Methyl-tert-Butyl Ether	0.60	U
156-60-5	trans-1,2-Dichloroethene	0.73	U
156-59-2	cis-1,2-Dichloroethene	0.53	U
75-34-3	1,1-Dichloroethane	0.62	U
78-93-3	2-Butanone	4.5	U
67-66-3	Chloroform	0.80	U
71-55-6	1,1,1-Trichloroethane	0.80	U
79-20-9	Methyl acetate	0.95	U
110-82-7	Cyclohexane	0.93	U
108-87-2	Methyl cyclohexane	0.64	U
56-23-5	Carbon Tetrachloride	0.94	U
107-06-2	1,2-Dichloroethane	0.63	U
71-43-2	Benzene	0.71	U
79-01-6	Trichloroethene	0.89	U
78-87-5	1,2-Dichloropropane	0.80	U
75-27-4	Bromodichloromethane	0.52	U
108-10-1	4-Methyl-2-pentanone	2.5	U
591-78-6	2-Hexanone	2.5	U
10061-01-5	cis-1,3-Dichloropropene	0.59	U

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE01304-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1B19011-BLK1	File ID:	212BN008.D
Prepared:	02/19/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	02/19/21 11:30	Instrument:	OVGCMS2		
Batch:	1B19011	Sequence:	AA65034	Calibration:	2102033

CAS NO.	COMPOUND	CONC. (ug/L)	Q
108-88-3	Toluene	0.72	U
10061-02-6	trans-1,3-Dichloropropene	0.73	U
79-00-5	1,1,2-Trichloroethane	0.76	U
127-18-4	Tetrachloroethene	0.76	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.78	U
108-90-7	Chlorobenzene	0.72	U
100-41-4	Ethylbenzene	0.69	U
108-38-3/106-42-3	m,p-Xylenes	1.3	U
95-47-6	o-Xylene	0.53	U
75-25-2	Bromoform	0.75	U
100-42-5	Styrene	0.61	U
98-82-8	Isopropylbenzene	0.67	U
79-34-5	1,1,2,2-Tetrachloroethane	0.54	U
120-82-1	1,2,4-Trichlorobenzene	0.70	U
541-73-1	1,3-Dichlorobenzene	0.77	U
106-46-7	1,4-Dichlorobenzene	0.76	U
95-50-1	1,2-Dichlorobenzene	0.73	U
96-12-8	1,2-Dibromo-3-chloropropane	0.96	U
1330-20-7	Xylenes (Total)	1.3	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	55	110	53 - 146	
Toluene-d8	50.0	58	117	41 - 146	
4-Bromofluorobenzene	50.0	51	102	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	169030	11.48	270209	11.46	
1,4-Difluorobenzene	315501	12.03	483052	12.01	
Chlorobenzene-d5	180156	14.63	235561	14.61	
1,4-Dichlorobenzene-d4	145188	17	156580	16.98	

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE01304-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1B21002-BLK1	File ID:	212BP009.D
Prepared:	02/21/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	02/21/21 13:27	Instrument:	OVGCMS2		
Batch:	1B21002	Sequence:	AA65054	Calibration:	2102033

CAS NO.	COMPOUND	CONC. (ug/L)	Q
75-71-8	Dichlorodifluoromethane	0.74	U
74-87-3	Chloromethane	0.82	U
75-01-4	Vinyl chloride	0.71	U
74-83-9	Bromomethane	0.95	U
75-00-3	Chloroethane	0.98	U
75-69-4	Trichlorofluoromethane	0.94	U
76-13-1	Freon 113	0.73	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	0.94	U
75-15-0	Carbon disulfide	2.5	U
75-09-2	Methylene Chloride	2.5	U
1634-04-4	Methyl-tert-Butyl Ether	0.60	U
156-60-5	trans-1,2-Dichloroethene	0.73	U
156-59-2	cis-1,2-Dichloroethene	0.53	U
75-34-3	1,1-Dichloroethane	0.62	U
78-93-3	2-Butanone	4.5	U
67-66-3	Chloroform	0.80	U
71-55-6	1,1,1-Trichloroethane	0.80	U
79-20-9	Methyl acetate	0.95	U
110-82-7	Cyclohexane	0.93	U
108-87-2	Methyl cyclohexane	0.64	U
56-23-5	Carbon Tetrachloride	0.94	U
107-06-2	1,2-Dichloroethane	0.63	U
71-43-2	Benzene	0.71	U
79-01-6	Trichloroethene	0.89	U
78-87-5	1,2-Dichloropropane	0.80	U
75-27-4	Bromodichloromethane	0.52	U
108-10-1	4-Methyl-2-pentanone	2.5	U
591-78-6	2-Hexanone	2.5	U
10061-01-5	cis-1,3-Dichloropropene	0.59	U

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE01304-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1B21002-BLK1	File ID:	212BP009.D
Prepared:	02/21/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	02/21/21 13:27	Instrument:	OVGCMS2		
Batch:	1B21002	Sequence:	AA65054	Calibration:	2102033

CAS NO.	COMPOUND	CONC. (ug/L)	Q
108-88-3	Toluene	0.72	U
10061-02-6	trans-1,3-Dichloropropene	0.73	U
79-00-5	1,1,2-Trichloroethane	0.76	U
127-18-4	Tetrachloroethene	0.76	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.78	U
108-90-7	Chlorobenzene	0.72	U
100-41-4	Ethylbenzene	0.69	U
108-38-3/106-42-3	m,p-Xylenes	1.3	U
95-47-6	o-Xylene	0.53	U
75-25-2	Bromoform	0.75	U
100-42-5	Styrene	0.61	U
98-82-8	Isopropylbenzene	0.67	U
79-34-5	1,1,2,2-Tetrachloroethane	0.54	U
120-82-1	1,2,4-Trichlorobenzene	0.70	U
541-73-1	1,3-Dichlorobenzene	0.77	U
106-46-7	1,4-Dichlorobenzene	0.76	U
95-50-1	1,2-Dichlorobenzene	0.73	U
96-12-8	1,2-Dibromo-3-chloropropane	0.96	U
1330-20-7	Xylenes (Total)	1.3	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	47	94	53 - 146	
Toluene-d8	50.0	55	110	41 - 146	
4-Bromofluorobenzene	50.0	54	109	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	181255	11.45	270209	11.46	
1,4-Difluorobenzene	318306	12	483052	12.01	
Chlorobenzene-d5	172070	14.61	235561	14.61	
1,4-Dichlorobenzene-d4	144168	16.97	156580	16.98	

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE01304-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1B19011	Laboratory ID:	1B19011-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	11	57	10 - 180
Chloromethane	20.0	18	88	33 - 154
Vinyl chloride	20.0	17	87	20 - 167
Bromomethane	20.0	13	65	10 - 173
Chloroethane	20.0	22	108	27 - 180
Trichlorofluoromethane	20.0	20	100	56 - 155
Freon 113	20.0	23	114	47 - 173
Acetone	100	81	81	10 - 180
1,1-Dichloroethene	20.0	20	100	47 - 139
Carbon disulfide	20.0	24	120	43 - 153
Methylene Chloride	20.0	20	100	43 - 142
Methyl-tert-Butyl Ether	20.0	14	72	51 - 145
trans-1,2-Dichloroethene	20.0	21	104	54 - 134
cis-1,2-Dichloroethene	20.0	20	101	56 - 128
1,1-Dichloroethane	20.0	22	111	57 - 142
2-Butanone	100	99	99	10 - 180
Chloroform	20.0	20	102	58 - 139
1,1,1-Trichloroethane	20.0	21	107	57 - 148
Methyl acetate	20.0	14	70	70 - 130
Cyclohexane	20.0	25	123	70 - 130
Methyl cyclohexane	20.0	22	112	70 - 130
Carbon Tetrachloride	20.0	21	103	54 - 156
1,2-Dichloroethane	20.0	17	85	50 - 156
Benzene	20.0	21	106	56 - 136
Trichloroethene	20.0	21	105	62 - 135
1,2-Dichloropropane	20.0	19	95	61 - 133
Bromodichloromethane	20.0	17	87	58 - 135
4-Methyl-2-pentanone	100	74	74	19 - 180
2-Hexanone	100	74	74	12 - 180
cis-1,3-Dichloropropene	20.0	16	80	64 - 128

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE01304-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1B19011	Laboratory ID:	1B19011-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Toluene	20.0	20	102	64 - 131
trans-1,3-Dichloropropene	20.0	14	72	65 - 149
1,1,2-Trichloroethane	20.0	14	70	57 - 141
Tetrachloroethene	20.0	20	99	60 - 147
Dibromochloromethane	20.0	14	71	50 - 140
1,2-Dibromoethane	20.0	15	76	57 - 140
Chlorobenzene	20.0	20	100	51 - 139
Ethylbenzene	20.0	21	107	63 - 133
m,p-Xylenes	40.0	45	111	64 - 133
o-Xylene	20.0	21	107	61 - 129
Bromoform	20.0	14	68	46 - 148
Styrene	20.0	21	106	59 - 136
Isopropylbenzene	20.0	22	110	60 - 132
1,1,2,2-Tetrachloroethane	20.0	15	73	60 - 139
1,2,4-Trichlorobenzene	20.0	21	105	52 - 159
1,3-Dichlorobenzene	20.0	20	99	66 - 129
1,4-Dichlorobenzene	20.0	19	96	65 - 133
1,2-Dichlorobenzene	20.0	19	97	63 - 131
1,2-Dibromo-3-chloropropane	20.0	16	78	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE01304-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1B21002	Laboratory ID:	1B21002-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	9.6	48	10 - 180
Chloromethane	20.0	16	78	33 - 154
Vinyl chloride	20.0	16	80	20 - 167
Bromomethane	20.0	20	99	10 - 173
Chloroethane	20.0	20	98	27 - 180
Trichlorofluoromethane	20.0	20	98	56 - 155
Freon 113	20.0	22	112	47 - 173
Acetone	100	85	85	10 - 180
1,1-Dichloroethene	20.0	20	102	47 - 139
Carbon disulfide	20.0	23	117	43 - 153
Methylene Chloride	20.0	20	101	43 - 142
Methyl-tert-Butyl Ether	20.0	15	74	51 - 145
trans-1,2-Dichloroethene	20.0	21	104	54 - 134
cis-1,2-Dichloroethene	20.0	20	102	56 - 128
1,1-Dichloroethane	20.0	22	109	57 - 142
2-Butanone	100	110	106	10 - 180
Chloroform	20.0	21	103	58 - 139
1,1,1-Trichloroethane	20.0	22	108	57 - 148
Methyl acetate	20.0	15	77	70 - 130
Cyclohexane	20.0	24	118	70 - 130
Methyl cyclohexane	20.0	21	107	70 - 130
Carbon Tetrachloride	20.0	21	103	54 - 156
1,2-Dichloroethane	20.0	18	91	50 - 156
Benzene	20.0	20	100	56 - 136
Trichloroethene	20.0	20	98	62 - 135
1,2-Dichloropropane	20.0	19	95	61 - 133
Bromodichloromethane	20.0	18	89	58 - 135
4-Methyl-2-pentanone	100	69	69	19 - 180
2-Hexanone	100	72	72	12 - 180
cis-1,3-Dichloropropene	20.0	16	81	64 - 128

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE01304-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1B21002	Laboratory ID:	1B21002-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Toluene	20.0	21	105	64 - 131
trans-1,3-Dichloropropene	20.0	18	90	65 - 149
1,1,2-Trichloroethane	20.0	17	87	57 - 141
Tetrachloroethene	20.0	21	105	60 - 147
Dibromochloromethane	20.0	18	89	50 - 140
1,2-Dibromoethane	20.0	18	92	57 - 140
Chlorobenzene	20.0	20	99	51 - 139
Ethylbenzene	20.0	21	103	63 - 133
m,p-Xylenes	40.0	39	98	64 - 133
o-Xylene	20.0	20	98	61 - 129
Bromoform	20.0	16	78	46 - 148
Styrene	20.0	19	97	59 - 136
Isopropylbenzene	20.0	20	101	60 - 132
1,1,2,2-Tetrachloroethane	20.0	16	79	60 - 139
1,2,4-Trichlorobenzene	20.0	20	100	52 - 159
1,3-Dichlorobenzene	20.0	21	103	66 - 129
1,4-Dichlorobenzene	20.0	19	97	65 - 133
1,2-Dichlorobenzene	20.0	20	101	63 - 131
1,2-Dibromo-3-chloropropane	20.0	19	95	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-3

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1B19011
Laboratory ID: 1B19011-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-3

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	ND	13	65	10 - 180
Chloromethane	20.0	ND	19	96	33 - 154
Vinyl chloride	20.0	ND	20	99	20 - 167
Bromomethane	20.0	ND	15	75	10 - 173
Chloroethane	20.0	ND	23	117	27 - 180
Trichlorofluoromethane	20.0	ND	23	117	56 - 155
Freon 113	20.0	ND	27	137	47 - 173
Acetone	100	36	89	52	10 - 180
1,1-Dichloroethene	20.0	ND	24	121	47 - 139
Carbon disulfide	20.0	3.0	25	111	43 - 153
Methylene Chloride	20.0	ND	22	112	43 - 142
Methyl-tert-Butyl Ether	20.0	ND	16	81	51 - 145
trans-1,2-Dichloroethene	20.0	ND	24	121	54 - 134
cis-1,2-Dichloroethene	20.0	ND	23	117	56 - 128
1,1-Dichloroethane	20.0	ND	26	130	57 - 142
2-Butanone	100	ND	100	102	10 - 180
Chloroform	20.0	ND	23	117	58 - 139
1,1,1-Trichloroethane	20.0	ND	25	127	57 - 148
Methyl acetate	20.0	ND	16	78	70 - 130
Cyclohexane	20.0	17	32	79	70 - 130
Methyl cyclohexane	20.0	ND	26	131 *	70 - 130
Carbon Tetrachloride	20.0	ND	24	118	54 - 156
1,2-Dichloroethane	20.0	ND	18	90	50 - 156
Benzene	20.0	2.2	24	107	56 - 136
Trichloroethene	20.0	ND	22	112	62 - 135
1,2-Dichloropropane	20.0	ND	21	103	61 - 133
Bromodichloromethane	20.0	ND	18	91	58 - 135
4-Methyl-2-pentanone	100	ND	72	72	19 - 180
2-Hexanone	100	ND	68	68	12 - 180
cis-1,3-Dichloropropene	20.0	ND	17	87	64 - 128
Toluene	20.0	ND	23	114	64 - 131

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-3

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1B19011
Laboratory ID: 1B19011-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-3

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
trans-1,3-Dichloropropene	20.0	ND	17	84	65 - 149
1,1,2-Trichloroethane	20.0	ND	16	81	57 - 141
Tetrachloroethene	20.0	ND	23	116	60 - 147
Dibromochloromethane	20.0	ND	17	84	50 - 140
1,2-Dibromoethane	20.0	ND	17	83	57 - 140
Chlorobenzene	20.0	ND	21	104	51 - 139
Ethylbenzene	20.0	5.4	23	87	63 - 133
m,p-Xylenes	40.0	ND	42	106	64 - 133
o-Xylene	20.0	ND	21	103	61 - 129
Bromoform	20.0	ND	14	70	46 - 148
Styrene	20.0	ND	20	100	59 - 136
Isopropylbenzene	20.0	9.8	24	70	60 - 132
1,1,2,2-Tetrachloroethane	20.0	ND	14	72	60 - 139
1,2,4-Trichlorobenzene	20.0	ND	19	97	52 - 159
1,3-Dichlorobenzene	20.0	ND	21	103	66 - 129
1,4-Dichlorobenzene	20.0	ND	20	98	65 - 133
1,2-Dichlorobenzene	20.0	ND	19	97	63 - 131
1,2-Dibromo-3-chloropropane	20.0	ND	17	87	48 - 150

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-3

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1B19011
Laboratory ID: 1B19011-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-3

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20.0	12	61	5	26	10 - 180
Chloromethane	20.0	19	94	2	31	33 - 154
Vinyl chloride	20.0	20	98	0.5	24	20 - 167
Bromomethane	20.0	22	111	39 *	29	10 - 173
Chloroethane	20.0	23	116	0.2	22	27 - 180
Trichlorofluoromethane	20.0	22	108	8	22	56 - 155
Freon 113	20.0	25	127	8	30	47 - 173
Acetone	100	90	53	1	19	10 - 180
1,1-Dichloroethene	20.0	22	111	8	16	47 - 139
Carbon disulfide	20.0	23	102	8	26	43 - 153
Methylene Chloride	20.0	22	110	2	23	43 - 142
Methyl-tert-Butyl Ether	20.0	18	88	8	22	51 - 145
trans-1,2-Dichloroethene	20.0	23	114	6	20	54 - 134
cis-1,2-Dichloroethene	20.0	22	110	6	17	56 - 128
1,1-Dichloroethane	20.0	24	119	8	24	57 - 142
2-Butanone	100	120	117	14	29	10 - 180
Chloroform	20.0	22	112	5	17	58 - 139
1,1,1-Trichloroethane	20.0	24	118	8	25	57 - 148
Methyl acetate	20.0	16	80	2	20	70 - 130
Cyclohexane	20.0	31	71	5	20	70 - 130
Methyl cyclohexane	20.0	26	131 *	0.08	20	70 - 130
Carbon Tetrachloride	20.0	22	112	5	27	54 - 156
1,2-Dichloroethane	20.0	18	92	2	18	50 - 156
Benzene	20.0	23	104	3	14	56 - 136
Trichloroethene	20.0	22	108	4	20	62 - 135
1,2-Dichloropropane	20.0	21	103	0.1	26	61 - 133
Bromodichloromethane	20.0	18	91	0	19	58 - 135
4-Methyl-2-pentanone	100	84	84	15	24	19 - 180
2-Hexanone	100	87	87	23	28	12 - 180
cis-1,3-Dichloropropene	20.0	17	87	0.3	20	64 - 128
Toluene	20.0	21	107	6	16	64 - 131
trans-1,3-Dichloropropene	20.0	16	79	7	17	65 - 149

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-3

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1B19011
Laboratory ID: 1B19011-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-3

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,2-Trichloroethane	20.0	15	75	8	16	57 - 141
Tetrachloroethene	20.0	20	102	13	21	60 - 147
Dibromochloromethane	20.0	15	77	8	18	50 - 140
1,2-Dibromoethane	20.0	16	81	3	16	57 - 140
Chlorobenzene	20.0	21	105	0.4	13	51 - 139
Ethylbenzene	20.0	24	91	3	18	63 - 133
m,p-Xylenes	40.0	47	117	10	18	64 - 133
o-Xylene	20.0	23	114	11	16	61 - 129
Bromoform	20.0	15	73	4	18	46 - 148
Styrene	20.0	23	113	12	32	59 - 136
Isopropylbenzene	20.0	26	80	8	23	60 - 132
1,1,2,2-Tetrachloroethane	20.0	15	77	6	17	60 - 139
1,2,4-Trichlorobenzene	20.0	23	114	17	24	52 - 159
1,3-Dichlorobenzene	20.0	21	105	2	23	66 - 129
1,4-Dichlorobenzene	20.0	20	100	2	23	65 - 133
1,2-Dichlorobenzene	20.0	20	101	4	25	63 - 131
1,2-Dibromo-3-chloropropane	20.0	20	98	12	21	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

WP-A15

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1B21002
Laboratory ID: 1B21002-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: WP-A15

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	ND	11	53	10 - 180
Chloromethane	20.0	ND	17	83	33 - 154
Vinyl chloride	20.0	ND	18	90	20 - 167
Bromomethane	20.0	ND	22	108	10 - 173
Chloroethane	20.0	ND	22	109	27 - 180
Trichlorofluoromethane	20.0	ND	21	107	56 - 155
Freon 113	20.0	ND	24	121	47 - 173
Acetone	100	ND	78	78	10 - 180
1,1-Dichloroethene	20.0	12	35	117	47 - 139
Carbon disulfide	20.0	ND	22	110	43 - 153
Methylene Chloride	20.0	ND	21	104	43 - 142
Methyl-tert-Butyl Ether	20.0	ND	15	76	51 - 145
trans-1,2-Dichloroethene	20.0	ND	22	109	54 - 134
cis-1,2-Dichloroethene	20.0	ND	21	106	56 - 128
1,1-Dichloroethane	20.0	23	47	122	57 - 142
2-Butanone	100	ND	100	102	10 - 180
Chloroform	20.0	ND	22	108	58 - 139
1,1,1-Trichloroethane	20.0	ND	23	114	57 - 148
Methyl acetate	20.0	ND	16	80	70 - 130
Cyclohexane	20.0	ND	25	127	70 - 130
Methyl cyclohexane	20.0	ND	23	114	70 - 130
Carbon Tetrachloride	20.0	ND	22	111	54 - 156
1,2-Dichloroethane	20.0	ND	18	90	50 - 156
Benzene	20.0	ND	21	104	56 - 136
Trichloroethene	20.0	ND	21	104	62 - 135
1,2-Dichloropropane	20.0	ND	19	97	61 - 133
Bromodichloromethane	20.0	ND	18	90	58 - 135
4-Methyl-2-pentanone	100	ND	67	67	19 - 180
2-Hexanone	100	ND	69	69	12 - 180
cis-1,3-Dichloropropene	20.0	ND	17	84	64 - 128
Toluene	20.0	ND	22	109	64 - 131

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

WP-A15

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1B21002
Laboratory ID: 1B21002-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: WP-A15

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
trans-1,3-Dichloropropene	20.0	ND	18	90	65 - 149
1,1,2-Trichloroethane	20.0	ND	17	86	57 - 141
Tetrachloroethene	20.0	ND	22	110	60 - 147
Dibromochloromethane	20.0	ND	18	91	50 - 140
1,2-Dibromoethane	20.0	ND	18	90	57 - 140
Chlorobenzene	20.0	ND	20	101	51 - 139
Ethylbenzene	20.0	ND	21	105	63 - 133
m,p-Xylenes	40.0	ND	41	102	64 - 133
o-Xylene	20.0	ND	20	100	61 - 129
Bromoform	20.0	ND	15	77	46 - 148
Styrene	20.0	ND	20	99	59 - 136
Isopropylbenzene	20.0	ND	21	104	60 - 132
1,1,2,2-Tetrachloroethane	20.0	ND	16	78	60 - 139
1,2,4-Trichlorobenzene	20.0	ND	20	98	52 - 159
1,3-Dichlorobenzene	20.0	ND	21	105	66 - 129
1,4-Dichlorobenzene	20.0	ND	20	102	65 - 133
1,2-Dichlorobenzene	20.0	ND	20	101	63 - 131
1,2-Dibromo-3-chloropropane	20.0	ND	18	90	48 - 150

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

WP-A15

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1B21002
Laboratory ID: 1B21002-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: WP-A15

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20.0	10	51	4	26	10 - 180
Chloromethane	20.0	16	82	0.5	31	33 - 154
Vinyl chloride	20.0	17	84	6	24	20 - 167
Bromomethane	20.0	20	101	6	29	10 - 173
Chloroethane	20.0	20	99	9	22	27 - 180
Trichlorofluoromethane	20.0	21	103	4	22	56 - 155
Freon 113	20.0	24	118	3	30	47 - 173
Acetone	100	77	77	2	19	10 - 180
1,1-Dichloroethene	20.0	34	110	4	16	47 - 139
Carbon disulfide	20.0	21	103	7	26	43 - 153
Methylene Chloride	20.0	20	101	3	23	43 - 142
Methyl-tert-Butyl Ether	20.0	14	68	12	22	51 - 145
trans-1,2-Dichloroethene	20.0	21	105	4	20	54 - 134
cis-1,2-Dichloroethene	20.0	21	103	3	17	56 - 128
1,1-Dichloroethane	20.0	46	117	2	24	57 - 142
2-Butanone	100	97	97	5	29	10 - 180
Chloroform	20.0	21	105	3	17	58 - 139
1,1,1-Trichloroethane	20.0	22	110	3	25	57 - 148
Methyl acetate	20.0	15	73	9	20	70 - 130
Cyclohexane	20.0	25	124	2	20	70 - 130
Methyl cyclohexane	20.0	22	112	2	20	70 - 130
Carbon Tetrachloride	20.0	22	109	2	27	54 - 156
1,2-Dichloroethane	20.0	18	88	2	18	50 - 156
Benzene	20.0	21	103	1	14	56 - 136
Trichloroethene	20.0	20	102	2	20	62 - 135
1,2-Dichloropropane	20.0	19	94	2	26	61 - 133
Bromodichloromethane	20.0	18	88	3	19	58 - 135
4-Methyl-2-pentanone	100	67	67	0.5	24	19 - 180
2-Hexanone	100	64	64	7	28	12 - 180
cis-1,3-Dichloropropene	20.0	16	81	4	20	64 - 128
Toluene	20.0	21	107	1	16	64 - 131
trans-1,3-Dichloropropene	20.0	18	91	1	17	65 - 149

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

WP-A15

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1B21002
Laboratory ID: 1B21002-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: WP-A15

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,2-Trichloroethane	20.0	17	86	0.6	16	57 - 141
Tetrachloroethene	20.0	22	111	0.3	21	60 - 147
Dibromochloromethane	20.0	18	89	3	18	50 - 140
1,2-Dibromoethane	20.0	18	89	0.4	16	57 - 140
Chlorobenzene	20.0	20	101	0.1	13	51 - 139
Ethylbenzene	20.0	21	106	1	18	63 - 133
m,p-Xylenes	40.0	40	100	2	18	64 - 133
o-Xylene	20.0	20	99	0.9	16	61 - 129
Bromoform	20.0	15	75	3	18	46 - 148
Styrene	20.0	20	99	0.5	32	59 - 136
Isopropylbenzene	20.0	21	103	1	23	60 - 132
1,1,2,2-Tetrachloroethane	20.0	15	76	3	17	60 - 139
1,2,4-Trichlorobenzene	20.0	20	99	0.5	24	52 - 159
1,3-Dichlorobenzene	20.0	21	105	0.1	23	66 - 129
1,4-Dichlorobenzene	20.0	20	102	0.1	23	65 - 133
1,2-Dichlorobenzene	20.0	20	98	3	25	63 - 131
1,2-Dibromo-3-chloropropane	20.0	17	83	8	21	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA64808
Instrument: OVGCMS2
Matrix: Water
Calibration: 2102033

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA64808-SCV1)			Lab File ID: 212B4012.D		Analyzed: 02/04/21 13:15			
Dibromofluoromethane	50.0	99	70 - 130	11.07	11.06875	0.0013	+/-0.5	
Toluene-d8	50.0	97	70 - 130	13.24	13.2325	0.0075	+/-0.5	
4-Bromofluorobenzene	50.0	99	70 - 130	15.73	15.73	0.0000	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA65034
Instrument: OVGCMS2
Matrix: Water
Calibration: 2102033

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA65034-CCV1)			Lab File ID: 212BN002.D		Analyzed: 02/19/21 08:35			
Dibromofluoromethane	50.0	108	80 - 120	11.08	11.06875	0.0113	+/-0.5	
Toluene-d8	50.0	111	80 - 120	13.25	13.2325	0.0175	+/-0.5	
4-Bromofluorobenzene	50.0	100	80 - 120	15.75	15.73	0.0200	+/-0.5	
LCS (1B19011-BS1)			Lab File ID: 212BN003.D		Analyzed: 02/19/21 09:07			
Dibromofluoromethane	50.0	105	53 - 146	11.08	11.06875	0.0113	+/-0.5	
Toluene-d8	50.0	114	41 - 146	13.25	13.2325	0.0175	+/-0.5	
4-Bromofluorobenzene	50.0	100	41 - 142	15.75	15.73	0.0200	+/-0.5	
Matrix Spike (1B19011-MS1)			Lab File ID: 212BN004.D		Analyzed: 02/19/21 09:35			
Dibromofluoromethane	50.0	113	53 - 146	11.1	11.06875	0.0313	+/-0.5	
Toluene-d8	50.0	104	41 - 146	13.26	13.2325	0.0275	+/-0.5	
4-Bromofluorobenzene	50.0	90	41 - 142	15.75	15.73	0.0200	+/-0.5	
Matrix Spike Dup (1B19011-MSD1)			Lab File ID: 212BN005.D		Analyzed: 02/19/21 10:04			
Dibromofluoromethane	50.0	109	53 - 146	11.08	11.06875	0.0113	+/-0.5	
Toluene-d8	50.0	113	41 - 146	13.25	13.2325	0.0175	+/-0.5	
4-Bromofluorobenzene	50.0	102	41 - 142	15.75	15.73	0.0200	+/-0.5	
Blank (1B19011-BLK1)			Lab File ID: 212BN008.D		Analyzed: 02/19/21 11:30			
Dibromofluoromethane	50.0	110	53 - 146	11.08	11.06875	0.0113	+/-0.5	
Toluene-d8	50.0	117	41 - 146	13.25	13.2325	0.0175	+/-0.5	
4-Bromofluorobenzene	50.0	102	41 - 142	15.75	15.73	0.0200	+/-0.5	
Instrument RL Check (AA65034-CRL1)			Lab File ID: 212BN009.D		Analyzed: 02/19/21 11:59			
Dibromofluoromethane	50.0	110	1 - 199	11.08	11.06875	0.0113	+/-0.5	
Toluene-d8	50.0	117	1 - 199	13.25	13.2325	0.0175	+/-0.5	
4-Bromofluorobenzene	50.0	105	1 - 199	15.76	15.73	0.0300	+/-0.5	
CRCA-ASEFFLUENT-20210217 (AE01304-01)			Lab File ID: 212BN014.D		Analyzed: 02/19/21 14:23			
Dibromofluoromethane	50.0	118	53 - 146	11.1	11.06875	0.0313	+/-0.5	
Toluene-d8	50.0	102	41 - 146	13.26	13.2325	0.0275	+/-0.5	
4-Bromofluorobenzene	50.0	89	41 - 142	15.76	15.73	0.0300	+/-0.5	
CRCA-ASINFLUENT-20210217 (AE01304-02)			Lab File ID: 212BN015.D		Analyzed: 02/19/21 14:51			
Dibromofluoromethane	50.0	118	53 - 146	11.1	11.06875	0.0313	+/-0.5	
Toluene-d8	50.0	105	41 - 146	13.26	13.2325	0.0275	+/-0.5	
4-Bromofluorobenzene	50.0	90	41 - 142	15.76	15.73	0.0300	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA65054
Instrument: OVGCMS2
Matrix: Water
Calibration: 2102033

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA65054-CCV1)			Lab File ID: 212BP002.D		Analyzed: 02/21/21 10:04			
Dibromofluoromethane	50.0	111	80 - 120	11.07	11.06875	0.0013	+/-0.5	
Toluene-d8	50.0	100	80 - 120	13.23	13.2325	-0.0025	+/-0.5	
4-Bromofluorobenzene	50.0	97	80 - 120	15.73	15.73	0.0000	+/-0.5	
LCS (1B21002-BS1)			Lab File ID: 212BP003.D		Analyzed: 02/21/21 10:35			
Dibromofluoromethane	50.0	109	53 - 146	11.07	11.06875	0.0013	+/-0.5	
Toluene-d8	50.0	99	41 - 146	13.23	13.2325	-0.0025	+/-0.5	
4-Bromofluorobenzene	50.0	96	41 - 142	15.73	15.73	0.0000	+/-0.5	
Matrix Spike (1B21002-MS1)			Lab File ID: 212BP004.D		Analyzed: 02/21/21 11:04			
Dibromofluoromethane	50.0	106	53 - 146	11.07	11.06875	0.0013	+/-0.5	
Toluene-d8	50.0	98	41 - 146	13.23	13.2325	-0.0025	+/-0.5	
4-Bromofluorobenzene	50.0	94	41 - 142	15.73	15.73	0.0000	+/-0.5	
Matrix Spike Dup (1B21002-MSD1)			Lab File ID: 212BP005.D		Analyzed: 02/21/21 11:32			
Dibromofluoromethane	50.0	106	53 - 146	11.07	11.06875	0.0013	+/-0.5	
Toluene-d8	50.0	98	41 - 146	13.23	13.2325	-0.0025	+/-0.5	
4-Bromofluorobenzene	50.0	95	41 - 142	15.73	15.73	0.0000	+/-0.5	
Blank (1B21002-BLK1)			Lab File ID: 212BP009.D		Analyzed: 02/21/21 13:27			
Dibromofluoromethane	50.0	94	53 - 146	11.05	11.06875	-0.0187	+/-0.5	
Toluene-d8	50.0	110	41 - 146	13.23	13.2325	-0.0025	+/-0.5	
4-Bromofluorobenzene	50.0	109	41 - 142	15.73	15.73	0.0000	+/-0.5	
Instrument RL Check (AA65054-CRL1)			Lab File ID: 212BP010.D		Analyzed: 02/21/21 13:56			
Dibromofluoromethane	50.0	106	1 - 199	11.08	11.06875	0.0113	+/-0.5	
Toluene-d8	50.0	96	1 - 199	13.24	13.2325	0.0075	+/-0.5	
4-Bromofluorobenzene	50.0	91	1 - 199	15.73	15.73	0.0000	+/-0.5	
CRCA-ASEFFLUENT-20210217 (AE01304-01RE1)			Lab File ID: 212BP016.D		Analyzed: 02/21/21 16:48			
Dibromofluoromethane	50.0	109	53 - 146	11.07	11.06875	0.0013	+/-0.5	
Toluene-d8	50.0	97	41 - 146	13.23	13.2325	-0.0025	+/-0.5	
4-Bromofluorobenzene	50.0	93	41 - 142	15.73	15.73	0.0000	+/-0.5	
CRCA-ASINFLUENT-20210217 (AE01304-02RE1)			Lab File ID: 212BP017.D		Analyzed: 02/21/21 17:17			
Dibromofluoromethane	50.0	108	53 - 146	11.07	11.06875	0.0013	+/-0.5	
Toluene-d8	50.0	98	41 - 146	13.24	13.2325	0.0075	+/-0.5	
4-Bromofluorobenzene	50.0	92	41 - 142	15.74	15.73	0.0100	+/-0.5	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA64808
Instrument: OVGCMS2
Matrix: Water
Calibration: 2102033

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA64808-CAL1)			Lab File ID: 212B4002.D			Analyzed: 02/04/21 08:28			
Pentafluorobenzene	178435	11.46	270209	11.46	66	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	304980	12.01	483052	12.01	63	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	172086	14.61	235561	14.61	73	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	142234	16.98	156580	16.98	91	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64808-CAL2)			Lab File ID: 212B4003.D			Analyzed: 02/04/21 08:57			
Pentafluorobenzene	199854	11.45	270209	11.46	74	50 - 200	-0.0100	+/-0.50	
1,4-Difluorobenzene	343837	12.01	483052	12.01	71	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	187069	14.61	235561	14.61	79	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	145922	16.98	156580	16.98	93	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64808-CAL3)			Lab File ID: 212B4004.D			Analyzed: 02/04/21 09:26			
Pentafluorobenzene	215886	11.45	270209	11.46	80	50 - 200	-0.0100	+/-0.50	
1,4-Difluorobenzene	379240	12.01	483052	12.01	79	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	199483	14.61	235561	14.61	85	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	149519	16.98	156580	16.98	95	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64808-CAL4)			Lab File ID: 212B4005.D			Analyzed: 02/04/21 09:54			
Pentafluorobenzene	270209	11.46	270209	11.46	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	483052	12.01	483052	12.01	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	235561	14.61	235561	14.61	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	156580	16.98	156580	16.98	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA64808-CAL5)			Lab File ID: 212B4006.D			Analyzed: 02/04/21 10:23			
Pentafluorobenzene	251747	11.46	270209	11.46	93	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	453865	12.01	483052	12.01	94	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	225182	14.61	235561	14.61	96	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	152185	16.97	156580	16.98	97	50 - 200	-0.0100	+/-0.50	
Cal Standard (AA64808-CAL6)			Lab File ID: 212B4007.D			Analyzed: 02/04/21 10:52			
Pentafluorobenzene	268442	11.47	270209	11.46	99	50 - 200	0.0100	+/-0.50	
1,4-Difluorobenzene	494605	12.02	483052	12.01	102	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	245390	14.61	235561	14.61	104	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	165726	16.97	156580	16.98	106	50 - 200	-0.0100	+/-0.50	
Cal Standard (AA64808-CAL7)			Lab File ID: 212B4008.D			Analyzed: 02/04/21 11:20			
Pentafluorobenzene	261684	11.47	270209	11.46	97	50 - 200	0.0100	+/-0.50	
1,4-Difluorobenzene	489998	12.02	483052	12.01	101	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	245966	14.61	235561	14.61	104	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	165062	16.97	156580	16.98	105	50 - 200	-0.0100	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA64808
Instrument: OVGCMS2
Matrix: Water
Calibration: 2102033

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA64808-CAL8)			Lab File ID: 212B4009.D			Analyzed: 02/04/21 11:49			
Pentafluorobenzene	260297	11.46	270209	11.46	96	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	490462	12.01	483052	12.01	102	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	244146	14.61	235561	14.61	104	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	165719	16.98	156580	16.98	106	50 - 200	0.0000	+/-0.50	
Secondary Cal Check (AA64808-SCV1)			Lab File ID: 212B4012.D			Analyzed: 02/04/21 13:15			
Pentafluorobenzene	249415	11.47	270209	11.46	92	50 - 200	0.0100	+/-0.50	
1,4-Difluorobenzene	452987	12.02	483052	12.01	94	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	227625	14.61	235561	14.61	97	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	158064	16.98	156580	16.98	101	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA65034
Instrument: OVGCMS2
Matrix: Water
Calibration: 2102033

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA65034-CCV1)			Lab File ID: 212BN002.D			Analyzed: 02/19/21 08:35			
Pentafluorobenzene	181209	11.48	270209	11.46	67	50 - 200	0.0200	+/-0.50	
1,4-Difluorobenzene	350197	12.03	483052	12.01	72	50 - 200	0.0200	+/-0.50	
Chlorobenzene-d5	185349	14.63	235561	14.61	79	50 - 200	0.0200	+/-0.50	
1,4-Dichlorobenzene-d4	134963	17	156580	16.98	86	50 - 200	0.0200	+/-0.50	
LCS (1B19011-BS1)			Lab File ID: 212BN003.D			Analyzed: 02/19/21 09:07			
Pentafluorobenzene	177746	11.48	270209	11.46	66	50 - 200	0.0200	+/-0.50	
1,4-Difluorobenzene	332781	12.03	483052	12.01	69	50 - 200	0.0200	+/-0.50	
Chlorobenzene-d5	177928	14.63	235561	14.61	76	50 - 200	0.0200	+/-0.50	
1,4-Dichlorobenzene-d4	132137	17	156580	16.98	84	50 - 200	0.0200	+/-0.50	
Matrix Spike (1B19011-MS1)			Lab File ID: 212BN004.D			Analyzed: 02/19/21 09:35			
Pentafluorobenzene	276104	11.49	270209	11.46	102	50 - 200	0.0300	+/-0.50	
1,4-Difluorobenzene	537501	12.04	483052	12.01	111	50 - 200	0.0300	+/-0.50	
Chlorobenzene-d5	252013	14.63	235561	14.61	107	50 - 200	0.0200	+/-0.50	
1,4-Dichlorobenzene-d4	151683	17	156580	16.98	97	50 - 200	0.0200	+/-0.50	
Matrix Spike Dup (1B19011-MSD1)			Lab File ID: 212BN005.D			Analyzed: 02/19/21 10:04			
Pentafluorobenzene	180930	11.48	270209	11.46	67	50 - 200	0.0200	+/-0.50	
1,4-Difluorobenzene	346530	12.03	483052	12.01	72	50 - 200	0.0200	+/-0.50	
Chlorobenzene-d5	187565	14.63	235561	14.61	80	50 - 200	0.0200	+/-0.50	
1,4-Dichlorobenzene-d4	142181	17	156580	16.98	91	50 - 200	0.0200	+/-0.50	
Blank (1B19011-BLK1)			Lab File ID: 212BN008.D			Analyzed: 02/19/21 11:30			
Pentafluorobenzene	169030	11.48	270209	11.46	63	50 - 200	0.0200	+/-0.50	
1,4-Difluorobenzene	315501	12.03	483052	12.01	65	50 - 200	0.0200	+/-0.50	
Chlorobenzene-d5	180156	14.63	235561	14.61	76	50 - 200	0.0200	+/-0.50	
1,4-Dichlorobenzene-d4	145188	17	156580	16.98	93	50 - 200	0.0200	+/-0.50	
Instrument RL Check (AA65034-CRL1)			Lab File ID: 212BN009.D			Analyzed: 02/19/21 11:59			
Pentafluorobenzene	173391	11.48	270209	11.46	64	50 - 200	0.0200	+/-0.50	
1,4-Difluorobenzene	323832	12.03	483052	12.01	67	50 - 200	0.0200	+/-0.50	
Chlorobenzene-d5	184958	14.64	235561	14.61	79	50 - 200	0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	148746	17	156580	16.98	95	50 - 200	0.0200	+/-0.50	
CRCA-ASEFFLUENT-20210217 (AE01304-01)			Lab File ID: 212BN014.D			Analyzed: 02/19/21 14:23			
Pentafluorobenzene	290820	11.5	270209	11.46	108	50 - 200	0.0400	+/-0.50	
1,4-Difluorobenzene	563806	12.05	483052	12.01	117	50 - 200	0.0400	+/-0.50	
Chlorobenzene-d5	263894	14.64	235561	14.61	112	50 - 200	0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	160611	17	156580	16.98	103	50 - 200	0.0200	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA65034
Instrument: OVGCMS2
Matrix: Water
Calibration: 2102033

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
CRCA-ASINFLUENT-20210217 (AE01304-02)			Lab File ID: 212BN015.D			Analyzed: 02/19/21 14:51			
Pentafluorobenzene	299820	11.5	270209	11.46	111	50 - 200	0.0400	+/-0.50	
1,4-Difluorobenzene	578040	12.04	483052	12.01	120	50 - 200	0.0300	+/-0.50	
Chlorobenzene-d5	272946	14.63	235561	14.61	116	50 - 200	0.0200	+/-0.50	
1,4-Dichlorobenzene-d4	167917	17.01	156580	16.98	107	50 - 200	0.0300	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA65054
Instrument: OVGCMS2
Matrix: Water
Calibration: 2102033

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA65054-CCV1)			Lab File ID: 212BP002.D			Analyzed: 02/21/21 10:04			
Pentafluorobenzene	322098	11.46	270209	11.46	119	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	624565	12.01	483052	12.01	129	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	283735	14.6	235561	14.61	120	50 - 200	-0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	172407	16.97	156580	16.98	110	50 - 200	-0.0100	+/-0.50	
LCS (1B21002-BS1)			Lab File ID: 212BP003.D			Analyzed: 02/21/21 10:35			
Pentafluorobenzene	335443	11.46	270209	11.46	124	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	628249	12.01	483052	12.01	130	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	276119	14.61	235561	14.61	117	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	167444	16.97	156580	16.98	107	50 - 200	-0.0100	+/-0.50	
Matrix Spike (1B21002-MS1)			Lab File ID: 212BP004.D			Analyzed: 02/21/21 11:04			
Pentafluorobenzene	348143	11.46	270209	11.46	129	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	652694	12.01	483052	12.01	135	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	288560	14.6	235561	14.61	122	50 - 200	-0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	172089	16.97	156580	16.98	110	50 - 200	-0.0100	+/-0.50	
Matrix Spike Dup (1B21002-MSD1)			Lab File ID: 212BP005.D			Analyzed: 02/21/21 11:32			
Pentafluorobenzene	343187	11.46	270209	11.46	127	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	641716	12.01	483052	12.01	133	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	280426	14.61	235561	14.61	119	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	165185	16.97	156580	16.98	105	50 - 200	-0.0100	+/-0.50	
Blank (1B21002-BLK1)			Lab File ID: 212BP009.D			Analyzed: 02/21/21 13:27			
Pentafluorobenzene	181255	11.45	270209	11.46	67	50 - 200	-0.0100	+/-0.50	
1,4-Difluorobenzene	318306	12	483052	12.01	66	50 - 200	-0.0100	+/-0.50	
Chlorobenzene-d5	172070	14.61	235561	14.61	73	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	144168	16.97	156580	16.98	92	50 - 200	-0.0100	+/-0.50	
Instrument RL Check (AA65054-CRL1)			Lab File ID: 212BP010.D			Analyzed: 02/21/21 13:56			
Pentafluorobenzene	357316	11.47	270209	11.46	132	50 - 200	0.0100	+/-0.50	
1,4-Difluorobenzene	651865	12.02	483052	12.01	135	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	286103	14.61	235561	14.61	121	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	170352	16.98	156580	16.98	109	50 - 200	0.0000	+/-0.50	
CRCA-ASEFFLUENT-20210217 (AE01304-01RE1)			Lab File ID: 212BP016.D			Analyzed: 02/21/21 16:48			
Pentafluorobenzene	354275	11.47	270209	11.46	131	50 - 200	0.0100	+/-0.50	
1,4-Difluorobenzene	657991	12.02	483052	12.01	136	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	291130	14.61	235561	14.61	124	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	176907	16.97	156580	16.98	113	50 - 200	-0.0100	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA65054
Instrument: OVGCMS2
Matrix: Water
Calibration: 2102033

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
CRCA-ASINFLUENT-20210217 (AE01304-02RE1)			Lab File ID: 212BP017.D			Analyzed: 02/21/21 17:17			
Pentafluorobenzene	365353	11.47	270209	11.46	135	50 - 200	0.0100	+/-0.50	
1,4-Difluorobenzene	667282	12.02	483052	12.01	138	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	298600	14.62	235561	14.61	127	50 - 200	0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	180151	16.98	156580	16.98	115	50 - 200	0.0000	+/-0.50	

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE01304-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64808		
Calibration:	2102033	Instrument:	OVGCMS2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA64808-TUN1	212B4001.D	02/04/21 07:46
Cal Standard	AA64808-CAL1	212B4002.D	02/04/21 08:28
Cal Standard	AA64808-CAL2	212B4003.D	02/04/21 08:57
Cal Standard	AA64808-CAL3	212B4004.D	02/04/21 09:26
Cal Standard	AA64808-CAL4	212B4005.D	02/04/21 09:54
Cal Standard	AA64808-CAL5	212B4006.D	02/04/21 10:23
Cal Standard	AA64808-CAL6	212B4007.D	02/04/21 10:52
Cal Standard	AA64808-CAL7	212B4008.D	02/04/21 11:20
Cal Standard	AA64808-CAL8	212B4009.D	02/04/21 11:49
Secondary Cal Check	AA64808-SCV1	212B4012.D	02/04/21 13:15

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE01304-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA65034		
Calibration:	2102033	Instrument:	OVGCMS2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA65034-CCV1	212BN002.D	02/19/21 08:35
LCS	1B19011-BS1	212BN003.D	02/19/21 09:07
MW-3	1B19011-MS1	212BN004.D	02/19/21 09:35
MW-3	1B19011-MSD1	212BN005.D	02/19/21 10:04
Blank	1B19011-BLK1	212BN008.D	02/19/21 11:30
Instrument RL Check	AA65034-CRL1	212BN009.D	02/19/21 11:59
CRCA-ASEFFLUENT-20210217	AE01304-01	212BN014.D	02/19/21 14:23
CRCA-ASINFLUENT-20210217	AE01304-02	212BN015.D	02/19/21 14:51

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE01304-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA65054		
Calibration:	2102033	Instrument:	OVGCMS2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA65054-CCV1	212BP002.D	02/21/21 10:04
LCS	1B21002-BS1	212BP003.D	02/21/21 10:35
WP-A15	1B21002-MS1	212BP004.D	02/21/21 11:04
WP-A15	1B21002-MSD1	212BP005.D	02/21/21 11:32
Blank	1B21002-BLK1	212BP009.D	02/21/21 13:27
Instrument RL Check	AA65054-CRL1	212BP010.D	02/21/21 13:56
CRCA-ASEFFLUENT-20210217	AE01304-01RE1	212BP016.D	02/21/21 16:48
CRCA-ASINFLUENT-20210217	AE01304-02RE1	212BP017.D	02/21/21 17:17

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE01304-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	212B4001.D	Injection Date:	02/04/21
Instrument ID:	OVGCMS2	Injection Time:	07:46
Sequence:	AA64808	Lab Sample ID:	AA64808-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	132	PASS
96	5 - 9% of 95	6.62	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	75.7	PASS
175	5 - 9% of 174	7.26	PASS
176	95 - 105% of 174	96.3	PASS
177	5 - 10% of 176	6.87	PASS

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE01304-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS2	Calibration:	2102033
Lab File ID:	212BN002.D	Calibration Date:	02/05/21 09:02
Sequence:	AA65034	Injection Date:	02/19/21
Lab Sample ID:	AA65034-CCV1	Injection Time:	08:35

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Dichlorodifluoromethane	A	50.0	51	1.054413	1.044142		1.0	20	
Chloromethane	A	50.0	53	1.003268	1.055257		5.2	20	
Vinyl chloride	A	50.0	53	0.9128604	0.9644333		5.6	20	
Bromomethane	A	50.0	81	0.5607726	0.5264253		61	20	*
Chloroethane	A	50.0	59	0.5053238	0.5234012		17	20	
Trichlorofluoromethane	A	50.0	53	0.9153286	0.9750068		6.5	20	
Freon 113	A	50.0	55	0.5252336	0.5812625		11	20	
Acetone	A	250	220	0.1217703	9.751723E-02		-12	20	
1,1-Dichloroethene	A	50.0	49	0.5294919	0.520515		-1.6	20	
Carbon disulfide	A	250	300	2.00533	2.3878		19	20	
Methylene Chloride	A	50.0	49	0.6476308	0.5828353		-2.6	20	
Methyl-tert-Butyl Ether	A	50.0	40	1.312879	1.053562		-20	20	
trans-1,2-Dichloroethene	A	50.0	49	0.5934929	0.5805286		-2.2	20	
cis-1,2-Dichloroethene	A	50.0	50	0.6402571	0.6381306		-0.3	20	
1,1-Dichloroethane	A	50.0	54	1.147441	1.237814		7.9	20	
2-Butanone	A	250	210	4.359378E-02	0.0322037		-17	20	
Chloroform	A	50.0	50	1.084474	1.081332		-0.3	20	
1,1,1-Trichloroethane	A	50.0	52	0.8134746	0.8527722		4.8	20	
Methyl acetate	A	50.0	38	8.201479E-02	5.270158E-02		-25	20	*
Cyclohexane	A	50.0	56	0.9589924	1.068424		11	20	
Methyl cyclohexane	A	50.0	52	0.4061613	0.4233617		4.2	20	
Carbon Tetrachloride	A	50.0	49	0.4519301	0.4468456		-1.1	20	
1,2-Dichloroethane	A	50.0	41	0.4235912	0.343341		-19	20	
Benzene	A	50.0	48	1.215592	1.157531		-4.8	20	
Trichloroethene	A	50.0	49	0.3303171	0.3259108		-1.3	20	
1,2-Dichloropropane	A	50.0	46	0.3972719	0.3498517		-7.1	20	
Bromodichloromethane	A	50.0	42	0.4774664	0.3829844		-16	20	
4-Methyl-2-pentanone	A	250	220	3.231915E-02	2.474264E-02		-14	20	
2-Hexanone	A	250	240	0.1710998	0.1501738		-6	20	

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE01304-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS2	Calibration:	2102033
Lab File ID:	212BN002.D	Calibration Date:	02/05/21 09:02
Sequence:	AA65034	Injection Date:	02/19/21
Lab Sample ID:	AA65034-CCV1	Injection Time:	08:35

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
cis-1,3-Dichloropropene	A	50.0	41	0.6050803	0.5016833		-17	20	
Toluene	A	50.0	48	1.447043	1.401847		-3.1	20	
trans-1,3-Dichloropropene	A	50.0	36	0.935145	0.6784876		-27	20	*
1,1,2-Trichloroethane	A	50.0	35	0.4686471	0.3298534		-30	20	*
Tetrachloroethene	A	50.0	46	0.4322202	0.4007251		-7.3	20	
Dibromochloromethane	A	50.0	36	0.6477466	0.4696006		-28	20	*
1,2-Dibromoethane	A	50.0	39	0.4889192	0.3770455		-23	20	*
Chlorobenzene	A	50.0	47	1.568211	1.464734		-6.6	20	
Ethylbenzene	A	50.0	50	0.811089	0.819152		1.0	20	
m,p-Xylenes	A	100	100	0.9669566	0.9964176		3.0	20	
o-Xylene	A	50.0	52	0.9874885	1.019649		3.3	20	
Bromoform	A	50.0	33	0.3083202	0.2037993		-34	20	*
Styrene	A	50.0	51	1.748504	1.684546		2.4	20	
Isopropylbenzene	A	50.0	52	2.44146	2.522566		3.3	20	
1,1,2,2-Tetrachloroethane	A	50.0	35	0.5122098	0.341		-29	20	*
1,2,4-Trichlorobenzene	A	50.0	47	0.548923	0.5180679		-5.6	20	
1,3-Dichlorobenzene	A	50.0	47	1.487847	1.385143		-6.9	20	
1,4-Dichlorobenzene	A	50.0	46	1.492944	1.381475		-7.5	20	
1,2-Dichlorobenzene	A	50.0	46	1.27471	1.171158		-8.1	20	
1,2-Dibromo-3-chloropropane	A	50.0	34	9.403054E-02	5.937183E-02		-31	20	*

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE01304-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS2	Calibration:	2102033
Lab File ID:	212BP002.D	Calibration Date:	02/05/21 09:02
Sequence:	AA65054	Injection Date:	02/21/21
Lab Sample ID:	AA65054-CCV1	Injection Time:	10:04

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Dichlorodifluoromethane	A	50.0	48	1.054413	0.9948277		-3.8	20	
Chloromethane	A	50.0	48	1.003268	0.9623096		-4.1	20	
Vinyl chloride	A	50.0	50	0.9128604	0.9166527		0.40	20	
Bromomethane	A	50.0	78	0.5607726	0.5056505		55	20	*
Chloroethane	A	50.0	60	0.5053238	0.5371999		21	20	*
Trichlorofluoromethane	A	50.0	54	0.9153286	0.9904532		8.2	20	
Freon 113	A	50.0	53	0.5252336	0.5580165		6.2	20	
Acetone	A	250	230	0.1217703	0.1014691		-8.1	20	
1,1-Dichloroethene	A	50.0	48	0.5294919	0.508783		-3.8	20	
Carbon disulfide	A	250	270	2.00533	2.144994		7.0	20	
Methylene Chloride	A	50.0	48	0.6476308	0.5756385		-3.8	20	
Methyl-tert-Butyl Ether	A	50.0	38	1.312879	1.005619		-23	20	*
trans-1,2-Dichloroethene	A	50.0	49	0.5934929	0.5873244		-1	20	
cis-1,2-Dichloroethene	A	50.0	50	0.6402571	0.6426709		0.40	20	
1,1-Dichloroethane	A	50.0	53	1.147441	1.21997		6.3	20	
2-Butanone	A	250	210	4.359378E-02	3.239946E-02		-17	20	
Chloroform	A	50.0	51	1.084474	1.096803		1.1	20	
1,1,1-Trichloroethane	A	50.0	53	0.8134746	0.8561307		5.2	20	
Methyl acetate	A	50.0	40	8.201479E-02	5.588672E-02		-20	20	
Cyclohexane	A	50.0	52	0.9589924	1.005163		4.8	20	
Methyl cyclohexane	A	50.0	48	0.4061613	0.3862913		-4.9	20	
Carbon Tetrachloride	A	50.0	50	0.4519301	0.4554802		0.80	20	
1,2-Dichloroethane	A	50.0	44	0.4235912	0.3736761		-12	20	
Benzene	A	50.0	44	1.215592	1.072346		-12	20	
Trichloroethene	A	50.0	47	0.3303171	0.3124287		-5.4	20	
1,2-Dichloropropane	A	50.0	46	0.3972719	0.3483849		-7.5	20	
Bromodichloromethane	A	50.0	44	0.4774664	0.3972877		-12	20	
4-Methyl-2-pentanone	A	250	200	3.231915E-02	2.343071E-02		-19	20	
2-Hexanone	A	250	210	0.1710998	0.1369683		-14	20	

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE01304-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS2	Calibration:	2102033
Lab File ID:	212BP002.D	Calibration Date:	02/05/21 09:02
Sequence:	AA65054	Injection Date:	02/21/21
Lab Sample ID:	AA65054-CCV1	Injection Time:	10:04

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
cis-1,3-Dichloropropene	A	50.0	42	0.6050803	0.5090183		-16	20	
Toluene	A	50.0	49	1.447043	1.432333		-1	20	
trans-1,3-Dichloropropene	A	50.0	44	0.935145	0.8144043		-13	20	
1,1,2-Trichloroethane	A	50.0	42	0.4686471	0.3949566		-16	20	
Tetrachloroethene	A	50.0	49	0.4322202	0.4217703		-2.4	20	
Dibromochloromethane	A	50.0	44	0.6477466	0.5724884		-12	20	
1,2-Dibromoethane	A	50.0	46	0.4889192	0.4476219		-8.4	20	
Chlorobenzene	A	50.0	47	1.568211	1.464765		-6.6	20	
Ethylbenzene	A	50.0	49	0.811089	0.7886972		-2.8	20	
m,p-Xylenes	A	100	94	0.9669566	0.9052531		-6.4	20	
o-Xylene	A	50.0	47	0.9874885	0.9366345		-5.1	20	
Bromoform	A	50.0	38	0.3083202	0.2355508		-24	20	*
Styrene	A	50.0	46	1.748504	1.506596		-8.4	20	
Isopropylbenzene	A	50.0	47	2.44146	2.303269		-5.7	20	
1,1,2,2-Tetrachloroethane	A	50.0	37	0.5122098	0.3585141		-25	20	*
1,2,4-Trichlorobenzene	A	50.0	43	0.548923	0.476135		-13	20	
1,3-Dichlorobenzene	A	50.0	49	1.487847	1.44964		-2.6	20	
1,4-Dichlorobenzene	A	50.0	47	1.492944	1.391405		-6.8	20	
1,2-Dichlorobenzene	A	50.0	47	1.27471	1.206337		-5.4	20	
1,2-Dibromo-3-chloropropane	A	50.0	42	9.403054E-02	7.242165E-02		-16	20	

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE01304-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64808	Instrument:	OVGCMS2
Calibration:	2102033		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A0I0903	MS Tune	AA64808-TUN1	212B4001.D	02/04/21 07:46
A1B0650	8260 Cal 1PPB	AA64808-CAL1	212B4002.D	02/04/21 08:28
A1B0651	8260 Cal 2 PPB	AA64808-CAL2	212B4003.D	02/04/21 08:57
A1B0652	8260 Cal 5 PPB	AA64808-CAL3	212B4004.D	02/04/21 09:26
A1B0653	8260 Cal 10 PPB	AA64808-CAL4	212B4005.D	02/04/21 09:54
A1B0654	8260 Cal 20 PPB	AA64808-CAL5	212B4006.D	02/04/21 10:23
A1B0655	8260 Cal 50 PPB	AA64808-CAL6	212B4007.D	02/04/21 10:52
A1B0656	8260 Cal 80PPB	AA64808-CAL7	212B4008.D	02/04/21 11:20
A1B0657	8260 Cal 100 PPB	AA64808-CAL8	212B4009.D	02/04/21 11:49
A1B0663	8260 SCV 50 PPB	AA64808-SCV1	212B4012.D	02/04/21 13:15

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2102033
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 02/05/21 09:02

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	1	1.337462	2	1.247911	5	0.9449432	10	0.8895337	20	0.9380152	50	0.9944346
Chloromethane	1	1.172416	2	1.131201	5	0.8616121	10	0.8303943	20	0.8614303	50	0.9522727
Vinyl chloride	1	1.036512	2	1.069531	5	0.8144113	10	0.8046179	20	0.8372592	50	0.8877784
Bromomethane	1	0.9356348	2	0.9942258	5	0.8005614	10	0.4639002	20	0.3631126	50	0.3399654
Chloroethane	1	0.6865245	2	0.6149489	5	0.4903051	10	0.4394931	20	0.4655666	50	0.4563071
Trichlorofluoromethane	1	0.9294701	2	1.021496	5	0.8167273	10	0.8307273	20	0.87436	50	0.9344477
Freon 113	1	0.5806036	2	0.4828525	5	0.4785859	10	0.4796842	20	0.5200062	50	0.5380902
Acetone	5	0.1835963	10	0.1462067	25	0.1069917	50	0.1019988	100	0.1024521	250	0.1109946
1,1-Dichloroethene	1	0.7047384	2	0.5700411	5	0.4713599	10	0.4408624	20	0.4770166	50	0.5025033
Carbon disulfide	5	2.351332	10	2.261026	25	1.876879	50	1.871984	100	1.898783	250	1.915777
Methylene Chloride	1	0.9754252	2	0.7118947	5	0.6029108	10	0.5451891	20	0.5619431	50	0.5763368
Methyl-tert-Butyl Ether	1	1.508673	2	1.361744	5	1.239497	10	1.13823	20	1.21501	50	1.320684
trans-1,2-Dichloroethene	1	0.7700283	2	0.6059423	5	0.5522822	10	0.5096055	20	0.5451306	50	0.5632688
cis-1,2-Dichloroethene	1	0.7366828	2	0.6851251	5	0.5860964	10	0.5619539	20	0.5953	50	0.6226969
1,1-Dichloroethane	1	1.168773	2	1.188493	5	1.147411	10	1.048688	20	1.121354	50	1.137851
2-Butanone	5	5.150335E-02	10	6.279584E-02	25	4.476437E-02	50	3.696768E-02	100	3.535097E-02	250	0.039429
Chloroform	1	1.099	2	1.230398	5	0.9986289	10	0.9957662	20	1.045097	50	1.066729
1,1,1-Trichloroethane	1	0.9129375	2	0.8576261	5	0.7663767	10	0.7245873	20	0.7687182	50	0.7966786
Methyl acetate	1	0.1384258	2	0.1138331	5	7.439111E-02	10	0.0582327	20	0.0618776	50	6.750807E-02
Cyclohexane	1	1.015496	2	0.9368089	5	0.9209027	10	0.8668475	20	0.9303388	50	0.9637724
Methyl cyclohexane	1	0.5339694	2	0.4282552	5	0.3777819	10	0.3395597	20	0.3721206	50	0.385174
Carbon Tetrachloride	1	0.5021641	2	0.4661366	5	0.4361618	10	0.4050185	20	0.4345675	50	0.4458204
1,2-Dichloroethane	1	0.5036396	2	0.4797331	5	0.4094505	10	0.3674035	20	0.3871195	50	0.4036251
Benzene	1	1.483376	2	1.321047	5	1.185661	10	1.078528	20	1.154269	50	1.155142
Trichloroethene	1	0.3657617	2	0.3319887	5	0.3135745	10	0.2888923	20	0.3201668	50	0.3277059
1,2-Dichloropropane	1	0.5416749	2	0.4611197	5	0.3624881	10	0.331455	20	0.356681	50	0.3638479
Bromodichloromethane	1	0.636927	2	0.5252489	5	0.4513237	10	0.4099041	20	0.4357794	50	0.4481051
4-Methyl-2-pentanone	5	4.593744E-02	10	4.153131E-02	25	3.145238E-02	50	2.627046E-02	100	2.622145E-02	250	2.947039E-02
2-Hexanone	5	0.2275887	10	0.2062605	25	0.164951	50	0.140871	100	0.1459256	250	0.1618071
cis-1,3-Dichloropropene	1	0.7313594	2	0.6453639	5	0.5855659	10	0.5205651	20	0.5551651	50	0.5882977
Toluene	1	1.682008	2	1.548359	5	1.389492	10	1.284062	20	1.353594	50	1.403602

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2102033
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 02/05/21 09:02

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	1	1.08899	2	0.9941519	5	0.8988736	10	0.8307402	20	0.8643342	50	0.9195607
1,1,2-Trichloroethane	1	0.5770371	2	0.499281	5	0.4457021	10	0.4150305	20	0.4267104	50	0.4539549
Tetrachloroethene	1	0.4166521	2	0.4243087	5	0.433671	10	0.4059883	20	0.4300299	50	0.4376014
Dibromochloromethane	1	0.7092384	2	0.6548386	5	0.6184487	10	0.5671143	20	0.6139367	50	0.6600187
1,2-Dibromoethane	1	0.534907	2	0.5086359	5	0.4468551	10	0.4239454	20	0.4558424	50	0.5006602
Chlorobenzene	1	1.801715	2	1.701912	5	1.552112	10	1.376756	20	1.478215	50	1.50954
Ethylbenzene	1	0.9512686	2	0.87441	5	0.7796654	10	0.7004767	20	0.7649923	50	0.7764294
m,p-Xylenes	2	1.182548	4	1.091776	10	0.9567733	20	0.8290952	40	0.8966747	100	0.9041403
o-Xylene	1	1.223226	2	1.085027	5	0.9547179	10	0.8329265	20	0.904757	50	0.9337911
Bromoform	1	0.3196076	2	0.3179308	5	0.2969677	10	0.2696117	20	0.2884556	50	0.3188312
Styrene	1	2.291006	2	2.008751	5	1.718843	10	1.440052	20	1.579334	50	1.631627
Isopropylbenzene	1	2.967412	2	2.684972	5	2.373335	10	2.076044	20	2.257785	50	2.332226
1,1,2,2-Tetrachloroethane	1	0.7231849	2	0.5689077	5	0.4999925	10	0.422502	20	0.4366579	50	0.4776641
1,2,4-Trichlorobenzene	1	0.5821393	2	0.5708529	5	0.5302336	10	0.4676523	20	0.5045832	50	0.5469993
1,3-Dichlorobenzene	1	1.699312	2	1.541063	5	1.424836	10	1.281517	20	1.377731	50	1.460091
1,4-Dichlorobenzene	1	1.731302	2	1.626725	5	1.43547	10	1.27941	20	1.374856	50	1.43371
1,2-Dichlorobenzene	1	1.411407	2	1.297268	5	1.202121	10	1.094393	20	1.195289	50	1.279721
1,2-Dibromo-3-chloropropane	1	0.115303	2	0.1363742	5	8.908567E-02	10	7.797931E-02	20	0.0747117	50	8.462764E-02
Dibromofluoromethane	50	0.4778211	55	0.4794	60	0.5204522	50	0.5129844	65	0.5266185	50	0.5190879
Toluene-d8	50	0.9247951	55	0.9066638	60	0.9224941	50	0.8475009	65	0.8643167	50	0.8499914
4-Bromofluorobenzene	50	0.7781051	55	0.7428421	60	0.7573995	50	0.6855634	65	0.6970191	50	0.7137536

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2102033
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 02/05/21 09:02

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	80	1.035242	100	1.047761								
Chloromethane	80	1.072116	100	1.1447								
Vinyl chloride	80	0.919451	100	0.9333223								
Bromomethane	80	0.3140309	100	0.2747496								
Chloroethane	80	0.4502759	100	0.4391695								
Trichlorofluoromethane	80	0.9525157	100	0.9628847								
Freon 113	80	0.5629022	100	0.559144								
Acetone	400	0.1126038	500	0.1093182								
1,1-Dichloroethene	80	0.5349415	100	0.5344722								
Carbon disulfide	400	1.936238	500	1.930624								
Methylene Chloride	80	0.6084772	100	0.5988698								
Methyl-tert-Butyl Ether	80	1.3757	100	1.343492								
trans-1,2-Dichloroethene	80	0.6005144	100	0.601171								
cis-1,2-Dichloroethene	80	0.6682201	100	0.6659816								
1,1-Dichloroethane	80	1.191903	100	1.175054								
2-Butanone	400	3.974689E-02	500	3.819214E-02								
Chloroform	80	1.12568	100	1.114494								
1,1,1-Trichloroethane	80	0.8442339	100	0.8366385								
Methyl acetate	80	7.265203E-02	100	6.919788E-02								
Cyclohexane	80	1.022295	100	1.015478								
Methyl cyclohexane	80	0.4074991	100	0.4049305								
Carbon Tetrachloride	80	0.4658795	100	0.4596921								
1,2-Dichloroethane	80	0.4244163	100	0.4133419								
Benzene	80	1.185794	100	1.160917								
Trichloroethene	80	0.3487323	100	0.3457149								
1,2-Dichloropropane	80	0.3850092	100	0.3758997								
Bromodichloromethane	80	0.4611358	100	0.4513071								
4-Methyl-2-pentanone	400	2.936849E-02	500	2.830128E-02								
2-Hexanone	400	0.1644803	500	0.1569143								
cis-1,3-Dichloropropene	80	0.6138686	100	0.6004563								
Toluene	80	1.464834	100	1.450392								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2102033
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 02/05/21 09:02

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	80	0.944719	100	0.9397901								
1,1,2-Trichloroethane	80	0.4719758	100	0.4594853								
Tetrachloroethene	80	0.4558023	100	0.453708								
Dibromochloromethane	80	0.6888681	100	0.6695092								
1,2-Dibromoethane	80	0.5258527	100	0.5146552								
Chlorobenzene	80	1.57383	100	1.551606								
Ethylbenzene	80	0.8238054	100	0.8176644								
m,p-Xylenes	160	0.9405886	200	0.9340569								
o-Xylene	80	0.9866201	100	0.9788426								
Bromoform	80	0.3338063	100	0.3213507								
Styrene	80	1.700654	100	1.617764								
Isopropylbenzene	80	2.434442	100	2.405466								
1,1,2,2-Tetrachloroethane	80	0.4942502	100	0.4745193								
1,2,4-Trichlorobenzene	80	0.5989757	100	0.5899474								
1,3-Dichlorobenzene	80	1.580311	100	1.537917								
1,4-Dichlorobenzene	80	1.54164	100	1.520438								
1,2-Dichlorobenzene	80	1.37604	100	1.341439								
1,2-Dibromo-3-chloropropane	80	8.877725E-02	100	0.0853855								
Dibromofluoromethane	70	0.5389652	75	0.5564387								
Toluene-d8	70	0.8634773	75	0.8811705								
4-Bromofluorobenzene	70	0.6991704	75	0.7103018								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2102033
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 02/05/21 09:02

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	1.054413	14.96476	5.89	0.425663	0.9989438		0.99	
Chloromethane	1.003268	14.21594	6.3575	0.4096043			20	
Vinyl chloride	0.9128604	10.80098	6.5525	0.4218322			20	
Bromomethane	0.5607726	53.31909	7.205	0.2224201	0.995		0.99	
Chloroethane	0.5053238	18.44314	7.43875	0.3001491	0.9993979		0.99	
Trichlorofluoromethane	0.9153286	7.618433	7.70125	0.2347553			20	
Freon 113	0.5252336	7.841525	8.525	0.2177851			20	
Acetone	0.1217703	23.55152	9.24125	0.1068927	0.9993213		0.99	
1,1-Dichloroethene	0.5294919	15.49619	8.49	0.2090049	0.9985825		0.99	
Carbon disulfide	2.00533	9.40711	8.6075	0.2035073			20	
Methylene Chloride	0.6476308	21.8686	9.20125	0.1698144	0.9992379		0.99	
Methyl-tert-Butyl Ether	1.312879	8.690892	9.52125	0.1027142			20	
trans-1,2-Dichloroethene	0.5934929	13.26964	9.43	9.908017E-02			20	
cis-1,2-Dichloroethene	0.6402571	9.173725	10.6675	6.592946E-02			20	
1,1-Dichloroethane	1.147441	4.088278	10.105	0.1294405			20	
2-Butanone	4.359378E-02	21.34022	11.17125	2.697663E-02	0.998794		0.99	
Chloroform	1.084474	7.074928	10.8875	6.626004E-02			20	
1,1,1-Trichloroethane	0.8134746	7.45283	11.18375	6.557541E-02			20	
Methyl acetate	8.201479E-02	34.75121	9.38375	0.1269103	0.9976746		0.99	
Cyclohexane	0.9589924	5.801573	10.95125	0.0901754			20	
Methyl cyclohexane	0.4061613	14.316	12.0725	5.566972E-02			20	
Carbon Tetrachloride	0.4519301	6.351877	11.14625	4.887193E-02			20	
1,2-Dichloroethane	0.4235912	10.83723	11.66625	4.571402E-02			20	
Benzene	1.215592	10.48916	11.525	3.962501E-02			20	
Trichloroethene	0.3303171	7.183729	12.0375	3.180391E-02			20	
1,2-Dichloropropane	0.3972719	17.50226	12.48875	2.369355E-02	0.9991427		0.99	
Bromodichloromethane	0.4774664	15.12562	12.5075	3.780596E-02	0.9996007		0.99	
4-Methyl-2-pentanone	3.231915E-02	22.73138	13.5125	3.595128E-02	0.9988323		0.99	
2-Hexanone	0.1710998	17.59475	14.21375	3.634812E-02	0.9986558		0.99	
cis-1,3-Dichloropropene	0.6050803	10.44582	13.05	5.878714E-03			20	

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE01304-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2102033
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 02/05/21 09:02

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Toluene	1.447043	8.515849	13.28125	3.206579E-02			20	
trans-1,3-Dichloropropene	0.935145	8.54874	13.57	1.887996E-02			20	
1,1,2-Trichloroethane	0.4686471	10.86762	13.72875	3.105124E-02			20	
Tetrachloroethene	0.4322202	3.956219	13.65875	2.708465E-02			20	
Dibromochloromethane	0.6477466	7.06254	13.92375	3.714265E-02			20	
1,2-Dibromoethane	0.4889192	8.380836	14.18	1.800044E-02			20	
Chlorobenzene	1.568211	8.389421	14.62875	1.586376E-02			20	
Ethylbenzene	0.811089	9.367978	14.58625	3.565448E-02			20	
m,p-Xylenes	0.9669566	11.84517	14.7025	0.0312652			20	
o-Xylene	0.9874885	12.0948	15.12125	0.0216312			20	
Bromoform	0.3083202	6.903605	15.25125	2.216697E-02			20	
Styrene	1.748504	15.58365	15.16125	2.057437E-02	0.9987786		0.99	
Isopropylbenzene	2.44146	11.17545	15.39125	2.410882E-02			20	
1,1,2,2-Tetrachloroethane	0.5122098	18.75023	15.82625	3.123078E-02	0.9988524		0.99	
1,2,4-Trichlorobenzene	0.548923	8.347295	19.96375	5.777523E-02			20	
1,3-Dichlorobenzene	1.487847	8.72802	16.90375	2.854841E-02			20	
1,4-Dichlorobenzene	1.492944	9.613437	17	0			20	
1,2-Dichlorobenzene	1.27471	8.282759	17.5675	0.0407313			20	
1,2-Dibromo-3-chloropropane	9.403054E-02	22.34967	18.67875	4.540835E-02	0.9983926		0.99	
Dibromofluoromethane	0.516471	5.231026	11.06875	7.431838E-02			20	
Toluene-d8	0.8825512	3.569832	13.2325	3.066695E-02			20	
4-Bromofluorobenzene	0.7230194	4.528641	15.73	1.698639E-02			20	

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE01304-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2102033 **Laboratory ID:** AA64808-SCV1

Sequence: AA64808 **Standard ID:** A1B0663

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Cyclohexane	50.0	59	17.1	30.00
Ethylbenzene	50.0	48	-3.2	30.00
Carbon Tetrachloride	50.0	54	7.4	30.00
1,3-Dichlorobenzene	50.0	48	-4.7	30.00
4-Bromofluorobenzene	50.0	49	-1.3	30.00
Toluene-d8	50.0	49	-2.8	30.00
Dibromofluoromethane	50.0	49	-1.2	30.00
Methyl-tert-Butyl Ether	50.0	55	9.6	30.00
trans-1,2-Dichloroethene	50.0	52	3.2	30.00
cis-1,2-Dichloroethene	50.0	53	5.3	30.00
Tetrachloroethene	50.0	53	5.1	30.00
Acetone	250	280	11.5	30.00
1,2,4-Trichlorobenzene	50.0	48	-3.1	30.00
Chloroform	50.0	52	4.8	30.00
Chlorobenzene	50.0	49	-2.2	30.00
Toluene	50.0	51	1.9	30.00
Methyl cyclohexane	50.0	54	8.0	30.00
m,p-Xylenes	100	94	-6.1	30.00
4-Methyl-2-pentanone	250	260	2.9	30.00
1,2-Dichloroethane	50.0	51	1.8	30.00
1,2-Dibromoethane	50.0	51	2.9	30.00
1,4-Dichlorobenzene	50.0	46	-7.3	30.00
trans-1,3-Dichloropropene	50.0	51	1.3	30.00
cis-1,3-Dichloropropene	50.0	49	-2.1	30.00
Styrene	50.0	50	-0.7	30.00
Dibromochloromethane	50.0	50	-0.2	30.00
1,1-Dichloroethene	50.0	50	0.08	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE01304-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2102033 **Laboratory ID:** AA64808-SCV1

Sequence: AA64808 **Standard ID:** A1B0663

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
1,2-Dibromo-3-chloropropane	50.0	48	-4.5	30.00
1,2-Dichlorobenzene	50.0	48	-3.4	30.00
o-Xylene	50.0	48	-4.9	30.00
1,1,2,2-Tetrachloroethane	50.0	48	-3.2	30.00
Methyl acetate	50.0	51	2.0	30.00
Trichloroethene	50.0	53	5.3	30.00
1,1,2-Trichloroethane	50.0	48	-3.4	30.00
2-Butanone	250	370	47.5 *	30.00
1,2-Dichloropropane	50.0	52	3.1	30.00
Freon 113	50.0	57	14.3	30.00
2-Hexanone	250	250	-0.7	30.00
Trichlorofluoromethane	50.0	54	8.0	30.00
Isopropylbenzene	50.0	47	-5.2	30.00
1,1-Dichloroethane	50.0	54	8.6	30.00
Bromodichloromethane	50.0	51	1.1	30.00
Bromoform	50.0	51	1.5	30.00
Carbon disulfide	50.0	50	0.4	30.00
Methylene Chloride	50.0	53	6.8	30.00
Vinyl chloride	50.0	50	-0.5	30.00
Chloroethane	50.0	55	9.3	30.00
Chloromethane	50.0	50	0.6	30.00
Bromomethane	50.0	40	-20.6	30.00
1,1,1-Trichloroethane	50.0	53	6.5	30.00
Benzene	50.0	55	9.4	30.00
Dichlorodifluoromethane	50.0	42	-15.3	30.00

* Values outside of QC limits

TETRA TECH ISG
TtEGS, Information Systems Group

Completion Ticket

On 3/9/2021 at 10:19 AM the following files were submitted to Tetra Tech by kdylnicki@encolabs.com with ENCO:

TE016AE01304A1.txt, TE016AE01304A3.txt

If you need to identify this session at a later date refer to Ticket Key:

202139_157820030_ledd_ENCO

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I Lori S. Mangrum, as the designated Quality Assurance Officer, hereby attest that all electronic deliverables have been thoroughly reviewed and are in agreement with the associated hardcopy data. The enclosed electronic files have been reviewed for accuracy (including significant figures), completeness and format. The laboratory will be responsible for any labor time necessary to correct enclosed electronic deliverables that have been found to be in error. I can be reached at (407) 826-5314 if there are any questions or problems with the enclosed electronic deliverables.

Signature:_____ Title: Quality Assurance Manager Date: March 09, 2021

ENCO Laboratories

Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Tuesday, February 23, 2021
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AE01304

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Wednesday, February 17, 2021.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-ASEFFLUENT-20210217 **Lab ID: AE01304-01** **Sampled: 02/17/21 08:00** **Received: 02/17/21 14:06**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	03/03/21	02/19/21 00:00	02/19/21 14:23

Client ID: CRCA-ASEFFLUENT-20210217 **Lab ID: AE01304-01RE1** **Sampled: 02/17/21 08:00** **Received: 02/17/21 14:06**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	03/03/21	02/21/21 11:25	02/21/21 16:48

Client ID: CRCA-ASINFLUENT-20210217 **Lab ID: AE01304-02** **Sampled: 02/17/21 08:15** **Received: 02/17/21 14:06**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	03/03/21	02/19/21 00:00	02/19/21 14:51

Client ID: CRCA-ASINFLUENT-20210217 **Lab ID: AE01304-02RE1** **Sampled: 02/17/21 08:15** **Received: 02/17/21 14:06**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	03/03/21	02/21/21 11:25	02/21/21 17:17

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-ASINFLUENT-20210217 **Lab ID:** AE01304-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	19		0.71	2.5	ug/L	EPA 8260D	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20210217 **Lab Sample ID:** AE01304-01 **Received:** 02/17/21 14:06

Matrix: Ground Water **Sampled:** 02/17/21 08:00 **Work Order:** AE01304

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1B19011	EPA 8260D	02/19/21 14:23	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1B19011	EPA 8260D	02/19/21 14:23	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1B21002	EPA 8260D	02/21/21 16:48	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1B21002	EPA 8260D	02/21/21 16:48	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20210217 **Lab Sample ID:** AE01304-01 **Received:** 02/17/21 14:06

Matrix: Ground Water **Sampled:** 02/17/21 08:00 **Work Order:** AE01304

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1B19011	EPA 8260D	02/19/21 14:23	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*45*	*1*	*50.0*	*89 %*	*41-142*	*1B19011*	*EPA 8260D*	*02/19/21 14:23*	*kkw*	
4-Bromofluorobenzene	*46*	*1*	*50.0*	*93 %*	*41-142*	*1B21002*	*EPA 8260D*	*02/21/21 16:48*	*kkw*	
Dibromofluoromethane	*59*	*1*	*50.0*	*118 %*	*53-146*	*1B19011*	*EPA 8260D*	*02/19/21 14:23*	*kkw*	
Dibromofluoromethane	*55*	*1*	*50.0*	*109 %*	*53-146*	*1B21002*	*EPA 8260D*	*02/21/21 16:48*	*kkw*	
Toluene-d8	*51*	*1*	*50.0*	*102 %*	*41-146*	*1B19011*	*EPA 8260D*	*02/19/21 14:23*	*kkw*	
Toluene-d8	*49*	*1*	*50.0*	*97 %*	*41-146*	*1B21002*	*EPA 8260D*	*02/21/21 16:48*	*kkw*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20210217 **Lab Sample ID:** AE01304-02 **Received:** 02/17/21 14:06

Matrix: Ground Water **Sampled:** 02/17/21 08:15 **Work Order:** AE01304

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1B19011	EPA 8260D	02/19/21 14:51	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1B19011	EPA 8260D	02/19/21 14:51	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1B21002	EPA 8260D	02/21/21 17:17	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1B21002	EPA 8260D	02/21/21 17:17	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	

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ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20210217 **Lab Sample ID:** AE01304-02 **Received:** 02/17/21 14:06

Matrix: Ground Water **Sampled:** 02/17/21 08:15 **Work Order:** AE01304

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Vinyl chloride [75-01-4]^	**19**		ug/L	1	0.71	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1B19011	EPA 8260D	02/19/21 14:51	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*45*	*1*	*50.0*	*90 %*	*41-142*	*1B19011*	*EPA 8260D*	*02/19/21 14:51*	*kkw*	
4-Bromofluorobenzene	*46*	*1*	*50.0*	*92 %*	*41-142*	*1B21002*	*EPA 8260D*	*02/21/21 17:17*	*kkw*	
Dibromofluoromethane	*59*	*1*	*50.0*	*118 %*	*53-146*	*1B19011*	*EPA 8260D*	*02/19/21 14:51*	*kkw*	
Dibromofluoromethane	*54*	*1*	*50.0*	*108 %*	*53-146*	*1B21002*	*EPA 8260D*	*02/21/21 17:17*	*kkw*	
Toluene-d8	*53*	*1*	*50.0*	*105 %*	*41-146*	*1B19011*	*EPA 8260D*	*02/19/21 14:51*	*kkw*	
Toluene-d8	*49*	*1*	*50.0*	*98 %*	*41-146*	*1B21002*	*EPA 8260D*	*02/21/21 17:17*	*kkw*	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1B19011 - EPA 5030B_MS

Blank (1B19011-BLK1) Prepared: 02/19/2021 00:00 Analyzed: 02/19/2021 11:30

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1B19011 - EPA 5030B_MS - Continued

Blank (1B19011-BLK1) Continued Prepared: 02/19/2021 00:00 Analyzed: 02/19/2021 11:30

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*51*			*ug/L*	*50.0*		*102*	*41-142*			
Dibromofluoromethane	*55*			*ug/L*	*50.0*		*110*	*53-146*			
Toluene-d8	*58*			*ug/L*	*50.0*		*117*	*41-146*			

LCS (1B19011-BS1) Prepared: 02/19/2021 00:00 Analyzed: 02/19/2021 09:07

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	21		2.5	ug/L	20.0		107	57-148			
1,1,2,2-Tetrachloroethane	15		2.5	ug/L	20.0		73	60-139			
1,1,2-Trichloroethane	14		2.5	ug/L	20.0		70	57-141			
1,1-Dichloroethane	22		2.5	ug/L	20.0		111	57-142			
1,1-Dichloroethene	20		2.5	ug/L	20.0		100	47-139			
1,2,4-Trichlorobenzene	21		2.5	ug/L	20.0		105	52-159			
1,2-Dibromo-3-chloropropane	16		2.5	ug/L	20.0		78	48-150			
1,2-Dibromoethane	15		2.5	ug/L	20.0		76	57-140			
1,2-Dichlorobenzene	19		2.5	ug/L	20.0		97	63-131			
1,2-Dichloroethane	17		2.5	ug/L	20.0		85	50-156			
1,2-Dichloropropane	19		2.5	ug/L	20.0		95	61-133			
1,3-Dichlorobenzene	20		2.5	ug/L	20.0		99	66-129			
1,4-Dichlorobenzene	19		2.5	ug/L	20.0		96	65-133			
2-Butanone	99		12	ug/L	100		99	10-180			
2-Hexanone	74		12	ug/L	100		74	12-180			
4-Methyl-2-pentanone	74		12	ug/L	100		74	19-180			
Acetone	81		25	ug/L	100		81	10-180			
Benzene	21		2.5	ug/L	20.0		106	56-136			
Bromodichloromethane	17		2.5	ug/L	20.0		87	58-135			
Bromoform	14		2.5	ug/L	20.0		68	46-148			
Bromomethane	13		2.5	ug/L	20.0		65	10-173			
Carbon disulfide	24		12	ug/L	20.0		120	43-153			
Carbon Tetrachloride	21		2.5	ug/L	20.0		103	54-156			
Chlorobenzene	20		2.5	ug/L	20.0		100	51-139			
Chloroethane	22		2.5	ug/L	20.0		108	27-180			
Chloroform	20		2.5	ug/L	20.0		102	58-139			
Chloromethane	18		2.5	ug/L	20.0		88	33-154			
cis-1,2-Dichloroethene	20		2.5	ug/L	20.0		101	56-128			
cis-1,3-Dichloropropene	16		2.5	ug/L	20.0		80	64-128			
Cyclohexane	25		2.5	ug/L	20.0		123	70-130			
Dibromochloromethane	14		2.5	ug/L	20.0		71	50-140			
Dichlorodifluoromethane	11		2.5	ug/L	20.0		57	10-180			
Ethylbenzene	21		2.5	ug/L	20.0		107	63-133			
Freon 113	23		2.5	ug/L	20.0		114	47-173			
Isopropylbenzene	22		2.5	ug/L	20.0		110	60-132			
m,p-Xylenes	45		5.0	ug/L	40.0		111	64-133			
Methyl acetate	14		2.5	ug/L	20.0		70	70-130			
Methyl cyclohexane	22		2.5	ug/L	20.0		112	70-130			
Methylene Chloride	20		12	ug/L	20.0		100	43-142			
Methyl-tert-Butyl Ether	14		2.5	ug/L	20.0		72	51-145			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1B19011 - EPA 5030B_MS - Continued

LCS (1B19011-BS1) Continued Prepared: 02/19/2021 00:00 Analyzed: 02/19/2021 09:07

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
o-Xylene	21		2.5	ug/L	20.0		107	61-129			
Styrene	21		2.5	ug/L	20.0		106	59-136			
Tetrachloroethene	20		2.5	ug/L	20.0		99	60-147			
Toluene	20		2.5	ug/L	20.0		102	64-131			
trans-1,2-Dichloroethene	21		2.5	ug/L	20.0		104	54-134			
trans-1,3-Dichloropropene	14		2.5	ug/L	20.0		72	65-149			
Trichloroethene	21		2.5	ug/L	20.0		105	62-135			
Trichlorofluoromethane	20		2.5	ug/L	20.0		100	56-155			
Vinyl chloride	17		2.5	ug/L	20.0		87	20-167			
4-Bromofluorobenzene	*50*			*ug/L*	*50.0*		*100*	*41-142*			
Dibromofluoromethane	*53*			*ug/L*	*50.0*		*105*	*53-146*			
Toluene-d8	*57*			*ug/L*	*50.0*		*114*	*41-146*			

Matrix Spike (1B19011-MS1) Prepared: 02/19/2021 00:00 Analyzed: 02/19/2021 09:35

Source: AE00742-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	25		2.5	ug/L	20.0	0.80 U	127	57-148			
1,1,2,2-Tetrachloroethane	14		2.5	ug/L	20.0	0.54 U	72	60-139			
1,1,2-Trichloroethane	16		2.5	ug/L	20.0	0.76 U	81	57-141			
1,1-Dichloroethane	26		2.5	ug/L	20.0	0.62 U	130	57-142			
1,1-Dichloroethene	24		2.5	ug/L	20.0	0.94 U	121	47-139			
1,2,4-Trichlorobenzene	19		2.5	ug/L	20.0	0.70 U	97	52-159			
1,2-Dibromo-3-chloropropane	17		2.5	ug/L	20.0	0.96 U	87	48-150			
1,2-Dibromoethane	17		2.5	ug/L	20.0	0.78 U	83	57-140			
1,2-Dichlorobenzene	19		2.5	ug/L	20.0	0.73 U	97	63-131			
1,2-Dichloroethane	18		2.5	ug/L	20.0	0.63 U	90	50-156			
1,2-Dichloropropane	21		2.5	ug/L	20.0	0.80 U	103	61-133			
1,3-Dichlorobenzene	21		2.5	ug/L	20.0	0.77 U	103	66-129			
1,4-Dichlorobenzene	20		2.5	ug/L	20.0	0.76 U	98	65-133			
2-Butanone	100		12	ug/L	100	4.5 U	102	10-180			
2-Hexanone	68		12	ug/L	100	2.5 U	68	12-180			
4-Methyl-2-pentanone	72		12	ug/L	100	2.5 U	72	19-180			
Acetone	89		25	ug/L	100	36	52	10-180			
Benzene	24		2.5	ug/L	20.0	2.2	107	56-136			
Bromodichloromethane	18		2.5	ug/L	20.0	0.52 U	91	58-135			
Bromoform	14		2.5	ug/L	20.0	0.75 U	70	46-148			
Bromomethane	15		2.5	ug/L	20.0	0.95 U	75	10-173			QM-11
Carbon disulfide	25		12	ug/L	20.0	3.0	111	43-153			
Carbon Tetrachloride	24		2.5	ug/L	20.0	0.94 U	118	54-156			
Chlorobenzene	21		2.5	ug/L	20.0	0.72 U	104	51-139			
Chloroethane	23		2.5	ug/L	20.0	0.98 U	117	27-180			
Chloroform	23		2.5	ug/L	20.0	0.80 U	117	58-139			
Chloromethane	19		2.5	ug/L	20.0	0.82 U	96	33-154			
cis-1,2-Dichloroethene	23		2.5	ug/L	20.0	0.53 U	117	56-128			
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0	0.59 U	87	64-128			
Cyclohexane	32		2.5	ug/L	20.0	17	79	70-130			
Dibromochloromethane	17		2.5	ug/L	20.0	0.50 U	84	50-140			
Dichlorodifluoromethane	13		2.5	ug/L	20.0	0.74 U	65	10-180			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1B19011 - EPA 5030B_MS - Continued

Matrix Spike (1B19011-MS1) Continued Prepared: 02/19/2021 00:00 Analyzed: 02/19/2021 09:35

Source: AE00742-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	23		2.5	ug/L	20.0	5.4	87	63-133			
Freon 113	27		2.5	ug/L	20.0	0.73 U	137	47-173			
Isopropylbenzene	24		2.5	ug/L	20.0	9.8	70	60-132			
m,p-Xylenes	42		5.0	ug/L	40.0	1.3 U	106	64-133			
Methyl acetate	16		2.5	ug/L	20.0	0.95 U	78	70-130			
Methyl cyclohexane	26		2.5	ug/L	20.0	0.64 U	131	70-130			QM-07
Methylene Chloride	22		12	ug/L	20.0	2.5 U	112	43-142			
Methyl-tert-Butyl Ether	16		2.5	ug/L	20.0	0.60 U	81	51-145			
o-Xylene	21		2.5	ug/L	20.0	0.53 U	103	61-129			
Styrene	20		2.5	ug/L	20.0	0.61 U	100	59-136			
Tetrachloroethene	23		2.5	ug/L	20.0	0.76 U	116	60-147			
Toluene	23		2.5	ug/L	20.0	0.72 U	114	64-131			
trans-1,2-Dichloroethene	24		2.5	ug/L	20.0	0.73 U	121	54-134			
trans-1,3-Dichloropropene	17		2.5	ug/L	20.0	0.73 U	84	65-149			
Trichloroethene	22		2.5	ug/L	20.0	0.89 U	112	62-135			
Trichlorofluoromethane	23		2.5	ug/L	20.0	0.94 U	117	56-155			
Vinyl chloride	20		2.5	ug/L	20.0	0.71 U	99	20-167			
4-Bromofluorobenzene	*45*	*I*		*ug/L*	*50.0*		*90*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*113*	*53-146*			
Toluene-d8	*52*			*ug/L*	*50.0*		*104*	*41-146*			

Matrix Spike Dup (1B19011-MSD1) Prepared: 02/19/2021 00:00 Analyzed: 02/19/2021 10:04

Source: AE00742-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	24		2.5	ug/L	20.0	0.80 U	118	57-148	8	25	
1,1,2,2-Tetrachloroethane	15		2.5	ug/L	20.0	0.54 U	77	60-139	6	17	
1,1,2-Trichloroethane	15		2.5	ug/L	20.0	0.76 U	75	57-141	8	16	
1,1-Dichloroethane	24		2.5	ug/L	20.0	0.62 U	119	57-142	8	24	
1,1-Dichloroethene	22		2.5	ug/L	20.0	0.94 U	111	47-139	8	16	
1,2,4-Trichlorobenzene	23		2.5	ug/L	20.0	0.70 U	114	52-159	17	24	
1,2-Dibromo-3-chloropropane	20		2.5	ug/L	20.0	0.96 U	98	48-150	12	21	
1,2-Dibromoethane	16		2.5	ug/L	20.0	0.78 U	81	57-140	3	16	
1,2-Dichlorobenzene	20		2.5	ug/L	20.0	0.73 U	101	63-131	4	25	
1,2-Dichloroethane	18		2.5	ug/L	20.0	0.63 U	92	50-156	2	18	
1,2-Dichloropropane	21		2.5	ug/L	20.0	0.80 U	103	61-133	0.1	26	
1,3-Dichlorobenzene	21		2.5	ug/L	20.0	0.77 U	105	66-129	2	23	
1,4-Dichlorobenzene	20		2.5	ug/L	20.0	0.76 U	100	65-133	2	23	
2-Butanone	120		12	ug/L	100	4.5 U	117	10-180	14	29	
2-Hexanone	87		12	ug/L	100	2.5 U	87	12-180	23	28	
4-Methyl-2-pentanone	84		12	ug/L	100	2.5 U	84	19-180	15	24	
Acetone	90		25	ug/L	100	36	53	10-180	1	19	
Benzene	23		2.5	ug/L	20.0	2.2	104	56-136	3	14	
Bromodichloromethane	18		2.5	ug/L	20.0	0.52 U	91	58-135	0	19	
Bromoform	15		2.5	ug/L	20.0	0.75 U	73	46-148	4	18	
Bromomethane	22		2.5	ug/L	20.0	0.95 U	111	10-173	39	29	QM-11
Carbon disulfide	23		12	ug/L	20.0	3.0	102	43-153	8	26	
Carbon Tetrachloride	22		2.5	ug/L	20.0	0.94 U	112	54-156	5	27	
Chlorobenzene	21		2.5	ug/L	20.0	0.72 U	105	51-139	0.4	13	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1B19011 - EPA 5030B_MS - Continued

Matrix Spike Dup (1B19011-MSD1) Continued Prepared: 02/19/2021 00:00 Analyzed: 02/19/2021 10:04

Source: AE00742-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloroethane	23		2.5	ug/L	20.0	0.98 U	116	27-180	0.2	22	
Chloroform	22		2.5	ug/L	20.0	0.80 U	112	58-139	5	17	
Chloromethane	19		2.5	ug/L	20.0	0.82 U	94	33-154	2	31	
cis-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.53 U	110	56-128	6	17	
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0	0.59 U	87	64-128	0.3	20	
Cyclohexane	31		2.5	ug/L	20.0	17	71	70-130	5	20	
Dibromochloromethane	15		2.5	ug/L	20.0	0.50 U	77	50-140	8	18	
Dichlorodifluoromethane	12		2.5	ug/L	20.0	0.74 U	61	10-180	5	26	
Ethylbenzene	24		2.5	ug/L	20.0	5.4	91	63-133	3	18	
Freon 113	25		2.5	ug/L	20.0	0.73 U	127	47-173	8	30	
Isopropylbenzene	26		2.5	ug/L	20.0	9.8	80	60-132	8	23	
m,p-Xylenes	47		5.0	ug/L	40.0	1.3 U	117	64-133	10	18	
Methyl acetate	16		2.5	ug/L	20.0	0.95 U	80	70-130	2	20	
Methyl cyclohexane	26		2.5	ug/L	20.0	0.64 U	131	70-130	0.08	20	QM-07
Methylene Chloride	22		12	ug/L	20.0	2.5 U	110	43-142	2	23	
Methyl-tert-Butyl Ether	18		2.5	ug/L	20.0	0.60 U	88	51-145	8	22	
o-Xylene	23		2.5	ug/L	20.0	0.53 U	114	61-129	11	16	
Styrene	23		2.5	ug/L	20.0	0.61 U	113	59-136	12	32	
Tetrachloroethene	20		2.5	ug/L	20.0	0.76 U	102	60-147	13	21	
Toluene	21		2.5	ug/L	20.0	0.72 U	107	64-131	6	16	
trans-1,2-Dichloroethene	23		2.5	ug/L	20.0	0.73 U	114	54-134	6	20	
trans-1,3-Dichloropropene	16		2.5	ug/L	20.0	0.73 U	79	65-149	7	17	
Trichloroethene	22		2.5	ug/L	20.0	0.89 U	108	62-135	4	20	
Trichlorofluoromethane	22		2.5	ug/L	20.0	0.94 U	108	56-155	8	22	
Vinyl chloride	20		2.5	ug/L	20.0	0.71 U	98	20-167	0.5	24	
4-Bromofluorobenzene	*51*			*ug/L*	*50.0*		*102*	*41-142*			
Dibromofluoromethane	*54*			*ug/L*	*50.0*		*109*	*53-146*			
Toluene-d8	*57*			*ug/L*	*50.0*		*113*	*41-146*			

Batch 1B21002 - EPA 5030B_MS

Blank (1B21002-BLK1) Prepared: 02/21/2021 00:00 Analyzed: 02/21/2021 13:27

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1B21002 - EPA 5030B_MS - Continued

Blank (1B21002-BLK1) Continued Prepared: 02/21/2021 00:00 Analyzed: 02/21/2021 13:27

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*54*			*ug/L*	*50.0*		*109*	*41-142*			
Dibromofluoromethane	*47*	*I*		*ug/L*	*50.0*		*94*	*53-146*			
Toluene-d8	*55*			*ug/L*	*50.0*		*110*	*41-146*			

LCS (1B21002-BS1) Prepared: 02/21/2021 00:00 Analyzed: 02/21/2021 10:35

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	22		2.5	ug/L	20.0		108	57-148			
1,1,2,2-Tetrachloroethane	16		2.5	ug/L	20.0		79	60-139			
1,1,2-Trichloroethane	17		2.5	ug/L	20.0		87	57-141			
1,1-Dichloroethane	22		2.5	ug/L	20.0		109	57-142			
1,1-Dichloroethene	20		2.5	ug/L	20.0		102	47-139			
1,2,4-Trichlorobenzene	20		2.5	ug/L	20.0		100	52-159			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1B21002 - EPA 5030B_MS - Continued

LCS (1B21002-BS1) Continued Prepared: 02/21/2021 00:00 Analyzed: 02/21/2021 10:35

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,2-Dibromo-3-chloropropane	19		2.5	ug/L	20.0		95	48-150			
1,2-Dibromoethane	18		2.5	ug/L	20.0		92	57-140			
1,2-Dichlorobenzene	20		2.5	ug/L	20.0		101	63-131			
1,2-Dichloroethane	18		2.5	ug/L	20.0		91	50-156			
1,2-Dichloropropane	19		2.5	ug/L	20.0		95	61-133			
1,3-Dichlorobenzene	21		2.5	ug/L	20.0		103	66-129			
1,4-Dichlorobenzene	19		2.5	ug/L	20.0		97	65-133			
2-Butanone	110		12	ug/L	100		106	10-180			
2-Hexanone	72		12	ug/L	100		72	12-180			
4-Methyl-2-pentanone	69		12	ug/L	100		69	19-180			
Acetone	85		25	ug/L	100		85	10-180			
Benzene	20		2.5	ug/L	20.0		100	56-136			
Bromodichloromethane	18		2.5	ug/L	20.0		89	58-135			
Bromoform	16		2.5	ug/L	20.0		78	46-148			
Bromomethane	20		2.5	ug/L	20.0		99	10-173			
Carbon disulfide	23		12	ug/L	20.0		117	43-153			
Carbon Tetrachloride	21		2.5	ug/L	20.0		103	54-156			
Chlorobenzene	20		2.5	ug/L	20.0		99	51-139			
Chloroethane	20		2.5	ug/L	20.0		98	27-180			
Chloroform	21		2.5	ug/L	20.0		103	58-139			
Chloromethane	16		2.5	ug/L	20.0		78	33-154			
cis-1,2-Dichloroethene	20		2.5	ug/L	20.0		102	56-128			
cis-1,3-Dichloropropene	16		2.5	ug/L	20.0		81	64-128			
Cyclohexane	24		2.5	ug/L	20.0		118	70-130			
Dibromochloromethane	18		2.5	ug/L	20.0		89	50-140			
Dichlorodifluoromethane	9.6		2.5	ug/L	20.0		48	10-180			
Ethylbenzene	21		2.5	ug/L	20.0		103	63-133			
Freon 113	22		2.5	ug/L	20.0		112	47-173			
Isopropylbenzene	20		2.5	ug/L	20.0		101	60-132			
m,p-Xylenes	39		5.0	ug/L	40.0		98	64-133			
Methyl acetate	15		2.5	ug/L	20.0		77	70-130			
Methyl cyclohexane	21		2.5	ug/L	20.0		107	70-130			
Methylene Chloride	20		12	ug/L	20.0		101	43-142			
Methyl-tert-Butyl Ether	15		2.5	ug/L	20.0		74	51-145			
o-Xylene	20		2.5	ug/L	20.0		98	61-129			
Styrene	19		2.5	ug/L	20.0		97	59-136			
Tetrachloroethene	21		2.5	ug/L	20.0		105	60-147			
Toluene	21		2.5	ug/L	20.0		105	64-131			
trans-1,2-Dichloroethene	21		2.5	ug/L	20.0		104	54-134			
trans-1,3-Dichloropropene	18		2.5	ug/L	20.0		90	65-149			
Trichloroethene	20		2.5	ug/L	20.0		98	62-135			
Trichlorofluoromethane	20		2.5	ug/L	20.0		98	56-155			
Vinyl chloride	16		2.5	ug/L	20.0		80	20-167			
4-Bromofluorobenzene	*48*	*I*		*ug/L*	*50.0*		*96*	*41-142*			
Dibromofluoromethane	*54*			*ug/L*	*50.0*		*109*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*99*	*41-146*			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1B21002 - EPA 5030B_MS - Continued

Matrix Spike (1B21002-MS1) Prepared: 02/21/2021 00:00 Analyzed: 02/21/2021 11:04

Source: AE01325-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	23		2.5	ug/L	20.0	0.80 U	114	57-148			
1,1,2,2-Tetrachloroethane	16		2.5	ug/L	20.0	0.54 U	78	60-139			
1,1,2-Trichloroethane	17		2.5	ug/L	20.0	0.76 U	86	57-141			
1,1-Dichloroethane	47		2.5	ug/L	20.0	23	122	57-142			
1,1-Dichloroethene	35		2.5	ug/L	20.0	12	117	47-139			
1,2,4-Trichlorobenzene	20		2.5	ug/L	20.0	0.70 U	98	52-159			
1,2-Dibromo-3-chloropropane	18		2.5	ug/L	20.0	0.96 U	90	48-150			
1,2-Dibromoethane	18		2.5	ug/L	20.0	0.78 U	90	57-140			
1,2-Dichlorobenzene	20		2.5	ug/L	20.0	0.73 U	101	63-131			
1,2-Dichloroethane	18		2.5	ug/L	20.0	0.63 U	90	50-156			
1,2-Dichloropropane	19		2.5	ug/L	20.0	0.80 U	97	61-133			
1,3-Dichlorobenzene	21		2.5	ug/L	20.0	0.77 U	105	66-129			
1,4-Dichlorobenzene	20		2.5	ug/L	20.0	0.76 U	102	65-133			
2-Butanone	100		12	ug/L	100	4.5 U	102	10-180			
2-Hexanone	69		12	ug/L	100	2.5 U	69	12-180			
4-Methyl-2-pentanone	67		12	ug/L	100	2.5 U	67	19-180			
Acetone	78		25	ug/L	100	10 U	78	10-180			
Benzene	21		2.5	ug/L	20.0	0.71 U	104	56-136			
Bromodichloromethane	18		2.5	ug/L	20.0	0.52 U	90	58-135			
Bromoform	15		2.5	ug/L	20.0	0.75 U	77	46-148			
Bromomethane	22		2.5	ug/L	20.0	0.95 U	108	10-173			
Carbon disulfide	22		12	ug/L	20.0	2.5 U	110	43-153			
Carbon Tetrachloride	22		2.5	ug/L	20.0	0.94 U	111	54-156			
Chlorobenzene	20		2.5	ug/L	20.0	0.72 U	101	51-139			
Chloroethane	22		2.5	ug/L	20.0	0.98 U	109	27-180			
Chloroform	22		2.5	ug/L	20.0	0.80 U	108	58-139			
Chloromethane	17		2.5	ug/L	20.0	0.82 U	83	33-154			
cis-1,2-Dichloroethene	21		2.5	ug/L	20.0	0.53 U	106	56-128			
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0	0.59 U	84	64-128			
Cyclohexane	25		2.5	ug/L	20.0	0.93 U	127	70-130			
Dibromochloromethane	18		2.5	ug/L	20.0	0.50 U	91	50-140			
Dichlorodifluoromethane	11		2.5	ug/L	20.0	0.74 U	53	10-180			
Ethylbenzene	21		2.5	ug/L	20.0	0.69 U	105	63-133			
Freon 113	24		2.5	ug/L	20.0	0.73 U	121	47-173			
Isopropylbenzene	21		2.5	ug/L	20.0	0.67 U	104	60-132			
m,p-Xylenes	41		5.0	ug/L	40.0	1.3 U	102	64-133			
Methyl acetate	16		2.5	ug/L	20.0	0.95 U	80	70-130			
Methyl cyclohexane	23		2.5	ug/L	20.0	0.64 U	114	70-130			
Methylene Chloride	21		12	ug/L	20.0	2.5 U	104	43-142			
Methyl-tert-Butyl Ether	15		2.5	ug/L	20.0	0.60 U	76	51-145			
o-Xylene	20		2.5	ug/L	20.0	0.53 U	100	61-129			
Styrene	20		2.5	ug/L	20.0	0.61 U	99	59-136			
Tetrachloroethene	22		2.5	ug/L	20.0	0.76 U	110	60-147			
Toluene	22		2.5	ug/L	20.0	0.72 U	109	64-131			
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.73 U	109	54-134			
trans-1,3-Dichloropropene	18		2.5	ug/L	20.0	0.73 U	90	65-149			
Trichloroethene	21		2.5	ug/L	20.0	0.89 U	104	62-135			
Trichlorofluoromethane	21		2.5	ug/L	20.0	0.94 U	107	56-155			
Vinyl chloride	18		2.5	ug/L	20.0	0.71 U	90	20-167			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1B21002 - EPA 5030B_MS - Continued

Matrix Spike (1B21002-MS1) Continued Prepared: 02/21/2021 00:00 Analyzed: 02/21/2021 11:04

Source: AE01325-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
4-Bromofluorobenzene	*47*	*I*		*ug/L*	*50.0*		*94*	*41-142*			
Dibromofluoromethane	*53*			*ug/L*	*50.0*		*106*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*98*	*41-146*			

Matrix Spike Dup (1B21002-MSD1) Prepared: 02/21/2021 00:00 Analyzed: 02/21/2021 11:32

Source: AE01325-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	22		2.5	ug/L	20.0	0.80 U	110	57-148	3	25	
1,1,2,2-Tetrachloroethane	15		2.5	ug/L	20.0	0.54 U	76	60-139	3	17	
1,1,2-Trichloroethane	17		2.5	ug/L	20.0	0.76 U	86	57-141	0.6	16	
1,1-Dichloroethane	46		2.5	ug/L	20.0	23	117	57-142	2	24	
1,1-Dichloroethene	34		2.5	ug/L	20.0	12	110	47-139	4	16	
1,2,4-Trichlorobenzene	20		2.5	ug/L	20.0	0.70 U	99	52-159	0.5	24	
1,2-Dibromo-3-chloropropane	17		2.5	ug/L	20.0	0.96 U	83	48-150	8	21	
1,2-Dibromoethane	18		2.5	ug/L	20.0	0.78 U	89	57-140	0.4	16	
1,2-Dichlorobenzene	20		2.5	ug/L	20.0	0.73 U	98	63-131	3	25	
1,2-Dichloroethane	18		2.5	ug/L	20.0	0.63 U	88	50-156	2	18	
1,2-Dichloropropane	19		2.5	ug/L	20.0	0.80 U	94	61-133	2	26	
1,3-Dichlorobenzene	21		2.5	ug/L	20.0	0.77 U	105	66-129	0.1	23	
1,4-Dichlorobenzene	20		2.5	ug/L	20.0	0.76 U	102	65-133	0.1	23	
2-Butanone	97		12	ug/L	100	4.5 U	97	10-180	5	29	
2-Hexanone	64		12	ug/L	100	2.5 U	64	12-180	7	28	
4-Methyl-2-pentanone	67		12	ug/L	100	2.5 U	67	19-180	0.5	24	
Acetone	77		25	ug/L	100	10 U	77	10-180	2	19	
Benzene	21		2.5	ug/L	20.0	0.71 U	103	56-136	1	14	
Bromodichloromethane	18		2.5	ug/L	20.0	0.52 U	88	58-135	3	19	
Bromoform	15		2.5	ug/L	20.0	0.75 U	75	46-148	3	18	
Bromomethane	20		2.5	ug/L	20.0	0.95 U	101	10-173	6	29	
Carbon disulfide	21		12	ug/L	20.0	2.5 U	103	43-153	7	26	
Carbon Tetrachloride	22		2.5	ug/L	20.0	0.94 U	109	54-156	2	27	
Chlorobenzene	20		2.5	ug/L	20.0	0.72 U	101	51-139	0.1	13	
Chloroethane	20		2.5	ug/L	20.0	0.98 U	99	27-180	9	22	
Chloroform	21		2.5	ug/L	20.0	0.80 U	105	58-139	3	17	
Chloromethane	16		2.5	ug/L	20.0	0.82 U	82	33-154	0.5	31	
cis-1,2-Dichloroethene	21		2.5	ug/L	20.0	0.53 U	103	56-128	3	17	
cis-1,3-Dichloropropene	16		2.5	ug/L	20.0	0.59 U	81	64-128	4	20	
Cyclohexane	25		2.5	ug/L	20.0	0.93 U	124	70-130	2	20	
Dibromochloromethane	18		2.5	ug/L	20.0	0.50 U	89	50-140	3	18	
Dichlorodifluoromethane	10		2.5	ug/L	20.0	0.74 U	51	10-180	4	26	
Ethylbenzene	21		2.5	ug/L	20.0	0.69 U	106	63-133	1	18	
Freon 113	24		2.5	ug/L	20.0	0.73 U	118	47-173	3	30	
Isopropylbenzene	21		2.5	ug/L	20.0	0.67 U	103	60-132	1	23	
m,p-Xylenes	40		5.0	ug/L	40.0	1.3 U	100	64-133	2	18	
Methyl acetate	15		2.5	ug/L	20.0	0.95 U	73	70-130	9	20	
Methyl cyclohexane	22		2.5	ug/L	20.0	0.64 U	112	70-130	2	20	
Methylene Chloride	20		12	ug/L	20.0	2.5 U	101	43-142	3	23	
Methyl-tert-Butyl Ether	14		2.5	ug/L	20.0	0.60 U	68	51-145	12	22	
o-Xylene	20		2.5	ug/L	20.0	0.53 U	99	61-129	0.9	16	
Styrene	20		2.5	ug/L	20.0	0.61 U	99	59-136	0.5	32	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1B21002 - EPA 5030B_MS - Continued

Matrix Spike Dup (1B21002-MSD1) Continued Prepared: 02/21/2021 00:00 Analyzed: 02/21/2021 11:32

Source: AE01325-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Tetrachloroethene	22		2.5	ug/L	20.0	0.76 U	111	60-147	0.3	21	
Toluene	21		2.5	ug/L	20.0	0.72 U	107	64-131	1	16	
trans-1,2-Dichloroethene	21		2.5	ug/L	20.0	0.73 U	105	54-134	4	20	
trans-1,3-Dichloropropene	18		2.5	ug/L	20.0	0.73 U	91	65-149	1	17	
Trichloroethene	20		2.5	ug/L	20.0	0.89 U	102	62-135	2	20	
Trichlorofluoromethane	21		2.5	ug/L	20.0	0.94 U	103	56-155	4	22	
Vinyl chloride	17		2.5	ug/L	20.0	0.71 U	84	20-167	6	24	
4-Bromofluorobenzene	*47*	*I*		*ug/L*	*50.0*		*95*	*41-142*			
Dibromofluoromethane	*53*			*ug/L*	*50.0*		*106*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*98*	*41-146*			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-11	Precision between duplicate matrix spikes of the same sample was outside acceptance limits.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.

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AE01304

Tetra Tech, Inc.

CHAIN OF CUSTODY | **NUMBER** No. 1407 | **PAGE** 1 **OF** 1

PROJECT NO: 112G08970	**FACILITY:** CRCA	**PROJECT MANAGER** ALEX MURPHY	**PHONE NUMBER**	**LABORATORY NAME AND CONTACT:** ENCO
SAMPLERS (SIGNATURE)		**FIELD OPERATIONS LEADER** DAN FORESTIER	**PHONE NUMBER** 304-780-1426	**ADDRESS**
		CARRIER/WAYBILL NUMBER COURIER		**CITY, STATE** ORLANDO, FL

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2021	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TYPE OF ANALYSIS (See Comment Below)	COMMENTS
									G	HCL		
17 FEB	0800	CRCA-A$EFFLUENT-20210217 CRCA		/	/	GW	G	3			X	
17 FEB	0815	CRCA-A$INFLUENT-20210217		/	/	GW	G	3			X	

1. RELINQUISHED BY	DATE 17 FEB 21	TIME 1406	1. RECEIVED BY Jamison W. Gregory	DATE 2/17/21	TIME 1406
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS 8260D TCL SOMO 1.2 CLD-LIKE CUSTOM LIST SM Red 1.2°C

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

ENCO Laboratories

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10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Tuesday, February 23, 2021
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AE01304

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Wednesday, February 17, 2021.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-ASEFFLUENT-20210217 **Lab ID: AE01304-01** **Sampled: 02/17/21 08:00** **Received: 02/17/21 14:06**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	03/03/21	02/19/21 00:00	02/19/21 14:23

Client ID: CRCA-ASEFFLUENT-20210217 **Lab ID: AE01304-01RE1** **Sampled: 02/17/21 08:00** **Received: 02/17/21 14:06**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	03/03/21	02/21/21 11:25	02/21/21 16:48

Client ID: CRCA-ASINFLUENT-20210217 **Lab ID: AE01304-02** **Sampled: 02/17/21 08:15** **Received: 02/17/21 14:06**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	03/03/21	02/19/21 00:00	02/19/21 14:51

Client ID: CRCA-ASINFLUENT-20210217 **Lab ID: AE01304-02RE1** **Sampled: 02/17/21 08:15** **Received: 02/17/21 14:06**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	03/03/21	02/21/21 11:25	02/21/21 17:17

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-ASINFLUENT-20210217 **Lab ID:** AE01304-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	19		0.71	2.5	ug/L	EPA 8260D	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20210217 **Lab Sample ID:** AE01304-01 **Received:** 02/17/21 14:06

Matrix: Ground Water **Sampled:** 02/17/21 08:00 **Work Order:** AE01304

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1B19011	EPA 8260D	02/19/21 14:23	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1B19011	EPA 8260D	02/19/21 14:23	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1B21002	EPA 8260D	02/21/21 16:48	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1B21002	EPA 8260D	02/21/21 16:48	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	

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ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20210217 **Lab Sample ID:** AE01304-01 **Received:** 02/17/21 14:06

Matrix: Ground Water **Sampled:** 02/17/21 08:00 **Work Order:** AE01304

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1B19011	EPA 8260D	02/19/21 14:23	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1B19011	EPA 8260D	02/19/21 14:23	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*45*	*1*	*50.0*	*89 %*	*41-142*	*1B19011*	*EPA 8260D*	*02/19/21 14:23*	*kkw*	
4-Bromofluorobenzene	*46*	*1*	*50.0*	*93 %*	*41-142*	*1B21002*	*EPA 8260D*	*02/21/21 16:48*	*kkw*	
Dibromofluoromethane	*59*	*1*	*50.0*	*118 %*	*53-146*	*1B19011*	*EPA 8260D*	*02/19/21 14:23*	*kkw*	
Dibromofluoromethane	*55*	*1*	*50.0*	*109 %*	*53-146*	*1B21002*	*EPA 8260D*	*02/21/21 16:48*	*kkw*	
Toluene-d8	*51*	*1*	*50.0*	*102 %*	*41-146*	*1B19011*	*EPA 8260D*	*02/19/21 14:23*	*kkw*	
Toluene-d8	*49*	*1*	*50.0*	*97 %*	*41-146*	*1B21002*	*EPA 8260D*	*02/21/21 16:48*	*kkw*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20210217 **Lab Sample ID:** AE01304-02 **Received:** 02/17/21 14:06

Matrix: Ground Water **Sampled:** 02/17/21 08:15 **Work Order:** AE01304

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1B19011	EPA 8260D	02/19/21 14:51	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1B19011	EPA 8260D	02/19/21 14:51	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1B21002	EPA 8260D	02/21/21 17:17	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1B21002	EPA 8260D	02/21/21 17:17	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	

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ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20210217 **Lab Sample ID:** AE01304-02 **Received:** 02/17/21 14:06

Matrix: Ground Water **Sampled:** 02/17/21 08:15 **Work Order:** AE01304

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Vinyl chloride [75-01-4]^	**19**		ug/L	1	0.71	2.5	1B19011	EPA 8260D	02/19/21 14:51	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1B19011	EPA 8260D	02/19/21 14:51	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*45*	*1*	*50.0*	*90 %*	*41-142*	*1B19011*	*EPA 8260D*	*02/19/21 14:51*	*kkw*	
4-Bromofluorobenzene	*46*	*1*	*50.0*	*92 %*	*41-142*	*1B21002*	*EPA 8260D*	*02/21/21 17:17*	*kkw*	
Dibromofluoromethane	*59*	*1*	*50.0*	*118 %*	*53-146*	*1B19011*	*EPA 8260D*	*02/19/21 14:51*	*kkw*	
Dibromofluoromethane	*54*	*1*	*50.0*	*108 %*	*53-146*	*1B21002*	*EPA 8260D*	*02/21/21 17:17*	*kkw*	
Toluene-d8	*53*	*1*	*50.0*	*105 %*	*41-146*	*1B19011*	*EPA 8260D*	*02/19/21 14:51*	*kkw*	
Toluene-d8	*49*	*1*	*50.0*	*98 %*	*41-146*	*1B21002*	*EPA 8260D*	*02/21/21 17:17*	*kkw*	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1B19011 - EPA 5030B_MS

Blank (1B19011-BLK1) Prepared: 02/19/2021 00:00 Analyzed: 02/19/2021 11:30

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1B19011 - EPA 5030B_MS - Continued

Blank (1B19011-BLK1) Continued Prepared: 02/19/2021 00:00 Analyzed: 02/19/2021 11:30

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*51*			*ug/L*	*50.0*		*102*	*41-142*			
Dibromofluoromethane	*55*			*ug/L*	*50.0*		*110*	*53-146*			
Toluene-d8	*58*			*ug/L*	*50.0*		*117*	*41-146*			

LCS (1B19011-BS1) Prepared: 02/19/2021 00:00 Analyzed: 02/19/2021 09:07

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	21		2.5	ug/L	20.0		107	57-148			
1,1,2,2-Tetrachloroethane	15		2.5	ug/L	20.0		73	60-139			
1,1,2-Trichloroethane	14		2.5	ug/L	20.0		70	57-141			
1,1-Dichloroethane	22		2.5	ug/L	20.0		111	57-142			
1,1-Dichloroethene	20		2.5	ug/L	20.0		100	47-139			
1,2,4-Trichlorobenzene	21		2.5	ug/L	20.0		105	52-159			
1,2-Dibromo-3-chloropropane	16		2.5	ug/L	20.0		78	48-150			
1,2-Dibromoethane	15		2.5	ug/L	20.0		76	57-140			
1,2-Dichlorobenzene	19		2.5	ug/L	20.0		97	63-131			
1,2-Dichloroethane	17		2.5	ug/L	20.0		85	50-156			
1,2-Dichloropropane	19		2.5	ug/L	20.0		95	61-133			
1,3-Dichlorobenzene	20		2.5	ug/L	20.0		99	66-129			
1,4-Dichlorobenzene	19		2.5	ug/L	20.0		96	65-133			
2-Butanone	99		12	ug/L	100		99	10-180			
2-Hexanone	74		12	ug/L	100		74	12-180			
4-Methyl-2-pentanone	74		12	ug/L	100		74	19-180			
Acetone	81		25	ug/L	100		81	10-180			
Benzene	21		2.5	ug/L	20.0		106	56-136			
Bromodichloromethane	17		2.5	ug/L	20.0		87	58-135			
Bromoform	14		2.5	ug/L	20.0		68	46-148			
Bromomethane	13		2.5	ug/L	20.0		65	10-173			
Carbon disulfide	24		12	ug/L	20.0		120	43-153			
Carbon Tetrachloride	21		2.5	ug/L	20.0		103	54-156			
Chlorobenzene	20		2.5	ug/L	20.0		100	51-139			
Chloroethane	22		2.5	ug/L	20.0		108	27-180			
Chloroform	20		2.5	ug/L	20.0		102	58-139			
Chloromethane	18		2.5	ug/L	20.0		88	33-154			
cis-1,2-Dichloroethene	20		2.5	ug/L	20.0		101	56-128			
cis-1,3-Dichloropropene	16		2.5	ug/L	20.0		80	64-128			
Cyclohexane	25		2.5	ug/L	20.0		123	70-130			
Dibromochloromethane	14		2.5	ug/L	20.0		71	50-140			
Dichlorodifluoromethane	11		2.5	ug/L	20.0		57	10-180			
Ethylbenzene	21		2.5	ug/L	20.0		107	63-133			
Freon 113	23		2.5	ug/L	20.0		114	47-173			
Isopropylbenzene	22		2.5	ug/L	20.0		110	60-132			
m,p-Xylenes	45		5.0	ug/L	40.0		111	64-133			
Methyl acetate	14		2.5	ug/L	20.0		70	70-130			
Methyl cyclohexane	22		2.5	ug/L	20.0		112	70-130			
Methylene Chloride	20		12	ug/L	20.0		100	43-142			
Methyl-tert-Butyl Ether	14		2.5	ug/L	20.0		72	51-145			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1B19011 - EPA 5030B_MS - Continued

LCS (1B19011-BS1) Continued Prepared: 02/19/2021 00:00 Analyzed: 02/19/2021 09:07

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
o-Xylene	21		2.5	ug/L	20.0		107	61-129			
Styrene	21		2.5	ug/L	20.0		106	59-136			
Tetrachloroethene	20		2.5	ug/L	20.0		99	60-147			
Toluene	20		2.5	ug/L	20.0		102	64-131			
trans-1,2-Dichloroethene	21		2.5	ug/L	20.0		104	54-134			
trans-1,3-Dichloropropene	14		2.5	ug/L	20.0		72	65-149			
Trichloroethene	21		2.5	ug/L	20.0		105	62-135			
Trichlorofluoromethane	20		2.5	ug/L	20.0		100	56-155			
Vinyl chloride	17		2.5	ug/L	20.0		87	20-167			
4-Bromofluorobenzene	*50*			*ug/L*	*50.0*		*100*	*41-142*			
Dibromofluoromethane	*53*			*ug/L*	*50.0*		*105*	*53-146*			
Toluene-d8	*57*			*ug/L*	*50.0*		*114*	*41-146*			

Matrix Spike (1B19011-MS1) Prepared: 02/19/2021 00:00 Analyzed: 02/19/2021 09:35

Source: AE00742-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	25		2.5	ug/L	20.0	0.80 U	127	57-148			
1,1,2,2-Tetrachloroethane	14		2.5	ug/L	20.0	0.54 U	72	60-139			
1,1,2-Trichloroethane	16		2.5	ug/L	20.0	0.76 U	81	57-141			
1,1-Dichloroethane	26		2.5	ug/L	20.0	0.62 U	130	57-142			
1,1-Dichloroethene	24		2.5	ug/L	20.0	0.94 U	121	47-139			
1,2,4-Trichlorobenzene	19		2.5	ug/L	20.0	0.70 U	97	52-159			
1,2-Dibromo-3-chloropropane	17		2.5	ug/L	20.0	0.96 U	87	48-150			
1,2-Dibromoethane	17		2.5	ug/L	20.0	0.78 U	83	57-140			
1,2-Dichlorobenzene	19		2.5	ug/L	20.0	0.73 U	97	63-131			
1,2-Dichloroethane	18		2.5	ug/L	20.0	0.63 U	90	50-156			
1,2-Dichloropropane	21		2.5	ug/L	20.0	0.80 U	103	61-133			
1,3-Dichlorobenzene	21		2.5	ug/L	20.0	0.77 U	103	66-129			
1,4-Dichlorobenzene	20		2.5	ug/L	20.0	0.76 U	98	65-133			
2-Butanone	100		12	ug/L	100	4.5 U	102	10-180			
2-Hexanone	68		12	ug/L	100	2.5 U	68	12-180			
4-Methyl-2-pentanone	72		12	ug/L	100	2.5 U	72	19-180			
Acetone	89		25	ug/L	100	36	52	10-180			
Benzene	24		2.5	ug/L	20.0	2.2	107	56-136			
Bromodichloromethane	18		2.5	ug/L	20.0	0.52 U	91	58-135			
Bromoform	14		2.5	ug/L	20.0	0.75 U	70	46-148			
Bromomethane	15		2.5	ug/L	20.0	0.95 U	75	10-173			QM-11
Carbon disulfide	25		12	ug/L	20.0	3.0	111	43-153			
Carbon Tetrachloride	24		2.5	ug/L	20.0	0.94 U	118	54-156			
Chlorobenzene	21		2.5	ug/L	20.0	0.72 U	104	51-139			
Chloroethane	23		2.5	ug/L	20.0	0.98 U	117	27-180			
Chloroform	23		2.5	ug/L	20.0	0.80 U	117	58-139			
Chloromethane	19		2.5	ug/L	20.0	0.82 U	96	33-154			
cis-1,2-Dichloroethene	23		2.5	ug/L	20.0	0.53 U	117	56-128			
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0	0.59 U	87	64-128			
Cyclohexane	32		2.5	ug/L	20.0	17	79	70-130			
Dibromochloromethane	17		2.5	ug/L	20.0	0.50 U	84	50-140			
Dichlorodifluoromethane	13		2.5	ug/L	20.0	0.74 U	65	10-180			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1B19011 - EPA 5030B_MS - Continued

Matrix Spike (1B19011-MS1) Continued Prepared: 02/19/2021 00:00 Analyzed: 02/19/2021 09:35

Source: AE00742-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	23		2.5	ug/L	20.0	5.4	87	63-133			
Freon 113	27		2.5	ug/L	20.0	0.73 U	137	47-173			
Isopropylbenzene	24		2.5	ug/L	20.0	9.8	70	60-132			
m,p-Xylenes	42		5.0	ug/L	40.0	1.3 U	106	64-133			
Methyl acetate	16		2.5	ug/L	20.0	0.95 U	78	70-130			
Methyl cyclohexane	26		2.5	ug/L	20.0	0.64 U	131	70-130			QM-07
Methylene Chloride	22		12	ug/L	20.0	2.5 U	112	43-142			
Methyl-tert-Butyl Ether	16		2.5	ug/L	20.0	0.60 U	81	51-145			
o-Xylene	21		2.5	ug/L	20.0	0.53 U	103	61-129			
Styrene	20		2.5	ug/L	20.0	0.61 U	100	59-136			
Tetrachloroethene	23		2.5	ug/L	20.0	0.76 U	116	60-147			
Toluene	23		2.5	ug/L	20.0	0.72 U	114	64-131			
trans-1,2-Dichloroethene	24		2.5	ug/L	20.0	0.73 U	121	54-134			
trans-1,3-Dichloropropene	17		2.5	ug/L	20.0	0.73 U	84	65-149			
Trichloroethene	22		2.5	ug/L	20.0	0.89 U	112	62-135			
Trichlorofluoromethane	23		2.5	ug/L	20.0	0.94 U	117	56-155			
Vinyl chloride	20		2.5	ug/L	20.0	0.71 U	99	20-167			
4-Bromofluorobenzene	*45*	*I*		*ug/L*	*50.0*		*90*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*113*	*53-146*			
Toluene-d8	*52*			*ug/L*	*50.0*		*104*	*41-146*			

Matrix Spike Dup (1B19011-MSD1) Prepared: 02/19/2021 00:00 Analyzed: 02/19/2021 10:04

Source: AE00742-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	24		2.5	ug/L	20.0	0.80 U	118	57-148	8	25	
1,1,2,2-Tetrachloroethane	15		2.5	ug/L	20.0	0.54 U	77	60-139	6	17	
1,1,2-Trichloroethane	15		2.5	ug/L	20.0	0.76 U	75	57-141	8	16	
1,1-Dichloroethane	24		2.5	ug/L	20.0	0.62 U	119	57-142	8	24	
1,1-Dichloroethene	22		2.5	ug/L	20.0	0.94 U	111	47-139	8	16	
1,2,4-Trichlorobenzene	23		2.5	ug/L	20.0	0.70 U	114	52-159	17	24	
1,2-Dibromo-3-chloropropane	20		2.5	ug/L	20.0	0.96 U	98	48-150	12	21	
1,2-Dibromoethane	16		2.5	ug/L	20.0	0.78 U	81	57-140	3	16	
1,2-Dichlorobenzene	20		2.5	ug/L	20.0	0.73 U	101	63-131	4	25	
1,2-Dichloroethane	18		2.5	ug/L	20.0	0.63 U	92	50-156	2	18	
1,2-Dichloropropane	21		2.5	ug/L	20.0	0.80 U	103	61-133	0.1	26	
1,3-Dichlorobenzene	21		2.5	ug/L	20.0	0.77 U	105	66-129	2	23	
1,4-Dichlorobenzene	20		2.5	ug/L	20.0	0.76 U	100	65-133	2	23	
2-Butanone	120		12	ug/L	100	4.5 U	117	10-180	14	29	
2-Hexanone	87		12	ug/L	100	2.5 U	87	12-180	23	28	
4-Methyl-2-pentanone	84		12	ug/L	100	2.5 U	84	19-180	15	24	
Acetone	90		25	ug/L	100	36	53	10-180	1	19	
Benzene	23		2.5	ug/L	20.0	2.2	104	56-136	3	14	
Bromodichloromethane	18		2.5	ug/L	20.0	0.52 U	91	58-135	0	19	
Bromoform	15		2.5	ug/L	20.0	0.75 U	73	46-148	4	18	
Bromomethane	22		2.5	ug/L	20.0	0.95 U	111	10-173	39	29	QM-11
Carbon disulfide	23		12	ug/L	20.0	3.0	102	43-153	8	26	
Carbon Tetrachloride	22		2.5	ug/L	20.0	0.94 U	112	54-156	5	27	
Chlorobenzene	21		2.5	ug/L	20.0	0.72 U	105	51-139	0.4	13	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1B19011 - EPA 5030B_MS - Continued

Matrix Spike Dup (1B19011-MSD1) Continued Prepared: 02/19/2021 00:00 Analyzed: 02/19/2021 10:04

Source: AE00742-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloroethane	23		2.5	ug/L	20.0	0.98 U	116	27-180	0.2	22	
Chloroform	22		2.5	ug/L	20.0	0.80 U	112	58-139	5	17	
Chloromethane	19		2.5	ug/L	20.0	0.82 U	94	33-154	2	31	
cis-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.53 U	110	56-128	6	17	
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0	0.59 U	87	64-128	0.3	20	
Cyclohexane	31		2.5	ug/L	20.0	17	71	70-130	5	20	
Dibromochloromethane	15		2.5	ug/L	20.0	0.50 U	77	50-140	8	18	
Dichlorodifluoromethane	12		2.5	ug/L	20.0	0.74 U	61	10-180	5	26	
Ethylbenzene	24		2.5	ug/L	20.0	5.4	91	63-133	3	18	
Freon 113	25		2.5	ug/L	20.0	0.73 U	127	47-173	8	30	
Isopropylbenzene	26		2.5	ug/L	20.0	9.8	80	60-132	8	23	
m,p-Xylenes	47		5.0	ug/L	40.0	1.3 U	117	64-133	10	18	
Methyl acetate	16		2.5	ug/L	20.0	0.95 U	80	70-130	2	20	
Methyl cyclohexane	26		2.5	ug/L	20.0	0.64 U	131	70-130	0.08	20	QM-07
Methylene Chloride	22		12	ug/L	20.0	2.5 U	110	43-142	2	23	
Methyl-tert-Butyl Ether	18		2.5	ug/L	20.0	0.60 U	88	51-145	8	22	
o-Xylene	23		2.5	ug/L	20.0	0.53 U	114	61-129	11	16	
Styrene	23		2.5	ug/L	20.0	0.61 U	113	59-136	12	32	
Tetrachloroethene	20		2.5	ug/L	20.0	0.76 U	102	60-147	13	21	
Toluene	21		2.5	ug/L	20.0	0.72 U	107	64-131	6	16	
trans-1,2-Dichloroethene	23		2.5	ug/L	20.0	0.73 U	114	54-134	6	20	
trans-1,3-Dichloropropene	16		2.5	ug/L	20.0	0.73 U	79	65-149	7	17	
Trichloroethene	22		2.5	ug/L	20.0	0.89 U	108	62-135	4	20	
Trichlorofluoromethane	22		2.5	ug/L	20.0	0.94 U	108	56-155	8	22	
Vinyl chloride	20		2.5	ug/L	20.0	0.71 U	98	20-167	0.5	24	
4-Bromofluorobenzene	*51*			*ug/L*	*50.0*		*102*	*41-142*			
Dibromofluoromethane	*54*			*ug/L*	*50.0*		*109*	*53-146*			
Toluene-d8	*57*			*ug/L*	*50.0*		*113*	*41-146*			

Batch 1B21002 - EPA 5030B_MS

Blank (1B21002-BLK1) Prepared: 02/21/2021 00:00 Analyzed: 02/21/2021 13:27

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1B21002 - EPA 5030B_MS - Continued

Blank (1B21002-BLK1) Continued Prepared: 02/21/2021 00:00 Analyzed: 02/21/2021 13:27

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*54*			*ug/L*	*50.0*		*109*	*41-142*			
Dibromofluoromethane	*47*	*I*		*ug/L*	*50.0*		*94*	*53-146*			
Toluene-d8	*55*			*ug/L*	*50.0*		*110*	*41-146*			

LCS (1B21002-BS1) Prepared: 02/21/2021 00:00 Analyzed: 02/21/2021 10:35

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	22		2.5	ug/L	20.0		108	57-148			
1,1,2,2-Tetrachloroethane	16		2.5	ug/L	20.0		79	60-139			
1,1,2-Trichloroethane	17		2.5	ug/L	20.0		87	57-141			
1,1-Dichloroethane	22		2.5	ug/L	20.0		109	57-142			
1,1-Dichloroethene	20		2.5	ug/L	20.0		102	47-139			
1,2,4-Trichlorobenzene	20		2.5	ug/L	20.0		100	52-159			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1B21002 - EPA 5030B_MS - Continued

LCS (1B21002-BS1) Continued Prepared: 02/21/2021 00:00 Analyzed: 02/21/2021 10:35

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,2-Dibromo-3-chloropropane	19		2.5	ug/L	20.0		95	48-150			
1,2-Dibromoethane	18		2.5	ug/L	20.0		92	57-140			
1,2-Dichlorobenzene	20		2.5	ug/L	20.0		101	63-131			
1,2-Dichloroethane	18		2.5	ug/L	20.0		91	50-156			
1,2-Dichloropropane	19		2.5	ug/L	20.0		95	61-133			
1,3-Dichlorobenzene	21		2.5	ug/L	20.0		103	66-129			
1,4-Dichlorobenzene	19		2.5	ug/L	20.0		97	65-133			
2-Butanone	110		12	ug/L	100		106	10-180			
2-Hexanone	72		12	ug/L	100		72	12-180			
4-Methyl-2-pentanone	69		12	ug/L	100		69	19-180			
Acetone	85		25	ug/L	100		85	10-180			
Benzene	20		2.5	ug/L	20.0		100	56-136			
Bromodichloromethane	18		2.5	ug/L	20.0		89	58-135			
Bromoform	16		2.5	ug/L	20.0		78	46-148			
Bromomethane	20		2.5	ug/L	20.0		99	10-173			
Carbon disulfide	23		12	ug/L	20.0		117	43-153			
Carbon Tetrachloride	21		2.5	ug/L	20.0		103	54-156			
Chlorobenzene	20		2.5	ug/L	20.0		99	51-139			
Chloroethane	20		2.5	ug/L	20.0		98	27-180			
Chloroform	21		2.5	ug/L	20.0		103	58-139			
Chloromethane	16		2.5	ug/L	20.0		78	33-154			
cis-1,2-Dichloroethene	20		2.5	ug/L	20.0		102	56-128			
cis-1,3-Dichloropropene	16		2.5	ug/L	20.0		81	64-128			
Cyclohexane	24		2.5	ug/L	20.0		118	70-130			
Dibromochloromethane	18		2.5	ug/L	20.0		89	50-140			
Dichlorodifluoromethane	9.6		2.5	ug/L	20.0		48	10-180			
Ethylbenzene	21		2.5	ug/L	20.0		103	63-133			
Freon 113	22		2.5	ug/L	20.0		112	47-173			
Isopropylbenzene	20		2.5	ug/L	20.0		101	60-132			
m,p-Xylenes	39		5.0	ug/L	40.0		98	64-133			
Methyl acetate	15		2.5	ug/L	20.0		77	70-130			
Methyl cyclohexane	21		2.5	ug/L	20.0		107	70-130			
Methylene Chloride	20		12	ug/L	20.0		101	43-142			
Methyl-tert-Butyl Ether	15		2.5	ug/L	20.0		74	51-145			
o-Xylene	20		2.5	ug/L	20.0		98	61-129			
Styrene	19		2.5	ug/L	20.0		97	59-136			
Tetrachloroethene	21		2.5	ug/L	20.0		105	60-147			
Toluene	21		2.5	ug/L	20.0		105	64-131			
trans-1,2-Dichloroethene	21		2.5	ug/L	20.0		104	54-134			
trans-1,3-Dichloropropene	18		2.5	ug/L	20.0		90	65-149			
Trichloroethene	20		2.5	ug/L	20.0		98	62-135			
Trichlorofluoromethane	20		2.5	ug/L	20.0		98	56-155			
Vinyl chloride	16		2.5	ug/L	20.0		80	20-167			
4-Bromofluorobenzene	*48*	*I*		*ug/L*	*50.0*		*96*	*41-142*			
Dibromofluoromethane	*54*			*ug/L*	*50.0*		*109*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*99*	*41-146*			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1B21002 - EPA 5030B_MS - Continued

Matrix Spike (1B21002-MS1) Prepared: 02/21/2021 00:00 Analyzed: 02/21/2021 11:04

Source: AE01325-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	23		2.5	ug/L	20.0	0.80 U	114	57-148			
1,1,2,2-Tetrachloroethane	16		2.5	ug/L	20.0	0.54 U	78	60-139			
1,1,2-Trichloroethane	17		2.5	ug/L	20.0	0.76 U	86	57-141			
1,1-Dichloroethane	47		2.5	ug/L	20.0	23	122	57-142			
1,1-Dichloroethene	35		2.5	ug/L	20.0	12	117	47-139			
1,2,4-Trichlorobenzene	20		2.5	ug/L	20.0	0.70 U	98	52-159			
1,2-Dibromo-3-chloropropane	18		2.5	ug/L	20.0	0.96 U	90	48-150			
1,2-Dibromoethane	18		2.5	ug/L	20.0	0.78 U	90	57-140			
1,2-Dichlorobenzene	20		2.5	ug/L	20.0	0.73 U	101	63-131			
1,2-Dichloroethane	18		2.5	ug/L	20.0	0.63 U	90	50-156			
1,2-Dichloropropane	19		2.5	ug/L	20.0	0.80 U	97	61-133			
1,3-Dichlorobenzene	21		2.5	ug/L	20.0	0.77 U	105	66-129			
1,4-Dichlorobenzene	20		2.5	ug/L	20.0	0.76 U	102	65-133			
2-Butanone	100		12	ug/L	100	4.5 U	102	10-180			
2-Hexanone	69		12	ug/L	100	2.5 U	69	12-180			
4-Methyl-2-pentanone	67		12	ug/L	100	2.5 U	67	19-180			
Acetone	78		25	ug/L	100	10 U	78	10-180			
Benzene	21		2.5	ug/L	20.0	0.71 U	104	56-136			
Bromodichloromethane	18		2.5	ug/L	20.0	0.52 U	90	58-135			
Bromoform	15		2.5	ug/L	20.0	0.75 U	77	46-148			
Bromomethane	22		2.5	ug/L	20.0	0.95 U	108	10-173			
Carbon disulfide	22		12	ug/L	20.0	2.5 U	110	43-153			
Carbon Tetrachloride	22		2.5	ug/L	20.0	0.94 U	111	54-156			
Chlorobenzene	20		2.5	ug/L	20.0	0.72 U	101	51-139			
Chloroethane	22		2.5	ug/L	20.0	0.98 U	109	27-180			
Chloroform	22		2.5	ug/L	20.0	0.80 U	108	58-139			
Chloromethane	17		2.5	ug/L	20.0	0.82 U	83	33-154			
cis-1,2-Dichloroethene	21		2.5	ug/L	20.0	0.53 U	106	56-128			
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0	0.59 U	84	64-128			
Cyclohexane	25		2.5	ug/L	20.0	0.93 U	127	70-130			
Dibromochloromethane	18		2.5	ug/L	20.0	0.50 U	91	50-140			
Dichlorodifluoromethane	11		2.5	ug/L	20.0	0.74 U	53	10-180			
Ethylbenzene	21		2.5	ug/L	20.0	0.69 U	105	63-133			
Freon 113	24		2.5	ug/L	20.0	0.73 U	121	47-173			
Isopropylbenzene	21		2.5	ug/L	20.0	0.67 U	104	60-132			
m,p-Xylenes	41		5.0	ug/L	40.0	1.3 U	102	64-133			
Methyl acetate	16		2.5	ug/L	20.0	0.95 U	80	70-130			
Methyl cyclohexane	23		2.5	ug/L	20.0	0.64 U	114	70-130			
Methylene Chloride	21		12	ug/L	20.0	2.5 U	104	43-142			
Methyl-tert-Butyl Ether	15		2.5	ug/L	20.0	0.60 U	76	51-145			
o-Xylene	20		2.5	ug/L	20.0	0.53 U	100	61-129			
Styrene	20		2.5	ug/L	20.0	0.61 U	99	59-136			
Tetrachloroethene	22		2.5	ug/L	20.0	0.76 U	110	60-147			
Toluene	22		2.5	ug/L	20.0	0.72 U	109	64-131			
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.73 U	109	54-134			
trans-1,3-Dichloropropene	18		2.5	ug/L	20.0	0.73 U	90	65-149			
Trichloroethene	21		2.5	ug/L	20.0	0.89 U	104	62-135			
Trichlorofluoromethane	21		2.5	ug/L	20.0	0.94 U	107	56-155			
Vinyl chloride	18		2.5	ug/L	20.0	0.71 U	90	20-167			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1B21002 - EPA 5030B_MS - Continued

Matrix Spike (1B21002-MS1) Continued Prepared: 02/21/2021 00:00 Analyzed: 02/21/2021 11:04

Source: AE01325-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
4-Bromofluorobenzene	*47*	*I*		*ug/L*	*50.0*		*94*	*41-142*			
Dibromofluoromethane	*53*			*ug/L*	*50.0*		*106*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*98*	*41-146*			

Matrix Spike Dup (1B21002-MSD1) Prepared: 02/21/2021 00:00 Analyzed: 02/21/2021 11:32

Source: AE01325-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	22		2.5	ug/L	20.0	0.80 U	110	57-148	3	25	
1,1,2,2-Tetrachloroethane	15		2.5	ug/L	20.0	0.54 U	76	60-139	3	17	
1,1,2-Trichloroethane	17		2.5	ug/L	20.0	0.76 U	86	57-141	0.6	16	
1,1-Dichloroethane	46		2.5	ug/L	20.0	23	117	57-142	2	24	
1,1-Dichloroethene	34		2.5	ug/L	20.0	12	110	47-139	4	16	
1,2,4-Trichlorobenzene	20		2.5	ug/L	20.0	0.70 U	99	52-159	0.5	24	
1,2-Dibromo-3-chloropropane	17		2.5	ug/L	20.0	0.96 U	83	48-150	8	21	
1,2-Dibromoethane	18		2.5	ug/L	20.0	0.78 U	89	57-140	0.4	16	
1,2-Dichlorobenzene	20		2.5	ug/L	20.0	0.73 U	98	63-131	3	25	
1,2-Dichloroethane	18		2.5	ug/L	20.0	0.63 U	88	50-156	2	18	
1,2-Dichloropropane	19		2.5	ug/L	20.0	0.80 U	94	61-133	2	26	
1,3-Dichlorobenzene	21		2.5	ug/L	20.0	0.77 U	105	66-129	0.1	23	
1,4-Dichlorobenzene	20		2.5	ug/L	20.0	0.76 U	102	65-133	0.1	23	
2-Butanone	97		12	ug/L	100	4.5 U	97	10-180	5	29	
2-Hexanone	64		12	ug/L	100	2.5 U	64	12-180	7	28	
4-Methyl-2-pentanone	67		12	ug/L	100	2.5 U	67	19-180	0.5	24	
Acetone	77		25	ug/L	100	10 U	77	10-180	2	19	
Benzene	21		2.5	ug/L	20.0	0.71 U	103	56-136	1	14	
Bromodichloromethane	18		2.5	ug/L	20.0	0.52 U	88	58-135	3	19	
Bromoform	15		2.5	ug/L	20.0	0.75 U	75	46-148	3	18	
Bromomethane	20		2.5	ug/L	20.0	0.95 U	101	10-173	6	29	
Carbon disulfide	21		12	ug/L	20.0	2.5 U	103	43-153	7	26	
Carbon Tetrachloride	22		2.5	ug/L	20.0	0.94 U	109	54-156	2	27	
Chlorobenzene	20		2.5	ug/L	20.0	0.72 U	101	51-139	0.1	13	
Chloroethane	20		2.5	ug/L	20.0	0.98 U	99	27-180	9	22	
Chloroform	21		2.5	ug/L	20.0	0.80 U	105	58-139	3	17	
Chloromethane	16		2.5	ug/L	20.0	0.82 U	82	33-154	0.5	31	
cis-1,2-Dichloroethene	21		2.5	ug/L	20.0	0.53 U	103	56-128	3	17	
cis-1,3-Dichloropropene	16		2.5	ug/L	20.0	0.59 U	81	64-128	4	20	
Cyclohexane	25		2.5	ug/L	20.0	0.93 U	124	70-130	2	20	
Dibromochloromethane	18		2.5	ug/L	20.0	0.50 U	89	50-140	3	18	
Dichlorodifluoromethane	10		2.5	ug/L	20.0	0.74 U	51	10-180	4	26	
Ethylbenzene	21		2.5	ug/L	20.0	0.69 U	106	63-133	1	18	
Freon 113	24		2.5	ug/L	20.0	0.73 U	118	47-173	3	30	
Isopropylbenzene	21		2.5	ug/L	20.0	0.67 U	103	60-132	1	23	
m,p-Xylenes	40		5.0	ug/L	40.0	1.3 U	100	64-133	2	18	
Methyl acetate	15		2.5	ug/L	20.0	0.95 U	73	70-130	9	20	
Methyl cyclohexane	22		2.5	ug/L	20.0	0.64 U	112	70-130	2	20	
Methylene Chloride	20		12	ug/L	20.0	2.5 U	101	43-142	3	23	
Methyl-tert-Butyl Ether	14		2.5	ug/L	20.0	0.60 U	68	51-145	12	22	
o-Xylene	20		2.5	ug/L	20.0	0.53 U	99	61-129	0.9	16	
Styrene	20		2.5	ug/L	20.0	0.61 U	99	59-136	0.5	32	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1B21002 - EPA 5030B_MS - Continued

Matrix Spike Dup (1B21002-MSD1) Continued Prepared: 02/21/2021 00:00 Analyzed: 02/21/2021 11:32

Source: AE01325-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Tetrachloroethene	22		2.5	ug/L	20.0	0.76 U	111	60-147	0.3	21	
Toluene	21		2.5	ug/L	20.0	0.72 U	107	64-131	1	16	
trans-1,2-Dichloroethene	21		2.5	ug/L	20.0	0.73 U	105	54-134	4	20	
trans-1,3-Dichloropropene	18		2.5	ug/L	20.0	0.73 U	91	65-149	1	17	
Trichloroethene	20		2.5	ug/L	20.0	0.89 U	102	62-135	2	20	
Trichlorofluoromethane	21		2.5	ug/L	20.0	0.94 U	103	56-155	4	22	
Vinyl chloride	17		2.5	ug/L	20.0	0.71 U	84	20-167	6	24	
4-Bromofluorobenzene	*47*	*I*		*ug/L*	*50.0*		*95*	*41-142*			
Dibromofluoromethane	*53*			*ug/L*	*50.0*		*106*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*98*	*41-146*			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-11	Precision between duplicate matrix spikes of the same sample was outside acceptance limits.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

AE01304

Tetra Tech, Inc.

CHAIN OF CUSTODY | **NUMBER** No. 1407 | **PAGE** 1 **OF** 1

PROJECT NO: 112G08970	**FACILITY:** CRCA	**PROJECT MANAGER** ALEX MURPHY	**PHONE NUMBER**	**LABORATORY NAME AND CONTACT:** ENCO
SAMPLERS (SIGNATURE)		**FIELD OPERATIONS LEADER** DAN FORESTIER	**PHONE NUMBER** 304-780-1426	**ADDRESS**
		CARRIER/WAYBILL NUMBER COURIER		**CITY, STATE** ORLANDO, FL

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2021	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TYPE OF ANALYSIS (See Comment Below)	COMMENTS
									G	HCL		
17 FEB	0800	CRCA-A$EFFLUENT-20210217 CRCA		/	/	GW	G	3			X	
17 FEB	0815	CRCA-A$INFLUENT-20210217		/	/	GW	G	3			X	

1. RELINQUISHED BY	DATE 17 FEB 21	TIME 1406	1. RECEIVED BY Jamison W. Gregory	DATE 2/17/21	TIME 1406
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS 8260D TCL SOMO 1.2 CLD-LIKE CUSTOM LIST SM Red 1.2°C

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

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ENCO Laboratories
Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Thursday, March 25, 2021
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AE02207

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Thursday, March 18, 2021.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

PROJECT NARRATIVE

www.encolabs.com

Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Client PM: Alex Murphy
Project Number: 112G08970
ENCO Project ID: AE02207
SDG: AE02207-TE016

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling and processing will be discussed in the Remarks section below.

Remarks

List of instruments used:

Analytical and Preparation Method	SOP Reference Instrument
EPA 8260D / 5030B_MS	OVGCMS2

Analysis: EPA 8260D

Manual integrations were performed on samples associated with EPA 8260D. All data & explanations are included in the raw data section of the report.

Affected Samples: AA65533-CCV1, CRCA-ASEFFLUENT-20210318[AE02207-01], CRCA-ASINFLUENT-20210318[AE02207-02]
The associated calibration verification standard for bromoform and bromomethane exhibited high bias. Analyte(s) not detected in the sample.

Affected Samples: AA65533-CCV1
The continuing calibration verification standard exhibited low bias for multiple analytes; the associated sample had ND (non-detect) results, but sensitivity was verified by analyzing a standard with a concentration equivalent to the reporting limit.

Affected Samples: AA65289-SCV1
SCV recovery for bromomethane was outside acceptance limits. Analyte(s) not detected in the sample.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Kaitlin Dylnicki
Project Manager

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-ASEFFLUENT-20210318	Lab ID: AE02207-01	Sampled: 03/18/21 12:00	Received: 03/18/21 14:10

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	04/01/21	03/24/21 09:25	03/24/21 14:50

Client ID: CRCA-ASINFLUENT-20210318	Lab ID: AE02207-02	Sampled: 03/18/21 12:10	Received: 03/18/21 14:10

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	04/01/21	03/24/21 09:25	03/24/21 15:18

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SAMPLE DETECTION SUMMARY

Client ID: CRCA-ASINFLUENT-20210318 **Lab ID:** AE02207-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	13		0.71	2.5	ug/L	EPA 8260D	

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ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20210318 **Lab Sample ID:** AE02207-01 **Received:** 03/18/21 14:10

Matrix: Ground Water **Sampled:** 03/18/21 12:00 **Work Order:** AE02207

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1C24011	EPA 8260D	03/24/21 14:50	KG	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1C24011	EPA 8260D	03/24/21 14:50	KG	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1C24011	EPA 8260D	03/24/21 14:50	KG	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1C24011	EPA 8260D	03/24/21 14:50	KG	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	QV-01
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1C24011	EPA 8260D	03/24/21 14:50	KG	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1C24011	EPA 8260D	03/24/21 14:50	KG	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1C24011	EPA 8260D	03/24/21 14:50	KG	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20210318 **Lab Sample ID:** AE02207-01 **Received:** 03/18/21 14:10

Matrix: Ground Water **Sampled:** 03/18/21 12:00 **Work Order:** AE02207

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1C24011	EPA 8260D	03/24/21 14:50	KG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*46*	*1*	*50.0*	*93 %*	*41-142*	*1C24011*	*EPA 8260D*	*03/24/21 14:50*	*KG*	
Dibromofluoromethane	*49*	*1*	*50.0*	*98 %*	*53-146*	*1C24011*	*EPA 8260D*	*03/24/21 14:50*	*KG*	
Toluene-d8	*48*	*1*	*50.0*	*96 %*	*41-146*	*1C24011*	*EPA 8260D*	*03/24/21 14:50*	*KG*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20210318 **Lab Sample ID:** AE02207-02 **Received:** 03/18/21 14:10

Matrix: Ground Water **Sampled:** 03/18/21 12:10 **Work Order:** AE02207

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1C24011	EPA 8260D	03/24/21 15:18	KG	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1C24011	EPA 8260D	03/24/21 15:18	KG	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1C24011	EPA 8260D	03/24/21 15:18	KG	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1C24011	EPA 8260D	03/24/21 15:18	KG	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	QV-01
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1C24011	EPA 8260D	03/24/21 15:18	KG	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1C24011	EPA 8260D	03/24/21 15:18	KG	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1C24011	EPA 8260D	03/24/21 15:18	KG	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	

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ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20210318 **Lab Sample ID:** AE02207-02 **Received:** 03/18/21 14:10

Matrix: Ground Water **Sampled:** 03/18/21 12:10 **Work Order:** AE02207

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Vinyl chloride [75-01-4]^	**13**		ug/L	1	0.71	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1C24011	EPA 8260D	03/24/21 15:18	KG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*47*	*1*	*50.0*	*93 %*	*41-142*	*1C24011*	*EPA 8260D*	*03/24/21 15:18*	*KG*	
Dibromofluoromethane	*49*	*1*	*50.0*	*98 %*	*53-146*	*1C24011*	*EPA 8260D*	*03/24/21 15:18*	*KG*	
Toluene-d8	*48*	*1*	*50.0*	*96 %*	*41-146*	*1C24011*	*EPA 8260D*	*03/24/21 15:18*	*KG*	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1C24011 - EPA 5030B_MS

Blank (1C24011-BLK1) Prepared: 03/24/2021 00:00 Analyzed: 03/24/2021 12:04

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1C24011 - EPA 5030B_MS - Continued

Blank (1C24011-BLK1) Continued Prepared: 03/24/2021 00:00 Analyzed: 03/24/2021 12:04

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*45*	*I*		*ug/L*	*50.0*		*90*	*41-142*			
Dibromofluoromethane	*47*	*I*		*ug/L*	*50.0*		*94*	*53-146*			
Toluene-d8	*48*	*I*		*ug/L*	*50.0*		*96*	*41-146*			

LCS (1C24011-BS1) Prepared: 03/24/2021 00:00 Analyzed: 03/24/2021 09:12

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	17		2.5	ug/L	20.0		85	57-148			
1,1,2,2-Tetrachloroethane	21		2.5	ug/L	20.0		104	60-139			
1,1,2-Trichloroethane	21		2.5	ug/L	20.0		104	57-141			
1,1-Dichloroethane	16		2.5	ug/L	20.0		82	57-142			
1,1-Dichloroethene	18		2.5	ug/L	20.0		90	47-139			
1,2,4-Trichlorobenzene	22		2.5	ug/L	20.0		110	52-159			
1,2-Dibromo-3-chloropropane	17		2.5	ug/L	20.0		87	48-150			
1,2-Dibromoethane	21		2.5	ug/L	20.0		106	57-140			
1,2-Dichlorobenzene	22		2.5	ug/L	20.0		108	63-131			
1,2-Dichloroethane	17		2.5	ug/L	20.0		83	50-156			
1,2-Dichloropropane	17		2.5	ug/L	20.0		84	61-133			
1,3-Dichlorobenzene	21		2.5	ug/L	20.0		105	66-129			
1,4-Dichlorobenzene	20		2.5	ug/L	20.0		99	65-133			
2-Butanone	130		12	ug/L	100		130	10-180			
2-Hexanone	83		12	ug/L	100		83	12-180			
4-Methyl-2-pentanone	110		12	ug/L	100		105	19-180			
Acetone	88		25	ug/L	100		88	10-180			
Benzene	20		2.5	ug/L	20.0		102	56-136			
Bromodichloromethane	18		2.5	ug/L	20.0		92	58-135			
Bromoform	25		2.5	ug/L	20.0		125	46-148			
Bromomethane	7.7		2.5	ug/L	20.0		38	10-173			
Carbon disulfide	20		12	ug/L	20.0		101	43-153			
Carbon Tetrachloride	19		2.5	ug/L	20.0		93	54-156			
Chlorobenzene	22		2.5	ug/L	20.0		108	51-139			
Chloroethane	15		2.5	ug/L	20.0		75	27-180			
Chloroform	17		2.5	ug/L	20.0		87	58-139			
Chloromethane	9.9		2.5	ug/L	20.0		50	33-154			
cis-1,2-Dichloroethene	19		2.5	ug/L	20.0		95	56-128			
cis-1,3-Dichloropropene	18		2.5	ug/L	20.0		88	64-128			
Cyclohexane	18		2.5	ug/L	20.0		89	70-130			
Dibromochloromethane	23		2.5	ug/L	20.0		115	50-140			
Dichlorodifluoromethane	7.2		2.5	ug/L	20.0		36	10-180			
Ethylbenzene	22		2.5	ug/L	20.0		110	63-133			
Freon 113	18		2.5	ug/L	20.0		91	47-173			
Isopropylbenzene	22		2.5	ug/L	20.0		108	60-132			
m,p-Xylenes	42		5.0	ug/L	40.0		105	64-133			
Methyl acetate	17		2.5	ug/L	20.0		86	70-130			
Methyl cyclohexane	18		2.5	ug/L	20.0		88	70-130			
Methylene Chloride	17		12	ug/L	20.0		84	43-142			
Methyl-tert-Butyl Ether	17		2.5	ug/L	20.0		86	51-145			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1C24011 - EPA 5030B_MS - Continued

LCS (1C24011-BS1) Continued Prepared: 03/24/2021 00:00 Analyzed: 03/24/2021 09:12

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
o-Xylene	22		2.5	ug/L	20.0		109	61-129			
Styrene	21		2.5	ug/L	20.0		107	59-136			
Tetrachloroethene	24		2.5	ug/L	20.0		122	60-147			
Toluene	21		2.5	ug/L	20.0		106	64-131			
trans-1,2-Dichloroethene	19		2.5	ug/L	20.0		93	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0		105	65-149			
Trichloroethene	21		2.5	ug/L	20.0		103	62-135			
Trichlorofluoromethane	16		2.5	ug/L	20.0		81	56-155			
Vinyl chloride	13		2.5	ug/L	20.0		67	20-167			
4-Bromofluorobenzene	*47*	*I*		*ug/L*	*50.0*		*95*	*41-142*			
Dibromofluoromethane	*47*	*I*		*ug/L*	*50.0*		*94*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*99*	*41-146*			

Matrix Spike (1C24011-MS1) Prepared: 03/24/2021 00:00 Analyzed: 03/24/2021 09:41

Source: AE02221-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	19		2.5	ug/L	20.0	0.80 U	93	57-148			
1,1,2,2-Tetrachloroethane	20		2.5	ug/L	20.0	0.54 U	100	60-139			
1,1,2-Trichloroethane	22		2.5	ug/L	20.0	0.76 U	109	57-141			
1,1-Dichloroethane	17		2.5	ug/L	20.0	0.62 U	86	57-142			
1,1-Dichloroethene	19		2.5	ug/L	20.0	0.94 U	97	47-139			
1,2,4-Trichlorobenzene	20		2.5	ug/L	20.0	0.70 U	102	52-159			
1,2-Dibromo-3-chloropropane	15		2.5	ug/L	20.0	0.96 U	77	48-150			
1,2-Dibromoethane	21		2.5	ug/L	20.0	0.78 U	104	57-140			
1,2-Dichlorobenzene	21		2.5	ug/L	20.0	0.73 U	104	63-131			
1,2-Dichloroethane	17		2.5	ug/L	20.0	0.63 U	84	50-156			
1,2-Dichloropropane	18		2.5	ug/L	20.0	0.80 U	89	61-133			
1,3-Dichlorobenzene	21		2.5	ug/L	20.0	0.77 U	106	66-129			
1,4-Dichlorobenzene	20		2.5	ug/L	20.0	0.76 U	101	65-133			
2-Butanone	120		12	ug/L	100	4.5 U	122	10-180			
2-Hexanone	78		12	ug/L	100	2.5 U	78	12-180			
4-Methyl-2-pentanone	100		12	ug/L	100	2.5 U	104	19-180			
Acetone	77		25	ug/L	100	10 U	77	10-180			
Benzene	21		2.5	ug/L	20.0	0.71 U	104	56-136			
Bromodichloromethane	19		2.5	ug/L	20.0	0.52 U	94	58-135			
Bromoform	25		2.5	ug/L	20.0	0.75 U	123	46-148			
Bromomethane	9.6		2.5	ug/L	20.0	0.95 U	48	10-173			
Carbon disulfide	20		12	ug/L	20.0	2.5 U	101	43-153			
Carbon Tetrachloride	20		2.5	ug/L	20.0	0.94 U	100	54-156			
Chlorobenzene	22		2.5	ug/L	20.0	0.72 U	110	51-139			
Chloroethane	17		2.5	ug/L	20.0	0.98 U	84	27-180			
Chloroform	18		2.5	ug/L	20.0	0.80 U	89	58-139			
Chloromethane	11		2.5	ug/L	20.0	0.82 U	55	33-154			
cis-1,2-Dichloroethene	19		2.5	ug/L	20.0	0.53 U	97	56-128			
cis-1,3-Dichloropropene	18		2.5	ug/L	20.0	0.59 U	89	64-128			
Cyclohexane	19		2.5	ug/L	20.0	0.93 U	96	70-130			
Dibromochloromethane	23		2.5	ug/L	20.0	0.50 U	113	50-140			
Dichlorodifluoromethane	8.5		2.5	ug/L	20.0	0.74 U	42	10-180			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1C24011 - EPA 5030B_MS - Continued

Matrix Spike (1C24011-MS1) Continued Prepared: 03/24/2021 00:00 Analyzed: 03/24/2021 09:41

Source: AE02221-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	23		2.5	ug/L	20.0	0.69 U	113	63-133			
Freon 113	20		2.5	ug/L	20.0	0.73 U	99	47-173			
Isopropylbenzene	23		2.5	ug/L	20.0	0.67 U	116	60-132			
m,p-Xylenes	44		5.0	ug/L	40.0	1.3 U	110	64-133			
Methyl acetate	17		2.5	ug/L	20.0	0.95 U	84	70-130			
Methyl cyclohexane	19		2.5	ug/L	20.0	0.64 U	96	70-130			
Methylene Chloride	17		12	ug/L	20.0	2.5 U	86	43-142			
Methyl-tert-Butyl Ether	17		2.5	ug/L	20.0	0.60 U	85	51-145			
o-Xylene	23		2.5	ug/L	20.0	0.53 U	113	61-129			
Styrene	22		2.5	ug/L	20.0	0.61 U	111	59-136			
Tetrachloroethene	25		2.5	ug/L	20.0	0.76 U	123	60-147			
Toluene	23		2.5	ug/L	20.0	0.72 U	113	64-131			
trans-1,2-Dichloroethene	20		2.5	ug/L	20.0	0.73 U	98	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0	0.73 U	107	65-149			
Trichloroethene	22		2.5	ug/L	20.0	0.89 U	108	62-135			
Trichlorofluoromethane	18		2.5	ug/L	20.0	0.94 U	92	56-155			
Vinyl chloride	15		2.5	ug/L	20.0	0.71 U	73	20-167			
4-Bromofluorobenzene	*47*	*I*		*ug/L*	*50.0*		*95*	*41-142*			
Dibromofluoromethane	*47*	*I*		*ug/L*	*50.0*		*93*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*97*	*41-146*			

Matrix Spike Dup (1C24011-MSD1) Prepared: 03/24/2021 00:00 Analyzed: 03/24/2021 10:10

Source: AE02221-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	18		2.5	ug/L	20.0	0.80 U	89	57-148	4	25	
1,1,2,2-Tetrachloroethane	20		2.5	ug/L	20.0	0.54 U	100	60-139	0.1	17	
1,1,2-Trichloroethane	21		2.5	ug/L	20.0	0.76 U	104	57-141	4	16	
1,1-Dichloroethane	17		2.5	ug/L	20.0	0.62 U	84	57-142	2	24	
1,1-Dichloroethene	19		2.5	ug/L	20.0	0.94 U	94	47-139	4	16	
1,2,4-Trichlorobenzene	20		2.5	ug/L	20.0	0.70 U	102	52-159	0.2	24	
1,2-Dibromo-3-chloropropane	16		2.5	ug/L	20.0	0.96 U	81	48-150	4	21	
1,2-Dibromoethane	21		2.5	ug/L	20.0	0.78 U	104	57-140	0.4	16	
1,2-Dichlorobenzene	21		2.5	ug/L	20.0	0.73 U	105	63-131	1	25	
1,2-Dichloroethane	16		2.5	ug/L	20.0	0.63 U	82	50-156	2	18	
1,2-Dichloropropane	17		2.5	ug/L	20.0	0.80 U	85	61-133	5	26	
1,3-Dichlorobenzene	21		2.5	ug/L	20.0	0.77 U	107	66-129	0.9	23	
1,4-Dichlorobenzene	20		2.5	ug/L	20.0	0.76 U	98	65-133	2	23	
2-Butanone	120		12	ug/L	100	4.5 U	121	10-180	0.3	29	
2-Hexanone	81		12	ug/L	100	2.5 U	81	12-180	4	28	
4-Methyl-2-pentanone	100		12	ug/L	100	2.5 U	104	19-180	0.08	24	
Acetone	79		25	ug/L	100	10 U	79	10-180	2	19	
Benzene	21		2.5	ug/L	20.0	0.71 U	103	56-136	2	14	
Bromodichloromethane	18		2.5	ug/L	20.0	0.52 U	92	58-135	1	19	
Bromoform	24		2.5	ug/L	20.0	0.75 U	120	46-148	3	18	
Bromomethane	11		2.5	ug/L	20.0	0.95 U	53	10-173	9	29	
Carbon disulfide	19		12	ug/L	20.0	2.5 U	97	43-153	4	26	
Carbon Tetrachloride	20		2.5	ug/L	20.0	0.94 U	98	54-156	2	27	
Chlorobenzene	21		2.5	ug/L	20.0	0.72 U	107	51-139	3	13	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1C24011 - EPA 5030B_MS - Continued

Matrix Spike Dup (1C24011-MSD1) Continued Prepared: 03/24/2021 00:00 Analyzed: 03/24/2021 10:10

Source: AE02221-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloroethane	15		2.5	ug/L	20.0	0.98 U	77	27-180	8	22	
Chloroform	18		2.5	ug/L	20.0	0.80 U	88	58-139	2	17	
Chloromethane	11		2.5	ug/L	20.0	0.82 U	55	33-154	0.5	31	
cis-1,2-Dichloroethene	19		2.5	ug/L	20.0	0.53 U	95	56-128	2	17	
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0	0.59 U	87	64-128	2	20	
Cyclohexane	19		2.5	ug/L	20.0	0.93 U	93	70-130	3	20	
Dibromochloromethane	23		2.5	ug/L	20.0	0.50 U	113	50-140	0.09	18	
Dichlorodifluoromethane	8.1		2.5	ug/L	20.0	0.74 U	41	10-180	5	26	
Ethylbenzene	22		2.5	ug/L	20.0	0.69 U	112	63-133	1	18	
Freon 113	19		2.5	ug/L	20.0	0.73 U	95	47-173	3	30	
Isopropylbenzene	22		2.5	ug/L	20.0	0.67 U	112	60-132	3	23	
m,p-Xylenes	43		5.0	ug/L	40.0	1.3 U	107	64-133	3	18	
Methyl acetate	17		2.5	ug/L	20.0	0.95 U	86	70-130	3	20	
Methyl cyclohexane	19		2.5	ug/L	20.0	0.64 U	93	70-130	2	20	
Methylene Chloride	17		12	ug/L	20.0	2.5 U	83	43-142	3	23	
Methyl-tert-Butyl Ether	17		2.5	ug/L	20.0	0.60 U	85	51-145	0.2	22	
o-Xylene	22		2.5	ug/L	20.0	0.53 U	112	61-129	2	16	
Styrene	22		2.5	ug/L	20.0	0.61 U	108	59-136	2	32	
Tetrachloroethene	24		2.5	ug/L	20.0	0.76 U	122	60-147	1	21	
Toluene	22		2.5	ug/L	20.0	0.72 U	110	64-131	3	16	
trans-1,2-Dichloroethene	19		2.5	ug/L	20.0	0.73 U	94	54-134	4	20	
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0	0.73 U	104	65-149	3	17	
Trichloroethene	21		2.5	ug/L	20.0	0.89 U	106	62-135	2	20	
Trichlorofluoromethane	18		2.5	ug/L	20.0	0.94 U	88	56-155	5	22	
Vinyl chloride	15		2.5	ug/L	20.0	0.71 U	73	20-167	0.4	24	
4-Bromofluorobenzene	*47*	*I*		*ug/L*	*50.0*		*94*	*41-142*			
Dibromofluoromethane	*45*	*I*		*ug/L*	*50.0*		*90*	*53-146*			
Toluene-d8	*48*	*I*		*ug/L*	*50.0*		*97*	*41-146*			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported result is an estimated value.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence (85% or greater confidence) to make a “tentative identification".
Q	One or more quality control criteria failed.

AE02207

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 1406 | PAGE 1 OF 1

PROJECT NO: 11290	FACILITY: CICA	PROJECT MANAGER ALEX MURPHY	PHONE NUMBER 321-636-6470	LABORATORY NAME AND CONTACT: ENCO
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER IAN FORRESTER	PHONE NUMBER 304-780-1426	ADDRESS
		CARRIER/WAYBILL NUMBER Courier		CITY, STATE ORLANDO, FL

STANDARD TAT ☒
RUSH TAT ☐ ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2021	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TYPE OF ANALYSIS SEE COMMENTS BELOW							COMMENTS
									G	HCL								COOLED ON ICE
18MAR	1200	CICA-A$EFFLUENT-20210318	CICA	/	/	GW	G	3	X									
18MAR	1210	CICA-A$INFLUENT-20210318	CICA	/	/	GW	G	3	X									

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	18MAR21	1410	1. RECEIVED BY	18MAR21	1410
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS 8260D TCL SOM01.2 CLP-LIKE CUSTOM LIST SM Red 0.2°C

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

3/18/2021

Environmental Conservation Labs, Inc.

Alex Murphy
Tetra Tech, Inc. (TE016)
11 Riverside Drive, Suite 204
Cocoa, FL 32922
Phone: (321) 636-6470
Fax: (321) 636-6473

Reference : **Sample Receipt Confirmation - *Please Review***
Project Name / Number : NASA KSC CRCA / 112G08970
Purchase Order # : 1165883

Lab Reference # : AE02207 Lab Receipt Date: 18-Mar-21 14:10
Anticipated ***(Estimated)*** Completion Date: 25-Mar-21 19:00

This is an automated notification from our laboratory information management system (LIMS), indicating the samples we have recently received and their associated analyses. Should any of the following information be in error, please contact us immediately.

Thank you for choosing Environmental Conservation Laboratories. Should any events occur that delay the processing of your samples or inhibit our ability to complete the project within the projected time frame you will be contacted.

Sincerely,

Kaitlin Dylnicki

Client: Tetra Tech, Inc. (TE016) **Project Name:** NASA KSC CRCA
Requested TAT: 5 **Project Number:** 112G08970

Analysis	TAT	Expires	Status
Sample ID: CRCA-ASEFFLUENT-20210318(Lab ID: AE02207-01), Matrix: Ground Water, Sampled: 18-Mar-21 12:00 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	01-Apr-21 23:59	Received
Sample ID: CRCA-ASINFLUENT-20210318(Lab ID: AE02207-02), Matrix: Ground Water, Sampled: 18-Mar-21 12:10 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	01-Apr-21 23:59	Received

Analysis Groups included in this work order

ENCO Orlando

SDG: AE02207-TE016

CLASS: 01_VOA_MS

METHOD: EPA 8260D

ANALYSES DATA PACKAGE COVER PAGE

EPA 8260D

Laboratory: ENCO Orlando

SDG: AE02207-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-ASEFFLUENT-20210318	AE02207-01
CRCA-ASINFLUENT-20210318	AE02207-02

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLUENT-20210318

Laboratory: ENCO Orlando
SDG: AE02207-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE02207-01
File ID: 212CS013.D
Sampled: 03/18/21 12:00
Prepared: 03/24/21 09:25
Analyzed: 03/24/21 14:50
Solids:
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Batch: 1C24011
Sequence: AA65533
Calibration: 2103054
Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLUENT-20210318

Laboratory: ENCO Orlando | SDG: AE02207-TE016

Client: Tetra Tech, Inc. (TE016) | Project: NASA KSC CRCA

Matrix: Ground Water | Laboratory ID: AE02207-01 | File ID: 212CS013.D

Sampled: 03/18/21 12:00 | Prepared: 03/24/21 09:25 | Analyzed: 03/24/21 14:50

Solids: | Preparation: EPA 5030B_MS | Initial/Final: 5 mL / 5 mL

Batch: 1C24011 | Sequence: AA65533 | Calibration: 2103054 | Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	49	98	53 - 146	
Toluene-d8	50.0	48	96	41 - 146	
4-Bromofluorobenzene	50.0	46	93	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	255830	11.48	231702	11.44	
1,4-Difluorobenzene	439921	12.03	427152	11.99	
Chlorobenzene-d5	199954	14.63	207404	14.59	
1,4-Dichlorobenzene-d4	168447	16.99	156147	16.94	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLUENT-20210318

Laboratory: ENCO Orlando SDG: AE02207-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE02207-02 File ID: 212CS014.D

Sampled: 03/18/21 12:10 Prepared: 03/24/21 09:25 Analyzed: 03/24/21 15:18

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1C24011 Sequence: AA65533 Calibration: 2103054 Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	13		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLUENT-20210318

Laboratory: ENCO Orlando SDG: AE02207-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE02207-02 File ID: 212CS014.D

Sampled: 03/18/21 12:10 Prepared: 03/24/21 09:25 Analyzed: 03/24/21 15:18

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1C24011 Sequence: AA65533 Calibration: 2103054 Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	49	98	53 - 146	
Toluene-d8	50.0	48	96	41 - 146	
4-Bromofluorobenzene	50.0	47	93	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	249253	11.49	231702	11.44	
1,4-Difluorobenzene	430833	12.04	427152	11.99	
Chlorobenzene-d5	197098	14.63	207404	14.59	
1,4-Dichlorobenzene-d4	166966	16.99	156147	16.94	

* Values outside of QC limits

HOLDING TIME SUMMARY

EPA 8260D

Laboratory: ENCO Orlando

SDG: AE02207-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-ASEFFLUENT-20210318	03/18/21 12:00	03/18/21 14:10	03/24/21 09:25	5.89	NA	03/24/21 14:50	6.00	14.00	
CRCA-ASINFLUENT-20210318	03/18/21 12:10	03/18/21 14:10	03/24/21 09:25	5.89	NA	03/24/21 15:18	6.00	14.00	

PREPARATION BATCH SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AE02207-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1C24011 Batch Matrix: Water Preparation: EPA 5030B_MS

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1C24011-BLK1	212CS008.D	03/24/21 00:00	
LCS	1C24011-BS1	212CS002.D	03/24/21 00:00	
MW-11R	1C24011-MS1	212CS003.D	03/24/21 00:00	
MW-11R	1C24011-MSD1	212CS004.D	03/24/21 00:00	
CRCA-ASEFFLUENT-20210318	AE02207-01	212CS013.D	03/24/21 09:25	
CRCA-ASINFLUENT-20210318	AE02207-02	212CS014.D	03/24/21 09:25	

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE02207-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1C24011-BLK1	File ID:	212CS008.D
Prepared:	03/24/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	03/24/21 12:04	Instrument:	OVGCMS2		
Batch:	1C24011	Sequence:	AA65533	Calibration:	2103054

CAS NO.	COMPOUND	CONC. (ug/L)	Q
75-71-8	Dichlorodifluoromethane	0.74	U
74-87-3	Chloromethane	0.82	U
75-01-4	Vinyl chloride	0.71	U
74-83-9	Bromomethane	0.95	U
75-00-3	Chloroethane	0.98	U
75-69-4	Trichlorofluoromethane	0.94	U
76-13-1	Freon 113	0.73	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	0.94	U
75-15-0	Carbon disulfide	2.5	U
75-09-2	Methylene Chloride	2.5	U
1634-04-4	Methyl-tert-Butyl Ether	0.60	U
156-60-5	trans-1,2-Dichloroethene	0.73	U
156-59-2	cis-1,2-Dichloroethene	0.53	U
75-34-3	1,1-Dichloroethane	0.62	U
78-93-3	2-Butanone	4.5	U
67-66-3	Chloroform	0.80	U
71-55-6	1,1,1-Trichloroethane	0.80	U
79-20-9	Methyl acetate	0.95	U
110-82-7	Cyclohexane	0.93	U
108-87-2	Methyl cyclohexane	0.64	U
56-23-5	Carbon Tetrachloride	0.94	U
107-06-2	1,2-Dichloroethane	0.63	U
71-43-2	Benzene	0.71	U
79-01-6	Trichloroethene	0.89	U
78-87-5	1,2-Dichloropropane	0.80	U
75-27-4	Bromodichloromethane	0.52	U
108-10-1	4-Methyl-2-pentanone	2.5	U
591-78-6	2-Hexanone	2.5	U
10061-01-5	cis-1,3-Dichloropropene	0.59	U

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE02207-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1C24011-BLK1	File ID:	212CS008.D
Prepared:	03/24/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	03/24/21 12:04	Instrument:	OVGCMS2		
Batch:	1C24011	Sequence:	AA65533	Calibration:	2103054

CAS NO.	COMPOUND	CONC. (ug/L)	Q
108-88-3	Toluene	0.72	U
10061-02-6	trans-1,3-Dichloropropene	0.73	U
79-00-5	1,1,2-Trichloroethane	0.76	U
127-18-4	Tetrachloroethene	0.76	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.78	U
108-90-7	Chlorobenzene	0.72	U
100-41-4	Ethylbenzene	0.69	U
108-38-3/106-42-3	m,p-Xylenes	1.3	U
95-47-6	o-Xylene	0.53	U
75-25-2	Bromoform	0.75	U
100-42-5	Styrene	0.61	U
98-82-8	Isopropylbenzene	0.67	U
79-34-5	1,1,2,2-Tetrachloroethane	0.54	U
120-82-1	1,2,4-Trichlorobenzene	0.70	U
541-73-1	1,3-Dichlorobenzene	0.77	U
106-46-7	1,4-Dichlorobenzene	0.76	U
95-50-1	1,2-Dichlorobenzene	0.73	U
96-12-8	1,2-Dibromo-3-chloropropane	0.96	U
1330-20-7	Xylenes (Total)	1.3	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	47	94	53 - 146	
Toluene-d8	50.0	48	96	41 - 146	
4-Bromofluorobenzene	50.0	45	90	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	235626	11.49	231702	11.44	
1,4-Difluorobenzene	398655	12.03	427152	11.99	
Chlorobenzene-d5	180788	14.62	207404	14.59	
1,4-Dichlorobenzene-d4	153177	16.99	156147	16.94	

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE02207-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1C24011	Laboratory ID:	1C24011-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	7.2	36	10 - 180
Chloromethane	20.0	9.9	50	33 - 154
Vinyl chloride	20.0	13	67	20 - 167
Bromomethane	20.0	7.7	38	10 - 173
Chloroethane	20.0	15	75	27 - 180
Trichlorofluoromethane	20.0	16	81	56 - 155
Freon 113	20.0	18	91	47 - 173
Acetone	100	88	88	10 - 180
1,1-Dichloroethene	20.0	18	90	47 - 139
Carbon disulfide	20.0	20	101	43 - 153
Methylene Chloride	20.0	17	84	43 - 142
Methyl-tert-Butyl Ether	20.0	17	86	51 - 145
trans-1,2-Dichloroethene	20.0	19	93	54 - 134
cis-1,2-Dichloroethene	20.0	19	95	56 - 128
1,1-Dichloroethane	20.0	16	82	57 - 142
2-Butanone	100	130	130	10 - 180
Chloroform	20.0	17	87	58 - 139
1,1,1-Trichloroethane	20.0	17	85	57 - 148
Methyl acetate	20.0	17	86	70 - 130
Cyclohexane	20.0	18	89	70 - 130
Methyl cyclohexane	20.0	18	88	70 - 130
Carbon Tetrachloride	20.0	19	93	54 - 156
1,2-Dichloroethane	20.0	17	83	50 - 156
Benzene	20.0	20	102	56 - 136
Trichloroethene	20.0	21	103	62 - 135
1,2-Dichloropropane	20.0	17	84	61 - 133
Bromodichloromethane	20.0	18	92	58 - 135
4-Methyl-2-pentanone	100	110	105	19 - 180
2-Hexanone	100	83	83	12 - 180
cis-1,3-Dichloropropene	20.0	18	88	64 - 128

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE02207-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1C24011	Laboratory ID:	1C24011-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Toluene	20.0	21	106	64 - 131
trans-1,3-Dichloropropene	20.0	21	105	65 - 149
1,1,2-Trichloroethane	20.0	21	104	57 - 141
Tetrachloroethene	20.0	24	122	60 - 147
Dibromochloromethane	20.0	23	115	50 - 140
1,2-Dibromoethane	20.0	21	106	57 - 140
Chlorobenzene	20.0	22	108	51 - 139
Ethylbenzene	20.0	22	110	63 - 133
m,p-Xylenes	40.0	42	105	64 - 133
o-Xylene	20.0	22	109	61 - 129
Bromoform	20.0	25	125	46 - 148
Styrene	20.0	21	107	59 - 136
Isopropylbenzene	20.0	22	108	60 - 132
1,1,2,2-Tetrachloroethane	20.0	21	104	60 - 139
1,2,4-Trichlorobenzene	20.0	22	110	52 - 159
1,3-Dichlorobenzene	20.0	21	105	66 - 129
1,4-Dichlorobenzene	20.0	20	99	65 - 133
1,2-Dichlorobenzene	20.0	22	108	63 - 131
1,2-Dibromo-3-chloropropane	20.0	17	87	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-11R

Laboratory: ENCO Orlando
SDG: AE02207-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1C24011
Laboratory ID: 1C24011-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-11R

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	ND	8.5	42	10 - 180
Chloromethane	20.0	ND	11	55	33 - 154
Vinyl chloride	20.0	ND	15	73	20 - 167
Bromomethane	20.0	ND	9.6	48	10 - 173
Chloroethane	20.0	ND	17	84	27 - 180
Trichlorofluoromethane	20.0	ND	18	92	56 - 155
Freon 113	20.0	ND	20	99	47 - 173
Acetone	100	ND	77	77	10 - 180
1,1-Dichloroethene	20.0	ND	19	97	47 - 139
Carbon disulfide	20.0	ND	20	101	43 - 153
Methylene Chloride	20.0	ND	17	86	43 - 142
Methyl-tert-Butyl Ether	20.0	ND	17	85	51 - 145
trans-1,2-Dichloroethene	20.0	ND	20	98	54 - 134
cis-1,2-Dichloroethene	20.0	ND	19	97	56 - 128
1,1-Dichloroethane	20.0	ND	17	86	57 - 142
2-Butanone	100	ND	120	122	10 - 180
Chloroform	20.0	ND	18	89	58 - 139
1,1,1-Trichloroethane	20.0	ND	19	93	57 - 148
Methyl acetate	20.0	ND	17	84	70 - 130
Cyclohexane	20.0	ND	19	96	70 - 130
Methyl cyclohexane	20.0	ND	19	96	70 - 130
Carbon Tetrachloride	20.0	ND	20	100	54 - 156
1,2-Dichloroethane	20.0	ND	17	84	50 - 156
Benzene	20.0	ND	21	104	56 - 136
Trichloroethene	20.0	ND	22	108	62 - 135
1,2-Dichloropropane	20.0	ND	18	89	61 - 133
Bromodichloromethane	20.0	ND	19	94	58 - 135
4-Methyl-2-pentanone	100	ND	100	104	19 - 180
2-Hexanone	100	ND	78	78	12 - 180
cis-1,3-Dichloropropene	20.0	ND	18	89	64 - 128
Toluene	20.0	ND	23	113	64 - 131

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-11R

Laboratory: ENCO Orlando
SDG: AE02207-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1C24011
Laboratory ID: 1C24011-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-11R

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
trans-1,3-Dichloropropene	20.0	ND	21	107	65 - 149
1,1,2-Trichloroethane	20.0	ND	22	109	57 - 141
Tetrachloroethene	20.0	ND	25	123	60 - 147
Dibromochloromethane	20.0	ND	23	113	50 - 140
1,2-Dibromoethane	20.0	ND	21	104	57 - 140
Chlorobenzene	20.0	ND	22	110	51 - 139
Ethylbenzene	20.0	ND	23	113	63 - 133
m,p-Xylenes	40.0	ND	44	110	64 - 133
o-Xylene	20.0	ND	23	113	61 - 129
Bromoform	20.0	ND	25	123	46 - 148
Styrene	20.0	ND	22	111	59 - 136
Isopropylbenzene	20.0	ND	23	116	60 - 132
1,1,2,2-Tetrachloroethane	20.0	ND	20	100	60 - 139
1,2,4-Trichlorobenzene	20.0	ND	20	102	52 - 159
1,3-Dichlorobenzene	20.0	ND	21	106	66 - 129
1,4-Dichlorobenzene	20.0	ND	20	101	65 - 133
1,2-Dichlorobenzene	20.0	ND	21	104	63 - 131
1,2-Dibromo-3-chloropropane	20.0	ND	15	77	48 - 150

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-11R

Laboratory: ENCO Orlando
SDG: AE02207-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1C24011
Laboratory ID: 1C24011-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-11R

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20.0	8.1	41	5	26	10 - 180
Chloromethane	20.0	11	55	0.5	31	33 - 154
Vinyl chloride	20.0	15	73	0.4	24	20 - 167
Bromomethane	20.0	11	53	9	29	10 - 173
Chloroethane	20.0	15	77	8	22	27 - 180
Trichlorofluoromethane	20.0	18	88	5	22	56 - 155
Freon 113	20.0	19	95	3	30	47 - 173
Acetone	100	79	79	2	19	10 - 180
1,1-Dichloroethene	20.0	19	94	4	16	47 - 139
Carbon disulfide	20.0	19	97	4	26	43 - 153
Methylene Chloride	20.0	17	83	3	23	43 - 142
Methyl-tert-Butyl Ether	20.0	17	85	0.2	22	51 - 145
trans-1,2-Dichloroethene	20.0	19	94	4	20	54 - 134
cis-1,2-Dichloroethene	20.0	19	95	2	17	56 - 128
1,1-Dichloroethane	20.0	17	84	2	24	57 - 142
2-Butanone	100	120	121	0.3	29	10 - 180
Chloroform	20.0	18	88	2	17	58 - 139
1,1,1-Trichloroethane	20.0	18	89	4	25	57 - 148
Methyl acetate	20.0	17	86	3	20	70 - 130
Cyclohexane	20.0	19	93	3	20	70 - 130
Methyl cyclohexane	20.0	19	93	2	20	70 - 130
Carbon Tetrachloride	20.0	20	98	2	27	54 - 156
1,2-Dichloroethane	20.0	16	82	2	18	50 - 156
Benzene	20.0	21	103	2	14	56 - 136
Trichloroethene	20.0	21	106	2	20	62 - 135
1,2-Dichloropropane	20.0	17	85	5	26	61 - 133
Bromodichloromethane	20.0	18	92	1	19	58 - 135
4-Methyl-2-pentanone	100	100	104	0.08	24	19 - 180
2-Hexanone	100	81	81	4	28	12 - 180
cis-1,3-Dichloropropene	20.0	17	87	2	20	64 - 128
Toluene	20.0	22	110	3	16	64 - 131
trans-1,3-Dichloropropene	20.0	21	104	3	17	65 - 149

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-11R

Laboratory: ENCO Orlando
SDG: AE02207-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1C24011
Laboratory ID: 1C24011-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-11R

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,2-Trichloroethane	20.0	21	104	4	16	57 - 141
Tetrachloroethene	20.0	24	122	1	21	60 - 147
Dibromochloromethane	20.0	23	113	0.09	18	50 - 140
1,2-Dibromoethane	20.0	21	104	0.4	16	57 - 140
Chlorobenzene	20.0	21	107	3	13	51 - 139
Ethylbenzene	20.0	22	112	1	18	63 - 133
m,p-Xylenes	40.0	43	107	3	18	64 - 133
o-Xylene	20.0	22	112	2	16	61 - 129
Bromoform	20.0	24	120	3	18	46 - 148
Styrene	20.0	22	108	2	32	59 - 136
Isopropylbenzene	20.0	22	112	3	23	60 - 132
1,1,2,2-Tetrachloroethane	20.0	20	100	0.1	17	60 - 139
1,2,4-Trichlorobenzene	20.0	20	102	0.2	24	52 - 159
1,3-Dichlorobenzene	20.0	21	107	0.9	23	66 - 129
1,4-Dichlorobenzene	20.0	20	98	2	23	65 - 133
1,2-Dichlorobenzene	20.0	21	105	1	25	63 - 131
1,2-Dibromo-3-chloropropane	20.0	16	81	4	21	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02207-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA65289
Instrument: OVGCMS2
Matrix: Water
Calibration: 2103054

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA65289-SCV1)			Lab File ID: 212CD013.D		Analyzed: 03/09/21 14:04			
Dibromofluoromethane	50.0	96	70 - 130	11.05	11.05	0.0000	+/-0.5	
Toluene-d8	50.0	101	70 - 130	13.22	13.21375	0.0063	+/-0.5	
4-Bromofluorobenzene	50.0	103	70 - 130	15.71	15.70875	0.0013	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02207-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA65533
Instrument: OVGCMS2
Matrix: Water
Calibration: 2103054

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA65533-CCV1)			Lab File ID: 212CS001.D		Analyzed: 03/24/21 08:40			
Dibromofluoromethane	50.0	98	80 - 120	11.09	11.05	0.0400	+/-0.5	
Toluene-d8	50.0	99	80 - 120	13.25	13.21375	0.0363	+/-0.5	
4-Bromofluorobenzene	50.0	98	80 - 120	15.75	15.70875	0.0412	+/-0.5	
LCS (1C24011-BS1)			Lab File ID: 212CS002.D		Analyzed: 03/24/21 09:12			
Dibromofluoromethane	50.0	94	53 - 146	11.09	11.05	0.0400	+/-0.5	
Toluene-d8	50.0	99	41 - 146	13.25	13.21375	0.0363	+/-0.5	
4-Bromofluorobenzene	50.0	95	41 - 142	15.74	15.70875	0.0313	+/-0.5	
Matrix Spike (1C24011-MS1)			Lab File ID: 212CS003.D		Analyzed: 03/24/21 09:41			
Dibromofluoromethane	50.0	93	53 - 146	11.09	11.05	0.0400	+/-0.5	
Toluene-d8	50.0	97	41 - 146	13.25	13.21375	0.0363	+/-0.5	
4-Bromofluorobenzene	50.0	95	41 - 142	15.74	15.70875	0.0313	+/-0.5	
Matrix Spike Dup (1C24011-MSD1)			Lab File ID: 212CS004.D		Analyzed: 03/24/21 10:10			
Dibromofluoromethane	50.0	90	53 - 146	11.09	11.05	0.0400	+/-0.5	
Toluene-d8	50.0	97	41 - 146	13.25	13.21375	0.0363	+/-0.5	
4-Bromofluorobenzene	50.0	94	41 - 142	15.74	15.70875	0.0313	+/-0.5	
Blank (1C24011-BLK1)			Lab File ID: 212CS008.D		Analyzed: 03/24/21 12:04			
Dibromofluoromethane	50.0	94	53 - 146	11.09	11.05	0.0400	+/-0.5	
Toluene-d8	50.0	96	41 - 146	13.25	13.21375	0.0363	+/-0.5	
4-Bromofluorobenzene	50.0	90	41 - 142	15.74	15.70875	0.0313	+/-0.5	
Instrument RL Check (AA65533-CRL1)			Lab File ID: 212CS009.D		Analyzed: 03/24/21 12:33			
Dibromofluoromethane	50.0	96	1 - 199	11.09	11.05	0.0400	+/-0.5	
Toluene-d8	50.0	97	1 - 199	13.25	13.21375	0.0363	+/-0.5	
4-Bromofluorobenzene	50.0	95	1 - 199	15.74	15.70875	0.0313	+/-0.5	
CRCA-ASEFFLUENT-20210318 (AE02207-01)			Lab File ID: 212CS013.D		Analyzed: 03/24/21 14:50			
Dibromofluoromethane	50.0	98	53 - 146	11.1	11.05	0.0500	+/-0.5	
Toluene-d8	50.0	96	41 - 146	13.25	13.21375	0.0363	+/-0.5	
4-Bromofluorobenzene	50.0	93	41 - 142	15.75	15.70875	0.0412	+/-0.5	
CRCA-ASINFLUENT-20210318 (AE02207-02)			Lab File ID: 212CS014.D		Analyzed: 03/24/21 15:18			
Dibromofluoromethane	50.0	98	53 - 146	11.1	11.05	0.0500	+/-0.5	
Toluene-d8	50.0	96	41 - 146	13.25	13.21375	0.0363	+/-0.5	
4-Bromofluorobenzene	50.0	93	41 - 142	15.75	15.70875	0.0412	+/-0.5	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02207-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA65289
Instrument: OVGCMS2
Matrix: Water
Calibration: 2103054

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA65289-CAL1)			Lab File ID: 212CD002.D			Analyzed: 03/09/21 08:30			
Pentafluorobenzene	258684	11.44	231702	11.44	112	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	456563	12	427152	11.99	107	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	220295	14.59	207404	14.59	106	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	157950	16.96	156147	16.94	101	50 - 200	0.0200	+/-0.50	
Cal Standard (AA65289-CAL2)			Lab File ID: 212CD003.D			Analyzed: 03/09/21 08:59			
Pentafluorobenzene	252984	11.44	231702	11.44	109	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	447138	11.99	427152	11.99	105	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	219862	14.59	207404	14.59	106	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	160130	16.95	156147	16.94	103	50 - 200	0.0100	+/-0.50	
Cal Standard (AA65289-CAL3)			Lab File ID: 212CD004.D			Analyzed: 03/09/21 09:27			
Pentafluorobenzene	249505	11.44	231702	11.44	108	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	443522	11.99	427152	11.99	104	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	215472	14.59	207404	14.59	104	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	156777	16.95	156147	16.94	100	50 - 200	0.0100	+/-0.50	
Cal Standard (AA65289-CAL4)			Lab File ID: 212CD005.D			Analyzed: 03/09/21 09:56			
Pentafluorobenzene	244206	11.44	231702	11.44	105	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	431789	11.99	427152	11.99	101	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	212013	14.59	207404	14.59	102	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	155190	16.95	156147	16.94	99	50 - 200	0.0100	+/-0.50	
Cal Standard (AA65289-CAL5)			Lab File ID: 212CD006.D			Analyzed: 03/09/21 10:25			
Pentafluorobenzene	236992	11.44	231702	11.44	102	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	433407	11.99	427152	11.99	101	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	209656	14.59	207404	14.59	101	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	155955	16.95	156147	16.94	100	50 - 200	0.0100	+/-0.50	
Cal Standard (AA65289-CAL6)			Lab File ID: 212CD007.D			Analyzed: 03/09/21 10:53			
Pentafluorobenzene	231702	11.44	231702	11.44	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	427152	11.99	427152	11.99	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	207404	14.59	207404	14.59	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	156147	16.94	156147	16.94	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA65289-CAL7)			Lab File ID: 212CD008.D			Analyzed: 03/09/21 11:22			
Pentafluorobenzene	226247	11.44	231702	11.44	98	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	427385	11.99	427152	11.99	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	206954	14.58	207404	14.59	100	50 - 200	-0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	158337	16.95	156147	16.94	101	50 - 200	0.0100	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02207-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA65289
Instrument: OVGCMS2
Matrix: Water
Calibration: 2103054

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA65289-CAL8)			Lab File ID: 212CD009.D			Analyzed: 03/09/21 11:50			
Pentafluorobenzene	228850	11.44	231702	11.44	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	429679	11.99	427152	11.99	101	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	211567	14.59	207404	14.59	102	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	163882	16.95	156147	16.94	105	50 - 200	0.0100	+/-0.50	
Secondary Cal Check (AA65289-SCV1)			Lab File ID: 212CD013.D			Analyzed: 03/09/21 14:04			
Pentafluorobenzene	241526	11.45	231702	11.44	104	50 - 200	0.0100	+/-0.50	
1,4-Difluorobenzene	436002	12	427152	11.99	102	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	211494	14.6	207404	14.59	102	50 - 200	0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	162014	16.95	156147	16.94	104	50 - 200	0.0100	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02207-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA65533
Instrument: OVGCMS2
Matrix: Water
Calibration: 2103054

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA65533-CCV1)			Lab File ID: 212CS001.D			Analyzed: 03/24/21 08:40			
Pentafluorobenzene	211615	11.48	231702	11.44	91	50 - 200	0.0400	+/-0.50	
1,4-Difluorobenzene	380310	12.03	427152	11.99	89	50 - 200	0.0400	+/-0.50	
Chlorobenzene-d5	170236	14.62	207404	14.59	82	50 - 200	0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	150451	16.99	156147	16.94	96	50 - 200	0.0500	+/-0.50	
LCS (1C24011-BS1)			Lab File ID: 212CS002.D			Analyzed: 03/24/21 09:12			
Pentafluorobenzene	237291	11.49	231702	11.44	102	50 - 200	0.0500	+/-0.50	
1,4-Difluorobenzene	407308	12.03	427152	11.99	95	50 - 200	0.0400	+/-0.50	
Chlorobenzene-d5	181865	14.62	207404	14.59	88	50 - 200	0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	153415	16.99	156147	16.94	98	50 - 200	0.0500	+/-0.50	
Matrix Spike (1C24011-MS1)			Lab File ID: 212CS003.D			Analyzed: 03/24/21 09:41			
Pentafluorobenzene	236682	11.48	231702	11.44	102	50 - 200	0.0400	+/-0.50	
1,4-Difluorobenzene	407871	12.03	427152	11.99	95	50 - 200	0.0400	+/-0.50	
Chlorobenzene-d5	178701	14.63	207404	14.59	86	50 - 200	0.0400	+/-0.50	
1,4-Dichlorobenzene-d4	156072	16.99	156147	16.94	100	50 - 200	0.0500	+/-0.50	
Matrix Spike Dup (1C24011-MSD1)			Lab File ID: 212CS004.D			Analyzed: 03/24/21 10:10			
Pentafluorobenzene	240288	11.48	231702	11.44	104	50 - 200	0.0400	+/-0.50	
1,4-Difluorobenzene	411020	12.03	427152	11.99	96	50 - 200	0.0400	+/-0.50	
Chlorobenzene-d5	182933	14.62	207404	14.59	88	50 - 200	0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	157368	16.99	156147	16.94	101	50 - 200	0.0500	+/-0.50	
Blank (1C24011-BLK1)			Lab File ID: 212CS008.D			Analyzed: 03/24/21 12:04			
Pentafluorobenzene	235626	11.49	231702	11.44	102	50 - 200	0.0500	+/-0.50	
1,4-Difluorobenzene	398655	12.03	427152	11.99	93	50 - 200	0.0400	+/-0.50	
Chlorobenzene-d5	180788	14.62	207404	14.59	87	50 - 200	0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	153177	16.99	156147	16.94	98	50 - 200	0.0500	+/-0.50	
Instrument RL Check (AA65533-CRL1)			Lab File ID: 212CS009.D			Analyzed: 03/24/21 12:33			
Pentafluorobenzene	230899	11.49	231702	11.44	100	50 - 200	0.0500	+/-0.50	
1,4-Difluorobenzene	392568	12.03	427152	11.99	92	50 - 200	0.0400	+/-0.50	
Chlorobenzene-d5	175960	14.63	207404	14.59	85	50 - 200	0.0400	+/-0.50	
1,4-Dichlorobenzene-d4	147461	16.99	156147	16.94	94	50 - 200	0.0500	+/-0.50	
CRCA-ASEFFLUENT-20210318 (AE02207-01)			Lab File ID: 212CS013.D			Analyzed: 03/24/21 14:50			
Pentafluorobenzene	255830	11.48	231702	11.44	110	50 - 200	0.0400	+/-0.50	
1,4-Difluorobenzene	439921	12.03	427152	11.99	103	50 - 200	0.0400	+/-0.50	
Chlorobenzene-d5	199954	14.63	207404	14.59	96	50 - 200	0.0400	+/-0.50	
1,4-Dichlorobenzene-d4	168447	16.99	156147	16.94	108	50 - 200	0.0500	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02207-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA65533
Instrument: OVGCMS2
Matrix: Water
Calibration: 2103054

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
CRCA-ASINFLUENT-20210318 (AE02207-02)			Lab File ID: 212CS014.D			Analyzed: 03/24/21 15:18			
Pentafluorobenzene	249253	11.49	231702	11.44	108	50 - 200	0.0500	+/-0.50	
1,4-Difluorobenzene	430833	12.04	427152	11.99	101	50 - 200	0.0500	+/-0.50	
Chlorobenzene-d5	197098	14.63	207404	14.59	95	50 - 200	0.0400	+/-0.50	
1,4-Dichlorobenzene-d4	166966	16.99	156147	16.94	107	50 - 200	0.0500	+/-0.50	

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE02207-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA65289		
Calibration:	2103054	Instrument:	OVGCMS2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA65289-TUN1	212CD001.D	03/09/21 07:55
Cal Standard	AA65289-CAL1	212CD002.D	03/09/21 08:30
Cal Standard	AA65289-CAL2	212CD003.D	03/09/21 08:59
Cal Standard	AA65289-CAL3	212CD004.D	03/09/21 09:27
Cal Standard	AA65289-CAL4	212CD005.D	03/09/21 09:56
Cal Standard	AA65289-CAL5	212CD006.D	03/09/21 10:25
Cal Standard	AA65289-CAL6	212CD007.D	03/09/21 10:53
Cal Standard	AA65289-CAL7	212CD008.D	03/09/21 11:22
Cal Standard	AA65289-CAL8	212CD009.D	03/09/21 11:50
Secondary Cal Check	AA65289-SCV1	212CD013.D	03/09/21 14:04

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE02207-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA65533		
Calibration:	2103054	Instrument:	OVGCMS2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA65533-CCV1	212CS001.D	03/24/21 08:40
LCS	1C24011-BS1	212CS002.D	03/24/21 09:12
MW-11R	1C24011-MS1	212CS003.D	03/24/21 09:41
MW-11R	1C24011-MSD1	212CS004.D	03/24/21 10:10
Blank	1C24011-BLK1	212CS008.D	03/24/21 12:04
Instrument RL Check	AA65533-CRL1	212CS009.D	03/24/21 12:33
CRCA-ASEFFLUENT-20210318	AE02207-01	212CS013.D	03/24/21 14:50
CRCA-ASINFLUENT-20210318	AE02207-02	212CS014.D	03/24/21 15:18

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE02207-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	212CD001.D	Injection Date:	03/09/21
Instrument ID:	OVGCMS2	Injection Time:	07:55
Sequence:	AA65289	Lab Sample ID:	AA65289-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	146	PASS
96	5 - 9% of 95	6.75	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	68.3	PASS
175	5 - 9% of 174	7.6	PASS
176	95 - 105% of 174	99.7	PASS
177	5 - 10% of 176	6.62	PASS

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE02207-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS2	Calibration:	2103054
Lab File ID:	212CS001.D	Calibration Date:	03/10/21 08:57
Sequence:	AA65533	Injection Date:	03/24/21
Lab Sample ID:	AA65533-CCV1	Injection Time:	08:40

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Dichlorodifluoromethane	A	20.0	17	1.0726	0.9175862		-14	20	
Chloromethane	A	20.0	16	1.125442	0.8970418		-20	20	
Vinyl chloride	A	20.0	17	0.871695	0.7573896		-13	20	
Bromomethane	A	20.0	29	0.4216486	0.5856036		44	20	*
Chloroethane	A	20.0	17	0.4594287	0.3820145		-17	20	
Trichlorofluoromethane	A	20.0	18	0.8444659	0.7658247		-9.3	20	
Freon 113	A	50.0	44	0.5353971	0.4680387		-13	20	
Acetone	A	250	190	0.2098613	0.1456901		-24	20	*
1,1-Dichloroethene	A	50.0	41	0.492039	0.4002694		-19	20	
Carbon disulfide	A	250	180	1.675395	1.181909		-30	20	*
Methylene Chloride	A	50.0	42	0.6372904	0.5295702		-17	20	
Methyl-tert-Butyl Ether	A	50.0	44	1.629343	1.445715		-11	20	
trans-1,2-Dichloroethene	A	50.0	46	0.5294924	0.4908631		-7.3	20	
cis-1,2-Dichloroethene	A	50.0	50	0.5730141	0.5698745		-0.5	20	
1,1-Dichloroethane	A	50.0	40	1.11993	0.9000732		-20	20	
2-Butanone	A	250	230	6.656362E-02	5.579945E-02		-8.3	20	
Chloroform	A	50.0	46	1.034125	0.958864		-7.3	20	
1,1,1-Trichloroethane	A	50.0	47	0.8170626	0.7633722		-6.6	20	
Methyl acetate	A	50.0	44	0.1098139	9.733715E-02		-11	20	
Cyclohexane	A	50.0	38	0.9572176	0.7294237		-24	20	*
Methyl cyclohexane	A	50.0	39	0.4112075	0.3221635		-22	20	*
Carbon Tetrachloride	A	50.0	49	0.4638802	0.4527096		-2.4	20	
1,2-Dichloroethane	A	50.0	41	0.4782864	0.3944309		-18	20	
Benzene	A	50.0	45	1.177328	0.955957		-11	20	
Trichloroethene	A	50.0	53	0.3209742	0.3414741		6.4	20	
1,2-Dichloropropane	A	50.0	44	0.3667572	0.3196103		-13	20	
Bromodichloromethane	A	50.0	48	0.4279118	0.4086272		-4.5	20	
4-Methyl-2-pentanone	A	250	250	4.721789E-02	4.490915E-02		1.6	20	
2-Hexanone	A	250	200	0.2679157	0.2195677		-18	20	

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE02207-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS2	Calibration:	2103054
Lab File ID:	212CS001.D	Calibration Date:	03/10/21 08:57
Sequence:	AA65533	Injection Date:	03/24/21
Lab Sample ID:	AA65533-CCV1	Injection Time:	08:40

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
cis-1,3-Dichloropropene	A	50.0	49	0.5858308	0.5778891		-1.4	20	
Toluene	A	50.0	54	1.382929	1.482125		7.2	20	
trans-1,3-Dichloropropene	A	50.0	53	0.9949631	1.04976		5.5	20	
1,1,2-Trichloroethane	A	50.0	55	0.5380963	0.5946745		11	20	
Tetrachloroethene	A	50.0	60	0.4198975	0.5055394		20	20	
Dibromochloromethane	A	50.0	60	0.7405405	0.8869217		20	20	
1,2-Dibromoethane	A	50.0	57	0.6605201	0.755322		14	20	
Chlorobenzene	A	50.0	54	1.550303	1.672954		7.9	20	
Ethylbenzene	A	50.0	56	0.7935253	0.8895709		12	20	
m,p-Xylenes	A	100	110	0.9705429	1.062587		9.5	20	
o-Xylene	A	50.0	57	0.9559986	1.093834		14	20	
Bromoform	A	50.0	63	0.3849412	0.4874997		27	20	*
Styrene	A	50.0	55	1.637021	1.806322		10	20	
Isopropylbenzene	A	50.0	56	2.395216	2.704252		13	20	
1,1,2,2-Tetrachloroethane	A	50.0	54	0.6920671	0.7512101		8.5	20	
1,2,4-Trichlorobenzene	A	50.0	51	0.6933419	0.7104838		2.5	20	
1,3-Dichlorobenzene	A	50.0	53	1.398388	1.472061		5.3	20	
1,4-Dichlorobenzene	A	50.0	51	1.454236	1.479964		1.8	20	
1,2-Dichlorobenzene	A	50.0	54	1.33251	1.438156		7.9	20	
1,2-Dibromo-3-chloropropane	A	50.0	40	0.1676609	0.1327342		-19	20	

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE02207-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA65289	Instrument:	OVGCMS2
Calibration:	2103054		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A0I0903	MS Tune	AA65289-TUN1	212CD001.D	03/09/21 07:55
A1C0778	8260 Calibration 1.0 PPB	AA65289-CAL1	212CD002.D	03/09/21 08:30
A1C0779	8260 Calibration 2.0 PPB	AA65289-CAL2	212CD003.D	03/09/21 08:59
A1C0780	8260 Calibration 5.0 PPB	AA65289-CAL3	212CD004.D	03/09/21 09:27
A1C0781	8260 Calibration 10 PPB	AA65289-CAL4	212CD005.D	03/09/21 09:56
A1C0782	8260 Calibration 20 PPB	AA65289-CAL5	212CD006.D	03/09/21 10:25
A1C0783	8260 Calibration 50 PPB	AA65289-CAL6	212CD007.D	03/09/21 10:53
A1C0784	8260 Calibration 80 PPB	AA65289-CAL7	212CD008.D	03/09/21 11:22
A1C0785	8260 Calibration 100 PPB	AA65289-CAL8	212CD009.D	03/09/21 11:50
A1C0786	8260 SCV 50 PPB/20 Gases	AA65289-SCV1	212CD013.D	03/09/21 14:04

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02207-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2103054
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 03/10/21 08:57

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	1	0.9629509	2	1.00115	5	0.9130478	10	0.9351326	20	1.143952	50	1.135256
Chloromethane	1	1.218475	2	1.166378	5	1.020541	10	0.977044	20	1.141262	50	1.093927
Vinyl chloride	1	0.7831949	2	0.8310802	5	0.7680407	10	0.7799153	20	0.924546	50	0.9082744
Bromomethane	1	0.4855345	2	0.5247368	5	0.4775856	10	0.4689483	20	0.4404474	50	0.329613
Chloroethane	1	0.528444	2	0.4736466	5	0.4094507	10	0.4309886	20	0.464119	50	0.4424994
Trichlorofluoromethane	1	0.7571013	2	0.7682304	5	0.7569387	10	0.773343	20	0.9107586	50	0.8884645
Freon 113	1	0.5095019	2	0.5238474	5	0.4960221	10	0.4951967	20	0.5375287	50	0.5569136
Acetone	5	0.2865658	10	0.2420706	25	0.2098635	50	0.1748565	100	0.1906963	250	0.1898775
1,1-Dichloroethene	1	0.5052496	2	0.5066526	5	0.4470051	10	0.4257881	20	0.4741616	50	0.5130383
Carbon disulfide	5	1.604545	10	1.478097	25	1.434809	50	1.684823	100	1.766817	250	1.783578
Methylene Chloride	1	0.7313943	2	0.6639748	5	0.5697681	10	0.6298371	20	0.6457918	50	0.6253248
Methyl-tert-Butyl Ether	1	1.692219	2	1.743589	5	1.519288	10	1.4515	20	1.605888	50	1.652303
trans-1,2-Dichloroethene	1	0.5549242	2	0.5545805	5	0.4825955	10	0.4601443	20	0.5098801	50	0.5331158
cis-1,2-Dichloroethene	1	0.5491256	2	0.5892665	5	0.5344983	10	0.5027518	20	0.5582572	50	0.5942978
1,1-Dichloroethane	1	1.280713	2	1.21816	5	1.08567	10	0.9896563	20	1.077779	50	1.087997
2-Butanone	5	7.661858E-02	10	9.215998E-02	25	6.869602E-02	50	5.517473E-02	100	5.833319E-02	250	5.888253E-02
Chloroform	1	1.055342	2	1.133669	5	0.9757319	10	0.918794	20	1.014148	50	1.017747
1,1,1-Trichloroethane	1	0.8206924	2	0.8531172	5	0.7725697	10	0.7257193	20	0.7969784	50	0.828478
Methyl acetate	1	0.1266023	2	0.1356805	5	0.1047674	10	9.784772E-02	20	9.921221E-02	50	0.102088
Cyclohexane	1	0.9718421	2	0.9865248	5	0.9136089	10	0.8608306	20	0.9439559	50	0.9671388
Methyl cyclohexane	1	0.4186717	2	0.3889739	5	0.4548591	10	0.3709682	20	0.4003569	50	0.4160229
Carbon Tetrachloride	1	0.4693766	2	0.4823455	5	0.4463815	10	0.4293764	20	0.4484988	50	0.4707247
1,2-Dichloroethane	1	0.49566	2	0.544351	5	0.4632916	10	0.4320281	20	0.460018	50	0.4697415
Benzene	1	1.574153	2	1.399847	5	1.148849	10	1.023984	20	1.057862	50	1.064724
Trichloroethene	1	0.3158381	2	0.3365851	5	0.3050131	10	0.2902344	20	0.3088552	50	0.327305
1,2-Dichloropropane	1	0.4654341	2	0.3979197	5	0.3542553	10	0.3214417	20	0.3365832	50	0.3523757
Bromodichloromethane	1	0.4583157	2	0.446786	5	0.4029338	10	0.3869483	20	0.4193806	50	0.4279179
4-Methyl-2-pentanone	5	6.124018E-02	10	5.602297E-02	25	0.045292	50	0.0415087	100	4.095342E-02	250	4.409484E-02
2-Hexanone	5	0.2715288	10	0.3137622	25	0.2659034	50	0.2507961	100	0.2534477	250	0.2628961
cis-1,3-Dichloropropene	1	0.6047358	2	0.6238566	5	0.5429268	10	0.5238322	20	0.5713625	50	0.6005754
Toluene	1	1.402892	2	1.460348	5	1.337111	10	1.220114	20	1.333804	50	1.417909

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02207-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2103054
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 03/10/21 08:57

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	1	0.9725595	2	1.063622	5	0.9537202	10	0.8917849	20	0.9930434	50	1.017975
1,1,2-Trichloroethane	1	0.5631086	2	0.5902566	5	0.504149	10	0.4915265	20	0.5228565	50	0.5465517
Tetrachloroethene	1	0.3992374	2	0.4373198	5	0.3966177	10	0.3935136	20	0.4211542	50	0.4276677
Dibromochloromethane	1	0.6797703	2	0.7931111	5	0.7216715	10	0.6373902	20	0.7296715	50	0.7748404
1,2-Dibromoethane	1	0.660705	2	0.7008942	5	0.6155324	10	0.5821577	20	0.6495998	50	0.6778992
Chlorobenzene	1	1.636896	2	1.693107	5	1.465991	10	1.383689	20	1.511416	50	1.544965
Ethylbenzene	1	0.7800903	2	0.8283605	5	0.7558291	10	0.707268	20	0.7802424	50	0.8101387
m,p-Xylenes	2	0.9854967	4	1.008019	10	0.9411896	20	0.8773283	40	0.9404274	100	0.9805163
o-Xylene	1	0.8624799	2	0.9894843	5	0.9094917	10	0.8640508	20	0.950414	50	0.9956992
Bromoform	1	0.3665539	2	0.376941	5	0.3603716	10	0.3450732	20	0.3851428	50	0.4018968
Styrene	1	1.65528	2	1.688787	5	1.520012	10	1.433898	20	1.618377	50	1.683169
Isopropylbenzene	1	2.361833	2	2.459042	5	2.266234	10	2.135364	20	2.351638	50	2.476129
1,1,2,2-Tetrachloroethane	1	0.7374203	2	0.7504707	5	0.6396191	10	0.6174857	20	0.6664488	50	0.7033133
1,2,4-Trichlorobenzene	1	0.6755302	2	0.64151	5	0.6263674	10	0.6048392	20	0.683242	50	0.7261299
1,3-Dichlorobenzene	1	1.413105	2	1.435084	5	1.271424	10	1.261615	20	1.355599	50	1.435628
1,4-Dichlorobenzene	1	1.567901	2	1.517829	5	1.405755	10	1.288807	20	1.371389	50	1.446464
1,2-Dichlorobenzene	1	1.303261	2	1.371542	5	1.211721	10	1.177105	20	1.299253	50	1.387116
1,2-Dibromo-3-chloropropane	1	0.212409	2	0.2065509	5	0.154168	10	0.1373155	20	0.1453144	50	0.1527023
Dibromofluoromethane	50	0.548855	55	0.5608799	60	0.5543643	50	0.5496016	65	0.5539103	50	0.5533358
Toluene-d8	50	0.9346092	55	0.9465188	60	0.9424974	50	0.9553555	65	0.934185	50	0.9392933
4-Bromofluorobenzene	50	0.8534919	55	0.85705	60	0.8490276	50	0.8645696	65	0.8573421	50	0.8856145

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02207-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2103054
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 03/10/21 08:57

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	80	1.232381	100	1.256932								
Chloromethane	80	1.163767	100	1.222139								
Vinyl chloride	80	0.9791373	100	0.9993708								
Bromomethane	80	0.2246743	100	~~0.1871663~~								
Chloroethane	80	0.4667161	100	0.4595652								
Trichlorofluoromethane	80	0.9518414	100	0.9490496								
Freon 113	80	0.5854884	100	0.5786782								
Acetone	400	0.1939092	500	0.1910513								
1,1-Dichloroethene	80	0.535717	100	0.5287								
Carbon disulfide	400	1.852588	500	1.797904								
Methylene Chloride	80	0.6246768	100	0.6075552								
Methyl-tert-Butyl Ether	80	1.705031	100	1.664927								
trans-1,2-Dichloroethene	80	0.5679302	100	0.5727682								
cis-1,2-Dichloroethene	80	0.6332128	100	0.6227026								
1,1-Dichloroethane	80	1.123556	100	1.095906								
2-Butanone	400	6.190635E-02	500	0.0607376								
Chloroform	80	1.08207	100	1.075495								
1,1,1-Trichloroethane	80	0.874716	100	0.8642298								
Methyl acetate	80	0.1070014	100	0.1053113								
Cyclohexane	80	1.021414	100	0.9924252								
Methyl cyclohexane	80	0.4241667	100	0.4156405								
Carbon Tetrachloride	80	0.4847605	100	0.4795778								
1,2-Dichloroethane	80	0.4831183	100	0.4780825								
Benzene	80	1.085549	100	1.063654								
Trichloroethene	80	0.3415202	100	0.3424428								
1,2-Dichloropropane	80	0.3541874	100	0.3518603								
Bromodichloromethane	80	0.4406068	100	0.4404055								
4-Methyl-2-pentanone	400	0.0443242	500	0.0443068								
2-Hexanone	400	0.2636715	500	0.26132								
cis-1,3-Dichloropropene	80	0.6136402	100	0.6057173								
Toluene	80	1.458214	100	1.433042								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02207-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2103054
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 03/10/21 08:57

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	80	1.039968	100	1.027032								
1,1,2-Trichloroethane	80	0.5449611	100	0.5413604								
Tetrachloroethene	80	0.4422631	100	0.4414063								
Dibromochloromethane	80	0.7952009	100	0.7926685								
1,2-Dibromoethane	80	0.7030185	100	0.6943545								
Chlorobenzene	80	1.597327	100	1.569035								
Ethylbenzene	80	0.8495578	100	0.836716								
m,p-Xylenes	160	1.0277	200	1.003666								
o-Xylene	80	1.04198	100	1.034389								
Bromoform	80	0.4259642	100	0.4175864								
Styrene	80	1.754819	100	1.741829								
Isopropylbenzene	80	2.570765	100	2.54072								
1,1,2,2-Tetrachloroethane	80	0.7186047	100	0.7031744								
1,2,4-Trichlorobenzene	80	0.7855318	100	0.8035843								
1,3-Dichlorobenzene	80	1.512372	100	1.502279								
1,4-Dichlorobenzene	80	1.521959	100	1.513784								
1,2-Dichlorobenzene	80	1.455057	100	1.455029								
1,2-Dibromo-3-chloropropane	80	0.1656948	100	0.1671324								
Dibromofluoromethane	70	0.5717455	75	0.5773826								
Toluene-d8	70	0.9384964	75	0.9464445								
4-Bromofluorobenzene	70	0.8628971	75	0.8715379								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02207-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2103054
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 03/10/21 08:57

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	1.0726	12.70566	5.88125	6.074623E-02	0.9973265		0.99	
Chloromethane	1.125442	7.90604	6.3475	7.247758E-02			20	
Vinyl chloride	0.871695	10.67617	6.545	0.0823081			20	
Bromomethane	0.4216486	25.19187	7.194286	0.2101729		0.999951	0.99	
Chloroethane	0.4594287	7.644151	7.41625	0.160176	0.9994555		0.99	
Trichlorofluoromethane	0.8444659	10.49299	7.68375	0.1189745			20	
Freon 113	0.5353971	6.630047	8.50875	4.331832E-02			20	
Acetone	0.2098613	17.57383	9.22375	5.911442E-02	0.9997398		0.99	
1,1-Dichloroethene	0.492039	7.989483	8.47	9.018307E-02			20	
Carbon disulfide	1.675395	9.257298	8.58625	6.056953E-02			20	
Methylene Chloride	0.6372904	7.369772	9.18375	5.802199E-02			20	
Methyl-tert-Butyl Ether	1.629343	6.085416	9.50625	7.749071E-02			20	
trans-1,2-Dichloroethene	0.5294924	7.8302	9.415	7.998514E-02			20	
cis-1,2-Dichloroethene	0.5730141	7.809786	10.65	1.055785E-02			20	
1,1-Dichloroethane	1.11993	8.059711	10.08875	6.528508E-02			20	
2-Butanone	6.656362E-02	18.59918	11.155	6.816518E-02	0.9992668		0.99	
Chloroform	1.034125	6.512295	10.86625	4.746036E-02			20	
1,1,1-Trichloroethane	0.8170626	6.157609	11.16375	4.279369E-02			20	
Methyl acetate	0.1098139	12.50422	9.36875	9.042621E-02			20	
Cyclohexane	0.9572176	5.282833	10.9325	4.156259E-02			20	
Methyl cyclohexane	0.4112075	6.099235	12.05375	3.732049E-02			20	
Carbon Tetrachloride	0.4638802	4.337352	11.1275	3.876405E-02			20	
1,2-Dichloroethane	0.4782864	6.826013	11.6475	6.000561E-02			20	
Benzene	1.177328	16.97569	11.505	4.517505E-02	0.9997383		0.99	
Trichloroethene	0.3209742	5.934409	12.01875	2.655112E-02			20	
1,2-Dichloropropane	0.3667572	12.37323	12.46625	3.825721E-02			20	
Bromodichloromethane	0.4279118	5.567148	12.48625	5.670444E-02			20	
4-Methyl-2-pentanone	4.721789E-02	15.52791	13.48875	4.481918E-02	0.9997048		0.99	
2-Hexanone	0.2679157	7.341542	14.19125	7.085091E-02			20	
cis-1,3-Dichloropropene	0.5858308	6.149003	13.03	4.463944E-02			20	

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02207-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2103054
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 03/10/21 08:57

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Toluene	1.382929	5.913577	13.26125	2.659049E-02			20	
trans-1,3-Dichloropropene	0.9949631	5.524546	13.55125	2.941279E-02			20	
1,1,2-Trichloroethane	0.5380963	5.888949	13.70375	3.200149E-02			20	
Tetrachloroethene	0.4198975	4.924694	13.6375	3.135631E-02			20	
Dibromochloromethane	0.7405405	7.981106	13.9025	3.514839E-02			20	
1,2-Dibromoethane	0.6605201	6.566072	14.15875	4.622794E-02			20	
Chlorobenzene	1.550303	6.30415	14.6075	2.830057E-02			20	
Ethylbenzene	0.7935253	5.970608	14.565	3.673003E-02			20	
m,p-Xylenes	0.9705429	5.009833	14.68	1.011355E-02			20	
o-Xylene	0.9559986	7.462735	15.09875	4.087533E-02			20	
Bromoform	0.3849412	7.36823	15.23125	5.294235E-02			20	
Styrene	1.637021	6.743335	15.13875	1.643833E-02			20	
Isopropylbenzene	2.395216	6.107116	15.365	3.572018E-02			20	
1,1,2,2-Tetrachloroethane	0.6920671	6.775523	15.805	3.237499E-02			20	
1,2,4-Trichlorobenzene	0.6933419	10.50731	19.93125	5.589857E-02			20	
1,3-Dichlorobenzene	1.398388	6.805273	16.87875	0.0307369			20	
1,4-Dichlorobenzene	1.454236	6.457885	16.97375	2.211872E-02			20	
1,2-Dichlorobenzene	1.33251	7.780255	17.54125	2.676335E-02			20	
1,2-Dibromo-3-chloropropane	0.1676609	16.48136	18.65125	5.267157E-02	0.9977345		0.99	
Dibromofluoromethane	0.5587594	1.882086	11.05	1.757405E-02			20	
Toluene-d8	0.942175	0.7546022	13.21375	3.949602E-02			20	
4-Bromofluorobenzene	0.8626913	1.34262	15.70875	2.732772E-02			20	

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE02207-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2103054 **Laboratory ID:** AA65289-SCV1

Sequence: AA65289 **Standard ID:** A1C0786

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Cyclohexane	50.0	54	7.3	30.00
Ethylbenzene	50.0	55	9.8	30.00
Carbon Tetrachloride	50.0	52	4.1	30.00
1,3-Dichlorobenzene	50.0	56	11.1	30.00
4-Bromofluorobenzene	50.0	51	2.7	30.00
Toluene-d8	50.0	50	0.9	30.00
Dibromofluoromethane	50.0	48	-3.9	30.00
Methyl-tert-Butyl Ether	50.0	52	4.8	30.00
trans-1,2-Dichloroethene	50.0	52	3.3	30.00
cis-1,2-Dichloroethene	50.0	54	8.4	30.00
Tetrachloroethene	50.0	54	7.8	30.00
Acetone	250	280	12.8	30.00
1,2,4-Trichlorobenzene	50.0	58	16.6	30.00
Chloroform	50.0	51	2.3	30.00
Chlorobenzene	50.0	53	6.7	30.00
Toluene	50.0	55	9.5	30.00
Methyl cyclohexane	50.0	53	6.1	30.00
m,p-Xylenes	100	100	5.0	30.00
4-Methyl-2-pentanone	250	260	2.9	30.00
1,2-Dichloroethane	50.0	52	3.8	30.00
1,2-Dibromoethane	50.0	53	6.0	30.00
1,4-Dichlorobenzene	50.0	52	4.4	30.00
trans-1,3-Dichloropropene	50.0	55	10.2	30.00
cis-1,3-Dichloropropene	50.0	50	-0.4	30.00
Styrene	50.0	55	9.6	30.00
Dibromochloromethane	50.0	56	11.5	30.00
1,1-Dichloroethene	50.0	50	-0.2	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE02207-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2103054 **Laboratory ID:** AA65289-SCV1

Sequence: AA65289 **Standard ID:** A1C0786

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
1,2-Dibromo-3-chloropropane	50.0	51	1.5	30.00
1,2-Dichlorobenzene	50.0	56	11.0	30.00
o-Xylene	50.0	56	12.5	30.00
1,1,2,2-Tetrachloroethane	50.0	52	3.4	30.00
Methyl acetate	50.0	48	-4.6	30.00
Trichloroethene	50.0	54	8.1	30.00
1,1,2-Trichloroethane	50.0	52	3.7	30.00
2-Butanone	250	270	8.6	30.00
1,2-Dichloropropane	50.0	50	-0.6	30.00
Freon 113	50.0	52	3.1	30.00
2-Hexanone	250	240	-3.3	30.00
Trichlorofluoromethane	20.0	21	4.4	30.00
Isopropylbenzene	50.0	55	10.8	30.00
1,1-Dichloroethane	50.0	51	2.8	30.00
Bromodichloromethane	50.0	53	5.9	30.00
Bromoform	50.0	59	17.2	30.00
Carbon disulfide	50.0	56	12.2	30.00
Methylene Chloride	50.0	48	-3.6	30.00
Vinyl chloride	20.0	20	1.8	30.00
Chloroethane	20.0	19	-3.8	30.00
Chloromethane	20.0	20	1.4	30.00
Bromomethane	20.0	13	-37.0 *	30.00
1,1,1-Trichloroethane	50.0	52	4.1	30.00
Benzene	50.0	56	13.0	30.00
Dichlorodifluoromethane	20.0	20	-2.1	30.00

* Values outside of QC limits

ANALYSIS SEQUENCE

AA65533

Instrument: OVGCMS2

Calibration ID: 2103054

Printed: 3/24/2021 1:37:51PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA65533-CCV1	QC		1		A1C1125	A1B0764		
1C24011-BS1	QC		2			A1B0764		
1C24011-MS1	QC		3			A1B0764		
1C24011-MSD1	QC		4			A1B0764		
1C24011-BLK1	QC		5			A1B0764		
AA65533-CRL1	QC		6		A1C1126	A1B0764		
AE02221-02	60D TCL SOM01.2 CLP-LIK	D	7			A1B0764		BatchQC
AE02221-02	8260D SLRC	D	8			A1B0764		BatchQC
AE02221-02	8260D Arom	D	9			A1B0764		BatchQC
AE02221-02	8260D	D	10			A1B0764		history 1x kkw032221 Full Spike List
AE02280-01	8260D SLRC	C	11			A1B0764		Rush Must Meet TAT. CP 3/23/2Need
AE02207-01	60D TCL SOM01.2 CLP-LIK	A	12			A1B0764	Tetra Tech, Inc. (TE016)	history 1x kkw032221 custom
AE02207-02	60D TCL SOM01.2 CLP-LIK	A	13			A1B0764	Tetra Tech, Inc. (TE016)	history 1x kkw032221 custom
AE02221-01	8260D	E	14			A1B0764		only 2 vials left history 1x kkw032221
AE02221-03	8260D	E	15			A1B0764		history 1x kkw032221 Full Spike List
AE02221-04	8260D	D	16			A1B0764		history 1x kkw032221 Full Spike List
AE02221-05	8260D	A	17			A1B0764		Full Spike List Needed. Custom for Wa
AE02225-13	8260D	B	18			A1B0764		history 1x kkw032221 Custom List.
AE02225-14	8260D	B	19			A1B0764		history 1x kkw032221 Custom List.
AE02225-15	8260D	B	20			A1B0764		history 1x kkw032221 Custom List.
AE02225-16	8260D	B	21			A1B0764		history 1x kkw032221 Custom List.
AE02225-17	8260D	B	22			A1B0764		history 1x kkw032221 Custom List.
AE02139-02	8260D Arom	D	23			A1B0764		Run 1x jmw 3/23/21

Samples Loaded By 03/24/21 Date

Data Processed By 3/25/21 Date Rev1 KJ 03/25/21

ANALYSIS SEQUENCE

AA65533

Instrument: OVGCMS2

Calibration ID: 2103054

Printed: 3/24/2021 1:37:51PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AE02139-03	8260D Arom	C	24			A1B0764		Run 1x jmw 3/23/21

Samples Loaded By 03/24/21 Date

Data Processed By 3/25/21 Date

PREPARATION BENCH SHEET

Printed: 3/24/2021 1:37:29PM

1C24011

ENCO Orlando

Analysis
8260D [EPA 8260D]
8260D Arom [EPA 8260D]
8260D SLRC [EPA 8260D]
8260D TCL SOM01.2 CLP-LIKE [EPA 8260D]

Surrogate Solution
___ A1B1156 8260 surr working

Prepared using: EPA 5030B_MS

Spiking Solution
A1C0996 8260 2nd source
Gases/Acrolein virtual
A1C1069 8260 2nd source Mega Mix

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
1C24011-BLK1		Blank		QC			5	5			1	
1C24011-BS1		LCS		QC			5	5	A1C1069 A1C0996	2 2	1	
1C24011-MS1		Matrix Spike [AE02221-02]		QC	✓2		5	5	A1C1069 A1C0996	2 2	1	
1C24011-MSD1		Matrix Spike Dup [AE02221-02]		QC	✓2		5	5	A1C1069 A1C0996	2 2	1	
AE02139-02		MW-3 D[MS28	26-Mar-21	8260D Arom	✓2		5	5			1	Run 1x jmw 3/23/21
AE02139-03		MW-7R C[MS28	26-Mar-21	8260D Arom	✓2		5	5			1	Run 1x jmw 3/23/21
AE02207-01	C	CRCA-ASEFFLUENT-20210318[MS48	25-Mar-21	8260D TCL SOM01.2 CLP-LIKE	✓2		5	5			1	history 1x kkw032221 custom
AE02207-02	C	CRCA-ASINFLUENT-20210318[MS48	25-Mar-21	8260D TCL SOM01.2 CLP-LIKE	✓2		5	5			1	history 1x kkw032221 custom
AE02221-01		MW-10R E[MS28	26-Mar-21	8260D	✓2		5	5			1	only 2 vials left history 1x kkw032221 Full Spike List Needed. Custom for Water. 02/08/18 DC
AE02221-02		MW-11R D[MS28		8260D SLRC	✓		5	5			1	Added for BatchQC in: 1C24011
AE02221-02		MW-11R D[MS28		8260D Arom			5	5			1	Added for BatchQC in: 1C24011
AE02221-02		MW-11R D[MS28		8260D TCL SOM01.2 CLP-LIKE			5	5			1	Added for BatchQC in: 1C24011
AE02221-02		MW-11R D[MS28	26-Mar-21	8260D	✓2		5	5			1	history 1x kkw032221 Full Spike List Needed. Custom for Water. 02/08/18 DC
AE02221-03		MW-15R E[MS28	26-Mar-21	8260D	✓2		5	5			1	history 1x kkw032221 Full Spike List Needed. Custom for Water. 02/08/18 DC

PREPARATION BENCH SHEET

Printed: 3/24/2021 1:37:29PM

1C24011

ENCO Orlando

Prepared using: EPA 5030B_MS

Surrogate Solution
___ A1B1156 8260 surr working

Spiking Solution
A1C0996 8260 2nd source Gases/Acrolein virtual
A1C1069 8260 2nd source Mega Mix

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location		Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
AE02221-04		MW-16R	D[MS28	26-Mar-21	8260D	<2	N	5	5			1	history 1x kkw032221 Full Spike List Needed. Custom for Water. 02/08/18 DC
AE02221-05		TRIP BLANK 3	A[MS28	26-Mar-21	8260D	<2	N	5	5			1	Full Spike List Needed. Custom for Water. 02/08/18 DC
AE02225-13		PAMW76DD03172021	B[MS28	26-Mar-21	8260D	<2	N	5	5			1	history 1x kkw032221 Custom List.
AE02225-14		PAMW14503172021	B[MS28	26-Mar-21	8260D	<2	N	5	5			1	history 1x kkw032221 Custom List.
AE02225-15		PAMW24503172021	B[MS28	26-Mar-21	8260D	<2	N	5	5			1	history 1x kkw032221 Custom List.
AE02225-16		PAMW77D03172021	B[MS28	26-Mar-21	8260D	<2	N	5	5			1	history 1x kkw032221 Custom List.
AE02225-17		PAMW14003172021	B[MS28	26-Mar-21	8260D	<2	N	5	5			1	history 1x kkw032221 Custom List.
AE02280-01		MWPUI-26	C[MS30	25-Mar-21	8260D SLRC	<2	N	5	5			1	Rush Must Meet TAT. CP 3/23/2Need 1,4 Dioxane if no 8270 SIM 1,4 being reported per Ed. CP 2/25/2021

(1) Before solvent extraction proceeds, verify that there is no residual chlorine above 0.5 mg/L. Any sample above this must be treated to remove excess chlorine before extraction, and this documented as a comment.

Instrument 2

Start Date 03/24/21

StopDate 03/24/21

Instrument ID OVGCMS-2

Standard ID#	Description	Manufacture Lot#
A0A1401	pH Test Papers (1.0 to 12.0)	231018
A1B0955	Residual Chlorine Strips (Potassium Iodide S	102916
A1C1135	P&T Anti-Foam working solution	N/A

03/24/21

Samples Prepared By Date

Samples Prepared By Date

Sequence Name: C:\HPCHEM\1\SEQUENCE\212CS.S
Comment:
Operator: KG
Data Path: C:\HPchem\1\DATA\032421\
Pre-Seq Cmd:
Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line	Type	Vial	DataFile	Method	Sample Name
1	Sample	1	212CS001	8260S	CCV1
2	Sample	2	212CS002	8260S	BS1
3	Sample	3	212CS003	8260S	MS1
4	Sample	3	212CS004	8260S	MSD1
5	Sample	4	212CS005	8260S	RINSE
6	Sample	5	212CS006	8260S	RINSE
7	Sample	6	212CS007	8260S	RINSE
8	Sample	7	212CS008	8260S	BLK1
9	Sample	8	212CS009	8260S	AA65533-CRL1
10	Sample	9	212CS010	8260S	AE02221-02
11	Pause	-	AE02221-02		
12	Sample	10	212CS011	8260S	rinse
13	Sample	11	212CS012	8260S	AE02280-01
14	Sample	12	212CS013	8260S	AE02207-01
15	Sample	13	212CS014	8260S	AE02207-02
16	Sample	14	212CS015	8260S	AE02221-01
17	Sample	15	212CS016	8260S	AE02221-03
18	Sample	16	212CS017	8260S	AE02221-04
19	Sample	17	212CS018	8260S	AE02221-05
20	Sample	18	212CS019	8260S	AE02225-13
21	Sample	19	212CS020	8260S	AE02225-14
22	Sample	20	212CS021	8260S	AE02225-15
23	Sample	21	212CS022	8260S	AE02225-16
24	Sample	22	212CS023	8260S	AE02225-17
25	Sample	23	212CS024	8260S	AE02139-02
26	Sample	24	212CS025	8260S	AE02139-03
27	Sample	25	212CS026	8260S	rinse
28	Sample	26	212CS027	8260S	AA65540-CCV1
29	Sample	27	212CS028	8260S	1C24028-BS1
30	Sample	28	212CS029	8260S	1C24028-MS1
31	Sample	28	212CS030	8260S	1C24028-MSD1
32	Sample	29	212CS031	8260S	RINSE
33	Sample	30	212CS032	8260S	1C24028-BLK1
34	Sample	31	212CS033	8260S	AA65540-CRL1
35	Sample	32	212CS034	8260S	AE01877-01
36	Sample	33	212CS035	8260S	AE01877-02
37	Sample	34	212CS036	8260S	AE01877-03
38	Sample	35	212CS037	8260S	AE01877-04
39	Sample	36	212CS038	8260S	AE01877-05
40	Sample	37	212CS039	8260S	AE01877-06
41	Sample	38	212CS040	8260S	AE01877-07
42	Sample	39	212CS041	8260S	AE01877-08
43	Sample	40	212CS042	8260S	AE01877-09

Sequence Name: C:\HPCHEM\1\SEQUENCE\212CS.S

Line	Type	Vial	DataFile	Method	Sample Name
44	Sample	41	212CS043	8260S	AE01877-10
45	Sample	42	212CS044	8260S	AE01877-12
46	Sample	43	212CS045	8260S	AE01877-13
47	Sample	44	212CS046	8260S	AE01877-14
48	Sample	45	212CS047	8260S	AE01877-15
49	Sample	46	212CS048	8260S	AE01877-16

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\032421\212CS001.D Vial: 1
Acq On : 24 Mar 2021 8:40 am Operator: KG
Sample : CCV1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 9:24 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.48	168	211615	50.00	ug/kg	0.04
38) 1,4-Difluorobenzene(IS)	12.03	114	380310	50.00	ug/kg	0.04
56) Chlorobenzene-d5(IS)	14.62	82	170236	50.00	ug/kg	0.04
79) 1,4-Dichlorobenzene-d4(IS)	16.99	152	150451	50.00	ug/kg	0.05
System Monitoring Compounds						
30) Dibromofluoromethane	11.09	113	115687	48.92	ug/kg	0.04
Spiked Amount 50.000	Range 53 - 146		Recovery = 97.84%			
54) D8-Toluene	13.25	98	353594	49.34	ug/kg	0.04
Spiked Amount 50.000	Range 41 - 146		Recovery = 98.68%			
75) Bromofluorobenzene	15.75	95	144322	49.14	ug/kg	0.04
Spiked Amount 50.000	Range 41 - 142		Recovery = 98.28%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.93	85	77670	17.11	ug/kg	98
3) Chloromethane	6.40	50	75931	15.94	ug/kg	98
4) Vinyl Chloride	6.60	62	64110	17.38	ug/kg	97
5) Bromomethane	7.24	96	49569	28.86	ug/kg	97
6) Chloroethane	7.47	64	32336	16.63	ug/kg	95
7) Trichlorofluoromethane	7.73	101	64824	18.14	ug/kg	99
8) Trichlorotrifluoroethane	8.56	101	99044	43.71	ug/kg	91
9) acrolein	8.92	56	249004	400.10	ug/kg	100
10) Acetone	9.27	43	154151	189.91	ug/kg	92
11) 1,1-Dichloroethene	8.52	96	84703	40.67	ug/kg	88
12) 3-Chloropropene	9.12	76	55719	41.24	ug/kg	78
13) Acetonitrile	9.81	41	137716	403.61	ug/kg	98
14) Iodomethane	8.74	142	589138	195.63	ug/kg	94
15) Carbon disulfide	8.64	76	1250548	176.36	ug/kg	100
16) Methylene Chloride	9.23	84	112065	41.55	ug/kg	89
17) Methyl tert-butyl ether	9.55	73	305935	44.36	ug/kg	97
18) Acrylonitrile	10.13	53	590641	406.23	ug/kg	98
19) T-1,2-Dichloroethene	9.46	96	103874	46.35	ug/kg	88
20) Isopropyl Ether	9.92	45	469991	40.50	ug/kg	92
21) C-1,2-Dichloroethene	10.69	96	120594	49.73	ug/kg	92
22) 1,1-Dichloroethane	10.13	63	190469	40.18	ug/kg	98
23) Vinyl Acetate	10.32	43	1431926	186.00	ug/kg	96
24) Chloroprene	10.12	88	91698	46.19	ug/kg	79
25) 2-Butanone	11.19	72	59040	229.35	ug/kg	75
26) Propionitrile	11.47	54	155564	400.12	ug/kg	100
27) 2,2-Dichloropropane	10.82	77	162415	44.90	ug/kg	99
28) Methacrylonitrile	11.50	67	439572	411.49	ug/kg	84
29) Chloroform	10.91	83	202910	46.36	ug/kg	95
31) Dibromofluoromethane	11.09	113	115687	48.92	ug/kg	100
32) Bromochloromethane	10.89	128	74263	51.17	ug/kg	80
33) 1,1,1-Trichloroethane	11.21	97	161541	46.71	ug/kg	99
34) 1,1-Dichloropropene	11.31	75	154634	45.65	ug/kg	98
35) Diethyl Ether	8.16	59	106275	43.28	ug/kg	93
36) Methyl Acetate	9.41	74	20598	44.32	ug/kg#	74
37) Cyclohexane	10.97	56	154357	38.10	ug/kg	92
39) Methyl Cyclohexane	12.09	55	122522	39.17	ug/kg	86
40) Carbon Tetrachloride	11.17	117	172170	48.80	ug/kg	100
41) 1,2-Dichloroethane	11.69	62	150006	41.23	ug/kg	98
42) Benzene	11.55	78	363560	44.63	ug/kg	94
43) Isobutyl Alcohol	11.57	43	157214	720.42	ug/kg#	88
44) Trichloroethene	12.06	130	129866	53.19	ug/kg	94
45) 1,2-Dichloropropane	12.51	63	121551	43.57	ug/kg	95
46) Methyl Methacrylate	12.58	100	37523	52.86	ug/kg	87
47) 1,4-Dioxane	12.71	88	15603	746.54	ug/kg	88
48) Bromodichloromethane	12.52	83	155405	47.75	ug/kg	99
49) Dibromomethane	12.44	93	79965	48.73	ug/kg	94
50) 4-Methyl-2-Pentanone	13.52	100	85397	253.97	ug/kg	68
51) 2-Chloroethyl vinyl ether	12.94	63	57052	79.51	ug/kg	95
52) 2-Hexanone	14.22	43	417519	204.89	ug/kg	95

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\032421\212CS001.D Vial: 1
Acq On : 24 Mar 2021 8:40 am Operator: KG
Sample : CCV1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 9:24 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

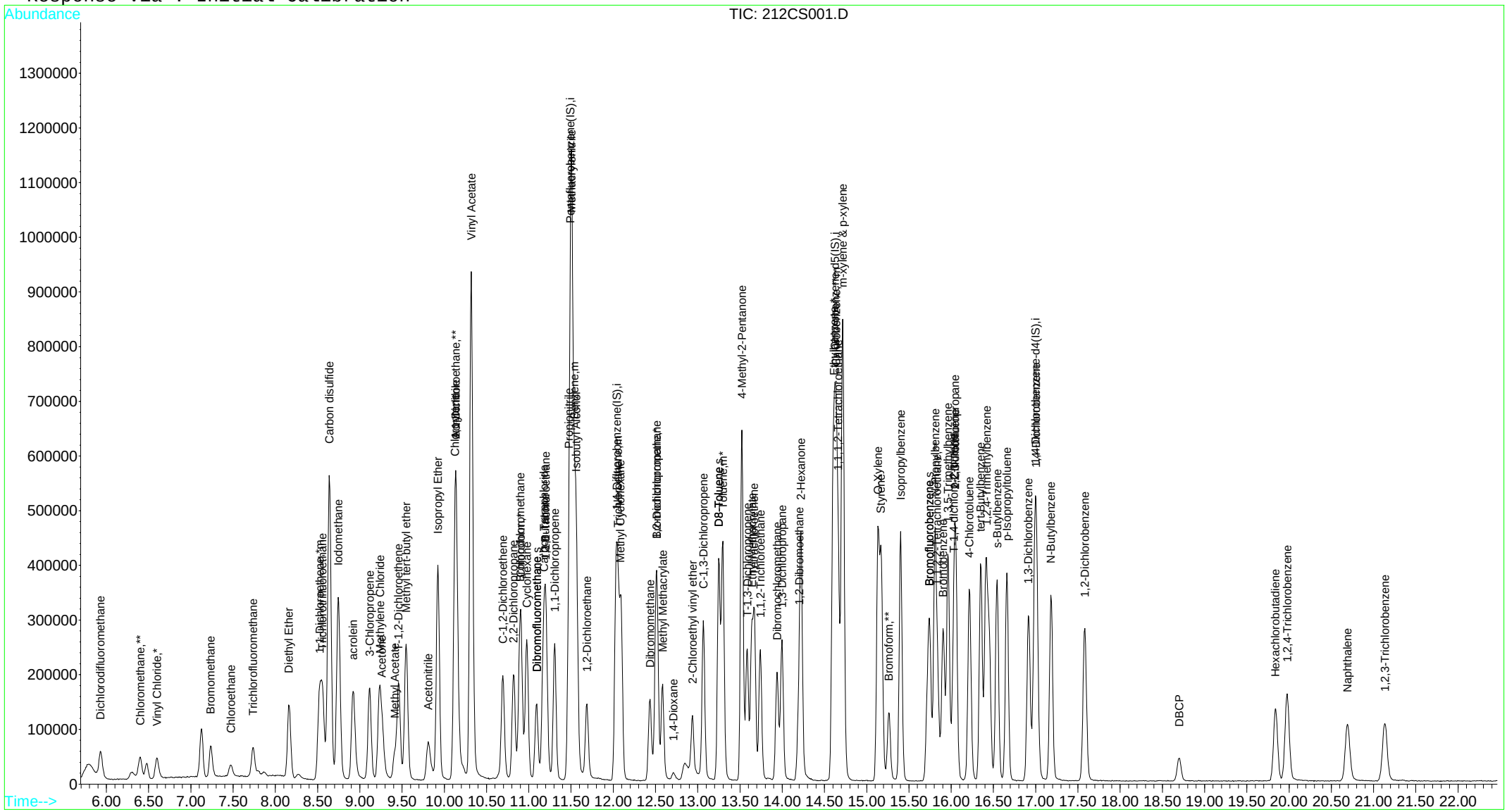
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.06	75	219777	49.32	ug/kg	93
55) D8-Toluene	13.25	98	353594	49.34	ug/kg	93
57) Toluene	13.30	92	252311	53.59	ug/kg	100
58) Ethyl Methacrylate	13.64	69	162673	48.96	ug/kg	93
59) T-1,3-Dichloropropene	13.59	75	178707	52.75	ug/kg	91
60) 1,1,2-Trichloroethane	13.74	97	101235	55.26	ug/kg	99
61) 1,3-Dichloropropane	14.00	76	202918	52.25	ug/kg	100
62) Tetrachloroethene	13.67	164	86061	60.20	ug/kg	98
63) Dibromochloromethane	13.94	129	150986	59.88	ug/kg	99
64) 1,2-Dibromoethane	14.19	107	128583	57.18	ug/kg	99
65) Chlorobenzene	14.65	112	284797	53.96	ug/kg	96
66) 1,1,1,2-Tetrachloroethane	14.67	131	122931	58.31	ug/kg	95
67) Ethylbenzene	14.60	106	151437	56.05	ug/kg	93
68) m-xylene & p-xylene	14.72	106	361781	109.48	ug/kg	96
69) O-Xylene	15.13	106	186210	57.21	ug/kg	96
70) Bromoform	15.27	173	82990	63.32	ug/kg	97
71) Styrene	15.18	104	307501	55.17	ug/kg	97
72) Isopropylbenzene	15.40	105	460361	56.45	ug/kg	99
73) 1,2,3-Trichloropropane	16.04	75	151153	51.77	ug/kg	99
74) 1,1,2,2-Tetrachloroethane	15.84	83	127883	54.27	ug/kg	99
76) Bromofluorobenzene	15.75	95	144322	49.14	ug/kg#	68
77) T-1,4-dichloro-2-butene	16.02	53	36874	48.35	ug/kg	99
78) N-Propylbenzene	15.81	91	511561	55.27	ug/kg	98
80) Bromobenzene	15.91	156	128399	52.95	ug/kg	89
81) 1,3,5-Trimethylbenzene	15.97	105	354733	47.50	ug/kg	96
82) 2-Chlorotoluene	16.05	91	303142	44.41	ug/kg	95
83) 4-Chlorotoluene	16.21	91	324158	45.85	ug/kg	96
84) 1,2,4-Trimethylbenzene	16.41	105	354327	46.93	ug/kg	98
85) s-Butylbenzene	16.55	105	417695	47.23	ug/kg	97
86) tert-Butylbenzene	16.35	119	325047	49.05	ug/kg	95
87) p-Isopropyltoluene	16.66	119	380316	48.29	ug/kg	98
88) 1,3-Dichlorobenzene	16.92	146	221473	52.63	ug/kg	98
89) 1,4-Dichlorobenzene	17.01	146	222662	50.88	ug/kg	97
90) 1,2-Dichlorobenzene	17.58	146	216372	53.96	ug/kg	97
91) N-Butylbenzene	17.18	91	314569	47.30	ug/kg	98
92) DBCP	18.69	75	19970	40.42	ug/kg	81
93) Naphthalene	20.70	128	211806	47.90	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.98	180	106893	51.24	ug/kg	99
95) Hexachlorobutadiene	19.84	225	50616	54.91	ug/kg	98
96) 1,2,3-Trichlorobenzene	21.13	180	79179	48.26	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\032421\212CS001.D Vial: 1
Acq On : 24 Mar 2021 8:40 am Operator: KG
Sample : CCV1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 9:24 2021 Quant Results File: 030921.RES

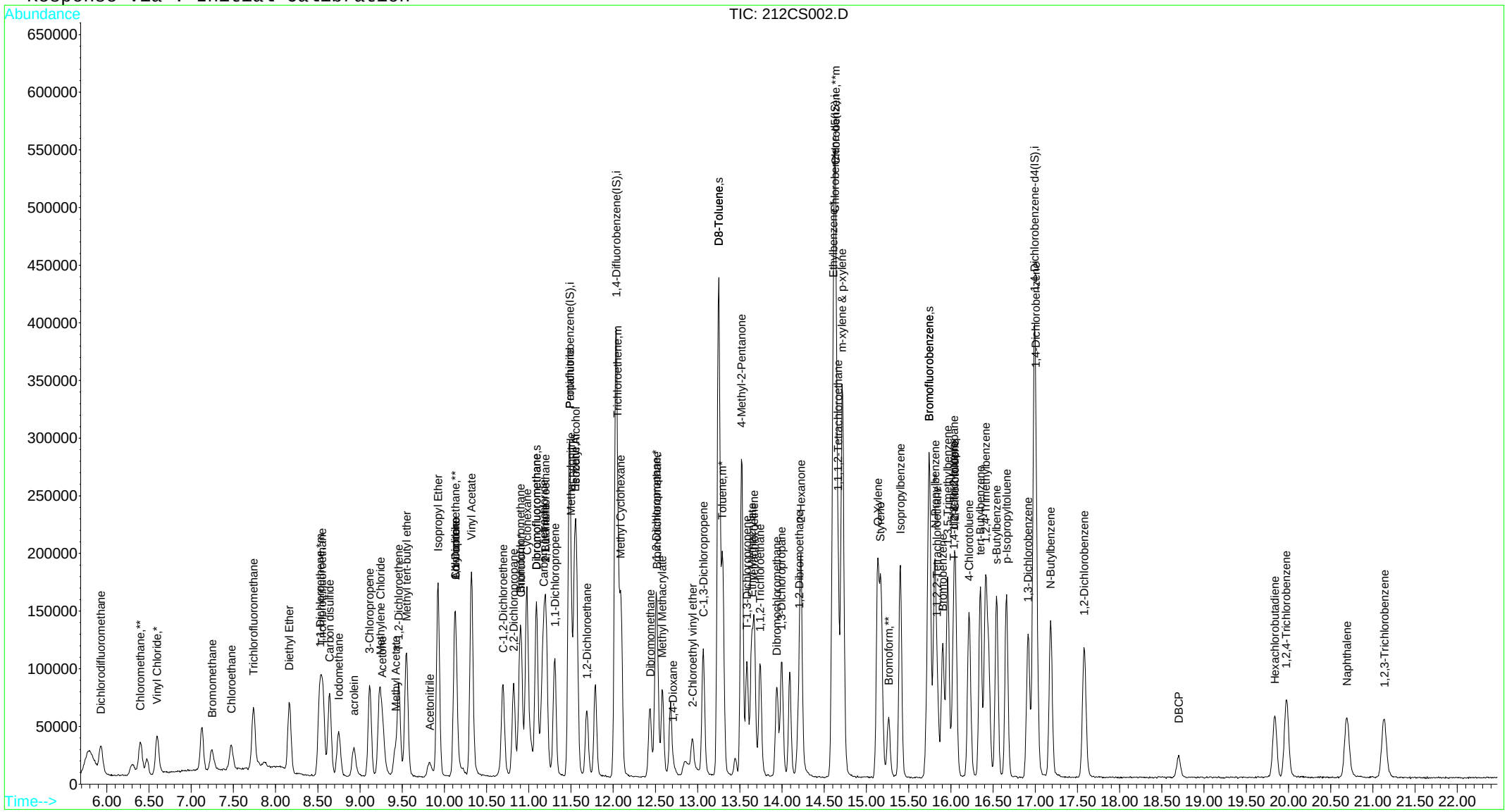
Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\032421\212CS002.D Vial: 2
Acq On : 24 Mar 2021 9:12 am Operator: KG
Sample : BS1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 9:35 2021 Quant Results File: 030921.RES

Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\032421\212CS002.D Vial: 2
Acq On : 24 Mar 2021 9:12 am Operator: KG
Sample : BS1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 9:35 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.49	168	237291	50.00	ug/kg	0.04
38) 1,4-Difluorobenzene(IS)	12.03	114	407308	50.00	ug/kg	0.03
56) Chlorobenzene-d5(IS)	14.62	82	181865	50.00	ug/kg	0.03
79) 1,4-Dichlorobenzene-d4(IS)	16.99	152	153415	50.00	ug/kg	0.05
System Monitoring Compounds						
30) Dibromofluoromethane	11.09	113	124512	46.95	ug/kg	0.04
Spiked Amount 50.000	Range 53 - 146		Recovery = 93.90%			
54) D8-Toluene	13.25	98	378308	49.29	ug/kg	0.04
Spiked Amount 50.000	Range 41 - 146		Recovery = 98.58%			
75) Bromofluorobenzene	15.74	95	149005	47.49	ug/kg	0.03
Spiked Amount 50.000	Range 41 - 142		Recovery = 94.98%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.93	85	36895	7.25	ug/kg	98
3) Chloromethane	6.40	50	52978	9.92	ug/kg	97
4) Vinyl Chloride	6.59	62	55247	13.35	ug/kg	99
5) Bromomethane	7.25	96	17576	7.68	ug/kg	95
6) Chloroethane	7.48	64	32824	15.05	ug/kg	93
7) Trichlorofluoromethane	7.74	101	65051	16.23	ug/kg	100
8) Trichlorotrifluoroethane	8.56	101	46161	18.17	ug/kg	90
9) acrolein	8.93	56	40096	57.46	ug/kg	99
10) Acetone	9.27	43	79819	87.69	ug/kg	93
11) 1,1-Dichloroethene	8.52	96	42182	18.06	ug/kg	87
12) 3-Chloropropene	9.12	76	27818	18.36	ug/kg	71
13) Acetonitrile	9.83	41	27318	71.40	ug/kg	95
14) Iodomethane	8.75	142	69371	20.54	ug/kg	95
15) Carbon disulfide	8.64	76	160759	20.22	ug/kg	99
16) Methylene Chloride	9.23	84	50817	16.80	ug/kg	88
17) Methyl tert-butyl ether	9.55	73	132993	17.20	ug/kg	96
18) Acrylonitrile	10.12	53	98670	60.52	ug/kg#	71
19) T-1,2-Dichloroethene	9.46	96	46514	18.51	ug/kg	89
20) Isopropyl Ether	9.93	45	202617	15.57	ug/kg#	92
21) C-1,2-Dichloroethene	10.69	96	51792	19.05	ug/kg	91
22) 1,1-Dichloroethane	10.14	63	87214	16.41	ug/kg#	67
23) Vinyl Acetate	10.33	43	136212	15.78	ug/kg	98
24) Chloroprene	10.12	88	40230	18.07	ug/kg	1
25) 2-Butanone	11.19	72	37541	130.05	ug/kg#	32
26) Propionitrile	11.49	54	5860	13.44	ug/kg	100
27) 2,2-Dichloropropane	10.82	77	66391	16.37	ug/kg	97
28) Methacrylonitrile	11.51	67	21641	18.07	ug/kg	64
29) Chloroform	10.91	83	85487	17.42	ug/kg	91
31) Dibromofluoromethane	11.09	113	124512	46.95	ug/kg	100
32) Bromochloromethane	10.90	128	32153	19.76	ug/kg	79
33) 1,1,1-Trichloroethane	11.20	97	65935	17.00	ug/kg	99
34) 1,1-Dichloropropene	11.31	75	65210	17.17	ug/kg	97
35) Diethyl Ether	8.16	59	46910	17.04	ug/kg	91
36) Methyl Acetate	9.42	74	8979	17.23	ug/kg	79
37) Cyclohexane	10.98	56	80705	17.77	ug/kg	93
39) Methyl Cyclohexane	12.09	55	58939	17.59	ug/kg	91
40) Carbon Tetrachloride	11.17	117	70237	18.59	ug/kg	99
41) 1,2-Dichloroethane	11.68	62	64950	16.67	ug/kg	96
42) Benzene	11.54	78	177733	20.37	ug/kg#	49
43) Isobutyl Alcohol	11.56	43	43716	187.05	ug/kg#	1
44) Trichloroethene	12.06	130	53899	20.61	ug/kg	98
45) 1,2-Dichloropropane	12.50	63	50470	16.89	ug/kg	95
46) Methyl Methacrylate	12.59	100	16325	21.47	ug/kg	89
47) 1,4-Dioxane	12.71	88	7876	351.86	ug/kg	95
48) Bromodichloromethane	12.52	83	64483	18.50	ug/kg	100
49) Dibromomethane	12.43	93	33507	19.06	ug/kg	94
50) 4-Methyl-2-Pentanone	13.53	100	37935	105.34	ug/kg	64
51) 2-Chloroethyl vinyl ether	12.94	63	14909	19.40	ug/kg	95
52) 2-Hexanone	14.22	43	180539	82.72	ug/kg	95

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\032421\212CS002.D Vial: 2
Acq On : 24 Mar 2021 9:12 am Operator: KG
Sample : BS1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 9:35 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.07	75	83595	17.52	ug/kg	93
55) D8-Toluene	13.25	98	378308	49.29	ug/kg	93
57) Toluene	13.29	92	106302	21.13	ug/kg	99
58) Ethyl Methacrylate	13.64	69	68037	19.17	ug/kg	92
59) T-1,3-Dichloropropene	13.58	75	75667	20.91	ug/kg	89
60) 1,1,2-Trichloroethane	13.74	97	40699	20.79	ug/kg	97
61) 1,3-Dichloropropane	13.99	76	81532	19.65	ug/kg	98
62) Tetrachloroethene	13.67	164	37349	24.45	ug/kg	97
63) Dibromochloromethane	13.94	129	61849	22.96	ug/kg	99
64) 1,2-Dibromoethane	14.20	107	51156	21.29	ug/kg	99
65) Chlorobenzene	14.64	112	122234	21.68	ug/kg	97
66) 1,1,1,2-Tetrachloroethane	14.67	131	50795	22.55	ug/kg#	39
67) Ethylbenzene	14.60	106	63564	22.02	ug/kg	92
68) m-xylene & p-xylene	14.71	106	148362	42.03	ug/kg	95
69) O-Xylene	15.14	106	75916	21.83	ug/kg	96
70) Bromoform	15.26	173	35039	25.03	ug/kg	98
71) Styrene	15.17	104	127967	21.49	ug/kg	96
72) Isopropylbenzene	15.40	105	188454	21.63	ug/kg	99
73) 1,2,3-Trichloropropane	16.03	75	59570	19.10	ug/kg	97
74) 1,1,2,2-Tetrachloroethane	15.84	83	52256	20.76	ug/kg	99
76) Bromofluorobenzene	15.74	95	149005	47.49	ug/kg#	78
77) T-1,4-dichloro-2-butene	16.03	53	13810	16.95	ug/kg	94
78) N-Propylbenzene	15.81	91	205953	20.83	ug/kg	97
80) Bromobenzene	15.91	156	51695	20.91	ug/kg	91
81) 1,3,5-Trimethylbenzene	15.96	105	146144	19.19	ug/kg	98
82) 2-Chlorotoluene	16.05	91	126525	18.18	ug/kg	95
83) 4-Chlorotoluene	16.22	91	130565	18.11	ug/kg	94
84) 1,2,4-Trimethylbenzene	16.41	105	149089	19.37	ug/kg	96
85) s-Butylbenzene	16.54	105	176452	19.57	ug/kg	97
86) tert-Butylbenzene	16.35	119	131556	19.47	ug/kg	96
87) p-Isopropyltoluene	16.66	119	155837	19.40	ug/kg	98
88) 1,3-Dichlorobenzene	16.91	146	90510	21.09	ug/kg	97
89) 1,4-Dichlorobenzene	17.01	146	88721	19.88	ug/kg	95
90) 1,2-Dichlorobenzene	17.58	146	88531	21.65	ug/kg	97
91) N-Butylbenzene	17.18	91	126283	18.62	ug/kg	98
92) DBCP	18.70	75	8721	17.31	ug/kg	82
93) Naphthalene	20.69	128	108881	26.39	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.97	180	46960	22.07	ug/kg	98
95) Hexachlorobutadiene	19.84	225	20289	21.58	ug/kg	97
96) 1,2,3-Trichlorobenzene	21.14	180	38990	23.30	ug/kg	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\032421\212CS003.D Vial: 3
Acq On : 24 Mar 2021 9:41 am Operator: KG
Sample : MS1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 10:04 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.48	168	236682	50.00	ug/kg	0.04
38) 1,4-Difluorobenzene(IS)	12.03	114	407871	50.00	ug/kg	0.03
56) Chlorobenzene-d5(IS)	14.63	82	178701	50.00	ug/kg	0.04
79) 1,4-Dichlorobenzene-d4(IS)	16.99	152	156072	50.00	ug/kg	0.05
System Monitoring Compounds						
30) Dibromofluoromethane	11.09	113	123467	46.68	ug/kg	0.04
Spiked Amount 50.000	Range 53 - 146		Recovery = 93.36%			
54) D8-Toluene	13.25	98	372936	48.52	ug/kg	0.04
Spiked Amount 50.000	Range 41 - 146		Recovery = 97.04%			
75) Bromofluorobenzene	15.74	95	146228	47.43	ug/kg	0.03
Spiked Amount 50.000	Range 41 - 142		Recovery = 94.86%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.93	85	43104	8.49	ug/kg	98
3) Chloromethane	6.40	50	58338	10.95	ug/kg	96
4) Vinyl Chloride	6.60	62	60623	14.69	ug/kg	98
5) Bromomethane	7.24	96	21675	9.64	ug/kg	98
6) Chloroethane	7.47	64	36450	16.76	ug/kg	96
7) Trichlorofluoromethane	7.74	101	73900	18.49	ug/kg	100
8) Trichlorotrifluoroethane	8.56	101	49993	19.73	ug/kg	89
9) acrolein	8.93	56	38355	55.10	ug/kg	97
10) Acetone	9.27	43	69834	76.92	ug/kg	92
11) 1,1-Dichloroethene	8.52	96	45166	19.39	ug/kg	86
12) 3-Chloropropene	9.11	76	29756	19.69	ug/kg	70
13) Acetonitrile	9.83	41	24187	63.38	ug/kg	93
14) Iodomethane	8.75	142	68428	20.32	ug/kg	94
15) Carbon disulfide	8.64	76	159804	20.15	ug/kg	99
16) Methylene Chloride	9.23	84	51975	17.23	ug/kg	89
17) Methyl tert-butyl ether	9.55	73	131427	17.04	ug/kg	97
18) Acrylonitrile	10.12	53	100510	61.81	ug/kg#	72
19) T-1,2-Dichloroethene	9.46	96	49059	19.57	ug/kg	89
20) Isopropyl Ether	9.92	45	203956	15.71	ug/kg	93
21) C-1,2-Dichloroethene	10.69	96	52853	19.49	ug/kg	91
22) 1,1-Dichloroethane	10.13	63	90885	17.14	ug/kg	97
23) Vinyl Acetate	10.33	43	132423	15.38	ug/kg	98
24) Chloroprene	10.12	88	44279	19.94	ug/kg	1
25) 2-Butanone	11.20	72	34999	121.56	ug/kg#	35
26) Propionitrile	11.48	54	5463	12.56	ug/kg	100
27) 2,2-Dichloropropane	10.82	77	74627	18.45	ug/kg	98
28) Methacrylonitrile	11.51	67	19974	16.72	ug/kg	72
29) Chloroform	10.91	83	87442	17.86	ug/kg	91
31) Dibromofluoromethane	11.09	113	123467	46.68	ug/kg	100
32) Bromochloromethane	10.89	128	31550	19.44	ug/kg	80
33) 1,1,1-Trichloroethane	11.20	97	71572	18.51	ug/kg	99
34) 1,1-Dichloropropene	11.30	75	69326	18.30	ug/kg	97
35) Diethyl Ether	8.17	59	47351	17.24	ug/kg	91
36) Methyl Acetate	9.42	74	8748	16.83	ug/kg	70
37) Cyclohexane	10.98	56	86895	19.18	ug/kg	91
39) Methyl Cyclohexane	12.09	55	64056	19.10	ug/kg	90
40) Carbon Tetrachloride	11.17	117	75298	19.90	ug/kg	100
41) 1,2-Dichloroethane	11.69	62	65258	16.73	ug/kg	96
42) Benzene	11.54	78	182281	20.87	ug/kg#	48
43) Isobutyl Alcohol	11.56	43	45076	192.60	ug/kg#	1
44) Trichloroethene	12.06	130	56628	21.63	ug/kg	97
45) 1,2-Dichloropropane	12.51	63	53509	17.89	ug/kg	93
46) Methyl Methacrylate	12.58	100	15136	19.88	ug/kg	94
47) 1,4-Dioxane	12.71	88	6567	292.97	ug/kg	97
48) Bromodichloromethane	12.52	83	65302	18.71	ug/kg	98
49) Dibromomethane	12.43	93	32926	18.71	ug/kg	95
50) 4-Methyl-2-Pentanone	13.53	100	37383	103.67	ug/kg	62
51) 2-Chloroethyl vinyl ether	12.94	63	2512	3.26	ug/kg#	45
52) 2-Hexanone	14.22	43	170268	77.91	ug/kg	94

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\032421\212CS003.D Vial: 3
Acq On : 24 Mar 2021 9:41 am Operator: KG
Sample : MS1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 10:04 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

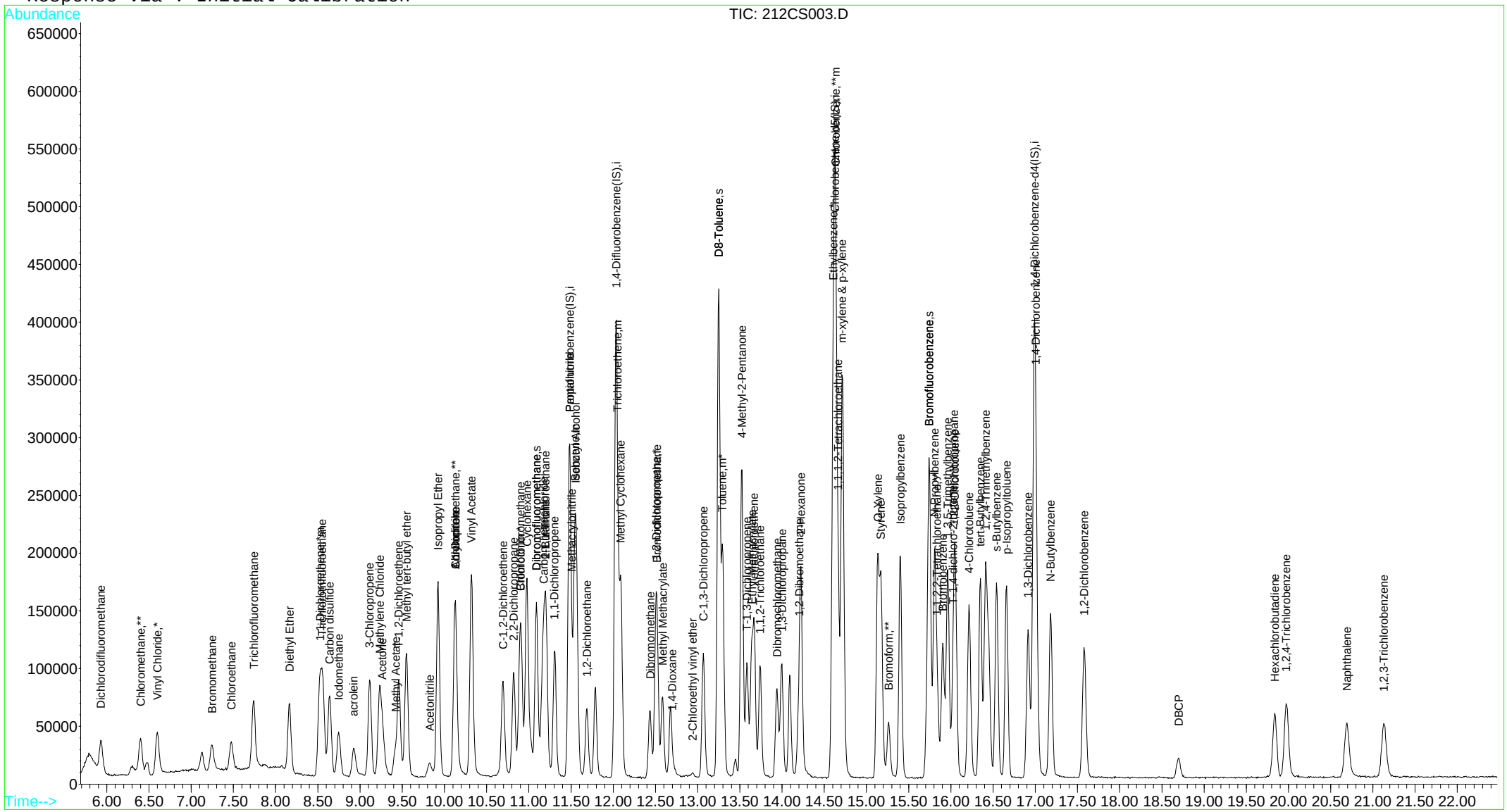
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	13.07	75	84900	17.77 ug/kg	93
55) D8-Toluene	13.25	98	372936	48.52 ug/kg	93
57) Toluene	13.30	92	111666	22.59 ug/kg	98
58) Ethyl Methacrylate	13.64	69	67961	19.49 ug/kg	89
59) T-1,3-Dichloropropene	13.58	75	76312	21.46 ug/kg	88
60) 1,1,2-Trichloroethane	13.74	97	41877	21.78 ug/kg	100
61) 1,3-Dichloropropane	14.00	76	78860	19.34 ug/kg	96
62) Tetrachloroethene	13.67	164	36860	24.56 ug/kg	98
63) Dibromochloromethane	13.93	129	60022	22.68 ug/kg	99
64) 1,2-Dibromoethane	14.20	107	49160	20.82 ug/kg	97
65) Chlorobenzene	14.64	112	122294	22.07 ug/kg	98
66) 1,1,1,2-Tetrachloroethane	14.67	131	51066	23.07 ug/kg#	42
67) Ethylbenzene	14.60	106	64240	22.65 ug/kg	94
68) m-xylene & p-xylene	14.72	106	152743	44.03 ug/kg	95
69) O-Xylene	15.13	106	77516	22.69 ug/kg	98
70) Bromoform	15.26	173	33967	24.69 ug/kg	98
71) Styrene	15.17	104	129783	22.18 ug/kg	98
72) Isopropylbenzene	15.40	105	198251	23.16 ug/kg	98
73) 1,2,3-Trichloropropane	16.03	75	57913	18.90 ug/kg	95
74) 1,1,2,2-Tetrachloroethane	15.84	83	49300	19.93 ug/kg	98
76) Bromofluorobenzene	15.74	95	146228	47.43 ug/kg#	78
77) T-1,4-dichloro-2-butene	16.02	53	13170	16.45 ug/kg#	86
78) N-Propylbenzene	15.81	91	217305	22.36 ug/kg	97
80) Bromobenzene	15.90	156	53042	21.08 ug/kg	89
81) 1,3,5-Trimethylbenzene	15.96	105	152705	19.71 ug/kg	98
82) 2-Chlorotoluene	16.05	91	131027	18.50 ug/kg	95
83) 4-Chlorotoluene	16.22	91	136278	18.58 ug/kg	94
84) 1,2,4-Trimethylbenzene	16.41	105	154312	19.70 ug/kg	97
85) s-Butylbenzene	16.54	105	186549	20.34 ug/kg	96
86) tert-Butylbenzene	16.35	119	141418	20.57 ug/kg	94
87) p-Isopropyltoluene	16.66	119	163230	19.98 ug/kg	97
88) 1,3-Dichlorobenzene	16.91	146	92301	21.15 ug/kg	98
89) 1,4-Dichlorobenzene	17.01	146	91650	20.19 ug/kg	98
90) 1,2-Dichlorobenzene	17.58	146	86294	20.75 ug/kg	96
91) N-Butylbenzene	17.18	91	132454	19.20 ug/kg	98
92) DBCP	18.70	75	7914	15.44 ug/kg	81
93) Naphthalene	20.69	128	97133	23.44 ug/kg	100
94) 1,2,4-Trichlorobenzene	19.97	180	44206	20.43 ug/kg	100
95) Hexachlorobutadiene	19.84	225	20813	21.76 ug/kg	100
96) 1,2,3-Trichlorobenzene	21.13	180	34963	20.54 ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\032421\212CS003.D Vial: 3
Acq On : 24 Mar 2021 9:41 am Operator: KG
Sample : MS1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 10:04 2021 Quant Results File: 030921.RES

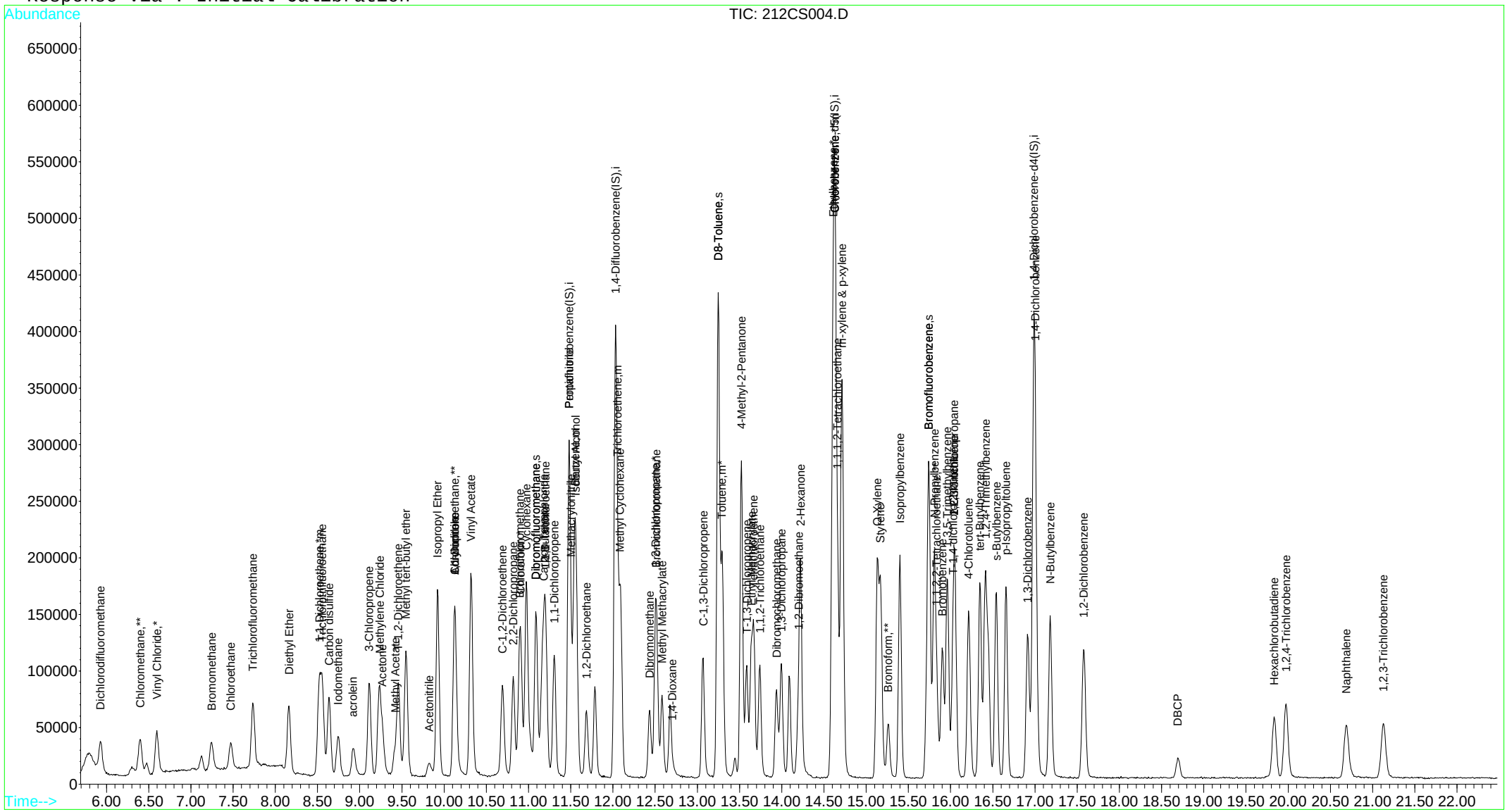
Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\032421\212CS004.D Vial: 3
Acq On : 24 Mar 2021 10:10 am Operator: KG
Sample : MSD1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 13:01 2021 Quant Results File: 030921.RES

Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\032421\212CS004.D Vial: 3
Acq On : 24 Mar 2021 10:10 am Operator: KG
Sample : MSD1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 13:01 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.48	168	240288	50.00	ug/kg	0.04
38) 1,4-Difluorobenzene(IS)	12.03	114	411020	50.00	ug/kg	0.04
56) Chlorobenzene-d5(IS)	14.62	82	182933	50.00	ug/kg	0.04
79) 1,4-Dichlorobenzene-d4(IS)	16.99	152	157368	50.00	ug/kg	0.04
System Monitoring Compounds						
30) Dibromofluoromethane	11.09	113	121092	45.10	ug/kg	0.04
Spiked Amount 50.000	Range 53 - 146		Recovery = 90.20%			
54) D8-Toluene	13.25	98	375275	48.45	ug/kg	0.04
Spiked Amount 50.000	Range 41 - 146		Recovery = 96.90%			
75) Bromofluorobenzene	15.74	95	149012	47.21	ug/kg	0.03
Spiked Amount 50.000	Range 41 - 142		Recovery = 94.42%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.93	85	41805	8.11	ug/kg	100
3) Chloromethane	6.40	50	59544	11.01	ug/kg	96
4) Vinyl Chloride	6.60	62	61272	14.63	ug/kg	97
5) Bromomethane	7.25	96	23975	10.58	ug/kg	99
6) Chloroethane	7.47	64	34058	15.43	ug/kg	96
7) Trichlorofluoromethane	7.73	101	71247	17.56	ug/kg	99
8) Trichlorotrifluoroethane	8.56	101	49041	19.06	ug/kg	90
9) acrolein	8.93	56	38890	55.03	ug/kg	95
10) Acetone	9.27	43	72650	78.82	ug/kg	92
11) 1,1-Dichloroethene	8.52	96	44238	18.71	ug/kg	89
12) 3-Chloropropene	9.12	76	28652	18.67	ug/kg	74
13) Acetonitrile	9.82	41	23813	61.46	ug/kg	93
14) Iodomethane	8.74	142	64751	18.94	ug/kg	93
15) Carbon disulfide	8.64	76	155655	19.33	ug/kg	98
16) Methylene Chloride	9.23	84	50997	16.65	ug/kg	90
17) Methyl tert-butyl ether	9.55	73	133779	17.08	ug/kg	96
18) Acrylonitrile	10.12	53	96706	58.58	ug/kg#	72
19) T-1,2-Dichloroethene	9.46	96	47998	18.86	ug/kg	91
20) Isopropyl Ether	9.92	45	202354	15.36	ug/kg	93
21) C-1,2-Dichloroethene	10.69	96	52575	19.09	ug/kg	91
22) 1,1-Dichloroethane	10.13	63	89999	16.72	ug/kg	99
23) Vinyl Acetate	10.32	43	136092	15.57	ug/kg	99
24) Chloroprene	10.12	88	43416	19.26	ug/kg	1
25) 2-Butanone	11.19	72	35420	121.18	ug/kg#	34
26) Propionitrile	11.49	54	5372	12.17	ug/kg	100
27) 2,2-Dichloropropane	10.82	77	72237	17.59	ug/kg	97
28) Methacrylonitrile	11.51	67	20459	16.87	ug/kg	69
29) Chloroform	10.91	83	87208	17.55	ug/kg	94
31) Dibromofluoromethane	11.09	113	121092	45.10	ug/kg	100
32) Bromochloromethane	10.89	128	32187	19.53	ug/kg	78
33) 1,1,1-Trichloroethane	11.21	97	69611	17.73	ug/kg	98
34) 1,1-Dichloropropene	11.31	75	68432	17.79	ug/kg	95
35) Diethyl Ether	8.16	59	46687	16.75	ug/kg	92
36) Methyl Acetate	9.41	74	9107	17.26	ug/kg#	70
37) Cyclohexane	10.97	56	85675	18.62	ug/kg	91
39) Methyl Cyclohexane	12.09	55	63062	18.66	ug/kg	86
40) Carbon Tetrachloride	11.17	117	74441	19.52	ug/kg	99
41) 1,2-Dichloroethane	11.69	62	64255	16.34	ug/kg	95
42) Benzene	11.55	78	180946	20.55	ug/kg#	48
43) Isobutyl Alcohol	11.57	43	45063	191.07	ug/kg#	1
44) Trichloroethene	12.06	130	55974	21.21	ug/kg	97
45) 1,2-Dichloropropane	12.51	63	51459	17.07	ug/kg	95
46) Methyl Methacrylate	12.58	100	15433	20.11	ug/kg	91
47) 1,4-Dioxane	12.71	88	6885	304.81	ug/kg	99
48) Bromodichloromethane	12.52	83	65032	18.49	ug/kg	99
49) Dibromomethane	12.43	93	32425	18.28	ug/kg	93
50) 4-Methyl-2-Pentanone	13.52	100	37702	103.75	ug/kg	65
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.	d	
52) 2-Hexanone	14.22	43	179024	81.29	ug/kg	96

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\032421\212CS004.D Vial: 3
Acq On : 24 Mar 2021 10:10 am Operator: KG
Sample : MSD1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 13:01 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	13.06	75	83633	17.37 ug/kg	93
55) D8-Toluene	13.25	98	375275	48.45 ug/kg	93
57) Toluene	13.30	92	110944	21.93 ug/kg	99
58) Ethyl Methacrylate	13.63	69	68576	19.21 ug/kg	88
59) T-1,3-Dichloropropene	13.59	75	75545	20.75 ug/kg	92
60) 1,1,2-Trichloroethane	13.74	97	41045	20.85 ug/kg	97
61) 1,3-Dichloropropane	13.99	76	79954	19.16 ug/kg	98
62) Tetrachloroethene	13.67	164	37341	24.31 ug/kg	98
63) Dibromochloromethane	13.94	129	61392	22.66 ug/kg	99
64) 1,2-Dibromoethane	14.19	107	50130	20.74 ug/kg	100
65) Chlorobenzene	14.64	112	121504	21.42 ug/kg	98
66) 1,1,1,2-Tetrachloroethane	14.67	131	50384	22.24 ug/kg#	38
67) Ethylbenzene	14.60	106	65005	22.39 ug/kg	93
68) m-xylene & p-xylene	14.72	106	151581	42.69 ug/kg	98
69) O-Xylene	15.13	106	78163	22.35 ug/kg	95
70) Bromoform	15.26	173	33660	23.90 ug/kg	99
71) Styrene	15.17	104	129691	21.65 ug/kg	98
72) Isopropylbenzene	15.40	105	196124	22.38 ug/kg	98
73) 1,2,3-Trichloropropane	16.04	75	60838	19.39 ug/kg	95
74) 1,1,2,2-Tetrachloroethane	15.84	83	50522	19.95 ug/kg	99
76) Bromofluorobenzene	15.74	95	149012	47.21 ug/kg#	78
77) T-1,4-dichloro-2-butene	16.02	53	13681	16.69 ug/kg#	85
78) N-Propylbenzene	15.81	91	218938	22.01 ug/kg	98
80) Bromobenzene	15.90	156	52594	20.73 ug/kg	90
81) 1,3,5-Trimethylbenzene	15.96	105	151390	19.38 ug/kg	96
82) 2-Chlorotoluene	16.05	91	129591	18.15 ug/kg	95
83) 4-Chlorotoluene	16.21	91	136224	18.42 ug/kg	94
84) 1,2,4-Trimethylbenzene	16.41	105	152932	19.37 ug/kg	98
85) s-Butylbenzene	16.54	105	185085	20.01 ug/kg	97
86) tert-Butylbenzene	16.35	119	138841	20.03 ug/kg	94
87) p-Isopropyltoluene	16.66	119	163400	19.83 ug/kg	98
88) 1,3-Dichlorobenzene	16.92	146	93960	21.35 ug/kg	97
89) 1,4-Dichlorobenzene	17.01	146	90166	19.70 ug/kg	96
90) 1,2-Dichlorobenzene	17.57	146	88210	21.03 ug/kg	96
91) N-Butylbenzene	17.18	91	131391	18.89 ug/kg	98
92) DBCP	18.70	75	8332	16.12 ug/kg	82
93) Naphthalene	20.69	128	95230	22.85 ug/kg	100
94) 1,2,4-Trichlorobenzene	19.97	180	44683	20.48 ug/kg	99
95) Hexachlorobutadiene	19.84	225	20085	20.83 ug/kg	97
96) 1,2,3-Trichlorobenzene	21.13	180	35860	20.89 ug/kg	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\032421\212CS008.D Vial: 7
Acq On : 24 Mar 2021 12:04 pm Operator: KG
Sample : BLK1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 13:09 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.49	168	235626	50.00	ug/kg	0.04
38) 1,4-Difluorobenzene(IS)	12.03	114	398655	50.00	ug/kg	0.03
56) Chlorobenzene-d5(IS)	14.62	82	180788	50.00	ug/kg	0.03
79) 1,4-Dichlorobenzene-d4(IS)	16.99	152	153177	50.00	ug/kg	0.05
System Monitoring Compounds						
30) Dibromofluoromethane	11.09	113	124181	47.16	ug/kg	0.04
Spiked Amount 50.000	Range 53 - 146		Recovery = 94.32%			
54) D8-Toluene	13.25	98	361566	48.13	ug/kg	0.04
Spiked Amount 50.000	Range 41 - 146		Recovery = 96.26%			
75) Bromofluorobenzene	15.74	95	140965	45.19	ug/kg	0.03
Spiked Amount 50.000	Range 41 - 142		Recovery = 90.38%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.		
3) Chloromethane	0.00	50	0	N.D.		
4) Vinyl Chloride	0.00	62	0	N.D.		
5) Bromomethane	0.00	96	0	N.D.		
6) Chloroethane	0.00	64	0	N.D. d		
7) Trichlorofluoromethane	0.00	101	0	N.D.		
8) Trichlorotrifluoroethane	0.00	101	0	N.D.		
9) acrolein	0.00	56	0	N.D.		
10) Acetone	0.00	43	0	N.D. d		
11) 1,1-Dichloroethene	0.00	96	0	N.D.		
12) 3-Chloropropene	0.00	76	0	N.D.		
13) Acetonitrile	0.00	41	0	N.D.		
14) Iodomethane	0.00	142	0	N.D.		
15) Carbon disulfide	8.64	76	3547	0.45	ug/kg#	75
16) Methylene Chloride	0.00	84	0	N.D.		
17) Methyl tert-butyl ether	0.00	73	0	N.D.		
18) Acrylonitrile	0.00	53	0	N.D.		
19) T-1,2-Dichloroethene	0.00	96	0	N.D.		
20) Isopropyl Ether	0.00	45	0	N.D.		
21) C-1,2-Dichloroethene	0.00	96	0	N.D.		
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	0.00	43	0	N.D.		
24) Chloroprene	0.00	88	0	N.D.		
25) 2-Butanone	0.00	72	0	N.D. d		
26) Propionitrile	0.00	54	0	N.D.		
27) 2,2-Dichloropropane	0.00	77	0	N.D.		
28) Methacrylonitrile	0.00	67	0	N.D. d		
29) Chloroform	0.00	83	0	N.D.		
31) Dibromofluoromethane	11.09	113	124181	47.16	ug/kg	100
32) Bromochloromethane	0.00	128	0	N.D.		
33) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
34) 1,1-Dichloropropene	0.00	75	0	N.D.		
35) Diethyl Ether	0.00	59	0	N.D.		
36) Methyl Acetate	0.00	74	0	N.D.		
37) Cyclohexane	0.00	56	0	N.D.		
39) Methyl Cyclohexane	0.00	55	0	N.D. d		
40) Carbon Tetrachloride	0.00	117	0	N.D.		
41) 1,2-Dichloroethane	0.00	62	0	N.D.		
42) Benzene	0.00	78	0	N.D. d		
43) Isobutyl Alcohol	0.00	43	0	N.D. d		
44) Trichloroethene	0.00	130	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Methyl Methacrylate	0.00	100	0	N.D.		
47) 1,4-Dioxane	0.00	88	0	N.D.		
48) Bromodichloromethane	0.00	83	0	N.D.		
49) Dibromomethane	0.00	93	0	N.D.		
50) 4-Methyl-2-Pentanone	0.00	100	0	N.D.		
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	0.00	43	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\032421\212CS008.D Vial: 7
Acq On : 24 Mar 2021 12:04 pm Operator: KG
Sample : BLK1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 13:09 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

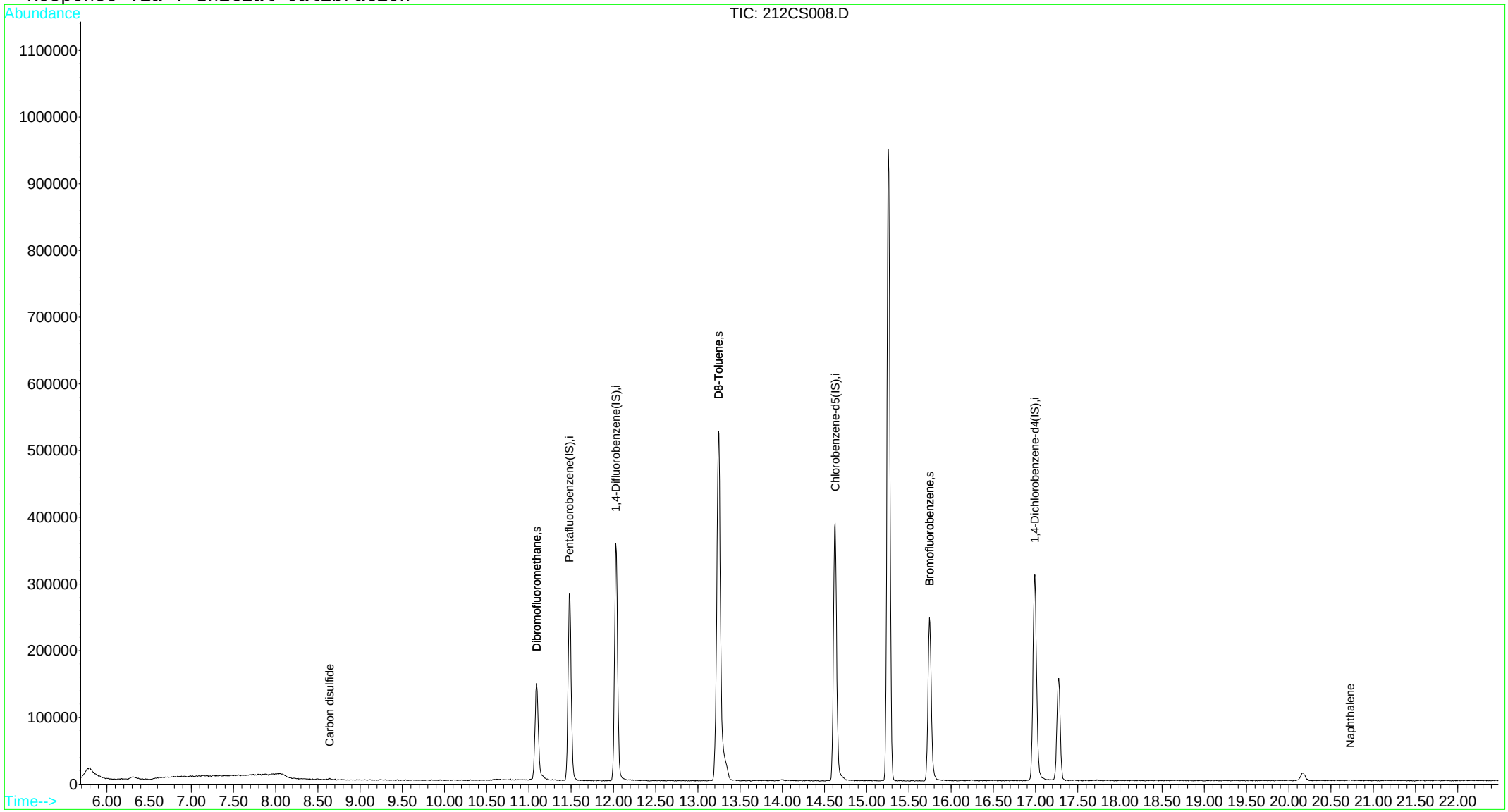
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	0.00	75	0	N.D. d	
55) D8-Toluene	13.25	98	361566	48.13 ug/kg	93
57) Toluene	0.00	92	0	N.D.	
58) Ethyl Methacrylate	0.00	69	0	N.D.	
59) T-1,3-Dichloropropene	0.00	75	0	N.D.	
60) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
61) 1,3-Dichloropropane	0.00	76	0	N.D.	
62) Tetrachloroethene	0.00	164	0	N.D.	
63) Dibromochloromethane	0.00	129	0	N.D.	
64) 1,2-Dibromoethane	0.00	107	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
67) Ethylbenzene	0.00	106	0	N.D.	
68) m-xylene & p-xylene	0.00	106	0	N.D.	
69) O-Xylene	0.00	106	0	N.D. d	
70) Bromoform	0.00	173	0	N.D.	
71) Styrene	0.00	104	0	N.D. d	
72) Isopropylbenzene	0.00	105	0	N.D. d	
73) 1,2,3-Trichloropropane	0.00	75	0	N.D.	
74) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
76) Bromofluorobenzene	15.74	95	140965	45.19 ug/kg#	84
77) T-1,4-dichloro-2-butene	0.00	53	0	N.D.	
78) N-Propylbenzene	0.00	91	0	N.D.	
80) Bromobenzene	0.00	156	0	N.D.	
81) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
82) 2-Chlorotoluene	0.00	91	0	N.D.	
83) 4-Chlorotoluene	0.00	91	0	N.D.	
84) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.	
85) s-Butylbenzene	0.00	105	0	N.D.	
86) tert-Butylbenzene	0.00	119	0	N.D.	
87) p-Isopropyltoluene	0.00	119	0	N.D.	
88) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
89) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) N-Butylbenzene	0.00	91	0	N.D.	
92) DBCP	0.00	75	0	N.D.	
93) Naphthalene	20.73	128	2260	0.62 ug/kg	100
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Hexachlorobutadiene	0.00	225	0	N.D.	
96) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\032421\212CS008.D Vial: 7
Acq On : 24 Mar 2021 12:04 pm Operator: KG
Sample : BLK1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 13:09 2021 Quant Results File: 030921.RES

Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\032421\212CS009.D Vial: 8
Acq On : 24 Mar 2021 12:33 pm Operator: KG
Sample : AA65533-CRL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 12:59 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.49	168	230899	50.00	ug/kg	0.04
38) 1,4-Difluorobenzene(IS)	12.03	114	392568	50.00	ug/kg	0.03
56) Chlorobenzene-d5(IS)	14.63	82	175960	50.00	ug/kg	0.04
79) 1,4-Dichlorobenzene-d4(IS)	16.99	152	147461	50.00	ug/kg	0.05
System Monitoring Compounds						
30) Dibromofluoromethane	11.09	113	124283	48.17	ug/kg	0.04
Spiked Amount 50.000	Range 53 - 146		Recovery = 96.34%			
54) D8-Toluene	13.25	98	358114	48.41	ug/kg	0.04
Spiked Amount 50.000	Range 41 - 146		Recovery = 96.82%			
75) Bromofluorobenzene	15.74	95	143466	47.26	ug/kg	0.03
Spiked Amount 50.000	Range 41 - 142		Recovery = 94.52%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.94	85	3107	0.63	ug/kg#	78
3) Chloromethane	6.40	50	4926	0.95	ug/kg	93
4) Vinyl Chloride	6.59	62	3272	0.81	ug/kg	60
5) Bromomethane	7.25	96	2249	0.96	ug/kg	95
6) Chloroethane	7.48	64	2434	1.15	ug/kg#	51
7) Trichlorofluoromethane	7.74	101	2741	0.70	ug/kg	91
8) Trichlorotrifluoroethane	8.56	101	987	0.40	ug/kg	99
9) acrolein	8.93	56	3722	5.48	ug/kg	71
10) Acetone	9.28	43	3460	3.91	ug/kg	89
11) 1,1-Dichloroethene	8.51	96	1039	0.46	ug/kg	94
12) 3-Chloropropene	9.11	76	1424	0.97	ug/kg	59
13) Acetonitrile	9.94	41	2024	5.44	ug/kg	67
14) Iodomethane	8.74	142	7685	2.34	ug/kg	86
15) Carbon disulfide	8.64	76	23186	3.00	ug/kg	91
16) Methylene Chloride	9.23	84	2076	0.71	ug/kg	94
17) Methyl tert-butyl ether	9.56	73	4895	0.65	ug/kg	83
18) Acrylonitrile	10.12	53	3224	2.03	ug/kg#	44
19) T-1,2-Dichloroethene	9.46	96	1606	0.66	ug/kg	86
20) Isopropyl Ether	9.93	45	8131	0.64	ug/kg	95
21) C-1,2-Dichloroethene	10.70	96	2004	0.76	ug/kg	90
22) 1,1-Dichloroethane	10.14	63	4000	0.77	ug/kg	98
23) Vinyl Acetate	10.34	43	26796	3.19	ug/kg	99
24) Chloroprene	10.12	88	1427	0.66	ug/kg#	1
25) 2-Butanone	11.20	72	1030	3.67	ug/kg	82
26) Propionitrile	11.49	54	2491	5.87	ug/kg	100
27) 2,2-Dichloropropane	10.65	77	601	0.15	ug/kg	72
28) Methacrylonitrile	11.51	67	9369	8.04	ug/kg	80
29) Chloroform	10.91	83	3466	0.73	ug/kg#	42
31) Dibromofluoromethane	11.09	113	124283	48.17	ug/kg	100
32) Bromochloromethane	10.89	128	1284	0.81	ug/kg	73
33) 1,1,1-Trichloroethane	11.20	97	2183	0.58	ug/kg	98
34) 1,1-Dichloropropene	11.31	75	2213	0.60	ug/kg	76
35) Diethyl Ether	8.17	59	1572	0.59	ug/kg#	63
36) Methyl Acetate	9.43	74	328	0.65	ug/kg#	1
37) Cyclohexane	10.97	56	2051	0.46	ug/kg#	94
39) Methyl Cyclohexane	12.09	55	1895	0.59	ug/kg#	79
40) Carbon Tetrachloride	11.18	117	2285	0.63	ug/kg	98
41) 1,2-Dichloroethane	11.68	62	2588	0.69	ug/kg	85
42) Benzene	11.54	78	8264	0.98	ug/kg	85
43) Isobutyl Alcohol	11.56	43	3483	15.46	ug/kg	98
44) Trichloroethene	12.06	130	2005	0.80	ug/kg#	1
45) 1,2-Dichloropropane	12.51	63	2748	0.95	ug/kg	87
46) Methyl Methacrylate	12.59	100	504	0.69	ug/kg	66
47) 1,4-Dioxane	12.73	88	134	6.21	ug/kg	89
48) Bromodichloromethane	12.52	83	2356	0.70	ug/kg	91
49) Dibromomethane	12.44	93	1120	0.66	ug/kg#	74
50) 4-Methyl-2-Pentanone	13.53	100	1764	5.08	ug/kg	52
51) 2-Chloroethyl vinyl ether	12.95	63	389	0.53	ug/kg#	67
52) 2-Hexanone	14.23	43	7543	3.59	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\032421\212CS009.D Vial: 8
Acq On : 24 Mar 2021 12:33 pm Operator: KG
Sample : AA65533-CRL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 12:59 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

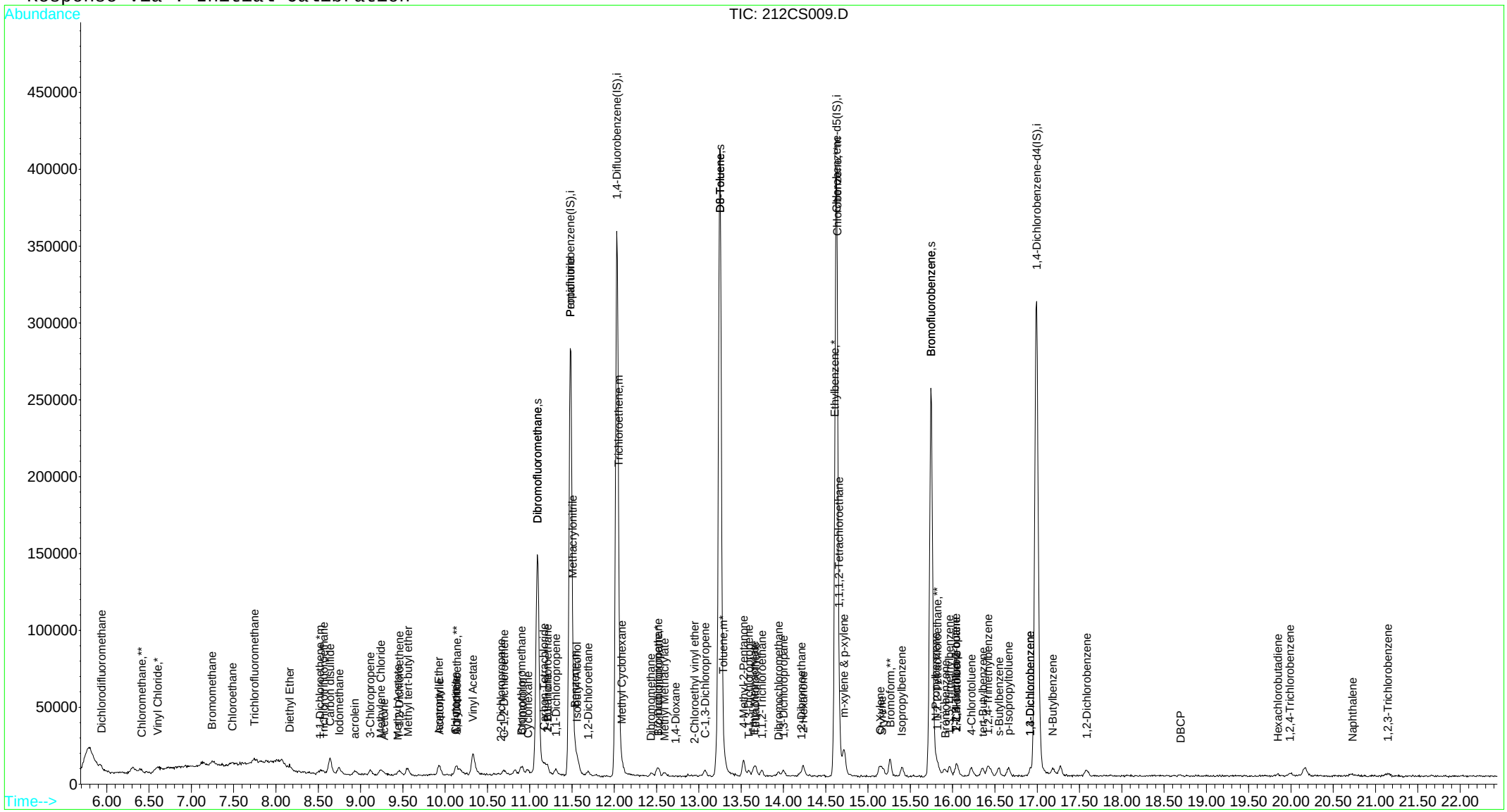
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	13.07	75	3370	0.73 ug/kg	89
55) D8-Toluene	13.25	98	358114	48.41 ug/kg	93
57) Toluene	13.29	92	4081	0.84 ug/kg	95
58) Ethyl Methacrylate	13.65	69	2779	0.81 ug/kg#	90
59) T-1,3-Dichloropropene	13.59	75	2754	0.79 ug/kg	90
60) 1,1,2-Trichloroethane	13.74	97	1667	0.88 ug/kg	98
61) 1,3-Dichloropropane	13.99	76	3496	0.87 ug/kg	81
62) Tetrachloroethene	13.67	164	1540	1.04 ug/kg	97
63) Dibromochloromethane	13.94	129	2217	0.85 ug/kg#	88
64) 1,2-Dibromoethane	14.20	107	1980	0.85 ug/kg#	98
65) Chlorobenzene	14.64	112	4562	0.84 ug/kg#	51
66) 1,1,1,2-Tetrachloroethane	14.66	131	2016	0.93 ug/kg#	1
67) Ethylbenzene	14.60	106	2141	0.77 ug/kg	85
68) m-xylene & p-xylene	14.72	106	5782	1.69 ug/kg	95
69) O-Xylene	15.14	106	2783	0.83 ug/kg	93
70) Bromoform	15.27	173	1032	0.76 ug/kg#	94
71) Styrene	15.17	104	4611	0.80 ug/kg	94
72) Isopropylbenzene	15.40	105	6384	0.76 ug/kg	99
73) 1,2,3-Trichloropropane	16.03	75	2746	0.91 ug/kg	86
74) 1,1,2,2-Tetrachloroethane	15.83	83	1945	0.80 ug/kg	92
76) Bromofluorobenzene	15.74	95	143466	47.26 ug/kg#	82
77) T-1,4-dichloro-2-butene	16.03	53	681	0.86 ug/kg#	89
78) N-Propylbenzene	15.81	91	7107	0.74 ug/kg	96
80) Bromobenzene	15.92	156	1905	0.80 ug/kg	92
81) 1,3,5-Trimethylbenzene	15.96	105	5353	0.73 ug/kg	95
82) 2-Chlorotoluene	16.05	91	4769	0.71 ug/kg	96
83) 4-Chlorotoluene	16.22	91	5283	0.76 ug/kg	96
84) 1,2,4-Trimethylbenzene	16.42	105	5292	0.72 ug/kg	99
85) s-Butylbenzene	16.55	105	5894	0.68 ug/kg	98
86) tert-Butylbenzene	16.35	119	4188	0.64 ug/kg	95
87) p-Isopropyltoluene	16.66	119	5220	0.68 ug/kg	98
88) 1,3-Dichlorobenzene	16.92	146	3158	0.77 ug/kg	97
89) 1,4-Dichlorobenzene	16.92	146	3158	0.74 ug/kg	97
90) 1,2-Dichlorobenzene	17.59	146	3025	0.77 ug/kg	94
91) N-Butylbenzene	17.18	91	3925	0.60 ug/kg	98
92) DBCP	18.69	75	519	1.07 ug/kg#	46
93) Naphthalene	20.72	128	4134	1.17 ug/kg	100
94) 1,2,4-Trichlorobenzene	19.99	180	1277	0.62 ug/kg	80
95) Hexachlorobutadiene	19.84	225	440	0.49 ug/kg	77
96) 1,2,3-Trichlorobenzene	21.15	180	1118	0.70 ug/kg	90

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\032421\212CS009.D Vial: 8
Acq On : 24 Mar 2021 12:33 pm Operator: KG
Sample : AA65533-CRL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 12:59 2021 Quant Results File: 030921.RES

Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\032421\212CS010.D Vial: 9
Acq On : 24 Mar 2021 1:01 pm Operator: KG
Sample : AE02221-02 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 25 7:01 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.49	168	233801	50.00	ug/kg	0.04
38) 1,4-Difluorobenzene(IS)	12.04	114	399607	50.00	ug/kg	0.04
56) Chlorobenzene-d5(IS)	14.63	82	181101	50.00	ug/kg	0.04
79) 1,4-Dichlorobenzene-d4(IS)	16.99	152	150847	50.00	ug/kg	0.05
System Monitoring Compounds						
30) Dibromofluoromethane	11.09	113	124908	47.81	ug/kg	0.04
Spiked Amount 50.000	Range 53 - 146		Recovery = 95.62%			
54) D8-Toluene	13.25	98	368323	48.91	ug/kg	0.04
Spiked Amount 50.000	Range 41 - 146		Recovery = 97.82%			
75) Bromofluorobenzene	15.75	95	143378	45.89	ug/kg	0.04
Spiked Amount 50.000	Range 41 - 142		Recovery = 91.78%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.		
3) Chloromethane	0.00	50	0	N.D. d		
4) Vinyl Chloride	0.00	62	0	N.D.		
5) Bromomethane	0.00	96	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Trichlorofluoromethane	0.00	101	0	N.D.		
8) Trichlorotrifluoroethane	0.00	101	0	N.D.		
9) acrolein	0.00	56	0	N.D.		
10) Acetone	0.00	43	0	N.D. d		
11) 1,1-Dichloroethene	0.00	96	0	N.D.		
12) 3-Chloropropene	0.00	76	0	N.D.		
13) Acetonitrile	0.00	41	0	N.D.		
14) Iodomethane	0.00	142	0	N.D.		
15) Carbon disulfide	0.00	76	0	N.D. d		
16) Methylene Chloride	0.00	84	0	N.D.		
17) Methyl tert-butyl ether	0.00	73	0	N.D.		
18) Acrylonitrile	0.00	53	0	N.D.		
19) T-1,2-Dichloroethene	0.00	96	0	N.D.		
20) Isopropyl Ether	0.00	45	0	N.D.		
21) C-1,2-Dichloroethene	0.00	96	0	N.D.		
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	0.00	43	0	N.D.		
24) Chloroprene	0.00	88	0	N.D.		
25) 2-Butanone	0.00	72	0	N.D.		
26) Propionitrile	0.00	54	0	N.D.		
27) 2,2-Dichloropropane	0.00	77	0	N.D.		
28) Methacrylonitrile	0.00	67	0	N.D. d		
29) Chloroform	0.00	83	0	N.D.		
31) Dibromofluoromethane	11.09	113	124908	47.81	ug/kg	100
32) Bromochloromethane	0.00	128	0	N.D.		
33) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
34) 1,1-Dichloropropene	0.00	75	0	N.D.		
35) Diethyl Ether	0.00	59	0	N.D.		
36) Methyl Acetate	0.00	74	0	N.D.		
37) Cyclohexane	0.00	56	0	N.D.		
39) Methyl Cyclohexane	0.00	55	0	N.D. d		
40) Carbon Tetrachloride	0.00	117	0	N.D.		
41) 1,2-Dichloroethane	0.00	62	0	N.D.		
42) Benzene	0.00	78	0	N.D. d		
43) Isobutyl Alcohol	0.00	43	0	N.D. d		
44) Trichloroethene	0.00	130	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Methyl Methacrylate	0.00	100	0	N.D.		
47) 1,4-Dioxane	0.00	88	0	N.D.		
48) Bromodichloromethane	0.00	83	0	N.D.		
49) Dibromomethane	0.00	93	0	N.D.		
50) 4-Methyl-2-Pentanone	0.00	100	0	N.D.		
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	0.00	43	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\032421\212CS010.D Vial: 9
Acq On : 24 Mar 2021 1:01 pm Operator: KG
Sample : AE02221-02 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 25 7:01 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

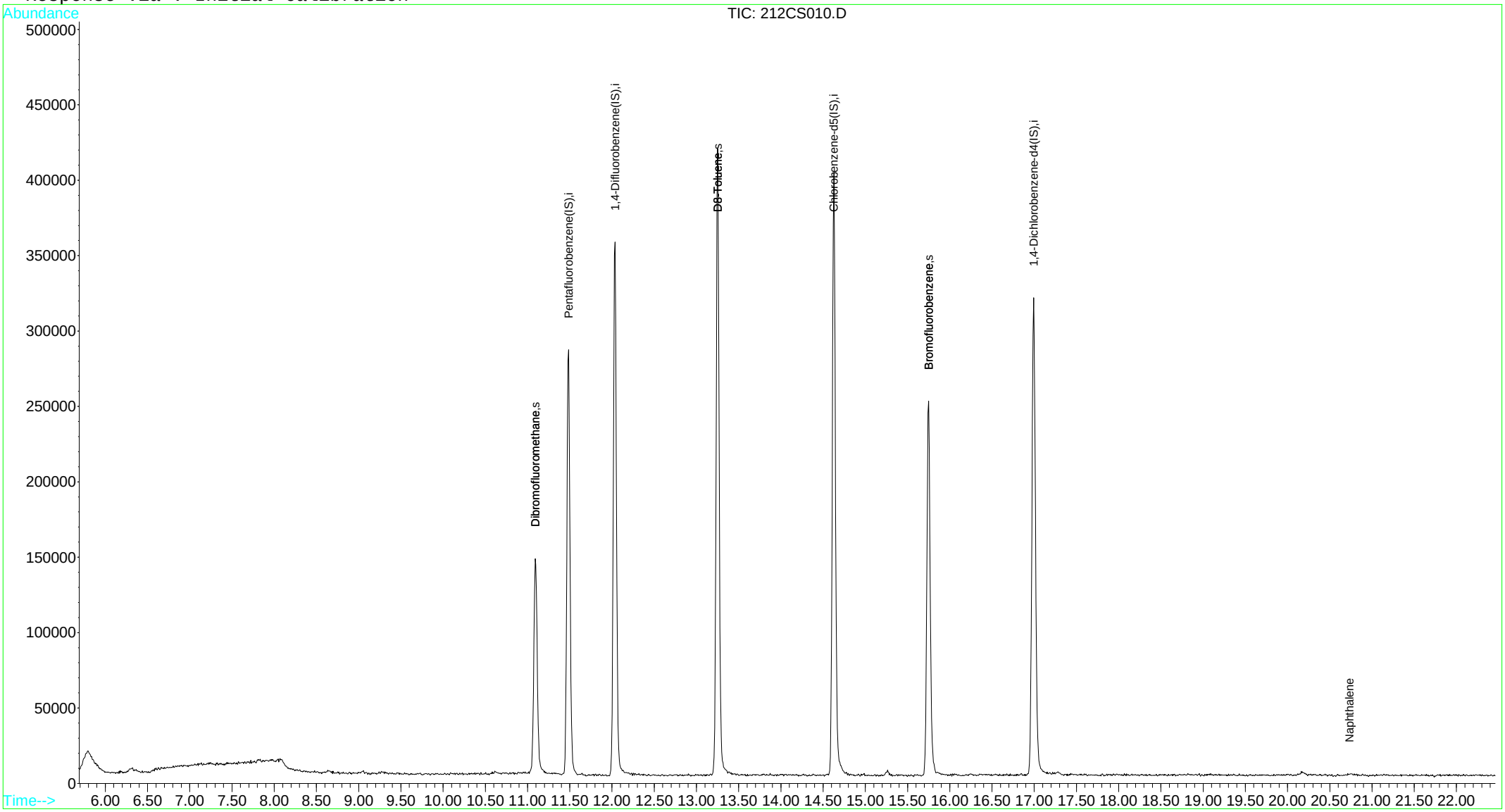
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	0.00	75	0	N.D.	
55) D8-Toluene	13.25	98	368323	48.91 ug/kg	93
57) Toluene	0.00	92	0	N.D.	
58) Ethyl Methacrylate	0.00	69	0	N.D.	
59) T-1,3-Dichloropropene	0.00	75	0	N.D.	
60) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
61) 1,3-Dichloropropane	0.00	76	0	N.D.	
62) Tetrachloroethene	0.00	164	0	N.D.	
63) Dibromochloromethane	0.00	129	0	N.D.	
64) 1,2-Dibromoethane	0.00	107	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
67) Ethylbenzene	0.00	106	0	N.D.	
68) m-xylene & p-xylene	0.00	106	0	N.D.	
69) O-Xylene	0.00	106	0	N.D.	
70) Bromoform	0.00	173	0	N.D.	
71) Styrene	0.00	104	0	N.D.	
72) Isopropylbenzene	0.00	105	0	N.D.	
73) 1,2,3-Trichloropropane	0.00	75	0	N.D.	
74) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
76) Bromofluorobenzene	15.75	95	143378	45.89 ug/kg#	83
77) T-1,4-dichloro-2-butene	0.00	53	0	N.D.	
78) N-Propylbenzene	0.00	91	0	N.D.	
80) Bromobenzene	0.00	156	0	N.D.	
81) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
82) 2-Chlorotoluene	0.00	91	0	N.D.	
83) 4-Chlorotoluene	0.00	91	0	N.D.	
84) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.	
85) s-Butylbenzene	0.00	105	0	N.D.	
86) tert-Butylbenzene	0.00	119	0	N.D.	
87) p-Isopropyltoluene	0.00	119	0	N.D.	
88) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
89) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) N-Butylbenzene	0.00	91	0	N.D.	
92) DBCP	0.00	75	0	N.D.	
93) Naphthalene	20.73	128	834	0.23 ug/kg	100
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Hexachlorobutadiene	0.00	225	0	N.D.	
96) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\032421\212CS010.D Vial: 9
Acq On : 24 Mar 2021 1:01 pm Operator: KG
Sample : AE02221-02 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 25 7:01 2021 Quant Results File: 030921.RES

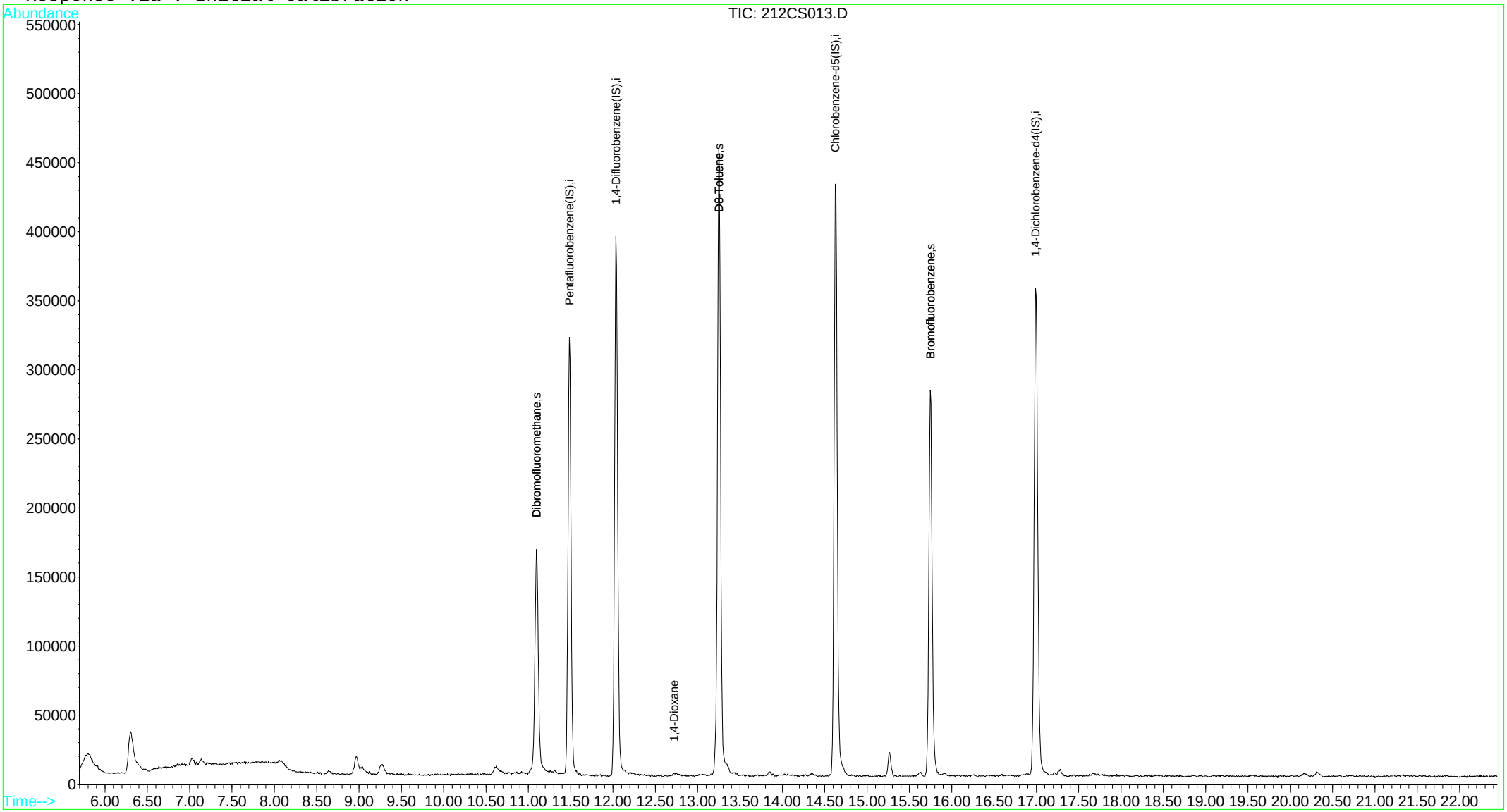
Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\032421\212CS013.D Vial: 12
Acq On : 24 Mar 2021 2:50 pm Operator: KG
Sample : AE02207-01 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 25 7:02 2021 Quant Results File: 030921.RES

Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\032421\212CS013.D Vial: 12
Acq On : 24 Mar 2021 2:50 pm Operator: KG
Sample : AE02207-01 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 25 7:02 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.48	168	255830	50.00	ug/kg	0.04
38) 1,4-Difluorobenzene(IS)	12.03	114	439921	50.00	ug/kg	0.04
56) Chlorobenzene-d5(IS)	14.63	82	199954	50.00	ug/kg	0.05
79) 1,4-Dichlorobenzene-d4(IS)	16.99	152	168447	50.00	ug/kg	0.05
System Monitoring Compounds						
30) Dibromofluoromethane	11.10	113	139874	48.92	ug/kg	0.05
Spiked Amount 50.000	Range 53 - 146		Recovery = 97.84%			
54) D8-Toluene	13.25	98	396285	47.80	ug/kg	0.04
Spiked Amount 50.000	Range 41 - 146		Recovery = 95.60%			
75) Bromofluorobenzene	15.75	95	160257	46.45	ug/kg	0.04
Spiked Amount 50.000	Range 41 - 142		Recovery = 92.90%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.		
3) Chloromethane	0.00	50	0	N.D. d		
4) Vinyl Chloride	0.00	62	0	N.D.		
5) Bromomethane	0.00	96	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Trichlorofluoromethane	0.00	101	0	N.D.		
8) Trichlorotrifluoroethane	0.00	101	0	N.D.		
9) acrolein	0.00	56	0	N.D.		
10) Acetone	0.00	43	0	N.D. d		
11) 1,1-Dichloroethene	0.00	96	0	N.D.		
12) 3-Chloropropene	0.00	76	0	N.D.		
13) Acetonitrile	0.00	41	0	N.D.		
14) Iodomethane	0.00	142	0	N.D.		
15) Carbon disulfide	0.00	76	0	N.D. d		
16) Methylene Chloride	0.00	84	0	N.D.		
17) Methyl tert-butyl ether	0.00	73	0	N.D.		
18) Acrylonitrile	0.00	53	0	N.D.		
19) T-1,2-Dichloroethene	0.00	96	0	N.D.		
20) Isopropyl Ether	0.00	45	0	N.D.		
21) C-1,2-Dichloroethene	0.00	96	0	N.D.		
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	0.00	43	0	N.D. d		
24) Chloroprene	0.00	88	0	N.D.		
25) 2-Butanone	0.00	72	0	N.D.		
26) Propionitrile	0.00	54	0	N.D.		
27) 2,2-Dichloropropane	0.00	77	0	N.D.		
28) Methacrylonitrile	0.00	67	0	N.D. d		
29) Chloroform	0.00	83	0	N.D.		
31) Dibromofluoromethane	11.10	113	139874	48.92	ug/kg	100
32) Bromochloromethane	0.00	128	0	N.D.		
33) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
34) 1,1-Dichloropropene	0.00	75	0	N.D.		
35) Diethyl Ether	0.00	59	0	N.D.		
36) Methyl Acetate	0.00	74	0	N.D.		
37) Cyclohexane	0.00	56	0	N.D.		
39) Methyl Cyclohexane	0.00	55	0	N.D. d		
40) Carbon Tetrachloride	0.00	117	0	N.D. d		
41) 1,2-Dichloroethane	0.00	62	0	N.D.		
42) Benzene	0.00	78	0	N.D. d		
43) Isobutyl Alcohol	0.00	43	0	N.D.		
44) Trichloroethene	0.00	130	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D. d		
46) Methyl Methacrylate	0.00	100	0	N.D.		
47) 1,4-Dioxane	12.72	88	2739	113.29	ug/kg	89
48) Bromodichloromethane	0.00	83	0	N.D.		
49) Dibromomethane	0.00	93	0	N.D.		
50) 4-Methyl-2-Pentanone	0.00	100	0	N.D. d		
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	0.00	43	0	N.D. d		

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\032421\212CS013.D Vial: 12
Acq On : 24 Mar 2021 2:50 pm Operator: KG
Sample : AE02207-01 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 25 7:02 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	0.00	75	0	N.D. d	
55) D8-Toluene	13.25	98	396285	47.80 ug/kg	93
57) Toluene	0.00	92	0	N.D.	
58) Ethyl Methacrylate	0.00	69	0	N.D.	
59) T-1,3-Dichloropropene	0.00	75	0	N.D.	
60) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
61) 1,3-Dichloropropane	0.00	76	0	N.D.	
62) Tetrachloroethene	0.00	164	0	N.D.	
63) Dibromochloromethane	0.00	129	0	N.D.	
64) 1,2-Dibromoethane	0.00	107	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
67) Ethylbenzene	0.00	106	0	N.D.	
68) m-xylene & p-xylene	0.00	106	0	N.D.	
69) O-Xylene	0.00	106	0	N.D.	
70) Bromoform	0.00	173	0	N.D.	
71) Styrene	0.00	104	0	N.D.	
72) Isopropylbenzene	0.00	105	0	N.D.	
73) 1,2,3-Trichloropropane	0.00	75	0	N.D.	
74) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
76) Bromofluorobenzene	15.75	95	160257	46.45 ug/kg#	82
77) T-1,4-dichloro-2-butene	0.00	53	0	N.D.	
78) N-Propylbenzene	0.00	91	0	N.D.	
80) Bromobenzene	0.00	156	0	N.D.	
81) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
82) 2-Chlorotoluene	0.00	91	0	N.D.	
83) 4-Chlorotoluene	0.00	91	0	N.D.	
84) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.	
85) s-Butylbenzene	0.00	105	0	N.D.	
86) tert-Butylbenzene	0.00	119	0	N.D.	
87) p-Isopropyltoluene	0.00	119	0	N.D. d	
88) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
89) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) N-Butylbenzene	0.00	91	0	N.D. d	
92) DBCP	0.00	75	0	N.D.	
93) Naphthalene	0.00	128	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Hexachlorobutadiene	0.00	225	0	N.D.	
96) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.	

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\032421\212CS014.D Vial: 13
Acq On : 24 Mar 2021 3:18 pm Operator: KG
Sample : AE02207-02 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 25 7:03 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.49	168	249253	50.00	ug/kg	0.04
38) 1,4-Difluorobenzene(IS)	12.04	114	430833	50.00	ug/kg	0.04
56) Chlorobenzene-d5(IS)	14.63	82	197098	50.00	ug/kg	0.04
79) 1,4-Dichlorobenzene-d4(IS)	16.99	152	166966	50.00	ug/kg	0.05
System Monitoring Compounds						
30) Dibromofluoromethane	11.10	113	136376	48.96	ug/kg	0.05
Spiked Amount 50.000	Range 53 - 146		Recovery = 97.92%			
54) D8-Toluene	13.25	98	390431	48.09	ug/kg	0.04
Spiked Amount 50.000	Range 41 - 146		Recovery = 96.18%			
75) Bromofluorobenzene	15.75	95	158431	46.59	ug/kg	0.04
Spiked Amount 50.000	Range 41 - 142		Recovery = 93.18%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.		
3) Chloromethane	0.00	50	0	N.D. d		
4) Vinyl Chloride	6.61	62	55518	12.78	ug/kg	99
5) Bromomethane	0.00	96	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Trichlorofluoromethane	0.00	101	0	N.D.		
8) Trichlorotrifluoroethane	0.00	101	0	N.D.		
9) acrolein	0.00	56	0	N.D.		
10) Acetone	0.00	43	0	N.D. d		
11) 1,1-Dichloroethene	0.00	96	0	N.D.		
12) 3-Chloropropene	0.00	76	0	N.D.		
13) Acetonitrile	0.00	41	0	N.D.		
14) Iodomethane	0.00	142	0	N.D.		
15) Carbon disulfide	0.00	76	0	N.D. d		
16) Methylene Chloride	0.00	84	0	N.D.		
17) Methyl tert-butyl ether	0.00	73	0	N.D.		
18) Acrylonitrile	0.00	53	0	N.D.		
19) T-1,2-Dichloroethene	9.47	96	1510	0.57	ug/kg	88
20) Isopropyl Ether	0.00	45	0	N.D.		
21) C-1,2-Dichloroethene	10.71	96	789	0.28	ug/kg#	61
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	0.00	43	0	N.D.		
24) Chloroprene	0.00	88	0	N.D.		
25) 2-Butanone	0.00	72	0	N.D.		
26) Propionitrile	0.00	54	0	N.D.		
27) 2,2-Dichloropropane	0.00	77	0	N.D. d		
28) Methacrylonitrile	0.00	67	0	N.D. d		
29) Chloroform	0.00	83	0	N.D.		
31) Dibromofluoromethane	11.10	113	136376	48.96	ug/kg	100
32) Bromochloromethane	0.00	128	0	N.D.		
33) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
34) 1,1-Dichloropropene	0.00	75	0	N.D.		
35) Diethyl Ether	0.00	59	0	N.D.		
36) Methyl Acetate	0.00	74	0	N.D.		
37) Cyclohexane	0.00	56	0	N.D.		
39) Methyl Cyclohexane	0.00	55	0	N.D. d		
40) Carbon Tetrachloride	0.00	117	0	N.D.		
41) 1,2-Dichloroethane	0.00	62	0	N.D.		
42) Benzene	0.00	78	0	N.D. d		
43) Isobutyl Alcohol	0.00	43	0	N.D. d		
44) Trichloroethene	0.00	130	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Methyl Methacrylate	0.00	100	0	N.D.		
47) 1,4-Dioxane	12.74	88	1338	56.51	ug/kg	98
48) Bromodichloromethane	0.00	83	0	N.D.		
49) Dibromomethane	0.00	93	0	N.D.		
50) 4-Methyl-2-Pentanone	0.00	100	0	N.D. d		
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	0.00	43	0	N.D. d		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\032421\212CS014.D Vial: 13
Acq On : 24 Mar 2021 3:18 pm Operator: KG
Sample : AE02207-02 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 25 7:03 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

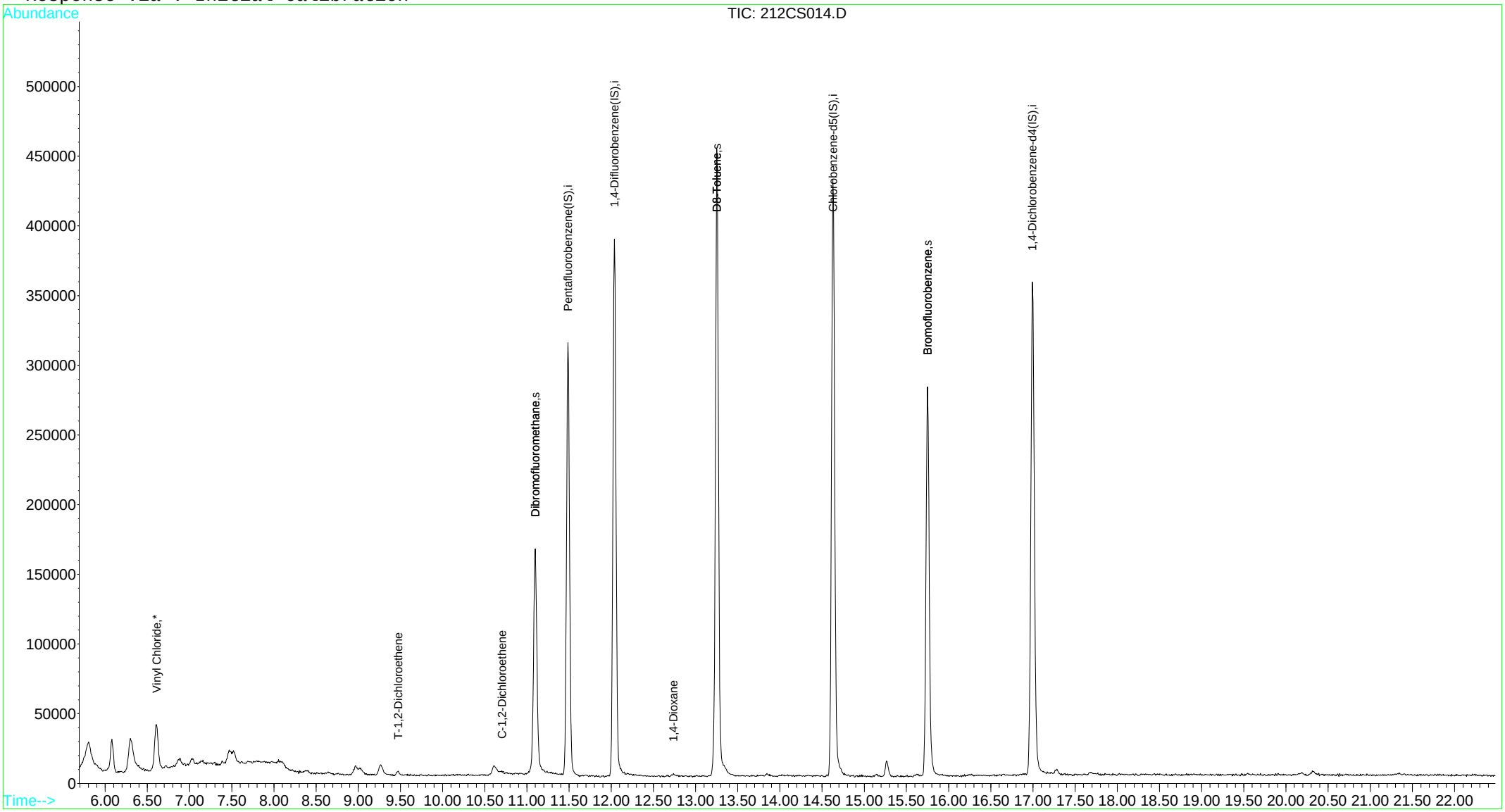
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	0.00	75	0	N.D. d	
55) D8-Toluene	13.25	98	390431	48.09 ug/kg	93
57) Toluene	0.00	92	0	N.D.	
58) Ethyl Methacrylate	0.00	69	0	N.D.	
59) T-1,3-Dichloropropene	0.00	75	0	N.D.	
60) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
61) 1,3-Dichloropropane	0.00	76	0	N.D.	
62) Tetrachloroethene	0.00	164	0	N.D.	
63) Dibromochloromethane	0.00	129	0	N.D.	
64) 1,2-Dibromoethane	0.00	107	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
67) Ethylbenzene	0.00	106	0	N.D.	
68) m-xylene & p-xylene	0.00	106	0	N.D.	
69) O-Xylene	0.00	106	0	N.D.	
70) Bromoform	0.00	173	0	N.D.	
71) Styrene	0.00	104	0	N.D.	
72) Isopropylbenzene	0.00	105	0	N.D.	
73) 1,2,3-Trichloropropane	0.00	75	0	N.D.	
74) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
76) Bromofluorobenzene	15.75	95	158431	46.59 ug/kg#	82
77) T-1,4-dichloro-2-butene	0.00	53	0	N.D.	
78) N-Propylbenzene	0.00	91	0	N.D.	
80) Bromobenzene	0.00	156	0	N.D.	
81) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
82) 2-Chlorotoluene	0.00	91	0	N.D.	
83) 4-Chlorotoluene	0.00	91	0	N.D.	
84) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.	
85) s-Butylbenzene	0.00	105	0	N.D.	
86) tert-Butylbenzene	0.00	119	0	N.D.	
87) p-Isopropyltoluene	0.00	119	0	N.D.	
88) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
89) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) N-Butylbenzene	0.00	91	0	N.D.	
92) DBCP	0.00	75	0	N.D.	
93) Naphthalene	0.00	128	0	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Hexachlorobutadiene	0.00	225	0	N.D.	
96) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\032421\212CS014.D Vial: 13
Acq On : 24 Mar 2021 3:18 pm Operator: KG
Sample : AE02207-02 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 25 7:03 2021 Quant Results File: 030921.RES

Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration



ANALYSIS SEQUENCE

AA65289

Instrument: OVGCMS2

Calibration ID: UNASSIGNED = 2103054

Printed: 3/9/2021 1:53:16PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA65289-TUN1	QC		1		A0I0903			
AA65289-CAL1	QC		2		A1C0778	A1B0764		
AA65289-CAL2	QC		3		A1C0779	A1B0764		
AA65289-CAL3	QC		4		A1C0780	A1B0764		
AA65289-CAL4	QC		5		A1C0781	A1B0764		
AA65289-CAL5	QC		6		A1C0782	A1B0764		
AA65289-CAL6	QC		7		A1C0783	A1B0764		
AA65289-CAL7	QC		8		A1C0784	A1B0764		
AA65289-CAL8	QC		9		A1C0785	A1B0764		
AA65289-SCV1	QC		10		A1C0786	A1B0764		

Samples Loaded By — 03/09/21 Date

Data Processed By — 3/10/21 Date

Sequence Name: C:\HPCHEM\1\SEQUENCE\212CD.S
Comment:
Operator: KG
Data Path: C:\HPchem\1\DATA\030921\
Pre-Seq Cmd:
Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line	Type	Vial	DataFile	Method	Sample Name
1	Sample	1	212CD001	8260S	AA65289-TUN1
2	Sample	2	212CD002	8260S	AA65289-CAL1
3	Sample	3	212CD003	8260S	AA65289-CAL2
4	Sample	4	212CD004	8260S	AA65289-CAL3
5	Sample	5	212CD005	8260S	AA65289-CAL4
6	Sample	6	212CD006	8260S	AA65289-CAL5
7	Sample	7	212CD007	8260S	AA65289-CAL6
8	Sample	8	212CD008	8260S	AA65289-CAL7
9	Sample	9	212CD009	8260S	AA65289-CAL8
10	Sample	10	212CD010	8260S	rinse
11	Sample	11	212CD011	8260S	rinse
12	Sample	12	212CD012	8260S	rinse
13	Sample	13	212CD013	8260S	AA65289-SCV1
14	Sample	14	212CD014	8260S	1C09037-BS1
15	Sample	15	212CD015	8260S	1C09037-MS1
16	Sample	15	212CD016	8260S	1C09037-MSD1
17	Sample	16	212CD017	8260S	RINSE
18	Sample	17	212CD018	8260S	RINSE
19	Sample	18	212CD019	8260S	RINSE
20	Sample	19	212CD020	8260S	1C09037-BLK1
21	Sample	20	212CD021	8260S	AE01878-01
22	Sample	21	212CD022	8260S	AE01528-01RE1
23	Sample	22	212CD023	8260S	AE01808-04
24	Sample	23	212CD024	8260S	AE01808-05
25	Sample	24	212CD025	8260S	AE01808-06
26	Sample	25	212CD026	8260S	AE01808-07
27	Sample	26	212CD027	8260S	AE01808-08
28	Sample	27	212CD028	8260S	AE01808-09
29	Sample	28	212CD029	8260S	AE01808-10
30	Sample	29	212CD030	8260S	AE01808-11
31	Sample	30	212CD031	8260S	AE01808-12
32	Sample	31	212CD032	8260S	AE01808-13
33	Sample	32	212CD033	8260S	AE01808-14
34	Sample	33	212CD034	8260S	AE01808-15
35	Sample	34	212CD035	8260S	AE01808-16
36	Sample	35	212CD036	8260S	AE01808-17

Compound List Report OVGCMS2

Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Wed Mar 10 11:37:03 2021
Response via : Initial Calibration
Total Cpnds : 96

PK#	Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1 I	Pentafluorobenzene(IS)	168	11.44	1.000	A	2	A	B
2	Dichlorodifluoromethane	85	5.88	0.514	A	3	A	B
3 **	Chloromethane	50	6.35	0.555	A	2	A	B
4 *	Vinyl Chloride	62	6.54	0.572	A	2	A	B
5	Bromomethane	96	7.18	0.627	QO	2	A	B
6	Chloroethane	64	7.41	0.648	A	2	A	R
7	Trichlorofluoromethane	101	7.68	0.671	A	2	A	B
8	Trichlorotrifluoroethane	101	8.51	0.743	A	1	A	B
9	acrolein	56	8.87	0.775	A	1	A	B
10	Acetone	43	9.22	0.806	LO	1	A	B
11 *m	1,1-Dichloroethene	96	8.46	0.740	A	2	A	B
12	3-Chloropropene	76	9.06	0.791	A	1	A	B
13	Acetonitrile	41	9.76	0.853	A	2	A	B
14	Iodomethane	142	8.69	0.759	LO	2	A	B
15	Carbon disulfide	76	8.58	0.750	A	1	A	B
16	Methylene Chloride	84	9.18	0.803	A	3	A	B
17	Methyl tert-butyl ether	73	9.50	0.830	A	2	A	B
18	Acrylonitrile	53	10.09	0.882	A	2	A	B
19	T-1,2-Dichloroethene	96	9.41	0.822	A	2	A	B
20	Isopropyl Ether	45	9.88	0.863	A	1	A	B
21	C-1,2-Dichloroethene	96	10.65	0.930	A	2	A	B
22 **	1,1-Dichloroethane	63	10.09	0.882	A	3	A	B
23	Vinyl Acetate	43	10.27	0.898	A	1	A	B
24	Chloroprene	88	10.07	0.880	A	2	A	B
25	2-Butanone	72	11.15	0.974	LO	2	A	B
26	Propionitrile	54	11.43	0.999	A	0	A	B
27	2,2-Dichloropropane	77	10.77	0.941	A	1	A	B
28	Methacrylonitrile	67	11.47	1.002	A	1	A	B
29 *	Chloroform	83	10.87	0.949	A	2	A	B
30 S	Dibromofluoromethane	113	11.05	0.965	A	0	A	B
31	Dibromofluoromethane	113	11.10	0.970	A	0	A	B
32	Bromochloromethane	128	10.84	0.948	A	2	A	B
33	1,1,1-Trichloroethane	97	11.16	0.975	A	2	A	B
34	1,1-Dichloropropene	75	11.26	0.984	A	2	A	B
35	Diethyl Ether	59	8.10	0.708	A	2	A	B
36	Methyl Acetate	74	9.36	0.818	A	2	A	B
37	Cyclohexane	56	10.93	0.955	A	2	A	B
38 I	1,4-Difluorobenzene(IS)	114	11.99	1.000	A	2	A	B
39	Methyl Cyclohexane	55	12.05	1.005	A	2	A	B
40	Carbon Tetrachloride	117	11.13	0.928	A	2	A	B
41	1,2-Dichloroethane	62	11.64	0.971	A	2	A	B
42 m	Benzene	78	11.50	0.959	LO	2	A	B
43	Isobutyl Alcohol	43	11.52	0.961	A	2	A	B
44 m	Trichloroethene	130	12.02	1.002	A	3	A	B
45 *	1,2-Dichloropropane	63	12.47	1.039	A	2	A	B
46	Methyl Methacrylate	100	12.55	1.046	A	1	A	B
47	1,4-Dioxane	88	12.68	1.057	A	1	A	B
48	Bromodichloromethane	83	12.48	1.041	A	2	A	B
49	Dibromomethane	93	12.39	1.033	A	2	A	B
50	4-Methyl-2-Pentanone	100	13.48	1.124	LO	3	A	B
51	2-Chloroethyl vinyl ether	63	12.90	1.075	LO	2	A	B
52	2-Hexanone	43	14.18	1.182	A	3	A	B
53	C-1,3-Dichloropropene	75	13.03	1.086	A	2	A	B
54 S	D8-Toluene	98	13.21	1.101	A	2	A	B
55	D8-Toluene	98	13.27	1.106	A	2	A	B
56 I	Chlorobenzene-d5(IS)	82	14.59	1.000	A	2	A	B
57 m*	Toluene	92	13.26	0.909	A	2	A	B
58	Ethyl Methacrylate	69	13.60	0.933	A	3	A	B
59	T-1,3-Dichloropropene	75	13.55	0.929	A	2	A	B
60	1,1,2-Trichloroethane	97	13.70	0.939	A	3	A	B
61	1,3-Dichloropropane	76	13.96	0.957	A	1	A	B
62	Tetrachloroethene	164	13.63	0.935	A	3	A	B
63	Dibromochloromethane	129	13.90	0.953	A	2	A	B
64	1,2-Dibromoethane	107	14.16	0.970	A	2	A	B
65 **m	Chlorobenzene	112	14.61	1.001	A	2	A	B

66		1,1,1,2-Tetrachloroethane	131	14.63	1.003	A	2	A	B
67	*	Ethylbenzene	106	14.56	0.999	A	1	A	B
68		m-xylene & p-xylene	106	14.68	1.006	A	1	A	B
69		O-Xylene	106	15.09	1.035	A	1	A	B
70	**	Bromoform	173	15.23	1.044	A	3	A	B
71		Styrene	104	15.14	1.038	A	2	A	B
72		Isopropylbenzene	105	15.36	1.053	A	1	A	B
73		1,2,3-Trichloropropane	75	15.99	1.096	A	1	A	B
74	**	1,1,2,2-Tetrachloroethane	83	15.80	1.083	A	3	A	B
75	S	Bromofluorobenzene	95	15.71	1.077	A	2	A	B
76		Bromofluorobenzene	95	15.71	1.077	A	2	A	B
77		T-1,4-dichloro-2-butene	53	15.98	1.096	A	2	A	B
78		N-Propylbenzene	91	15.77	1.081	A	1	A	B
79	I	1,4-Dichlorobenzene-d4(IS)	152	16.94	1.000	A	2	A	B
80		Bromobenzene	156	15.86	0.936	A	2	A	B
81		1,3,5-Trimethylbenzene	105	15.93	0.940	A	1	A	B
82		2-Chlorotoluene	91	16.01	0.945	A	1	A	B
83		4-Chlorotoluene	91	16.17	0.955	A	1	A	B
84		1,2,4-Trimethylbenzene	105	16.37	0.966	A	1	A	B
85		s-Butylbenzene	105	16.51	0.974	A	1	A	B
86		tert-Butylbenzene	119	16.31	0.962	A	2	A	B
87		p-Isopropyltoluene	119	16.62	0.981	A	2	A	B
88		1,3-Dichlorobenzene	146	16.87	0.996	A	2	A	B
89		1,4-Dichlorobenzene	146	16.97	1.002	A	2	A	B
90		1,2-Dichlorobenzene	146	17.54	1.035	A	2	A	B
91		N-Butylbenzene	91	17.14	1.012	A	2	A	B
92		DBCP	75	18.65	1.101	LO	2	A	B
93		Naphthalene	128	20.63	1.217	QO	0	A	B
94		1,2,4-Trichlorobenzene	180	19.92	1.176	A	2	A	B
95		Hexachlorobutadiene	225	19.78	1.168	A	2	A	B
96		1,2,3-Trichlorobenzene	180	21.07	1.244	A	2	A	B

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

030921.M Wed Mar 10 11:37:57 2021

Compound Name Duplication Report

Quant Method: C:\HPCHEM\1\METHODS\030921.M
Number of Compounds: 96

30 Dibromofluoromethane = 31 Dibromofluoromethane
54 D8-Toluene = 55 D8-Toluene
75 Bromofluorobenzene = 76 Bromofluorobenzene

3 Duplicate Names Detected!!!

Response Factor Report OVGCMS2

Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Wed Mar 10 11:37:03 2021
Response via : Initial Calibration

Calibration Files
1 =212CD002.D 5 =212CD004.D 20 =212CD006.D
50 =212CD007.D 100 =212CD009.D 10 =212CD005.D

		Compound	1	5	20	50	100	10	Avg	%RSD
1)	i	Pentafluorobenzene(IS	----------ISTD----------							
2)		Dichlorodifluoromet	0.963	0.913	1.144	1.135	1.257	0.935	1.073	12.71
3)	**	Chloromethane	1.218	1.021	1.141	1.094	1.222	0.977	1.125	7.91
4)	*	Vinyl Chloride	0.783	0.768	0.925	0.908	0.999	0.780	0.872	10.68
5)		Bromomethane	0.486	0.478	0.440	0.330		0.469	0.422	25.19
6)		Chloroethane	0.528	0.409	0.464	0.442	0.460	0.431	0.459	7.64
7)		Trichlorofluorometh	0.757	0.757	0.911	0.888	0.949	0.773	0.844	10.49
8)		Trichlorotrifluoroe	0.510	0.496	0.538	0.557	0.579	0.495	0.535	6.63
9)		acrolein	0.160	0.145	0.143	0.147	0.147	0.131	0.147	5.75
10)		Acetone	0.287	0.210	0.191	0.190	0.191	0.175	0.210	17.57
11)	*m	1,1-Dichloroethene	0.505	0.447	0.474	0.513	0.529	0.426	0.492	7.99
12)		3-Chloropropene	0.398	0.285	0.309	0.307	0.317	0.282	0.319	11.40
13)		Acetonitrile	0.063	0.073	0.080	0.089	0.095	0.074	0.081#	14.86
14)		Iodomethane	0.309	0.376	0.576	0.665	0.721	0.459	0.523	32.97
15)		Carbon disulfide	1.605	1.435	1.767	1.784	1.798	1.685	1.675	9.26
16)		Methylene Chloride	0.731	0.570	0.646	0.625	0.608	0.630	0.637	7.37
17)		Methyl tert-butyl e	1.692	1.519	1.606	1.652	1.665	1.451	1.629	6.09
18)		Acrylonitrile	0.355	0.355	0.340	0.343	0.342	0.325	0.344	2.94
19)		T-1,2-Dichloroethen	0.555	0.483	0.510	0.533	0.573	0.460	0.529	7.83
20)		Isopropyl Ether	2.997	2.591	2.646	2.746	2.743	2.451	2.742	6.57
21)		C-1,2-Dichloroethen	0.549	0.534	0.558	0.594	0.623	0.503	0.573	7.81
22)	**	1,1-Dichloroethane	1.281	1.086	1.078	1.088	1.096	0.990	1.120	8.06
23)		Vinyl Acetate	2.086	1.887	1.753	1.718	1.670	1.693	1.819	8.67
24)		Chloroprene	0.438	0.465	0.463	0.476	0.484	0.442	0.469	4.51
25)		2-Butanone	0.077	0.069	0.058	0.059	0.061	0.055	0.067#	18.60
26)		Propionitrile	0.099	0.091	0.088	0.091	0.094	0.079	0.092#	6.63
27)		2,2-Dichloropropane	0.930	0.770	0.826	0.863	0.918	0.766	0.855	7.69
28)		Methacrylonitrile	0.295	0.252	0.237	0.238	0.239	0.229	0.252	9.86
29)	*	Chloroform	1.055	0.976	1.014	1.018	1.075	0.919	1.034	6.51
30)	s	Dibromofluoromethan	0.549	0.554	0.554	0.553	0.577	0.550	0.559	1.88
31)		Dibromofluoromethan	0.549	0.554	0.554	0.553	0.577	0.550	0.559	1.88
32)		Bromochloromethane	0.381	0.315	0.325	0.340	0.354	0.304	0.343	7.76
33)		1,1,1-Trichloroetha	0.821	0.773	0.797	0.828	0.864	0.726	0.817	6.16
34)		1,1-Dichloropropene	0.792	0.719	0.789	0.817	0.853	0.711	0.800	7.52
35)		Diethyl Ether	0.625	0.535	0.553	0.578	0.602	0.503	0.580	7.95
36)		Methyl Acetate	0.127	0.105	0.099	0.102	0.105	0.098	0.110	12.50
37)		Cyclohexane	0.972	0.914	0.944	0.967	0.992	0.861	0.957	5.28
38)	i	1,4-Difluorobenzene(I	----------ISTD----------							
39)		Methyl Cyclohexane	0.419	0.455	0.400	0.416	0.416	0.371	0.411	6.10
40)		Carbon Tetrachlorid	0.469	0.446	0.448	0.471	0.480	0.429	0.464	4.34
41)		1,2-Dichloroethane	0.496	0.463	0.460	0.470	0.478	0.432	0.478	6.83
42)	m	Benzene	1.574	1.149	1.058	1.065	1.064	1.024	1.177	16.98
43)		Isobutyl Alcohol	0.031	0.029	0.028	0.028	0.027	0.026	0.029#	6.14
44)	m	Trichloroethene	0.316	0.305	0.309	0.327	0.342	0.290	0.321	5.93
45)	*	1,2-Dichloropropane	0.465	0.354	0.337	0.352	0.352	0.321	0.367	12.37
46)		Methyl Methacrylate	0.082	0.097	0.090	0.095	0.098	0.085	0.093#	7.38
47)		1,4-Dioxane	0.002	0.003	0.003	0.003	0.003	0.002	0.003#	10.92
48)		Bromodichloromethan	0.458	0.403	0.419	0.428	0.440	0.387	0.428	5.57
49)		Dibromomethane	0.225	0.196	0.212	0.217	0.230	0.191	0.216	6.93
50)		4-Methyl-2-Pentanon	0.061	0.045	0.041	0.044	0.044	0.042	0.047#	15.53
51)		2-Chloroethyl vinyl	0.071	0.062	0.073	0.087	0.097	0.062	0.077#	18.49
52)		2-Hexanone	0.272	0.266	0.253	0.263	0.261	0.251	0.268	7.34
53)		C-1,3-Dichloroprope	0.605	0.543	0.571	0.601	0.606	0.524	0.586	6.15
54)	s	D8-Toluene	0.935	0.942	0.934	0.939	0.946	0.955	0.942	0.75
55)		D8-Toluene	0.935	0.942	0.934	0.939	0.946	0.955	0.942	0.75
56)	i	Chlorobenzene-d5(IS)	----------ISTD----------							

(#) = Out of Range ### Number of calibration levels exceeded format ###

Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Wed Mar 10 11:37:03 2021
Response via : Initial Calibration

Calibration Files
1 =212CD002.D 5 =212CD004.D 20 =212CD006.D
50 =212CD007.D 100 =212CD009.D 10 =212CD005.D

		Compound	1	5	20	50	100	10	Avg	%RSD
57)	m*	Toluene	1.403	1.337	1.334	1.418	1.433	1.220	1.383	5.91
58)		Ethyl Methacrylate	1.090	1.034	0.940	0.948	0.937	0.883	0.976	6.72
59)		T-1,3-Dichloroprope	0.973	0.954	0.993	1.018	1.027	0.892	0.995	5.52
60)		1,1,2-Trichloroetha	0.563	0.504	0.523	0.547	0.541	0.492	0.538	5.89
61)		1,3-Dichloropropane	1.226	1.080	1.109	1.133	1.137	1.006	1.141	7.28
62)		Tetrachloroethene	0.399	0.397	0.421	0.428	0.441	0.394	0.420	4.92
63)		Dibromochloromethan	0.680	0.722	0.730	0.775	0.793	0.637	0.741	7.98
64)		1,2-Dibromoethane	0.661	0.616	0.650	0.678	0.694	0.582	0.661	6.57
65)	**m	Chlorobenzene	1.637	1.466	1.511	1.545	1.569	1.384	1.550	6.30
66)		1,1,1,2-Tetrachloro	0.665	0.562	0.599	0.628	0.640	0.568	0.619	6.17
67)	*	Ethylbenzene	0.780	0.756	0.780	0.810	0.837	0.707	0.794	5.97
68)		m-xylene & p-xylene	0.985	0.941	0.940	0.981	1.004	0.877	0.971	5.01
69)		O-Xylene	0.862	0.909	0.950	0.996	1.034	0.864	0.956	7.46
70)	**	Bromoform	0.367	0.360	0.385	0.402	0.418	0.345	0.385	7.37
71)		Styrene	1.655	1.520	1.618	1.683	1.742	1.434	1.637	6.74
72)		Isopropylbenzene	2.362	2.266	2.352	2.476	2.541	2.135	2.395	6.11
73)		1,2,3-Trichloroprop	0.944	0.818	0.809	0.848	0.870	0.755	0.858	7.39
74)	**	1,1,2,2-Tetrachloro	0.737	0.640	0.666	0.703	0.703	0.617	0.692	6.78
75)	s	Bromofluorobenzene	0.853	0.849	0.857	0.886	0.872	0.865	0.863	1.34
76)		Bromofluorobenzene	0.853	0.849	0.857	0.886	0.872	0.865	0.863	1.34
77)		T-1,4-dichloro-2-bu	0.259	0.228	0.192	0.206	0.221	0.196	0.224	12.39
78)		N-Propylbenzene	2.800	2.556	2.623	2.801	2.906	2.371	2.719	6.98
79)	i	1,4-Dichlorobenzene-d	----------	ISTD	----------					
80)		Bromobenzene	0.788	0.761	0.785	0.821	0.828	0.747	0.806	5.37
81)		1,3,5-Trimethylbenz	2.515	2.341	2.460	2.526	2.557	2.281	2.482	4.61
82)		2-Chlorotoluene	2.403	2.261	2.181	2.238	2.255	2.056	2.269	5.55
83)		4-Chlorotoluene	2.473	2.270	2.246	2.362	2.415	2.092	2.350	5.88
84)		1,2,4-Trimethylbenz	2.525	2.392	2.483	2.551	2.593	2.293	2.509	4.62
85)		s-Butylbenzene	2.907	2.749	2.892	3.010	3.097	2.638	2.939	6.03
86)		tert-Butylbenzene	2.191	2.112	2.154	2.268	2.339	1.989	2.203	5.45
87)		p-Isopropyltoluene	2.697	2.469	2.550	2.679	2.764	2.349	2.617	5.77
88)		1,3-Dichlorobenzene	1.413	1.271	1.356	1.436	1.502	1.262	1.398	6.81
89)		1,4-Dichlorobenzene	1.568	1.406	1.371	1.446	1.514	1.289	1.454	6.46
90)		1,2-Dichlorobenzene	1.303	1.212	1.299	1.387	1.455	1.177	1.333	7.78
91)		N-Butylbenzene	2.167	2.080	2.162	2.311	2.414	1.993	2.210	7.61
92)		DBCP	0.212	0.154	0.145	0.153	0.167	0.137	0.168	16.48
93)		Naphthalene	1.148	1.132	1.263	1.482	1.762	1.113	1.338	19.92
94)		1,2,4-Trichlorobenz	0.676	0.626	0.683	0.726	0.804	0.605	0.693	10.51
95)		Hexachlorobutadiene	0.281	0.274	0.293	0.327	0.363	0.279	0.306	13.09
96)		1,2,3-Trichlorobenz	0.463	0.516	0.533	0.576	0.643	0.487	0.545	11.74

(#) = Out of Range ### Number of calibration levels exceeded format ###

Manual Integration Review Form

ENVIRONMENTAL CONSERVATION LABORATORIES, INC. ☐ Cary ☐ Jacksonville ☑ Orlando

I hereby attest that the manual integrations contained in this package have been thoroughly reviewed and are in agreement with the associated hardcopy data.

The electronic files listed below have been reviewed for accuracy, completeness and comply with ENCO labs QA-11 Manual Integration Policy including:

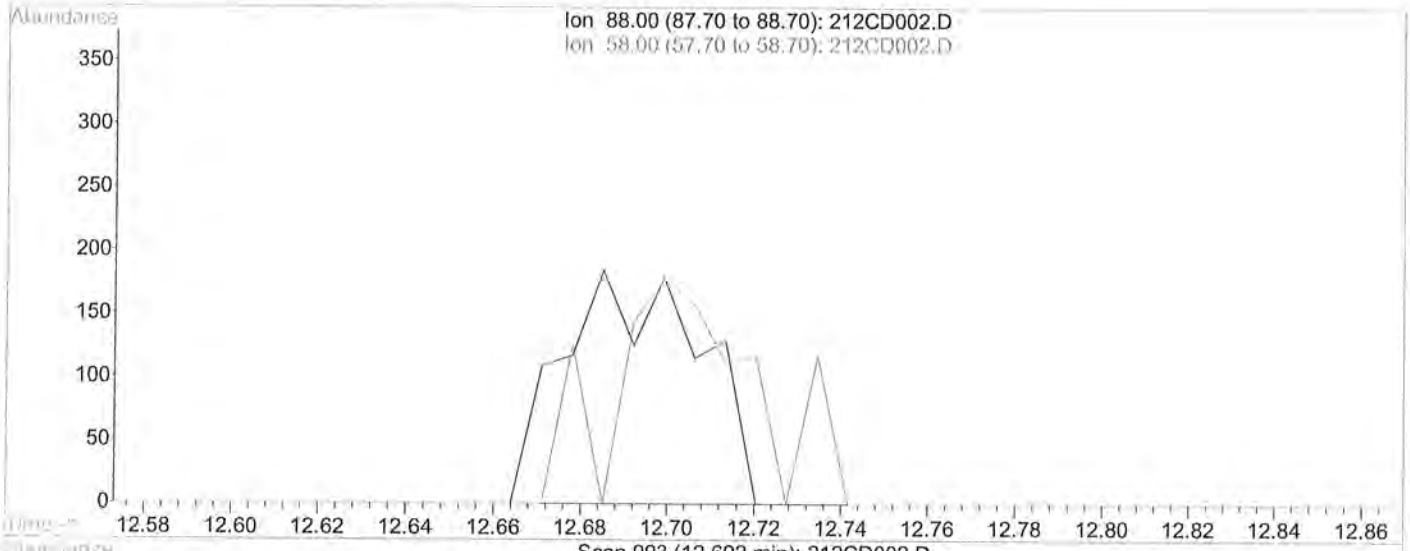
- "Before" and "After" chromatograms are provided
- Manual integrations are indicated on expanded scale "after" chromatograms at a scale large enough to see the manual integration performed.
- Reintegration technique marked if available on the data system
- Technical justification for manual integration
- Appropriate flags indicating which analytes were manually integrated are included in the raw data
- Analyst's initials and date.

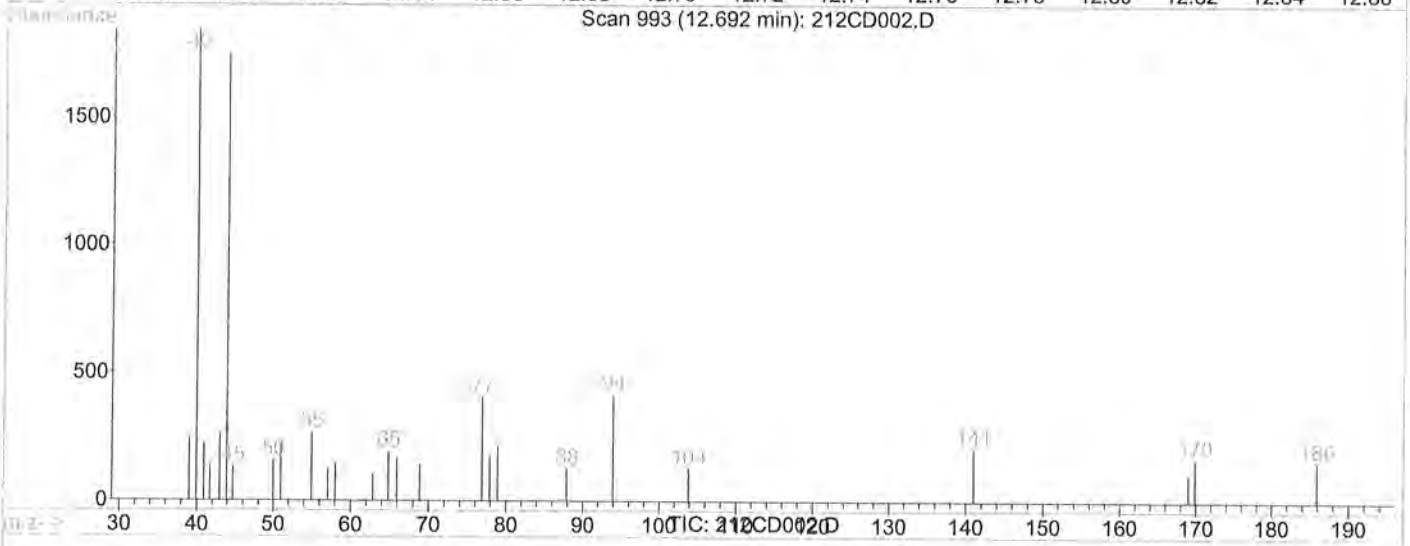
Instrument ID:	ONGCMS2
Sequence/Batch ID:	AA6S289
Data File Prefix:	212CD
Date and Time Range of MIs:	3/9/21 10:03 -10:04 3/10/21 11:48-11:49
Reviewer Print Name:	Kara Watson
Reviewer Signature:	KW 05/6/21
Date of Review:	KW 05/6/21 05/6/21 05/10/21

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\030921\212CD002.D Vial: 2
Acq On : 9 Mar 2021 8:30 am Operator: KG
Sample : AA65289-CAL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 8:53 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Feb 23 09:01:32 2021
Response via : Multiple Level Calibration





(47) 1,4-Dioxane

12.70min 0.00ug/kg

response 0

Ion	Exp%	Act%
88.00	100	0.00
58.00	83.90	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

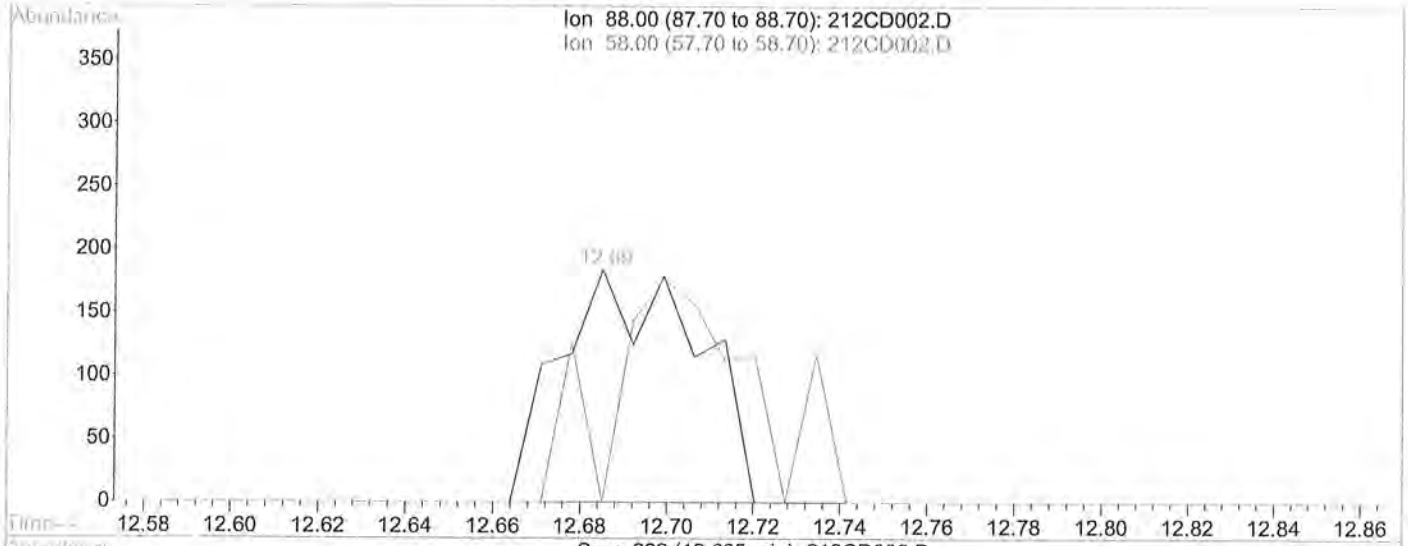
[ ] Other:

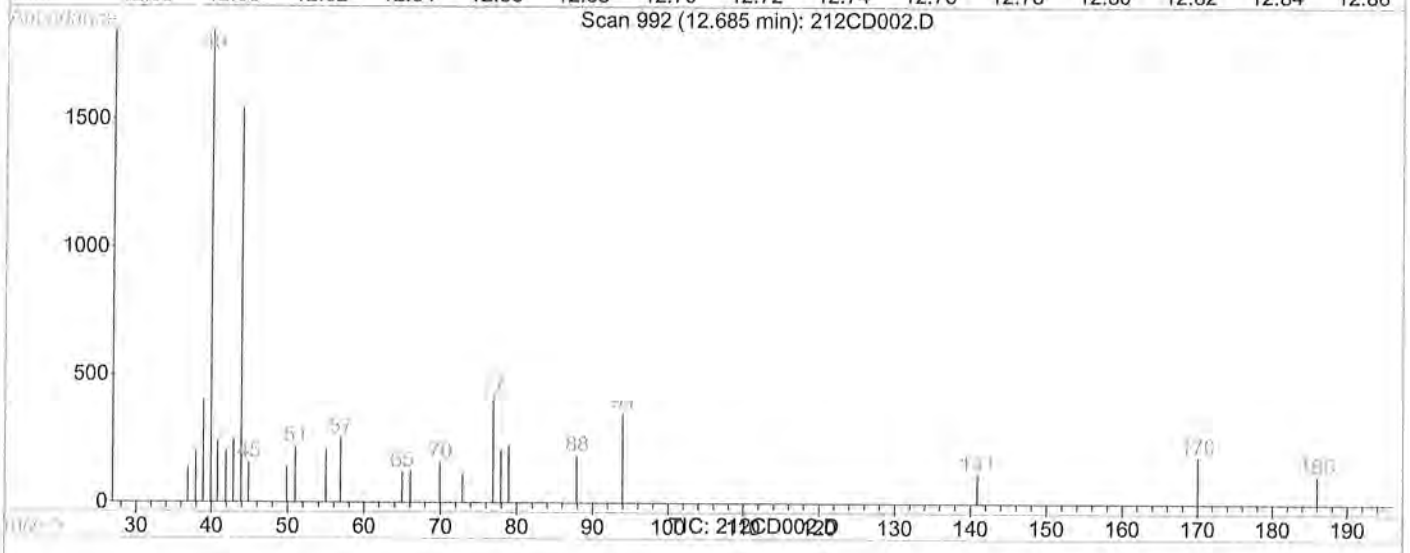
Review by/Date KS 3/10/21

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\030921\212CD002.D Vial: 2
Acq On : 9 Mar 2021 8:30 am Operator: KG
Sample : AA65289-CAL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 10:03 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Feb 23 09:01:32 2021
Response via : Multiple Level Calibration





(47) 1,4-Dioxane

12.69min 39.14ug/kg m

response 406

Ion	Exp%	Act%
88.00	100	100
58.00	83.90	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

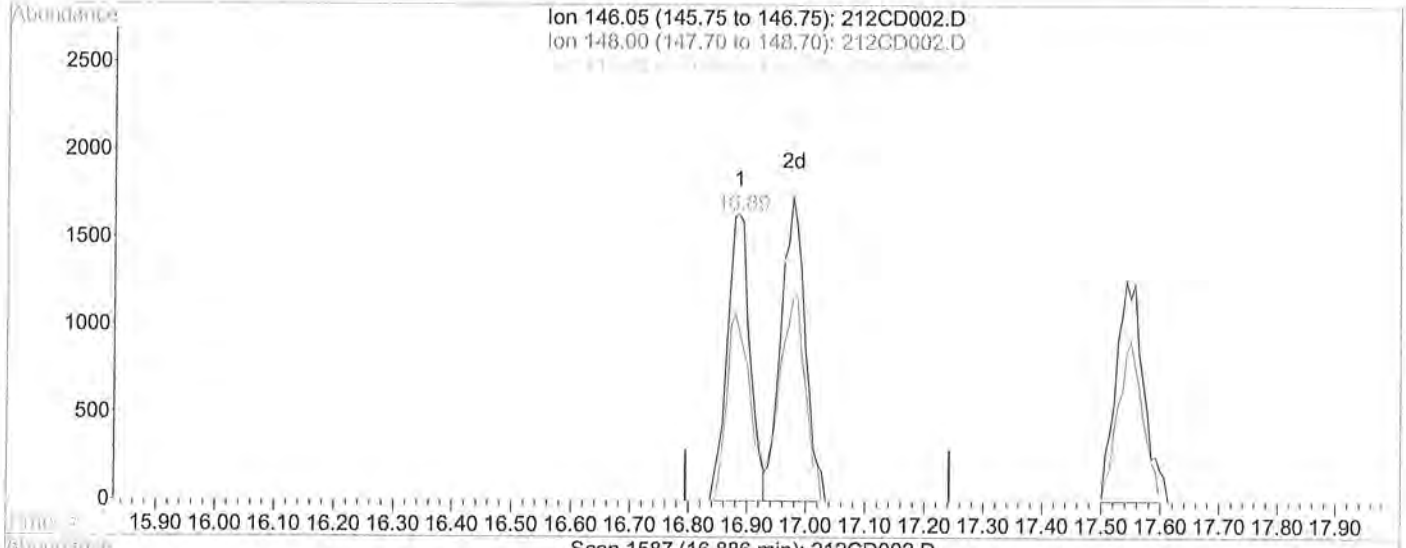
Review by/Date MT 3/10/21

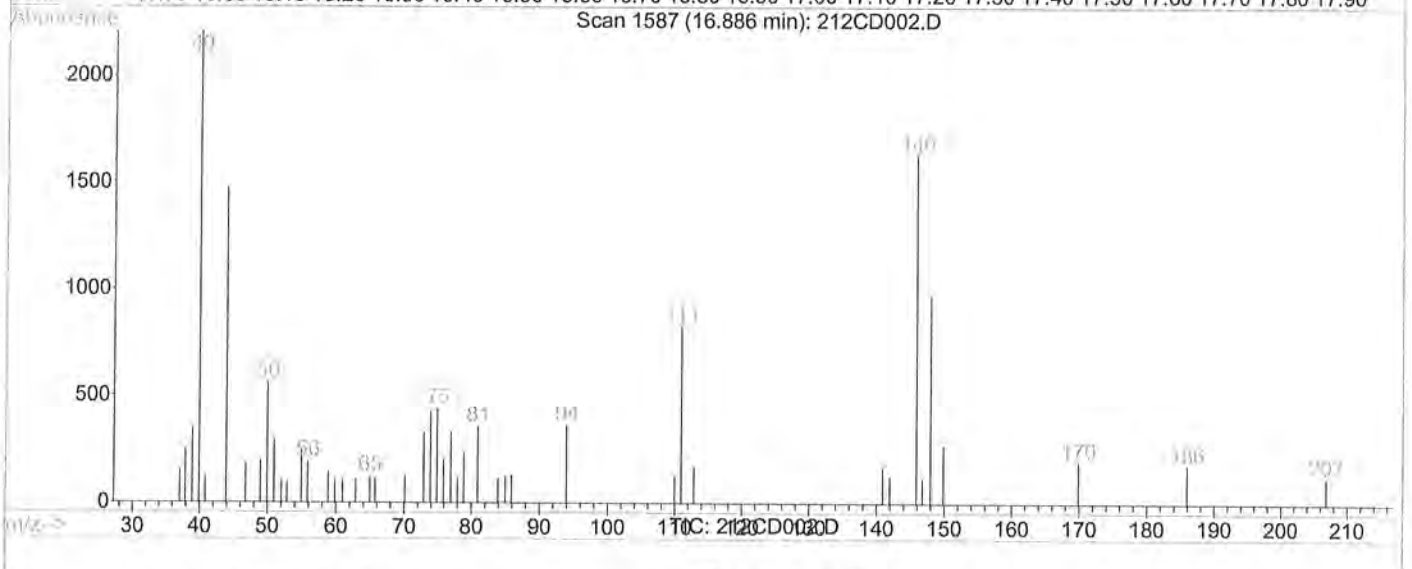
Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\030921\212CD002.D Vial: 2
Acq On : 9 Mar 2021 8:30 am Operator: KG
Sample : AA65289-CAL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 10:03 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Feb 23 09:01:32 2021
Response via : Multiple Level Calibration





(89) 1,4-Dichlorobenzene

16.89min 0.95ug/kg

response 4464

Ion	Exp%	Act%
146.05	100	100
148.00	63.90	67.34
111.00	40.00	48.30
0.00	0.00	0.00

Select One:

[✓] Original Integration [ ] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

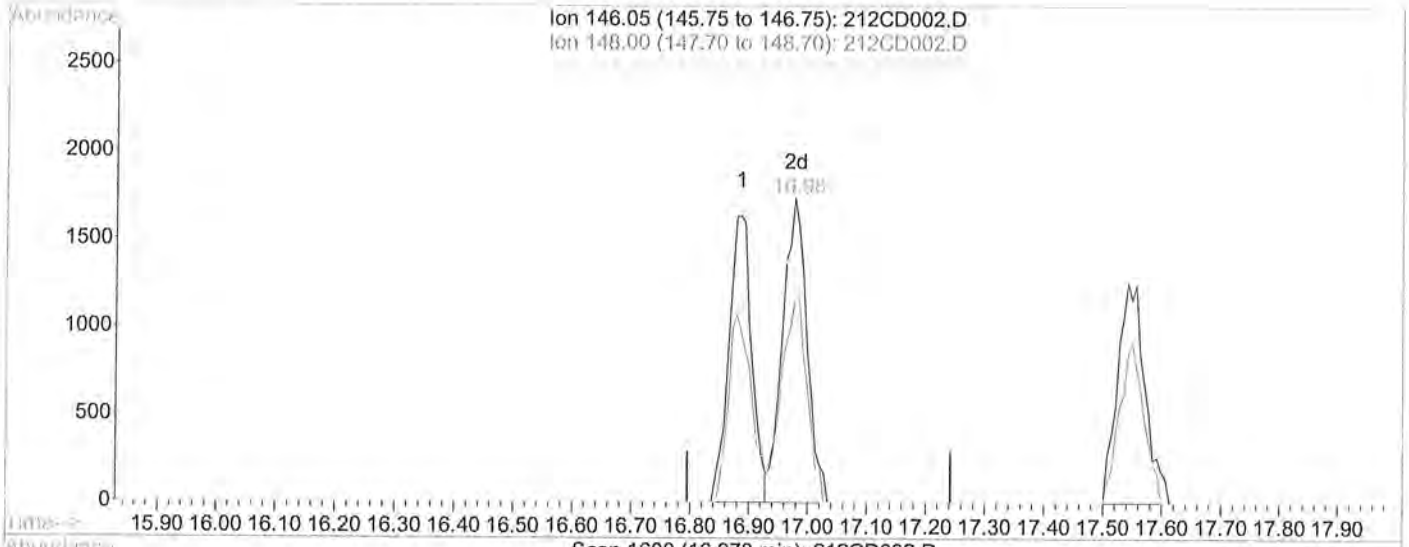
Reviewed by/Date KH 3/10/21

Approved by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\030921\212CD002.D Vial: 2
Acq On : 9 Mar 2021 8:30 am Operator: KG
Sample : AA65289-CAL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 10:04 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Feb 23 09:01:32 2021
Response via : Multiple Level Calibration



(89) 1,4-Dichlorobenzene

16.98min 1.05ug/kg m

response 4953

Ion	Exp%	Act%
146.05	100	100
148.00	63.90	60.69
111.00	40.00	43.53
0.00	0.00	0.00

Select One:

[ ] Original Integration [✓] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

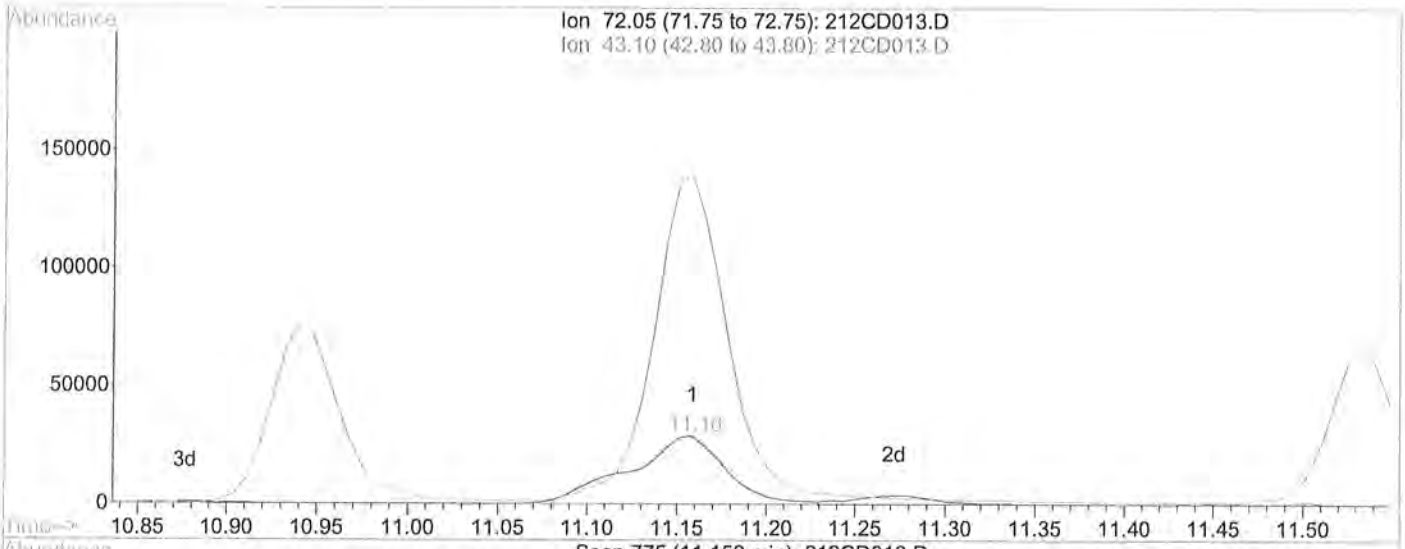
Review by/Date KH 3/10/21

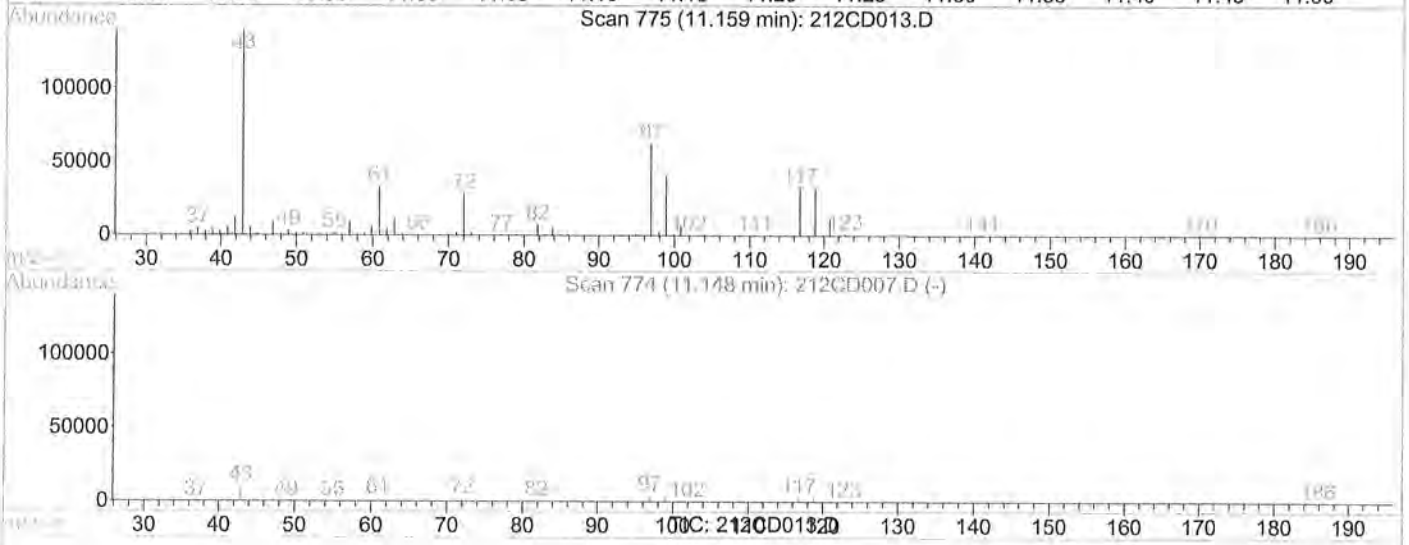
Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\030921\212CD013.D Vial: 13
Acq On : 9 Mar 2021 2:04 pm Operator: KG
Sample : AA65289-SCV1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 10 11:40 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Wed Mar 10 11:37:03 2021
Response via : Multiple Level Calibration





(25) 2-Butanone

11.16min 362.68ug/kg

response 106558

Ion	Exp%	Act%
72.05	100	100
43.10	535.50	380.24
57.00	36.00	24.20#
0.00	0.00	0.00

Select One:

[✓] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

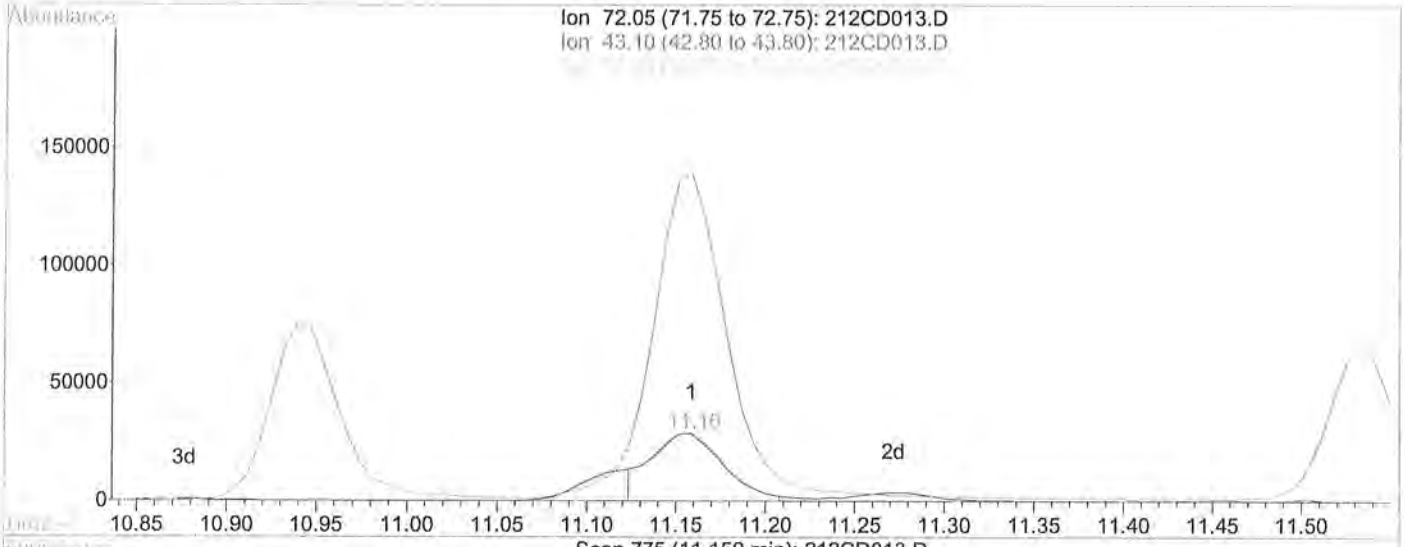
Review by/Date KH 3/10/21

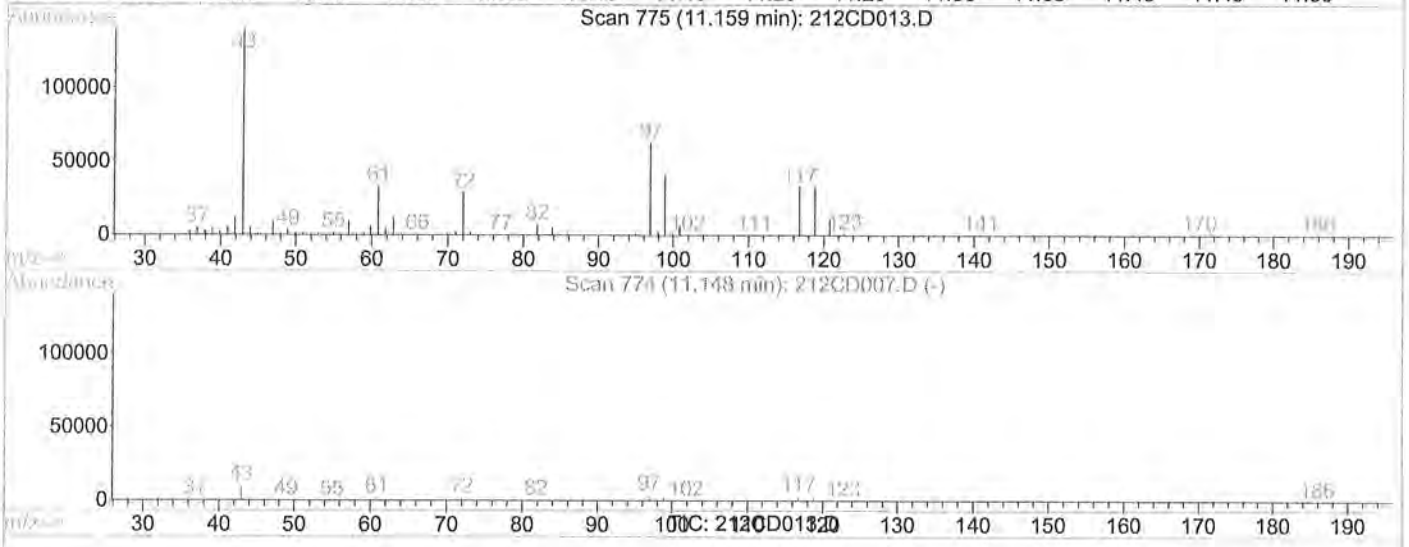
Review by/Date:

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\030921\212CD013.D Vial: 13
Acq On : 9 Mar 2021 2:04 pm Operator: KG
Sample : AA65289-SCV1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 10 11:48 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Wed Mar 10 11:37:03 2021
Response via : Multiple Level Calibration





(25) 2-Butanone

11.16min 271.47ug/kg m

response 79759

Ion	Exp%	Act%
72.05	100	100
43.10	535.50	508.01
57.00	36.00	32.33
0.00	0.00	0.00

Select One:

[ ] Original Integration [✓] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date KH 3/10/21

Review by/Date:

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\030921\212CD001.D Vial: 1
Acq On : 9 Mar 2021 7:55 am Operator: KG
Sample : AA65289-TUN1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 8:17 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Feb 23 09:01:32 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.45	168	226215	50.00	ug/kg	-0.02
38) 1,4-Difluorobenzene(IS)	12.00	114	425525	50.00	ug/kg	-0.02
56) Chlorobenzene-d5(IS)	14.60	82	225186	50.00	ug/kg	-0.01
79) 1,4-Dichlorobenzene-d4(IS)	16.96	152	168003	50.00	ug/kg	-0.01
System Monitoring Compounds						
30) Dibromofluoromethane	11.05	113	139067	59.52	ug/kg	-0.02
Spiked Amount 50.000	Range 53 - 146		Recovery = 119.04%			
54) D8-Toluene	13.22	98	422902	56.30	ug/kg	-0.01
Spiked Amount 50.000	Range 41 - 146		Recovery = 112.60%			
75) Bromofluorobenzene	15.71	95	187125	57.47	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 114.94%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.		
3) Chloromethane	6.36	50	1900	0.42	ug/kg#	50
4) Vinyl Chloride	0.00	62	0	N.D.		
5) Bromomethane	0.00	96	0	N.D.		
6) Chloroethane	7.39	64	735	0.36	ug/kg#	45
7) Trichlorofluoromethane	0.00	101	0	N.D.		
8) Trichlorotrifluoroethane	0.00	101	0	N.D.		
9) acrolein	0.00	56	0	N.D.		
10) Acetone	9.24	43	2534	5.07	ug/kg#	46
11) 1,1-Dichloroethene	0.00	96	0	N.D.		
12) 3-Chloropropene	0.00	76	0	N.D.		
13) Acetonitrile	9.64	41	610	2.74	ug/kg#	1
14) Iodomethane	0.00	142	0	N.D.		
15) Carbon disulfide	8.60	76	9521	1.05	ug/kg#	75
16) Methylene Chloride	9.19	84	4950	1.83	ug/kg	98
17) Methyl tert-butyl ether	0.00	73	0	N.D.		
18) Acrylonitrile	0.00	53	0	N.D.		
19) T-1,2-Dichloroethene	0.00	96	0	N.D.		
20) Isopropyl Ether	9.76	45	620	0.05	ug/kg#	60
21) C-1,2-Dichloroethene	0.00	96	0	N.D.		
22) 1,1-Dichloroethane	0.00	63	0	N.D.		
23) Vinyl Acetate	0.00	43	0	N.D.		
24) Chloroprene	0.00	88	0	N.D.		
25) 2-Butanone	11.12	72	1398	7.96	ug/kg#	1
26) Propionitrile	0.00	54	0	N.D.		
27) 2,2-Dichloropropane	0.00	77	0	N.D.		
28) Methacrylonitrile	11.45	67	757	0.93	ug/kg#	22
29) Chloroform	0.00	83	0	N.D.		
31) Dibromofluoromethane	11.05	113	139067	59.52	ug/kg	100
32) Bromochloromethane	0.00	128	0	N.D.		
33) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
34) 1,1-Dichloropropene	0.00	75	0	N.D.		
35) Diethyl Ether	0.00	59	0	N.D.		
36) Methyl Acetate	0.00	74	0	N.D.		
37) Cyclohexane	0.00	56	0	N.D.		
39) Methyl Cyclohexane	12.00	55	1949	0.56	ug/kg#	1
40) Carbon Tetrachloride	0.00	117	0	N.D.		
41) 1,2-Dichloroethane	0.00	62	0	N.D.		
42) Benzene	11.51	78	4954	0.48	ug/kg#	61
43) Isobutyl Alcohol	11.45	43	663	3.51	ug/kg#	1
44) Trichloroethene	0.00	130	0	N.D.		
45) 1,2-Dichloropropane	12.27	63	824	0.26	ug/kg#	40
46) Methyl Methacrylate	0.00	100	0	N.D.		
47) 1,4-Dioxane	0.00	88	0	N.D.		
48) Bromodichloromethane	0.00	83	0	N.D.		
49) Dibromomethane	0.00	93	0	N.D.		
50) 4-Methyl-2-Pentanone	13.41	100	1243	5.08	ug/kg#	1
51) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
52) 2-Hexanone	14.02	43	634	0.47	ug/kg#	40

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\030921\212CD001.D Vial: 1
Acq On : 9 Mar 2021 7:55 am Operator: KG
Sample : AA65289-TUN1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 8:17 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Feb 23 09:01:32 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

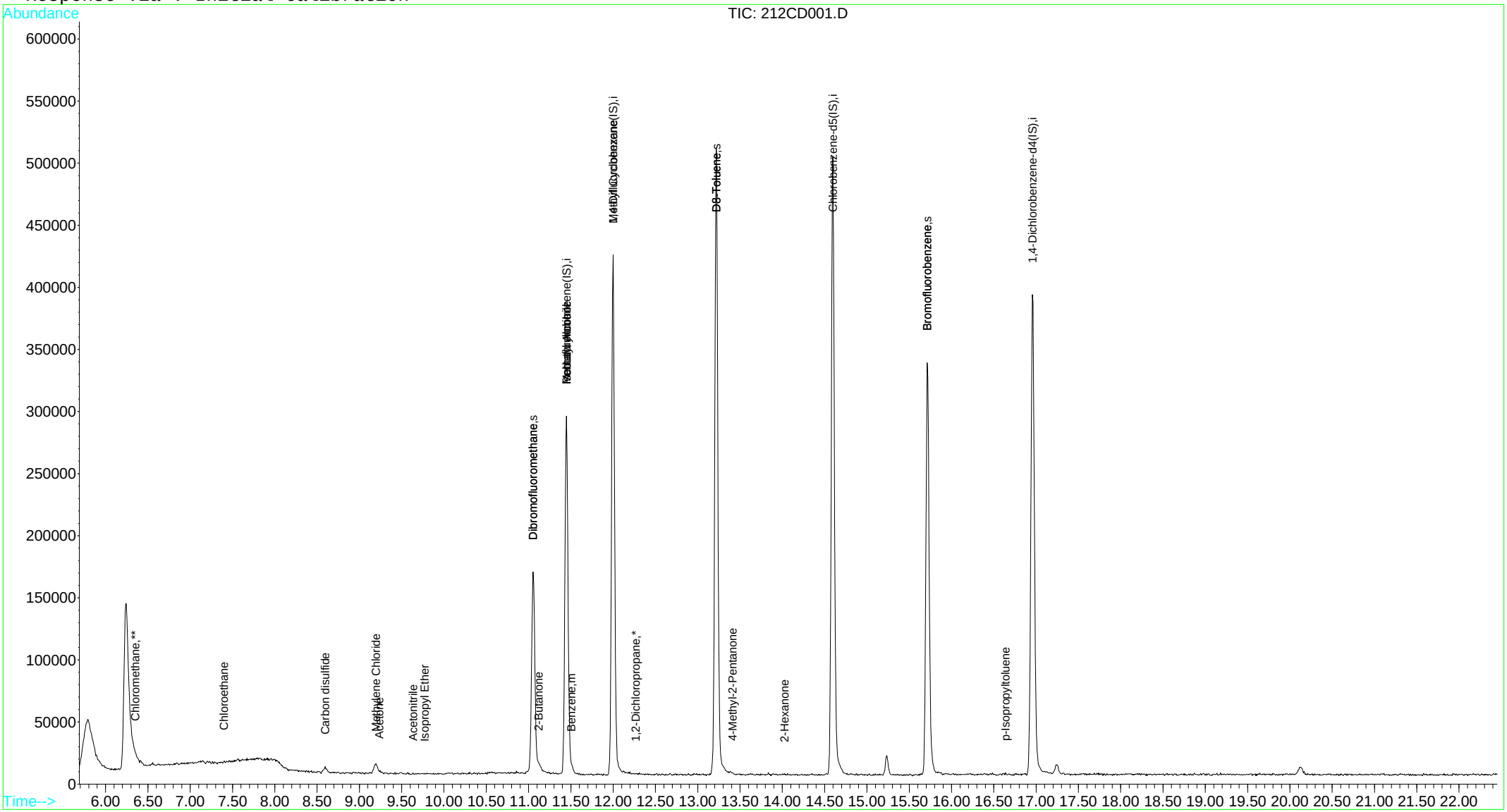
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	0.00	75	0	N.D.	
55) D8-Toluene	13.22	98	422902	56.30 ug/kg	93
57) Toluene	0.00	92	0	N.D.	
58) Ethyl Methacrylate	0.00	69	0	N.D.	
59) T-1,3-Dichloropropene	0.00	75	0	N.D.	
60) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
61) 1,3-Dichloropropane	0.00	76	0	N.D.	
62) Tetrachloroethene	0.00	164	0	N.D.	
63) Dibromochloromethane	0.00	129	0	N.D.	
64) 1,2-Dibromoethane	0.00	107	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
67) Ethylbenzene	0.00	106	0	N.D.	
68) m-xylene & p-xylene	0.00	106	0	N.D.	
69) O-Xylene	0.00	106	0	N.D.	
70) Bromoform	0.00	173	0	N.D.	
71) Styrene	0.00	104	0	N.D.	
72) Isopropylbenzene	0.00	105	0	N.D.	
73) 1,2,3-Trichloropropane	0.00	75	0	N.D.	
74) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
76) Bromofluorobenzene	15.71	95	187125	57.47 ug/kg#	78
77) T-1,4-dichloro-2-butene	0.00	53	0	N.D.	
78) N-Propylbenzene	0.00	91	0	N.D.	
80) Bromobenzene	0.00	156	0	N.D.	
81) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
82) 2-Chlorotoluene	0.00	91	0	N.D.	
83) 4-Chlorotoluene	0.00	91	0	N.D.	
84) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.	
85) s-Butylbenzene	0.00	105	0	N.D.	
86) tert-Butylbenzene	0.00	119	0	N.D.	
87) p-Isopropyltoluene	16.64	119	665	0.07 ug/kg#	51
88) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
89) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) N-Butylbenzene	0.00	91	0	N.D.	
92) DBCP	0.00	75	0	N.D.	
93) Naphthalene	0.00	128	0	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Hexachlorobutadiene	0.00	225	0	N.D.	
96) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\030921\212CD001.D Vial: 1
Acq On : 9 Mar 2021 7:55 am Operator: KG
Sample : AA65289-TUN1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 8:17 2021 Quant Results File: 020421.RES

Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\030921\212CD002.D Vial: 2
Acq On : 9 Mar 2021 8:30 am Operator: KG
Sample : AA65289-CAL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 10:04 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Feb 23 09:01:32 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.44	168	258684	50.00	ug/kg	-0.02
38) 1,4-Difluorobenzene(IS)	12.00	114	456563	50.00	ug/kg	-0.02
56) Chlorobenzene-d5(IS)	14.59	82	220295	50.00	ug/kg	-0.02
79) 1,4-Dichlorobenzene-d4(IS)	16.96	152	157950	50.00	ug/kg	-0.02
System Monitoring Compounds						
30) Dibromofluoromethane	11.05	113	141980	53.14	ug/kg	-0.02
Spiked Amount 50.000	Range 53 - 146		Recovery = 106.28%			
54) D8-Toluene	13.21	98	426708	52.95	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 105.90%			
75) Bromofluorobenzene	15.71	95	188020	59.02	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 118.04%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.88	85	4982	0.93	ug/kg#	90
3) Chloromethane	6.35	50	6304	1.21	ug/kg	76
4) Vinyl Chloride	6.55	62	4052	0.86	ug/kg#	1
5) Bromomethane	7.21	96	2512	1.49	ug/kg	82
6) Chloroethane	7.43	64	2734	1.19	ug/kg	93
7) Trichlorofluoromethane	7.69	101	3917	0.83	ug/kg	88
8) Trichlorotrifluoroethane	8.51	101	2636	0.97	ug/kg	95
9) acrolein	8.89	56	8281	19.26	ug/kg	98
10) Acetone	9.23	43	7413	12.97	ug/kg	81
11) 1,1-Dichloroethene	8.48	96	2614	0.96	ug/kg	98
12) 3-Chloropropene	9.08	76	2061	1.08	ug/kg	91
13) Acetonitrile	9.89	41	3248	12.74	ug/kg	54
14) Iodomethane	8.70	142	7988	2.64	ug/kg	95
15) Carbon disulfide	8.59	76	41507	4.00	ug/kg	99
16) Methylene Chloride	9.19	84	3784	1.22	ug/kg	93
17) Methyl tert-butyl ether	9.52	73	8755	1.29	ug/kg	83
18) Acrylonitrile	10.12	53	18345	13.25	ug/kg#	71
19) T-1,2-Dichloroethene	9.43	96	2871	0.94	ug/kg	96
20) Isopropyl Ether	9.89	45	15506	1.12	ug/kg	95
21) C-1,2-Dichloroethene	10.65	96	2841	0.86	ug/kg	93
22) 1,1-Dichloroethane	10.10	63	6626	1.12	ug/kg#	86
23) Vinyl Acetate	10.29	43	53961	7.24	ug/kg	97
24) Chloroprene	10.09	88	2266	0.81	ug/kg	1
25) 2-Butanone	11.16	72	1982	9.87	ug/kg	90
26) Propionitrile	11.44	54	5113	18.28	ug/kg	100
27) 2,2-Dichloropropane	10.78	77	4810	1.01	ug/kg	58
28) Methacrylonitrile	11.48	67	15254	16.42	ug/kg	96
29) Chloroform	10.87	83	5460	0.97	ug/kg	90
31) Dibromofluoromethane	11.05	113	141980	53.14	ug/kg	100
32) Bromochloromethane	10.86	128	1973	1.25	ug/kg	83
33) 1,1,1-Trichloroethane	11.17	97	4246	1.01	ug/kg	96
34) 1,1-Dichloropropene	11.27	75	4098	0.94	ug/kg	70
35) Diethyl Ether	8.11	59	3233	1.26	ug/kg	97
36) Methyl Acetate	9.37	74	655	1.81	ug/kg#	69
37) Cyclohexane	10.94	56	5028	1.01	ug/kg	95
39) Methyl Cyclohexane	12.06	55	3823	1.03	ug/kg	86
40) Carbon Tetrachloride	11.12	117	4286	1.04	ug/kg	96
41) 1,2-Dichloroethane	11.65	62	4526	1.17	ug/kg#	82
42) Benzene	11.51	78	14374	1.29	ug/kg	82
43) Isobutyl Alcohol	11.53	43	5603	27.67	ug/kg#	67
44) Trichloroethene	12.02	130	2884	0.96	ug/kg#	1
45) 1,2-Dichloropropane	12.47	63	4250	1.24	ug/kg	94
46) Methyl Methacrylate	12.55	100	751	1.26	ug/kg	59
47) 1,4-Dioxane	12.69	88	406m	39.14	ug/kg	
48) Bromodichloromethane	12.49	83	4185	1.01	ug/kg#	90
49) Dibromomethane	12.40	93	2058	1.18	ug/kg	92
50) 4-Methyl-2-Pentanone	13.50	100	2796	10.65	ug/kg	66
51) 2-Chloroethyl vinyl ether	12.91	63	3248	31.06	ug/kg#	100
52) 2-Hexanone	14.21	43	12397	8.50	ug/kg	96

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\030921\212CD002.D Vial: 2
Acq On : 9 Mar 2021 8:30 am Operator: KG
Sample : AA65289-CAL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 10:04 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Feb 23 09:01:32 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

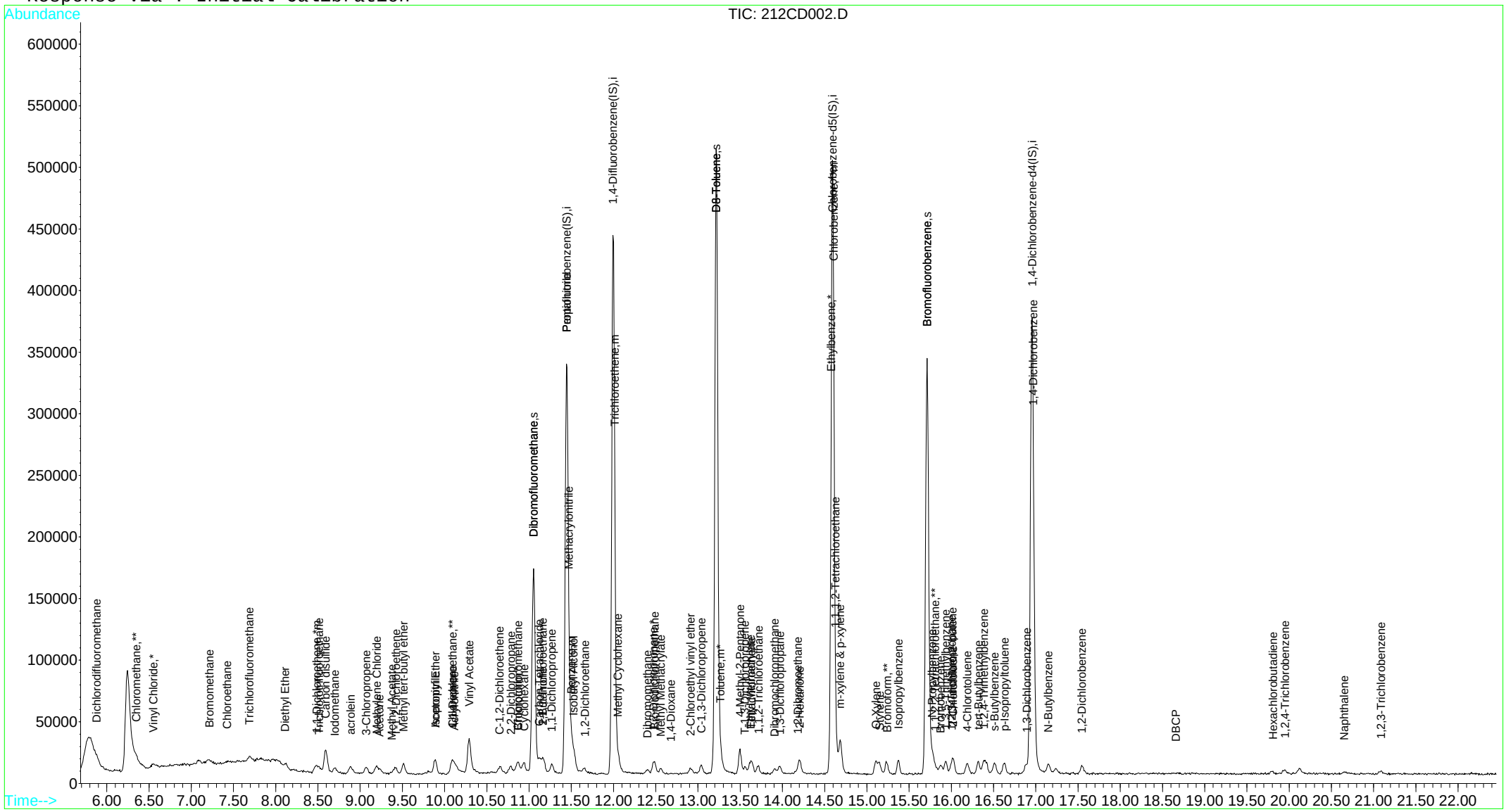
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.04	75	5522	1.00	ug/kg	96
55) D8-Toluene	13.21	98	426708	52.95	ug/kg	93
57) Toluene	13.27	92	6181	0.97	ug/kg	97
58) Ethyl Methacrylate	13.62	69	4803	1.55	ug/kg#	79
59) T-1,3-Dichloropropene	13.56	75	4285	1.04	ug/kg	92
60) 1,1,2-Trichloroethane	13.71	97	2481	1.20	ug/kg	98
61) 1,3-Dichloropropane	13.96	76	5400	1.27	ug/kg	97
62) Tetrachloroethene	13.64	164	1759	0.92	ug/kg#	77
63) Dibromochloromethane	13.91	129	2995	1.05	ug/kg#	85
64) 1,2-Dibromoethane	14.17	107	2911	1.35	ug/kg#	99
65) Chlorobenzene	14.61	112	7212	1.04	ug/kg#	51
66) 1,1,1,2-Tetrachloroethane	14.63	131	2929	1.09	ug/kg#	1
67) Ethylbenzene	14.57	106	3437	0.96	ug/kg	91
68) m-xylene & p-xylene	14.68	106	8684	2.04	ug/kg	97
69) O-Xylene	15.10	106	3800	0.87	ug/kg	88
70) Bromoform	15.25	173	1615	1.19	ug/kg#	97
71) Styrene	15.14	104	7293	1.01	ug/kg	91
72) Isopropylbenzene	15.37	105	10406	0.97	ug/kg	99
73) 1,2,3-Trichloropropane	16.00	75	4161	1.64	ug/kg	100
74) 1,1,2,2-Tetrachloroethane	15.81	83	3249	1.53	ug/kg#	93
76) Bromofluorobenzene	15.71	95	188020	59.02	ug/kg#	77
77) T-1,4-dichloro-2-butene	16.00	53	1141	2.00	ug/kg#	66
78) N-Propylbenzene	15.78	91	12338	1.01	ug/kg	100
80) Bromobenzene	15.88	156	2489	0.93	ug/kg	90
81) 1,3,5-Trimethylbenzene	15.94	105	7944	0.96	ug/kg	99
82) 2-Chlorotoluene	16.02	91	7592	1.01	ug/kg	98
83) 4-Chlorotoluene	16.18	91	7812	0.99	ug/kg	99
84) 1,2,4-Trimethylbenzene	16.38	105	7977	0.95	ug/kg	100
85) s-Butylbenzene	16.51	105	9183	0.91	ug/kg	98
86) tert-Butylbenzene	16.32	119	6921	0.96	ug/kg	92
87) p-Isopropyltoluene	16.63	119	8520	0.97	ug/kg	99
88) 1,3-Dichlorobenzene	16.89	146	4464	0.95	ug/kg	92
89) 1,4-Dichlorobenzene	16.98	146	4953m	1.05	ug/kg	
90) 1,2-Dichlorobenzene	17.54	146	4117	1.02	ug/kg	98
91) N-Butylbenzene	17.15	91	6844	0.91	ug/kg	93
92) DBCP	18.66	75	671	2.47	ug/kg#	1
93) Naphthalene	20.66	128	3626	2.05	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.95	180	2134	1.23	ug/kg	100
95) Hexachlorobutadiene	19.81	225	888	0.86	ug/kg#	19
96) 1,2,3-Trichlorobenzene	21.09	180	1463	1.30	ug/kg#	85

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\030921\212CD002.D Vial: 2
Acq On : 9 Mar 2021 8:30 am Operator: KG
Sample : AA65289-CAL1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 10:04 2021 Quant Results File: 020421.RES

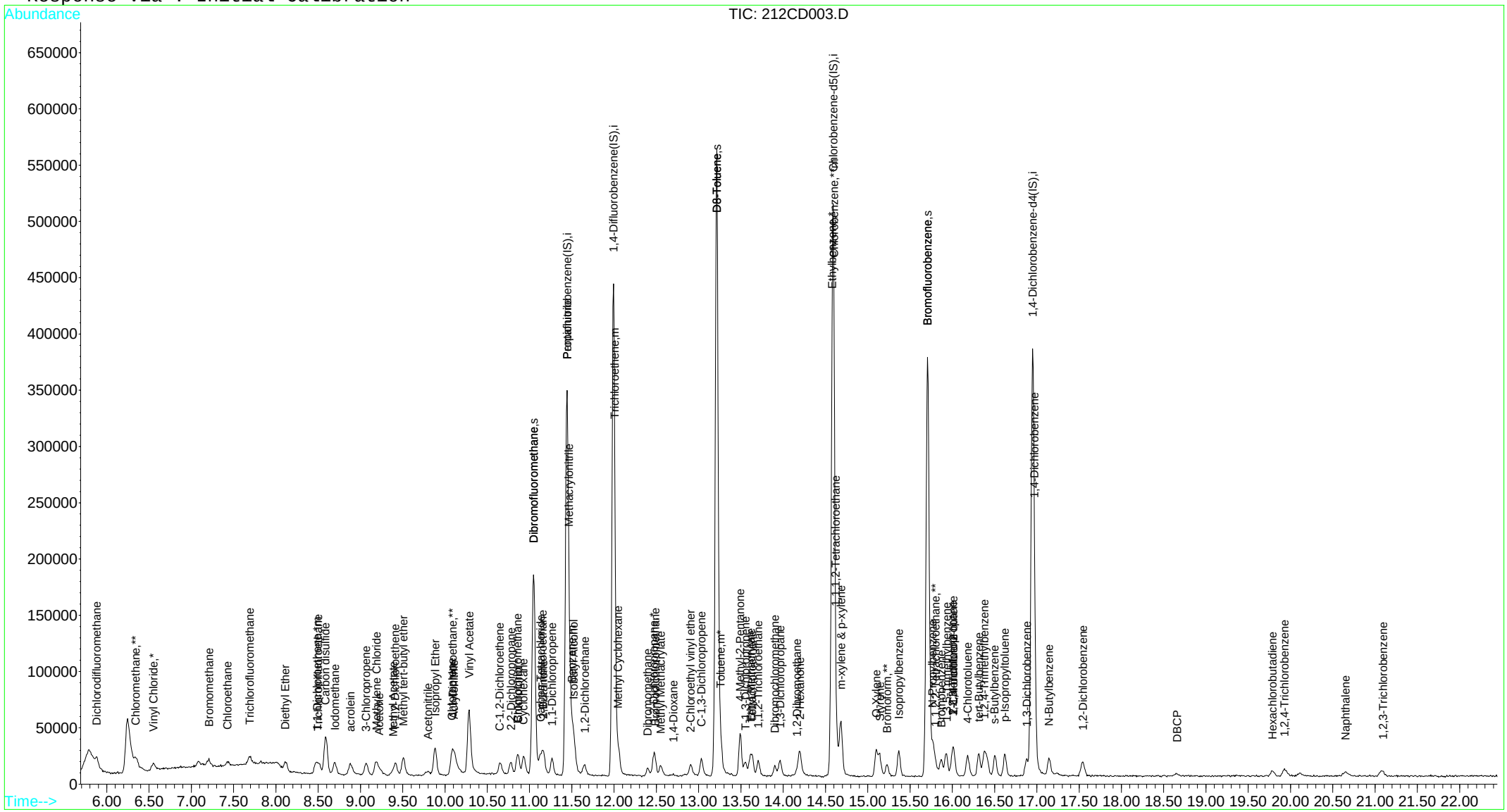
Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\030921\212CD003.D Vial: 3
Acq On : 9 Mar 2021 8:59 am Operator: KG
Sample : AA65289-CAL2 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 9:21 2021 Quant Results File: 020421.RES

Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\030921\212CD003.D Vial: 3
Acq On : 9 Mar 2021 8:59 am Operator: KG
Sample : AA65289-CAL2 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 9:21 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Feb 23 09:01:32 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.44	168	252984	50.00	ug/kg	-0.02
38) 1,4-Difluorobenzene(IS)	11.99	114	447138	50.00	ug/kg	-0.02
56) Chlorobenzene-d5(IS)	14.59	82	219862	50.00	ug/kg	-0.02
79) 1,4-Dichlorobenzene-d4(IS)	16.95	152	160130	50.00	ug/kg	-0.02
System Monitoring Compounds						
30) Dibromofluoromethane	11.05	113	156083	59.73	ug/kg	-0.02
Spiked Amount 50.000	Range 53 - 146		Recovery = 119.46%			
54) D8-Toluene	13.22	98	465547	58.99	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 117.98%			
75) Bromofluorobenzene	15.71	95	207276	65.20	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 130.40%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.89	85	10131	1.94	ug/kg	83
3) Chloromethane	6.35	50	11803	2.33	ug/kg	95
4) Vinyl Chloride	6.55	62	8410	1.82	ug/kg	59
5) Bromomethane	7.21	96	5310	3.22	ug/kg	94
6) Chloroethane	7.42	64	4793	2.13	ug/kg	78
7) Trichlorofluoromethane	7.69	101	7774	1.68	ug/kg	95
8) Trichlorotrifluoroethane	8.51	101	5301	1.99	ug/kg	100
9) acrolein	8.88	56	15280	36.34	ug/kg	90
10) Acetone	9.23	43	12248	21.92	ug/kg	88
11) 1,1-Dichloroethene	8.48	96	5127	1.92	ug/kg	96
12) 3-Chloropropene	9.07	76	3383	1.82	ug/kg	95
13) Acetonitrile	9.80	41	7495	30.07	ug/kg	88
14) Iodomethane	8.70	142	17478	5.90	ug/kg	98
15) Carbon disulfide	8.59	76	74787	7.37	ug/kg	100
16) Methylene Chloride	9.19	84	6719	2.22	ug/kg	88
17) Methyl tert-butyl ether	9.51	73	17644	2.66	ug/kg	96
18) Acrylonitrile	10.11	53	34029	25.13	ug/kg	91
19) T-1,2-Dichloroethene	9.42	96	5612	1.87	ug/kg	96
20) Isopropyl Ether	9.88	45	29745	2.20	ug/kg	98
21) C-1,2-Dichloroethene	10.65	96	5963	1.84	ug/kg	96
22) 1,1-Dichloroethane	10.09	63	12327	2.12	ug/kg#	68
23) Vinyl Acetate	10.29	43	101871	13.97	ug/kg	98
24) Chloroprene	10.07	88	4941	1.80	ug/kg	28
25) 2-Butanone	11.17	72	4663	23.74	ug/kg	65
26) Propionitrile	11.44	54	9751	35.66	ug/kg	100
27) 2,2-Dichloropropane	10.78	77	8523	1.82	ug/kg	98
28) Methacrylonitrile	11.47	67	29107	32.04	ug/kg	96
29) Chloroform	10.87	83	11472	2.09	ug/kg	95
31) Dibromofluoromethane	11.05	113	156083	59.73	ug/kg	100
32) Bromochloromethane	10.85	128	3692	2.39	ug/kg	87
33) 1,1,1-Trichloroethane	11.16	97	8633	2.10	ug/kg	96
34) 1,1-Dichloropropene	11.27	75	8643	2.02	ug/kg	98
35) Diethyl Ether	8.11	59	6393	2.55	ug/kg	95
36) Methyl Acetate	9.38	74	1373	3.88	ug/kg#	85
37) Cyclohexane	10.93	56	9983	2.06	ug/kg	97
39) Methyl Cyclohexane	12.05	55	6957	1.92	ug/kg	98
40) Carbon Tetrachloride	11.13	117	8627	2.13	ug/kg	98
41) 1,2-Dichloroethane	11.66	62	9736	2.57	ug/kg	92
42) Benzene	11.51	78	25037	2.30	ug/kg	80
43) Isobutyl Alcohol	11.53	43	11348	57.22	ug/kg#	1
44) Trichloroethene	12.02	130	6020	2.04	ug/kg#	20
45) 1,2-Dichloropropane	12.46	63	7117	2.11	ug/kg	97
46) Methyl Methacrylate	12.56	100	1831	3.14	ug/kg	96
47) 1,4-Dioxane	12.69	88	1024	100.79	ug/kg	86
48) Bromodichloromethane	12.50	83	7991	1.97	ug/kg	100
49) Dibromomethane	12.40	93	4044	2.37	ug/kg	93
50) 4-Methyl-2-Pentanone	13.49	100	5010	19.48	ug/kg	86
51) 2-Chloroethyl vinyl ether	12.91	63	6013	58.72	ug/kg#	100
52) 2-Hexanone	14.20	43	28059	19.64	ug/kg	94

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\030921\212CD003.D Vial: 3
Acq On : 9 Mar 2021 8:59 am Operator: KG
Sample : AA65289-CAL2 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 9:21 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Feb 23 09:01:32 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

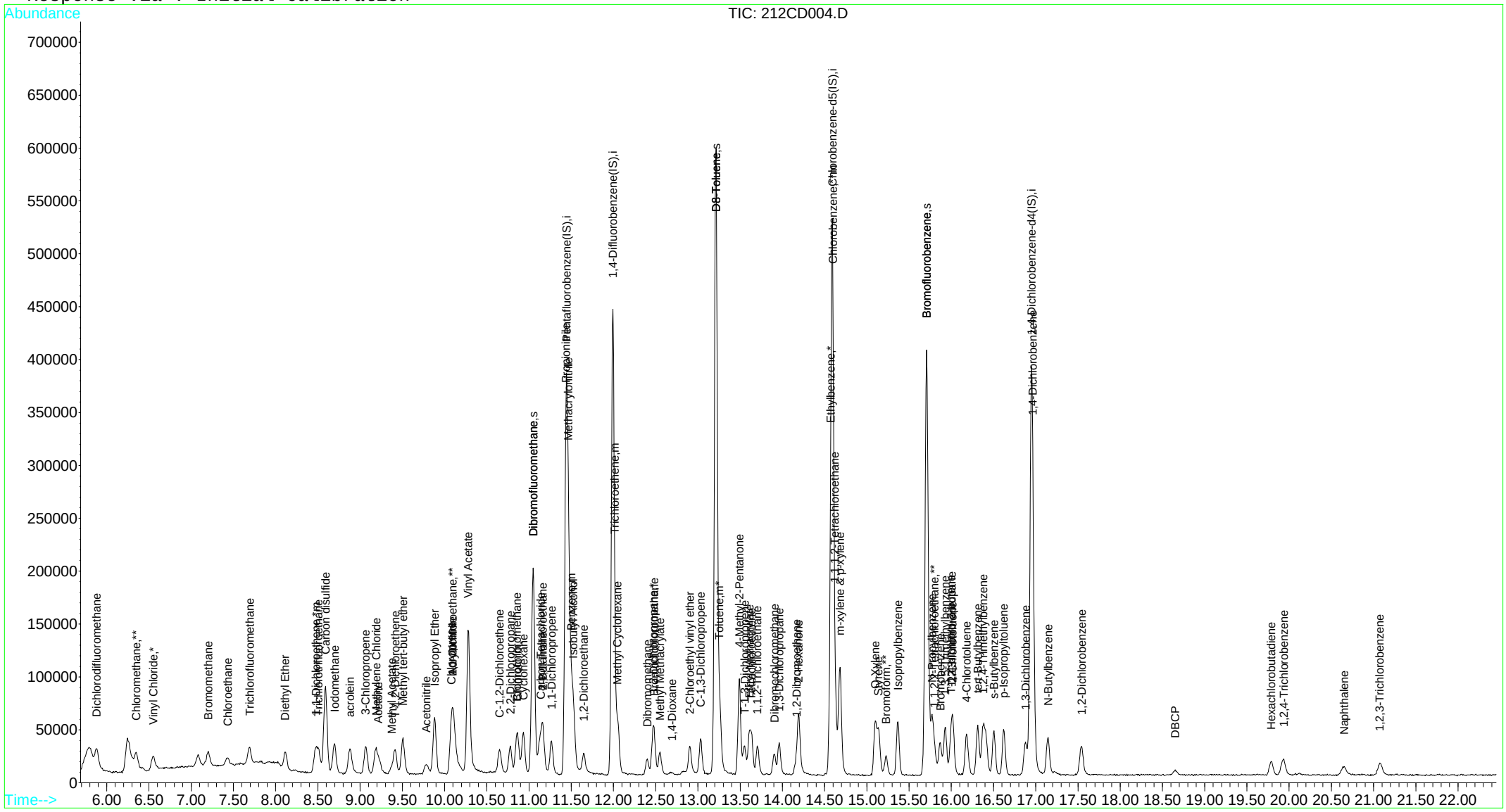
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.03	75	11158	2.06	ug/kg	91
55) D8-Toluene	13.22	98	465547	58.99	ug/kg	93
57) Toluene	13.26	92	12843	2.02	ug/kg	97
58) Ethyl Methacrylate	13.61	69	8903	2.88	ug/kg#	88
59) T-1,3-Dichloropropene	13.55	75	9354	2.27	ug/kg	89
60) 1,1,2-Trichloroethane	13.70	97	5191	2.52	ug/kg	96
61) 1,3-Dichloropropane	13.96	76	11199	2.65	ug/kg	97
62) Tetrachloroethene	13.64	164	3846	2.02	ug/kg	88
63) Dibromochloromethane	13.90	129	6975	2.45	ug/kg#	85
64) 1,2-Dibromoethane	14.15	107	6164	2.87	ug/kg#	94
65) Chlorobenzene	14.61	112	14890	2.16	ug/kg	83
66) 1,1,1,2-Tetrachloroethane	14.63	131	5660	2.11	ug/kg#	1
67) Ethylbenzene	14.57	106	7285	2.04	ug/kg	100
68) m-xylene & p-xylene	14.68	106	17730	4.17	ug/kg	98
69) O-Xylene	15.10	106	8702	2.00	ug/kg	94
70) Bromoform	15.23	173	3315	2.45	ug/kg#	93
71) Styrene	15.14	104	14852	2.05	ug/kg	98
72) Isopropylbenzene	15.37	105	21626	2.01	ug/kg	99
73) 1,2,3-Trichloropropane	16.00	75	8175	3.24	ug/kg	98
74) 1,1,2,2-Tetrachloroethane	15.81	83	6600	3.12	ug/kg	99
76) Bromofluorobenzene	15.71	95	207276	65.20	ug/kg#	77
77) T-1,4-dichloro-2-butene	16.00	53	2359	4.14	ug/kg#	65
78) N-Propylbenzene	15.77	91	24284	1.99	ug/kg	99
80) Bromobenzene	15.87	156	5612	2.07	ug/kg	96
81) 1,3,5-Trimethylbenzene	15.93	105	16473	1.97	ug/kg	96
82) 2-Chlorotoluene	16.01	91	15788	2.07	ug/kg	99
83) 4-Chlorotoluene	16.18	91	16035	2.01	ug/kg	99
84) 1,2,4-Trimethylbenzene	16.38	105	16717	1.97	ug/kg	97
85) s-Butylbenzene	16.51	105	19727	1.92	ug/kg	98
86) tert-Butylbenzene	16.31	119	14215	1.94	ug/kg	99
87) p-Isopropyltoluene	16.62	119	16939	1.90	ug/kg	99
88) 1,3-Dichlorobenzene	16.88	146	9192	1.93	ug/kg	98
89) 1,4-Dichlorobenzene	16.98	146	9722	2.03	ug/kg	81
90) 1,2-Dichlorobenzene	17.55	146	8785	2.15	ug/kg	98
91) N-Butylbenzene	17.14	91	13409	1.76	ug/kg	99
92) DBCP	18.67	75	1323	4.79	ug/kg	67
93) Naphthalene	20.66	128	7202	3.97	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.94	180	4109	2.34	ug/kg	94
95) Hexachlorobutadiene	19.80	225	1715	1.63	ug/kg	96
96) 1,2,3-Trichlorobenzene	21.09	180	3325	2.92	ug/kg#	63

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\030921\212CD004.D Vial: 4
Acq On : 9 Mar 2021 9:27 am Operator: KG
Sample : AA65289-CAL3 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 9:50 2021 Quant Results File: 020421.RES

Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\030921\212CD004.D Vial: 4
Acq On : 9 Mar 2021 9:27 am Operator: KG
Sample : AA65289-CAL3 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 9:50 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Feb 23 09:01:32 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.44	168	249505	50.00	ug/kg	-0.02
38) 1,4-Difluorobenzene(IS)	11.99	114	443522	50.00	ug/kg	-0.02
56) Chlorobenzene-d5(IS)	14.59	82	215472	50.00	ug/kg	-0.02
79) 1,4-Dichlorobenzene-d4(IS)	16.95	152	156777	50.00	ug/kg	-0.02
System Monitoring Compounds						
30) Dibromofluoromethane	11.05	113	165980	64.40	ug/kg	-0.02
Spiked Amount 50.000	Range 53 - 146		Recovery = 128.80%			
54) D8-Toluene	13.22	98	501622	64.08	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 128.16%			
75) Bromofluorobenzene	15.71	95	219530	70.46	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 140.92%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.88	85	22781	4.42	ug/kg	97
3) Chloromethane	6.35	50	25463	5.09	ug/kg	100
4) Vinyl Chloride	6.54	62	19163	4.21	ug/kg	83
5) Bromomethane	7.20	96	11916	7.32	ug/kg	91
6) Chloroethane	7.43	64	10216	4.59	ug/kg	93
7) Trichlorofluoromethane	7.69	101	18886	4.13	ug/kg	96
8) Trichlorotrifluoroethane	8.51	101	12376	4.72	ug/kg	100
9) acrolein	8.88	56	36275	87.49	ug/kg	91
10) Acetone	9.22	43	26181	47.50	ug/kg	93
11) 1,1-Dichloroethene	8.47	96	11153	4.23	ug/kg	93
12) 3-Chloropropene	9.06	76	7119	3.89	ug/kg	87
13) Acetonitrile	9.78	41	18199	74.03	ug/kg	85
14) Iodomethane	8.70	142	46849	15.94	ug/kg	95
15) Carbon disulfide	8.59	76	178996	17.89	ug/kg	100
16) Methylene Chloride	9.18	84	14216	4.76	ug/kg	97
17) Methyl tert-butyl ether	9.51	73	37907	5.79	ug/kg	96
18) Acrylonitrile	10.10	53	88544	66.30	ug/kg	95
19) T-1,2-Dichloroethene	9.42	96	12041	4.07	ug/kg	91
20) Isopropyl Ether	9.88	45	64655	4.85	ug/kg	99
21) C-1,2-Dichloroethene	10.65	96	13336	4.17	ug/kg	97
22) 1,1-Dichloroethane	10.09	63	27088	4.73	ug/kg#	67
23) Vinyl Acetate	10.29	43	235433	32.73	ug/kg	98
24) Chloroprene	10.07	88	11591	4.29	ug/kg	2
25) 2-Butanone	11.15	72	8570	44.25	ug/kg	82
26) Propionitrile	11.43	54	22721	84.24	ug/kg	100
27) 2,2-Dichloropropane	10.78	77	19216	4.17	ug/kg	96
28) Methacrylonitrile	11.47	67	62951	70.27	ug/kg	91
29) Chloroform	10.86	83	24345	4.50	ug/kg	99
31) Dibromofluoromethane	11.05	113	165980	64.40	ug/kg	100
32) Bromochloromethane	10.85	128	7869	5.17	ug/kg	97
33) 1,1,1-Trichloroethane	11.16	97	19276	4.75	ug/kg	100
34) 1,1-Dichloropropene	11.27	75	17929	4.25	ug/kg	95
35) Diethyl Ether	8.11	59	13348	5.41	ug/kg	98
36) Methyl Acetate	9.37	74	2614	7.49	ug/kg	97
37) Cyclohexane	10.93	56	22795	4.76	ug/kg	96
39) Methyl Cyclohexane	12.05	55	20174	5.60	ug/kg#	79
40) Carbon Tetrachloride	11.13	117	19798	4.94	ug/kg	99
41) 1,2-Dichloroethane	11.65	62	20548	5.47	ug/kg	93
42) Benzene	11.51	78	50954	4.73	ug/kg	75
43) Isobutyl Alcohol	11.53	43	25850	131.41	ug/kg#	71
44) Trichloroethene	12.02	130	13528	4.62	ug/kg#	68
45) 1,2-Dichloropropane	12.47	63	15712	4.70	ug/kg	97
46) Methyl Methacrylate	12.55	100	4292	7.43	ug/kg	98
47) 1,4-Dioxane	12.69	88	2392	237.35	ug/kg	90
48) Bromodichloromethane	12.49	83	17871	4.44	ug/kg	99
49) Dibromomethane	12.40	93	8708	5.15	ug/kg	95
50) 4-Methyl-2-Pentanone	13.49	100	10044	39.37	ug/kg	93
51) 2-Chloroethyl vinyl ether	12.90	63	13725	135.13	ug/kg#	100
52) 2-Hexanone	14.19	43	58967	41.61	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\030921\212CD004.D Vial: 4
Acq On : 9 Mar 2021 9:27 am Operator: KG
Sample : AA65289-CAL3 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 9:50 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Feb 23 09:01:32 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.03	75	24080	4.49	ug/kg	95
55) D8-Toluene	13.22	98	501622	64.08	ug/kg	93
57) Toluene	13.26	92	28811	4.62	ug/kg	95
58) Ethyl Methacrylate	13.60	69	22271	7.35	ug/kg	98
59) T-1,3-Dichloropropene	13.55	75	20550	5.10	ug/kg	92
60) 1,1,2-Trichloroethane	13.70	97	10863	5.38	ug/kg	98
61) 1,3-Dichloropropane	13.96	76	23264	5.61	ug/kg	97
62) Tetrachloroethene	13.64	164	8546	4.59	ug/kg	93
63) Dibromochloromethane	13.90	129	15550	5.57	ug/kg#	95
64) 1,2-Dibromoethane	14.16	107	13263	6.29	ug/kg#	98
65) Chlorobenzene	14.61	112	31588	4.67	ug/kg	92
66) 1,1,1,2-Tetrachloroethane	14.63	131	12114	4.60	ug/kg#	1
67) Ethylbenzene	14.56	106	16286	4.66	ug/kg	99
68) m-xylene & p-xylene	14.68	106	40560	9.73	ug/kg	97
69) O-Xylene	15.11	106	19597	4.61	ug/kg	99
70) Bromoform	15.23	173	7765	5.84	ug/kg	98
71) Styrene	15.14	104	32752	4.62	ug/kg	99
72) Isopropylbenzene	15.37	105	48831	4.64	ug/kg	99
73) 1,2,3-Trichloropropane	16.00	75	17627	7.12	ug/kg	94
74) 1,1,2,2-Tetrachloroethane	15.81	83	13782	6.66	ug/kg	95
76) Bromofluorobenzene	15.71	95	219530	70.46	ug/kg#	77
77) T-1,4-dichloro-2-butene	15.99	53	4919	8.81	ug/kg#	69
78) N-Propylbenzene	15.77	91	55080	4.60	ug/kg	100
80) Bromobenzene	15.87	156	11929	4.50	ug/kg	95
81) 1,3,5-Trimethylbenzene	15.93	105	36698	4.48	ug/kg	99
82) 2-Chlorotoluene	16.02	91	35449	4.76	ug/kg	99
83) 4-Chlorotoluene	16.18	91	35589	4.56	ug/kg	99
84) 1,2,4-Trimethylbenzene	16.37	105	37494	4.52	ug/kg	99
85) s-Butylbenzene	16.51	105	43105	4.29	ug/kg	99
86) tert-Butylbenzene	16.31	119	33104	4.61	ug/kg	99
87) p-Isopropyltoluene	16.62	119	38707	4.44	ug/kg	98
88) 1,3-Dichlorobenzene	16.88	146	19933	4.27	ug/kg	94
89) 1,4-Dichlorobenzene	16.97	146	22039	4.71	ug/kg	93
90) 1,2-Dichlorobenzene	17.54	146	18997	4.75	ug/kg	95
91) N-Butylbenzene	17.15	91	32604	4.38	ug/kg	96
92) DBCP	18.65	75	2417	8.95	ug/kg	80
93) Naphthalene	20.65	128	17741	9.77	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.94	180	9820	5.71	ug/kg	98
95) Hexachlorobutadiene	19.79	225	4299	4.18	ug/kg	98
96) 1,2,3-Trichlorobenzene	21.08	180	8089	7.24	ug/kg	96

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\030921\212CD005.D Vial: 5
Acq On : 9 Mar 2021 9:56 am Operator: KG
Sample : AA65289-CAL4 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 10:19 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Feb 23 09:01:32 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.44	168	244206	50.00	ug/kg	-0.03
38) 1,4-Difluorobenzene(IS)	11.99	114	431789	50.00	ug/kg	-0.03
56) Chlorobenzene-d5(IS)	14.59	82	212013	50.00	ug/kg	-0.02
79) 1,4-Dichlorobenzene-d4(IS)	16.95	152	155190	50.00	ug/kg	-0.03
System Monitoring Compounds						
30) Dibromofluoromethane	11.05	113	134216	53.21	ug/kg	-0.02
Spiked Amount 50.000	Range 53 - 146		Recovery = 106.42%			
54) D8-Toluene	13.21	98	412512	54.12	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 108.24%			
75) Bromofluorobenzene	15.71	95	183300	59.79	ug/kg	-0.03
Spiked Amount 50.000	Range 41 - 142		Recovery = 119.58%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.88	85	45673	9.05	ug/kg	97
3) Chloromethane	6.34	50	47720	9.74	ug/kg	98
4) Vinyl Chloride	6.55	62	38092	8.54	ug/kg	86
5) Bromomethane	7.20	96	22904	14.38	ug/kg	95
6) Chloroethane	7.42	64	21050	9.67	ug/kg	95
7) Trichlorofluoromethane	7.69	101	37771	8.45	ug/kg	98
8) Trichlorotrifluoroethane	8.51	101	24186	9.43	ug/kg	96
9) acrolein	8.88	56	63752	157.09	ug/kg	98
10) Acetone	9.23	43	42701	79.16	ug/kg	94
11) 1,1-Dichloroethene	8.47	96	20796	8.05	ug/kg	96
12) 3-Chloropropene	9.07	76	13773	7.68	ug/kg	90
13) Acetonitrile	9.78	41	36059	149.87	ug/kg	98
14) Iodomethane	8.69	142	112166	38.54	ug/kg	95
15) Carbon disulfide	8.59	76	411444	42.01	ug/kg	99
16) Methylene Chloride	9.19	84	30762	10.53	ug/kg	97
17) Methyl tert-butyl ether	9.51	73	70893	11.06	ug/kg	98
18) Acrylonitrile	10.10	53	158967	121.62	ug/kg	95
19) T-1,2-Dichloroethene	9.41	96	22474	7.75	ug/kg	96
20) Isopropyl Ether	9.88	45	119716	9.18	ug/kg	97
21) C-1,2-Dichloroethene	10.65	96	24555	7.85	ug/kg	98
22) 1,1-Dichloroethane	10.09	63	48336	8.62	ug/kg	100
23) Vinyl Acetate	10.28	43	413370	58.71	ug/kg	99
24) Chloroprene	10.08	88	21601	8.17	ug/kg	12
25) 2-Butanone	11.16	72	13474	71.08	ug/kg	95
26) Propionitrile	11.43	54	38758	146.82	ug/kg	100
27) 2,2-Dichloropropane	10.78	77	37406	8.29	ug/kg	99
28) Methacrylonitrile	11.47	67	112006	127.74	ug/kg	94
29) Chloroform	10.87	83	44875	8.47	ug/kg	97
31) Dibromofluoromethane	11.05	113	134216	53.21	ug/kg	100
32) Bromochloromethane	10.86	128	14842	9.96	ug/kg	87
33) 1,1,1-Trichloroethane	11.17	97	35445	8.92	ug/kg	98
34) 1,1-Dichloropropene	11.26	75	34737	8.42	ug/kg	100
35) Diethyl Ether	8.11	59	24581	10.17	ug/kg	98
36) Methyl Acetate	9.38	74	4779	13.99	ug/kg#	93
37) Cyclohexane	10.93	56	42044	8.98	ug/kg	99
39) Methyl Cyclohexane	12.06	55	32036	9.13	ug/kg	92
40) Carbon Tetrachloride	11.12	117	37080	9.50	ug/kg	96
41) 1,2-Dichloroethane	11.65	62	37309	10.20	ug/kg	99
42) Benzene	11.50	78	88429	8.42	ug/kg	74
43) Isobutyl Alcohol	11.53	43	45468	237.41	ug/kg#	74
44) Trichloroethene	12.02	130	25064	8.79	ug/kg#	85
45) 1,2-Dichloropropane	12.46	63	27759	8.53	ug/kg	98
46) Methyl Methacrylate	12.54	100	7365	13.09	ug/kg	91
47) 1,4-Dioxane	12.68	88	4189	426.96	ug/kg	96
48) Bromodichloromethane	12.49	83	33416	8.53	ug/kg	100
49) Dibromomethane	12.40	93	16470	10.00	ug/kg	97
50) 4-Methyl-2-Pentanone	13.49	100	17923	72.17	ug/kg	98
51) 2-Chloroethyl vinyl ether	12.90	63	26905	272.09	ug/kg#	100
52) 2-Hexanone	14.19	43	108291	78.50	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\030921\212CD005.D Vial: 5
Acq On : 9 Mar 2021 9:56 am Operator: KG
Sample : AA65289-CAL4 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 10:19 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Feb 23 09:01:32 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

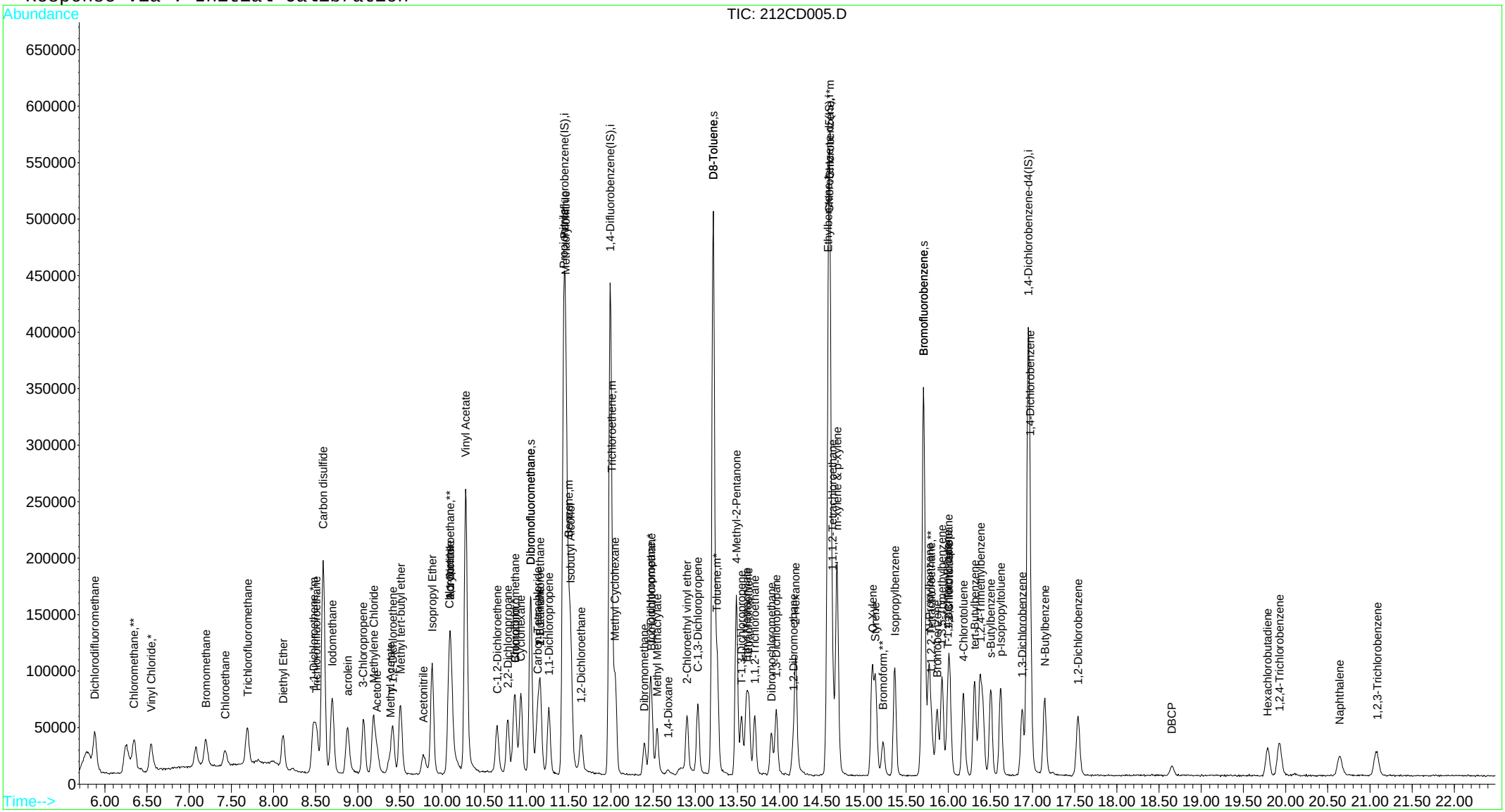
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	13.03	75	45237	8.66 ug/kg	98
55) D8-Toluene	13.21	98	412512	54.12 ug/kg	94
57) Toluene	13.26	92	51736	8.43 ug/kg	95
58) Ethyl Methacrylate	13.60	69	37443	12.56 ug/kg#	94
59) T-1,3-Dichloropropene	13.55	75	37814	9.54 ug/kg	98
60) 1,1,2-Trichloroethane	13.71	97	20842	10.49 ug/kg	99
61) 1,3-Dichloropropane	13.96	76	42653	10.45 ug/kg	99
62) Tetrachloroethene	13.64	164	16686	9.10 ug/kg	94
63) Dibromochloromethane	13.91	129	27027	9.84 ug/kg#	95
64) 1,2-Dibromoethane	14.16	107	24685	11.91 ug/kg	100
65) Chlorobenzene	14.60	112	58672	8.82 ug/kg	97
66) 1,1,1,2-Tetrachloroethane	14.63	131	24102	9.31 ug/kg#	1
67) Ethylbenzene	14.57	106	29990	8.72 ug/kg	98
68) m-xylene & p-xylene	14.68	106	74402	18.15 ug/kg	99
69) O-Xylene	15.10	106	36638	8.75 ug/kg	98
70) Bromoform	15.23	173	14632	11.19 ug/kg	98
71) Styrene	15.14	104	60801	8.71 ug/kg	98
72) Isopropylbenzene	15.37	105	90545	8.75 ug/kg	99
73) 1,2,3-Trichloropropane	15.99	75	32025	13.14 ug/kg	100
74) 1,1,2,2-Tetrachloroethane	15.80	83	26183	12.85 ug/kg	99
76) Bromofluorobenzene	15.71	95	183300	59.79 ug/kg#	76
77) T-1,4-dichloro-2-butene	15.99	53	8296	15.10 ug/kg#	80
78) N-Propylbenzene	15.77	91	100518	8.54 ug/kg	99
80) Bromobenzene	15.87	156	23186	8.84 ug/kg	97
81) 1,3,5-Trimethylbenzene	15.92	105	70809	8.73 ug/kg	97
82) 2-Chlorotoluene	16.02	91	63815	8.65 ug/kg	98
83) 4-Chlorotoluene	16.18	91	64947	8.41 ug/kg	99
84) 1,2,4-Trimethylbenzene	16.38	105	71167	8.67 ug/kg	99
85) s-Butylbenzene	16.50	105	81867	8.24 ug/kg	99
86) tert-Butylbenzene	16.31	119	61729	8.68 ug/kg	98
87) p-Isopropyltoluene	16.62	119	72916	8.45 ug/kg	99
88) 1,3-Dichlorobenzene	16.88	146	39158	8.48 ug/kg	97
89) 1,4-Dichlorobenzene	16.98	146	40002	8.63 ug/kg	95
90) 1,2-Dichlorobenzene	17.54	146	36535	9.23 ug/kg	98
91) N-Butylbenzene	17.15	91	61846	8.40 ug/kg	99
92) DBCP	18.65	75	4262	15.94 ug/kg	89
93) Naphthalene	20.64	128	34530	18.55 ug/kg	100
94) 1,2,4-Trichlorobenzene	19.93	180	18773	11.02 ug/kg	98
95) Hexachlorobutadiene	19.79	225	8658	8.51 ug/kg	97
96) 1,2,3-Trichlorobenzene	21.08	180	15115	13.67 ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\030921\212CD005.D Vial: 5
Acq On : 9 Mar 2021 9:56 am Operator: KG
Sample : AA65289-CAL4 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 10:19 2021 Quant Results File: 020421.RES

Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\030921\212CD006.D Vial: 6
Acq On : 9 Mar 2021 10:25 am Operator: KG
Sample : AA65289-CAL5 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 10:47 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Feb 23 09:01:32 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.44	168	236992	50.00	ug/kg	-0.02
38) 1,4-Difluorobenzene(IS)	11.99	114	433407	50.00	ug/kg	-0.02
56) Chlorobenzene-d5(IS)	14.59	82	209656	50.00	ug/kg	-0.02
79) 1,4-Dichlorobenzene-d4(IS)	16.95	152	155955	50.00	ug/kg	-0.02
System Monitoring Compounds						
30) Dibromofluoromethane	11.05	113	170654	69.71	ug/kg	-0.02
Spiked Amount 50.000	Range 53 - 146		Recovery = 139.42%			
54) D8-Toluene	13.22	98	526347	68.80	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 137.60%			
75) Bromofluorobenzene	15.71	95	233671	77.08	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 154.16%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.88	85	108443	22.13	ug/kg	99
3) Chloromethane	6.35	50	108188	22.75	ug/kg	99
4) Vinyl Chloride	6.54	62	87644	20.26	ug/kg	98
5) Bromomethane	7.19	96	41753	27.00	ug/kg	93
6) Chloroethane	7.42	64	43997	20.83	ug/kg	100
7) Trichlorofluoromethane	7.69	101	86337	19.90	ug/kg	98
8) Trichlorotrifluoroethane	8.51	101	50956	20.47	ug/kg	99
9) acrolein	8.87	56	135972	345.24	ug/kg	96
10) Acetone	9.22	43	90387	172.66	ug/kg	95
11) 1,1-Dichloroethene	8.47	96	44949	17.93	ug/kg	94
12) 3-Chloropropene	9.07	76	29308	16.84	ug/kg	98
13) Acetonitrile	9.77	41	76255	326.57	ug/kg	95
14) Iodomethane	8.70	142	273200	94.10	ug/kg	95
15) Carbon disulfide	8.59	76	837443	88.11	ug/kg	100
16) Methylene Chloride	9.18	84	61219	21.59	ug/kg	96
17) Methyl tert-butyl ether	9.50	73	152233	24.46	ug/kg	97
18) Acrylonitrile	10.09	53	322000	253.84	ug/kg	92
19) T-1,2-Dichloroethene	9.41	96	48335	17.18	ug/kg	97
20) Isopropyl Ether	9.88	45	250862	19.83	ug/kg	99
21) C-1,2-Dichloroethene	10.65	96	52921	17.44	ug/kg	97
22) 1,1-Dichloroethane	10.09	63	102170	18.79	ug/kg	100
23) Vinyl Acetate	10.28	43	830658	121.57	ug/kg	99
24) Chloroprene	10.08	88	43904	17.12	ug/kg	12
25) 2-Butanone	11.15	72	27649	150.29	ug/kg	93
26) Propionitrile	11.43	54	83617	326.38	ug/kg	100
27) 2,2-Dichloropropane	10.78	77	78344	17.90	ug/kg	99
28) Methacrylonitrile	11.46	67	224306	263.60	ug/kg	96
29) Chloroform	10.86	83	96138	18.70	ug/kg	97
31) Dibromofluoromethane	11.05	113	170654	69.71	ug/kg	100
32) Bromochloromethane	10.85	128	30810	21.31	ug/kg	94
33) 1,1,1-Trichloroethane	11.17	97	75551	19.59	ug/kg	99
34) 1,1-Dichloropropene	11.27	75	74798	18.68	ug/kg	99
35) Diethyl Ether	8.11	59	52448	22.36	ug/kg	97
36) Methyl Acetate	9.37	74	9405	28.37	ug/kg#	88
37) Cyclohexane	10.94	56	89484	19.69	ug/kg	98
39) Methyl Cyclohexane	12.06	55	69407	19.71	ug/kg	95
40) Carbon Tetrachloride	11.13	117	77753	19.85	ug/kg	100
41) 1,2-Dichloroethane	11.65	62	79750	21.72	ug/kg	98
42) Benzene	11.51	78	183394	17.40	ug/kg	78
43) Isobutyl Alcohol	11.53	43	96340	501.17	ug/kg#	88
44) Trichloroethene	12.02	130	53544	18.70	ug/kg	94
45) 1,2-Dichloropropane	12.47	63	58351	17.87	ug/kg	99
46) Methyl Methacrylate	12.54	100	15588	27.61	ug/kg	97
47) 1,4-Dioxane	12.68	88	9448	959.38	ug/kg	97
48) Bromodichloromethane	12.48	83	72705	18.49	ug/kg	96
49) Dibromomethane	12.40	93	36830	22.28	ug/kg	94
50) 4-Methyl-2-Pentanone	13.49	100	35499	142.41	ug/kg	90
51) 2-Chloroethyl vinyl ether	12.90	63	63229	637.04	ug/kg#	100
52) 2-Hexanone	14.19	43	219692	158.65	ug/kg	99

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\030921\212CD006.D Vial: 6
Acq On : 9 Mar 2021 10:25 am Operator: KG
Sample : AA65289-CAL5 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 10:47 2021 Quant Results File: 020421.RES

Quant Method : C:\HPCHEM\1\METHODS\020421.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Feb 23 09:01:32 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

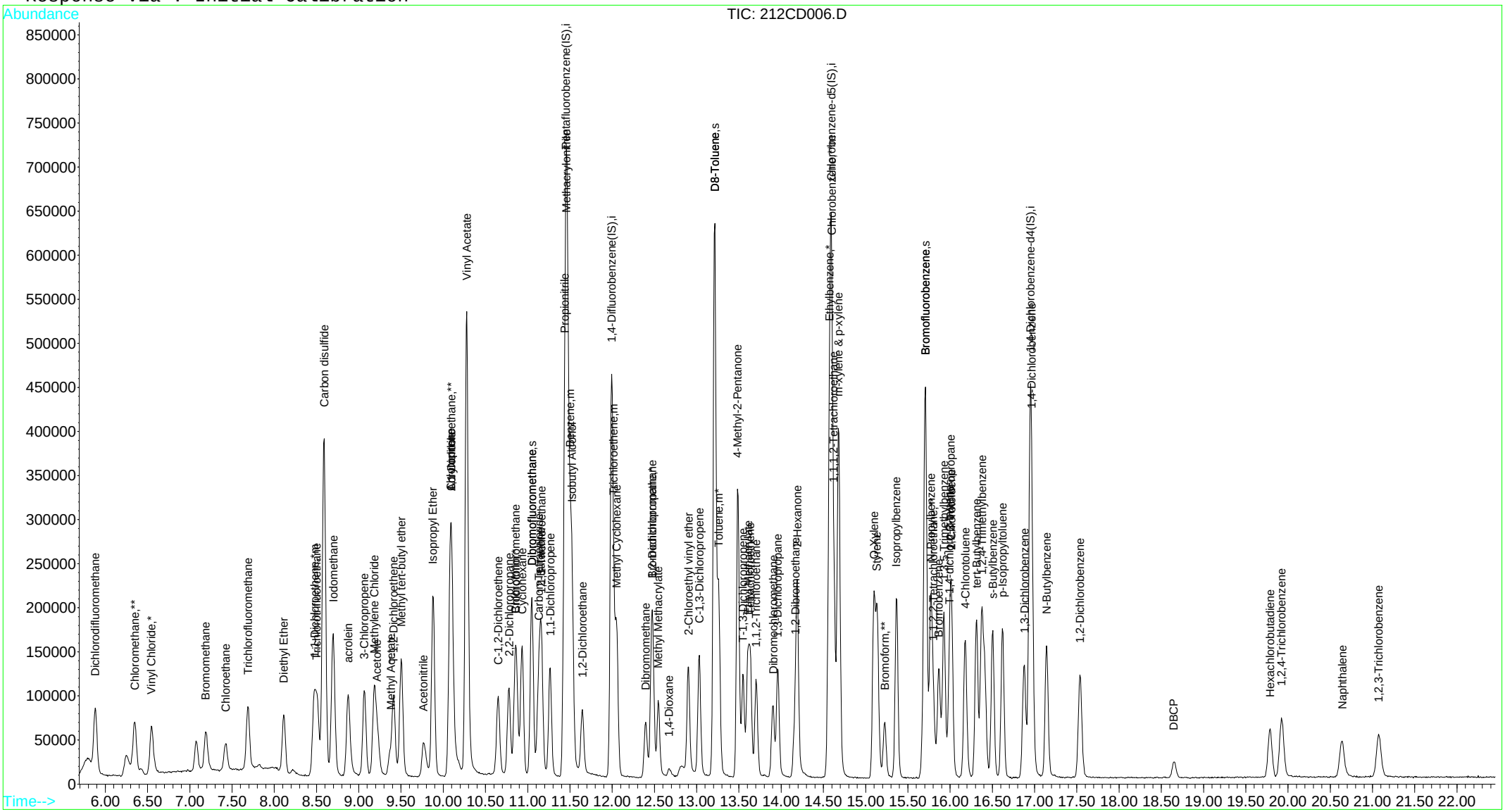
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.03	75	99053	18.89	ug/kg	97
55) D8-Toluene	13.22	98	526347	68.80	ug/kg	94
57) Toluene	13.26	92	111856	18.43	ug/kg	97
58) Ethyl Methacrylate	13.60	69	78845	26.75	ug/kg	94
59) T-1,3-Dichloropropene	13.55	75	83279	21.24	ug/kg	99
60) 1,1,2-Trichloroethane	13.70	97	43848	22.31	ug/kg	98
61) 1,3-Dichloropropane	13.96	76	92997	23.04	ug/kg	98
62) Tetrachloroethene	13.64	164	35319	19.49	ug/kg	94
63) Dibromochloromethane	13.90	129	61192	22.53	ug/kg	97
64) 1,2-Dibromoethane	14.16	107	54477	26.57	ug/kg	99
65) Chlorobenzene	14.61	112	126751	19.28	ug/kg	100
66) 1,1,1,2-Tetrachloroethane	14.63	131	50275	19.64	ug/kg#	1
67) Ethylbenzene	14.56	106	65433	19.24	ug/kg	98
68) m-xylene & p-xylene	14.68	106	157733	38.90	ug/kg	99
69) O-Xylene	15.10	106	79704	19.25	ug/kg	100
70) Bromoform	15.23	173	32299	24.98	ug/kg	99
71) Styrene	15.14	104	135721	19.67	ug/kg	98
72) Isopropylbenzene	15.36	105	197214	19.26	ug/kg	100
73) 1,2,3-Trichloropropane	16.00	75	67844	28.16	ug/kg	99
74) 1,1,2,2-Tetrachloroethane	15.81	83	55890	27.74	ug/kg	99
76) Bromofluorobenzene	15.71	95	233671	77.08	ug/kg#	74
77) T-1,4-dichloro-2-butene	15.98	53	16079	29.60	ug/kg	97
78) N-Propylbenzene	15.77	91	219991	18.90	ug/kg	99
80) Bromobenzene	15.87	156	48993	18.58	ug/kg	96
81) 1,3,5-Trimethylbenzene	15.93	105	153489	18.84	ug/kg	97
82) 2-Chlorotoluene	16.02	91	136065	18.35	ug/kg	97
83) 4-Chlorotoluene	16.18	91	140109	18.06	ug/kg	98
84) 1,2,4-Trimethylbenzene	16.37	105	154905	18.77	ug/kg	98
85) s-Butylbenzene	16.51	105	180409	18.07	ug/kg	99
86) tert-Butylbenzene	16.31	119	134395	18.81	ug/kg	99
87) p-Isopropyltoluene	16.62	119	159056	18.35	ug/kg	99
88) 1,3-Dichlorobenzene	16.88	146	84565	18.22	ug/kg	98
89) 1,4-Dichlorobenzene	16.97	146	85550	18.37	ug/kg	96
90) 1,2-Dichlorobenzene	17.54	146	81050	20.39	ug/kg	98
91) N-Butylbenzene	17.14	91	134900	18.22	ug/kg	99
92) DBCP	18.64	75	9065	33.73	ug/kg	90
93) Naphthalene	20.64	128	78811	39.02	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.92	180	42622	24.89	ug/kg	99
95) Hexachlorobutadiene	19.78	225	18265	17.86	ug/kg	96
96) 1,2,3-Trichlorobenzene	21.07	180	33263	29.94	ug/kg	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\030921\212CD006.D Vial: 6
Acq On : 9 Mar 2021 10:25 am Operator: KG
Sample : AA65289-CAL5 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 10:47 2021 Quant Results File: 020421.RES

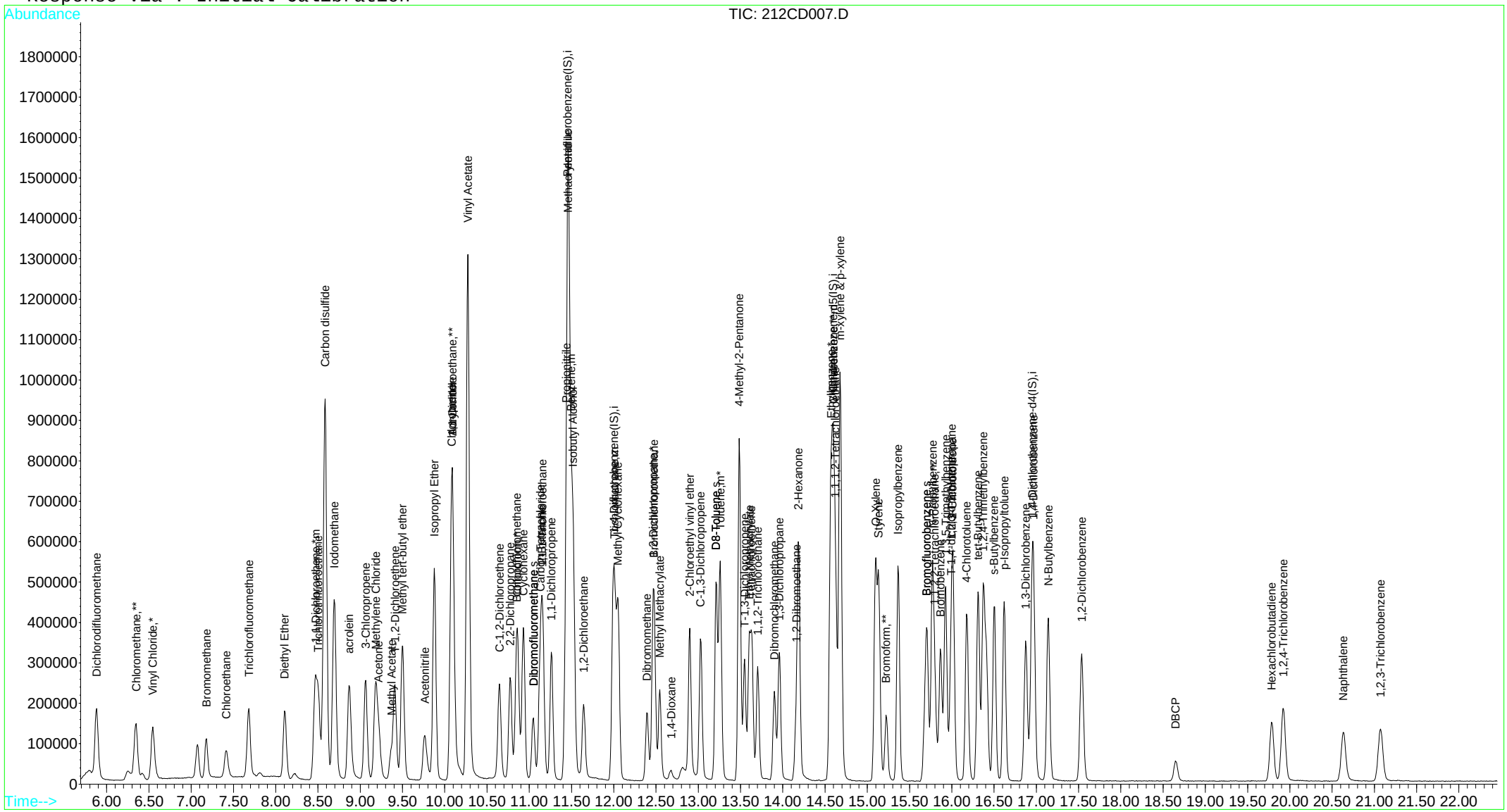
Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\030921\212CD007.D Vial: 7
Acq On : 9 Mar 2021 10:53 am Operator: KG
Sample : AA65289-CAL6 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 11:16 2021 Quant Results File: 030921.RES

Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\030921\212CD007.D Vial: 7
Acq On : 9 Mar 2021 10:53 am Operator: KG
Sample : AA65289-CAL6 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 11:16 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Mar 09 11:05:56 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.44	168	231702	50.00	ug/kg	-0.02
38) 1,4-Difluorobenzene(IS)	11.99	114	427152	50.00	ug/kg	-0.02
56) Chlorobenzene-d5(IS)	14.59	82	207404	50.00	ug/kg	-0.02
79) 1,4-Dichlorobenzene-d4(IS)	16.94	152	156147	50.00	ug/kg	-0.03
System Monitoring Compounds						
30) Dibromofluoromethane	11.05	113	128209	49.98	ug/kg	-0.02
Spiked Amount 50.000	Range 53 - 146		Recovery = 99.96%			
54) D8-Toluene	13.21	98	401221	49.82	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 146		Recovery = 99.64%			
75) Bromofluorobenzene	15.71	95	183680	51.71	ug/kg	-0.02
Spiked Amount 50.000	Range 41 - 142		Recovery = 103.42%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.88	85	263041	57.26	ug/kg	100
3) Chloromethane	6.35	50	253465	49.51	ug/kg	99
4) Vinyl Chloride	6.54	62	210449	55.56	ug/kg	99
5) Bromomethane	7.18	96	76372	34.37	ug/kg	95
6) Chloroethane	7.41	64	102528	47.96	ug/kg	99
7) Trichlorofluoromethane	7.68	101	205859	56.00	ug/kg	99
8) Trichlorotrifluoroethane	8.51	101	129038	54.34	ug/kg	99
9) acrolein	8.87	56	339585	501.64	ug/kg	99
10) Acetone	9.22	43	219975	214.98	ug/kg	94
11) 1,1-Dichloroethene	8.46	96	118872	54.37	ug/kg	96
12) 3-Chloropropene	9.06	76	71209	47.75	ug/kg	95
13) Acetonitrile	9.76	41	207202	614.10	ug/kg	97
14) Iodomethane	8.69	142	770158	402.32	ug/kg	96
15) Carbon disulfide	8.58	76	2066293	279.76	ug/kg	100
16) Methylene Chloride	9.18	84	144889	48.24	ug/kg	98
17) Methyl tert-butyl ether	9.50	73	382842	51.55	ug/kg	99
18) Acrylonitrile	10.09	53	795572	501.73	ug/kg	93
19) T-1,2-Dichloroethene	9.41	96	123524	52.02	ug/kg	96
20) Isopropyl Ether	9.88	45	636276	50.39	ug/kg	99
21) C-1,2-Dichloroethene	10.65	96	137700	54.35	ug/kg	99
22) 1,1-Dichloroethane	10.09	63	252091	48.12	ug/kg	100
23) Vinyl Acetate	10.27	43	1989869	227.64	ug/kg	99
24) Chloroprene	10.07	88	110264	51.81	ug/kg	17
25) 2-Butanone	11.15	72	68216	209.71	ug/kg	88
26) Propionitrile	11.43	54	211377	502.56	ug/kg	100
27) 2,2-Dichloropropane	10.77	77	199861	52.16	ug/kg	97
28) Methacrylonitrile	11.47	67	550395	456.56	ug/kg	96
29) Chloroform	10.87	83	235814	49.91	ug/kg	96
31) Dibromofluoromethane	11.05	113	128209	49.98	ug/kg	100
32) Bromochloromethane	10.84	128	78732	50.25	ug/kg	94
33) 1,1,1-Trichloroethane	11.16	97	191960	52.18	ug/kg	99
34) 1,1-Dichloropropene	11.26	75	189325	52.85	ug/kg	99
35) Diethyl Ether	8.10	59	133944	50.74	ug/kg	97
36) Methyl Acetate	9.36	74	23654	45.24	ug/kg	86
37) Cyclohexane	10.93	56	224088	51.70	ug/kg	97
39) Methyl Cyclohexane	12.05	55	177705	51.14	ug/kg	95
40) Carbon Tetrachloride	11.13	117	201071	51.71	ug/kg	100
41) 1,2-Dichloroethane	11.64	62	200651	49.03	ug/kg	99
42) Benzene	11.50	78	454799	42.90	ug/kg	78
43) Isobutyl Alcohol	11.52	43	239515	962.41	ug/kg#	89
44) Trichloroethene	12.02	130	139809	52.57	ug/kg	99
45) 1,2-Dichloropropane	12.47	63	150518	46.97	ug/kg	99
46) Methyl Methacrylate	12.55	100	40558	51.99	ug/kg	95
47) 1,4-Dioxane	12.68	88	24949	1129.07	ug/kg	99
48) Bromodichloromethane	12.48	83	182786	50.60	ug/kg	98
49) Dibromomethane	12.39	93	92812	51.69	ug/kg	98
50) 4-Methyl-2-Pentanone	13.48	100	94176	224.96	ug/kg	99
51) 2-Chloroethyl vinyl ether	12.90	63	186311	324.99	ug/kg#	100
52) 2-Hexanone	14.18	43	561483	242.45	ug/kg	99

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\030921\212CD007.D Vial: 7
Acq On : 9 Mar 2021 10:53 am Operator: KG
Sample : AA65289-CAL6 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 11:16 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Mar 09 11:05:56 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

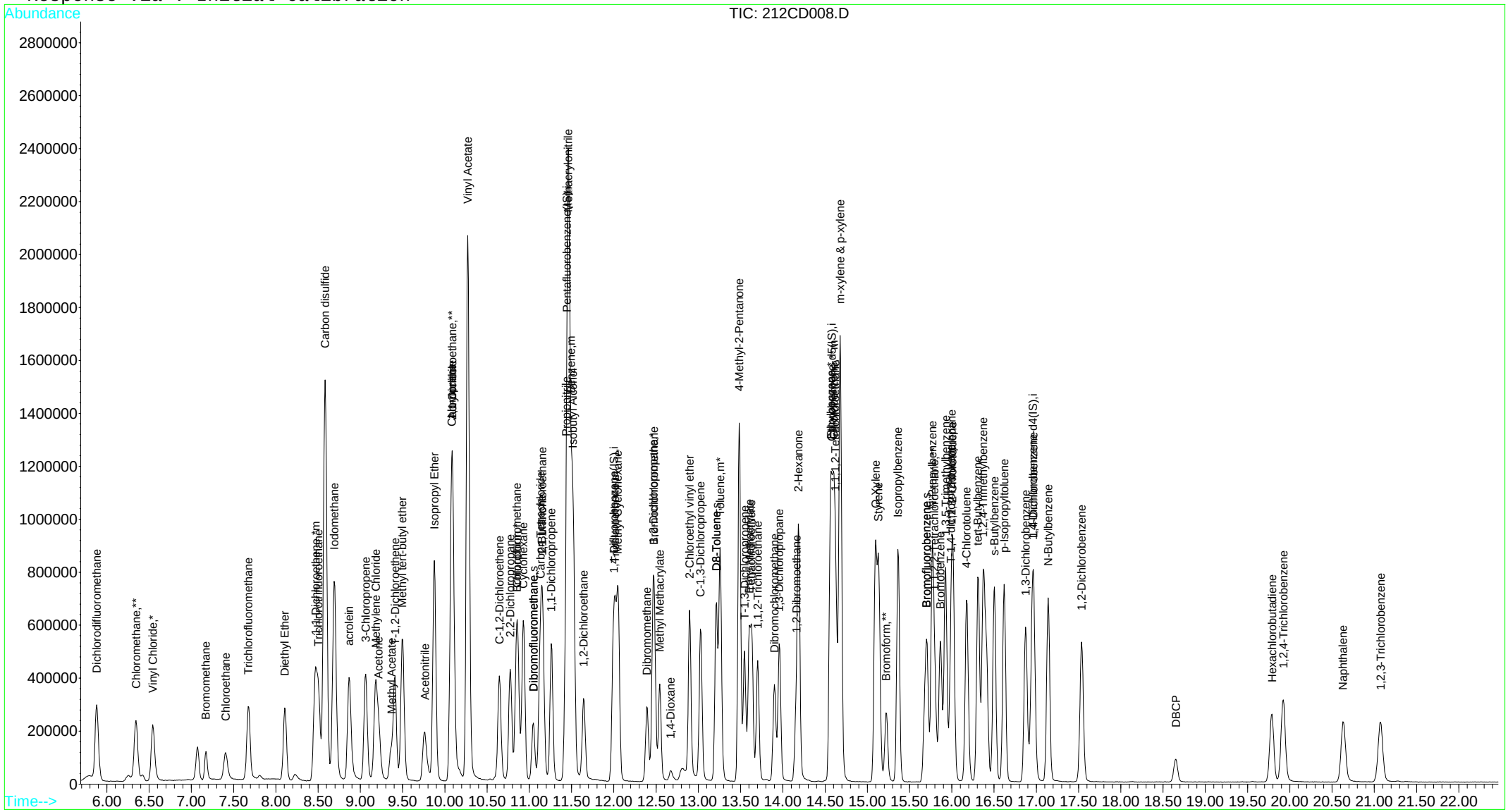
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	13.03	75	256537	52.37 ug/kg	99
55) D8-Toluene	13.21	98	401221	49.82 ug/kg	93
57) Toluene	13.26	92	294080	52.48 ug/kg	99
58) Ethyl Methacrylate	13.60	69	196532	47.77 ug/kg	98
59) T-1,3-Dichloropropene	13.55	75	211132	52.21 ug/kg	100
60) 1,1,2-Trichloroethane	13.70	97	113357	51.14 ug/kg	96
61) 1,3-Dichloropropane	13.96	76	235050	49.76 ug/kg	100
62) Tetrachloroethene	13.63	164	88700	52.21 ug/kg	93
63) Dibromochloromethane	13.90	129	160705	54.39 ug/kg	97
64) 1,2-Dibromoethane	14.16	107	140599	52.81 ug/kg	100
65) Chlorobenzene	14.61	112	320432	50.22 ug/kg	98
66) 1,1,1,2-Tetrachloroethane	14.63	131	130272	51.68 ug/kg#	72
67) Ethylbenzene	14.56	106	168026	52.58 ug/kg	98
68) m-xylene & p-xylene	14.68	106	406726	103.16 ug/kg	99
69) O-Xylene	15.09	106	206512	54.40 ug/kg	99
70) Bromoform	15.23	173	83355	54.78 ug/kg	99
71) Styrene	15.14	104	349096	53.15 ug/kg	99
72) Isopropylbenzene	15.36	105	513559	53.48 ug/kg	100
73) 1,2,3-Trichloropropane	15.99	75	175930	49.82 ug/kg	100
74) 1,1,2,2-Tetrachloroethane	15.80	83	145870	51.54 ug/kg	99
76) Bromofluorobenzene	15.71	95	183680	51.71 ug/kg#	65
77) T-1,4-dichloro-2-butene	15.98	53	42676	45.01 ug/kg	90
78) N-Propylbenzene	15.77	91	580894	53.40 ug/kg	98
80) Bromobenzene	15.86	156	128260	51.89 ug/kg	97
81) 1,3,5-Trimethylbenzene	15.93	105	394478	51.90 ug/kg	99
82) 2-Chlorotoluene	16.01	91	349413	49.22 ug/kg	97
83) 4-Chlorotoluene	16.17	91	368825	50.97 ug/kg	98
84) 1,2,4-Trimethylbenzene	16.37	105	398353	51.84 ug/kg	99
85) s-Butylbenzene	16.51	105	470021	52.75 ug/kg	100
86) tert-Butylbenzene	16.31	119	354072	53.15 ug/kg	99
87) p-Isopropyltoluene	16.62	119	418301	52.69 ug/kg	99
88) 1,3-Dichlorobenzene	16.87	146	224169	53.28 ug/kg	99
89) 1,4-Dichlorobenzene	16.97	146	225861	50.56 ug/kg	98
90) 1,2-Dichlorobenzene	17.54	146	216594	54.50 ug/kg	98
91) N-Butylbenzene	17.14	91	360779	55.04 ug/kg	99
92) DBCP	18.65	75	23844	44.61 ug/kg	94
93) Naphthalene	20.63	128	231475	64.12 ug/kg	100
94) 1,2,4-Trichlorobenzene	19.92	180	113383	56.18 ug/kg	98
95) Hexachlorobutadiene	19.78	225	51130	58.69 ug/kg	99
96) 1,2,3-Trichlorobenzene	21.07	180	89980	57.20 ug/kg	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\030921\212CD008.D Vial: 8
Acq On : 9 Mar 2021 11:22 am Operator: KG
Sample : AA65289-CAL7 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 11:44 2021 Quant Results File: 030921.RES

Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\030921\212CD008.D Vial: 8
Acq On : 9 Mar 2021 11:22 am Operator: KG
Sample : AA65289-CAL7 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 11:44 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Mar 09 11:17:08 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.44	168	226247	50.00	ug/kg	0.00
38) 1,4-Difluorobenzene(IS)	11.99	114	427385	50.00	ug/kg	0.00
56) Chlorobenzene-d5(IS)	14.58	82	206954	50.00	ug/kg	0.00
79) 1,4-Dichlorobenzene-d4(IS)	16.95	152	158337	50.00	ug/kg	0.00
System Monitoring Compounds						
30) Dibromofluoromethane	11.05	113	181098	72.31	ug/kg	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 144.62%			
54) D8-Toluene	13.21	98	561539	69.73	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 146		Recovery = 139.46%			
75) Bromofluorobenzene	15.71	95	250012	70.14	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 142		Recovery = 140.28%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.88	85	446116	97.11	ug/kg	100
3) Chloromethane	6.35	50	421278	84.41	ug/kg	98
4) Vinyl Chloride	6.54	62	354443	94.09	ug/kg	99
5) Bromomethane	7.17	96	81331	39.55	ug/kg	98
6) Chloroethane	7.40	64	168949	81.49	ug/kg	98
7) Trichlorofluoromethane	7.67	101	344562	94.11	ug/kg	100
8) Trichlorotrifluoroethane	8.51	101	211944	90.10	ug/kg	98
9) acrolein	8.87	56	551067	833.22	ug/kg	99
10) Acetone	9.22	43	350971	359.67	ug/kg	98
11) 1,1-Dichloroethene	8.46	96	193927	89.54	ug/kg	99
12) 3-Chloropropene	9.06	76	115962	80.23	ug/kg	100
13) Acetonitrile	9.76	41	351053	1026.48	ug/kg	98
14) Iodomethane	8.69	142	1318681	640.44	ug/kg	100
15) Carbon disulfide	8.58	76	3353140	455.90	ug/kg	100
16) Methylene Chloride	9.18	84	226130	77.56	ug/kg	99
17) Methyl tert-butyl ether	9.50	73	617213	84.68	ug/kg	99
18) Acrylonitrile	10.09	53	1273469	822.00	ug/kg	99
19) T-1,2-Dichloroethene	9.41	96	205588	88.07	ug/kg	99
20) Isopropyl Ether	9.88	45	1021459	82.73	ug/kg	99
21) C-1,2-Dichloroethene	10.65	96	229220	91.32	ug/kg	99
22) 1,1-Dichloroethane	10.08	63	406722	80.02	ug/kg#	68
23) Vinyl Acetate	10.27	43	3135851	372.94	ug/kg	100
24) Chloroprene	10.07	88	179737	85.97	ug/kg	96
25) 2-Butanone	11.15	72	112049	362.50	ug/kg	96
26) Propionitrile	11.43	54	346290	842.46	ug/kg	100
27) 2,2-Dichloropropane	10.77	77	333652	88.54	ug/kg	99
28) Methacrylonitrile	11.46	67	877734	756.61	ug/kg	99
29) Chloroform	10.86	83	391704	84.93	ug/kg	98
31) Dibromofluoromethane	11.05	113	181098	72.30	ug/kg	100
32) Bromochloromethane	10.84	128	130017	84.91	ug/kg	97
33) 1,1,1-Trichloroethane	11.16	97	316643	87.52	ug/kg	100
34) 1,1-Dichloropropene	11.26	75	314085	88.95	ug/kg	99
35) Diethyl Ether	8.10	59	222050	85.93	ug/kg	99
36) Methyl Acetate	9.36	74	38734	77.10	ug/kg#	97
37) Cyclohexane	10.93	56	369747	86.87	ug/kg	100
39) Methyl Cyclohexane	12.05	55	290052	83.11	ug/kg	98
40) Carbon Tetrachloride	11.13	117	331487	84.71	ug/kg	99
41) 1,2-Dichloroethane	11.64	62	330364	80.94	ug/kg	99
42) Benzene	11.50	78	742316	71.68	ug/kg	98
43) Isobutyl Alcohol	11.52	43	387451	1565.80	ug/kg	96
44) Trichloroethene	12.01	130	233537	87.02	ug/kg	98
45) 1,2-Dichloropropane	12.47	63	242199	76.31	ug/kg	100
46) Methyl Methacrylate	12.54	100	66373	84.47	ug/kg	98
47) 1,4-Dioxane	12.67	88	41327	1829.88	ug/kg	99
48) Bromodichloromethane	12.48	83	301294	83.19	ug/kg	99
49) Dibromomethane	12.39	93	155539	86.09	ug/kg	98
50) 4-Methyl-2-Pentanone	13.48	100	151548	367.95	ug/kg	98
51) 2-Chloroethyl vinyl ether	12.90	63	323559	537.23	ug/kg	99
52) 2-Hexanone	14.18	43	901514	391.03	ug/kg	99

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\030921\212CD008.D Vial: 8
Acq On : 9 Mar 2021 11:22 am Operator: KG
Sample : AA65289-CAL7 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 11:44 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Mar 09 11:17:08 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

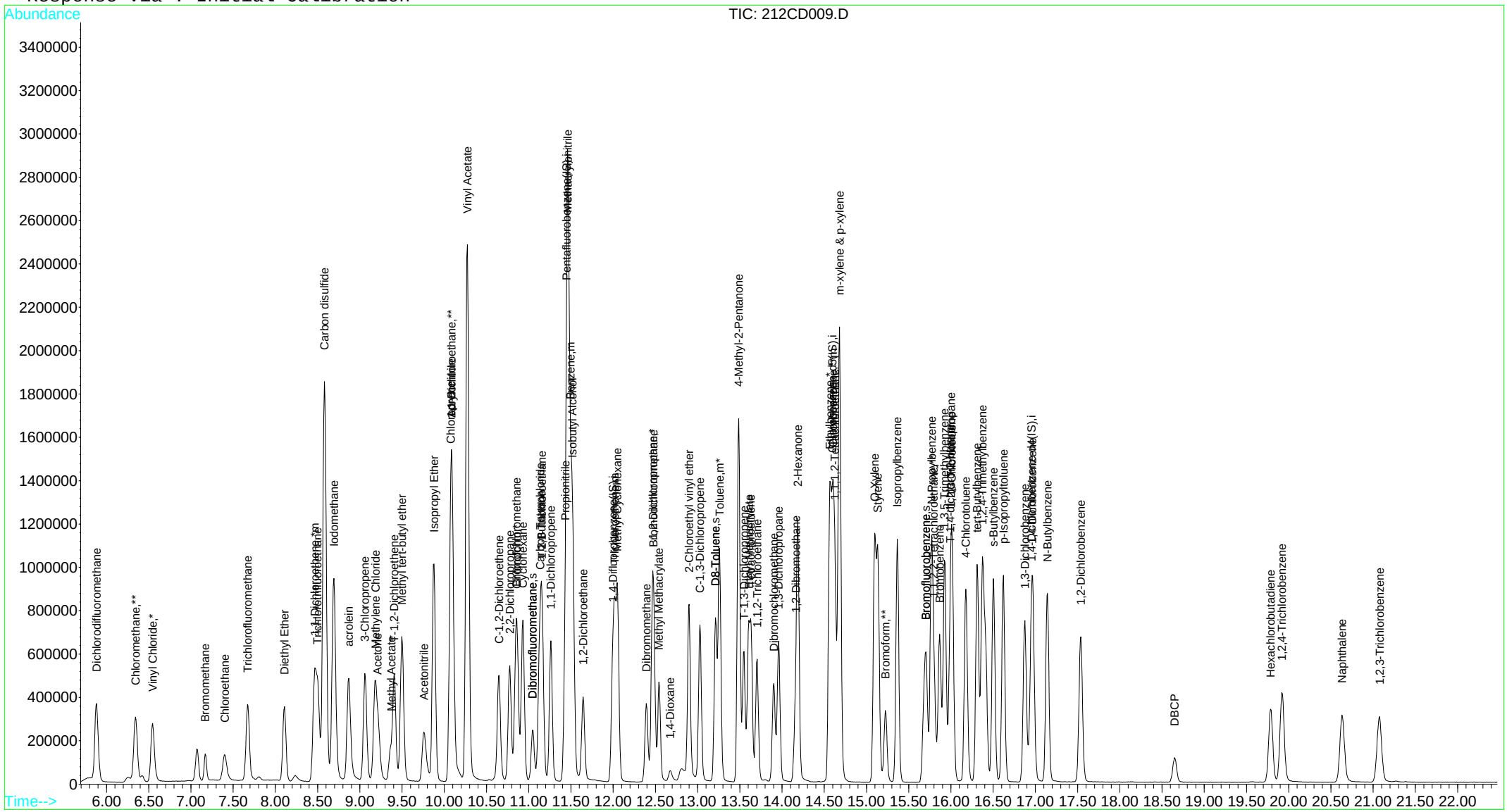
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	13.02	75	419617	84.95 ug/kg	100
55) D8-Toluene	13.21	98	561539	69.69 ug/kg	94
57) Toluene	13.26	92	482853	85.65 ug/kg	99
58) Ethyl Methacrylate	13.60	69	318818	78.24 ug/kg	100
59) T-1,3-Dichloropropene	13.55	75	344361	84.71 ug/kg	98
60) 1,1,2-Trichloroethane	13.70	97	180451	81.28 ug/kg	97
61) 1,3-Dichloropropane	13.96	76	384450	81.63 ug/kg	98
62) Tetrachloroethene	13.63	164	146445	85.75 ug/kg	99
63) Dibromochloromethane	13.90	129	263312	88.02 ug/kg	100
64) 1,2-Dibromoethane	14.15	107	232788	86.82 ug/kg	100
65) Chlorobenzene	14.61	112	528917	83.01 ug/kg	99
66) 1,1,1,2-Tetrachloroethane	14.63	131	214483	84.80 ug/kg#	56
67) Ethylbenzene	14.56	106	281311	87.47 ug/kg	98
68) m-xylene & p-xylene	14.68	106	680597	172.09 ug/kg	99
69) O-Xylene	15.09	106	345027	89.77 ug/kg	99
70) Bromoform	15.23	173	141048	91.44 ug/kg	97
71) Styrene	15.14	104	581067	87.75 ug/kg	99
72) Isopropylbenzene	15.36	105	851248	87.83 ug/kg	100
73) 1,2,3-Trichloropropane	15.99	75	293270	83.28 ug/kg	99
74) 1,1,2,2-Tetrachloroethane	15.80	83	237949	83.83 ug/kg	99
76) Bromofluorobenzene	15.71	95	250012	70.54 ug/kg#	61
77) T-1,4-dichloro-2-butene	15.98	53	73438	78.94 ug/kg	95
78) N-Propylbenzene	15.77	91	970591	88.42 ug/kg	100
80) Bromobenzene	15.87	156	213078	84.48 ug/kg	99
81) 1,3,5-Trimethylbenzene	15.93	105	658903	84.95 ug/kg	100
82) 2-Chlorotoluene	16.01	91	580194	80.81 ug/kg	100
83) 4-Chlorotoluene	16.17	91	616798	83.79 ug/kg	100
84) 1,2,4-Trimethylbenzene	16.37	105	665289	84.86 ug/kg	100
85) s-Butylbenzene	16.51	105	795225	87.21 ug/kg	100
86) tert-Butylbenzene	16.31	119	595080	87.18 ug/kg	100
87) p-Isopropyltoluene	16.62	119	706104	86.94 ug/kg	100
88) 1,3-Dichlorobenzene	16.87	146	383143	88.83 ug/kg	100
89) 1,4-Dichlorobenzene	16.97	146	385572	84.96 ug/kg	99
90) 1,2-Dichlorobenzene	17.54	146	368623	90.12 ug/kg	100
91) N-Butylbenzene	17.14	91	624186	92.36 ug/kg	100
92) DBCP	18.64	75	41977	78.87 ug/kg	99
93) Naphthalene	20.63	128	425188	110.93 ug/kg	100
94) 1,2,4-Trichlorobenzene	19.92	180	199006	95.27 ug/kg	98
95) Hexachlorobutadiene	19.79	225	92714	102.00 ug/kg	98
96) 1,2,3-Trichlorobenzene	21.07	180	158242	96.88 ug/kg	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\030921\212CD009.D Vial: 9
Acq On : 9 Mar 2021 11:50 am Operator: KG
Sample : AA65289-CAL8 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 12:13 2021 Quant Results File: 030921.RES

Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\030921\212CD009.D Vial: 9
Acq On : 9 Mar 2021 11:50 am Operator: KG
Sample : AA65289-CAL8 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 12:13 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Mar 09 11:17:20 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.44	168	228850	50.00	ug/kg	0.00
38) 1,4-Difluorobenzene(IS)	11.99	114	429679	50.00	ug/kg	0.00
56) Chlorobenzene-d5(IS)	14.59	82	211567	50.00	ug/kg	0.00
79) 1,4-Dichlorobenzene-d4(IS)	16.95	152	163882	50.00	ug/kg	0.00
System Monitoring Compounds						
30) Dibromofluoromethane	11.05	113	198201	78.24	ug/kg	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 156.48%#			
54) D8-Toluene	13.21	98	610001	75.35	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 146		Recovery = 150.70%#			
75) Bromofluorobenzene	15.70	95	276583	75.90	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 142		Recovery = 151.80%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.88	85	575298	123.81	ug/kg	99
3) Chloromethane	6.34	50	559373	110.81	ug/kg	99
4) Vinyl Chloride	6.55	62	457412	120.04	ug/kg	99
5) Bromomethane	7.17	96	85666	41.18	ug/kg	97
6) Chloroethane	7.40	64	210343	100.30	ug/kg	98
7) Trichlorofluoromethane	7.67	101	434380	117.29	ug/kg	99
8) Trichlorotrifluoroethane	8.50	101	264861	111.32	ug/kg	99
9) acrolein	8.87	56	673615	1006.92	ug/kg	100
10) Acetone	9.22	43	437221	442.96	ug/kg	98
11) 1,1-Dichloroethene	8.47	96	241986	110.46	ug/kg	100
12) 3-Chloropropene	9.06	76	145237	99.34	ug/kg	98
13) Acetonitrile	9.76	41	432559	1250.42	ug/kg	99
14) Iodomethane	8.69	142	1650738	792.59	ug/kg	100
15) Carbon disulfide	8.58	76	4114504	553.05	ug/kg	100
16) Methylene Chloride	9.18	84	278078	94.29	ug/kg	99
17) Methyl tert-butyl ether	9.50	73	762037	103.36	ug/kg	100
18) Acrylonitrile	10.09	53	1566403	999.59	ug/kg	99
19) T-1,2-Dichloroethene	9.41	96	262156	111.03	ug/kg	97
20) Isopropyl Ether	9.87	45	1255486	100.53	ug/kg	99
21) C-1,2-Dichloroethene	10.65	96	285011	112.26	ug/kg	99
22) 1,1-Dichloroethane	10.08	63	501596	97.56	ug/kg	100
23) Vinyl Acetate	10.27	43	3822229	449.40	ug/kg	99
24) Chloroprene	10.07	88	221479	104.74	ug/kg	96
25) 2-Butanone	11.15	72	138998	444.57	ug/kg	97
26) Propionitrile	11.43	54	431174	1037.04	ug/kg	100
27) 2,2-Dichloropropane	10.78	77	420250	110.25	ug/kg	99
28) Methacrylonitrile	11.46	67	1091640	930.29	ug/kg	97
29) Chloroform	10.87	83	492254	105.52	ug/kg	98
31) Dibromofluoromethane	11.05	113	198201	78.23	ug/kg	100
32) Bromochloromethane	10.85	128	161994	104.60	ug/kg	96
33) 1,1,1-Trichloroethane	11.16	97	395558	108.08	ug/kg	99
34) 1,1-Dichloropropene	11.26	75	390603	109.36	ug/kg	100
35) Diethyl Ether	8.11	59	275355	105.35	ug/kg	99
36) Methyl Acetate	9.36	74	48201	94.85	ug/kg	99
37) Cyclohexane	10.93	56	454233	105.50	ug/kg	100
39) Methyl Cyclohexane	12.05	55	357184	101.80	ug/kg	98
40) Carbon Tetrachloride	11.13	117	412129	104.76	ug/kg	100
41) 1,2-Dichloroethane	11.64	62	410844	100.12	ug/kg	99
42) Benzene	11.50	78	914060	87.79	ug/kg	97
43) Isobutyl Alcohol	11.52	43	472635	1899.85	ug/kg	97
44) Trichloroethene	12.02	130	294281	109.07	ug/kg	97
45) 1,2-Dichloropropane	12.46	63	302374	94.76	ug/kg	100
46) Methyl Methacrylate	12.54	100	84278	106.69	ug/kg	99
47) 1,4-Dioxane	12.68	88	53412	2352.35	ug/kg	99
48) Bromodichloromethane	12.48	83	378466	103.94	ug/kg	99
49) Dibromomethane	12.39	93	197877	108.93	ug/kg	98
50) 4-Methyl-2-Pentanone	13.49	100	190377	459.75	ug/kg	96
51) 2-Chloroethyl vinyl ether	12.90	63	417587	689.65	ug/kg	100
52) 2-Hexanone	14.19	43	1122837	484.42	ug/kg	99

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\030921\212CD009.D Vial: 9
Acq On : 9 Mar 2021 11:50 am Operator: KG
Sample : AA65289-CAL8 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 9 12:13 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Tue Mar 09 11:17:20 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

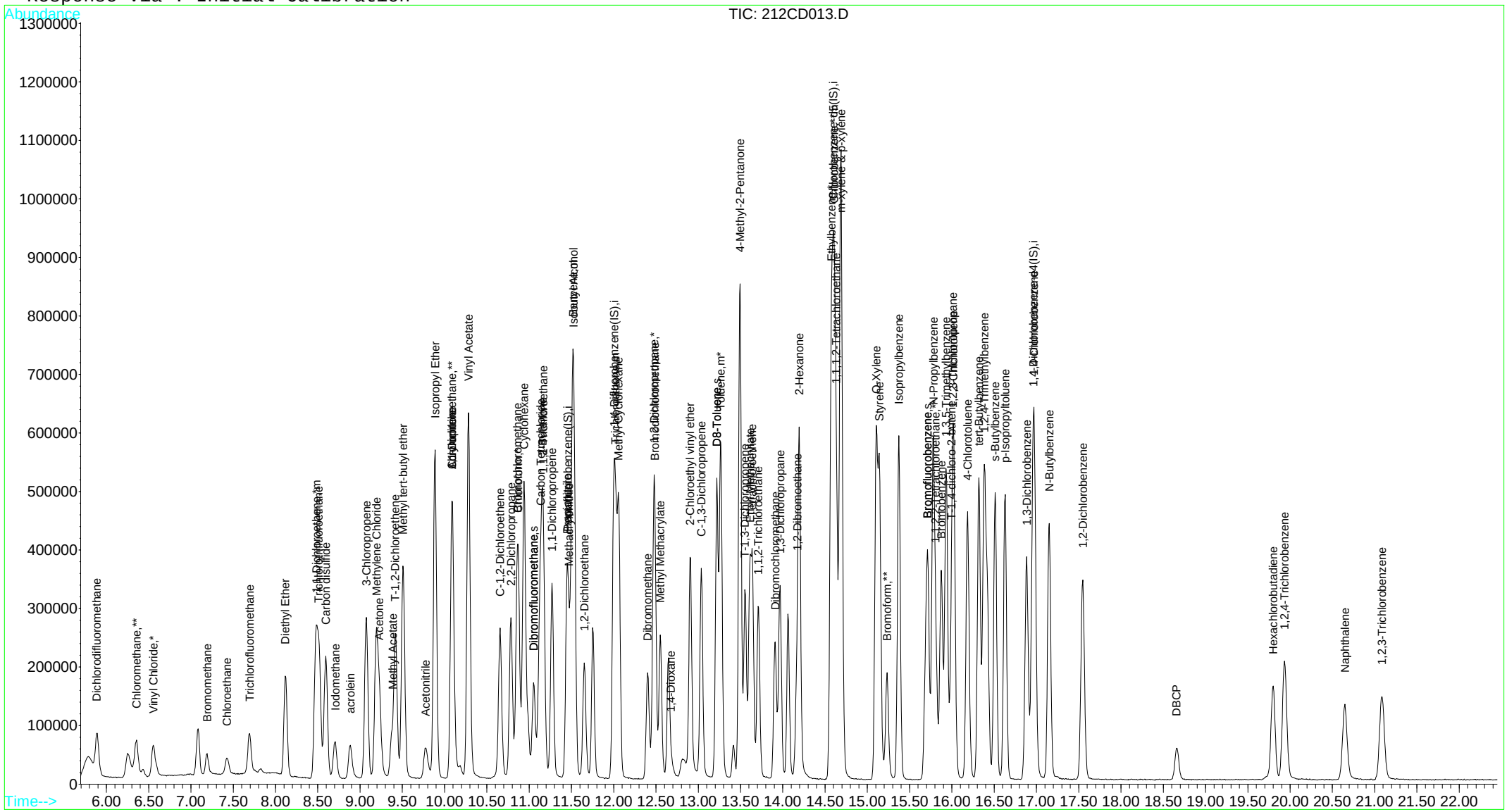
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
53) C-1,3-Dichloropropene	13.03	75	520528	104.82 ug/kg	100
55) D8-Toluene	13.21	98	610001	75.30 ug/kg	93
57) Toluene	13.26	92	606369	105.21 ug/kg	99
58) Ethyl Methacrylate	13.60	69	396283	95.13 ug/kg	99
59) T-1,3-Dichloropropene	13.55	75	434572	104.57 ug/kg	98
60) 1,1,2-Trichloroethane	13.71	97	229068	100.92 ug/kg	98
61) 1,3-Dichloropropane	13.96	76	481071	99.92 ug/kg	98
62) Tetrachloroethene	13.64	164	186774	106.99 ug/kg	99
63) Dibromochloromethane	13.90	129	335405	109.68 ug/kg	100
64) 1,2-Dibromoethane	14.16	107	293805	107.19 ug/kg	99
65) Chlorobenzene	14.60	112	663912	101.93 ug/kg	99
66) 1,1,1,2-Tetrachloroethane	14.63	131	270696	104.69 ug/kg#	78
67) Ethylbenzene	14.57	106	354043	107.69 ug/kg	98
68) m-xylene & p-xylene	14.68	106	849370	210.08 ug/kg	99
69) O-Xylene	15.10	106	437685	111.39 ug/kg	99
70) Bromoform	15.22	173	176695	112.05 ug/kg	99
71) Styrene	15.13	104	737027	108.87 ug/kg	99
72) Isopropylbenzene	15.36	105	1075065	108.50 ug/kg	100
73) 1,2,3-Trichloropropane	15.99	75	368186	102.28 ug/kg	99
74) 1,1,2,2-Tetrachloroethane	15.80	83	297537	102.53 ug/kg	99
76) Bromofluorobenzene	15.70	95	276583	76.33 ug/kg#	59
77) T-1,4-dichloro-2-butene	15.99	53	93716	98.54 ug/kg	93
78) N-Propylbenzene	15.77	91	1229533	109.57 ug/kg	100
80) Bromobenzene	15.87	156	271247	103.91 ug/kg	99
81) 1,3,5-Trimethylbenzene	15.93	105	838057	104.40 ug/kg	99
82) 2-Chlorotoluene	16.01	91	738976	99.44 ug/kg	99
83) 4-Chlorotoluene	16.18	91	791463	103.88 ug/kg	100
84) 1,2,4-Trimethylbenzene	16.37	105	849962	104.75 ug/kg	100
85) s-Butylbenzene	16.50	105	1014974	107.55 ug/kg	100
86) tert-Butylbenzene	16.31	119	766619	108.51 ug/kg	98
87) p-Isopropyltoluene	16.62	119	906055	107.78 ug/kg	99
88) 1,3-Dichlorobenzene	16.88	146	492393	110.29 ug/kg	100
89) 1,4-Dichlorobenzene	16.97	146	496164	105.64 ug/kg	99
90) 1,2-Dichlorobenzene	17.54	146	476906	112.65 ug/kg	99
91) N-Butylbenzene	17.14	91	791207	113.11 ug/kg	100
92) DBCP	18.65	75	54780	99.44 ug/kg	99
93) Naphthalene	20.63	128	577378	145.54 ug/kg	100
94) 1,2,4-Trichlorobenzene	19.93	180	263386	121.83 ug/kg	99
95) Hexachlorobutadiene	19.78	225	118851	126.33 ug/kg	98
96) 1,2,3-Trichlorobenzene	21.08	180	210790	124.69 ug/kg	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\030921\212CD013.D Vial: 13
Acq On : 9 Mar 2021 2:04 pm Operator: KG
Sample : AA65289-SCV1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 10 11:48 2021 Quant Results File: 030921.RES

Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Thu Mar 11 08:31:16 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\030921\212CD013.D Vial: 13
Acq On : 9 Mar 2021 2:04 pm Operator: KG
Sample : AA65289-SCV1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 10 11:48 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Wed Mar 10 11:37:03 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene(IS)	11.45	168	241526	50.00	ug/kg	0.00
38) 1,4-Difluorobenzene(IS)	12.00	114	436002	50.00	ug/kg	0.00
56) Chlorobenzene-d5(IS)	14.60	82	211494	50.00	ug/kg	0.01
79) 1,4-Dichlorobenzene-d4(IS)	16.95	152	162014	50.00	ug/kg	0.01
System Monitoring Compounds						
30) Dibromofluoromethane	11.05	113	129676	48.04	ug/kg	0.00
Spiked Amount 50.000	Range 53 - 146		Recovery = 96.08%			
54) D8-Toluene	13.22	98	414318	50.43	ug/kg	0.01
Spiked Amount 50.000	Range 41 - 146		Recovery = 100.86%			
75) Bromofluorobenzene	15.71	95	187389	51.35	ug/kg	0.00
Spiked Amount 50.000	Range 41 - 142		Recovery = 102.70%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	5.89	85	101463	19.58	ug/kg	98
3) Chloromethane	6.36	50	110249	20.28	ug/kg	99
4) Vinyl Chloride	6.56	62	85788	20.37	ug/kg	96
5) Bromomethane	7.19	96	28127	12.59	ug/kg	96
6) Chloroethane	7.42	64	42669	19.23	ug/kg	99
7) Trichlorofluoromethane	7.69	101	85168	20.88	ug/kg	100
8) Trichlorotrifluoroethane	8.52	101	133314	51.55	ug/kg	99
9) acrolein	8.89	56	86415	121.66	ug/kg	98
10) Acetone	9.23	43	261169	281.90	ug/kg	98
11) 1,1-Dichloroethene	8.48	96	118632	49.91	ug/kg	99
12) 3-Chloropropene	9.08	76	80880	52.44	ug/kg	100
13) Acetonitrile	9.77	41	106740	274.09	ug/kg	97
14) Iodomethane	8.70	142	109164	31.76	ug/kg	100
15) Carbon disulfide	8.60	76	453823	56.08	ug/kg	100
16) Methylene Chloride	9.20	84	148395	48.20	ug/kg	100
17) Methyl tert-butyl ether	9.51	73	412289	52.38	ug/kg	99
18) Acrylonitrile	10.09	53	319587	192.59	ug/kg#	72
19) T-1,2-Dichloroethene	9.42	96	132097	51.65	ug/kg	99
20) Isopropyl Ether	9.89	45	690387	52.12	ug/kg	100
21) C-1,2-Dichloroethene	10.66	96	150017	54.20	ug/kg	99
22) 1,1-Dichloroethane	10.09	63	278049	51.40	ug/kg	100
23) Vinyl Acetate	10.28	43	442429	50.35	ug/kg	98
24) Chloroprene	10.09	88	120372	53.12	ug/kg	1
25) 2-Butanone	11.16	72	79759m	271.47	ug/kg	
26) Propionitrile	11.44	54	20314	45.78	ug/kg	100
27) 2,2-Dichloropropane	10.78	77	217288	52.63	ug/kg	100
28) Methacrylonitrile	11.48	67	61933	50.80	ug/kg	86
29) Chloroform	10.88	83	255547	51.16	ug/kg	95
31) Dibromofluoromethane	11.05	113	129676	48.04	ug/kg	100
32) Bromochloromethane	10.85	128	86958	52.50	ug/kg	98
33) 1,1,1-Trichloroethane	11.17	97	205463	52.06	ug/kg	99
34) 1,1-Dichloropropene	11.27	75	200537	51.87	ug/kg	99
35) Diethyl Ether	8.12	59	141906	50.64	ug/kg	98
36) Methyl Acetate	9.38	74	25307	47.71	ug/kg	97
37) Cyclohexane	10.94	56	248100	53.66	ug/kg	99
39) Methyl Cyclohexane	12.06	55	190278	53.07	ug/kg	99
40) Carbon Tetrachloride	11.13	117	210560	52.05	ug/kg	99
41) 1,2-Dichloroethane	11.65	62	216541	51.92	ug/kg	98
42) Benzene	11.51	78	527635	56.50	ug/kg#	50
43) Isobutyl Alcohol	11.53	43	166249	664.52	ug/kg#	1
44) Trichloroethene	12.03	130	151322	54.06	ug/kg	98
45) 1,2-Dichloropropane	12.47	63	158989	49.71	ug/kg	99
46) Methyl Methacrylate	12.56	100	44844	55.10	ug/kg	100
47) 1,4-Dioxane	12.68	88	23679	988.23	ug/kg	97
48) Bromodichloromethane	12.49	83	197648	52.97	ug/kg	100
49) Dibromomethane	12.40	93	99320	52.79	ug/kg	100
50) 4-Methyl-2-Pentanone	13.50	100	99128	257.15	ug/kg	93
51) 2-Chloroethyl vinyl ether	12.91	63	190991	232.18	ug/kg	99
52) 2-Hexanone	14.19	43	564717	241.72	ug/kg	100

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\030921\212CD013.D Vial: 13
Acq On : 9 Mar 2021 2:04 pm Operator: KG
Sample : AA65289-SCV1 Inst : OVGCMS2
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 10 11:48 2021 Quant Results File: 030921.RES

Quant Method : C:\HPCHEM\1\METHODS\030921.M (RTE Integrator)
Title : ENCO SOP VGCMS/05; element cal
Last Update : Wed Mar 10 11:37:03 2021
Response via : Initial Calibration
DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) C-1,3-Dichloropropene	13.04	75	254362	49.79	ug/kg	98
55) D8-Toluene	13.22	98	414318	50.43	ug/kg	93
57) Toluene	13.27	92	320275	54.75	ug/kg	99
58) Ethyl Methacrylate	13.61	69	203404	49.28	ug/kg	99
59) T-1,3-Dichloropropene	13.55	75	231809	55.08	ug/kg	100
60) 1,1,2-Trichloroethane	13.71	97	118005	51.85	ug/kg	96
61) 1,3-Dichloropropane	13.97	76	243197	50.41	ug/kg	100
62) Tetrachloroethene	13.64	164	95727	53.90	ug/kg	99
63) Dibromochloromethane	13.91	129	174564	55.73	ug/kg	99
64) 1,2-Dibromoethane	14.17	107	148111	53.01	ug/kg	100
65) Chlorobenzene	14.61	112	349792	53.34	ug/kg	100
66) 1,1,1,2-Tetrachloroethane	14.64	131	141709	54.10	ug/kg	97
67) Ethylbenzene	14.57	106	184295	54.91	ug/kg	97
68) m-xylene & p-xylene	14.69	106	430965	104.98	ug/kg	100
69) O-Xylene	15.11	106	227451	56.25	ug/kg	98
70) Bromoform	15.23	173	95384	58.58	ug/kg	98
71) Styrene	15.14	104	379517	54.81	ug/kg	99
72) Isopropylbenzene	15.37	105	561483	55.42	ug/kg	100
73) 1,2,3-Trichloropropane	16.00	75	183209	50.51	ug/kg	100
74) 1,1,2,2-Tetrachloroethane	15.81	83	151382	51.71	ug/kg	99
76) Bromofluorobenzene	15.71	95	187389	51.35	ug/kg#	65
77) T-1,4-dichloro-2-butene	15.99	53	42194	44.53	ug/kg	90
78) N-Propylbenzene	15.78	91	638895	55.56	ug/kg	100
80) Bromobenzene	15.87	156	141510	54.19	ug/kg	100
81) 1,3,5-Trimethylbenzene	15.93	105	439785	54.69	ug/kg	100
82) 2-Chlorotoluene	16.02	91	381727	51.93	ug/kg	100
83) 4-Chlorotoluene	16.19	91	406683	53.42	ug/kg	99
84) 1,2,4-Trimethylbenzene	16.38	105	446194	54.88	ug/kg	99
85) s-Butylbenzene	16.51	105	528277	55.47	ug/kg	100
86) tert-Butylbenzene	16.32	119	394580	55.29	ug/kg	98
87) p-Isopropyltoluene	16.63	119	463619	54.66	ug/kg	100
88) 1,3-Dichlorobenzene	16.88	146	251664	55.54	ug/kg	99
89) 1,4-Dichlorobenzene	16.98	146	246025	52.21	ug/kg	99
90) 1,2-Dichlorobenzene	17.55	146	239735	55.52	ug/kg	100
91) N-Butylbenzene	17.15	91	395563	55.23	ug/kg	99
92) DBCP	18.66	75	27013	50.77	ug/kg	99
93) Naphthalene	20.65	128	242673	50.45	ug/kg	100
94) 1,2,4-Trichlorobenzene	19.93	180	130949	58.29	ug/kg	99
95) Hexachlorobutadiene	19.80	225	56989	57.41	ug/kg	99
96) 1,2,3-Trichlorobenzene	21.09	180	102888	58.23	ug/kg	98

(#) = qualifier out of range (m) = manual integration

TETRA TECH ISG
TtEGS, Information Systems Group

Completion Ticket

On 4/13/2021 at 10:11 AM the following files were submitted to Tetra Tech by kdylnicki@encolabs.com with ENCO:

TE016AE02207A1.txt, TE016AE02207A3.txt

If you need to identify this session at a later date refer to Ticket Key:

2021413_3368797049_ledd_ENCO

You may print this page by clicking on the "Print This Page" button

Thank you for using the Data Checker, to upload more files click the "Upload/Check Files" link on navigation menu.

Print this Page Back To Upload

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I Lori S. Mangrum, as the designated Quality Assurance Officer, hereby attest that all electronic deliverables have been thoroughly reviewed and are in agreement with the associated hardcopy data. The enclosed electronic files have been reviewed for accuracy (including significant figures), completeness and format. The laboratory will be responsible for any labor time necessary to correct enclosed electronic deliverables that have been found to be in error. I can be reached at (407) 826-5314 if there are any questions or problems with the enclosed electronic deliverables.

Signature:_____ Title: Quality Assurance Manager Date: April 13, 2021

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Login Report	18
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ENCO Laboratories
Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Thursday, March 25, 2021
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AE02207

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Thursday, March 18, 2021.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

www.encolabs.com

Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Client PM: Alex Murphy
Project Number: 112G08970
ENCO Project ID: AE02207
SDG: AE02207-TE016

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling and processing will be discussed in the Remarks section below.

Remarks

List of instruments used:

Analytical and Preparation Method	SOP Reference Instrument
EPA 8260D / 5030B_MS	OVGCMS2

Analysis: EPA 8260D

Manual integrations were performed on samples associated with EPA 8260D. All data & explanations are included in the raw data section of the report.

Affected Samples: AA65533-CCV1, CRCA-ASEFFLUENT-20210318[AE02207-01], CRCA-ASINFLUENT-20210318[AE02207-02]
The associated calibration verification standard for bromoform and bromomethane exhibited high bias. Analyte(s) not detected in the sample.

Affected Samples: AA65533-CCV1
The continuing calibration verification standard exhibited low bias for multiple analytes; the associated sample had ND (non-detect) results, but sensitivity was verified by analyzing a standard with a concentration equivalent to the reporting limit.

Affected Samples: AA65289-SCV1
SCV recovery for bromomethane was outside acceptance limits. Analyte(s) not detected in the sample.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Kaitlin Dylnicki
Project Manager

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-ASEFFLUENT-20210318	Lab ID: AE02207-01	Sampled: 03/18/21 12:00	Received: 03/18/21 14:10

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	04/01/21	03/24/21 09:25	03/24/21 14:50

Client ID: CRCA-ASINFLUENT-20210318	Lab ID: AE02207-02	Sampled: 03/18/21 12:10	Received: 03/18/21 14:10

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	04/01/21	03/24/21 09:25	03/24/21 15:18

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-ASINFLUENT-20210318 **Lab ID:** AE02207-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	13		0.71	2.5	ug/L	EPA 8260D	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20210318 **Lab Sample ID:** AE02207-01 **Received:** 03/18/21 14:10

Matrix: Ground Water **Sampled:** 03/18/21 12:00 **Work Order:** AE02207

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1C24011	EPA 8260D	03/24/21 14:50	KG	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1C24011	EPA 8260D	03/24/21 14:50	KG	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1C24011	EPA 8260D	03/24/21 14:50	KG	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1C24011	EPA 8260D	03/24/21 14:50	KG	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	QV-01
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1C24011	EPA 8260D	03/24/21 14:50	KG	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1C24011	EPA 8260D	03/24/21 14:50	KG	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1C24011	EPA 8260D	03/24/21 14:50	KG	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	

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ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20210318 **Lab Sample ID:** AE02207-01 **Received:** 03/18/21 14:10

Matrix: Ground Water **Sampled:** 03/18/21 12:00 **Work Order:** AE02207

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1C24011	EPA 8260D	03/24/21 14:50	KG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*46*	*1*	*50.0*	*93 %*	*41-142*	*1C24011*	*EPA 8260D*	*03/24/21 14:50*	*KG*	
Dibromofluoromethane	*49*	*1*	*50.0*	*98 %*	*53-146*	*1C24011*	*EPA 8260D*	*03/24/21 14:50*	*KG*	
Toluene-d8	*48*	*1*	*50.0*	*96 %*	*41-146*	*1C24011*	*EPA 8260D*	*03/24/21 14:50*	*KG*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20210318 **Lab Sample ID:** AE02207-02 **Received:** 03/18/21 14:10

Matrix: Ground Water **Sampled:** 03/18/21 12:10 **Work Order:** AE02207

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1C24011	EPA 8260D	03/24/21 15:18	KG	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1C24011	EPA 8260D	03/24/21 15:18	KG	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1C24011	EPA 8260D	03/24/21 15:18	KG	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1C24011	EPA 8260D	03/24/21 15:18	KG	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	QV-01
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1C24011	EPA 8260D	03/24/21 15:18	KG	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1C24011	EPA 8260D	03/24/21 15:18	KG	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1C24011	EPA 8260D	03/24/21 15:18	KG	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20210318 **Lab Sample ID:** AE02207-02 **Received:** 03/18/21 14:10

Matrix: Ground Water **Sampled:** 03/18/21 12:10 **Work Order:** AE02207

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Vinyl chloride [75-01-4]^	**13**		ug/L	1	0.71	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1C24011	EPA 8260D	03/24/21 15:18	KG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*47*	*1*	*50.0*	*93 %*	*41-142*	*1C24011*	*EPA 8260D*	*03/24/21 15:18*	*KG*	
Dibromofluoromethane	*49*	*1*	*50.0*	*98 %*	*53-146*	*1C24011*	*EPA 8260D*	*03/24/21 15:18*	*KG*	
Toluene-d8	*48*	*1*	*50.0*	*96 %*	*41-146*	*1C24011*	*EPA 8260D*	*03/24/21 15:18*	*KG*	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1C24011 - EPA 5030B_MS

Blank (1C24011-BLK1) Prepared: 03/24/2021 00:00 Analyzed: 03/24/2021 12:04

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1C24011 - EPA 5030B_MS - Continued

Blank (1C24011-BLK1) Continued Prepared: 03/24/2021 00:00 Analyzed: 03/24/2021 12:04

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*45*	*I*		*ug/L*	*50.0*		*90*	*41-142*			
Dibromofluoromethane	*47*	*I*		*ug/L*	*50.0*		*94*	*53-146*			
Toluene-d8	*48*	*I*		*ug/L*	*50.0*		*96*	*41-146*			

LCS (1C24011-BS1) Prepared: 03/24/2021 00:00 Analyzed: 03/24/2021 09:12

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	17		2.5	ug/L	20.0		85	57-148			
1,1,2,2-Tetrachloroethane	21		2.5	ug/L	20.0		104	60-139			
1,1,2-Trichloroethane	21		2.5	ug/L	20.0		104	57-141			
1,1-Dichloroethane	16		2.5	ug/L	20.0		82	57-142			
1,1-Dichloroethene	18		2.5	ug/L	20.0		90	47-139			
1,2,4-Trichlorobenzene	22		2.5	ug/L	20.0		110	52-159			
1,2-Dibromo-3-chloropropane	17		2.5	ug/L	20.0		87	48-150			
1,2-Dibromoethane	21		2.5	ug/L	20.0		106	57-140			
1,2-Dichlorobenzene	22		2.5	ug/L	20.0		108	63-131			
1,2-Dichloroethane	17		2.5	ug/L	20.0		83	50-156			
1,2-Dichloropropane	17		2.5	ug/L	20.0		84	61-133			
1,3-Dichlorobenzene	21		2.5	ug/L	20.0		105	66-129			
1,4-Dichlorobenzene	20		2.5	ug/L	20.0		99	65-133			
2-Butanone	130		12	ug/L	100		130	10-180			
2-Hexanone	83		12	ug/L	100		83	12-180			
4-Methyl-2-pentanone	110		12	ug/L	100		105	19-180			
Acetone	88		25	ug/L	100		88	10-180			
Benzene	20		2.5	ug/L	20.0		102	56-136			
Bromodichloromethane	18		2.5	ug/L	20.0		92	58-135			
Bromoform	25		2.5	ug/L	20.0		125	46-148			
Bromomethane	7.7		2.5	ug/L	20.0		38	10-173			
Carbon disulfide	20		12	ug/L	20.0		101	43-153			
Carbon Tetrachloride	19		2.5	ug/L	20.0		93	54-156			
Chlorobenzene	22		2.5	ug/L	20.0		108	51-139			
Chloroethane	15		2.5	ug/L	20.0		75	27-180			
Chloroform	17		2.5	ug/L	20.0		87	58-139			
Chloromethane	9.9		2.5	ug/L	20.0		50	33-154			
cis-1,2-Dichloroethene	19		2.5	ug/L	20.0		95	56-128			
cis-1,3-Dichloropropene	18		2.5	ug/L	20.0		88	64-128			
Cyclohexane	18		2.5	ug/L	20.0		89	70-130			
Dibromochloromethane	23		2.5	ug/L	20.0		115	50-140			
Dichlorodifluoromethane	7.2		2.5	ug/L	20.0		36	10-180			
Ethylbenzene	22		2.5	ug/L	20.0		110	63-133			
Freon 113	18		2.5	ug/L	20.0		91	47-173			
Isopropylbenzene	22		2.5	ug/L	20.0		108	60-132			
m,p-Xylenes	42		5.0	ug/L	40.0		105	64-133			
Methyl acetate	17		2.5	ug/L	20.0		86	70-130			
Methyl cyclohexane	18		2.5	ug/L	20.0		88	70-130			
Methylene Chloride	17		12	ug/L	20.0		84	43-142			
Methyl-tert-Butyl Ether	17		2.5	ug/L	20.0		86	51-145			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1C24011 - EPA 5030B_MS - Continued

LCS (1C24011-BS1) Continued Prepared: 03/24/2021 00:00 Analyzed: 03/24/2021 09:12

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
o-Xylene	22		2.5	ug/L	20.0		109	61-129			
Styrene	21		2.5	ug/L	20.0		107	59-136			
Tetrachloroethene	24		2.5	ug/L	20.0		122	60-147			
Toluene	21		2.5	ug/L	20.0		106	64-131			
trans-1,2-Dichloroethene	19		2.5	ug/L	20.0		93	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0		105	65-149			
Trichloroethene	21		2.5	ug/L	20.0		103	62-135			
Trichlorofluoromethane	16		2.5	ug/L	20.0		81	56-155			
Vinyl chloride	13		2.5	ug/L	20.0		67	20-167			
4-Bromofluorobenzene	*47*	*I*		*ug/L*	*50.0*		*95*	*41-142*			
Dibromofluoromethane	*47*	*I*		*ug/L*	*50.0*		*94*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*99*	*41-146*			

Matrix Spike (1C24011-MS1) Prepared: 03/24/2021 00:00 Analyzed: 03/24/2021 09:41

Source: AE02221-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	19		2.5	ug/L	20.0	0.80 U	93	57-148			
1,1,2,2-Tetrachloroethane	20		2.5	ug/L	20.0	0.54 U	100	60-139			
1,1,2-Trichloroethane	22		2.5	ug/L	20.0	0.76 U	109	57-141			
1,1-Dichloroethane	17		2.5	ug/L	20.0	0.62 U	86	57-142			
1,1-Dichloroethene	19		2.5	ug/L	20.0	0.94 U	97	47-139			
1,2,4-Trichlorobenzene	20		2.5	ug/L	20.0	0.70 U	102	52-159			
1,2-Dibromo-3-chloropropane	15		2.5	ug/L	20.0	0.96 U	77	48-150			
1,2-Dibromoethane	21		2.5	ug/L	20.0	0.78 U	104	57-140			
1,2-Dichlorobenzene	21		2.5	ug/L	20.0	0.73 U	104	63-131			
1,2-Dichloroethane	17		2.5	ug/L	20.0	0.63 U	84	50-156			
1,2-Dichloropropane	18		2.5	ug/L	20.0	0.80 U	89	61-133			
1,3-Dichlorobenzene	21		2.5	ug/L	20.0	0.77 U	106	66-129			
1,4-Dichlorobenzene	20		2.5	ug/L	20.0	0.76 U	101	65-133			
2-Butanone	120		12	ug/L	100	4.5 U	122	10-180			
2-Hexanone	78		12	ug/L	100	2.5 U	78	12-180			
4-Methyl-2-pentanone	100		12	ug/L	100	2.5 U	104	19-180			
Acetone	77		25	ug/L	100	10 U	77	10-180			
Benzene	21		2.5	ug/L	20.0	0.71 U	104	56-136			
Bromodichloromethane	19		2.5	ug/L	20.0	0.52 U	94	58-135			
Bromoform	25		2.5	ug/L	20.0	0.75 U	123	46-148			
Bromomethane	9.6		2.5	ug/L	20.0	0.95 U	48	10-173			
Carbon disulfide	20		12	ug/L	20.0	2.5 U	101	43-153			
Carbon Tetrachloride	20		2.5	ug/L	20.0	0.94 U	100	54-156			
Chlorobenzene	22		2.5	ug/L	20.0	0.72 U	110	51-139			
Chloroethane	17		2.5	ug/L	20.0	0.98 U	84	27-180			
Chloroform	18		2.5	ug/L	20.0	0.80 U	89	58-139			
Chloromethane	11		2.5	ug/L	20.0	0.82 U	55	33-154			
cis-1,2-Dichloroethene	19		2.5	ug/L	20.0	0.53 U	97	56-128			
cis-1,3-Dichloropropene	18		2.5	ug/L	20.0	0.59 U	89	64-128			
Cyclohexane	19		2.5	ug/L	20.0	0.93 U	96	70-130			
Dibromochloromethane	23		2.5	ug/L	20.0	0.50 U	113	50-140			
Dichlorodifluoromethane	8.5		2.5	ug/L	20.0	0.74 U	42	10-180			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1C24011 - EPA 5030B_MS - Continued

Matrix Spike (1C24011-MS1) Continued Prepared: 03/24/2021 00:00 Analyzed: 03/24/2021 09:41

Source: AE02221-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	23		2.5	ug/L	20.0	0.69 U	113	63-133			
Freon 113	20		2.5	ug/L	20.0	0.73 U	99	47-173			
Isopropylbenzene	23		2.5	ug/L	20.0	0.67 U	116	60-132			
m,p-Xylenes	44		5.0	ug/L	40.0	1.3 U	110	64-133			
Methyl acetate	17		2.5	ug/L	20.0	0.95 U	84	70-130			
Methyl cyclohexane	19		2.5	ug/L	20.0	0.64 U	96	70-130			
Methylene Chloride	17		12	ug/L	20.0	2.5 U	86	43-142			
Methyl-tert-Butyl Ether	17		2.5	ug/L	20.0	0.60 U	85	51-145			
o-Xylene	23		2.5	ug/L	20.0	0.53 U	113	61-129			
Styrene	22		2.5	ug/L	20.0	0.61 U	111	59-136			
Tetrachloroethene	25		2.5	ug/L	20.0	0.76 U	123	60-147			
Toluene	23		2.5	ug/L	20.0	0.72 U	113	64-131			
trans-1,2-Dichloroethene	20		2.5	ug/L	20.0	0.73 U	98	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0	0.73 U	107	65-149			
Trichloroethene	22		2.5	ug/L	20.0	0.89 U	108	62-135			
Trichlorofluoromethane	18		2.5	ug/L	20.0	0.94 U	92	56-155			
Vinyl chloride	15		2.5	ug/L	20.0	0.71 U	73	20-167			
4-Bromofluorobenzene	*47*	*I*		*ug/L*	*50.0*		*95*	*41-142*			
Dibromofluoromethane	*47*	*I*		*ug/L*	*50.0*		*93*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*97*	*41-146*			

Matrix Spike Dup (1C24011-MSD1) Prepared: 03/24/2021 00:00 Analyzed: 03/24/2021 10:10

Source: AE02221-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	18		2.5	ug/L	20.0	0.80 U	89	57-148	4	25	
1,1,2,2-Tetrachloroethane	20		2.5	ug/L	20.0	0.54 U	100	60-139	0.1	17	
1,1,2-Trichloroethane	21		2.5	ug/L	20.0	0.76 U	104	57-141	4	16	
1,1-Dichloroethane	17		2.5	ug/L	20.0	0.62 U	84	57-142	2	24	
1,1-Dichloroethene	19		2.5	ug/L	20.0	0.94 U	94	47-139	4	16	
1,2,4-Trichlorobenzene	20		2.5	ug/L	20.0	0.70 U	102	52-159	0.2	24	
1,2-Dibromo-3-chloropropane	16		2.5	ug/L	20.0	0.96 U	81	48-150	4	21	
1,2-Dibromoethane	21		2.5	ug/L	20.0	0.78 U	104	57-140	0.4	16	
1,2-Dichlorobenzene	21		2.5	ug/L	20.0	0.73 U	105	63-131	1	25	
1,2-Dichloroethane	16		2.5	ug/L	20.0	0.63 U	82	50-156	2	18	
1,2-Dichloropropane	17		2.5	ug/L	20.0	0.80 U	85	61-133	5	26	
1,3-Dichlorobenzene	21		2.5	ug/L	20.0	0.77 U	107	66-129	0.9	23	
1,4-Dichlorobenzene	20		2.5	ug/L	20.0	0.76 U	98	65-133	2	23	
2-Butanone	120		12	ug/L	100	4.5 U	121	10-180	0.3	29	
2-Hexanone	81		12	ug/L	100	2.5 U	81	12-180	4	28	
4-Methyl-2-pentanone	100		12	ug/L	100	2.5 U	104	19-180	0.08	24	
Acetone	79		25	ug/L	100	10 U	79	10-180	2	19	
Benzene	21		2.5	ug/L	20.0	0.71 U	103	56-136	2	14	
Bromodichloromethane	18		2.5	ug/L	20.0	0.52 U	92	58-135	1	19	
Bromoform	24		2.5	ug/L	20.0	0.75 U	120	46-148	3	18	
Bromomethane	11		2.5	ug/L	20.0	0.95 U	53	10-173	9	29	
Carbon disulfide	19		12	ug/L	20.0	2.5 U	97	43-153	4	26	
Carbon Tetrachloride	20		2.5	ug/L	20.0	0.94 U	98	54-156	2	27	
Chlorobenzene	21		2.5	ug/L	20.0	0.72 U	107	51-139	3	13	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1C24011 - EPA 5030B_MS - Continued

Matrix Spike Dup (1C24011-MSD1) Continued Prepared: 03/24/2021 00:00 Analyzed: 03/24/2021 10:10

Source: AE02221-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloroethane	15		2.5	ug/L	20.0	0.98 U	77	27-180	8	22	
Chloroform	18		2.5	ug/L	20.0	0.80 U	88	58-139	2	17	
Chloromethane	11		2.5	ug/L	20.0	0.82 U	55	33-154	0.5	31	
cis-1,2-Dichloroethene	19		2.5	ug/L	20.0	0.53 U	95	56-128	2	17	
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0	0.59 U	87	64-128	2	20	
Cyclohexane	19		2.5	ug/L	20.0	0.93 U	93	70-130	3	20	
Dibromochloromethane	23		2.5	ug/L	20.0	0.50 U	113	50-140	0.09	18	
Dichlorodifluoromethane	8.1		2.5	ug/L	20.0	0.74 U	41	10-180	5	26	
Ethylbenzene	22		2.5	ug/L	20.0	0.69 U	112	63-133	1	18	
Freon 113	19		2.5	ug/L	20.0	0.73 U	95	47-173	3	30	
Isopropylbenzene	22		2.5	ug/L	20.0	0.67 U	112	60-132	3	23	
m,p-Xylenes	43		5.0	ug/L	40.0	1.3 U	107	64-133	3	18	
Methyl acetate	17		2.5	ug/L	20.0	0.95 U	86	70-130	3	20	
Methyl cyclohexane	19		2.5	ug/L	20.0	0.64 U	93	70-130	2	20	
Methylene Chloride	17		12	ug/L	20.0	2.5 U	83	43-142	3	23	
Methyl-tert-Butyl Ether	17		2.5	ug/L	20.0	0.60 U	85	51-145	0.2	22	
o-Xylene	22		2.5	ug/L	20.0	0.53 U	112	61-129	2	16	
Styrene	22		2.5	ug/L	20.0	0.61 U	108	59-136	2	32	
Tetrachloroethene	24		2.5	ug/L	20.0	0.76 U	122	60-147	1	21	
Toluene	22		2.5	ug/L	20.0	0.72 U	110	64-131	3	16	
trans-1,2-Dichloroethene	19		2.5	ug/L	20.0	0.73 U	94	54-134	4	20	
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0	0.73 U	104	65-149	3	17	
Trichloroethene	21		2.5	ug/L	20.0	0.89 U	106	62-135	2	20	
Trichlorofluoromethane	18		2.5	ug/L	20.0	0.94 U	88	56-155	5	22	
Vinyl chloride	15		2.5	ug/L	20.0	0.71 U	73	20-167	0.4	24	
4-Bromofluorobenzene	*47*	*I*		*ug/L*	*50.0*		*94*	*41-142*			
Dibromofluoromethane	*45*	*I*		*ug/L*	*50.0*		*90*	*53-146*			
Toluene-d8	*48*	*I*		*ug/L*	*50.0*		*97*	*41-146*			

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FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.

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B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported result is an estimated value.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence (85% or greater confidence) to make a “tentative identification".
Q	One or more quality control criteria failed.

AE02207

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 1406 | PAGE 1 OF 1

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
11290	CICA	ALEX MURPHY	321-636-6470	ENCO
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER: IAN FORRESTER	PHONE NUMBER: 304-780-1426	ADDRESS
		CARRIER/WAYBILL NUMBER: COURIER		CITY, STATE: ORLANDO, FL

STANDARD TAT ☒
RUSH TAT ☐ ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2021	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TYPE OF ANALYSIS SEE COMMENTS BELOW							COMMENTS
									G	HCL								COOLED ON ICE
18MAR	1200	CICA-A$EFFLUENT-20210318	CICA	/	/	GW	G	3	X									
18MAR	1210	CICA-A$INFLUENT-20210318	CICA	/	/	GW	G	3	X									

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	18MAR21	1410	1. RECEIVED BY	18MAR21	1410
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS 8260D TCL SOM01.2 CLP-LIKE CUSTOM LIST SM Red 0.2°C

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

3/18/2021

Environmental Conservation Labs, Inc.

Alex Murphy
Tetra Tech, Inc. (TE016)
11 Riverside Drive, Suite 204
Cocoa, FL 32922
Phone: (321) 636-6470
Fax: (321) 636-6473

Reference : **Sample Receipt Confirmation - *Please Review***
Project Name / Number : NASA KSC CRCA / 112G08970
Purchase Order # : 1165883

Lab Reference # : AE02207 Lab Receipt Date: 18-Mar-21 14:10
Anticipated ***(Estimated)*** Completion Date: 25-Mar-21 19:00

This is an automated notification from our laboratory information management system (LIMS), indicating the samples we have recently received and their associated analyses. Should any of the following information be in error, please contact us immediately.

Thank you for choosing Environmental Conservation Laboratories. Should any events occur that delay the processing of your samples or inhibit our ability to complete the project within the projected time frame you will be contacted.

Sincerely,

Kaitlin Dylnicki

Client: Tetra Tech, Inc. (TE016) **Project Name:** NASA KSC CRCA
Requested TAT: 5 **Project Number:** 112G08970

Analysis	TAT	Expires	Status
Sample ID: CRCA-ASEFFLUENT-20210318(Lab ID: AE02207-01), Matrix: Ground Water, Sampled: 18-Mar-21 12:00 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	01-Apr-21 23:59	Received
Sample ID: CRCA-ASINFLUENT-20210318(Lab ID: AE02207-02), Matrix: Ground Water, Sampled: 18-Mar-21 12:10 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	01-Apr-21 23:59	Received

Analysis Groups included in this work order

ENCO Orlando

SDG: AE02207-TE016

CLASS: 01_VOA_MS

METHOD: EPA 8260D

ANALYSES DATA PACKAGE COVER PAGE

EPA 8260D

Laboratory: ENCO Orlando

SDG: AE02207-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-ASEFFLUENT-20210318	AE02207-01
CRCA-ASINFLUENT-20210318	AE02207-02

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLUENT-20210318

Laboratory: ENCO Orlando SDG: AE02207-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE02207-01 File ID: 212CS013.D

Sampled: 03/18/21 12:00 Prepared: 03/24/21 09:25 Analyzed: 03/24/21 14:50

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1C24011 Sequence: AA65533 Calibration: 2103054 Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLUENT-20210318

Laboratory: ENCO Orlando
SDG: AE02207-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE02207-01
File ID: 212CS013.D
Sampled: 03/18/21 12:00
Prepared: 03/24/21 09:25
Analyzed: 03/24/21 14:50
Solids:
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Batch: 1C24011
Sequence: AA65533
Calibration: 2103054
Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	49	98	53 - 146	
Toluene-d8	50.0	48	96	41 - 146	
4-Bromofluorobenzene	50.0	46	93	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	255830	11.48	231702	11.44	
1,4-Difluorobenzene	439921	12.03	427152	11.99	
Chlorobenzene-d5	199954	14.63	207404	14.59	
1,4-Dichlorobenzene-d4	168447	16.99	156147	16.94	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLUENT-20210318

Laboratory: ENCO Orlando SDG: AE02207-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE02207-02 File ID: 212CS014.D

Sampled: 03/18/21 12:10 Prepared: 03/24/21 09:25 Analyzed: 03/24/21 15:18

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1C24011 Sequence: AA65533 Calibration: 2103054 Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	13		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLUENT-20210318

Laboratory: ENCO Orlando
SDG: AE02207-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE02207-02
File ID: 212CS014.D
Sampled: 03/18/21 12:10
Prepared: 03/24/21 09:25
Analyzed: 03/24/21 15:18
Solids:
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Batch: 1C24011
Sequence: AA65533
Calibration: 2103054
Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	49	98	53 - 146	
Toluene-d8	50.0	48	96	41 - 146	
4-Bromofluorobenzene	50.0	47	93	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	249253	11.49	231702	11.44	
1,4-Difluorobenzene	430833	12.04	427152	11.99	
Chlorobenzene-d5	197098	14.63	207404	14.59	
1,4-Dichlorobenzene-d4	166966	16.99	156147	16.94	

* Values outside of QC limits

HOLDING TIME SUMMARY

EPA 8260D

Laboratory: ENCO Orlando

SDG: AE02207-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-ASEFFLUENT-20210318	03/18/21 12:00	03/18/21 14:10	03/24/21 09:25	5.89	NA	03/24/21 14:50	6.00	14.00	
CRCA-ASINFLUENT-20210318	03/18/21 12:10	03/18/21 14:10	03/24/21 09:25	5.89	NA	03/24/21 15:18	6.00	14.00	

PREPARATION BATCH SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AE02207-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1C24011 Batch Matrix: Water Preparation: EPA 5030B_MS

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1C24011-BLK1	212CS008.D	03/24/21 00:00	
LCS	1C24011-BS1	212CS002.D	03/24/21 00:00	
MW-11R	1C24011-MS1	212CS003.D	03/24/21 00:00	
MW-11R	1C24011-MSD1	212CS004.D	03/24/21 00:00	
CRCA-ASEFFLUENT-20210318	AE02207-01	212CS013.D	03/24/21 09:25	
CRCA-ASINFLUENT-20210318	AE02207-02	212CS014.D	03/24/21 09:25	

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE02207-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1C24011-BLK1	File ID:	212CS008.D
Prepared:	03/24/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	03/24/21 12:04	Instrument:	OVGCMS2		
Batch:	1C24011	Sequence:	AA65533	Calibration:	2103054

CAS NO.	COMPOUND	CONC. (ug/L)	Q
75-71-8	Dichlorodifluoromethane	0.74	U
74-87-3	Chloromethane	0.82	U
75-01-4	Vinyl chloride	0.71	U
74-83-9	Bromomethane	0.95	U
75-00-3	Chloroethane	0.98	U
75-69-4	Trichlorofluoromethane	0.94	U
76-13-1	Freon 113	0.73	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	0.94	U
75-15-0	Carbon disulfide	2.5	U
75-09-2	Methylene Chloride	2.5	U
1634-04-4	Methyl-tert-Butyl Ether	0.60	U
156-60-5	trans-1,2-Dichloroethene	0.73	U
156-59-2	cis-1,2-Dichloroethene	0.53	U
75-34-3	1,1-Dichloroethane	0.62	U
78-93-3	2-Butanone	4.5	U
67-66-3	Chloroform	0.80	U
71-55-6	1,1,1-Trichloroethane	0.80	U
79-20-9	Methyl acetate	0.95	U
110-82-7	Cyclohexane	0.93	U
108-87-2	Methyl cyclohexane	0.64	U
56-23-5	Carbon Tetrachloride	0.94	U
107-06-2	1,2-Dichloroethane	0.63	U
71-43-2	Benzene	0.71	U
79-01-6	Trichloroethene	0.89	U
78-87-5	1,2-Dichloropropane	0.80	U
75-27-4	Bromodichloromethane	0.52	U
108-10-1	4-Methyl-2-pentanone	2.5	U
591-78-6	2-Hexanone	2.5	U
10061-01-5	cis-1,3-Dichloropropene	0.59	U

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE02207-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1C24011-BLK1	File ID:	212CS008.D
Prepared:	03/24/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	03/24/21 12:04	Instrument:	OVGCMS2		
Batch:	1C24011	Sequence:	AA65533	Calibration:	2103054

CAS NO.	COMPOUND	CONC. (ug/L)	Q
108-88-3	Toluene	0.72	U
10061-02-6	trans-1,3-Dichloropropene	0.73	U
79-00-5	1,1,2-Trichloroethane	0.76	U
127-18-4	Tetrachloroethene	0.76	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.78	U
108-90-7	Chlorobenzene	0.72	U
100-41-4	Ethylbenzene	0.69	U
108-38-3/106-42-3	m,p-Xylenes	1.3	U
95-47-6	o-Xylene	0.53	U
75-25-2	Bromoform	0.75	U
100-42-5	Styrene	0.61	U
98-82-8	Isopropylbenzene	0.67	U
79-34-5	1,1,2,2-Tetrachloroethane	0.54	U
120-82-1	1,2,4-Trichlorobenzene	0.70	U
541-73-1	1,3-Dichlorobenzene	0.77	U
106-46-7	1,4-Dichlorobenzene	0.76	U
95-50-1	1,2-Dichlorobenzene	0.73	U
96-12-8	1,2-Dibromo-3-chloropropane	0.96	U
1330-20-7	Xylenes (Total)	1.3	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	47	94	53 - 146	
Toluene-d8	50.0	48	96	41 - 146	
4-Bromofluorobenzene	50.0	45	90	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	235626	11.49	231702	11.44	
1,4-Difluorobenzene	398655	12.03	427152	11.99	
Chlorobenzene-d5	180788	14.62	207404	14.59	
1,4-Dichlorobenzene-d4	153177	16.99	156147	16.94	

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE02207-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1C24011	Laboratory ID:	1C24011-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	7.2	36	10 - 180
Chloromethane	20.0	9.9	50	33 - 154
Vinyl chloride	20.0	13	67	20 - 167
Bromomethane	20.0	7.7	38	10 - 173
Chloroethane	20.0	15	75	27 - 180
Trichlorofluoromethane	20.0	16	81	56 - 155
Freon 113	20.0	18	91	47 - 173
Acetone	100	88	88	10 - 180
1,1-Dichloroethene	20.0	18	90	47 - 139
Carbon disulfide	20.0	20	101	43 - 153
Methylene Chloride	20.0	17	84	43 - 142
Methyl-tert-Butyl Ether	20.0	17	86	51 - 145
trans-1,2-Dichloroethene	20.0	19	93	54 - 134
cis-1,2-Dichloroethene	20.0	19	95	56 - 128
1,1-Dichloroethane	20.0	16	82	57 - 142
2-Butanone	100	130	130	10 - 180
Chloroform	20.0	17	87	58 - 139
1,1,1-Trichloroethane	20.0	17	85	57 - 148
Methyl acetate	20.0	17	86	70 - 130
Cyclohexane	20.0	18	89	70 - 130
Methyl cyclohexane	20.0	18	88	70 - 130
Carbon Tetrachloride	20.0	19	93	54 - 156
1,2-Dichloroethane	20.0	17	83	50 - 156
Benzene	20.0	20	102	56 - 136
Trichloroethene	20.0	21	103	62 - 135
1,2-Dichloropropane	20.0	17	84	61 - 133
Bromodichloromethane	20.0	18	92	58 - 135
4-Methyl-2-pentanone	100	110	105	19 - 180
2-Hexanone	100	83	83	12 - 180
cis-1,3-Dichloropropene	20.0	18	88	64 - 128

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE02207-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1C24011	Laboratory ID:	1C24011-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Toluene	20.0	21	106	64 - 131
trans-1,3-Dichloropropene	20.0	21	105	65 - 149
1,1,2-Trichloroethane	20.0	21	104	57 - 141
Tetrachloroethene	20.0	24	122	60 - 147
Dibromochloromethane	20.0	23	115	50 - 140
1,2-Dibromoethane	20.0	21	106	57 - 140
Chlorobenzene	20.0	22	108	51 - 139
Ethylbenzene	20.0	22	110	63 - 133
m,p-Xylenes	40.0	42	105	64 - 133
o-Xylene	20.0	22	109	61 - 129
Bromoform	20.0	25	125	46 - 148
Styrene	20.0	21	107	59 - 136
Isopropylbenzene	20.0	22	108	60 - 132
1,1,2,2-Tetrachloroethane	20.0	21	104	60 - 139
1,2,4-Trichlorobenzene	20.0	22	110	52 - 159
1,3-Dichlorobenzene	20.0	21	105	66 - 129
1,4-Dichlorobenzene	20.0	20	99	65 - 133
1,2-Dichlorobenzene	20.0	22	108	63 - 131
1,2-Dibromo-3-chloropropane	20.0	17	87	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-11R

Laboratory: ENCO Orlando
SDG: AE02207-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1C24011
Laboratory ID: 1C24011-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-11R

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	ND	8.5	42	10 - 180
Chloromethane	20.0	ND	11	55	33 - 154
Vinyl chloride	20.0	ND	15	73	20 - 167
Bromomethane	20.0	ND	9.6	48	10 - 173
Chloroethane	20.0	ND	17	84	27 - 180
Trichlorofluoromethane	20.0	ND	18	92	56 - 155
Freon 113	20.0	ND	20	99	47 - 173
Acetone	100	ND	77	77	10 - 180
1,1-Dichloroethene	20.0	ND	19	97	47 - 139
Carbon disulfide	20.0	ND	20	101	43 - 153
Methylene Chloride	20.0	ND	17	86	43 - 142
Methyl-tert-Butyl Ether	20.0	ND	17	85	51 - 145
trans-1,2-Dichloroethene	20.0	ND	20	98	54 - 134
cis-1,2-Dichloroethene	20.0	ND	19	97	56 - 128
1,1-Dichloroethane	20.0	ND	17	86	57 - 142
2-Butanone	100	ND	120	122	10 - 180
Chloroform	20.0	ND	18	89	58 - 139
1,1,1-Trichloroethane	20.0	ND	19	93	57 - 148
Methyl acetate	20.0	ND	17	84	70 - 130
Cyclohexane	20.0	ND	19	96	70 - 130
Methyl cyclohexane	20.0	ND	19	96	70 - 130
Carbon Tetrachloride	20.0	ND	20	100	54 - 156
1,2-Dichloroethane	20.0	ND	17	84	50 - 156
Benzene	20.0	ND	21	104	56 - 136
Trichloroethene	20.0	ND	22	108	62 - 135
1,2-Dichloropropane	20.0	ND	18	89	61 - 133
Bromodichloromethane	20.0	ND	19	94	58 - 135
4-Methyl-2-pentanone	100	ND	100	104	19 - 180
2-Hexanone	100	ND	78	78	12 - 180
cis-1,3-Dichloropropene	20.0	ND	18	89	64 - 128
Toluene	20.0	ND	23	113	64 - 131

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-11R

Laboratory: ENCO Orlando
SDG: AE02207-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1C24011
Laboratory ID: 1C24011-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-11R

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
trans-1,3-Dichloropropene	20.0	ND	21	107	65 - 149
1,1,2-Trichloroethane	20.0	ND	22	109	57 - 141
Tetrachloroethene	20.0	ND	25	123	60 - 147
Dibromochloromethane	20.0	ND	23	113	50 - 140
1,2-Dibromoethane	20.0	ND	21	104	57 - 140
Chlorobenzene	20.0	ND	22	110	51 - 139
Ethylbenzene	20.0	ND	23	113	63 - 133
m,p-Xylenes	40.0	ND	44	110	64 - 133
o-Xylene	20.0	ND	23	113	61 - 129
Bromoform	20.0	ND	25	123	46 - 148
Styrene	20.0	ND	22	111	59 - 136
Isopropylbenzene	20.0	ND	23	116	60 - 132
1,1,2,2-Tetrachloroethane	20.0	ND	20	100	60 - 139
1,2,4-Trichlorobenzene	20.0	ND	20	102	52 - 159
1,3-Dichlorobenzene	20.0	ND	21	106	66 - 129
1,4-Dichlorobenzene	20.0	ND	20	101	65 - 133
1,2-Dichlorobenzene	20.0	ND	21	104	63 - 131
1,2-Dibromo-3-chloropropane	20.0	ND	15	77	48 - 150

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-11R

Laboratory: ENCO Orlando
SDG: AE02207-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1C24011
Laboratory ID: 1C24011-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-11R

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20.0	8.1	41	5	26	10 - 180
Chloromethane	20.0	11	55	0.5	31	33 - 154
Vinyl chloride	20.0	15	73	0.4	24	20 - 167
Bromomethane	20.0	11	53	9	29	10 - 173
Chloroethane	20.0	15	77	8	22	27 - 180
Trichlorofluoromethane	20.0	18	88	5	22	56 - 155
Freon 113	20.0	19	95	3	30	47 - 173
Acetone	100	79	79	2	19	10 - 180
1,1-Dichloroethene	20.0	19	94	4	16	47 - 139
Carbon disulfide	20.0	19	97	4	26	43 - 153
Methylene Chloride	20.0	17	83	3	23	43 - 142
Methyl-tert-Butyl Ether	20.0	17	85	0.2	22	51 - 145
trans-1,2-Dichloroethene	20.0	19	94	4	20	54 - 134
cis-1,2-Dichloroethene	20.0	19	95	2	17	56 - 128
1,1-Dichloroethane	20.0	17	84	2	24	57 - 142
2-Butanone	100	120	121	0.3	29	10 - 180
Chloroform	20.0	18	88	2	17	58 - 139
1,1,1-Trichloroethane	20.0	18	89	4	25	57 - 148
Methyl acetate	20.0	17	86	3	20	70 - 130
Cyclohexane	20.0	19	93	3	20	70 - 130
Methyl cyclohexane	20.0	19	93	2	20	70 - 130
Carbon Tetrachloride	20.0	20	98	2	27	54 - 156
1,2-Dichloroethane	20.0	16	82	2	18	50 - 156
Benzene	20.0	21	103	2	14	56 - 136
Trichloroethene	20.0	21	106	2	20	62 - 135
1,2-Dichloropropane	20.0	17	85	5	26	61 - 133
Bromodichloromethane	20.0	18	92	1	19	58 - 135
4-Methyl-2-pentanone	100	100	104	0.08	24	19 - 180
2-Hexanone	100	81	81	4	28	12 - 180
cis-1,3-Dichloropropene	20.0	17	87	2	20	64 - 128
Toluene	20.0	22	110	3	16	64 - 131
trans-1,3-Dichloropropene	20.0	21	104	3	17	65 - 149

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

MW-11R

Laboratory: ENCO Orlando
SDG: AE02207-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1C24011
Laboratory ID: 1C24011-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: MW-11R

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,2-Trichloroethane	20.0	21	104	4	16	57 - 141
Tetrachloroethene	20.0	24	122	1	21	60 - 147
Dibromochloromethane	20.0	23	113	0.09	18	50 - 140
1,2-Dibromoethane	20.0	21	104	0.4	16	57 - 140
Chlorobenzene	20.0	21	107	3	13	51 - 139
Ethylbenzene	20.0	22	112	1	18	63 - 133
m,p-Xylenes	40.0	43	107	3	18	64 - 133
o-Xylene	20.0	22	112	2	16	61 - 129
Bromoform	20.0	24	120	3	18	46 - 148
Styrene	20.0	22	108	2	32	59 - 136
Isopropylbenzene	20.0	22	112	3	23	60 - 132
1,1,2,2-Tetrachloroethane	20.0	20	100	0.1	17	60 - 139
1,2,4-Trichlorobenzene	20.0	20	102	0.2	24	52 - 159
1,3-Dichlorobenzene	20.0	21	107	0.9	23	66 - 129
1,4-Dichlorobenzene	20.0	20	98	2	23	65 - 133
1,2-Dichlorobenzene	20.0	21	105	1	25	63 - 131
1,2-Dibromo-3-chloropropane	20.0	16	81	4	21	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02207-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA65289
Instrument: OVGCMS2
Matrix: Water
Calibration: 2103054

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA65289-SCV1)			Lab File ID: 212CD013.D		Analyzed: 03/09/21 14:04			
Dibromofluoromethane	50.0	96	70 - 130	11.05	11.05	0.0000	+/-0.5	
Toluene-d8	50.0	101	70 - 130	13.22	13.21375	0.0063	+/-0.5	
4-Bromofluorobenzene	50.0	103	70 - 130	15.71	15.70875	0.0013	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02207-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA65533
Instrument: OVGCMS2
Matrix: Water
Calibration: 2103054

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA65533-CCV1)			Lab File ID: 212CS001.D		Analyzed: 03/24/21 08:40			
Dibromofluoromethane	50.0	98	80 - 120	11.09	11.05	0.0400	+/-0.5	
Toluene-d8	50.0	99	80 - 120	13.25	13.21375	0.0363	+/-0.5	
4-Bromofluorobenzene	50.0	98	80 - 120	15.75	15.70875	0.0412	+/-0.5	
LCS (1C24011-BS1)			Lab File ID: 212CS002.D		Analyzed: 03/24/21 09:12			
Dibromofluoromethane	50.0	94	53 - 146	11.09	11.05	0.0400	+/-0.5	
Toluene-d8	50.0	99	41 - 146	13.25	13.21375	0.0363	+/-0.5	
4-Bromofluorobenzene	50.0	95	41 - 142	15.74	15.70875	0.0313	+/-0.5	
Matrix Spike (1C24011-MS1)			Lab File ID: 212CS003.D		Analyzed: 03/24/21 09:41			
Dibromofluoromethane	50.0	93	53 - 146	11.09	11.05	0.0400	+/-0.5	
Toluene-d8	50.0	97	41 - 146	13.25	13.21375	0.0363	+/-0.5	
4-Bromofluorobenzene	50.0	95	41 - 142	15.74	15.70875	0.0313	+/-0.5	
Matrix Spike Dup (1C24011-MSD1)			Lab File ID: 212CS004.D		Analyzed: 03/24/21 10:10			
Dibromofluoromethane	50.0	90	53 - 146	11.09	11.05	0.0400	+/-0.5	
Toluene-d8	50.0	97	41 - 146	13.25	13.21375	0.0363	+/-0.5	
4-Bromofluorobenzene	50.0	94	41 - 142	15.74	15.70875	0.0313	+/-0.5	
Blank (1C24011-BLK1)			Lab File ID: 212CS008.D		Analyzed: 03/24/21 12:04			
Dibromofluoromethane	50.0	94	53 - 146	11.09	11.05	0.0400	+/-0.5	
Toluene-d8	50.0	96	41 - 146	13.25	13.21375	0.0363	+/-0.5	
4-Bromofluorobenzene	50.0	90	41 - 142	15.74	15.70875	0.0313	+/-0.5	
Instrument RL Check (AA65533-CRL1)			Lab File ID: 212CS009.D		Analyzed: 03/24/21 12:33			
Dibromofluoromethane	50.0	96	1 - 199	11.09	11.05	0.0400	+/-0.5	
Toluene-d8	50.0	97	1 - 199	13.25	13.21375	0.0363	+/-0.5	
4-Bromofluorobenzene	50.0	95	1 - 199	15.74	15.70875	0.0313	+/-0.5	
CRCA-ASEFFLUENT-20210318 (AE02207-01)			Lab File ID: 212CS013.D		Analyzed: 03/24/21 14:50			
Dibromofluoromethane	50.0	98	53 - 146	11.1	11.05	0.0500	+/-0.5	
Toluene-d8	50.0	96	41 - 146	13.25	13.21375	0.0363	+/-0.5	
4-Bromofluorobenzene	50.0	93	41 - 142	15.75	15.70875	0.0412	+/-0.5	
CRCA-ASINFLUENT-20210318 (AE02207-02)			Lab File ID: 212CS014.D		Analyzed: 03/24/21 15:18			
Dibromofluoromethane	50.0	98	53 - 146	11.1	11.05	0.0500	+/-0.5	
Toluene-d8	50.0	96	41 - 146	13.25	13.21375	0.0363	+/-0.5	
4-Bromofluorobenzene	50.0	93	41 - 142	15.75	15.70875	0.0412	+/-0.5	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02207-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA65289
Instrument: OVGCMS2
Matrix: Water
Calibration: 2103054

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA65289-CAL1)			Lab File ID: 212CD002.D			Analyzed: 03/09/21 08:30			
Pentafluorobenzene	258684	11.44	231702	11.44	112	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	456563	12	427152	11.99	107	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	220295	14.59	207404	14.59	106	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	157950	16.96	156147	16.94	101	50 - 200	0.0200	+/-0.50	
Cal Standard (AA65289-CAL2)			Lab File ID: 212CD003.D			Analyzed: 03/09/21 08:59			
Pentafluorobenzene	252984	11.44	231702	11.44	109	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	447138	11.99	427152	11.99	105	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	219862	14.59	207404	14.59	106	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	160130	16.95	156147	16.94	103	50 - 200	0.0100	+/-0.50	
Cal Standard (AA65289-CAL3)			Lab File ID: 212CD004.D			Analyzed: 03/09/21 09:27			
Pentafluorobenzene	249505	11.44	231702	11.44	108	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	443522	11.99	427152	11.99	104	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	215472	14.59	207404	14.59	104	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	156777	16.95	156147	16.94	100	50 - 200	0.0100	+/-0.50	
Cal Standard (AA65289-CAL4)			Lab File ID: 212CD005.D			Analyzed: 03/09/21 09:56			
Pentafluorobenzene	244206	11.44	231702	11.44	105	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	431789	11.99	427152	11.99	101	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	212013	14.59	207404	14.59	102	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	155190	16.95	156147	16.94	99	50 - 200	0.0100	+/-0.50	
Cal Standard (AA65289-CAL5)			Lab File ID: 212CD006.D			Analyzed: 03/09/21 10:25			
Pentafluorobenzene	236992	11.44	231702	11.44	102	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	433407	11.99	427152	11.99	101	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	209656	14.59	207404	14.59	101	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	155955	16.95	156147	16.94	100	50 - 200	0.0100	+/-0.50	
Cal Standard (AA65289-CAL6)			Lab File ID: 212CD007.D			Analyzed: 03/09/21 10:53			
Pentafluorobenzene	231702	11.44	231702	11.44	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	427152	11.99	427152	11.99	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	207404	14.59	207404	14.59	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	156147	16.94	156147	16.94	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA65289-CAL7)			Lab File ID: 212CD008.D			Analyzed: 03/09/21 11:22			
Pentafluorobenzene	226247	11.44	231702	11.44	98	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	427385	11.99	427152	11.99	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	206954	14.58	207404	14.59	100	50 - 200	-0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	158337	16.95	156147	16.94	101	50 - 200	0.0100	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02207-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA65289
Instrument: OVGCMS2
Matrix: Water
Calibration: 2103054

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA65289-CAL8)			Lab File ID: 212CD009.D			Analyzed: 03/09/21 11:50			
Pentafluorobenzene	228850	11.44	231702	11.44	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	429679	11.99	427152	11.99	101	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	211567	14.59	207404	14.59	102	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	163882	16.95	156147	16.94	105	50 - 200	0.0100	+/-0.50	
Secondary Cal Check (AA65289-SCV1)			Lab File ID: 212CD013.D			Analyzed: 03/09/21 14:04			
Pentafluorobenzene	241526	11.45	231702	11.44	104	50 - 200	0.0100	+/-0.50	
1,4-Difluorobenzene	436002	12	427152	11.99	102	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	211494	14.6	207404	14.59	102	50 - 200	0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	162014	16.95	156147	16.94	104	50 - 200	0.0100	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02207-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA65533
Instrument: OVGCMS2
Matrix: Water
Calibration: 2103054

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA65533-CCV1)			Lab File ID: 212CS001.D			Analyzed: 03/24/21 08:40			
Pentafluorobenzene	211615	11.48	231702	11.44	91	50 - 200	0.0400	+/-0.50	
1,4-Difluorobenzene	380310	12.03	427152	11.99	89	50 - 200	0.0400	+/-0.50	
Chlorobenzene-d5	170236	14.62	207404	14.59	82	50 - 200	0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	150451	16.99	156147	16.94	96	50 - 200	0.0500	+/-0.50	
LCS (1C24011-BS1)			Lab File ID: 212CS002.D			Analyzed: 03/24/21 09:12			
Pentafluorobenzene	237291	11.49	231702	11.44	102	50 - 200	0.0500	+/-0.50	
1,4-Difluorobenzene	407308	12.03	427152	11.99	95	50 - 200	0.0400	+/-0.50	
Chlorobenzene-d5	181865	14.62	207404	14.59	88	50 - 200	0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	153415	16.99	156147	16.94	98	50 - 200	0.0500	+/-0.50	
Matrix Spike (1C24011-MS1)			Lab File ID: 212CS003.D			Analyzed: 03/24/21 09:41			
Pentafluorobenzene	236682	11.48	231702	11.44	102	50 - 200	0.0400	+/-0.50	
1,4-Difluorobenzene	407871	12.03	427152	11.99	95	50 - 200	0.0400	+/-0.50	
Chlorobenzene-d5	178701	14.63	207404	14.59	86	50 - 200	0.0400	+/-0.50	
1,4-Dichlorobenzene-d4	156072	16.99	156147	16.94	100	50 - 200	0.0500	+/-0.50	
Matrix Spike Dup (1C24011-MSD1)			Lab File ID: 212CS004.D			Analyzed: 03/24/21 10:10			
Pentafluorobenzene	240288	11.48	231702	11.44	104	50 - 200	0.0400	+/-0.50	
1,4-Difluorobenzene	411020	12.03	427152	11.99	96	50 - 200	0.0400	+/-0.50	
Chlorobenzene-d5	182933	14.62	207404	14.59	88	50 - 200	0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	157368	16.99	156147	16.94	101	50 - 200	0.0500	+/-0.50	
Blank (1C24011-BLK1)			Lab File ID: 212CS008.D			Analyzed: 03/24/21 12:04			
Pentafluorobenzene	235626	11.49	231702	11.44	102	50 - 200	0.0500	+/-0.50	
1,4-Difluorobenzene	398655	12.03	427152	11.99	93	50 - 200	0.0400	+/-0.50	
Chlorobenzene-d5	180788	14.62	207404	14.59	87	50 - 200	0.0300	+/-0.50	
1,4-Dichlorobenzene-d4	153177	16.99	156147	16.94	98	50 - 200	0.0500	+/-0.50	
Instrument RL Check (AA65533-CRL1)			Lab File ID: 212CS009.D			Analyzed: 03/24/21 12:33			
Pentafluorobenzene	230899	11.49	231702	11.44	100	50 - 200	0.0500	+/-0.50	
1,4-Difluorobenzene	392568	12.03	427152	11.99	92	50 - 200	0.0400	+/-0.50	
Chlorobenzene-d5	175960	14.63	207404	14.59	85	50 - 200	0.0400	+/-0.50	
1,4-Dichlorobenzene-d4	147461	16.99	156147	16.94	94	50 - 200	0.0500	+/-0.50	
CRCA-ASEFFLUENT-20210318 (AE02207-01)			Lab File ID: 212CS013.D			Analyzed: 03/24/21 14:50			
Pentafluorobenzene	255830	11.48	231702	11.44	110	50 - 200	0.0400	+/-0.50	
1,4-Difluorobenzene	439921	12.03	427152	11.99	103	50 - 200	0.0400	+/-0.50	
Chlorobenzene-d5	199954	14.63	207404	14.59	96	50 - 200	0.0400	+/-0.50	
1,4-Dichlorobenzene-d4	168447	16.99	156147	16.94	108	50 - 200	0.0500	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02207-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA65533
Instrument: OVGCMS2
Matrix: Water
Calibration: 2103054

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
CRCA-ASINFLUENT-20210318 (AE02207-02)			Lab File ID: 212CS014.D			Analyzed: 03/24/21 15:18			
Pentafluorobenzene	249253	11.49	231702	11.44	108	50 - 200	0.0500	+/-0.50	
1,4-Difluorobenzene	430833	12.04	427152	11.99	101	50 - 200	0.0500	+/-0.50	
Chlorobenzene-d5	197098	14.63	207404	14.59	95	50 - 200	0.0400	+/-0.50	
1,4-Dichlorobenzene-d4	166966	16.99	156147	16.94	107	50 - 200	0.0500	+/-0.50	

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE02207-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA65289		
Calibration:	2103054	Instrument:	OVGCMS2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA65289-TUN1	212CD001.D	03/09/21 07:55
Cal Standard	AA65289-CAL1	212CD002.D	03/09/21 08:30
Cal Standard	AA65289-CAL2	212CD003.D	03/09/21 08:59
Cal Standard	AA65289-CAL3	212CD004.D	03/09/21 09:27
Cal Standard	AA65289-CAL4	212CD005.D	03/09/21 09:56
Cal Standard	AA65289-CAL5	212CD006.D	03/09/21 10:25
Cal Standard	AA65289-CAL6	212CD007.D	03/09/21 10:53
Cal Standard	AA65289-CAL7	212CD008.D	03/09/21 11:22
Cal Standard	AA65289-CAL8	212CD009.D	03/09/21 11:50
Secondary Cal Check	AA65289-SCV1	212CD013.D	03/09/21 14:04

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE02207-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA65533		
Calibration:	2103054	Instrument:	OVGCMS2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA65533-CCV1	212CS001.D	03/24/21 08:40
LCS	1C24011-BS1	212CS002.D	03/24/21 09:12
MW-11R	1C24011-MS1	212CS003.D	03/24/21 09:41
MW-11R	1C24011-MSD1	212CS004.D	03/24/21 10:10
Blank	1C24011-BLK1	212CS008.D	03/24/21 12:04
Instrument RL Check	AA65533-CRL1	212CS009.D	03/24/21 12:33
CRCA-ASEFFLUENT-20210318	AE02207-01	212CS013.D	03/24/21 14:50
CRCA-ASINFLUENT-20210318	AE02207-02	212CS014.D	03/24/21 15:18

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE02207-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	212CD001.D	Injection Date:	03/09/21
Instrument ID:	OVGCMS2	Injection Time:	07:55
Sequence:	AA65289	Lab Sample ID:	AA65289-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	146	PASS
96	5 - 9% of 95	6.75	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	68.3	PASS
175	5 - 9% of 174	7.6	PASS
176	95 - 105% of 174	99.7	PASS
177	5 - 10% of 176	6.62	PASS

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE02207-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS2	Calibration:	2103054
Lab File ID:	212CS001.D	Calibration Date:	03/10/21 08:57
Sequence:	AA65533	Injection Date:	03/24/21
Lab Sample ID:	AA65533-CCV1	Injection Time:	08:40

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Dichlorodifluoromethane	A	20.0	17	1.0726	0.9175862		-14	20	
Chloromethane	A	20.0	16	1.125442	0.8970418		-20	20	
Vinyl chloride	A	20.0	17	0.871695	0.7573896		-13	20	
Bromomethane	A	20.0	29	0.4216486	0.5856036		44	20	*
Chloroethane	A	20.0	17	0.4594287	0.3820145		-17	20	
Trichlorofluoromethane	A	20.0	18	0.8444659	0.7658247		-9.3	20	
Freon 113	A	50.0	44	0.5353971	0.4680387		-13	20	
Acetone	A	250	190	0.2098613	0.1456901		-24	20	*
1,1-Dichloroethene	A	50.0	41	0.492039	0.4002694		-19	20	
Carbon disulfide	A	250	180	1.675395	1.181909		-30	20	*
Methylene Chloride	A	50.0	42	0.6372904	0.5295702		-17	20	
Methyl-tert-Butyl Ether	A	50.0	44	1.629343	1.445715		-11	20	
trans-1,2-Dichloroethene	A	50.0	46	0.5294924	0.4908631		-7.3	20	
cis-1,2-Dichloroethene	A	50.0	50	0.5730141	0.5698745		-0.5	20	
1,1-Dichloroethane	A	50.0	40	1.11993	0.9000732		-20	20	
2-Butanone	A	250	230	6.656362E-02	5.579945E-02		-8.3	20	
Chloroform	A	50.0	46	1.034125	0.958864		-7.3	20	
1,1,1-Trichloroethane	A	50.0	47	0.8170626	0.7633722		-6.6	20	
Methyl acetate	A	50.0	44	0.1098139	9.733715E-02		-11	20	
Cyclohexane	A	50.0	38	0.9572176	0.7294237		-24	20	*
Methyl cyclohexane	A	50.0	39	0.4112075	0.3221635		-22	20	*
Carbon Tetrachloride	A	50.0	49	0.4638802	0.4527096		-2.4	20	
1,2-Dichloroethane	A	50.0	41	0.4782864	0.3944309		-18	20	
Benzene	A	50.0	45	1.177328	0.955957		-11	20	
Trichloroethene	A	50.0	53	0.3209742	0.3414741		6.4	20	
1,2-Dichloropropane	A	50.0	44	0.3667572	0.3196103		-13	20	
Bromodichloromethane	A	50.0	48	0.4279118	0.4086272		-4.5	20	
4-Methyl-2-pentanone	A	250	250	4.721789E-02	4.490915E-02		1.6	20	
2-Hexanone	A	250	200	0.2679157	0.2195677		-18	20	

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE02207-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS2	Calibration:	2103054
Lab File ID:	212CS001.D	Calibration Date:	03/10/21 08:57
Sequence:	AA65533	Injection Date:	03/24/21
Lab Sample ID:	AA65533-CCV1	Injection Time:	08:40

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
cis-1,3-Dichloropropene	A	50.0	49	0.5858308	0.5778891		-1.4	20	
Toluene	A	50.0	54	1.382929	1.482125		7.2	20	
trans-1,3-Dichloropropene	A	50.0	53	0.9949631	1.04976		5.5	20	
1,1,2-Trichloroethane	A	50.0	55	0.5380963	0.5946745		11	20	
Tetrachloroethene	A	50.0	60	0.4198975	0.5055394		20	20	
Dibromochloromethane	A	50.0	60	0.7405405	0.8869217		20	20	
1,2-Dibromoethane	A	50.0	57	0.6605201	0.755322		14	20	
Chlorobenzene	A	50.0	54	1.550303	1.672954		7.9	20	
Ethylbenzene	A	50.0	56	0.7935253	0.8895709		12	20	
m,p-Xylenes	A	100	110	0.9705429	1.062587		9.5	20	
o-Xylene	A	50.0	57	0.9559986	1.093834		14	20	
Bromoform	A	50.0	63	0.3849412	0.4874997		27	20	*
Styrene	A	50.0	55	1.637021	1.806322		10	20	
Isopropylbenzene	A	50.0	56	2.395216	2.704252		13	20	
1,1,2,2-Tetrachloroethane	A	50.0	54	0.6920671	0.7512101		8.5	20	
1,2,4-Trichlorobenzene	A	50.0	51	0.6933419	0.7104838		2.5	20	
1,3-Dichlorobenzene	A	50.0	53	1.398388	1.472061		5.3	20	
1,4-Dichlorobenzene	A	50.0	51	1.454236	1.479964		1.8	20	
1,2-Dichlorobenzene	A	50.0	54	1.33251	1.438156		7.9	20	
1,2-Dibromo-3-chloropropane	A	50.0	40	0.1676609	0.1327342		-19	20	

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE02207-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA65289	Instrument:	OVGCMS2
Calibration:	2103054		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A0I0903	MS Tune	AA65289-TUN1	212CD001.D	03/09/21 07:55
A1C0778	8260 Calibration 1.0 PPB	AA65289-CAL1	212CD002.D	03/09/21 08:30
A1C0779	8260 Calibration 2.0 PPB	AA65289-CAL2	212CD003.D	03/09/21 08:59
A1C0780	8260 Calibration 5.0 PPB	AA65289-CAL3	212CD004.D	03/09/21 09:27
A1C0781	8260 Calibration 10 PPB	AA65289-CAL4	212CD005.D	03/09/21 09:56
A1C0782	8260 Calibration 20 PPB	AA65289-CAL5	212CD006.D	03/09/21 10:25
A1C0783	8260 Calibration 50 PPB	AA65289-CAL6	212CD007.D	03/09/21 10:53
A1C0784	8260 Calibration 80 PPB	AA65289-CAL7	212CD008.D	03/09/21 11:22
A1C0785	8260 Calibration 100 PPB	AA65289-CAL8	212CD009.D	03/09/21 11:50
A1C0786	8260 SCV 50 PPB/20 Gases	AA65289-SCV1	212CD013.D	03/09/21 14:04

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02207-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2103054
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 03/10/21 08:57

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	1	0.9629509	2	1.00115	5	0.9130478	10	0.9351326	20	1.143952	50	1.135256
Chloromethane	1	1.218475	2	1.166378	5	1.020541	10	0.977044	20	1.141262	50	1.093927
Vinyl chloride	1	0.7831949	2	0.8310802	5	0.7680407	10	0.7799153	20	0.924546	50	0.9082744
Bromomethane	1	0.4855345	2	0.5247368	5	0.4775856	10	0.4689483	20	0.4404474	50	0.329613
Chloroethane	1	0.528444	2	0.4736466	5	0.4094507	10	0.4309886	20	0.464119	50	0.4424994
Trichlorofluoromethane	1	0.7571013	2	0.7682304	5	0.7569387	10	0.773343	20	0.9107586	50	0.8884645
Freon 113	1	0.5095019	2	0.5238474	5	0.4960221	10	0.4951967	20	0.5375287	50	0.5569136
Acetone	5	0.2865658	10	0.2420706	25	0.2098635	50	0.1748565	100	0.1906963	250	0.1898775
1,1-Dichloroethene	1	0.5052496	2	0.5066526	5	0.4470051	10	0.4257881	20	0.4741616	50	0.5130383
Carbon disulfide	5	1.604545	10	1.478097	25	1.434809	50	1.684823	100	1.766817	250	1.783578
Methylene Chloride	1	0.7313943	2	0.6639748	5	0.5697681	10	0.6298371	20	0.6457918	50	0.6253248
Methyl-tert-Butyl Ether	1	1.692219	2	1.743589	5	1.519288	10	1.4515	20	1.605888	50	1.652303
trans-1,2-Dichloroethene	1	0.5549242	2	0.5545805	5	0.4825955	10	0.4601443	20	0.5098801	50	0.5331158
cis-1,2-Dichloroethene	1	0.5491256	2	0.5892665	5	0.5344983	10	0.5027518	20	0.5582572	50	0.5942978
1,1-Dichloroethane	1	1.280713	2	1.21816	5	1.08567	10	0.9896563	20	1.077779	50	1.087997
2-Butanone	5	7.661858E-02	10	9.215998E-02	25	6.869602E-02	50	5.517473E-02	100	5.833319E-02	250	5.888253E-02
Chloroform	1	1.055342	2	1.133669	5	0.9757319	10	0.918794	20	1.014148	50	1.017747
1,1,1-Trichloroethane	1	0.8206924	2	0.8531172	5	0.7725697	10	0.7257193	20	0.7969784	50	0.828478
Methyl acetate	1	0.1266023	2	0.1356805	5	0.1047674	10	9.784772E-02	20	9.921221E-02	50	0.102088
Cyclohexane	1	0.9718421	2	0.9865248	5	0.9136089	10	0.8608306	20	0.9439559	50	0.9671388
Methyl cyclohexane	1	0.4186717	2	0.3889739	5	0.4548591	10	0.3709682	20	0.4003569	50	0.4160229
Carbon Tetrachloride	1	0.4693766	2	0.4823455	5	0.4463815	10	0.4293764	20	0.4484988	50	0.4707247
1,2-Dichloroethane	1	0.49566	2	0.544351	5	0.4632916	10	0.4320281	20	0.460018	50	0.4697415
Benzene	1	1.574153	2	1.399847	5	1.148849	10	1.023984	20	1.057862	50	1.064724
Trichloroethene	1	0.3158381	2	0.3365851	5	0.3050131	10	0.2902344	20	0.3088552	50	0.327305
1,2-Dichloropropane	1	0.4654341	2	0.3979197	5	0.3542553	10	0.3214417	20	0.3365832	50	0.3523757
Bromodichloromethane	1	0.4583157	2	0.446786	5	0.4029338	10	0.3869483	20	0.4193806	50	0.4279179
4-Methyl-2-pentanone	5	6.124018E-02	10	5.602297E-02	25	0.045292	50	0.0415087	100	4.095342E-02	250	4.409484E-02
2-Hexanone	5	0.2715288	10	0.3137622	25	0.2659034	50	0.2507961	100	0.2534477	250	0.2628961
cis-1,3-Dichloropropene	1	0.6047358	2	0.6238566	5	0.5429268	10	0.5238322	20	0.5713625	50	0.6005754
Toluene	1	1.402892	2	1.460348	5	1.337111	10	1.220114	20	1.333804	50	1.417909

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02207-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2103054
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 03/10/21 08:57

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	1	0.9725595	2	1.063622	5	0.9537202	10	0.8917849	20	0.9930434	50	1.017975
1,1,2-Trichloroethane	1	0.5631086	2	0.5902566	5	0.504149	10	0.4915265	20	0.5228565	50	0.5465517
Tetrachloroethene	1	0.3992374	2	0.4373198	5	0.3966177	10	0.3935136	20	0.4211542	50	0.4276677
Dibromochloromethane	1	0.6797703	2	0.7931111	5	0.7216715	10	0.6373902	20	0.7296715	50	0.7748404
1,2-Dibromoethane	1	0.660705	2	0.7008942	5	0.6155324	10	0.5821577	20	0.6495998	50	0.6778992
Chlorobenzene	1	1.636896	2	1.693107	5	1.465991	10	1.383689	20	1.511416	50	1.544965
Ethylbenzene	1	0.7800903	2	0.8283605	5	0.7558291	10	0.707268	20	0.7802424	50	0.8101387
m,p-Xylenes	2	0.9854967	4	1.008019	10	0.9411896	20	0.8773283	40	0.9404274	100	0.9805163
o-Xylene	1	0.8624799	2	0.9894843	5	0.9094917	10	0.8640508	20	0.950414	50	0.9956992
Bromoform	1	0.3665539	2	0.376941	5	0.3603716	10	0.3450732	20	0.3851428	50	0.4018968
Styrene	1	1.65528	2	1.688787	5	1.520012	10	1.433898	20	1.618377	50	1.683169
Isopropylbenzene	1	2.361833	2	2.459042	5	2.266234	10	2.135364	20	2.351638	50	2.476129
1,1,2,2-Tetrachloroethane	1	0.7374203	2	0.7504707	5	0.6396191	10	0.6174857	20	0.6664488	50	0.7033133
1,2,4-Trichlorobenzene	1	0.6755302	2	0.64151	5	0.6263674	10	0.6048392	20	0.683242	50	0.7261299
1,3-Dichlorobenzene	1	1.413105	2	1.435084	5	1.271424	10	1.261615	20	1.355599	50	1.435628
1,4-Dichlorobenzene	1	1.567901	2	1.517829	5	1.405755	10	1.288807	20	1.371389	50	1.446464
1,2-Dichlorobenzene	1	1.303261	2	1.371542	5	1.211721	10	1.177105	20	1.299253	50	1.387116
1,2-Dibromo-3-chloropropane	1	0.212409	2	0.2065509	5	0.154168	10	0.1373155	20	0.1453144	50	0.1527023
Dibromofluoromethane	50	0.548855	55	0.5608799	60	0.5543643	50	0.5496016	65	0.5539103	50	0.5533358
Toluene-d8	50	0.9346092	55	0.9465188	60	0.9424974	50	0.9553555	65	0.934185	50	0.9392933
4-Bromofluorobenzene	50	0.8534919	55	0.85705	60	0.8490276	50	0.8645696	65	0.8573421	50	0.8856145

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02207-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2103054
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 03/10/21 08:57

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	80	1.232381	100	1.256932								
Chloromethane	80	1.163767	100	1.222139								
Vinyl chloride	80	0.9791373	100	0.9993708								
Bromomethane	80	0.2246743	100	~~0.1871663~~								
Chloroethane	80	0.4667161	100	0.4595652								
Trichlorofluoromethane	80	0.9518414	100	0.9490496								
Freon 113	80	0.5854884	100	0.5786782								
Acetone	400	0.1939092	500	0.1910513								
1,1-Dichloroethene	80	0.535717	100	0.5287								
Carbon disulfide	400	1.852588	500	1.797904								
Methylene Chloride	80	0.6246768	100	0.6075552								
Methyl-tert-Butyl Ether	80	1.705031	100	1.664927								
trans-1,2-Dichloroethene	80	0.5679302	100	0.5727682								
cis-1,2-Dichloroethene	80	0.6332128	100	0.6227026								
1,1-Dichloroethane	80	1.123556	100	1.095906								
2-Butanone	400	6.190635E-02	500	0.0607376								
Chloroform	80	1.08207	100	1.075495								
1,1,1-Trichloroethane	80	0.874716	100	0.8642298								
Methyl acetate	80	0.1070014	100	0.1053113								
Cyclohexane	80	1.021414	100	0.9924252								
Methyl cyclohexane	80	0.4241667	100	0.4156405								
Carbon Tetrachloride	80	0.4847605	100	0.4795778								
1,2-Dichloroethane	80	0.4831183	100	0.4780825								
Benzene	80	1.085549	100	1.063654								
Trichloroethene	80	0.3415202	100	0.3424428								
1,2-Dichloropropane	80	0.3541874	100	0.3518603								
Bromodichloromethane	80	0.4406068	100	0.4404055								
4-Methyl-2-pentanone	400	0.0443242	500	0.0443068								
2-Hexanone	400	0.2636715	500	0.26132								
cis-1,3-Dichloropropene	80	0.6136402	100	0.6057173								
Toluene	80	1.458214	100	1.433042								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02207-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2103054
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 03/10/21 08:57

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	80	1.039968	100	1.027032								
1,1,2-Trichloroethane	80	0.5449611	100	0.5413604								
Tetrachloroethene	80	0.4422631	100	0.4414063								
Dibromochloromethane	80	0.7952009	100	0.7926685								
1,2-Dibromoethane	80	0.7030185	100	0.6943545								
Chlorobenzene	80	1.597327	100	1.569035								
Ethylbenzene	80	0.8495578	100	0.836716								
m,p-Xylenes	160	1.0277	200	1.003666								
o-Xylene	80	1.04198	100	1.034389								
Bromoform	80	0.4259642	100	0.4175864								
Styrene	80	1.754819	100	1.741829								
Isopropylbenzene	80	2.570765	100	2.54072								
1,1,2,2-Tetrachloroethane	80	0.7186047	100	0.7031744								
1,2,4-Trichlorobenzene	80	0.7855318	100	0.8035843								
1,3-Dichlorobenzene	80	1.512372	100	1.502279								
1,4-Dichlorobenzene	80	1.521959	100	1.513784								
1,2-Dichlorobenzene	80	1.455057	100	1.455029								
1,2-Dibromo-3-chloropropane	80	0.1656948	100	0.1671324								
Dibromofluoromethane	70	0.5717455	75	0.5773826								
Toluene-d8	70	0.9384964	75	0.9464445								
4-Bromofluorobenzene	70	0.8628971	75	0.8715379								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02207-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2103054
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 03/10/21 08:57

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	1.0726	12.70566	5.88125	6.074623E-02	0.9973265		0.99	
Chloromethane	1.125442	7.90604	6.3475	7.247758E-02			20	
Vinyl chloride	0.871695	10.67617	6.545	0.0823081			20	
Bromomethane	0.4216486	25.19187	7.194286	0.2101729		0.999951	0.99	
Chloroethane	0.4594287	7.644151	7.41625	0.160176	0.9994555		0.99	
Trichlorofluoromethane	0.8444659	10.49299	7.68375	0.1189745			20	
Freon 113	0.5353971	6.630047	8.50875	4.331832E-02			20	
Acetone	0.2098613	17.57383	9.22375	5.911442E-02	0.9997398		0.99	
1,1-Dichloroethene	0.492039	7.989483	8.47	9.018307E-02			20	
Carbon disulfide	1.675395	9.257298	8.58625	6.056953E-02			20	
Methylene Chloride	0.6372904	7.369772	9.18375	5.802199E-02			20	
Methyl-tert-Butyl Ether	1.629343	6.085416	9.50625	7.749071E-02			20	
trans-1,2-Dichloroethene	0.5294924	7.8302	9.415	7.998514E-02			20	
cis-1,2-Dichloroethene	0.5730141	7.809786	10.65	1.055785E-02			20	
1,1-Dichloroethane	1.11993	8.059711	10.08875	6.528508E-02			20	
2-Butanone	6.656362E-02	18.59918	11.155	6.816518E-02	0.9992668		0.99	
Chloroform	1.034125	6.512295	10.86625	4.746036E-02			20	
1,1,1-Trichloroethane	0.8170626	6.157609	11.16375	4.279369E-02			20	
Methyl acetate	0.1098139	12.50422	9.36875	9.042621E-02			20	
Cyclohexane	0.9572176	5.282833	10.9325	4.156259E-02			20	
Methyl cyclohexane	0.4112075	6.099235	12.05375	3.732049E-02			20	
Carbon Tetrachloride	0.4638802	4.337352	11.1275	3.876405E-02			20	
1,2-Dichloroethane	0.4782864	6.826013	11.6475	6.000561E-02			20	
Benzene	1.177328	16.97569	11.505	4.517505E-02	0.9997383		0.99	
Trichloroethene	0.3209742	5.934409	12.01875	2.655112E-02			20	
1,2-Dichloropropane	0.3667572	12.37323	12.46625	3.825721E-02			20	
Bromodichloromethane	0.4279118	5.567148	12.48625	5.670444E-02			20	
4-Methyl-2-pentanone	4.721789E-02	15.52791	13.48875	4.481918E-02	0.9997048		0.99	
2-Hexanone	0.2679157	7.341542	14.19125	7.085091E-02			20	
cis-1,3-Dichloropropene	0.5858308	6.149003	13.03	4.463944E-02			20	

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE02207-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2103054
Instrument: OVGCMS2
Matrix: Water
Calibration Date: 03/10/21 08:57

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Toluene	1.382929	5.913577	13.26125	2.659049E-02			20	
trans-1,3-Dichloropropene	0.9949631	5.524546	13.55125	2.941279E-02			20	
1,1,2-Trichloroethane	0.5380963	5.888949	13.70375	3.200149E-02			20	
Tetrachloroethene	0.4198975	4.924694	13.6375	3.135631E-02			20	
Dibromochloromethane	0.7405405	7.981106	13.9025	3.514839E-02			20	
1,2-Dibromoethane	0.6605201	6.566072	14.15875	4.622794E-02			20	
Chlorobenzene	1.550303	6.30415	14.6075	2.830057E-02			20	
Ethylbenzene	0.7935253	5.970608	14.565	3.673003E-02			20	
m,p-Xylenes	0.9705429	5.009833	14.68	1.011355E-02			20	
o-Xylene	0.9559986	7.462735	15.09875	4.087533E-02			20	
Bromoform	0.3849412	7.36823	15.23125	5.294235E-02			20	
Styrene	1.637021	6.743335	15.13875	1.643833E-02			20	
Isopropylbenzene	2.395216	6.107116	15.365	3.572018E-02			20	
1,1,2,2-Tetrachloroethane	0.6920671	6.775523	15.805	3.237499E-02			20	
1,2,4-Trichlorobenzene	0.6933419	10.50731	19.93125	5.589857E-02			20	
1,3-Dichlorobenzene	1.398388	6.805273	16.87875	0.0307369			20	
1,4-Dichlorobenzene	1.454236	6.457885	16.97375	2.211872E-02			20	
1,2-Dichlorobenzene	1.33251	7.780255	17.54125	2.676335E-02			20	
1,2-Dibromo-3-chloropropane	0.1676609	16.48136	18.65125	5.267157E-02	0.9977345		0.99	
Dibromofluoromethane	0.5587594	1.882086	11.05	1.757405E-02			20	
Toluene-d8	0.942175	0.7546022	13.21375	3.949602E-02			20	
4-Bromofluorobenzene	0.8626913	1.34262	15.70875	2.732772E-02			20	

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE02207-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2103054 **Laboratory ID:** AA65289-SCV1

Sequence: AA65289 **Standard ID:** A1C0786

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Cyclohexane	50.0	54	7.3	30.00
Ethylbenzene	50.0	55	9.8	30.00
Carbon Tetrachloride	50.0	52	4.1	30.00
1,3-Dichlorobenzene	50.0	56	11.1	30.00
4-Bromofluorobenzene	50.0	51	2.7	30.00
Toluene-d8	50.0	50	0.9	30.00
Dibromofluoromethane	50.0	48	-3.9	30.00
Methyl-tert-Butyl Ether	50.0	52	4.8	30.00
trans-1,2-Dichloroethene	50.0	52	3.3	30.00
cis-1,2-Dichloroethene	50.0	54	8.4	30.00
Tetrachloroethene	50.0	54	7.8	30.00
Acetone	250	280	12.8	30.00
1,2,4-Trichlorobenzene	50.0	58	16.6	30.00
Chloroform	50.0	51	2.3	30.00
Chlorobenzene	50.0	53	6.7	30.00
Toluene	50.0	55	9.5	30.00
Methyl cyclohexane	50.0	53	6.1	30.00
m,p-Xylenes	100	100	5.0	30.00
4-Methyl-2-pentanone	250	260	2.9	30.00
1,2-Dichloroethane	50.0	52	3.8	30.00
1,2-Dibromoethane	50.0	53	6.0	30.00
1,4-Dichlorobenzene	50.0	52	4.4	30.00
trans-1,3-Dichloropropene	50.0	55	10.2	30.00
cis-1,3-Dichloropropene	50.0	50	-0.4	30.00
Styrene	50.0	55	9.6	30.00
Dibromochloromethane	50.0	56	11.5	30.00
1,1-Dichloroethene	50.0	50	-0.2	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE02207-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2103054 **Laboratory ID:** AA65289-SCV1

Sequence: AA65289 **Standard ID:** A1C0786

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
1,2-Dibromo-3-chloropropane	50.0	51	1.5	30.00
1,2-Dichlorobenzene	50.0	56	11.0	30.00
o-Xylene	50.0	56	12.5	30.00
1,1,2,2-Tetrachloroethane	50.0	52	3.4	30.00
Methyl acetate	50.0	48	-4.6	30.00
Trichloroethene	50.0	54	8.1	30.00
1,1,2-Trichloroethane	50.0	52	3.7	30.00
2-Butanone	250	270	8.6	30.00
1,2-Dichloropropane	50.0	50	-0.6	30.00
Freon 113	50.0	52	3.1	30.00
2-Hexanone	250	240	-3.3	30.00
Trichlorofluoromethane	20.0	21	4.4	30.00
Isopropylbenzene	50.0	55	10.8	30.00
1,1-Dichloroethane	50.0	51	2.8	30.00
Bromodichloromethane	50.0	53	5.9	30.00
Bromoform	50.0	59	17.2	30.00
Carbon disulfide	50.0	56	12.2	30.00
Methylene Chloride	50.0	48	-3.6	30.00
Vinyl chloride	20.0	20	1.8	30.00
Chloroethane	20.0	19	-3.8	30.00
Chloromethane	20.0	20	1.4	30.00
Bromomethane	20.0	13	-37.0 *	30.00
1,1,1-Trichloroethane	50.0	52	4.1	30.00
Benzene	50.0	56	13.0	30.00
Dichlorodifluoromethane	20.0	20	-2.1	30.00

* Values outside of QC limits

TETRA TECH ISG
TtEGS, Information Systems Group

Completion Ticket

On 4/13/2021 at 10:11 AM the following files were submitted to Tetra Tech by kdylnicki@encolabs.com with ENCO:

TE016AE02207A1.txt, TE016AE02207A3.txt

If you need to identify this session at a later date refer to Ticket Key:

2021413_3368797049_ledd_ENCO

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I Lori S. Mangrum, as the designated Quality Assurance Officer, hereby attest that all electronic deliverables have been thoroughly reviewed and are in agreement with the associated hardcopy data. The enclosed electronic files have been reviewed for accuracy (including significant figures), completeness and format. The laboratory will be responsible for any labor time necessary to correct enclosed electronic deliverables that have been found to be in error. I can be reached at (407) 826-5314 if there are any questions or problems with the enclosed electronic deliverables.

Signature:_____ Title: Quality Assurance Manager Date: April 13, 2021

ENCO Laboratories

Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Thursday, March 25, 2021
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AE02207

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Thursday, March 18, 2021.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

www.encolabs.com

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-ASEFFLUENT-20210318	Lab ID: AE02207-01	Sampled: 03/18/21 12:00	Received: 03/18/21 14:10

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	04/01/21	03/24/21 09:25	03/24/21 14:50

Client ID: CRCA-ASINFLUENT-20210318	Lab ID: AE02207-02	Sampled: 03/18/21 12:10	Received: 03/18/21 14:10

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	04/01/21	03/24/21 09:25	03/24/21 15:18

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-ASINFLUENT-20210318 **Lab ID:** AE02207-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	13		0.71	2.5	ug/L	EPA 8260D	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20210318 **Lab Sample ID:** AE02207-01 **Received:** 03/18/21 14:10

Matrix: Ground Water **Sampled:** 03/18/21 12:00 **Work Order:** AE02207

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1C24011	EPA 8260D	03/24/21 14:50	KG	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1C24011	EPA 8260D	03/24/21 14:50	KG	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1C24011	EPA 8260D	03/24/21 14:50	KG	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1C24011	EPA 8260D	03/24/21 14:50	KG	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	QV-01
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1C24011	EPA 8260D	03/24/21 14:50	KG	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1C24011	EPA 8260D	03/24/21 14:50	KG	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1C24011	EPA 8260D	03/24/21 14:50	KG	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20210318 **Lab Sample ID:** AE02207-01 **Received:** 03/18/21 14:10

Matrix: Ground Water **Sampled:** 03/18/21 12:00 **Work Order:** AE02207

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1C24011	EPA 8260D	03/24/21 14:50	KG	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1C24011	EPA 8260D	03/24/21 14:50	KG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*46*	*1*	*50.0*	*93 %*	*41-142*	*1C24011*	*EPA 8260D*	*03/24/21 14:50*	*KG*	
Dibromofluoromethane	*49*	*1*	*50.0*	*98 %*	*53-146*	*1C24011*	*EPA 8260D*	*03/24/21 14:50*	*KG*	
Toluene-d8	*48*	*1*	*50.0*	*96 %*	*41-146*	*1C24011*	*EPA 8260D*	*03/24/21 14:50*	*KG*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20210318 **Lab Sample ID:** AE02207-02 **Received:** 03/18/21 14:10

Matrix: Ground Water **Sampled:** 03/18/21 12:10 **Work Order:** AE02207

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1C24011	EPA 8260D	03/24/21 15:18	KG	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1C24011	EPA 8260D	03/24/21 15:18	KG	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1C24011	EPA 8260D	03/24/21 15:18	KG	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1C24011	EPA 8260D	03/24/21 15:18	KG	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	QV-01
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1C24011	EPA 8260D	03/24/21 15:18	KG	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1C24011	EPA 8260D	03/24/21 15:18	KG	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1C24011	EPA 8260D	03/24/21 15:18	KG	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	

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ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20210318 **Lab Sample ID:** AE02207-02 **Received:** 03/18/21 14:10

Matrix: Ground Water **Sampled:** 03/18/21 12:10 **Work Order:** AE02207

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Vinyl chloride [75-01-4]^	**13**		ug/L	1	0.71	2.5	1C24011	EPA 8260D	03/24/21 15:18	KG	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1C24011	EPA 8260D	03/24/21 15:18	KG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*47*	*1*	*50.0*	*93 %*	*41-142*	*1C24011*	*EPA 8260D*	*03/24/21 15:18*	*KG*	
Dibromofluoromethane	*49*	*1*	*50.0*	*98 %*	*53-146*	*1C24011*	*EPA 8260D*	*03/24/21 15:18*	*KG*	
Toluene-d8	*48*	*1*	*50.0*	*96 %*	*41-146*	*1C24011*	*EPA 8260D*	*03/24/21 15:18*	*KG*	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1C24011 - EPA 5030B_MS

Blank (1C24011-BLK1) Prepared: 03/24/2021 00:00 Analyzed: 03/24/2021 12:04

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1C24011 - EPA 5030B_MS - Continued

Blank (1C24011-BLK1) Continued Prepared: 03/24/2021 00:00 Analyzed: 03/24/2021 12:04

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*45*	*I*		*ug/L*	*50.0*		*90*	*41-142*			
Dibromofluoromethane	*47*	*I*		*ug/L*	*50.0*		*94*	*53-146*			
Toluene-d8	*48*	*I*		*ug/L*	*50.0*		*96*	*41-146*			

LCS (1C24011-BS1) Prepared: 03/24/2021 00:00 Analyzed: 03/24/2021 09:12

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	17		2.5	ug/L	20.0		85	57-148			
1,1,2,2-Tetrachloroethane	21		2.5	ug/L	20.0		104	60-139			
1,1,2-Trichloroethane	21		2.5	ug/L	20.0		104	57-141			
1,1-Dichloroethane	16		2.5	ug/L	20.0		82	57-142			
1,1-Dichloroethene	18		2.5	ug/L	20.0		90	47-139			
1,2,4-Trichlorobenzene	22		2.5	ug/L	20.0		110	52-159			
1,2-Dibromo-3-chloropropane	17		2.5	ug/L	20.0		87	48-150			
1,2-Dibromoethane	21		2.5	ug/L	20.0		106	57-140			
1,2-Dichlorobenzene	22		2.5	ug/L	20.0		108	63-131			
1,2-Dichloroethane	17		2.5	ug/L	20.0		83	50-156			
1,2-Dichloropropane	17		2.5	ug/L	20.0		84	61-133			
1,3-Dichlorobenzene	21		2.5	ug/L	20.0		105	66-129			
1,4-Dichlorobenzene	20		2.5	ug/L	20.0		99	65-133			
2-Butanone	130		12	ug/L	100		130	10-180			
2-Hexanone	83		12	ug/L	100		83	12-180			
4-Methyl-2-pentanone	110		12	ug/L	100		105	19-180			
Acetone	88		25	ug/L	100		88	10-180			
Benzene	20		2.5	ug/L	20.0		102	56-136			
Bromodichloromethane	18		2.5	ug/L	20.0		92	58-135			
Bromoform	25		2.5	ug/L	20.0		125	46-148			
Bromomethane	7.7		2.5	ug/L	20.0		38	10-173			
Carbon disulfide	20		12	ug/L	20.0		101	43-153			
Carbon Tetrachloride	19		2.5	ug/L	20.0		93	54-156			
Chlorobenzene	22		2.5	ug/L	20.0		108	51-139			
Chloroethane	15		2.5	ug/L	20.0		75	27-180			
Chloroform	17		2.5	ug/L	20.0		87	58-139			
Chloromethane	9.9		2.5	ug/L	20.0		50	33-154			
cis-1,2-Dichloroethene	19		2.5	ug/L	20.0		95	56-128			
cis-1,3-Dichloropropene	18		2.5	ug/L	20.0		88	64-128			
Cyclohexane	18		2.5	ug/L	20.0		89	70-130			
Dibromochloromethane	23		2.5	ug/L	20.0		115	50-140			
Dichlorodifluoromethane	7.2		2.5	ug/L	20.0		36	10-180			
Ethylbenzene	22		2.5	ug/L	20.0		110	63-133			
Freon 113	18		2.5	ug/L	20.0		91	47-173			
Isopropylbenzene	22		2.5	ug/L	20.0		108	60-132			
m,p-Xylenes	42		5.0	ug/L	40.0		105	64-133			
Methyl acetate	17		2.5	ug/L	20.0		86	70-130			
Methyl cyclohexane	18		2.5	ug/L	20.0		88	70-130			
Methylene Chloride	17		12	ug/L	20.0		84	43-142			
Methyl-tert-Butyl Ether	17		2.5	ug/L	20.0		86	51-145			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1C24011 - EPA 5030B_MS - Continued

LCS (1C24011-BS1) Continued Prepared: 03/24/2021 00:00 Analyzed: 03/24/2021 09:12

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
o-Xylene	22		2.5	ug/L	20.0		109	61-129			
Styrene	21		2.5	ug/L	20.0		107	59-136			
Tetrachloroethene	24		2.5	ug/L	20.0		122	60-147			
Toluene	21		2.5	ug/L	20.0		106	64-131			
trans-1,2-Dichloroethene	19		2.5	ug/L	20.0		93	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0		105	65-149			
Trichloroethene	21		2.5	ug/L	20.0		103	62-135			
Trichlorofluoromethane	16		2.5	ug/L	20.0		81	56-155			
Vinyl chloride	13		2.5	ug/L	20.0		67	20-167			
4-Bromofluorobenzene	*47*	*I*		*ug/L*	*50.0*		*95*	*41-142*			
Dibromofluoromethane	*47*	*I*		*ug/L*	*50.0*		*94*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*99*	*41-146*			

Matrix Spike (1C24011-MS1) Prepared: 03/24/2021 00:00 Analyzed: 03/24/2021 09:41

Source: AE02221-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	19		2.5	ug/L	20.0	0.80 U	93	57-148			
1,1,2,2-Tetrachloroethane	20		2.5	ug/L	20.0	0.54 U	100	60-139			
1,1,2-Trichloroethane	22		2.5	ug/L	20.0	0.76 U	109	57-141			
1,1-Dichloroethane	17		2.5	ug/L	20.0	0.62 U	86	57-142			
1,1-Dichloroethene	19		2.5	ug/L	20.0	0.94 U	97	47-139			
1,2,4-Trichlorobenzene	20		2.5	ug/L	20.0	0.70 U	102	52-159			
1,2-Dibromo-3-chloropropane	15		2.5	ug/L	20.0	0.96 U	77	48-150			
1,2-Dibromoethane	21		2.5	ug/L	20.0	0.78 U	104	57-140			
1,2-Dichlorobenzene	21		2.5	ug/L	20.0	0.73 U	104	63-131			
1,2-Dichloroethane	17		2.5	ug/L	20.0	0.63 U	84	50-156			
1,2-Dichloropropane	18		2.5	ug/L	20.0	0.80 U	89	61-133			
1,3-Dichlorobenzene	21		2.5	ug/L	20.0	0.77 U	106	66-129			
1,4-Dichlorobenzene	20		2.5	ug/L	20.0	0.76 U	101	65-133			
2-Butanone	120		12	ug/L	100	4.5 U	122	10-180			
2-Hexanone	78		12	ug/L	100	2.5 U	78	12-180			
4-Methyl-2-pentanone	100		12	ug/L	100	2.5 U	104	19-180			
Acetone	77		25	ug/L	100	10 U	77	10-180			
Benzene	21		2.5	ug/L	20.0	0.71 U	104	56-136			
Bromodichloromethane	19		2.5	ug/L	20.0	0.52 U	94	58-135			
Bromoform	25		2.5	ug/L	20.0	0.75 U	123	46-148			
Bromomethane	9.6		2.5	ug/L	20.0	0.95 U	48	10-173			
Carbon disulfide	20		12	ug/L	20.0	2.5 U	101	43-153			
Carbon Tetrachloride	20		2.5	ug/L	20.0	0.94 U	100	54-156			
Chlorobenzene	22		2.5	ug/L	20.0	0.72 U	110	51-139			
Chloroethane	17		2.5	ug/L	20.0	0.98 U	84	27-180			
Chloroform	18		2.5	ug/L	20.0	0.80 U	89	58-139			
Chloromethane	11		2.5	ug/L	20.0	0.82 U	55	33-154			
cis-1,2-Dichloroethene	19		2.5	ug/L	20.0	0.53 U	97	56-128			
cis-1,3-Dichloropropene	18		2.5	ug/L	20.0	0.59 U	89	64-128			
Cyclohexane	19		2.5	ug/L	20.0	0.93 U	96	70-130			
Dibromochloromethane	23		2.5	ug/L	20.0	0.50 U	113	50-140			
Dichlorodifluoromethane	8.5		2.5	ug/L	20.0	0.74 U	42	10-180			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1C24011 - EPA 5030B_MS - Continued

Matrix Spike (1C24011-MS1) Continued Prepared: 03/24/2021 00:00 Analyzed: 03/24/2021 09:41

Source: AE02221-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	23		2.5	ug/L	20.0	0.69 U	113	63-133			
Freon 113	20		2.5	ug/L	20.0	0.73 U	99	47-173			
Isopropylbenzene	23		2.5	ug/L	20.0	0.67 U	116	60-132			
m,p-Xylenes	44		5.0	ug/L	40.0	1.3 U	110	64-133			
Methyl acetate	17		2.5	ug/L	20.0	0.95 U	84	70-130			
Methyl cyclohexane	19		2.5	ug/L	20.0	0.64 U	96	70-130			
Methylene Chloride	17		12	ug/L	20.0	2.5 U	86	43-142			
Methyl-tert-Butyl Ether	17		2.5	ug/L	20.0	0.60 U	85	51-145			
o-Xylene	23		2.5	ug/L	20.0	0.53 U	113	61-129			
Styrene	22		2.5	ug/L	20.0	0.61 U	111	59-136			
Tetrachloroethene	25		2.5	ug/L	20.0	0.76 U	123	60-147			
Toluene	23		2.5	ug/L	20.0	0.72 U	113	64-131			
trans-1,2-Dichloroethene	20		2.5	ug/L	20.0	0.73 U	98	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0	0.73 U	107	65-149			
Trichloroethene	22		2.5	ug/L	20.0	0.89 U	108	62-135			
Trichlorofluoromethane	18		2.5	ug/L	20.0	0.94 U	92	56-155			
Vinyl chloride	15		2.5	ug/L	20.0	0.71 U	73	20-167			
4-Bromofluorobenzene	*47*	*I*		*ug/L*	*50.0*		*95*	*41-142*			
Dibromofluoromethane	*47*	*I*		*ug/L*	*50.0*		*93*	*53-146*			
Toluene-d8	*49*	*I*		*ug/L*	*50.0*		*97*	*41-146*			

Matrix Spike Dup (1C24011-MSD1) Prepared: 03/24/2021 00:00 Analyzed: 03/24/2021 10:10

Source: AE02221-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	18		2.5	ug/L	20.0	0.80 U	89	57-148	4	25	
1,1,2,2-Tetrachloroethane	20		2.5	ug/L	20.0	0.54 U	100	60-139	0.1	17	
1,1,2-Trichloroethane	21		2.5	ug/L	20.0	0.76 U	104	57-141	4	16	
1,1-Dichloroethane	17		2.5	ug/L	20.0	0.62 U	84	57-142	2	24	
1,1-Dichloroethene	19		2.5	ug/L	20.0	0.94 U	94	47-139	4	16	
1,2,4-Trichlorobenzene	20		2.5	ug/L	20.0	0.70 U	102	52-159	0.2	24	
1,2-Dibromo-3-chloropropane	16		2.5	ug/L	20.0	0.96 U	81	48-150	4	21	
1,2-Dibromoethane	21		2.5	ug/L	20.0	0.78 U	104	57-140	0.4	16	
1,2-Dichlorobenzene	21		2.5	ug/L	20.0	0.73 U	105	63-131	1	25	
1,2-Dichloroethane	16		2.5	ug/L	20.0	0.63 U	82	50-156	2	18	
1,2-Dichloropropane	17		2.5	ug/L	20.0	0.80 U	85	61-133	5	26	
1,3-Dichlorobenzene	21		2.5	ug/L	20.0	0.77 U	107	66-129	0.9	23	
1,4-Dichlorobenzene	20		2.5	ug/L	20.0	0.76 U	98	65-133	2	23	
2-Butanone	120		12	ug/L	100	4.5 U	121	10-180	0.3	29	
2-Hexanone	81		12	ug/L	100	2.5 U	81	12-180	4	28	
4-Methyl-2-pentanone	100		12	ug/L	100	2.5 U	104	19-180	0.08	24	
Acetone	79		25	ug/L	100	10 U	79	10-180	2	19	
Benzene	21		2.5	ug/L	20.0	0.71 U	103	56-136	2	14	
Bromodichloromethane	18		2.5	ug/L	20.0	0.52 U	92	58-135	1	19	
Bromoform	24		2.5	ug/L	20.0	0.75 U	120	46-148	3	18	
Bromomethane	11		2.5	ug/L	20.0	0.95 U	53	10-173	9	29	
Carbon disulfide	19		12	ug/L	20.0	2.5 U	97	43-153	4	26	
Carbon Tetrachloride	20		2.5	ug/L	20.0	0.94 U	98	54-156	2	27	
Chlorobenzene	21		2.5	ug/L	20.0	0.72 U	107	51-139	3	13	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1C24011 - EPA 5030B_MS - Continued

Matrix Spike Dup (1C24011-MSD1) Continued Prepared: 03/24/2021 00:00 Analyzed: 03/24/2021 10:10

Source: AE02221-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloroethane	15		2.5	ug/L	20.0	0.98 U	77	27-180	8	22	
Chloroform	18		2.5	ug/L	20.0	0.80 U	88	58-139	2	17	
Chloromethane	11		2.5	ug/L	20.0	0.82 U	55	33-154	0.5	31	
cis-1,2-Dichloroethene	19		2.5	ug/L	20.0	0.53 U	95	56-128	2	17	
cis-1,3-Dichloropropene	17		2.5	ug/L	20.0	0.59 U	87	64-128	2	20	
Cyclohexane	19		2.5	ug/L	20.0	0.93 U	93	70-130	3	20	
Dibromochloromethane	23		2.5	ug/L	20.0	0.50 U	113	50-140	0.09	18	
Dichlorodifluoromethane	8.1		2.5	ug/L	20.0	0.74 U	41	10-180	5	26	
Ethylbenzene	22		2.5	ug/L	20.0	0.69 U	112	63-133	1	18	
Freon 113	19		2.5	ug/L	20.0	0.73 U	95	47-173	3	30	
Isopropylbenzene	22		2.5	ug/L	20.0	0.67 U	112	60-132	3	23	
m,p-Xylenes	43		5.0	ug/L	40.0	1.3 U	107	64-133	3	18	
Methyl acetate	17		2.5	ug/L	20.0	0.95 U	86	70-130	3	20	
Methyl cyclohexane	19		2.5	ug/L	20.0	0.64 U	93	70-130	2	20	
Methylene Chloride	17		12	ug/L	20.0	2.5 U	83	43-142	3	23	
Methyl-tert-Butyl Ether	17		2.5	ug/L	20.0	0.60 U	85	51-145	0.2	22	
o-Xylene	22		2.5	ug/L	20.0	0.53 U	112	61-129	2	16	
Styrene	22		2.5	ug/L	20.0	0.61 U	108	59-136	2	32	
Tetrachloroethene	24		2.5	ug/L	20.0	0.76 U	122	60-147	1	21	
Toluene	22		2.5	ug/L	20.0	0.72 U	110	64-131	3	16	
trans-1,2-Dichloroethene	19		2.5	ug/L	20.0	0.73 U	94	54-134	4	20	
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0	0.73 U	104	65-149	3	17	
Trichloroethene	21		2.5	ug/L	20.0	0.89 U	106	62-135	2	20	
Trichlorofluoromethane	18		2.5	ug/L	20.0	0.94 U	88	56-155	5	22	
Vinyl chloride	15		2.5	ug/L	20.0	0.71 U	73	20-167	0.4	24	
4-Bromofluorobenzene	*47*	*I*		*ug/L*	*50.0*		*94*	*41-142*			
Dibromofluoromethane	*45*	*I*		*ug/L*	*50.0*		*90*	*53-146*			
Toluene-d8	*48*	*I*		*ug/L*	*50.0*		*97*	*41-146*			

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FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

AE02207

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 1406 | PAGE 1 OF 1

PROJECT NO: 11290	FACILITY: CICA	PROJECT MANAGER ALEX MURPHY	PHONE NUMBER 321-636-6470	LABORATORY NAME AND CONTACT: ENCO
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER IAN FORRESTER	PHONE NUMBER 304-780-1426	ADDRESS
		CARRIER/WAYBILL NUMBER Courier		CITY, STATE ORLANDO, FL

STANDARD TAT ☒ RUSH TAT ☐ ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2021	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TYPE OF ANALYSIS SEE COMMENTS BELOW							COMMENTS
									G	HCL								COOLED ON ICE
18MAR	1200	CICA-A$EFFLUENT-20210318	CICA	/	/	GW	G	3	X									
18MAR	1210	CICA-A$INFLUENT-20210318	CICA	/	/	GW	G	3	X									

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	18MAR21	1410	1. RECEIVED BY	18MAR21	1410
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS 8260D TCL SOM01.2 CLP-LIKE CUSTOM LIST SM Red 0.2°C

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

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ENCO Laboratories
Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Thursday, April 29, 2021
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AE03392

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Thursday, April 22, 2021.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

PROJECT NARRATIVE

www.encolabs.com

Client: Tetra Tech, Inc. (TE016)
Project: NASA SKC CRCA
Client PM: Alex Murphy
Project Number: 112G08970
ENCO Project ID: AE03392
SDG: AE03392-TE016

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling and processing will be discussed in the Remarks section below.

Remarks

List of instruments used:

Analytical and Preparation Method	SOP Reference Instrument
EPA 8260D / 5030B_MS	OVGCMS5

Analysis: EPA 8260D

Manual integrations were performed on samples associated with EPA 8260D. All data & explanations are included in the raw data section of the report.

Affected Samples: CRCA-ASEFFLUENT-20210422[AE03392-01], 1D27020-MS1, 1D27020-MSD1
Matrix spike recovery and/or precision between matrix spike and matrix spike duplicate was outside acceptance limits for multiple analytes.

Affected Samples: CRCA-ASEFFLUENT-20210422[AE03392-01], CRCA-ASINFLUENT-20210422[AE03392-02]
The associated calibration verification standard for bromomethane exhibited high bias. Analyte(s) not detected in the sample.

Affected Samples: 1D27020-BS1, CRCA-ASEFFLUENT-20210422[AE03392-01], CRCA-ASINFLUENT-20210422[AE03392-02]
The associated laboratory control sample for cyclohexane and methyl acetate exhibited high bias. Analyte(s) not detected in the sample.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Kaitlin Dylnicki
Project Manager

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-ASEFFLUENT-20210422	Lab ID: AE03392-01	Sampled: 04/22/21 07:30	Received: 04/22/21 14:56

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	05/06/21	04/27/21 09:01	04/27/21 09:59

Client ID: CRCA-ASINFLUENT-20210422	Lab ID: AE03392-02	Sampled: 04/22/21 07:40	Received: 04/22/21 14:56

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	05/06/21	04/27/21 09:01	04/27/21 10:27

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-ASINFLUENT-20210422 **Lab ID:** AE03392-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
trans-1,2-Dichloroethene	0.81	I	0.73	2.5	ug/L	EPA 8260D	
Vinyl chloride	19		0.71	2.5	ug/L	EPA 8260D	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20210422 **Lab Sample ID:** AE03392-01 **Received:** 04/22/21 14:56

Matrix: Ground Water **Sampled:** 04/22/21 07:30 **Work Order:** AE03392

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	QM-11
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	QM-07
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	QM-11
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1D27020	EPA 8260D	04/27/21 09:59	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1D27020	EPA 8260D	04/27/21 09:59	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1D27020	EPA 8260D	04/27/21 09:59	kkw	QM-11
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	QM-07
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	QM-07, QM-11
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	QL-02, QM-19
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	QM-11
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	QL-02, QM-19
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	QM-11
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	QM-11
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	

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ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20210422 **Lab Sample ID:** AE03392-01 **Received:** 04/22/21 14:56

Matrix: Ground Water **Sampled:** 04/22/21 07:30 **Work Order:** AE03392

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	QM-11
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1D27020	EPA 8260D	04/27/21 09:59	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*51*	*1*	*50.0*	*101 %*	*41-142*	*1D27020*	*EPA 8260D*	*04/27/21 09:59*	*kkw*	
Dibromofluoromethane	*56*	*1*	*50.0*	*113 %*	*53-146*	*1D27020*	*EPA 8260D*	*04/27/21 09:59*	*kkw*	
Toluene-d8	*56*	*1*	*50.0*	*112 %*	*41-146*	*1D27020*	*EPA 8260D*	*04/27/21 09:59*	*kkw*	

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ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20210422 **Lab Sample ID:** AE03392-02 **Received:** 04/22/21 14:56

Matrix: Ground Water **Sampled:** 04/22/21 07:40 **Work Order:** AE03392

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1D27020	EPA 8260D	04/27/21 10:27	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1D27020	EPA 8260D	04/27/21 10:27	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	QL-02
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	QL-02
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
trans-1,2-Dichloroethene [156-60-5]^	**0.81**	I	ug/L	1	0.73	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	

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ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20210422 **Lab Sample ID:** AE03392-02 **Received:** 04/22/21 14:56

Matrix: Ground Water **Sampled:** 04/22/21 07:40 **Work Order:** AE03392

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Vinyl chloride [75-01-4]^	**19**		ug/L	1	0.71	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1D27020	EPA 8260D	04/27/21 10:27	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*52*	*1*	*50.0*	*104 %*	*41-142*	*1D27020*	*EPA 8260D*	*04/27/21 10:27*	*kkw*	
Dibromofluoromethane	*57*	*1*	*50.0*	*114 %*	*53-146*	*1D27020*	*EPA 8260D*	*04/27/21 10:27*	*kkw*	
Toluene-d8	*55*	*1*	*50.0*	*111 %*	*41-146*	*1D27020*	*EPA 8260D*	*04/27/21 10:27*	*kkw*	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D27020 - EPA 5030B_MS

Blank (1D27020-BLK1) Prepared: 04/27/2021 00:00 Analyzed: 04/27/2021 09:31

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D27020 - EPA 5030B_MS - Continued

Blank (1D27020-BLK1) Continued Prepared: 04/27/2021 00:00 Analyzed: 04/27/2021 09:31

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*52*			*ug/L*	*50.0*		*103*	*41-142*			
Dibromofluoromethane	*55*			*ug/L*	*50.0*		*110*	*53-146*			
Toluene-d8	*54*			*ug/L*	*50.0*		*108*	*41-146*			

LCS (1D27020-BS1) Prepared: 04/27/2021 00:00 Analyzed: 04/27/2021 08:35

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	21		2.5	ug/L	20.0		105	57-148			
1,1,2,2-Tetrachloroethane	20		2.5	ug/L	20.0		101	60-139			
1,1,2-Trichloroethane	21		2.5	ug/L	20.0		107	57-141			
1,1-Dichloroethane	26		2.5	ug/L	20.0		129	57-142			
1,1-Dichloroethene	21		2.5	ug/L	20.0		104	47-139			
1,2,4-Trichlorobenzene	25		2.5	ug/L	20.0		125	52-159			
1,2-Dibromo-3-chloropropane	21		2.5	ug/L	20.0		104	48-150			
1,2-Dibromoethane	21		2.5	ug/L	20.0		103	57-140			
1,2-Dichlorobenzene	21		2.5	ug/L	20.0		106	63-131			
1,2-Dichloroethane	20		2.5	ug/L	20.0		102	50-156			
1,2-Dichloropropane	25		2.5	ug/L	20.0		124	61-133			
1,3-Dichlorobenzene	19		2.5	ug/L	20.0		96	66-129			
1,4-Dichlorobenzene	21		2.5	ug/L	20.0		105	65-133			
2-Butanone	89		12	ug/L	100		89	10-180			
2-Hexanone	120		12	ug/L	100		117	12-180			
4-Methyl-2-pentanone	110		12	ug/L	100		106	19-180			
Acetone	120		25	ug/L	100		120	10-180			
Benzene	21		2.5	ug/L	20.0		106	56-136			
Bromodichloromethane	21		2.5	ug/L	20.0		107	58-135			
Bromoform	18		2.5	ug/L	20.0		90	46-148			
Bromomethane	19		2.5	ug/L	20.0		97	10-173			
Carbon disulfide	22		12	ug/L	20.0		112	43-153			
Carbon Tetrachloride	24		2.5	ug/L	20.0		120	54-156			
Chlorobenzene	21		2.5	ug/L	20.0		105	51-139			
Chloroethane	23		2.5	ug/L	20.0		116	27-180			
Chloroform	21		2.5	ug/L	20.0		103	58-139			
Chloromethane	30		2.5	ug/L	20.0		148	33-154			
cis-1,2-Dichloroethene	23		2.5	ug/L	20.0		116	56-128			
cis-1,3-Dichloropropene	21		2.5	ug/L	20.0		104	64-128			
Cyclohexane	27		2.5	ug/L	20.0		133	70-130			QL-02
Dibromochloromethane	19		2.5	ug/L	20.0		95	50-140			
Dichlorodifluoromethane	18		2.5	ug/L	20.0		92	10-180			
Ethylbenzene	20		2.5	ug/L	20.0		101	63-133			
Freon 113	17		2.5	ug/L	20.0		87	47-173			
Isopropylbenzene	22		2.5	ug/L	20.0		108	60-132			
m,p-Xylenes	40		5.0	ug/L	40.0		100	64-133			
Methyl acetate	33		2.5	ug/L	20.0		163	70-130			QL-02
Methyl cyclohexane	20		2.5	ug/L	20.0		101	70-130			
Methylene Chloride	25		12	ug/L	20.0		126	43-142			
Methyl-tert-Butyl Ether	26		2.5	ug/L	20.0		128	51-145			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D27020 - EPA 5030B_MS - Continued

LCS (1D27020-BS1) Continued Prepared: 04/27/2021 00:00 Analyzed: 04/27/2021 08:35

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
o-Xylene	21		2.5	ug/L	20.0		104	61-129			
Styrene	21		2.5	ug/L	20.0		105	59-136			
Tetrachloroethene	20		2.5	ug/L	20.0		99	60-147			
Toluene	21		2.5	ug/L	20.0		104	64-131			
trans-1,2-Dichloroethene	25		2.5	ug/L	20.0		123	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0		107	65-149			
Trichloroethene	20		2.5	ug/L	20.0		101	62-135			
Trichlorofluoromethane	22		2.5	ug/L	20.0		109	56-155			
Vinyl chloride	23		2.5	ug/L	20.0		117	20-167			
4-Bromofluorobenzene	*54*			*ug/L*	*50.0*		*108*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*113*	*53-146*			
Toluene-d8	*58*			*ug/L*	*50.0*		*116*	*41-146*			

Matrix Spike (1D27020-MS1) Prepared: 04/27/2021 00:00 Analyzed: 04/27/2021 18:18

Source: AE03392-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	22		2.5	ug/L	20.0	0.80 U	112	57-148			
1,1,2,2-Tetrachloroethane	18		2.5	ug/L	20.0	0.54 U	92	60-139			
1,1,2-Trichloroethane	17		2.5	ug/L	20.0	0.76 U	87	57-141			QM-11
1,1-Dichloroethane	31		2.5	ug/L	20.0	0.62 U	156	57-142			QM-07
1,1-Dichloroethene	27		2.5	ug/L	20.0	0.94 U	135	47-139			
1,2,4-Trichlorobenzene	22		2.5	ug/L	20.0	0.70 U	108	52-159			
1,2-Dibromo-3-chloropropane	13		2.5	ug/L	20.0	0.96 U	66	48-150			QM-11
1,2-Dibromoethane	20		2.5	ug/L	20.0	0.78 U	98	57-140			
1,2-Dichlorobenzene	20		2.5	ug/L	20.0	0.73 U	100	63-131			
1,2-Dichloroethane	21		2.5	ug/L	20.0	0.63 U	104	50-156			
1,2-Dichloropropane	26		2.5	ug/L	20.0	0.80 U	131	61-133			
1,3-Dichlorobenzene	21		2.5	ug/L	20.0	0.77 U	104	66-129			
1,4-Dichlorobenzene	21		2.5	ug/L	20.0	0.76 U	105	65-133			
2-Butanone	110		12	ug/L	100	4.5 U	113	10-180			
2-Hexanone	99		12	ug/L	100	2.5 U	99	12-180			
4-Methyl-2-pentanone	76		12	ug/L	100	2.5 U	76	19-180			QM-11
Acetone	110		25	ug/L	100	10 U	111	10-180			
Benzene	20		2.5	ug/L	20.0	0.71 U	102	56-136			
Bromodichloromethane	22		2.5	ug/L	20.0	0.52 U	109	58-135			
Bromoform	17		2.5	ug/L	20.0	0.75 U	83	46-148			
Bromomethane	22		2.5	ug/L	20.0	0.95 U	109	10-173			
Carbon disulfide	27		12	ug/L	20.0	2.5 U	137	43-153			
Carbon Tetrachloride	24		2.5	ug/L	20.0	0.94 U	119	54-156			
Chlorobenzene	23		2.5	ug/L	20.0	0.72 U	115	51-139			
Chloroethane	26		2.5	ug/L	20.0	0.98 U	128	27-180			
Chloroform	24		2.5	ug/L	20.0	0.80 U	120	58-139			
Chloromethane	33		2.5	ug/L	20.0	0.82 U	163	33-154			QM-07
cis-1,2-Dichloroethene	28		2.5	ug/L	20.0	0.53 U	139	56-128			QM-07, QM-11
cis-1,3-Dichloropropene	20		2.5	ug/L	20.0	0.59 U	100	64-128			
Cyclohexane	33		2.5	ug/L	20.0	0.93 U	164	70-130			QM-19
Dibromochloromethane	17		2.5	ug/L	20.0	0.50 U	86	50-140			QM-11
Dichlorodifluoromethane	21		2.5	ug/L	20.0	0.74 U	104	10-180			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D27020 - EPA 5030B_MS - Continued

Matrix Spike (1D27020-MS1) Continued Prepared: 04/27/2021 00:00 Analyzed: 04/27/2021 18:18

Source: AE03392-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	23		2.5	ug/L	20.0	0.69 U	115	63-133			
Freon 113	21		2.5	ug/L	20.0	0.73 U	106	47-173			
Isopropylbenzene	23		2.5	ug/L	20.0	0.67 U	116	60-132			
m,p-Xylenes	44		5.0	ug/L	40.0	1.3 U	110	64-133			
Methyl acetate	28		2.5	ug/L	20.0	0.95 U	142	70-130			QM-19
Methyl cyclohexane	22		2.5	ug/L	20.0	0.64 U	110	70-130			
Methylene Chloride	28		12	ug/L	20.0	2.5 U	139	43-142			
Methyl-tert-Butyl Ether	25		2.5	ug/L	20.0	0.60 U	126	51-145			
o-Xylene	22		2.5	ug/L	20.0	0.53 U	110	61-129			
Styrene	22		2.5	ug/L	20.0	0.61 U	112	59-136			
Tetrachloroethene	16		2.5	ug/L	20.0	0.76 U	82	60-147			QM-11
Toluene	22		2.5	ug/L	20.0	0.72 U	108	64-131			QM-11
trans-1,2-Dichloroethene	25		2.5	ug/L	20.0	0.73 U	125	54-134			
trans-1,3-Dichloropropene	18		2.5	ug/L	20.0	0.73 U	90	65-149			QM-11
Trichloroethene	22		2.5	ug/L	20.0	0.89 U	108	62-135			
Trichlorofluoromethane	25		2.5	ug/L	20.0	0.94 U	126	56-155			
Vinyl chloride	26		2.5	ug/L	20.0	0.71 U	130	20-167			
4-Bromofluorobenzene	*50*			*ug/L*	*50.0*		*101*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*112*	*53-146*			
Toluene-d8	*51*			*ug/L*	*50.0*		*101*	*41-146*			

Matrix Spike Dup (1D27020-MSD1) Prepared: 04/27/2021 00:00 Analyzed: 04/27/2021 18:46

Source: AE03392-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	24		2.5	ug/L	20.0	0.80 U	120	57-148	7	25	
1,1,2,2-Tetrachloroethane	21		2.5	ug/L	20.0	0.54 U	107	60-139	16	17	
1,1,2-Trichloroethane	22		2.5	ug/L	20.0	0.76 U	111	57-141	24	16	QM-11
1,1-Dichloroethane	29		2.5	ug/L	20.0	0.62 U	144	57-142	8	24	QM-07
1,1-Dichloroethene	26		2.5	ug/L	20.0	0.94 U	130	47-139	4	16	
1,2,4-Trichlorobenzene	21		2.5	ug/L	20.0	0.70 U	105	52-159	2	24	
1,2-Dibromo-3-chloropropane	18		2.5	ug/L	20.0	0.96 U	88	48-150	29	21	QM-11
1,2-Dibromoethane	21		2.5	ug/L	20.0	0.78 U	103	57-140	5	16	
1,2-Dichlorobenzene	24		2.5	ug/L	20.0	0.73 U	118	63-131	16	25	
1,2-Dichloroethane	20		2.5	ug/L	20.0	0.63 U	99	50-156	5	18	
1,2-Dichloropropane	23		2.5	ug/L	20.0	0.80 U	117	61-133	11	26	
1,3-Dichlorobenzene	20		2.5	ug/L	20.0	0.77 U	98	66-129	6	23	
1,4-Dichlorobenzene	20		2.5	ug/L	20.0	0.76 U	102	65-133	3	23	
2-Butanone	110		12	ug/L	100	4.5 U	114	10-180	0.6	29	
2-Hexanone	120		12	ug/L	100	2.5 U	117	12-180	17	28	
4-Methyl-2-pentanone	99		12	ug/L	100	2.5 U	99	19-180	26	24	QM-11
Acetone	110		25	ug/L	100	10 U	114	10-180	3	19	
Benzene	22		2.5	ug/L	20.0	0.71 U	112	56-136	9	14	
Bromodichloromethane	20		2.5	ug/L	20.0	0.52 U	101	58-135	8	19	
Bromoform	19		2.5	ug/L	20.0	0.75 U	96	46-148	14	18	
Bromomethane	23		2.5	ug/L	20.0	0.95 U	114	10-173	4	29	
Carbon disulfide	25		12	ug/L	20.0	2.5 U	127	43-153	7	26	
Carbon Tetrachloride	26		2.5	ug/L	20.0	0.94 U	131	54-156	10	27	
Chlorobenzene	22		2.5	ug/L	20.0	0.72 U	110	51-139	4	13	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D27020 - EPA 5030B_MS - Continued

Matrix Spike Dup (1D27020-MSD1) Continued Prepared: 04/27/2021 00:00 Analyzed: 04/27/2021 18:46

Source: AE03392-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloroethane	24		2.5	ug/L	20.0	0.98 U	118	27-180	8	22	
Chloroform	22		2.5	ug/L	20.0	0.80 U	112	58-139	7	17	
Chloromethane	30		2.5	ug/L	20.0	0.82 U	150	33-154	9	31	
cis-1,2-Dichloroethene	23		2.5	ug/L	20.0	0.53 U	113	56-128	20	17	QM-11
cis-1,3-Dichloropropene	19		2.5	ug/L	20.0	0.59 U	96	64-128	4	20	
Cyclohexane	29		2.5	ug/L	20.0	0.93 U	144	70-130	13	20	QM-19
Dibromochloromethane	22		2.5	ug/L	20.0	0.50 U	108	50-140	22	18	QM-11
Dichlorodifluoromethane	19		2.5	ug/L	20.0	0.74 U	97	10-180	6	26	
Ethylbenzene	22		2.5	ug/L	20.0	0.69 U	112	63-133	3	18	
Freon 113	20		2.5	ug/L	20.0	0.73 U	98	47-173	8	30	
Isopropylbenzene	26		2.5	ug/L	20.0	0.67 U	132	60-132	12	23	
m,p-Xylenes	43		5.0	ug/L	40.0	1.3 U	108	64-133	1	18	
Methyl acetate	30		2.5	ug/L	20.0	0.95 U	151	70-130	6	20	QM-19
Methyl cyclohexane	24		2.5	ug/L	20.0	0.64 U	119	70-130	8	20	
Methylene Chloride	26		12	ug/L	20.0	2.5 U	132	43-142	5	23	
Methyl-tert-Butyl Ether	27		2.5	ug/L	20.0	0.60 U	133	51-145	6	22	
o-Xylene	24		2.5	ug/L	20.0	0.53 U	120	61-129	9	16	
Styrene	25		2.5	ug/L	20.0	0.61 U	127	59-136	12	32	
Tetrachloroethene	22		2.5	ug/L	20.0	0.76 U	108	60-147	28	21	QM-11
Toluene	26		2.5	ug/L	20.0	0.72 U	129	64-131	17	16	QM-11
trans-1,2-Dichloroethene	26		2.5	ug/L	20.0	0.73 U	130	54-134	3	20	
trans-1,3-Dichloropropene	23		2.5	ug/L	20.0	0.73 U	113	65-149	23	17	QM-11
Trichloroethene	21		2.5	ug/L	20.0	0.89 U	106	62-135	1	20	
Trichlorofluoromethane	23		2.5	ug/L	20.0	0.94 U	116	56-155	8	22	
Vinyl chloride	24		2.5	ug/L	20.0	0.71 U	118	20-167	10	24	
4-Bromofluorobenzene	*60*			*ug/L*	*50.0*		*119*	*41-142*			
Dibromofluoromethane	*58*			*ug/L*	*50.0*		*116*	*53-146*			
Toluene-d8	*57*			*ug/L*	*50.0*		*114*	*41-146*			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
QL-02	The associated laboratory control sample exhibited high bias; since the result is ND, there is no impact.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-11	Precision between duplicate matrix spikes of the same sample was outside acceptance limits.
QM-19	The spike recovery was outside acceptance limits for the MS and/or MSD.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.

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B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported result is an estimated value.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence (85% or greater confidence) to make a “tentative identification".
Q	One or more quality control criteria failed.

AE355397

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 1403 | PAGE 1 OF 1

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112GO	CRCA	ALEX MURPHY		ENCO ORLANDO
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER: DAN FORESTER	PHONE NUMBER: 304-780-1426	ADDRESS
		CARRIER/WAYBILL NUMBER: COURIER		CITY, STATE: ORLANDO, FL

STANDARD TAT ☑
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE (YEAR 2021)	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TYPE OF ANALYSIS SEE BELOW	COMMENTS
									G	HCL		
22Apr	0730	CRCA-ASEFFLUENT-20210422	CRCA	/	/	GW	G	3	X			
22Apr	0740	CRCA-ASINFLUENT-20210422	CRCA	/	/	GW	G	3	X			

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	22APR21	0815	1. RECEIVED BY	22 Apr	0813
2. RELINQUISHED BY	22-Apr 21	1456	2. RECEIVED BY	4/22/21	1456
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS 8260D TCL SOMO 1,2 CLP-LIKE CUSTOM LIST C-2161 2.5C

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

4/23/2021

Environmental Conservation Labs, Inc.

Alex Murphy
Tetra Tech, Inc. (TE016)
11 Riverside Drive, Suite 204
Cocoa, FL 32922
Phone: (321) 636-6470
Fax: (321) 636-6473

Reference : **Sample Receipt Confirmation - *Please Review***
Project Name / Number : NASA KSC CRCA / 112G08970
Purchase Order # : 1165883

Lab Reference # : AE03392 Lab Receipt Date: 22-Apr-21 14:56
Anticipated ***(Estimated)*** Completion Date: 29-Apr-21 19:00

This is an automated notification from our laboratory information management system (LIMS), indicating the samples we have recently received and their associated analyses. Should any of the following information be in error, please contact us immediately.

Thank you for choosing Environmental Conservation Laboratories. Should any events occur that delay the processing of your samples or inhibit our ability to complete the project within the projected time frame you will be contacted.

Sincerely,

Kaitlin Dylnicki

Client: Tetra Tech, Inc. (TE016) **Project Name:** NASA KSC CRCA
Requested TAT: 5 **Project Number:** 112G08970

Analysis	TAT	Expires	Status
Sample ID: CRCA-ASEFFLUENT-20210422(Lab ID: AE03392-01), Matrix: Ground Water, Sampled: 22-Apr-21 07:30 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	06-May-21 23:59	Received
Sample ID: CRCA-ASINFLUENT-20210422(Lab ID: AE03392-02), Matrix: Ground Water, Sampled: 22-Apr-21 07:40 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	06-May-21 23:59	Received

Analysis Groups included in this work order

ENCO Orlando

SDG: AE03392-TE016

CLASS: 01_VOA_MS

METHOD: EPA 8260D

ANALYSES DATA PACKAGE COVER PAGE

EPA 8260D

Laboratory: ENCO Orlando

SDG: AE03392-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-ASEFFLUENT-20210422	AE03392-01
CRCA-ASINFLUENT-20210422	AE03392-02

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLUENT-20210422

Laboratory: ENCO Orlando SDG: AE03392-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE03392-01 File ID: 215DV006.D

Sampled: 04/22/21 07:30 Prepared: 04/27/21 09:01 Analyzed: 04/27/21 09:59

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1D27020 Sequence: AA66116 Calibration: 2103152 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLUENT-20210422

Laboratory: ENCO Orlando SDG: AE03392-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE03392-01 File ID: 215DV006.D

Sampled: 04/22/21 07:30 Prepared: 04/27/21 09:01 Analyzed: 04/27/21 09:59

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1D27020 Sequence: AA66116 Calibration: 2103152 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	56	113	53 - 146	
Toluene-d8	50.0	56	112	41 - 146	
4-Bromofluorobenzene	50.0	51	101	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	960905	9.845	1384465	9.851	
1,4-Difluorobenzene	1965206	10.444	2848520	10.444	
Chlorobenzene-d5	1225668	13.223	1764069	13.223	
1,4-Dichlorobenzene-d4	1096514	15.486	1623575	15.486	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLUENT-20210422

Laboratory: ENCO Orlando SDG: AE03392-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE03392-02 File ID: 215DV007.D

Sampled: 04/22/21 07:40 Prepared: 04/27/21 09:01 Analyzed: 04/27/21 10:27

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1D27020 Sequence: AA66116 Calibration: 2103152 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	19		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.81	J	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLUENT-20210422

Laboratory: ENCO Orlando SDG: AE03392-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE03392-02 File ID: 215DV007.D

Sampled: 04/22/21 07:40 Prepared: 04/27/21 09:01 Analyzed: 04/27/21 10:27

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1D27020 Sequence: AA66116 Calibration: 2103152 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	57	114	53 - 146	
Toluene-d8	50.0	55	111	41 - 146	
4-Bromofluorobenzene	50.0	52	104	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	974141	9.851	1384465	9.851	
1,4-Difluorobenzene	1994301	10.444	2848520	10.444	
Chlorobenzene-d5	1211833	13.229	1764069	13.223	
1,4-Dichlorobenzene-d4	1106664	15.486	1623575	15.486	

* Values outside of QC limits

HOLDING TIME SUMMARY

EPA 8260D

Laboratory: ENCO Orlando

SDG: AE03392-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-ASEFFLUENT-20210422	04/22/21 07:30	04/22/21 14:56	04/27/21 09:01	5.06	NA	04/27/21 09:59	5.00	14.00	
CRCA-ASINFLUENT-20210422	04/22/21 07:40	04/22/21 14:56	04/27/21 09:01	5.06	NA	04/27/21 10:27	5.00	14.00	

PREPARATION BATCH SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AE03392-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1D27020 Batch Matrix: Water Preparation: EPA 5030B_MS

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1D27020-BLK1	215DV005.D	04/27/21 00:00	
LCS	1D27020-BS1	215DV003.D	04/27/21 00:00	
CRCA-ASEFFLUENT-20210422	1D27020-MS1	215DV024.D	04/27/21 00:00	
CRCA-ASEFFLUENT-20210422	1D27020-MSD1	215DV025.D	04/27/21 00:00	
CRCA-ASEFFLUENT-20210422	AE03392-01	215DV006.D	04/27/21 09:01	
CRCA-ASINFLUENT-20210422	AE03392-02	215DV007.D	04/27/21 09:01	

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE03392-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1D27020-BLK1	File ID:	215DV005.D
Prepared:	04/27/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	04/27/21 09:31	Instrument:	OVGCMS5		
Batch:	1D27020	Sequence:	AA66116	Calibration:	2103152

CAS NO.	COMPOUND	CONC. (ug/L)	Q
75-71-8	Dichlorodifluoromethane	0.74	U
74-87-3	Chloromethane	0.82	U
75-01-4	Vinyl chloride	0.71	U
74-83-9	Bromomethane	0.95	U
75-00-3	Chloroethane	0.98	U
75-69-4	Trichlorofluoromethane	0.94	U
76-13-1	Freon 113	0.73	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	0.94	U
75-15-0	Carbon disulfide	2.5	U
75-09-2	Methylene Chloride	2.5	U
1634-04-4	Methyl-tert-Butyl Ether	0.60	U
156-60-5	trans-1,2-Dichloroethene	0.73	U
156-59-2	cis-1,2-Dichloroethene	0.53	U
75-34-3	1,1-Dichloroethane	0.62	U
78-93-3	2-Butanone	4.5	U
67-66-3	Chloroform	0.80	U
71-55-6	1,1,1-Trichloroethane	0.80	U
79-20-9	Methyl acetate	0.95	U
110-82-7	Cyclohexane	0.93	U
108-87-2	Methyl cyclohexane	0.64	U
56-23-5	Carbon Tetrachloride	0.94	U
107-06-2	1,2-Dichloroethane	0.63	U
71-43-2	Benzene	0.71	U
79-01-6	Trichloroethene	0.89	U
78-87-5	1,2-Dichloropropane	0.80	U
75-27-4	Bromodichloromethane	0.52	U
108-10-1	4-Methyl-2-pentanone	2.5	U
591-78-6	2-Hexanone	2.5	U
10061-01-5	cis-1,3-Dichloropropene	0.59	U

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE03392-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1D27020-BLK1	File ID:	215DV005.D
Prepared:	04/27/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	04/27/21 09:31	Instrument:	OVGCMS5		
Batch:	1D27020	Sequence:	AA66116	Calibration:	2103152

CAS NO.	COMPOUND	CONC. (ug/L)	Q
108-88-3	Toluene	0.72	U
10061-02-6	trans-1,3-Dichloropropene	0.73	U
79-00-5	1,1,2-Trichloroethane	0.76	U
127-18-4	Tetrachloroethene	0.76	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.78	U
108-90-7	Chlorobenzene	0.72	U
100-41-4	Ethylbenzene	0.69	U
108-38-3/106-42-3	m,p-Xylenes	1.3	U
95-47-6	o-Xylene	0.53	U
75-25-2	Bromoform	0.75	U
100-42-5	Styrene	0.61	U
98-82-8	Isopropylbenzene	0.67	U
79-34-5	1,1,2,2-Tetrachloroethane	0.54	U
120-82-1	1,2,4-Trichlorobenzene	0.70	U
541-73-1	1,3-Dichlorobenzene	0.77	U
106-46-7	1,4-Dichlorobenzene	0.76	U
95-50-1	1,2-Dichlorobenzene	0.73	U
96-12-8	1,2-Dibromo-3-chloropropane	0.96	U
1330-20-7	Xylenes (Total)	1.3	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	55	110	53 - 146	
Toluene-d8	50.0	54	108	41 - 146	
4-Bromofluorobenzene	50.0	52	103	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1060505	9.851	1384465	9.851	
1,4-Difluorobenzene	2109466	10.444	2848520	10.444	
Chlorobenzene-d5	1261619	13.229	1764069	13.223	
1,4-Dichlorobenzene-d4	1139715	15.485	1623575	15.486	

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE03392-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1D27020	Laboratory ID:	1D27020-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	18	92	10 - 180
Chloromethane	20.0	30	148	33 - 154
Vinyl chloride	20.0	23	117	20 - 167
Bromomethane	20.0	19	97	10 - 173
Chloroethane	20.0	23	116	27 - 180
Trichlorofluoromethane	20.0	22	109	56 - 155
Freon 113	20.0	17	87	47 - 173
Acetone	100	120	120	10 - 180
1,1-Dichloroethene	20.0	21	104	47 - 139
Carbon disulfide	20.0	22	112	43 - 153
Methylene Chloride	20.0	25	126	43 - 142
Methyl-tert-Butyl Ether	20.0	26	128	51 - 145
trans-1,2-Dichloroethene	20.0	25	123	54 - 134
cis-1,2-Dichloroethene	20.0	23	116	56 - 128
1,1-Dichloroethane	20.0	26	129	57 - 142
2-Butanone	100	89	89	10 - 180
Chloroform	20.0	21	103	58 - 139
1,1,1-Trichloroethane	20.0	21	105	57 - 148
Methyl acetate	20.0	33	163 *	70 - 130
Cyclohexane	20.0	27	133 *	70 - 130
Methyl cyclohexane	20.0	20	101	70 - 130
Carbon Tetrachloride	20.0	24	120	54 - 156
1,2-Dichloroethane	20.0	20	102	50 - 156
Benzene	20.0	21	106	56 - 136
Trichloroethene	20.0	20	101	62 - 135
1,2-Dichloropropane	20.0	25	124	61 - 133
Bromodichloromethane	20.0	21	107	58 - 135
4-Methyl-2-pentanone	100	110	106	19 - 180
2-Hexanone	100	120	117	12 - 180
cis-1,3-Dichloropropene	20.0	21	104	64 - 128

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE03392-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1D27020	Laboratory ID:	1D27020-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Toluene	20.0	21	104	64 - 131
trans-1,3-Dichloropropene	20.0	21	107	65 - 149
1,1,2-Trichloroethane	20.0	21	107	57 - 141
Tetrachloroethene	20.0	20	99	60 - 147
Dibromochloromethane	20.0	19	95	50 - 140
1,2-Dibromoethane	20.0	21	103	57 - 140
Chlorobenzene	20.0	21	105	51 - 139
Ethylbenzene	20.0	20	101	63 - 133
m,p-Xylenes	40.0	40	100	64 - 133
o-Xylene	20.0	21	104	61 - 129
Bromoform	20.0	18	90	46 - 148
Styrene	20.0	21	105	59 - 136
Isopropylbenzene	20.0	22	108	60 - 132
1,1,2,2-Tetrachloroethane	20.0	20	101	60 - 139
1,2,4-Trichlorobenzene	20.0	25	125	52 - 159
1,3-Dichlorobenzene	20.0	19	96	66 - 129
1,4-Dichlorobenzene	20.0	21	105	65 - 133
1,2-Dichlorobenzene	20.0	21	106	63 - 131
1,2-Dibromo-3-chloropropane	20.0	21	104	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASEFFLUENT-20210422

Laboratory: ENCO Orlando
SDG: AE03392-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1D27020
Laboratory ID: 1D27020-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-ASEFFLUENT-20210422

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	ND	21	104	10 - 180
Chloromethane	20.0	ND	33	163 *	33 - 154
Vinyl chloride	20.0	ND	26	130	20 - 167
Bromomethane	20.0	ND	22	109	10 - 173
Chloroethane	20.0	ND	26	128	27 - 180
Trichlorofluoromethane	20.0	ND	25	126	56 - 155
Freon 113	20.0	ND	21	106	47 - 173
Acetone	100	ND	110	111	10 - 180
1,1-Dichloroethene	20.0	ND	27	135	47 - 139
Carbon disulfide	20.0	ND	27	137	43 - 153
Methylene Chloride	20.0	ND	28	139	43 - 142
Methyl-tert-Butyl Ether	20.0	ND	25	126	51 - 145
trans-1,2-Dichloroethene	20.0	ND	25	125	54 - 134
cis-1,2-Dichloroethene	20.0	ND	28	139 *	56 - 128
1,1-Dichloroethane	20.0	ND	31	156 *	57 - 142
2-Butanone	100	ND	110	113	10 - 180
Chloroform	20.0	ND	24	120	58 - 139
1,1,1-Trichloroethane	20.0	ND	22	112	57 - 148
Methyl acetate	20.0	ND	28	142 *	70 - 130
Cyclohexane	20.0	ND	33	164 *	70 - 130
Methyl cyclohexane	20.0	ND	22	110	70 - 130
Carbon Tetrachloride	20.0	ND	24	119	54 - 156
1,2-Dichloroethane	20.0	ND	21	104	50 - 156
Benzene	20.0	ND	20	102	56 - 136
Trichloroethene	20.0	ND	22	108	62 - 135
1,2-Dichloropropane	20.0	ND	26	131	61 - 133
Bromodichloromethane	20.0	ND	22	109	58 - 135
4-Methyl-2-pentanone	100	ND	76	76	19 - 180
2-Hexanone	100	ND	99	99	12 - 180
cis-1,3-Dichloropropene	20.0	ND	20	100	64 - 128
Toluene	20.0	ND	22	108	64 - 131

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASEFFLUENT-20210422

Laboratory: ENCO Orlando
SDG: AE03392-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1D27020
Laboratory ID: 1D27020-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-ASEFFLUENT-20210422

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
trans-1,3-Dichloropropene	20.0	ND	18	90	65 - 149
1,1,2-Trichloroethane	20.0	ND	17	87	57 - 141
Tetrachloroethene	20.0	ND	16	82	60 - 147
Dibromochloromethane	20.0	ND	17	86	50 - 140
1,2-Dibromoethane	20.0	ND	20	98	57 - 140
Chlorobenzene	20.0	ND	23	115	51 - 139
Ethylbenzene	20.0	ND	23	115	63 - 133
m,p-Xylenes	40.0	ND	44	110	64 - 133
o-Xylene	20.0	ND	22	110	61 - 129
Bromoform	20.0	ND	17	83	46 - 148
Styrene	20.0	ND	22	112	59 - 136
Isopropylbenzene	20.0	ND	23	116	60 - 132
1,1,2,2-Tetrachloroethane	20.0	ND	18	92	60 - 139
1,2,4-Trichlorobenzene	20.0	ND	22	108	52 - 159
1,3-Dichlorobenzene	20.0	ND	21	104	66 - 129
1,4-Dichlorobenzene	20.0	ND	21	105	65 - 133
1,2-Dichlorobenzene	20.0	ND	20	100	63 - 131
1,2-Dibromo-3-chloropropane	20.0	ND	13	66	48 - 150

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASEFFLUENT-20210422

Laboratory: ENCO Orlando
SDG: AE03392-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1D27020
Laboratory ID: 1D27020-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-ASEFFLUENT-20210422

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20.0	19	97	6	26	10 - 180
Chloromethane	20.0	30	150	9	31	33 - 154
Vinyl chloride	20.0	24	118	10	24	20 - 167
Bromomethane	20.0	23	114	4	29	10 - 173
Chloroethane	20.0	24	118	8	22	27 - 180
Trichlorofluoromethane	20.0	23	116	8	22	56 - 155
Freon 113	20.0	20	98	8	30	47 - 173
Acetone	100	110	114	3	19	10 - 180
1,1-Dichloroethene	20.0	26	130	4	16	47 - 139
Carbon disulfide	20.0	25	127	7	26	43 - 153
Methylene Chloride	20.0	26	132	5	23	43 - 142
Methyl-tert-Butyl Ether	20.0	27	133	6	22	51 - 145
trans-1,2-Dichloroethene	20.0	26	130	3	20	54 - 134
cis-1,2-Dichloroethene	20.0	23	113	20 *	17	56 - 128
1,1-Dichloroethane	20.0	29	144 *	8	24	57 - 142
2-Butanone	100	110	114	0.6	29	10 - 180
Chloroform	20.0	22	112	7	17	58 - 139
1,1,1-Trichloroethane	20.0	24	120	7	25	57 - 148
Methyl acetate	20.0	30	151 *	6	20	70 - 130
Cyclohexane	20.0	29	144 *	13	20	70 - 130
Methyl cyclohexane	20.0	24	119	8	20	70 - 130
Carbon Tetrachloride	20.0	26	131	10	27	54 - 156
1,2-Dichloroethane	20.0	20	99	5	18	50 - 156
Benzene	20.0	22	112	9	14	56 - 136
Trichloroethene	20.0	21	106	1	20	62 - 135
1,2-Dichloropropane	20.0	23	117	11	26	61 - 133
Bromodichloromethane	20.0	20	101	8	19	58 - 135
4-Methyl-2-pentanone	100	99	99	26 *	24	19 - 180
2-Hexanone	100	120	117	17	28	12 - 180
cis-1,3-Dichloropropene	20.0	19	96	4	20	64 - 128
Toluene	20.0	26	129	17 *	16	64 - 131
trans-1,3-Dichloropropene	20.0	23	113	23 *	17	65 - 149

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASEFFLUENT-20210422

Laboratory:	ENCO Orlando	SDG:	AE03392-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1D27020	Laboratory ID:	1D27020-MSD1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

Source Sample Name: CRCA-ASEFFLUENT-20210422

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #		QC LIMITS RPD	QC LIMITS REC.
1,1,2-Trichloroethane	20.0	22	111	24	*	16	57 - 141
Tetrachloroethene	20.0	22	108	28	*	21	60 - 147
Dibromochloromethane	20.0	22	108	22	*	18	50 - 140
1,2-Dibromoethane	20.0	21	103	5		16	57 - 140
Chlorobenzene	20.0	22	110	4		13	51 - 139
Ethylbenzene	20.0	22	112	3		18	63 - 133
m,p-Xylenes	40.0	43	108	1		18	64 - 133
o-Xylene	20.0	24	120	9		16	61 - 129
Bromoform	20.0	19	96	14		18	46 - 148
Styrene	20.0	25	127	12		32	59 - 136
Isopropylbenzene	20.0	26	132	12		23	60 - 132
1,1,2,2-Tetrachloroethane	20.0	21	107	16		17	60 - 139
1,2,4-Trichlorobenzene	20.0	21	105	2		24	52 - 159
1,3-Dichlorobenzene	20.0	20	98	6		23	66 - 129
1,4-Dichlorobenzene	20.0	20	102	3		23	65 - 133
1,2-Dichlorobenzene	20.0	24	118	16		25	63 - 131
1,2-Dibromo-3-chloropropane	20.0	18	88	29	*	21	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE03392-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA65607
Instrument: OVGCMS5
Matrix: Water
Calibration: 2103152

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA65607-SCV1)			Lab File ID: 215CX012.D		Analyzed: 03/29/21 13:33			
Dibromofluoromethane	50.0	112	70 - 130	9.428	9.42725	0.0008	+/-0.5	
Toluene-d8	50.0	108	70 - 130	11.784	11.77875	0.0053	+/-0.5	
4-Bromofluorobenzene	50.0	104	70 - 130	14.334	14.32875	0.0053	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE03392-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA66116
Instrument: OVGCMS5
Matrix: Water
Calibration: 2103152

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA66116-CCV1)			Lab File ID: 215DV002.D		Analyzed: 04/27/21 08:07			
Dibromofluoromethane	50.0	112	80 - 120	9.428	9.42725	0.0008	+/-0.5	
Toluene-d8	50.0	115	80 - 120	11.778	11.77875	-0.0008	+/-0.5	
4-Bromofluorobenzene	50.0	106	80 - 120	14.328	14.32875	-0.0008	+/-0.5	
LCS (1D27020-BS1)			Lab File ID: 215DV003.D		Analyzed: 04/27/21 08:35			
Dibromofluoromethane	50.0	113	53 - 146	9.428	9.42725	0.0008	+/-0.5	
Toluene-d8	50.0	116	41 - 146	11.778	11.77875	-0.0008	+/-0.5	
4-Bromofluorobenzene	50.0	108	41 - 142	14.328	14.32875	-0.0008	+/-0.5	
Blank (1D27020-BLK1)			Lab File ID: 215DV005.D		Analyzed: 04/27/21 09:31			
Dibromofluoromethane	50.0	110	53 - 146	9.428	9.42725	0.0008	+/-0.5	
Toluene-d8	50.0	108	41 - 146	11.778	11.77875	-0.0008	+/-0.5	
4-Bromofluorobenzene	50.0	103	41 - 142	14.328	14.32875	-0.0008	+/-0.5	
CRCA-ASEFFLUENT-20210422 (AE03392-01)			Lab File ID: 215DV006.D		Analyzed: 04/27/21 09:59			
Dibromofluoromethane	50.0	113	53 - 146	9.428	9.42725	0.0008	+/-0.5	
Toluene-d8	50.0	112	41 - 146	11.778	11.77875	-0.0008	+/-0.5	
4-Bromofluorobenzene	50.0	101	41 - 142	14.328	14.32875	-0.0008	+/-0.5	
CRCA-ASINFLUENT-20210422 (AE03392-02)			Lab File ID: 215DV007.D		Analyzed: 04/27/21 10:27			
Dibromofluoromethane	50.0	114	53 - 146	9.428	9.42725	0.0008	+/-0.5	
Toluene-d8	50.0	111	41 - 146	11.778	11.77875	-0.0008	+/-0.5	
4-Bromofluorobenzene	50.0	104	41 - 142	14.328	14.32875	-0.0008	+/-0.5	
Matrix Spike (1D27020-MS1)			Lab File ID: 215DV024.D		Analyzed: 04/27/21 18:18			
Dibromofluoromethane	50.0	112	53 - 146	9.428	9.42725	0.0008	+/-0.5	
Toluene-d8	50.0	101	41 - 146	11.778	11.77875	-0.0008	+/-0.5	
4-Bromofluorobenzene	50.0	101	41 - 142	14.328	14.32875	-0.0008	+/-0.5	
Matrix Spike Dup (1D27020-MSD1)			Lab File ID: 215DV025.D		Analyzed: 04/27/21 18:46			
Dibromofluoromethane	50.0	116	53 - 146	9.428	9.42725	0.0008	+/-0.5	
Toluene-d8	50.0	114	41 - 146	11.778	11.77875	-0.0008	+/-0.5	
4-Bromofluorobenzene	50.0	119	41 - 142	14.328	14.32875	-0.0008	+/-0.5	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE03392-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA65607
Instrument: OVGCMS5
Matrix: Water
Calibration: 2103152

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA65607-CAL1)			Lab File ID: 215CX003.D			Analyzed: 03/29/21 09:08			
Pentafluorobenzene	1346004	9.857	1384465	9.851	97	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2604384	10.456	2848520	10.444	91	50 - 200	0.0120	+/-0.50	
Chlorobenzene-d5	1476739	13.229	1764069	13.223	84	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1485351	15.491	1623575	15.486	91	50 - 200	0.0050	+/-0.50	
Cal Standard (AA65607-CAL2)			Lab File ID: 215CX004.D			Analyzed: 03/29/21 09:36			
Pentafluorobenzene	1328802	9.857	1384465	9.851	96	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2614044	10.45	2848520	10.444	92	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1465646	13.229	1764069	13.223	83	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1484001	15.486	1623575	15.486	91	50 - 200	0.0000	+/-0.50	
Cal Standard (AA65607-CAL3)			Lab File ID: 215CX005.D			Analyzed: 03/29/21 10:04			
Pentafluorobenzene	1303609	9.851	1384465	9.851	94	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2636527	10.444	2848520	10.444	93	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1519825	13.229	1764069	13.223	86	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1521127	15.485	1623575	15.486	94	50 - 200	-0.0010	+/-0.50	
Cal Standard (AA65607-CAL4)			Lab File ID: 215CX006.D			Analyzed: 03/29/21 10:31			
Pentafluorobenzene	1312838	9.857	1384465	9.851	95	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2602591	10.444	2848520	10.444	91	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1563138	13.229	1764069	13.223	89	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1552067	15.485	1623575	15.486	96	50 - 200	-0.0010	+/-0.50	
Cal Standard (AA65607-CAL5)			Lab File ID: 215CX007.D			Analyzed: 03/29/21 10:59			
Pentafluorobenzene	1341958	9.851	1384465	9.851	97	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2685709	10.45	2848520	10.444	94	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1578295	13.229	1764069	13.223	89	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1585703	15.485	1623575	15.486	98	50 - 200	-0.0010	+/-0.50	
Cal Standard (AA65607-CAL6)			Lab File ID: 215CX008.D			Analyzed: 03/29/21 11:27			
Pentafluorobenzene	1384465	9.851	1384465	9.851	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2848520	10.444	2848520	10.444	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1764069	13.223	1764069	13.223	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1623575	15.486	1623575	15.486	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA65607-CAL7)			Lab File ID: 215CX009.D			Analyzed: 03/29/21 11:55			
Pentafluorobenzene	1475861	9.851	1384465	9.851	107	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2951865	10.444	2848520	10.444	104	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1901860	13.223	1764069	13.223	108	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1612454	15.485	1623575	15.486	99	50 - 200	-0.0010	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE03392-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA65607
Instrument: OVGCMS5
Matrix: Water
Calibration: 2103152

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA65607-CAL8)			Lab File ID: 215CX010.D			Analyzed: 03/29/21 12:22			
Pentafluorobenzene	1386898	9.851	1384465	9.851	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	3049005	10.444	2848520	10.444	107	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1978990	13.223	1764069	13.223	112	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1622439	15.485	1623575	15.486	100	50 - 200	-0.0010	+/-0.50	
Secondary Cal Check (AA65607-SCV1)			Lab File ID: 215CX012.D			Analyzed: 03/29/21 13:33			
Pentafluorobenzene	1380525	9.857	1384465	9.851	100	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2976518	10.45	2848520	10.444	104	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1834661	13.229	1764069	13.223	104	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1578523	15.485	1623575	15.486	97	50 - 200	-0.0010	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE03392-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA66116
Instrument: OVGCMS5
Matrix: Water
Calibration: 2103152

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA66116-CCV1)			Lab File ID: 215DV002.D			Analyzed: 04/27/21 08:07			
Pentafluorobenzene	1041773	9.851	1384465	9.851	75	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2145571	10.45	2848520	10.444	75	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1346556	13.229	1764069	13.223	76	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1209551	15.486	1623575	15.486	74	50 - 200	0.0000	+/-0.50	
LCS (1D27020-BS1)			Lab File ID: 215DV003.D			Analyzed: 04/27/21 08:35			
Pentafluorobenzene	1063082	9.851	1384465	9.851	77	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2184115	10.444	2848520	10.444	77	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1349867	13.229	1764069	13.223	77	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1183150	15.485	1623575	15.486	73	50 - 200	-0.0010	+/-0.50	
Blank (1D27020-BLK1)			Lab File ID: 215DV005.D			Analyzed: 04/27/21 09:31			
Pentafluorobenzene	1060505	9.851	1384465	9.851	77	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2109466	10.444	2848520	10.444	74	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1261619	13.229	1764069	13.223	72	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1139715	15.485	1623575	15.486	70	50 - 200	-0.0010	+/-0.50	
CRCA-ASEFFLUENT-20210422 (AE03392-01)			Lab File ID: 215DV006.D			Analyzed: 04/27/21 09:59			
Pentafluorobenzene	960905	9.845	1384465	9.851	69	50 - 200	-0.0060	+/-0.50	
1,4-Difluorobenzene	1965206	10.444	2848520	10.444	69	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1225668	13.223	1764069	13.223	69	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1096514	15.486	1623575	15.486	68	50 - 200	0.0000	+/-0.50	
CRCA-ASINFLUENT-20210422 (AE03392-02)			Lab File ID: 215DV007.D			Analyzed: 04/27/21 10:27			
Pentafluorobenzene	974141	9.851	1384465	9.851	70	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	1994301	10.444	2848520	10.444	70	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1211833	13.229	1764069	13.223	69	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1106664	15.486	1623575	15.486	68	50 - 200	0.0000	+/-0.50	
Matrix Spike (1D27020-MS1)			Lab File ID: 215DV024.D			Analyzed: 04/27/21 18:18			
Pentafluorobenzene	1074216	9.851	1384465	9.851	78	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2480004	10.45	2848520	10.444	87	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1535003	13.229	1764069	13.223	87	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1329945	15.491	1623575	15.486	82	50 - 200	0.0050	+/-0.50	
Matrix Spike Dup (1D27020-MSD1)			Lab File ID: 215DV025.D			Analyzed: 04/27/21 18:46			
Pentafluorobenzene	1224130	9.857	1384465	9.851	88	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2568791	10.45	2848520	10.444	90	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1419706	13.229	1764069	13.223	80	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1248745	15.485	1623575	15.486	77	50 - 200	-0.0010	+/-0.50	

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE03392-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA65607		
Calibration:	2103152	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA65607-TUN1	215CX002.D	03/29/21 08:34
Cal Standard	AA65607-CAL1	215CX003.D	03/29/21 09:08
Cal Standard	AA65607-CAL2	215CX004.D	03/29/21 09:36
Cal Standard	AA65607-CAL3	215CX005.D	03/29/21 10:04
Cal Standard	AA65607-CAL4	215CX006.D	03/29/21 10:31
Cal Standard	AA65607-CAL5	215CX007.D	03/29/21 10:59
Cal Standard	AA65607-CAL6	215CX008.D	03/29/21 11:27
Cal Standard	AA65607-CAL7	215CX009.D	03/29/21 11:55
Cal Standard	AA65607-CAL8	215CX010.D	03/29/21 12:22
Secondary Cal Check	AA65607-SCV1	215CX012.D	03/29/21 13:33

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE03392-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA66116		
Calibration:	2103152	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA66116-TUN1	215DV001.D	04/27/21 07:40
Calibration Check	AA66116-CCV1	215DV002.D	04/27/21 08:07
LCS	1D27020-BS1	215DV003.D	04/27/21 08:35
Blank	1D27020-BLK1	215DV005.D	04/27/21 09:31
CRCA-ASEFFLUENT-20210422	AE03392-01	215DV006.D	04/27/21 09:59
CRCA-ASINFLUENT-20210422	AE03392-02	215DV007.D	04/27/21 10:27
CRCA-ASEFFLUENT-20210422	1D27020-MS1	215DV024.D	04/27/21 18:18
CRCA-ASEFFLUENT-20210422	1D27020-MSD1	215DV025.D	04/27/21 18:46

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE03392-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	215CX002.D	Injection Date:	03/29/21
Instrument ID:	OVGCMS5	Injection Time:	08:34
Sequence:	AA65607	Lab Sample ID:	AA65607-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	156	PASS
96	5 - 9% of 95	6.92	PASS
173	Less than 2% of 174	0.308	PASS
174	50 - 200% of 95	64.2	PASS
175	5 - 9% of 174	8.93	PASS
176	95 - 105% of 174	95.1	PASS
177	5 - 10% of 176	7.13	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE03392-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	215DV001.D	Injection Date:	04/27/21
Instrument ID:	OVGCMS5	Injection Time:	07:40
Sequence:	AA66116	Lab Sample ID:	AA66116-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	172	PASS
96	5 - 9% of 95	6.69	PASS
173	Less than 2% of 174	0.738	PASS
174	50 - 200% of 95	58.2	PASS
175	5 - 9% of 174	6.42	PASS
176	95 - 105% of 174	95.5	PASS
177	5 - 10% of 176	5.96	PASS

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE03392-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2103152
Lab File ID:	215DV002.D	Calibration Date:	03/29/21 10:01
Sequence:	AA66116	Injection Date:	04/27/21
Lab Sample ID:	AA66116-CCV1	Injection Time:	08:07

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Dichlorodifluoromethane	A	50.0	51	0.600391	0.6121334		2.0	20	
Chloromethane	A	50.0	54	0.4244214	0.4528741		8.4	20	
Vinyl chloride	A	50.0	54	0.475417	0.5474926		8.9	20	
Bromomethane	A	50.0	63	0.321471	0.256529		26	20	*
Chloroethane	A	50.0	54	0.2811525	0.3072531		9.3	20	
Trichlorofluoromethane	A	50.0	55	0.7209338	0.799465		11	20	
Freon 113	A	50.0	45	0.3072171	0.2928479		-10	20	
Acetone	A	250	230	7.578281E-02	6.329594E-02		-7.6	20	
1,1-Dichloroethene	A	50.0	44	0.4063732	0.3586626		-12	20	
Carbon disulfide	A	250	270	1.280306	1.399254		9.3	20	
Methylene Chloride	A	50.0	52	0.4939431	0.4874421		4.9	20	
Methyl-tert-Butyl Ether	A	50.0	51	1.075203	1.11218		2.9	20	
trans-1,2-Dichloroethene	A	50.0	50	0.4652223	0.4803676		0.70	20	
cis-1,2-Dichloroethene	A	50.0	50	0.5330932	0.5405275		0.20	20	
1,1-Dichloroethane	A	50.0	54	0.8522977	0.8644282		7.7	20	
2-Butanone	A	250	240	4.459613E-02	4.233283E-02		-2	20	
Chloroform	A	50.0	49	0.9796291	0.9630524		-1.7	20	
1,1,1-Trichloroethane	A	50.0	54	0.8350756	0.893591		7.0	20	
Methyl acetate	A	50.0	52	0.1830469	0.1804913		3.5	20	
Cyclohexane	A	50.0	53	0.6820154	0.8022352		6.2	20	
Methyl cyclohexane	A	50.0	47	0.6408487	0.4733076		-6.1	20	
Carbon Tetrachloride	A	50.0	60	0.3275477	0.3942638		20	20	
1,2-Dichloroethane	A	50.0	49	0.3574826	0.3467748		-1.1	20	
Benzene	A	50.0	51	1.035951	1.038071		1.4	20	
Trichloroethene	A	50.0	51	0.2658801	0.2622388		2.4	20	
1,2-Dichloropropane	A	50.0	54	0.2335995	0.2565056		8.4	20	
Bromodichloromethane	A	50.0	53	0.3298445	0.348346		5.6	20	
4-Methyl-2-pentanone	A	250	240	2.917424E-02	2.810226E-02		-3.7	20	
2-Hexanone	A	250	250	8.667994E-02	9.608519E-02		0.040	20	

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE03392-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2103152
Lab File ID:	215DV002.D	Calibration Date:	03/29/21 10:01
Sequence:	AA66116	Injection Date:	04/27/21
Lab Sample ID:	AA66116-CCV1	Injection Time:	08:07

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
cis-1,3-Dichloropropene	A	50.0	53	0.4170591	0.4633046		5.4	20
Toluene	A	50.0	53	1.127943	1.151694		5.1	20
trans-1,3-Dichloropropene	A	50.0	48	0.6050858	0.5871668		-3.2	20
1,1,2-Trichloroethane	A	50.0	49	0.3573679	0.3491232		-2.3	20
Tetrachloroethene	A	50.0	49	0.3125282	0.307826		-1.5	20
Dibromochloromethane	A	50.0	46	0.3816133	0.3530161		-8	20
1,2-Dibromoethane	A	50.0	48	0.3637641	0.34554		-5	20
Chlorobenzene	A	50.0	50	1.293752	1.170561		0.20	20
Ethylbenzene	A	50.0	50	0.6783623	0.674823		-0.6	20
m,p-Xylenes	A	100	100	0.8802171	0.8843984		0.50	20
o-Xylene	A	50.0	52	0.8323709	0.8602791		3.4	20
Bromoform	A	50.0	44	0.1964488	0.1703888		-12	20
Styrene	A	50.0	54	1.345938	1.444362		7.3	20
Isopropylbenzene	A	50.0	52	2.102019	2.197513		4.5	20
1,1,2,2-Tetrachloroethane	A	50.0	48	0.5133695	0.4650041		-3.2	20
1,2,4-Trichlorobenzene	A	50.0	44	0.2073698	0.1981545		-12	20
1,3-Dichlorobenzene	A	50.0	47	1.050062	1.042392		-6.8	20
1,4-Dichlorobenzene	A	50.0	47	1.134108	1.04626		-6.9	20
1,2-Dichlorobenzene	A	50.0	49	0.9633823	0.93864		-2.8	20
1,2-Dibromo-3-chloropropane	A	50.0	41	6.197711E-02	5.325365E-02		-18	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE03392-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA65607	Instrument:	OVGCMS5
Calibration:	2103152		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A1B1159	MS Tune (lower conc.)	AA65607-TUN1	215CX002.D	03/29/21 08:34
A1C1259	8260 1 PPB	AA65607-CAL1	215CX003.D	03/29/21 09:08
A1C1260	8260 2 PPB	AA65607-CAL2	215CX004.D	03/29/21 09:36
A1C1261	8260 5 PPB	AA65607-CAL3	215CX005.D	03/29/21 10:04
A1C1262	8260 10 PPB	AA65607-CAL4	215CX006.D	03/29/21 10:31
A1C1263	8260 20 PPB	AA65607-CAL5	215CX007.D	03/29/21 10:59
A1C1264	8260 50 PPB	AA65607-CAL6	215CX008.D	03/29/21 11:27
A1C1265	8260 80 PPB	AA65607-CAL7	215CX009.D	03/29/21 11:55
A1C1266	8260 100 PPB	AA65607-CAL8	215CX010.D	03/29/21 12:22
A1C1212	8260 SCV 50 PPB	AA65607-SCV1	215CX012.D	03/29/21 13:33

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE03392-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2103152
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 03/29/21 10:01

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	1	0.5636313	2	0.5801278	5	0.5460993	10	0.5570794	20	0.636704	50	0.6088576
Chloromethane	1	0.3904892	2	0.4512711	5	0.3929706	10	0.3400572	20	0.3658162	50	0.3993615
Vinyl chloride	1	0.4400433	2	0.4435386	5	0.4080058	10	0.402921	20	0.4835844	50	0.4956752
Bromomethane	1	0.7528209	2	0.4619763	5	0.314335	10	0.2163557	20	0.1904735	50	0.1949157
Chloroethane	1	0.3468786	2	0.3012864	5	0.2632691	10	0.2336389	20	0.2908101	50	0.272194
Trichlorofluoromethane	1	0.7431256	2	0.6788069	5	0.6706459	10	0.613503	20	0.7225394	50	0.7334458
Freon 113	1	0.4135575	2	0.2550041	5	0.3013557	10	0.2408218	20	0.2835279	50	0.2973221
Acetone	5	8.187197E-02	10	7.931957E-02	25	6.701856E-02	50	6.816149E-02	100	6.305972E-02	250	0.0677596
1,1-Dichloroethene	1	0.433394	2	0.3780849	5	0.3756648	10	0.3381605	20	0.3595958	50	0.415104
Carbon disulfide	5	1.264811	10	1.386896	25	1.219903	50	1.162957	100	1.230271	250	1.239936
Methylene Chloride	1	0.7078731	2	0.4474331	5	0.4916045	10	0.3786035	20	0.4051524	50	0.4630113
Methyl-tert-Butyl Ether	1	1.210881	2	0.8127434	5	1.071027	10	0.8742929	20	0.9574163	50	1.065014
trans-1,2-Dichloroethene	1	0.6204291	2	0.353608	5	0.4145491	10	0.3681566	20	0.406449	50	0.4759716
cis-1,2-Dichloroethene	1	0.6426058	2	0.4339435	5	0.537784	10	0.4170431	20	0.444591	50	0.5530533
1,1-Dichloroethane	1	1.156163	2	0.7471392	5	0.9096439	10	0.6434495	20	0.7149031	50	0.7900843
2-Butanone	5	7.372935E-02	10	3.084733E-02	25	2.225821E-02	50	3.947022E-02	100	4.173491E-02	250	0.0418865
Chloroform	1	1.182389	2	0.9533211	5	1.03149	10	0.7988	20	0.8516381	50	0.9577281
1,1,1-Trichloroethane	1	1.024143	2	0.7564709	5	0.8482451	10	0.6743254	20	0.7800076	50	0.8462504
Methyl acetate	1	0.1034915	2	0.2288716	5	0.2004819	10	0.1448237	20	0.136992	50	0.1702217
Cyclohexane	1	0.6317217	2	0.5332811	5	0.623239	10	0.5090003	20	0.5954918	50	0.7479228
Methyl cyclohexane	1	1.300039	2	0.854691	5	0.5862751	10	0.4409375	20	0.445172	50	0.4759703
Carbon Tetrachloride	1	0.4204065	2	0.3121696	5	0.3241347	10	0.2761959	20	0.2999888	50	0.3159037
1,2-Dichloroethane	1	0.4957218	2	0.3440455	5	0.373222	10	0.2865318	20	0.3153218	50	0.3369659
Benzene	1	1.454509	2	0.9483677	5	1.096594	10	0.8289047	20	0.9209039	50	0.9526986
Trichloroethene	1	0.3942391	2	0.2458069	5	0.2588026	10	0.2119676	20	0.2437438	50	0.2552052
1,2-Dichloropropane	1	0.335204	2	0.1787843	5	0.2107469	10	0.1828582	20	0.2033495	50	0.2289944
Bromodichloromethane	1	0.4013233	2	0.2655273	5	0.3249085	10	0.272832	20	0.3172226	50	0.3318762
4-Methyl-2-pentanone	5	0.0338391	10	2.817856E-02	25	2.668511E-02	50	2.600678E-02	100	2.438611E-02	250	2.885583E-02
2-Hexanone	5	6.541662E-02	10	8.636809E-02	25	6.798944E-02	50	7.038793E-02	100	8.113817E-02	250	9.054084E-02
cis-1,3-Dichloropropene	1	0.4919013	2	0.3723732	5	0.3891483	10	0.3260923	20	0.3698865	50	0.437641
Toluene	1	1.458111	2	1.149715	5	1.193065	10	0.8834761	20	1.032294	50	1.100134

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE03392-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2103152
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 03/29/21 10:01

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	1	0.840399	2	0.5720856	5	0.5750465	10	0.504949	20	0.5256353	50	0.6018926
1,1,2-Trichloroethane	1	0.4513323	2	0.2547853	5	0.4162782	10	0.3096016	20	0.3597173	50	0.3490595
Tetrachloroethene	1	0.365569	2	0.3554576	5	0.314273	10	0.2587679	20	0.3070576	50	0.3241098
Dibromochloromethane	1	0.4716812	2	0.3102045	5	0.4375964	10	0.3258797	20	0.3541765	50	0.3824215
1,2-Dibromoethane	1	0.4387708	2	0.3586473	5	0.3689372	10	0.2999031	20	0.3370441	50	0.3582728
Chlorobenzene	1	1.833601	2	1.295077	5	1.373744	10	1.081635	20	1.214166	50	1.219805
Ethylbenzene	1	0.93053	2	0.5580986	5	0.6967579	10	0.5525296	20	0.6391454	50	0.6791764
m,p-Xylenes	2	1.072989	4	0.8208326	10	0.9527972	20	0.807763	40	0.8545083	100	0.8750837
o-Xylene	1	0.9411954	2	0.7701553	5	0.8889708	10	0.6851538	20	0.7981081	50	0.868059
Bromoform	1	0.3205035	2	0.1758269	5	0.1833566	10	0.146046	20	0.1684555	50	0.1878294
Styrene	1	1.487094	2	1.046109	5	1.409077	10	1.099727	20	1.328516	50	1.457253
Isopropylbenzene	1	2.341781	2	1.835419	5	2.153801	10	1.853099	20	2.074685	50	2.222369
1,1,2,2-Tetrachloroethane	1	0.809554	2	0.4523603	5	0.5141316	10	0.4289736	20	0.4648624	50	0.4711976
1,2,4-Trichlorobenzene	1	0.2043288	2	0.1136118	5	0.1622284	10	0.1289087	20	0.2048823	50	0.2394869
1,3-Dichlorobenzene	1	1.36328	2	0.8165931	5	1.040748	10	0.8252575	20	1.007336	50	1.103188
1,4-Dichlorobenzene	1	1.475947	2	1.10785	5	1.17649	10	0.9221026	20	1.026318	50	1.11428
1,2-Dichlorobenzene	1	1.282155	2	0.7220682	5	0.952123	10	0.8206701	20	0.8868259	50	0.9917602
1,2-Dibromo-3-chloropropane	1	0.0884976	2	3.812329E-02	5	4.714925E-02	10	4.737875E-02	20	5.394453E-02	50	6.657284E-02
Dibromofluoromethane	50	0.5182243	55	0.5145161	60	0.5352365	50	0.538384	65	0.4877907	50	0.5258674
Toluene-d8	50	1.102748	55	1.103613	60	1.068075	50	1.136389	65	1.056904	50	1.138245
4-Bromofluorobenzene	50	0.904023	55	0.912467	60	0.8609604	50	0.9086165	65	0.8487567	50	0.912788

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE03392-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2103152
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 03/29/21 10:01

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	80	0.629148	100	0.6814805								
Chloromethane	80	0.4826725	100	0.5727332								
Vinyl chloride	80	0.5388816	100	0.5906858								
Bromomethane	80	0.2056473	100	0.235244								
Chloroethane	80	0.2599902	100	~~0.2880587~~								
Trichlorofluoromethane	80	0.7734396	100	0.8319642								
Freon 113	80	0.3373488	100	0.3287992								
Acetone	400	8.382099E-02	500	9.525062E-02								
1,1-Dichloroethene	80	0.4739208	100	0.4770607								
Carbon disulfide	400	1.348255	500	1.38942								
Methylene Chloride	80	0.5094166	100	0.5484506								
Methyl-tert-Butyl Ether	80	1.232652	100	1.377597								
trans-1,2-Dichloroethene	80	0.5328813	100	0.549734								
cis-1,2-Dichloroethene	80	0.5956904	100	0.6400348								
1,1-Dichloroethane	80	0.8812784	100	0.9757206								
2-Butanone	400	5.073352E-02	500	5.610896E-02								
Chloroform	80	0.9943336	100	1.067333								
1,1,1-Trichloroethane	80	0.8516143	100	0.8995481								
Methyl acetate	80	0.2153455	100	0.2641474								
Cyclohexane	80	0.8700739	100	0.9453925								
Methyl cyclohexane	80	0.5209067	100	0.502798								
Carbon Tetrachloride	80	0.3441106	100	0.3274717								
1,2-Dichloroethane	80	0.3544617	100	0.3535903								
Benzene	80	1.065324	100	1.020305								
Trichloroethene	80	0.2674436	100	0.2498318								
1,2-Dichloropropane	80	0.263067	100	0.2657918								
Bromodichloromethane	80	0.3627173	100	0.3623492								
4-Methyl-2-pentanone	400	3.299283E-02	500	3.244957E-02								
2-Hexanone	400	0.1145622	500	0.1170362								
cis-1,3-Dichloropropene	80	0.4782468	100	0.4711832								
Toluene	80	1.129498	100	1.077251								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE03392-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2103152
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 03/29/21 10:01

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	80	0.6124491	100	0.6082289								
1,1,2-Trichloroethane	80	0.3611737	100	0.3569955								
Tetrachloroethene	80	0.296373	100	0.2786176								
Dibromochloromethane	80	0.387843	100	0.3831038								
1,2-Dibromoethane	80	0.377934	100	0.3706039								
Chlorobenzene	80	1.192978	100	1.139007								
Ethylbenzene	80	0.7073832	100	0.6632777								
m,p-Xylenes	160	0.8563316	200	0.8014318								
o-Xylene	80	0.8787887	100	0.8285358								
Bromoform	80	0.1960512	100	0.1935217								
Styrene	80	1.489153	100	1.450575								
Isopropylbenzene	80	2.231905	100	2.103091								
1,1,2,2-Tetrachloroethane	80	0.4864337	100	0.4794428								
1,2,4-Trichlorobenzene	80	0.2821538	100	0.3233573								
1,3-Dichlorobenzene	80	1.106011	100	1.138081								
1,4-Dichlorobenzene	80	1.105283	100	1.144594								
1,2-Dichlorobenzene	80	1.004919	100	1.046537								
1,2-Dibromo-3-chloropropane	80	7.688669E-02	100	7.726392E-02								
Dibromofluoromethane	70	0.4992727	75	0.5343585								
Toluene-d8	70	1.092523	75	1.074562								
4-Bromofluorobenzene	70	0.8193257	75	0.8120644								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE03392-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2103152
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 03/29/21 10:01

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	0.600391	7.806721	3.978	8.082912E-02			20	
Chloromethane	0.4244214	17.68366	4.40175	0.124488		0.9983693	0.99	
Vinyl chloride	0.475417	13.73775	4.583	9.696612E-02		0.9994991	0.99	
Bromomethane	0.321471	61.19823	5.231375	0.100733		0.994897	0.99	
Chloroethane	0.2811525	12.92573	5.464286	0.1617003			20	
Trichlorofluoromethane	0.7209338	9.316849	5.7055	0.1304415			20	
Freon 113	0.3072171	17.61928	6.559125	9.779393E-02	0.9961743		0.99	
Acetone	7.578281E-02	14.57792	7.397875	0.1580765		0.9989449	0.99	
1,1-Dichloroethene	0.4063732	12.80358	6.53625	0.1238207			20	
Carbon disulfide	1.280306	6.579835	6.62425	7.592227E-02			20	
Methylene Chloride	0.4939431	20.7154	7.34125	0.0518812		0.9998211	0.99	
Methyl-tert-Butyl Ether	1.075203	17.85147	7.62925	7.798819E-02		0.9996498	0.99	
trans-1,2-Dichloroethene	0.4652223	20.52533	7.54975	8.830608E-02		0.9995877	0.99	
cis-1,2-Dichloroethene	0.5330932	17.2069	8.9505	4.512258E-02		0.9996506	0.99	
1,1-Dichloroethane	0.8522977	19.28536	8.3155	8.181696E-02		0.9994832	0.99	
2-Butanone	4.459613E-02	35.44219	9.55175	0.1663359		0.9991091	0.99	
Chloroform	0.9796291	12.31993	9.22125	7.262626E-02			20	
1,1,1-Trichloroethane	0.8350756	12.43873	9.48575	0.0685749			20	
Methyl acetate	0.1830469	29.2743	7.527	0.1996258		0.9978267	0.99	
Cyclohexane	0.6820154	23.15707	9.1885	2.320119E-02		0.9998819	0.99	
Methyl cyclohexane	0.6408487	46.51929	10.45075	2.661884E-02	0.9974163		0.99	
Carbon Tetrachloride	0.3275477	12.99242	9.41375	6.696597E-02			20	
1,2-Dichloroethane	0.3574826	17.30708	10.08963	5.818452E-02	0.9987888		0.99	
Benzene	1.035951	18.26725	9.8785	6.173612E-02	0.9971392		0.99	
Trichloroethene	0.2658801	20.45248	10.4545	6.059313E-02	0.9978404		0.99	
1,2-Dichloropropane	0.2335995	22.45822	10.988	5.204264E-02		0.9990697	0.99	
Bromodichloromethane	0.3298445	13.95035	11.01775	5.851248E-02			20	
4-Methyl-2-pentanone	2.917424E-02	12.10607	12.13412	3.065439E-02			20	
2-Hexanone	8.667994E-02	23.12085	12.88275	5.052042E-02		0.9981807	0.99	
cis-1,3-Dichloropropene	0.4170591	14.60583	11.612	3.935929E-02		0.9985105	0.99	

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE03392-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2103152
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 03/29/21 10:01

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Toluene	1.127943	14.45113	11.8325	1.519682E-02	0.9986373		0.99	
trans-1,3-Dichloropropene	0.6050858	16.96667	12.19875	3.889151E-02	0.9989741		0.99	
1,1,2-Trichloroethane	0.3573679	16.78733	12.36487	4.407568E-02	0.9995277		0.99	
Tetrachloroethene	0.3125282	11.55221	12.21225	4.324345E-02			20	
Dibromochloromethane	0.3816133	14.09288	12.55163	3.056989E-02	0.9994214		0.99	
1,2-Dibromoethane	0.3637641	10.77239	12.815	0.0367094			20	
Chlorobenzene	1.293752	18.21489	13.244	3.122372E-02	0.998413		0.99	
Ethylbenzene	0.6783623	17.33804	13.21175	4.019164E-02	0.9979529		0.99	
m,p-Xylenes	0.8802171	10.40085	13.3275	3.010133E-02			20	
o-Xylene	0.8323709	9.65465	13.736	3.165714E-02			20	
Bromoform	0.1964488	26.79339	13.88062	5.915267E-02	0.9984755		0.99	
Styrene	1.345938	13.12906	13.78225	5.368276E-02			20	
Isopropylbenzene	2.102019	8.53497	13.99975	2.408842E-02			20	
1,1,2,2-Tetrachloroethane	0.5133695	23.80906	14.47125	2.257241E-02	0.9996064		0.99	
1,2,4-Trichlorobenzene	0.2073698	35.09608	18.158	0.1308902		0.9994672	0.99	
1,3-Dichlorobenzene	1.050062	16.83536	15.41875	2.598432E-02	0.9985552		0.99	
1,4-Dichlorobenzene	1.134108	14.03058	15.506	1.614574E-02	0.9989015		0.99	
1,2-Dichlorobenzene	0.9633823	17.35363	16.02675	0.0494696		0.9996859	0.99	
1,2-Dibromo-3-chloropropane	6.197711E-02	28.90785	17.088	5.142888E-02		0.9983918	0.99	
Dibromofluoromethane	0.5192063	3.495712	9.42725	0.0549466			20	
Toluene-d8	1.096632	2.734813	11.77875	0.0226663			20	
4-Bromofluorobenzene	0.8723752	4.881678	14.32875	7.284017E-03			20	

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE03392-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2103152 **Laboratory ID:** AA65607-SCV1

Sequence: AA65607 **Standard ID:** A1C1212

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Cyclohexane	50.0	58	16.4	30.00
Ethylbenzene	50.0	47	-5.4	30.00
Carbon Tetrachloride	50.0	45	-9.7	30.00
1,3-Dichlorobenzene	50.0	47	-5.4	30.00
4-Bromofluorobenzene	50.0	52	4.3	30.00
Toluene-d8	50.0	54	7.7	30.00
Dibromofluoromethane	50.0	56	11.5	30.00
Methyl-tert-Butyl Ether	50.0	54	8.8	30.00
trans-1,2-Dichloroethene	50.0	51	1.4	30.00
cis-1,2-Dichloroethene	50.0	51	2.6	30.00
Tetrachloroethene	50.0	44	-11.8	30.00
Acetone	250	310	22.6	30.00
1,2,4-Trichlorobenzene	50.0	49	-1.0	30.00
Chloroform	50.0	49	-1.3	30.00
Chlorobenzene	50.0	49	-2.1	30.00
Toluene	50.0	48	-3.0	30.00
Methyl cyclohexane	50.0	47	-6.7	30.00
m,p-Xylenes	100	92	-8.3	30.00
4-Methyl-2-pentanone	250	250	0.8	30.00
1,2-Dichloroethane	50.0	46	-8.4	30.00
1,2-Dibromoethane	50.0	46	-7.7	30.00
1,4-Dichlorobenzene	50.0	48	-3.4	30.00
trans-1,3-Dichloropropene	50.0	49	-2.1	30.00
cis-1,3-Dichloropropene	50.0	46	-7.1	30.00
Styrene	50.0	51	2.4	30.00
Dibromochloromethane	50.0	46	-8.5	30.00
1,1-Dichloroethene	50.0	53	6.9	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE03392-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2103152 **Laboratory ID:** AA65607-SCV1

Sequence: AA65607 **Standard ID:** A1C1212

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
1,2-Dibromo-3-chloropropane	50.0	49	-1.0	30.00
1,2-Dichlorobenzene	50.0	50	0.3	30.00
o-Xylene	50.0	49	-1.2	30.00
1,1,2,2-Tetrachloroethane	50.0	46	-8.7	30.00
Methyl acetate	50.0	60	20.2	30.00
Trichloroethene	50.0	45	-9.3	30.00
1,1,2-Trichloroethane	50.0	47	-6.9	30.00
2-Butanone	250	270	9.1	30.00
1,2-Dichloropropane	50.0	52	3.5	30.00
Freon 113	50.0	45	-10.1	30.00
2-Hexanone	250	250	1.1	30.00
Trichlorofluoromethane	50.0	56	12.6	30.00
Isopropylbenzene	50.0	50	0.8	30.00
1,1-Dichloroethane	50.0	55	10.0	30.00
Bromodichloromethane	50.0	48	-3.4	30.00
Bromoform	50.0	46	-7.2	30.00
Carbon disulfide	50.0	53	5.5	30.00
Methylene Chloride	50.0	53	5.4	30.00
Vinyl chloride	50.0	57	13.1	30.00
Chloroethane	50.0	60	19.9	30.00
Chloromethane	50.0	55	10.7	30.00
Bromomethane	50.0	44	-11.8	30.00
1,1,1-Trichloroethane	50.0	48	-3.9	30.00
Benzene	50.0	48	-3.7	30.00
Dichlorodifluoromethane	50.0	53	5.3	30.00

* Values outside of QC limits

ANALYSIS SEQUENCE

AA66116

Instrument: OVGCMS5

Calibration ID: 2103152

Printed: 4/27/2021 1:25:53PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA66116-TUN1	QC		1		A1B1157	A0K0862		
AA66116-CCV1	QC		2		A1D1138	A1D0593		
1D27020-BS1	QC		3			A1D0593		
1D27020-BLK1	QC		4			A1D0593		
AE03392-01	60D TCL SOM01.2 CLP-LIK	B	5			A1D0593	Tetra Tech, Inc. (TE016)	History 1x jmw 4/23/21 custom
AE03392-01	8260D Extended	B	6			A1D0593	Tetra Tech, Inc. (TE016)	BatchQC
AE03392-01	8260D Arom	B	7			A1D0593	Tetra Tech, Inc. (TE016)	BatchQC
AE03392-01	8260D Appendix 1 FL	B	8			A1D0593	Tetra Tech, Inc. (TE016)	BatchQC
AE03392-01	8260D	B	9			A1D0593	Tetra Tech, Inc. (TE016)	BatchQC
AE03392-01	624.1	B	10			A1D0593	Tetra Tech, Inc. (TE016)	BatchQC
AE03392-02	60D TCL SOM01.2 CLP-LIK	A	11			A1D0593	Tetra Tech, Inc. (TE016)	History 1x jmw 4/23/21 custom
AE02766-03RE1	60D TCL SOM01.2 CLP-LIK	B	12			A1D0593	Tetra Tech NUS, Inc. (TE015)	rr10x c12dce Re-extract added 4/27/20
AE02766-06RE1	60D TCL SOM01.2 CLP-LIK	B	13			A1D0593	Tetra Tech NUS, Inc. (TE015)	rr50x c12dce, tce Re-extract added 4/2
AE02766-08RE1	60D TCL SOM01.2 CLP-LIK	B	14			A1D0593	Tetra Tech NUS, Inc. (TE015)	rr1x possible c12dce, tce c/o Re-extrac
AE02766-16RE1	60D TCL SOM01.2 CLP-LIK	B	15			A1D0593	Tetra Tech NUS, Inc. (TE015)	rr5x VC Re-extract added 4/27/2021 by
AE03377-11RE1	8260D	B	16			A1D0593		rr@2.5x overdilute Re-extract added 4
AE03318-01	8260D Extended	A	17			A1D0593		MMA
AE03396-01RE1	8260D Arom	B	18			A1D0593		rr@5x EB Re-extract added 4/27/2021
AE03318-02	8260D Extended	A	19			A1D0593		MMA
AE03396-06	8260D Arom	B	20			A1D0593		run1x nc4/26/21
AE03396-07	8260D Arom	B	21			A1D0593		run1x nc4/26/21
AE03396-08	8260D Arom	B	22			A1D0593		run1x nc4/26/21
AE03396-09	8260D Arom	B	23			A1D0593		run2x nc4/26/21

Samples Loaded By 04/27/21 Date

Data Processed By 04/28/21 Date

ANALYSIS SEQUENCE

AA66116

Instrument: OVGCMS5

Calibration ID: 2103152

Printed: 4/27/2021 1:25:53PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AE03396-10	8260D Arom	B	24			A1D0593		run10x nc4/26/21
AE03398-01RE1	624.1	C	25			A1D0593		rr1x bromodichloromethane high ccv R
AE03301-03	8260D Appendix 1 FL	F	26			A1D0593		
AE03301-04	8260D Appendix 1 FL	F	27			A1D0593		
1D27020-MS1	QC		28			A1D0593		
1D27020-MSD1	QC		29			A1D0593		

Samples Loaded By — Date: 04/27/21

Data Processed By — Date: 04/28/21

PREPARATION BENCH SHEET

Printed: 4/27/2021 1:22:50PM

1D27020

ENCO Orlando

Analysis
624.1 [EPA 624.1]
8260D [EPA 8260D]
8260D Appendix 1 FL [EPA 8260D]
8260D Arom [EPA 8260D]
8260D Extended [EPA 8260D]
8260D TCL SOM01.2 CLP-LIKE [EPA 8260D]

Surrogate Solution
___ A1B1158 8260 surr working (lower conc.)

Prepared using: EPA 5030B_MS

Spiking Solution
A1D1060 8260 2nd source Gases/Acrolein virtual
A1D1159 8260 2nd source Mega Mix(no acetonitrile)

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
1D27020-BLK1		Blank		QC			5	5			5	
1D27020-BS1		LCS		QC			5	5	A1D1159 A1D1060	2 2	5	
1D27020-MS1		Matrix Spike [AE03392-01]		QC	✓2		5	5	A1D1159 A1D1060	2 2	5	
1D27020-MSD1		Matrix Spike Dup [AE03392-01]		QC	✓2		5	5	A1D1159 A1D1060	2 2	5	
AE02766-03RE1	C	HMPN-MW0041-035.0-20210429[MS50	29-Apr-21	8260D TCL SOM01.2 CLP-LIKE	✓2		5	5			5	rr10x c12dce Re-extract added 4/27/2021 by NMC
AE02766-06RE1	C	HMPN-MW0031-035.0-20210429[MS50	29-Apr-21	8260D TCL SOM01.2 CLP-LIKE	✓2		5	5			5	rr50x c12dce, tce Re-extract added 4/27/2021 by NMC
AE02766-08RE1	C	HMPN-MW0036-015.0-20210429[MS50	29-Apr-21	8260D TCL SOM01.2 CLP-LIKE	✓2		5	5			5	rr1x possible c12dce, tce c/o Re-extract added 4/27/2021 by NMC
AE02766-16RE1	C	HMPN-MW0037-010.0-20210429[MS50	29-Apr-21	8260D TCL SOM01.2 CLP-LIKE	✓2		5	5			5	rr5x VC Re-extract added 4/27/2021 by NMC
AE03301-03		MW-2S F[MS24	03-May-21	8260D Appendix 1 FL	✓2		5	5			5	
AE03301-04		MW-2I F[MS24	03-May-21	8260D Appendix 1 FL	✓2		5	5			5	
AE03318-01		I - Liquid_Unknown A[MS18	28-Apr-21	8260D Extended	✓2		5	5			5	MMA
AE03318-02		I - Liquid_Workstation A[MS18	28-Apr-21	8260D Extended			5	5			5	MMA
AE03377-11RE1		CE05146-11 (Scott Deep) B[MS21	27-Apr-21	8260D	✓2		5	5			5	rr@2.5x overdilute Re-extract added 4/27/2021 by KKW
AE03392-01	C	CRCA-ASEFFLUENT-20210428[MS50	29-Apr-21	8260D TCL SOM01.2 CLP-LIKE	✓2		5	5			5	History 1x jmw 4/23/21 custom

PREPARATION BENCH SHEET

Printed: 4/27/2021 1:22:50PM

1D27020

ENCO Orlando

Prepared using: EPA 5030B_MS

Surrogate Solution

___ A1B1158 8260 surr working (lower conc.)

Spiking Solution

A1D1060 8260 2nd source Gases/Acrolein virtual

A1D1159 8260 2nd source Mega Mix(no acetonitrile)

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
AE03392-01	C	CRCA-ASEFFLUENT-20210422B[MS50		8260D			5	5			5	Added for BatchQC in: 1D27020
AE03392-01	C	CRCA-ASEFFLUENT-20210422B[MS50		8260D Extended			5	5			5	Added for BatchQC in: 1D27020
AE03392-01	C	CRCA-ASEFFLUENT-20210422B[MS50		8260D Arom			5	5			5	Added for BatchQC in: 1D27020
AE03392-01	C	CRCA-ASEFFLUENT-20210422B[MS50		8260D Appendix 1 FL			5	5			5	Added for BatchQC in: 1D27020
AE03392-01	C	CRCA-ASEFFLUENT-20210422B[MS50		624.1			5	5			5	Added for BatchQC in: 1D27020
AE03392-02	C	CRCA-ASINFLUENT-20210422A[MS50	29-Apr-21	8260D TCL SOM01.2 CLP-LIKE	<2	2	5	5			5	History 1x jmw 4/23/21 custom
AE03396-01RE1		MW-9 B[MS22	30-Apr-21	8260D Arom	<2	2	5	5			5	rr@5x EB Re-extract added 4/27/2021 by KKW
AE03396-06		GF-3 B[MS22	30-Apr-21	8260D Arom	<2	2	5	5			5	run1x nc4/26/21
AE03396-07		GF-4 B[MS22	30-Apr-21	8260D Arom	<2	2	5	5			5	run1x nc4/26/21
AE03396-08		GF-5 B[MS22	30-Apr-21	8260D Arom	<2	2	5	5			5	run1x nc4/26/21
AE03396-09		GF-7 B[MS22	30-Apr-21	8260D Arom	<2	2	5	5			5	run2x nc4/26/21
AE03396-10		GF-8 B[MS22	30-Apr-21	8260D Arom	<2	2	5	5			5	run10x nc4/26/21
AE03398-01RE1		CWWTF-INF C[MS21	29-Apr-21	624.1	<2	2	5	5			5	rr1x bromodichloromethane high ccv Re-extract added 4/27/2021 by NMC

(1) Before solvent extraction proceeds, verify that there is no residual chlorine above 0.5 mg/L. Any sample above this must be treated to remove excess chlorine before extraction, and this documented as a comment.

PREPARATION BENCH SHEET

Printed: 4/27/2021 1:22:50PM

1D27020

ENCO Orlando

Prepared using: EPA 5030B_MS

Surrogate Solution

___	A1B1158	8260 surr working (lower conc.)

Spiking Solution

A1D1060	8260 2nd source Gases/Acrolein virtual
A1D1159	8260 2nd source Mega Mix(no acetonitrile)

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments

Instrument 5

EST Centurian autosampler manufacturer reccommends adding 5 uL of IS/SS.

Start Date 04/27/21

StopDate 04/27/21

Instrument ID OVGCMS-5

Standard ID#	Description	Manufacture Lot#
A0A1401	pH Test Papers (1.0 to 12.0)	231018
A1B0955	Residual Chlorine Strips (Potassium Iodide S	102916
A1C1135	P&T Anti-Foam working solution	N/A

04/27/21

Samples Prepared By Date

Samples Prepared By Date

Manual Integration Review Form

ENVIRONMENTAL CONSERVATION LABORATORIES, INC. ☐ Cary ☐ Jacksonville ☒ Orlando

I hereby attest that the manual integrations contained in this package have been thoroughly reviewed and are in agreement with the associated hardcopy data.

The electronic files listed below have been reviewed for accuracy, completeness and comply with ENCO labs QA-11 Manual Integration Policy including:

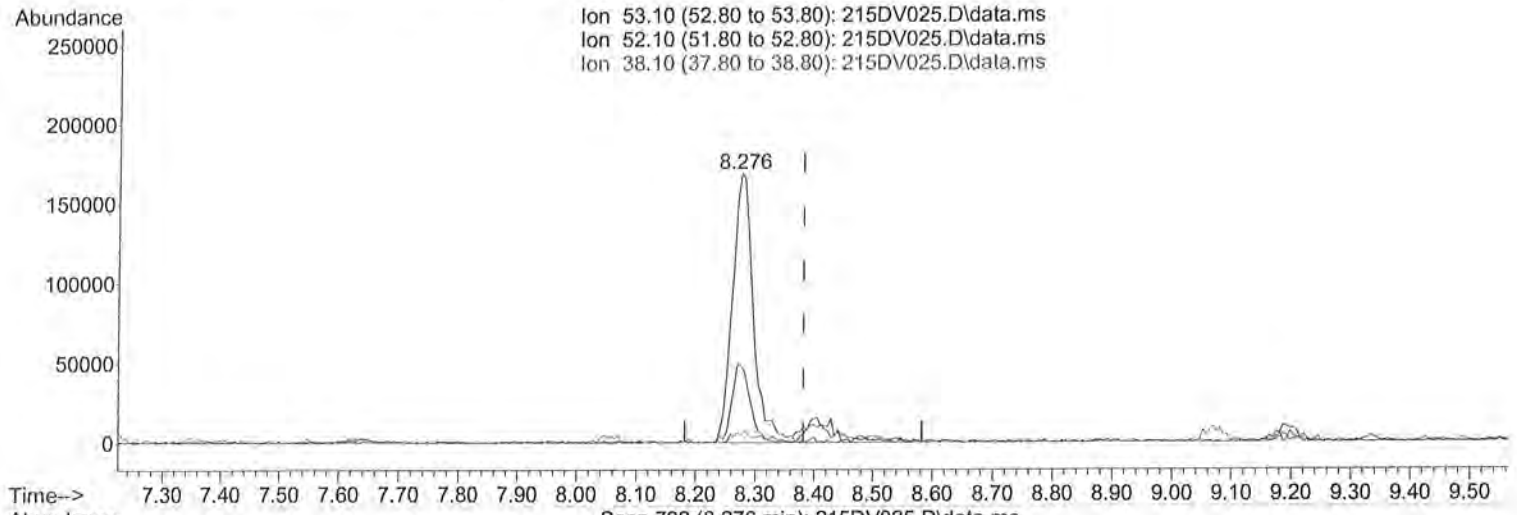
- "Before" and "After" chromatograms are provided
- Manual integrations are indicated on expanded scale "after" chromatograms at a scale large enough to see the manual integration performed.
- Reintegration technique marked if available on the data system
- Technical justification for manual integration
- Appropriate flags indicating which analytes were manually integrated are included in the raw data
- Analyst's initials and date.

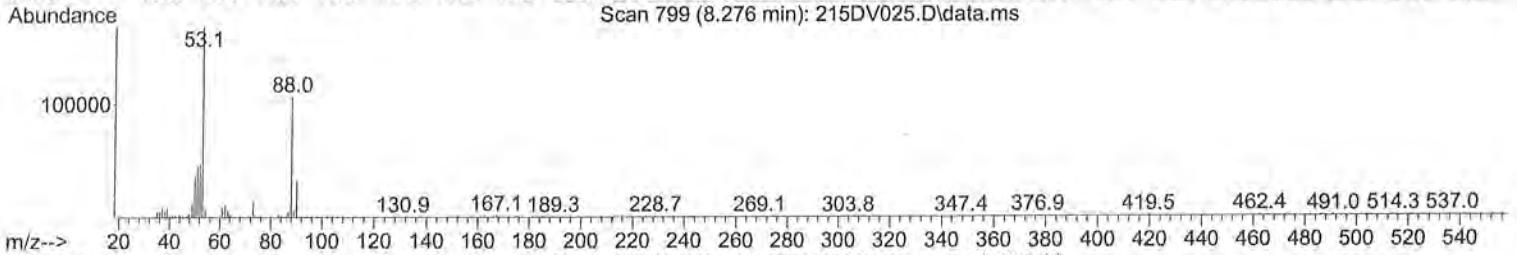
Instrument ID:	OVGCMS-5
Sequence/Batch ID:	AA66116/1D27020
Data File Prefix:	215D
Date and Time Range of MIs:	04/28/21 0953
Reviewer Print Name:	Neil Christians
Reviewer Signature:	
Date of Review:	4/28/21

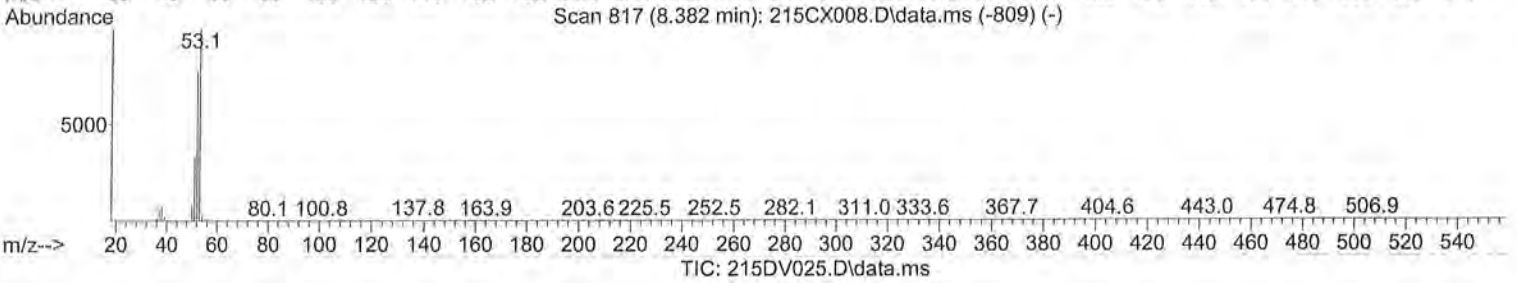
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\042721\
Data File : 215DV025.D
Acq On : 27 Apr 2021 6:46 pm
Operator : kkw
Sample : 1D27020-MSD1
Misc :
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Apr 28 09:52:37 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2103052
QLast Update : Mon Mar 29 13:47:27 2021
Response via : Initial Calibration







TIC: 215DV025.D\data.ms

(24) Acrylonitrile

8.276min (-0.106) 204.54 ug/L

response 481427

Ion	Exp%	Act%
53.10	100.00	100.00
52.10	78.70	22.75#
38.10	6.30	4.07#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

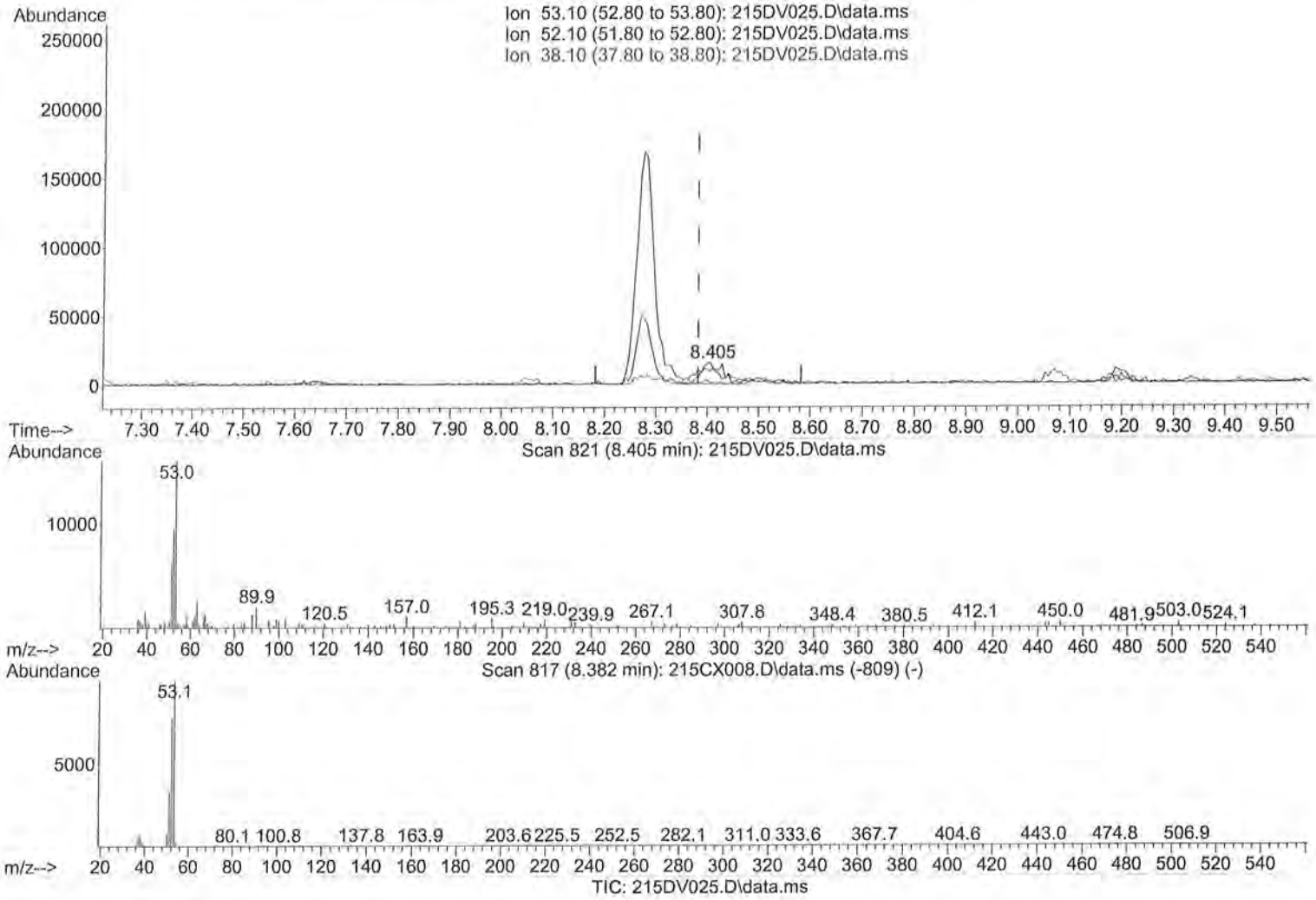
Review by/Date KJ 04/28/21

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\042721\
Data File : 215DV025.D
Acq On : 27 Apr 2021 6:46 pm
Operator : kkw
Sample : 1D27020-MSD1
Misc :
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Apr 28 09:52:37 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2103052
QLast Update : Mon Mar 29 13:47:27 2021
Response via : Initial Calibration



(24) Acrylonitrile

8.405min (+ 0.023) 28.27 ug/L m

response 58301

Ion	Exp%	Act%
53.10	100.00	100.00
52.10	78.70	187.82#
38.10	6.30	33.61#
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date W 04/28/21

Review by/Date:

Sequence Name: C:\MSDCHEM\1\SEQUENCE\215DV.S
Comment:
Operator: kkw
Data Path: C:\msdchem\1\DATA\042721\
Instrument Control Pre-Seq Cmd:
Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:
Data Analysis Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

Sequence Barcode Options
(X) On Mismatch, Inject Anyway
( ) On Mismatch, Don't Inject
( ) Barcode Disabled

Line		Sample Name/Misc Info			
1)	Sample	1	215DV001	8260S	rinse
2)	Sample	2	215DV002	8260S	CCV1
3)	Sample	3	215DV003	8260S	BS1
4)	Sample	4	215DV004	8260S	RINSE
5)	Sample	5	215DV005	8260S	BLK1
6)	Sample	6	215DV006	8260S	AE03392-01
7)	Sample	7	215DV007	8260S	AE03392-02
8)	Sample	8	215DV008	8260S	AE02766-03RE1@10X
9)	Sample	9	215DV009	8260S	AE02766-06RE1@50X
10)	Sample	10	215DV010	8260S	AE02766-08RE1
11)	Sample	11	215DV011	8260S	AE02766-16RE1@5X
12)	Sample	12	215DV012	8260S	AE03377-11RE1@2.5X Benzene from Prev run
13)	Sample	13	215DV013	8260S	AE03318-01@500,000X
14)	Sample	14	215DV014	8260S	AE03396-01RE1@5X
15)	Sample	15	215DV015	8260S	AE03318-02@500,000X
16)	Sample	16	215DV016	8260S	AE03396-06
17)	Sample	17	215DV017	8260S	AE03396-07
18)	Sample	18	215DV018	8260S	AE03396-08
19)	Sample	19	215DV019	8260S	AE03396-09@2X
20)	Sample	20	215DV020	8260S	AE03396-10@10X
21)	Sample	21	215DV021	8260S	AE03398-01RE1
22)	Sample	22	215DV022	8260S	AE03301-03
23)	Sample	23	215DV023	8260S	AE03301-04
24)	Sample	24	215DV024	8260S	1D27020-MS1
25)	Sample	24	215DV025	8260S	1D27020-MSD1
26)	Sample	25	215DV026	8260S	RINSE
27)	Sample	26	215DV027	8260S	AA66125-CCV1
28)	Sample	27	215DV028	8260S	1D27045-BS1
29)	Sample	28	215DV029	8260S	1D27045-MS1
30)	Sample	28	215DV030	8260S	1D27045-MSD1
31)	Sample	29	215DV031	8260S	RINSE
32)	Sample	30	215DV032	8260S	1D27045-BLK1
33)	Sample	31	215DV033	8260S	AA66125-CRL1
34)	Sample	32	215DV034	8260S	AE03301-01
35)	Sample	33	215DV035	8260S	AE03301-02
36)	Sample	34	215DV036	8260S	AE03301-05
37)	Sample	35	215DV037	8260S	AE03301-06
38)	Sample	36	215DV038	8260S	AE03301-07
39)	Sample	37	215DV039	8260S	AE02965-01
40)	Sample	38	215DV040	8260S	AE02965-02
41)	Sample	39	215DV041	8260S	AE03428-01
42)	Sample	40	215DV042	8260S	AE02997-01
43)	Sample	41	215DV043	8260S	AE03430-01

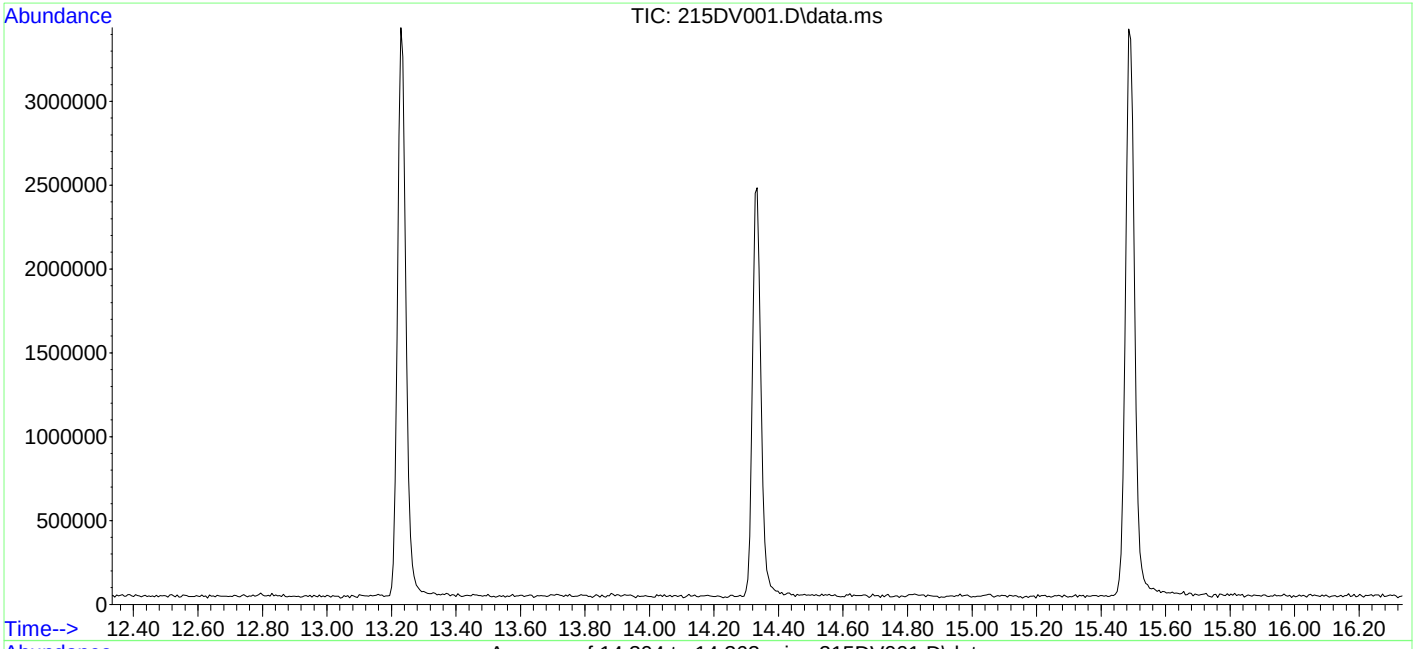
Sequence Name: C:\MSDCHEM\1\SEQUENCE\215DV.S

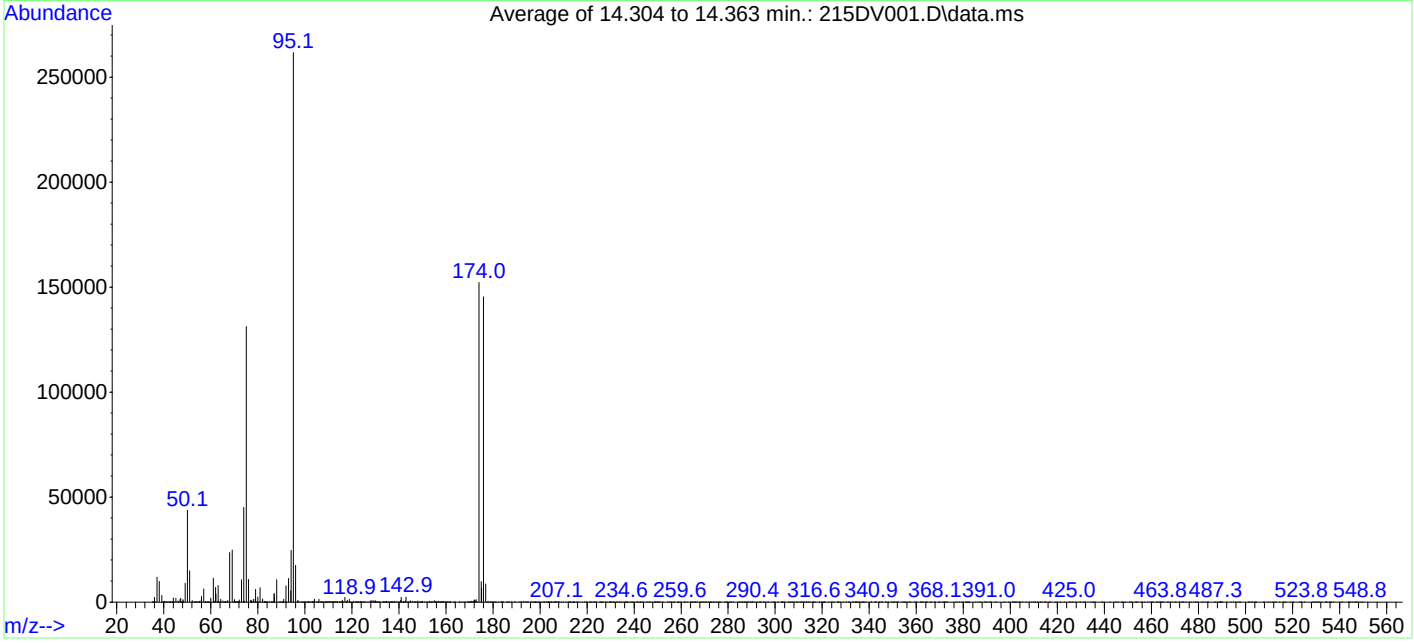
	Line	Type	Vial	DataFile	Method	Sample Name
44)		Sample	42	215DV044	8260S	AE03430-02
45)		Sample	43	215DV045	8260S	AE03430-03
46)		Sample	44	215DV046	8260S	AE03430-04
47)		Sample	45	215DV047	8260S	AE03430-05
48)		Sample	46	215DV048	8260S	AE03517-01
49)		Sample	47	215DV049	8260S	AE03518-01

Data Path : C:\msdchem\1\data\042721\
Data File : 215DV001.D
Acq On : 27 Apr 2021 7:40 am
Operator : kkw
Sample : rinse
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\methods\032921W.M
Title : ENCO SOP VGCMS05; Element Cal 2103052
Last Update : Mon Mar 29 13:47:27 2021





Spectrum Information: Average of 14.304 to 14.363 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
95	174	50	200	171.9	261629	PASS
96	95	5	9	6.7	17500	PASS
173	174	0.00	2	0.7	1123	PASS
174	95	50	200	58.2	152171	PASS
175	174	5	9	6.4	9770	PASS
176	174	95	105	95.5	145389	PASS
177	176	5	10	6.0	8662	PASS

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042721\
Data File : 215DV002.D
Acq On : 27 Apr 2021 8:07 am
Operator : kkw
Sample : CCV1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 27 11:40:34 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2103052
QLast Update : Mon Mar 29 13:47:27 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.851	168	1041773	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2145571	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1346556	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.486	152	1209551	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	607301	56.14	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 112.28%				
52) D8-Toluene	11.778	98	2700291	57.38	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 114.76%				
73) Bromofluorobenzene	14.328	95	1243429	52.93	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 105.86%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	637704	50.98	ug/L		94
3) Chloromethane	4.404	50	471792	54.22	ug/L		99
4) Vinyl Chloride	4.580	62	570363	54.44	ug/L		92
5) Bromomethane	5.233	94	267245	62.74	ug/L		99
6) Chloroethane	5.468	64	320088	54.47	ug/L		98
7) Trichlorofluoromethane	5.709	101	832861	55.45	ug/L		99
8) Diethyl ether	6.179	59	303266	49.31	ug/L		98
9) 1,1-Dichloroethene	6.531	96	373645	44.13	ug/L		87
10) Trichlorotrifluoroethane	6.566	151	305081	44.90	ug/L		92
11) Acrolein	7.013	56	698876	513.21	ug/L		97
12) Iodomethane	6.778	142	2824368	254.80	ug/L		100
13) Carbon Disulfide	6.625	76	7288527	273.23	ug/L		100
14) 3-chloropropene	7.189	41	568107	54.63	ug/L		91
15) Acetone	7.389	43	329700	231.07	ug/L		95
16) Methylene Chloride	7.336	84	507804	52.44	ug/L		94
17) Methyl Acetate	7.518	43	188031	51.73	ug/L	#	90
18) t-1,2-Dichloroethene	7.548	96	500434	50.34	ug/L		98
19) Methyl tert-butyl ether	7.630	73	1158639	51.46	ug/L		98
20) Acetonitrile	8.047	41	480190	482.52	ug/L		98
21) Isopropyl ether	8.047	45	1240439	54.54	ug/L		95
22) Chloroprene	8.276	88	475526	52.43	ug/L		95
23) 1,1-Dichloroethane	8.311	63	900538	53.84	ug/L		98
24) Acrylonitrile	8.382	53	1222522	504.15	ug/L		100
25) Vinyl Acetate	8.535	43	4069703	274.46	ug/L		97
26) c-1,2-Dichloroethene	8.946	96	563107	50.10	ug/L		93
27) 2,2-Dichloropropane	9.075	77	872644	52.44	ug/L		99
28) Bromochloromethane	9.181	128	253146	48.21	ug/L		100
29) Cyclohexane	9.193	56	835747	53.11	ug/L		96
30) Chloroform	9.222	83	1003282	49.15	ug/L		96
32) Dibromofluoromethane	9.428	113	607301	56.14	ug/L	#	89
33) 2-Butanone	9.545	72	220506	244.98	ug/L		81
34) 1,1,1-Trichloroethane	9.487	97	930919	53.50	ug/L		98
35) 1,1-Dichloropropene	9.604	75	779013	52.14	ug/L		99
36) Propionitrile	9.892	54	421291	466.06	ug/L		86
37) Methacrylonitrile	9.910	41	2353261	523.45	ug/L		99
38) Isobutyl Alcohol	9.898	43	485752	950.67	ug/L		92
40) Carbon Tetrachloride	9.410	117	845921	60.18	ug/L	#	83
41) Benzene	9.874	78	2227255	50.71	ug/L		99
42) 1,2-Dichloroethane	10.086	62	744030	49.45	ug/L		97
43) Trichloroethene	10.450	130	562652	51.21	ug/L		96
44) Methyl cyclohexane	10.450	83	1015515	46.95	ug/L		96
45) Dibromomethane	10.903	93	336750	53.04	ug/L		95
46) 1,2-Dichloropropane	10.985	63	550351	54.21	ug/L		97
47) Bromodichloromethane	11.014	83	747401	52.80	ug/L		98
48) Methyl Methacrylate	11.079	69	289520	50.98	ug/L		96
49) 1,4-Dioxane	11.190	88	20039	420.26	ug/L	#	62
50) 2-Chloroethyl vinyl ether	11.484	63	1179896	215.22	ug/L	#	94
51) C-1,3-Dichloropropene	11.608	75	994053	52.70	ug/L		98

Data Path : C:\msdchem\1\data\042721\
Data File : 215DV002.D
Acq On : 27 Apr 2021 8:07 am
Operator : kkw
Sample : CCV1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 27 11:40:34 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2103052
QLast Update : Mon Mar 29 13:47:27 2021
Response via : Initial Calibration

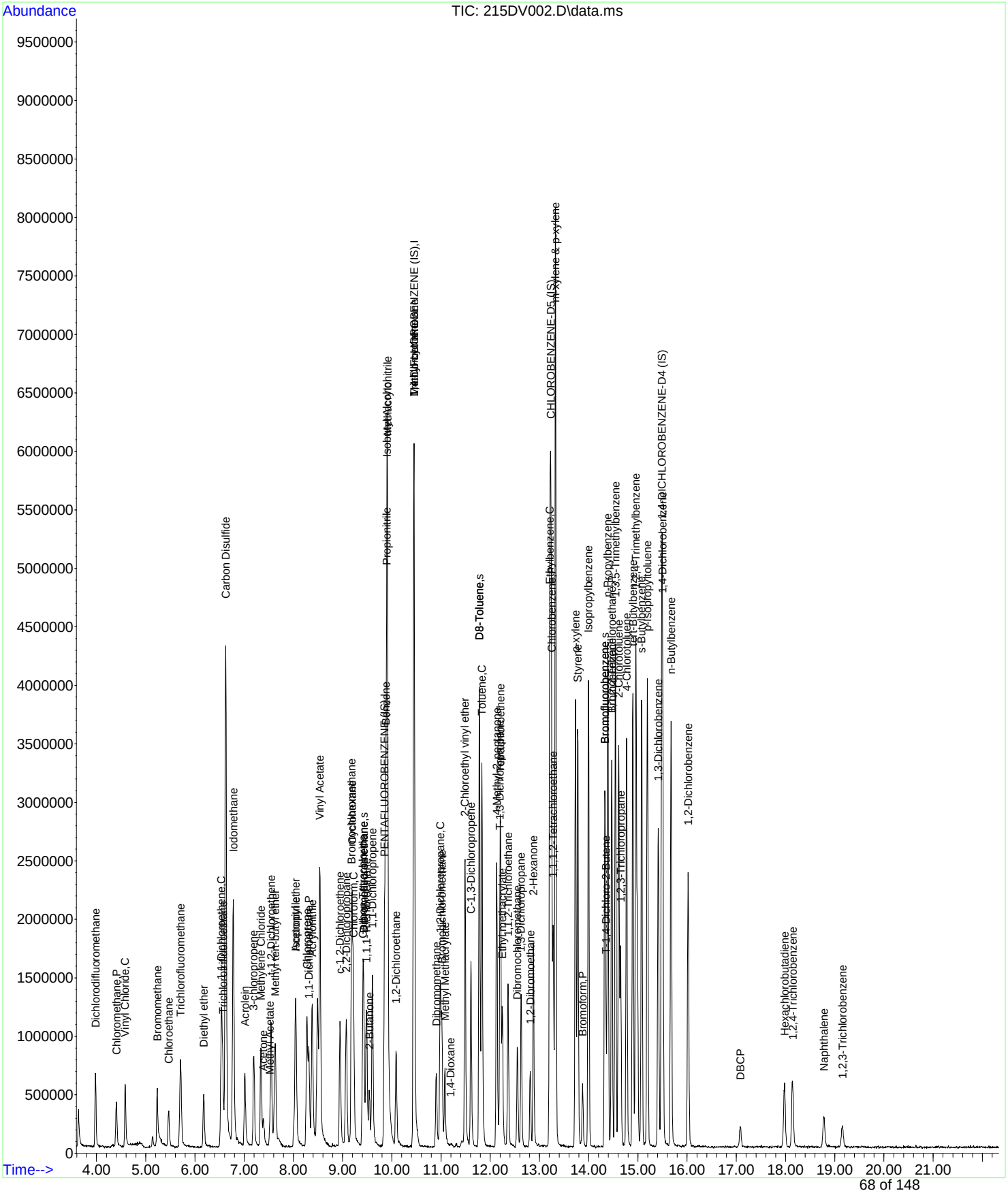
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	2700291	57.38	ug/L		96
54) 4-Methyl-2-pentanone	12.131	100	301477	240.81	ug/L		90
56) Toluene	11.831	92	1550821	52.56	ug/L		98
57) T-1,3-Dichloropropene	12.195	75	790653	48.40	ug/L		98
58) Tetrachloroethene	12.207	164	414505	49.25	ug/L		97
59) Ethyl methacrylate	12.242	69	604956	50.50	ug/L		99
60) 1,1,2-Trichloroethane	12.360	97	470114	48.87	ug/L		96
61) Dibromochloromethane	12.548	129	475356	46.00	ug/L		97
62) 1,3-Dichloropropane	12.624	76	825790	48.28	ug/L		96
63) 1,2-Dibromoethane	12.812	107	465289	47.50	ug/L		97
64) 2-Hexanone	12.877	43	1030788	250.10	ug/L		97
65) Ethylbenzene	13.206	106	908687	49.71	ug/L		95
66) Chlorobenzene	13.247	112	1576226	50.08	ug/L		98
67) 1,1,1,2-Tetrachloroethane	13.276	131	533923	50.20	ug/L		94
68) m-xylene & p-xylene	13.323	106	2381784	100.48	ug/L		100
69) o-xylene	13.735	106	1158414	51.68	ug/L		95
70) Styrene	13.776	104	1944914	53.66	ug/L		99
71) Bromoform	13.876	173	229438	44.18	ug/L		89
72) Isopropylbenzene	13.993	105	2959074	52.27	ug/L		99
74) Bromofluorobenzene	14.328	95	1243429	52.93	ug/L	#	82
75) n-Propylbenzene	14.387	91	3680142	50.76	ug/L		100
76) 1,1,2,2-Tetrachloroethane	14.469	83	626154	48.42	ug/L		94
77) 1,2,3-Trichloropropane	14.651	61	122418	50.73	ug/L		89
78) T-1,4-Dichloro-2-Butene	14.352	53	196305	44.88	ug/L	#	97
80) Bromobenzene	14.469	156	607229	47.08	ug/L		94
81) 1,2,4-Trimethylbenzene	14.957	105	2777008	50.98	ug/L		98
82) 2-Chlorotoluene	14.610	91	2234954	51.46	ug/L		99
83) 4-Chlorotoluene	14.769	91	2387525	51.56	ug/L		99
84) tert-Butylbenzene	14.898	119	2151819	49.45	ug/L		99
85) 1,3,5-Trimethylbenzene	14.545	105	2672689	49.84	ug/L		98
86) p-Isopropyltoluene	15.192	119	2730261	47.50	ug/L		99
87) s-Butylbenzene	15.074	105	3177885	47.59	ug/L		100
88) 1,3-Dichlorobenzene	15.415	146	1260826	46.60	ug/L		98
89) 1,4-Dichlorobenzene	15.503	146	1265505	46.53	ug/L		94
90) n-Butylbenzene	15.674	91	2534228	50.25	ug/L		99
91) 1,2-Dichlorobenzene	16.020	146	1135333	48.59	ug/L		100
92) DBCP	17.084	157	64413	41.01	ug/L		95
93) Hexachlorobutadiene	17.983	225	108309	41.87	ug/L		89
94) 1,2,4-Trichlorobenzene	18.147	180	239678	43.86	ug/L		99
95) Naphthalene	18.782	128	389434	40.81	ug/L		98
96) 1,2,3-Trichlorobenzene	19.158	180	85022	40.33	ug/L	#	85

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042721\
Data File : 215DV002.D
Acq On : 27 Apr 2021 8:07 am
Operator : kkw
Sample : CCV1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 27 11:40:34 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2103052
QLast Update : Mon Mar 29 13:47:27 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042721\
Data File : 215DV003.D
Acq On : 27 Apr 2021 8:35 am
Operator : kkw
Sample : BS1
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 27 09:07:48 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2103052
QLast Update : Mon Mar 29 13:47:27 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.851	168	1063082	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2184115	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1349867	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1183150	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	622216	56.36	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 112.72%				
52) D8-Toluene	11.778	98	2788993	58.22	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 116.44%				
73) Bromofluorobenzene	14.328	95	1266039	53.76	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 107.52%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	234564	18.38	ug/L		93
3) Chloromethane	4.404	50	213598	29.62	ug/L		99
4) Vinyl Chloride	4.586	62	221311	23.33	ug/L		91
5) Bromomethane	5.227	94	72273	19.45	ug/L		96
6) Chloroethane	5.462	64	138810	23.15	ug/L		98
7) Trichlorofluoromethane	5.702	101	335551	21.89	ug/L		98
8) Diethyl ether	6.173	59	151353	27.87	ug/L		96
9) 1,1-Dichloroethene	6.537	96	179621	20.79	ug/L		88
10) Trichlorotrifluoroethane	6.560	151	120402	17.36	ug/L		98
11) Acrolein	7.019	56	92640	98.03	ug/L		96
12) Iodomethane	6.784	142	289370	25.58	ug/L		96
13) Carbon Disulfide	6.625	76	611006	22.45	ug/L		98
14) 3-chloropropene	7.195	41	287356	32.23	ug/L	#	83
15) Acetone	7.395	43	146945	119.76	ug/L		97
16) Methylene Chloride	7.342	84	222889	25.11	ug/L		85
17) Methyl Acetate	7.530	43	97883	32.68	ug/L	#	89
18) t-1,2-Dichloroethene	7.547	96	228304	24.57	ug/L		93
19) Methyl tert-butyl ether	7.630	73	506533	25.68	ug/L		97
20) Acetonitrile	8.047	41	116256	152.26	ug/L	#	84
21) Isopropyl ether	8.053	45	566183	29.85	ug/L		96
22) Chloroprene	8.276	88	204698	25.49	ug/L		94
23) 1,1-Dichloroethane	8.305	63	386730	25.89	ug/L		95
24) Acrylonitrile	8.393	53	52217	29.14	ug/L	#	81
25) Vinyl Acetate	8.546	43	285606	27.05	ug/L		95
26) c-1,2-Dichloroethene	8.946	96	239931	23.24	ug/L		91
27) 2,2-Dichloropropane	9.075	77	350058	22.60	ug/L		98
28) Bromochloromethane	9.187	128	102710	19.17	ug/L		89
29) Cyclohexane	9.193	56	366405	26.65	ug/L		97
30) Chloroform	9.222	83	428939	20.59	ug/L		99
32) Dibromofluoromethane	9.428	113	622216	56.36	ug/L	#	90
33) 2-Butanone	9.545	72	66886	88.77	ug/L	#	31
34) 1,1,1-Trichloroethane	9.486	97	371233	20.91	ug/L		98
35) 1,1-Dichloropropene	9.604	75	335233	23.93	ug/L		98
36) Propionitrile	9.909	54	23576	36.13	ug/L	#	1
37) Methacrylonitrile	9.909	41	168238	48.74	ug/L	#	68
38) Isobutyl Alcohol	9.903	43	188602	432.65	ug/L	#	68
40) Carbon Tetrachloride	9.416	117	343244	23.99	ug/L	#	71
41) Benzene	9.874	78	946872	21.18	ug/L		98
42) 1,2-Dichloroethane	10.086	62	314025	20.50	ug/L		95
43) Trichloroethene	10.456	130	226257	20.23	ug/L	#	78
44) Methyl cyclohexane	10.456	83	445604	20.24	ug/L		95
45) Dibromomethane	10.902	93	135815	21.01	ug/L		91
46) 1,2-Dichloropropane	10.985	63	234397	24.88	ug/L		95
47) Bromodichloromethane	11.014	83	307551	21.35	ug/L		98
48) Methyl Methacrylate	11.084	69	108936	22.03	ug/L		95
49) 1,4-Dioxane	11.196	88	28813	568.38	ug/L	#	85
50) 2-Chloroethyl vinyl ether	11.490	63	453355	88.60	ug/L	#	92
51) C-1,3-Dichloropropene	11.613	75	373450	20.71	ug/L		100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042721\
Data File : 215DV003.D
Acq On : 27 Apr 2021 8:35 am
Operator : kkw
Sample : BS1
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 27 09:07:48 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2103052
QLast Update : Mon Mar 29 13:47:27 2021
Response via : Initial Calibration

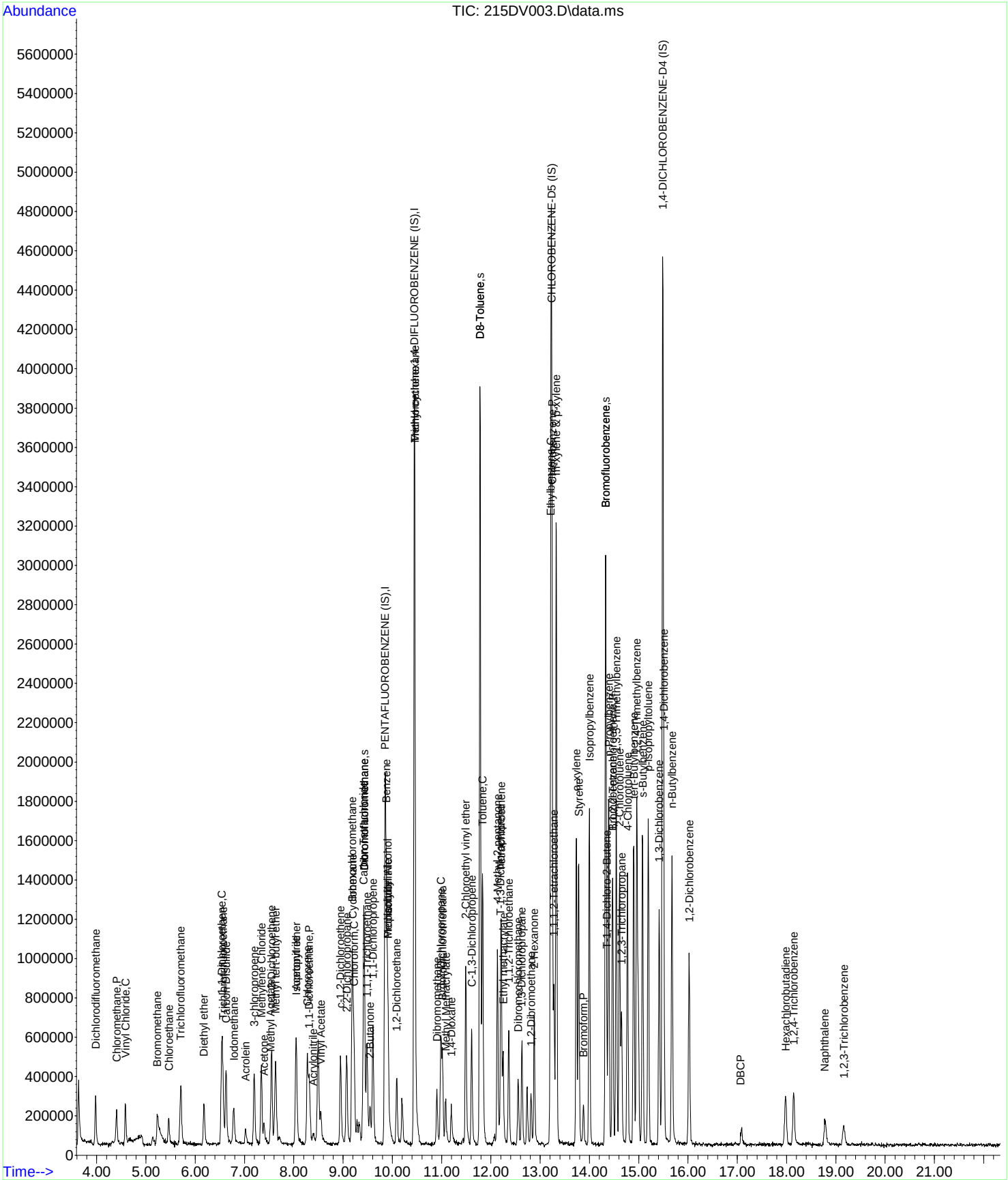
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	2788993	58.22	ug/L		96
54) 4-Methyl-2-pentanone	12.130	100	134511	105.55	ug/L		94
56) Toluene	11.831	92	616652	20.85	ug/L		93
57) T-1,3-Dichloropropene	12.195	75	350170	21.38	ug/L		99
58) Tetrachloroethene	12.207	164	166379	19.72	ug/L		91
59) Ethyl methacrylate	12.248	69	251975	22.83	ug/L		99
60) 1,1,2-Trichloroethane	12.359	97	206071	21.37	ug/L		97
61) Dibromochloromethane	12.553	129	196802	19.00	ug/L		95
62) 1,3-Dichloropropane	12.624	76	340056	19.83	ug/L		97
63) 1,2-Dibromoethane	12.812	107	202016	20.57	ug/L		94
64) 2-Hexanone	12.877	43	433106	117.01	ug/L		93
65) Ethylbenzene	13.211	106	370932	20.24	ug/L		98
66) Chlorobenzene	13.241	112	665230	21.08	ug/L		98
67) 1,1,1,2-Tetrachloroethane	13.276	131	215613	20.22	ug/L		97
68) m-xylene & p-xylene	13.323	106	951829	40.05	ug/L		98
69) o-xylene	13.734	106	469252	20.88	ug/L		99
70) Styrene	13.781	104	761829	20.97	ug/L		97
71) Bromoform	13.875	173	93593	17.98	ug/L		97
72) Isopropylbenzene	13.999	105	1222946	21.55	ug/L		99
74) Bromofluorobenzene	14.328	95	1266039	53.76	ug/L	#	78
75) n-Propylbenzene	14.392	91	1565358	21.54	ug/L		98
76) 1,1,2,2-Tetrachloroethane	14.469	83	262967	20.29	ug/L		96
77) 1,2,3-Trichloropropane	14.651	61	46952	19.41	ug/L		88
78) T-1,4-Dichloro-2-Butene	14.351	53	88035	20.08	ug/L	#	63
80) Bromobenzene	14.469	156	246202	19.52	ug/L		93
81) 1,2,4-Trimethylbenzene	14.957	105	1132150	21.97	ug/L		97
82) 2-Chlorotoluene	14.610	91	932352	21.95	ug/L		99
83) 4-Chlorotoluene	14.774	91	975834	23.11	ug/L		98
84) tert-Butylbenzene	14.898	119	882467	21.74	ug/L		98
85) 1,3,5-Trimethylbenzene	14.545	105	1063275	21.29	ug/L		99
86) p-Isopropyltoluene	15.192	119	1111191	19.76	ug/L		98
87) s-Butylbenzene	15.080	105	1317141	20.16	ug/L		98
88) 1,3-Dichlorobenzene	15.415	146	507796	19.19	ug/L		93
89) 1,4-Dichlorobenzene	15.509	146	560513	21.07	ug/L	#	84
90) n-Butylbenzene	15.673	91	1026038	22.30	ug/L		98
91) 1,2-Dichlorobenzene	16.026	146	463829	21.21	ug/L		99
92) DBCP	17.066	157	29658	20.80	ug/L		100
93) Hexachlorobutadiene	17.982	225	55535	22.80	ug/L		93
94) 1,2,4-Trichlorobenzene	18.141	180	115082	25.07	ug/L		95
95) Naphthalene	18.770	128	196217	25.99	ug/L		98
96) 1,2,3-Trichlorobenzene	19.163	180	47871	27.17	ug/L		93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042721\
Data File : 215DV003.D
Acq On : 27 Apr 2021 8:35 am
Operator : kkw
Sample : BS1
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 27 09:07:48 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2103052
QLast Update : Mon Mar 29 13:47:27 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042721\
Data File : 215DV005.D
Acq On : 27 Apr 2021 9:31 am
Operator : kkw
Sample : BLK1
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 27 12:55:00 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2103052
QLast Update : Mon Mar 29 13:47:27 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) PENTAFLUOROBENZENE (IS)	9.851	168	1060505	50.00 ug/L	0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2109466	50.00 ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1261619	50.00 ug/L	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1139715	50.00 ug/L	0.00
System Monitoring Compounds					
31) Dibromofluoromethane	9.428	113	608353	55.24 ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 110.48%		
52) D8-Toluene	11.778	98	2498897	54.01 ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 108.02%		
73) Bromofluorobenzene	14.328	95	1135193	51.57 ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 103.14%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.987	85	1118	N.D.	
3) Chloromethane	0.000		0	N.D. d	
4) Vinyl Chloride	0.000		0	N.D.	
5) Bromomethane	0.000		0	N.D. d	
6) Chloroethane	0.000		0	N.D.	
7) Trichlorofluoromethane	0.000		0	N.D.	
8) Diethyl ether	0.000		0	N.D.	
9) 1,1-Dichloroethene	6.613	96	1145	N.D.	
10) Trichlorotrifluoroethane	0.000		0	N.D.	
11) Acrolein	0.000		0	N.D.	
12) Iodomethane	0.000		0	N.D. d	
13) Carbon Disulfide	6.613	76	4575	N.D.	
14) 3-chloropropene	0.000		0	N.D.	
15) Acetone	0.000		0	N.D. d	
16) Methylene Chloride	7.348	84	1011	N.D.	
17) Methyl Acetate	0.000		0	N.D. d	
18) t-1,2-Dichloroethene	0.000		0	N.D.	
19) Methyl tert-butyl ether	7.553	73	1029	N.D.	
20) Acetonitrile	0.000		0	N.D. d	
21) Isopropyl ether	8.094	45	1126	N.D.	
22) Chloroprene	0.000		0	N.D.	
23) 1,1-Dichloroethane	0.000		0	N.D.	
24) Acrylonitrile	0.000		0	N.D. d	
25) Vinyl Acetate	8.582	43	1608	N.D.	
26) c-1,2-Dichloroethene	8.893	96	1095	N.D.	
27) 2,2-Dichloropropane	9.216	77	1061	N.D.	
28) Bromochloromethane	0.000		0	N.D.	
29) Cyclohexane	0.000		0	N.D.	
30) Chloroform	9.222	83	1543	N.D.	
32) Dibromofluoromethane	9.428	113	608614	55.27 ug/L #	93
33) 2-Butanone	0.000		0	N.D. d	
34) 1,1,1-Trichloroethane	0.000		0	N.D.	
35) 1,1-Dichloropropene	9.551	75	1201	N.D.	
36) Propionitrile	0.000		0	N.D. d	
37) Methacrylonitrile	0.000		0	N.D. d	
38) Isobutyl Alcohol	0.000		0	N.D. d	
40) Carbon Tetrachloride	9.357	117	1392	N.D.	
41) Benzene	9.892	78	3462	N.D.	
42) 1,2-Dichloroethane	10.103	62	1185	N.D.	
43) Trichloroethene	0.000		0	N.D.	
44) Methyl cyclohexane	0.000		0	N.D. d	
45) Dibromomethane	10.844	93	1063	N.D.	
46) 1,2-Dichloropropane	10.850	63	1424	N.D.	
47) Bromodichloromethane	0.000		0	N.D.	
48) Methyl Methacrylate	0.000		0	N.D. d	
49) 1,4-Dioxane	0.000		0	N.D. d	
50) 2-Chloroethyl vinyl ether	0.000		0	N.D. d	
51) C-1,3-Dichloropropene	0.000		0	N.D.	

Data Path : C:\msdchem\1\data\042721\
Data File : 215DV005.D
Acq On : 27 Apr 2021 9:31 am
Operator : kkw
Sample : BLK1
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 27 12:55:00 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2103052
QLast Update : Mon Mar 29 13:47:27 2021
Response via : Initial Calibration

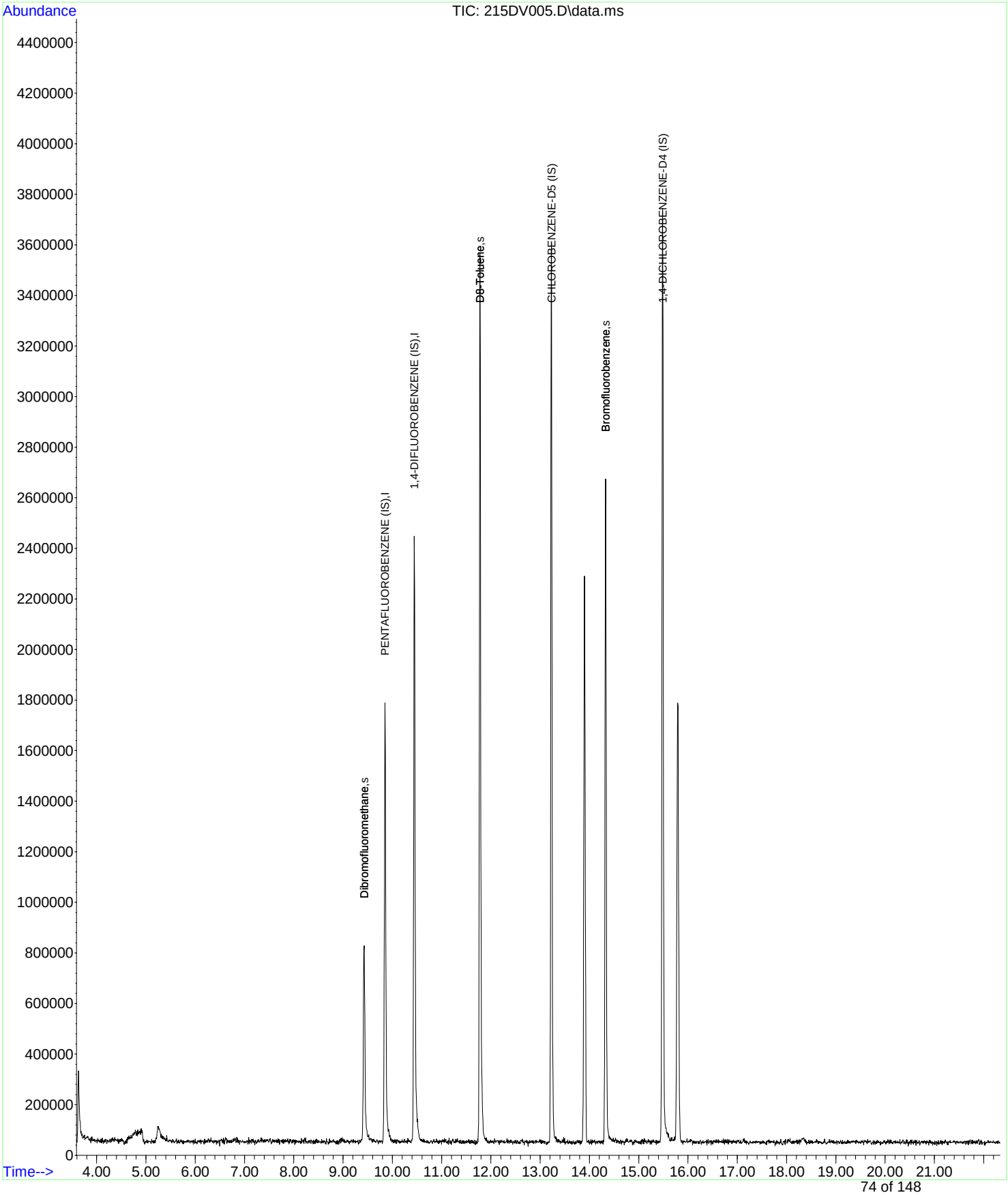
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.778	98	2498897	54.01 ug/L	92
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	11.766	92	1256	N.D.	
57) T-1,3-Dichloropropene	0.000		0	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	12.172	69	1034	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	12.694	107	1357	N.D.	
64) 2-Hexanone	0.000		0	N.D. d	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	13.241	112	2607	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	13.899	106	2408	N.D.	
70) Styrene	13.811	104	1010	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	14.063	105	1157	N.D.	
74) Bromofluorobenzene	14.328	95	1136072	51.61 ug/L #	81
75) n-Propylbenzene	14.328	91	6847	N.D.	
76) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D.	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D. d	
80) Bromobenzene	0.000		0	N.D.	
81) 1,2,4-Trimethylbenzene	15.086	105	2710	N.D.	
82) 2-Chlorotoluene	0.000		0	N.D.	
83) 4-Chlorotoluene	0.000		0	N.D.	
84) tert-Butylbenzene	14.857	119	1101	N.D.	
85) 1,3,5-Trimethylbenzene	14.563	105	1590	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	15.086	105	2710	N.D.	
88) 1,3-Dichlorobenzene	15.415	146	1145	N.D.	
89) 1,4-Dichlorobenzene	15.474	146	2266	N.D.	
90) n-Butylbenzene	15.767	91	2703	N.D.	
91) 1,2-Dichlorobenzene	16.026	146	1538	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	0.000		0	N.D. d	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042721\
Data File : 215DV005.D
Acq On : 27 Apr 2021 9:31 am
Operator : kkw
Sample : BLK1
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 27 12:55:00 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2103052
QLast Update : Mon Mar 29 13:47:27 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042721\
Data File : 215DV006.D
Acq On : 27 Apr 2021 9:59 am
Operator : kkw
Sample : AE03392-01
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 27 12:57:26 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2103052
QLast Update : Mon Mar 29 13:47:27 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) PENTAFLUOROBENZENE (IS)	9.845	168	960905	50.00 ug/L	0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	1965206	50.00 ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.223	82	1225668	50.00 ug/L	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.486	152	1096514	50.00 ug/L	0.00
System Monitoring Compounds					
31) Dibromofluoromethane	9.428	113	562825	56.41 ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 112.82%		
52) D8-Toluene	11.778	98	2421692	56.19 ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 112.38%		
73) Bromofluorobenzene	14.328	95	1085040	50.74 ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 101.48%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	4.016	85	1177	N.D.	
3) Chloromethane	0.000		0	N.D. d	
4) Vinyl Chloride	0.000		0	N.D.	
5) Bromomethane	0.000		0	N.D. d	
6) Chloroethane	0.000		0	N.D.	
7) Trichlorofluoromethane	0.000		0	N.D.	
8) Diethyl ether	0.000		0	N.D. d	
9) 1,1-Dichloroethene	6.461	96	1243	N.D.	
10) Trichlorotrifluoroethane	0.000		0	N.D.	
11) Acrolein	0.000		0	N.D.	
12) Iodomethane	0.000		0	N.D. d	
13) Carbon Disulfide	6.619	76	4314	N.D.	
14) 3-chloropropene	0.000		0	N.D. d	
15) Acetone	0.000		0	N.D. d	
16) Methylene Chloride	7.354	84	1077	N.D.	
17) Methyl Acetate	0.000		0	N.D. d	
18) t-1,2-Dichloroethene	0.000		0	N.D.	
19) Methyl tert-butyl ether	7.624	73	1187	N.D.	
20) Acetonitrile	0.000		0	N.D. d	
21) Isopropyl ether	7.988	45	1430	N.D.	
22) Chloroprene	0.000		0	N.D.	
23) 1,1-Dichloroethane	8.435	63	1347	N.D.	
24) Acrylonitrile	0.000		0	N.D. d	
25) Vinyl Acetate	8.576	43	1498	N.D.	
26) c-1,2-Dichloroethene	0.000		0	N.D. d	
27) 2,2-Dichloropropane	0.000		0	N.D.	
28) Bromochloromethane	0.000		0	N.D.	
29) Cyclohexane	0.000		0	N.D.	
30) Chloroform	0.000		0	N.D.	
32) Dibromofluoromethane	9.428	113	562897	56.41 ug/L #	89
33) 2-Butanone	0.000		0	N.D.	
34) 1,1,1-Trichloroethane	0.000		0	N.D.	
35) 1,1-Dichloropropene	0.000		0	N.D.	
36) Propionitrile	0.000		0	N.D. d	
37) Methacrylonitrile	0.000		0	N.D. d	
38) Isobutyl Alcohol	0.000		0	N.D. d	
40) Carbon Tetrachloride	9.357	117	1407	N.D.	
41) Benzene	9.863	78	3460	N.D.	
42) 1,2-Dichloroethane	0.000		0	N.D.	
43) Trichloroethene	0.000		0	N.D. d	
44) Methyl cyclohexane	0.000		0	N.D. d	
45) Dibromomethane	10.867	93	1073	N.D.	
46) 1,2-Dichloropropane	0.000		0	N.D.	
47) Bromodichloromethane	0.000		0	N.D.	
48) Methyl Methacrylate	0.000		0	N.D.	
49) 1,4-Dioxane	0.000		0	N.D. d	
50) 2-Chloroethyl vinyl ether	0.000		0	N.D. d	
51) C-1,3-Dichloropropene	11.584	75	1127	N.D.	

Data Path : C:\msdchem\1\data\042721\
Data File : 215DV006.D
Acq On : 27 Apr 2021 9:59 am
Operator : kkw
Sample : AE03392-01
Misc :
ALS Vial : 6 Sample Multiplier: 1

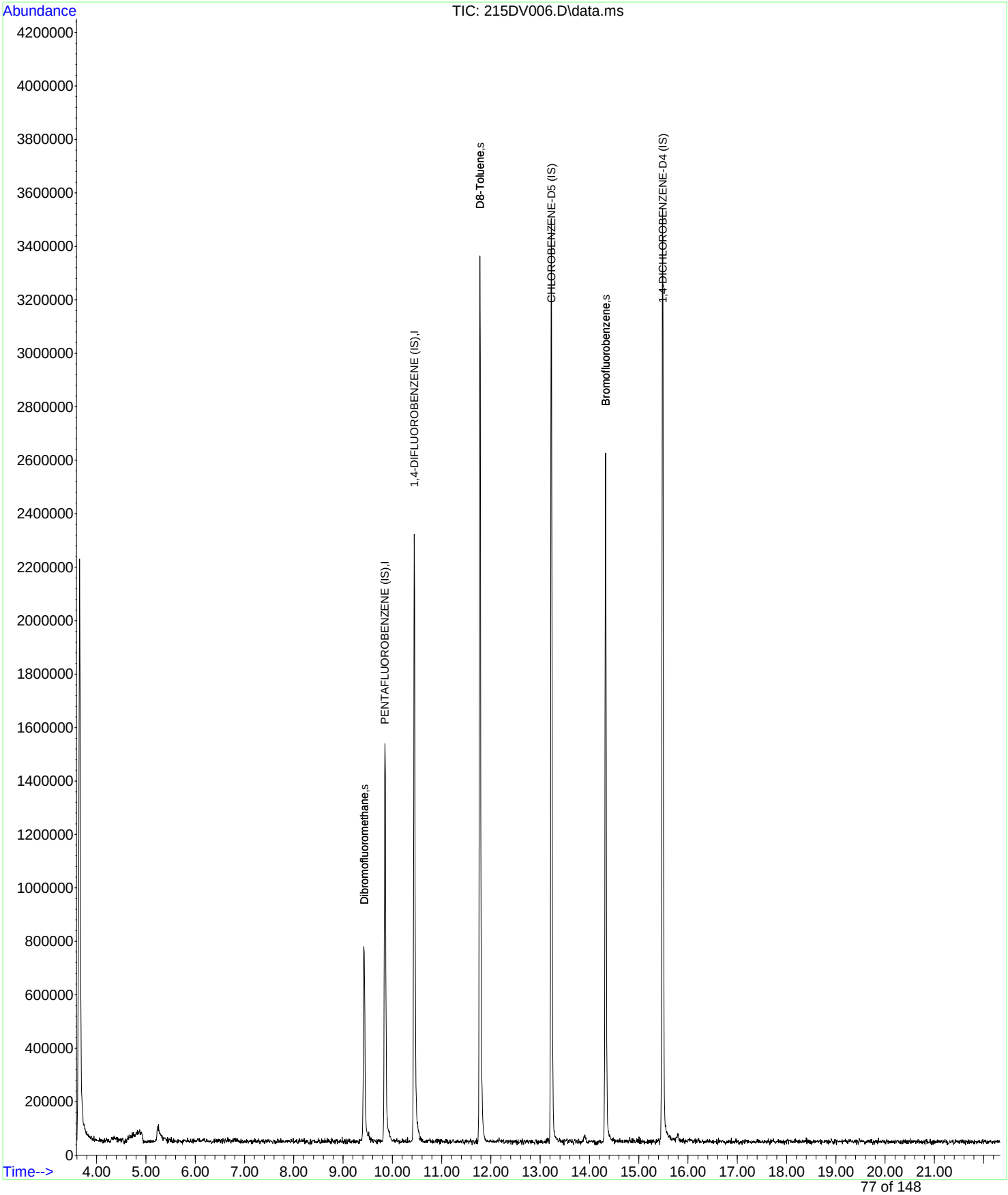
Quant Time: Apr 27 12:57:26 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2103052
QLast Update : Mon Mar 29 13:47:27 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.778	98	2421692	56.19 ug/L	93
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	11.760	92	1829	N.D.	
57) T-1,3-Dichloropropene	12.248	75	1509	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	0.000		0	N.D.	
60) 1,1,2-Trichloroethane	12.324	97	1031	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	12.595	76	1055	N.D.	
63) 1,2-Dibromoethane	12.824	107	1108	N.D.	
64) 2-Hexanone	0.000		0	N.D. d	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	0.000		0	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	0.000		0	N.D.	
70) Styrene	0.000		0	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	14.005	105	1081	N.D.	
74) Bromofluorobenzene	14.328	95	1085040	50.74 ug/L	84
75) n-Propylbenzene	14.357	91	1240	N.D.	
76) 1,1,2,2-Tetrachloroethane	14.322	83	1331	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D. d	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D. d	
80) Bromobenzene	14.322	156	1068	N.D.	
81) 1,2,4-Trimethylbenzene	14.980	105	1058	N.D.	
82) 2-Chlorotoluene	0.000		0	N.D.	
83) 4-Chlorotoluene	0.000		0	N.D.	
84) tert-Butylbenzene	14.910	119	2231	N.D.	
85) 1,3,5-Trimethylbenzene	14.581	105	1497	N.D.	
86) p-Isopropyltoluene	15.192	119	1238	N.D.	
87) s-Butylbenzene	15.021	105	1110	N.D.	
88) 1,3-Dichlorobenzene	15.409	146	1318	N.D.	
89) 1,4-Dichlorobenzene	15.486	146	1092	N.D.	
90) n-Butylbenzene	15.497	91	1128	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	0.000		0	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\042721\
Data File : 215DV006.D
Acq On : 27 Apr 2021 9:59 am
Operator : kkw
Sample : AE03392-01
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 27 12:57:26 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2103052
QLast Update : Mon Mar 29 13:47:27 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042721\
Data File : 215DV007.D
Acq On : 27 Apr 2021 10:27 am
Operator : kkw
Sample : AE03392-02
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 27 12:58:47 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2103052
QLast Update : Mon Mar 29 13:47:27 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) PENTAFLUOROBENZENE (IS)	9.851	168	974141	50.00 ug/L	0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	1994301	50.00 ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1211833	50.00 ug/L	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.486	152	1106664	50.00 ug/L	0.00
System Monitoring Compounds					
31) Dibromofluoromethane	9.428	113	577779	57.12 ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 114.24%		
52) D8-Toluene	11.778	98	2418419	55.29 ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 110.58%		
73) Bromofluorobenzene	14.328	95	1095469	51.81 ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 103.62%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.	
3) Chloromethane	0.000		0	N.D. d	
4) Vinyl Chloride	4.586	62	163844	19.17 ug/L	97
5) Bromomethane	0.000		0	N.D. d	
6) Chloroethane	0.000		0	N.D. d	
7) Trichlorofluoromethane	5.585	101	1499	N.D.	
8) Diethyl ether	0.000		0	N.D. d	
9) 1,1-Dichloroethene	0.000		0	N.D.	
10) Trichlorotrifluoroethane	0.000		0	N.D.	
11) Acrolein	0.000		0	N.D. d	
12) Iodomethane	0.000		0	N.D. d	
13) Carbon Disulfide	0.000		0	N.D. d	
14) 3-chloropropene	7.119	41	1125	N.D.	
15) Acetone	0.000		0	N.D. d	
16) Methylene Chloride	7.354	84	1450	N.D.	
17) Methyl Acetate	0.000		0	N.D. d	
18) t-1,2-Dichloroethene	7.565	96	6301	0.81 ug/L #	57
19) Methyl tert-butyl ether	7.624	73	1456	N.D.	
20) Acetonitrile	0.000		0	N.D. d	
21) Isopropyl ether	0.000		0	N.D.	
22) Chloroprene	0.000		0	N.D.	
23) 1,1-Dichloroethane	8.176	63	1047	N.D.	
24) Acrylonitrile	0.000		0	N.D.	
25) Vinyl Acetate	8.564	43	1435	N.D.	
26) c-1,2-Dichloroethene	0.000		0	N.D. d	
27) 2,2-Dichloropropane	8.958	77	1404	N.D.	
28) Bromochloromethane	0.000		0	N.D. d	
29) Cyclohexane	9.293	56	1282	N.D.	
30) Chloroform	0.000		0	N.D.	
32) Dibromofluoromethane	9.428	113	578370	57.18 ug/L #	88
33) 2-Butanone	0.000		0	N.D. d	
34) 1,1,1-Trichloroethane	9.422	97	1025	N.D.	
35) 1,1-Dichloropropene	9.604	75	1040	N.D.	
36) Propionitrile	0.000		0	N.D.	
37) Methacrylonitrile	0.000		0	N.D.	
38) Isobutyl Alcohol	0.000		0	N.D. d	
40) Carbon Tetrachloride	0.000		0	N.D.	
41) Benzene	9.880	78	5131	N.D.	
42) 1,2-Dichloroethane	0.000		0	N.D.	
43) Trichloroethene	10.444	130	1176	N.D.	
44) Methyl cyclohexane	0.000		0	N.D. d	
45) Dibromomethane	0.000		0	N.D.	
46) 1,2-Dichloropropane	11.002	63	1247	N.D.	
47) Bromodichloromethane	10.920	83	1269	N.D.	
48) Methyl Methacrylate	0.000		0	N.D.	
49) 1,4-Dioxane	0.000		0	N.D. d	
50) 2-Chloroethyl vinyl ether	0.000		0	N.D. d	
51) C-1,3-Dichloropropene	11.590	75	1341	N.D.	

Data Path : C:\msdchem\1\data\042721\
Data File : 215DV007.D
Acq On : 27 Apr 2021 10:27 am
Operator : kkw
Sample : AE03392-02
Misc :
ALS Vial : 7 Sample Multiplier: 1

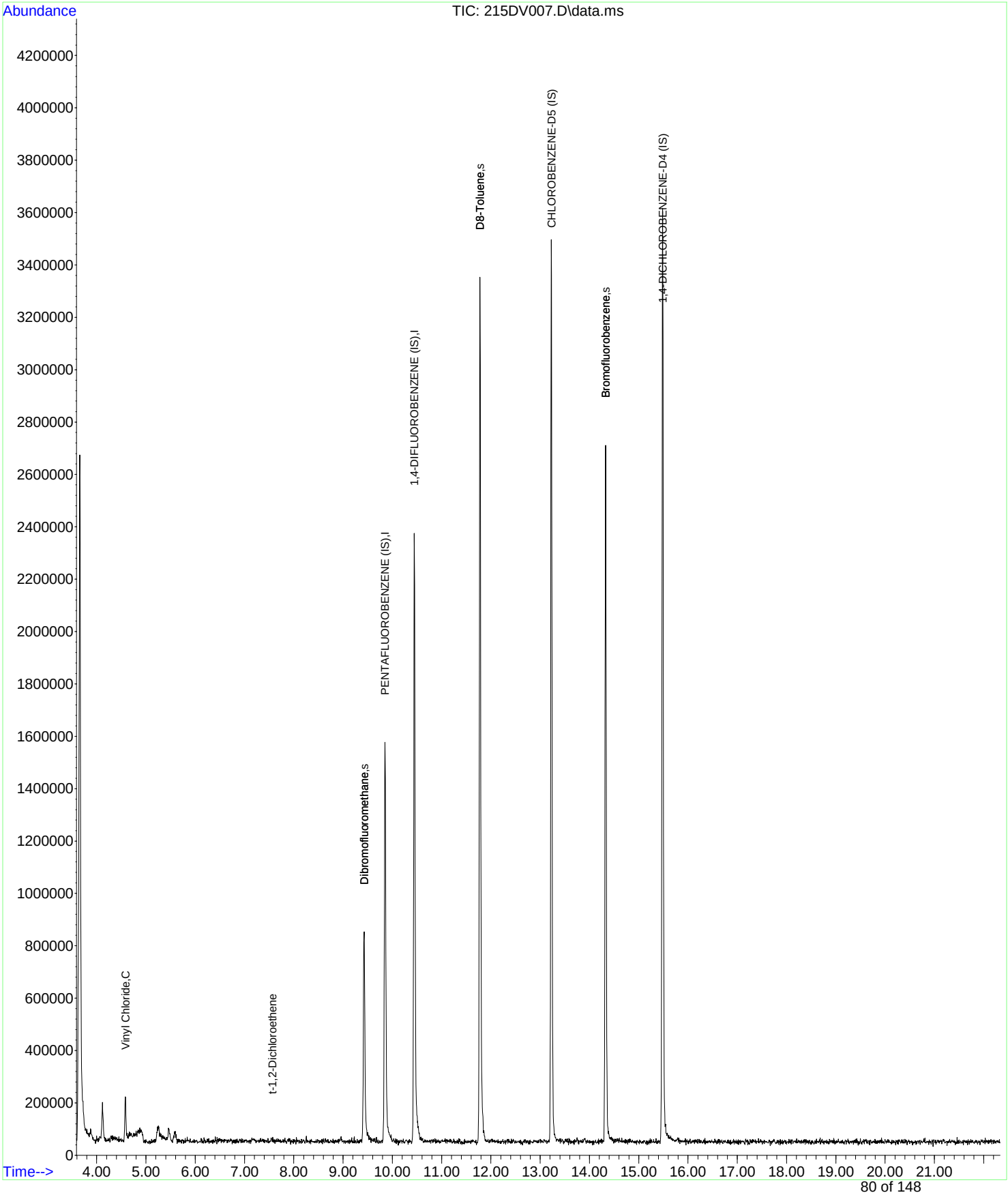
Quant Time: Apr 27 12:58:47 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2103052
QLast Update : Mon Mar 29 13:47:27 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.778	98	2418419	55.29 ug/L	93
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	11.849	92	3967	N.D.	
57) T-1,3-Dichloropropene	0.000		0	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	0.000		0	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	12.559	129	1010	N.D.	
62) 1,3-Dichloropropane	12.724	76	1123	N.D.	
63) 1,2-Dibromoethane	12.859	107	1097	N.D.	
64) 2-Hexanone	0.000		0	N.D. d	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	13.218	112	1529	N.D.	
67) 1,1,1,2-Tetrachloroethane	13.218	131	1087	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	13.770	106	3643	N.D.	
70) Styrene	0.000		0	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	0.000		0	N.D.	
74) Bromofluorobenzene	14.328	95	1095469	51.81 ug/L	85
75) n-Propylbenzene	14.340	91	6615	N.D.	
76) 1,1,2,2-Tetrachloroethane	14.551	83	1149	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D.	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D.	
80) Bromobenzene	14.375	156	1972	N.D.	
81) 1,2,4-Trimethylbenzene	0.000		0	N.D.	
82) 2-Chlorotoluene	0.000		0	N.D.	
83) 4-Chlorotoluene	0.000		0	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	0.000		0	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	0.000		0	N.D.	
88) 1,3-Dichlorobenzene	15.491	146	3721	N.D.	
89) 1,4-Dichlorobenzene	15.491	146	3721	N.D.	
90) n-Butylbenzene	15.791	91	1062	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	0.000		0	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\042721\
Data File : 215DV007.D
Acq On : 27 Apr 2021 10:27 am
Operator : kkw
Sample : AE03392-02
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 27 12:58:47 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2103052
QLast Update : Mon Mar 29 13:47:27 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042721\
Data File : 215DV024.D
Acq On : 27 Apr 2021 6:18 pm
Operator : kkw
Sample : 1D27020-MS1
Misc :
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Apr 28 07:49:37 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2103052
QLast Update : Mon Mar 29 13:47:27 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.851	168	1074216	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2480004	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1535003	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1329945	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	622923	55.84	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 111.68%				
52) D8-Toluene	11.778	98	2755168	50.65	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 101.30%				
73) Bromofluorobenzene	14.328	95	1350315	50.42	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 100.84%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	266945	20.70	ug/L	#	97
3) Chloromethane	4.404	50	244874	32.67	ug/L		99
4) Vinyl Chloride	4.586	62	252381	26.04	ug/L	#	57
5) Bromomethane	5.233	94	82975	21.89	ug/L		99
6) Chloroethane	5.468	64	155448	25.66	ug/L		98
7) Trichlorofluoromethane	5.714	101	391710	25.29	ug/L		99
8) Diethyl ether	6.178	59	146939	26.96	ug/L		100
9) 1,1-Dichloroethene	6.531	96	235841	27.01	ug/L		97
10) Trichlorotrifluoroethane	6.560	151	148329	21.17	ug/L		94
11) Acrolein	7.019	56	93863	98.27	ug/L		93
12) Iodomethane	6.778	142	263780	23.08	ug/L		93
13) Carbon Disulfide	6.625	76	751494	27.32	ug/L		97
14) 3-chloropropene	7.201	41	289575	32.16	ug/L		94
15) Acetone	7.401	43	135379	110.84	ug/L		97
16) Methylene Chloride	7.342	84	252288	27.82	ug/L		91
17) Methyl Acetate	7.530	43	81423	28.42	ug/L		94
18) t-1,2-Dichloroethene	7.548	96	235715	25.06	ug/L		90
19) Methyl tert-butyl ether	7.630	73	500674	25.20	ug/L		98
20) Acetonitrile	8.047	41	109929	143.71	ug/L	#	70
21) Isopropyl ether	8.053	45	609336	31.36	ug/L		98
22) Chloroprene	8.276	88	255404	30.59	ug/L		98
23) 1,1-Dichloroethane	8.317	63	484339	31.24	ug/L		97
24) Acrylonitrile	8.399	53	46538	25.77	ug/L	#	88
25) Vinyl Acetate	8.552	43	255304	24.05	ug/L		96
26) c-1,2-Dichloroethene	8.946	96	295581	27.81	ug/L		95
27) 2,2-Dichloropropane	9.081	77	441315	27.73	ug/L		95
28) Bromochloromethane	9.187	128	124050	22.91	ug/L		95
29) Cyclohexane	9.193	56	472310	32.74	ug/L		96
30) Chloroform	9.222	83	505796	24.03	ug/L		94
32) Dibromofluoromethane	9.428	113	622923	55.84	ug/L	#	89
33) 2-Butanone	9.557	72	89360	113.45	ug/L		97
34) 1,1,1-Trichloroethane	9.486	97	400530	22.32	ug/L		99
35) 1,1-Dichloropropene	9.604	75	372764	26.15	ug/L		99
36) Propionitrile	9.909	54	21056	32.06	ug/L	#	1
37) Methacrylonitrile	9.909	41	143091	41.24	ug/L	#	70
38) Isobutyl Alcohol	9.904	43	157880	367.48	ug/L	#	40
40) Carbon Tetrachloride	9.416	117	385290	23.72	ug/L		83
41) Benzene	9.880	78	1033162	20.35	ug/L		95
42) 1,2-Dichloroethane	10.086	62	360053	20.70	ug/L		96
43) Trichloroethene	10.456	130	273229	21.52	ug/L		84
44) Methyl cyclohexane	10.456	83	547451	21.90	ug/L		99
45) Dibromomethane	10.902	93	148584	20.24	ug/L		96
46) 1,2-Dichloropropane	10.991	63	281240	26.18	ug/L		93
47) Bromodichloromethane	11.014	83	356259	21.78	ug/L		97
48) Methyl Methacrylate	11.085	69	112700	20.28	ug/L		95
49) 1,4-Dioxane	11.202	88	10804	209.25	ug/L	#	81
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.	d		
51) C-1,3-Dichloropropene	11.613	75	410695	20.08	ug/L		96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042721\
Data File : 215DV024.D
Acq On : 27 Apr 2021 6:18 pm
Operator : kkw
Sample : 1D27020-MS1
Misc :
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Apr 28 07:49:37 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2103052
QLast Update : Mon Mar 29 13:47:27 2021
Response via : Initial Calibration

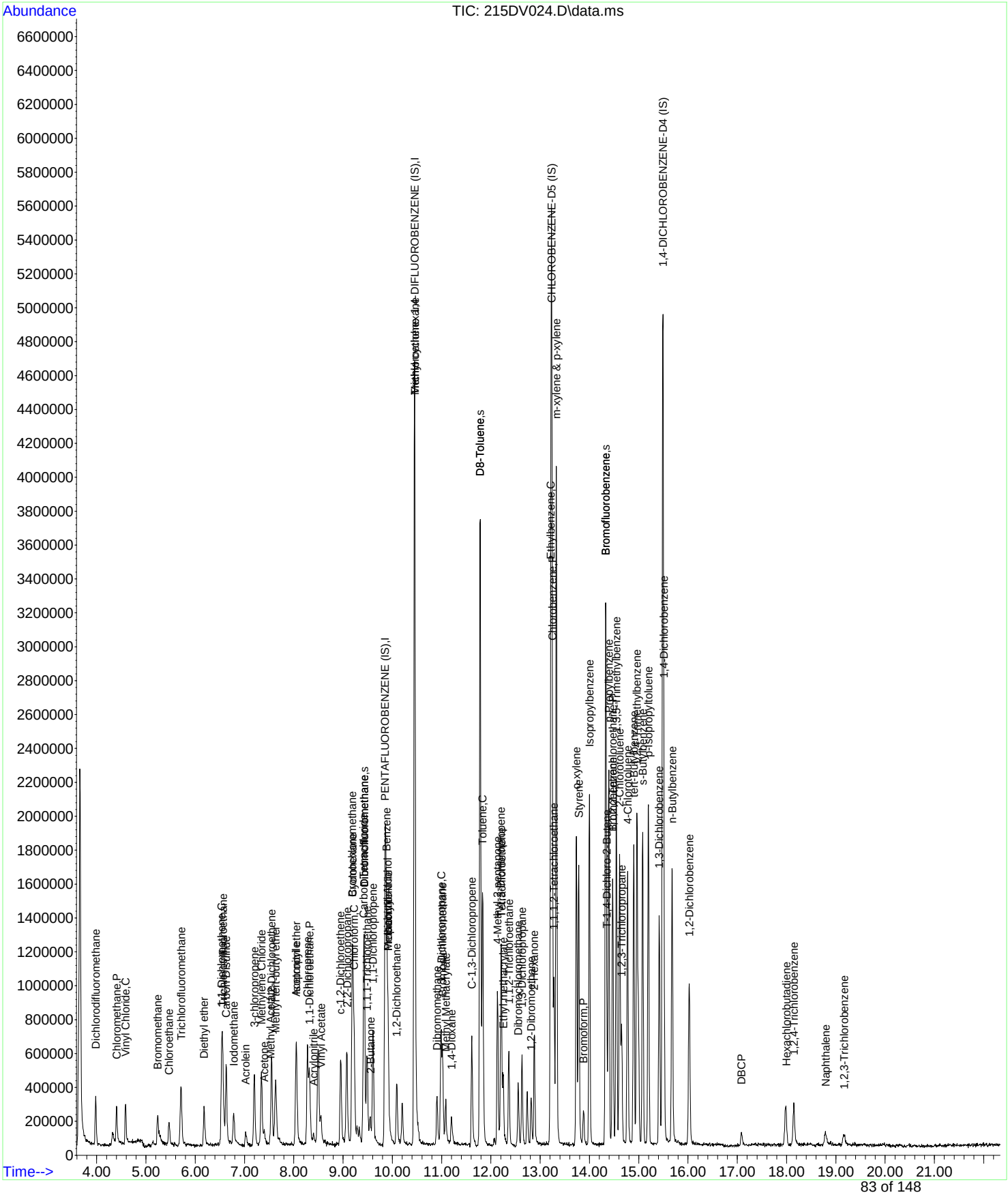
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	2755168	50.65	ug/L		94
54) 4-Methyl-2-pentanone	12.130	100	110469	76.34	ug/L		86
56) Toluene	11.831	92	729459	21.69	ug/L		99
57) T-1,3-Dichloropropene	12.201	75	335342	18.01	ug/L		97
58) Tetrachloroethene	12.213	164	157413	16.41	ug/L		89
59) Ethyl methacrylate	12.248	69	230057	18.58	ug/L		96
60) 1,1,2-Trichloroethane	12.365	97	190974	17.41	ug/L		97
61) Dibromochloromethane	12.553	129	203652	17.29	ug/L		99
62) 1,3-Dichloropropane	12.630	76	346342	17.76	ug/L		100
63) 1,2-Dibromoethane	12.818	107	218686	19.58	ug/L	#	96
64) 2-Hexanone	12.877	43	410314	99.04	ug/L		98
65) Ethylbenzene	13.212	106	479543	23.01	ug/L		95
66) Chlorobenzene	13.247	112	828681	23.09	ug/L		98
67) 1,1,1,2-Tetrachloroethane	13.276	131	254282	20.97	ug/L		98
68) m-xylene & p-xylene	13.329	106	1185809	43.88	ug/L		99
69) o-xylene	13.734	106	561340	21.97	ug/L		95
70) Styrene	13.781	104	926837	22.43	ug/L		98
71) Bromoform	13.876	173	98151	16.58	ug/L		89
72) Isopropylbenzene	13.999	105	1499621	23.24	ug/L		99
74) Bromofluorobenzene	14.328	95	1350315	50.42	ug/L	#	84
75) n-Propylbenzene	14.393	91	1912943	23.15	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.469	83	269964	18.31	ug/L		97
77) 1,2,3-Trichloropropane	14.651	61	55139	20.05	ug/L		81
78) T-1,4-Dichloro-2-Butene	14.351	53	80120	16.07	ug/L	#	48
80) Bromobenzene	14.469	156	303293	21.39	ug/L		94
81) 1,2,4-Trimethylbenzene	14.962	105	1255976	21.69	ug/L		99
82) 2-Chlorotoluene	14.610	91	1115424	23.36	ug/L		98
83) 4-Chlorotoluene	14.774	91	1142936	24.02	ug/L		98
84) tert-Butylbenzene	14.898	119	975693	21.39	ug/L		95
85) 1,3,5-Trimethylbenzene	14.545	105	1304977	23.17	ug/L		99
86) p-Isopropyltoluene	15.198	119	1357685	21.48	ug/L		100
87) s-Butylbenzene	15.080	105	1505260	20.50	ug/L		99
88) 1,3-Dichlorobenzene	15.415	146	619942	20.84	ug/L		98
89) 1,4-Dichlorobenzene	15.509	146	628925	21.03	ug/L	#	85
90) n-Butylbenzene	15.679	91	1196568	23.09	ug/L		99
91) 1,2-Dichlorobenzene	16.026	146	490447	20.00	ug/L		96
92) DBCP	17.084	157	20395	13.12	ug/L	#	72
93) Hexachlorobutadiene	17.994	225	42309	15.68	ug/L		89
94) 1,2,4-Trichlorobenzene	18.147	180	107855	21.56	ug/L		94
95) Naphthalene	18.793	128	122931	16.93	ug/L	#	79
96) 1,2,3-Trichlorobenzene	19.169	180	36029	20.04	ug/L	#	79

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042721\
Data File : 215DV024.D
Acq On : 27 Apr 2021 6:18 pm
Operator : kkw
Sample : 1D27020-MS1
Misc :
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Apr 28 07:49:37 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2103052
QLast Update : Mon Mar 29 13:47:27 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042721\
Data File : 215DV025.D
Acq On : 27 Apr 2021 6:46 pm
Operator : kkw
Sample : 1D27020-MSD1
Misc :
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Apr 28 07:49:40 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2103052
QLast Update : Mon Mar 29 13:47:27 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1224130	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2568791	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1419706	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1248745	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	736170	57.91	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 115.82%				
52) D8-Toluene	11.778	98	3201771	56.83	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 113.66%				
73) Bromofluorobenzene	14.328	95	1476017	59.59	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 119.18%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	286463	19.49	ug/L		96
3) Chloromethane	4.404	50	249976	30.00	ug/L		99
4) Vinyl Chloride	4.586	62	257908	23.58	ug/L	#	83
5) Bromomethane	5.238	94	98483	22.72	ug/L		92
6) Chloroethane	5.468	64	163468	23.68	ug/L		95
7) Trichlorofluoromethane	5.708	101	410555	23.26	ug/L		97
8) Diethyl ether	6.178	59	141051	23.33	ug/L	#	88
9) 1,1-Dichloroethene	6.537	96	257772	25.91	ug/L		100
10) Trichlorotrifluoroethane	6.560	151	156596	19.61	ug/L		94
11) Acrolein	7.019	56	104498	96.23	ug/L		97
12) Iodomethane	6.784	142	284291	21.83	ug/L		96
13) Carbon Disulfide	6.625	76	797258	25.43	ug/L		98
14) 3-chloropropene	7.195	41	303884	30.14	ug/L		86
15) Acetone	7.395	43	159645	114.08	ug/L		92
16) Methylene Chloride	7.348	84	271290	26.40	ug/L		93
17) Methyl Acetate	7.524	43	101206	30.26	ug/L	#	89
18) t-1,2-Dichloroethene	7.553	96	279018	25.95	ug/L		96
19) Methyl tert-butyl ether	7.630	73	608915	26.65	ug/L		99
20) Acetonitrile	8.047	41	123807	142.24	ug/L	#	79
21) Isopropyl ether	8.053	45	635865	29.27	ug/L		96
22) Chloroprene	8.276	88	252444	27.06	ug/L		85
23) 1,1-Dichloroethane	8.317	63	501006	28.71	ug/L		98
24) Acrylonitrile	8.276	53	481427	204.54	ug/L	#	40
25) Vinyl Acetate	8.552	43	256726	21.33	ug/L		96
26) c-1,2-Dichloroethene	8.946	96	268744	22.66	ug/L		95
27) 2,2-Dichloropropane	9.069	77	407346	22.82	ug/L		97
28) Bromochloromethane	9.193	128	116099	18.82	ug/L		88
29) Cyclohexane	9.193	56	463240	28.86	ug/L		92
30) Chloroform	9.222	83	538353	22.45	ug/L		99
32) Dibromofluoromethane	9.428	113	736170	57.91	ug/L	#	89
33) 2-Butanone	9.551	72	102583	114.17	ug/L		97
34) 1,1,1-Trichloroethane	9.486	97	491186	24.02	ug/L		98
35) 1,1-Dichloropropene	9.610	75	408992	25.25	ug/L		99
36) Propionitrile	9.909	54	22184	29.71	ug/L	#	1
37) Methacrylonitrile	9.909	41	172931	43.66	ug/L	#	72
38) Isobutyl Alcohol	9.909	43	200124	403.18	ug/L	#	60
40) Carbon Tetrachloride	9.416	117	440368	26.17	ug/L		85
41) Benzene	9.874	78	1172381	22.30	ug/L		100
42) 1,2-Dichloroethane	10.086	62	355909	19.76	ug/L		96
43) Trichloroethene	10.450	130	279915	21.28	ug/L	#	79
44) Methyl cyclohexane	10.456	83	613977	23.71	ug/L		97
45) Dibromomethane	10.908	93	146609	19.29	ug/L		91
46) 1,2-Dichloropropane	10.991	63	257785	23.38	ug/L		98
47) Bromodichloromethane	11.026	83	341212	20.14	ug/L		95
48) Methyl Methacrylate	11.085	69	121207	20.97	ug/L		97
49) 1,4-Dioxane	11.196	88	21735	384.81	ug/L		85
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.	d		
51) C-1,3-Dichloropropene	11.613	75	408342	19.30	ug/L		100

Data Path : C:\msdchem\1\data\042721\
Data File : 215DV025.D
Acq On : 27 Apr 2021 6:46 pm
Operator : kkw
Sample : 1D27020-MSD1
Misc :
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Apr 28 07:49:40 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2103052
QLast Update : Mon Mar 29 13:47:27 2021
Response via : Initial Calibration

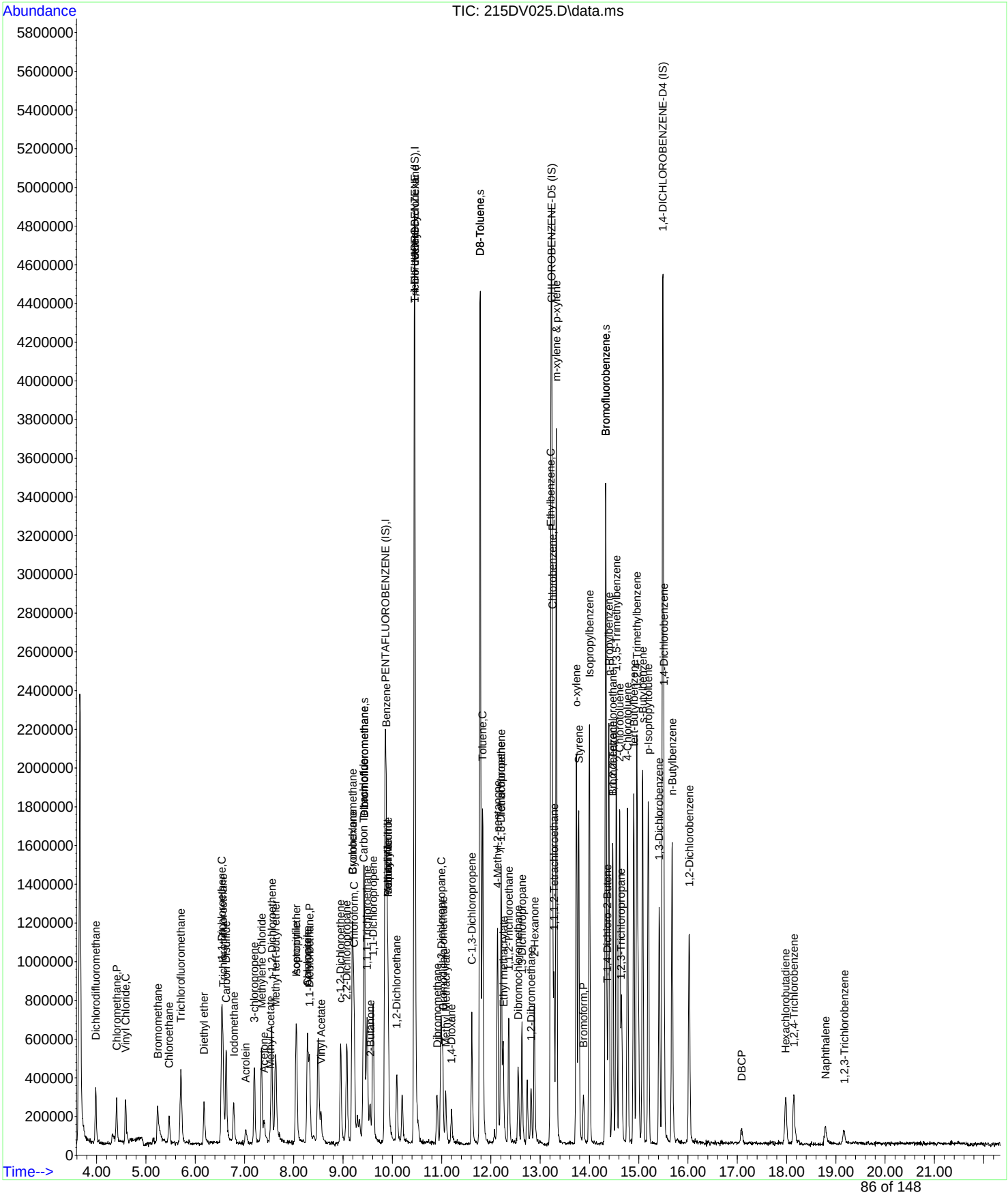
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.778	98	3201771	56.83 ug/L	94
54) 4-Methyl-2-pentanone	12.130	100	148737	99.23 ug/L	98
56) Toluene	11.831	92	799748	25.71 ug/L	98
57) T-1,3-Dichloropropene	12.201	75	389098	22.59 ug/L	97
58) Tetrachloroethene	12.207	164	192153	21.65 ug/L	90
59) Ethyl methacrylate	12.254	69	269799	23.22 ug/L	95
60) 1,1,2-Trichloroethane	12.360	97	224930	22.18 ug/L	97
61) Dibromochloromethane	12.553	129	235611	21.62 ug/L	99
62) 1,3-Dichloropropane	12.630	76	383209	21.25 ug/L	95
63) 1,2-Dibromoethane	12.812	107	212679	20.59 ug/L	96
64) 2-Hexanone	12.883	43	455254	116.95 ug/L	98
65) Ethylbenzene	13.212	106	431886	22.41 ug/L	98
66) Chlorobenzene	13.247	112	733100	22.09 ug/L	97
67) 1,1,1,2-Tetrachloroethane	13.282	131	220571	19.67 ug/L #	95
68) m-xylene & p-xylene	13.329	106	1080599	43.24 ug/L	97
69) o-xylene	13.734	106	566198	23.96 ug/L	95
70) Styrene	13.781	104	970735	25.40 ug/L	98
71) Bromoform	13.875	173	104788	19.14 ug/L #	87
72) Isopropylbenzene	13.999	105	1571334	26.33 ug/L	99
74) Bromofluorobenzene	14.328	95	1476017	59.59 ug/L #	77
75) n-Propylbenzene	14.393	91	1863274	24.38 ug/L	99
76) 1,1,2,2-Tetrachloroethane	14.469	83	291889	21.41 ug/L	98
77) 1,2,3-Trichloropropane	14.639	61	65998	25.94 ug/L #	79
78) T-1,4-Dichloro-2-Butene	14.357	53	84484	18.32 ug/L #	35
80) Bromobenzene	14.469	156	298519	22.42 ug/L	90
81) 1,2,4-Trimethylbenzene	14.962	105	1299767	23.85 ug/L	99
82) 2-Chlorotoluene	14.610	91	1142633	25.49 ug/L	99
83) 4-Chlorotoluene	14.769	91	1192914	26.53 ug/L	99
84) tert-Butylbenzene	14.898	119	996617	23.20 ug/L	97
85) 1,3,5-Trimethylbenzene	14.545	105	1349462	25.42 ug/L	97
86) p-Isopropyltoluene	15.192	119	1244207	20.97 ug/L	99
87) s-Butylbenzene	15.080	105	1548672	22.46 ug/L	99
88) 1,3-Dichlorobenzene	15.415	146	549009	19.65 ug/L	93
89) 1,4-Dichlorobenzene	15.509	146	572916	20.41 ug/L #	85
90) n-Butylbenzene	15.679	91	1120392	23.03 ug/L	99
91) 1,2-Dichlorobenzene	16.026	146	544738	23.52 ug/L	95
92) DBCP	17.089	157	26132	17.59 ug/L #	82
93) Hexachlorobutadiene	17.977	225	50740	19.86 ug/L #	93
94) 1,2,4-Trichlorobenzene	18.147	180	98508	21.07 ug/L	93
95) Naphthalene	18.787	128	157563	21.35 ug/L	96
96) 1,2,3-Trichlorobenzene	19.175	180	32497	19.42 ug/L #	84

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\042721\
Data File : 215DV025.D
Acq On : 27 Apr 2021 6:46 pm
Operator : kkw
Sample : 1D27020-MSD1
Misc :
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Apr 28 07:49:40 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2103052
QLast Update : Mon Mar 29 13:47:27 2021
Response via : Initial Calibration



ANALYSIS SEQUENCE

AA65607

Instrument: OVGCMS5

Calibration ID: UNASSIGNED

Printed: 3/29/2021 11:37:24AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA65607-TUN1	QC		1		A1B1159			
AA65607-CAL1	QC		2		A1C1259	A0H0536		
AA65607-CAL2	QC		3		A1C1260	A0H0536		
AA65607-CAL3	QC		4		A1C1261	A0H0536		
AA65607-CAL4	QC		5		A1C1262	A0H0536		
AA65607-CAL5	QC		6		A1C1263	A0H0536		
AA65607-CAL6	QC		7		A1C1264	A0H0536		
AA65607-CAL7	QC		8		A1C1265	A0H0536		
AA65607-CAL8	QC		9		A1C1266	A0H0536		
AA65607-SCV1	QC		10		A1C1212	A0H0536		

Samples Loaded By 03/29/21 Date

Data Processed By 03/29/21 Date

Manual Integration Review Form

ENVIRONMENTAL CONSERVATION LABORATORIES, INC. ☐ Cary ☐ Jacksonville ☐ Orlando

I hereby attest that the manual integrations contained in this package have been thoroughly reviewed and are in agreement with the associated hardcopy data.

The electronic files listed below have been reviewed for accuracy, completeness and comply with ENCO labs QA-11 Manual Integration Policy including:

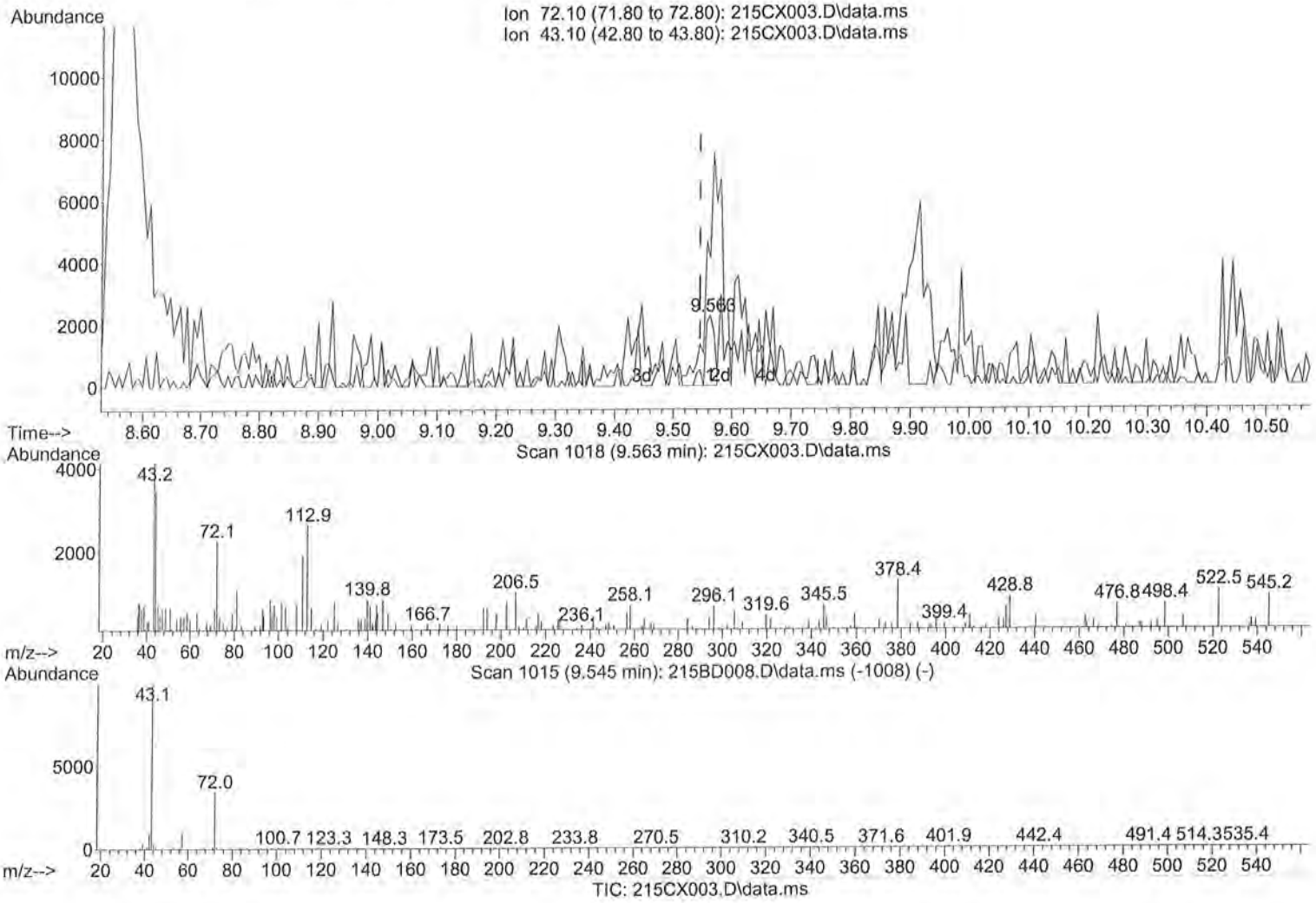
- "Before" and "After" chromatograms are provided
- Manual integrations are indicated on expanded scale "after" chromatograms at a scale large enough to see the manual integration performed.
- Reintegration technique marked if available on the data system
- Technical justification for manual integration
- Appropriate flags indicating which analytes were manually integrated are included in the raw data
- Analyst's initials and date.

Instrument ID:	5VGcms5
Sequence/Batch ID:	AA65607
Data File Prefix:	215CX
Date and Time Range of MIs:	03/29/21 1142 - 1248
Reviewer Print Name:	Neil Christians
Reviewer Signature:	
Date of Review:	03/30/21

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX003.D
Acq On : 29 Mar 2021 9:08 am
Operator : KKW
Sample : CAL1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 29 11:42:13 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration



(33) 2-Butanone

9.563min (+ 0.018) 2.37 ug/L

response 2619

Ion	Exp%	Act%
72.10	100.00	100.00
43.10	260.30	500.42#
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

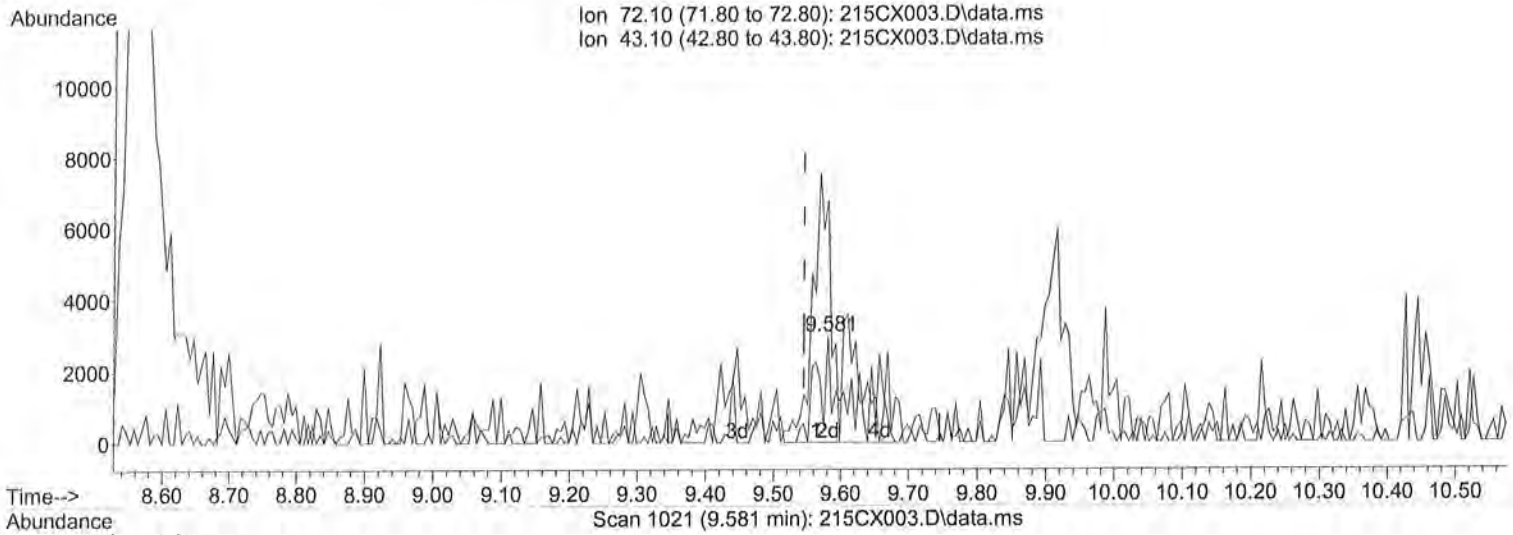
Review by/Date KJ 05/30/21

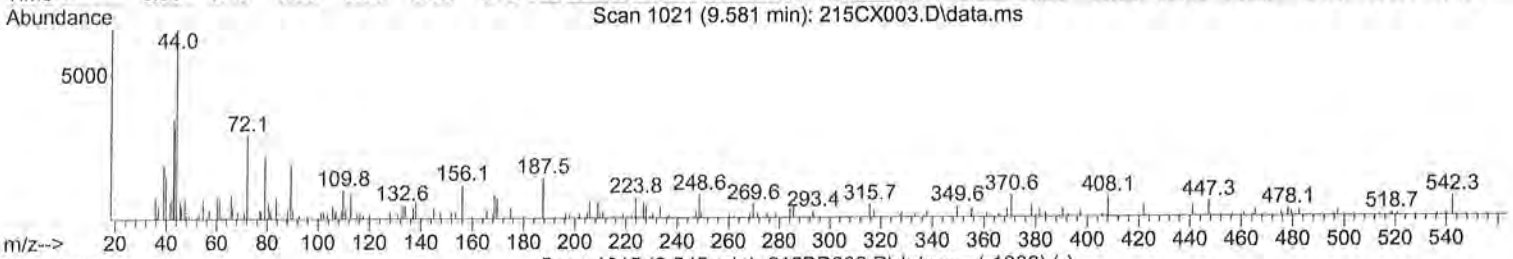
Review by/Date:

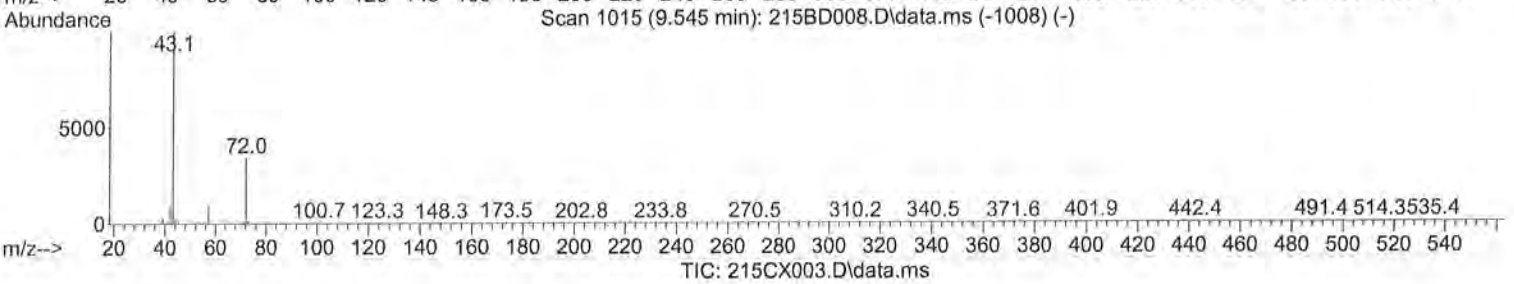
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX003.D
Acq On : 29 Mar 2021 9:08 am
Operator : KKW
Sample : CAL1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 29 11:42:13 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration







TIC: 215CX003.D\data.ms

(33) 2-Butanone

9.581min (+ 0.035) 8.99 ug/L m

response 9924

Ion	Exp%	Act%
72.10	100.00	100.00
43.10	260.30	132.06#
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date W 03/30/21

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX003.D
Acq On : 29 Mar 2021 9:08 am
Operator : KKW
Sample : CAL1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 29 11:42:13 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
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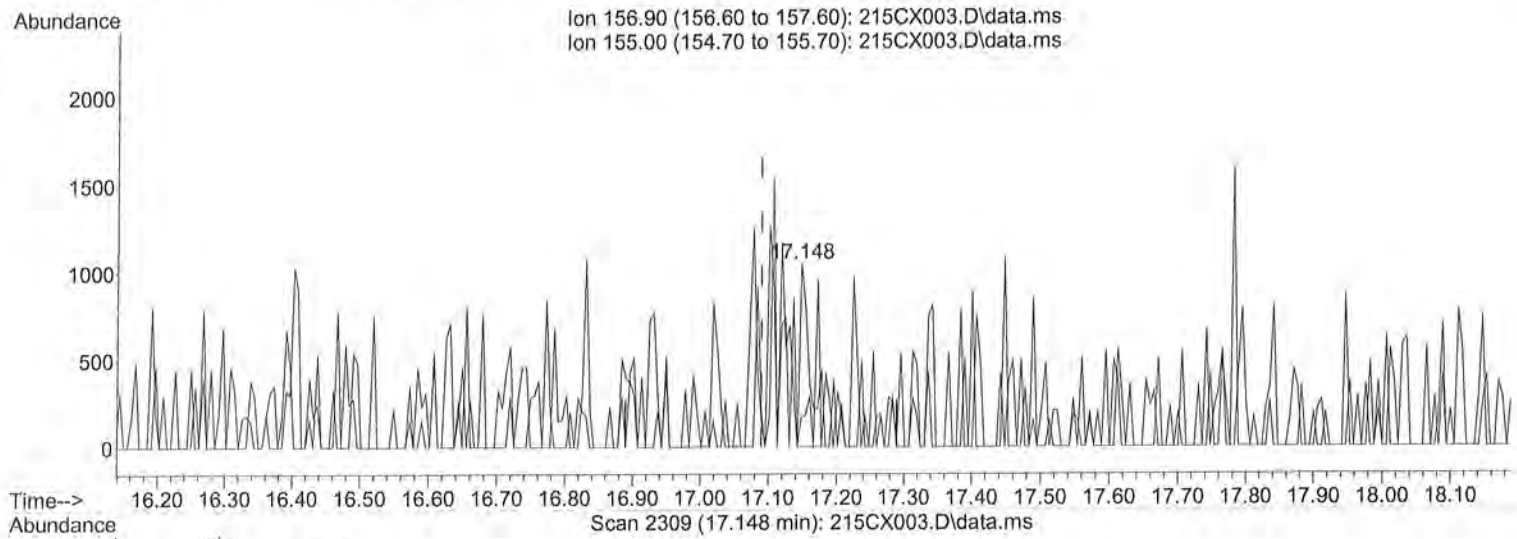

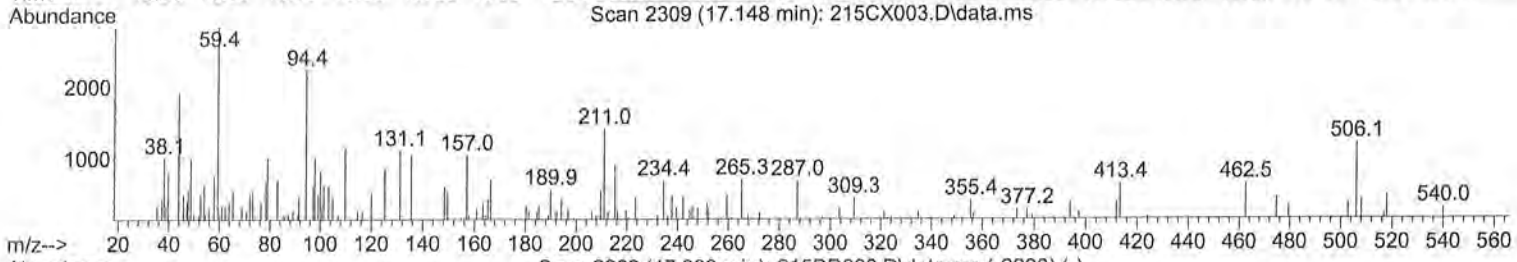

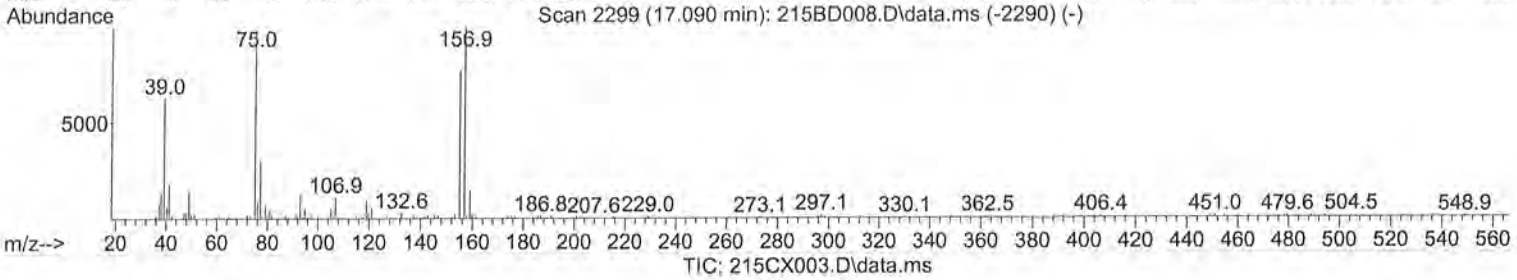

TIC: 215CX003.D\data.ms

(92) DBCP

17.148min (+ 0.059) 0.53 ug/L

response 1091

Ion	Exp%	Act%
156.90	100.00	100.00
155.00	81.20	101.92#
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other

Reviewed by/Date: W 03/30/21

Reviewed by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX003.D
Acq On : 29 Mar 2021 9:08 am
Operator : KKW
Sample : CAL1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 29 11:42:13 2021
Quant Method : C:\msdchem\1\methods\032921W.M
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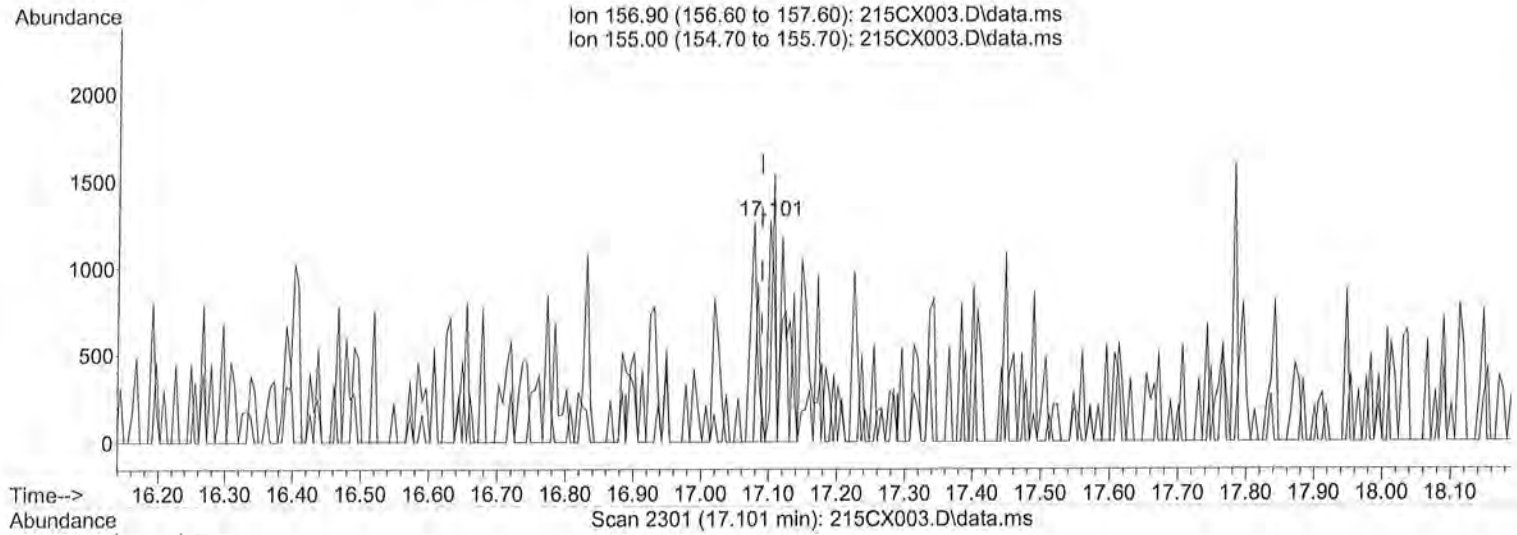
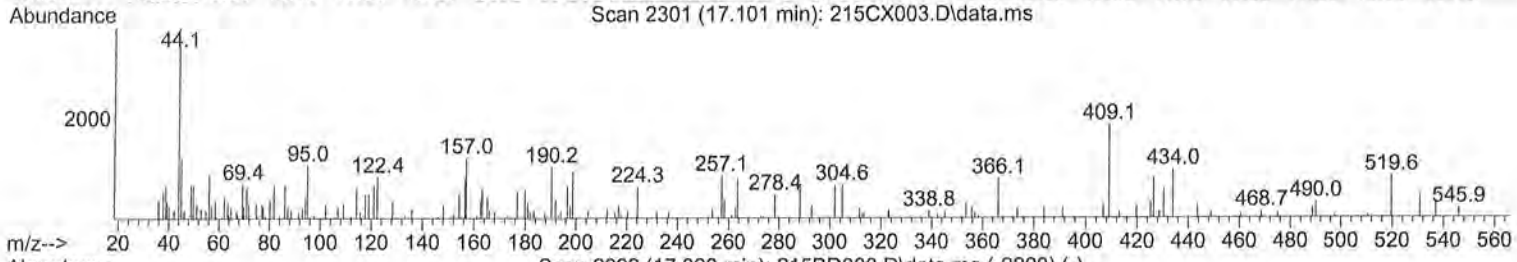
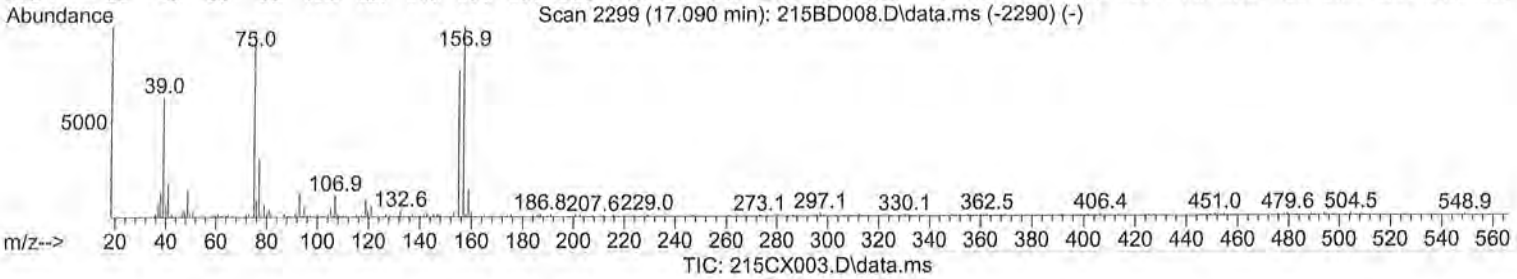






TIC: 215CX003.D\data.ms

(92) DBCP

17.101min (+ 0.012) 1.27 ug/L m

response 2629

Ion	Exp%	Act%
156.90	100.00	100.00
155.00	81.20	42.30#
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

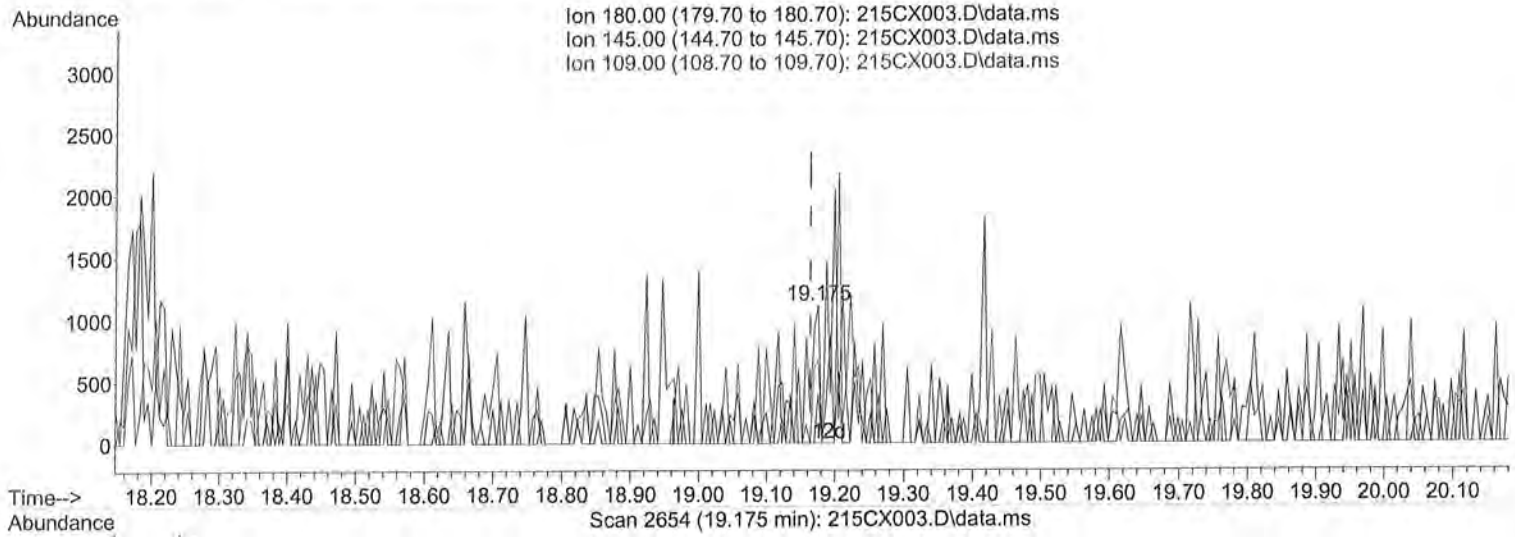
Review by/Date: W 03/30/21

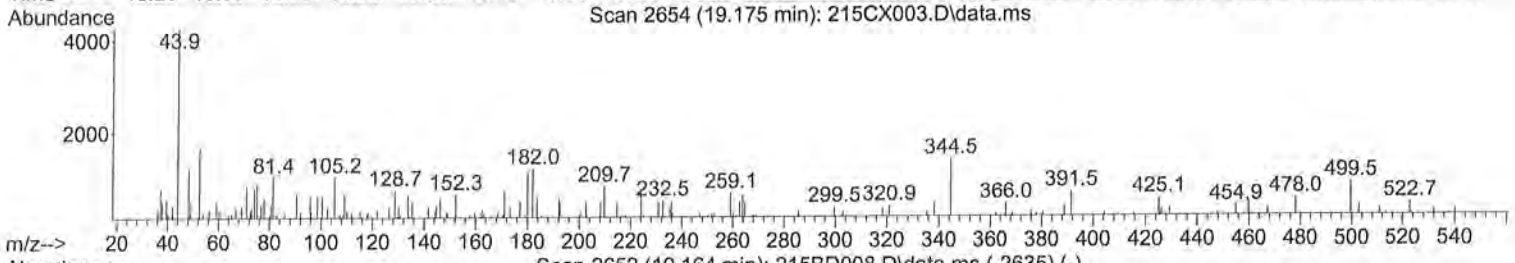
Review by/Date:

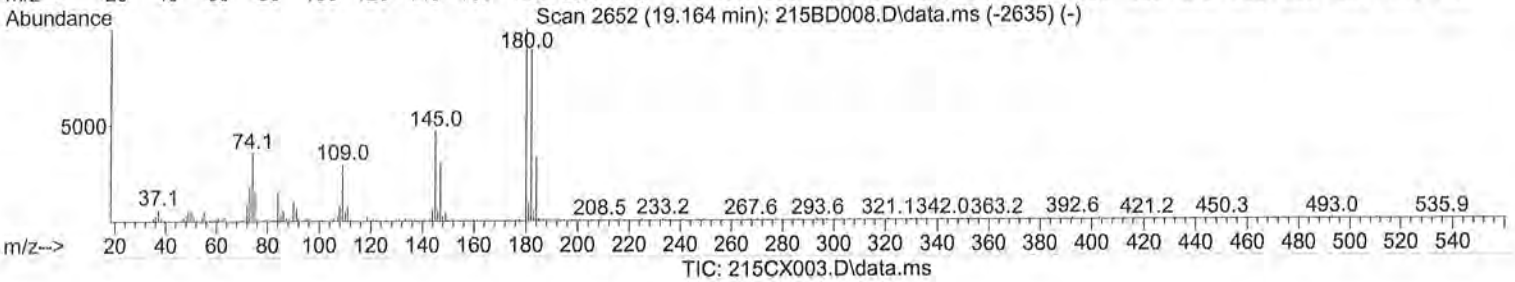
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX003.D
Acq On : 29 Mar 2021 9:08 am
Operator : KKW
Sample : CAL1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 29 11:42:13 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration







TIC: 215CX003.D\data.ms

(96) 1,2,3-Trichlorobenzene

19.175min (+ 0.012) 0.19 ug/L

response 1100

Ion	Exp%	Act%
180.00	100.00	100.00
145.00	40.60	0.00#
109.00	33.80	0.00#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] Valley integration

[ ]

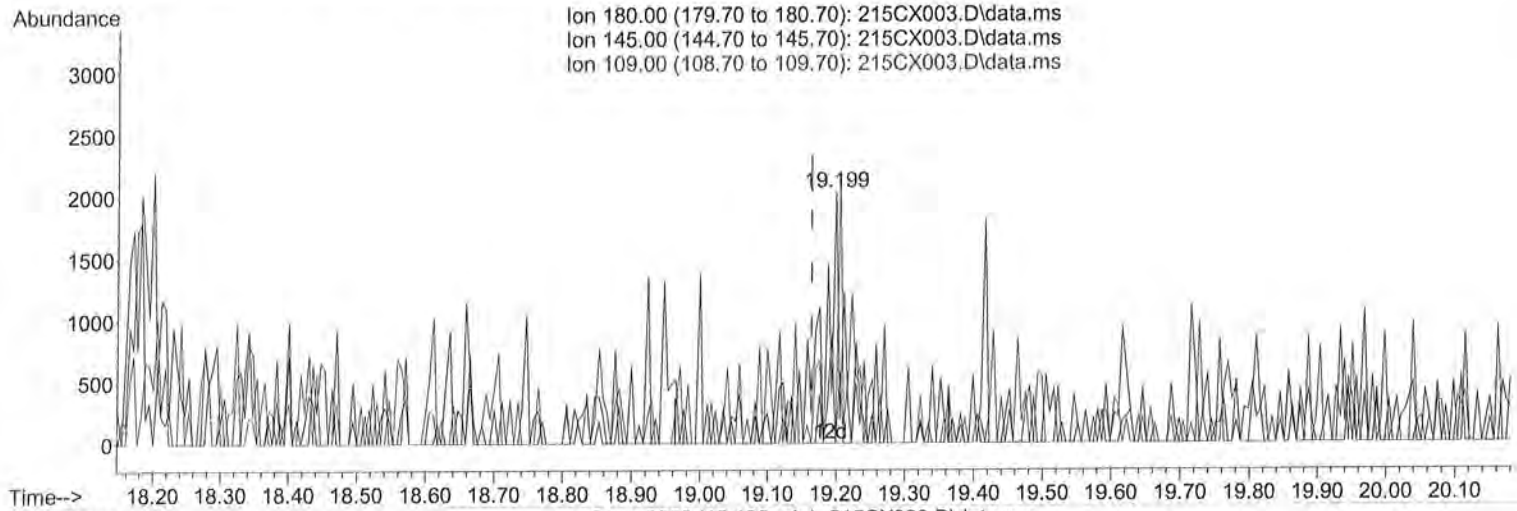
Reviewed by/Date: N 03/30/21

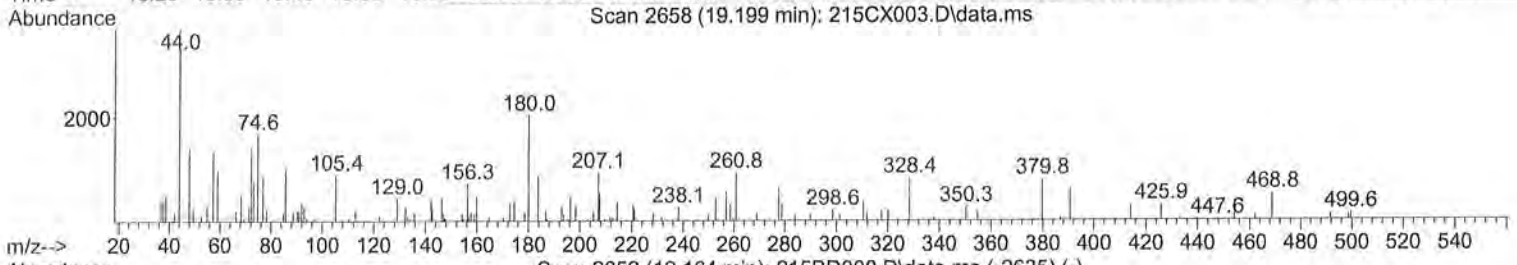
Reason(s)/Note:

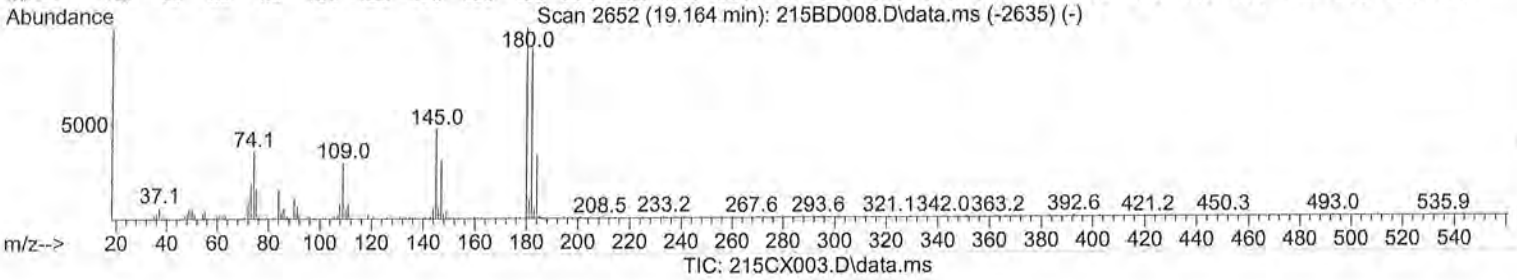
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX003.D
Acq On : 29 Mar 2021 9:08 am
Operator : KKW
Sample : CAL1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 29 11:42:13 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration







TIC: 215CX003.D\data.ms

(96) 1,2,3-Trichlorobenzene

19.199min (+ 0.035) 0.66 ug/L m

response 3745

Ion	Exp%	Act%
180.00	100.00	100.00
145.00	40.60	0.00#
109.00	33.80	0.00#
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

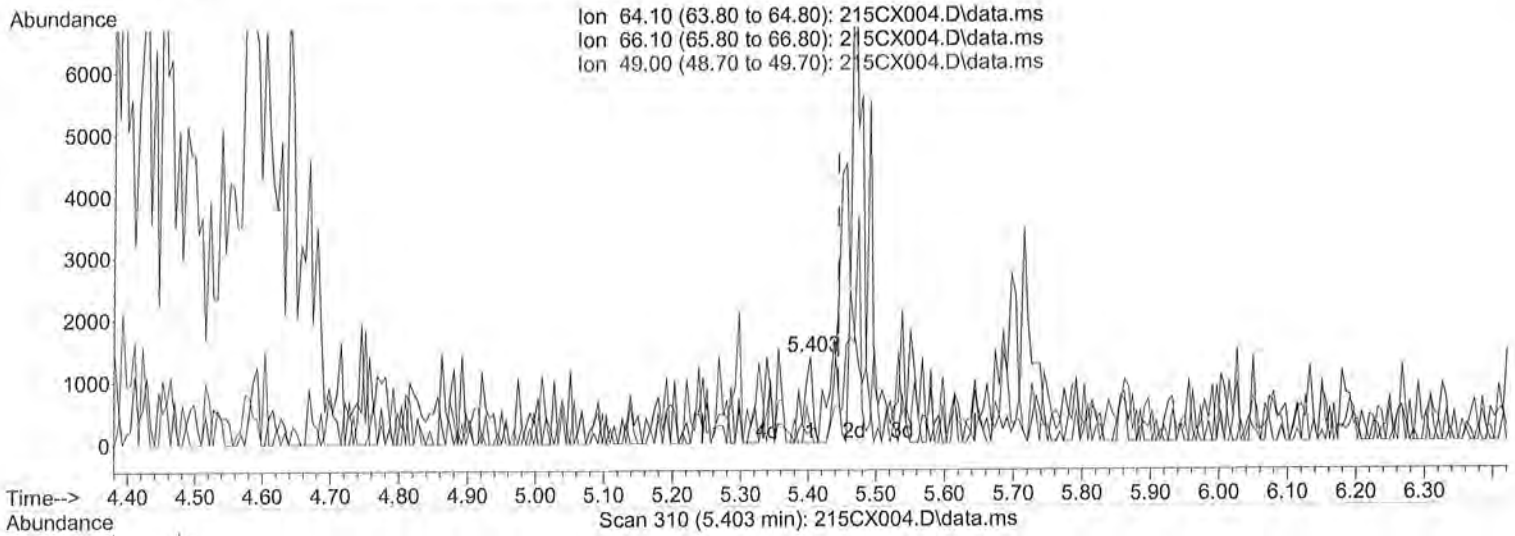
Review By/Date: W 03/30/21

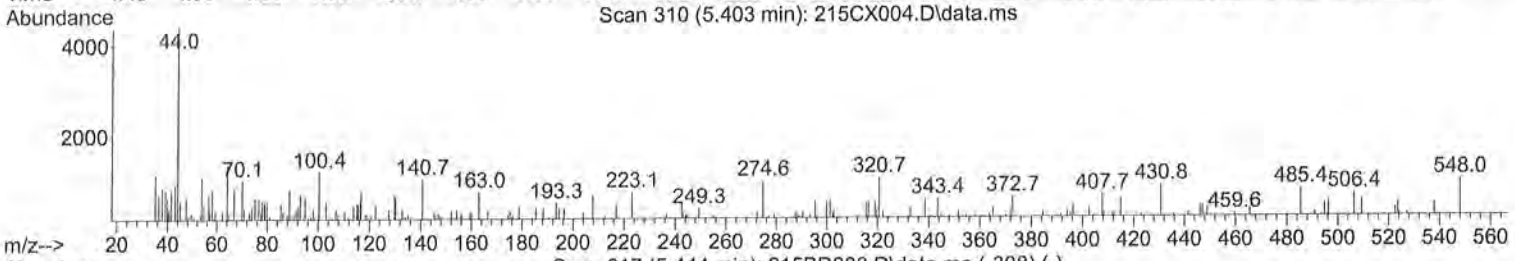
Review By/Date:

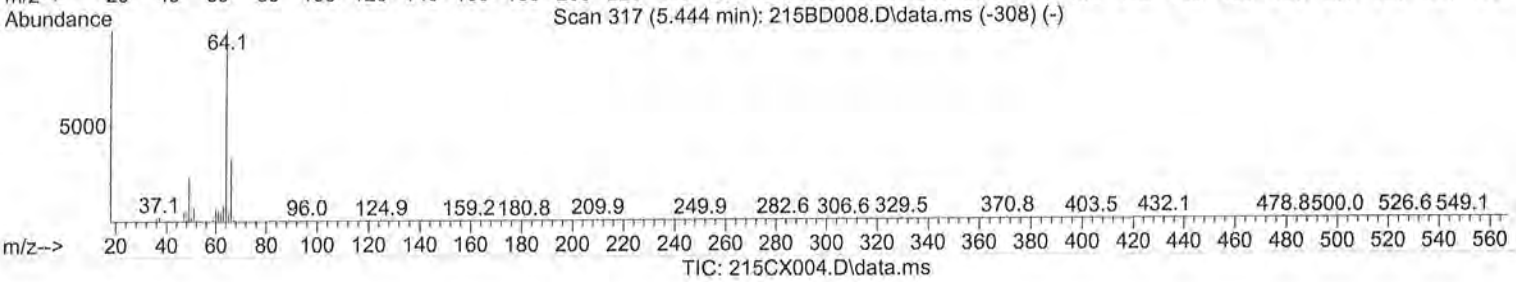
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX004.D
Acq On : 29 Mar 2021 9:36 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 29 11:44:32 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration







TIC: 215CX004.D\data.ms

(6) Chloroethane

5.403min (-0.041) 0.14 ug/L

response 1141

Ion	Exp%	Act%
64.10	100.00	100.00
66.10	30.80	149.26#
49.00	24.30	0.00#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] Reintegration

[ ]

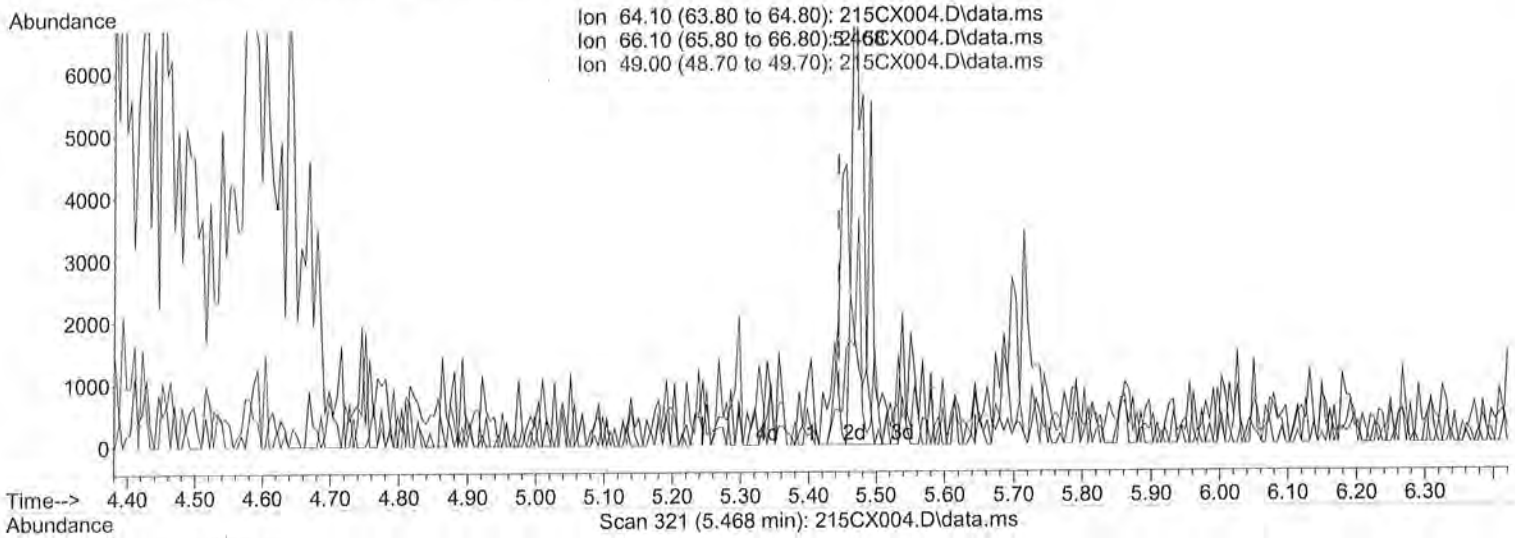
Review by/Date: W 03/30/21

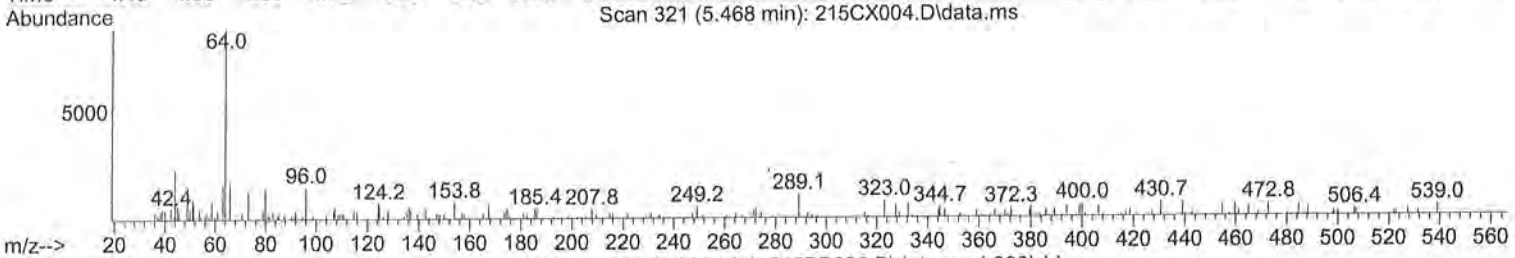
Review by/Date:

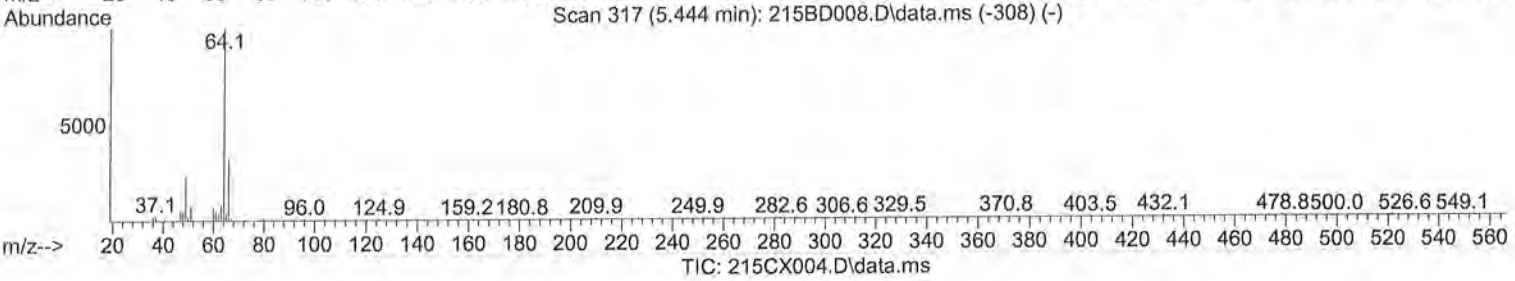
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX004.D
Acq On : 29 Mar 2021 9:36 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 29 11:44:32 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration







TIC: 215CX004.D\data.ms

(6) Chloroethane

5.468min (+ 0.024) 2.00 ug/L m

response 16014

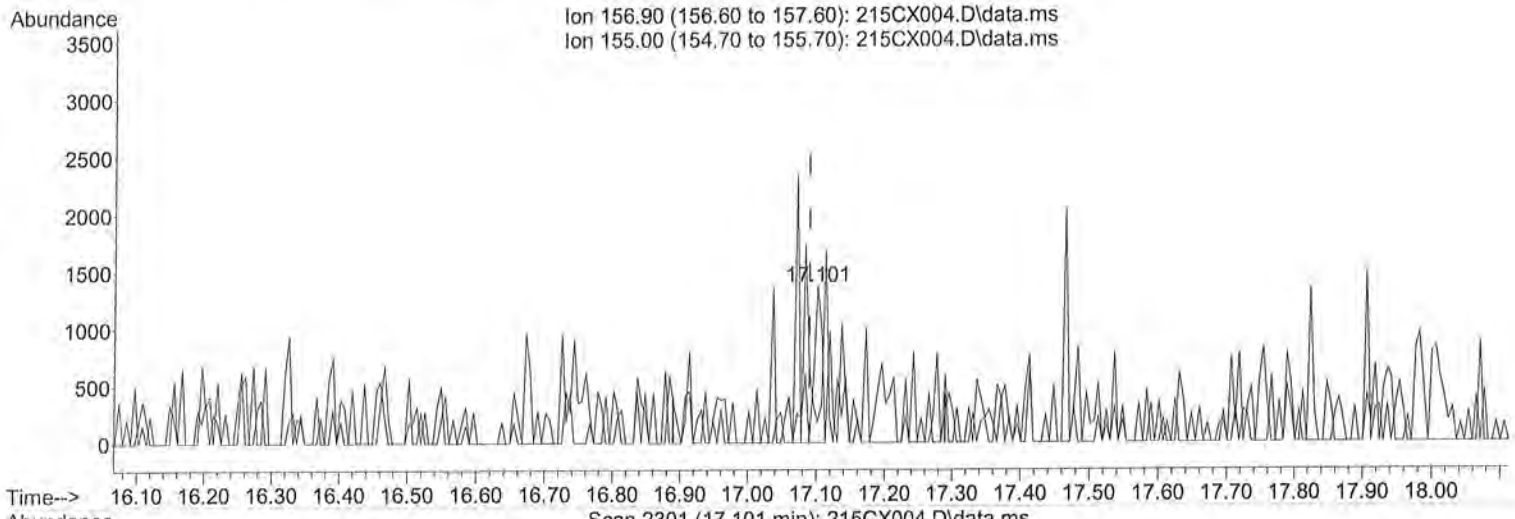
Ion	Exp%	Act%
64.10	100.00	100.00
66.10	30.80	10.63#
49.00	24.30	0.00#
0.00	0.00	0.00

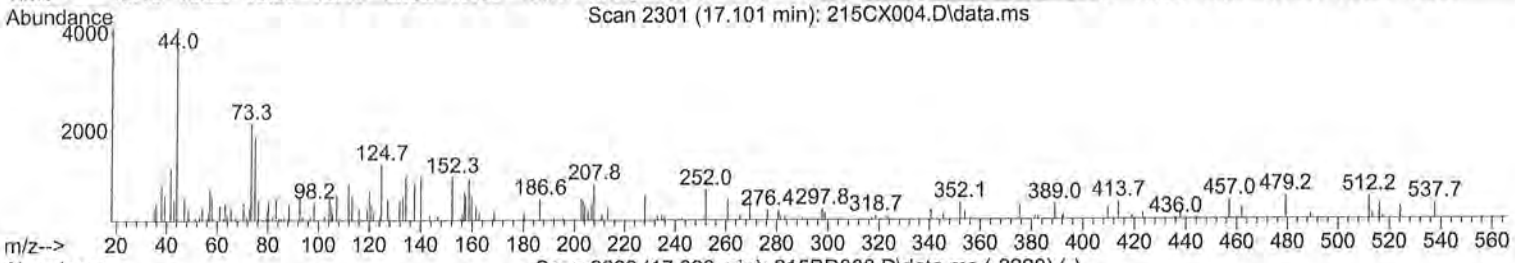
Select One:
[ ] Original Integration [X] Manual Integration
[ ] Reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[X] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date W 03/30/21
Review by/Date:

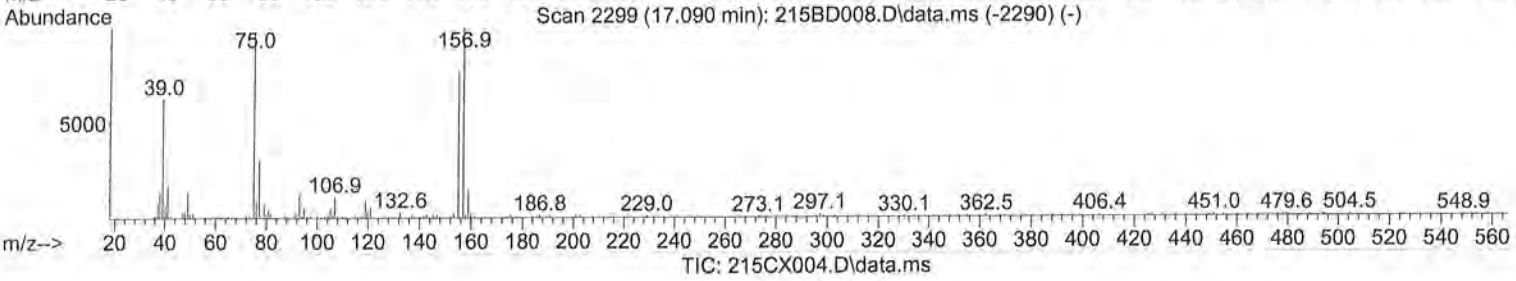
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX004.D
Acq On : 29 Mar 2021 9:36 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 29 11:44:32 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration







TIC: 215CX004.D\data.ms

(92) DBCP

17.101min (+ 0.012) 0.68 ug/L

response 1405

Ion	Exp%	Act%
156.90	100.00	100.00
155.00	81.20	130.53#
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

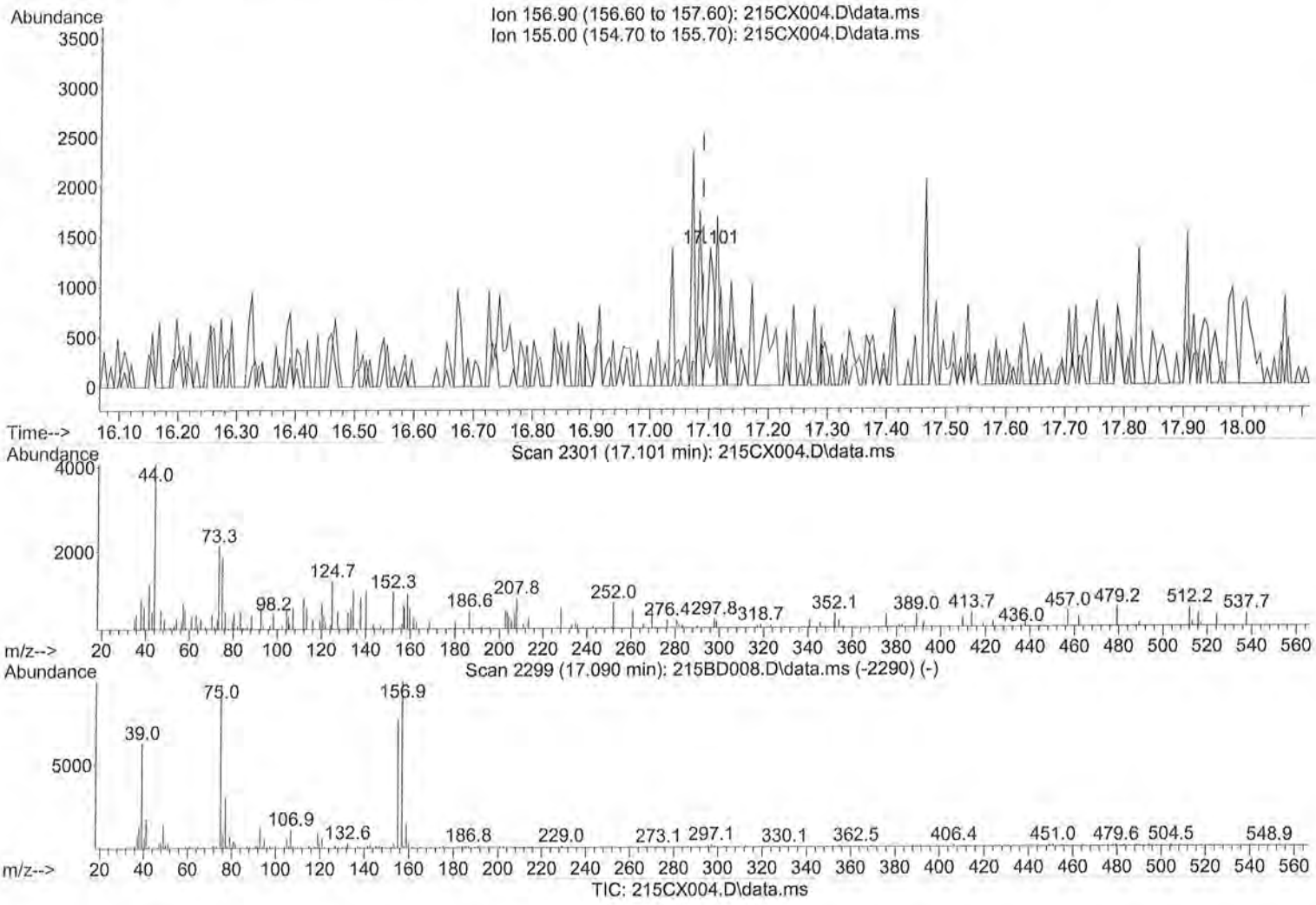
Review by/Date W 03/30/21

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX004.D
Acq On : 29 Mar 2021 9:36 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 29 11:44:32 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration



(92) DBCP

17.101min (+ 0.012) 1.09 ug/L m

response 2263

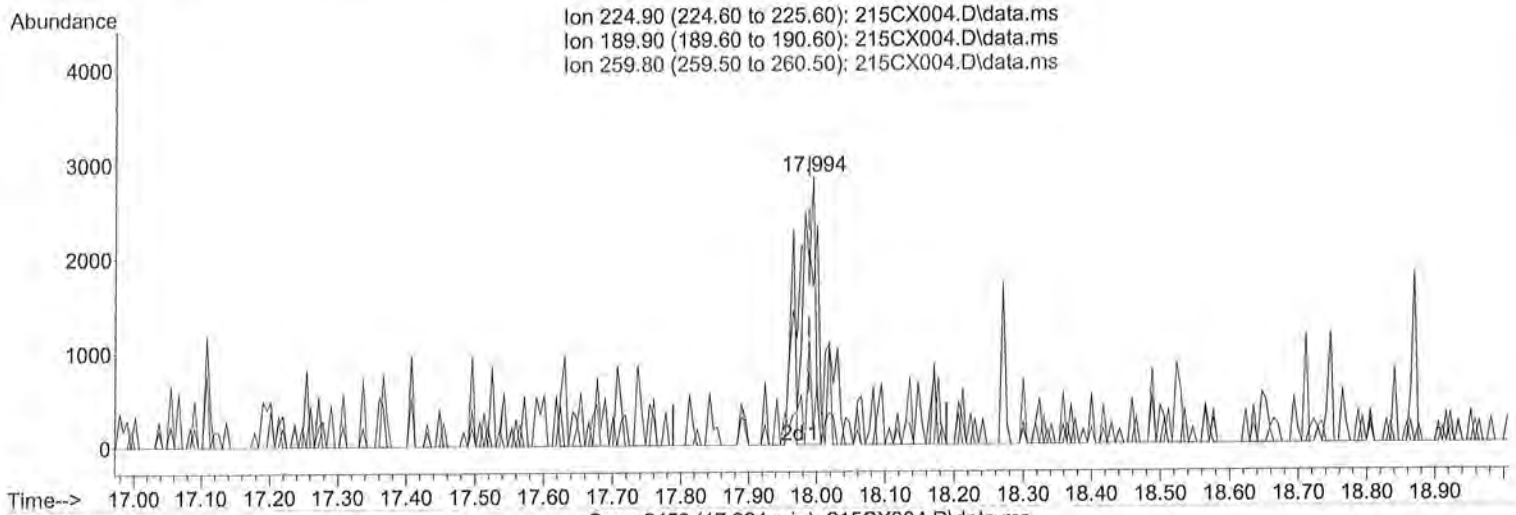
Ion	Exp%	Act%
156.90	100.00	100.00
155.00	81.20	81.04
0.00	0.00	0.00
0.00	0.00	0.00

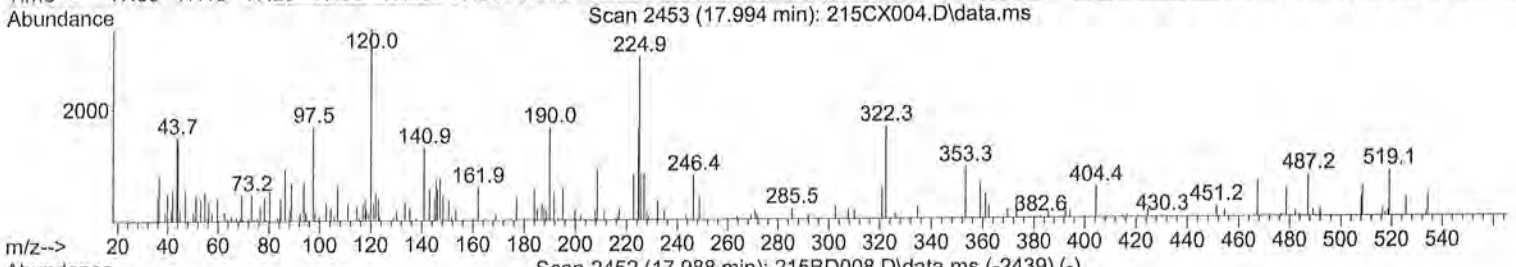
Select one:
[ ] Original Integration [X] Manual Integration
Select reason for manual integration:
[X] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date W 03/30/21
Review by/Date:

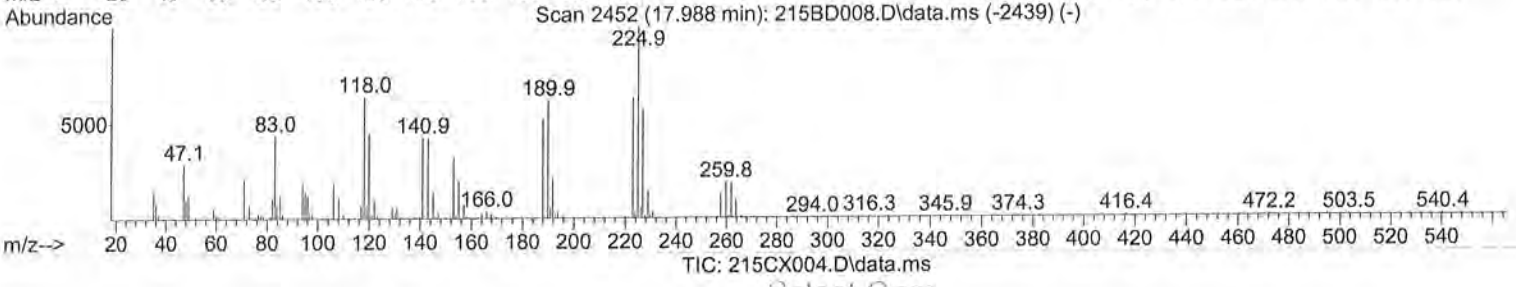
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX004.D
Acq On : 29 Mar 2021 9:36 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 29 11:44:32 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration







TIC: 215CX004.D\data.ms

(93) Hexachlorobutadiene

17.994min (+ 0.006) 0.79 ug/L

response 3111

Ion	Exp%	Act%
224.90	100.00	100.00
189.90	61.90	159.69#
259.80	25.30	41.56#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

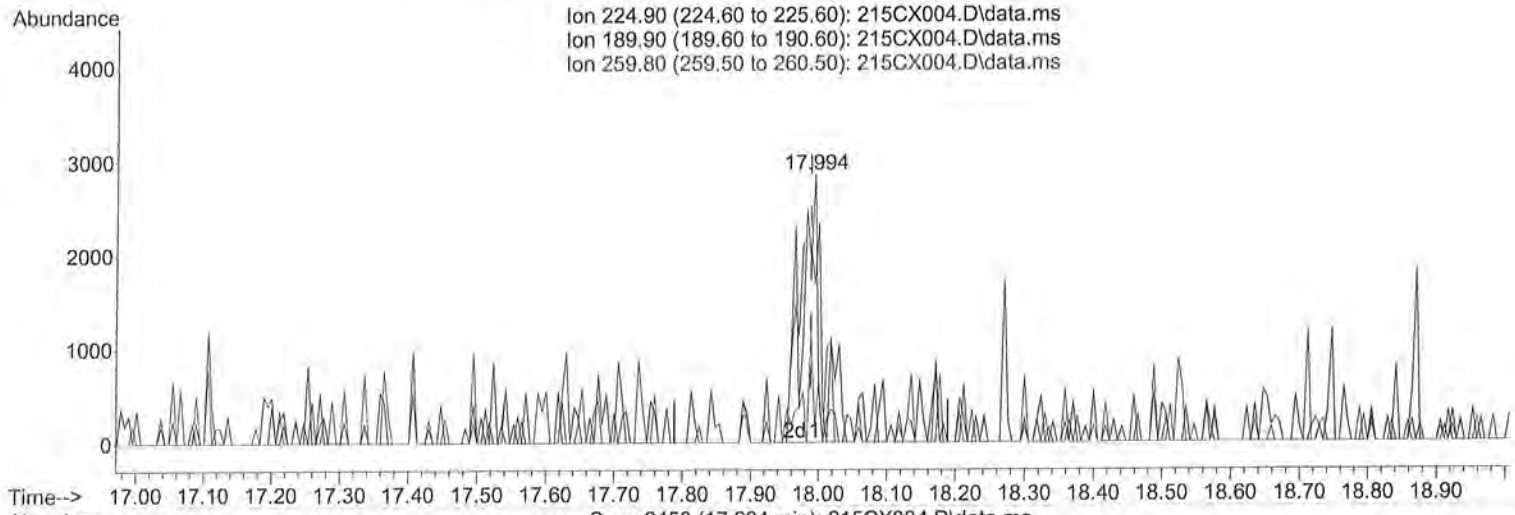
Review by/Date KW 03/30/21

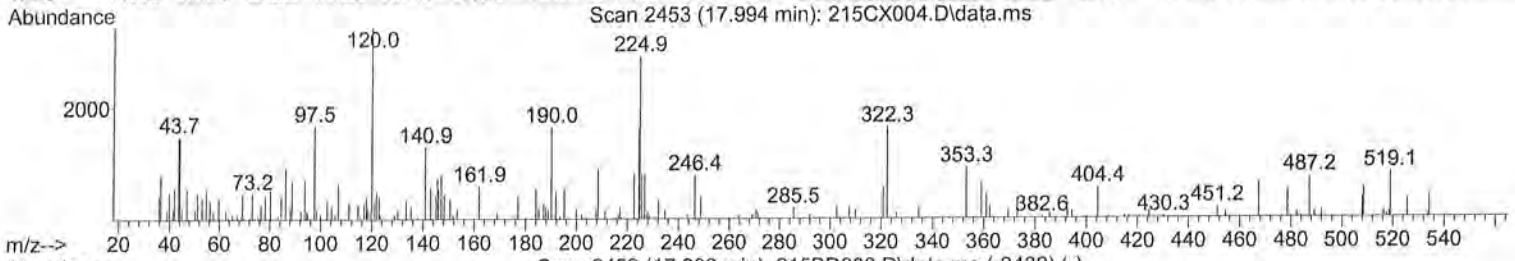
Review by/Date:

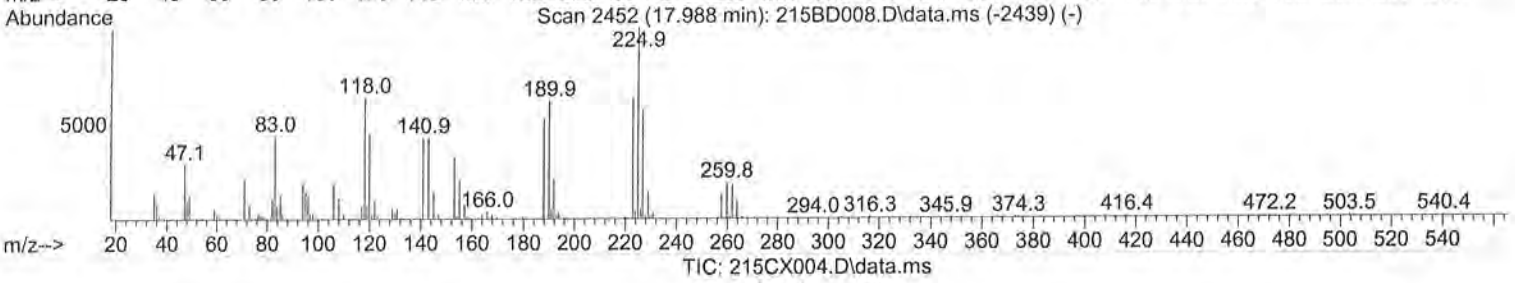
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX004.D
Acq On : 29 Mar 2021 9:36 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 29 11:44:32 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration







TIC: 215CX004.D\data.ms

(93) Hexachlorobutadiene

17.994min (+ 0.006) 1.19 ug/L m

response 4704

Ion	Exp%	Act%
224.90	100.00	100.00
189.90	61.90	105.61#
259.80	25.30	27.49
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

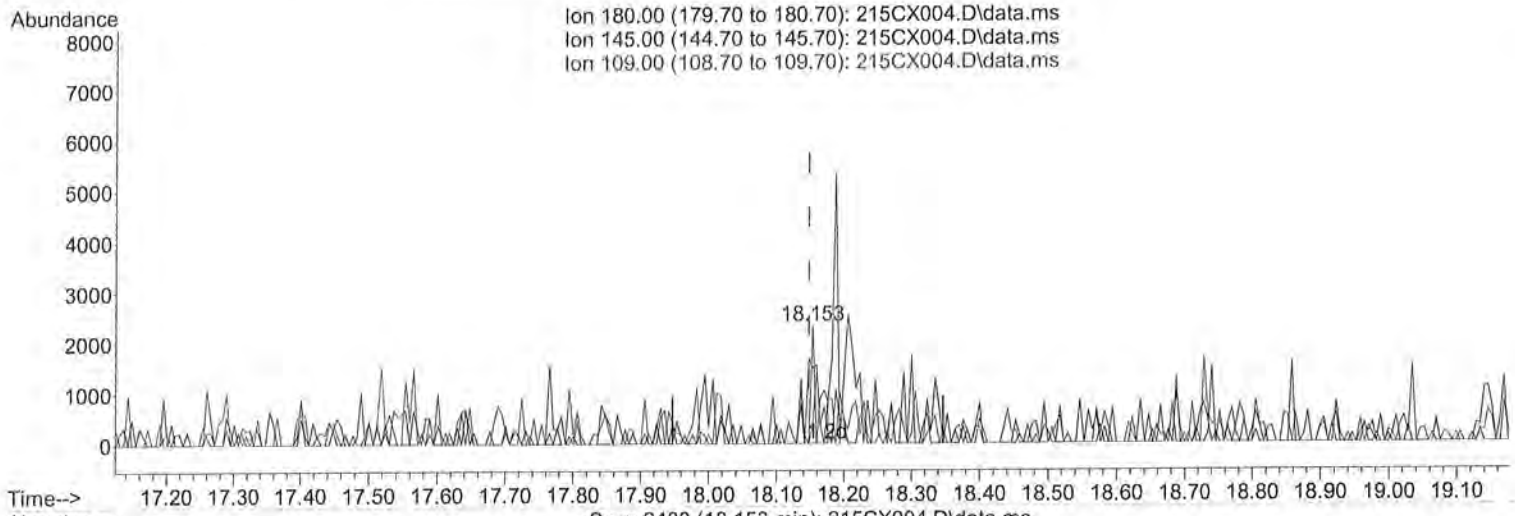
Review by/Date: W 03/30/21

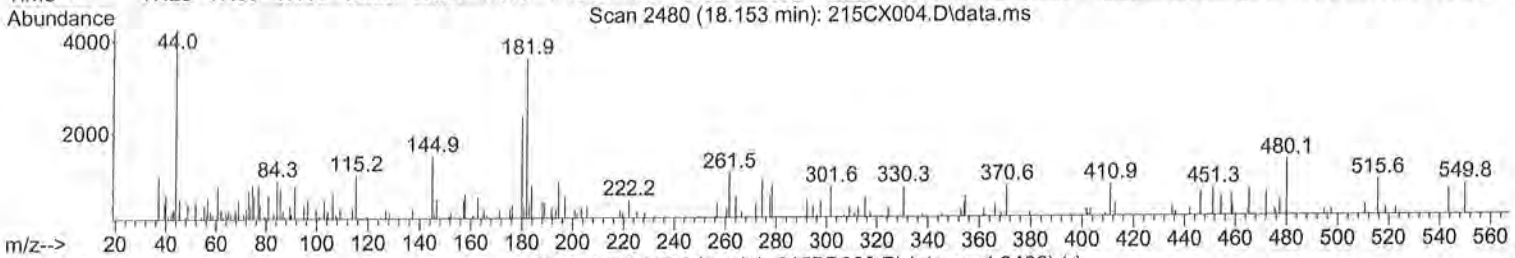
Review by/Date:

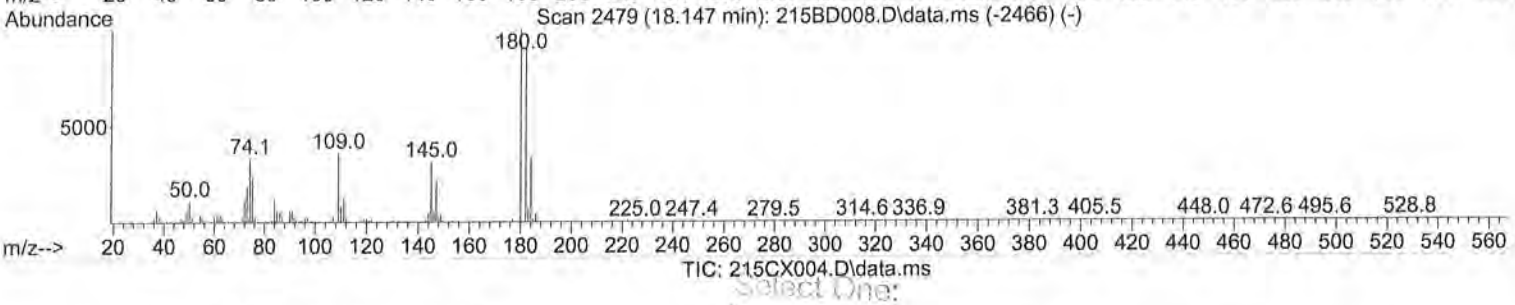
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX004.D
Acq On : 29 Mar 2021 9:36 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 29 11:44:32 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration







TIC: 215CX004.D\data.ms

(94) 1,2,4-Trichlorobenzene

18.153min (+ 0.006) 0.22 ug/L

response 2074

Ion	Exp%	Act%
180.00	100.00	100.00
145.00	38.70	120.30#
109.00	35.50	0.00#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

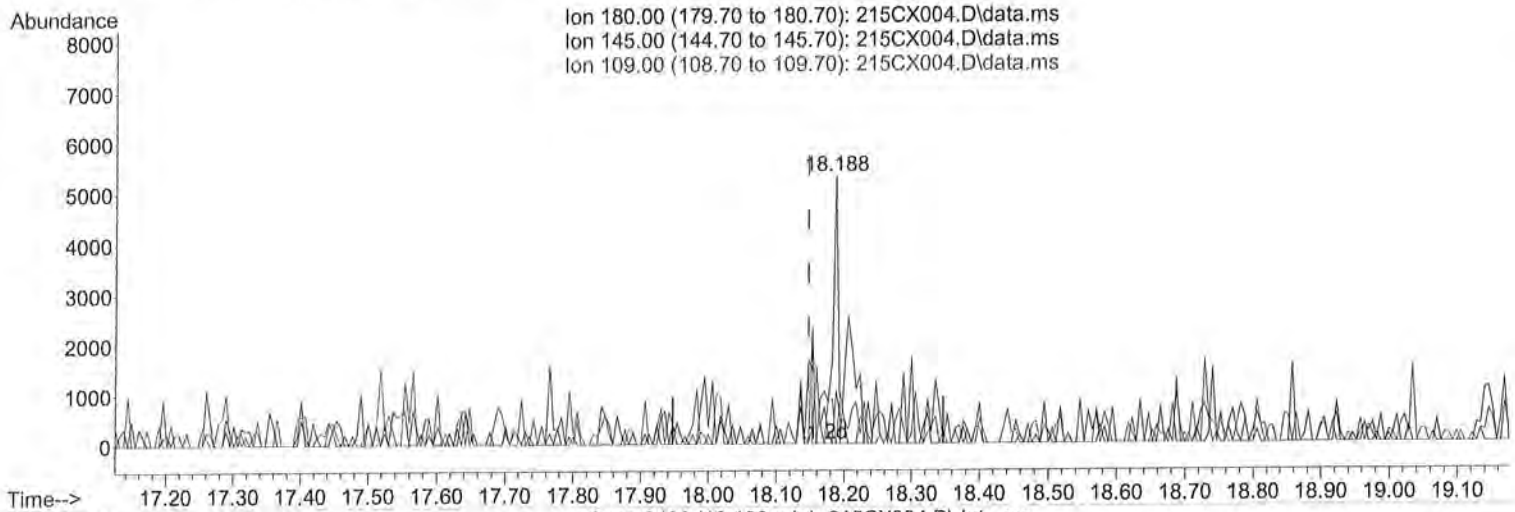
Review by/Date: AJ 03/30/21

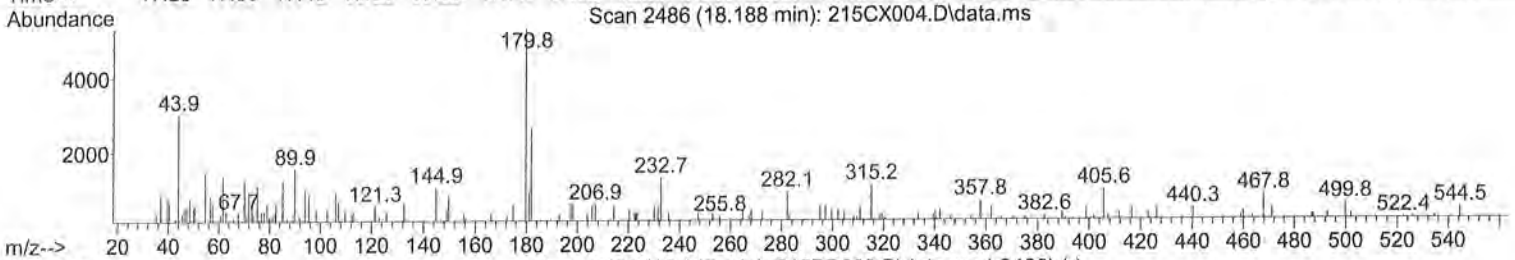
Review by/Date:

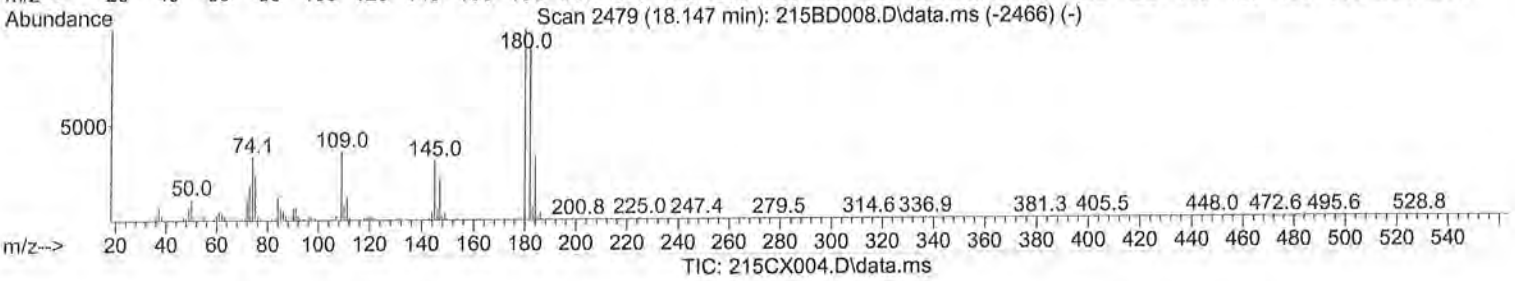
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX004.D
Acq On : 29 Mar 2021 9:36 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 29 11:44:32 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration







TIC: 215CX004.D\data.ms

(94) 1,2,4-Trichlorobenzene

18.188min (+ 0.041) 0.70 ug/L m

response 6744

Ion	Exp%	Act%
180.00	100.00	100.00
145.00	38.70	37.00
109.00	35.50	0.00#
0.00	0.00	0.00

Select One:

[ ] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

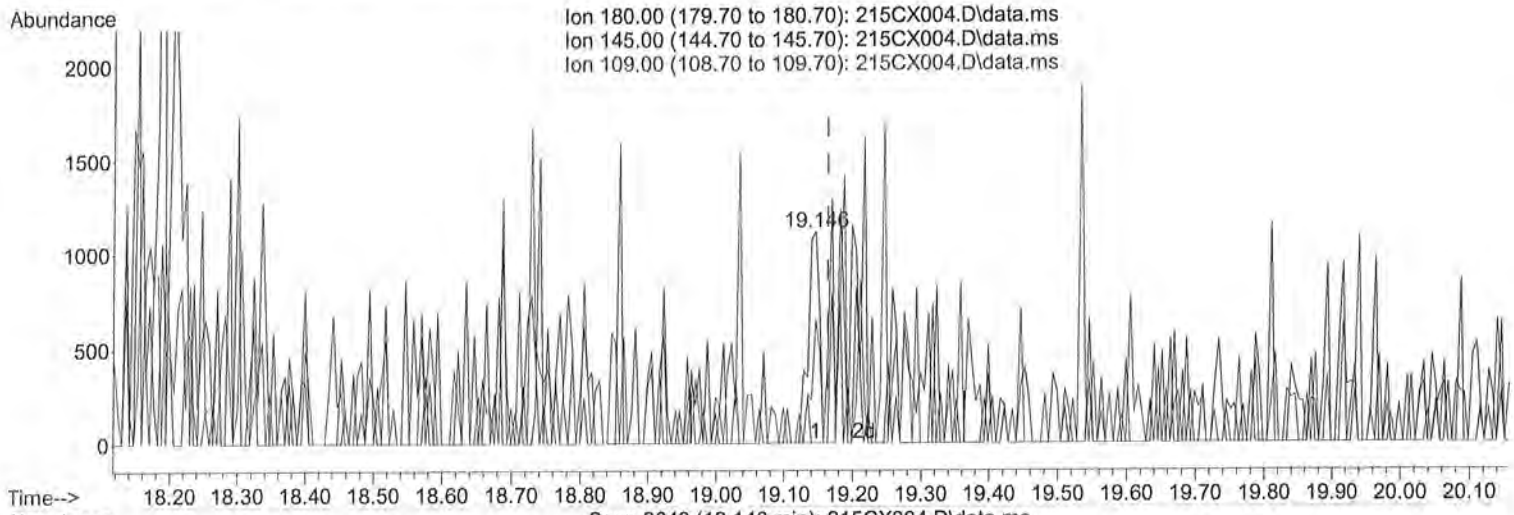
Review by/Date W 03/30/21

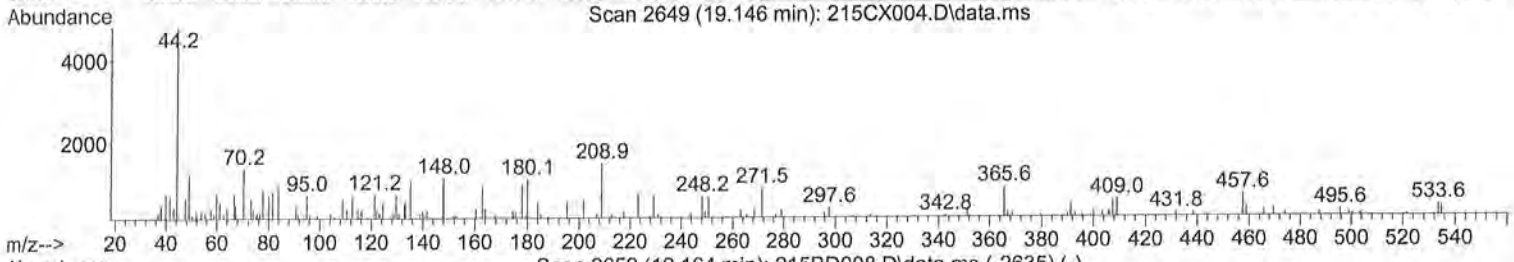
Review by/Date:

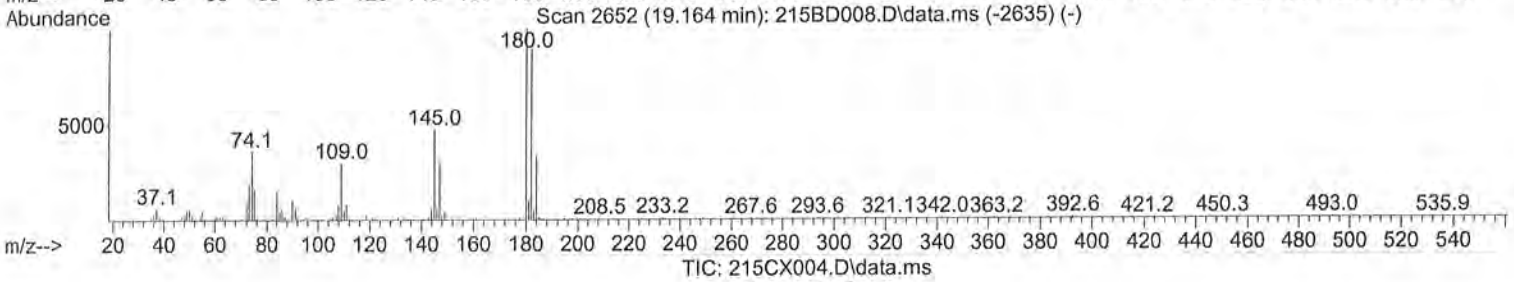
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX004.D
Acq On : 29 Mar 2021 9:36 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 29 11:44:32 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration







TIC: 215CX004.D\data.ms

(96) 1,2,3-Trichlorobenzene

19.146min (-0.018) 0.22 ug/L

response 1266

Ion	Exp%	Act%
180.00	100.00	100.00
145.00	40.60	0.00#
109.00	33.80	0.00#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

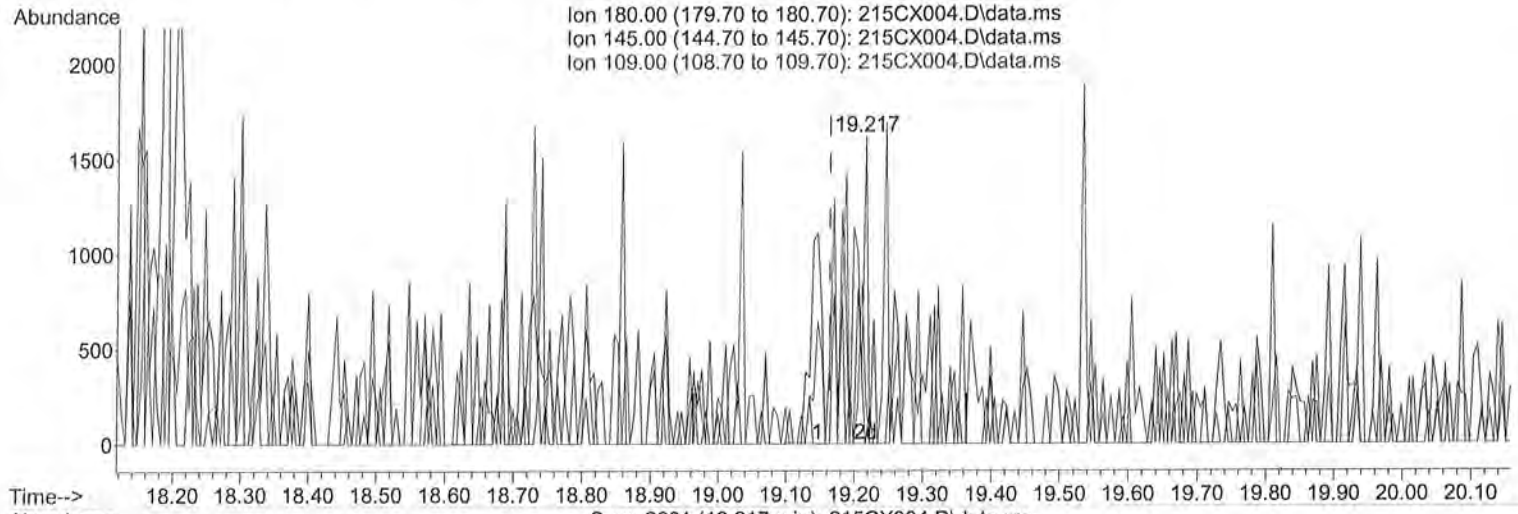
Review by/Date W 03/30/21

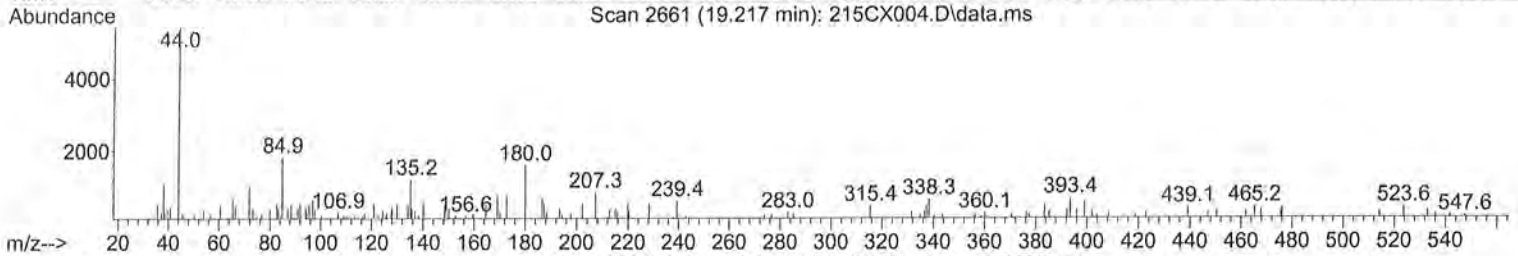
Review by/Date:

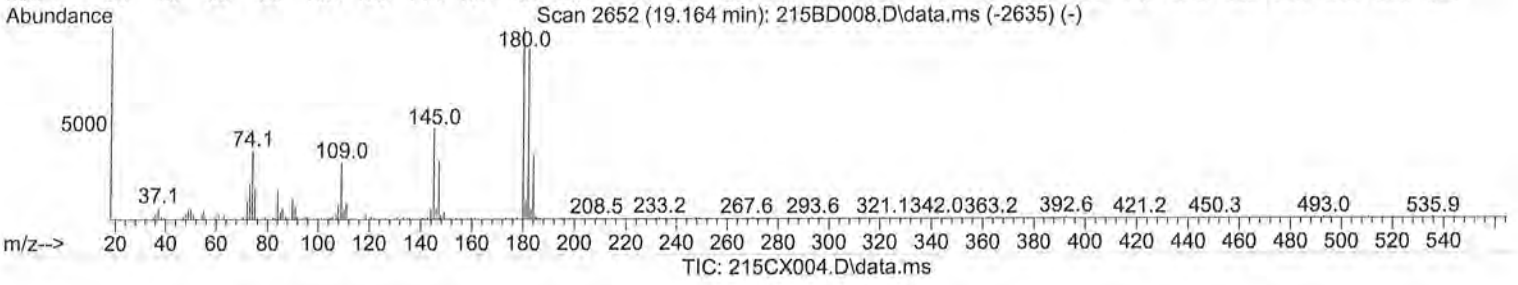
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX004.D
Acq On : 29 Mar 2021 9:36 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 29 11:44:32 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration







TIC: 215CX004.D\data.ms

(96) 1,2,3-Trichlorobenzene

19.217min (+ 0.053) 0.71 ug/L m

response 4028

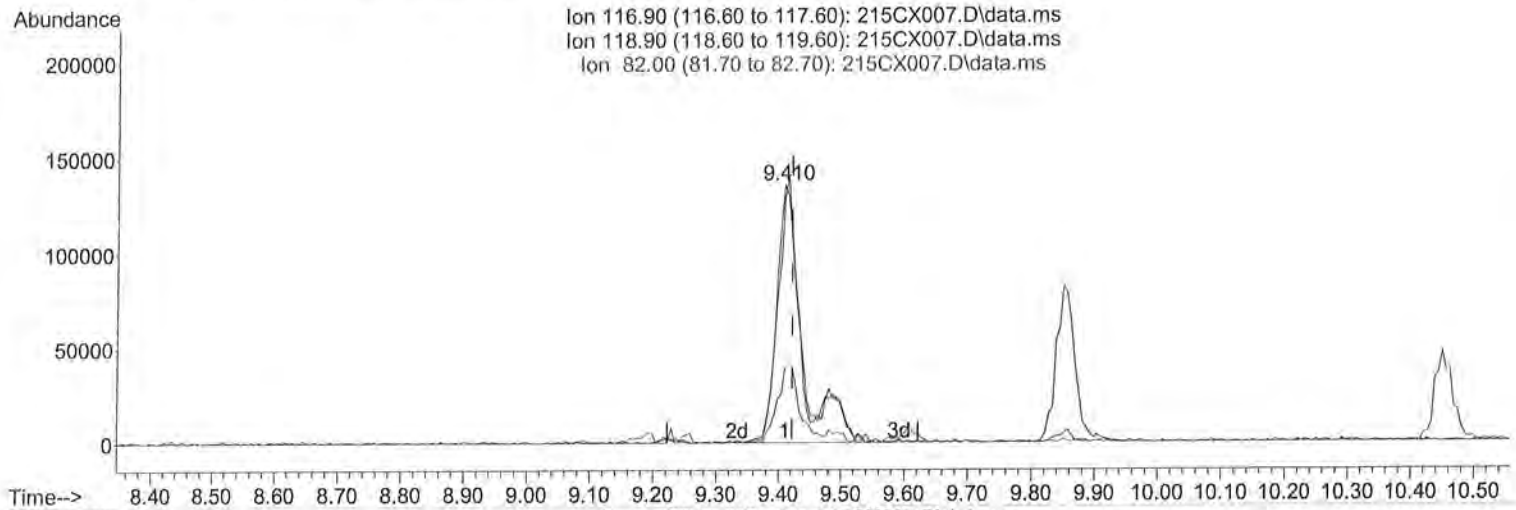
Ion	Exp%	Act%
180.00	100.00	100.00
145.00	40.60	0.00#
109.00	33.80	0.00#
0.00	0.00	0.00

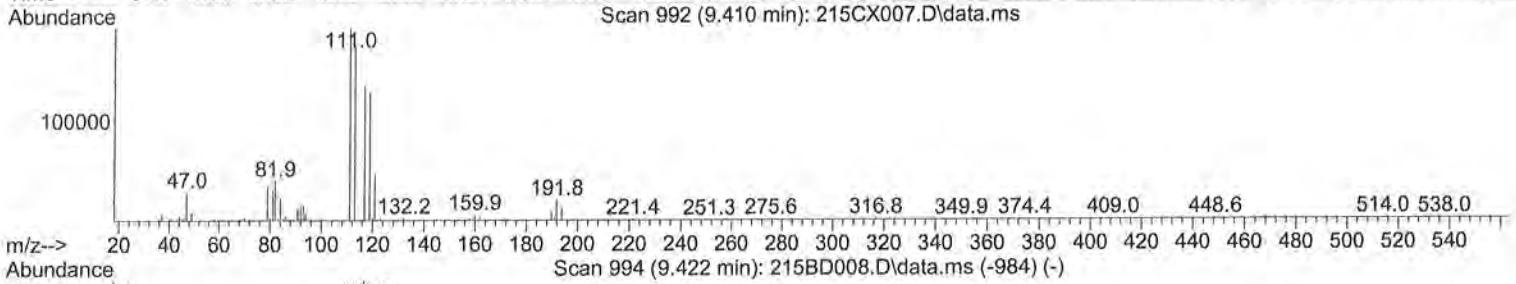
Select one:
[ ] Original Integration [X] Manual Integration
Select reason for manual integration:
[X] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date WQ 3/30/21
Review by/Date:

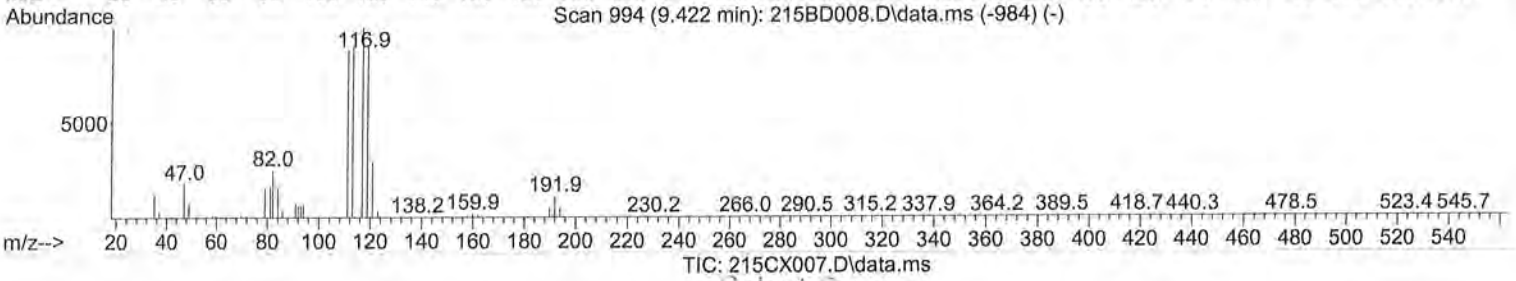
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX007.D
Acq On : 29 Mar 2021 10:59 am
Operator : KKW
Sample : CAL5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 29 11:52:17 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration







TIC: 215CX007.D\data.ms

(40) Carbon Tetrachloride

9.410min (-0.012) 25.97 ug/L

response 390386

Ion	Exp%	Act%
116.90	100.00	100.00
118.90	113.40	81.03#
82.00	26.80	29.13
0.00	0.00	0.00

Select One:

[ ] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

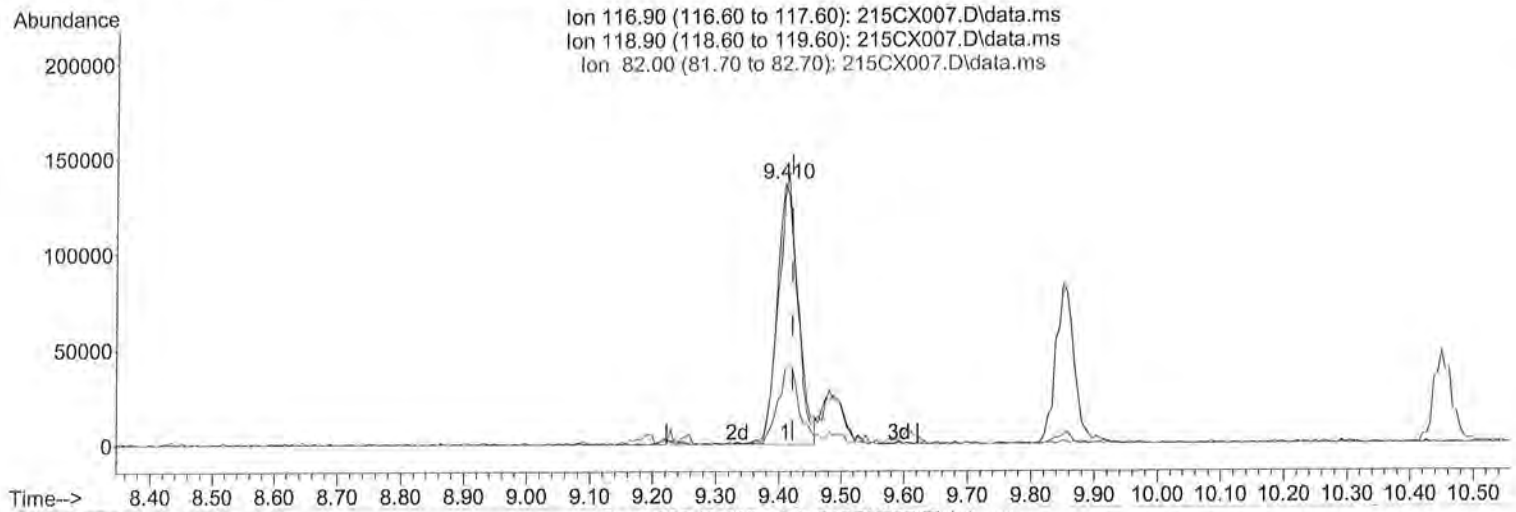
Review by/Date: 03/30/21

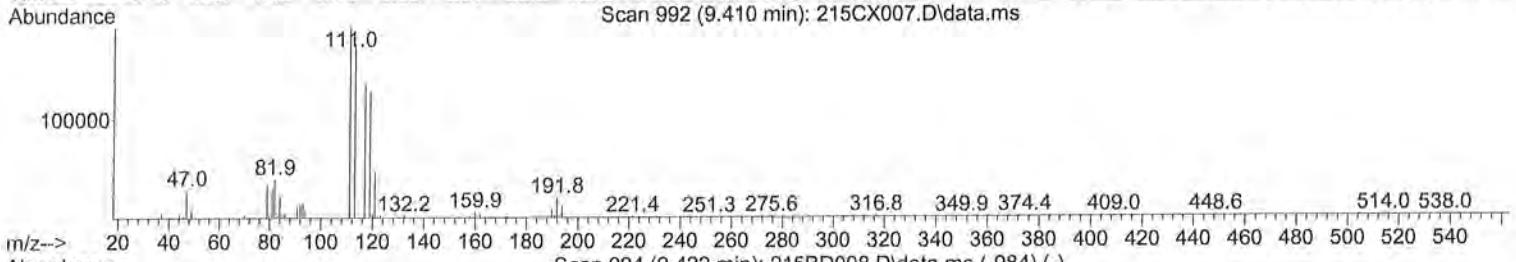
Review by/Date:

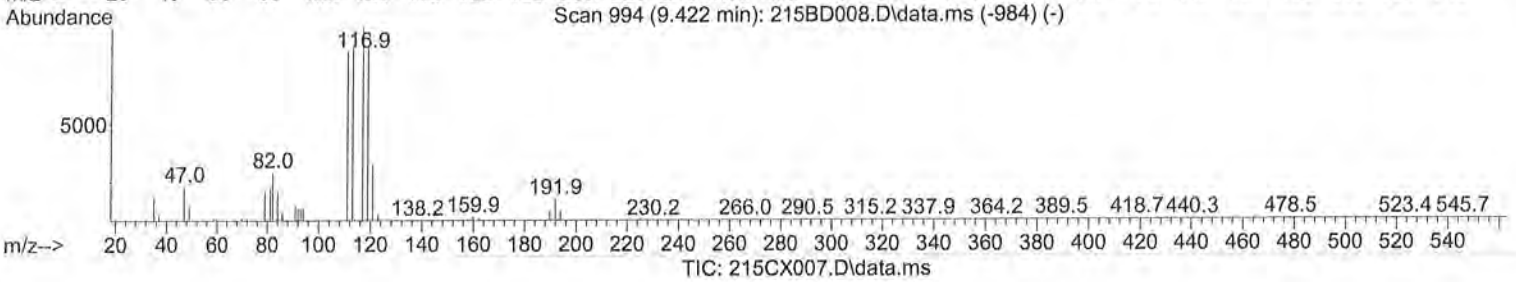
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX007.D
Acq On : 29 Mar 2021 10:59 am
Operator : KKW
Sample : CAL5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 29 11:52:17 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration







TIC: 215CX007.D\data.ms

(40) Carbon Tetrachloride

9.410min (-0.012) 21.44 ug/L m

response 322273

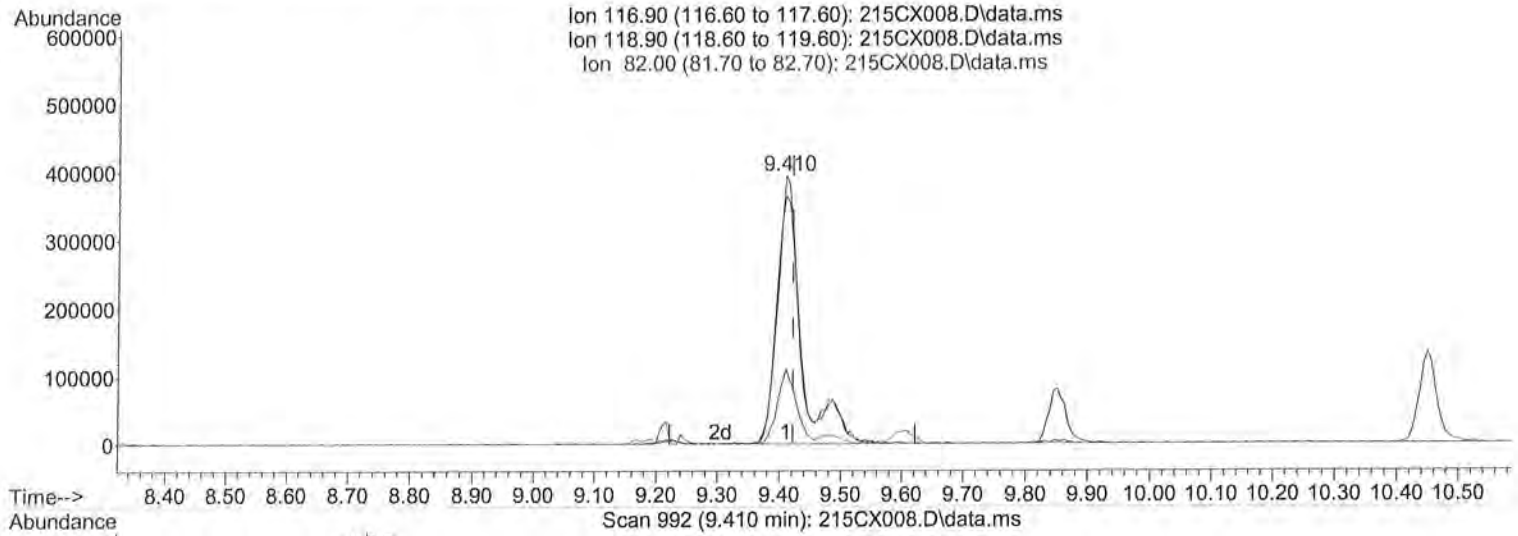
Ion	Exp%	Act%
116.90	100.00	100.00
118.90	113.40	98.16
82.00	26.80	35.29#
0.00	0.00	0.00

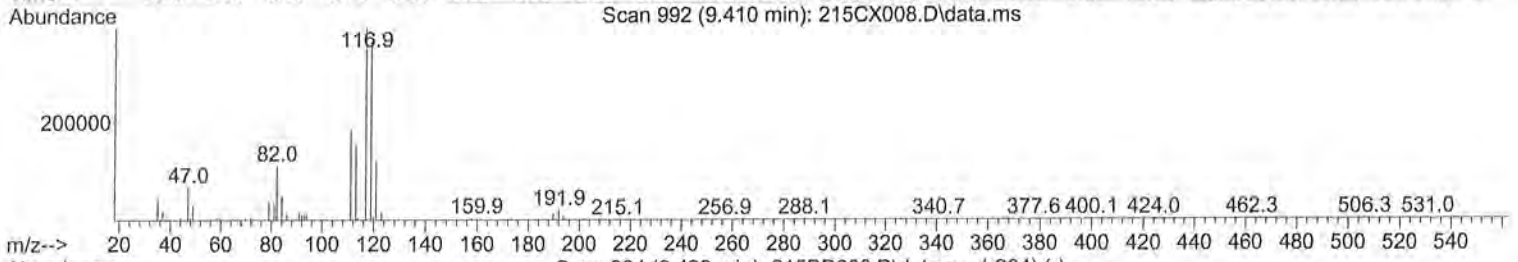
Check One:
[ ] Original Integration [X] Manual Integration
Select reason for manual integration:
[X] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Reviewed by/Date W 03/30/21
Reviewed by/Date:

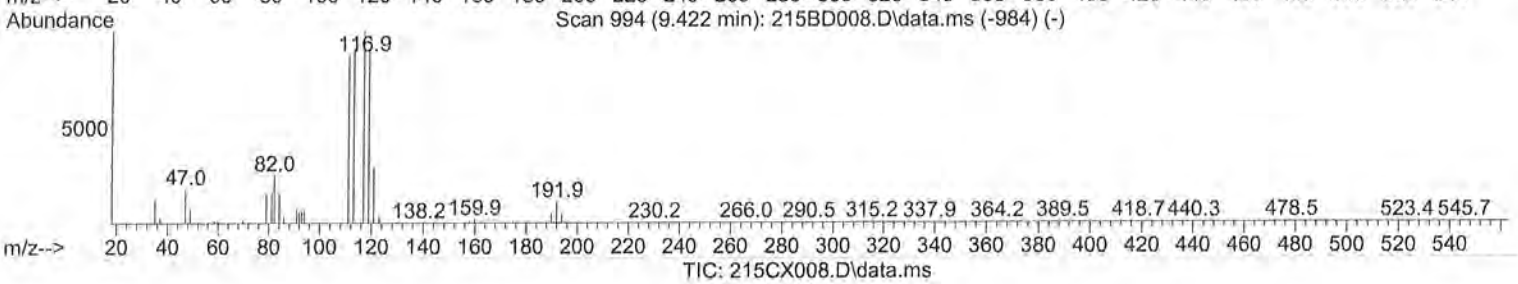
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX008.D
Acq On : 29 Mar 2021 11:27 am
Operator : KKW
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 29 11:54:18 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration







TIC: 215CX008.D\data.ms

(40) Carbon Tetrachloride

9.410min (-0.012) 66.83 ug/L

response 1065661

Ion	Exp%	Act%
116.90	100.00	100.00
118.90	113.40	96.22
82.00	26.80	25.30
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] Other integration

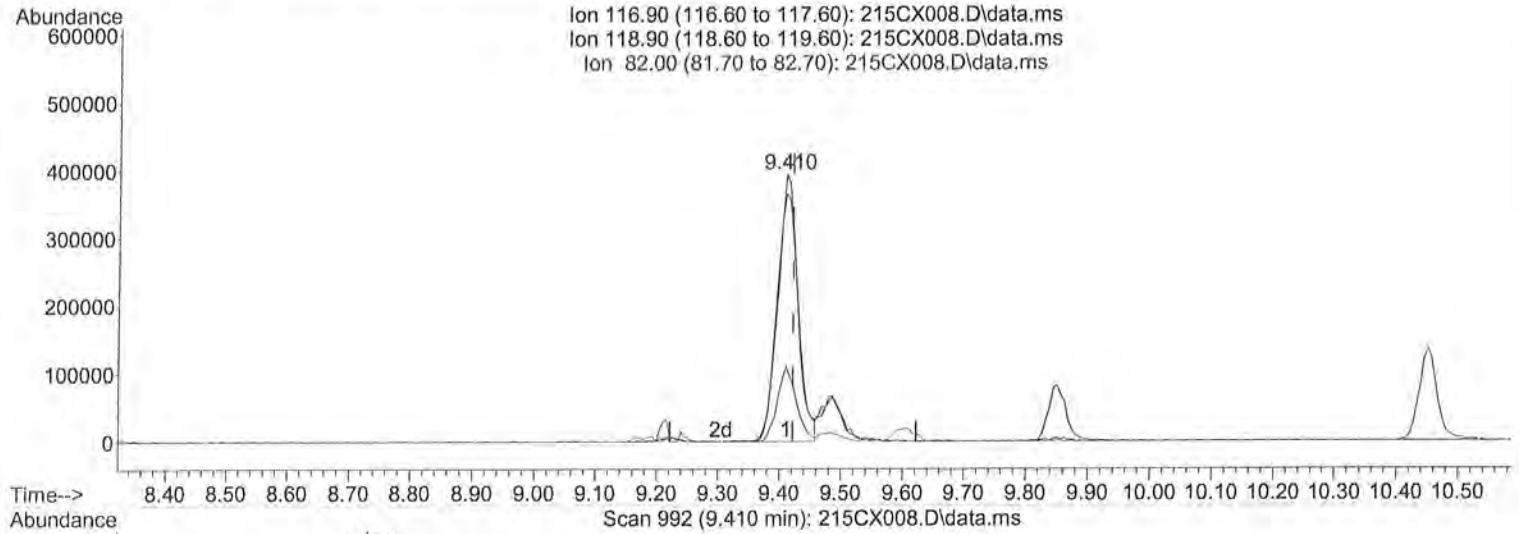
Review by/Date: W 03/30/21

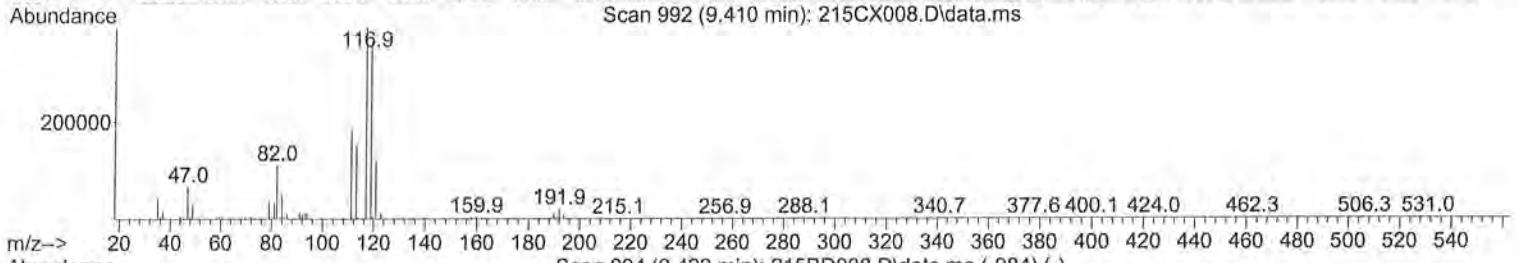
Review by/Date:

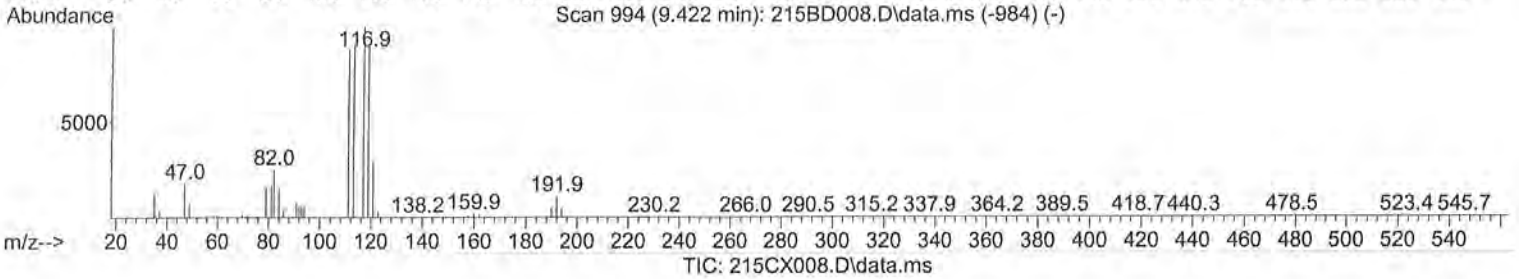
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX008.D
Acq On : 29 Mar 2021 11:27 am
Operator : KKW
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 29 11:54:18 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration







TIC: 215CX008.D\data.ms

(40) Carbon Tetrachloride

9.410min (-0.012) 56.43 ug/L m

response 899858

Ion	Exp%	Act%
116.90	100.00	100.00
118.90	113.40	113.95
82.00	26.80	29.97
0.00	0.00	0.00

Select One:

[ ] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

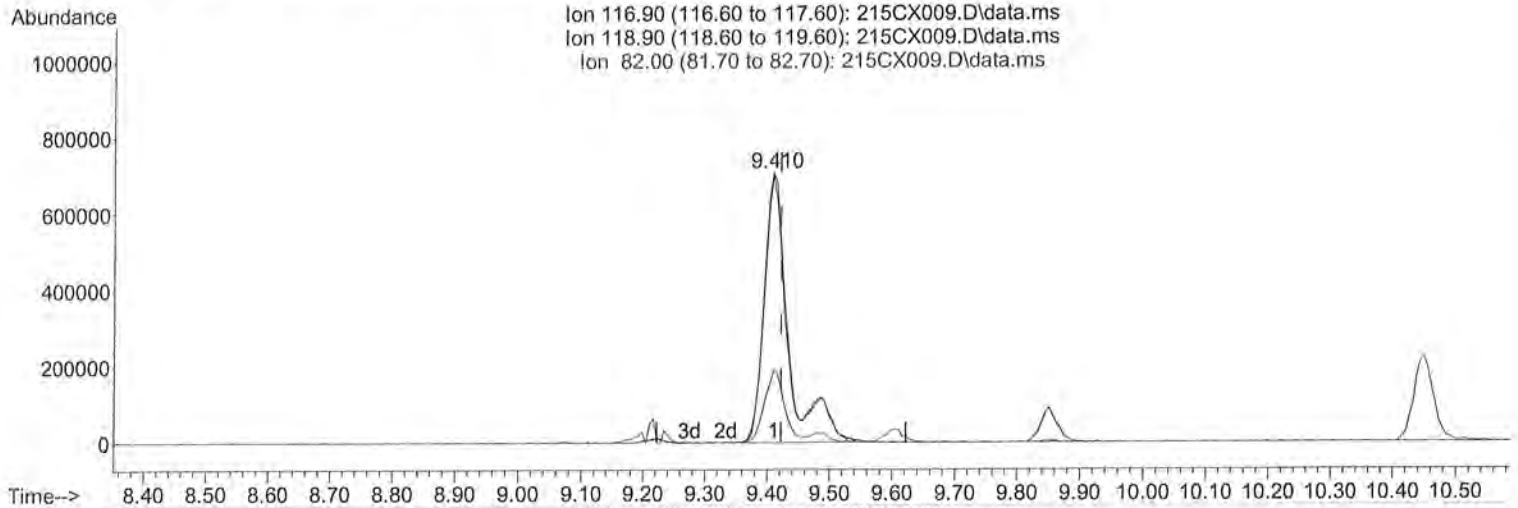
Review by/Date KW 03/29/21

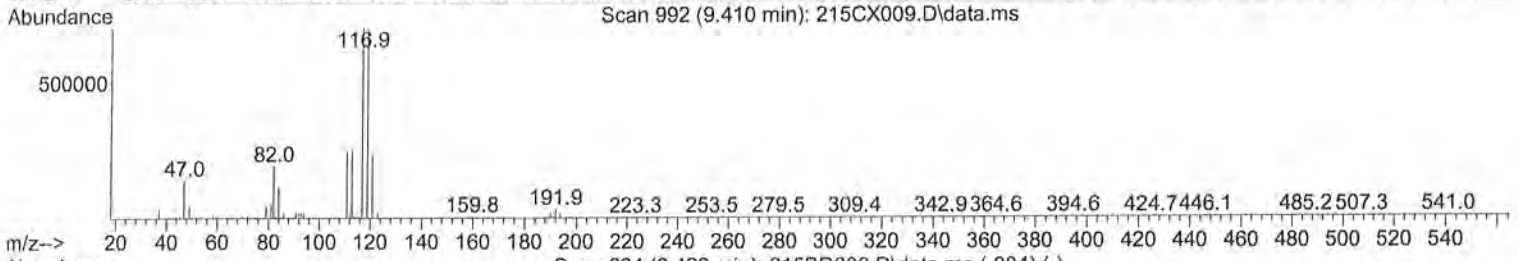
Review by/Date: KW 03/30/21

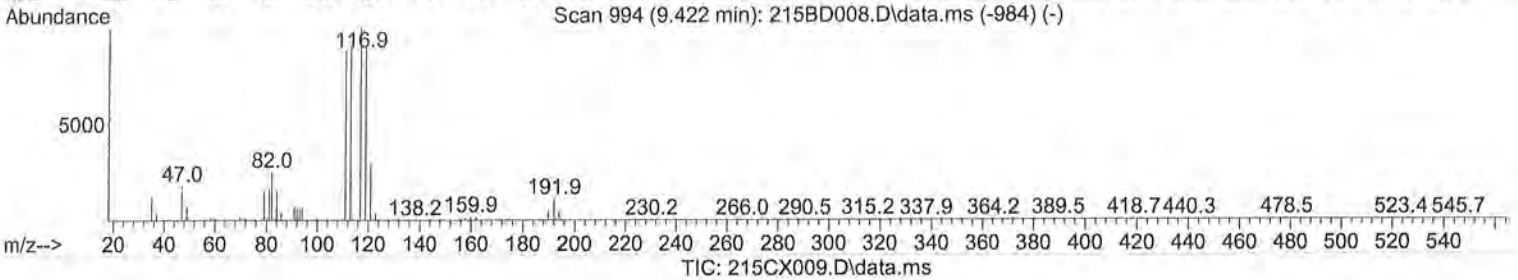
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX009.D
Acq On : 29 Mar 2021 11:55 am
Operator : KKW
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 29 12:45:44 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration







TIC: 215CX009.D\data.ms

(40) Carbon Tetrachloride

9.410min (-0.012) 117.16 ug/L

response 1935922

Ion	Exp%	Act%
116.90	100.00	100.00
118.90	113.40	95.72
82.00	26.80	24.98
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak fitting, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

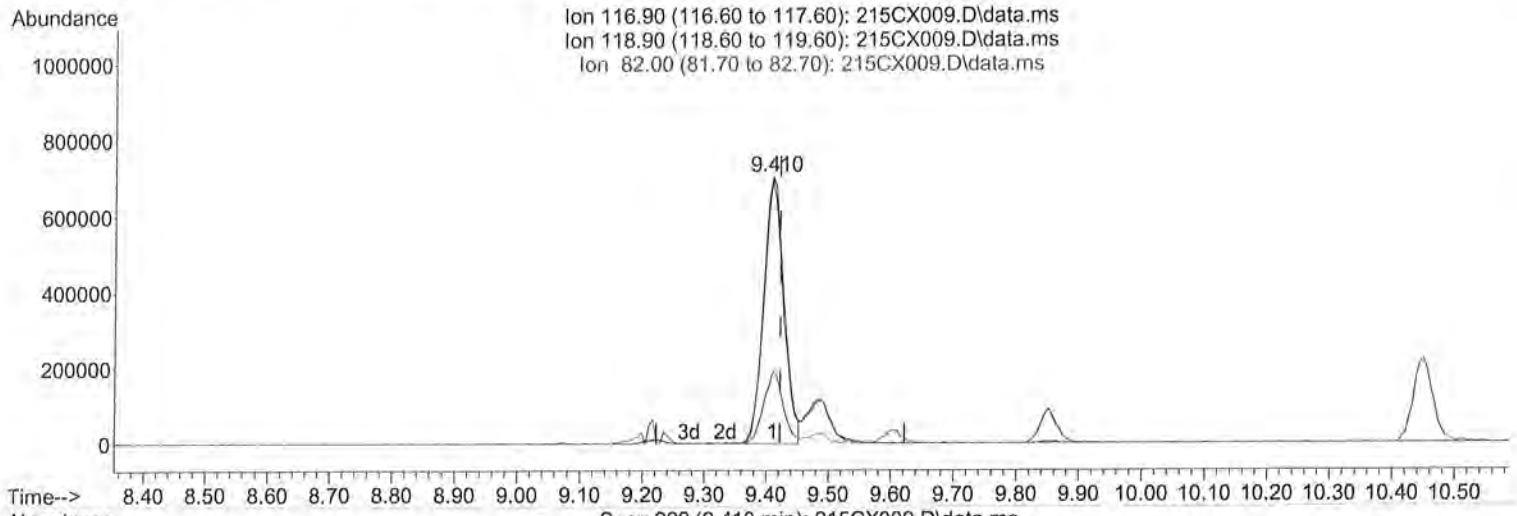
Review by/Date 10 03/30/21

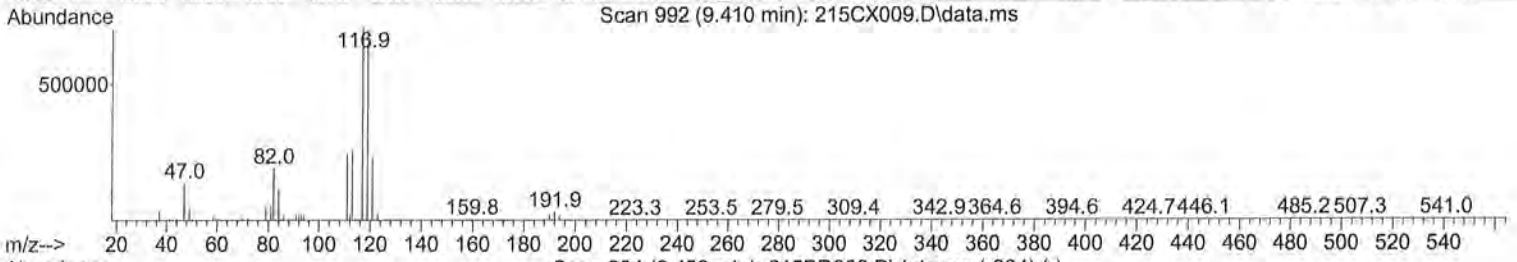
Review by/Date:

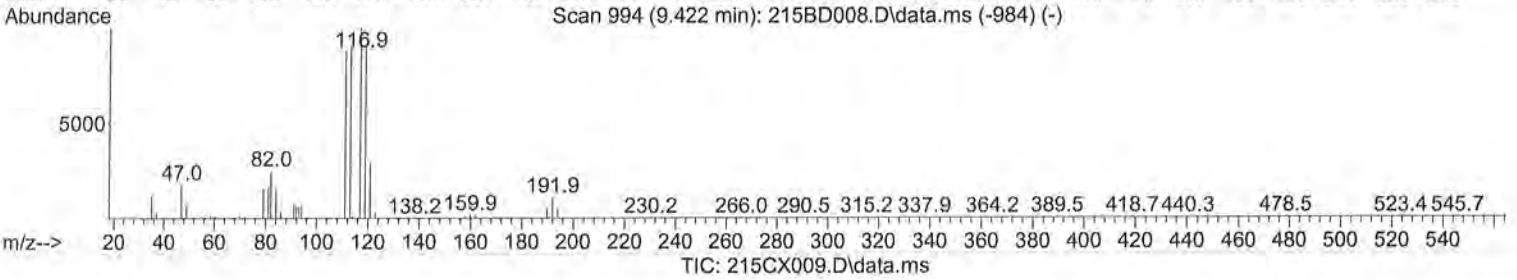
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX009.D
Acq On : 29 Mar 2021 11:55 am
Operator : KKW
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 29 12:45:44 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration







TIC: 215CX009.D\data.ms

(40) Carbon Tetrachloride

9.410min (-0.012) 98.36 ug/L m

response 1625229

Ion	Exp%	Act%
116.90	100.00	100.00
118.90	113.40	114.02
82.00	26.80	29.75
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] RT reintegration

[ ] Other:

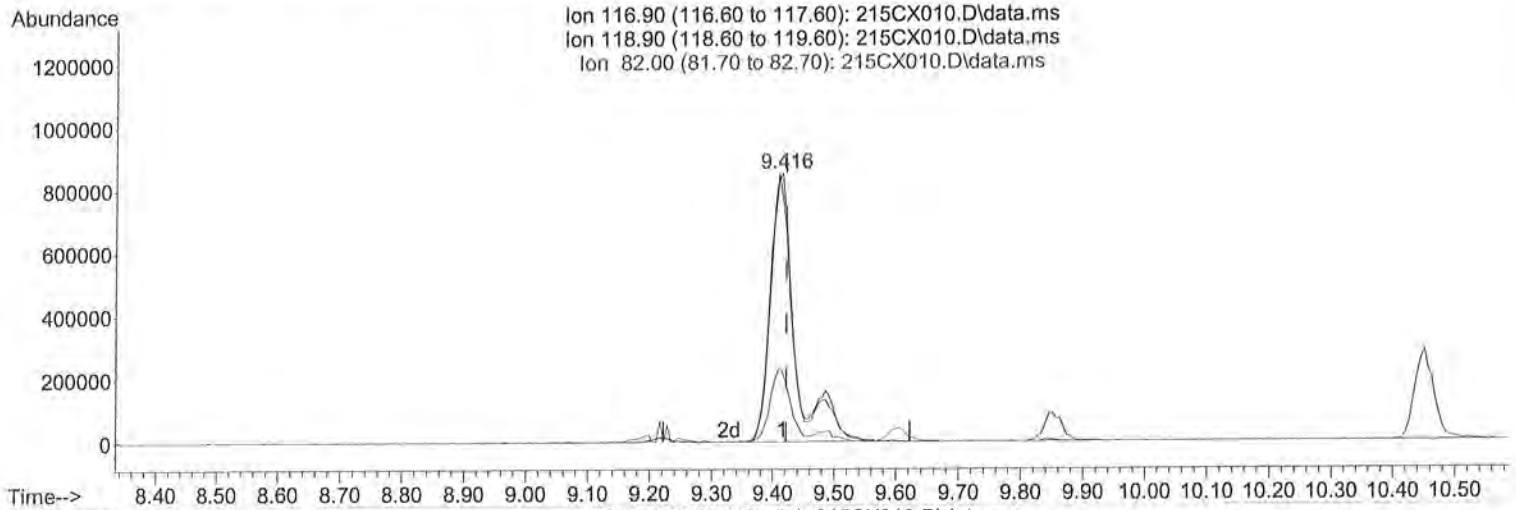
Review by/Date: 10 04/30/21

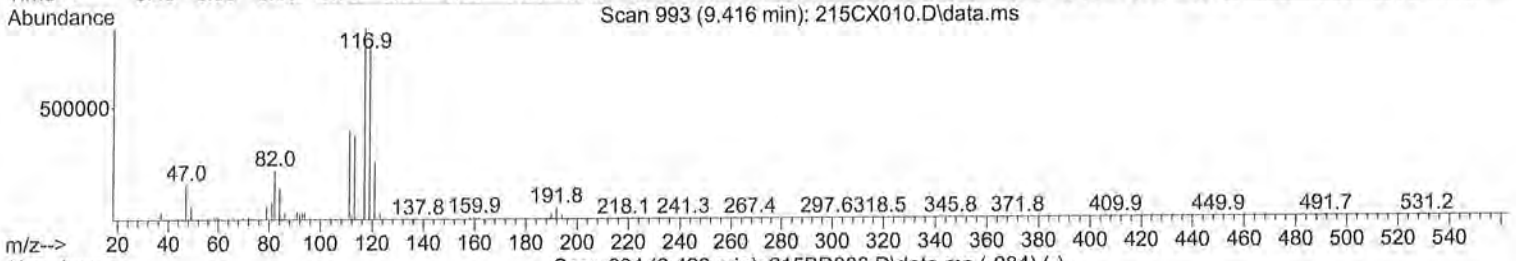
Review by/Date:

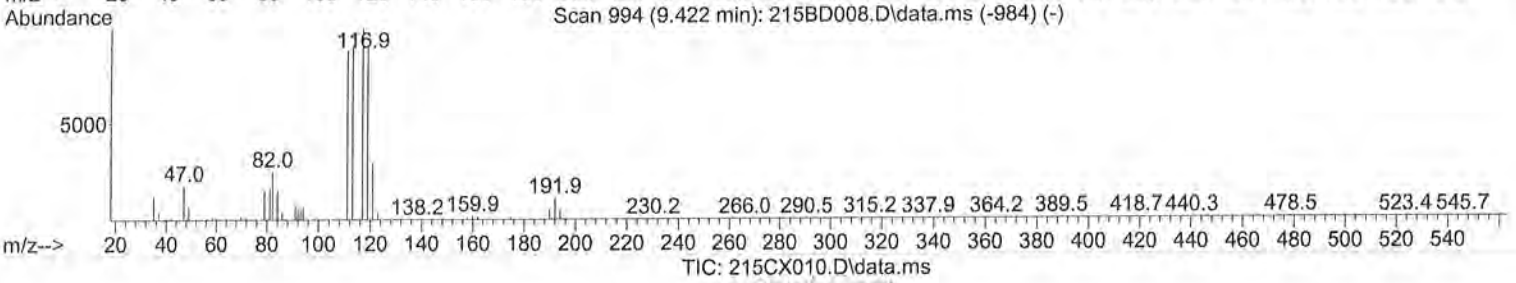
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX010.D
Acq On : 29 Mar 2021 12:22 pm
Operator : KKW
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 29 12:47:49 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration







TIC: 215CX010.D\data.ms

(40) Carbon Tetrachloride

9.416min (-0.006) 139.17 ug/L

response 2375335

Ion	Exp%	Act%
116.90	100.00	100.00
118.90	113.40	94.84
82.00	26.80	25.95
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

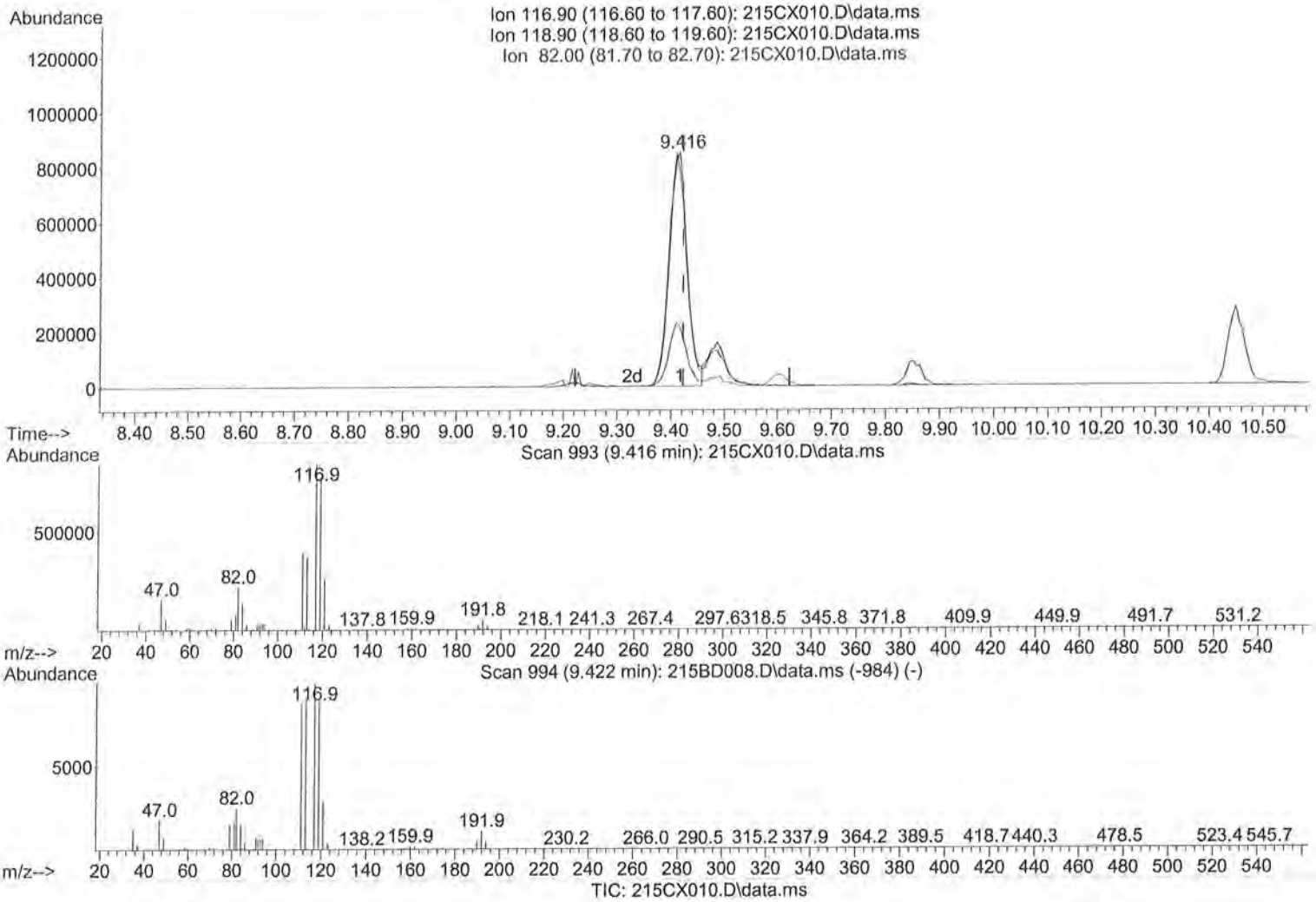
Review by/Date: W 03/30/21

Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX010.D
Acq On : 29 Mar 2021 12:22 pm
Operator : KKW
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 29 12:47:49 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration



TIC: 215CX010.D\data.ms

(40) Carbon Tetrachloride

9.416min (-0.006) 117.00 ug/L m

response 1996926

Ion	Exp%	Act%
116.90	100.00	100.00
118.90	113.40	112.82
82.00	26.80	30.87
0.00	0.00	0.00

Select One:
[ ] Original Inte [illegible] Manual Integration
Select reason [illegible] Integration:
[X] Poor integ [illegible] (tailing, baseline selection)
[ ] Incorrect [illegible] selection/Peak not found
[ ] Hump in [illegible]
[ ] Baselin [illegible] for split peaks
[ ] ISTD r [illegible]
[ ] Other:
Review by/Date W 03/30/21
Review by/Date:

Sequence Name: C:\msdchem\1\sequence\215CX.s
Comment:
Operator: KKW
Data Path: C:\msdchem\1\DATA\032921\
Instrument Control Pre-Seq Cmd:
Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:
Data Analysis Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

Sequence Barcode Options
(X) On Mismatch, Inject Anyway
( ) On Mismatch, Don't Inject
( ) Barcode Disabled

Line		Sample Name/Misc Info			
1)	Sample	1	215CX001	8260S	TUN1
2)	Sample	1	215CX002	8260S	TUN1
3)	Sample	2	215CX003	8260S	CAL1
4)	Sample	3	215CX004	8260S	CAL2
5)	Sample	4	215CX005	8260S	CAL3
6)	Sample	5	215CX006	8260S	CAL4
7)	Sample	6	215CX007	8260S	CAL5
8)	Sample	7	215CX008	8260S	CAL6
9)	Sample	8	215CX009	8260S	CAL7
10)	Sample	9	215CX010	8260S	CAL8
11)	Sample	10	215CX011	8260S	RINSE
12)	Sample	11	215CX012	8260S	SCV1
13)	Sample	12	215CX013	8260S	BS1
14)	Sample	13	215CX014	8260S	RINSE
15)	Sample	14	215CX015	8260S	BLK1
16)	Sample	15	215CX016	8260S	AE02079-01
17)	Sample	16	215CX017	8260S	AE02079-02
18)	Sample	17	215CX018	8260S	AE02079-06
19)	Sample	18	215CX019	8260S	AE02079-08
20)	Sample	19	215CX020	8260S	AE02079-12
21)	Sample	20	215CX021	8260S	AE02079-13
22)	Sample	21	215CX022	8260S	AE02079-21
23)	Sample	22	215CX023	8260S	AE02079-25
24)	Sample	23	215CX024	8260S	AE02079-28
25)	Sample	24	215CX025	8260S	AE02079-29
26)	Sample	25	215CX026	8260S	AE02079-30
27)	Sample	26	215CX027	8260S	AE02079-31
28)	Sample	27	215CX028	8260S	AE02079-35
29)	Sample	28	215CX029	8260S	AE02079-49
30)	Sample	29	215CX030	8260S	AE02079-50
31)	Sample	30	215CX031	8260S	AE02079-51
32)	Sample	31	215CX032	8260S	MS1
33)	Sample	31	215CX033	8260S	MSD1

Compound List Report OVGCMS5

Method Path : C:\msdchem\1\methods\
Method File : 032921W.M
Title : ENCO SOP VGCMS05; Element Cal
Last Update : Mon Mar 29 13:47:27 2021
Response Via : Initial Calibration

Total Cpnds : 96

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	PENTAFLUOROBENZENE (IS)	168	9.851	1.000	A	3	A	B
2		Dichlorodifluoromethane	85	3.975	0.404	A	2	A	B
3	P	Chloromethane	50	4.398	0.446	QO	1	A	B
4	C	Vinyl Chloride	62	4.580	0.465	QO	1	A	B
5		Bromomethane	94	5.233	0.531	QO	2	A	B
6		Chloroethane	64	5.462	0.554	A	2	A	B
7		Trichlorofluoromethane	101	5.697	0.578	A	2	A	B
8		Diethyl ether	59	6.173	0.627	QO	2	A	B
9	C	1,1-Dichloroethene	96	6.531	0.663	A	2	A	B
10		Trichlorotrifluoroethane	151	6.555	0.665	LO	2	A	B
11		Acrolein	56	7.013	0.712	QO	1	A	B
12		Iodomethane	142	6.778	0.688	LO	2	A	B
13		Carbon Disulfide	76	6.619	0.672	A	2	A	B
14		3-chloropropene	41	7.195	0.730	QO	2	A	B
15		Acetone	43	7.389	0.750	QO	1	A	R
16		Methylene Chloride	84	7.342	0.745	QO	1	A	R
17		Methyl Acetate	43	7.518	0.763	QO	2	A	B
18		t-1,2-Dichloroethene	96	7.542	0.766	QO	2	A	B
19		Methyl tert-butyl ether	73	7.624	0.774	QO	2	A	B
20		Acetonitrile	41	8.035	0.816	QO	2	A	B
21		Isopropyl ether	45	8.047	0.817	QO	2	A	B
22		Chloroprene	88	8.270	0.840	QO	2	A	B
23	P	1,1-Dichloroethane	63	8.311	0.844	QO	3	A	B
24		Acrylonitrile	53	8.382	0.851	QO	2	A	B
25		Vinyl Acetate	43	8.535	0.866	QO	1	A	B
26		c-1,2-Dichloroethene	96	8.946	0.908	QO	2	A	B
27		2,2-Dichloropropane	77	9.069	0.921	QO	2	A	B
28		Bromochloromethane	128	9.181	0.932	LO	1	A	B
29		Cyclohexane	56	9.187	0.933	QO	2	A	B
30	C	Chloroform	83	9.216	0.936	A	2	A	B
31	S	Dibromofluoromethane	113	9.422	0.956	A	2	A	B
32		Dibromofluoromethane	113	9.445	0.959	A	2	A	B
33		2-Butanone	72	9.539	0.968	QO	1	A	R
34		1,1,1-Trichloroethane	97	9.487	0.963	A	2	A	B
35		1,1-Dichloropropene	75	9.604	0.975	QO	2	A	B
36		Propionitrile	54	9.892	1.004	QO	2	A	B
37		Methacrylonitrile	41	9.904	1.005	QO	1	A	R
38		Isobutyl Alcohol	43	9.898	1.005	QO	2	A	B
39	I	1,4-DIFLUOROBENZENE (IS)	114	10.444	1.000	A	2	A	B
40		Carbon Tetrachloride	117	9.410	0.901	A	2	A	B
41		Benzene	78	9.874	0.945	LO	1	A	B
42		1,2-Dichloroethane	62	10.086	0.966	LO	2	A	B
43		Trichloroethene	130	10.450	1.001	LO	2	A	B
44		Methyl cyclohexane	83	10.450	1.001	LO	2	A	B
45		Dibromomethane	93	10.903	1.044	A	2	A	B
46	C	1,2-Dichloropropane	63	10.985	1.052	QO	2	A	B
47		Bromodichloromethane	83	11.014	1.055	A	2	A	B
48		Methyl Methacrylate	69	11.079	1.061	QO	2	A	B
49		1,4-Dioxane	88	11.196	1.072	QO	1	A	R
50		2-Chloroethyl vinyl ether	63	11.490	1.100	QO	2	A	B
51		C-1,3-Dichloropropene	75	11.608	1.111	QO	2	A	B
52	S	D8-Toluene	98	11.778	1.128	A	2	A	B
53		D8-Toluene	98	11.804	1.130	A	2	A	B
54		4-Methyl-2-pentanone	100	12.131	1.161	A	2	A	B

55	I	CHLOROBENZENE-D5 (IS)	82	13.223	1.000	A	2	A	B
56	C	Toluene	92	11.831	0.895	LO	2	A	B
57		T-1,3-Dichloropropene	75	12.195	0.922	LO	2	A	B
58		Tetrachloroethene	164	12.207	0.923	A	2	A	B
59		Ethyl methacrylate	69	12.242	0.926	QO	2	A	B
60		1,1,2-Trichloroethane	97	12.360	0.935	LO	2	A	B
61		Dibromochloromethane	129	12.548	0.949	LO	2	A	B
62		1,3-Dichloropropane	76	12.630	0.955	LO	2	A	B
63		1,2-Dibromoethane	107	12.812	0.969	A	2	A	B
64		2-Hexanone	43	12.877	0.974	QO	2	A	B
65	C	Ethylbenzene	106	13.206	0.999	LO	2	A	B
66	P	Chlorobenzene	112	13.241	1.001	LO	1	A	B
67		1,1,1,2-Tetrachloroethane	131	13.282	1.004	LO	2	A	B
68		m-xylene & p-xylene	106	13.323	1.008	A	1	A	B
69		o-xylene	106	13.735	1.039	A	1	A	B
70		Styrene	104	13.776	1.042	A	2	A	B
71	P	Bromoform	173	13.876	1.049	LO	1	A	B
72		Isopropylbenzene	105	13.999	1.059	A	2	A	B
73	S	Bromofluorobenzene	95	14.328	1.084	A	2	A	B
74		Bromofluorobenzene	95	14.347	1.085	A	2	A	B
75		n-Propylbenzene	91	14.387	1.088	A	2	A	B
76	P	1,1,2,2-Tetrachloroethane	83	14.469	1.094	LO	3	A	B
77		1,2,3-Trichloropropane	61	14.645	1.108	LO	2	A	B
78		T-1,4-Dichloro-2-Butene	53	14.352	1.085	LO	2	A	B
79	I	1,4-DICHLOROBENZENE-D4 (IS)	152	15.486	1.000	A	3	A	B
80		Bromobenzene	156	14.469	0.934	LO	2	A	B
81		1,2,4-Trimethylbenzene	105	14.957	0.966	QO	2	A	B
82		2-Chlorotoluene	91	14.610	0.943	A	2	A	R
83		4-Chlorotoluene	91	14.769	0.954	QO	2	A	R
84		tert-Butylbenzene	119	14.898	0.962	QO	2	A	B
85		1,3,5-Trimethylbenzene	105	14.540	0.939	QO	2	A	B
86		p-Isopropyltoluene	119	15.192	0.981	LO	2	A	B
87		s-Butylbenzene	105	15.074	0.973	LO	2	A	B
88		1,3-Dichlorobenzene	146	15.415	0.995	LO	2	A	R
89		1,4-Dichlorobenzene	146	15.509	1.002	LO	2	A	R
90		n-Butylbenzene	91	15.674	1.012	QO	2	A	B
91		1,2-Dichlorobenzene	146	16.020	1.035	QO	2	A	B
92		DBCP	157	17.084	1.103	QO	1	A	B
93		Hexachlorobutadiene	225	17.983	1.161	QO	2	A	B
94		1,2,4-Trichlorobenzene	180	18.141	1.171	QO	2	A	B
95		Naphthalene	128	18.782	1.213	QO	2	A	B
96		1,2,3-Trichlorobenzene	180	19.152	1.237	QO	2	A	B

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

Compound Name Duplication Report

Quant Method: C:\msdchem\1\methods\032921W.M
Number of Compounds: 96

31 Dibromofluoromethane = 32 Dibromofluoromethane
52 D8-Toluene = 53 D8-Toluene
73 Bromofluorobenzene = 74 Bromofluorobenzene

3 Duplicate Names Detected!!!

032921W.M Tue Mar 30 10:00:26 2021

Response Factor Report OVGCMS5

Method Path : C:\msdchem\1\methods\
Method File : 032921W.M
Title : ENCO SOP VGCMS05; Element Cal
Last Update : Mon Mar 29 13:47:27 2021
Response Via : Initial Calibration

Calibration Files
1 =215CX003.D 2 =215CX004.D 5 =215CX005.D 20 =215CX007.D 100 =215CX010.D 50 =215CX008.D 80 =215CX009.D
10 =215CX006.D

		Compound	1	2	5	20	100	50	80	10	Avg	%RSD
1)	I	PENTAFLUOROBENZENE...	ISTD									
2)		Dichlorodifluo...	0.564	0.580	0.546	0.637	0.681	0.609	0.629	0.557	0.600	7.81
3)	P	Chloromethane	0.390	0.451	0.393	0.366	0.573	0.399	0.483	0.340	0.424	17.68
4)	C	Vinyl Chloride	0.440	0.444	0.408	0.484	0.591	0.496	0.539	0.403	0.475	13.74
5)		Bromomethane	0.753	0.462	0.314	0.190	0.235	0.195	0.206	0.216	0.321	61.20
6)		Chloroethane	0.347	0.301	0.263	0.291	0.288	0.272	0.260	0.234	0.282	11.96
7)		Trichlorofluor...	0.743	0.679	0.671	0.723	0.832	0.733	0.773	0.614	0.721	9.32
8)		Diethyl ether	0.372	0.252	0.312	0.280	0.394	0.294	0.342	0.230	0.309	18.48
9)	C	1,1-Dichloroet...	0.433	0.378	0.376	0.360	0.477	0.415	0.474	0.338	0.406	12.80
10)		Trichlorotrifl...	0.414	0.255	0.301	0.284	0.329	0.297	0.337	0.241	0.307	17.62
11)		Acrolein	0.031	0.054	0.057	0.055	0.090	0.063	0.079	0.050	0.060#	30.12
12)		Iodomethane	0.155	0.242	0.308	0.460	0.546	0.496	0.532	0.365	0.388	37.14
13)		Carbon Disulfide	1.265	1.387	1.220	1.230	1.389	1.240	1.348	1.163	1.280	6.58
14)		3-chloropropene	0.491	0.418	0.419	0.444	0.663	0.460	0.589	0.386	0.484	19.69
15)		Acetone	0.082	0.079	0.067	0.063	0.095	0.068	0.084	0.068	0.076#	14.58
16)		Methylene Chlo...	0.708	0.447	0.492	0.405	0.548	0.463	0.509	0.379	0.494	20.72
17)		Methyl Acetate	0.103	0.229	0.200	0.137	0.264	0.170	0.215	0.145	0.183	29.27
18)		t-1,2-Dichloro...	0.620	0.354	0.415	0.406	0.550	0.476	0.533	0.368	0.465	20.53
19)		Methyl tert-bu...	1.211	0.813	1.071	0.957	1.378	1.065	1.233	0.874	1.075	17.85
20)		Acetonitrile	0.040	0.046	0.046	0.043	0.067	0.047	0.059	0.040	0.048#	19.60
21)		Isopropyl ether	0.971	0.783	0.916	0.864	1.470	1.061	1.274	0.724	1.008	25.13
22)		Chloroprene	0.356	0.296	0.319	0.391	0.534	0.418	0.504	0.291	0.389	23.66
23)	P	1,1-Dichloroet...	1.156	0.747	0.910	0.715	0.976	0.790	0.881	0.643	0.852	19.29
24)		Acrylonitrile	0.082	0.116	0.105	0.100	0.150	0.116	0.136	0.087	0.111	20.86
25)		Vinyl Acetate	0.546	0.560	0.514	0.605	0.908	0.674	0.823	0.540	0.646	22.54
26)		c-1,2-Dichloro...	0.643	0.434	0.538	0.445	0.640	0.553	0.596	0.417	0.533	17.21
27)		2,2-Dichloropr...	1.027	0.778	0.725	0.732	0.910	0.796	0.863	0.613	0.805	15.79
28)		Bromochloromet...	0.338	0.215	0.272	0.214	0.262	0.243	0.242	0.211	0.250	16.90
29)		Cyclohexane	0.632	0.533	0.623	0.595	0.945	0.748	0.870	0.509	0.682	23.16
30)	C	Chloroform	1.182	0.953	1.031	0.852	1.067	0.958	0.994	0.799	0.980	12.32
31)	s	Dibromofluorom...	0.518	0.515	0.535	0.488	0.534	0.526	0.499	0.538	0.519	3.50
32)		Dibromofluorom...	0.518	0.515	0.535	0.488	0.534	0.526	0.499	0.538	0.519	3.50
33)		2-Butanone	0.074	0.031	0.022	0.042	0.056	0.042	0.051	0.039	0.045#	35.44
34)		1,1,1-Trichlor...	1.024	0.756	0.848	0.780	0.900	0.846	0.852	0.674	0.835	12.44
35)		1,1-Dichloropr...	0.721	0.483	0.680	0.659	0.817	0.722	0.769	0.541	0.674	16.68
36)		Propionitrile	0.050	0.039	0.042	0.039	0.059	0.043	0.053	0.037	0.045#	17.51
37)		Methacrylonitrile	0.190	0.198	0.182	0.191	0.269	0.208	0.248	0.178	0.208	15.90
38)		Isobutyl Alcohol	0.024	0.015	0.024	0.022	0.033	0.025	0.029	0.021	0.024#	22.49
39)	I	1,4-DIFLUOROBENZEN...	ISTD									
40)		Carbon Tetrach...	0.420	0.312	0.324	0.300	0.327	0.316	0.344	0.276	0.328	12.99

Method Path : C:\msdchem\1\methods\
Method File : 032921W.M
Title : ENCO SOP VGCMS05; Element Cal

41)		Benzene	1.455	0.948	1.097	0.921	1.020	0.953	1.065	0.829	1.036	18.27
42)		1,2-Dichloroet...	0.496	0.344	0.373	0.315	0.354	0.337	0.354	0.287	0.357	17.31
43)		Trichloroethene	0.394	0.246	0.259	0.244	0.250	0.255	0.267	0.212	0.266	20.45
44)		Methyl cyclohe...	1.300	0.855	0.586	0.445	0.503	0.476	0.521	0.441	0.641	46.52
45)		Dibromomethane	0.150	0.149	0.167	0.130	0.158	0.147	0.159	0.123	0.148	10.17
46)	C	1,2-Dichloropr...	0.335	0.179	0.211	0.203	0.266	0.229	0.263	0.183	0.234	22.46
47)		Bromodichlorom...	0.401	0.266	0.325	0.317	0.362	0.332	0.363	0.273	0.330	13.95
48)		Methyl Methacr...	0.080	0.093	0.097	0.110	0.161	0.125	0.160	0.085	0.114	28.30
49)		1,4-Dioxane	0.002	0.001	0.001	0.001	0.002	0.001	0.002	0.001	0.001#	26.33
50)		2-Chloroethyl ...	0.089	0.099	0.098	0.116	0.149	0.126	0.149	0.103	0.116	20.05
51)		C-1,3-Dichloro...	0.492	0.372	0.389	0.370	0.471	0.438	0.478	0.326	0.417	14.61
52)	s	D8-Toluene	1.103	1.103	1.068	1.057	1.075	1.138	1.093	1.136	1.097	2.73
53)		D8-Toluene	1.103	1.103	1.068	1.057	1.075	1.138	1.093	1.136	1.097	2.73
54)		4-Methyl-2-pen...	0.034	0.028	0.027	0.024	0.032	0.029	0.033	0.026	0.029#	12.11
55)		CHLOROBENZENE-D5 (IS) ----------ISTD----------										
56)	C	Toluene	1.458	1.150	1.193	1.032	1.077	1.100	1.129	0.883	1.128	14.45
57)		T-1,3-Dichloro...	0.840	0.572	0.575	0.526	0.608	0.602	0.612	0.505	0.605	16.97
58)		Tetrachloroethene	0.366	0.355	0.314	0.307	0.279	0.324	0.296	0.259	0.313	11.55
59)		Ethyl methacry...	0.452	0.357	0.318	0.399	0.506	0.442	0.490	0.367	0.416	16.09
60)		1,1,2-Trichlor...	0.451	0.255	0.416	0.360	0.357	0.349	0.361	0.310	0.357	16.79
61)		Dibromochlorom...	0.472	0.310	0.438	0.354	0.383	0.382	0.388	0.326	0.382	14.09
62)		1,3-Dichloropr...	0.859	0.578	0.652	0.580	0.639	0.605	0.645	0.556	0.639	14.94
63)		1,2-Dibromoethane	0.439	0.359	0.369	0.337	0.371	0.358	0.378	0.300	0.364	10.77
64)		2-Hexanone	0.115	0.154	0.118	0.138	0.180	0.146	0.178	0.117	0.143	18.30
65)	C	Ethylbenzene	0.931	0.558	0.697	0.639	0.663	0.679	0.707	0.553	0.678	17.34
66)	P	Chlorobenzene	1.834	1.295	1.374	1.214	1.139	1.220	1.193	1.082	1.294	18.21
67)		1,1,1,2-Tetrac...	0.544	0.431	0.422	0.387	0.387	0.395	0.409	0.337	0.414	14.47
68)		m-xylene & p-x...	1.073	0.821	0.953	0.855	0.801	0.875	0.856	0.808	0.880	10.40
69)		o-xylene	0.941	0.770	0.889	0.798	0.829	0.868	0.879	0.685	0.832	9.65
70)		Styrene	1.487	1.046	1.409	1.329	1.451	1.457	1.489	1.100	1.346	13.13
71)	P	Bromoform	0.321	0.176	0.183	0.168	0.194	0.188	0.196	0.146	0.196	26.79
72)		Isopropylbenzene	2.342	1.835	2.154	2.075	2.103	2.222	2.232	1.853	2.102	8.53
73)	s	Bromofluoroben...	0.904	0.912	0.861	0.849	0.812	0.913	0.819	0.909	0.872	4.88
74)		Bromofluoroben...	0.904	0.912	0.861	0.849	0.812	0.913	0.819	0.909	0.872	4.88
75)		n-Propylbenzene	3.084	2.395	2.801	2.714	2.626	2.801	2.752	2.362	2.692	8.70
76)	P	1,1,2,2-Tetrac...	0.810	0.452	0.514	0.465	0.479	0.471	0.486	0.429	0.513	23.81
77)		1,2,3-Trichlor...	0.181	0.065	0.128	0.099	0.086	0.087	0.095	0.090	0.104	34.21
78)		T-1,4-Dichloro...	0.351	0.026	0.133	0.144	0.165	0.151	0.164	0.148	0.160	55.49
79)		1,4-DICHLOROBENZEN... ----------ISTD----------										
80)		Bromobenzene	0.795	0.468	0.532	0.489	0.538	0.527	0.532	0.426	0.538	20.60
81)		1,2,4-Trimethy...	2.233	1.452	2.081	2.008	2.356	2.288	2.361	1.726	2.063	15.80
82)		2-Chlorotoluene	2.001	1.534	1.840	1.637	2.024	1.868	1.997	1.460	1.795	12.42
83)		4-Chlorotoluene	2.051	1.497	1.732	1.672	2.122	1.929	2.065	1.472	1.817	14.28
84)		tert-Butylbenzene	1.575	1.335	1.574	1.588	1.926	1.808	1.940	1.358	1.638	14.30
85)		1,3,5-Trimethy...	2.242	1.575	2.027	1.969	2.374	2.223	2.390	1.646	2.056	15.20
86)		p-Isopropyltol...	1.612	1.571	1.930	2.013	2.399	2.298	2.406	1.733	1.995	17.19
87)		s-Butylbenzene	2.403	1.748	2.406	2.292	2.804	2.668	2.773	1.974	2.383	15.78
88)		1,3-Dichlorobe...	1.363	0.817	1.041	1.007	1.138	1.103	1.106	0.825	1.050	16.84
89)		1,4-Dichlorobe...	1.476	1.108	1.176	1.026	1.145	1.114	1.105	0.922	1.134	14.03

Method Path : C:\msdchem\1\methods\
Method File : 032921W.M
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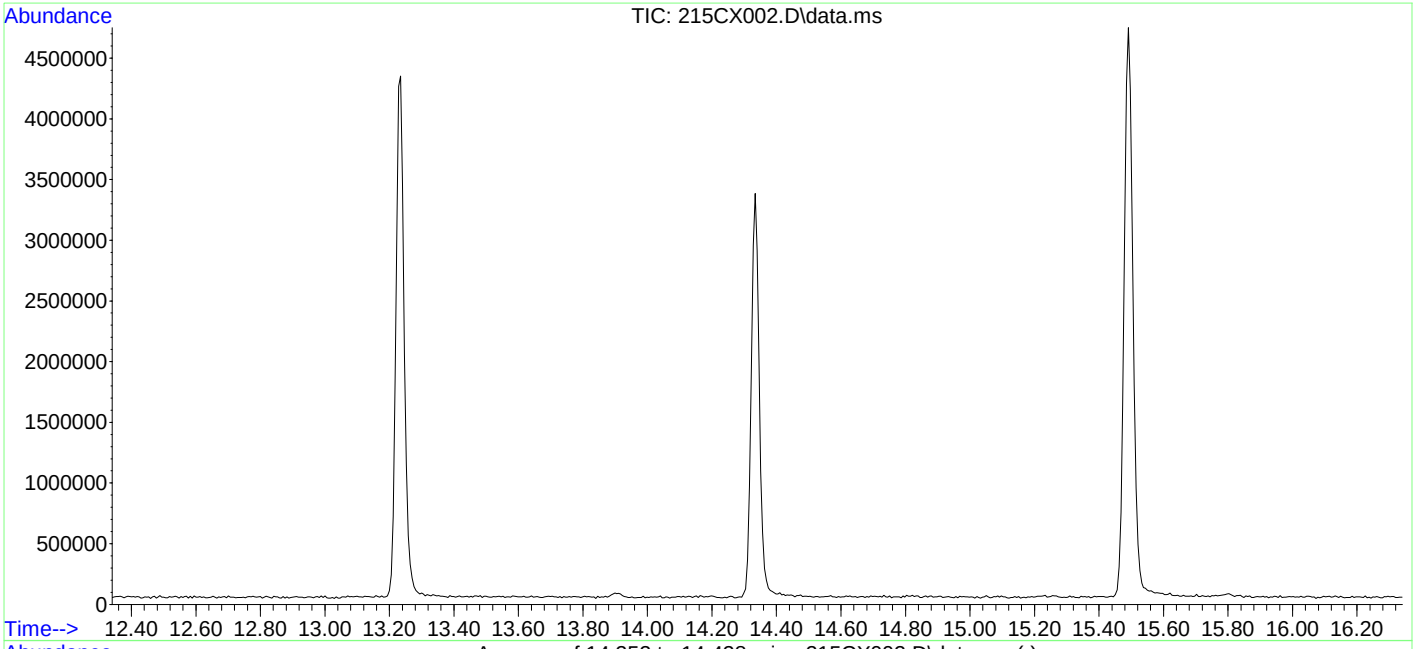
90)	n-Butylbenzene	1.669	1.259	1.741	1.810	2.320	2.123	2.256	1.522	1.838	20.17
91)	1,2-Dichlorobe...	1.282	0.722	0.952	0.887	1.047	0.992	1.005	0.821	0.963	17.35
92)	DBCP	0.088	0.038	0.047	0.054	0.077	0.067	0.077	0.047	0.062#	28.91
93)	Hexachlorobuta...	0.138	0.079	0.124	0.104	0.120	0.111	0.112	0.092	0.110	16.68
94)	1,2,4-Trichlor...	0.204	0.114	0.162	0.205	0.323	0.239	0.282	0.129	0.207	35.10
95)	Naphthalene	0.289	0.213	0.254	0.298	0.693	0.428	0.602	0.268	0.380	46.66
96)	1,2,3-Trichlor...	0.126	0.068	0.071	0.076	0.146	0.095	0.124	0.065	0.096#	32.79

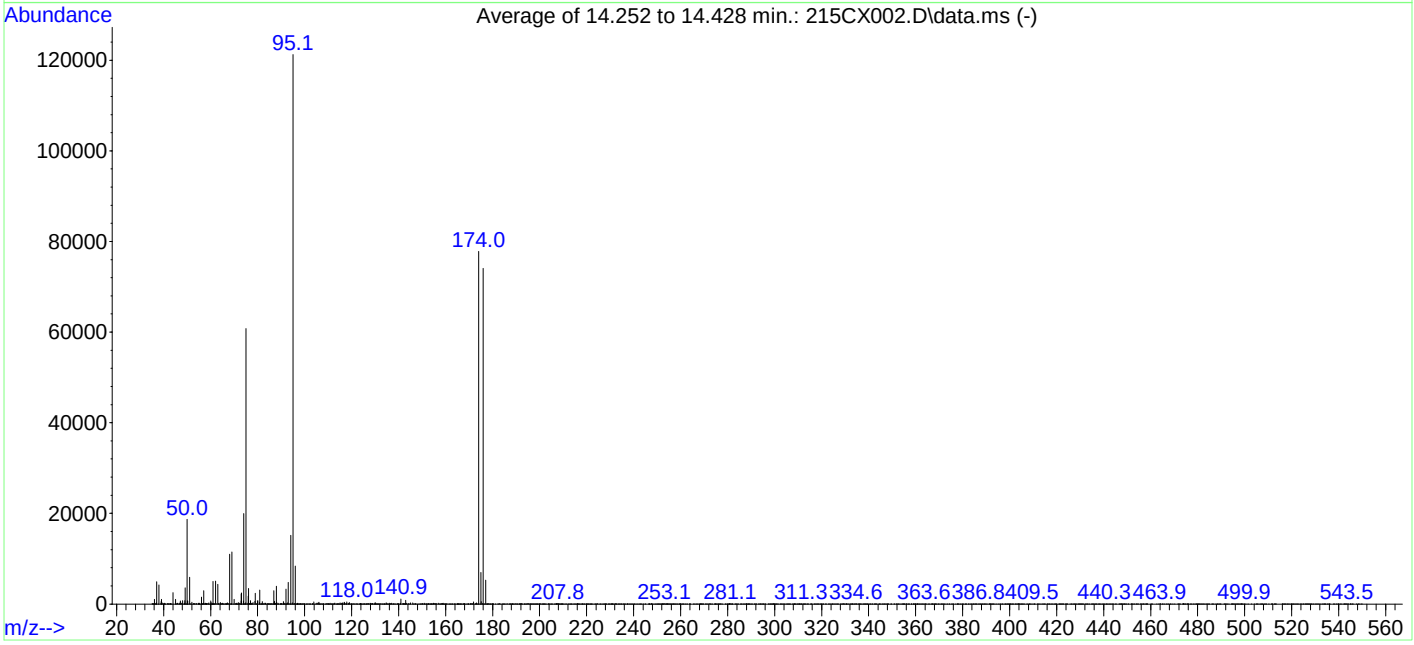
(#) = Out of Range

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX002.D
Acq On : 29 Mar 2021 8:34 am
Operator : KKW
Sample : TUN1
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\methods\032921W.M
Title : ENCO SOP VGCMS05; Element Cal
Last Update : Mon Mar 29 13:47:27 2021





Spectrum Information: Average of 14.252 to 14.428 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
95	174	50	200	155.8	121226	PASS
96	95	5	9	6.9	8387	PASS
173	174	0.00	2	0.3	240	PASS
174	95	50	200	64.2	77828	PASS
175	174	5	9	8.9	6951	PASS
176	174	95	105	95.1	74038	PASS
177	176	5	10	7.1	5277	PASS

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX003.D
Acq On : 29 Mar 2021 9:08 am
Operator : KKW
Sample : CAL1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 29 11:42:13 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1346004	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.456	114	2604384	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1476739	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1485351	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.434	113	697532	49.57	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 99.14%				
52) D8-Toluene	11.784	98	2871980	49.16	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 98.32%				
73) Bromofluorobenzene	14.334	95	1335006	48.84	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 97.68%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	15173	0.91	ug/L	#	89
3) Chloromethane	4.404	50	10512	1.01	ug/L	#	84
4) Vinyl Chloride	4.592	62	11846	0.90	ug/L	#	1
5) Bromomethane	5.239	94	20266	4.70	ug/L	#	82
6) Chloroethane	5.474	64	9338	1.15	ug/L	#	93
7) Trichlorofluoromethane	5.714	101	20005	1.01	ug/L	#	93
8) Diethyl ether	6.184	59	10011	1.47	ug/L	#	86
9) 1,1-Dichloroethene	6.537	96	11667	1.14	ug/L		92
10) Trichlorotrifluoroethane	6.566	151	11133	1.55	ug/L	#	66
11) Acrolein	7.025	56	8379	5.53	ug/L	#	71
12) Iodomethane	6.778	142	20828	3.12	ug/L	#	81
13) Carbon Disulfide	6.631	76	170244	6.26	ug/L	#	91
14) 3-chloropropene	7.201	41	13216	1.28	ug/L	#	86
15) Acetone	7.424	43	11020	6.93	ug/L		90
16) Methylene Chloride	7.342	84	19056	1.53	ug/L		87
17) Methyl Acetate	7.548	43	2786	0.55	ug/L	#	21
18) t-1,2-Dichloroethene	7.559	96	16702	1.51	ug/L		100
19) Methyl tert-butyl ether	7.636	73	32597	1.27	ug/L	#	86
20) Acetonitrile	8.035	41	10810	9.35	ug/L	#	84
21) Isopropyl ether	8.053	45	26147	1.07	ug/L	#	86
22) Chloroprene	8.288	88	9593	1.08	ug/L	#	76
23) 1,1-Dichloroethane	8.323	63	31124	1.52	ug/L		99
24) Acrylonitrile	8.400	53	22133	7.29	ug/L		97
25) Vinyl Acetate	8.558	43	73494	5.10	ug/L		99
26) c-1,2-Dichloroethene	8.958	96	17299	1.36	ug/L	#	83
27) 2,2-Dichloropropane	9.081	77	27656	1.49	ug/L	#	91
28) Bromochloromethane	9.193	128	9100	1.59	ug/L		87
29) Cyclohexane	9.193	56	17006	1.07	ug/L	#	84
30) Chloroform	9.234	83	31830	1.36	ug/L		98
32) Dibromofluoromethane	9.434	113	697532	49.57	ug/L	#	90
33) 2-Butanone	9.581	72	9924m	8.99	ug/L		
34) 1,1,1-Trichloroethane	9.498	97	27570	1.42	ug/L	#	89
35) 1,1-Dichloropropene	9.616	75	19402	1.23	ug/L	#	88
36) Propionitrile	9.927	54	13496	11.76	ug/L	#	70
37) Methacrylonitrile	9.921	41	51184	9.53	ug/L		86
38) Isobutyl Alcohol	9.915	43	12950	22.74	ug/L	#	78
40) Carbon Tetrachloride	9.428	117	21898	1.50	ug/L	#	67
41) Benzene	9.892	78	75762	1.59	ug/L		98
42) 1,2-Dichloroethane	10.092	62	25821	1.66	ug/L	#	90
43) Trichloroethene	10.456	130	20535	1.64	ug/L	#	1
44) Methyl cyclohexane	10.450	83	67716	2.27	ug/L	#	63
45) Dibromomethane	10.914	93	7826	1.09	ug/L	#	62
46) 1,2-Dichloropropane	10.997	63	17460	1.61	ug/L	#	87
47) Bromodichloromethane	11.032	83	20904	1.35	ug/L		99
48) Methyl Methacrylate	11.108	69	4160	0.71	ug/L	#	33
49) 1,4-Dioxane	11.243	88	2167	20.97	ug/L	#	20
50) 2-Chloroethyl vinyl ether	11.508	63	23139	4.47	ug/L	#	98
51) C-1,3-Dichloropropene	11.619	75	25622	1.38	ug/L	#	83

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX003.D
Acq On : 29 Mar 2021 9:08 am
Operator : KKW
Sample : CAL1
Misc :
ALS Vial : 2 Sample Multiplier: 1

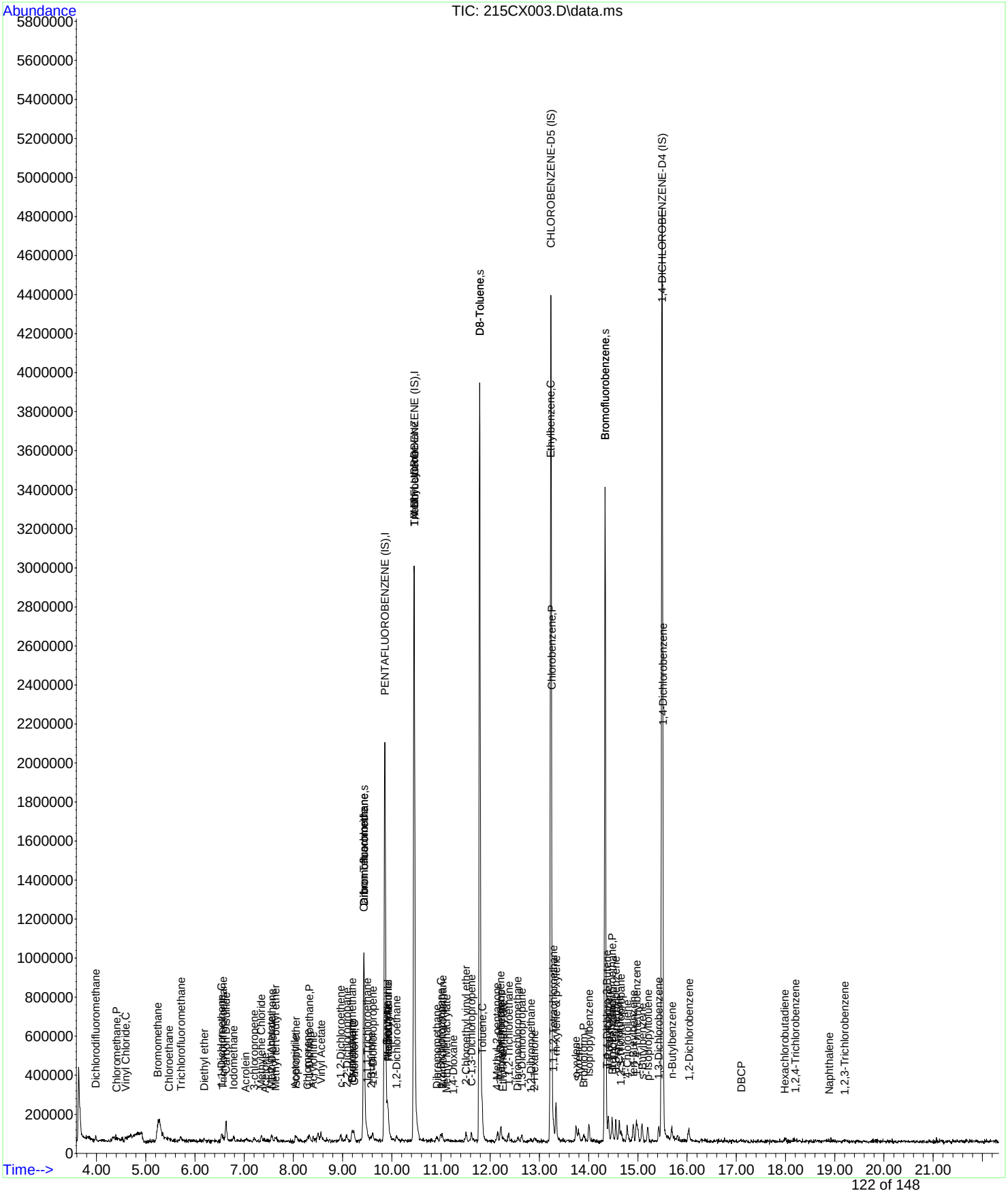
Quant Time: Mar 29 11:42:13 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.784	98	2871980	49.16	ug/L	#	96
54) 4-Methyl-2-pentanone	12.131	100	8813	5.50	ug/L	#	66
56) Toluene	11.837	92	43065	1.29	ug/L	#	89
57) T-1,3-Dichloropropene	12.207	75	24821	1.45	ug/L	#	84
58) Tetrachloroethene	12.219	164	10797	1.22	ug/L		93
59) Ethyl methacrylate	12.254	69	13362	0.98	ug/L	#	85
60) 1,1,2-Trichloroethane	12.377	97	13330	1.16	ug/L	#	82
61) Dibromochloromethane	12.554	129	13931	1.31	ug/L	#	97
62) 1,3-Dichloropropane	12.642	76	25370	1.37	ug/L	#	39
63) 1,2-Dibromoethane	12.824	107	12959	1.26	ug/L	#	72
64) 2-Hexanone	12.894	43	17037	3.51	ug/L	#	87
65) Ethylbenzene	13.223	106	27483	1.38	ug/L	#	81
66) Chlorobenzene	13.247	112	54155	1.42	ug/L		89
67) 1,1,1,2-Tetrachloroethane	13.282	131	16064	1.31	ug/L		90
68) m-xylene & p-xylene	13.335	106	63381	2.50	ug/L		94
69) o-xylene	13.740	106	27798	1.11	ug/L		98
70) Styrene	13.793	104	43921	1.08	ug/L	#	95
71) Bromoform	13.893	173	9466	1.75	ug/L	#	76
72) Isopropylbenzene	14.005	105	69164	1.07	ug/L		95
74) Bromofluorobenzene	14.334	95	1335006	48.84	ug/L		89
75) n-Propylbenzene	14.399	91	91098	1.04	ug/L	#	94
76) 1,1,2,2-Tetrachloroethane	14.475	83	23910	1.44	ug/L	#	88
77) 1,2,3-Trichloropropane	14.651	61	5332	1.59	ug/L	#	83
78) T-1,4-Dichloro-2-Butene	14.369	53	10360	2.41	ug/L	#	50
80) Bromobenzene	14.481	156	23609	1.49	ug/L	#	68
81) 1,2,4-Trimethylbenzene	14.974	105	66338	1.02	ug/L	#	92
82) 2-Chlorotoluene	14.622	91	59438	1.05	ug/L	#	89
83) 4-Chlorotoluene	14.780	91	60926	1.07	ug/L		96
84) tert-Butylbenzene	14.904	119	46798	0.89	ug/L		90
85) 1,3,5-Trimethylbenzene	14.551	105	66597	1.05	ug/L		99
86) p-Isopropyltoluene	15.204	119	47896	0.73	ug/L		96
87) s-Butylbenzene	15.092	105	71395	0.92	ug/L	#	95
88) 1,3-Dichlorobenzene	15.421	146	40499	1.23	ug/L		97
89) 1,4-Dichlorobenzene	15.509	146	43846	1.22	ug/L	#	1
90) n-Butylbenzene	15.691	91	49575	0.83	ug/L		94
91) 1,2-Dichlorobenzene	16.038	146	38089	1.30	ug/L	#	88
92) DBCP	17.101	157	2629m	1.27	ug/L		
93) Hexachlorobutadiene	17.983	225	4092	1.04	ug/L	#	28
94) 1,2,4-Trichlorobenzene	18.200	180	6070	0.63	ug/L	#	87
95) Naphthalene	18.887	128	8572	0.42	ug/L	#	95
96) 1,2,3-Trichlorobenzene	19.199	180	3745m	0.66	ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX003.D
Acq On : 29 Mar 2021 9:08 am
Operator : KKW
Sample : CAL1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 29 11:42:13 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX004.D
Acq On : 29 Mar 2021 9:36 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 29 11:44:32 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1328802	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2614044	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1465646	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.486	152	1484001	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	752059	54.13	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 108.26%				
52) D8-Toluene	11.778	98	3173381	54.12	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 108.24%				
73) Bromofluorobenzene	14.328	95	1471089	54.23	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 108.46%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	30835	1.88	ug/L		93
3) Chloromethane	4.410	50	23986	2.34	ug/L		99
4) Vinyl Chloride	4.580	62	23575	1.82	ug/L	#	47
5) Bromomethane	5.239	94	24555	5.77	ug/L	#	81
6) Chloroethane	5.468	64	16014m	2.00	ug/L		
7) Trichlorofluoromethane	5.709	101	36080	1.84	ug/L	#	90
8) Diethyl ether	6.179	59	13385	2.00	ug/L	#	73
9) 1,1-Dichloroethene	6.555	96	20096	2.00	ug/L		95
10) Trichlorotrifluoroethane	6.561	151	13554	1.91	ug/L		90
11) Acrolein	7.019	56	28837	19.28	ug/L		96
12) Iodomethane	6.784	142	64204	9.74	ug/L		93
13) Carbon Disulfide	6.631	76	368582	13.73	ug/L		97
14) 3-chloropropene	7.207	41	22191	2.18	ug/L	#	80
15) Acetone	7.401	43	21080	13.42	ug/L		90
16) Methylene Chloride	7.342	84	23782	1.94	ug/L		97
17) Methyl Acetate	7.548	43	12165	2.42	ug/L	#	53
18) t-1,2-Dichloroethene	7.559	96	18795	1.72	ug/L		86
19) Methyl tert-butyl ether	7.624	73	43199	1.71	ug/L	#	90
20) Acetonitrile	8.047	41	24538	21.50	ug/L	#	63
21) Isopropyl ether	8.059	45	41616	1.72	ug/L		94
22) Chloroprene	8.288	88	15728	1.79	ug/L	#	79
23) 1,1-Dichloroethane	8.329	63	39712	1.97	ug/L		99
24) Acrylonitrile	8.400	53	61623	20.57	ug/L		95
25) Vinyl Acetate	8.558	43	148921	10.48	ug/L		98
26) c-1,2-Dichloroethene	8.952	96	23065	1.84	ug/L	#	81
27) 2,2-Dichloropropane	9.075	77	41344	2.25	ug/L	#	92
28) Bromochloromethane	9.181	128	11421	2.03	ug/L		90
29) Cyclohexane	9.187	56	28345	1.80	ug/L	#	91
30) Chloroform	9.228	83	50671	2.19	ug/L		96
32) Dibromofluoromethane	9.428	113	752059	54.13	ug/L	#	90
33) 2-Butanone	9.563	72	8198	7.52	ug/L	#	47
34) 1,1,1-Trichloroethane	9.492	97	40208	2.10	ug/L		91
35) 1,1-Dichloropropene	9.616	75	25667	1.65	ug/L	#	83
36) Propionitrile	9.904	54	20908	18.46	ug/L	#	28
37) Methacrylonitrile	9.915	41	105052	19.82	ug/L		86
38) Isobutyl Alcohol	9.915	43	15783	28.08	ug/L	#	42
40) Carbon Tetrachloride	9.416	117	32641	2.23	ug/L	#	81
41) Benzene	9.880	78	99163	2.08	ug/L		96
42) 1,2-Dichloroethane	10.103	62	35974	2.30	ug/L		96
43) Trichloroethene	10.468	130	25702	2.05	ug/L	#	1
44) Methyl cyclohexane	10.450	83	89368	2.98	ug/L	#	67
45) Dibromomethane	10.903	93	15579	2.16	ug/L		87
46) 1,2-Dichloropropane	10.991	63	18694	1.72	ug/L	#	77
47) Bromodichloromethane	11.020	83	27764	1.79	ug/L	#	89
48) Methyl Methacrylate	11.091	69	9691	1.66	ug/L	#	80
49) 1,4-Dioxane	11.208	88	2015	19.42	ug/L	#	70
50) 2-Chloroethyl vinyl ether	11.496	63	51809	9.98	ug/L	#	92
51) C-1,3-Dichloropropene	11.614	75	38936	2.09	ug/L	#	88

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX004.D
Acq On : 29 Mar 2021 9:36 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 29 11:44:32 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration

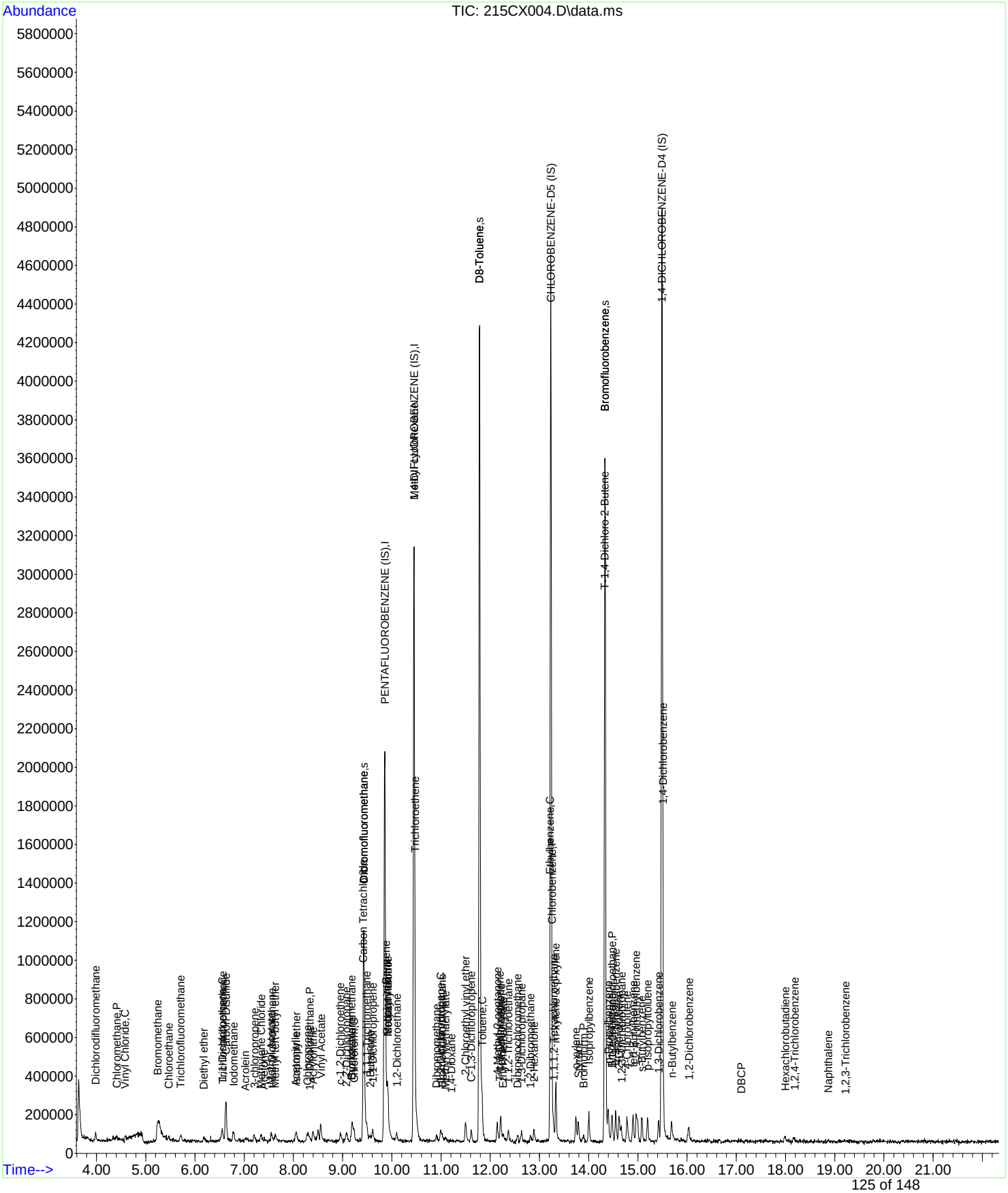
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.778	98	3172761	54.11 ug/L #	96
54) 4-Methyl-2-pentanone	12.142	100	14732	9.16 ug/L	91
56) Toluene	11.837	92	67403	2.03 ug/L #	96
57) T-1,3-Dichloropropene	12.195	75	33539	1.98 ug/L	95
58) Tetrachloroethene	12.219	164	20839	2.38 ug/L	91
59) Ethyl methacrylate	12.260	69	20905	1.54 ug/L	94
60) 1,1,2-Trichloroethane	12.366	97	14937	1.31 ug/L #	44
61) Dibromochloromethane	12.554	129	18186	1.72 ug/L #	95
62) 1,3-Dichloropropane	12.636	76	33913	1.84 ug/L	99
63) 1,2-Dibromoethane	12.818	107	21026	2.07 ug/L #	96
64) 2-Hexanone	12.889	43	45154	9.37 ug/L	86
65) Ethylbenzene	13.212	106	32719	1.65 ug/L #	84
66) Chlorobenzene	13.253	112	75925	2.00 ug/L	92
67) 1,1,1,2-Tetrachloroethane	13.294	131	25240	2.08 ug/L	88
68) m-xylene & p-xylene	13.329	106	96244	3.83 ug/L	97
69) o-xylene	13.740	106	45151	1.81 ug/L	81
70) Styrene	13.793	104	61329	1.52 ug/L #	80
71) Bromoform	13.893	173	10308	1.92 ug/L #	78
72) Isopropylbenzene	14.005	105	107603	1.68 ug/L	95
74) Bromofluorobenzene	14.328	95	1471089	54.23 ug/L	88
75) n-Propylbenzene	14.404	91	140390	1.62 ug/L	97
76) 1,1,2,2-Tetrachloroethane	14.475	83	26520	1.61 ug/L #	89
77) 1,2,3-Trichloropropane	14.669	61	3809	1.14 ug/L #	59
78) T-1,4-Dichloro-2-Butene	14.322	53	1545	0.36 ug/L #	1
80) Bromobenzene	14.469	156	27760	1.75 ug/L	83
81) 1,2,4-Trimethylbenzene	14.963	105	86195	1.32 ug/L #	96
82) 2-Chlorotoluene	14.616	91	91072	1.62 ug/L	92
83) 4-Chlorotoluene	14.775	91	88861	1.56 ug/L	94
84) tert-Butylbenzene	14.904	119	79263	1.51 ug/L	98
85) 1,3,5-Trimethylbenzene	14.551	105	93491	1.48 ug/L #	92
86) p-Isopropyltoluene	15.198	119	93247	1.43 ug/L	94
87) s-Butylbenzene	15.080	105	103773	1.34 ug/L #	94
88) 1,3-Dichlorobenzene	15.421	146	48473	1.47 ug/L	96
89) 1,4-Dichlorobenzene	15.509	146	65762	1.84 ug/L #	1
90) n-Butylbenzene	15.691	91	74752	1.25 ug/L	96
91) 1,2-Dichlorobenzene	16.038	146	42862	1.46 ug/L	97
92) DBCP	17.101	157	2263m	1.09 ug/L	
93) Hexachlorobutadiene	17.994	225	4704m	1.19 ug/L	
94) 1,2,4-Trichlorobenzene	18.188	180	6744m	0.70 ug/L	
95) Naphthalene	18.870	128	12668	0.62 ug/L #	84
96) 1,2,3-Trichlorobenzene	19.217	180	4028m	0.71 ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX004.D
Acq On : 29 Mar 2021 9:36 am
Operator : KKW
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 29 11:44:32 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX005.D
Acq On : 29 Mar 2021 10:04 am
Operator : KKW
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 29 11:47:14 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.851	168	1303609	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2636527	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1519825	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1521127	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	837287	61.43	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 122.86%				
52) D8-Toluene	11.778	98	3379211	57.14	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 114.28%				
73) Bromofluorobenzene	14.328	95	1570211	55.82	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 111.64%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	71190	4.42	ug/L		93
3) Chloromethane	4.398	50	51228	5.09	ug/L		98
4) Vinyl Chloride	4.586	62	53188	4.18	ug/L	#	43
5) Bromomethane	5.232	94	40977	9.82	ug/L	#	96
6) Chloroethane	5.467	64	34320	4.38	ug/L		97
7) Trichlorofluoromethane	5.714	101	87426	4.54	ug/L		98
8) Diethyl ether	6.178	59	40677	6.19	ug/L		85
9) 1,1-Dichloroethene	6.537	96	48972	4.96	ug/L	#	78
10) Trichlorotrifluoroethane	6.566	151	39285	5.65	ug/L		96
11) Acrolein	7.019	56	74786	50.96	ug/L		96
12) Iodomethane	6.778	142	200791	31.06	ug/L		99
13) Carbon Disulfide	6.625	76	795138	30.19	ug/L		97
14) 3-chloropropene	7.201	41	54613	5.47	ug/L	#	89
15) Acetone	7.401	43	43683	28.36	ug/L		94
16) Methylene Chloride	7.342	84	64086	5.32	ug/L		91
17) Methyl Acetate	7.536	43	26135	5.30	ug/L		90
18) t-1,2-Dichloroethene	7.553	96	54041	5.03	ug/L		97
19) Methyl tert-butyl ether	7.636	73	139620	5.62	ug/L	#	92
20) Acetonitrile	8.053	41	59685	53.30	ug/L		97
21) Isopropyl ether	8.047	45	119390	5.02	ug/L		95
22) Chloroprene	8.276	88	41543	4.82	ug/L	#	91
23) 1,1-Dichloroethane	8.317	63	118582	6.00	ug/L		96
24) Acrylonitrile	8.393	53	136827	46.56	ug/L	#	97
25) Vinyl Acetate	8.546	43	335017	24.02	ug/L		99
26) c-1,2-Dichloroethene	8.952	96	70106	5.69	ug/L		95
27) 2,2-Dichloropropane	9.075	77	94468	5.25	ug/L		97
28) Bromochloromethane	9.193	128	35395	6.40	ug/L		96
29) Cyclohexane	9.187	56	81246	5.27	ug/L		93
30) Chloroform	9.222	83	134466	5.94	ug/L		90
32) Dibromofluoromethane	9.428	113	837287	61.43	ug/L	#	93
33) 2-Butanone	9.557	72	14508	13.57	ug/L	#	20
34) 1,1,1-Trichloroethane	9.480	97	110578	5.88	ug/L		94
35) 1,1-Dichloropropene	9.610	75	88659	5.82	ug/L	#	88
36) Propionitrile	9.904	54	54571	49.11	ug/L	#	84
37) Methacrylonitrile	9.909	41	237368	45.64	ug/L		98
38) Isobutyl Alcohol	9.909	43	63611	115.35	ug/L	#	41
40) Carbon Tetrachloride	9.410	117	85459	5.79	ug/L	#	82
41) Benzene	9.880	78	289120	6.00	ug/L		99
42) 1,2-Dichloroethane	10.092	62	98401	6.25	ug/L		96
43) Trichloroethene	10.450	130	68234	5.38	ug/L	#	20
44) Methyl cyclohexane	10.450	83	154573	5.11	ug/L		85
45) Dibromomethane	10.902	93	44146	6.06	ug/L		95
46) 1,2-Dichloropropane	10.991	63	55564	5.06	ug/L	#	79
47) Bromodichloromethane	11.020	83	85663	5.48	ug/L	#	93
48) Methyl Methacrylate	11.090	69	25666	4.35	ug/L		92
49) 1,4-Dioxane	11.226	88	6774	64.74	ug/L	#	73
50) 2-Chloroethyl vinyl ether	11.490	63	129803	24.80	ug/L	#	97
51) C-1,3-Dichloropropene	11.613	75	102600	5.46	ug/L	#	90

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX005.D
Acq On : 29 Mar 2021 10:04 am
Operator : KKW
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 29 11:47:14 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration

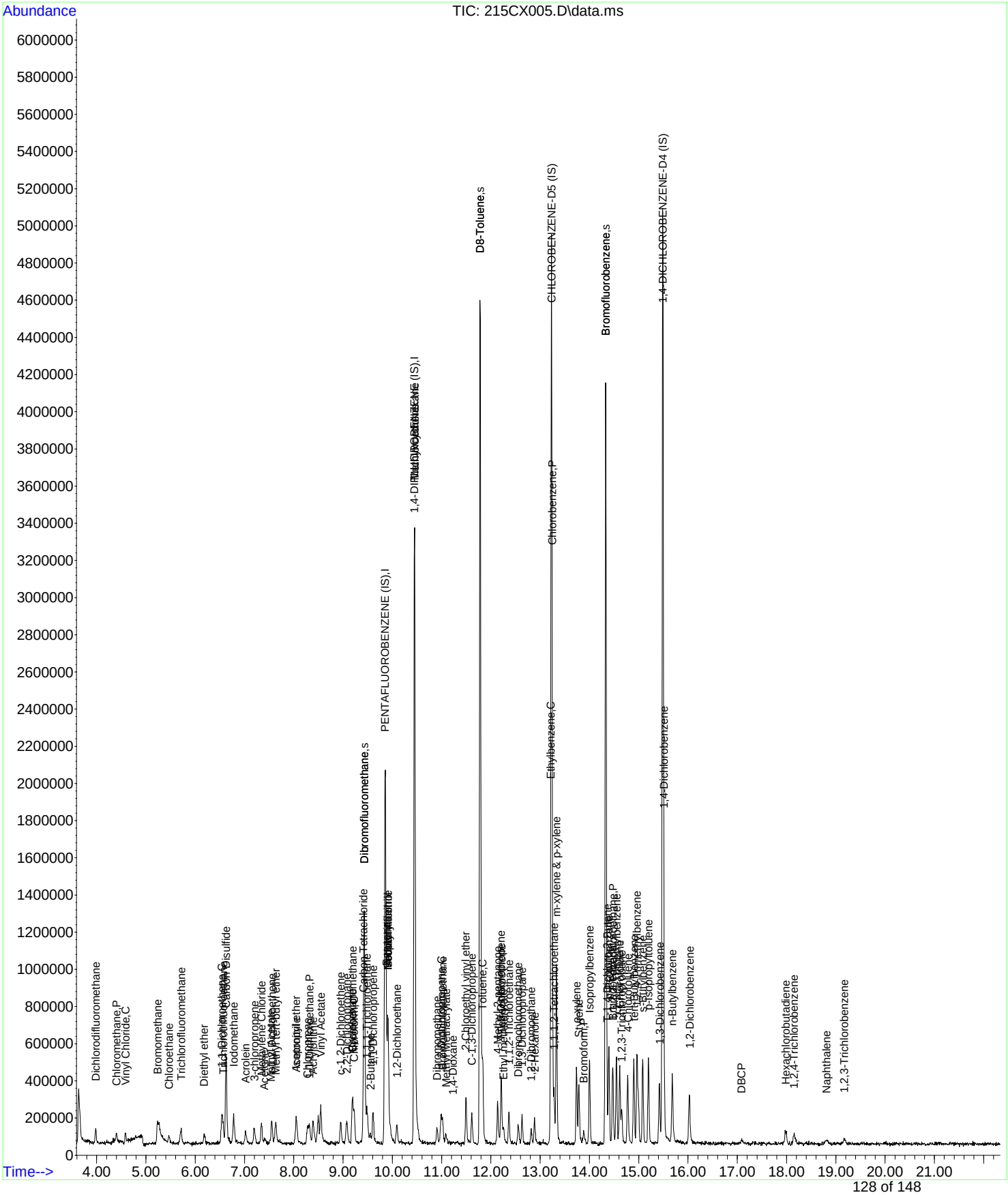
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	3379211	57.14	ug/L		96
54) 4-Methyl-2-pentanone	12.136	100	35178	21.68	ug/L		80
56) Toluene	11.831	92	181325	5.28	ug/L		99
57) T-1,3-Dichloropropene	12.201	75	87397	4.97	ug/L	#	92
58) Tetrachloroethene	12.213	164	47764	5.26	ug/L		89
59) Ethyl methacrylate	12.248	69	48326	3.44	ug/L	#	91
60) 1,1,2-Trichloroethane	12.365	97	63267	5.36	ug/L		97
61) Dibromochloromethane	12.553	129	66507	6.07	ug/L	#	95
62) 1,3-Dichloropropane	12.630	76	99078	5.19	ug/L	#	95
63) 1,2-Dibromoethane	12.818	107	56072	5.31	ug/L	#	91
64) 2-Hexanone	12.888	43	89628	17.94	ug/L		98
65) Ethylbenzene	13.211	106	105895	5.16	ug/L	#	91
66) Chlorobenzene	13.241	112	208785	5.31	ug/L		95
67) 1,1,1,2-Tetrachloroethane	13.282	131	64189	5.10	ug/L		92
68) m-xylene & p-xylene	13.329	106	289617	11.11	ug/L		95
69) o-xylene	13.740	106	135108	5.23	ug/L		98
70) Styrene	13.781	104	214155	5.11	ug/L		98
71) Bromoform	13.881	173	27867	5.01	ug/L	#	88
72) Isopropylbenzene	13.999	105	327340	4.92	ug/L		97
74) Bromofluorobenzene	14.328	95	1570211	55.82	ug/L		91
75) n-Propylbenzene	14.392	91	425679	4.72	ug/L		97
76) 1,1,2,2-Tetrachloroethane	14.475	83	78139	4.58	ug/L		99
77) 1,2,3-Trichloropropane	14.651	61	19398	5.60	ug/L		84
78) T-1,4-Dichloro-2-Butene	14.357	53	20247	4.57	ug/L	#	1
80) Bromobenzene	14.469	156	80917	4.98	ug/L		91
81) 1,2,4-Trimethylbenzene	14.962	105	316547	4.73	ug/L		99
82) 2-Chlorotoluene	14.616	91	279842	4.85	ug/L		96
83) 4-Chlorotoluene	14.780	91	263457	4.51	ug/L		96
84) tert-Butylbenzene	14.904	119	239393	4.45	ug/L		97
85) 1,3,5-Trimethylbenzene	14.551	105	308391	4.77	ug/L		99
86) p-Isopropyltoluene	15.197	119	293519	4.38	ug/L		95
87) s-Butylbenzene	15.080	105	365921	4.62	ug/L		96
88) 1,3-Dichlorobenzene	15.427	146	158311	4.70	ug/L		94
89) 1,4-Dichlorobenzene	15.509	146	178959	4.88	ug/L	#	39
90) n-Butylbenzene	15.679	91	264901	4.34	ug/L		98
91) 1,2-Dichlorobenzene	16.032	146	144830	4.81	ug/L		98
92) DBCP	17.083	157	7172	3.38	ug/L	#	35
93) Hexachlorobutadiene	17.982	225	18849	4.66	ug/L	#	45
94) 1,2,4-Trichlorobenzene	18.147	180	24677	2.50	ug/L	#	85
95) Naphthalene	18.805	128	38668	1.86	ug/L	#	92
96) 1,2,3-Trichlorobenzene	19.169	180	10735	1.85	ug/L	#	76

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX005.D
Acq On : 29 Mar 2021 10:04 am
Operator : KKW
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 29 11:47:14 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX006.D
Acq On : 29 Mar 2021 10:31 am
Operator : KKW
Sample : CAL4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 29 11:49:14 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1312838	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2602591	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1563138	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1552067	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.434	113	706811	51.50	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 103.00%				
52) D8-Toluene	11.778	98	2957557	50.66	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 101.32%				
73) Bromofluorobenzene	14.328	95	1420293	49.09	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 98.18%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.975	85	146271	9.02	ug/L		98
3) Chloromethane	4.410	50	89288	8.81	ug/L		97
4) Vinyl Chloride	4.586	62	105794	8.26	ug/L	#	68
5) Bromomethane	5.227	94	56808	13.52	ug/L		91
6) Chloroethane	5.473	64	61346	7.77	ug/L		94
7) Trichlorofluoromethane	5.708	101	161086	8.31	ug/L		98
8) Diethyl ether	6.179	59	60478	9.13	ug/L		98
9) 1,1-Dichloroethene	6.537	96	88790	8.93	ug/L		97
10) Trichlorotrifluoroethane	6.555	151	63232	9.02	ug/L		98
11) Acrolein	7.019	56	131505	88.98	ug/L		98
12) Iodomethane	6.778	142	479389	73.63	ug/L		99
13) Carbon Disulfide	6.625	76	1526774	57.56	ug/L		98
14) 3-chloropropene	7.195	41	101438	10.08	ug/L		88
15) Acetone	7.395	43	89485	57.68	ug/L		96
16) Methylene Chloride	7.348	84	99409	8.20	ug/L		94
17) Methyl Acetate	7.518	43	38026	7.65	ug/L	#	81
18) t-1,2-Dichloroethene	7.548	96	96666	8.94	ug/L		100
19) Methyl tert-butyl ether	7.636	73	229561	9.18	ug/L		95
20) Acetonitrile	8.047	41	103747	92.00	ug/L	#	92
21) Isopropyl ether	8.053	45	189968	7.94	ug/L		98
22) Chloroprene	8.282	88	76493	8.81	ug/L	#	88
23) 1,1-Dichloroethane	8.311	63	168949	8.48	ug/L		95
24) Acrylonitrile	8.394	53	227456	76.85	ug/L		95
25) Vinyl Acetate	8.541	43	708931	50.48	ug/L		100
26) c-1,2-Dichloroethene	8.952	96	109502	8.83	ug/L		96
27) 2,2-Dichloropropane	9.075	77	161029	8.89	ug/L		99
28) Bromochloromethane	9.187	128	55518	9.97	ug/L		85
29) Cyclohexane	9.187	56	133647	8.61	ug/L	#	81
30) Chloroform	9.216	83	209739	9.20	ug/L		96
32) Dibromofluoromethane	9.434	113	706811	51.50	ug/L	#	89
33) 2-Butanone	9.557	72	51818	48.14	ug/L		87
34) 1,1,1-Trichloroethane	9.481	97	177056	9.34	ug/L		97
35) 1,1-Dichloropropene	9.610	75	142116	9.27	ug/L		97
36) Propionitrile	9.898	54	97374	87.01	ug/L		95
37) Methacrylonitrile	9.910	41	466488	89.07	ug/L		97
38) Isobutyl Alcohol	9.904	43	109843	197.79	ug/L	#	41
40) Carbon Tetrachloride	9.410	117	143765	9.87	ug/L		86
41) Benzene	9.874	78	431460	9.07	ug/L		99
42) 1,2-Dichloroethane	10.086	62	149145	9.59	ug/L		95
43) Trichloroethene	10.456	130	110333	8.82	ug/L	#	52
44) Methyl cyclohexane	10.450	83	229516	7.69	ug/L		91
45) Dibromomethane	10.903	93	63786	8.87	ug/L		95
46) 1,2-Dichloropropane	10.991	63	95181	8.79	ug/L	#	82
47) Bromodichloromethane	11.014	83	142014	9.20	ug/L		97
48) Methyl Methacrylate	11.085	69	44042	7.56	ug/L	#	78
49) 1,4-Dioxane	11.208	88	15150	146.68	ug/L		95
50) 2-Chloroethyl vinyl ether	11.490	63	268011	51.87	ug/L	#	95
51) C-1,3-Dichloropropene	11.613	75	169737	9.15	ug/L		94

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX006.D
Acq On : 29 Mar 2021 10:31 am
Operator : KKW
Sample : CAL4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 29 11:49:14 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration

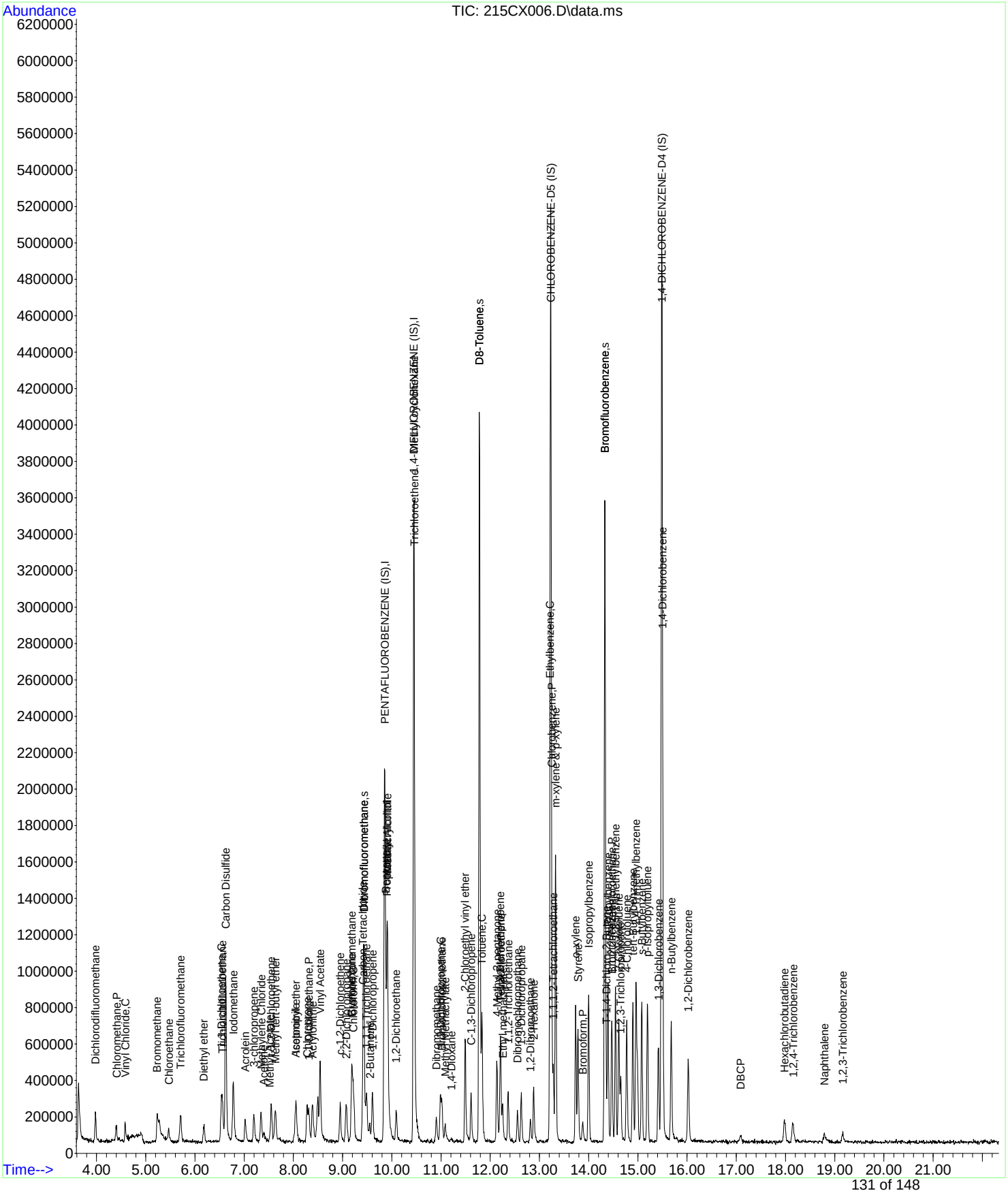
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	2957557	50.66	ug/L		96
54) 4-Methyl-2-pentanone	12.136	100	67685	42.25	ug/L		89
56) Toluene	11.831	92	276199	7.82	ug/L		92
57) T-1,3-Dichloropropene	12.201	75	157861	8.72	ug/L		97
58) Tetrachloroethene	12.213	164	80898	8.66	ug/L		96
59) Ethyl methacrylate	12.254	69	114796	7.94	ug/L		97
60) 1,1,2-Trichloroethane	12.366	97	96790	7.98	ug/L		98
61) Dibromochloromethane	12.554	129	101879	9.04	ug/L		94
62) 1,3-Dichloropropane	12.630	76	173716	8.84	ug/L		98
63) 1,2-Dibromoethane	12.812	107	93758	8.64	ug/L	#	100
64) 2-Hexanone	12.883	43	183191	35.65	ug/L		93
65) Ethylbenzene	13.212	106	172736	8.19	ug/L	#	91
66) Chlorobenzene	13.247	112	338149	8.36	ug/L		100
67) 1,1,1,2-Tetrachloroethane	13.282	131	105209	8.13	ug/L		93
68) m-xylene & p-xylene	13.329	106	505058	18.84	ug/L		94
69) o-xylene	13.735	106	214198	8.06	ug/L		94
70) Styrene	13.782	104	343805	7.98	ug/L		98
71) Bromoform	13.881	173	45658	7.98	ug/L	#	85
72) Isopropylbenzene	13.999	105	579330	8.47	ug/L		99
74) Bromofluorobenzene	14.328	95	1420293	49.09	ug/L		89
75) n-Propylbenzene	14.393	91	738420	7.97	ug/L		97
76) 1,1,2,2-Tetrachloroethane	14.469	83	134109	7.64	ug/L	#	96
77) 1,2,3-Trichloropropane	14.645	61	28151	7.91	ug/L		91
78) T-1,4-Dichloro-2-Butene	14.357	53	46415	10.19	ug/L	#	1
80) Bromobenzene	14.469	156	132106	7.97	ug/L		86
81) 1,2,4-Trimethylbenzene	14.963	105	535927	7.85	ug/L		96
82) 2-Chlorotoluene	14.610	91	453207	7.69	ug/L		98
83) 4-Chlorotoluene	14.775	91	456869	7.67	ug/L		100
84) tert-Butylbenzene	14.898	119	421423	7.68	ug/L		98
85) 1,3,5-Trimethylbenzene	14.545	105	510919	7.74	ug/L		95
86) p-Isopropyltoluene	15.192	119	538025	7.87	ug/L		98
87) s-Butylbenzene	15.080	105	612624	7.58	ug/L		98
88) 1,3-Dichlorobenzene	15.421	146	256171	7.45	ug/L		99
89) 1,4-Dichlorobenzene	15.503	146	286233	7.65	ug/L	#	63
90) n-Butylbenzene	15.679	91	472389	7.58	ug/L		99
91) 1,2-Dichlorobenzene	16.020	146	254747	8.30	ug/L		94
92) DBCP	17.090	157	14707	6.79	ug/L		92
93) Hexachlorobutadiene	17.977	225	28681	6.95	ug/L		96
94) 1,2,4-Trichlorobenzene	18.159	180	40015	3.98	ug/L		99
95) Naphthalene	18.788	128	83121	3.91	ug/L		98
96) 1,2,3-Trichlorobenzene	19.164	180	20119	3.40	ug/L	#	87

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX006.D
Acq On : 29 Mar 2021 10:31 am
Operator : KKW
Sample : CAL4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 29 11:49:14 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX007.D
Acq On : 29 Mar 2021 10:59 am
Operator : KKW
Sample : CAL5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 29 11:52:17 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.851	168	1341958	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2685709	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1578295	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1585703	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.422	113	850973	60.65	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 121.30%				
52) D8-Toluene	11.778	98	3690099	61.25	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 122.50%#				
73) Bromofluorobenzene	14.328	95	1741465	59.61	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 119.22%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	341772	20.63	ug/L		99
3) Chloromethane	4.398	50	196364	18.96	ug/L		95
4) Vinyl Chloride	4.580	62	259580	19.82	ug/L		92
5) Bromomethane	5.227	94	102243	23.80	ug/L		98
6) Chloroethane	5.456	64	156102	19.35	ug/L		97
7) Trichlorofluoromethane	5.708	101	387847	19.57	ug/L		98
8) Diethyl ether	6.178	59	150031	22.16	ug/L		95
9) 1,1-Dichloroethene	6.531	96	193025	18.99	ug/L		86
10) Trichlorotrifluoroethane	6.566	151	152193	21.25	ug/L		96
11) Acrolein	7.013	56	296679	196.39	ug/L		98
12) Iodomethane	6.778	142	1233574	185.36	ug/L		98
13) Carbon Disulfide	6.625	76	3301943	121.79	ug/L		98
14) 3-chloropropene	7.195	41	238579	23.19	ug/L		99
15) Acetone	7.395	43	169247	106.73	ug/L		97
16) Methylene Chloride	7.342	84	217479	17.55	ug/L		95
17) Methyl Acetate	7.524	43	73535	14.48	ug/L		91
18) t-1,2-Dichloroethene	7.548	96	218175	19.74	ug/L		96
19) Methyl tert-butyl ether	7.630	73	513925	20.11	ug/L		97
20) Acetonitrile	8.041	41	231916	201.20	ug/L		93
21) Isopropyl ether	8.047	45	463793	18.96	ug/L		99
22) Chloroprene	8.282	88	209725	23.62	ug/L		98
23) 1,1-Dichloroethane	8.311	63	383748	18.85	ug/L	#	98
24) Acrylonitrile	8.382	53	536011	177.17	ug/L		99
25) Vinyl Acetate	8.540	43	1624154	113.14	ug/L		100
26) c-1,2-Dichloroethene	8.952	96	238649	18.82	ug/L		95
27) 2,2-Dichloropropane	9.075	77	392785	21.21	ug/L		97
28) Bromochloromethane	9.193	128	115066	20.22	ug/L		94
29) Cyclohexane	9.193	56	319650	20.15	ug/L		87
30) Chloroform	9.222	83	457145	19.61	ug/L		98
32) Dibromofluoromethane	9.422	113	850973	60.65	ug/L	#	88
33) 2-Butanone	9.545	72	112013	101.80	ug/L		79
34) 1,1,1-Trichloroethane	9.486	97	418695	21.61	ug/L		98
35) 1,1-Dichloropropene	9.604	75	353575	22.55	ug/L		95
36) Propionitrile	9.898	54	209568	183.20	ug/L		93
37) Methacrylonitrile	9.909	41	1027557	191.94	ug/L		96
38) Isobutyl Alcohol	9.898	43	232440	409.47	ug/L	#	81
40) Carbon Tetrachloride	9.410	117	322273m	21.44	ug/L		
41) Benzene	9.880	78	989312	20.16	ug/L		99
42) 1,2-Dichloroethane	10.086	62	338745	21.11	ug/L		96
43) Trichloroethene	10.456	130	261850	20.28	ug/L		84
44) Methyl cyclohexane	10.456	83	478241	15.52	ug/L		99
45) Dibromomethane	10.902	93	139825	18.84	ug/L		98
46) 1,2-Dichloropropane	10.985	63	218455	19.54	ug/L	#	89
47) Bromodichloromethane	11.014	83	340787	21.39	ug/L		98
48) Methyl Methacrylate	11.079	69	118251	19.67	ug/L		97
49) 1,4-Dioxane	11.208	88	21159	198.52	ug/L		89
50) 2-Chloroethyl vinyl ether	11.490	63	623649	116.96	ug/L	#	94
51) C-1,3-Dichloropropene	11.613	75	397363	20.77	ug/L		93

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX007.D
Acq On : 29 Mar 2021 10:59 am
Operator : KKW
Sample : CAL5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 29 11:52:17 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration

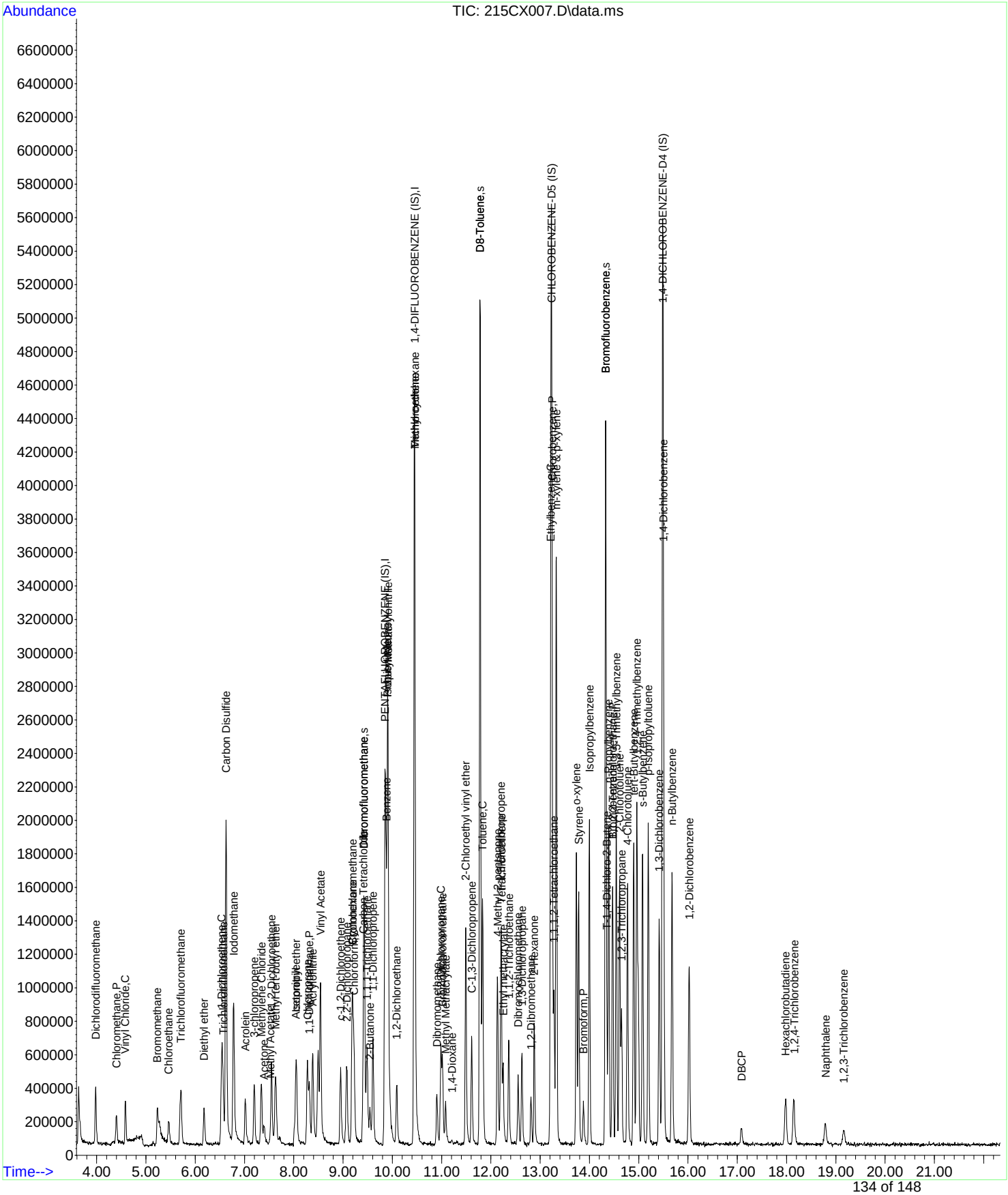
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.778	98	3690099	61.25 ug/L	97
54) 4-Methyl-2-pentanone	12.136	100	130988	79.24 ug/L	95
56) Toluene	11.831	92	651706	18.27 ug/L	99
57) T-1,3-Dichloropropene	12.201	75	331843	18.16 ug/L	98
58) Tetrachloroethene	12.213	164	193851	20.55 ug/L	99
59) Ethyl methacrylate	12.248	69	251711	17.23 ug/L	95
60) 1,1,2-Trichloroethane	12.365	97	227096	18.53 ug/L	93
61) Dibromochloromethane	12.554	129	223598	19.65 ug/L	99
62) 1,3-Dichloropropane	12.630	76	366030	18.45 ug/L	99
63) 1,2-Dibromoethane	12.812	107	212782	19.42 ug/L #	95
64) 2-Hexanone	12.877	43	435827	84.00 ug/L	98
65) Ethylbenzene	13.212	106	403504	18.95 ug/L	98
66) Chlorobenzene	13.241	112	766525	18.78 ug/L	99
67) 1,1,1,2-Tetrachloroethane	13.276	131	244117	18.69 ug/L	98
68) m-xylene & p-xylene	13.329	106	1078933	39.87 ug/L	95
69) o-xylene	13.735	106	503860	18.79 ug/L	95
70) Styrene	13.781	104	838716	19.29 ug/L	98
71) Bromoform	13.876	173	106349	18.41 ug/L	90
72) Isopropylbenzene	13.999	105	1309786	18.97 ug/L	98
74) Bromofluorobenzene	14.328	95	1741465	59.61 ug/L	87
75) n-Propylbenzene	14.387	91	1713353	18.31 ug/L	98
76) 1,1,2,2-Tetrachloroethane	14.469	83	293476	16.55 ug/L	97
77) 1,2,3-Trichloropropane	14.651	61	62412	17.36 ug/L	90
78) T-1,4-Dichloro-2-Butene	14.351	53	91059	19.80 ug/L #	16
80) Bromobenzene	14.469	156	310067	18.31 ug/L	86
81) 1,2,4-Trimethylbenzene	14.962	105	1273442	18.26 ug/L	98
82) 2-Chlorotoluene	14.610	91	1038424	17.25 ug/L	99
83) 4-Chlorotoluene	14.769	91	1060440	17.42 ug/L	99
84) tert-Butylbenzene	14.898	119	1007159	17.96 ug/L	95
85) 1,3,5-Trimethylbenzene	14.545	105	1248765	18.52 ug/L	99
86) p-Isopropyltoluene	15.192	119	1276958	18.28 ug/L	99
87) s-Butylbenzene	15.080	105	1453495	17.60 ug/L	98
88) 1,3-Dichlorobenzene	15.415	146	638934	18.18 ug/L	96
89) 1,4-Dichlorobenzene	15.503	146	650974	17.03 ug/L #	89
90) n-Butylbenzene	15.673	91	1148091	18.03 ug/L	98
91) 1,2-Dichlorobenzene	16.026	146	562497	17.94 ug/L	99
92) DBCP	17.089	157	34216	15.46 ug/L	88
93) Hexachlorobutadiene	17.977	225	66113	15.69 ug/L	89
94) 1,2,4-Trichlorobenzene	18.153	180	129953	12.65 ug/L	95
95) Naphthalene	18.793	128	188810	8.70 ug/L	96
96) 1,2,3-Trichlorobenzene	19.158	180	47927	7.92 ug/L	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX007.D
Acq On : 29 Mar 2021 10:59 am
Operator : KKW
Sample : CAL5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 29 11:52:17 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX008.D
Acq On : 29 Mar 2021 11:27 am
Operator : KKW
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 29 11:54:18 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.851	168	1384465	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2848520	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.223	82	1764069	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.486	152	1623575	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.422	113	728045	50.30	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 100.60%				
52) D8-Toluene	11.778	98	3242314	50.75	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 101.50%				
73) Bromofluorobenzene	14.328	95	1610221	49.32	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 98.64%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.975	85	842942	49.31	ug/L		99
3) Chloromethane	4.398	50	552902	51.76	ug/L		98
4) Vinyl Chloride	4.580	62	686245	50.79	ug/L		98
5) Bromomethane	5.233	94	269854	60.90	ug/L		94
6) Chloroethane	5.462	64	376843	45.27	ug/L		97
7) Trichlorofluoromethane	5.697	101	1015430	49.66	ug/L		98
8) Diethyl ether	6.173	59	406771	58.25	ug/L		98
9) 1,1-Dichloroethene	6.531	96	574697	54.80	ug/L		98
10) Trichlorotrifluoroethane	6.555	151	411632	55.70	ug/L		100
11) Acrolein	7.013	56	873587	560.54	ug/L		99
12) Iodomethane	6.778	142	3433689	500.13	ug/L		98
13) Carbon Disulfide	6.619	76	8583239	306.87	ug/L		99
14) 3-chloropropene	7.195	41	636804	60.00	ug/L		92
15) Acetone	7.389	43	469054	286.71	ug/L		98
16) Methylene Chloride	7.342	84	641023	50.13	ug/L		99
17) Methyl Acetate	7.518	43	235666	44.98	ug/L		96
18) t-1,2-Dichloroethene	7.542	96	658966	57.79	ug/L		97
19) Methyl tert-butyl ether	7.624	73	1474475	55.92	ug/L		96
20) Acetonitrile	8.035	41	648052	544.95	ug/L		98
21) Isopropyl ether	8.047	45	1469055	58.20	ug/L		97
22) Chloroprene	8.270	88	579314	63.24	ug/L		97
23) 1,1-Dichloroethane	8.311	63	1093844	52.08	ug/L		99
24) Acrylonitrile	8.382	53	1600092	512.65	ug/L		96
25) Vinyl Acetate	8.535	43	4666030	315.06	ug/L		100
26) c-1,2-Dichloroethene	8.946	96	765683	58.54	ug/L		98
27) 2,2-Dichloropropane	9.069	77	1102146	57.70	ug/L		97
28) Bromochloromethane	9.181	128	336951	57.41	ug/L		98
29) Cyclohexane	9.187	56	1035473	63.27	ug/L		95
30) Chloroform	9.216	83	1325941	55.13	ug/L		97
32) Dibromofluoromethane	9.422	113	728045	50.30	ug/L	#	88
33) 2-Butanone	9.539	72	289952	255.42	ug/L		96
34) 1,1,1-Trichloroethane	9.487	97	1171604	58.61	ug/L		97
35) 1,1-Dichloropropene	9.604	75	999273	61.78	ug/L		95
36) Propionitrile	9.892	54	594327	503.58	ug/L		94
37) Methacrylonitrile	9.904	41	2876734	520.86	ug/L		100
38) Isobutyl Alcohol	9.898	43	680971	1162.78	ug/L		99
40) Carbon Tetrachloride	9.410	117	899858m	56.43	ug/L		
41) Benzene	9.874	78	2713781	52.14	ug/L		99
42) 1,2-Dichloroethane	10.086	62	959854	56.40	ug/L		98
43) Trichloroethene	10.450	130	726957	53.09	ug/L		98
44) Methyl cyclohexane	10.450	83	1355811	41.48	ug/L		99
45) Dibromomethane	10.903	93	418135	53.12	ug/L		95
46) 1,2-Dichloropropane	10.985	63	652295	55.02	ug/L		92
47) Bromodichloromethane	11.014	83	945356	55.94	ug/L		100
48) Methyl Methacrylate	11.079	69	355145	55.69	ug/L		93
49) 1,4-Dioxane	11.196	88	69769	617.19	ug/L		88
50) 2-Chloroethyl vinyl ether	11.490	63	1798613	318.02	ug/L		97
51) C-1,3-Dichloropropene	11.608	75	1246629	61.43	ug/L		97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX008.D
Acq On : 29 Mar 2021 11:27 am
Operator : KKW
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 29 11:54:18 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration

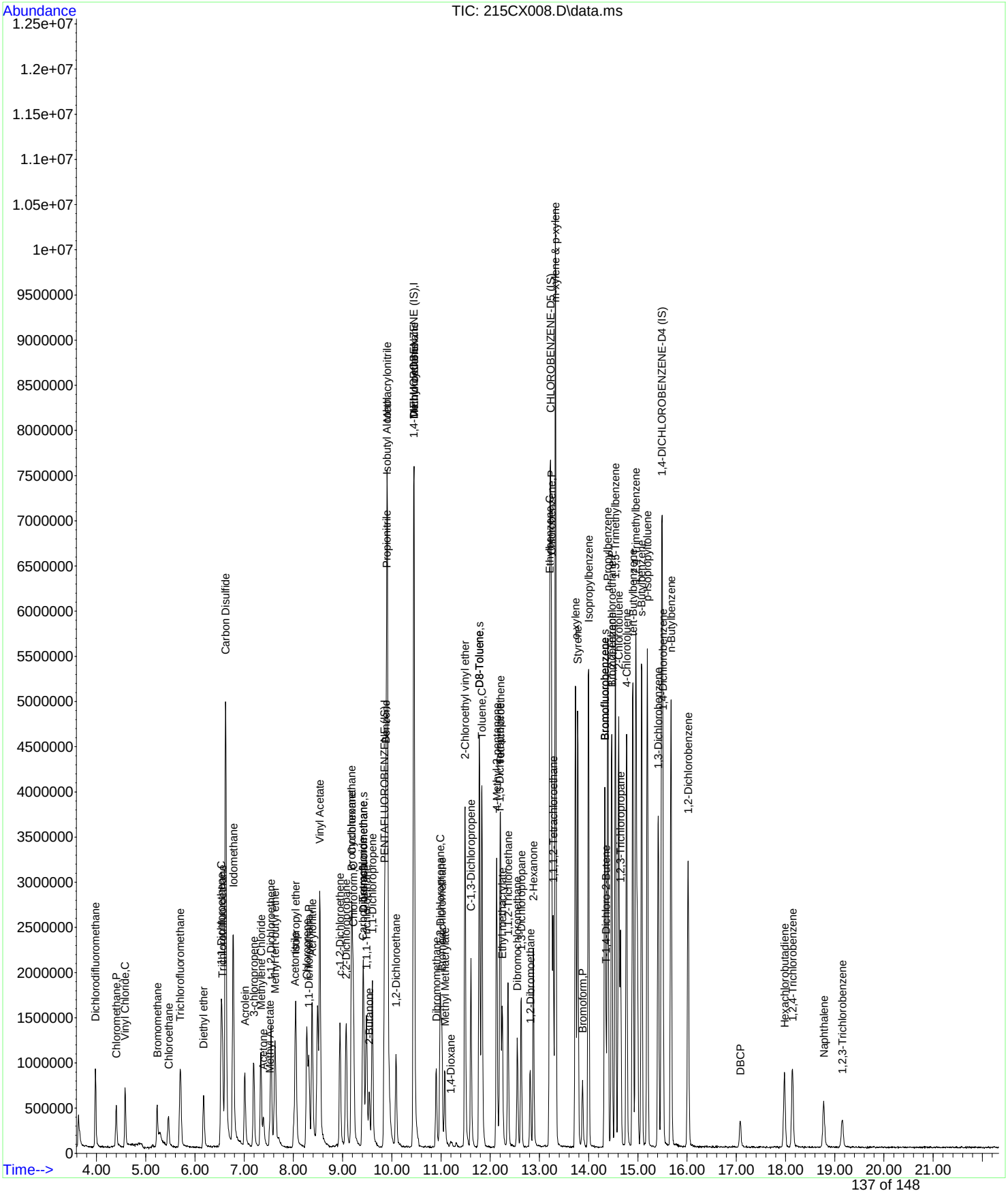
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	3242314	50.75	ug/L		96
54) 4-Methyl-2-pentanone	12.131	100	410982	234.42	ug/L		97
56) Toluene	11.831	92	1940713	48.68	ug/L		98
57) T-1,3-Dichloropropene	12.195	75	1061780	51.99	ug/L		99
58) Tetrachloroethene	12.207	164	571752	54.23	ug/L		94
59) Ethyl methacrylate	12.242	69	779001	47.72	ug/L		98
60) 1,1,2-Trichloroethane	12.360	97	615765	44.96	ug/L		97
61) Dibromochloromethane	12.548	129	674618	53.03	ug/L		98
62) 1,3-Dichloropropane	12.630	76	1067862	48.16	ug/L		98
63) 1,2-Dibromoethane	12.812	107	632018	51.61	ug/L		100
64) 2-Hexanone	12.877	43	1289537	222.37	ug/L		97
65) Ethylbenzene	13.206	106	1198114	50.34	ug/L		99
66) Chlorobenzene	13.241	112	2151820	47.16	ug/L		99
67) 1,1,1,2-Tetrachloroethane	13.282	131	695958	47.68	ug/L		99
68) m-xylene & p-xylene	13.323	106	3087416	102.07	ug/L		95
69) o-xylene	13.735	106	1531316	51.08	ug/L		94
70) Styrene	13.776	104	2570695	52.89	ug/L		99
71) Bromoform	13.876	173	331344	51.33	ug/L		99
72) Isopropylbenzene	13.999	105	3920413	50.79	ug/L		98
74) Bromofluorobenzene	14.328	95	1610221	49.32	ug/L	#	83
75) n-Propylbenzene	14.387	91	4940807	47.24	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.469	83	831225	41.94	ug/L		95
77) 1,2,3-Trichloropropane	14.645	61	154264	38.40	ug/L		92
78) T-1,4-Dichloro-2-Butene	14.352	53	266675	51.89	ug/L		94
80) Bromobenzene	14.469	156	856231	49.38	ug/L		93
81) 1,2,4-Trimethylbenzene	14.957	105	3715069	52.03	ug/L		99
82) 2-Chlorotoluene	14.610	91	3033603	49.23	ug/L		100
83) 4-Chlorotoluene	14.769	91	3131630	50.23	ug/L		99
84) tert-Butylbenzene	14.898	119	2935131	51.12	ug/L		98
85) 1,3,5-Trimethylbenzene	14.540	105	3609085	52.28	ug/L		98
86) p-Isopropyltoluene	15.192	119	3730231	52.16	ug/L		99
87) s-Butylbenzene	15.074	105	4331184	51.21	ug/L		99
88) 1,3-Dichlorobenzene	15.415	146	1791109	49.78	ug/L		98
89) 1,4-Dichlorobenzene	15.509	146	1809117	46.22	ug/L		99
90) n-Butylbenzene	15.674	91	3446768	52.86	ug/L		100
91) 1,2-Dichlorobenzene	16.020	146	1610197	50.14	ug/L		98
92) DBCP	17.084	157	108086	47.69	ug/L		92
93) Hexachlorobutadiene	17.983	225	180511	41.84	ug/L		97
94) 1,2,4-Trichlorobenzene	18.141	180	388825	36.96	ug/L		97
95) Naphthalene	18.782	128	694114	31.24	ug/L		98
96) 1,2,3-Trichlorobenzene	19.152	180	154391	24.93	ug/L		93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX008.D
Acq On : 29 Mar 2021 11:27 am
Operator : KKW
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 29 11:54:18 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX009.D
Acq On : 29 Mar 2021 11:55 am
Operator : KKW
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 29 12:45:44 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.851	168	1475861	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2951865	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.223	82	1901860	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1612454	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	1031600	66.86	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 133.72%#				
52) D8-Toluene	11.778	98	4514974	68.19	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 136.38%#				
73) Bromofluorobenzene	14.328	95	2181540	61.97	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 123.94%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.975	85	1485656	81.53	ug/L		100
3) Chloromethane	4.398	50	1139772	100.09	ug/L		99
4) Vinyl Chloride	4.580	62	1272503	88.34	ug/L		93
5) Bromomethane	5.227	94	485611	102.80	ug/L		93
6) Chloroethane	5.450	64	613935	69.19	ug/L		98
7) Trichlorofluoromethane	5.697	101	1826383	83.78	ug/L		99
8) Diethyl ether	6.173	59	808372	108.58	ug/L		98
9) 1,1-Dichloroethene	6.531	96	1119106	100.10	ug/L		96
10) Trichlorotrifluoroethane	6.555	151	796608	101.12	ug/L		94
11) Acrolein	7.013	56	1870875	1126.10	ug/L		100
12) Iodomethane	6.772	142	6280278	858.09	ug/L		97
13) Carbon Disulfide	6.619	76	15918696	533.88	ug/L		98
14) 3-chloropropene	7.189	41	1390821	122.93	ug/L		94
15) Acetone	7.389	43	989665	567.47	ug/L		97
16) Methylene Chloride	7.336	84	1202925	88.25	ug/L		98
17) Methyl Acetate	7.512	43	508512	91.05	ug/L		95
18) t-1,2-Dichloroethene	7.542	96	1258334	103.51	ug/L		99
19) Methyl tert-butyl ether	7.624	73	2910757	103.55	ug/L		96
20) Acetonitrile	8.006	41	1384133	1091.85	ug/L		94
21) Isopropyl ether	8.047	45	3009476	111.85	ug/L		96
22) Chloroprene	8.270	88	1189400	121.79	ug/L		93
23) 1,1-Dichloroethane	8.311	63	2081031	92.95	ug/L		97
24) Acrylonitrile	8.376	53	3202176	962.41	ug/L		99
25) Vinyl Acetate	8.535	43	9719633	615.65	ug/L		99
26) c-1,2-Dichloroethene	8.946	96	1406650	100.88	ug/L		98
27) 2,2-Dichloropropane	9.069	77	2037088	100.03	ug/L		98
28) Bromochloromethane	9.181	128	571310	91.30	ug/L		99
29) Cyclohexane	9.187	56	2054573	117.77	ug/L		99
30) Chloroform	9.216	83	2347997	91.58	ug/L		100
32) Dibromofluoromethane	9.428	113	1031600	66.86	ug/L	#	91
33) 2-Butanone	9.539	72	599005	495.00	ug/L		96
34) 1,1,1-Trichloroethane	9.481	97	2010983	94.38	ug/L		99
35) 1,1-Dichloropropene	9.604	75	1816195	105.33	ug/L		97
36) Propionitrile	9.898	54	1256915	999.06	ug/L		94
37) Methacrylonitrile	9.910	41	5854263	994.32	ug/L		99
38) Isobutyl Alcohol	9.898	43	1381188	2212.36	ug/L		91
40) Carbon Tetrachloride	9.410	117	1625229m	98.36	ug/L		
41) Benzene	9.874	78	5031509	93.29	ug/L		98
42) 1,2-Dichloroethane	10.086	62	1674117	94.93	ug/L		97
43) Trichloroethene	10.450	130	1263132	89.02	ug/L		98
44) Methyl cyclohexane	10.450	83	2460234	72.64	ug/L		97
45) Dibromomethane	10.903	93	751649	92.15	ug/L		96
46) 1,2-Dichloropropane	10.979	63	1242461	101.13	ug/L		97
47) Bromodichloromethane	11.014	83	1713108	97.81	ug/L		99
48) Methyl Methacrylate	11.073	69	757694	114.65	ug/L		96
49) 1,4-Dioxane	11.196	88	148872	1270.83	ug/L		91
50) 2-Chloroethyl vinyl ether	11.484	63	3521335	600.83	ug/L	#	98
51) C-1,3-Dichloropropene	11.608	75	2258752	107.41	ug/L		97

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX009.D
Acq On : 29 Mar 2021 11:55 am
Operator : KKW
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 29 12:45:44 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration

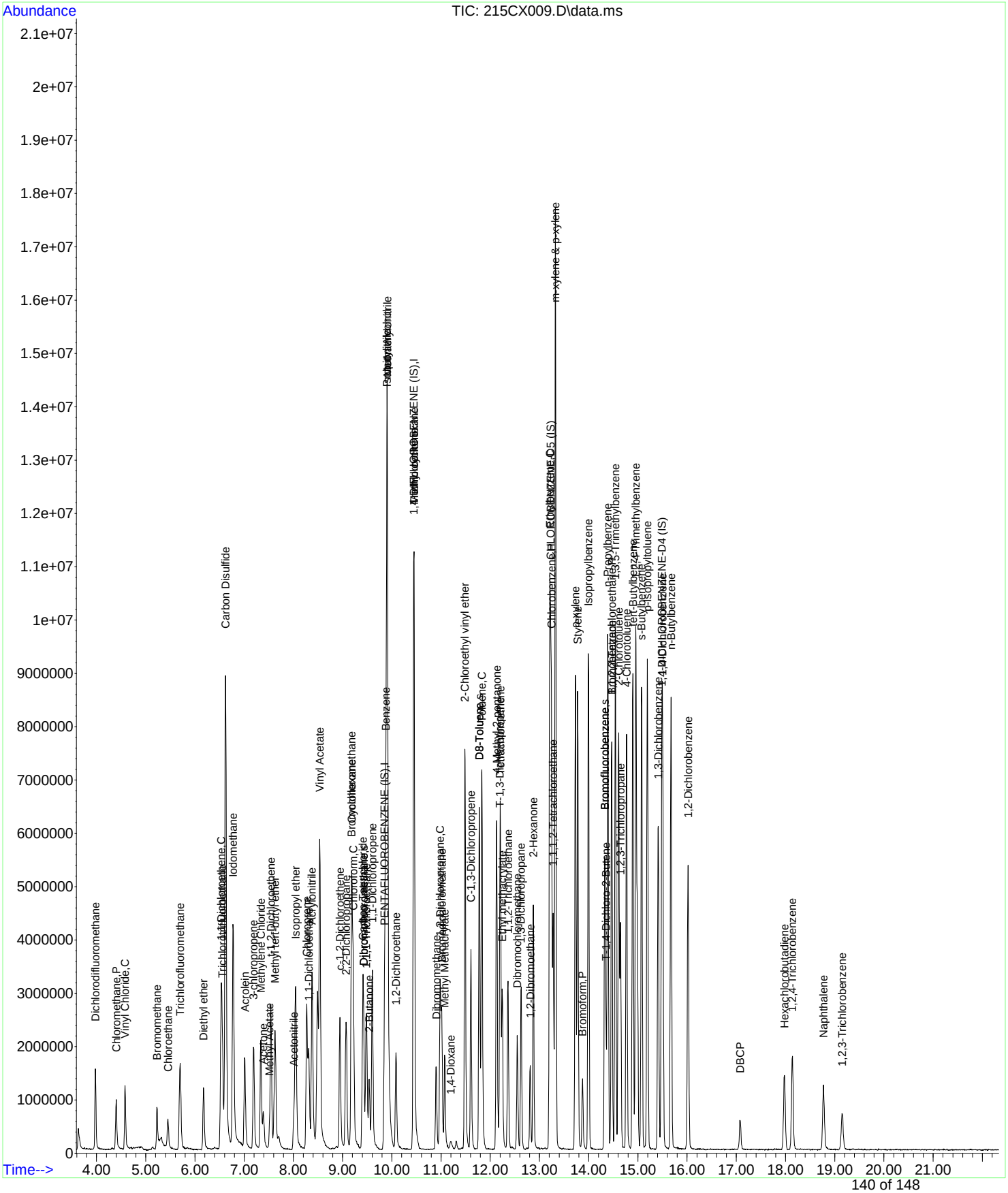
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	4514974	68.19	ug/L		95
54) 4-Methyl-2-pentanone	12.131	100	779123	428.84	ug/L		94
56) Toluene	11.831	92	3437034	79.96	ug/L		99
57) T-1,3-Dichloropropene	12.195	75	1863668	84.64	ug/L		98
58) Tetrachloroethene	12.207	164	901856	79.34	ug/L		98
59) Ethyl methacrylate	12.242	69	1491944	84.76	ug/L		98
60) 1,1,2-Trichloroethane	12.360	97	1099043	74.44	ug/L		98
61) Dibromochloromethane	12.548	129	1180197	86.06	ug/L		99
62) 1,3-Dichloropropane	12.624	76	1963919	82.15	ug/L		98
63) 1,2-Dibromoethane	12.812	107	1150044	87.10	ug/L		96
64) 2-Hexanone	12.877	43	2705378	432.71	ug/L		97
65) Ethylbenzene	13.212	106	2152550	83.88	ug/L		97
66) Chlorobenzene	13.241	112	3630202	73.80	ug/L		97
67) 1,1,1,2-Tetrachloroethane	13.276	131	1245262	79.13	ug/L		97
68) m-xylene & p-xylene	13.323	106	5211593	159.81	ug/L		96
69) o-xylene	13.729	106	2674133	82.75	ug/L		95
70) Styrene	13.776	104	4531457	86.48	ug/L		96
71) Bromoform	13.870	173	596579	85.72	ug/L		99
72) Isopropylbenzene	13.993	105	6791634	81.61	ug/L		99
74) Bromofluorobenzene	14.328	95	2181540	61.97	ug/L	#	80
75) n-Propylbenzene	14.387	91	8375149	74.28	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.469	83	1480206	69.27	ug/L		98
77) 1,2,3-Trichloropropane	14.645	61	288725	66.67	ug/L		97
78) T-1,4-Dichloro-2-Butene	14.351	53	498418	89.95	ug/L		90
80) Bromobenzene	14.469	156	1371652	79.64	ug/L		99
81) 1,2,4-Trimethylbenzene	14.957	105	6092350	85.91	ug/L		98
82) 2-Chlorotoluene	14.610	91	5152323	84.18	ug/L		99
83) 4-Chlorotoluene	14.769	91	5326313	86.03	ug/L		99
84) tert-Butylbenzene	14.898	119	5004479	87.76	ug/L		99
85) 1,3,5-Trimethylbenzene	14.539	105	6165805	89.93	ug/L		99
86) p-Isopropyltoluene	15.192	119	6207269	87.39	ug/L		98
87) s-Butylbenzene	15.074	105	7153826	85.17	ug/L		99
88) 1,3-Dichlorobenzene	15.415	146	2853426	79.85	ug/L		98
89) 1,4-Dichlorobenzene	15.503	146	2851550	73.35	ug/L		97
90) n-Butylbenzene	15.673	91	5819869	89.88	ug/L		98
91) 1,2-Dichlorobenzene	16.020	146	2592618	81.29	ug/L		96
92) DBCP	17.078	157	198362	88.13	ug/L		98
93) Hexachlorobutadiene	17.977	225	289227	67.50	ug/L		92
94) 1,2,4-Trichlorobenzene	18.135	180	727936	69.67	ug/L		98
95) Naphthalene	18.770	128	1552491	70.35	ug/L		97
96) 1,2,3-Trichlorobenzene	19.146	180	319289	51.92	ug/L		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX009.D
Acq On : 29 Mar 2021 11:55 am
Operator : KKW
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 29 12:45:44 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX010.D
Acq On : 29 Mar 2021 12:22 pm
Operator : KKW
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 29 12:47:49 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.851	168	1386898	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	3049005	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.223	82	1978990	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1622439	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.422	113	1111651	76.66	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 153.32%#				
52) D8-Toluene	11.778	98	4914517	71.86	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 143.72%#				
73) Bromofluorobenzene	14.328	95	2410601	65.81	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 131.62%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.975	85	1890288	110.39	ug/L		98
3) Chloromethane	4.398	50	1588645	148.46	ug/L		100
4) Vinyl Chloride	4.580	62	1638442	121.04	ug/L		93
5) Bromomethane	5.227	94	652519	147.00	ug/L		95
6) Chloroethane	5.444	64	799016	95.82	ug/L		98
7) Trichlorofluoromethane	5.697	101	2307699	112.65	ug/L		97
8) Diethyl ether	6.173	59	1093484	156.30	ug/L		96
9) 1,1-Dichloroethene	6.531	96	1323269	125.95	ug/L		91
10) Trichlorotrifluoroethane	6.549	151	912022	123.20	ug/L		97
11) Acrolein	7.013	56	2505190	1604.63	ug/L		100
12) Iodomethane	6.772	142	7576945	1101.67	ug/L		98
13) Carbon Disulfide	6.619	76	19269836	687.73	ug/L		98
14) 3-chloropropene	7.195	41	1839726	173.04	ug/L		92
15) Acetone	7.389	43	1321029	806.06	ug/L		96
16) Methylene Chloride	7.336	84	1521290	118.76	ug/L		97
17) Methyl Acetate	7.512	43	732691	139.61	ug/L		92
18) t-1,2-Dichloroethene	7.547	96	1524850	133.48	ug/L		96
19) Methyl tert-butyl ether	7.624	73	3821172	144.66	ug/L		97
20) Acetonitrile	8.012	41	1851668	1554.36	ug/L		94
21) Isopropyl ether	8.047	45	4076861	161.23	ug/L		94
22) Chloroprene	8.270	88	1480488	161.32	ug/L		97
23) 1,1-Dichloroethane	8.311	63	2706450	128.64	ug/L		99
24) Acrylonitrile	8.382	53	4169767	1333.60	ug/L		99
25) Vinyl Acetate	8.535	43	12594425	848.91	ug/L		98
26) c-1,2-Dichloroethene	8.946	96	1775326	135.49	ug/L		98
27) 2,2-Dichloropropane	9.075	77	2524614	131.93	ug/L		96
28) Bromochloromethane	9.181	128	728060	123.82	ug/L		99
29) Cyclohexane	9.187	56	2622326	159.96	ug/L		98
30) Chloroform	9.216	83	2960563	122.87	ug/L		99
32) Dibromofluoromethane	9.422	113	1111651	76.66	ug/L	#	87
33) 2-Butanone	9.533	72	778174	684.30	ug/L		92
34) 1,1,1-Trichloroethane	9.481	97	2495163	124.61	ug/L		98
35) 1,1-Dichloropropene	9.604	75	2267072	139.92	ug/L		95
36) Propionitrile	9.892	54	1644906	1391.32	ug/L		94
37) Methacrylonitrile	9.909	41	7473226	1350.71	ug/L		98
38) Isobutyl Alcohol	9.904	43	1822705	3106.86	ug/L	#	88
40) Carbon Tetrachloride	9.416	117	1996926m	117.00	ug/L		
41) Benzene	9.874	78	6221829	111.69	ug/L		97
42) 1,2-Dichloroethane	10.086	62	2156197	118.37	ug/L		97
43) Trichloroethene	10.450	130	1523477	103.94	ug/L		98
44) Methyl cyclohexane	10.450	83	3066067	87.64	ug/L		94
45) Dibromomethane	10.902	93	966159	114.68	ug/L		95
46) 1,2-Dichloropropane	10.985	63	1620801	127.72	ug/L		97
47) Bromodichloromethane	11.014	83	2209609	122.14	ug/L		98
48) Methyl Methacrylate	11.073	69	982679	143.95	ug/L		94
49) 1,4-Dioxane	11.190	88	196409	1623.21	ug/L		100
50) 2-Chloroethyl vinyl ether	11.484	63	4549835	751.58	ug/L		97
51) C-1,3-Dichloropropene	11.608	75	2873280	132.28	ug/L		96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX010.D
Acq On : 29 Mar 2021 12:22 pm
Operator : KKW
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 29 12:47:49 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration

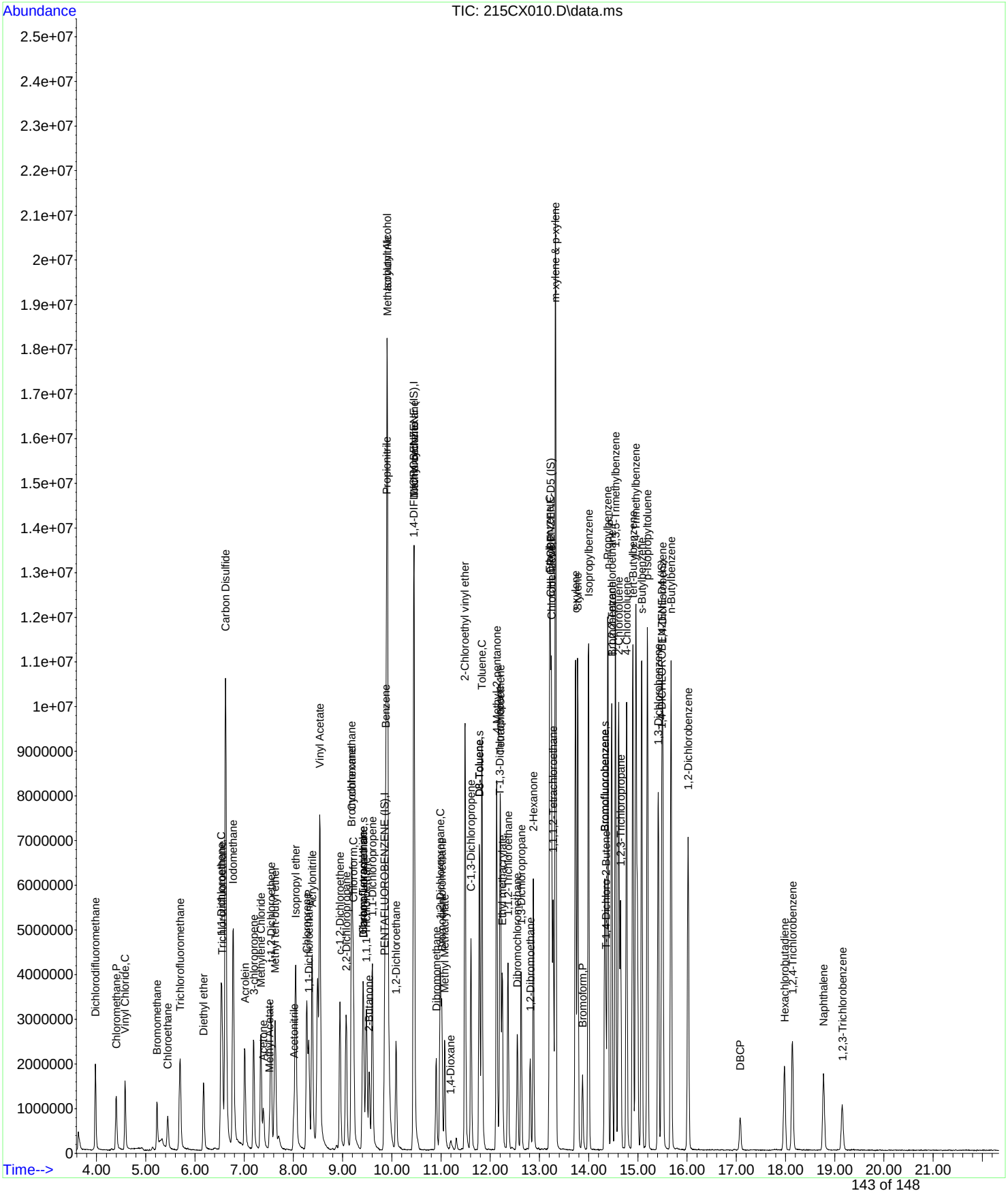
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	4914517	71.86	ug/L		96
54) 4-Methyl-2-pentanone	12.130	100	989389	527.22	ug/L		91
56) Toluene	11.831	92	4263738	95.33	ug/L		99
57) T-1,3-Dichloropropene	12.195	75	2407358	105.08	ug/L		98
58) Tetrachloroethene	12.207	164	1102763	93.24	ug/L		97
59) Ethyl methacrylate	12.242	69	2002770	109.35	ug/L		99
60) 1,1,2-Trichloroethane	12.360	97	1412981	91.97	ug/L		96
61) Dibromochloromethane	12.548	129	1516317	106.26	ug/L		97
62) 1,3-Dichloropropane	12.630	76	2528502	101.65	ug/L		96
63) 1,2-Dibromoethane	12.812	107	1466843	106.77	ug/L		99
64) 2-Hexanone	12.877	43	3568440	548.51	ug/L		96
65) Ethylbenzene	13.206	106	2625240	98.31	ug/L		98
66) Chlorobenzene	13.241	112	4508166	88.07	ug/L		98
67) 1,1,1,2-Tetrachloroethane	13.276	131	1530712	93.48	ug/L		98
68) m-xylene & p-xylene	13.323	106	6344102	186.95	ug/L		99
69) o-xylene	13.734	106	3279328	97.52	ug/L		94
70) Styrene	13.776	104	5741345	105.30	ug/L		93
71) Bromoform	13.875	173	765955	105.77	ug/L		97
72) Isopropylbenzene	13.999	105	8323991	96.13	ug/L		98
74) Bromofluorobenzene	14.328	95	2410601	65.81	ug/L	#	78
75) n-Propylbenzene	14.387	91	10392486	88.58	ug/L		98
76) 1,1,2,2-Tetrachloroethane	14.469	83	1897625	85.34	ug/L		96
77) 1,2,3-Trichloropropane	14.651	61	341524	75.78	ug/L		88
78) T-1,4-Dichloro-2-Butene	14.351	53	654373	113.50	ug/L		86
80) Bromobenzene	14.469	156	1746924	100.81	ug/L		94
81) 1,2,4-Trimethylbenzene	14.957	105	7643545	107.12	ug/L		99
82) 2-Chlorotoluene	14.610	91	6567349	106.64	ug/L		98
83) 4-Chlorotoluene	14.769	91	6886222	110.54	ug/L		98
84) tert-Butylbenzene	14.898	119	6250695	108.94	ug/L		96
85) 1,3,5-Trimethylbenzene	14.545	105	7704271	111.68	ug/L		99
86) p-Isopropyltoluene	15.192	119	7785002	108.93	ug/L		97
87) s-Butylbenzene	15.080	105	9097191	107.64	ug/L		98
88) 1,3-Dichlorobenzene	15.415	146	3692933	102.70	ug/L		97
89) 1,4-Dichlorobenzene	15.503	146	3714068	94.95	ug/L		97
90) n-Butylbenzene	15.673	91	7528858	115.55	ug/L		99
91) 1,2-Dichlorobenzene	16.020	146	3395884	105.83	ug/L		96
92) DBCP	17.078	157	250712	110.70	ug/L		98
93) Hexachlorobutadiene	17.983	225	390216	90.51	ug/L		93
94) 1,2,4-Trichlorobenzene	18.141	180	1049255	99.81	ug/L		98
95) Naphthalene	18.770	128	2248338	101.25	ug/L		98
96) 1,2,3-Trichlorobenzene	19.158	180	472295	76.32	ug/L		93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX010.D
Acq On : 29 Mar 2021 12:22 pm
Operator : KKW
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 29 12:47:49 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 11:41:48 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX012.D
Acq On : 29 Mar 2021 1:33 pm
Operator : KKW
Sample : SCV1
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 29 13:57:13 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 13:47:27 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1380525	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2976518	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1834661	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1578523	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	799440	55.77	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 111.54%				
52) D8-Toluene	11.784	98	3514039	53.83	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 107.66%				
73) Bromofluorobenzene	14.334	95	1669634	52.16	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 104.32%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	872431	52.63	ug/L		99
3) Chloromethane	4.404	50	643787	55.35	ug/L		97
4) Vinyl Chloride	4.586	62	791362	56.57	ug/L		100
5) Bromomethane	5.233	94	233467	44.12	ug/L		90
6) Chloroethane	5.468	64	466748	59.94	ug/L		99
7) Trichlorofluoromethane	5.708	101	1120360	56.28	ug/L		98
8) Diethyl ether	6.178	59	458100	54.45	ug/L		99
9) 1,1-Dichloroethene	6.537	96	599931	53.47	ug/L		97
10) Trichlorotrifluoroethane	6.566	151	404937	44.97	ug/L		97
11) Acrolein	7.019	56	358702	249.48	ug/L		97
12) Iodomethane	6.784	142	832309	56.66	ug/L		99
13) Carbon Disulfide	6.625	76	1864684	52.75	ug/L		99
14) 3-chloropropene	7.195	41	859470	60.04	ug/L		89
15) Acetone	7.395	43	641590	306.61	ug/L		100
16) Methylene Chloride	7.342	84	676959	52.70	ug/L		87
17) Methyl Acetate	7.518	43	314185	60.12	ug/L	#	89
18) t-1,2-Dichloroethene	7.547	96	668456	50.68	ug/L		92
19) Methyl tert-butyl ether	7.630	73	1648300	54.38	ug/L		98
20) Acetonitrile	8.047	41	546264	430.93	ug/L		96
21) Isopropyl ether	8.053	45	1827868	58.79	ug/L		96
22) Chloroprene	8.276	88	640990	53.14	ug/L		99
23) 1,1-Dichloroethane	8.317	63	1225013	54.99	ug/L		99
24) Acrylonitrile	8.394	53	198729	81.93	ug/L	#	92
25) Vinyl Acetate	8.546	43	965458	65.92	ug/L		99
26) c-1,2-Dichloroethene	8.952	96	767660	51.31	ug/L		95
27) 2,2-Dichloropropane	9.075	77	1121537	51.07	ug/L		99
28) Bromochloromethane	9.187	128	338295	48.62	ug/L		96
29) Cyclohexane	9.199	56	1247627	58.21	ug/L		94
30) Chloroform	9.222	83	1334330	49.33	ug/L		99
32) Dibromofluoromethane	9.428	113	799440	55.77	ug/L	#	91
33) 2-Butanone	9.545	72	335903	272.86	ug/L		91
34) 1,1,1-Trichloroethane	9.486	97	1107678	48.04	ug/L		97
35) 1,1-Dichloropropene	9.604	75	1016089	51.42	ug/L		97
36) Propionitrile	9.904	54	70775	80.13	ug/L	#	1
37) Methacrylonitrile	9.915	41	496443	106.48	ug/L	#	70
38) Isobutyl Alcohol	9.904	43	544328	834.57	ug/L		89
40) Carbon Tetrachloride	9.416	117	879898	45.13	ug/L		98
41) Benzene	9.880	78	2935126	48.17	ug/L		97
42) 1,2-Dichloroethane	10.092	62	956112	45.81	ug/L		97
43) Trichloroethene	10.450	130	690846	45.33	ug/L		94
44) Methyl cyclohexane	10.456	83	1400214	46.67	ug/L		96
45) Dibromomethane	10.902	93	421670	47.87	ug/L		97
46) 1,2-Dichloropropane	10.991	63	723531	51.75	ug/L		93
47) Bromodichloromethane	11.020	83	947995	48.28	ug/L		99
48) Methyl Methacrylate	11.079	69	425675	53.39	ug/L		99
49) 1,4-Dioxane	11.202	88	65855	875.98	ug/L	#	75
50) 2-Chloroethyl vinyl ether	11.490	63	1965765	252.32	ug/L	#	95
51) C-1,3-Dichloropropene	11.613	75	1201231	46.46	ug/L		99

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX012.D
Acq On : 29 Mar 2021 1:33 pm
Operator : KKW
Sample : SCV1
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 29 13:57:13 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 13:47:27 2021
Response via : Initial Calibration

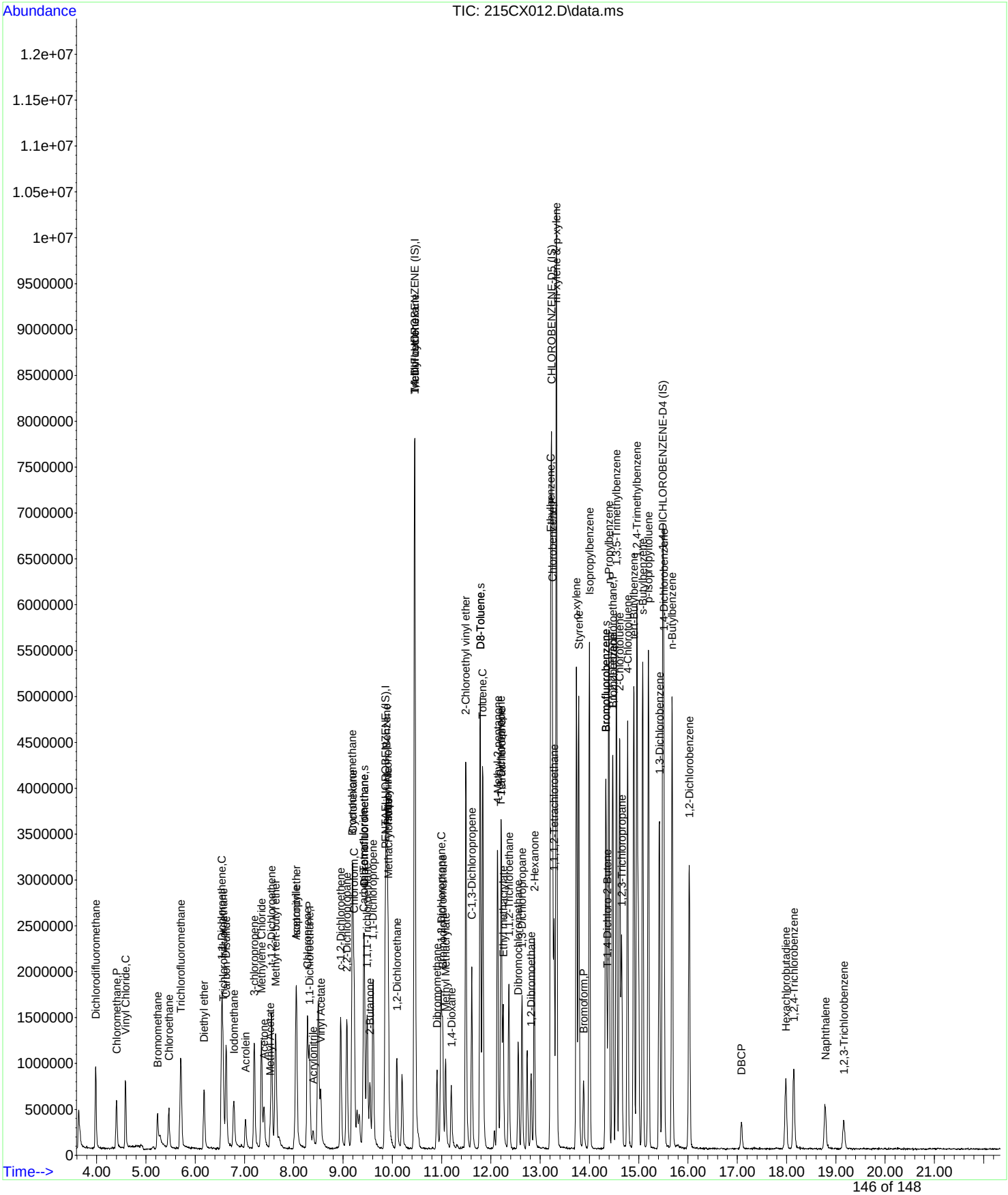
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.784	98	3514039	53.83	ug/L		97
54) 4-Methyl-2-pentanone	12.136	100	437825	252.09	ug/L		98
56) Toluene	11.831	92	1949303	48.49	ug/L		96
57) T-1,3-Dichloropropene	12.201	75	1089501	48.95	ug/L		100
58) Tetrachloroethene	12.213	164	505666	44.09	ug/L		98
59) Ethyl methacrylate	12.248	69	805355	49.49	ug/L		98
60) 1,1,2-Trichloroethane	12.365	97	610142	46.55	ug/L		98
61) Dibromochloromethane	12.553	129	643967	45.73	ug/L		94
62) 1,3-Dichloropropane	12.630	76	1057452	45.38	ug/L		95
63) 1,2-Dibromoethane	12.818	107	616288	46.17	ug/L		98
64) 2-Hexanone	12.883	43	1422773	252.82	ug/L		98
65) Ethylbenzene	13.212	106	1178008	47.29	ug/L		97
66) Chlorobenzene	13.247	112	2098849	48.94	ug/L		99
67) 1,1,1,2-Tetrachloroethane	13.282	131	680601	46.96	ug/L		96
68) m-xylene & p-xylene	13.329	106	2960795	91.67	ug/L		99
69) o-xylene	13.734	106	1509051	49.41	ug/L		100
70) Styrene	13.781	104	2528662	51.20	ug/L		97
71) Bromoform	13.881	173	328437	46.41	ug/L		94
72) Isopropylbenzene	13.999	105	3888412	50.41	ug/L		98
74) Bromofluorobenzene	14.334	95	1669634	52.16	ug/L	#	80
75) n-Propylbenzene	14.393	91	4899910	49.61	ug/L		98
76) 1,1,2,2-Tetrachloroethane	14.469	83	804594	45.67	ug/L		99
77) 1,2,3-Trichloropropane	14.657	61	158354	48.17	ug/L		89
78) T-1,4-Dichloro-2-Butene	14.357	53	272981	45.80	ug/L		99
80) Bromobenzene	14.475	156	794188	47.19	ug/L		91
81) 1,2,4-Trimethylbenzene	14.962	105	3671126	51.61	ug/L		100
82) 2-Chlorotoluene	14.610	91	2949139	52.04	ug/L		99
83) 4-Chlorotoluene	14.774	91	3106696	51.43	ug/L		99
84) tert-Butylbenzene	14.898	119	2917180	51.21	ug/L		97
85) 1,3,5-Trimethylbenzene	14.545	105	3601188	51.32	ug/L		97
86) p-Isopropyltoluene	15.197	119	3728394	49.70	ug/L		99
87) s-Butylbenzene	15.080	105	4339953	49.80	ug/L		99
88) 1,3-Dichlorobenzene	15.421	146	1669983	47.29	ug/L		95
89) 1,4-Dichlorobenzene	15.509	146	1714127	48.30	ug/L		98
90) n-Butylbenzene	15.673	91	3421453	51.79	ug/L		100
91) 1,2-Dichlorobenzene	16.026	146	1533682	50.17	ug/L		96
92) DBCP	17.084	157	104509	49.48	ug/L		98
93) Hexachlorobutadiene	17.988	225	173198	50.45	ug/L		94
94) 1,2,4-Trichlorobenzene	18.147	180	367798	49.48	ug/L		96
95) Naphthalene	18.787	128	681916	49.34	ug/L		98
96) 1,2,3-Trichlorobenzene	19.163	180	143624	48.09	ug/L		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\032921\
Data File : 215CX012.D
Acq On : 29 Mar 2021 1:33 pm
Operator : KKW
Sample : SCV1
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 29 13:57:13 2021
Quant Method : C:\msdchem\1\methods\032921W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Mon Mar 29 13:47:27 2021
Response via : Initial Calibration



TETRA TECH ISG
TtEGS, Information Systems Group

Completion Ticket

On 5/17/2021 at 1:32 PM the following files were submitted to Tetra Tech by kdylnicki@encolabs.com with ENCO:

TE016AE03392A1.txt, TE016AE03392A3.txt

If you need to identify this session at a later date refer to Ticket Key:

2021517_575938986_ledd_ENCO

You may print this page by clicking on the "Print This Page" button

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I Lori S. Mangrum, as the designated Quality Assurance Officer, hereby attest that all electronic deliverables have been thoroughly reviewed and are in agreement with the associated hardcopy data. The enclosed electronic files have been reviewed for accuracy (including significant figures), completeness and format. The laboratory will be responsible for any labor time necessary to correct enclosed electronic deliverables that have been found to be in error. I can be reached at (407) 826-5314 if there are any questions or problems with the enclosed electronic deliverables.

Signature:_____ Title: Quality Assurance Manager Date: May 19, 2021

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ENCO Laboratories

Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Thursday, April 29, 2021
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AE03392

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Thursday, April 22, 2021.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

www.encolabs.com

Client: Tetra Tech, Inc. (TE016)
Project: NASA SKC CRCA
Client PM: Alex Murphy
Project Number: 112G08970
ENCO Project ID: AE03392
SDG: AE03392-TE016

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling and processing will be discussed in the Remarks section below.

Remarks

List of instruments used:

Analytical and Preparation Method	SOP Reference Instrument
EPA 8260D / 5030B_MS	OVGCMS5

Analysis: EPA 8260D

Manual integrations were performed on samples associated with EPA 8260D. All data & explanations are included in the raw data section of the report.

Affected Samples: CRCA-ASEFFLUENT-20210422[AE03392-01], 1D27020-MS1, 1D27020-MSD1
Matrix spike recovery and/or precision between matrix spike and matrix spike duplicate was outside acceptance limits for multiple analytes.

Affected Samples: CRCA-ASEFFLUENT-20210422[AE03392-01], CRCA-ASINFLUENT-20210422[AE03392-02]
The associated calibration verification standard for bromomethane exhibited high bias. Analyte(s) not detected in the sample.

Affected Samples: 1D27020-BS1, CRCA-ASEFFLUENT-20210422[AE03392-01], CRCA-ASINFLUENT-20210422[AE03392-02]
The associated laboratory control sample for cyclohexane and methyl acetate exhibited high bias. Analyte(s) not detected in the sample.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Kaitlin Dylnicki
Project Manager

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-ASEFFLUENT-20210422 **Lab ID: AE03392-01** **Sampled: 04/22/21 07:30** **Received: 04/22/21 14:56**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	05/06/21	04/27/21 09:01	04/27/21 09:59

Client ID: CRCA-ASINFLUENT-20210422 **Lab ID: AE03392-02** **Sampled: 04/22/21 07:40** **Received: 04/22/21 14:56**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	05/06/21	04/27/21 09:01	04/27/21 10:27

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-ASINFLUENT-20210422 **Lab ID:** AE03392-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
trans-1,2-Dichloroethene	0.81	I	0.73	2.5	ug/L	EPA 8260D	
Vinyl chloride	19		0.71	2.5	ug/L	EPA 8260D	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20210422 **Lab Sample ID:** AE03392-01 **Received:** 04/22/21 14:56

Matrix: Ground Water **Sampled:** 04/22/21 07:30 **Work Order:** AE03392

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	QM-11
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	QM-07
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	QM-11
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1D27020	EPA 8260D	04/27/21 09:59	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1D27020	EPA 8260D	04/27/21 09:59	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1D27020	EPA 8260D	04/27/21 09:59	kkw	QM-11
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	QM-07
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	QM-07, QM-11
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	QL-02, QM-19
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	QM-11
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	QL-02, QM-19
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	QM-11
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	QM-11
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20210422 **Lab Sample ID:** AE03392-01 **Received:** 04/22/21 14:56

Matrix: Ground Water **Sampled:** 04/22/21 07:30 **Work Order:** AE03392

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	QM-11
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1D27020	EPA 8260D	04/27/21 09:59	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*51*	*1*	*50.0*	*101 %*	*41-142*	*1D27020*	*EPA 8260D*	*04/27/21 09:59*	*kkw*	
Dibromofluoromethane	*56*	*1*	*50.0*	*113 %*	*53-146*	*1D27020*	*EPA 8260D*	*04/27/21 09:59*	*kkw*	
Toluene-d8	*56*	*1*	*50.0*	*112 %*	*41-146*	*1D27020*	*EPA 8260D*	*04/27/21 09:59*	*kkw*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20210422 **Lab Sample ID:** AE03392-02 **Received:** 04/22/21 14:56

Matrix: Ground Water **Sampled:** 04/22/21 07:40 **Work Order:** AE03392

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1D27020	EPA 8260D	04/27/21 10:27	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1D27020	EPA 8260D	04/27/21 10:27	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	QL-02
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	QL-02
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
trans-1,2-Dichloroethene [156-60-5]^	**0.81**	I	ug/L	1	0.73	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	

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ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20210422 **Lab Sample ID:** AE03392-02 **Received:** 04/22/21 14:56

Matrix: Ground Water **Sampled:** 04/22/21 07:40 **Work Order:** AE03392

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Vinyl chloride [75-01-4]^	**19**		ug/L	1	0.71	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1D27020	EPA 8260D	04/27/21 10:27	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*52*	*1*	*50.0*	*104 %*	*41-142*	*1D27020*	*EPA 8260D*	*04/27/21 10:27*	*kkw*	
Dibromofluoromethane	*57*	*1*	*50.0*	*114 %*	*53-146*	*1D27020*	*EPA 8260D*	*04/27/21 10:27*	*kkw*	
Toluene-d8	*55*	*1*	*50.0*	*111 %*	*41-146*	*1D27020*	*EPA 8260D*	*04/27/21 10:27*	*kkw*	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D27020 - EPA 5030B_MS

Blank (1D27020-BLK1) Prepared: 04/27/2021 00:00 Analyzed: 04/27/2021 09:31

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D27020 - EPA 5030B_MS - Continued

Blank (1D27020-BLK1) Continued Prepared: 04/27/2021 00:00 Analyzed: 04/27/2021 09:31

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*52*			*ug/L*	*50.0*		*103*	*41-142*			
Dibromofluoromethane	*55*			*ug/L*	*50.0*		*110*	*53-146*			
Toluene-d8	*54*			*ug/L*	*50.0*		*108*	*41-146*			

LCS (1D27020-BS1) Prepared: 04/27/2021 00:00 Analyzed: 04/27/2021 08:35

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	21		2.5	ug/L	20.0		105	57-148			
1,1,2,2-Tetrachloroethane	20		2.5	ug/L	20.0		101	60-139			
1,1,2-Trichloroethane	21		2.5	ug/L	20.0		107	57-141			
1,1-Dichloroethane	26		2.5	ug/L	20.0		129	57-142			
1,1-Dichloroethene	21		2.5	ug/L	20.0		104	47-139			
1,2,4-Trichlorobenzene	25		2.5	ug/L	20.0		125	52-159			
1,2-Dibromo-3-chloropropane	21		2.5	ug/L	20.0		104	48-150			
1,2-Dibromoethane	21		2.5	ug/L	20.0		103	57-140			
1,2-Dichlorobenzene	21		2.5	ug/L	20.0		106	63-131			
1,2-Dichloroethane	20		2.5	ug/L	20.0		102	50-156			
1,2-Dichloropropane	25		2.5	ug/L	20.0		124	61-133			
1,3-Dichlorobenzene	19		2.5	ug/L	20.0		96	66-129			
1,4-Dichlorobenzene	21		2.5	ug/L	20.0		105	65-133			
2-Butanone	89		12	ug/L	100		89	10-180			
2-Hexanone	120		12	ug/L	100		117	12-180			
4-Methyl-2-pentanone	110		12	ug/L	100		106	19-180			
Acetone	120		25	ug/L	100		120	10-180			
Benzene	21		2.5	ug/L	20.0		106	56-136			
Bromodichloromethane	21		2.5	ug/L	20.0		107	58-135			
Bromoform	18		2.5	ug/L	20.0		90	46-148			
Bromomethane	19		2.5	ug/L	20.0		97	10-173			
Carbon disulfide	22		12	ug/L	20.0		112	43-153			
Carbon Tetrachloride	24		2.5	ug/L	20.0		120	54-156			
Chlorobenzene	21		2.5	ug/L	20.0		105	51-139			
Chloroethane	23		2.5	ug/L	20.0		116	27-180			
Chloroform	21		2.5	ug/L	20.0		103	58-139			
Chloromethane	30		2.5	ug/L	20.0		148	33-154			
cis-1,2-Dichloroethene	23		2.5	ug/L	20.0		116	56-128			
cis-1,3-Dichloropropene	21		2.5	ug/L	20.0		104	64-128			
Cyclohexane	27		2.5	ug/L	20.0		133	70-130			QL-02
Dibromochloromethane	19		2.5	ug/L	20.0		95	50-140			
Dichlorodifluoromethane	18		2.5	ug/L	20.0		92	10-180			
Ethylbenzene	20		2.5	ug/L	20.0		101	63-133			
Freon 113	17		2.5	ug/L	20.0		87	47-173			
Isopropylbenzene	22		2.5	ug/L	20.0		108	60-132			
m,p-Xylenes	40		5.0	ug/L	40.0		100	64-133			
Methyl acetate	33		2.5	ug/L	20.0		163	70-130			QL-02
Methyl cyclohexane	20		2.5	ug/L	20.0		101	70-130			
Methylene Chloride	25		12	ug/L	20.0		126	43-142			
Methyl-tert-Butyl Ether	26		2.5	ug/L	20.0		128	51-145			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D27020 - EPA 5030B_MS - Continued

LCS (1D27020-BS1) Continued Prepared: 04/27/2021 00:00 Analyzed: 04/27/2021 08:35

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
o-Xylene	21		2.5	ug/L	20.0		104	61-129			
Styrene	21		2.5	ug/L	20.0		105	59-136			
Tetrachloroethene	20		2.5	ug/L	20.0		99	60-147			
Toluene	21		2.5	ug/L	20.0		104	64-131			
trans-1,2-Dichloroethene	25		2.5	ug/L	20.0		123	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0		107	65-149			
Trichloroethene	20		2.5	ug/L	20.0		101	62-135			
Trichlorofluoromethane	22		2.5	ug/L	20.0		109	56-155			
Vinyl chloride	23		2.5	ug/L	20.0		117	20-167			
4-Bromofluorobenzene	*54*			*ug/L*	*50.0*		*108*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*113*	*53-146*			
Toluene-d8	*58*			*ug/L*	*50.0*		*116*	*41-146*			

Matrix Spike (1D27020-MS1) Prepared: 04/27/2021 00:00 Analyzed: 04/27/2021 18:18

Source: AE03392-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	22		2.5	ug/L	20.0	0.80 U	112	57-148			
1,1,2,2-Tetrachloroethane	18		2.5	ug/L	20.0	0.54 U	92	60-139			
1,1,2-Trichloroethane	17		2.5	ug/L	20.0	0.76 U	87	57-141			QM-11
1,1-Dichloroethane	31		2.5	ug/L	20.0	0.62 U	156	57-142			QM-07
1,1-Dichloroethene	27		2.5	ug/L	20.0	0.94 U	135	47-139			
1,2,4-Trichlorobenzene	22		2.5	ug/L	20.0	0.70 U	108	52-159			
1,2-Dibromo-3-chloropropane	13		2.5	ug/L	20.0	0.96 U	66	48-150			QM-11
1,2-Dibromoethane	20		2.5	ug/L	20.0	0.78 U	98	57-140			
1,2-Dichlorobenzene	20		2.5	ug/L	20.0	0.73 U	100	63-131			
1,2-Dichloroethane	21		2.5	ug/L	20.0	0.63 U	104	50-156			
1,2-Dichloropropane	26		2.5	ug/L	20.0	0.80 U	131	61-133			
1,3-Dichlorobenzene	21		2.5	ug/L	20.0	0.77 U	104	66-129			
1,4-Dichlorobenzene	21		2.5	ug/L	20.0	0.76 U	105	65-133			
2-Butanone	110		12	ug/L	100	4.5 U	113	10-180			
2-Hexanone	99		12	ug/L	100	2.5 U	99	12-180			
4-Methyl-2-pentanone	76		12	ug/L	100	2.5 U	76	19-180			QM-11
Acetone	110		25	ug/L	100	10 U	111	10-180			
Benzene	20		2.5	ug/L	20.0	0.71 U	102	56-136			
Bromodichloromethane	22		2.5	ug/L	20.0	0.52 U	109	58-135			
Bromoform	17		2.5	ug/L	20.0	0.75 U	83	46-148			
Bromomethane	22		2.5	ug/L	20.0	0.95 U	109	10-173			
Carbon disulfide	27		12	ug/L	20.0	2.5 U	137	43-153			
Carbon Tetrachloride	24		2.5	ug/L	20.0	0.94 U	119	54-156			
Chlorobenzene	23		2.5	ug/L	20.0	0.72 U	115	51-139			
Chloroethane	26		2.5	ug/L	20.0	0.98 U	128	27-180			
Chloroform	24		2.5	ug/L	20.0	0.80 U	120	58-139			
Chloromethane	33		2.5	ug/L	20.0	0.82 U	163	33-154			QM-07
cis-1,2-Dichloroethene	28		2.5	ug/L	20.0	0.53 U	139	56-128			QM-07, QM-11
cis-1,3-Dichloropropene	20		2.5	ug/L	20.0	0.59 U	100	64-128			
Cyclohexane	33		2.5	ug/L	20.0	0.93 U	164	70-130			QM-19
Dibromochloromethane	17		2.5	ug/L	20.0	0.50 U	86	50-140			QM-11
Dichlorodifluoromethane	21		2.5	ug/L	20.0	0.74 U	104	10-180			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D27020 - EPA 5030B_MS - Continued

Matrix Spike (1D27020-MS1) Continued Prepared: 04/27/2021 00:00 Analyzed: 04/27/2021 18:18

Source: AE03392-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	23		2.5	ug/L	20.0	0.69 U	115	63-133			
Freon 113	21		2.5	ug/L	20.0	0.73 U	106	47-173			
Isopropylbenzene	23		2.5	ug/L	20.0	0.67 U	116	60-132			
m,p-Xylenes	44		5.0	ug/L	40.0	1.3 U	110	64-133			
Methyl acetate	28		2.5	ug/L	20.0	0.95 U	142	70-130			QM-19
Methyl cyclohexane	22		2.5	ug/L	20.0	0.64 U	110	70-130			
Methylene Chloride	28		12	ug/L	20.0	2.5 U	139	43-142			
Methyl-tert-Butyl Ether	25		2.5	ug/L	20.0	0.60 U	126	51-145			
o-Xylene	22		2.5	ug/L	20.0	0.53 U	110	61-129			
Styrene	22		2.5	ug/L	20.0	0.61 U	112	59-136			
Tetrachloroethene	16		2.5	ug/L	20.0	0.76 U	82	60-147			QM-11
Toluene	22		2.5	ug/L	20.0	0.72 U	108	64-131			QM-11
trans-1,2-Dichloroethene	25		2.5	ug/L	20.0	0.73 U	125	54-134			
trans-1,3-Dichloropropene	18		2.5	ug/L	20.0	0.73 U	90	65-149			QM-11
Trichloroethene	22		2.5	ug/L	20.0	0.89 U	108	62-135			
Trichlorofluoromethane	25		2.5	ug/L	20.0	0.94 U	126	56-155			
Vinyl chloride	26		2.5	ug/L	20.0	0.71 U	130	20-167			
4-Bromofluorobenzene	*50*			*ug/L*	*50.0*		*101*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*112*	*53-146*			
Toluene-d8	*51*			*ug/L*	*50.0*		*101*	*41-146*			

Matrix Spike Dup (1D27020-MSD1) Prepared: 04/27/2021 00:00 Analyzed: 04/27/2021 18:46

Source: AE03392-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	24		2.5	ug/L	20.0	0.80 U	120	57-148	7	25	
1,1,2,2-Tetrachloroethane	21		2.5	ug/L	20.0	0.54 U	107	60-139	16	17	
1,1,2-Trichloroethane	22		2.5	ug/L	20.0	0.76 U	111	57-141	24	16	QM-11
1,1-Dichloroethane	29		2.5	ug/L	20.0	0.62 U	144	57-142	8	24	QM-07
1,1-Dichloroethene	26		2.5	ug/L	20.0	0.94 U	130	47-139	4	16	
1,2,4-Trichlorobenzene	21		2.5	ug/L	20.0	0.70 U	105	52-159	2	24	
1,2-Dibromo-3-chloropropane	18		2.5	ug/L	20.0	0.96 U	88	48-150	29	21	QM-11
1,2-Dibromoethane	21		2.5	ug/L	20.0	0.78 U	103	57-140	5	16	
1,2-Dichlorobenzene	24		2.5	ug/L	20.0	0.73 U	118	63-131	16	25	
1,2-Dichloroethane	20		2.5	ug/L	20.0	0.63 U	99	50-156	5	18	
1,2-Dichloropropane	23		2.5	ug/L	20.0	0.80 U	117	61-133	11	26	
1,3-Dichlorobenzene	20		2.5	ug/L	20.0	0.77 U	98	66-129	6	23	
1,4-Dichlorobenzene	20		2.5	ug/L	20.0	0.76 U	102	65-133	3	23	
2-Butanone	110		12	ug/L	100	4.5 U	114	10-180	0.6	29	
2-Hexanone	120		12	ug/L	100	2.5 U	117	12-180	17	28	
4-Methyl-2-pentanone	99		12	ug/L	100	2.5 U	99	19-180	26	24	QM-11
Acetone	110		25	ug/L	100	10 U	114	10-180	3	19	
Benzene	22		2.5	ug/L	20.0	0.71 U	112	56-136	9	14	
Bromodichloromethane	20		2.5	ug/L	20.0	0.52 U	101	58-135	8	19	
Bromoform	19		2.5	ug/L	20.0	0.75 U	96	46-148	14	18	
Bromomethane	23		2.5	ug/L	20.0	0.95 U	114	10-173	4	29	
Carbon disulfide	25		12	ug/L	20.0	2.5 U	127	43-153	7	26	
Carbon Tetrachloride	26		2.5	ug/L	20.0	0.94 U	131	54-156	10	27	
Chlorobenzene	22		2.5	ug/L	20.0	0.72 U	110	51-139	4	13	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D27020 - EPA 5030B_MS - Continued

Matrix Spike Dup (1D27020-MSD1) Continued Prepared: 04/27/2021 00:00 Analyzed: 04/27/2021 18:46

Source: AE03392-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloroethane	24		2.5	ug/L	20.0	0.98 U	118	27-180	8	22	
Chloroform	22		2.5	ug/L	20.0	0.80 U	112	58-139	7	17	
Chloromethane	30		2.5	ug/L	20.0	0.82 U	150	33-154	9	31	
cis-1,2-Dichloroethene	23		2.5	ug/L	20.0	0.53 U	113	56-128	20	17	QM-11
cis-1,3-Dichloropropene	19		2.5	ug/L	20.0	0.59 U	96	64-128	4	20	
Cyclohexane	29		2.5	ug/L	20.0	0.93 U	144	70-130	13	20	QM-19
Dibromochloromethane	22		2.5	ug/L	20.0	0.50 U	108	50-140	22	18	QM-11
Dichlorodifluoromethane	19		2.5	ug/L	20.0	0.74 U	97	10-180	6	26	
Ethylbenzene	22		2.5	ug/L	20.0	0.69 U	112	63-133	3	18	
Freon 113	20		2.5	ug/L	20.0	0.73 U	98	47-173	8	30	
Isopropylbenzene	26		2.5	ug/L	20.0	0.67 U	132	60-132	12	23	
m,p-Xylenes	43		5.0	ug/L	40.0	1.3 U	108	64-133	1	18	
Methyl acetate	30		2.5	ug/L	20.0	0.95 U	151	70-130	6	20	QM-19
Methyl cyclohexane	24		2.5	ug/L	20.0	0.64 U	119	70-130	8	20	
Methylene Chloride	26		12	ug/L	20.0	2.5 U	132	43-142	5	23	
Methyl-tert-Butyl Ether	27		2.5	ug/L	20.0	0.60 U	133	51-145	6	22	
o-Xylene	24		2.5	ug/L	20.0	0.53 U	120	61-129	9	16	
Styrene	25		2.5	ug/L	20.0	0.61 U	127	59-136	12	32	
Tetrachloroethene	22		2.5	ug/L	20.0	0.76 U	108	60-147	28	21	QM-11
Toluene	26		2.5	ug/L	20.0	0.72 U	129	64-131	17	16	QM-11
trans-1,2-Dichloroethene	26		2.5	ug/L	20.0	0.73 U	130	54-134	3	20	
trans-1,3-Dichloropropene	23		2.5	ug/L	20.0	0.73 U	113	65-149	23	17	QM-11
Trichloroethene	21		2.5	ug/L	20.0	0.89 U	106	62-135	1	20	
Trichlorofluoromethane	23		2.5	ug/L	20.0	0.94 U	116	56-155	8	22	
Vinyl chloride	24		2.5	ug/L	20.0	0.71 U	118	20-167	10	24	
4-Bromofluorobenzene	*60*			*ug/L*	*50.0*		*119*	*41-142*			
Dibromofluoromethane	*58*			*ug/L*	*50.0*		*116*	*53-146*			
Toluene-d8	*57*			*ug/L*	*50.0*		*114*	*41-146*			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
QL-02	The associated laboratory control sample exhibited high bias; since the result is ND, there is no impact.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-11	Precision between duplicate matrix spikes of the same sample was outside acceptance limits.
QM-19	The spike recovery was outside acceptance limits for the MS and/or MSD.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported result is an estimated value.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence (85% or greater confidence) to make a “tentative identification".
Q	One or more quality control criteria failed.

AE355397

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 1403 | PAGE 1 OF 1

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112GO	CRCA	ALEX MURPHY		ENCO ORLANDO
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER: DAN FORESTER	PHONE NUMBER: 304-780-1426	ADDRESS
		CARRIER/WAYBILL NUMBER: COURIER		CITY, STATE: ORLANDO, FL

STANDARD TAT ☑
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE (YEAR 2021)	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TYPE OF ANALYSIS SEE BELOW								COMMENTS
									G	HCL									
22Apr	0730	CRCA-ASEFFLUENT-20210422	CRCA	/	/	GW	G	3	X										
22Apr	0740	CRCA-ASINFLUENT-20210422	CRCA	/	/	GW	G	3	X										

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	22APR21	0815	1. RECEIVED BY	22Apr	0813
2. RELINQUISHED BY	22-Apr 21	1456	2. RECEIVED BY	4/22/21	1456
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS 8260D TCL SOMO 1,2 CLP-LIKE CUSTOM LIST 0-21 61 2.5°C

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

4/23/2021

Environmental Conservation Labs, Inc.

Alex Murphy
Tetra Tech, Inc. (TE016)
11 Riverside Drive, Suite 204
Cocoa, FL 32922
Phone: (321) 636-6470
Fax: (321) 636-6473

Reference : **Sample Receipt Confirmation - *Please Review***
Project Name / Number : NASA KSC CRCA / 112G08970
Purchase Order # : 1165883

Lab Reference # : AE03392 Lab Receipt Date: 22-Apr-21 14:56
Anticipated ***(Estimated)*** Completion Date: 29-Apr-21 19:00

This is an automated notification from our laboratory information management system (LIMS), indicating the samples we have recently received and their associated analyses. Should any of the following information be in error, please contact us immediately.

Thank you for choosing Environmental Conservation Laboratories. Should any events occur that delay the processing of your samples or inhibit our ability to complete the project within the projected time frame you will be contacted.

Sincerely,

Kaitlin Dylnicki

Client: Tetra Tech, Inc. (TE016) **Project Name:** NASA KSC CRCA
Requested TAT: 5 **Project Number:** 112G08970

Analysis	TAT	Expires	Status
Sample ID: CRCA-ASEFFLUENT-20210422(Lab ID: AE03392-01), Matrix: Ground Water, Sampled: 22-Apr-21 07:30 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	06-May-21 23:59	Received
Sample ID: CRCA-ASINFLUENT-20210422(Lab ID: AE03392-02), Matrix: Ground Water, Sampled: 22-Apr-21 07:40 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	06-May-21 23:59	Received

Analysis Groups included in this work order

ENCO Orlando

SDG: AE03392-TE016

CLASS: 01_VOA_MS

METHOD: EPA 8260D

ANALYSES DATA PACKAGE COVER PAGE

EPA 8260D

Laboratory: ENCO Orlando

SDG: AE03392-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-ASEFFLUENT-20210422	AE03392-01
CRCA-ASINFLUENT-20210422	AE03392-02

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLUENT-20210422

Laboratory: ENCO Orlando SDG: AE03392-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE03392-01 File ID: 215DV006.D

Sampled: 04/22/21 07:30 Prepared: 04/27/21 09:01 Analyzed: 04/27/21 09:59

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1D27020 Sequence: AA66116 Calibration: 2103152 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLUENT-20210422

Laboratory: ENCO Orlando SDG: AE03392-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE03392-01 File ID: 215DV006.D

Sampled: 04/22/21 07:30 Prepared: 04/27/21 09:01 Analyzed: 04/27/21 09:59

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1D27020 Sequence: AA66116 Calibration: 2103152 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	56	113	53 - 146	
Toluene-d8	50.0	56	112	41 - 146	
4-Bromofluorobenzene	50.0	51	101	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	960905	9.845	1384465	9.851	
1,4-Difluorobenzene	1965206	10.444	2848520	10.444	
Chlorobenzene-d5	1225668	13.223	1764069	13.223	
1,4-Dichlorobenzene-d4	1096514	15.486	1623575	15.486	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLUENT-20210422

Laboratory: ENCO Orlando SDG: AE03392-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE03392-02 File ID: 215DV007.D

Sampled: 04/22/21 07:40 Prepared: 04/27/21 09:01 Analyzed: 04/27/21 10:27

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1D27020 Sequence: AA66116 Calibration: 2103152 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	19		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.81	J	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLUENT-20210422

Laboratory: ENCO Orlando SDG: AE03392-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE03392-02 File ID: 215DV007.D

Sampled: 04/22/21 07:40 Prepared: 04/27/21 09:01 Analyzed: 04/27/21 10:27

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1D27020 Sequence: AA66116 Calibration: 2103152 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	57	114	53 - 146	
Toluene-d8	50.0	55	111	41 - 146	
4-Bromofluorobenzene	50.0	52	104	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	974141	9.851	1384465	9.851	
1,4-Difluorobenzene	1994301	10.444	2848520	10.444	
Chlorobenzene-d5	1211833	13.229	1764069	13.223	
1,4-Dichlorobenzene-d4	1106664	15.486	1623575	15.486	

* Values outside of QC limits

HOLDING TIME SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AE03392-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-ASEFFLUENT-20210422	04/22/21 07:30	04/22/21 14:56	04/27/21 09:01	5.06	NA	04/27/21 09:59	5.00	14.00	
CRCA-ASINFLUENT-20210422	04/22/21 07:40	04/22/21 14:56	04/27/21 09:01	5.06	NA	04/27/21 10:27	5.00	14.00	

PREPARATION BATCH SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AE03392-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1D27020 Batch Matrix: Water Preparation: EPA 5030B_MS

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1D27020-BLK1	215DV005.D	04/27/21 00:00	
LCS	1D27020-BS1	215DV003.D	04/27/21 00:00	
CRCA-ASEFFLUENT-20210422	1D27020-MS1	215DV024.D	04/27/21 00:00	
CRCA-ASEFFLUENT-20210422	1D27020-MSD1	215DV025.D	04/27/21 00:00	
CRCA-ASEFFLUENT-20210422	AE03392-01	215DV006.D	04/27/21 09:01	
CRCA-ASINFLUENT-20210422	AE03392-02	215DV007.D	04/27/21 09:01	

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE03392-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1D27020-BLK1	File ID:	215DV005.D
Prepared:	04/27/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	04/27/21 09:31	Instrument:	OVGCMS5		
Batch:	1D27020	Sequence:	AA66116	Calibration:	2103152

CAS NO.	COMPOUND	CONC. (ug/L)	Q
75-71-8	Dichlorodifluoromethane	0.74	U
74-87-3	Chloromethane	0.82	U
75-01-4	Vinyl chloride	0.71	U
74-83-9	Bromomethane	0.95	U
75-00-3	Chloroethane	0.98	U
75-69-4	Trichlorofluoromethane	0.94	U
76-13-1	Freon 113	0.73	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	0.94	U
75-15-0	Carbon disulfide	2.5	U
75-09-2	Methylene Chloride	2.5	U
1634-04-4	Methyl-tert-Butyl Ether	0.60	U
156-60-5	trans-1,2-Dichloroethene	0.73	U
156-59-2	cis-1,2-Dichloroethene	0.53	U
75-34-3	1,1-Dichloroethane	0.62	U
78-93-3	2-Butanone	4.5	U
67-66-3	Chloroform	0.80	U
71-55-6	1,1,1-Trichloroethane	0.80	U
79-20-9	Methyl acetate	0.95	U
110-82-7	Cyclohexane	0.93	U
108-87-2	Methyl cyclohexane	0.64	U
56-23-5	Carbon Tetrachloride	0.94	U
107-06-2	1,2-Dichloroethane	0.63	U
71-43-2	Benzene	0.71	U
79-01-6	Trichloroethene	0.89	U
78-87-5	1,2-Dichloropropane	0.80	U
75-27-4	Bromodichloromethane	0.52	U
108-10-1	4-Methyl-2-pentanone	2.5	U
591-78-6	2-Hexanone	2.5	U
10061-01-5	cis-1,3-Dichloropropene	0.59	U

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE03392-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1D27020-BLK1	File ID:	215DV005.D
Prepared:	04/27/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	04/27/21 09:31	Instrument:	OVGCMS5		
Batch:	1D27020	Sequence:	AA66116	Calibration:	2103152

CAS NO.	COMPOUND	CONC. (ug/L)	Q
108-88-3	Toluene	0.72	U
10061-02-6	trans-1,3-Dichloropropene	0.73	U
79-00-5	1,1,2-Trichloroethane	0.76	U
127-18-4	Tetrachloroethene	0.76	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.78	U
108-90-7	Chlorobenzene	0.72	U
100-41-4	Ethylbenzene	0.69	U
108-38-3/106-42-3	m,p-Xylenes	1.3	U
95-47-6	o-Xylene	0.53	U
75-25-2	Bromoform	0.75	U
100-42-5	Styrene	0.61	U
98-82-8	Isopropylbenzene	0.67	U
79-34-5	1,1,2,2-Tetrachloroethane	0.54	U
120-82-1	1,2,4-Trichlorobenzene	0.70	U
541-73-1	1,3-Dichlorobenzene	0.77	U
106-46-7	1,4-Dichlorobenzene	0.76	U
95-50-1	1,2-Dichlorobenzene	0.73	U
96-12-8	1,2-Dibromo-3-chloropropane	0.96	U
1330-20-7	Xylenes (Total)	1.3	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	55	110	53 - 146	
Toluene-d8	50.0	54	108	41 - 146	
4-Bromofluorobenzene	50.0	52	103	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1060505	9.851	1384465	9.851	
1,4-Difluorobenzene	2109466	10.444	2848520	10.444	
Chlorobenzene-d5	1261619	13.229	1764069	13.223	
1,4-Dichlorobenzene-d4	1139715	15.485	1623575	15.486	

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE03392-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1D27020	Laboratory ID:	1D27020-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	18	92	10 - 180
Chloromethane	20.0	30	148	33 - 154
Vinyl chloride	20.0	23	117	20 - 167
Bromomethane	20.0	19	97	10 - 173
Chloroethane	20.0	23	116	27 - 180
Trichlorofluoromethane	20.0	22	109	56 - 155
Freon 113	20.0	17	87	47 - 173
Acetone	100	120	120	10 - 180
1,1-Dichloroethene	20.0	21	104	47 - 139
Carbon disulfide	20.0	22	112	43 - 153
Methylene Chloride	20.0	25	126	43 - 142
Methyl-tert-Butyl Ether	20.0	26	128	51 - 145
trans-1,2-Dichloroethene	20.0	25	123	54 - 134
cis-1,2-Dichloroethene	20.0	23	116	56 - 128
1,1-Dichloroethane	20.0	26	129	57 - 142
2-Butanone	100	89	89	10 - 180
Chloroform	20.0	21	103	58 - 139
1,1,1-Trichloroethane	20.0	21	105	57 - 148
Methyl acetate	20.0	33	163 *	70 - 130
Cyclohexane	20.0	27	133 *	70 - 130
Methyl cyclohexane	20.0	20	101	70 - 130
Carbon Tetrachloride	20.0	24	120	54 - 156
1,2-Dichloroethane	20.0	20	102	50 - 156
Benzene	20.0	21	106	56 - 136
Trichloroethene	20.0	20	101	62 - 135
1,2-Dichloropropane	20.0	25	124	61 - 133
Bromodichloromethane	20.0	21	107	58 - 135
4-Methyl-2-pentanone	100	110	106	19 - 180
2-Hexanone	100	120	117	12 - 180
cis-1,3-Dichloropropene	20.0	21	104	64 - 128

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE03392-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1D27020	Laboratory ID:	1D27020-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Toluene	20.0	21	104	64 - 131
trans-1,3-Dichloropropene	20.0	21	107	65 - 149
1,1,2-Trichloroethane	20.0	21	107	57 - 141
Tetrachloroethene	20.0	20	99	60 - 147
Dibromochloromethane	20.0	19	95	50 - 140
1,2-Dibromoethane	20.0	21	103	57 - 140
Chlorobenzene	20.0	21	105	51 - 139
Ethylbenzene	20.0	20	101	63 - 133
m,p-Xylenes	40.0	40	100	64 - 133
o-Xylene	20.0	21	104	61 - 129
Bromoform	20.0	18	90	46 - 148
Styrene	20.0	21	105	59 - 136
Isopropylbenzene	20.0	22	108	60 - 132
1,1,2,2-Tetrachloroethane	20.0	20	101	60 - 139
1,2,4-Trichlorobenzene	20.0	25	125	52 - 159
1,3-Dichlorobenzene	20.0	19	96	66 - 129
1,4-Dichlorobenzene	20.0	21	105	65 - 133
1,2-Dichlorobenzene	20.0	21	106	63 - 131
1,2-Dibromo-3-chloropropane	20.0	21	104	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASEFFLUENT-20210422

Laboratory: ENCO Orlando
SDG: AE03392-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1D27020
Laboratory ID: 1D27020-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-ASEFFLUENT-20210422

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	ND	21	104	10 - 180
Chloromethane	20.0	ND	33	163 *	33 - 154
Vinyl chloride	20.0	ND	26	130	20 - 167
Bromomethane	20.0	ND	22	109	10 - 173
Chloroethane	20.0	ND	26	128	27 - 180
Trichlorofluoromethane	20.0	ND	25	126	56 - 155
Freon 113	20.0	ND	21	106	47 - 173
Acetone	100	ND	110	111	10 - 180
1,1-Dichloroethene	20.0	ND	27	135	47 - 139
Carbon disulfide	20.0	ND	27	137	43 - 153
Methylene Chloride	20.0	ND	28	139	43 - 142
Methyl-tert-Butyl Ether	20.0	ND	25	126	51 - 145
trans-1,2-Dichloroethene	20.0	ND	25	125	54 - 134
cis-1,2-Dichloroethene	20.0	ND	28	139 *	56 - 128
1,1-Dichloroethane	20.0	ND	31	156 *	57 - 142
2-Butanone	100	ND	110	113	10 - 180
Chloroform	20.0	ND	24	120	58 - 139
1,1,1-Trichloroethane	20.0	ND	22	112	57 - 148
Methyl acetate	20.0	ND	28	142 *	70 - 130
Cyclohexane	20.0	ND	33	164 *	70 - 130
Methyl cyclohexane	20.0	ND	22	110	70 - 130
Carbon Tetrachloride	20.0	ND	24	119	54 - 156
1,2-Dichloroethane	20.0	ND	21	104	50 - 156
Benzene	20.0	ND	20	102	56 - 136
Trichloroethene	20.0	ND	22	108	62 - 135
1,2-Dichloropropane	20.0	ND	26	131	61 - 133
Bromodichloromethane	20.0	ND	22	109	58 - 135
4-Methyl-2-pentanone	100	ND	76	76	19 - 180
2-Hexanone	100	ND	99	99	12 - 180
cis-1,3-Dichloropropene	20.0	ND	20	100	64 - 128
Toluene	20.0	ND	22	108	64 - 131

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASEFFLUENT-20210422

Laboratory: ENCO Orlando
SDG: AE03392-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1D27020
Laboratory ID: 1D27020-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-ASEFFLUENT-20210422

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
trans-1,3-Dichloropropene	20.0	ND	18	90	65 - 149
1,1,2-Trichloroethane	20.0	ND	17	87	57 - 141
Tetrachloroethene	20.0	ND	16	82	60 - 147
Dibromochloromethane	20.0	ND	17	86	50 - 140
1,2-Dibromoethane	20.0	ND	20	98	57 - 140
Chlorobenzene	20.0	ND	23	115	51 - 139
Ethylbenzene	20.0	ND	23	115	63 - 133
m,p-Xylenes	40.0	ND	44	110	64 - 133
o-Xylene	20.0	ND	22	110	61 - 129
Bromoform	20.0	ND	17	83	46 - 148
Styrene	20.0	ND	22	112	59 - 136
Isopropylbenzene	20.0	ND	23	116	60 - 132
1,1,2,2-Tetrachloroethane	20.0	ND	18	92	60 - 139
1,2,4-Trichlorobenzene	20.0	ND	22	108	52 - 159
1,3-Dichlorobenzene	20.0	ND	21	104	66 - 129
1,4-Dichlorobenzene	20.0	ND	21	105	65 - 133
1,2-Dichlorobenzene	20.0	ND	20	100	63 - 131
1,2-Dibromo-3-chloropropane	20.0	ND	13	66	48 - 150

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASEFFLUENT-20210422

Laboratory: ENCO Orlando
SDG: AE03392-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1D27020
Laboratory ID: 1D27020-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-ASEFFLUENT-20210422

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20.0	19	97	6	26	10 - 180
Chloromethane	20.0	30	150	9	31	33 - 154
Vinyl chloride	20.0	24	118	10	24	20 - 167
Bromomethane	20.0	23	114	4	29	10 - 173
Chloroethane	20.0	24	118	8	22	27 - 180
Trichlorofluoromethane	20.0	23	116	8	22	56 - 155
Freon 113	20.0	20	98	8	30	47 - 173
Acetone	100	110	114	3	19	10 - 180
1,1-Dichloroethene	20.0	26	130	4	16	47 - 139
Carbon disulfide	20.0	25	127	7	26	43 - 153
Methylene Chloride	20.0	26	132	5	23	43 - 142
Methyl-tert-Butyl Ether	20.0	27	133	6	22	51 - 145
trans-1,2-Dichloroethene	20.0	26	130	3	20	54 - 134
cis-1,2-Dichloroethene	20.0	23	113	20 *	17	56 - 128
1,1-Dichloroethane	20.0	29	144 *	8	24	57 - 142
2-Butanone	100	110	114	0.6	29	10 - 180
Chloroform	20.0	22	112	7	17	58 - 139
1,1,1-Trichloroethane	20.0	24	120	7	25	57 - 148
Methyl acetate	20.0	30	151 *	6	20	70 - 130
Cyclohexane	20.0	29	144 *	13	20	70 - 130
Methyl cyclohexane	20.0	24	119	8	20	70 - 130
Carbon Tetrachloride	20.0	26	131	10	27	54 - 156
1,2-Dichloroethane	20.0	20	99	5	18	50 - 156
Benzene	20.0	22	112	9	14	56 - 136
Trichloroethene	20.0	21	106	1	20	62 - 135
1,2-Dichloropropane	20.0	23	117	11	26	61 - 133
Bromodichloromethane	20.0	20	101	8	19	58 - 135
4-Methyl-2-pentanone	100	99	99	26 *	24	19 - 180
2-Hexanone	100	120	117	17	28	12 - 180
cis-1,3-Dichloropropene	20.0	19	96	4	20	64 - 128
Toluene	20.0	26	129	17 *	16	64 - 131
trans-1,3-Dichloropropene	20.0	23	113	23 *	17	65 - 149

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASEFFLUENT-20210422

Laboratory:	ENCO Orlando	SDG:	AE03392-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1D27020	Laboratory ID:	1D27020-MSD1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

Source Sample Name: CRCA-ASEFFLUENT-20210422

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #		QC LIMITS RPD	QC LIMITS REC.
1,1,2-Trichloroethane	20.0	22	111	24	*	16	57 - 141
Tetrachloroethene	20.0	22	108	28	*	21	60 - 147
Dibromochloromethane	20.0	22	108	22	*	18	50 - 140
1,2-Dibromoethane	20.0	21	103	5		16	57 - 140
Chlorobenzene	20.0	22	110	4		13	51 - 139
Ethylbenzene	20.0	22	112	3		18	63 - 133
m,p-Xylenes	40.0	43	108	1		18	64 - 133
o-Xylene	20.0	24	120	9		16	61 - 129
Bromoform	20.0	19	96	14		18	46 - 148
Styrene	20.0	25	127	12		32	59 - 136
Isopropylbenzene	20.0	26	132	12		23	60 - 132
1,1,2,2-Tetrachloroethane	20.0	21	107	16		17	60 - 139
1,2,4-Trichlorobenzene	20.0	21	105	2		24	52 - 159
1,3-Dichlorobenzene	20.0	20	98	6		23	66 - 129
1,4-Dichlorobenzene	20.0	20	102	3		23	65 - 133
1,2-Dichlorobenzene	20.0	24	118	16		25	63 - 131
1,2-Dibromo-3-chloropropane	20.0	18	88	29	*	21	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE03392-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA65607
Instrument: OVGCMS5
Matrix: Water
Calibration: 2103152

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA65607-SCV1)			Lab File ID: 215CX012.D		Analyzed: 03/29/21 13:33			
Dibromofluoromethane	50.0	112	70 - 130	9.428	9.42725	0.0008	+/-0.5	
Toluene-d8	50.0	108	70 - 130	11.784	11.77875	0.0053	+/-0.5	
4-Bromofluorobenzene	50.0	104	70 - 130	14.334	14.32875	0.0053	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE03392-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA66116
Instrument: OVGCMS5
Matrix: Water
Calibration: 2103152

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA66116-CCV1)			Lab File ID: 215DV002.D		Analyzed: 04/27/21 08:07			
Dibromofluoromethane	50.0	112	80 - 120	9.428	9.42725	0.0008	+/-0.5	
Toluene-d8	50.0	115	80 - 120	11.778	11.77875	-0.0008	+/-0.5	
4-Bromofluorobenzene	50.0	106	80 - 120	14.328	14.32875	-0.0008	+/-0.5	
LCS (1D27020-BS1)			Lab File ID: 215DV003.D		Analyzed: 04/27/21 08:35			
Dibromofluoromethane	50.0	113	53 - 146	9.428	9.42725	0.0008	+/-0.5	
Toluene-d8	50.0	116	41 - 146	11.778	11.77875	-0.0008	+/-0.5	
4-Bromofluorobenzene	50.0	108	41 - 142	14.328	14.32875	-0.0008	+/-0.5	
Blank (1D27020-BLK1)			Lab File ID: 215DV005.D		Analyzed: 04/27/21 09:31			
Dibromofluoromethane	50.0	110	53 - 146	9.428	9.42725	0.0008	+/-0.5	
Toluene-d8	50.0	108	41 - 146	11.778	11.77875	-0.0008	+/-0.5	
4-Bromofluorobenzene	50.0	103	41 - 142	14.328	14.32875	-0.0008	+/-0.5	
CRCA-ASEFFLUENT-20210422 (AE03392-01)			Lab File ID: 215DV006.D		Analyzed: 04/27/21 09:59			
Dibromofluoromethane	50.0	113	53 - 146	9.428	9.42725	0.0008	+/-0.5	
Toluene-d8	50.0	112	41 - 146	11.778	11.77875	-0.0008	+/-0.5	
4-Bromofluorobenzene	50.0	101	41 - 142	14.328	14.32875	-0.0008	+/-0.5	
CRCA-ASINFLUENT-20210422 (AE03392-02)			Lab File ID: 215DV007.D		Analyzed: 04/27/21 10:27			
Dibromofluoromethane	50.0	114	53 - 146	9.428	9.42725	0.0008	+/-0.5	
Toluene-d8	50.0	111	41 - 146	11.778	11.77875	-0.0008	+/-0.5	
4-Bromofluorobenzene	50.0	104	41 - 142	14.328	14.32875	-0.0008	+/-0.5	
Matrix Spike (1D27020-MS1)			Lab File ID: 215DV024.D		Analyzed: 04/27/21 18:18			
Dibromofluoromethane	50.0	112	53 - 146	9.428	9.42725	0.0008	+/-0.5	
Toluene-d8	50.0	101	41 - 146	11.778	11.77875	-0.0008	+/-0.5	
4-Bromofluorobenzene	50.0	101	41 - 142	14.328	14.32875	-0.0008	+/-0.5	
Matrix Spike Dup (1D27020-MSD1)			Lab File ID: 215DV025.D		Analyzed: 04/27/21 18:46			
Dibromofluoromethane	50.0	116	53 - 146	9.428	9.42725	0.0008	+/-0.5	
Toluene-d8	50.0	114	41 - 146	11.778	11.77875	-0.0008	+/-0.5	
4-Bromofluorobenzene	50.0	119	41 - 142	14.328	14.32875	-0.0008	+/-0.5	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE03392-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA65607
Instrument: OVGCMS5
Matrix: Water
Calibration: 2103152

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA65607-CAL1)			Lab File ID: 215CX003.D			Analyzed: 03/29/21 09:08			
Pentafluorobenzene	1346004	9.857	1384465	9.851	97	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2604384	10.456	2848520	10.444	91	50 - 200	0.0120	+/-0.50	
Chlorobenzene-d5	1476739	13.229	1764069	13.223	84	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1485351	15.491	1623575	15.486	91	50 - 200	0.0050	+/-0.50	
Cal Standard (AA65607-CAL2)			Lab File ID: 215CX004.D			Analyzed: 03/29/21 09:36			
Pentafluorobenzene	1328802	9.857	1384465	9.851	96	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2614044	10.45	2848520	10.444	92	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1465646	13.229	1764069	13.223	83	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1484001	15.486	1623575	15.486	91	50 - 200	0.0000	+/-0.50	
Cal Standard (AA65607-CAL3)			Lab File ID: 215CX005.D			Analyzed: 03/29/21 10:04			
Pentafluorobenzene	1303609	9.851	1384465	9.851	94	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2636527	10.444	2848520	10.444	93	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1519825	13.229	1764069	13.223	86	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1521127	15.485	1623575	15.486	94	50 - 200	-0.0010	+/-0.50	
Cal Standard (AA65607-CAL4)			Lab File ID: 215CX006.D			Analyzed: 03/29/21 10:31			
Pentafluorobenzene	1312838	9.857	1384465	9.851	95	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2602591	10.444	2848520	10.444	91	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1563138	13.229	1764069	13.223	89	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1552067	15.485	1623575	15.486	96	50 - 200	-0.0010	+/-0.50	
Cal Standard (AA65607-CAL5)			Lab File ID: 215CX007.D			Analyzed: 03/29/21 10:59			
Pentafluorobenzene	1341958	9.851	1384465	9.851	97	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2685709	10.45	2848520	10.444	94	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1578295	13.229	1764069	13.223	89	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1585703	15.485	1623575	15.486	98	50 - 200	-0.0010	+/-0.50	
Cal Standard (AA65607-CAL6)			Lab File ID: 215CX008.D			Analyzed: 03/29/21 11:27			
Pentafluorobenzene	1384465	9.851	1384465	9.851	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2848520	10.444	2848520	10.444	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1764069	13.223	1764069	13.223	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1623575	15.486	1623575	15.486	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA65607-CAL7)			Lab File ID: 215CX009.D			Analyzed: 03/29/21 11:55			
Pentafluorobenzene	1475861	9.851	1384465	9.851	107	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2951865	10.444	2848520	10.444	104	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1901860	13.223	1764069	13.223	108	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1612454	15.485	1623575	15.486	99	50 - 200	-0.0010	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE03392-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA65607
Instrument: OVGCMS5
Matrix: Water
Calibration: 2103152

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA65607-CAL8)			Lab File ID: 215CX010.D			Analyzed: 03/29/21 12:22			
Pentafluorobenzene	1386898	9.851	1384465	9.851	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	3049005	10.444	2848520	10.444	107	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1978990	13.223	1764069	13.223	112	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1622439	15.485	1623575	15.486	100	50 - 200	-0.0010	+/-0.50	
Secondary Cal Check (AA65607-SCV1)			Lab File ID: 215CX012.D			Analyzed: 03/29/21 13:33			
Pentafluorobenzene	1380525	9.857	1384465	9.851	100	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2976518	10.45	2848520	10.444	104	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1834661	13.229	1764069	13.223	104	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1578523	15.485	1623575	15.486	97	50 - 200	-0.0010	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE03392-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA66116
Instrument: OVGCMS5
Matrix: Water
Calibration: 2103152

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA66116-CCV1)			Lab File ID: 215DV002.D			Analyzed: 04/27/21 08:07			
Pentafluorobenzene	1041773	9.851	1384465	9.851	75	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2145571	10.45	2848520	10.444	75	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1346556	13.229	1764069	13.223	76	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1209551	15.486	1623575	15.486	74	50 - 200	0.0000	+/-0.50	
LCS (1D27020-BS1)			Lab File ID: 215DV003.D			Analyzed: 04/27/21 08:35			
Pentafluorobenzene	1063082	9.851	1384465	9.851	77	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2184115	10.444	2848520	10.444	77	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1349867	13.229	1764069	13.223	77	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1183150	15.485	1623575	15.486	73	50 - 200	-0.0010	+/-0.50	
Blank (1D27020-BLK1)			Lab File ID: 215DV005.D			Analyzed: 04/27/21 09:31			
Pentafluorobenzene	1060505	9.851	1384465	9.851	77	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2109466	10.444	2848520	10.444	74	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1261619	13.229	1764069	13.223	72	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1139715	15.485	1623575	15.486	70	50 - 200	-0.0010	+/-0.50	
CRCA-ASEFFLUENT-20210422 (AE03392-01)			Lab File ID: 215DV006.D			Analyzed: 04/27/21 09:59			
Pentafluorobenzene	960905	9.845	1384465	9.851	69	50 - 200	-0.0060	+/-0.50	
1,4-Difluorobenzene	1965206	10.444	2848520	10.444	69	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1225668	13.223	1764069	13.223	69	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1096514	15.486	1623575	15.486	68	50 - 200	0.0000	+/-0.50	
CRCA-ASINFLUENT-20210422 (AE03392-02)			Lab File ID: 215DV007.D			Analyzed: 04/27/21 10:27			
Pentafluorobenzene	974141	9.851	1384465	9.851	70	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	1994301	10.444	2848520	10.444	70	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1211833	13.229	1764069	13.223	69	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1106664	15.486	1623575	15.486	68	50 - 200	0.0000	+/-0.50	
Matrix Spike (1D27020-MS1)			Lab File ID: 215DV024.D			Analyzed: 04/27/21 18:18			
Pentafluorobenzene	1074216	9.851	1384465	9.851	78	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2480004	10.45	2848520	10.444	87	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1535003	13.229	1764069	13.223	87	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1329945	15.491	1623575	15.486	82	50 - 200	0.0050	+/-0.50	
Matrix Spike Dup (1D27020-MSD1)			Lab File ID: 215DV025.D			Analyzed: 04/27/21 18:46			
Pentafluorobenzene	1224130	9.857	1384465	9.851	88	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2568791	10.45	2848520	10.444	90	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1419706	13.229	1764069	13.223	80	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1248745	15.485	1623575	15.486	77	50 - 200	-0.0010	+/-0.50	

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE03392-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA65607		
Calibration:	2103152	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA65607-TUN1	215CX002.D	03/29/21 08:34
Cal Standard	AA65607-CAL1	215CX003.D	03/29/21 09:08
Cal Standard	AA65607-CAL2	215CX004.D	03/29/21 09:36
Cal Standard	AA65607-CAL3	215CX005.D	03/29/21 10:04
Cal Standard	AA65607-CAL4	215CX006.D	03/29/21 10:31
Cal Standard	AA65607-CAL5	215CX007.D	03/29/21 10:59
Cal Standard	AA65607-CAL6	215CX008.D	03/29/21 11:27
Cal Standard	AA65607-CAL7	215CX009.D	03/29/21 11:55
Cal Standard	AA65607-CAL8	215CX010.D	03/29/21 12:22
Secondary Cal Check	AA65607-SCV1	215CX012.D	03/29/21 13:33

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE03392-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA66116		
Calibration:	2103152	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA66116-TUN1	215DV001.D	04/27/21 07:40
Calibration Check	AA66116-CCV1	215DV002.D	04/27/21 08:07
LCS	1D27020-BS1	215DV003.D	04/27/21 08:35
Blank	1D27020-BLK1	215DV005.D	04/27/21 09:31
CRCA-ASEFFLUENT-20210422	AE03392-01	215DV006.D	04/27/21 09:59
CRCA-ASINFLUENT-20210422	AE03392-02	215DV007.D	04/27/21 10:27
CRCA-ASEFFLUENT-20210422	1D27020-MS1	215DV024.D	04/27/21 18:18
CRCA-ASEFFLUENT-20210422	1D27020-MSD1	215DV025.D	04/27/21 18:46

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE03392-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	215CX002.D	Injection Date:	03/29/21
Instrument ID:	OVGCMS5	Injection Time:	08:34
Sequence:	AA65607	Lab Sample ID:	AA65607-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	156	PASS
96	5 - 9% of 95	6.92	PASS
173	Less than 2% of 174	0.308	PASS
174	50 - 200% of 95	64.2	PASS
175	5 - 9% of 174	8.93	PASS
176	95 - 105% of 174	95.1	PASS
177	5 - 10% of 176	7.13	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE03392-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	215DV001.D	Injection Date:	04/27/21
Instrument ID:	OVGCMS5	Injection Time:	07:40
Sequence:	AA66116	Lab Sample ID:	AA66116-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	172	PASS
96	5 - 9% of 95	6.69	PASS
173	Less than 2% of 174	0.738	PASS
174	50 - 200% of 95	58.2	PASS
175	5 - 9% of 174	6.42	PASS
176	95 - 105% of 174	95.5	PASS
177	5 - 10% of 176	5.96	PASS

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE03392-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2103152
Lab File ID:	215DV002.D	Calibration Date:	03/29/21 10:01
Sequence:	AA66116	Injection Date:	04/27/21
Lab Sample ID:	AA66116-CCV1	Injection Time:	08:07

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Dichlorodifluoromethane	A	50.0	51	0.600391	0.6121334		2.0	20	
Chloromethane	A	50.0	54	0.4244214	0.4528741		8.4	20	
Vinyl chloride	A	50.0	54	0.475417	0.5474926		8.9	20	
Bromomethane	A	50.0	63	0.321471	0.256529		26	20	*
Chloroethane	A	50.0	54	0.2811525	0.3072531		9.3	20	
Trichlorofluoromethane	A	50.0	55	0.7209338	0.799465		11	20	
Freon 113	A	50.0	45	0.3072171	0.2928479		-10	20	
Acetone	A	250	230	7.578281E-02	6.329594E-02		-7.6	20	
1,1-Dichloroethene	A	50.0	44	0.4063732	0.3586626		-12	20	
Carbon disulfide	A	250	270	1.280306	1.399254		9.3	20	
Methylene Chloride	A	50.0	52	0.4939431	0.4874421		4.9	20	
Methyl-tert-Butyl Ether	A	50.0	51	1.075203	1.11218		2.9	20	
trans-1,2-Dichloroethene	A	50.0	50	0.4652223	0.4803676		0.70	20	
cis-1,2-Dichloroethene	A	50.0	50	0.5330932	0.5405275		0.20	20	
1,1-Dichloroethane	A	50.0	54	0.8522977	0.8644282		7.7	20	
2-Butanone	A	250	240	4.459613E-02	4.233283E-02		-2	20	
Chloroform	A	50.0	49	0.9796291	0.9630524		-1.7	20	
1,1,1-Trichloroethane	A	50.0	54	0.8350756	0.893591		7.0	20	
Methyl acetate	A	50.0	52	0.1830469	0.1804913		3.5	20	
Cyclohexane	A	50.0	53	0.6820154	0.8022352		6.2	20	
Methyl cyclohexane	A	50.0	47	0.6408487	0.4733076		-6.1	20	
Carbon Tetrachloride	A	50.0	60	0.3275477	0.3942638		20	20	
1,2-Dichloroethane	A	50.0	49	0.3574826	0.3467748		-1.1	20	
Benzene	A	50.0	51	1.035951	1.038071		1.4	20	
Trichloroethene	A	50.0	51	0.2658801	0.2622388		2.4	20	
1,2-Dichloropropane	A	50.0	54	0.2335995	0.2565056		8.4	20	
Bromodichloromethane	A	50.0	53	0.3298445	0.348346		5.6	20	
4-Methyl-2-pentanone	A	250	240	2.917424E-02	2.810226E-02		-3.7	20	
2-Hexanone	A	250	250	8.667994E-02	9.608519E-02		0.040	20	

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE03392-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2103152
Lab File ID:	215DV002.D	Calibration Date:	03/29/21 10:01
Sequence:	AA66116	Injection Date:	04/27/21
Lab Sample ID:	AA66116-CCV1	Injection Time:	08:07

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
cis-1,3-Dichloropropene	A	50.0	53	0.4170591	0.4633046		5.4	20
Toluene	A	50.0	53	1.127943	1.151694		5.1	20
trans-1,3-Dichloropropene	A	50.0	48	0.6050858	0.5871668		-3.2	20
1,1,2-Trichloroethane	A	50.0	49	0.3573679	0.3491232		-2.3	20
Tetrachloroethene	A	50.0	49	0.3125282	0.307826		-1.5	20
Dibromochloromethane	A	50.0	46	0.3816133	0.3530161		-8	20
1,2-Dibromoethane	A	50.0	48	0.3637641	0.34554		-5	20
Chlorobenzene	A	50.0	50	1.293752	1.170561		0.20	20
Ethylbenzene	A	50.0	50	0.6783623	0.674823		-0.6	20
m,p-Xylenes	A	100	100	0.8802171	0.8843984		0.50	20
o-Xylene	A	50.0	52	0.8323709	0.8602791		3.4	20
Bromoform	A	50.0	44	0.1964488	0.1703888		-12	20
Styrene	A	50.0	54	1.345938	1.444362		7.3	20
Isopropylbenzene	A	50.0	52	2.102019	2.197513		4.5	20
1,1,2,2-Tetrachloroethane	A	50.0	48	0.5133695	0.4650041		-3.2	20
1,2,4-Trichlorobenzene	A	50.0	44	0.2073698	0.1981545		-12	20
1,3-Dichlorobenzene	A	50.0	47	1.050062	1.042392		-6.8	20
1,4-Dichlorobenzene	A	50.0	47	1.134108	1.04626		-6.9	20
1,2-Dichlorobenzene	A	50.0	49	0.9633823	0.93864		-2.8	20
1,2-Dibromo-3-chloropropane	A	50.0	41	6.197711E-02	5.325365E-02		-18	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE03392-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA65607	Instrument:	OVGCMS5
Calibration:	2103152		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A1B1159	MS Tune (lower conc.)	AA65607-TUN1	215CX002.D	03/29/21 08:34
A1C1259	8260 1 PPB	AA65607-CAL1	215CX003.D	03/29/21 09:08
A1C1260	8260 2 PPB	AA65607-CAL2	215CX004.D	03/29/21 09:36
A1C1261	8260 5 PPB	AA65607-CAL3	215CX005.D	03/29/21 10:04
A1C1262	8260 10 PPB	AA65607-CAL4	215CX006.D	03/29/21 10:31
A1C1263	8260 20 PPB	AA65607-CAL5	215CX007.D	03/29/21 10:59
A1C1264	8260 50 PPB	AA65607-CAL6	215CX008.D	03/29/21 11:27
A1C1265	8260 80 PPB	AA65607-CAL7	215CX009.D	03/29/21 11:55
A1C1266	8260 100 PPB	AA65607-CAL8	215CX010.D	03/29/21 12:22
A1C1212	8260 SCV 50 PPB	AA65607-SCV1	215CX012.D	03/29/21 13:33

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE03392-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2103152
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 03/29/21 10:01

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	1	0.5636313	2	0.5801278	5	0.5460993	10	0.5570794	20	0.636704	50	0.6088576
Chloromethane	1	0.3904892	2	0.4512711	5	0.3929706	10	0.3400572	20	0.3658162	50	0.3993615
Vinyl chloride	1	0.4400433	2	0.4435386	5	0.4080058	10	0.402921	20	0.4835844	50	0.4956752
Bromomethane	1	0.7528209	2	0.4619763	5	0.314335	10	0.2163557	20	0.1904735	50	0.1949157
Chloroethane	1	0.3468786	2	0.3012864	5	0.2632691	10	0.2336389	20	0.2908101	50	0.272194
Trichlorofluoromethane	1	0.7431256	2	0.6788069	5	0.6706459	10	0.613503	20	0.7225394	50	0.7334458
Freon 113	1	0.4135575	2	0.2550041	5	0.3013557	10	0.2408218	20	0.2835279	50	0.2973221
Acetone	5	8.187197E-02	10	7.931957E-02	25	6.701856E-02	50	6.816149E-02	100	6.305972E-02	250	0.0677596
1,1-Dichloroethene	1	0.433394	2	0.3780849	5	0.3756648	10	0.3381605	20	0.3595958	50	0.415104
Carbon disulfide	5	1.264811	10	1.386896	25	1.219903	50	1.162957	100	1.230271	250	1.239936
Methylene Chloride	1	0.7078731	2	0.4474331	5	0.4916045	10	0.3786035	20	0.4051524	50	0.4630113
Methyl-tert-Butyl Ether	1	1.210881	2	0.8127434	5	1.071027	10	0.8742929	20	0.9574163	50	1.065014
trans-1,2-Dichloroethene	1	0.6204291	2	0.353608	5	0.4145491	10	0.3681566	20	0.406449	50	0.4759716
cis-1,2-Dichloroethene	1	0.6426058	2	0.4339435	5	0.537784	10	0.4170431	20	0.444591	50	0.5530533
1,1-Dichloroethane	1	1.156163	2	0.7471392	5	0.9096439	10	0.6434495	20	0.7149031	50	0.7900843
2-Butanone	5	7.372935E-02	10	3.084733E-02	25	2.225821E-02	50	3.947022E-02	100	4.173491E-02	250	0.0418865
Chloroform	1	1.182389	2	0.9533211	5	1.03149	10	0.7988	20	0.8516381	50	0.9577281
1,1,1-Trichloroethane	1	1.024143	2	0.7564709	5	0.8482451	10	0.6743254	20	0.7800076	50	0.8462504
Methyl acetate	1	0.1034915	2	0.2288716	5	0.2004819	10	0.1448237	20	0.136992	50	0.1702217
Cyclohexane	1	0.6317217	2	0.5332811	5	0.623239	10	0.5090003	20	0.5954918	50	0.7479228
Methyl cyclohexane	1	1.300039	2	0.854691	5	0.5862751	10	0.4409375	20	0.445172	50	0.4759703
Carbon Tetrachloride	1	0.4204065	2	0.3121696	5	0.3241347	10	0.2761959	20	0.2999888	50	0.3159037
1,2-Dichloroethane	1	0.4957218	2	0.3440455	5	0.373222	10	0.2865318	20	0.3153218	50	0.3369659
Benzene	1	1.454509	2	0.9483677	5	1.096594	10	0.8289047	20	0.9209039	50	0.9526986
Trichloroethene	1	0.3942391	2	0.2458069	5	0.2588026	10	0.2119676	20	0.2437438	50	0.2552052
1,2-Dichloropropane	1	0.335204	2	0.1787843	5	0.2107469	10	0.1828582	20	0.2033495	50	0.2289944
Bromodichloromethane	1	0.4013233	2	0.2655273	5	0.3249085	10	0.272832	20	0.3172226	50	0.3318762
4-Methyl-2-pentanone	5	0.0338391	10	2.817856E-02	25	2.668511E-02	50	2.600678E-02	100	2.438611E-02	250	2.885583E-02
2-Hexanone	5	6.541662E-02	10	8.636809E-02	25	6.798944E-02	50	7.038793E-02	100	8.113817E-02	250	9.054084E-02
cis-1,3-Dichloropropene	1	0.4919013	2	0.3723732	5	0.3891483	10	0.3260923	20	0.3698865	50	0.437641
Toluene	1	1.458111	2	1.149715	5	1.193065	10	0.8834761	20	1.032294	50	1.100134

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE03392-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2103152
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 03/29/21 10:01

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	1	0.840399	2	0.5720856	5	0.5750465	10	0.504949	20	0.5256353	50	0.6018926
1,1,2-Trichloroethane	1	0.4513323	2	0.2547853	5	0.4162782	10	0.3096016	20	0.3597173	50	0.3490595
Tetrachloroethene	1	0.365569	2	0.3554576	5	0.314273	10	0.2587679	20	0.3070576	50	0.3241098
Dibromochloromethane	1	0.4716812	2	0.3102045	5	0.4375964	10	0.3258797	20	0.3541765	50	0.3824215
1,2-Dibromoethane	1	0.4387708	2	0.3586473	5	0.3689372	10	0.2999031	20	0.3370441	50	0.3582728
Chlorobenzene	1	1.833601	2	1.295077	5	1.373744	10	1.081635	20	1.214166	50	1.219805
Ethylbenzene	1	0.93053	2	0.5580986	5	0.6967579	10	0.5525296	20	0.6391454	50	0.6791764
m,p-Xylenes	2	1.072989	4	0.8208326	10	0.9527972	20	0.807763	40	0.8545083	100	0.8750837
o-Xylene	1	0.9411954	2	0.7701553	5	0.8889708	10	0.6851538	20	0.7981081	50	0.868059
Bromoform	1	0.3205035	2	0.1758269	5	0.1833566	10	0.146046	20	0.1684555	50	0.1878294
Styrene	1	1.487094	2	1.046109	5	1.409077	10	1.099727	20	1.328516	50	1.457253
Isopropylbenzene	1	2.341781	2	1.835419	5	2.153801	10	1.853099	20	2.074685	50	2.222369
1,1,2,2-Tetrachloroethane	1	0.809554	2	0.4523603	5	0.5141316	10	0.4289736	20	0.4648624	50	0.4711976
1,2,4-Trichlorobenzene	1	0.2043288	2	0.1136118	5	0.1622284	10	0.1289087	20	0.2048823	50	0.2394869
1,3-Dichlorobenzene	1	1.36328	2	0.8165931	5	1.040748	10	0.8252575	20	1.007336	50	1.103188
1,4-Dichlorobenzene	1	1.475947	2	1.10785	5	1.17649	10	0.9221026	20	1.026318	50	1.11428
1,2-Dichlorobenzene	1	1.282155	2	0.7220682	5	0.952123	10	0.8206701	20	0.8868259	50	0.9917602
1,2-Dibromo-3-chloropropane	1	0.0884976	2	3.812329E-02	5	4.714925E-02	10	4.737875E-02	20	5.394453E-02	50	6.657284E-02
Dibromofluoromethane	50	0.5182243	55	0.5145161	60	0.5352365	50	0.538384	65	0.4877907	50	0.5258674
Toluene-d8	50	1.102748	55	1.103613	60	1.068075	50	1.136389	65	1.056904	50	1.138245
4-Bromofluorobenzene	50	0.904023	55	0.912467	60	0.8609604	50	0.9086165	65	0.8487567	50	0.912788

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE03392-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2103152
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 03/29/21 10:01

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	80	0.629148	100	0.6814805								
Chloromethane	80	0.4826725	100	0.5727332								
Vinyl chloride	80	0.5388816	100	0.5906858								
Bromomethane	80	0.2056473	100	0.235244								
Chloroethane	80	0.2599902	100	~~0.2880587~~								
Trichlorofluoromethane	80	0.7734396	100	0.8319642								
Freon 113	80	0.3373488	100	0.3287992								
Acetone	400	8.382099E-02	500	9.525062E-02								
1,1-Dichloroethene	80	0.4739208	100	0.4770607								
Carbon disulfide	400	1.348255	500	1.38942								
Methylene Chloride	80	0.5094166	100	0.5484506								
Methyl-tert-Butyl Ether	80	1.232652	100	1.377597								
trans-1,2-Dichloroethene	80	0.5328813	100	0.549734								
cis-1,2-Dichloroethene	80	0.5956904	100	0.6400348								
1,1-Dichloroethane	80	0.8812784	100	0.9757206								
2-Butanone	400	5.073352E-02	500	5.610896E-02								
Chloroform	80	0.9943336	100	1.067333								
1,1,1-Trichloroethane	80	0.8516143	100	0.8995481								
Methyl acetate	80	0.2153455	100	0.2641474								
Cyclohexane	80	0.8700739	100	0.9453925								
Methyl cyclohexane	80	0.5209067	100	0.502798								
Carbon Tetrachloride	80	0.3441106	100	0.3274717								
1,2-Dichloroethane	80	0.3544617	100	0.3535903								
Benzene	80	1.065324	100	1.020305								
Trichloroethene	80	0.2674436	100	0.2498318								
1,2-Dichloropropane	80	0.263067	100	0.2657918								
Bromodichloromethane	80	0.3627173	100	0.3623492								
4-Methyl-2-pentanone	400	3.299283E-02	500	3.244957E-02								
2-Hexanone	400	0.1145622	500	0.1170362								
cis-1,3-Dichloropropene	80	0.4782468	100	0.4711832								
Toluene	80	1.129498	100	1.077251								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE03392-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2103152
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 03/29/21 10:01

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	80	0.6124491	100	0.6082289								
1,1,2-Trichloroethane	80	0.3611737	100	0.3569955								
Tetrachloroethene	80	0.296373	100	0.2786176								
Dibromochloromethane	80	0.387843	100	0.3831038								
1,2-Dibromoethane	80	0.377934	100	0.3706039								
Chlorobenzene	80	1.192978	100	1.139007								
Ethylbenzene	80	0.7073832	100	0.6632777								
m,p-Xylenes	160	0.8563316	200	0.8014318								
o-Xylene	80	0.8787887	100	0.8285358								
Bromoform	80	0.1960512	100	0.1935217								
Styrene	80	1.489153	100	1.450575								
Isopropylbenzene	80	2.231905	100	2.103091								
1,1,2,2-Tetrachloroethane	80	0.4864337	100	0.4794428								
1,2,4-Trichlorobenzene	80	0.2821538	100	0.3233573								
1,3-Dichlorobenzene	80	1.106011	100	1.138081								
1,4-Dichlorobenzene	80	1.105283	100	1.144594								
1,2-Dichlorobenzene	80	1.004919	100	1.046537								
1,2-Dibromo-3-chloropropane	80	7.688669E-02	100	7.726392E-02								
Dibromofluoromethane	70	0.4992727	75	0.5343585								
Toluene-d8	70	1.092523	75	1.074562								
4-Bromofluorobenzene	70	0.8193257	75	0.8120644								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE03392-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2103152
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 03/29/21 10:01

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	0.600391	7.806721	3.978	8.082912E-02			20	
Chloromethane	0.4244214	17.68366	4.40175	0.124488		0.9983693	0.99	
Vinyl chloride	0.475417	13.73775	4.583	9.696612E-02		0.9994991	0.99	
Bromomethane	0.321471	61.19823	5.231375	0.100733		0.994897	0.99	
Chloroethane	0.2811525	12.92573	5.464286	0.1617003			20	
Trichlorofluoromethane	0.7209338	9.316849	5.7055	0.1304415			20	
Freon 113	0.3072171	17.61928	6.559125	9.779393E-02	0.9961743		0.99	
Acetone	7.578281E-02	14.57792	7.397875	0.1580765		0.9989449	0.99	
1,1-Dichloroethene	0.4063732	12.80358	6.53625	0.1238207			20	
Carbon disulfide	1.280306	6.579835	6.62425	7.592227E-02			20	
Methylene Chloride	0.4939431	20.7154	7.34125	0.0518812		0.9998211	0.99	
Methyl-tert-Butyl Ether	1.075203	17.85147	7.62925	7.798819E-02		0.9996498	0.99	
trans-1,2-Dichloroethene	0.4652223	20.52533	7.54975	8.830608E-02		0.9995877	0.99	
cis-1,2-Dichloroethene	0.5330932	17.2069	8.9505	4.512258E-02		0.9996506	0.99	
1,1-Dichloroethane	0.8522977	19.28536	8.3155	8.181696E-02		0.9994832	0.99	
2-Butanone	4.459613E-02	35.44219	9.55175	0.1663359		0.9991091	0.99	
Chloroform	0.9796291	12.31993	9.22125	7.262626E-02			20	
1,1,1-Trichloroethane	0.8350756	12.43873	9.48575	0.0685749			20	
Methyl acetate	0.1830469	29.2743	7.527	0.1996258		0.9978267	0.99	
Cyclohexane	0.6820154	23.15707	9.1885	2.320119E-02		0.9998819	0.99	
Methyl cyclohexane	0.6408487	46.51929	10.45075	2.661884E-02	0.9974163		0.99	
Carbon Tetrachloride	0.3275477	12.99242	9.41375	6.696597E-02			20	
1,2-Dichloroethane	0.3574826	17.30708	10.08963	5.818452E-02	0.9987888		0.99	
Benzene	1.035951	18.26725	9.8785	6.173612E-02	0.9971392		0.99	
Trichloroethene	0.2658801	20.45248	10.4545	6.059313E-02	0.9978404		0.99	
1,2-Dichloropropane	0.2335995	22.45822	10.988	5.204264E-02		0.9990697	0.99	
Bromodichloromethane	0.3298445	13.95035	11.01775	5.851248E-02			20	
4-Methyl-2-pentanone	2.917424E-02	12.10607	12.13412	3.065439E-02			20	
2-Hexanone	8.667994E-02	23.12085	12.88275	5.052042E-02		0.9981807	0.99	
cis-1,3-Dichloropropene	0.4170591	14.60583	11.612	3.935929E-02		0.9985105	0.99	

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE03392-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2103152
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 03/29/21 10:01

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Toluene	1.127943	14.45113	11.8325	1.519682E-02	0.9986373		0.99	
trans-1,3-Dichloropropene	0.6050858	16.96667	12.19875	3.889151E-02	0.9989741		0.99	
1,1,2-Trichloroethane	0.3573679	16.78733	12.36487	4.407568E-02	0.9995277		0.99	
Tetrachloroethene	0.3125282	11.55221	12.21225	4.324345E-02			20	
Dibromochloromethane	0.3816133	14.09288	12.55163	3.056989E-02	0.9994214		0.99	
1,2-Dibromoethane	0.3637641	10.77239	12.815	0.0367094			20	
Chlorobenzene	1.293752	18.21489	13.244	3.122372E-02	0.998413		0.99	
Ethylbenzene	0.6783623	17.33804	13.21175	4.019164E-02	0.9979529		0.99	
m,p-Xylenes	0.8802171	10.40085	13.3275	3.010133E-02			20	
o-Xylene	0.8323709	9.65465	13.736	3.165714E-02			20	
Bromoform	0.1964488	26.79339	13.88062	5.915267E-02	0.9984755		0.99	
Styrene	1.345938	13.12906	13.78225	5.368276E-02			20	
Isopropylbenzene	2.102019	8.53497	13.99975	2.408842E-02			20	
1,1,2,2-Tetrachloroethane	0.5133695	23.80906	14.47125	2.257241E-02	0.9996064		0.99	
1,2,4-Trichlorobenzene	0.2073698	35.09608	18.158	0.1308902		0.9994672	0.99	
1,3-Dichlorobenzene	1.050062	16.83536	15.41875	2.598432E-02	0.9985552		0.99	
1,4-Dichlorobenzene	1.134108	14.03058	15.506	1.614574E-02	0.9989015		0.99	
1,2-Dichlorobenzene	0.9633823	17.35363	16.02675	0.0494696		0.9996859	0.99	
1,2-Dibromo-3-chloropropane	6.197711E-02	28.90785	17.088	5.142888E-02		0.9983918	0.99	
Dibromofluoromethane	0.5192063	3.495712	9.42725	0.0549466			20	
Toluene-d8	1.096632	2.734813	11.77875	0.0226663			20	
4-Bromofluorobenzene	0.8723752	4.881678	14.32875	7.284017E-03			20	

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE03392-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2103152 **Laboratory ID:** AA65607-SCV1

Sequence: AA65607 **Standard ID:** A1C1212

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Cyclohexane	50.0	58	16.4	30.00
Ethylbenzene	50.0	47	-5.4	30.00
Carbon Tetrachloride	50.0	45	-9.7	30.00
1,3-Dichlorobenzene	50.0	47	-5.4	30.00
4-Bromofluorobenzene	50.0	52	4.3	30.00
Toluene-d8	50.0	54	7.7	30.00
Dibromofluoromethane	50.0	56	11.5	30.00
Methyl-tert-Butyl Ether	50.0	54	8.8	30.00
trans-1,2-Dichloroethene	50.0	51	1.4	30.00
cis-1,2-Dichloroethene	50.0	51	2.6	30.00
Tetrachloroethene	50.0	44	-11.8	30.00
Acetone	250	310	22.6	30.00
1,2,4-Trichlorobenzene	50.0	49	-1.0	30.00
Chloroform	50.0	49	-1.3	30.00
Chlorobenzene	50.0	49	-2.1	30.00
Toluene	50.0	48	-3.0	30.00
Methyl cyclohexane	50.0	47	-6.7	30.00
m,p-Xylenes	100	92	-8.3	30.00
4-Methyl-2-pentanone	250	250	0.8	30.00
1,2-Dichloroethane	50.0	46	-8.4	30.00
1,2-Dibromoethane	50.0	46	-7.7	30.00
1,4-Dichlorobenzene	50.0	48	-3.4	30.00
trans-1,3-Dichloropropene	50.0	49	-2.1	30.00
cis-1,3-Dichloropropene	50.0	46	-7.1	30.00
Styrene	50.0	51	2.4	30.00
Dibromochloromethane	50.0	46	-8.5	30.00
1,1-Dichloroethene	50.0	53	6.9	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE03392-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2103152 **Laboratory ID:** AA65607-SCV1

Sequence: AA65607 **Standard ID:** A1C1212

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
1,2-Dibromo-3-chloropropane	50.0	49	-1.0	30.00
1,2-Dichlorobenzene	50.0	50	0.3	30.00
o-Xylene	50.0	49	-1.2	30.00
1,1,2,2-Tetrachloroethane	50.0	46	-8.7	30.00
Methyl acetate	50.0	60	20.2	30.00
Trichloroethene	50.0	45	-9.3	30.00
1,1,2-Trichloroethane	50.0	47	-6.9	30.00
2-Butanone	250	270	9.1	30.00
1,2-Dichloropropane	50.0	52	3.5	30.00
Freon 113	50.0	45	-10.1	30.00
2-Hexanone	250	250	1.1	30.00
Trichlorofluoromethane	50.0	56	12.6	30.00
Isopropylbenzene	50.0	50	0.8	30.00
1,1-Dichloroethane	50.0	55	10.0	30.00
Bromodichloromethane	50.0	48	-3.4	30.00
Bromoform	50.0	46	-7.2	30.00
Carbon disulfide	50.0	53	5.5	30.00
Methylene Chloride	50.0	53	5.4	30.00
Vinyl chloride	50.0	57	13.1	30.00
Chloroethane	50.0	60	19.9	30.00
Chloromethane	50.0	55	10.7	30.00
Bromomethane	50.0	44	-11.8	30.00
1,1,1-Trichloroethane	50.0	48	-3.9	30.00
Benzene	50.0	48	-3.7	30.00
Dichlorodifluoromethane	50.0	53	5.3	30.00

* Values outside of QC limits

TETRA TECH ISG
TtEGS, Information Systems Group

Completion Ticket

On 5/17/2021 at 1:32 PM the following files were submitted to Tetra Tech by kdylnicki@encolabs.com with ENCO:

TE016AE03392A1.txt, TE016AE03392A3.txt

If you need to identify this session at a later date refer to Ticket Key:

2021517_575938986_ledd_ENCO

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I Lori S. Mangrum, as the designated Quality Assurance Officer, hereby attest that all electronic deliverables have been thoroughly reviewed and are in agreement with the associated hardcopy data. The enclosed electronic files have been reviewed for accuracy (including significant figures), completeness and format. The laboratory will be responsible for any labor time necessary to correct enclosed electronic deliverables that have been found to be in error. I can be reached at (407) 826-5314 if there are any questions or problems with the enclosed electronic deliverables.

Signature:_____ Title: Quality Assurance Manager Date: May 19, 2021

ENCO Laboratories

Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Thursday, April 29, 2021
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AE03392

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Thursday, April 22, 2021.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-ASEFFLUENT-20210422 **Lab ID: AE03392-01** **Sampled: 04/22/21 07:30** **Received: 04/22/21 14:56**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	05/06/21	04/27/21 09:01	04/27/21 09:59

Client ID: CRCA-ASINFLUENT-20210422 **Lab ID: AE03392-02** **Sampled: 04/22/21 07:40** **Received: 04/22/21 14:56**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	05/06/21	04/27/21 09:01	04/27/21 10:27

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-ASINFLUENT-20210422 **Lab ID:** AE03392-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
trans-1,2-Dichloroethene	0.81	I	0.73	2.5	ug/L	EPA 8260D	
Vinyl chloride	19		0.71	2.5	ug/L	EPA 8260D	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20210422 **Lab Sample ID:** AE03392-01 **Received:** 04/22/21 14:56

Matrix: Ground Water **Sampled:** 04/22/21 07:30 **Work Order:** AE03392

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	QM-11
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	QM-07
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	QM-11
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1D27020	EPA 8260D	04/27/21 09:59	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1D27020	EPA 8260D	04/27/21 09:59	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1D27020	EPA 8260D	04/27/21 09:59	kkw	QM-11
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	QM-07
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	QM-07, QM-11
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	QL-02, QM-19
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	QM-11
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	QL-02, QM-19
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	QM-11
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	QM-11
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20210422 **Lab Sample ID:** AE03392-01 **Received:** 04/22/21 14:56

Matrix: Ground Water **Sampled:** 04/22/21 07:30 **Work Order:** AE03392

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	QM-11
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1D27020	EPA 8260D	04/27/21 09:59	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1D27020	EPA 8260D	04/27/21 09:59	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*51*	*1*	*50.0*	*101 %*	*41-142*	*1D27020*	*EPA 8260D*	*04/27/21 09:59*	*kkw*	
Dibromofluoromethane	*56*	*1*	*50.0*	*113 %*	*53-146*	*1D27020*	*EPA 8260D*	*04/27/21 09:59*	*kkw*	
Toluene-d8	*56*	*1*	*50.0*	*112 %*	*41-146*	*1D27020*	*EPA 8260D*	*04/27/21 09:59*	*kkw*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20210422 **Lab Sample ID:** AE03392-02 **Received:** 04/22/21 14:56

Matrix: Ground Water **Sampled:** 04/22/21 07:40 **Work Order:** AE03392

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1D27020	EPA 8260D	04/27/21 10:27	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1D27020	EPA 8260D	04/27/21 10:27	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	QL-02
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	QL-02
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
trans-1,2-Dichloroethene [156-60-5]^	**0.81**	I	ug/L	1	0.73	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	

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ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20210422 **Lab Sample ID:** AE03392-02 **Received:** 04/22/21 14:56

Matrix: Ground Water **Sampled:** 04/22/21 07:40 **Work Order:** AE03392

Project: NASA KSC CRCA **Sampled By:**

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Vinyl chloride [75-01-4]^	**19**		ug/L	1	0.71	2.5	1D27020	EPA 8260D	04/27/21 10:27	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1D27020	EPA 8260D	04/27/21 10:27	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*52*	*1*	*50.0*	*104 %*	*41-142*	*1D27020*	*EPA 8260D*	*04/27/21 10:27*	*kkw*	
Dibromofluoromethane	*57*	*1*	*50.0*	*114 %*	*53-146*	*1D27020*	*EPA 8260D*	*04/27/21 10:27*	*kkw*	
Toluene-d8	*55*	*1*	*50.0*	*111 %*	*41-146*	*1D27020*	*EPA 8260D*	*04/27/21 10:27*	*kkw*	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D27020 - EPA 5030B_MS

Blank (1D27020-BLK1) Prepared: 04/27/2021 00:00 Analyzed: 04/27/2021 09:31

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D27020 - EPA 5030B_MS - Continued

Blank (1D27020-BLK1) Continued Prepared: 04/27/2021 00:00 Analyzed: 04/27/2021 09:31

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*52*			*ug/L*	*50.0*		*103*	*41-142*			
Dibromofluoromethane	*55*			*ug/L*	*50.0*		*110*	*53-146*			
Toluene-d8	*54*			*ug/L*	*50.0*		*108*	*41-146*			

LCS (1D27020-BS1) Prepared: 04/27/2021 00:00 Analyzed: 04/27/2021 08:35

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	21		2.5	ug/L	20.0		105	57-148			
1,1,2,2-Tetrachloroethane	20		2.5	ug/L	20.0		101	60-139			
1,1,2-Trichloroethane	21		2.5	ug/L	20.0		107	57-141			
1,1-Dichloroethane	26		2.5	ug/L	20.0		129	57-142			
1,1-Dichloroethene	21		2.5	ug/L	20.0		104	47-139			
1,2,4-Trichlorobenzene	25		2.5	ug/L	20.0		125	52-159			
1,2-Dibromo-3-chloropropane	21		2.5	ug/L	20.0		104	48-150			
1,2-Dibromoethane	21		2.5	ug/L	20.0		103	57-140			
1,2-Dichlorobenzene	21		2.5	ug/L	20.0		106	63-131			
1,2-Dichloroethane	20		2.5	ug/L	20.0		102	50-156			
1,2-Dichloropropane	25		2.5	ug/L	20.0		124	61-133			
1,3-Dichlorobenzene	19		2.5	ug/L	20.0		96	66-129			
1,4-Dichlorobenzene	21		2.5	ug/L	20.0		105	65-133			
2-Butanone	89		12	ug/L	100		89	10-180			
2-Hexanone	120		12	ug/L	100		117	12-180			
4-Methyl-2-pentanone	110		12	ug/L	100		106	19-180			
Acetone	120		25	ug/L	100		120	10-180			
Benzene	21		2.5	ug/L	20.0		106	56-136			
Bromodichloromethane	21		2.5	ug/L	20.0		107	58-135			
Bromoform	18		2.5	ug/L	20.0		90	46-148			
Bromomethane	19		2.5	ug/L	20.0		97	10-173			
Carbon disulfide	22		12	ug/L	20.0		112	43-153			
Carbon Tetrachloride	24		2.5	ug/L	20.0		120	54-156			
Chlorobenzene	21		2.5	ug/L	20.0		105	51-139			
Chloroethane	23		2.5	ug/L	20.0		116	27-180			
Chloroform	21		2.5	ug/L	20.0		103	58-139			
Chloromethane	30		2.5	ug/L	20.0		148	33-154			
cis-1,2-Dichloroethene	23		2.5	ug/L	20.0		116	56-128			
cis-1,3-Dichloropropene	21		2.5	ug/L	20.0		104	64-128			
Cyclohexane	27		2.5	ug/L	20.0		133	70-130			QL-02
Dibromochloromethane	19		2.5	ug/L	20.0		95	50-140			
Dichlorodifluoromethane	18		2.5	ug/L	20.0		92	10-180			
Ethylbenzene	20		2.5	ug/L	20.0		101	63-133			
Freon 113	17		2.5	ug/L	20.0		87	47-173			
Isopropylbenzene	22		2.5	ug/L	20.0		108	60-132			
m,p-Xylenes	40		5.0	ug/L	40.0		100	64-133			
Methyl acetate	33		2.5	ug/L	20.0		163	70-130			QL-02
Methyl cyclohexane	20		2.5	ug/L	20.0		101	70-130			
Methylene Chloride	25		12	ug/L	20.0		126	43-142			
Methyl-tert-Butyl Ether	26		2.5	ug/L	20.0		128	51-145			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D27020 - EPA 5030B_MS - Continued

LCS (1D27020-BS1) Continued Prepared: 04/27/2021 00:00 Analyzed: 04/27/2021 08:35

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
o-Xylene	21		2.5	ug/L	20.0		104	61-129			
Styrene	21		2.5	ug/L	20.0		105	59-136			
Tetrachloroethene	20		2.5	ug/L	20.0		99	60-147			
Toluene	21		2.5	ug/L	20.0		104	64-131			
trans-1,2-Dichloroethene	25		2.5	ug/L	20.0		123	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0		107	65-149			
Trichloroethene	20		2.5	ug/L	20.0		101	62-135			
Trichlorofluoromethane	22		2.5	ug/L	20.0		109	56-155			
Vinyl chloride	23		2.5	ug/L	20.0		117	20-167			
4-Bromofluorobenzene	*54*			*ug/L*	*50.0*		*108*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*113*	*53-146*			
Toluene-d8	*58*			*ug/L*	*50.0*		*116*	*41-146*			

Matrix Spike (1D27020-MS1) Prepared: 04/27/2021 00:00 Analyzed: 04/27/2021 18:18

Source: AE03392-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	22		2.5	ug/L	20.0	0.80 U	112	57-148			
1,1,2,2-Tetrachloroethane	18		2.5	ug/L	20.0	0.54 U	92	60-139			
1,1,2-Trichloroethane	17		2.5	ug/L	20.0	0.76 U	87	57-141			QM-11
1,1-Dichloroethane	31		2.5	ug/L	20.0	0.62 U	156	57-142			QM-07
1,1-Dichloroethene	27		2.5	ug/L	20.0	0.94 U	135	47-139			
1,2,4-Trichlorobenzene	22		2.5	ug/L	20.0	0.70 U	108	52-159			
1,2-Dibromo-3-chloropropane	13		2.5	ug/L	20.0	0.96 U	66	48-150			QM-11
1,2-Dibromoethane	20		2.5	ug/L	20.0	0.78 U	98	57-140			
1,2-Dichlorobenzene	20		2.5	ug/L	20.0	0.73 U	100	63-131			
1,2-Dichloroethane	21		2.5	ug/L	20.0	0.63 U	104	50-156			
1,2-Dichloropropane	26		2.5	ug/L	20.0	0.80 U	131	61-133			
1,3-Dichlorobenzene	21		2.5	ug/L	20.0	0.77 U	104	66-129			
1,4-Dichlorobenzene	21		2.5	ug/L	20.0	0.76 U	105	65-133			
2-Butanone	110		12	ug/L	100	4.5 U	113	10-180			
2-Hexanone	99		12	ug/L	100	2.5 U	99	12-180			
4-Methyl-2-pentanone	76		12	ug/L	100	2.5 U	76	19-180			QM-11
Acetone	110		25	ug/L	100	10 U	111	10-180			
Benzene	20		2.5	ug/L	20.0	0.71 U	102	56-136			
Bromodichloromethane	22		2.5	ug/L	20.0	0.52 U	109	58-135			
Bromoform	17		2.5	ug/L	20.0	0.75 U	83	46-148			
Bromomethane	22		2.5	ug/L	20.0	0.95 U	109	10-173			
Carbon disulfide	27		12	ug/L	20.0	2.5 U	137	43-153			
Carbon Tetrachloride	24		2.5	ug/L	20.0	0.94 U	119	54-156			
Chlorobenzene	23		2.5	ug/L	20.0	0.72 U	115	51-139			
Chloroethane	26		2.5	ug/L	20.0	0.98 U	128	27-180			
Chloroform	24		2.5	ug/L	20.0	0.80 U	120	58-139			
Chloromethane	33		2.5	ug/L	20.0	0.82 U	163	33-154			QM-07
cis-1,2-Dichloroethene	28		2.5	ug/L	20.0	0.53 U	139	56-128			QM-07, QM-11
cis-1,3-Dichloropropene	20		2.5	ug/L	20.0	0.59 U	100	64-128			
Cyclohexane	33		2.5	ug/L	20.0	0.93 U	164	70-130			QM-19
Dibromochloromethane	17		2.5	ug/L	20.0	0.50 U	86	50-140			QM-11
Dichlorodifluoromethane	21		2.5	ug/L	20.0	0.74 U	104	10-180			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D27020 - EPA 5030B_MS - Continued

Matrix Spike (1D27020-MS1) Continued Prepared: 04/27/2021 00:00 Analyzed: 04/27/2021 18:18

Source: AE03392-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	23		2.5	ug/L	20.0	0.69 U	115	63-133			
Freon 113	21		2.5	ug/L	20.0	0.73 U	106	47-173			
Isopropylbenzene	23		2.5	ug/L	20.0	0.67 U	116	60-132			
m,p-Xylenes	44		5.0	ug/L	40.0	1.3 U	110	64-133			
Methyl acetate	28		2.5	ug/L	20.0	0.95 U	142	70-130			QM-19
Methyl cyclohexane	22		2.5	ug/L	20.0	0.64 U	110	70-130			
Methylene Chloride	28		12	ug/L	20.0	2.5 U	139	43-142			
Methyl-tert-Butyl Ether	25		2.5	ug/L	20.0	0.60 U	126	51-145			
o-Xylene	22		2.5	ug/L	20.0	0.53 U	110	61-129			
Styrene	22		2.5	ug/L	20.0	0.61 U	112	59-136			
Tetrachloroethene	16		2.5	ug/L	20.0	0.76 U	82	60-147			QM-11
Toluene	22		2.5	ug/L	20.0	0.72 U	108	64-131			QM-11
trans-1,2-Dichloroethene	25		2.5	ug/L	20.0	0.73 U	125	54-134			
trans-1,3-Dichloropropene	18		2.5	ug/L	20.0	0.73 U	90	65-149			QM-11
Trichloroethene	22		2.5	ug/L	20.0	0.89 U	108	62-135			
Trichlorofluoromethane	25		2.5	ug/L	20.0	0.94 U	126	56-155			
Vinyl chloride	26		2.5	ug/L	20.0	0.71 U	130	20-167			
4-Bromofluorobenzene	*50*			*ug/L*	*50.0*		*101*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*112*	*53-146*			
Toluene-d8	*51*			*ug/L*	*50.0*		*101*	*41-146*			

Matrix Spike Dup (1D27020-MSD1) Prepared: 04/27/2021 00:00 Analyzed: 04/27/2021 18:46

Source: AE03392-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	24		2.5	ug/L	20.0	0.80 U	120	57-148	7	25	
1,1,2,2-Tetrachloroethane	21		2.5	ug/L	20.0	0.54 U	107	60-139	16	17	
1,1,2-Trichloroethane	22		2.5	ug/L	20.0	0.76 U	111	57-141	24	16	QM-11
1,1-Dichloroethane	29		2.5	ug/L	20.0	0.62 U	144	57-142	8	24	QM-07
1,1-Dichloroethene	26		2.5	ug/L	20.0	0.94 U	130	47-139	4	16	
1,2,4-Trichlorobenzene	21		2.5	ug/L	20.0	0.70 U	105	52-159	2	24	
1,2-Dibromo-3-chloropropane	18		2.5	ug/L	20.0	0.96 U	88	48-150	29	21	QM-11
1,2-Dibromoethane	21		2.5	ug/L	20.0	0.78 U	103	57-140	5	16	
1,2-Dichlorobenzene	24		2.5	ug/L	20.0	0.73 U	118	63-131	16	25	
1,2-Dichloroethane	20		2.5	ug/L	20.0	0.63 U	99	50-156	5	18	
1,2-Dichloropropane	23		2.5	ug/L	20.0	0.80 U	117	61-133	11	26	
1,3-Dichlorobenzene	20		2.5	ug/L	20.0	0.77 U	98	66-129	6	23	
1,4-Dichlorobenzene	20		2.5	ug/L	20.0	0.76 U	102	65-133	3	23	
2-Butanone	110		12	ug/L	100	4.5 U	114	10-180	0.6	29	
2-Hexanone	120		12	ug/L	100	2.5 U	117	12-180	17	28	
4-Methyl-2-pentanone	99		12	ug/L	100	2.5 U	99	19-180	26	24	QM-11
Acetone	110		25	ug/L	100	10 U	114	10-180	3	19	
Benzene	22		2.5	ug/L	20.0	0.71 U	112	56-136	9	14	
Bromodichloromethane	20		2.5	ug/L	20.0	0.52 U	101	58-135	8	19	
Bromoform	19		2.5	ug/L	20.0	0.75 U	96	46-148	14	18	
Bromomethane	23		2.5	ug/L	20.0	0.95 U	114	10-173	4	29	
Carbon disulfide	25		12	ug/L	20.0	2.5 U	127	43-153	7	26	
Carbon Tetrachloride	26		2.5	ug/L	20.0	0.94 U	131	54-156	10	27	
Chlorobenzene	22		2.5	ug/L	20.0	0.72 U	110	51-139	4	13	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D27020 - EPA 5030B_MS - Continued

Matrix Spike Dup (1D27020-MSD1) Continued Prepared: 04/27/2021 00:00 Analyzed: 04/27/2021 18:46

Source: AE03392-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloroethane	24		2.5	ug/L	20.0	0.98 U	118	27-180	8	22	
Chloroform	22		2.5	ug/L	20.0	0.80 U	112	58-139	7	17	
Chloromethane	30		2.5	ug/L	20.0	0.82 U	150	33-154	9	31	
cis-1,2-Dichloroethene	23		2.5	ug/L	20.0	0.53 U	113	56-128	20	17	QM-11
cis-1,3-Dichloropropene	19		2.5	ug/L	20.0	0.59 U	96	64-128	4	20	
Cyclohexane	29		2.5	ug/L	20.0	0.93 U	144	70-130	13	20	QM-19
Dibromochloromethane	22		2.5	ug/L	20.0	0.50 U	108	50-140	22	18	QM-11
Dichlorodifluoromethane	19		2.5	ug/L	20.0	0.74 U	97	10-180	6	26	
Ethylbenzene	22		2.5	ug/L	20.0	0.69 U	112	63-133	3	18	
Freon 113	20		2.5	ug/L	20.0	0.73 U	98	47-173	8	30	
Isopropylbenzene	26		2.5	ug/L	20.0	0.67 U	132	60-132	12	23	
m,p-Xylenes	43		5.0	ug/L	40.0	1.3 U	108	64-133	1	18	
Methyl acetate	30		2.5	ug/L	20.0	0.95 U	151	70-130	6	20	QM-19
Methyl cyclohexane	24		2.5	ug/L	20.0	0.64 U	119	70-130	8	20	
Methylene Chloride	26		12	ug/L	20.0	2.5 U	132	43-142	5	23	
Methyl-tert-Butyl Ether	27		2.5	ug/L	20.0	0.60 U	133	51-145	6	22	
o-Xylene	24		2.5	ug/L	20.0	0.53 U	120	61-129	9	16	
Styrene	25		2.5	ug/L	20.0	0.61 U	127	59-136	12	32	
Tetrachloroethene	22		2.5	ug/L	20.0	0.76 U	108	60-147	28	21	QM-11
Toluene	26		2.5	ug/L	20.0	0.72 U	129	64-131	17	16	QM-11
trans-1,2-Dichloroethene	26		2.5	ug/L	20.0	0.73 U	130	54-134	3	20	
trans-1,3-Dichloropropene	23		2.5	ug/L	20.0	0.73 U	113	65-149	23	17	QM-11
Trichloroethene	21		2.5	ug/L	20.0	0.89 U	106	62-135	1	20	
Trichlorofluoromethane	23		2.5	ug/L	20.0	0.94 U	116	56-155	8	22	
Vinyl chloride	24		2.5	ug/L	20.0	0.71 U	118	20-167	10	24	
4-Bromofluorobenzene	*60*			*ug/L*	*50.0*		*119*	*41-142*			
Dibromofluoromethane	*58*			*ug/L*	*50.0*		*116*	*53-146*			
Toluene-d8	*57*			*ug/L*	*50.0*		*114*	*41-146*			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
QL-02	The associated laboratory control sample exhibited high bias; since the result is ND, there is no impact.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-11	Precision between duplicate matrix spikes of the same sample was outside acceptance limits.
QM-19	The spike recovery was outside acceptance limits for the MS and/or MSD.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.

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AE355397

Tetra Tech, Inc.

CHAIN OF CUSTODY | **NUMBER** No. 1403 | **PAGE** 1 **OF** 1

PROJECT NO: 112GO	**FACILITY:** CRCA	**PROJECT MANAGER** ALEX MURPHY	**PHONE NUMBER**	**LABORATORY NAME AND CONTACT:** ENCO ORLANDO
SAMPLERS (SIGNATURE)		**FIELD OPERATIONS LEADER** DAN FORESTER	**PHONE NUMBER** 304-780-1426	**ADDRESS**
		CARRIER/WAYBILL NUMBER COURIER		**CITY, STATE** ORLANDO, FL

STANDARD TAT ☑
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE (YEAR 2021)	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TYPE OF ANALYSIS SEE BELOW								COMMENTS
									G	HCL									
22Apr	0730	CRCA-ASEFFLUENT-20210422	CRCA	/	/	GW	G	3	X										
22Apr	0740	CRCA-ASINFLUENT-20210422	CRCA	/	/	GW	G	3	X										

1. RELINQUISHED BY	DATE 22APR21	TIME 0815	1. RECEIVED BY	DATE 22 Apr	TIME 0813
2. RELINQUISHED BY	DATE 22-Apr 21	TIME 1456	2. RECEIVED BY	DATE 4/22/21	TIME 1456
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS 8260D TCL SOMO 1,2 CLP-LIKE CUSTOM LIST C-2161 2.5C

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

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ENCO Laboratories
Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Wednesday, May 26, 2021
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AE04350

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Thursday, May 20, 2021.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

www.encolabs.com

Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Client PM: Alex Murphy
Project Number: 112G08970
ENCO Project ID: AE04350
SDG: AE04350-TE016

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling and processing will be discussed in the Remarks section below.

Remarks

List of instruments used:

Analytical and Preparation Method	SOP Reference Instrument
EPA 8260D / 5030B_MS	OVGCMS5

Analysis: EPA 8260D

Manual integrations were performed on samples associated with EPA 8260D. All data & explanations are included in the raw data section of the report.

Affected Samples: AA66553-CCV1, CRCA-ASEFFLUENT-20210520[AE04350-01], CRCA-ASINFLUENT-20210520[AE04350-02]
The associated calibration verification standard for bromomethane exhibited high bias. Analyte(s) not detected in the sample.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Kaitlin Dylnicki
Project Manager

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-ASEFFLUENT-20210520 **Lab ID: AE04350-01** **Sampled: 05/20/21 08:15** **Received: 05/20/21 14:05**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	06/03/21	05/24/21 09:12	05/24/21 10:28

Client ID: CRCA-ASINFLUENT-20210520 **Lab ID: AE04350-02** **Sampled: 05/20/21 08:20** **Received: 05/20/21 14:05**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	06/03/21	05/24/21 09:12	05/24/21 10:56

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-ASINFLUENT-20210520 **Lab ID:** AE04350-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
trans-1,2-Dichloroethene	0.76	I	0.73	2.5	ug/L	EPA 8260D	
Vinyl chloride	13		0.71	2.5	ug/L	EPA 8260D	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20210520 **Lab Sample ID:** AE04350-01 **Received:** 05/20/21 14:05

Matrix: Ground Water **Sampled:** 05/20/21 08:15 **Work Order:** AE04350

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1E24012	EPA 8260D	05/24/21 10:28	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1E24012	EPA 8260D	05/24/21 10:28	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20210520 **Lab Sample ID:** AE04350-01 **Received:** 05/20/21 14:05

Matrix: Ground Water **Sampled:** 05/20/21 08:15 **Work Order:** AE04350

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1E24012	EPA 8260D	05/24/21 10:28	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*52*	*1*	*50.0*	*104 %*	*41-142*	*1E24012*	*EPA 8260D*	*05/24/21 10:28*	*kkw*	
Dibromofluoromethane	*55*	*1*	*50.0*	*109 %*	*53-146*	*1E24012*	*EPA 8260D*	*05/24/21 10:28*	*kkw*	
Toluene-d8	*51*	*1*	*50.0*	*102 %*	*41-146*	*1E24012*	*EPA 8260D*	*05/24/21 10:28*	*kkw*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20210520 **Lab Sample ID:** AE04350-02 **Received:** 05/20/21 14:05

Matrix: Ground Water **Sampled:** 05/20/21 08:20 **Work Order:** AE04350

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1E24012	EPA 8260D	05/24/21 10:56	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1E24012	EPA 8260D	05/24/21 10:56	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
trans-1,2-Dichloroethene [156-60-5]^	**0.76**	I	ug/L	1	0.73	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	

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ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20210520 **Lab Sample ID:** AE04350-02 **Received:** 05/20/21 14:05

Matrix: Ground Water **Sampled:** 05/20/21 08:20 **Work Order:** AE04350

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Vinyl chloride [75-01-4]^	**13**		ug/L	1	0.71	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1E24012	EPA 8260D	05/24/21 10:56	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*51*	*1*	*50.0*	*102 %*	*41-142*	*1E24012*	*EPA 8260D*	*05/24/21 10:56*	*kkw*	
Dibromofluoromethane	*54*	*1*	*50.0*	*109 %*	*53-146*	*1E24012*	*EPA 8260D*	*05/24/21 10:56*	*kkw*	
Toluene-d8	*53*	*1*	*50.0*	*105 %*	*41-146*	*1E24012*	*EPA 8260D*	*05/24/21 10:56*	*kkw*	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1E24012 - EPA 5030B_MS

Blank (1E24012-BLK1) Prepared: 05/24/2021 00:00 Analyzed: 05/24/2021 09:32

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1E24012 - EPA 5030B_MS - Continued

Blank (1E24012-BLK1) Continued Prepared: 05/24/2021 00:00 Analyzed: 05/24/2021 09:32

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*50*			*ug/L*	*50.0*		*101*	*41-142*			
Dibromofluoromethane	*53*			*ug/L*	*50.0*		*107*	*53-146*			
Toluene-d8	*52*			*ug/L*	*50.0*		*103*	*41-146*			

LCS (1E24012-BS1) Prepared: 05/24/2021 00:00 Analyzed: 05/24/2021 08:37

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	22		2.5	ug/L	20.0		112	57-148			
1,1,2,2-Tetrachloroethane	19		2.5	ug/L	20.0		95	60-139			
1,1,2-Trichloroethane	20		2.5	ug/L	20.0		101	57-141			
1,1-Dichloroethane	23		2.5	ug/L	20.0		114	57-142			
1,1-Dichloroethene	24		2.5	ug/L	20.0		118	47-139			
1,2,4-Trichlorobenzene	15		2.5	ug/L	20.0		74	52-159			
1,2-Dibromo-3-chloropropane	17		2.5	ug/L	20.0		85	48-150			
1,2-Dibromoethane	19		2.5	ug/L	20.0		95	57-140			
1,2-Dichlorobenzene	20		2.5	ug/L	20.0		101	63-131			
1,2-Dichloroethane	19		2.5	ug/L	20.0		97	50-156			
1,2-Dichloropropane	19		2.5	ug/L	20.0		97	61-133			
1,3-Dichlorobenzene	21		2.5	ug/L	20.0		105	66-129			
1,4-Dichlorobenzene	20		2.5	ug/L	20.0		102	65-133			
2-Butanone	94		12	ug/L	100		94	10-180			
2-Hexanone	94		12	ug/L	100		94	12-180			
4-Methyl-2-pentanone	85		12	ug/L	100		85	19-180			
Acetone	90		25	ug/L	100		90	10-180			
Benzene	21		2.5	ug/L	20.0		105	56-136			
Bromodichloromethane	20		2.5	ug/L	20.0		98	58-135			
Bromoform	20		2.5	ug/L	20.0		99	46-148			
Bromomethane	7.7		2.5	ug/L	20.0		39	10-173			
Carbon disulfide	20		12	ug/L	20.0		102	43-153			
Carbon Tetrachloride	21		2.5	ug/L	20.0		106	54-156			
Chlorobenzene	20		2.5	ug/L	20.0		102	51-139			
Chloroethane	24		2.5	ug/L	20.0		121	27-180			
Chloroform	21		2.5	ug/L	20.0		105	58-139			
Chloromethane	17		2.5	ug/L	20.0		84	33-154			
cis-1,2-Dichloroethene	21		2.5	ug/L	20.0		104	56-128			
cis-1,3-Dichloropropene	18		2.5	ug/L	20.0		92	64-128			
Cyclohexane	23		2.5	ug/L	20.0		113	70-130			
Dibromochloromethane	20		2.5	ug/L	20.0		100	50-140			
Dichlorodifluoromethane	20		2.5	ug/L	20.0		100	10-180			
Ethylbenzene	20		2.5	ug/L	20.0		101	63-133			
Freon 113	21		2.5	ug/L	20.0		106	47-173			
Isopropylbenzene	21		2.5	ug/L	20.0		106	60-132			
m,p-Xylenes	43		5.0	ug/L	40.0		107	64-133			
Methyl acetate	20		2.5	ug/L	20.0		102	70-130			
Methyl cyclohexane	20		2.5	ug/L	20.0		101	70-130			
Methylene Chloride	21		12	ug/L	20.0		103	43-142			
Methyl-tert-Butyl Ether	21		2.5	ug/L	20.0		104	51-145			

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1E24012 - EPA 5030B_MS - Continued

LCS (1E24012-BS1) Continued Prepared: 05/24/2021 00:00 Analyzed: 05/24/2021 08:37

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
o-Xylene	21		2.5	ug/L	20.0		103	61-129			
Styrene	21		2.5	ug/L	20.0		106	59-136			
Tetrachloroethene	19		2.5	ug/L	20.0		97	60-147			
Toluene	22		2.5	ug/L	20.0		108	64-131			
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0		110	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0		105	65-149			
Trichloroethene	20		2.5	ug/L	20.0		99	62-135			
Trichlorofluoromethane	20		2.5	ug/L	20.0		99	56-155			
Vinyl chloride	21		2.5	ug/L	20.0		104	20-167			
4-Bromofluorobenzene	*52*			*ug/L*	*50.0*		*103*	*41-142*			
Dibromofluoromethane	*54*			*ug/L*	*50.0*		*108*	*53-146*			
Toluene-d8	*52*			*ug/L*	*50.0*		*104*	*41-146*			

Matrix Spike (1E24012-MS1) Prepared: 05/24/2021 00:00 Analyzed: 05/24/2021 11:23

Source: AE04350-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	25		2.5	ug/L	20.0	0.80 U	123	57-148			
1,1,2,2-Tetrachloroethane	19		2.5	ug/L	20.0	0.54 U	96	60-139			
1,1,2-Trichloroethane	20		2.5	ug/L	20.0	0.76 U	98	57-141			
1,1-Dichloroethane	25		2.5	ug/L	20.0	0.62 U	124	57-142			
1,1-Dichloroethene	26		2.5	ug/L	20.0	0.94 U	130	47-139			
1,2,4-Trichlorobenzene	14		2.5	ug/L	20.0	0.70 U	71	52-159			
1,2-Dibromo-3-chloropropane	17		2.5	ug/L	20.0	0.96 U	83	48-150			
1,2-Dibromoethane	19		2.5	ug/L	20.0	0.78 U	96	57-140			
1,2-Dichlorobenzene	21		2.5	ug/L	20.0	0.73 U	105	63-131			
1,2-Dichloroethane	20		2.5	ug/L	20.0	0.63 U	102	50-156			
1,2-Dichloropropane	21		2.5	ug/L	20.0	0.80 U	106	61-133			
1,3-Dichlorobenzene	22		2.5	ug/L	20.0	0.77 U	109	66-129			
1,4-Dichlorobenzene	21		2.5	ug/L	20.0	0.76 U	105	65-133			
2-Butanone	94		12	ug/L	100	4.5 U	94	10-180			
2-Hexanone	98		12	ug/L	100	2.5 U	98	12-180			
4-Methyl-2-pentanone	95		12	ug/L	100	2.5 U	95	19-180			
Acetone	89		25	ug/L	100	10 U	89	10-180			
Benzene	23		2.5	ug/L	20.0	0.71 U	116	56-136			
Bromodichloromethane	21		2.5	ug/L	20.0	0.52 U	103	58-135			
Bromoform	19		2.5	ug/L	20.0	0.75 U	93	46-148			
Bromomethane	11		2.5	ug/L	20.0	0.95 U	54	10-173			
Carbon disulfide	23		12	ug/L	20.0	2.5 U	114	43-153			
Carbon Tetrachloride	23		2.5	ug/L	20.0	0.94 U	116	54-156			
Chlorobenzene	22		2.5	ug/L	20.0	0.72 U	108	51-139			
Chloroethane	27		2.5	ug/L	20.0	0.98 U	133	27-180			
Chloroform	23		2.5	ug/L	20.0	0.80 U	117	58-139			
Chloromethane	19		2.5	ug/L	20.0	0.82 U	97	33-154			
cis-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.53 U	112	56-128			
cis-1,3-Dichloropropene	19		2.5	ug/L	20.0	0.59 U	95	64-128			
Cyclohexane	25		2.5	ug/L	20.0	0.93 U	126	70-130			
Dibromochloromethane	19		2.5	ug/L	20.0	0.50 U	97	50-140			
Dichlorodifluoromethane	23		2.5	ug/L	20.0	0.74 U	114	10-180			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1E24012 - EPA 5030B_MS - Continued

Matrix Spike (1E24012-MS1) Continued Prepared: 05/24/2021 00:00 Analyzed: 05/24/2021 11:23

Source: AE04350-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	22		2.5	ug/L	20.0	0.69 U	111	63-133			
Freon 113	24		2.5	ug/L	20.0	0.73 U	122	47-173			
Isopropylbenzene	23		2.5	ug/L	20.0	0.67 U	114	60-132			
m,p-Xylenes	45		5.0	ug/L	40.0	1.3 U	112	64-133			
Methyl acetate	21		2.5	ug/L	20.0	0.95 U	103	70-130			
Methyl cyclohexane	23		2.5	ug/L	20.0	0.64 U	115	70-130			
Methylene Chloride	23		12	ug/L	20.0	2.5 U	115	43-142			
Methyl-tert-Butyl Ether	22		2.5	ug/L	20.0	0.60 U	109	51-145			
o-Xylene	22		2.5	ug/L	20.0	0.53 U	108	61-129			
Styrene	22		2.5	ug/L	20.0	0.61 U	112	59-136			
Tetrachloroethene	21		2.5	ug/L	20.0	0.76 U	103	60-147			
Toluene	22		2.5	ug/L	20.0	0.72 U	112	64-131			
trans-1,2-Dichloroethene	24		2.5	ug/L	20.0	0.73 U	122	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0	0.73 U	107	65-149			
Trichloroethene	22		2.5	ug/L	20.0	0.89 U	112	62-135			
Trichlorofluoromethane	23		2.5	ug/L	20.0	0.94 U	114	56-155			
Vinyl chloride	24		2.5	ug/L	20.0	0.71 U	119	20-167			
4-Bromofluorobenzene	*51*			*ug/L*	*50.0*		*103*	*41-142*			
Dibromofluoromethane	*55*			*ug/L*	*50.0*		*110*	*53-146*			
Toluene-d8	*54*			*ug/L*	*50.0*		*108*	*41-146*			

Matrix Spike Dup (1E24012-MSD1) Prepared: 05/24/2021 00:00 Analyzed: 05/24/2021 11:51

Source: AE04350-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	25		2.5	ug/L	20.0	0.80 U	123	57-148	0.4	25	
1,1,2,2-Tetrachloroethane	20		2.5	ug/L	20.0	0.54 U	98	60-139	2	17	
1,1,2-Trichloroethane	20		2.5	ug/L	20.0	0.76 U	100	57-141	2	16	
1,1-Dichloroethane	25		2.5	ug/L	20.0	0.62 U	124	57-142	0.04	24	
1,1-Dichloroethene	26		2.5	ug/L	20.0	0.94 U	130	47-139	0.2	16	
1,2,4-Trichlorobenzene	15		2.5	ug/L	20.0	0.70 U	73	52-159	3	24	
1,2-Dibromo-3-chloropropane	16		2.5	ug/L	20.0	0.96 U	78	48-150	7	21	
1,2-Dibromoethane	20		2.5	ug/L	20.0	0.78 U	101	57-140	5	16	
1,2-Dichlorobenzene	21		2.5	ug/L	20.0	0.73 U	106	63-131	1	25	
1,2-Dichloroethane	21		2.5	ug/L	20.0	0.63 U	104	50-156	2	18	
1,2-Dichloropropane	20		2.5	ug/L	20.0	0.80 U	102	61-133	4	26	
1,3-Dichlorobenzene	23		2.5	ug/L	20.0	0.77 U	113	66-129	3	23	
1,4-Dichlorobenzene	22		2.5	ug/L	20.0	0.76 U	110	65-133	5	23	
2-Butanone	97		12	ug/L	100	4.5 U	97	10-180	3	29	
2-Hexanone	100		12	ug/L	100	2.5 U	101	12-180	3	28	
4-Methyl-2-pentanone	96		12	ug/L	100	2.5 U	96	19-180	0.6	24	
Acetone	88		25	ug/L	100	10 U	88	10-180	0.6	19	
Benzene	23		2.5	ug/L	20.0	0.71 U	113	56-136	2	14	
Bromodichloromethane	21		2.5	ug/L	20.0	0.52 U	103	58-135	0.2	19	
Bromoform	20		2.5	ug/L	20.0	0.75 U	100	46-148	8	18	
Bromomethane	12		2.5	ug/L	20.0	0.95 U	61	10-173	11	29	
Carbon disulfide	22		12	ug/L	20.0	2.5 U	108	43-153	6	26	
Carbon Tetrachloride	27		2.5	ug/L	20.0	0.94 U	134	54-156	14	27	
Chlorobenzene	22		2.5	ug/L	20.0	0.72 U	109	51-139	0.9	13	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1E24012 - EPA 5030B_MS - Continued

Matrix Spike Dup (1E24012-MSD1) Continued Prepared: 05/24/2021 00:00 Analyzed: 05/24/2021 11:51

Source: AE04350-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloroethane	27		2.5	ug/L	20.0	0.98 U	137	27-180	3	22	
Chloroform	23		2.5	ug/L	20.0	0.80 U	115	58-139	1	17	
Chloromethane	19		2.5	ug/L	20.0	0.82 U	97	33-154	0.1	31	
cis-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.53 U	112	56-128	0.4	17	
cis-1,3-Dichloropropene	19		2.5	ug/L	20.0	0.59 U	93	64-128	2	20	
Cyclohexane	25		2.5	ug/L	20.0	0.93 U	126	70-130	0	20	
Dibromochloromethane	20		2.5	ug/L	20.0	0.50 U	100	50-140	3	18	
Dichlorodifluoromethane	22		2.5	ug/L	20.0	0.74 U	112	10-180	2	26	
Ethylbenzene	21		2.5	ug/L	20.0	0.69 U	107	63-133	4	18	
Freon 113	24		2.5	ug/L	20.0	0.73 U	118	47-173	3	30	
Isopropylbenzene	23		2.5	ug/L	20.0	0.67 U	117	60-132	3	23	
m,p-Xylenes	44		5.0	ug/L	40.0	1.3 U	110	64-133	1	18	
Methyl acetate	21		2.5	ug/L	20.0	0.95 U	104	70-130	0.6	20	
Methyl cyclohexane	23		2.5	ug/L	20.0	0.64 U	113	70-130	1	20	
Methylene Chloride	23		12	ug/L	20.0	2.5 U	114	43-142	0.6	23	
Methyl-tert-Butyl Ether	22		2.5	ug/L	20.0	0.60 U	111	51-145	1	22	
o-Xylene	22		2.5	ug/L	20.0	0.53 U	109	61-129	0.6	16	
Styrene	23		2.5	ug/L	20.0	0.61 U	113	59-136	0.4	32	
Tetrachloroethene	21		2.5	ug/L	20.0	0.76 U	103	60-147	0.3	21	
Toluene	22		2.5	ug/L	20.0	0.72 U	109	64-131	2	16	
trans-1,2-Dichloroethene	23		2.5	ug/L	20.0	0.73 U	117	54-134	4	20	
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0	0.73 U	107	65-149	0.3	17	
Trichloroethene	21		2.5	ug/L	20.0	0.89 U	106	62-135	6	20	
Trichlorofluoromethane	23		2.5	ug/L	20.0	0.94 U	114	56-155	0.3	22	
Vinyl chloride	22		2.5	ug/L	20.0	0.71 U	111	20-167	6	24	
4-Bromofluorobenzene	*52*			*ug/L*	*50.0*		*105*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*112*	*53-146*			
Toluene-d8	*52*			*ug/L*	*50.0*		*105*	*41-146*			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported result is an estimated value.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence (85% or greater confidence) to make a “tentative identification".
Q	One or more quality control criteria failed.

Tetra Tech, Inc. CHAIN OF CUSTODY NUMBER AE04350 No. 1401 PAGE 1 OF 1

PROJECT NO: 112G08970	FACILITY: CTCA	PROJECT MANAGER ALEX MURPHY	PHONE NUMBER 321-636-6470	LABORATORY NAME AND CONTACT: ENCO ORLANDO
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER DAN FOERSTER	PHONE NUMBER 304-780-1426	ADDRESS
		CARRIER/WAYBILL NUMBER		CITY, STATE ORLANDO, FL

STANDARD TAT ☑
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): G
PRESERVATIVE USED: HCl
TYPE OF ANALYSIS: 8260A TCL Semi 1,2 Custom List

DATE YEAR 2021	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS								COMMENTS
20MAY	0815	CTCA-ASEFFLUENT-20210520	CTCA	—	—	GW	G	3	X							
20MAY	0820	CTCA-ASINFLUENT-20210520	CTCA	—		GW	G	3	X							

1. RELINQUISHED BY	DATE 20may21	TIME 1405	1. RECEIVED BY	DATE 20MAY21	TIME 1405
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS: COOLED ON ICE — Cooler temp 1.7°C

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

5/20/2021

Environmental Conservation Labs, Inc.

Alex Murphy
Tetra Tech, Inc. (TE016)
11 Riverside Drive, Suite 204
Cocoa, FL 32922
Phone: (321) 636-6470
Fax: (321) 636-6473

Reference : **Sample Receipt Confirmation - *Please Review***
Project Name / Number : NASA KSC CRCA / 112G08970
Purchase Order # : 1165883

Lab Reference # : AE04350 Lab Receipt Date: 20-May-21 14:05
Anticipated ***(Estimated)*** Completion Date: 27-May-21 19:00

This is an automated notification from our laboratory information management system (LIMS), indicating the samples we have recently received and their associated analyses. Should any of the following information be in error, please contact us immediately.

Thank you for choosing Environmental Conservation Laboratories. Should any events occur that delay the processing of your samples or inhibit our ability to complete the project within the projected time frame you will be contacted.

Sincerely,

Kaitlin Dylnicki

Client: Tetra Tech, Inc. (TE016) **Project Name:** NASA KSC CRCA
Requested TAT: 5 **Project Number:** 112G08970

Analysis	TAT	Expires	Status
Sample ID: CRCA-ASEFFLUENT-20210520(Lab ID: AE04350-01), Matrix: Ground Water, Sampled: 20-May-21 08:15 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	03-Jun-21 23:59	Received
Sample ID: CRCA-ASINFLUENT-20210520(Lab ID: AE04350-02), Matrix: Ground Water, Sampled: 20-May-21 08:20 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	03-Jun-21 23:59	Received

Analysis Groups included in this work order

ENCO Orlando

SDG: AE04350-TE016

CLASS: 01_VOA_MS

METHOD: EPA 8260D

ANALYSES DATA PACKAGE COVER PAGE

EPA 8260D

Laboratory: ENCO Orlando

SDG: AE04350-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-ASEFFLUENT-20210520	AE04350-01
CRCA-ASINFLUENT-20210520	AE04350-02

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLUENT-20210520

Laboratory: ENCO Orlando SDG: AE04350-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE04350-01 File ID: 215ES007.D

Sampled: 05/20/21 08:15 Prepared: 05/24/21 09:12 Analyzed: 05/24/21 10:28

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1E24012 Sequence: AA66553 Calibration: 2105058 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLUENT-20210520

Laboratory: ENCO Orlando SDG: AE04350-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE04350-01 File ID: 215ES007.D

Sampled: 05/20/21 08:15 Prepared: 05/24/21 09:12 Analyzed: 05/24/21 10:28

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1E24012 Sequence: AA66553 Calibration: 2105058 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	55	109	53 - 146	
Toluene-d8	50.0	51	102	41 - 146	
4-Bromofluorobenzene	50.0	52	104	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1011658	9.851	1246947	9.857	
1,4-Difluorobenzene	2184866	10.444	2520262	10.45	
Chlorobenzene-d5	1285964	13.223	1596030	13.229	
1,4-Dichlorobenzene-d4	1104046	15.48	1464563	15.485	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLUENT-20210520

Laboratory: ENCO Orlando SDG: AE04350-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE04350-02 File ID: 215ES008.D

Sampled: 05/20/21 08:20 Prepared: 05/24/21 09:12 Analyzed: 05/24/21 10:56

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1E24012 Sequence: AA66553 Calibration: 2105058 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	13		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.76	J	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLUENT-20210520

Laboratory: ENCO Orlando SDG: AE04350-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE04350-02 File ID: 215ES008.D

Sampled: 05/20/21 08:20 Prepared: 05/24/21 09:12 Analyzed: 05/24/21 10:56

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1E24012 Sequence: AA66553 Calibration: 2105058 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	54	109	53 - 146	
Toluene-d8	50.0	53	105	41 - 146	
4-Bromofluorobenzene	50.0	51	102	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1012700	9.851	1246947	9.857	
1,4-Difluorobenzene	2150758	10.444	2520262	10.45	
Chlorobenzene-d5	1296142	13.223	1596030	13.229	
1,4-Dichlorobenzene-d4	1095730	15.485	1464563	15.485	

* Values outside of QC limits

HOLDING TIME SUMMARY

EPA 8260D

Laboratory: ENCO Orlando

SDG: AE04350-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-ASEFFLUENT-20210520	05/20/21 08:15	05/20/21 14:05	05/24/21 09:12	4.04	NA	05/24/21 10:28	4.00	14.00	
CRCA-ASINFLUENT-20210520	05/20/21 08:20	05/20/21 14:05	05/24/21 09:12	4.04	NA	05/24/21 10:56	4.00	14.00	

PREPARATION BATCH SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AE04350-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1E24012 Batch Matrix: Water Preparation: EPA 5030B_MS

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1E24012-BLK1	215ES005.D	05/24/21 00:00	
LCS	1E24012-BS1	215ES003.D	05/24/21 00:00	
CRCA-ASEFFLUENT-20210520	1E24012-MS1	215ES009.D	05/24/21 00:00	
CRCA-ASEFFLUENT-20210520	1E24012-MSD1	215ES010.D	05/24/21 00:00	
CRCA-ASEFFLUENT-20210520	AE04350-01	215ES007.D	05/24/21 09:12	
CRCA-ASINFLUENT-20210520	AE04350-02	215ES008.D	05/24/21 09:12	

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE04350-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1E24012-BLK1	File ID:	215ES005.D
Prepared:	05/24/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	05/24/21 09:32	Instrument:	OVGCMS5		
Batch:	1E24012	Sequence:	AA66553	Calibration:	2105058

CAS NO.	COMPOUND	CONC. (ug/L)	Q
75-71-8	Dichlorodifluoromethane	0.74	U
74-87-3	Chloromethane	0.82	U
75-01-4	Vinyl chloride	0.71	U
74-83-9	Bromomethane	0.95	U
75-00-3	Chloroethane	0.98	U
75-69-4	Trichlorofluoromethane	0.94	U
76-13-1	Freon 113	0.73	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	0.94	U
75-15-0	Carbon disulfide	2.5	U
75-09-2	Methylene Chloride	2.5	U
1634-04-4	Methyl-tert-Butyl Ether	0.60	U
156-60-5	trans-1,2-Dichloroethene	0.73	U
156-59-2	cis-1,2-Dichloroethene	0.53	U
75-34-3	1,1-Dichloroethane	0.62	U
78-93-3	2-Butanone	4.5	U
67-66-3	Chloroform	0.80	U
71-55-6	1,1,1-Trichloroethane	0.80	U
79-20-9	Methyl acetate	0.95	U
110-82-7	Cyclohexane	0.93	U
108-87-2	Methyl cyclohexane	0.64	U
56-23-5	Carbon Tetrachloride	0.94	U
107-06-2	1,2-Dichloroethane	0.63	U
71-43-2	Benzene	0.71	U
79-01-6	Trichloroethene	0.89	U
78-87-5	1,2-Dichloropropane	0.80	U
75-27-4	Bromodichloromethane	0.52	U
108-10-1	4-Methyl-2-pentanone	2.5	U
591-78-6	2-Hexanone	2.5	U
10061-01-5	cis-1,3-Dichloropropene	0.59	U

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE04350-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1E24012-BLK1	File ID:	215ES005.D
Prepared:	05/24/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	05/24/21 09:32	Instrument:	OVGCMS5		
Batch:	1E24012	Sequence:	AA66553	Calibration:	2105058

CAS NO.	COMPOUND	CONC. (ug/L)	Q
108-88-3	Toluene	0.72	U
10061-02-6	trans-1,3-Dichloropropene	0.73	U
79-00-5	1,1,2-Trichloroethane	0.76	U
127-18-4	Tetrachloroethene	0.76	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.78	U
108-90-7	Chlorobenzene	0.72	U
100-41-4	Ethylbenzene	0.69	U
108-38-3/106-42-3	m,p-Xylenes	1.3	U
95-47-6	o-Xylene	0.53	U
75-25-2	Bromoform	0.75	U
100-42-5	Styrene	0.61	U
98-82-8	Isopropylbenzene	0.67	U
79-34-5	1,1,2,2-Tetrachloroethane	0.54	U
120-82-1	1,2,4-Trichlorobenzene	0.70	U
541-73-1	1,3-Dichlorobenzene	0.77	U
106-46-7	1,4-Dichlorobenzene	0.76	U
95-50-1	1,2-Dichlorobenzene	0.73	U
96-12-8	1,2-Dibromo-3-chloropropane	0.96	U
1330-20-7	Xylenes (Total)	1.3	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	53	107	53 - 146	
Toluene-d8	50.0	52	103	41 - 146	
4-Bromofluorobenzene	50.0	50	101	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1037705	9.851	1246947	9.857	
1,4-Difluorobenzene	2198868	10.444	2520262	10.45	
Chlorobenzene-d5	1317044	13.223	1596030	13.229	
1,4-Dichlorobenzene-d4	1132422	15.486	1464563	15.485	

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE04350-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1E24012	Laboratory ID:	1E24012-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	20	100	10 - 180
Chloromethane	20.0	17	84	33 - 154
Vinyl chloride	20.0	21	104	20 - 167
Bromomethane	20.0	7.7	39	10 - 173
Chloroethane	20.0	24	121	27 - 180
Trichlorofluoromethane	20.0	20	99	56 - 155
Freon 113	20.0	21	106	47 - 173
Acetone	100	90	90	10 - 180
1,1-Dichloroethene	20.0	24	118	47 - 139
Carbon disulfide	20.0	20	102	43 - 153
Methylene Chloride	20.0	21	103	43 - 142
Methyl-tert-Butyl Ether	20.0	21	104	51 - 145
trans-1,2-Dichloroethene	20.0	22	110	54 - 134
cis-1,2-Dichloroethene	20.0	21	104	56 - 128
1,1-Dichloroethane	20.0	23	114	57 - 142
2-Butanone	100	94	94	10 - 180
Chloroform	20.0	21	105	58 - 139
1,1,1-Trichloroethane	20.0	22	112	57 - 148
Methyl acetate	20.0	20	102	70 - 130
Cyclohexane	20.0	23	113	70 - 130
Methyl cyclohexane	20.0	20	101	70 - 130
Carbon Tetrachloride	20.0	21	106	54 - 156
1,2-Dichloroethane	20.0	19	97	50 - 156
Benzene	20.0	21	105	56 - 136
Trichloroethene	20.0	20	99	62 - 135
1,2-Dichloropropane	20.0	19	97	61 - 133
Bromodichloromethane	20.0	20	98	58 - 135
4-Methyl-2-pentanone	100	85	85	19 - 180
2-Hexanone	100	94	94	12 - 180
cis-1,3-Dichloropropene	20.0	18	92	64 - 128

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE04350-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1E24012	Laboratory ID:	1E24012-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Toluene	20.0	22	108	64 - 131
trans-1,3-Dichloropropene	20.0	21	105	65 - 149
1,1,2-Trichloroethane	20.0	20	101	57 - 141
Tetrachloroethene	20.0	19	97	60 - 147
Dibromochloromethane	20.0	20	100	50 - 140
1,2-Dibromoethane	20.0	19	95	57 - 140
Chlorobenzene	20.0	20	102	51 - 139
Ethylbenzene	20.0	20	101	63 - 133
m,p-Xylenes	40.0	43	107	64 - 133
o-Xylene	20.0	21	103	61 - 129
Bromoform	20.0	20	99	46 - 148
Styrene	20.0	21	106	59 - 136
Isopropylbenzene	20.0	21	106	60 - 132
1,1,2,2-Tetrachloroethane	20.0	19	95	60 - 139
1,2,4-Trichlorobenzene	20.0	15	74	52 - 159
1,3-Dichlorobenzene	20.0	21	105	66 - 129
1,4-Dichlorobenzene	20.0	20	102	65 - 133
1,2-Dichlorobenzene	20.0	20	101	63 - 131
1,2-Dibromo-3-chloropropane	20.0	17	85	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASEFFLUENT-20210520

Laboratory: ENCO Orlando
SDG: AE04350-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1E24012
Laboratory ID: 1E24012-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-ASEFFLUENT-20210520

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	ND	23	114	10 - 180
Chloromethane	20.0	ND	19	97	33 - 154
Vinyl chloride	20.0	ND	24	119	20 - 167
Bromomethane	20.0	ND	11	54	10 - 173
Chloroethane	20.0	ND	27	133	27 - 180
Trichlorofluoromethane	20.0	ND	23	114	56 - 155
Freon 113	20.0	ND	24	122	47 - 173
Acetone	100	ND	89	89	10 - 180
1,1-Dichloroethene	20.0	ND	26	130	47 - 139
Carbon disulfide	20.0	ND	23	114	43 - 153
Methylene Chloride	20.0	ND	23	115	43 - 142
Methyl-tert-Butyl Ether	20.0	ND	22	109	51 - 145
trans-1,2-Dichloroethene	20.0	ND	24	122	54 - 134
cis-1,2-Dichloroethene	20.0	ND	22	112	56 - 128
1,1-Dichloroethane	20.0	ND	25	124	57 - 142
2-Butanone	100	ND	94	94	10 - 180
Chloroform	20.0	ND	23	117	58 - 139
1,1,1-Trichloroethane	20.0	ND	25	123	57 - 148
Methyl acetate	20.0	ND	21	103	70 - 130
Cyclohexane	20.0	ND	25	126	70 - 130
Methyl cyclohexane	20.0	ND	23	115	70 - 130
Carbon Tetrachloride	20.0	ND	23	116	54 - 156
1,2-Dichloroethane	20.0	ND	20	102	50 - 156
Benzene	20.0	ND	23	116	56 - 136
Trichloroethene	20.0	ND	22	112	62 - 135
1,2-Dichloropropane	20.0	ND	21	106	61 - 133
Bromodichloromethane	20.0	ND	21	103	58 - 135
4-Methyl-2-pentanone	100	ND	95	95	19 - 180
2-Hexanone	100	ND	98	98	12 - 180
cis-1,3-Dichloropropene	20.0	ND	19	95	64 - 128
Toluene	20.0	ND	22	112	64 - 131

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASEFFLUENT-20210520

Laboratory:	ENCO Orlando	SDG:	AE04350-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1E24012	Laboratory ID:	1E24012-MS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

Source Sample Name: CRCA-ASEFFLUENT-20210520

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
trans-1,3-Dichloropropene	20.0	ND	21	107	65 - 149
1,1,2-Trichloroethane	20.0	ND	20	98	57 - 141
Tetrachloroethene	20.0	ND	21	103	60 - 147
Dibromochloromethane	20.0	ND	19	97	50 - 140
1,2-Dibromoethane	20.0	ND	19	96	57 - 140
Chlorobenzene	20.0	ND	22	108	51 - 139
Ethylbenzene	20.0	ND	22	111	63 - 133
m,p-Xylenes	40.0	ND	45	112	64 - 133
o-Xylene	20.0	ND	22	108	61 - 129
Bromoform	20.0	ND	19	93	46 - 148
Styrene	20.0	ND	22	112	59 - 136
Isopropylbenzene	20.0	ND	23	114	60 - 132
1,1,2,2-Tetrachloroethane	20.0	ND	19	96	60 - 139
1,2,4-Trichlorobenzene	20.0	ND	14	71	52 - 159
1,3-Dichlorobenzene	20.0	ND	22	109	66 - 129
1,4-Dichlorobenzene	20.0	ND	21	105	65 - 133
1,2-Dichlorobenzene	20.0	ND	21	105	63 - 131
1,2-Dibromo-3-chloropropane	20.0	ND	17	83	48 - 150

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASEFFLUENT-20210520

Laboratory: ENCO Orlando
SDG: AE04350-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1E24012
Laboratory ID: 1E24012-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-ASEFFLUENT-20210520

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20.0	22	112	2	26	10 - 180
Chloromethane	20.0	19	97	0.1	31	33 - 154
Vinyl chloride	20.0	22	111	6	24	20 - 167
Bromomethane	20.0	12	61	11	29	10 - 173
Chloroethane	20.0	27	137	3	22	27 - 180
Trichlorofluoromethane	20.0	23	114	0.3	22	56 - 155
Freon 113	20.0	24	118	3	30	47 - 173
Acetone	100	88	88	0.6	19	10 - 180
1,1-Dichloroethene	20.0	26	130	0.2	16	47 - 139
Carbon disulfide	20.0	22	108	6	26	43 - 153
Methylene Chloride	20.0	23	114	0.6	23	43 - 142
Methyl-tert-Butyl Ether	20.0	22	111	1	22	51 - 145
trans-1,2-Dichloroethene	20.0	23	117	4	20	54 - 134
cis-1,2-Dichloroethene	20.0	22	112	0.4	17	56 - 128
1,1-Dichloroethane	20.0	25	124	0.04	24	57 - 142
2-Butanone	100	97	97	3	29	10 - 180
Chloroform	20.0	23	115	1	17	58 - 139
1,1,1-Trichloroethane	20.0	25	123	0.4	25	57 - 148
Methyl acetate	20.0	21	104	0.6	20	70 - 130
Cyclohexane	20.0	25	126	0	20	70 - 130
Methyl cyclohexane	20.0	23	113	1	20	70 - 130
Carbon Tetrachloride	20.0	27	134	14	27	54 - 156
1,2-Dichloroethane	20.0	21	104	2	18	50 - 156
Benzene	20.0	23	113	2	14	56 - 136
Trichloroethene	20.0	21	106	6	20	62 - 135
1,2-Dichloropropane	20.0	20	102	4	26	61 - 133
Bromodichloromethane	20.0	21	103	0.2	19	58 - 135
4-Methyl-2-pentanone	100	96	96	0.6	24	19 - 180
2-Hexanone	100	100	101	3	28	12 - 180
cis-1,3-Dichloropropene	20.0	19	93	2	20	64 - 128
Toluene	20.0	22	109	2	16	64 - 131
trans-1,3-Dichloropropene	20.0	21	107	0.3	17	65 - 149

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASEFFLUENT-20210520

Laboratory: ENCO Orlando
SDG: AE04350-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1E24012
Laboratory ID: 1E24012-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-ASEFFLUENT-20210520

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,2-Trichloroethane	20.0	20	100	2	16	57 - 141
Tetrachloroethene	20.0	21	103	0.3	21	60 - 147
Dibromochloromethane	20.0	20	100	3	18	50 - 140
1,2-Dibromoethane	20.0	20	101	5	16	57 - 140
Chlorobenzene	20.0	22	109	0.9	13	51 - 139
Ethylbenzene	20.0	21	107	4	18	63 - 133
m,p-Xylenes	40.0	44	110	1	18	64 - 133
o-Xylene	20.0	22	109	0.6	16	61 - 129
Bromoform	20.0	20	100	8	18	46 - 148
Styrene	20.0	23	113	0.4	32	59 - 136
Isopropylbenzene	20.0	23	117	3	23	60 - 132
1,1,2,2-Tetrachloroethane	20.0	20	98	2	17	60 - 139
1,2,4-Trichlorobenzene	20.0	15	73	3	24	52 - 159
1,3-Dichlorobenzene	20.0	23	113	3	23	66 - 129
1,4-Dichlorobenzene	20.0	22	110	5	23	65 - 133
1,2-Dichlorobenzene	20.0	21	106	1	25	63 - 131
1,2-Dibromo-3-chloropropane	20.0	16	78	7	21	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04350-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA66374
Instrument: OVGCMS5
Matrix: Water
Calibration: 2105058

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA66374-SCV1)			Lab File ID: 215EG014.D		Analyzed: 05/12/21 13:58			
Dibromofluoromethane	50.0	105	70 - 130	9.428	9.428625	-0.0006	+/-0.5	
Toluene-d8	50.0	105	70 - 130	11.784	11.784	0.0000	+/-0.5	
4-Bromofluorobenzene	50.0	108	70 - 130	14.334	14.33175	0.0023	+/-0.5	
Secondary Cal Check (AA66374-SCV2)			Lab File ID: 215EG015.D		Analyzed: 05/12/21 14:27			
Dibromofluoromethane	50.0	105	70 - 130	9.434	9.428625	0.0054	+/-0.5	
Toluene-d8	50.0	104	70 - 130	11.784	11.784	0.0000	+/-0.5	
4-Bromofluorobenzene	50.0	104	70 - 130	14.334	14.33175	0.0023	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04350-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA66553
Instrument: OVGCMS5
Matrix: Water
Calibration: 2105058

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA66553-CCV1)			Lab File ID: 215ES002.D		Analyzed: 05/24/21 08:03			
Dibromofluoromethane	50.0	107	80 - 120	9.428	9.428625	-0.0006	+/-0.5	
Toluene-d8	50.0	107	80 - 120	11.778	11.784	-0.0060	+/-0.5	
4-Bromofluorobenzene	50.0	106	80 - 120	14.328	14.33175	-0.0038	+/-0.5	
LCS (1E24012-BS1)			Lab File ID: 215ES003.D		Analyzed: 05/24/21 08:37			
Dibromofluoromethane	50.0	108	53 - 146	9.428	9.428625	-0.0006	+/-0.5	
Toluene-d8	50.0	104	41 - 146	11.778	11.784	-0.0060	+/-0.5	
4-Bromofluorobenzene	50.0	103	41 - 142	14.328	14.33175	-0.0038	+/-0.5	
Blank (1E24012-BLK1)			Lab File ID: 215ES005.D		Analyzed: 05/24/21 09:32			
Dibromofluoromethane	50.0	107	53 - 146	9.428	9.428625	-0.0006	+/-0.5	
Toluene-d8	50.0	103	41 - 146	11.778	11.784	-0.0060	+/-0.5	
4-Bromofluorobenzene	50.0	101	41 - 142	14.328	14.33175	-0.0038	+/-0.5	
Instrument RL Check (AA66553-CRL1)			Lab File ID: 215ES006.D		Analyzed: 05/24/21 10:00			
Dibromofluoromethane	50.0	109	1 - 199	9.428	9.428625	-0.0006	+/-0.5	
Toluene-d8	50.0	104	1 - 199	11.778	11.784	-0.0060	+/-0.5	
4-Bromofluorobenzene	50.0	101	1 - 199	14.322	14.33175	-0.0098	+/-0.5	
CRCA-ASEFFLUENT-20210520 (AE04350-01)			Lab File ID: 215ES007.D		Analyzed: 05/24/21 10:28			
Dibromofluoromethane	50.0	109	53 - 146	9.422	9.428625	-0.0066	+/-0.5	
Toluene-d8	50.0	102	41 - 146	11.778	11.784	-0.0060	+/-0.5	
4-Bromofluorobenzene	50.0	104	41 - 142	14.328	14.33175	-0.0038	+/-0.5	
CRCA-ASINFLUENT-20210520 (AE04350-02)			Lab File ID: 215ES008.D		Analyzed: 05/24/21 10:56			
Dibromofluoromethane	50.0	109	53 - 146	9.422	9.428625	-0.0066	+/-0.5	
Toluene-d8	50.0	105	41 - 146	11.778	11.784	-0.0060	+/-0.5	
4-Bromofluorobenzene	50.0	102	41 - 142	14.328	14.33175	-0.0038	+/-0.5	
Matrix Spike (1E24012-MS1)			Lab File ID: 215ES009.D		Analyzed: 05/24/21 11:23			
Dibromofluoromethane	50.0	110	53 - 146	9.422	9.428625	-0.0066	+/-0.5	
Toluene-d8	50.0	108	41 - 146	11.778	11.784	-0.0060	+/-0.5	
4-Bromofluorobenzene	50.0	103	41 - 142	14.322	14.33175	-0.0098	+/-0.5	
Matrix Spike Dup (1E24012-MSD1)			Lab File ID: 215ES010.D		Analyzed: 05/24/21 11:51			
Dibromofluoromethane	50.0	112	53 - 146	9.422	9.428625	-0.0066	+/-0.5	
Toluene-d8	50.0	105	41 - 146	11.772	11.784	-0.0120	+/-0.5	
4-Bromofluorobenzene	50.0	105	41 - 142	14.322	14.33175	-0.0098	+/-0.5	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04350-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA66374
Instrument: OVGCMS5
Matrix: Water
Calibration: 2105058

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA66374-CAL1)			Lab File ID: 215EG004.D			Analyzed: 05/12/21 09:18			
Pentafluorobenzene	1265136	9.857	1246947	9.857	101	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2590360	10.45	2520262	10.45	103	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1542984	13.235	1596030	13.229	97	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1417072	15.491	1464563	15.485	97	50 - 200	0.0060	+/-0.50	
Cal Standard (AA66374-CAL2)			Lab File ID: 215EG005.D			Analyzed: 05/12/21 09:46			
Pentafluorobenzene	1247564	9.857	1246947	9.857	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2557529	10.45	2520262	10.45	101	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1531879	13.229	1596030	13.229	96	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1385234	15.486	1464563	15.485	95	50 - 200	0.0010	+/-0.50	
Cal Standard (AA66374-CAL3)			Lab File ID: 215EG006.D			Analyzed: 05/12/21 10:14			
Pentafluorobenzene	1240863	9.851	1246947	9.857	100	50 - 200	-0.0060	+/-0.50	
1,4-Difluorobenzene	2518910	10.45	2520262	10.45	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1518139	13.229	1596030	13.229	95	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1380311	15.491	1464563	15.485	94	50 - 200	0.0060	+/-0.50	
Cal Standard (AA66374-CAL4)			Lab File ID: 215EG007.D			Analyzed: 05/12/21 10:42			
Pentafluorobenzene	1222071	9.857	1246947	9.857	98	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2491366	10.45	2520262	10.45	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1496226	13.229	1596030	13.229	94	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1385715	15.491	1464563	15.485	95	50 - 200	0.0060	+/-0.50	
Cal Standard (AA66374-CAL5)			Lab File ID: 215EG008.D			Analyzed: 05/12/21 11:10			
Pentafluorobenzene	1257629	9.857	1246947	9.857	101	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2533835	10.45	2520262	10.45	101	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1556127	13.229	1596030	13.229	97	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1417269	15.485	1464563	15.485	97	50 - 200	0.0000	+/-0.50	
Cal Standard (AA66374-CAL6)			Lab File ID: 215EG009.D			Analyzed: 05/12/21 11:38			
Pentafluorobenzene	1246947	9.857	1246947	9.857	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2520262	10.45	2520262	10.45	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1596030	13.229	1596030	13.229	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1464563	15.485	1464563	15.485	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA66374-CAL7)			Lab File ID: 215EG010.D			Analyzed: 05/12/21 12:06			
Pentafluorobenzene	1257942	9.857	1246947	9.857	101	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2485495	10.45	2520262	10.45	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1625354	13.229	1596030	13.229	102	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1455287	15.491	1464563	15.485	99	50 - 200	0.0060	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04350-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA66374
Instrument: OVGCMS5
Matrix: Water
Calibration: 2105058

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA66374-CAL8)			Lab File ID: 215EG011.D			Analyzed: 05/12/21 12:34			
Pentafluorobenzene	1296417	9.857	1246947	9.857	104	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2494917	10.45	2520262	10.45	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1633060	13.229	1596030	13.229	102	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1453740	15.491	1464563	15.485	99	50 - 200	0.0060	+/-0.50	
Secondary Cal Check (AA66374-SCV1)			Lab File ID: 215EG014.D			Analyzed: 05/12/21 13:58			
Pentafluorobenzene	1233367	9.857	1246947	9.857	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2480656	10.45	2520262	10.45	98	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1551144	13.229	1596030	13.229	97	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1411405	15.491	1464563	15.485	96	50 - 200	0.0060	+/-0.50	
Secondary Cal Check (AA66374-SCV2)			Lab File ID: 215EG015.D			Analyzed: 05/12/21 14:27			
Pentafluorobenzene	1246532	9.857	1246947	9.857	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2519816	10.45	2520262	10.45	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1538857	13.229	1596030	13.229	96	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1383356	15.491	1464563	15.485	94	50 - 200	0.0060	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04350-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA66553
Instrument: OVGCMS5
Matrix: Water
Calibration: 2105058

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA66553-CCV1)			Lab File ID: 215ES002.D			Analyzed: 05/24/21 08:03			
Pentafluorobenzene	1113025	9.851	1246947	9.857	89	50 - 200	-0.0060	+/-0.50	
1,4-Difluorobenzene	2273043	10.444	2520262	10.45	90	50 - 200	-0.0060	+/-0.50	
Chlorobenzene-d5	1444171	13.223	1596030	13.229	90	50 - 200	-0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1262702	15.486	1464563	15.485	86	50 - 200	0.0010	+/-0.50	
LCS (1E24012-BS1)			Lab File ID: 215ES003.D			Analyzed: 05/24/21 08:37			
Pentafluorobenzene	1117313	9.851	1246947	9.857	90	50 - 200	-0.0060	+/-0.50	
1,4-Difluorobenzene	2318302	10.444	2520262	10.45	92	50 - 200	-0.0060	+/-0.50	
Chlorobenzene-d5	1399350	13.223	1596030	13.229	88	50 - 200	-0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1204907	15.485	1464563	15.485	82	50 - 200	0.0000	+/-0.50	
Blank (1E24012-BLK1)			Lab File ID: 215ES005.D			Analyzed: 05/24/21 09:32			
Pentafluorobenzene	1037705	9.851	1246947	9.857	83	50 - 200	-0.0060	+/-0.50	
1,4-Difluorobenzene	2198868	10.444	2520262	10.45	87	50 - 200	-0.0060	+/-0.50	
Chlorobenzene-d5	1317044	13.223	1596030	13.229	83	50 - 200	-0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1132422	15.486	1464563	15.485	77	50 - 200	0.0010	+/-0.50	
Instrument RL Check (AA66553-CRL1)			Lab File ID: 215ES006.D			Analyzed: 05/24/21 10:00			
Pentafluorobenzene	1021933	9.851	1246947	9.857	82	50 - 200	-0.0060	+/-0.50	
1,4-Difluorobenzene	2193576	10.444	2520262	10.45	87	50 - 200	-0.0060	+/-0.50	
Chlorobenzene-d5	1310949	13.223	1596030	13.229	82	50 - 200	-0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1126030	15.48	1464563	15.485	77	50 - 200	-0.0050	+/-0.50	
CRCA-ASEFFLUENT-20210520 (AE04350-01)			Lab File ID: 215ES007.D			Analyzed: 05/24/21 10:28			
Pentafluorobenzene	1011658	9.851	1246947	9.857	81	50 - 200	-0.0060	+/-0.50	
1,4-Difluorobenzene	2184866	10.444	2520262	10.45	87	50 - 200	-0.0060	+/-0.50	
Chlorobenzene-d5	1285964	13.223	1596030	13.229	81	50 - 200	-0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1104046	15.48	1464563	15.485	75	50 - 200	-0.0050	+/-0.50	
CRCA-ASINFLUENT-20210520 (AE04350-02)			Lab File ID: 215ES008.D			Analyzed: 05/24/21 10:56			
Pentafluorobenzene	1012700	9.851	1246947	9.857	81	50 - 200	-0.0060	+/-0.50	
1,4-Difluorobenzene	2150758	10.444	2520262	10.45	85	50 - 200	-0.0060	+/-0.50	
Chlorobenzene-d5	1296142	13.223	1596030	13.229	81	50 - 200	-0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1095730	15.485	1464563	15.485	75	50 - 200	0.0000	+/-0.50	
Matrix Spike (1E24012-MS1)			Lab File ID: 215ES009.D			Analyzed: 05/24/21 11:23			
Pentafluorobenzene	998540	9.851	1246947	9.857	80	50 - 200	-0.0060	+/-0.50	
1,4-Difluorobenzene	2100740	10.444	2520262	10.45	83	50 - 200	-0.0060	+/-0.50	
Chlorobenzene-d5	1318050	13.223	1596030	13.229	83	50 - 200	-0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1136018	15.479	1464563	15.485	78	50 - 200	-0.0060	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04350-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA66553
Instrument: OVGCMS5
Matrix: Water
Calibration: 2105058

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Matrix Spike Dup (1E24012-MSD1)			Lab File ID: 215ES010.D			Analyzed: 05/24/21 11:51			
Pentafluorobenzene	1006891	9.851	1246947	9.857	81	50 - 200	-0.0060	+/-0.50	
1,4-Difluorobenzene	2163506	10.444	2520262	10.45	86	50 - 200	-0.0060	+/-0.50	
Chlorobenzene-d5	1319861	13.223	1596030	13.229	83	50 - 200	-0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1138725	15.479	1464563	15.485	78	50 - 200	-0.0060	+/-0.50	

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE04350-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA66374		
Calibration:	2105058	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA66374-TUN1	215EG003.D	05/12/21 08:47
Cal Standard	AA66374-CAL1	215EG004.D	05/12/21 09:18
Cal Standard	AA66374-CAL2	215EG005.D	05/12/21 09:46
Cal Standard	AA66374-CAL3	215EG006.D	05/12/21 10:14
Cal Standard	AA66374-CAL4	215EG007.D	05/12/21 10:42
Cal Standard	AA66374-CAL5	215EG008.D	05/12/21 11:10
Cal Standard	AA66374-CAL6	215EG009.D	05/12/21 11:38
Cal Standard	AA66374-CAL7	215EG010.D	05/12/21 12:06
Cal Standard	AA66374-CAL8	215EG011.D	05/12/21 12:34
Secondary Cal Check	AA66374-SCV1	215EG014.D	05/12/21 13:58
Secondary Cal Check	AA66374-SCV2	215EG015.D	05/12/21 14:27

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE04350-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA66553		
Calibration:	2105058	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA66553-CCV1	215ES002.D	05/24/21 08:03
LCS	1E24012-BS1	215ES003.D	05/24/21 08:37
Blank	1E24012-BLK1	215ES005.D	05/24/21 09:32
Instrument RL Check	AA66553-CRL1	215ES006.D	05/24/21 10:00
CRCA-ASEFFLUENT-20210520	AE04350-01	215ES007.D	05/24/21 10:28
CRCA-ASINFLUENT-20210520	AE04350-02	215ES008.D	05/24/21 10:56
CRCA-ASEFFLUENT-20210520	1E24012-MS1	215ES009.D	05/24/21 11:23
CRCA-ASEFFLUENT-20210520	1E24012-MSD1	215ES010.D	05/24/21 11:51

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE04350-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	215EG003.D	Injection Date:	05/12/21
Instrument ID:	OVGCMS5	Injection Time:	08:47
Sequence:	AA66374	Lab Sample ID:	AA66374-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	159	PASS
96	5 - 9% of 95	7.55	PASS
173	Less than 2% of 174	0.0953	PASS
174	50 - 200% of 95	63	PASS
175	5 - 9% of 174	8.25	PASS
176	95 - 105% of 174	98.8	PASS
177	5 - 10% of 176	6.6	PASS

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE04350-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2105058
Lab File ID:	215ES002.D	Calibration Date:	05/12/21 09:58
Sequence:	AA66553	Injection Date:	05/24/21
Lab Sample ID:	AA66553-CCV1	Injection Time:	08:03

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Dichlorodifluoromethane	A	20.0	16	0.552269	0.4817569		-20	20	
Chloromethane	A	20.0	16	0.8795451	0.6336718		-18	20	
Vinyl chloride	A	20.0	19	0.6038055	0.5761798		-4.6	20	
Bromomethane	A	20.0	26	0.2319187	0.2257766		31	20	*
Chloroethane	A	20.0	22	0.2914257	0.264273		8.6	20	
Trichlorofluoromethane	A	20.0	20	0.6653593	0.6662923		0.10	20	
Freon 113	A	50.0	52	0.2449811	0.284088		4.3	20	
Acetone	A	250	240	0.1671133	0.1598519		-4.3	20	
1,1-Dichloroethene	A	50.0	54	0.3575427	0.4311979		7.6	20	
Carbon disulfide	A	250	240	1.414021	1.415606		-5.9	20	
Methylene Chloride	A	50.0	50	0.5263035	0.5299917		0.70	20	
Methyl-tert-Butyl Ether	A	50.0	53	1.231249	1.299892		5.6	20	
trans-1,2-Dichloroethene	A	50.0	51	0.4586679	0.5036518		2.6	20	
cis-1,2-Dichloroethene	A	50.0	52	0.5450738	0.5670475		4.0	20	
1,1-Dichloroethane	A	50.0	54	0.8609557	0.9355414		8.7	20	
2-Butanone	A	250	240	8.832097E-02	8.470645E-02		-4.1	20	
Chloroform	A	50.0	52	0.8759761	0.9125941		4.2	20	
1,1,1-Trichloroethane	A	50.0	56	0.6533048	0.7256441		11	20	
Methyl acetate	A	50.0	46	0.525676	0.4233041		-8.1	20	
Cyclohexane	A	50.0	53	0.8383986	0.9916624		6.3	20	
Methyl cyclohexane	A	50.0	50	0.5704033	0.5166457		0.20	20	
Carbon Tetrachloride	A	50.0	59	0.2386424	0.312771		18	20	
1,2-Dichloroethane	A	50.0	52	0.3044876	0.3136135		3.0	20	
Benzene	A	50.0	52	1.049685	1.088408		3.7	20	
Trichloroethene	A	50.0	51	0.2396557	0.2451146		2.3	20	
1,2-Dichloropropane	A	50.0	50	0.3018457	0.3006485		-0.4	20	
Bromodichloromethane	A	50.0	49	0.2992191	0.3290452		-1.2	20	
4-Methyl-2-pentanone	A	250	220	4.939991E-02	4.773645E-02		-12	20	
2-Hexanone	A	250	240	0.2266324	0.2199725		-2.9	20	

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE04350-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2105058
Lab File ID:	215ES002.D	Calibration Date:	05/12/21 09:58
Sequence:	AA66553	Injection Date:	05/24/21
Lab Sample ID:	AA66553-CCV1	Injection Time:	08:03

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
cis-1,3-Dichloropropene	A	50.0	48	0.4572468	0.4909617		-3	20
Toluene	A	50.0	52	1.136079	1.170908		3.1	20
trans-1,3-Dichloropropene	A	50.0	52	0.5976235	0.6219485		4.1	20
1,1,2-Trichloroethane	A	50.0	49	0.4094956	0.4038407		-1.4	20
Tetrachloroethene	A	50.0	47	0.3106005	0.2937969		-5.4	20
Dibromochloromethane	A	50.0	49	0.3345547	0.3768058		-1.1	20
1,2-Dibromoethane	A	50.0	50	0.4222027	0.4261379		0.90	20
Chlorobenzene	A	50.0	50	1.209254	1.209501		0.020	20
Ethylbenzene	A	50.0	52	0.6849939	0.7072916		3.3	20
m,p-Xylenes	A	100	100	0.8504395	0.8894286		4.6	20
o-Xylene	A	50.0	52	0.8692331	0.9110639		4.8	20
Bromoform	A	50.0	48	0.1914775	0.2110304		-4	20
Styrene	A	50.0	54	1.406753	1.528236		8.6	20
Isopropylbenzene	A	50.0	53	2.187386	2.335262		6.8	20
1,1,2,2-Tetrachloroethane	A	50.0	50	0.7083977	0.7025775		-0.8	20
1,2,4-Trichlorobenzene	A	50.0	41	0.2653884	0.2520175		-17	20
1,3-Dichlorobenzene	A	50.0	52	1.066014	1.112131		4.3	20
1,4-Dichlorobenzene	A	50.0	51	1.098085	1.128767		2.8	20
1,2-Dichlorobenzene	A	50.0	52	0.9844665	1.015074		3.1	20
1,2-Dibromo-3-chloropropane	A	50.0	43	0.1046042	0.1086012		-14	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE04350-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA66374	Instrument:	OVGCMS5
Calibration:	2105058		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A1B1157	MS Tune	AA66374-TUN1	215EG003.D	05/12/21 08:47
A1E0845	8260 1.0 PPB	AA66374-CAL1	215EG004.D	05/12/21 09:18
A1E0846	8260 2.0 PPB	AA66374-CAL2	215EG005.D	05/12/21 09:46
A1E0847	8260 5.0 PPB	AA66374-CAL3	215EG006.D	05/12/21 10:14
A1E0848	8260 10 PPB	AA66374-CAL4	215EG007.D	05/12/21 10:42
A1E0849	8260 20 PPB	AA66374-CAL5	215EG008.D	05/12/21 11:10
A1E0850	8260 50 PPB	AA66374-CAL6	215EG009.D	05/12/21 11:38
A1E0851	8260 80 PPB	AA66374-CAL7	215EG010.D	05/12/21 12:06
A1E0852	8260 100 PPB	AA66374-CAL8	215EG011.D	05/12/21 12:34
A1E0865	8260 SCV 50 PPB/20 gases (surr. lower conc.)	AA66374-SCV1	215EG014.D	05/12/21 13:58
A1E0874	8260 SCV 20 PPB (surr. lower conc.)	AA66374-SCV2	215EG015.D	05/12/21 14:27

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04350-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2105058
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 05/12/21 09:58

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	1	0.539942	2	0.5056454	5	0.488402	10	0.5405046	20	0.5434592	50	0.5874941
Chloromethane	1	1.13055	2	0.9745191	5	0.8404393	10	0.7514989	20	0.770245	50	0.8176474
Vinyl chloride	1	0.6040062	2	0.5417157	5	0.5801124	10	0.5687845	20	0.569047	50	0.6439295
Bromomethane	1	0.4171093	2	0.340724	5	0.1794557	10	0.1627729	20	0.1508513	50	0.1842107
Chloroethane	1	0.3834766	2	0.260668	5	0.3209943	10	0.2951792	20	0.2488333	50	0.2394031
Trichlorofluoromethane	1	0.6481912	2	0.6124535	5	0.6226795	10	0.6252501	20	0.6244131	50	0.7070918
Freon 113	1	0.1827867	2	0.2409095	5	0.2495924	10	0.2307681	20	0.2428836	50	0.2651251
Acetone	5	0.1505372	10	0.1748928	25	0.1503357	50	0.1514519	100	0.1638162	250	0.1814404
1,1-Dichloroethene	1	0.3480258	2	0.3332094	5	0.3278444	10	0.3232873	20	0.3339339	50	0.3842184
Carbon disulfide	5	1.190402	10	1.461376	25	1.416335	50	1.397534	100	1.432246	250	1.529389
Methylene Chloride	1	0.5694249	2	0.5319968	5	0.5281163	10	0.4822838	20	0.4777562	50	0.5303922
Methyl-tert-Butyl Ether	1	0.9505697	2	1.104913	5	1.221053	10	1.172309	20	1.220913	50	1.361285
trans-1,2-Dichloroethene	1	0.42201	2	0.4463298	5	0.479779	10	0.4105694	20	0.4444912	50	0.4758647
cis-1,2-Dichloroethene	1	0.4709375	2	0.4923395	5	0.5706674	10	0.5277067	20	0.5185373	50	0.579752
1,1-Dichloroethane	1	0.64333	2	0.85695	5	0.8895986	10	0.8292112	20	0.8473326	50	0.9262134
2-Butanone	5	7.269574E-02	10	9.324171E-02	25	8.556948E-02	50	8.544839E-02	100	8.528628E-02	250	9.420866E-02
Chloroform	1	0.7897175	2	0.8081349	5	0.8799843	10	0.8547294	20	0.8552482	50	0.9325753
1,1,1-Trichloroethane	1	0.5592284	2	0.587044	5	0.6601696	10	0.6005338	20	0.6156645	50	0.7249763
Methyl acetate	1	0.8293575	2	0.4102996	5	0.6671728	10	0.3989703	20	0.4256661	50	0.4735189
Cyclohexane	1	0.6879102	2	0.8201984	5	0.8224518	10	0.7587243	20	0.8206892	50	0.9114854
Methyl cyclohexane	1	0.8606912	2	0.660667	5	0.5591903	10	0.4710749	20	0.4682862	50	0.5064481
Carbon Tetrachloride	1	0.2178269	2	0.1983066	5	0.2327475	10	0.1975643	20	0.2295966	50	0.2583628
1,2-Dichloroethane	1	0.2759462	2	0.3023622	5	0.3005189	10	0.2696653	20	0.2896469	50	0.3276013
Benzene	1	0.9941089	2	1.006235	5	1.12484	10	0.9771306	20	1.018591	50	1.067974
Trichloroethene	1	0.2014199	2	0.2402417	5	0.2376504	10	0.2207985	20	0.2297436	50	0.2569701
1,2-Dichloropropane	1	0.2936271	2	0.2690292	5	0.2930474	10	0.2864292	20	0.2795762	50	0.3187867
Bromodichloromethane	1	0.234118	2	0.2613265	5	0.2725901	10	0.2615754	20	0.3013495	50	0.3366912
4-Methyl-2-pentanone	5	3.157476E-02	10	4.876387E-02	25	4.922288E-02	50	4.911121E-02	100	0.0511896	250	5.516339E-02
2-Hexanone	5	0.1531177	10	0.2260991	25	0.219063	50	0.2125798	100	0.2305574	250	0.2546118
cis-1,3-Dichloropropene	1	0.3375207	2	0.3915107	5	0.4475468	10	0.4215218	20	0.4404865	50	0.5114282
Toluene	1	1.009116	2	1.116684	5	1.13319	10	1.106588	20	1.133081	50	1.179065

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04350-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2105058
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 05/12/21 09:58

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	1	0.5597271	2	0.529203	5	0.5629063	10	0.5538502	20	0.5866584	50	0.664089
1,1,2-Trichloroethane	1	0.3746312	2	0.4074245	5	0.386045	10	0.3810153	20	0.400316	50	0.4341923
Tetrachloroethene	1	0.2291015	2	0.3260049	5	0.3344885	10	0.2827882	20	0.3125082	50	0.3260666
Dibromochloromethane	1	0.228421	2	0.2953725	5	0.3111902	10	0.2838274	20	0.3217443	50	0.3887483
1,2-Dibromoethane	1	0.3403794	2	0.3675062	5	0.4372788	10	0.399963	20	0.4180009	50	0.4613905
Chlorobenzene	1	1.13637	2	1.075787	5	1.297898	10	1.184691	20	1.183437	50	1.256152
Ethylbenzene	1	0.6217498	2	0.6522056	5	0.6763873	10	0.649444	20	0.6813695	50	0.7247195
m,p-Xylenes	2	0.6912256	4	0.8017686	10	0.8910284	20	0.8476644	40	0.8878324	100	0.9145417
o-Xylene	1	0.7580117	2	0.7626418	5	0.9063729	10	0.8265563	20	0.8531968	50	0.9350645
Bromoform	1	0.1359055	2	0.1462746	5	0.1692994	10	0.1564135	20	0.1905548	50	0.2246537
Styrene	1	1.068579	2	1.177263	5	1.423868	10	1.388734	20	1.432304	50	1.55487
Isopropylbenzene	1	1.813175	2	1.961513	5	2.205246	10	2.089671	20	2.235015	50	2.385982
1,1,2,2-Tetrachloroethane	1	0.5860074	2	0.6430338	5	0.7361447	10	0.6787778	20	0.724009	50	0.7673866
1,2,4-Trichlorobenzene	1	8.651642E-02	2	0.2822628	5	0.2383014	10	0.2595158	20	0.2697706	50	0.3132518
1,3-Dichlorobenzene	1	0.8597305	2	0.9718214	5	1.110496	10	1.002594	20	1.077204	50	1.159295
1,4-Dichlorobenzene	1	0.9775791	2	1.089401	5	1.123435	10	1.035769	20	1.068532	50	1.147977
1,2-Dichlorobenzene	1	0.7860222	2	0.9573473	5	0.969086	10	0.9288779	20	0.9940474	50	1.065211
1,2-Dibromo-3-chloropropane	1	5.835977E-02	2	7.946311E-02	5	8.821925E-02	10	9.131026E-02	20	0.1105965	50	0.1301433
Dibromofluoromethane	50	0.5386267	55	0.5267064	60	0.4598137	50	0.5578792	65	0.5283679	50	0.5663336
Toluene-d8	50	1.246961	55	1.208644	60	1.043974	50	1.284369	65	1.207223	50	1.319707
4-Bromofluorobenzene	50	0.8867111	55	0.856388	60	0.7378689	50	0.9051814	65	0.8447778	50	0.9352669

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04350-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2105058
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 05/12/21 09:58

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	80	0.6160449	100	0.5966595								
Chloromethane	80	0.866197	100	0.8852642								
Vinyl chloride	80	0.6622786	100	0.6605702								
Bromomethane	80	0.2084312	100	0.2117945								
Chloroethane	80	~~0.1740402~~	100	~~0.1349284~~								
Trichlorofluoromethane	80	0.7434295	100	0.7393655								
Freon 113	80	0.2709266	100	0.2768565								
Acetone	400	0.1803647	500	0.1840678								
1,1-Dichloroethene	80	0.4018001	100	0.4080227								
Carbon disulfide	400	1.469428	500	1.415461								
Methylene Chloride	80	0.547332	100	0.5431254								
Methyl-tert-Butyl Ether	80	1.421836	100	1.397116								
trans-1,2-Dichloroethene	80	0.4972571	100	0.493042								
cis-1,2-Dichloroethene	80	0.6074331	100	0.5932169								
1,1-Dichloroethane	80	0.9543162	100	0.9406939								
2-Butanone	400	9.463224E-02	500	9.548525E-02								
Chloroform	80	0.9567557	100	0.9306635								
1,1,1-Trichloroethane	80	0.7487299	100	0.7300922								
Methyl acetate	80	0.484457	100	0.5159655								
Cyclohexane	80	0.9535997	100	0.9321295								
Methyl cyclohexane	80	0.519167	100	0.5177018								
Carbon Tetrachloride	80	0.2874546	100	0.2872801								
1,2-Dichloroethane	80	0.33083	100	0.3393297								
Benzene	80	1.110667	100	1.097935								
Trichloroethene	80	0.2676952	100	0.2627264								
1,2-Dichloropropane	80	0.3341309	100	0.3401386								
Bromodichloromethane	80	0.3585309	100	0.3675715								
4-Methyl-2-pentanone	400	5.483289E-02	500	5.534064E-02								
2-Hexanone	400	0.2566653	500	0.2603653								
cis-1,3-Dichloropropene	80	0.5494185	100	0.5585412								
Toluene	80	1.199106	100	1.211802								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04350-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2105058
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 05/12/21 09:58

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	80	0.6666975	100	0.6578564								
1,1,2-Trichloroethane	80	0.4451649	100	0.4471755								
Tetrachloroethene	80	0.323598	100	0.350248								
Dibromochloromethane	80	0.416978	100	0.430156								
1,2-Dibromoethane	80	0.4728155	100	0.4802876								
Chlorobenzene	80	1.270316	100	1.269379								
Ethylbenzene	80	0.7389356	100	0.7351399								
m,p-Xylenes	160	0.8978256	200	0.8716293								
o-Xylene	80	0.9511493	100	0.9608713								
Bromoform	80	0.2471685	100	0.2615504								
Styrene	80	1.610968	100	1.597442								
Isopropylbenzene	80	2.416098	100	2.392392								
1,1,2,2-Tetrachloroethane	80	0.7718715	100	0.7599506								
1,2,4-Trichlorobenzene	80	0.3345328	100	0.3389554								
1,3-Dichlorobenzene	80	1.188391	100	1.158583								
1,4-Dichlorobenzene	80	1.176485	100	1.165498								
1,2-Dichlorobenzene	80	1.086083	100	1.089057								
1,2-Dibromo-3-chloropropane	80	0.1391852	100	0.1395566								
Dibromofluoromethane	70	0.5244337	75	0.5117659								
Toluene-d8	70	1.246606	75	1.264916								
4-Bromofluorobenzene	70	0.8681344	75	0.879866								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04350-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2105058
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 05/12/21 09:58

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	0.552269	8.068601	3.981	8.172534E-02	0.9989304		0.99	
Chloromethane	0.8795451	13.98677	4.41525	8.673023E-02		0.9998988	0.99	
Vinyl chloride	0.6038055	7.69267	4.58375	6.459559E-02			20	
Bromomethane	0.2319187	41.0589	5.231875	6.847071E-02		0.9987047	0.99	
Chloroethane	0.2914257	18.68668	5.458	8.974752E-02	0.994888		0.99	
Trichlorofluoromethane	0.6653593	8.332146	5.702	9.869623E-02			20	
Freon 113	0.2449811	12.1555	6.560875	8.821082E-02	0.9988858		0.99	
Acetone	0.1671133	8.879245	7.403	0.1442108			20	
1,1-Dichloroethene	0.3575427	9.754171	6.5355	0.0646795	0.9978577		0.99	
Carbon disulfide	1.414021	7.033487	6.62725	4.673323E-02		0.9994093	0.99	
Methylene Chloride	0.5263035	5.979069	7.34275	5.168217E-02			20	
Methyl-tert-Butyl Ether	1.231249	12.99388	7.6345	3.508243E-02			20	
trans-1,2-Dichloroethene	0.4586679	7.099544	7.549625	3.721468E-02	0.999074		0.99	
cis-1,2-Dichloroethene	0.5450738	9.132868	8.95425	5.013422E-02			20	
1,1-Dichloroethane	0.8609557	11.50862	8.317	5.257998E-02			20	
2-Butanone	8.832097E-02	8.762073	9.553875	0.1739808			20	
Chloroform	0.8759761	6.911683	9.22275	2.638527E-02			20	
1,1,1-Trichloroethane	0.6533048	11.22263	9.4885	4.899427E-02			20	
Methyl acetate	0.525676	28.4099	7.527625	0.1492322		0.9990168	0.99	
Cyclohexane	0.8383986	10.79068	9.194375	4.258047E-02	0.9986828		0.99	
Methyl cyclohexane	0.5704033	23.17558	10.45225	3.264403E-02	0.9993996		0.99	
Carbon Tetrachloride	0.2386424	15.02653	9.4175	5.752166E-02		0.9990417	0.99	
1,2-Dichloroethane	0.3044876	8.51893	10.09263	7.078664E-02			20	
Benzene	1.049685	5.488876	9.88075	3.757161E-02			20	
Trichloroethene	0.2396557	9.381441	10.45525	3.775919E-02			20	
1,2-Dichloropropane	0.3018457	8.63109	10.99012	6.007444E-02			20	
Bromodichloromethane	0.2992191	16.66178	11.0215	6.195491E-02		0.9997195	0.99	
4-Methyl-2-pentanone	4.939991E-02	15.67052	12.13537	2.644287E-02		0.9997801	0.99	
2-Hexanone	0.2266324	15.37366	12.88275	4.558642E-02			20	
cis-1,3-Dichloropropene	0.4572468	16.94017	11.61325	3.199718E-02		0.9995838	0.99	

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04350-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2105058
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 05/12/21 09:58

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Toluene	1.136079	5.659383	11.83325	1.935367E-02			20	
trans-1,3-Dichloropropene	0.5976235	9.418142	12.20475	4.833532E-02			20	
1,1,2-Trichloroethane	0.4094956	7.129917	12.36563	1.766573E-02			20	
Tetrachloroethene	0.3106005	12.29428	12.21438	3.508924E-02			20	
Dibromochloromethane	0.3345547	21.12157	12.55563	2.810383E-02		0.9994726	0.99	
1,2-Dibromoethane	0.4222027	11.9764	12.81575	3.543673E-02			20	
Chlorobenzene	1.209254	6.390011	13.247	2.263552E-02			20	
Ethylbenzene	0.6849939	6.394034	13.21387	2.272686E-02			20	
m,p-Xylenes	0.8504395	8.615015	13.3305	1.330767E-03			20	
o-Xylene	0.8692331	9.389744	13.73675	3.401465E-02			20	
Bromoform	0.1914775	24.94208	13.8835	0.0814868		0.9997542	0.99	
Styrene	1.406753	13.917	13.78587	0.0497903			20	
Isopropylbenzene	2.187386	10.03039	14.0005	1.441719E-02	0.9995966		0.99	
1,1,2,2-Tetrachloroethane	0.7083977	9.4408	14.47575	0.0114337			20	
1,2,4-Trichlorobenzene	0.2653884	30.3962	18.15588	9.598869E-02		0.9994901	0.99	
1,3-Dichlorobenzene	1.066014	10.62479	15.4195	2.374437E-02			20	
1,4-Dichlorobenzene	1.098085	6.269482	15.50825	1.114643E-02			20	
1,2-Dichlorobenzene	0.9844665	10.25302	16.02975	2.911352E-02			20	
1,2-Dibromo-3-chloropropane	0.1046042	28.7284	17.08875	4.379559E-02		0.9988678	0.99	
Dibromofluoromethane	0.5267409	6.1684	9.428625	1.731689E-02			20	
Toluene-d8	1.2278	6.767393	11.784	2.136903E-02			20	
4-Bromofluorobenzene	0.8642743	6.760153	14.33175	1.981368E-02			20	

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE04350-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2105058 **Laboratory ID:** AA66374-SCV1

Sequence: AA66374 **Standard ID:** A1E0865

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Trichlorofluoromethane	20.0	22	10.9	30.00
1,2-Dibromo-3-chloropropane	50.0	53	5.8	30.00
1,1,1-Trichloroethane	50.0	59	17.6	30.00
Bromomethane	20.0	23	15.9	30.00
Chloromethane	20.0	23	13.4	30.00
Chloroethane	20.0	22	10.4	30.00
Vinyl chloride	20.0	22	10.0	30.00
Methylene Chloride	50.0	56	12.6	30.00
Carbon disulfide	50.0	55	10.9	30.00
Bromoform	50.0	54	7.2	30.00
Bromodichloromethane	50.0	53	5.5	30.00
Chloroform	50.0	55	9.3	30.00
1,1-Dichloroethene	50.0	62	24.5	30.00
Acetone	250	280	11.6	30.00
Dichlorodifluoromethane	20.0	23	13.2	30.00
Freon 113	50.0	60	19.4	30.00
1,2-Dichloropropane	50.0	54	8.2	30.00
2-Butanone	250	280	12.2	30.00
1,1,2-Trichloroethane	50.0	54	7.9	30.00
Trichloroethene	50.0	55	11.0	30.00
Methyl acetate	50.0	57	13.9	30.00
1,1,2,2-Tetrachloroethane	50.0	54	7.8	30.00
o-Xylene	50.0	56	12.3	30.00
1,2-Dichlorobenzene	50.0	56	12.9	30.00
Ethylbenzene	50.0	56	11.1	30.00
1,1-Dichloroethane	50.0	59	17.7	30.00
1,2,4-Trichlorobenzene	50.0	55	10.8	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE04350-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2105058 **Laboratory ID:** AA66374-SCV1

Sequence: AA66374 **Standard ID:** A1E0865

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Styrene	50.0	58	17.0	30.00
cis-1,3-Dichloropropene	50.0	49	-1.9	30.00
trans-1,3-Dichloropropene	50.0	58	15.5	30.00
1,4-Dichlorobenzene	50.0	54	8.5	30.00
1,2-Dibromoethane	50.0	55	9.3	30.00
1,2-Dichloroethane	50.0	55	9.1	30.00
4-Methyl-2-pentanone	250	260	3.9	30.00
m,p-Xylenes	100	110	10.6	30.00
Methyl cyclohexane	50.0	53	6.3	30.00
Toluene	50.0	56	11.8	30.00
Benzene	50.0	57	13.7	30.00
Cyclohexane	50.0	59	17.2	30.00
Isopropylbenzene	50.0	57	14.8	30.00
Dibromochloromethane	50.0	52	4.0	30.00
Tetrachloroethene	50.0	53	6.4	30.00
cis-1,2-Dichloroethene	50.0	55	10.1	30.00
trans-1,2-Dichloroethene	50.0	57	14.8	30.00
Methyl-tert-Butyl Ether	50.0	58	16.2	30.00
Dibromofluoromethane	50.0	52	4.6	30.00
Toluene-d8	50.0	53	5.4	30.00
4-Bromofluorobenzene	50.0	54	7.6	30.00
1,3-Dichlorobenzene	50.0	56	12.1	30.00
Carbon Tetrachloride	50.0	54	8.2	30.00
2-Hexanone	250	290	17.7	30.00
Chlorobenzene	50.0	56	11.2	30.00

* Values outside of QC limits

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE04350-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2105058 **Laboratory ID:** AA66374-SCV2

Sequence: AA66374 **Standard ID:** A1E0874

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Trichlorofluoromethane	20.0	20	0.9	30.00
Ethylbenzene	20.0	21	4.6	30.00
1,1,1-Trichloroethane	20.0	23	13.4	30.00
Bromomethane	20.0	16	-22.0	30.00
Chloromethane	20.0	21	5.8	30.00
Chloroethane	20.0	24	18.7	30.00
Vinyl chloride	20.0	21	4.7	30.00
Methylene Chloride	20.0	22	11.8	30.00
Carbon disulfide	20.0	21	3.0	30.00
Bromoform	20.0	20	-0.6	30.00
Bromodichloromethane	20.0	20	0.4	30.00
Chloroform	20.0	21	4.6	30.00
1,1-Dichloroethene	20.0	24	18.6	30.00
Acetone	100	110	5.4	30.00
Dichlorodifluoromethane	20.0	21	6.6	30.00
Freon 113	20.0	22	11.2	30.00
1,2-Dichloropropane	20.0	20	1.5	30.00
2-Butanone	100	110	5.2	30.00
1,1,2-Trichloroethane	20.0	21	4.9	30.00
Trichloroethene	20.0	21	3.3	30.00
Methyl acetate	20.0	22	12.0	30.00
1,1,2,2-Tetrachloroethane	20.0	20	0.6	30.00
o-Xylene	20.0	21	5.8	30.00
1,2-Dichlorobenzene	20.0	21	5.7	30.00
1,2-Dibromo-3-chloropropane	20.0	20	1.0	30.00
1,1-Dichloroethane	20.0	23	13.8	30.00
1,2,4-Trichlorobenzene	20.0	21	5.0	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE04350-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2105058 **Laboratory ID:** AA66374-SCV2

Sequence: AA66374 **Standard ID:** A1E0874

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Styrene	20.0	22	10.2	30.00
cis-1,3-Dichloropropene	20.0	19	-5.8	30.00
trans-1,3-Dichloropropene	20.0	23	13.2	30.00
1,4-Dichlorobenzene	20.0	21	2.9	30.00
1,2-Dibromoethane	20.0	20	2.2	30.00
1,2-Dichloroethane	20.0	20	-0.8	30.00
4-Methyl-2-pentanone	100	99	-1.4	30.00
m,p-Xylenes	40.0	43	8.2	30.00
Methyl cyclohexane	20.0	21	4.9	30.00
Toluene	20.0	21	6.4	30.00
Benzene	20.0	22	8.0	30.00
Cyclohexane	20.0	22	11.3	30.00
Isopropylbenzene	20.0	22	7.7	30.00
Dibromochloromethane	20.0	20	2.2	30.00
Tetrachloroethene	20.0	21	5.4	30.00
cis-1,2-Dichloroethene	20.0	21	4.4	30.00
trans-1,2-Dichloroethene	20.0	22	8.0	30.00
Methyl-tert-Butyl Ether	20.0	22	12.2	30.00
Dibromofluoromethane	50.0	53	5.2	30.00
Toluene-d8	50.0	52	3.8	30.00
4-Bromofluorobenzene	50.0	52	4.1	30.00
1,3-Dichlorobenzene	20.0	21	6.1	30.00
Carbon Tetrachloride	20.0	21	4.8	30.00
2-Hexanone	100	110	11.3	30.00
Chlorobenzene	20.0	21	5.0	30.00

* Values outside of QC limits

ANALYSIS SEQUENCE

AA66553

Instrument: OVGCMS5

Calibration ID: 2105058

Printed: 5/24/2021 9:17:28AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA66553-CCV1	QC		1		A1E1091	A1D0593		
1E24012-BS1	QC		2			A1D0593		
1E24012-BLK1	QC		3			A1D0593		
AA66553-CRL1	QC		4		A1E1090	A1D0593		
AE04350-01	8260D TICs	A	5			A1D0593	Tetra Tech, Inc. (TE016)	BatchQC
AE04350-01	60D TCL SOM01.2 CLP-LIK	A	6			A1D0593	Tetra Tech, Inc. (TE016)	history 1x kkw052121 custom
AE04350-01	8260D Arom + Naph	A	7			A1D0593	Tetra Tech, Inc. (TE016)	BatchQC
AE04350-01	8260D	A	8			A1D0593	Tetra Tech, Inc. (TE016)	BatchQC
AE04350-02	60D TCL SOM01.2 CLP-LIK	A	9			A1D0593	Tetra Tech, Inc. (TE016)	history 1x kkw052121 custom
1E24012-MS1	QC		10			A1D0593		
1E24012-MSD1	QC		11			A1D0593		
AE04347-01RE1	8260D	A	12			A1D0593		rr@50x cis12dce Re-extract added 5/2
AE04347-03RE1	8260D	B	13			A1D0593		rr@20x trans & cis12dce Re-extract ac
AE04347-07RE1	8260D	B	14			A1D0593		rr@50x cis12dce Re-extract added 5/2
AE04347-08RE1	8260D	B	15			A1D0593		rr@1x overdilute Re-extract added 5/2
AE04347-11	8260D	A	16			A1D0593		hist25x nc5/21/21 VOCs
AE04347-12	8260D	A	17			A1D0593		eb VOCs
AE04347-13	8260D	A	18			A1D0593		tb VOCs
AE03777-01	8260D	C	19			A1D0593		run1x nc5/24/21
AE03777-02	8260D	B	20			A1D0593		run1x nc5/24/21
AE03777-03	8260D	B	21			A1D0593		run1x nc5/24/21
AE03777-04	8260D	B	22			A1D0593		run1x nc5/24/21
AE04224-01	8260D TICs	C	23			A1D0593		report any TICs, including Limonene

Samples Loaded By 05/24/21 Date

Data Processed By 05/25/21 Date

Rev'd KK 5/25/21

ANALYSIS SEQUENCE

AA66553

Instrument: OVGCMS5

Calibration ID: 2105058

Printed: 5/24/2021 9:17:28AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AE04224-01	8260D	C	24			A1D0593		run1x nc5/24/21
AE00942-01	8260D Arom + Naph	I	25			A1D0593		hist nd kg 5/24/21 Water - Benzene + N
AE00942-02	8260D Arom + Naph	H	26			A1D0593		hist nd kg 5/24/21 Water - Benzene + N

Samples Loaded By 05/24/21 Date

Data Processed By 05/25/21 Date

PREPARATION BENCH SHEET

Printed: 5/24/2021 9:15:59AM

1E24012

ENCO Orlando

Analysis
8260D [EPA 8260D]
8260D Arom + Naph [EPA 8260D]
8260D TCL SOM01.2 CLP-LIKE [EPA 8260D]
8260D TICs [EPA 8260D]

Surrogate Solution
___ A1B1158 8260 surr working (lower conc.)

Prepared using: EPA 5030B_MS

Spiking Solution
A1D1159 8260 2nd source Mega Mix(no acetonitrile)
A1E1102 8260 2nd source Gases/Acrolein virtual

Matrix: Water

Lab Number Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl[(1)]	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
1E24012-BLK1	Blank		QC			5	5			5	
1E24012-BS1	LCS		QC			5	5			5	
1E24012-MS1	Matrix Spike [AE04350-01]		QC	<2	N	5	5	A1E1102 A1D1159	2 2	5	
1E24012-MSD1	Matrix Spike Dup [AE04350-01]		QC	<2	N	5	5	A1E1102 A1D1159	2 2	5	
AE00942-01	pond 1 I[MS5]	28-May-21	8260D Arom + Naph	<2	N	5	5			5	hist nd kg 5/24/21 Water - Benzene + Naphthalene 08/08/18 DC
AE00942-02	pond 2 H[MS5]	28-May-21	8260D Arom + Naph	<2	N	5	5			5	hist nd kg 5/24/21 Water - Benzene + Naphthalene 08/08/18 DC
AE03777-01	MW-21D C[MS1]	27-May-21	8260D	<2	N	5	5			5	run1x nc5/24/21
AE03777-02	MW-22D B[MS1]	27-May-21	8260D	<2	N	5	5			5	run1x nc5/24/21
AE03777-03	MW-23D B[MS1]	27-May-21	8260D	<2	N	5	5			5	run1x nc5/24/21
AE03777-04	MW-25D B[MS1]	27-May-21	8260D	<2	N	5	5			5	run1x nc5/24/21
AE04224-01	MW-22 C[MS2]	27-May-21	8260D TICs	<2	N	5	5			5	report any TICs, including Limonene
AE04224-01	MW-22 C[MS2]	27-May-21	8260D	<2	N	5	5			5	run1x nc5/24/21
AE04347-01RE1	MW-7 A[MS3]	27-May-21	8260D	<2	N	5	5			5	rr@50x cis12dce Re-extract added 5/24/2021 by KKW
AE04347-03RE1	A11GO B[MS3]	27-May-21	8260D	<2	N	5	5			5	rr@20x trans & cis12dce Re-extract added 5/24/2021 by KKW
AE04347-07RE1	A18Y B[MS3]	27-May-21	8260D	<2	N	5	5			5	rr@50x cis12dce Re-extract added 5/24/2021 by KKW

PREPARATION BENCH SHEET

Printed: 5/24/2021 9:15:59AM

1E24012

ENCO Orlando

Prepared using: EPA 5030B_MS

Surrogate Solution

___ A1B1158 8260 surr working (lower conc.)

Spiking Solution

A1D1159 8260 2nd source Mega Mix(no acetonitrile)

A1E1102 8260 2nd source Gases/Acrolein virtual

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
AE04347-08RE1		G3F B[MS3]	27-May-21	8260D	✓	N	5	5			5	rr@1x overdilute Re-extract added 5/24/2021 by KKW
AE04347-11		F4NG A[MS3]	27-May-21	8260D	✓	N	5	5			5	hist25x nc5/21/21 VOCs
AE04347-12		EB#1 A[MS3]	27-May-21	8260D	✓	N	5	5			5	eb VOCs
AE04347-13		TRIP BLANK 1 A[MS3]	27-May-21	8260D	✓	N	5	5			5	tb VOCs
AE04350-01	C	CRCA-ASEFFLUENT-20210520 A[MS45		8260D	✓	N	5	5			5	Added for BatchQC in: 1E24012
AE04350-01	C	CRCA-ASEFFLUENT-20210520 A[MS45		8260D Arom + Naph	✓	N	5	5			5	Added for BatchQC in: 1E24012
AE04350-01	C	CRCA-ASEFFLUENT-20210520 A[MS45	27-May-21	8260D TCL SOM01.2 CLP-LIKE	✓	N	5	5			5	history 1x kkw052121 custom
AE04350-01	C	CRCA-ASEFFLUENT-20210520 A[MS45		8260D TICs	✓	N	5	5			5	Added for BatchQC in: 1E24012
AE04350-02	C	CRCA-ASINFLUENT-20210520 A[MS45	27-May-21	8260D TCL SOM01.2 CLP-LIKE	✓	N	5	5			5	history 1x kkw052121 custom

(1) Before solvent extraction proceeds, verify that there is no residual chlorine above 0.5 mg/L. Any sample above this must be treated to remove excess chlorine before extraction, and this documented as a comment.

Instrument 5

EST Centurian autosampler manufacturer reccommends adding 5 uL of IS/SS.

Start Date 05/24/21

StopDate 05/24/21

Instrument ID OVGCMS-5

Standard ID#	Description	Manufacture Lot#
A0A1401	pH Test Papers (1.0 to 12.0)	231018
A1B0955	Residual Chlorine Strips (Potassium Iodide S	102916
A1E1094	P&T Anti-Foam working solution	N/A

05/24/21

Samples Prepared By Date

Samples Prepared By Date

Sequence Name: C:\msdchem\1\sequence\215ES.s
Comment:
Operator: kkw
Data Path: C:\msdchem\1\DATA\052421\
Instrument Control Pre-Seq Cmd:
Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:
Data Analysis Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

Sequence Barcode Options
(X) On Mismatch, Inject Anyway
( ) On Mismatch, Don't Inject
( ) Barcode Disabled

Line			Sample Name/Misc Info
1)	Sample	1	215ES001 8260S rinse
2)	Sample	2	215ES002 8260S ccv1
3)	Sample	3	215ES003 8260S BS1
4)	Sample	4	215ES004 8260S RINSE
5)	Sample	5	215ES005 8260S BLK1
6)	Sample	6	215ES006 8260S AA66553-CRL1
7)	Sample	7	215ES007 8260S AE04350-01
8)	Sample	8	215ES008 8260S AE04350-02
9)	Sample	9	215ES009 8260S 1E24012-MS1
10)	Sample	9	215ES010 8260S 1E24012-MSD1
11)	Sample	10	215ES011 8260S AE04347-01RE1@50X
12)	Sample	11	215ES012 8260S AE05347-03RE1@20X
13)	Sample	12	215ES013 8260S AE04347-07RE1@50X
14)	Sample	13	215ES014 8260S AE04347-08RE1
15)	Sample	14	215ES015 8260S AE04347-11@25X Pr 10/3x C.J 12 DCE
16)	Sample	15	215ES016 8260S AE04347-12
17)	Sample	16	215ES017 8260S AE04347-13
18)	Sample	17	215ES018 8260S AE03777-01
19)	Sample	18	215ES019 8260S AE03777-02
20)	Sample	19	215ES020 8260S AE03777-03
21)	Sample	20	215ES021 8260S AE03777-04
22)	Sample	21	215ES022 8260S AE04224-01
23)	Sample	22	215ES023 8260S AE00942-01
24)	Sample	23	215ES024 8260S AE00942-02
25)	Sample	24	215ES025 8260S RINSE
26)	Sample	25	215ES026 8260S AA66555-CCV1
27)	Sample	26	215ES027 8260S 1E24016-BS1
28)	Sample	27	215ES028 8260S 1E24016-MS1
29)	Sample	27	215ES029 8260S 1E24016-MSD1
30)	Sample	28	215ES030 8260S RINSE
31)	Sample	29	215ES031 8260S 1E24016-BLK1
32)	Sample	30	215ES032 8260S AA66555-CRL1
33)	Sample	31	215ES033 8260S AE04388-01
34)	Sample	32	215ES034 8260S AE04388-02
35)	Sample	33	215ES035 8260S AE04388-03
36)	Sample	34	215ES036 8260S AE04388-04
37)	Sample	35	215ES037 8260S AE04388-05
38)	Sample	36	215ES038 8260S AE04388-06
39)	Sample	37	215ES039 8260S AE04036-09
40)	Sample	38	215ES040 8260S AE04036-10
41)	Sample	39	215ES041 8260S AE04036-11
42)	Sample	40	215ES042 8260S AE04036-15
43)	Sample	41	215ES043 8260S AE04036-16

Sequence Name: C:\msdchem\1\sequence\215ES.s

	Line Type	Vial	DataFile	Method	Sample Name
44)	Sample	42	215ES044	8260S	AE04036-17
45)	Sample	43	215ES045	8260S	AE04036-18
46)	Sample	44	215ES046	8260S	AE04036-19
47)	Sample	45	215ES047	8260S	AE04390-01
48)	Sample	46	215ES048	8260S	AE04390-02
49)	Sample	47	215ES049	8260S	AE04390-03

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\052421\
Data File : 215ES002.D
Acq On : 24 May 2021 8:03 am
Operator : kkw
Sample : ccv1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 25 07:53:07 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.851	168	1113025	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2273043	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.223	82	1444171	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.486	152	1262702	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	626641	53.41	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 106.82%				
52) D8-Toluene	11.778	98	2995078	53.70	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 107.40%				
73) Bromofluorobenzene	14.328	95	1324254	53.04	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 106.08%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	214483	16.05	ug/L		99
3) Chloromethane	4.410	50	282117	16.31	ug/L		97
4) Vinyl Chloride	4.580	62	256521	19.08	ug/L		99
5) Bromomethane	5.227	94	100518	26.14	ug/L		100
6) Chloroethane	5.444	64	117657	21.73	ug/L		95
7) Trichlorofluoromethane	5.691	101	296640	20.03	ug/L		97
8) Diethyl ether	6.173	59	452495	49.71	ug/L		97
9) 1,1-Dichloroethene	6.531	96	479934	53.79	ug/L		97
10) Trichlorotrifluoroethane	6.555	151	316197	52.14	ug/L		95
11) Acrolein	7.013	56	1440211	493.98	ug/L		98
12) Iodomethane	6.778	142	2130589	188.59	ug/L		98
13) Carbon Disulfide	6.619	76	7878025	235.25	ug/L		100
14) 3-chloropropene	7.189	41	803913	49.39	ug/L		96
15) Acetone	7.389	43	889596	239.14	ug/L		100
16) Methylene Chloride	7.336	84	589894	50.35	ug/L		99
17) Methyl Acetate	7.518	43	471148	45.93	ug/L	#	96
18) t-1,2-Dichloroethene	7.542	96	560577	51.31	ug/L		98
19) Methyl tert-butyl ether	7.630	73	1446812	52.79	ug/L		98
20) Acetonitrile	8.012	41	1253433	462.30	ug/L		100
21) Isopropyl ether	8.041	45	1810887	52.24	ug/L		100
22) Chloroprene	8.270	88	539246	52.59	ug/L		97
23) 1,1-Dichloroethane	8.311	63	1041281	54.33	ug/L		99
24) Acrylonitrile	8.382	53	2665653	453.41	ug/L		99
25) Vinyl Acetate	8.535	43	6240715	255.24	ug/L		99
26) c-1,2-Dichloroethene	8.946	96	631138	52.02	ug/L		98
27) 2,2-Dichloropropane	9.069	77	802550	56.20	ug/L		99
28) Bromochloromethane	9.181	128	212772	54.40	ug/L		97
29) Cyclohexane	9.187	56	1103745	53.13	ug/L		98
30) Chloroform	9.216	83	1015740	52.09	ug/L		98
32) Dibromofluoromethane	9.428	113	626641	53.41	ug/L	#	90
33) 2-Butanone	9.539	72	471402	239.77	ug/L		91
34) 1,1,1-Trichloroethane	9.487	97	807660	55.54	ug/L		100
35) 1,1-Dichloropropene	9.604	75	848955	54.63	ug/L		99
36) Propionitrile	9.892	54	1089410	452.90	ug/L		94
37) Methacrylonitrile	9.904	41	4403333	467.10	ug/L		100
38) Isobutyl Alcohol	9.951	43	980841	863.47	ug/L	#	54
40) Carbon Tetrachloride	9.410	117	710942	58.77	ug/L	#	72
41) Benzene	9.874	78	2473998	51.84	ug/L		99
42) 1,2-Dichloroethane	10.086	62	712857	51.50	ug/L		99
43) Trichloroethene	10.450	130	557156	51.14	ug/L		97
44) Methyl cyclohexane	10.450	83	1174358	50.10	ug/L		99
45) Dibromomethane	10.903	93	372953	50.23	ug/L		95
46) 1,2-Dichloropropane	10.979	63	683387	49.80	ug/L		97
47) Bromodichloromethane	11.014	83	747934	49.39	ug/L		99
48) Methyl Methacrylate	11.073	69	512190	47.92	ug/L		98
49) 1,4-Dioxane	11.196	88	127123	880.00	ug/L		99
50) 2-Chloroethyl vinyl ether	11.484	63	1945352	234.32	ug/L		98
51) C-1,3-Dichloropropene	11.608	75	1115977	48.50	ug/L		100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\052421\
Data File : 215ES002.D
Acq On : 24 May 2021 8:03 am
Operator : kkw
Sample : ccv1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 25 07:53:07 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

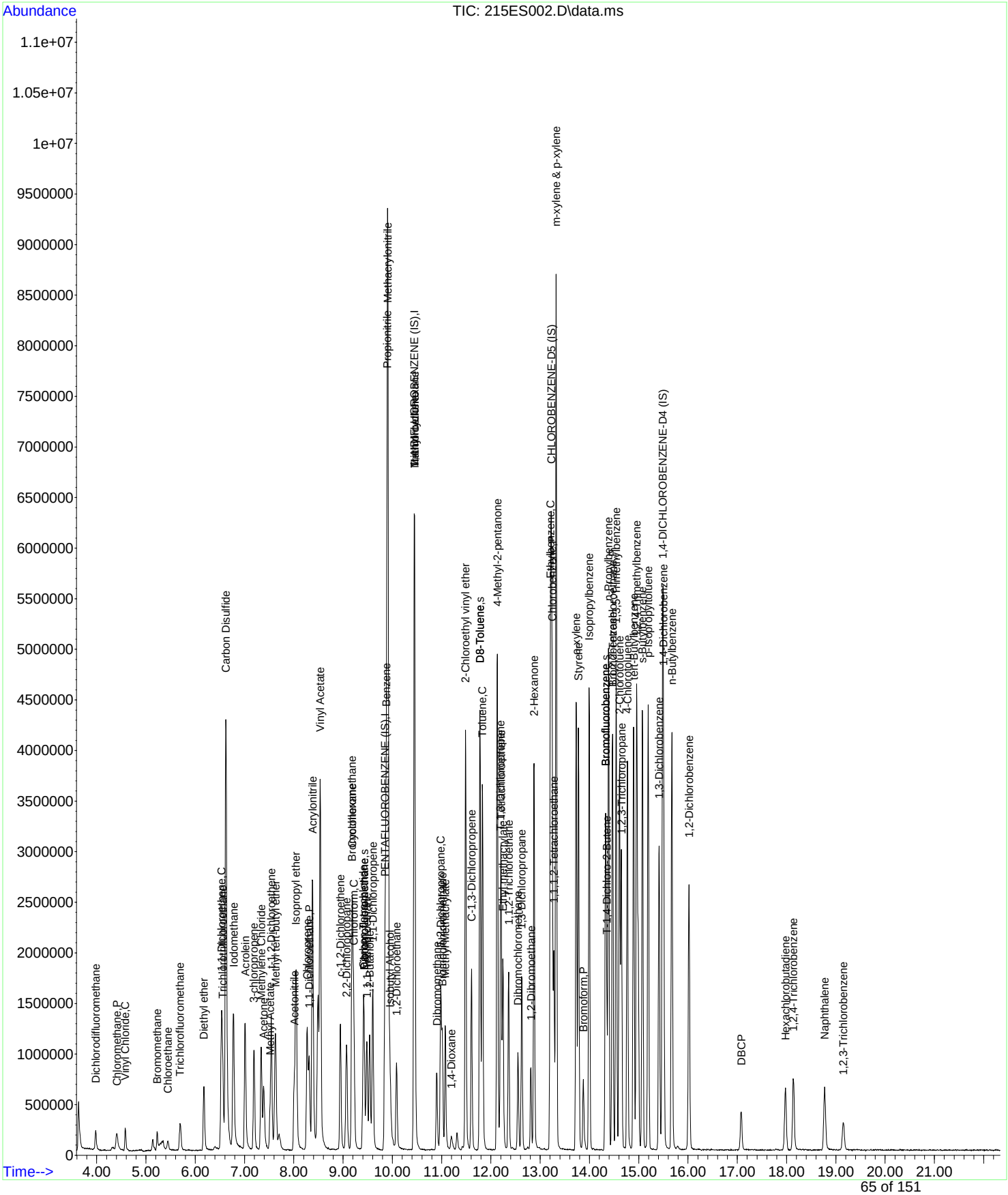
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	2993851	53.67	ug/L		95
54) 4-Methyl-2-pentanone	12.131	100	542535	221.03	ug/L		98
56) Toluene	11.825	92	1690991	51.53	ug/L		97
57) T-1,3-Dichloropropene	12.195	75	898200	52.04	ug/L		100
58) Tetrachloroethene	12.207	164	424293	47.29	ug/L		99
59) Ethyl methacrylate	12.242	69	996650	49.25	ug/L		98
60) 1,1,2-Trichloroethane	12.360	97	583215	49.31	ug/L		98
61) Dibromochloromethane	12.548	129	544172	49.47	ug/L		98
62) 1,3-Dichloropropane	12.624	76	1090014	49.42	ug/L		97
63) 1,2-Dibromoethane	12.812	107	615416	50.47	ug/L		99
64) 2-Hexanone	12.877	43	2500035	237.16	ug/L		99
65) Ethylbenzene	13.206	106	1021450	51.63	ug/L		100
66) Chlorobenzene	13.241	112	1746726	50.01	ug/L		100
67) 1,1,1,2-Tetrachloroethane	13.276	131	545124	49.20	ug/L		99
68) m-xylene & p-xylene	13.323	106	2568974	104.58	ug/L		100
69) o-xylene	13.729	106	1315732	52.41	ug/L		99
70) Styrene	13.776	104	2207034	54.32	ug/L		98
71) Bromoform	13.876	173	304764	48.00	ug/L		100
72) Isopropylbenzene	13.993	105	3372518	53.38	ug/L		98
74) Bromofluorobenzene	14.328	95	1324254	53.04	ug/L	#	84
75) n-Propylbenzene	14.387	91	4336436	53.92	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.469	83	1014642	49.59	ug/L		99
77) 1,2,3-Trichloropropane	14.651	61	224644	39.74	ug/L	#	82
78) T-1,4-Dichloro-2-Butene	14.352	53	333859	49.77	ug/L		95
80) Bromobenzene	14.469	156	677300	52.71	ug/L		97
81) 1,2,4-Trimethylbenzene	14.957	105	2976526	56.19	ug/L		99
82) 2-Chlorotoluene	14.610	91	2547553	53.72	ug/L		100
83) 4-Chlorotoluene	14.769	91	2650517	55.96	ug/L		98
84) tert-Butylbenzene	14.898	119	2406374	53.45	ug/L		99
85) 1,3,5-Trimethylbenzene	14.540	105	2956997	55.52	ug/L		99
86) p-Isopropyltoluene	15.192	119	3034591	49.98	ug/L		100
87) s-Butylbenzene	15.074	105	3676592	57.45	ug/L		99
88) 1,3-Dichlorobenzene	15.415	146	1404290	52.16	ug/L		97
89) 1,4-Dichlorobenzene	15.503	146	1425296	51.40	ug/L		98
90) n-Butylbenzene	15.674	91	2982917	50.18	ug/L		99
91) 1,2-Dichlorobenzene	16.020	146	1281736	51.55	ug/L		97
92) DBCP	17.084	157	137131	42.96	ug/L		93
93) Hexachlorobutadiene	17.977	225	150400	41.89	ug/L		94
94) 1,2,4-Trichlorobenzene	18.135	180	318223	41.33	ug/L		97
95) Naphthalene	18.770	128	852609	40.91	ug/L		99
96) 1,2,3-Trichlorobenzene	19.146	180	137904	38.89	ug/L		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\052421\
Data File : 215ES002.D
Acq On : 24 May 2021 8:03 am
Operator : kkw
Sample : ccv1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 25 07:53:07 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\052421\
Data File : 215ES003.D
Acq On : 24 May 2021 8:37 am
Operator : kkw
Sample : BS1
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 24 09:17:45 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.851	168	1117313	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2318302	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.223	82	1399350	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1204907	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	637395	54.12	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 108.24%				
52) D8-Toluene	11.778	98	2968328	52.18	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 104.36%				
73) Bromofluorobenzene	14.328	95	1248975	51.63	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 103.26%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	267308	19.93	ug/L		98
3) Chloromethane	4.410	50	291342	16.77	ug/L		98
4) Vinyl Chloride	4.580	62	281569	20.87	ug/L		100
5) Bromomethane	5.232	94	27986	7.71	ug/L	#	97
6) Chloroethane	5.450	64	131188	24.14	ug/L		98
7) Trichlorofluoromethane	5.703	101	293355	19.73	ug/L		99
8) Diethyl ether	6.178	59	188007	20.57	ug/L		98
9) 1,1-Dichloroethene	6.531	96	211902	23.66	ug/L		99
10) Trichlorotrifluoroethane	6.554	151	129309	21.24	ug/L		98
11) Acrolein	7.013	56	199259	68.08	ug/L		96
12) Iodomethane	6.778	142	292160	25.76	ug/L		99
13) Carbon Disulfide	6.625	76	711803	20.31	ug/L		99
14) 3-chloropropene	7.195	41	369311	22.60	ug/L		98
15) Acetone	7.395	43	335583	89.86	ug/L		97
16) Methylene Chloride	7.336	84	242226	20.60	ug/L		98
17) Methyl Acetate	7.518	43	200016	20.50	ug/L		97
18) t-1,2-Dichloroethene	7.547	96	240799	21.96	ug/L		96
19) Methyl tert-butyl ether	7.630	73	574352	20.88	ug/L		100
20) Acetonitrile	8.041	41	154385	56.72	ug/L	#	60
21) Isopropyl ether	8.047	45	716982	20.61	ug/L		100
22) Chloroprene	8.270	88	215550	20.94	ug/L		98
23) 1,1-Dichloroethane	8.317	63	438463	22.79	ug/L		99
24) Acrylonitrile	8.388	53	123190	20.87	ug/L	#	95
25) Vinyl Acetate	8.546	43	433837	17.68	ug/L		100
26) c-1,2-Dichloroethene	8.946	96	254444	20.89	ug/L		97
27) 2,2-Dichloropropane	9.069	77	332233	23.18	ug/L		97
28) Bromochloromethane	9.181	128	105198	26.79	ug/L		99
29) Cyclohexane	9.193	56	469754	22.53	ug/L		97
30) Chloroform	9.222	83	409973	20.94	ug/L		98
32) Dibromofluoromethane	9.428	113	637395	54.12	ug/L	#	90
33) 2-Butanone	9.539	72	186356	94.42	ug/L		92
34) 1,1,1-Trichloroethane	9.486	97	327152	22.41	ug/L		97
35) 1,1-Dichloropropene	9.604	75	332091	21.29	ug/L		98
36) Propionitrile	9.898	54	55512	22.99	ug/L	#	1
37) Methacrylonitrile	9.909	41	255944	27.05	ug/L	#	81
38) Isobutyl Alcohol	9.898	43	213778	187.47	ug/L	#	47
40) Carbon Tetrachloride	9.416	117	239257	21.21	ug/L	#	94
41) Benzene	9.874	78	1020798	20.97	ug/L		100
42) 1,2-Dichloroethane	10.086	62	272834	19.33	ug/L		99
43) Trichloroethene	10.450	130	219588	19.76	ug/L	#	81
44) Methyl cyclohexane	10.450	83	484787	20.28	ug/L		99
45) Dibromomethane	10.902	93	139429	18.41	ug/L		99
46) 1,2-Dichloropropane	10.985	63	271746	19.42	ug/L		99
47) Bromodichloromethane	11.014	83	284555	19.68	ug/L		98
48) Methyl Methacrylate	11.079	69	197592	18.13	ug/L		93
49) 1,4-Dioxane	11.202	88	59313	402.57	ug/L		88
50) 2-Chloroethyl vinyl ether	11.490	63	741523	87.58	ug/L	#	99
51) C-1,3-Dichloropropene	11.607	75	403904	18.42	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\052421\
Data File : 215ES003.D
Acq On : 24 May 2021 8:37 am
Operator : kkw
Sample : BS1
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 24 09:17:45 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

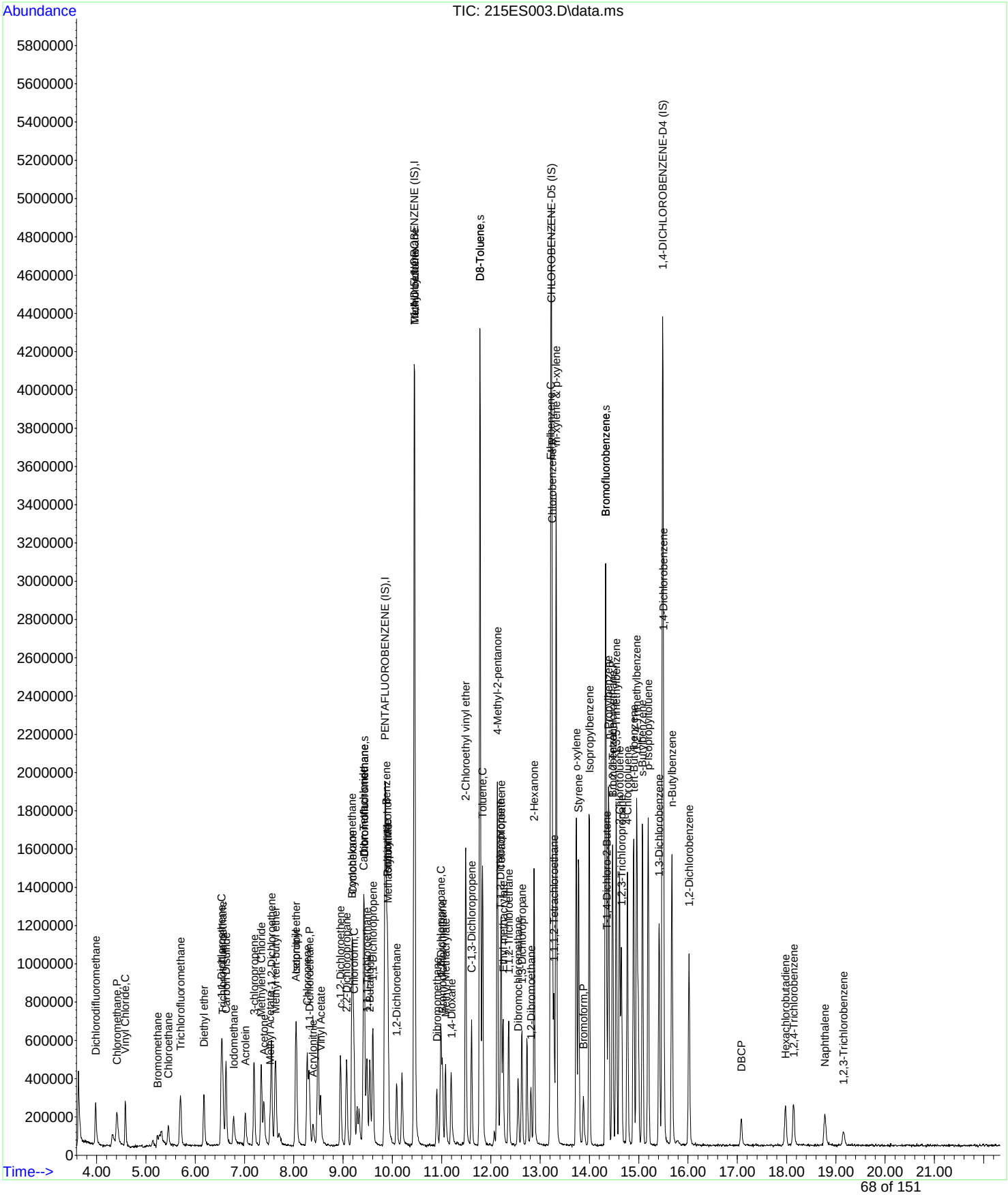
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	2968328	52.18	ug/L		96
54) 4-Methyl-2-pentanone	12.130	100	209227	84.66	ug/L		97
56) Toluene	11.831	92	686636	21.60	ug/L		94
57) T-1,3-Dichloropropene	12.195	75	351435	21.01	ug/L		99
58) Tetrachloroethene	12.207	164	168898	19.43	ug/L		97
59) Ethyl methacrylate	12.248	69	357486	18.23	ug/L		99
60) 1,1,2-Trichloroethane	12.360	97	232135	20.26	ug/L		98
61) Dibromochloromethane	12.553	129	196600	20.05	ug/L		99
62) 1,3-Dichloropropane	12.630	76	395317	18.50	ug/L		96
63) 1,2-Dibromoethane	12.812	107	225028	19.04	ug/L		98
64) 2-Hexanone	12.877	43	961467	94.13	ug/L		100
65) Ethylbenzene	13.211	106	387942	20.24	ug/L		96
66) Chlorobenzene	13.241	112	691477	20.43	ug/L		100
67) 1,1,1,2-Tetrachloroethane	13.282	131	197487	19.35	ug/L		98
68) m-xylene & p-xylene	13.323	106	1014375	42.62	ug/L		99
69) o-xylene	13.734	106	501515	20.62	ug/L		99
70) Styrene	13.776	104	833098	21.16	ug/L		99
71) Bromoform	13.875	173	108583	19.73	ug/L		93
72) Isopropylbenzene	13.999	105	1298923	21.22	ug/L		99
74) Bromofluorobenzene	14.328	95	1248975	51.63	ug/L		86
75) n-Propylbenzene	14.387	91	1689224	21.68	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.469	83	377583	19.04	ug/L		98
77) 1,2,3-Trichloropropane	14.651	61	80822	15.54	ug/L	#	75
78) T-1,4-Dichloro-2-Butene	14.351	53	122645	18.87	ug/L	#	27
80) Bromobenzene	14.469	156	251156	20.48	ug/L		92
81) 1,2,4-Trimethylbenzene	14.957	105	1173405	23.22	ug/L		97
82) 2-Chlorotoluene	14.610	91	964401	21.31	ug/L		99
83) 4-Chlorotoluene	14.769	91	1000303	22.13	ug/L		99
84) tert-Butylbenzene	14.898	119	910937	21.20	ug/L		99
85) 1,3,5-Trimethylbenzene	14.539	105	1122673	22.09	ug/L		100
86) p-Isopropyltoluene	15.192	119	1173695	20.26	ug/L		98
87) s-Butylbenzene	15.074	105	1430058	23.42	ug/L		100
88) 1,3-Dichlorobenzene	15.415	146	540922	21.06	ug/L		98
89) 1,4-Dichlorobenzene	15.503	146	539901	20.40	ug/L	#	81
90) n-Butylbenzene	15.673	91	1128787	19.90	ug/L		99
91) 1,2-Dichlorobenzene	16.020	146	479936	20.23	ug/L		97
92) DBCP	17.084	157	48885	16.96	ug/L		90
93) Hexachlorobutadiene	17.977	225	49598	14.71	ug/L		93
94) 1,2,4-Trichlorobenzene	18.141	180	102913	14.82	ug/L		98
95) Naphthalene	18.776	128	248617	13.37	ug/L		97
96) 1,2,3-Trichlorobenzene	19.152	180	38264	12.00	ug/L		93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\052421\
Data File : 215ES003.D
Acq On : 24 May 2021 8:37 am
Operator : kkw
Sample : BS1
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 24 09:17:45 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration



Quantitation Report (QT/LSC Reviewed)

Data Path : C:\msdchem\1\data\052421\
Data File : 215ES005.D
Acq On : 24 May 2021 9:32 am
Operator : kkw
Sample : BLK1
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 25 07:39:35 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) PENTAFLUOROBENZENE (IS)	9.851	168	1037705	50.00 ug/L	0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2198868	50.00 ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.223	82	1317044	50.00 ug/L	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.486	152	1132422	50.00 ug/L	0.00
System Monitoring Compounds					
31) Dibromofluoromethane	9.428	113	584815	53.47 ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 106.94%		
52) D8-Toluene	11.778	98	2786682	51.64 ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 103.28%		
73) Bromofluorobenzene	14.328	95	1147514	50.40 ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 100.80%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	4.099	85	1229	N.D.	
3) Chloromethane	4.392	50	1564	N.D.	
4) Vinyl Chloride	4.451	62	1297	N.D.	
5) Bromomethane	0.000		0	N.D. d	
6) Chloroethane	0.000		0	N.D. d	
7) Trichlorofluoromethane	0.000		0	N.D.	
8) Diethyl ether	0.000		0	N.D.	
9) 1,1-Dichloroethene	0.000		0	N.D.	
10) Trichlorotrifluoroethane	0.000		0	N.D.	
11) Acrolein	0.000		0	N.D. d	
12) Iodomethane	0.000		0	N.D. d	
13) Carbon Disulfide	0.000		0	N.D. d	
14) 3-chloropropene	0.000		0	N.D. d	
15) Acetone	0.000		0	N.D. d	
16) Methylene Chloride	0.000		0	N.D. d	
17) Methyl Acetate	0.000		0	N.D. d	
18) t-1,2-Dichloroethene	0.000		0	N.D. d	
19) Methyl tert-butyl ether	0.000		0	N.D. d	
20) Acetonitrile	0.000		0	N.D. d	
21) Isopropyl ether	0.000		0	N.D.	
22) Chloroprene	0.000		0	N.D.	
23) 1,1-Dichloroethane	0.000		0	N.D. d	
24) Acrylonitrile	0.000		0	N.D. d	
25) Vinyl Acetate	8.470	43	1211	N.D.	
26) c-1,2-Dichloroethene	0.000		0	N.D.	
27) 2,2-Dichloropropane	0.000		0	N.D.	
28) Bromochloromethane	0.000		0	N.D.	
29) Cyclohexane	9.158	56	1369	N.D.	
30) Chloroform	9.228	83	2060	N.D.	
32) Dibromofluoromethane	9.428	113	584815	53.47 ug/L #	89
33) 2-Butanone	0.000		0	N.D. d	
34) 1,1,1-Trichloroethane	0.000		0	N.D.	
35) 1,1-Dichloropropene	0.000		0	N.D. d	
36) Propionitrile	0.000		0	N.D. d	
37) Methacrylonitrile	0.000		0	N.D. d	
38) Isobutyl Alcohol	0.000		0	N.D. d	
40) Carbon Tetrachloride	0.000		0	N.D. d	
41) Benzene	0.000		0	N.D. d	
42) 1,2-Dichloroethane	0.000		0	N.D. d	
43) Trichloroethene	0.000		0	N.D.	
44) Methyl cyclohexane	0.000		0	N.D. d	
45) Dibromomethane	0.000		0	N.D. d	
46) 1,2-Dichloropropane	10.908	63	1606	N.D.	
47) Bromodichloromethane	11.014	83	1340	N.D.	
48) Methyl Methacrylate	10.938	69	1086	N.D.	
49) 1,4-Dioxane	0.000		0	N.D. d	
50) 2-Chloroethyl vinyl ether	11.655	63	1103	N.D.	
51) C-1,3-Dichloropropene	11.643	75	1143	N.D.	

Data Path : C:\msdchem\1\data\052421\
Data File : 215ES005.D
Acq On : 24 May 2021 9:32 am
Operator : kkw
Sample : BLK1
Misc :
ALS Vial : 5 Sample Multiplier: 1

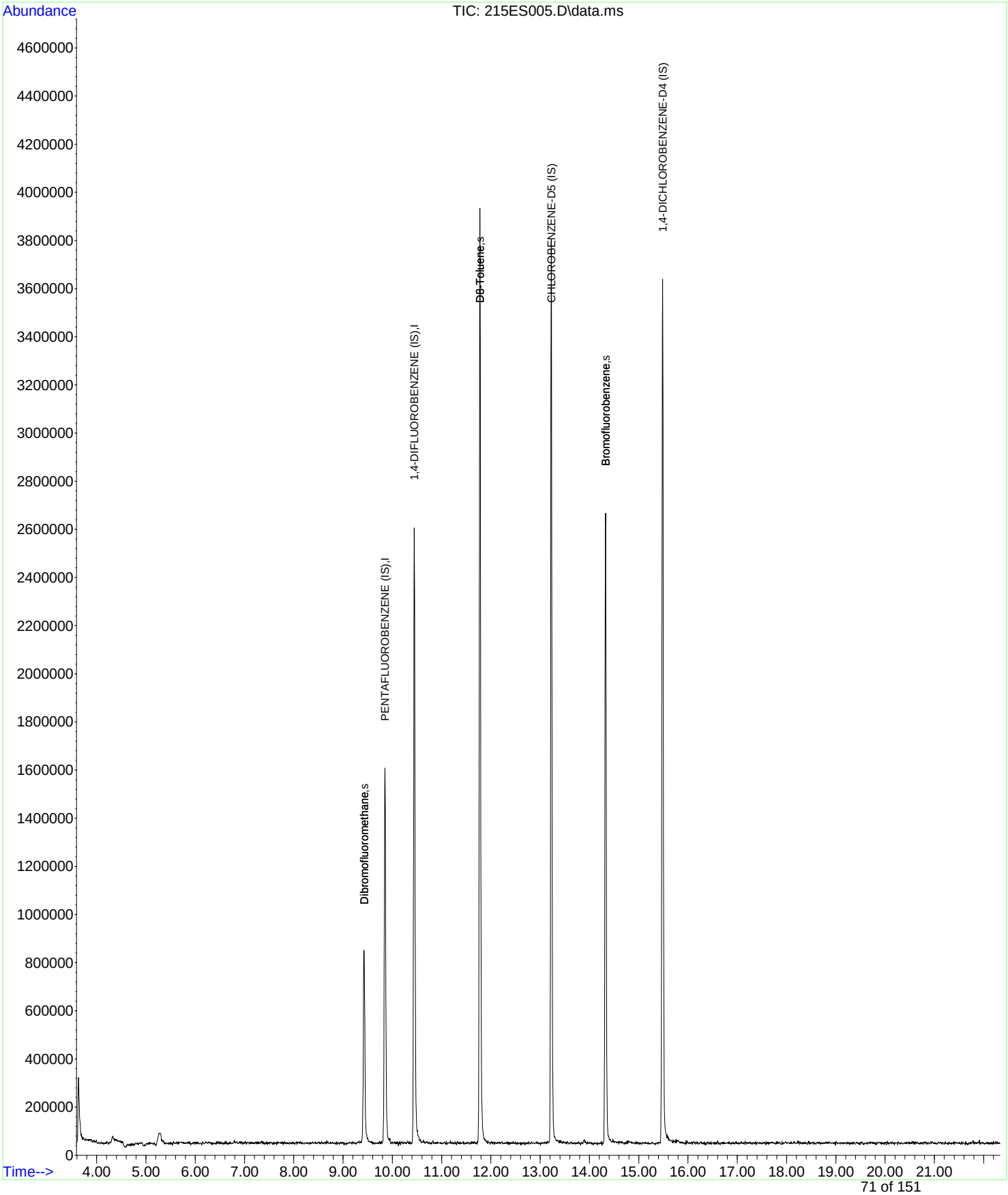
Quant Time: May 25 07:39:35 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.778	98	2780641	51.53 ug/L	95
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	11.831	92	1513	N.D.	
57) T-1,3-Dichloropropene	0.000		0	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	12.348	69	1044	N.D.	
60) 1,1,2-Trichloroethane	12.489	97	1013	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	12.583	76	1076	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	12.859	43	1513	N.D.	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	0.000		0	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	0.000		0	N.D.	
70) Styrene	0.000		0	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	0.000		0	N.D.	
74) Bromofluorobenzene	14.328	95	1148220	50.43 ug/L	87
75) n-Propylbenzene	14.387	91	2250	N.D.	
76) 1,1,2,2-Tetrachloroethane	14.604	83	1245	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D. d	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D. d	
80) Bromobenzene	0.000		0	N.D.	
81) 1,2,4-Trimethylbenzene	15.086	105	1685	N.D.	
82) 2-Chlorotoluene	14.604	91	1694	N.D.	
83) 4-Chlorotoluene	14.804	91	1055	N.D.	
84) tert-Butylbenzene	14.904	119	1513	N.D.	
85) 1,3,5-Trimethylbenzene	14.551	105	2012	N.D.	
86) p-Isopropyltoluene	15.198	119	1397	N.D.	
87) s-Butylbenzene	15.086	105	1685	N.D.	
88) 1,3-Dichlorobenzene	15.427	146	1673	N.D.	
89) 1,4-Dichlorobenzene	15.497	146	1475	N.D.	
90) n-Butylbenzene	15.726	91	1174	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	18.235	180	1024	N.D.	
95) Naphthalene	18.882	128	2167	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\052421\
Data File : 215ES005.D
Acq On : 24 May 2021 9:32 am
Operator : kkw
Sample : BLK1
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 25 07:39:35 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\052421\
Data File : 215ES006.D
Acq On : 24 May 2021 10:00 am
Operator : kkw
Sample : AA66553-CRL1
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 25 07:39:40 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.851	168	1021933	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2193576	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.223	82	1310949	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.480	152	1126030	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	586941	54.49	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 108.98%				
52) D8-Toluene	11.778	98	2794037	51.91	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 103.82%				
73) Bromofluorobenzene	14.322	95	1145601	50.55	ug/L		-0.01
Spiked Amount 50.000	Range 75 - 120		Recovery = 101.10%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	8783	0.72	ug/L	#	84
3) Chloromethane	4.404	50	17110	1.11	ug/L	#	86
4) Vinyl Chloride	4.580	62	11287	0.91	ug/L	#	1
5) Bromomethane	5.232	94	5200	1.60	ug/L	#	91
6) Chloroethane	5.473	64	6210	1.25	ug/L	#	86
7) Trichlorofluoromethane	5.703	101	14318	1.05	ug/L	#	94
8) Diethyl ether	6.190	59	9634	1.15	ug/L		91
9) 1,1-Dichloroethene	6.531	96	8204	1.00	ug/L	#	81
10) Trichlorotrifluoroethane	6.566	151	6211	1.12	ug/L	#	78
11) Acrolein	7.025	56	25249	9.43	ug/L		99
12) Iodomethane	6.772	142	39147	3.77	ug/L	#	91
13) Carbon Disulfide	6.625	76	127808	3.97	ug/L	#	96
14) 3-chloropropene	7.195	41	11214	0.75	ug/L	#	75
15) Acetone	7.418	43	20298	5.94	ug/L	#	80
16) Methylene Chloride	7.342	84	13686	1.27	ug/L		92
17) Methyl Acetate	7.418	43	30576	3.56	ug/L	#	67
18) t-1,2-Dichloroethene	7.547	96	9213	0.92	ug/L	#	81
19) Methyl tert-butyl ether	7.624	73	27007	1.07	ug/L	#	84
20) Acetonitrile	8.041	41	18526	7.44	ug/L	#	78
21) Isopropyl ether	8.047	45	29476	0.93	ug/L	#	96
22) Chloroprene	8.270	88	8688	0.92	ug/L	#	96
23) 1,1-Dichloroethane	8.311	63	19888	1.13	ug/L	#	61
24) Acrylonitrile	8.399	53	40419	7.49	ug/L		92
25) Vinyl Acetate	8.546	43	88219	3.93	ug/L		95
26) c-1,2-Dichloroethene	8.946	96	11061	0.99	ug/L	#	83
27) 2,2-Dichloropropane	9.075	77	14767	1.13	ug/L	#	82
28) Bromochloromethane	9.175	128	5387	1.50	ug/L	#	74
29) Cyclohexane	9.193	56	18044	0.95	ug/L	#	86
30) Chloroform	9.216	83	19173	1.07	ug/L	#	96
32) Dibromofluoromethane	9.428	113	586941	54.49	ug/L	#	89
33) 2-Butanone	9.575	72	7447	4.13	ug/L		96
34) 1,1,1-Trichloroethane	9.492	97	14010	1.05	ug/L	#	77
35) 1,1-Dichloropropene	9.598	75	15655	1.10	ug/L		97
36) Propionitrile	9.821	54	1011	0.46	ug/L	#	1
37) Methacrylonitrile	9.915	41	83071	9.60	ug/L		99
38) Isobutyl Alcohol	9.898	43	15912	15.26	ug/L	#	55
40) Carbon Tetrachloride	9.404	117	9654	0.95	ug/L	#	54
41) Benzene	9.880	78	49186	1.07	ug/L		95
42) 1,2-Dichloroethane	10.097	62	14966	1.12	ug/L	#	85
43) Trichloroethene	10.450	130	11274	1.07	ug/L	#	1
44) Methyl cyclohexane	10.444	83	45773	2.02	ug/L	#	65
45) Dibromomethane	10.914	93	7645	1.07	ug/L	#	88
46) 1,2-Dichloropropane	10.991	63	10884	0.82	ug/L	#	73
47) Bromodichloromethane	11.020	83	11276	0.86	ug/L	#	83
48) Methyl Methacrylate	11.102	69	8030	0.78	ug/L		92
49) 1,4-Dioxane	11.249	88	2025	14.53	ug/L	#	82
50) 2-Chloroethyl vinyl ether	11.496	63	29681	3.70	ug/L	#	95
51) C-1,3-Dichloropropene	11.608	75	18068	0.91	ug/L		96

Data Path : C:\msdchem\1\data\052421\
Data File : 215ES006.D
Acq On : 24 May 2021 10:00 am
Operator : kkw
Sample : AA66553-CRL1
Misc :
ALS Vial : 6 Sample Multiplier: 1

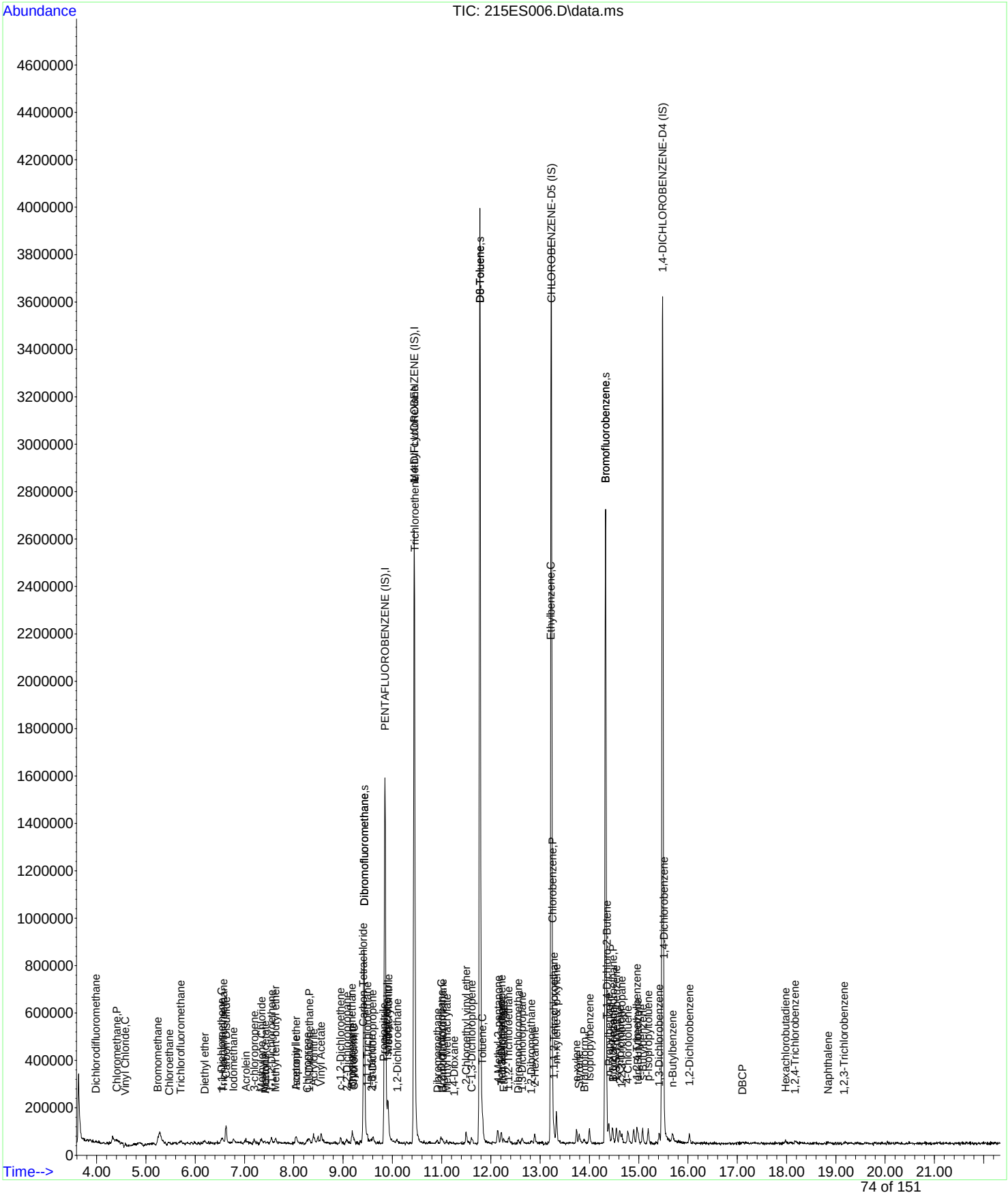
Quant Time: May 25 07:39:40 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	2792164	51.87	ug/L		96
54) 4-Methyl-2-pentanone	12.142	100	11016	4.75	ug/L	#	70
56) Toluene	11.825	92	30896	1.04	ug/L		95
57) T-1,3-Dichloropropene	12.213	75	15701	1.00	ug/L		97
58) Tetrachloroethene	12.213	164	7014	0.86	ug/L		92
59) Ethyl methacrylate	12.260	69	14596	0.79	ug/L	#	86
60) 1,1,2-Trichloroethane	12.354	97	10282	0.96	ug/L	#	77
61) Dibromochloromethane	12.553	129	7084	0.82	ug/L	#	76
62) 1,3-Dichloropropane	12.630	76	15826	0.79	ug/L	#	74
63) 1,2-Dibromoethane	12.812	107	11888	1.07	ug/L	#	99
64) 2-Hexanone	12.888	43	37852	3.96	ug/L	#	94
65) Ethylbenzene	13.212	106	15563	0.87	ug/L	#	83
66) Chlorobenzene	13.247	112	33843	1.07	ug/L		97
67) 1,1,1,2-Tetrachloroethane	13.276	131	8855	0.96	ug/L	#	92
68) m-xylene & p-xylene	13.329	106	43973	1.97	ug/L		87
69) o-xylene	13.734	106	18408	0.81	ug/L		96
70) Styrene	13.781	104	26520	0.72	ug/L	#	91
71) Bromoform	13.893	173	3814	0.80	ug/L	#	63
72) Isopropylbenzene	13.999	105	48765	0.85	ug/L		98
74) Bromofluorobenzene	14.322	95	1145601	50.55	ug/L		88
75) n-Propylbenzene	14.393	91	64425	0.88	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.475	83	19123	1.03	ug/L	#	81
77) 1,2,3-Trichloropropane	14.651	61	3391	0.72	ug/L	#	42
78) T-1,4-Dichloro-2-Butene	14.351	53	5689	0.93	ug/L	#	1
80) Bromobenzene	14.475	156	10519	0.92	ug/L	#	84
81) 1,2,4-Trimethylbenzene	14.962	105	41089	0.87	ug/L		97
82) 2-Chlorotoluene	14.622	91	44481	1.05	ug/L		92
83) 4-Chlorotoluene	14.774	91	37220	0.88	ug/L	#	94
84) tert-Butylbenzene	14.980	119	10328	0.26	ug/L		89
85) 1,3,5-Trimethylbenzene	14.539	105	44793	0.94	ug/L		98
86) p-Isopropyltoluene	15.192	119	40660	0.75	ug/L	#	94
87) s-Butylbenzene	15.080	105	50421	0.88	ug/L		95
88) 1,3-Dichlorobenzene	15.415	146	23430	0.98	ug/L		96
89) 1,4-Dichlorobenzene	15.509	146	24924	1.01	ug/L	#	1
90) n-Butylbenzene	15.685	91	37129	0.70	ug/L		95
91) 1,2-Dichlorobenzene	16.026	146	17940	0.81	ug/L	#	88
92) DBCP	17.101	157	1207	0.46	ug/L	#	18
93) Hexachlorobutadiene	17.977	225	2965	0.95	ug/L	#	84
94) 1,2,4-Trichlorobenzene	18.171	180	3761	0.60	ug/L	#	71
95) Naphthalene	18.840	128	7416	0.44	ug/L	#	69
96) 1,2,3-Trichlorobenzene	19.163	180	1067	0.37	ug/L	#	39

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\052421\
Data File : 215ES006.D
Acq On : 24 May 2021 10:00 am
Operator : kkw
Sample : AA66553-CRL1
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 25 07:39:40 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\052421\
Data File : 215ES007.D
Acq On : 24 May 2021 10:28 am
Operator : kkw
Sample : AE04350-01
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 25 07:39:44 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) PENTAFLUOROBENZENE (IS)	9.851	168	1011658	50.00	ug/L	0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2184866	50.00	ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.223	82	1285964	50.00	ug/L	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.480	152	1104046	50.00	ug/L	0.00
System Monitoring Compounds						
31) Dibromofluoromethane	9.422	113	582457	54.62	ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 109.24%			
52) D8-Toluene	11.778	98	2742549	51.15	ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 102.30%			
73) Bromofluorobenzene	14.328	95	1150952	51.77	ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 103.54%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.864	85	1335	N.D.		
3) Chloromethane	4.428	50	3045	N.D.		
4) Vinyl Chloride	0.000		0	N.D.		
5) Bromomethane	0.000		0	N.D.	d	
6) Chloroethane	0.000		0	N.D.	d	
7) Trichlorofluoromethane	0.000		0	N.D.		
8) Diethyl ether	0.000		0	N.D.	d	
9) 1,1-Dichloroethene	0.000		0	N.D.		
10) Trichlorotrifluoroethane	0.000		0	N.D.		
11) Acrolein	0.000		0	N.D.	d	
12) Iodomethane	0.000		0	N.D.	d	
13) Carbon Disulfide	0.000		0	N.D.	d	
14) 3-chloropropene	0.000		0	N.D.	d	
15) Acetone	0.000		0	N.D.	d	
16) Methylene Chloride	0.000		0	N.D.	d	
17) Methyl Acetate	0.000		0	N.D.	d	
18) t-1,2-Dichloroethene	0.000		0	N.D.		
19) Methyl tert-butyl ether	0.000		0	N.D.		
20) Acetonitrile	0.000		0	N.D.	d	
21) Isopropyl ether	0.000		0	N.D.	d	
22) Chloroprene	0.000		0	N.D.	d	
23) 1,1-Dichloroethane	0.000		0	N.D.		
24) Acrylonitrile	0.000		0	N.D.	d	
25) Vinyl Acetate	8.558	43	1457	N.D.		
26) c-1,2-Dichloroethene	8.958	96	1215	N.D.		
27) 2,2-Dichloropropane	9.046	77	1010	N.D.		
28) Bromochloromethane	0.000		0	N.D.		
29) Cyclohexane	9.169	56	1093	N.D.		
30) Chloroform	9.240	83	2060	N.D.		
32) Dibromofluoromethane	9.422	113	582457	54.62	ug/L #	90
33) 2-Butanone	0.000		0	N.D.	d	
34) 1,1,1-Trichloroethane	0.000		0	N.D.		
35) 1,1-Dichloropropene	0.000		0	N.D.	d	
36) Propionitrile	0.000		0	N.D.		
37) Methacrylonitrile	0.000		0	N.D.	d	
38) Isobutyl Alcohol	0.000		0	N.D.	d	
40) Carbon Tetrachloride	0.000		0	N.D.	d	
41) Benzene	0.000		0	N.D.	d	
42) 1,2-Dichloroethane	0.000		0	N.D.	d	
43) Trichloroethene	0.000		0	N.D.		
44) Methyl cyclohexane	0.000		0	N.D.	d	
45) Dibromomethane	0.000		0	N.D.		
46) 1,2-Dichloropropane	0.000		0	N.D.	d	
47) Bromodichloromethane	0.000		0	N.D.		
48) Methyl Methacrylate	0.000		0	N.D.	d	
49) 1,4-Dioxane	0.000		0	N.D.	d	
50) 2-Chloroethyl vinyl ether	11.473	63	1271	N.D.		
51) C-1,3-Dichloropropene	11.614	75	1366	N.D.		

Data Path : C:\msdchem\1\data\052421\
Data File : 215ES007.D
Acq On : 24 May 2021 10:28 am
Operator : kkw
Sample : AE04350-01
Misc :
ALS Vial : 7 Sample Multiplier: 1

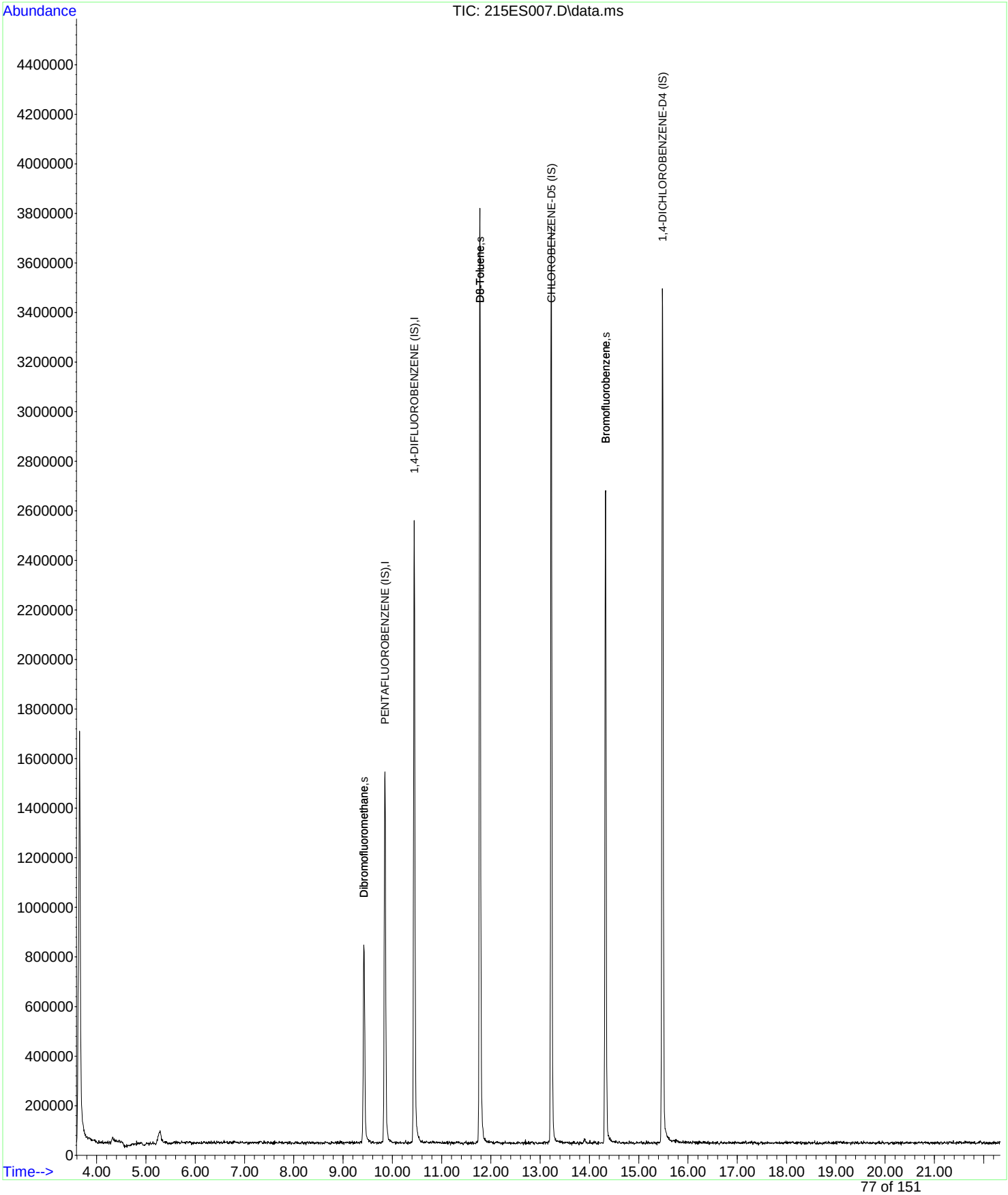
Quant Time: May 25 07:39:44 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.778	98	2735900	51.03 ug/L	96
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	11.807	92	1185	N.D.	
57) T-1,3-Dichloropropene	12.219	75	1249	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	12.395	69	1005	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	12.554	76	1343	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	12.906	43	1746	N.D.	
65) Ethylbenzene	13.229	106	1285	N.D.	
66) Chlorobenzene	0.000		0	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	0.000		0	N.D.	
70) Styrene	0.000		0	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	14.017	105	1139	N.D.	
74) Bromofluorobenzene	14.328	95	1150952	51.77 ug/L	87
75) n-Propylbenzene	14.422	91	2333	N.D.	
76) 1,1,2,2-Tetrachloroethane	14.369	83	1046	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D. d	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D. d	
80) Bromobenzene	0.000		0	N.D.	
81) 1,2,4-Trimethylbenzene	0.000		0	N.D.	
82) 2-Chlorotoluene	14.616	91	1273	N.D.	
83) 4-Chlorotoluene	14.816	91	1880	N.D.	
84) tert-Butylbenzene	14.739	119	1254	N.D.	
85) 1,3,5-Trimethylbenzene	0.000		0	N.D.	
86) p-Isopropyltoluene	15.192	119	1644	N.D.	
87) s-Butylbenzene	0.000		0	N.D.	
88) 1,3-Dichlorobenzene	15.497	146	2252	N.D.	
89) 1,4-Dichlorobenzene	15.497	146	2252	N.D.	
90) n-Butylbenzene	0.000		0	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	0.000		0	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\052421\
Data File : 215ES007.D
Acq On : 24 May 2021 10:28 am
Operator : kkw
Sample : AE04350-01
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 25 07:39:44 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\052421\
Data File : 215ES007.D
Acq On : 24 May 2021 10:28 am
Operator : kkw
Sample : AE04350-01
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 25 07:39:44 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) PENTAFLUOROBENZENE (IS)	9.851	168	1011658	50.00	ug/L	0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2184866	50.00	ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.223	82	1285964	50.00	ug/L	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.480	152	1104046	50.00	ug/L	0.00
System Monitoring Compounds						
31) Dibromofluoromethane	9.422	113	582457	54.62	ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 109.24%			
52) D8-Toluene	11.778	98	2742549	51.15	ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 102.30%			
73) Bromofluorobenzene	14.328	95	1150952	51.77	ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 103.54%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.864	85	1335	N.D.		
3) Chloromethane	4.428	50	3045	N.D.		
4) Vinyl Chloride	0.000		0	N.D.		
5) Bromomethane	0.000		0	N.D.	d	
6) Chloroethane	0.000		0	N.D.	d	
7) Trichlorofluoromethane	0.000		0	N.D.		
8) Diethyl ether	0.000		0	N.D.	d	
9) 1,1-Dichloroethene	0.000		0	N.D.		
10) Trichlorotrifluoroethane	0.000		0	N.D.		
11) Acrolein	0.000		0	N.D.	d	
12) Iodomethane	0.000		0	N.D.	d	
13) Carbon Disulfide	0.000		0	N.D.	d	
14) 3-chloropropene	0.000		0	N.D.	d	
15) Acetone	0.000		0	N.D.	d	
16) Methylene Chloride	0.000		0	N.D.	d	
17) Methyl Acetate	0.000		0	N.D.	d	
18) t-1,2-Dichloroethene	0.000		0	N.D.		
19) Methyl tert-butyl ether	0.000		0	N.D.		
20) Acetonitrile	0.000		0	N.D.	d	
21) Isopropyl ether	0.000		0	N.D.	d	
22) Chloroprene	0.000		0	N.D.	d	
23) 1,1-Dichloroethane	0.000		0	N.D.		
24) Acrylonitrile	0.000		0	N.D.	d	
25) Vinyl Acetate	8.558	43	1457	N.D.		
26) c-1,2-Dichloroethene	8.958	96	1215	N.D.		
27) 2,2-Dichloropropane	9.046	77	1010	N.D.		
28) Bromochloromethane	0.000		0	N.D.		
29) Cyclohexane	9.169	56	1093	N.D.		
30) Chloroform	9.240	83	2060	N.D.		
32) Dibromofluoromethane	9.422	113	582457	54.62	ug/L #	90
33) 2-Butanone	0.000		0	N.D.	d	
34) 1,1,1-Trichloroethane	0.000		0	N.D.		
35) 1,1-Dichloropropene	0.000		0	N.D.	d	
36) Propionitrile	0.000		0	N.D.		
37) Methacrylonitrile	0.000		0	N.D.	d	
38) Isobutyl Alcohol	0.000		0	N.D.	d	
40) Carbon Tetrachloride	0.000		0	N.D.	d	
41) Benzene	0.000		0	N.D.	d	
42) 1,2-Dichloroethane	0.000		0	N.D.	d	
43) Trichloroethene	0.000		0	N.D.		
44) Methyl cyclohexane	0.000		0	N.D.	d	
45) Dibromomethane	0.000		0	N.D.		
46) 1,2-Dichloropropane	0.000		0	N.D.	d	
47) Bromodichloromethane	0.000		0	N.D.		
48) Methyl Methacrylate	0.000		0	N.D.	d	
49) 1,4-Dioxane	0.000		0	N.D.	d	
50) 2-Chloroethyl vinyl ether	11.473	63	1271	N.D.		
51) C-1,3-Dichloropropene	11.614	75	1366	N.D.		

Data Path : C:\msdchem\1\data\052421\
Data File : 215ES007.D
Acq On : 24 May 2021 10:28 am
Operator : kkw
Sample : AE04350-01
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 25 07:39:44 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

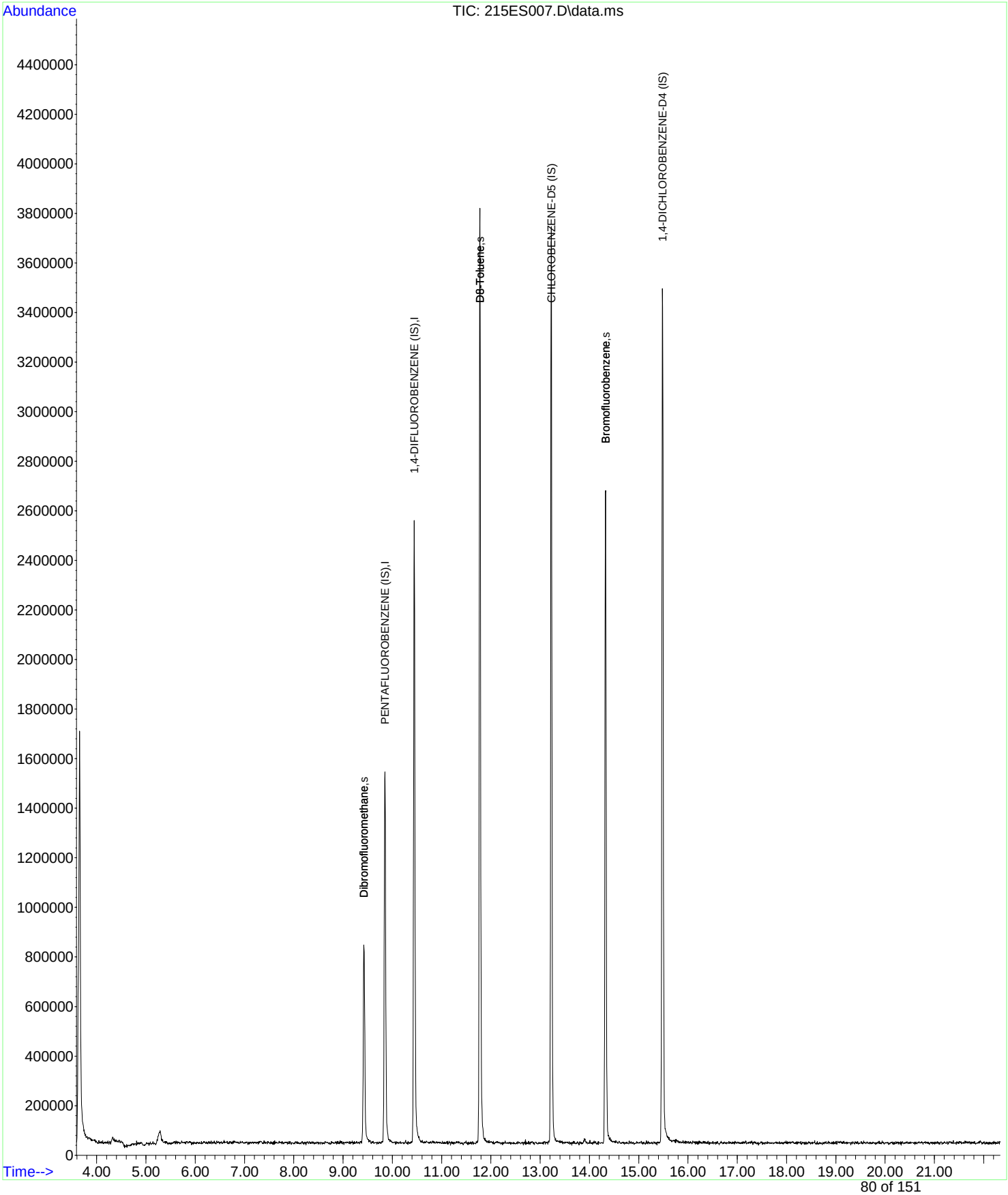
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.778	98	2735900	51.03 ug/L	96
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	11.807	92	1185	N.D.	
57) T-1,3-Dichloropropene	12.219	75	1249	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	12.395	69	1005	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	12.554	76	1343	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	12.906	43	1746	N.D.	
65) Ethylbenzene	13.229	106	1285	N.D.	
66) Chlorobenzene	0.000		0	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	0.000		0	N.D.	
70) Styrene	0.000		0	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	14.017	105	1139	N.D.	
74) Bromofluorobenzene	14.328	95	1150952	51.77 ug/L	87
75) n-Propylbenzene	14.422	91	2333	N.D.	
76) 1,1,2,2-Tetrachloroethane	14.369	83	1046	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D. d	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D. d	
80) Bromobenzene	0.000		0	N.D.	
81) 1,2,4-Trimethylbenzene	0.000		0	N.D.	
82) 2-Chlorotoluene	14.616	91	1273	N.D.	
83) 4-Chlorotoluene	14.816	91	1880	N.D.	
84) tert-Butylbenzene	14.739	119	1254	N.D.	
85) 1,3,5-Trimethylbenzene	0.000		0	N.D.	
86) p-Isopropyltoluene	15.192	119	1644	N.D.	
87) s-Butylbenzene	0.000		0	N.D.	
88) 1,3-Dichlorobenzene	15.497	146	2252	N.D.	
89) 1,4-Dichlorobenzene	15.497	146	2252	N.D.	
90) n-Butylbenzene	0.000		0	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	0.000		0	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\052421\
Data File : 215ES007.D
Acq On : 24 May 2021 10:28 am
Operator : kkw
Sample : AE04350-01
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 25 07:39:44 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\052421\
Data File : 215ES008.D
Acq On : 24 May 2021 10:56 am
Operator : kkw
Sample : AE04350-02
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 25 07:39:48 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) PENTAFLUOROBENZENE (IS)	9.851	168	1012700	50.00	ug/L	0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2150758	50.00	ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.223	82	1296142	50.00	ug/L	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1095730	50.00	ug/L	0.00
System Monitoring Compounds						
31) Dibromofluoromethane	9.422	113	580350	54.37	ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 108.74%			
52) D8-Toluene	11.778	98	2771220	52.51	ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 105.02%			
73) Bromofluorobenzene	14.328	95	1144518	51.08	ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 102.16%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.		
3) Chloromethane	4.422	50	2655	N.D.		
4) Vinyl Chloride	4.580	62	158779	12.98	ug/L	94
5) Bromomethane	0.000		0	N.D. d		
6) Chloroethane	0.000		0	N.D. d		
7) Trichlorofluoromethane	0.000		0	N.D. d		
8) Diethyl ether	0.000		0	N.D. d		
9) 1,1-Dichloroethene	0.000		0	N.D. d		
10) Trichlorotrifluoroethane	0.000		0	N.D.		
11) Acrolein	0.000		0	N.D. d		
12) Iodomethane	0.000		0	N.D. d		
13) Carbon Disulfide	0.000		0	N.D. d		
14) 3-chloropropene	0.000		0	N.D. d		
15) Acetone	0.000		0	N.D. d		
16) Methylene Chloride	7.336	84	1364	N.D.		
17) Methyl Acetate	7.483	43	1089	N.D.		
18) t-1,2-Dichloroethene	7.547	96	7544	0.76	ug/L #	64
19) Methyl tert-butyl ether	7.683	73	1227	N.D.		
20) Acetonitrile	0.000		0	N.D. d		
21) Isopropyl ether	0.000		0	N.D. d		
22) Chloroprene	0.000		0	N.D.		
23) 1,1-Dichloroethane	0.000		0	N.D. d		
24) Acrylonitrile	0.000		0	N.D. d		
25) Vinyl Acetate	8.605	43	1359	N.D.		
26) c-1,2-Dichloroethene	8.952	96	3449	0.31	ug/L #	78
27) 2,2-Dichloropropane	8.999	77	1461	N.D.		
28) Bromochloromethane	0.000		0	N.D.		
29) Cyclohexane	9.122	56	1402	N.D.		
30) Chloroform	0.000		0	N.D.		
32) Dibromofluoromethane	9.422	113	580794	54.41	ug/L #	90
33) 2-Butanone	0.000		0	N.D. d		
34) 1,1,1-Trichloroethane	0.000		0	N.D. d		
35) 1,1-Dichloropropene	0.000		0	N.D. d		
36) Propionitrile	0.000		0	N.D. d		
37) Methacrylonitrile	0.000		0	N.D. d		
38) Isobutyl Alcohol	0.000		0	N.D. d		
40) Carbon Tetrachloride	0.000		0	N.D. d		
41) Benzene	0.000		0	N.D. d		
42) 1,2-Dichloroethane	0.000		0	N.D. d		
43) Trichloroethene	0.000		0	N.D.		
44) Methyl cyclohexane	0.000		0	N.D. d		
45) Dibromomethane	0.000		0	N.D.		
46) 1,2-Dichloropropane	0.000		0	N.D. d		
47) Bromodichloromethane	0.000		0	N.D. d		
48) Methyl Methacrylate	0.000		0	N.D.		
49) 1,4-Dioxane	0.000		0	N.D. d		
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.		
51) C-1,3-Dichloropropene	0.000		0	N.D.		

Data Path : C:\msdchem\1\data\052421\
Data File : 215ES008.D
Acq On : 24 May 2021 10:56 am
Operator : kkw
Sample : AE04350-02
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 25 07:39:48 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

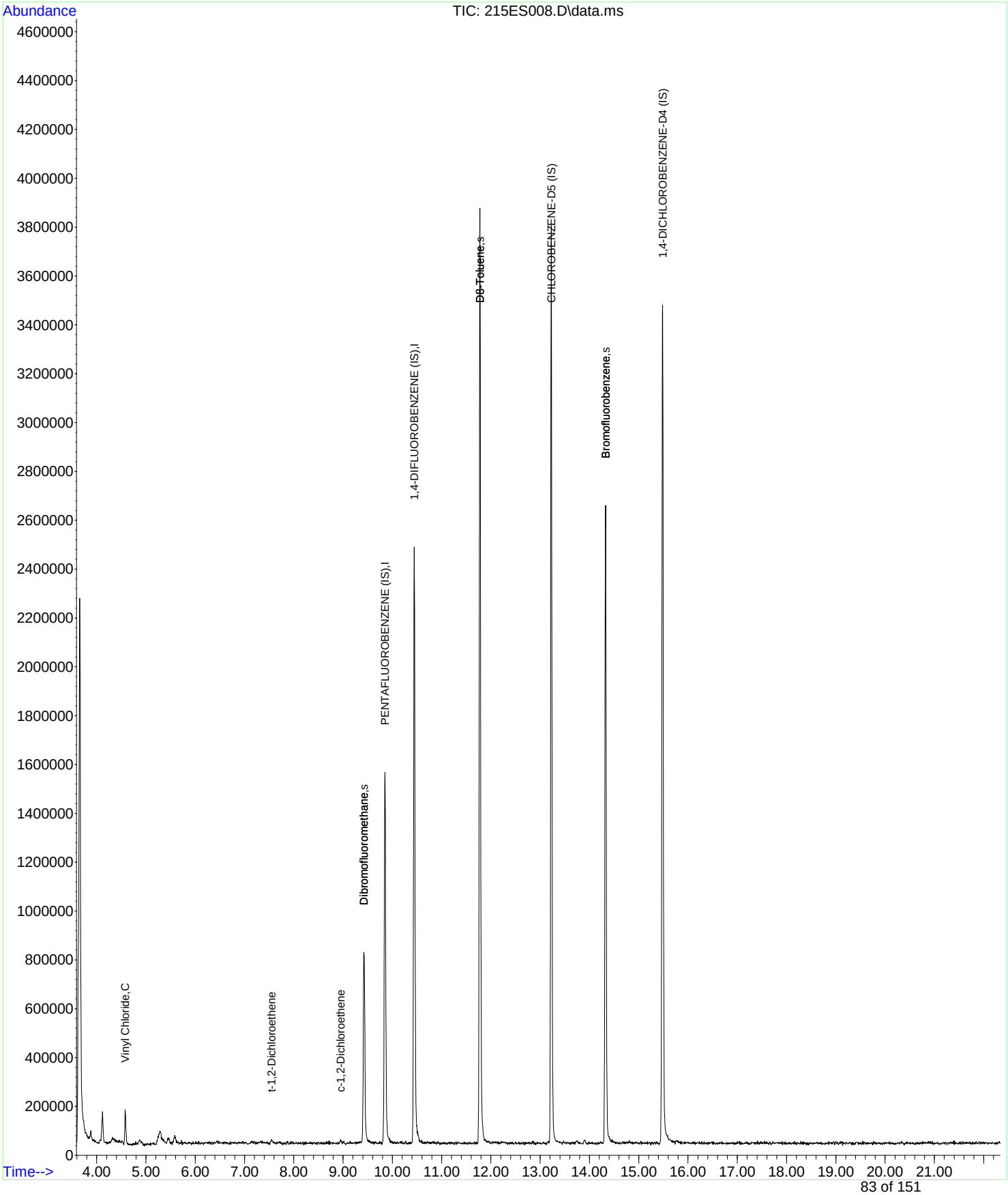
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.778	98	2765595	52.40 ug/L	96
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	11.831	92	2982	N.D.	
57) T-1,3-Dichloropropene	12.277	75	1015	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	12.324	69	1491	N.D.	
60) 1,1,2-Trichloroethane	12.348	97	1590	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	12.671	76	1038	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	0.000		0	N.D. d	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	13.235	112	1597	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	13.752	106	3989	N.D.	
70) Styrene	13.917	104	1247	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	14.016	105	1683	N.D.	
74) Bromofluorobenzene	14.328	95	1144518	51.08 ug/L	87
75) n-Propylbenzene	14.410	91	1084	N.D.	
76) 1,1,2,2-Tetrachloroethane	14.340	83	1899	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D. d	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D. d	
80) Bromobenzene	0.000		0	N.D.	
81) 1,2,4-Trimethylbenzene	14.968	105	1216	N.D.	
82) 2-Chlorotoluene	0.000		0	N.D.	
83) 4-Chlorotoluene	0.000		0	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	0.000		0	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	14.968	105	1216	N.D.	
88) 1,3-Dichlorobenzene	15.491	146	2230	N.D.	
89) 1,4-Dichlorobenzene	15.491	146	2230	N.D.	
90) n-Butylbenzene	15.597	91	1378	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	0.000		0	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\052421\
Data File : 215ES008.D
Acq On : 24 May 2021 10:56 am
Operator : kkw
Sample : AE04350-02
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 25 07:39:48 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\052421\
Data File : 215ES009.D
Acq On : 24 May 2021 11:23 am
Operator : kkw
Sample : 1E24012-MS1
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 25 07:39:52 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.851	168	998540	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2100740	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.223	82	1318050	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.479	152	1136018	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.422	113	581072	55.21	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 110.42%				
52) D8-Toluene	11.778	98	2781592	53.96	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 107.92%				
73) Bromofluorobenzene	14.322	95	1170246	51.36	ug/L		-0.01
Spiked Amount 50.000	Range 75 - 120		Recovery = 102.72%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	274488	22.90	ug/L		99
3) Chloromethane	4.410	50	302063	19.37	ug/L		99
4) Vinyl Chloride	4.580	62	286419	23.75	ug/L		95
5) Bromomethane	5.227	94	35709	10.89	ug/L	#	94
6) Chloroethane	5.456	64	129026	26.56	ug/L		96
7) Trichlorofluoromethane	5.697	101	302850	22.79	ug/L		100
8) Diethyl ether	6.178	59	178883	21.90	ug/L		98
9) 1,1-Dichloroethene	6.525	96	207908	25.97	ug/L		96
10) Trichlorotrifluoroethane	6.549	151	132672	24.39	ug/L		96
11) Acrolein	7.013	56	178478	68.24	ug/L		99
12) Iodomethane	6.772	142	195153	19.25	ug/L	#	97
13) Carbon Disulfide	6.619	76	711767	22.73	ug/L		98
14) 3-chloropropene	7.189	41	350052	23.97	ug/L		100
15) Acetone	7.389	43	295764	88.62	ug/L		98
16) Methylene Chloride	7.336	84	241512	22.98	ug/L		98
17) Methyl Acetate	7.518	43	180269	20.67	ug/L	#	94
18) t-1,2-Dichloroethene	7.542	96	238848	24.37	ug/L		98
19) Methyl tert-butyl ether	7.624	73	536731	21.83	ug/L		99
20) Acetonitrile	8.047	41	150333	61.80	ug/L	#	76
21) Isopropyl ether	8.047	45	677211	21.78	ug/L		99
22) Chloroprene	8.270	88	219229	23.83	ug/L		99
23) 1,1-Dichloroethane	8.305	63	427880	24.89	ug/L		98
24) Acrylonitrile	8.388	53	104444	19.80	ug/L	#	96
25) Vinyl Acetate	8.540	43	370767	16.90	ug/L		98
26) c-1,2-Dichloroethene	8.940	96	243816	22.40	ug/L		95
27) 2,2-Dichloropropane	9.069	77	326094	25.45	ug/L		98
28) Bromochloromethane	9.187	128	99443	28.34	ug/L		99
29) Cyclohexane	9.187	56	469555	25.20	ug/L		98
30) Chloroform	9.222	83	409193	23.39	ug/L		98
32) Dibromofluoromethane	9.422	113	581072	55.21	ug/L	#	89
33) 2-Butanone	9.539	72	165451	93.80	ug/L		92
34) 1,1,1-Trichloroethane	9.480	97	320134	24.54	ug/L		97
35) 1,1-Dichloropropene	9.604	75	335081	24.03	ug/L		100
36) Propionitrile	9.898	54	47397	21.96	ug/L	#	1
37) Methacrylonitrile	9.904	41	227685	26.92	ug/L		84
38) Isobutyl Alcohol	9.898	43	179271	175.91	ug/L	#	41
40) Carbon Tetrachloride	9.410	117	238306	23.20	ug/L	#	97
41) Benzene	9.874	78	1023422	23.21	ug/L		98
42) 1,2-Dichloroethane	10.086	62	261866	20.47	ug/L		99
43) Trichloroethene	10.444	130	226528	22.50	ug/L		87
44) Methyl cyclohexane	10.450	83	496256	22.91	ug/L		96
45) Dibromomethane	10.897	93	136075	19.83	ug/L		97
46) 1,2-Dichloropropane	10.979	63	268854	21.20	ug/L		98
47) Bromodichloromethane	11.014	83	270349	20.60	ug/L		99
48) Methyl Methacrylate	11.079	69	175083	17.72	ug/L		99
49) 1,4-Dioxane	11.196	88	50543	378.58	ug/L		89
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.	d		
51) C-1,3-Dichloropropene	11.607	75	378278	19.01	ug/L		98

Data Path : C:\msdchem\1\data\052421\
Data File : 215ES009.D
Acq On : 24 May 2021 11:23 am
Operator : kkw
Sample : 1E24012-MS1
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 25 07:39:52 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

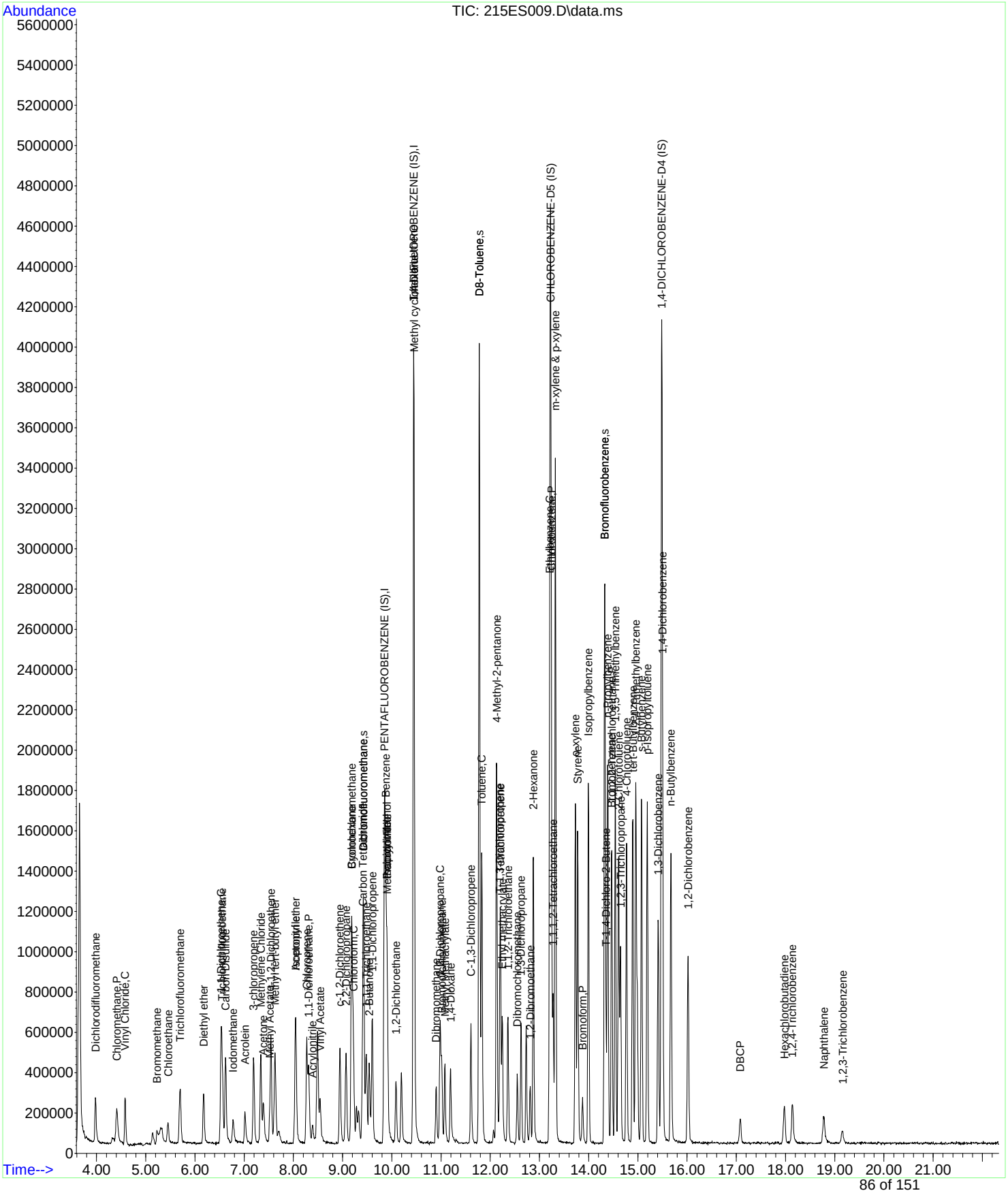
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	2781592	53.96	ug/L		96
54) 4-Methyl-2-pentanone	12.130	100	213619	95.29	ug/L		98
56) Toluene	11.825	92	667971	22.30	ug/L		97
57) T-1,3-Dichloropropene	12.195	75	337096	21.40	ug/L		96
58) Tetrachloroethene	12.207	164	168957	20.64	ug/L		96
59) Ethyl methacrylate	12.242	69	349387	18.92	ug/L		97
60) 1,1,2-Trichloroethane	12.360	97	212384	19.67	ug/L		97
61) Dibromochloromethane	12.548	129	179479	19.46	ug/L		99
62) 1,3-Dichloropropane	12.624	76	377287	18.74	ug/L		99
63) 1,2-Dibromoethane	12.812	107	213292	19.16	ug/L		98
64) 2-Hexanone	12.877	43	941442	97.85	ug/L		99
65) Ethylbenzene	13.206	106	402155	22.27	ug/L		98
66) Chlorobenzene	13.241	112	688124	21.59	ug/L		100
67) 1,1,1,2-Tetrachloroethane	13.276	131	193968	20.15	ug/L		98
68) m-xylene & p-xylene	13.323	106	1004479	44.81	ug/L		98
69) o-xylene	13.729	106	497169	21.70	ug/L		100
70) Styrene	13.776	104	834167	22.49	ug/L		98
71) Bromoform	13.875	173	95889	18.59	ug/L		91
72) Isopropylbenzene	13.993	105	1308900	22.70	ug/L		99
74) Bromofluorobenzene	14.322	95	1170246	51.36	ug/L		85
75) n-Propylbenzene	14.387	91	1668232	22.73	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.469	83	360480	19.30	ug/L		98
77) 1,2,3-Trichloropropane	14.651	61	80901	16.48	ug/L	#	81
78) T-1,4-Dichloro-2-Butene	14.351	53	118756	19.40	ug/L	#	65
80) Bromobenzene	14.463	156	244021	21.11	ug/L		95
81) 1,2,4-Trimethylbenzene	14.957	105	1142428	23.97	ug/L		99
82) 2-Chlorotoluene	14.610	91	971504	22.77	ug/L		99
83) 4-Chlorotoluene	14.769	91	997148	23.40	ug/L		99
84) tert-Butylbenzene	14.898	119	909480	22.45	ug/L		99
85) 1,3,5-Trimethylbenzene	14.539	105	1123283	23.44	ug/L		98
86) p-Isopropyltoluene	15.192	119	1154613	21.14	ug/L		99
87) s-Butylbenzene	15.074	105	1437982	24.98	ug/L		99
88) 1,3-Dichlorobenzene	15.415	146	527347	21.77	ug/L		98
89) 1,4-Dichlorobenzene	15.503	146	523247	20.97	ug/L	#	81
90) n-Butylbenzene	15.667	91	1090771	20.40	ug/L		99
91) 1,2-Dichlorobenzene	16.020	146	469982	21.01	ug/L		98
92) DBCP	17.078	157	45337	16.69	ug/L		92
93) Hexachlorobutadiene	17.977	225	46975	14.78	ug/L		91
94) 1,2,4-Trichlorobenzene	18.135	180	92495	14.15	ug/L		100
95) Naphthalene	18.782	128	203332	11.65	ug/L		97
96) 1,2,3-Trichlorobenzene	19.163	180	37029	12.31	ug/L		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\052421\
Data File : 215ES009.D
Acq On : 24 May 2021 11:23 am
Operator : kkw
Sample : 1E24012-MS1
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 25 07:39:52 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\052421\
Data File : 215ES010.D
Acq On : 24 May 2021 11:51 am
Operator : kkw
Sample : 1E24012-MSD1
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 25 07:39:56 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.851	168	1006891	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2163506	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.223	82	1319861	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.479	152	1138725	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.422	113	593515	55.92	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 111.84%				
52) D8-Toluene	11.772	98	2782486	52.41	ug/L		-0.01
Spiked Amount 50.000	Range 85 - 120		Recovery = 104.82%				
73) Bromofluorobenzene	14.322	95	1195109	52.38	ug/L		-0.01
Spiked Amount 50.000	Range 75 - 120		Recovery = 104.76%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.975	85	271678	22.47	ug/L		100
3) Chloromethane	4.410	50	304195	19.35	ug/L		96
4) Vinyl Chloride	4.580	62	270901	22.28	ug/L		100
5) Bromomethane	5.227	94	40190	12.11	ug/L	#	97
6) Chloroethane	5.450	64	133945	27.35	ug/L		96
7) Trichlorofluoromethane	5.697	101	304560	22.73	ug/L		99
8) Diethyl ether	6.173	59	183879	22.33	ug/L		97
9) 1,1-Dichloroethene	6.531	96	209135	25.91	ug/L		95
10) Trichlorotrifluoroethane	6.554	151	129870	23.67	ug/L		96
11) Acrolein	7.013	56	183281	69.49	ug/L		98
12) Iodomethane	6.772	142	215542	21.09	ug/L		96
13) Carbon Disulfide	6.625	76	679206	21.51	ug/L		98
14) 3-chloropropene	7.195	41	346466	23.53	ug/L		98
15) Acetone	7.389	43	296376	88.07	ug/L		97
16) Methylene Chloride	7.336	84	242027	22.84	ug/L		95
17) Methyl Acetate	7.518	43	182971	20.80	ug/L	#	93
18) t-1,2-Dichloroethene	7.542	96	230570	23.33	ug/L		97
19) Methyl tert-butyl ether	7.624	73	549262	22.15	ug/L		98
20) Acetonitrile	8.047	41	148164	60.41	ug/L	#	76
21) Isopropyl ether	8.041	45	699623	22.31	ug/L		100
22) Chloroprene	8.264	88	218448	23.55	ug/L		99
23) 1,1-Dichloroethane	8.311	63	431782	24.90	ug/L		100
24) Acrylonitrile	8.388	53	102248	19.23	ug/L		99
25) Vinyl Acetate	8.540	43	390407	17.65	ug/L		99
26) c-1,2-Dichloroethene	8.940	96	244737	22.30	ug/L		96
27) 2,2-Dichloropropane	9.069	77	321110	24.86	ug/L		99
28) Bromochloromethane	9.181	128	108050	30.54	ug/L		89
29) Cyclohexane	9.187	56	473650	25.20	ug/L		99
30) Chloroform	9.216	83	407254	23.09	ug/L		98
32) Dibromofluoromethane	9.422	113	593515	55.92	ug/L	#	89
33) 2-Butanone	9.539	72	171970	96.69	ug/L		90
34) 1,1,1-Trichloroethane	9.481	97	324356	24.65	ug/L		99
35) 1,1-Dichloropropene	9.598	75	341848	24.32	ug/L		99
36) Propionitrile	9.904	54	44924	20.64	ug/L	#	1
37) Methacrylonitrile	9.904	41	228638	26.81	ug/L	#	82
38) Isobutyl Alcohol	9.898	43	192194	187.03	ug/L	#	57
40) Carbon Tetrachloride	9.410	117	285090	26.72	ug/L		82
41) Benzene	9.874	78	1030124	22.68	ug/L		98
42) 1,2-Dichloroethane	10.086	62	274642	20.85	ug/L		98
43) Trichloroethene	10.444	130	219512	21.17	ug/L		83
44) Methyl cyclohexane	10.450	83	503680	22.58	ug/L		98
45) Dibromomethane	10.897	93	133041	18.82	ug/L		98
46) 1,2-Dichloropropane	10.985	63	265113	20.30	ug/L		98
47) Bromodichloromethane	11.014	83	279066	20.64	ug/L		99
48) Methyl Methacrylate	11.073	69	183931	18.08	ug/L		99
49) 1,4-Dioxane	11.196	88	57890	421.03	ug/L		93
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.	d		
51) C-1,3-Dichloropropene	11.607	75	382664	18.69	ug/L		97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\052421\
Data File : 215ES010.D
Acq On : 24 May 2021 11:51 am
Operator : kkw
Sample : 1E24012-MSD1
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 25 07:39:56 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

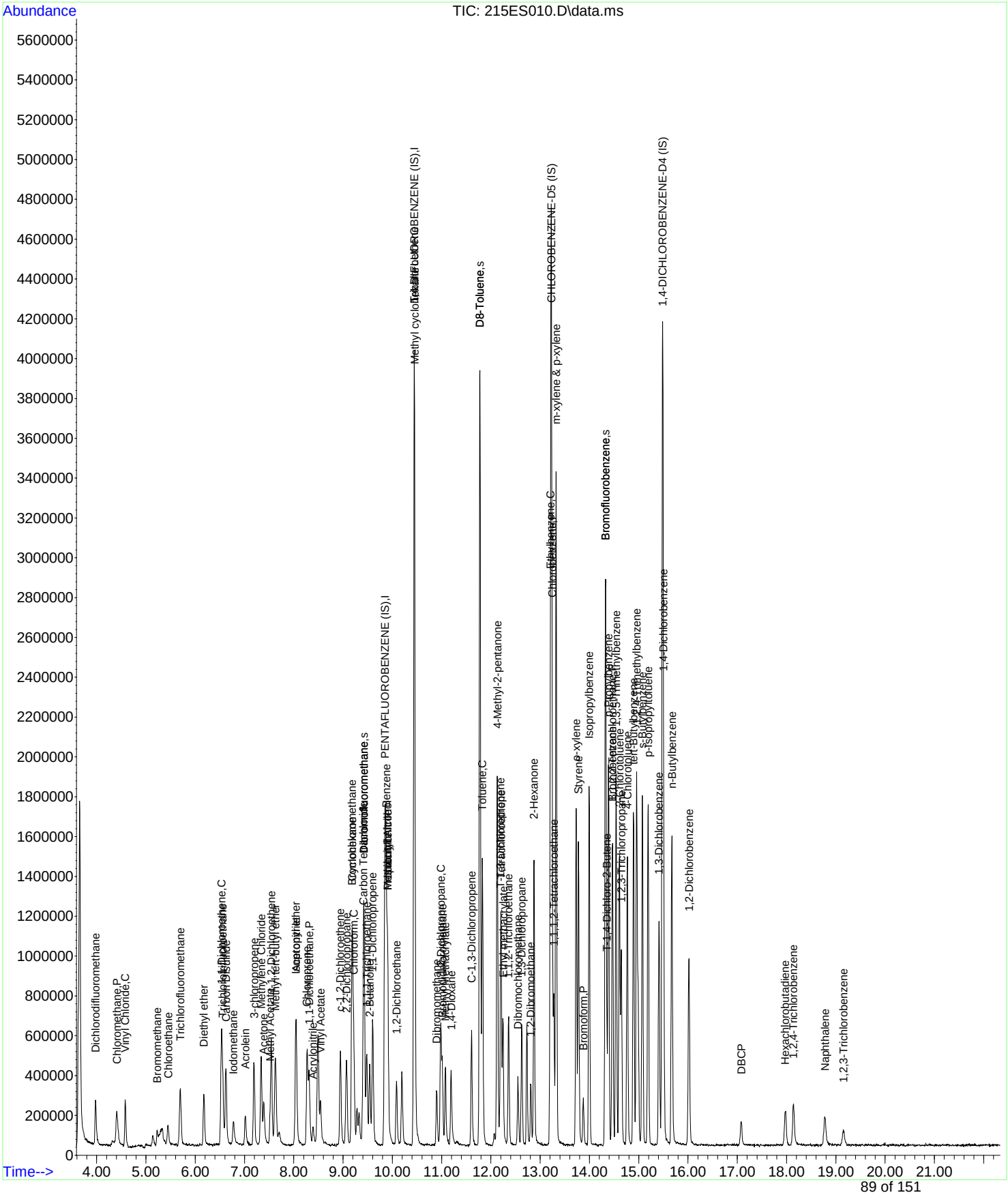
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.772	98	2782486	52.41	ug/L		95
54) 4-Methyl-2-pentanone	12.130	100	221399	95.89	ug/L		96
56) Toluene	11.825	92	654524	21.83	ug/L		100
57) T-1,3-Dichloropropene	12.195	75	338660	21.47	ug/L		98
58) Tetrachloroethene	12.207	164	168668	20.57	ug/L		98
59) Ethyl methacrylate	12.248	69	354904	19.19	ug/L		97
60) 1,1,2-Trichloroethane	12.354	97	217097	20.08	ug/L		97
61) Dibromochloromethane	12.548	129	185692	20.07	ug/L		98
62) 1,3-Dichloropropane	12.624	76	385123	19.11	ug/L		96
63) 1,2-Dibromoethane	12.806	107	225330	20.22	ug/L	#	98
64) 2-Hexanone	12.871	43	968702	100.55	ug/L		99
65) Ethylbenzene	13.206	106	387848	21.45	ug/L		96
66) Chlorobenzene	13.241	112	695149	21.78	ug/L		99
67) 1,1,1,2-Tetrachloroethane	13.276	131	194471	20.17	ug/L		98
68) m-xylene & p-xylene	13.323	106	991516	44.17	ug/L		97
69) o-xylene	13.729	106	501079	21.84	ug/L		100
70) Styrene	13.776	104	838895	22.59	ug/L		98
71) Bromoform	13.875	173	104374	20.08	ug/L		94
72) Isopropylbenzene	13.993	105	1349283	23.37	ug/L		99
74) Bromofluorobenzene	14.322	95	1195109	52.38	ug/L		85
75) n-Propylbenzene	14.387	91	1719145	23.39	ug/L		98
76) 1,1,2,2-Tetrachloroethane	14.463	83	367856	19.67	ug/L		99
77) 1,2,3-Trichloropropane	14.645	61	76872	15.67	ug/L	#	71
78) T-1,4-Dichloro-2-Butene	14.351	53	117928	19.24	ug/L	#	63
80) Bromobenzene	14.463	156	256135	22.10	ug/L		97
81) 1,2,4-Trimethylbenzene	14.957	105	1174356	24.58	ug/L		100
82) 2-Chlorotoluene	14.610	91	976927	22.84	ug/L		99
83) 4-Chlorotoluene	14.769	91	978969	22.92	ug/L		99
84) tert-Butylbenzene	14.892	119	942348	23.21	ug/L		99
85) 1,3,5-Trimethylbenzene	14.539	105	1137273	23.68	ug/L		99
86) p-Isopropyltoluene	15.192	119	1207238	22.05	ug/L		99
87) s-Butylbenzene	15.074	105	1463217	25.35	ug/L		100
88) 1,3-Dichlorobenzene	15.409	146	547017	22.53	ug/L		99
89) 1,4-Dichlorobenzene	15.503	146	552778	22.10	ug/L	#	82
90) n-Butylbenzene	15.673	91	1134800	21.17	ug/L		98
91) 1,2-Dichlorobenzene	16.020	146	477099	21.28	ug/L		97
92) DBCP	17.084	157	42240	15.55	ug/L		96
93) Hexachlorobutadiene	17.971	225	43892	13.79	ug/L		96
94) 1,2,4-Trichlorobenzene	18.135	180	95729	14.59	ug/L		97
95) Naphthalene	18.782	128	233272	13.27	ug/L		99
96) 1,2,3-Trichlorobenzene	19.152	180	37993	12.59	ug/L		94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\052421\
Data File : 215ES010.D
Acq On : 24 May 2021 11:51 am
Operator : kkw
Sample : 1E24012-MSD1
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 25 07:39:56 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration



ANALYSIS SEQUENCE

AA66374

Instrument: OVGCMS5

Calibration ID: UNASSIGNED

Printed: 5/12/2021 10:11:35AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA66374-TUN1	QC		1		A1B1157			
AA66374-CAL1	QC		2		A1E0845	A1D0593		
AA66374-CAL2	QC		3		A1E0846	A1D0593		
AA66374-CAL3	QC		4		A1E0847	A1D0593		
AA66374-CAL4	QC		5		A1E0848	A1D0593		
AA66374-CAL5	QC		6		A1E0849	A1D0593		
AA66374-CAL6	QC		7		A1E0850	A1D0593		
AA66374-CAL7	QC		8		A1E0851	A1D0593		
AA66374-CAL8	QC		9		A1E0852	A1D0593		
AA66374-SCV1	QC		10		A1E0831	A1D0593		

Samples Loaded By — Date 05/12/21

Data Processed By — Date 05/12/21

Reed Kef 5/13/21

Compound List Report OVGCMS5

Method Path : C:\msdchem\1\methods\
Method File : 051221W.M
Title : ENCO SOP VGCMS05; Element Cal
Last Update : Wed May 12 14:18:17 2021
Response Via : Initial Calibration

Total Cpnds : 96

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	PENTAFLUOROBENZENE (IS)	168	9.857	1.000	A	3	A	B
2		Dichlorodifluoromethane	85	3.981	0.404	LO	2	A	B
3	P	Chloromethane	50	4.416	0.448	QO	1	A	B
4	C	Vinyl Chloride	62	4.580	0.465	A	1	A	B
5		Bromomethane	94	5.227	0.530	QO	2	A	B
6		Chloroethane	64	5.450	0.553	L	2	A	B
7		Trichlorofluoromethane	101	5.697	0.578	A	2	A	B
8		Diethyl ether	59	6.179	0.627	LO	2	A	B
9	C	1,1-Dichloroethene	96	6.531	0.663	LO	2	A	B
10		Trichlorotrifluoroethane	151	6.560	0.666	LO	2	A	B
11		Acrolein	56	7.013	0.711	A	1	A	B
12		Iodomethane	142	6.778	0.688	LO	2	A	B
13		Carbon Disulfide	76	6.625	0.672	QO	2	A	B
14		3-chloropropene	41	7.195	0.730	A	2	A	B
15		Acetone	43	7.395	0.750	A	1	A	R
16		Methylene Chloride	84	7.342	0.745	A	1	A	R
17		Methyl Acetate	43	7.518	0.763	QO	2	A	B
18		t-1,2-Dichloroethene	96	7.548	0.766	LO	2	A	B
19		Methyl tert-butyl ether	73	7.630	0.774	A	2	A	B
20		Acetonitrile	41	8.012	0.813	A	2	A	B
21		Isopropyl ether	45	8.053	0.817	A	2	A	B
22		Chloroprene	88	8.270	0.839	A	2	A	B
23	P	1,1-Dichloroethane	63	8.311	0.843	A	3	A	B
24		Acrylonitrile	53	8.382	0.850	LO	2	A	B
25		Vinyl Acetate	43	8.541	0.866	A	1	A	B
26		c-1,2-Dichloroethene	96	8.952	0.908	A	2	A	B
27		2,2-Dichloropropane	77	9.075	0.921	A	2	A	B
28		Bromochloromethane	128	9.187	0.932	LO	1	A	B
29		Cyclohexane	56	9.187	0.932	LO	2	A	B
30	C	Chloroform	83	9.222	0.936	A	2	A	B
31	S	Dibromofluoromethane	113	9.428	0.956	A	2	A	B
32		Dibromofluoromethane	113	9.445	0.958	A	2	A	B
33		2-Butanone	72	9.539	0.968	A	1	A	R
34		1,1,1-Trichloroethane	97	9.486	0.962	A	2	A	B
35		1,1-Dichloropropene	75	9.610	0.975	A	2	A	B
36		Propionitrile	54	9.898	1.004	A	2	A	B
37		Methacrylonitrile	41	9.910	1.005	A	1	A	R
38		Isobutyl Alcohol	43	9.951	1.010	LO	2	A	B
39	I	1,4-DIFLUOROBENZENE (IS)	114	10.450	1.000	A	2	A	B
40		Carbon Tetrachloride	117	9.416	0.901	QO	2	A	B
41		Benzene	78	9.874	0.945	A	1	A	B
42		1,2-Dichloroethane	62	10.086	0.965	A	2	A	B
43		Trichloroethene	130	10.450	1.000	A	2	A	B
44		Methyl cyclohexane	83	10.450	1.000	LO	2	A	B
45		Dibromomethane	93	10.903	1.043	A	2	A	B
46	C	1,2-Dichloropropane	63	10.985	1.051	A	2	A	B
47		Bromodichloromethane	83	11.020	1.055	QO	2	A	B
48		Methyl Methacrylate	69	11.079	1.060	A	2	A	B
49		1,4-Dioxane	88	11.202	1.072	A	1	A	R
50		2-Chloroethyl vinyl ether	63	11.490	1.100	A	2	A	B
51		C-1,3-Dichloropropene	75	11.608	1.111	QO	2	A	B
52	S	D8-Toluene	98	11.784	1.128	A	2	A	B
53		D8-Toluene	98	11.804	1.130	A	2	A	B
54		4-Methyl-2-pentanone	100	12.131	1.161	QO	2	A	B

55	I	CHLOROBENZENE-D5 (IS)	82	13.229	1.000	A	2	A	B
56	C	Toluene	92	11.831	0.894	A	2	A	B
57		T-1,3-Dichloropropene	75	12.201	0.922	A	2	A	B
58		Tetrachloroethene	164	12.213	0.923	A	2	A	B
59		Ethyl methacrylate	69	12.248	0.926	A	2	A	B
60		1,1,2-Trichloroethane	97	12.366	0.935	A	2	A	B
61		Dibromochloromethane	129	12.554	0.949	QO	2	A	B
62		1,3-Dichloropropane	76	12.630	0.955	A	2	A	B
63		1,2-Dibromoethane	107	12.812	0.968	A	2	A	B
64		2-Hexanone	43	12.877	0.973	A	2	A	B
65	C	Ethylbenzene	106	13.212	0.999	A	2	A	B
66	P	Chlorobenzene	112	13.247	1.001	A	1	A	B
67		1,1,1,2-Tetrachloroethane	131	13.282	1.004	QO	2	A	B
68		m-xylene & p-xylene	106	13.329	1.008	A	1	A	B
69		o-xylene	106	13.735	1.038	A	1	A	B
70		Styrene	104	13.782	1.042	A	2	A	B
71	P	Bromoform	173	13.881	1.049	QO	1	A	B
72		Isopropylbenzene	105	13.999	1.058	A	2	A	B
73	S	Bromofluorobenzene	95	14.334	1.083	A	2	A	B
74		Bromofluorobenzene	95	14.347	1.084	A	2	A	B
75		n-Propylbenzene	91	14.393	1.088	A	2	A	B
76	P	1,1,2,2-Tetrachloroethane	83	14.475	1.094	A	3	A	B
77		1,2,3-Trichloropropane	61	14.651	1.107	QO	2	A	B
78		T-1,4-Dichloro-2-Butene	53	14.351	1.085	A	2	A	B
79	I	1,4-DICHLOROBENZENE-D4 (IS)	152	15.485	1.000	A	3	A	B
80		Bromobenzene	156	14.469	0.934	A	2	A	B
81		1,2,4-Trimethylbenzene	105	14.963	0.966	A	2	A	B
82		2-Chlorotoluene	91	14.610	0.943	A	2	A	R
83		4-Chlorotoluene	91	14.775	0.954	A	2	A	R
84		tert-Butylbenzene	119	14.898	0.962	A	2	A	B
85		1,3,5-Trimethylbenzene	105	14.545	0.939	A	2	A	B
86		p-Isopropyltoluene	119	15.198	0.981	LO	2	A	B
87		s-Butylbenzene	105	15.080	0.974	A	2	A	B
88		1,3-Dichlorobenzene	146	15.415	0.995	A	2	A	R
89		1,4-Dichlorobenzene	146	15.509	1.002	A	2	A	R
90		n-Butylbenzene	91	15.679	1.013	LO	2	A	B
91		1,2-Dichlorobenzene	146	16.026	1.035	A	2	A	B
92		DBCP	157	17.078	1.103	QO	1	A	B
93		Hexachlorobutadiene	225	17.983	1.161	QO	2	A	B
94		1,2,4-Trichlorobenzene	180	18.141	1.172	QO	2	A	B
95		Naphthalene	128	18.776	1.212	QO	2	A	B
96		1,2,3-Trichlorobenzene	180	19.158	1.237	QO	2	A	B

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

Compound Name Duplication Report

Quant Method: C:\msdchem\1\methods\051221W.M
Number of Compounds: 96

31 Dibromofluoromethane = 32 Dibromofluoromethane
52 D8-Toluene = 53 D8-Toluene
73 Bromofluorobenzene = 74 Bromofluorobenzene

3 Duplicate Names Detected!!!

051221W.M Thu May 13 09:43:10 2021

Response Factor Report OVGCMS5

Method Path : C:\msdchem\1\methods\
Method File : 051221W.M
Title : ENCO SOP VGCMS05; Element Cal
Last Update : Wed May 12 14:18:17 2021
Response Via : Initial Calibration

Calibration Files
1 =215EG004.D 2 =215EG005.D 5 =215EG006.D 20 =215EG008.D 100 =215EG011.D 50 =215EG009.D 80 =215EG010.D
10 =215EG007.D

		Compound	1	2	5	20	100	50	80	10	Avg	%RSD
1)	I	PENTAFLUOROBENZENE...	----------	ISTD	----------							
2)		Dichlorodifluo...	0.540	0.506	0.488	0.543	0.597	0.587	0.616	0.541	0.552	8.07
3)	P	Chloromethane	1.131	0.975	0.840	0.770	0.885	0.818	0.866	0.751	0.880	13.99
4)	C	Vinyl Chloride	0.604	0.542	0.580	0.569	0.661	0.644	0.662	0.569	0.604	7.69
5)		Bromomethane	0.417	0.341	0.179	0.151	0.212	0.184	0.208	0.163	0.232	41.06
6)		Chloroethane	0.383	0.261	0.321	0.249		0.239		0.295	0.291	18.69
7)		Trichlorofluor...	0.648	0.612	0.623	0.624	0.739	0.707	0.743	0.625	0.665	8.33
8)		Diethyl ether	0.339	0.428	0.395	0.345	0.413	0.391	0.415	0.341	0.383	9.49
9)	C	1,1-Dichloroet...	0.348	0.333	0.328	0.334	0.408	0.384	0.402	0.323	0.358	9.75
10)		Trichlorotrifl...	0.183	0.241	0.250	0.243	0.277	0.265	0.271	0.231	0.245	12.16
11)		Acrolein	0.114	0.113	0.123	0.135	0.142	0.142	0.147	0.132	0.131	10.06
12)		Iodomethane	0.318	0.391	0.427	0.485	0.502	0.522	0.514	0.444	0.450	15.58
13)		Carbon Disulfide	1.190	1.461	1.416	1.432	1.415	1.529	1.469	1.398	1.414	7.03
14)		3-chloropropene	0.742	0.820	0.702	0.709	0.648	0.790	0.725	0.715	0.731	7.31
15)		Acetone	0.151	0.175	0.150	0.164	0.184	0.181	0.180	0.151	0.167	8.88
16)		Methylene Chlo...	0.569	0.532	0.528	0.478	0.543	0.530	0.547	0.482	0.526	5.98
17)		Methyl Acetate	0.829	0.410	0.667	0.426	0.516	0.474	0.484	0.399	0.526	28.41
18)		t-1,2-Dichloro...	0.422	0.446	0.480	0.444	0.493	0.476	0.497	0.411	0.459	7.10
19)		Methyl tert-bu...	0.951	1.105	1.221	1.221	1.397	1.361	1.422	1.172	1.231	12.99
20)		Acetonitrile	0.102	0.125	0.116	0.120	0.136	0.131	0.132	0.113	0.122	9.37
21)		Isopropyl ether	1.332	1.462	1.552	1.529	1.735	1.671	1.724	1.452	1.557	9.21
22)		Chloroprene	0.373	0.439	0.430	0.457	0.519	0.509	0.514	0.445	0.461	10.99
23)	P	1,1-Dichloroet...	0.643	0.857	0.890	0.847	0.941	0.926	0.954	0.829	0.861	11.51
24)		Acrylonitrile	0.191	0.214	0.238	0.248	0.262	0.264	0.269	0.238	0.241	11.19
25)		Vinyl Acetate	0.847	1.132	1.026	1.149	1.131	1.224	1.185	1.094	1.098	10.70
26)		c-1,2-Dichloro...	0.471	0.492	0.571	0.519	0.593	0.580	0.607	0.528	0.545	9.13
27)		2,2-Dichloropr...	0.550	0.548	0.644	0.619	0.727	0.694	0.742	0.609	0.642	11.60
28)		Bromochloromet...	0.203	0.229	0.240	0.201	0.170	0.184	0.179	0.207	0.202	11.96
29)		Cyclohexane	0.688	0.820	0.822	0.821	0.932	0.911	0.954	0.759	0.838	10.79
30)	C	Chloroform	0.790	0.808	0.880	0.855	0.931	0.933	0.957	0.855	0.876	6.91
31)	s	Dibromofluorom...	0.539	0.527	0.461	0.528	0.512	0.566	0.524	0.558	0.527	6.13
32)		Dibromofluorom...	0.539	0.527	0.461	0.528	0.512	0.566	0.524	0.558	0.527	6.13
33)		2-Butanone	0.073	0.093	0.086	0.085	0.095	0.094	0.095	0.085	0.088#	8.76
34)		1,1,1-Trichlor...	0.559	0.587	0.660	0.616	0.730	0.725	0.749	0.601	0.653	11.22
35)		1,1-Dichloropr...	0.630	0.634	0.711	0.659	0.770	0.747	0.775	0.659	0.698	8.65
36)		Propionitrile	0.109	0.110	0.114	0.109	0.102	0.111	0.105	0.105	0.108	3.44
37)		Methacrylonitrile	0.380	0.462	0.441	0.434	0.392	0.440	0.408	0.431	0.423	6.54
38)		Isobutyl Alcohol	0.014	0.023	0.038	0.045	0.053	0.049	0.050	0.041	0.039#	34.97
39)	I	1,4-DIFLUOROBENZEN...	----------	ISTD	----------							
40)		Carbon Tetrach...	0.218	0.198	0.233	0.230	0.287	0.258	0.287	0.198	0.239	15.03

Method Path : C:\msdchem\1\methods\
Method File : 051221W.M
Title : ENCO SOP VGCMS05; Element Cal

41)		Benzene	0.994	1.006	1.125	1.019	1.098	1.068	1.111	0.977	1.050	5.49
42)		1,2-Dichloroet...	0.276	0.302	0.301	0.290	0.339	0.328	0.331	0.270	0.304	8.52
43)		Trichloroethene	0.201	0.240	0.238	0.230	0.263	0.257	0.268	0.221	0.240	9.38
44)		Methyl cyclohe...	0.861	0.661	0.559	0.468	0.518	0.506	0.519	0.471	0.570	23.18
45)		Dibromomethane	0.171	0.161	0.152	0.154	0.180	0.168	0.174	0.147	0.163	7.14
46)	C	1,2-Dichloropr...	0.294	0.269	0.293	0.280	0.340	0.319	0.334	0.286	0.302	8.63
47)		Bromodichlorom...	0.234	0.261	0.273	0.301	0.368	0.337	0.359	0.262	0.299	16.66
48)		Methyl Methacr...	0.219	0.242	0.197	0.220	0.276	0.252	0.269	0.207	0.235	12.43
49)		1,4-Dioxane	0.003	0.004	0.003	0.003	0.003	0.003	0.003	0.003	0.003#	14.07
50)		2-Chloroethyl ...	0.150	0.185	0.187	0.191	0.185	0.195	0.189	0.179	0.183	7.64
51)		C-1,3-Dichloro...	0.338	0.392	0.448	0.440	0.559	0.511	0.549	0.422	0.457	16.94
52)	s	D8-Toluene	1.245	1.208	1.042	1.206	1.264	1.320	1.246	1.284	1.227	6.81
53)		D8-Toluene	1.245	1.208	1.042	1.206	1.264	1.320	1.246	1.284	1.227	6.81
54)		4-Methyl-2-pen...	0.032	0.049	0.049	0.051	0.055	0.055	0.055	0.049	0.049#	15.67
55)		CHLOROBENZENE-D5 (IS) ----------ISTD----------										
56)	C	Toluene	1.009	1.117	1.133	1.133	1.212	1.179	1.199	1.107	1.136	5.66
57)		T-1,3-Dichloro...	0.560	0.529	0.563	0.587	0.658	0.664	0.667	0.554	0.598	9.42
58)		Tetrachloroethene	0.229	0.326	0.334	0.313	0.350	0.326	0.324	0.283	0.311	12.29
59)		Ethyl methacry...	0.485	0.717	0.695	0.719	0.805	0.777	0.775	0.633	0.701	14.69
60)		1,1,2-Trichlor...	0.375	0.407	0.386	0.400	0.447	0.434	0.445	0.381	0.409	7.13
61)		Dibromochlorom...	0.228	0.295	0.311	0.322	0.430	0.389	0.417	0.284	0.335	21.12
62)		1,3-Dichloropr...	0.704	0.677	0.784	0.751	0.824	0.797	0.815	0.756	0.764	6.86
63)		1,2-Dibromoethane	0.340	0.368	0.437	0.418	0.480	0.461	0.473	0.400	0.422	11.98
64)		2-Hexanone	0.257	0.377	0.363	0.375	0.398	0.402	0.392	0.354	0.365	12.79
65)	C	Ethylbenzene	0.622	0.652	0.676	0.681	0.735	0.725	0.739	0.649	0.685	6.39
66)	P	Chlorobenzene	1.136	1.076	1.298	1.183	1.269	1.256	1.270	1.185	1.209	6.39
67)		1,1,1,2-Tetrac...	0.291	0.289	0.338	0.337	0.413	0.389	0.408	0.326	0.349	14.09
68)		m-xylene & p-x...	0.691	0.802	0.891	0.888	0.872	0.915	0.898	0.848	0.850	8.62
69)		o-xylene	0.758	0.763	0.906	0.853	0.961	0.935	0.951	0.827	0.869	9.39
70)		Styrene	1.069	1.177	1.424	1.432	1.597	1.555	1.611	1.389	1.407	13.92
71)	P	Bromoform	0.136	0.146	0.169	0.191	0.262	0.225	0.247	0.156	0.191	24.94
72)		Isopropylbenzene	1.813	1.962	2.205	2.235	2.392	2.386	2.416	2.090	2.187	10.03
73)	s	Bromofluoroben...	0.888	0.856	0.738	0.845	0.880	0.935	0.868	0.905	0.864	6.77
74)		Bromofluoroben...	0.888	0.856	0.738	0.845	0.880	0.935	0.868	0.905	0.864	6.77
75)		n-Propylbenzene	2.281	2.606	2.711	2.828	3.021	3.037	3.097	2.696	2.785	9.77
76)	P	1,1,2,2-Tetrac...	0.586	0.643	0.736	0.724	0.760	0.767	0.772	0.679	0.708	9.44
77)		1,2,3-Trichlor...	0.165	0.142	0.213	0.155		0.209	0.211	0.190	0.184	15.99
78)		T-1,4-Dichloro...	0.234	0.260	0.217	0.208	0.252	0.247	0.245	0.194	0.232	10.14
79)		1,4-DICHLOROBENZEN... ----------ISTD----------										
80)		Bromobenzene	0.399	0.483	0.506	0.504	0.570	0.545	0.569	0.496	0.509	10.91
81)		1,2,4-Trimethy...	1.684	1.778	2.129	2.154	2.345	2.332	2.399	1.959	2.097	12.78
82)		2-Chlorotoluene	1.649	1.753	1.907	1.854	2.054	1.988	2.078	1.740	1.878	8.33
83)		4-Chlorotoluene	1.512	1.654	1.871	1.884	2.125	2.050	2.149	1.758	1.875	12.14
84)		tert-Butylbenzene	1.853	1.532	1.703	1.721	1.946	1.903	1.980	1.625	1.783	9.06
85)		1,3,5-Trimethy...	1.705	1.910	2.159	2.089	2.356	2.309	2.377	1.967	2.109	11.31
86)		p-Isopropyltol...	1.505	1.917	2.120	2.204	2.388	2.383	2.458	1.982	2.120	14.93
87)		s-Butylbenzene	1.803	2.347	2.555	2.572	2.839	2.819	2.928	2.409	2.534	14.29
88)		1,3-Dichlorobe...	0.860	0.972	1.110	1.077	1.159	1.159	1.188	1.003	1.066	10.62
89)		1,4-Dichlorobe...	0.978	1.089	1.123	1.069	1.165	1.148	1.176	1.036	1.098	6.27

Method Path : C:\msdchem\1\methods\
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90)	n-Butylbenzene	1.394	1.810	2.008	2.093	2.349	2.332	2.396	1.904	2.036	16.60
91)	1,2-Dichlorobe...	0.786	0.957	0.969	0.994	1.089	1.065	1.086	0.929	0.984	10.25
92)	DBCP	0.058	0.079	0.088	0.111	0.140	0.130	0.139	0.091	0.105	28.73
93)	Hexachlorobuta...	0.075	0.142	0.126	0.124	0.144	0.143	0.151	0.120	0.128	18.91
94)	1,2,4-Trichlor...	0.087	0.282	0.238	0.270	0.339	0.313	0.335	0.260	0.265	30.40
95)	Naphthalene	0.194	0.481	0.564	0.733	0.931	0.855	0.918	0.611	0.661	38.11
96)	1,2,3-Trichlor...	0.062	0.094	0.114	0.122	0.158	0.147	0.154	0.114	0.121	27.03

(#) = Out of Range

Sequence Name: C:\msdchem\1\sequence\215EG.s
Comment:
Operator: kkw
Data Path: C:\msdchem\1\DATA\051221\
Instrument Control Pre-Seq Cmd:
Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:
Data Analysis Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

Sequence Barcode Options
(X) On Mismatch, Inject Anyway
( ) On Mismatch, Don't Inject
( ) Barcode Disabled

Line			Sample Name/Misc Info		
1)	Sample	1	215EG001	8260S	TUN1
2)	Sample	1	215EG002	8260S	TUN1
3)	Sample	1	215EG003	8260S	TUN1
4)	Sample	2	215EG004	8260S	CAL1
5)	Sample	3	215EG005	8260S	CAL2
6)	Sample	4	215EG006	8260S	CAL3
7)	Sample	5	215EG007	8260S	CAL4
8)	Sample	6	215EG008	8260S	CAL5
9)	Sample	7	215EG009	8260S	CAL6
10)	Sample	8	215EG010	8260S	CAL7
11)	Sample	9	215EG011	8260S	CAL8
12)	Sample	10	215EG012	8260S	rinse
13)	Sample	11	215EG013	8260S	RINSE
14)	Sample	12	215EG014	8260S	SCV1
15)	Sample	13	215EG015	8260S	BS1/SCV2
16)	Sample	14	215EG016	8260S	RINSE
17)	Sample	15	215EG017	8260S	BLK1
18)	Sample	16	215EG018	8260S	AE03580-01
19)	Sample	17	215EG019	8260S	AE03580-02
20)	Sample	18	215EG020	8260S	AE03580-03
21)	Sample	19	215EG021	8260S	AE03580-04
22)	Sample	20	215EG022	8260S	AE03580-07
23)	Sample	21	215EG023	8260S	1E12037-MS1
24)	Sample	21	215EG024	8260S	1E12037-MSD1
25)	Sample	22	215EG025	8260S	AA66378-LCV1
26)	Sample	23	215EG026	8260S	1E12039-BS1
27)	Sample	24	215EG027	8260S	1E12039-MS1
28)	Sample	24	215EG028	8260S	1E12039-MSD1
29)	Sample	25	215EG029	8260S	RINSE
30)	Sample	26	215EG030	8260S	1E12039-BLK1
31)	Sample	27	215EG031	8260S	AA63383-CRL1
32)	Sample	28	215EG032	8260S	AE03775-03
33)	Sample	29	215EG033	8260S	AE03775-01
34)	Sample	30	215EG034	8260S	AE03775-02
35)	Sample	31	215EG035	8260S	AE03775-04
36)	Sample	32	215EG036	8260S	AE03775-05
37)	Sample	33	215EG037	8260S	AE03775-06
38)	Sample	34	215EG038	8260S	AE03775-07
39)	Sample	35	215EG039	8260S	AE03434-01
40)	Sample	36	215EG040	8260S	AE03434-02
41)	Sample	37	215EG041	8260S	AE03701-01
42)	Sample	38	215EG042	8260S	AE03701-02
43)	Sample	39	215EG043	8260S	AE03701-03

Sequence Name: C:\msdchem\1\sequence\215EG.s

	Line	Type	Vial	DataFile	Method	Sample Name
44)		Sample	40	215EG044	8260S	AE03701-04
45)		Sample	41	215EG045	8260S	AE03701-05
46)		Sample	42	215EG046	8260S	AE03701-06
47)		Sample	43	215EG047	8260S	AE03701-07
48)		Sample	44	215EG048	8260S	AE03882-05

Manual Integration Review Form

ENVIRONMENTAL CONSERVATION LABORATORIES, INC. ☐ Cary ☐ Jacksonville ☒ Orlando

I hereby attest that the manual integrations contained in this package have been thoroughly reviewed and are in agreement with the associated hardcopy data.

The electronic files listed below have been reviewed for accuracy, completeness and comply with ENCO labs QA-11 Manual Integration Policy including:

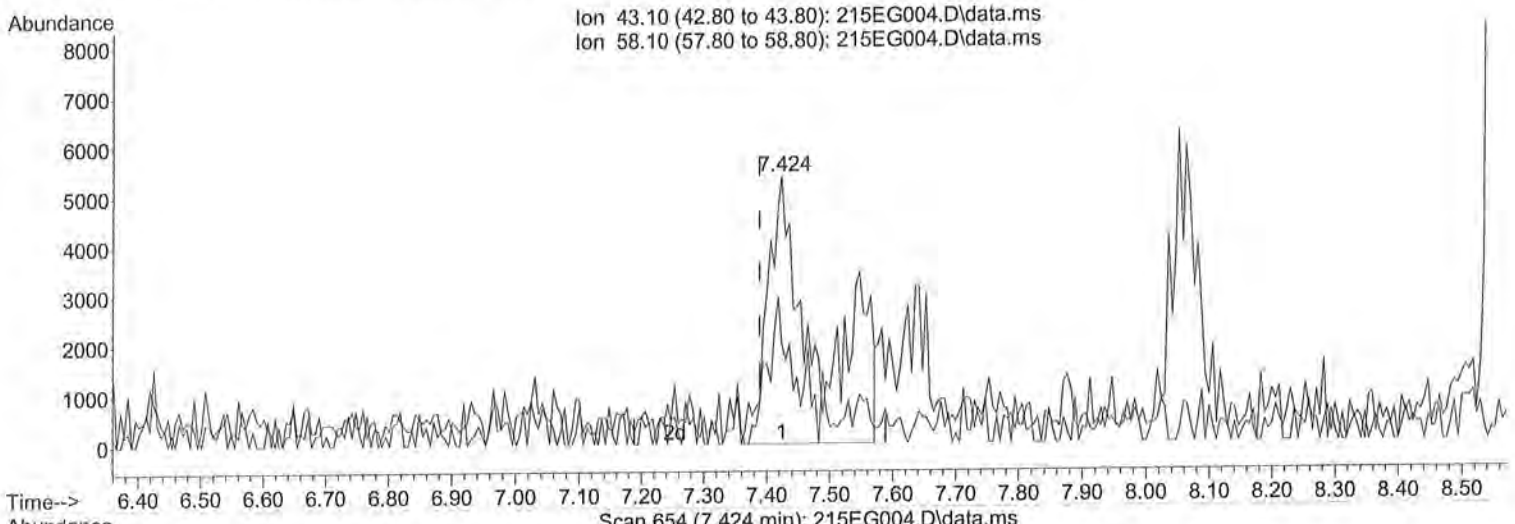
- "Before" and "After" chromatograms are provided
- Manual integrations are indicated on expanded scale "after" chromatograms at a scale large enough to see the manual integration performed.
- Reintegration technique marked if available on the data system
- Technical justification for manual integration
- Appropriate flags indicating which analytes were manually integrated are included in the raw data
- Analyst's initials and date.

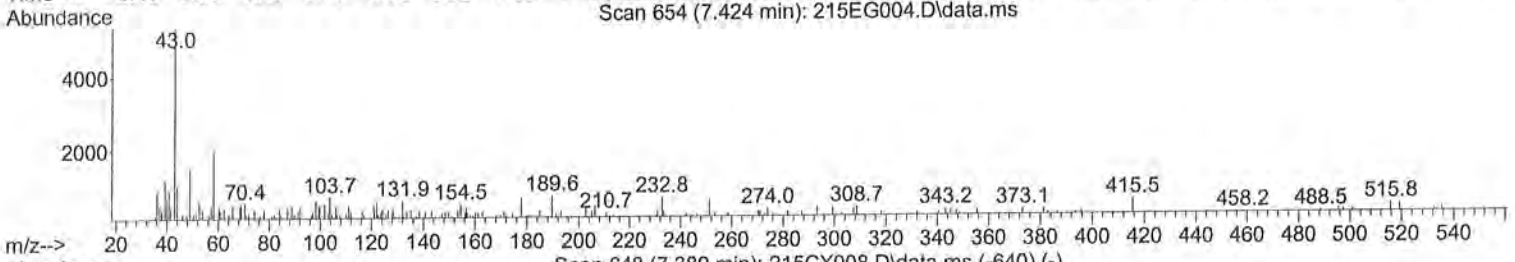
Instrument ID:	OVGcms5
Sequence/Batch ID:	AA66374
Data File Prefix:	215RG
Date and Time Range of MIs:	05/12/21 1033-1234
Reviewer Print Name:	Karie Gonzalez
Reviewer Signature:	Karie Gonzalez
Date of Review:	5/13/21

Quantitation Report (Qedit)

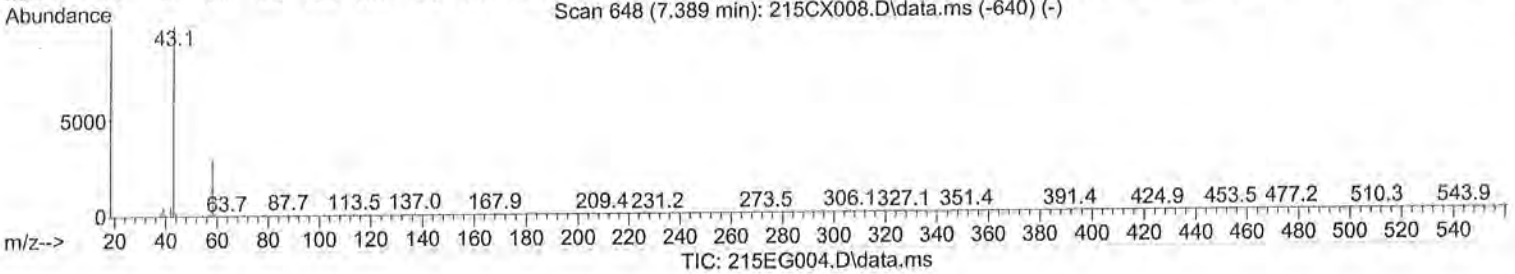
Data Path : C:\msdchem\1\data\051221\
Data File : 215EG004.D
Acq On : 12 May 2021 9:18 am
Operator : kkw
Sample : CAL1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 12 09:45:44 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed May 12 09:45:17 2021
Response via : Initial Calibration





Scan 654 (7.424 min): 215EG004.D\data.ms



Scan 648 (7.389 min): 215CX008.D\data.ms (-640) (-)

TIC: 215EG004.D\data.ms

(15) Acetone

7.424min (+ 0.035) 15.10 ug/L

response 28947

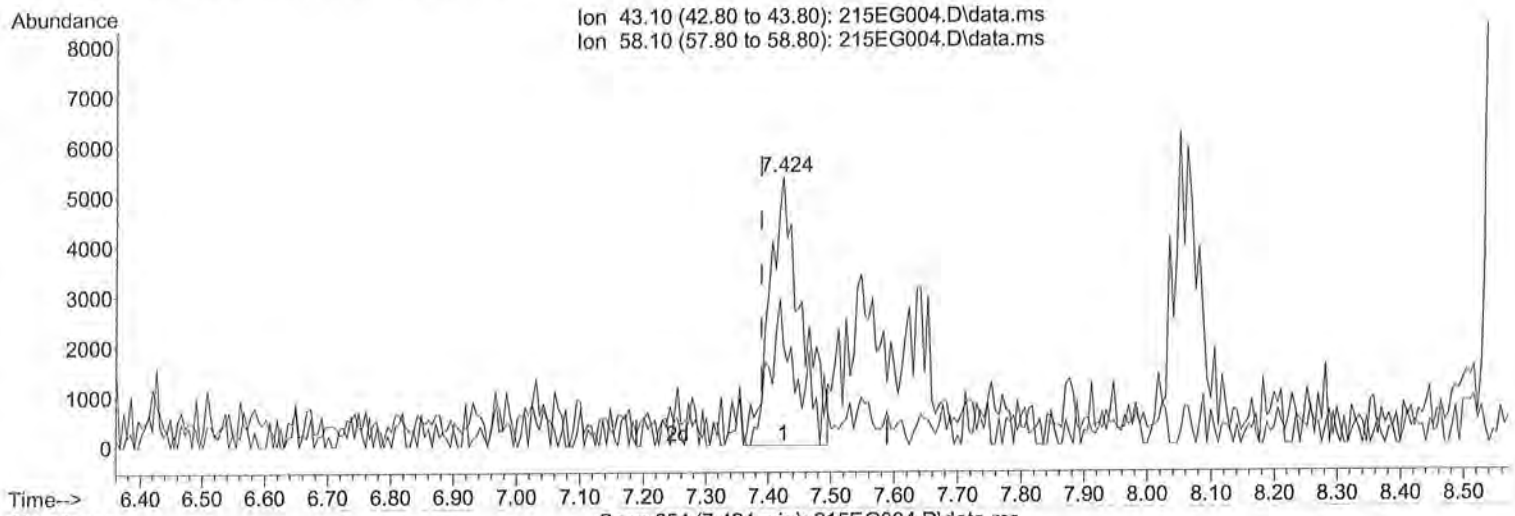
Ion	Exp%	Act%
43.10	100.00	100.00
58.10	33.10	29.97
0.00	0.00	0.00
0.00	0.00	0.00

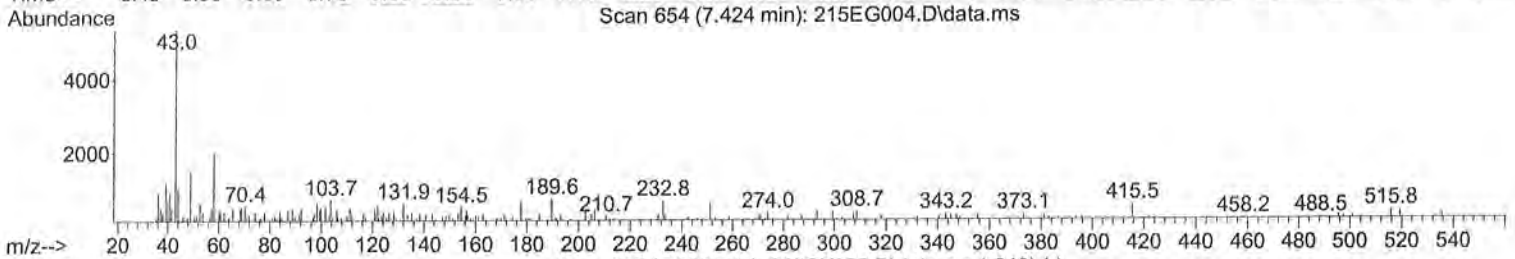
Select One:
[+] Original Integration [ ] Manual Integration
Select reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date KW 05/13/21
Review by/Date:

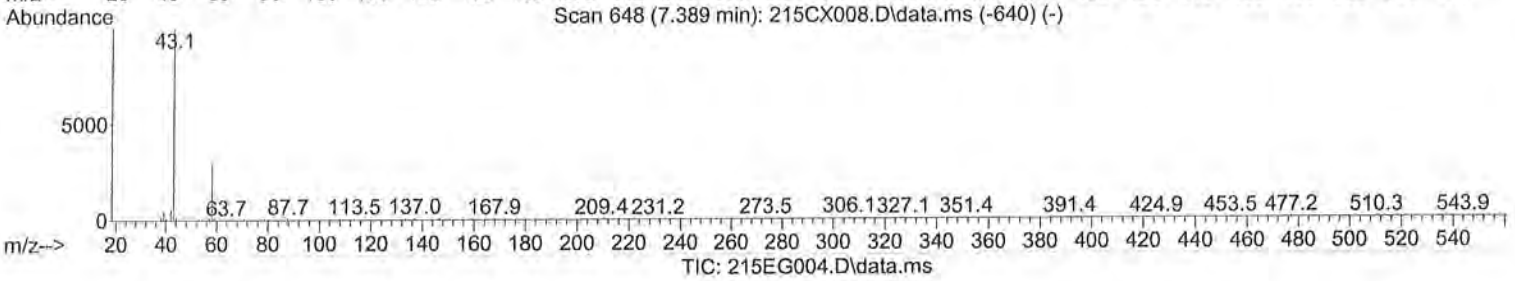
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG004.D
Acq On : 12 May 2021 9:18 am
Operator : kkw
Sample : CAL1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 12 09:45:44 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed May 12 09:45:17 2021
Response via : Initial Calibration







(15) Acetone

7.424min (+ 0.035) 9.93 ug/L m

response 19045

Ion	Exp%	Act%
43.10	100.00	100.00
58.10	33.10	45.56#
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

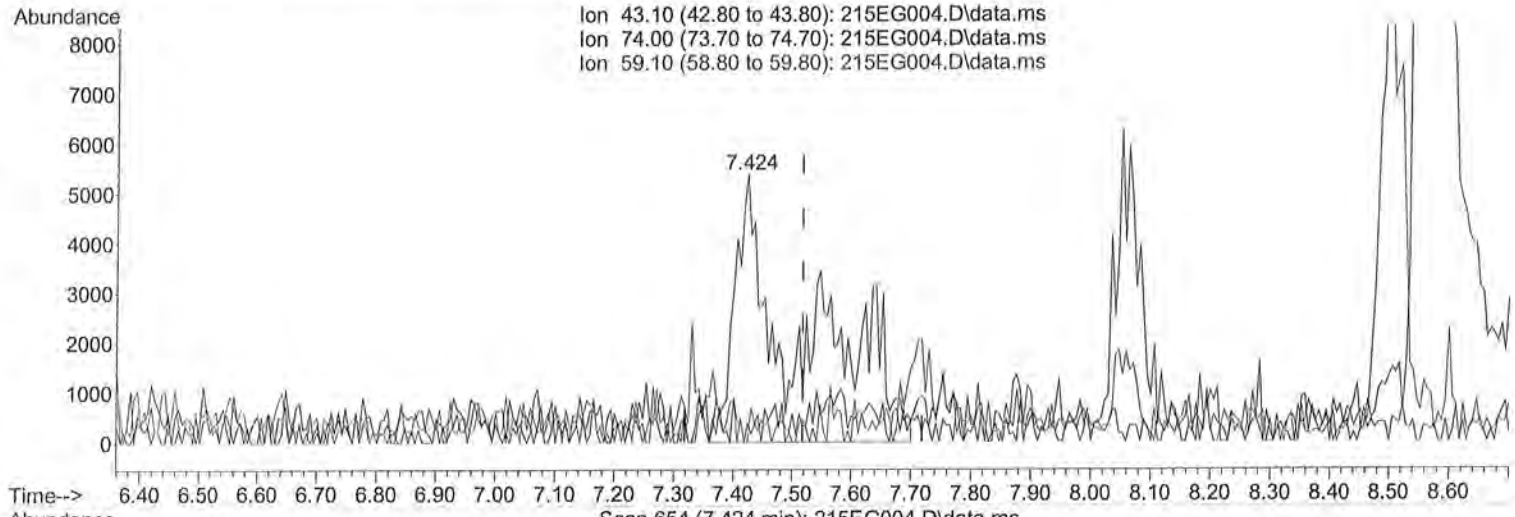
Review by/Date W 05/03/21

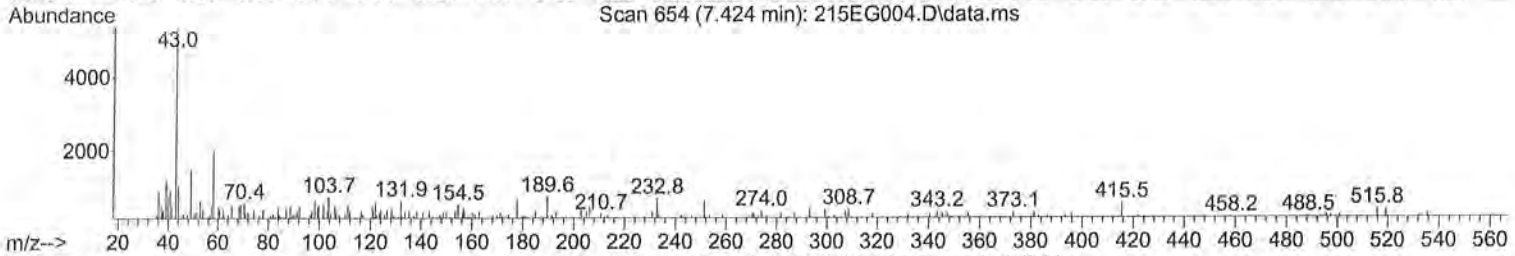
Review by/Date:

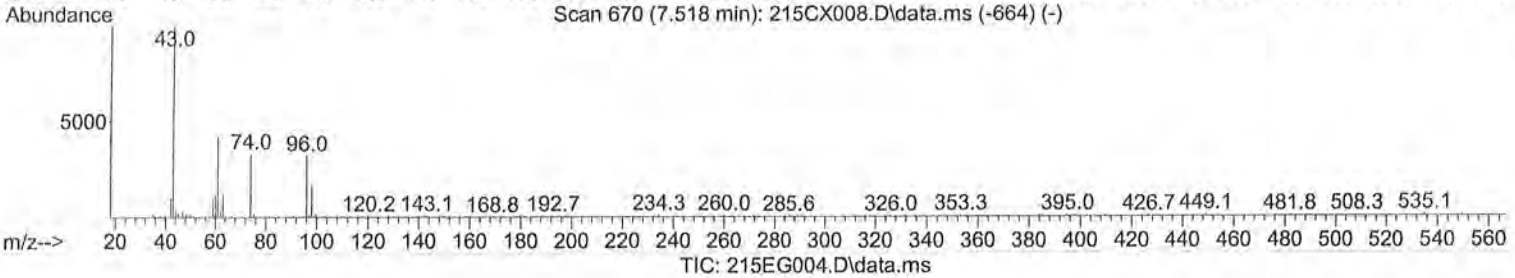
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG004.D
Acq On : 12 May 2021 9:18 am
Operator : kkw
Sample : CAL1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 12 09:45:44 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed May 12 09:45:17 2021
Response via : Initial Calibration







TIC: 215EG004.D\data.ms

(17) Methyl Acetate

7.424min (-0.094) 8.85 ug/L

response 40981

Ion	Exp%	Act%
43.10	100.00	100.00
74.00	34.30	0.00#
59.10	26.20	3.15#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

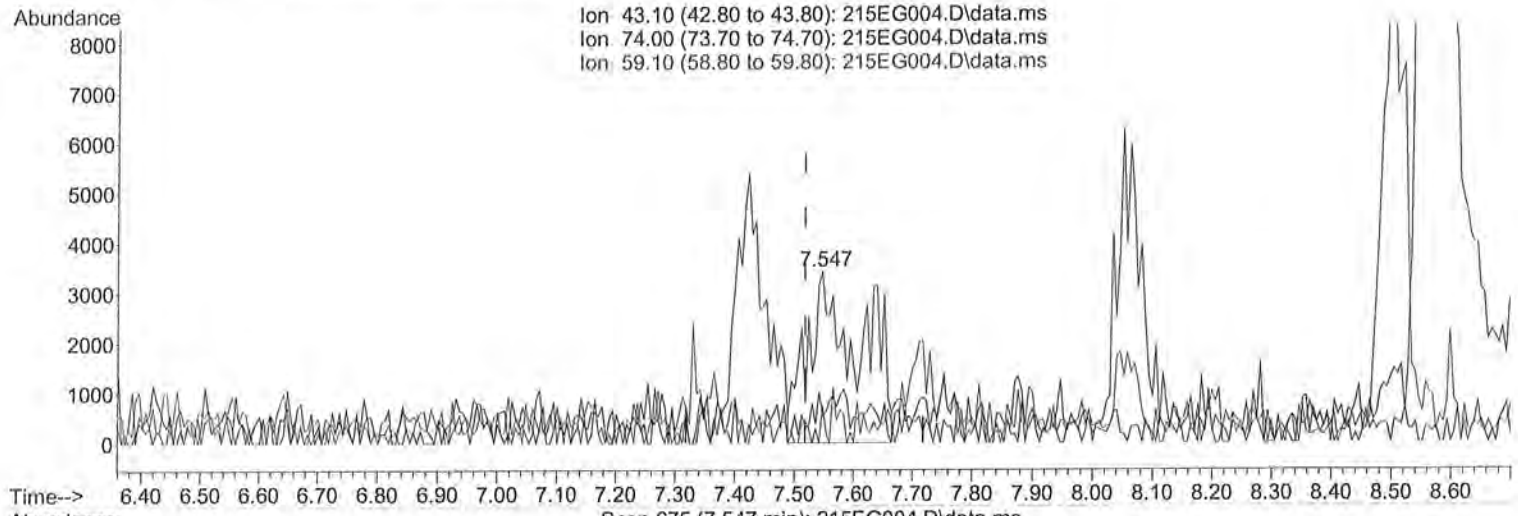
Review by/Date KJ 05/13/21

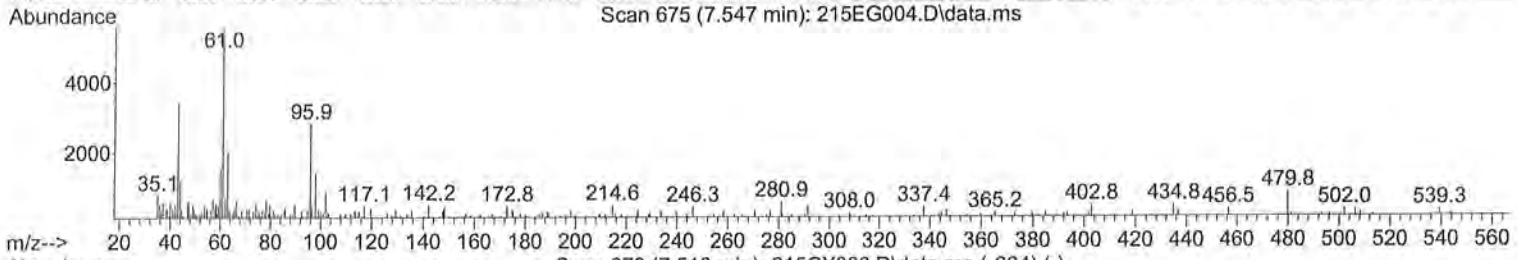
Review by/Date:

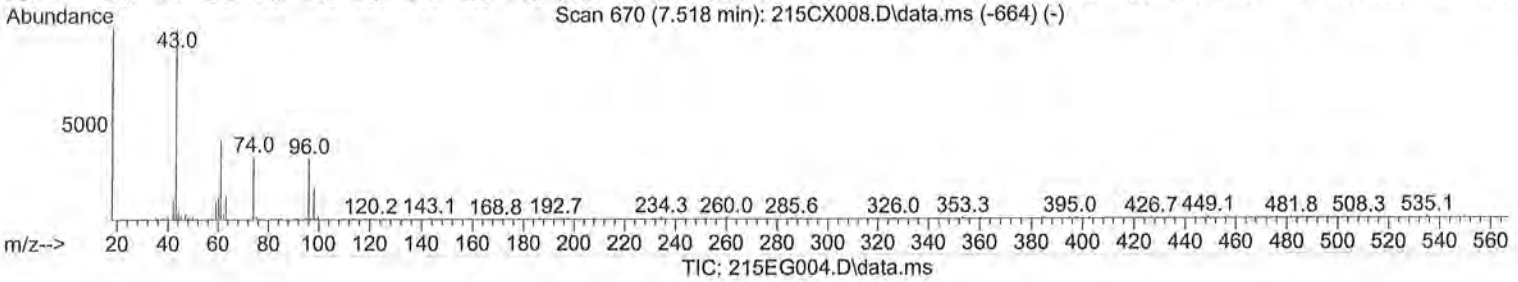
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG004.D
Acq On : 12 May 2021 9:18 am
Operator : kkw
Sample : CAL1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 12 09:45:44 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed May 12 09:45:17 2021
Response via : Initial Calibration







TIC: 215EG004.D\data.ms

(17) Methyl Acetate

7.547min (+ 0.029) 4.53 ug/L m

response 20985

Ion	Exp%	Act%
43.10	100.00	100.00
74.00	34.30	0.00#
59.10	26.20	6.15#
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

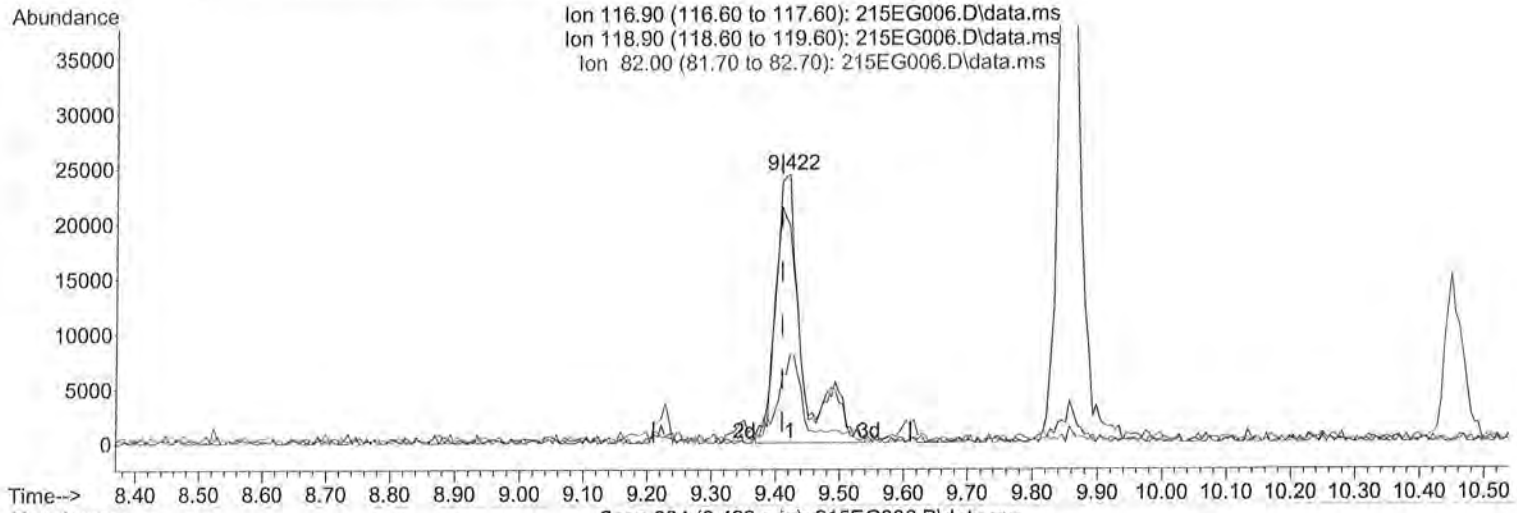
Review by/Date W 05/13/21

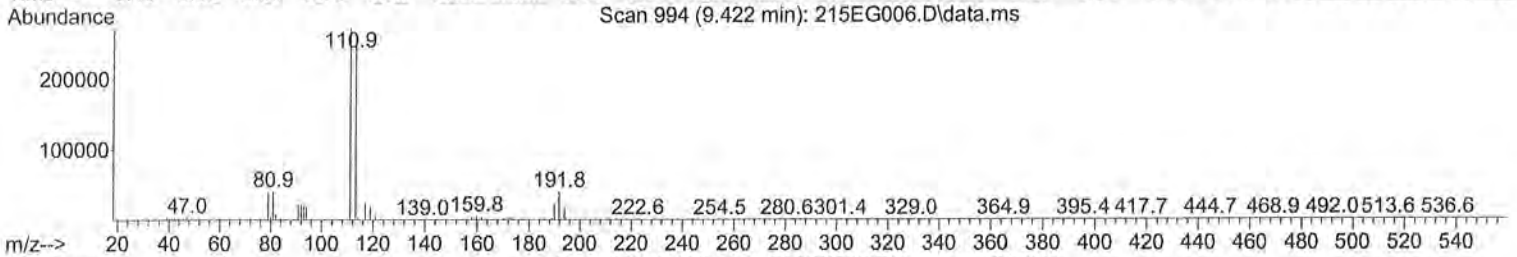
Review by/Date:

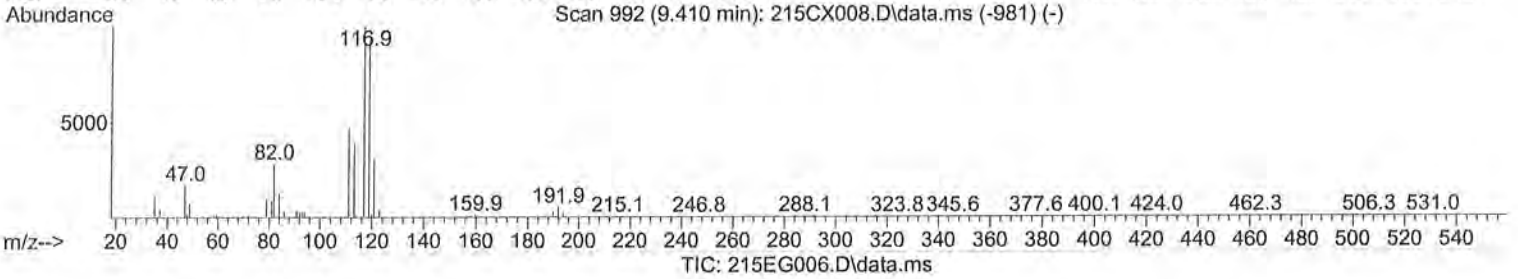
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG006.D
Acq On : 12 May 2021 10:14 am
Operator : kkw
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 12 10:38:37 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed May 12 09:45:17 2021
Response via : Initial Calibration







TIC: 215EG006.D\data.ms

(40) Carbon Tetrachloride

9.422min (+ 0.012) 4.26 ug/L

response 70260

Ion	Exp%	Act%
116.90	100.00	100.00
118.90	113.90	92.25
82.00	30.00	35.15
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

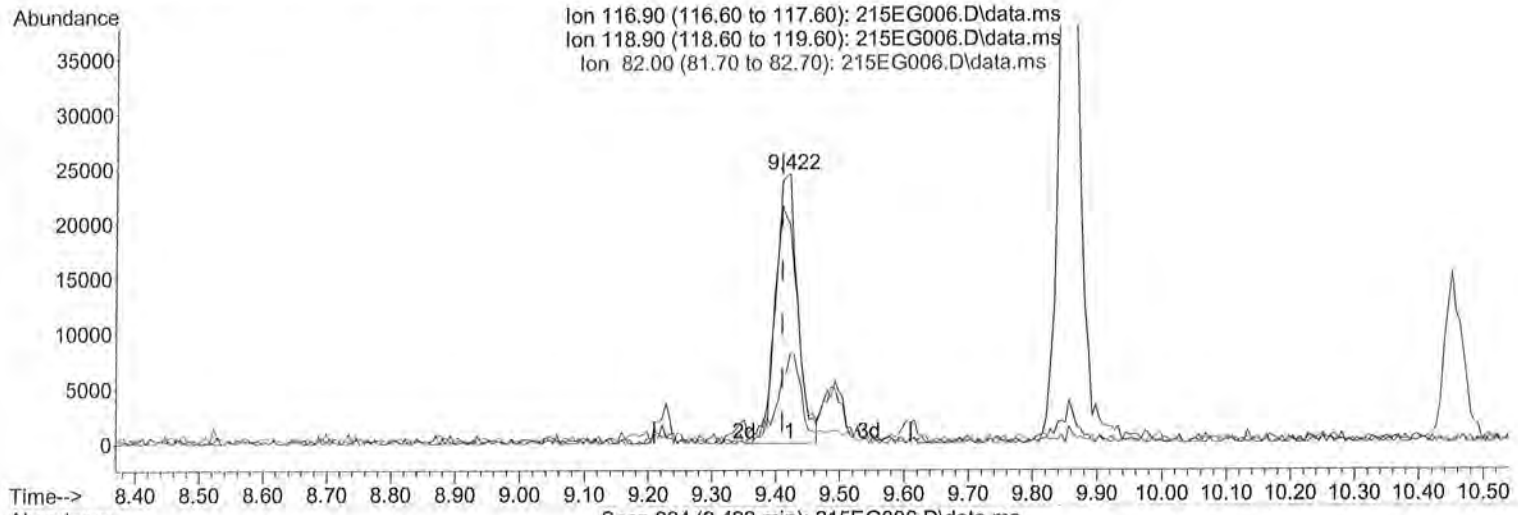
Review by/Date W 05/13/21

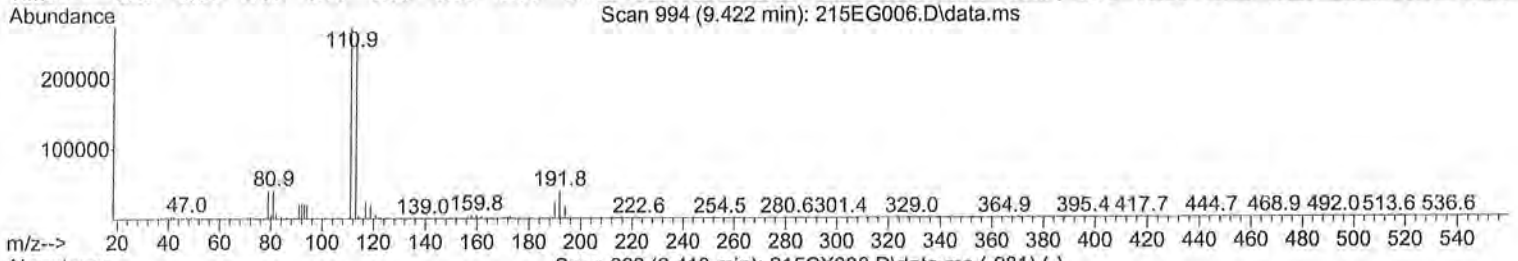
Review by/Date:

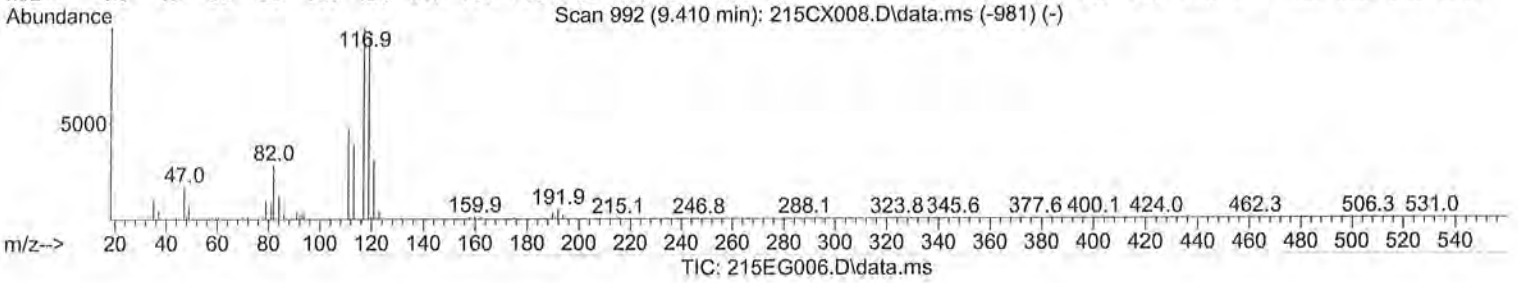
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG006.D
Acq On : 12 May 2021 10:14 am
Operator : kkw
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 12 10:38:37 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed May 12 09:45:17 2021
Response via : Initial Calibration







TIC: 215EG006.D\data.ms

(40) Carbon Tetrachloride

9.422min (+ 0.012) 3.55 ug/L m

response 58627

Ion	Exp%	Act%
116.90	100.00	100.00
118.90	113.90	110.55
82.00	30.00	42.12#
0.00	0.00	0.00

Select One:

[ ] Original Integration [N] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[N] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

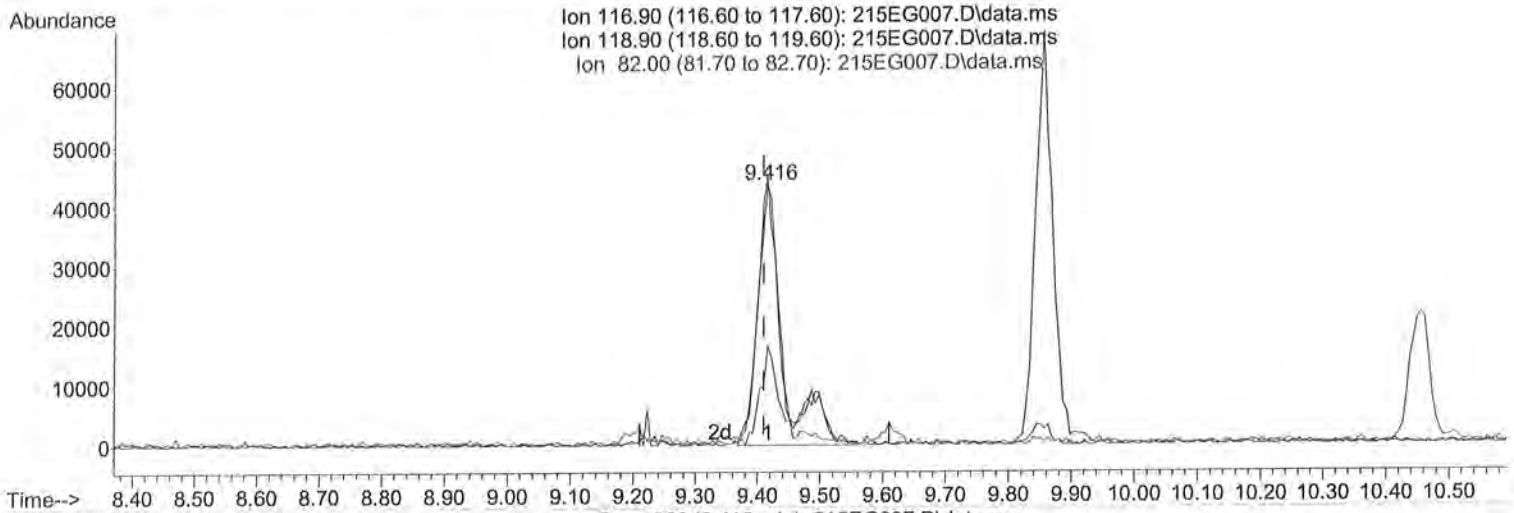
Review by/Date KJ 05/13/21

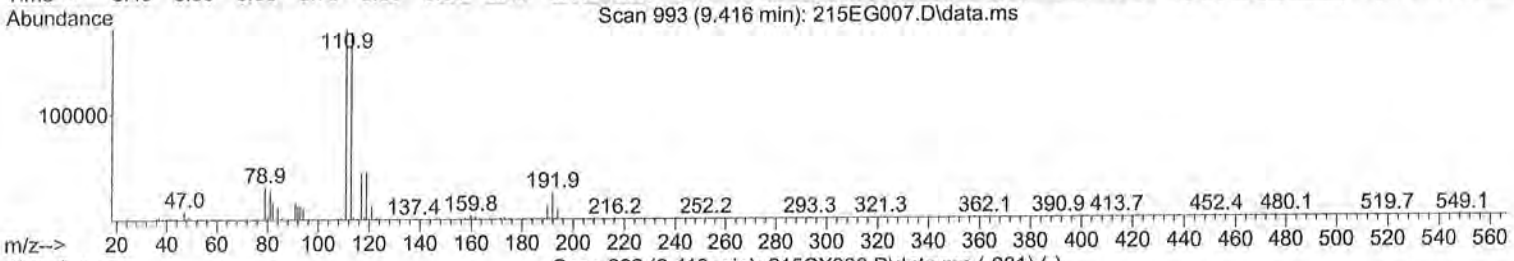
Review by/Date:

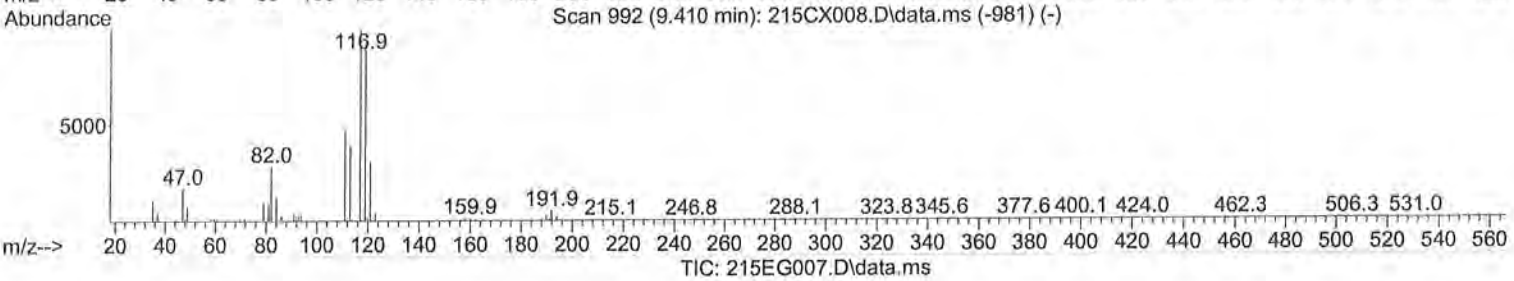
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG007.D
Acq On : 12 May 2021 10:42 am
Operator : kkw
Sample : CAL4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 12 11:12:19 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed May 12 09:45:17 2021
Response via : Initial Calibration







TIC: 215EG007.D\data.ms

(40) Carbon Tetrachloride

9.416min (+ 0.006) 7.37 ug/L

response 120272

Ion	Exp%	Act%
116.90	100.00	100.00
118.90	113.90	99.81
82.00	30.00	32.29
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

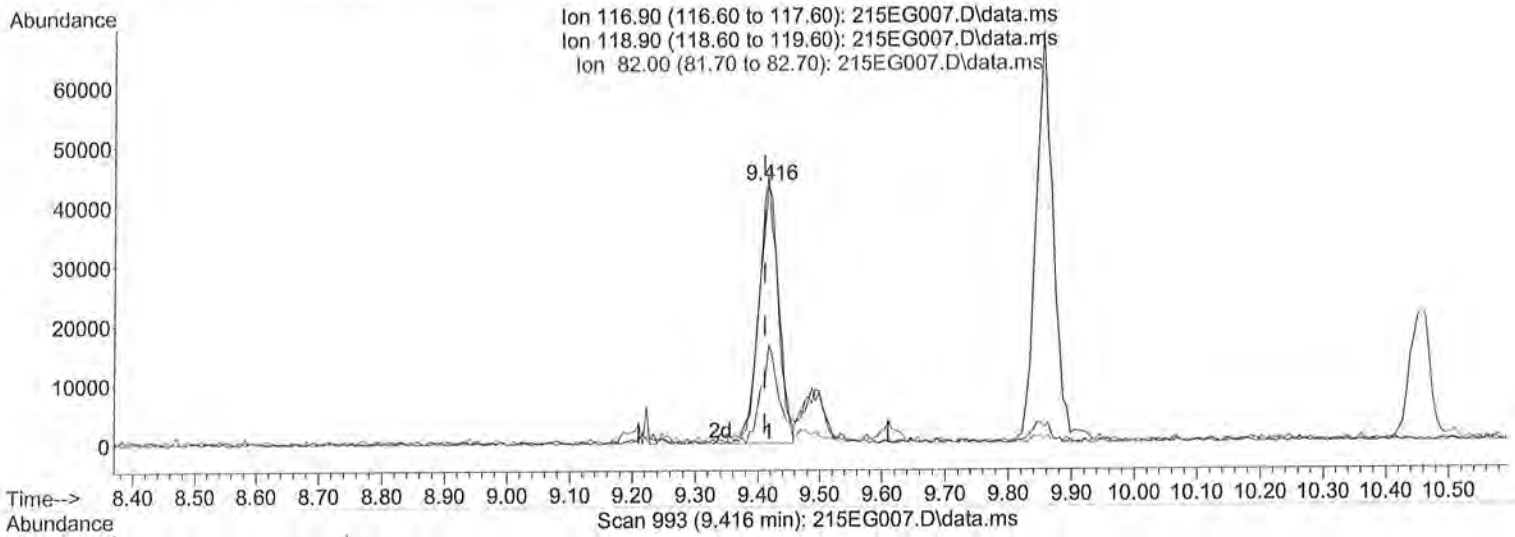
Review by/Date W 05/13/21

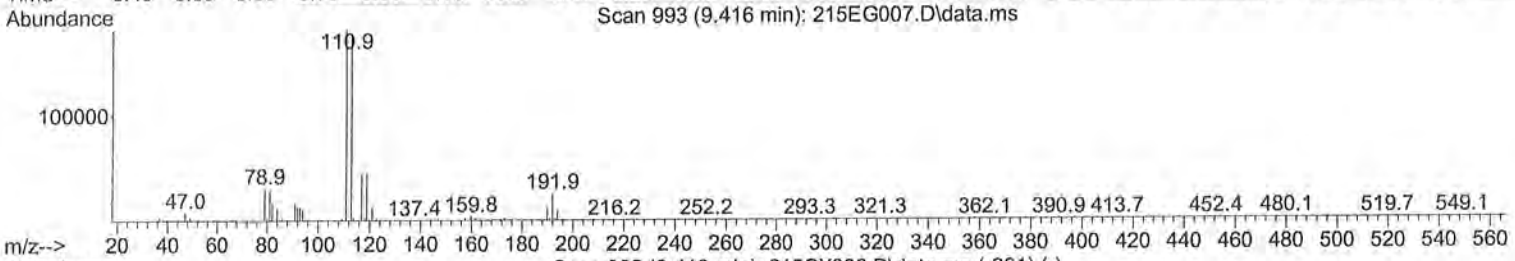
Review by/Date:

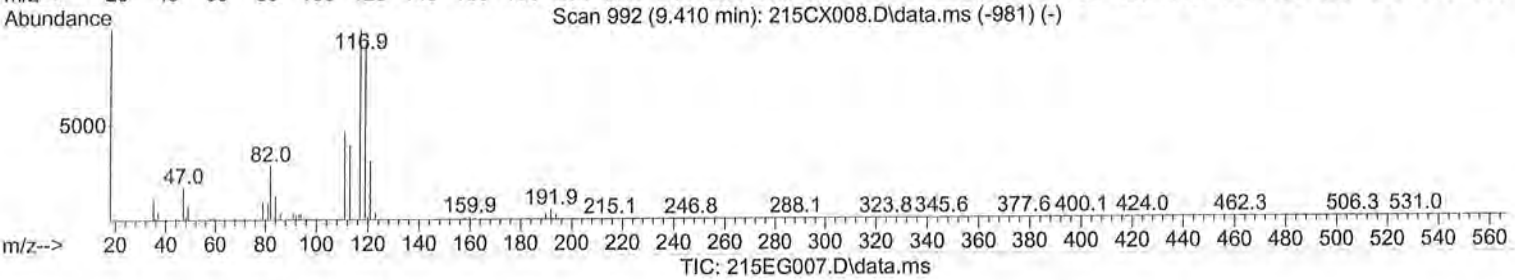
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG007.D
Acq On : 12 May 2021 10:42 am
Operator : kkw
Sample : CAL4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 12 11:12:19 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed May 12 09:45:17 2021
Response via : Initial Calibration







(40) Carbon Tetrachloride

9.416min (+ 0.006) 6.03 ug/L m

response 98441

Ion	Exp%	Act%
116.90	100.00	100.00
118.90	113.90	121.94
82.00	30.00	39.45#
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

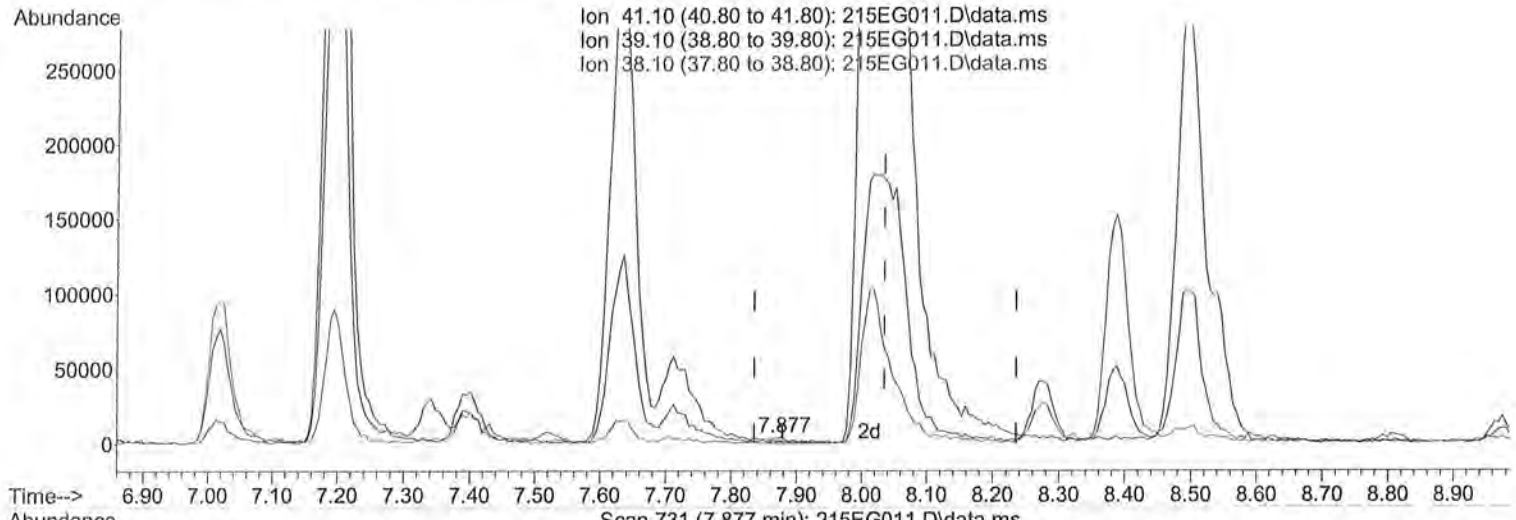
Review by/Date W 05/13/21

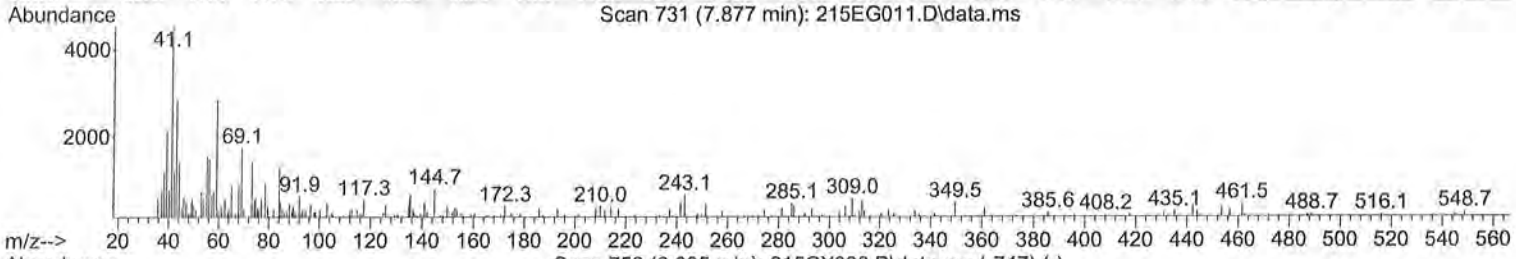
Review by/Date:

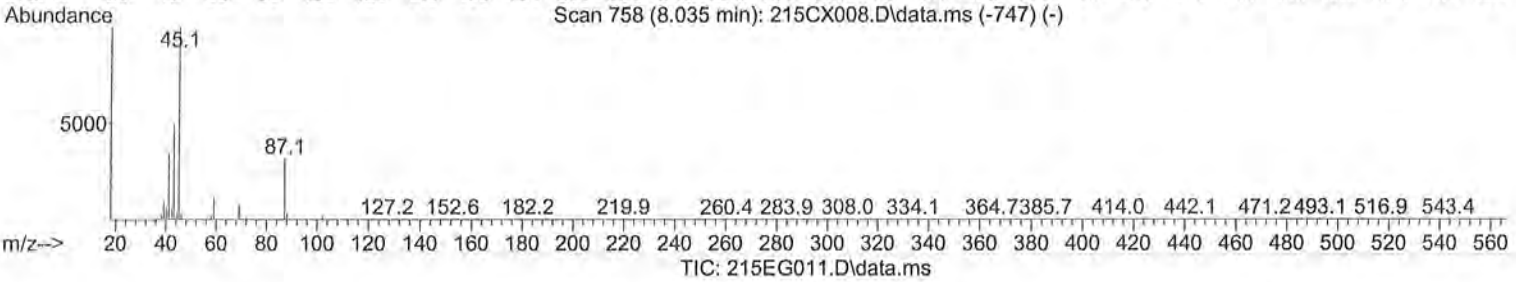
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG011.D
Acq On : 12 May 2021 12:34 pm
Operator : kkw
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 12 12:59:11 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed May 12 12:41:11 2021
Response via : Initial Calibration







TIC: 215EG011.D\data.ms

(20) Acetonitrile

7.877min (-0.159) 8.13 ug/L

response 10201

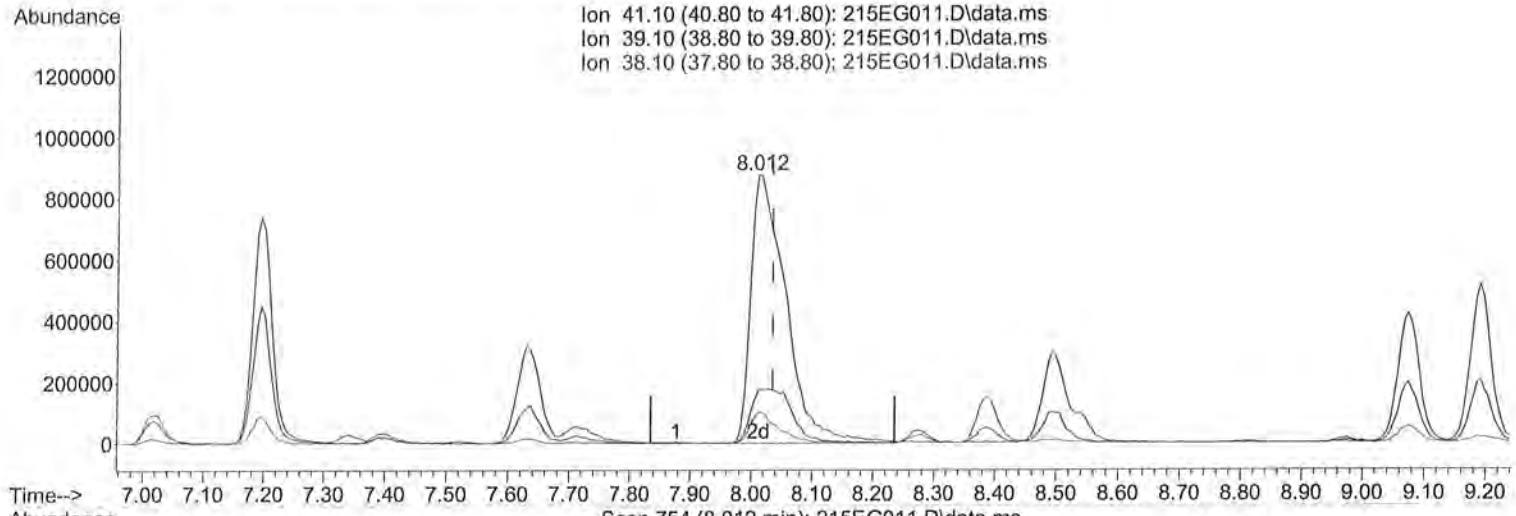
Ion	Exp%	Act%
41.10	100.00	100.00
39.10	35.80	30.15
38.10	11.70	13.63
0.00	0.00	0.00

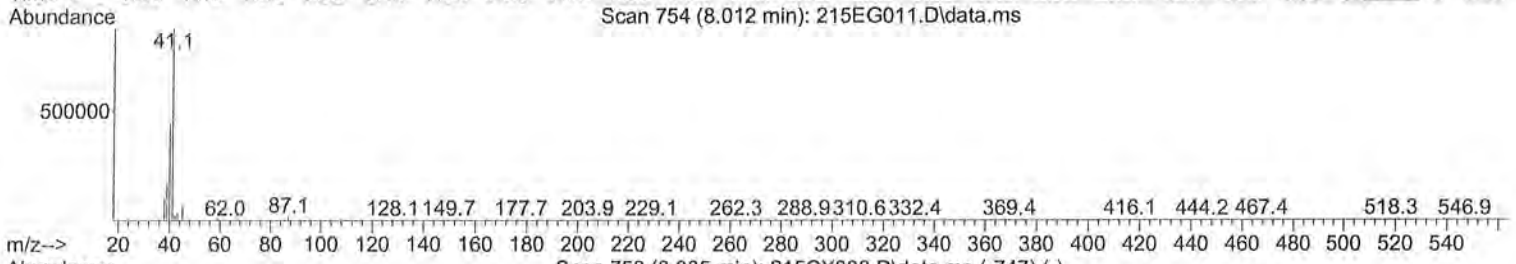
Select One:
[X] Original Integration [ ] Manual Integration
Select reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[X] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date JV 05/13/21
Review by/Date:

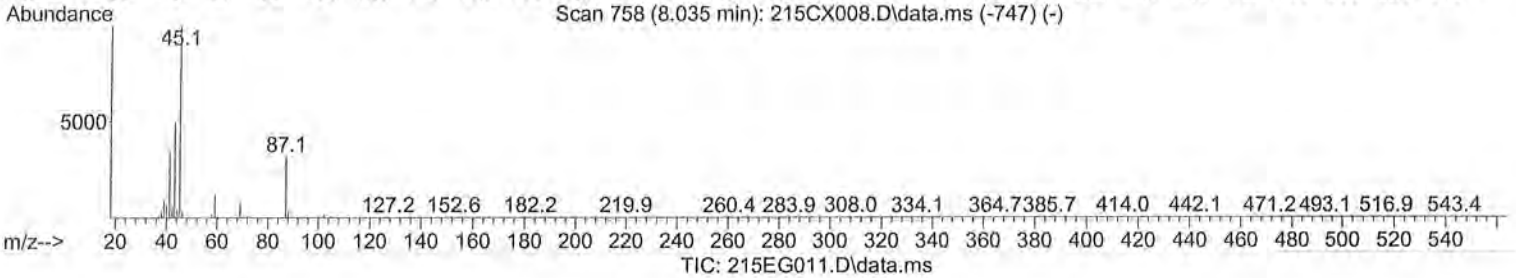
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG011.D
Acq On : 12 May 2021 12:34 pm
Operator : kkw
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 12 12:59:11 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed May 12 12:41:11 2021
Response via : Initial Calibration







TIC: 215EG011.D\data.ms

(20) Acetonitrile

8.012min (-0.024) 2810.23 ug/L m

response 3524861

Ion	Exp%	Act%
41.10	100.00	100.00
39.10	35.80	0.09#
38.10	11.70	0.04#
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

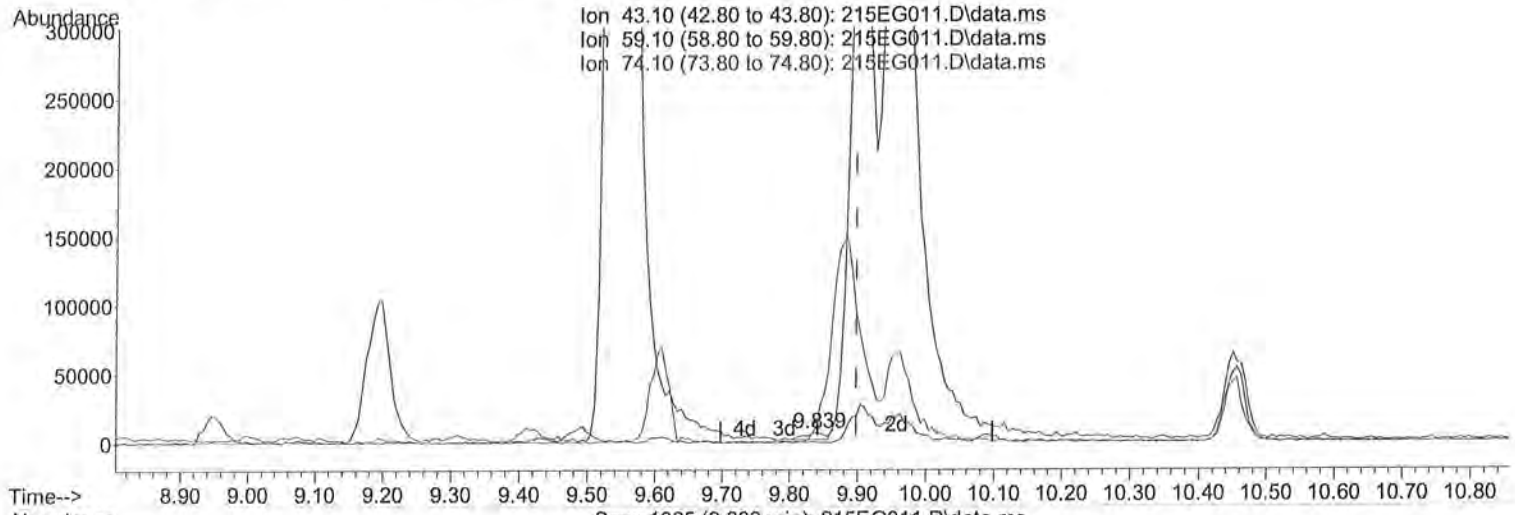
Review by/Date W 05/13/21

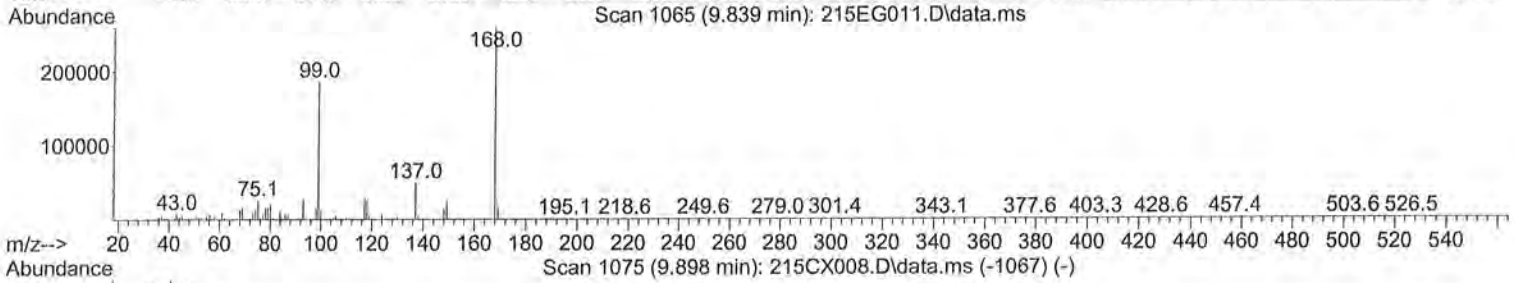
Review by/Date:

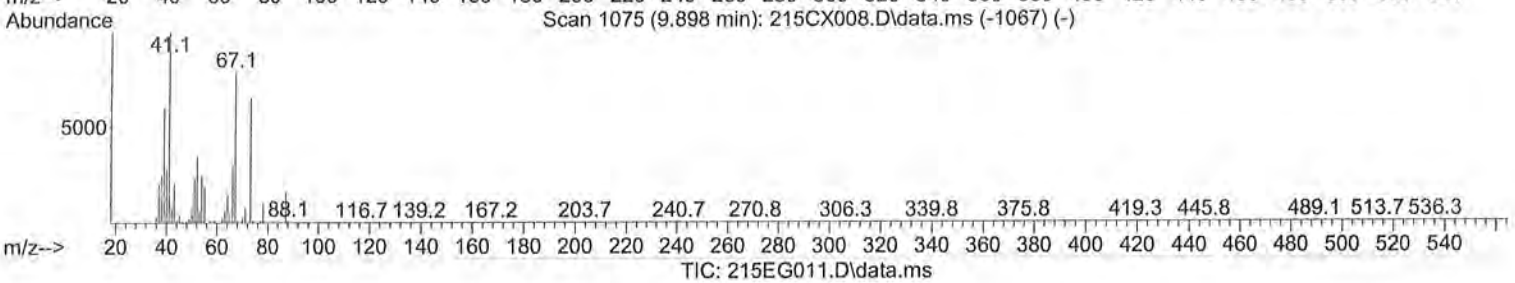
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG011.D
Acq On : 12 May 2021 12:34 pm
Operator : kkw
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 12 12:59:11 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed May 12 12:41:11 2021
Response via : Initial Calibration







TIC: 215EG011.D\data.ms

(38) Isobutyl Alcohol

9.839min (-0.059) 16.11 ug/L

response 10052

Ion	Exp%	Act%
43.10	100.00	100.00
59.10	6.80	1196.36#
74.10	43.40	6351.36#
0.00	0.00	0.00

Select One:

X [ ] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

X [ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

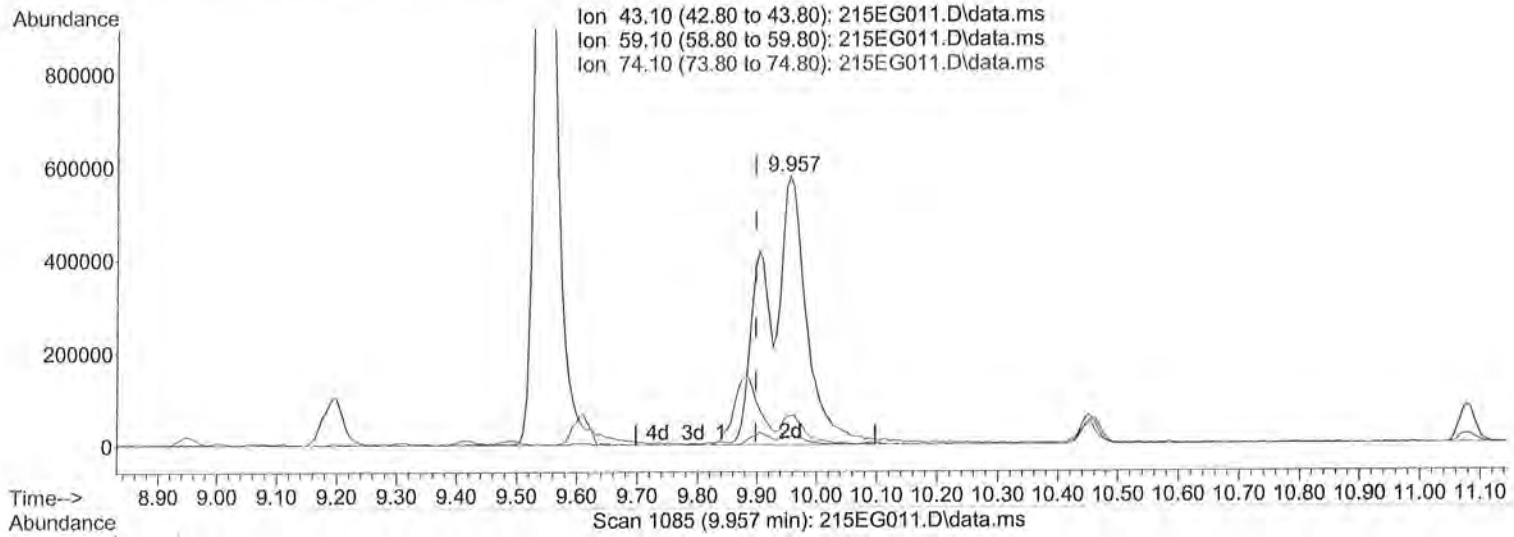
Review by/Date N 05/13/21

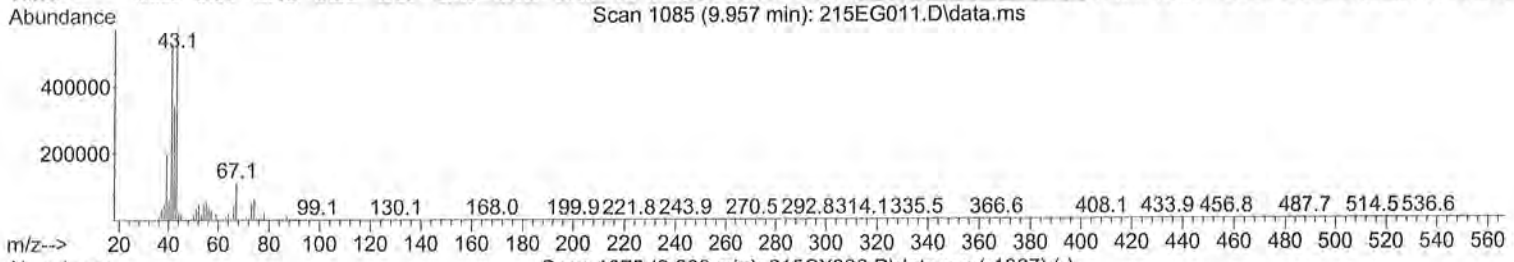
Review by/Date:

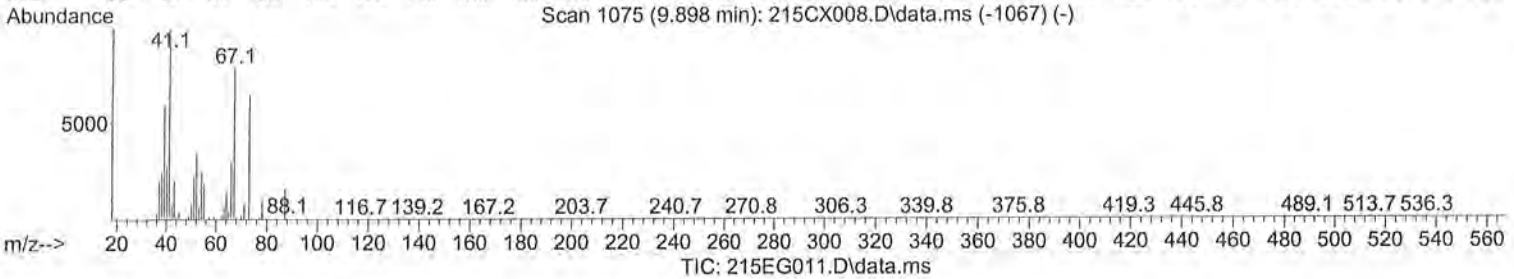
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG011.D
Acq On : 12 May 2021 12:34 pm
Operator : kkw
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 12 12:59:11 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed May 12 12:41:11 2021
Response via : Initial Calibration







TIC: 215EG011.D\data.ms

(38) Isobutyl Alcohol

9.957min (+ 0.059) 4380.66 ug/L m

response 2733958

Ion	Exp%	Act%
43.10	100.00	100.00
59.10	6.80	4.40#
74.10	43.40	23.35#
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

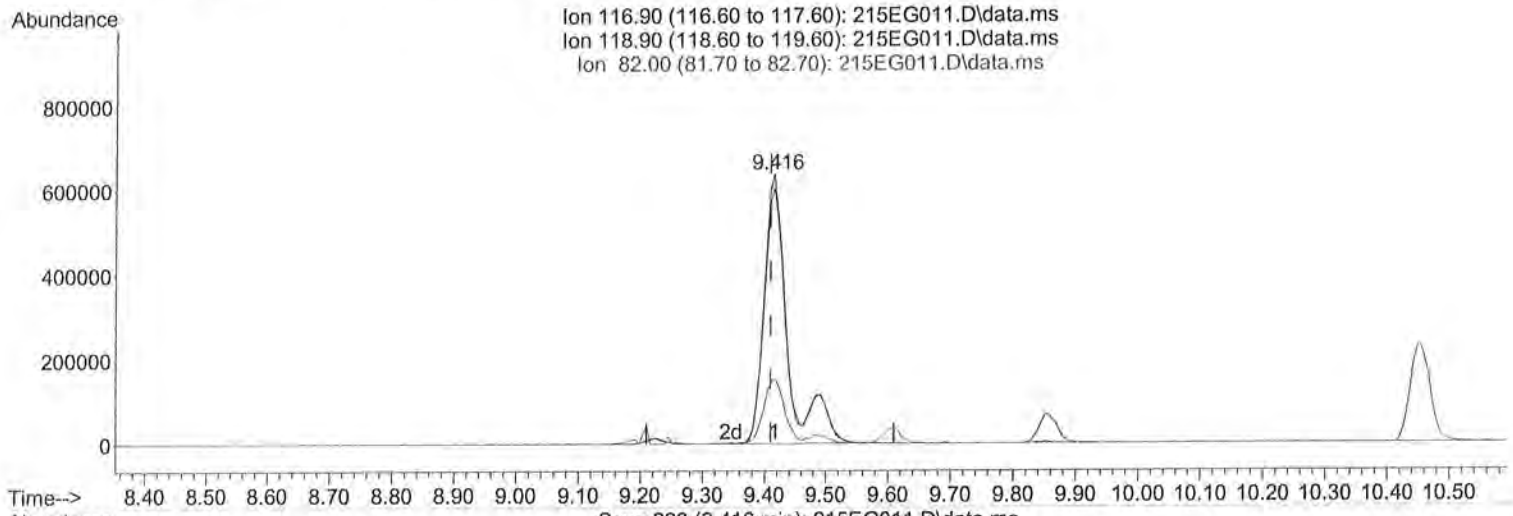
Review by/Date W 05/13/21

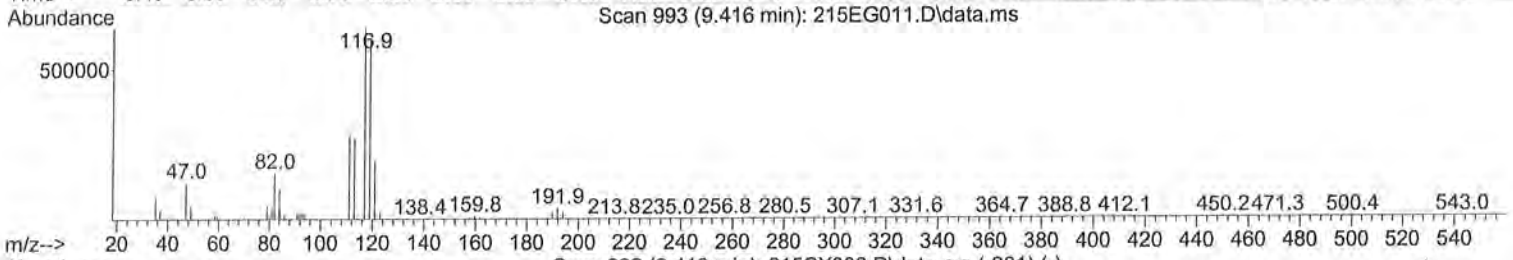
Review by/Date:

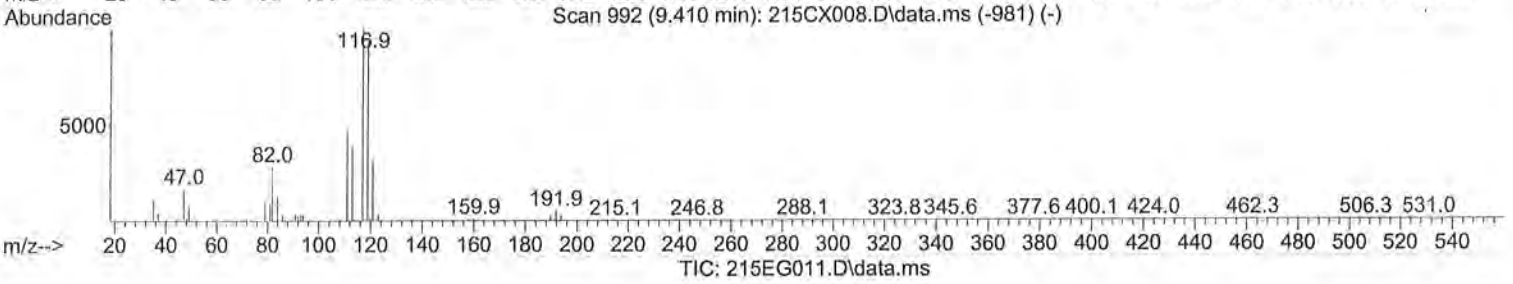
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG011.D
Acq On : 12 May 2021 12:34 pm
Operator : kkw
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 12 12:59:11 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed May 12 12:41:11 2021
Response via : Initial Calibration







TIC: 215EG011.D\data.ms

(40) Carbon Tetrachloride

9.416min (+ 0.006) 104.46 ug/L

response 1707308

Ion	Exp%	Act%
116.90	100.00	100.00
118.90	113.90	81.28#
82.00	30.00	23.99#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

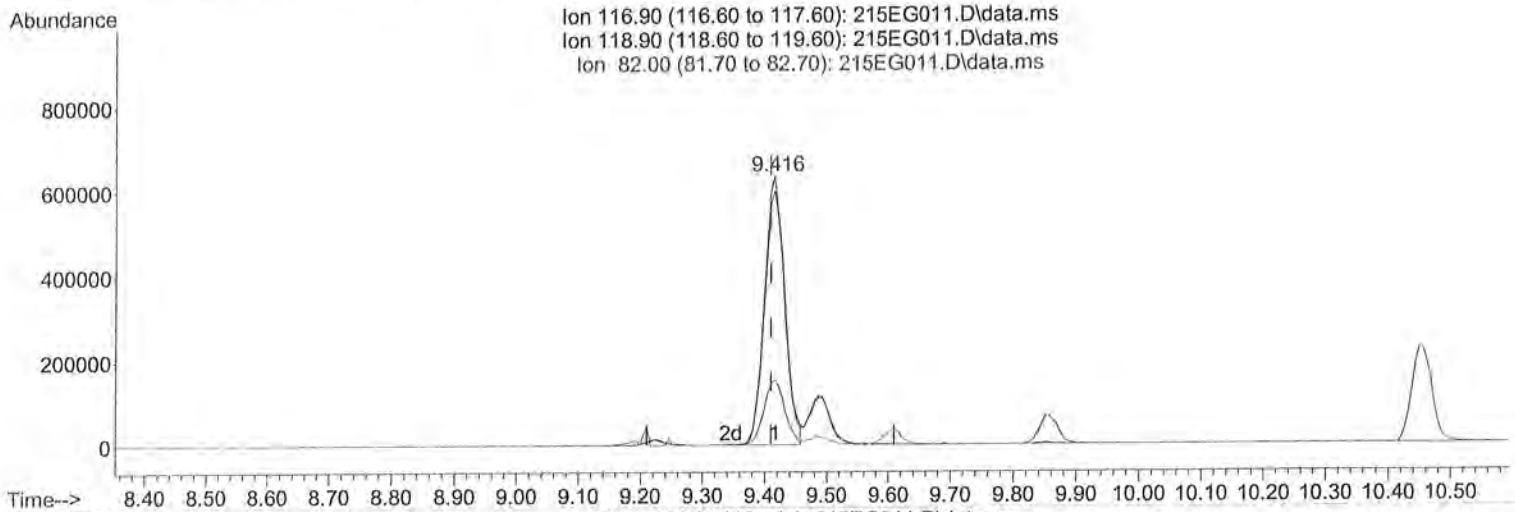
Review by/Date: KJ 05/13/21

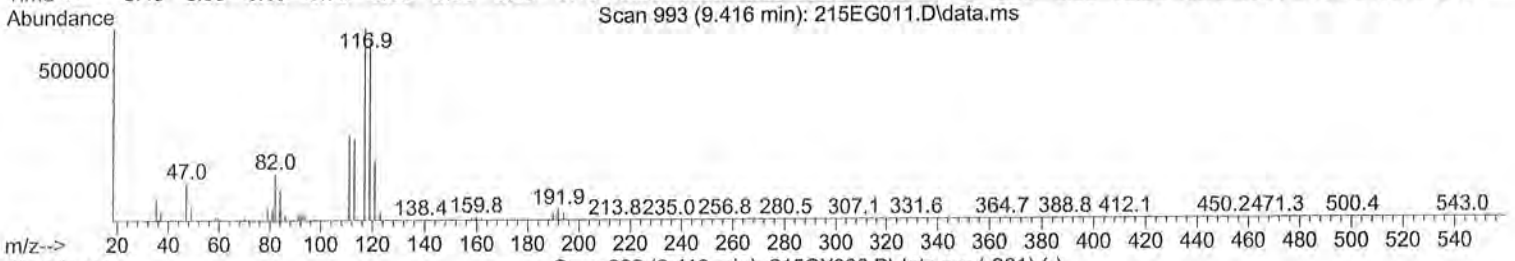
Review by/Date:

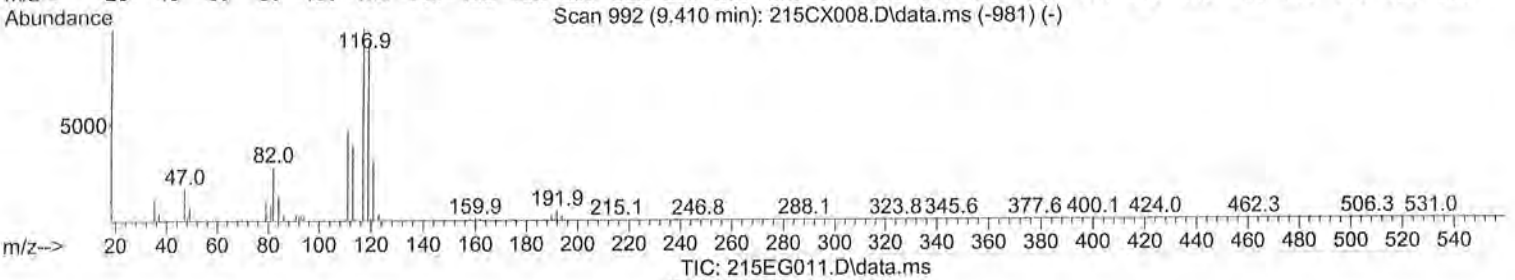
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG011.D
Acq On : 12 May 2021 12:34 pm
Operator : kkw
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 12 12:59:11 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed May 12 12:41:11 2021
Response via : Initial Calibration







TIC: 215EG011.D\data.ms

(40) Carbon Tetrachloride

9.416min (+ 0.006) 87.71 ug/L m

response 1433480

Ion	Exp%	Act%
116.90	100.00	100.00
118.90	113.90	96.80
82.00	30.00	28.58
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

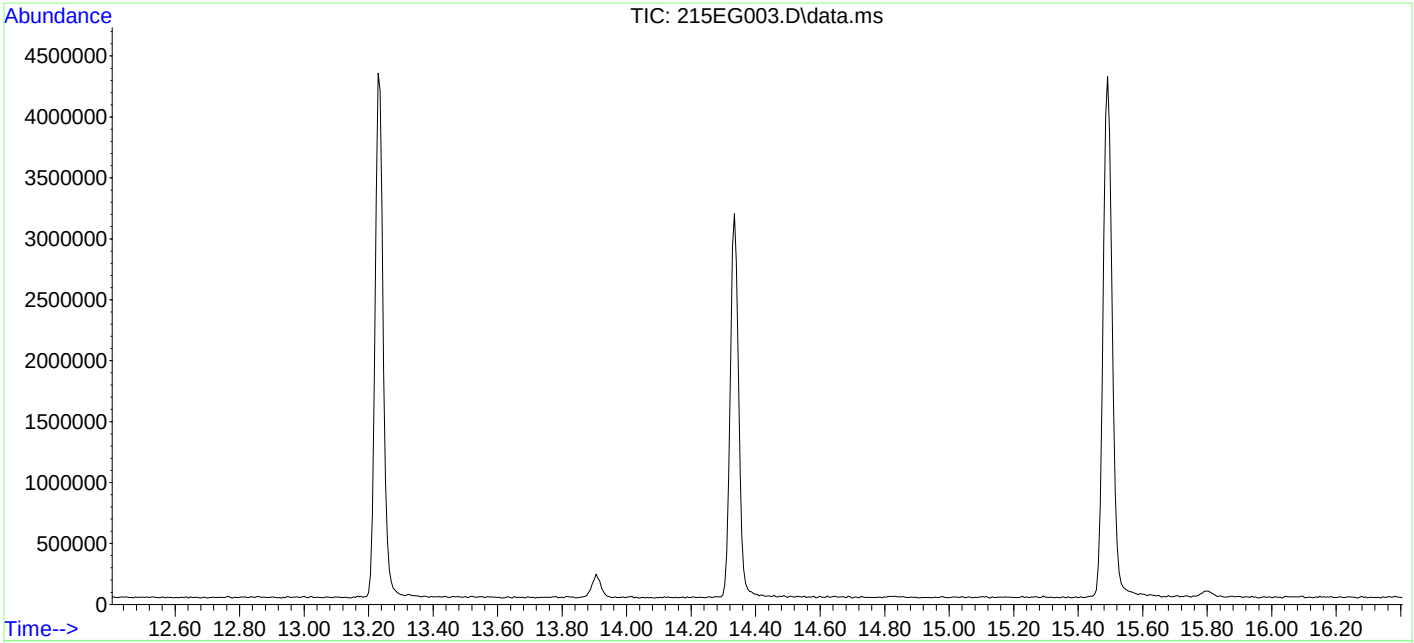
Review by/Date W 05/31/

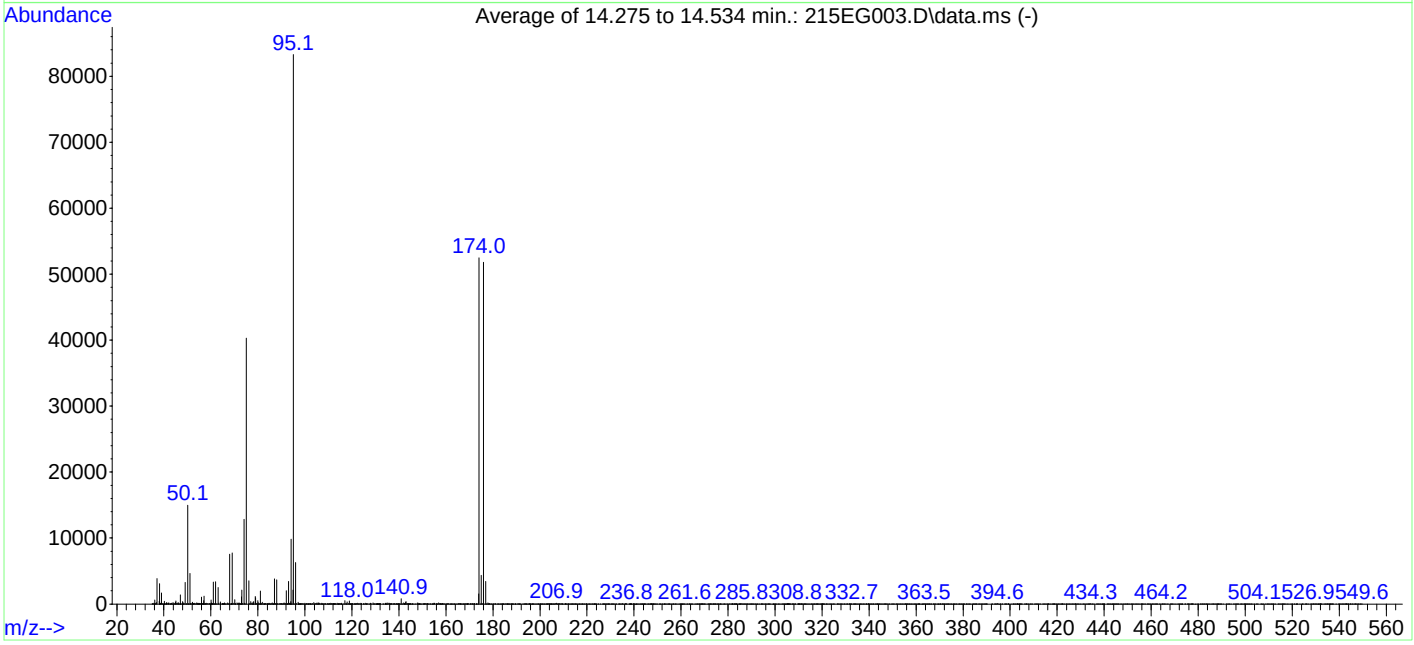
Review by/Date:

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG003.D
Acq On : 12 May 2021 8:47 am
Operator : kkw
Sample : TUN1
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\methods\051221W.M
Title : ENCO SOP VGCMS05; Element Cal 2105058
Last Update : Thu May 13 10:05:21 2021





Spectrum Information: Average of 14.275 to 14.534 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
95	174	50	200	158.7	83279	PASS
96	95	5	9	7.6	6291	PASS
173	174	0.00	2	0.1	50	PASS
174	95	50	200	63.0	52468	PASS
175	174	5	9	8.3	4330	PASS
176	174	95	105	98.8	51813	PASS
177	176	5	10	6.6	3418	PASS

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG004.D
Acq On : 12 May 2021 9:18 am
Operator : kkw
Sample : CAL1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 12 09:45:44 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed May 12 09:45:17 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1265136	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2590360	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	1542984	50.00	ug/L		0.01
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1417072	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.433	113	681436	51.87	ug/L		0.01
Spiked Amount 50.000	Range 72 - 133		Recovery = 103.74%				
52) D8-Toluene	11.784	98	3230078	56.86	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 113.72%				
73) Bromofluorobenzene	14.334	95	1368181	50.82	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 101.64%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.987	85	13662	0.90	ug/L	#	92
3) Chloromethane	4.416	50	28606	2.66	ug/L		92
4) Vinyl Chloride	4.586	62	15283	1.27	ug/L	#	38
5) Bromomethane	5.238	94	10554	1.30	ug/L	#	85
6) Chloroethane	5.456	64	9703	1.36	ug/L	#	88
7) Trichlorofluoromethane	5.708	101	16401	0.90	ug/L	#	96
8) Diethyl ether	6.190	59	8565	1.09	ug/L	#	77
9) 1,1-Dichloroethene	6.543	96	8806	0.86	ug/L		96
10) Trichlorotrifluoroethane	6.554	151	4625	0.59	ug/L	#	69
11) Acrolein	7.036	56	28736	18.90	ug/L		92
12) Iodomethane	6.789	142	40272	4.10	ug/L	#	82
13) Carbon Disulfide	6.631	76	150602	4.65	ug/L		96
14) 3-chloropropene	7.201	41	18778	1.53	ug/L		98
15) Acetone	7.424	43	19045m	9.93	ug/L		
16) Methylene Chloride	7.342	84	14408	1.15	ug/L	#	68
17) Methyl Acetate	7.547	43	20985m	4.53	ug/L		
18) t-1,2-Dichloroethene	7.553	96	10678	0.91	ug/L		97
19) Methyl tert-butyl ether	7.636	73	24052	0.88	ug/L	#	51
20) Acetonitrile	8.053	41	25771	21.05	ug/L	#	96
21) Isopropyl ether	8.064	45	33715	1.32	ug/L	#	88
22) Chloroprene	8.294	88	9437	0.96	ug/L	#	85
23) 1,1-Dichloroethane	8.323	63	16278	0.75	ug/L	#	75
24) Acrylonitrile	8.405	53	48219	17.11	ug/L	#	82
25) Vinyl Acetate	8.564	43	107103	6.55	ug/L		95
26) c-1,2-Dichloroethene	8.958	96	11916	0.88	ug/L		90
27) 2,2-Dichloropropane	9.075	77	13925	0.68	ug/L	#	83
28) Bromochloromethane	9.193	128	5144	0.81	ug/L		80
29) Cyclohexane	9.198	56	17406	1.01	ug/L	#	72
30) Chloroform	9.222	83	19982	0.81	ug/L	#	89
32) Dibromofluoromethane	9.433	113	682499	51.95	ug/L	#	89
33) 2-Butanone	9.592	72	9197	8.15	ug/L	#	69
34) 1,1,1-Trichloroethane	9.498	97	14150	0.67	ug/L		90
35) 1,1-Dichloropropene	9.616	75	15933	0.93	ug/L		95
36) Propionitrile	9.915	54	27463	23.93	ug/L	#	50
37) Methacrylonitrile	9.921	41	96133	18.27	ug/L		94
38) Isobutyl Alcohol	9.909	43	7198	11.82	ug/L	#	34
40) Carbon Tetrachloride	9.428	117	11285	0.67	ug/L	#	50
41) Benzene	9.886	78	51502	0.96	ug/L		98
42) 1,2-Dichloroethane	10.109	62	14296	0.77	ug/L	#	71
43) Trichloroethene	10.456	130	10435	0.76	ug/L	#	1
44) Methyl cyclohexane	10.450	83	44590	1.34	ug/L	#	73
45) Dibromomethane	10.908	93	8874	1.16	ug/L		89
46) 1,2-Dichloropropane	11.002	63	15212	1.26	ug/L	#	76
47) Bromodichloromethane	11.038	83	12129	0.71	ug/L	#	88
48) Methyl Methacrylate	11.108	69	11324	1.92	ug/L		95
49) 1,4-Dioxane	11.237	88	2648	36.58	ug/L	#	1
50) 2-Chloroethyl vinyl ether	11.508	63	38886	6.46	ug/L	#	93
51) C-1,3-Dichloropropene	11.613	75	17486	0.81	ug/L	#	74

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG004.D
Acq On : 12 May 2021 9:18 am
Operator : kkw
Sample : CAL1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 12 09:45:44 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed May 12 09:45:17 2021
Response via : Initial Calibration

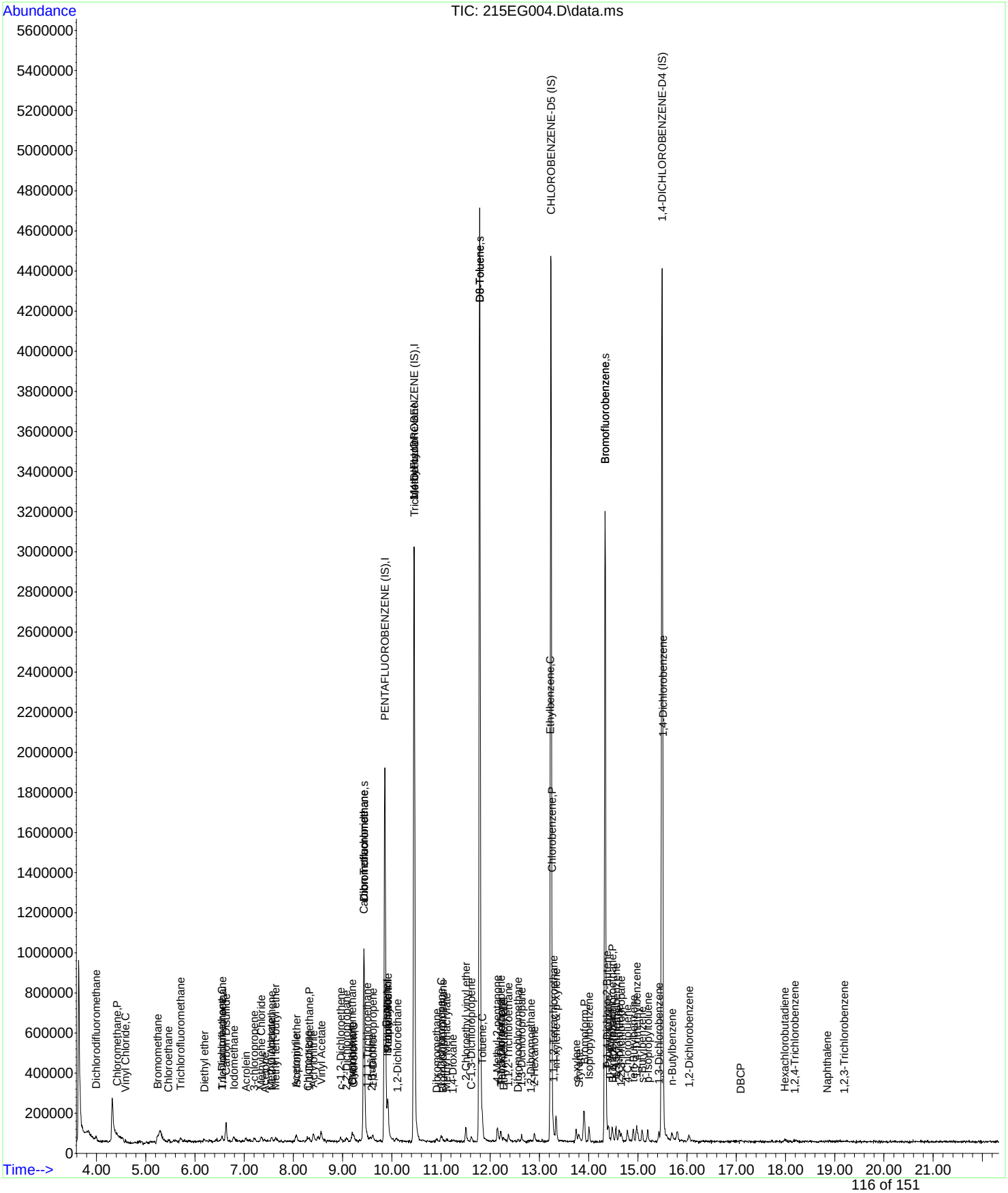
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.784	98	3224667	56.76	ug/L		96
54) 4-Methyl-2-pentanone	12.136	100	8179	5.41	ug/L	#	50
56) Toluene	11.837	92	31141	0.89	ug/L	#	95
57) T-1,3-Dichloropropene	12.213	75	17273	0.93	ug/L	#	84
58) Tetrachloroethene	12.224	164	7070	0.73	ug/L		90
59) Ethyl methacrylate	12.271	69	14954	1.16	ug/L	#	92
60) 1,1,2-Trichloroethane	12.365	97	11561	1.05	ug/L		94
61) Dibromochloromethane	12.559	129	7049	0.60	ug/L	#	72
62) 1,3-Dichloropropane	12.636	76	21725	1.10	ug/L	#	82
63) 1,2-Dibromoethane	12.824	107	10504	0.94	ug/L	#	80
64) 2-Hexanone	12.894	43	39663	8.96	ug/L	#	95
65) Ethylbenzene	13.217	106	19187	0.92	ug/L	#	92
66) Chlorobenzene	13.253	112	35068	0.88	ug/L		93
67) 1,1,1,2-Tetrachloroethane	13.288	131	8967	0.70	ug/L	#	93
68) m-xylene & p-xylene	13.335	106	42662	1.57	ug/L		99
69) o-xylene	13.746	106	23392	0.91	ug/L		91
70) Styrene	13.799	104	32976	0.79	ug/L	#	94
71) Bromoform	13.911	173	4194	0.69	ug/L	#	89
72) Isopropylbenzene	14.005	105	55954	0.86	ug/L		94
74) Bromofluorobenzene	14.334	95	1369875	50.88	ug/L		90
75) n-Propylbenzene	14.398	91	70380	0.85	ug/L		96
76) 1,1,2,2-Tetrachloroethane	14.481	83	18084	1.14	ug/L	#	94
77) 1,2,3-Trichloropropane	14.657	61	5092	1.59	ug/L	#	60
78) T-1,4-Dichloro-2-Butene	14.369	53	7235	1.46	ug/L	#	1
80) Bromobenzene	14.486	156	11302	0.74	ug/L	#	57
81) 1,2,4-Trimethylbenzene	14.974	105	47729	0.82	ug/L	#	95
82) 2-Chlorotoluene	14.622	91	46738	0.92	ug/L		94
83) 4-Chlorotoluene	14.786	91	42851	0.83	ug/L		98
84) tert-Butylbenzene	14.910	119	52511	1.13	ug/L	#	80
85) 1,3,5-Trimethylbenzene	14.557	105	48321	0.83	ug/L		98
86) p-Isopropyltoluene	15.203	119	42652	0.75	ug/L		97
87) s-Butylbenzene	15.086	105	51090	0.76	ug/L		99
88) 1,3-Dichlorobenzene	15.427	146	24366	0.82	ug/L		97
89) 1,4-Dichlorobenzene	15.509	146	27706	0.86	ug/L	#	1
90) n-Butylbenzene	15.691	91	39503	0.76	ug/L		98
91) 1,2-Dichlorobenzene	16.038	146	22277	0.82	ug/L		95
92) DBCP	17.089	157	1654	0.94	ug/L	#	13
93) Hexachlorobutadiene	17.982	225	2123	0.68	ug/L	#	82
94) 1,2,4-Trichlorobenzene	18.188	180	2452	0.42	ug/L	#	63
95) Naphthalene	18.846	128	5505	0.51	ug/L	#	60
96) 1,2,3-Trichlorobenzene	19.193	180	1756	0.64	ug/L	#	12

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG004.D
Acq On : 12 May 2021 9:18 am
Operator : kkw
Sample : CAL1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 12 09:45:44 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed May 12 09:45:17 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG005.D
Acq On : 12 May 2021 9:46 am
Operator : kkw
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 12 10:36:30 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed May 12 09:45:17 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) PENTAFLUOROBENZENE (IS)	9.857	168	1247564	50.00	ug/L	0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2557529	50.00	ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1531879	50.00	ug/L	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.486	152	1385234	50.00	ug/L	0.00
System Monitoring Compounds						
31) Dibromofluoromethane	9.428	113	722810	55.79	ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 111.58%			
52) D8-Toluene	11.784	98	3400257	60.62	ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 121.24%#			
73) Bromofluorobenzene	14.334	95	1443071	53.99	ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 107.98%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.981	85	25233	1.68	ug/L #	88
3) Chloromethane	4.410	50	48631	4.59	ug/L	95
4) Vinyl Chloride	4.580	62	27033	2.28	ug/L #	1
5) Bromomethane	5.233	94	17003	2.12	ug/L #	91
6) Chloroethane	5.462	64	13008	1.85	ug/L #	85
7) Trichlorofluoromethane	5.709	101	30563	1.70	ug/L #	90
8) Diethyl ether	6.190	59	21343	2.76	ug/L #	86
9) 1,1-Dichloroethene	6.537	96	16628	1.64	ug/L	94
10) Trichlorotrifluoroethane	6.572	151	12022	1.57	ug/L	93
11) Acrolein	7.025	56	56551	37.72	ug/L	95
12) Iodomethane	6.778	142	97658	10.09	ug/L	90
13) Carbon Disulfide	6.631	76	364632	11.41	ug/L	99
14) 3-chloropropene	7.189	41	40899	3.39	ug/L #	72
15) Acetone	7.412	43	43638	23.08	ug/L #	82
16) Methylene Chloride	7.336	84	26548	2.15	ug/L #	73
17) Methyl Acetate	7.542	43	20475	4.48	ug/L #	86
18) t-1,2-Dichloroethene	7.548	96	22273	1.92	ug/L	96
19) Methyl tert-butyl ether	7.636	73	55138	2.06	ug/L #	74
20) Acetonitrile	8.041	41	62337	51.65	ug/L #	89
21) Isopropyl ether	8.053	45	72961	2.90	ug/L #	89
22) Chloroprene	8.282	88	21899	2.26	ug/L #	86
23) 1,1-Dichloroethane	8.323	63	42764	2.01	ug/L #	92
24) Acrylonitrile	8.394	53	107014	38.50	ug/L #	99
25) Vinyl Acetate	8.552	43	282387	17.51	ug/L	95
26) c-1,2-Dichloroethene	8.964	96	24569	1.85	ug/L #	82
27) 2,2-Dichloropropane	9.069	77	27356	1.36	ug/L #	84
28) Bromochloromethane	9.187	128	11421	1.83	ug/L	97
29) Cyclohexane	9.193	56	40930	2.41	ug/L #	82
30) Chloroform	9.228	83	40328	1.65	ug/L #	95
32) Dibromofluoromethane	9.428	113	723733	55.87	ug/L #	90
33) 2-Butanone	9.557	72	23265	20.91	ug/L	72
34) 1,1,1-Trichloroethane	9.487	97	29295	1.41	ug/L #	85
35) 1,1-Dichloropropene	9.610	75	31619	1.88	ug/L #	71
36) Propionitrile	9.904	54	54914	48.51	ug/L #	26
37) Methacrylonitrile	9.915	41	230505	44.41	ug/L	94
38) Isobutyl Alcohol	9.898	43	23312	38.82	ug/L #	39
40) Carbon Tetrachloride	9.410	117	20287	1.21	ug/L #	85
41) Benzene	9.886	78	102939	1.94	ug/L	100
42) 1,2-Dichloroethane	10.092	62	30932	1.69	ug/L #	80
43) Trichloroethene	10.456	130	24577	1.81	ug/L #	1
44) Methyl cyclohexane	10.450	83	67587	2.06	ug/L #	87
45) Dibromomethane	10.914	93	16421	2.17	ug/L	98
46) 1,2-Dichloropropane	10.997	63	27522	2.30	ug/L	91
47) Bromodichloromethane	11.014	83	26734	1.58	ug/L #	85
48) Methyl Methacrylate	11.091	69	24759	4.25	ug/L	97
49) 1,4-Dioxane	11.214	88	8351	116.83	ug/L #	83
50) 2-Chloroethyl vinyl ether	11.502	63	94630	15.91	ug/L #	92
51) C-1,3-Dichloropropene	11.619	75	40052	1.88	ug/L #	87

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG005.D
Acq On : 12 May 2021 9:46 am
Operator : kkw
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 12 10:36:30 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed May 12 09:45:17 2021
Response via : Initial Calibration

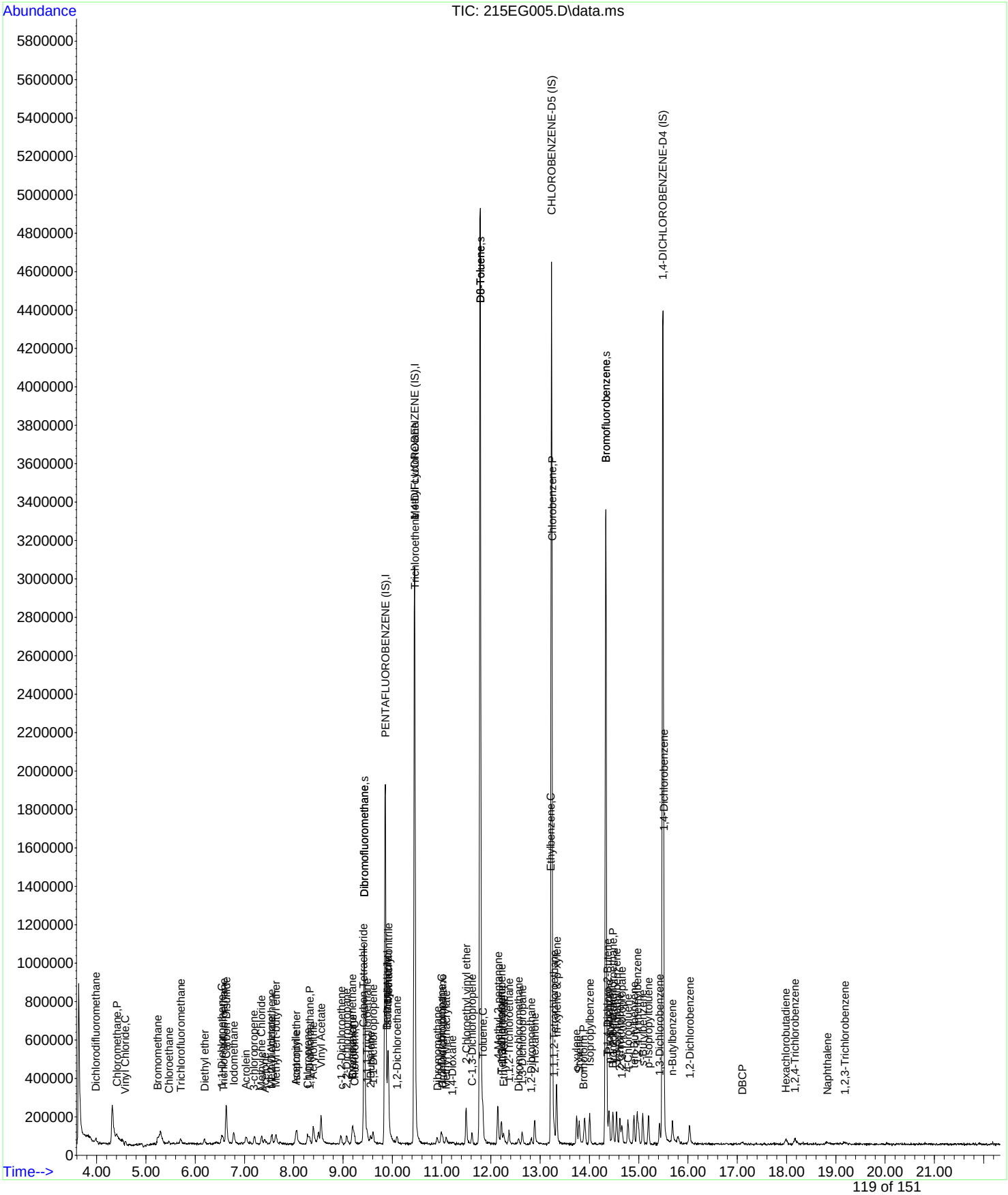
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.784	98	3399761	60.61	ug/L		95
54) 4-Methyl-2-pentanone	12.142	100	24943	16.71	ug/L	#	68
56) Toluene	11.837	92	68425	1.98	ug/L	#	94
57) T-1,3-Dichloropropene	12.213	75	32427	1.75	ug/L	#	88
58) Tetrachloroethene	12.213	164	19976	2.09	ug/L		96
59) Ethyl methacrylate	12.260	69	43930	3.44	ug/L	#	93
60) 1,1,2-Trichloroethane	12.366	97	24965	2.28	ug/L		95
61) Dibromochloromethane	12.559	129	18099	1.55	ug/L	#	94
62) 1,3-Dichloropropane	12.636	76	41482	2.12	ug/L	#	82
63) 1,2-Dibromoethane	12.818	107	22519	2.02	ug/L	#	96
64) 2-Hexanone	12.889	43	115651	26.33	ug/L	#	86
65) Ethylbenzene	13.212	106	39964	1.92	ug/L	#	94
66) Chlorobenzene	13.241	112	65919	1.66	ug/L		91
67) 1,1,1,2-Tetrachloroethane	13.282	131	17734	1.40	ug/L	#	84
68) m-xylene & p-xylene	13.335	106	98257	3.64	ug/L		96
69) o-xylene	13.735	106	46731	1.83	ug/L		97
70) Styrene	13.793	104	72137	1.75	ug/L	#	94
71) Bromoform	13.876	173	8963	1.49	ug/L		91
72) Isopropylbenzene	14.005	105	120192	1.87	ug/L		97
74) Bromofluorobenzene	14.334	95	1443071	53.99	ug/L		90
75) n-Propylbenzene	14.399	91	159697	1.94	ug/L		96
76) 1,1,2,2-Tetrachloroethane	14.475	83	39402	2.51	ug/L	#	98
77) 1,2,3-Trichloropropane	14.657	61	8705	2.74	ug/L		85
78) T-1,4-Dichloro-2-Butene	14.363	53	15949	3.25	ug/L	#	1
80) Bromobenzene	14.469	156	26769	1.80	ug/L	#	85
81) 1,2,4-Trimethylbenzene	14.968	105	98542	1.72	ug/L	#	92
82) 2-Chlorotoluene	14.616	91	97134	1.95	ug/L		99
83) 4-Chlorotoluene	14.780	91	91632	1.82	ug/L		94
84) tert-Butylbenzene	14.904	119	84879	1.87	ug/L		99
85) 1,3,5-Trimethylbenzene	14.551	105	105805	1.86	ug/L		98
86) p-Isopropyltoluene	15.198	119	106214	1.92	ug/L		97
87) s-Butylbenzene	15.080	105	130033	1.97	ug/L		98
88) 1,3-Dichlorobenzene	15.421	146	53848	1.85	ug/L		98
89) 1,4-Dichlorobenzene	15.509	146	60363	1.92	ug/L	#	1
90) n-Butylbenzene	15.679	91	100315	1.97	ug/L		98
91) 1,2-Dichlorobenzene	16.032	146	53046	1.99	ug/L		95
92) DBCP	17.101	157	4403	2.56	ug/L	#	68
93) Hexachlorobutadiene	17.983	225	7874	2.58	ug/L	#	80
94) 1,2,4-Trichlorobenzene	18.171	180	15640	2.72	ug/L	#	86
95) Naphthalene	18.829	128	26625	2.53	ug/L	#	91
96) 1,2,3-Trichlorobenzene	19.181	180	5229	1.96	ug/L	#	74

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG005.D
Acq On : 12 May 2021 9:46 am
Operator : kkw
Sample : CAL2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 12 10:36:30 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed May 12 09:45:17 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG006.D
Acq On : 12 May 2021 10:14 am
Operator : kkw
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 12 10:38:37 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed May 12 09:45:17 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.851	168	1240863	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2518910	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1518139	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1380311	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	684679	53.14	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 106.28%				
52) D8-Toluene	11.784	98	3155612	57.12	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 114.24%				
73) Bromofluorobenzene	14.334	95	1344225	50.75	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 101.50%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.975	85	60604	4.07	ug/L		94
3) Chloromethane	4.416	50	104287	9.90	ug/L		100
4) Vinyl Chloride	4.580	62	71984	6.10	ug/L	#	1
5) Bromomethane	5.227	94	22268	2.79	ug/L		95
6) Chloroethane	5.456	64	39831	5.69	ug/L		96
7) Trichlorofluoromethane	5.708	101	77266	4.32	ug/L		96
8) Diethyl ether	6.184	59	49013	6.38	ug/L		90
9) 1,1-Dichloroethene	6.537	96	40681	4.03	ug/L		86
10) Trichlorotrifluoroethane	6.566	151	30971	4.06	ug/L		95
11) Acrolein	7.019	56	152120	102.00	ug/L		93
12) Iodomethane	6.778	142	265106	27.54	ug/L		93
13) Carbon Disulfide	6.625	76	878739	27.66	ug/L		99
14) 3-chloropropene	7.201	41	87061	7.25	ug/L	#	77
15) Acetone	7.407	43	93273	49.59	ug/L	#	85
16) Methylene Chloride	7.348	84	65532	5.35	ug/L	#	75
17) Methyl Acetate	7.530	43	82787	18.22	ug/L	#	67
18) t-1,2-Dichloroethene	7.553	96	59534	5.16	ug/L		95
19) Methyl tert-butyl ether	7.636	73	151516	5.68	ug/L	#	81
20) Acetonitrile	8.023	41	143893	119.86	ug/L	#	88
21) Isopropyl ether	8.053	45	192536	7.70	ug/L	#	89
22) Chloroprene	8.282	88	53375	5.53	ug/L		93
23) 1,1-Dichloroethane	8.317	63	110387	5.22	ug/L		96
24) Acrylonitrile	8.388	53	295171	106.78	ug/L		94
25) Vinyl Acetate	8.546	43	636504	39.68	ug/L	#	93
26) c-1,2-Dichloroethene	8.952	96	70812	5.35	ug/L		95
27) 2,2-Dichloropropane	9.081	77	79876	4.00	ug/L		96
28) Bromochloromethane	9.193	128	29789	4.81	ug/L		97
29) Cyclohexane	9.199	56	102055	6.03	ug/L		84
30) Chloroform	9.222	83	109194	4.49	ug/L		96
32) Dibromofluoromethane	9.428	113	685759	53.22	ug/L	#	91
33) 2-Butanone	9.557	72	53090	47.97	ug/L	#	56
34) 1,1,1-Trichloroethane	9.486	97	81918	3.95	ug/L		96
35) 1,1-Dichloropropene	9.604	75	88262	5.28	ug/L		98
36) Propionitrile	9.898	54	140916	125.17	ug/L	#	61
37) Methacrylonitrile	9.910	41	547616	106.08	ug/L		92
38) Isobutyl Alcohol	9.904	43	93826	157.07	ug/L	#	56
40) Carbon Tetrachloride	9.422	117	58627m	3.55	ug/L		
41) Benzene	9.880	78	283337	5.43	ug/L		98
42) 1,2-Dichloroethane	10.086	62	75698	4.20	ug/L	#	84
43) Trichloroethene	10.456	130	59862	4.47	ug/L	#	23
44) Methyl cyclohexane	10.450	83	140855	4.36	ug/L	#	93
45) Dibromomethane	10.908	93	38387	5.15	ug/L		95
46) 1,2-Dichloropropane	10.991	63	73816	6.27	ug/L	#	85
47) Bromodichloromethane	11.020	83	68663	4.13	ug/L	#	85
48) Methyl Methacrylate	11.085	69	49508	8.63	ug/L		86
49) 1,4-Dioxane	11.214	88	16898	240.03	ug/L		88
50) 2-Chloroethyl vinyl ether	11.496	63	235470	40.20	ug/L	#	90
51) C-1,3-Dichloropropene	11.613	75	112733	5.37	ug/L		97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG006.D
Acq On : 12 May 2021 10:14 am
Operator : kkw
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 12 10:38:37 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed May 12 09:45:17 2021
Response via : Initial Calibration

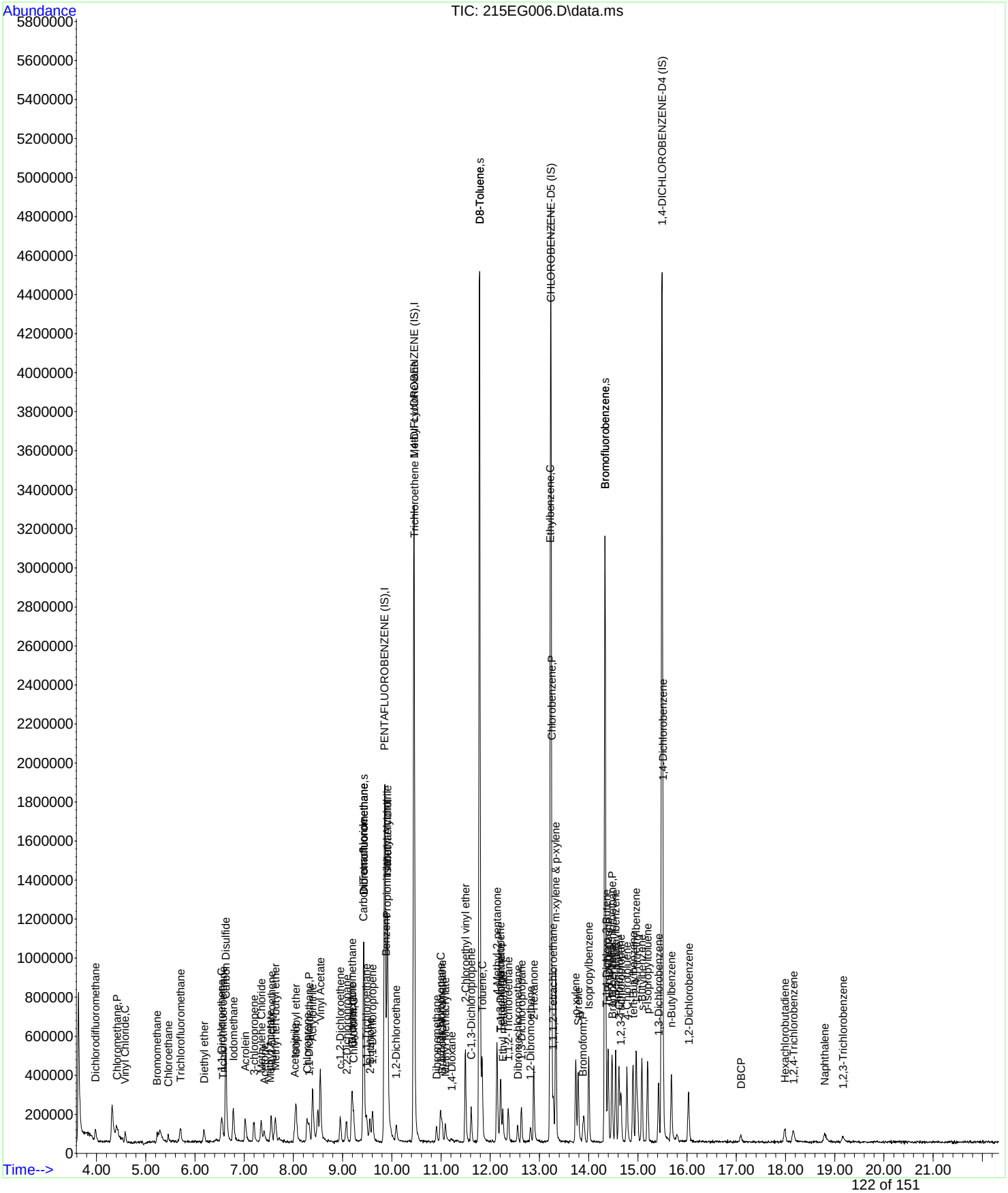
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.784	98	3150539	57.03	ug/L		96
54) 4-Methyl-2-pentanone	12.136	100	61994	42.18	ug/L		84
56) Toluene	11.837	92	172034	5.02	ug/L	#	91
57) T-1,3-Dichloropropene	12.207	75	85457	4.65	ug/L		95
58) Tetrachloroethene	12.213	164	50780	5.35	ug/L		99
59) Ethyl methacrylate	12.254	69	105497	8.35	ug/L		94
60) 1,1,2-Trichloroethane	12.366	97	58607	5.40	ug/L	#	86
61) Dibromochloromethane	12.559	129	47243	4.08	ug/L	#	97
62) 1,3-Dichloropropane	12.636	76	119032	6.13	ug/L		91
63) 1,2-Dibromoethane	12.818	107	66385	6.01	ug/L	#	94
64) 2-Hexanone	12.883	43	275900	63.38	ug/L	#	92
65) Ethylbenzene	13.217	106	102685	4.99	ug/L	#	87
66) Chlorobenzene	13.247	112	197039	5.02	ug/L		99
67) 1,1,1,2-Tetrachloroethane	13.276	131	51389	4.09	ug/L		98
68) m-xylene & p-xylene	13.329	106	270541	10.12	ug/L		98
69) o-xylene	13.735	106	137600	5.44	ug/L		94
70) Styrene	13.787	104	216163	5.29	ug/L	#	94
71) Bromoform	13.881	173	25702	4.31	ug/L		94
72) Isopropylbenzene	13.999	105	334787	5.25	ug/L		99
74) Bromofluorobenzene	14.334	95	1344225	50.75	ug/L		90
75) n-Propylbenzene	14.393	91	411587	5.04	ug/L		100
76) 1,1,2,2-Tetrachloroethane	14.475	83	111757	7.17	ug/L		93
77) 1,2,3-Trichloropropane	14.651	61	32404	10.28	ug/L	#	53
78) T-1,4-Dichloro-2-Butene	14.357	53	32940	6.76	ug/L	#	1
80) Bromobenzene	14.481	156	69835	4.70	ug/L		83
81) 1,2,4-Trimethylbenzene	14.963	105	293835	5.16	ug/L		99
82) 2-Chlorotoluene	14.616	91	263166	5.31	ug/L		99
83) 4-Chlorotoluene	14.775	91	258276	5.15	ug/L		99
84) tert-Butylbenzene	14.904	119	235048	5.20	ug/L		96
85) 1,3,5-Trimethylbenzene	14.545	105	298056	5.25	ug/L		97
86) p-Isopropyltoluene	15.198	119	292662	5.31	ug/L		97
87) s-Butylbenzene	15.080	105	352685	5.36	ug/L		98
88) 1,3-Dichlorobenzene	15.421	146	153283	5.29	ug/L		95
89) 1,4-Dichlorobenzene	15.509	146	155069	4.95	ug/L	#	7
90) n-Butylbenzene	15.679	91	277186	5.46	ug/L		97
91) 1,2-Dichlorobenzene	16.032	146	133764	5.03	ug/L		99
92) DBCP	17.095	157	12177	7.12	ug/L		98
93) Hexachlorobutadiene	17.988	225	17344	5.70	ug/L	#	83
94) 1,2,4-Trichlorobenzene	18.165	180	32893	5.75	ug/L		94
95) Naphthalene	18.793	128	77886	7.42	ug/L	#	90
96) 1,2,3-Trichlorobenzene	19.169	180	15736	5.93	ug/L		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG006.D
Acq On : 12 May 2021 10:14 am
Operator : kkw
Sample : CAL3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 12 10:38:37 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed May 12 09:45:17 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG007.D
Acq On : 12 May 2021 10:42 am
Operator : kkw
Sample : CAL4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 12 11:12:19 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed May 12 09:45:17 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1222071	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2491366	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1496226	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1385715	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	681768	53.72	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 107.44%				
52) D8-Toluene	11.784	98	3199834	58.56	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 117.12%				
73) Bromofluorobenzene	14.328	95	1354356	51.88	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 103.76%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	132107	9.00	ug/L		99
3) Chloromethane	4.416	50	183677	17.71	ug/L		93
4) Vinyl Chloride	4.586	62	139019	11.96	ug/L	#	53
5) Bromomethane	5.233	94	39784	5.06	ug/L		98
6) Chloroethane	5.462	64	72146	10.47	ug/L		96
7) Trichlorofluoromethane	5.703	101	152820	8.67	ug/L		97
8) Diethyl ether	6.184	59	83455	11.03	ug/L	#	88
9) 1,1-Dichloroethene	6.537	96	79016	7.96	ug/L		92
10) Trichlorotrifluoroethane	6.560	151	56403	7.51	ug/L		99
11) Acrolein	7.025	56	322203	219.37	ug/L		98
12) Iodomethane	6.784	142	542967	57.27	ug/L		94
13) Carbon Disulfide	6.631	76	1707886	54.58	ug/L		97
14) 3-chloropropene	7.201	41	174778	14.78	ug/L	#	70
15) Acetone	7.401	43	185085	99.92	ug/L		90
16) Methylene Chloride	7.348	84	117877	9.76	ug/L	#	73
17) Methyl Acetate	7.524	43	97514	21.80	ug/L	#	81
18) t-1,2-Dichloroethene	7.553	96	100349	8.83	ug/L		89
19) Methyl tert-butyl ether	7.636	73	286529	10.90	ug/L	#	87
20) Acetonitrile	8.029	41	275541	233.04	ug/L	#	85
21) Isopropyl ether	8.053	45	354841	14.40	ug/L	#	88
22) Chloroprene	8.276	88	108687	11.44	ug/L		95
23) 1,1-Dichloroethane	8.317	63	202671	9.73	ug/L		99
24) Acrylonitrile	8.394	53	582617	214.00	ug/L		94
25) Vinyl Acetate	8.546	43	1336462	84.60	ug/L		94
26) c-1,2-Dichloroethene	8.952	96	128979	9.90	ug/L		94
27) 2,2-Dichloropropane	9.075	77	148799	7.56	ug/L		93
28) Bromochloromethane	9.187	128	50475	8.27	ug/L		94
29) Cyclohexane	9.199	56	185443	11.12	ug/L		89
30) Chloroform	9.222	83	208908	8.73	ug/L		100
32) Dibromofluoromethane	9.428	113	681768	53.72	ug/L	#	90
33) 2-Butanone	9.551	72	104424	95.80	ug/L	#	56
34) 1,1,1-Trichloroethane	9.492	97	146779	7.19	ug/L		98
35) 1,1-Dichloropropene	9.610	75	161075	9.78	ug/L		97
36) Propionitrile	9.898	54	256520	231.35	ug/L	#	59
37) Methacrylonitrile	9.910	41	1054021	207.32	ug/L		91
38) Isobutyl Alcohol	9.910	43	198332	337.12	ug/L	#	40
40) Carbon Tetrachloride	9.416	117	98441m	6.03	ug/L		
41) Benzene	9.880	78	486878	9.43	ug/L		97
42) 1,2-Dichloroethane	10.092	62	134367	7.54	ug/L	#	77
43) Trichloroethene	10.462	130	110018	8.30	ug/L	#	64
44) Methyl cyclohexane	10.456	83	234724	7.35	ug/L		93
45) Dibromomethane	10.903	93	73114	9.92	ug/L		96
46) 1,2-Dichloropropane	10.985	63	142720	12.26	ug/L	#	79
47) Bromodichloromethane	11.020	83	130336	7.93	ug/L	#	93
48) Methyl Methacrylate	11.085	69	102906	18.14	ug/L		91
49) 1,4-Dioxane	11.202	88	29061	417.36	ug/L	#	71
50) 2-Chloroethyl vinyl ether	11.496	63	446002	76.99	ug/L	#	90
51) C-1,3-Dichloropropene	11.613	75	210033	10.11	ug/L		97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG007.D
Acq On : 12 May 2021 10:42 am
Operator : kkw
Sample : CAL4
Misc :
ALS Vial : 5 Sample Multiplier: 1

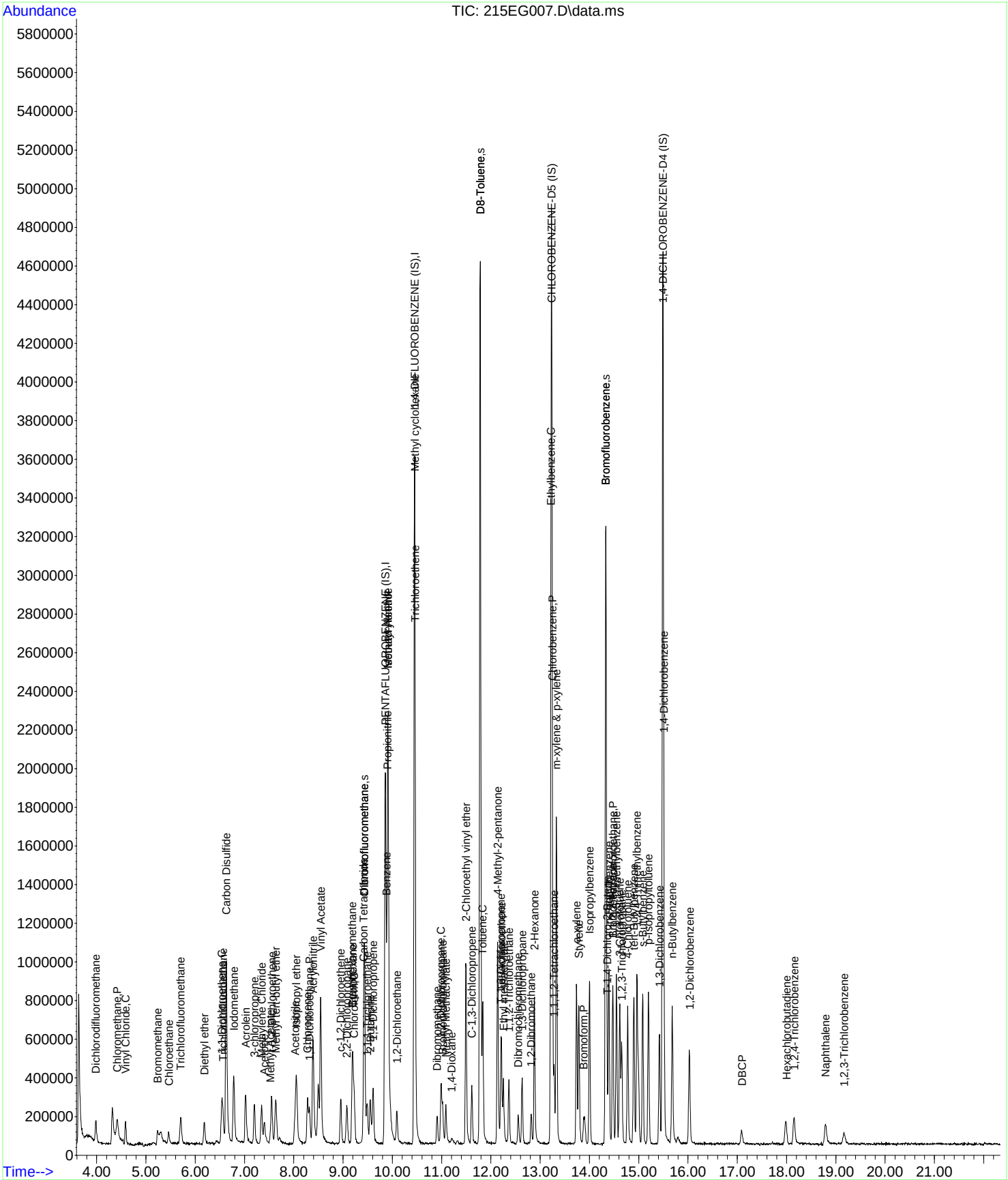
Quant Time: May 12 11:12:19 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed May 12 09:45:17 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.784	98	3199834	58.56	ug/L		96
54) 4-Methyl-2-pentanone	12.136	100	122354	84.17	ug/L		82
56) Toluene	11.831	92	331141	9.81	ug/L		99
57) T-1,3-Dichloropropene	12.201	75	165737	9.15	ug/L	#	94
58) Tetrachloroethene	12.213	164	84623	9.05	ug/L		98
59) Ethyl methacrylate	12.254	69	189317	15.20	ug/L		97
60) 1,1,2-Trichloroethane	12.366	97	114017	10.66	ug/L		94
61) Dibromochloromethane	12.554	129	84934	7.44	ug/L	#	97
62) 1,3-Dichloropropane	12.636	76	226138	11.82	ug/L		94
63) 1,2-Dibromoethane	12.818	107	119687	11.00	ug/L		99
64) 2-Hexanone	12.883	43	529614	123.45	ug/L	#	95
65) Ethylbenzene	13.217	106	194343	9.57	ug/L		95
66) Chlorobenzene	13.247	112	354513	9.16	ug/L		98
67) 1,1,1,2-Tetrachloroethane	13.282	131	97435	7.87	ug/L		96
68) m-xylene & p-xylene	13.329	106	507319	19.26	ug/L		99
69) o-xylene	13.740	106	247343	9.93	ug/L		99
70) Styrene	13.782	104	415572	10.32	ug/L	#	93
71) Bromoform	13.881	173	46806	7.96	ug/L		99
72) Isopropylbenzene	13.999	105	625324	9.94	ug/L		99
74) Bromofluorobenzene	14.328	95	1354356	51.88	ug/L		90
75) n-Propylbenzene	14.393	91	806666	10.01	ug/L		97
76) 1,1,2,2-Tetrachloroethane	14.475	83	203121	13.22	ug/L		98
77) 1,2,3-Trichloropropane	14.657	61	56906	18.31	ug/L	#	57
78) T-1,4-Dichloro-2-Butene	14.357	53	58075	12.10	ug/L	#	25
80) Bromobenzene	14.475	156	137454	9.21	ug/L		98
81) 1,2,4-Trimethylbenzene	14.963	105	542927	9.50	ug/L		98
82) 2-Chlorotoluene	14.616	91	482336	9.69	ug/L		98
83) 4-Chlorotoluene	14.775	91	487350	9.68	ug/L		98
84) tert-Butylbenzene	14.898	119	450346	9.92	ug/L		93
85) 1,3,5-Trimethylbenzene	14.545	105	545262	9.57	ug/L		98
86) p-Isopropyltoluene	15.198	119	549320	9.93	ug/L		96
87) s-Butylbenzene	15.080	105	667600	10.11	ug/L		98
88) 1,3-Dichlorobenzene	15.421	146	277862	9.55	ug/L		98
89) 1,4-Dichlorobenzene	15.509	146	287056	9.13	ug/L	#	58
90) n-Butylbenzene	15.679	91	527621	10.36	ug/L		99
91) 1,2-Dichlorobenzene	16.032	146	257432	9.64	ug/L		99
92) DBCP	17.095	157	25306	14.73	ug/L	#	82
93) Hexachlorobutadiene	18.000	225	33330	10.92	ug/L	#	88
94) 1,2,4-Trichlorobenzene	18.153	180	71923	12.51	ug/L		91
95) Naphthalene	18.788	128	169288	16.05	ug/L		96
96) 1,2,3-Trichlorobenzene	19.169	180	31508	11.82	ug/L		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG007.D
Acq On : 12 May 2021 10:42 am
Operator : kkw
Sample : CAL4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 12 11:12:19 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed May 12 09:45:17 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG008.D
Acq On : 12 May 2021 11:10 am
Operator : kkw
Sample : CAL5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 12 11:39:01 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed May 12 09:45:17 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1257629	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2533835	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1556127	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1417269	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	863838	66.15	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 132.30%				
52) D8-Toluene	11.784	98	3976574	71.56	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 143.12%#				
73) Bromofluorobenzene	14.328	95	1708956	62.94	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 125.88%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	273388	18.10	ug/L		99
3) Chloromethane	4.410	50	387473	36.30	ug/L		97
4) Vinyl Chloride	4.586	62	286260	23.94	ug/L	#	83
5) Bromomethane	5.232	94	75886	9.39	ug/L		98
6) Chloroethane	5.462	64	125176	17.65	ug/L		96
7) Trichlorofluoromethane	5.697	101	314112	17.32	ug/L		99
8) Diethyl ether	6.178	59	173565	22.30	ug/L	#	92
9) 1,1-Dichloroethene	6.537	96	167986	16.43	ug/L		96
10) Trichlorotrifluoroethane	6.560	151	122183	15.81	ug/L		95
11) Acrolein	7.019	56	677836	448.45	ug/L		96
12) Iodomethane	6.784	142	1220643	125.10	ug/L		93
13) Carbon Disulfide	6.625	76	3602467	111.87	ug/L		98
14) 3-chloropropene	7.195	41	356416	29.29	ug/L	#	76
15) Acetone	7.395	43	412040	216.17	ug/L		90
16) Methylene Chloride	7.342	84	240336	19.34	ug/L	#	74
17) Methyl Acetate	7.524	43	214132	46.51	ug/L	#	80
18) t-1,2-Dichloroethene	7.547	96	223602	19.11	ug/L		95
19) Methyl tert-butyl ether	7.636	73	614182	22.71	ug/L	#	85
20) Acetonitrile	8.012	41	604839	497.09	ug/L	#	85
21) Isopropyl ether	8.053	45	768924	30.33	ug/L	#	88
22) Chloroprene	8.276	88	229684	23.50	ug/L		97
23) 1,1-Dichloroethane	8.317	63	426252	19.88	ug/L		98
24) Acrylonitrile	8.388	53	1247280	445.19	ug/L		97
25) Vinyl Acetate	8.540	43	2889499	177.73	ug/L	#	93
26) c-1,2-Dichloroethene	8.952	96	260851	19.45	ug/L		92
27) 2,2-Dichloropropane	9.075	77	311181	15.36	ug/L	#	94
28) Bromochloromethane	9.187	128	100970	16.07	ug/L		99
29) Cyclohexane	9.193	56	412849	24.07	ug/L		87
30) Chloroform	9.222	83	430234	17.46	ug/L		99
32) Dibromofluoromethane	9.428	113	863838	66.15	ug/L	#	92
33) 2-Butanone	9.545	72	214517	191.24	ug/L	#	43
34) 1,1,1-Trichloroethane	9.486	97	309711	14.75	ug/L		94
35) 1,1-Dichloropropene	9.610	75	331644	19.56	ug/L		99
36) Propionitrile	9.898	54	548618	480.81	ug/L	#	57
37) Methacrylonitrile	9.909	41	2184817	417.59	ug/L		91
38) Isobutyl Alcohol	9.956	43	448646	741.04	ug/L	#	88
40) Carbon Tetrachloride	9.416	117	232704	14.02	ug/L		97
41) Benzene	9.880	78	1032377	19.66	ug/L		98
42) 1,2-Dichloroethane	10.092	62	293567	16.20	ug/L	#	84
43) Trichloroethene	10.450	130	232853	17.28	ug/L	#	84
44) Methyl cyclohexane	10.450	83	474624	14.61	ug/L		94
45) Dibromomethane	10.908	93	156421	20.86	ug/L		98
46) 1,2-Dichloropropane	10.991	63	283360	23.94	ug/L	#	83
47) Bromodichloromethane	11.020	83	305428	18.27	ug/L		96
48) Methyl Methacrylate	11.079	69	222848	38.62	ug/L		91
49) 1,4-Dioxane	11.202	88	61781	872.39	ug/L	#	74
50) 2-Chloroethyl vinyl ether	11.490	63	965957	163.95	ug/L	#	90
51) C-1,3-Dichloropropene	11.613	75	446448	21.12	ug/L		97

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG008.D
Acq On : 12 May 2021 11:10 am
Operator : kkw
Sample : CAL5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 12 11:39:01 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed May 12 09:45:17 2021
Response via : Initial Calibration

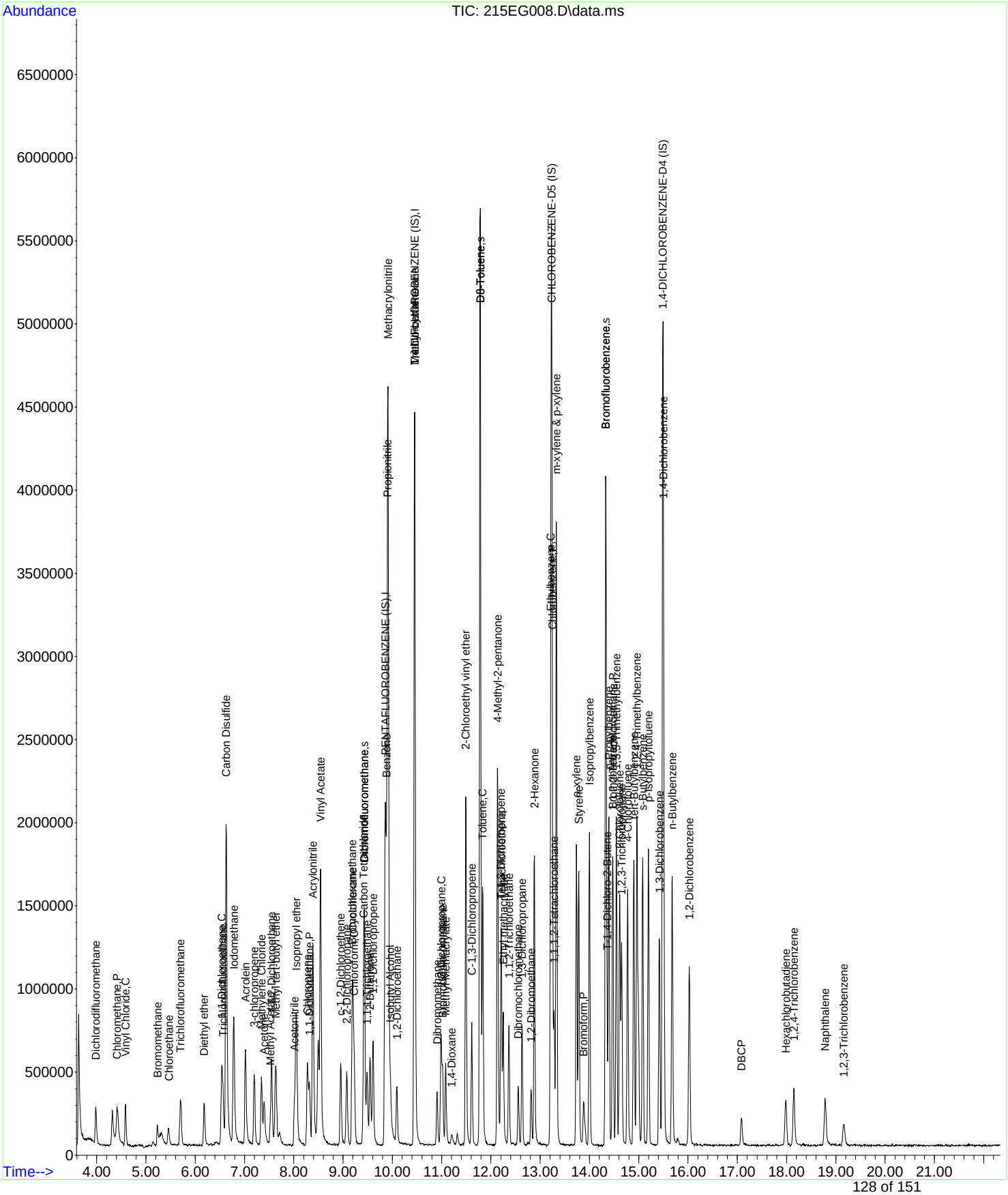
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.784	98	3972095	71.48 ug/L	96
54) 4-Methyl-2-pentanone	12.136	100	259412	175.46 ug/L #	80
56) Toluene	11.831	92	705287	20.09 ug/L	99
57) T-1,3-Dichloropropene	12.201	75	365166	19.39 ug/L	97
58) Tetrachloroethene	12.213	164	194521	20.00 ug/L	98
59) Ethyl methacrylate	12.248	69	447519	34.54 ug/L	96
60) 1,1,2-Trichloroethane	12.365	97	249177	22.40 ug/L	99
61) Dibromochloromethane	12.553	129	200270	16.86 ug/L	98
62) 1,3-Dichloropropane	12.630	76	467754	23.51 ug/L	92
63) 1,2-Dibromoethane	12.812	107	260185	22.98 ug/L	98
64) 2-Hexanone	12.882	43	1168389	261.85 ug/L #	95
65) Ethylbenzene	13.212	106	424119	20.09 ug/L	95
66) Chlorobenzene	13.247	112	736631	18.29 ug/L	99
67) 1,1,1,2-Tetrachloroethane	13.282	131	209962	16.30 ug/L	99
68) m-xylene & p-xylene	13.329	106	1105264	40.35 ug/L	99
69) o-xylene	13.734	106	531073	20.50 ug/L	100
70) Styrene	13.781	104	891539	21.28 ug/L #	94
71) Bromoform	13.875	173	118611	19.40 ug/L	100
72) Isopropylbenzene	13.999	105	1391187	21.27 ug/L	97
74) Bromofluorobenzene	14.328	95	1708956	62.94 ug/L	89
75) n-Propylbenzene	14.393	91	1760073	21.01 ug/L	97
76) 1,1,2,2-Tetrachloroethane	14.475	83	450660	28.21 ug/L	96
77) 1,2,3-Trichloropropane	14.651	61	96727	29.93 ug/L #	78
78) T-1,4-Dichloro-2-Butene	14.357	53	129188	25.88 ug/L #	70
80) Bromobenzene	14.469	156	285513	18.71 ug/L	90
81) 1,2,4-Trimethylbenzene	14.962	105	1220910	20.88 ug/L	99
82) 2-Chlorotoluene	14.610	91	1051315	20.66 ug/L	100
83) 4-Chlorotoluene	14.774	91	1068014	20.73 ug/L	99
84) tert-Butylbenzene	14.904	119	975714	21.02 ug/L	96
85) 1,3,5-Trimethylbenzene	14.545	105	1184533	20.33 ug/L	99
86) p-Isopropyltoluene	15.197	119	1249668	22.10 ug/L	97
87) s-Butylbenzene	15.080	105	1458070	21.58 ug/L	99
88) 1,3-Dichlorobenzene	15.421	146	610675	20.52 ug/L	98
89) 1,4-Dichlorobenzene	15.503	146	605759	18.84 ug/L #	84
90) n-Butylbenzene	15.679	91	1186590	22.78 ug/L	99
91) 1,2-Dichlorobenzene	16.026	146	563533	20.64 ug/L	99
92) DBCP	17.084	157	62698	35.69 ug/L	96
93) Hexachlorobutadiene	17.988	225	70412	22.55 ug/L #	87
94) 1,2,4-Trichlorobenzene	18.147	180	152935	26.02 ug/L	93
95) Naphthalene	18.782	128	415510	38.53 ug/L	99
96) 1,2,3-Trichlorobenzene	19.158	180	69167	25.38 ug/L	90

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG008.D
Acq On : 12 May 2021 11:10 am
Operator : kkw
Sample : CAL5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 12 11:39:01 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed May 12 09:45:17 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG009.D
Acq On : 12 May 2021 11:38 am
Operator : kkw
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 12 12:33:08 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed May 12 09:45:17 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1246947	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2520262	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1596030	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1464563	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	706188	54.54	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 109.08%				
52) D8-Toluene	11.784	98	3326008	60.17	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 120.34%#				
73) Bromofluorobenzene	14.334	95	1492714	53.60	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 107.20%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	732574	48.93	ug/L		100
3) Chloromethane	4.416	50	1019563	96.32	ug/L		98
4) Vinyl Chloride	4.580	62	802946	67.72	ug/L		98
5) Bromomethane	5.227	94	229701	28.65	ug/L	#	96
6) Chloroethane	5.450	64	298523	42.44	ug/L		97
7) Trichlorofluoromethane	5.697	101	881706	49.04	ug/L		99
8) Diethyl ether	6.179	59	487808	63.20	ug/L		92
9) 1,1-Dichloroethene	6.531	96	479100	47.27	ug/L		99
10) Trichlorotrifluoroethane	6.560	151	330597	43.15	ug/L		99
11) Acrolein	7.013	56	1775909	1185.00	ug/L		97
12) Iodomethane	6.778	142	3253050	336.25	ug/L		93
13) Carbon Disulfide	6.625	76	9535337	298.64	ug/L		98
14) 3-chloropropene	7.195	41	985406	81.67	ug/L	#	74
15) Acetone	7.395	43	1131233	598.55	ug/L		93
16) Methylene Chloride	7.342	84	661371	53.69	ug/L	#	79
17) Methyl Acetate	7.518	43	590453	129.34	ug/L	#	77
18) t-1,2-Dichloroethene	7.548	96	593378	51.14	ug/L		92
19) Methyl tert-butyl ether	7.630	73	1697450	63.30	ug/L	#	87
20) Acetonitrile	8.012	41	1627438	1348.97	ug/L	#	84
21) Isopropyl ether	8.053	45	2084268	82.92	ug/L	#	89
22) Chloroprene	8.270	88	634365	65.46	ug/L		98
23) 1,1-Dichloroethane	8.311	63	1154939	54.34	ug/L		99
24) Acrylonitrile	8.382	53	3294939	1186.12	ug/L		97
25) Vinyl Acetate	8.541	43	7632345	473.48	ug/L		94
26) c-1,2-Dichloroethene	8.952	96	722920	54.38	ug/L		92
27) 2,2-Dichloropropane	9.075	77	864836	43.05	ug/L		95
28) Bromochloromethane	9.187	128	229270	36.81	ug/L		94
29) Cyclohexane	9.187	56	1136574	66.82	ug/L		88
30) Chloroform	9.222	83	1162872	47.60	ug/L		99
32) Dibromofluoromethane	9.428	113	706188	54.54	ug/L	#	90
33) 2-Butanone	9.539	72	587366	528.12	ug/L	#	46
34) 1,1,1-Trichloroethane	9.486	97	904007	43.41	ug/L		98
35) 1,1-Dichloropropene	9.610	75	931865	55.44	ug/L		98
36) Propionitrile	9.898	54	1384511	1223.78	ug/L	#	57
37) Methacrylonitrile	9.910	41	5481901	1056.74	ug/L		90
38) Isobutyl Alcohol	9.951	43	1234197	2056.03	ug/L	#	77
40) Carbon Tetrachloride	9.416	117	651142	39.44	ug/L		96
41) Benzene	9.874	78	2691574	51.55	ug/L		97
42) 1,2-Dichloroethane	10.086	62	825641	45.82	ug/L	#	85
43) Trichloroethene	10.450	130	647632	48.32	ug/L		98
44) Methyl cyclohexane	10.450	83	1276382	39.51	ug/L		92
45) Dibromomethane	10.903	93	422900	56.70	ug/L		96
46) 1,2-Dichloropropane	10.985	63	803426	68.23	ug/L	#	80
47) Bromodichloromethane	11.020	83	848550	51.04	ug/L		97
48) Methyl Methacrylate	11.079	69	635271	110.70	ug/L		91
49) 1,4-Dioxane	11.202	88	148662	2110.52	ug/L	#	74
50) 2-Chloroethyl vinyl ether	11.490	63	2460799	419.91	ug/L	#	90
51) C-1,3-Dichloropropene	11.608	75	1288933	61.31	ug/L		97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG009.D
Acq On : 12 May 2021 11:38 am
Operator : kkw
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 12 12:33:08 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed May 12 09:45:17 2021
Response via : Initial Calibration

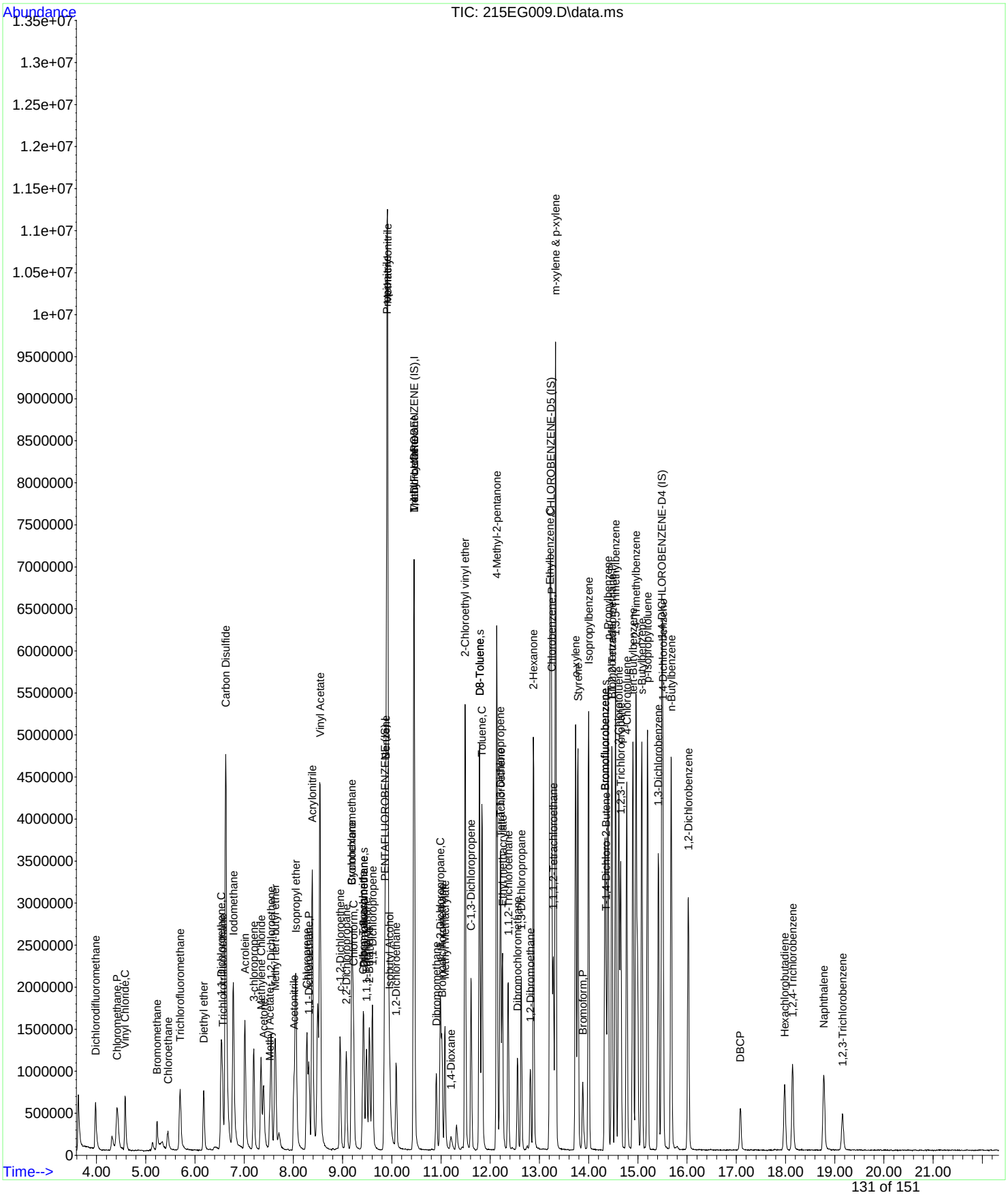
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.784	98	3326008	60.17	ug/L		97
54) 4-Methyl-2-pentanone	12.131	100	695131	472.71	ug/L	#	81
56) Toluene	11.831	92	1881823	52.27	ug/L		96
57) T-1,3-Dichloropropene	12.201	75	1059906	54.88	ug/L		99
58) Tetrachloroethene	12.213	164	520412	52.17	ug/L		99
59) Ethyl methacrylate	12.248	69	1240644	93.35	ug/L		97
60) 1,1,2-Trichloroethane	12.366	97	692984	60.75	ug/L		97
61) Dibromochloromethane	12.554	129	620454	50.93	ug/L		98
62) 1,3-Dichloropropane	12.630	76	1272101	62.34	ug/L		88
63) 1,2-Dibromoethane	12.812	107	736393	63.42	ug/L		99
64) 2-Hexanone	12.877	43	3208442	701.08	ug/L	#	94
65) Ethylbenzene	13.212	106	1156674	53.42	ug/L		97
66) Chlorobenzene	13.247	112	2004857	48.55	ug/L		100
67) 1,1,1,2-Tetrachloroethane	13.282	131	620916	47.01	ug/L		99
68) m-xylene & p-xylene	13.329	106	2919272	103.90	ug/L		99
69) o-xylene	13.735	106	1492391	56.17	ug/L		98
70) Styrene	13.782	104	2481619	57.76	ug/L	#	97
71) Bromoform	13.881	173	358554	57.18	ug/L		100
72) Isopropylbenzene	13.999	105	3808099	56.75	ug/L		99
74) Bromofluorobenzene	14.334	95	1492714	53.60	ug/L		87
75) n-Propylbenzene	14.393	91	4846734	56.41	ug/L		98
76) 1,1,2,2-Tetrachloroethane	14.475	83	1224772	74.74	ug/L		96
77) 1,2,3-Trichloropropane	14.651	61	333585	100.65	ug/L	#	60
78) T-1,4-Dichloro-2-Butene	14.351	53	394459	77.03	ug/L		86
80) Bromobenzene	14.469	156	798155	50.62	ug/L		92
81) 1,2,4-Trimethylbenzene	14.963	105	3414783	56.50	ug/L		99
82) 2-Chlorotoluene	14.610	91	2911278	55.37	ug/L		99
83) 4-Chlorotoluene	14.775	91	3002553	56.40	ug/L		99
84) tert-Butylbenzene	14.898	119	2786805	58.08	ug/L		96
85) 1,3,5-Trimethylbenzene	14.545	105	3381881	56.16	ug/L		99
86) p-Isopropyltoluene	15.198	119	3490245	59.72	ug/L		97
87) s-Butylbenzene	15.080	105	4128337	59.14	ug/L		98
88) 1,3-Dichlorobenzene	15.415	146	1697861	55.20	ug/L		100
89) 1,4-Dichlorobenzene	15.509	146	1681284	50.61	ug/L		98
90) n-Butylbenzene	15.679	91	3415151	63.45	ug/L		99
91) 1,2-Dichlorobenzene	16.026	146	1560068	55.28	ug/L		99
92) DBCP	17.078	157	190603	104.99	ug/L		100
93) Hexachlorobutadiene	17.983	225	209878	65.06	ug/L	#	80
94) 1,2,4-Trichlorobenzene	18.141	180	458777	75.53	ug/L		92
95) Naphthalene	18.776	128	1252611	112.40	ug/L		99
96) 1,2,3-Trichlorobenzene	19.158	180	215396	76.47	ug/L	#	90

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG009.D
Acq On : 12 May 2021 11:38 am
Operator : kkw
Sample : CAL6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 12 12:33:08 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed May 12 09:45:17 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG010.D
Acq On : 12 May 2021 12:06 pm
Operator : kkw
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 12 12:35:11 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed May 12 09:45:17 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1257942	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2485495	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1625354	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1455287	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	923590	70.70	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 141.40%#				
52) D8-Toluene	11.784	98	4337806	79.58	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 159.16%#				
73) Bromofluorobenzene	14.328	95	1975436	69.66	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 139.32%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	1239918	82.09	ug/L		100
3) Chloromethane	4.422	50	1743401	163.27	ug/L		98
4) Vinyl Chloride	4.586	62	1332973	111.44	ug/L		99
5) Bromomethane	5.232	94	419511	51.87	ug/L	#	98
6) Chloroethane	5.444	64	350292	49.37	ug/L		99
7) Trichlorofluoromethane	5.697	101	1496306	82.50	ug/L		99
8) Diethyl ether	6.178	59	834653	107.19	ug/L		92
9) 1,1-Dichloroethene	6.531	96	808706	79.10	ug/L		99
10) Trichlorotrifluoroethane	6.560	151	545296	70.55	ug/L		97
11) Acrolein	7.013	56	2956271	1955.37	ug/L		97
12) Iodomethane	6.778	142	5172118	529.94	ug/L		93
13) Carbon Disulfide	6.625	76	14787642	459.09	ug/L		98
14) 3-chloropropene	7.195	41	1458352	119.81	ug/L	#	74
15) Acetone	7.395	43	1815107	952.01	ug/L		93
16) Methylene Chloride	7.342	84	1101619	88.65	ug/L	#	78
17) Methyl Acetate	7.518	43	975070	211.73	ug/L	#	78
18) t-1,2-Dichloroethene	7.547	96	1000833	85.51	ug/L		92
19) Methyl tert-butyl ether	7.636	73	2861739	105.79	ug/L	#	90
20) Acetonitrile	8.018	41	2661204	2186.57	ug/L	#	84
21) Isopropyl ether	8.047	45	3470122	136.85	ug/L	#	88
22) Chloroprene	8.270	88	1033986	105.76	ug/L		98
23) 1,1-Dichloroethane	8.317	63	1920759	89.58	ug/L		99
24) Acrylonitrile	8.382	53	5411539	1931.04	ug/L		97
25) Vinyl Acetate	8.540	43	11925030	733.32	ug/L		94
26) c-1,2-Dichloroethene	8.952	96	1222585	91.16	ug/L		94
27) 2,2-Dichloropropane	9.075	77	1493316	73.69	ug/L		97
28) Bromochloromethane	9.187	128	360900	57.44	ug/L		96
29) Cyclohexane	9.193	56	1919317	111.86	ug/L		87
30) Chloroform	9.222	83	1925669	78.13	ug/L		99
32) Dibromofluoromethane	9.428	113	923590	70.70	ug/L	#	90
33) 2-Butanone	9.545	72	952335	848.79	ug/L	#	48
34) 1,1,1-Trichloroethane	9.486	97	1506974	71.73	ug/L		98
35) 1,1-Dichloropropene	9.604	75	1558923	91.94	ug/L		97
36) Propionitrile	9.898	54	2114075	1852.31	ug/L	#	59
37) Methacrylonitrile	9.909	41	8202423	1567.35	ug/L		90
38) Isobutyl Alcohol	9.951	43	1997669	3298.80	ug/L	#	75
40) Carbon Tetrachloride	9.416	117	1143147	70.21	ug/L		99
41) Benzene	9.880	78	4416893	85.77	ug/L		97
42) 1,2-Dichloroethane	10.092	62	1315642	74.04	ug/L	#	83
43) Trichloroethene	10.456	130	1064568	80.55	ug/L		95
44) Methyl cyclohexane	10.456	83	2064619	64.81	ug/L		91
45) Dibromomethane	10.902	93	690013	93.81	ug/L		95
46) 1,2-Dichloropropane	10.985	63	1328769	114.43	ug/L	#	80
47) Bromodichloromethane	11.020	83	1425803	86.96	ug/L		96
48) Methyl Methacrylate	11.079	69	1070885	189.21	ug/L		90
49) 1,4-Dioxane	11.202	88	252423	3633.73	ug/L	#	72
50) 2-Chloroethyl vinyl ether	11.490	63	3750350	648.91	ug/L	#	89
51) C-1,3-Dichloropropene	11.613	75	2184923	105.39	ug/L		97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG010.D
Acq On : 12 May 2021 12:06 pm
Operator : kkw
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 12 12:35:11 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed May 12 09:45:17 2021
Response via : Initial Calibration

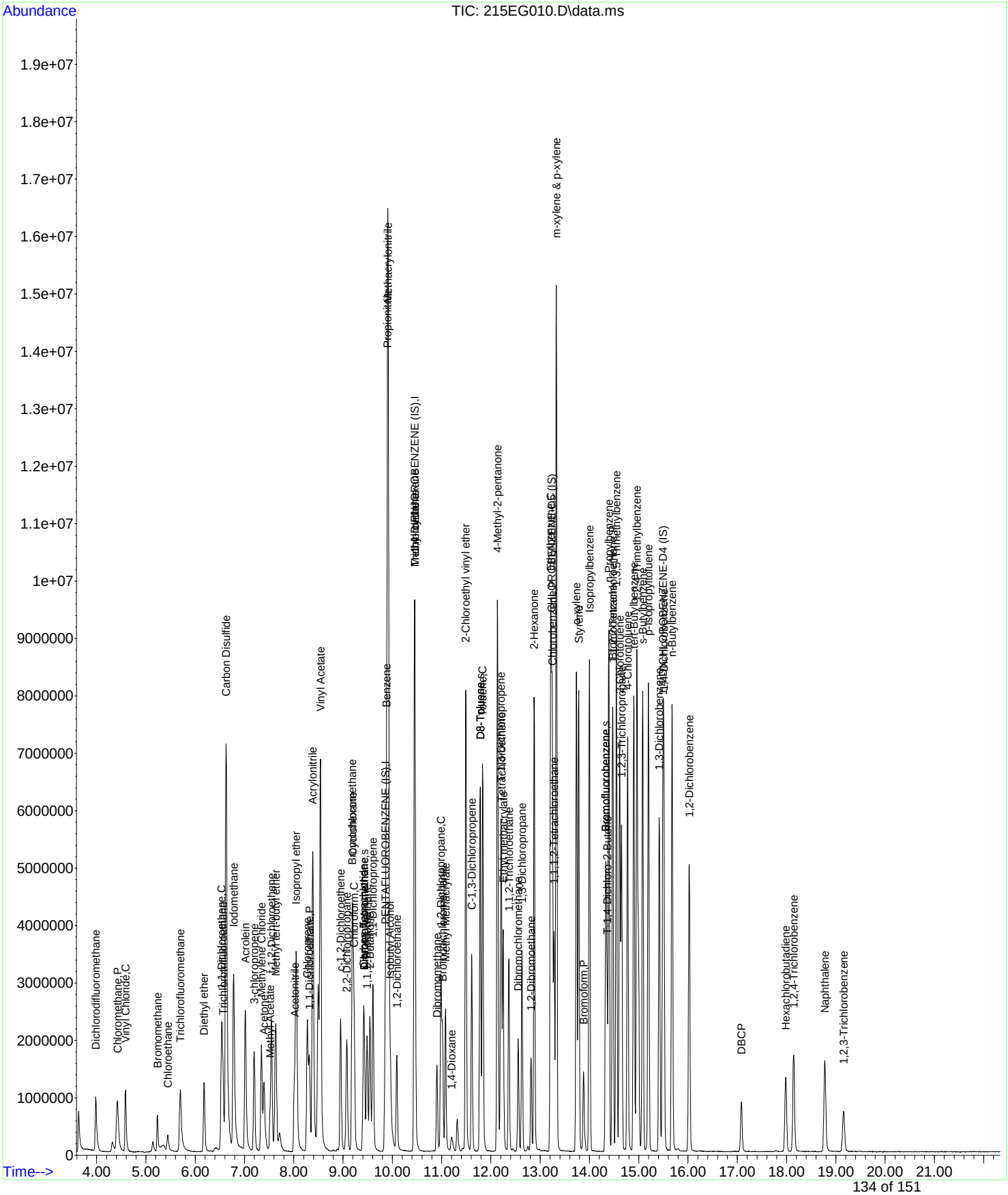
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.784	98	4336449	79.55	ug/L		96
54) 4-Methyl-2-pentanone	12.130	100	1090295	751.80	ug/L	#	79
56) Toluene	11.831	92	3118354	85.05	ug/L		98
57) T-1,3-Dichloropropene	12.201	75	1733791	88.15	ug/L		98
58) Tetrachloroethene	12.213	164	841538	82.83	ug/L		99
59) Ethyl methacrylate	12.248	69	2014808	148.87	ug/L		97
60) 1,1,2-Trichloroethane	12.365	97	1157681	99.65	ug/L		98
61) Dibromochloromethane	12.553	129	1084379	87.41	ug/L		97
62) 1,3-Dichloropropane	12.630	76	2120623	102.04	ug/L		89
63) 1,2-Dibromoethane	12.812	107	1229588	103.98	ug/L		99
64) 2-Hexanone	12.877	43	5103523	1095.06	ug/L	#	95
65) Ethylbenzene	13.212	106	1921651	87.14	ug/L		98
66) Chlorobenzene	13.247	112	3303540	78.55	ug/L		100
67) 1,1,1,2-Tetrachloroethane	13.282	131	1061431	78.91	ug/L		98
68) m-xylene & p-xylene	13.329	106	4669710	163.20	ug/L		96
69) o-xylene	13.734	106	2473527	91.42	ug/L		99
70) Styrene	13.781	104	4189429	95.75	ug/L	#	97
71) Bromoform	13.881	173	642778	100.65	ug/L		99
72) Isopropylbenzene	13.999	105	6283223	91.95	ug/L		99
74) Bromofluorobenzene	14.328	95	1975436	69.66	ug/L		87
75) n-Propylbenzene	14.393	91	8055001	92.05	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.475	83	2007303	120.28	ug/L		97
77) 1,2,3-Trichloropropane	14.651	61	547539	162.22	ug/L	#	60
78) T-1,4-Dichloro-2-Butene	14.357	53	637137	122.18	ug/L	#	87
80) Bromobenzene	14.469	156	1324085	84.52	ug/L		92
81) 1,2,4-Trimethylbenzene	14.962	105	5587044	93.04	ug/L		99
82) 2-Chlorotoluene	14.616	91	4838918	92.61	ug/L		99
83) 4-Chlorotoluene	14.774	91	5003821	94.60	ug/L		98
84) tert-Butylbenzene	14.898	119	4609438	96.69	ug/L		97
85) 1,3,5-Trimethylbenzene	14.545	105	5534268	92.49	ug/L		99
86) p-Isopropyltoluene	15.197	119	5724254	98.57	ug/L		98
87) s-Butylbenzene	15.080	105	6818876	98.30	ug/L		99
88) 1,3-Dichlorobenzene	15.415	146	2767121	90.54	ug/L		100
89) 1,4-Dichlorobenzene	15.509	146	2739398	82.99	ug/L		96
90) n-Butylbenzene	15.673	91	5578283	104.30	ug/L		99
91) 1,2-Dichlorobenzene	16.026	146	2528901	90.19	ug/L		99
92) DBCP	17.084	157	324087	179.66	ug/L		95
93) Hexachlorobutadiene	17.982	225	350576	109.37	ug/L	#	83
94) 1,2,4-Trichlorobenzene	18.141	180	778946	129.06	ug/L		93
95) Naphthalene	18.776	128	2137199	192.99	ug/L		98
96) 1,2,3-Trichlorobenzene	19.158	180	359740	128.53	ug/L		91

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG010.D
Acq On : 12 May 2021 12:06 pm
Operator : kkw
Sample : CAL7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 12 12:35:11 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed May 12 09:45:17 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG011.D
Acq On : 12 May 2021 12:34 pm
Operator : kkw
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 12 12:59:11 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed May 12 12:41:11 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1296417	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2494917	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1633060	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1453740	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	995193	73.93	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 147.86%#				
52) D8-Toluene	11.784	98	4733791	86.51	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 173.02%#				
73) Bromofluorobenzene	14.334	95	2155311	75.64	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 151.28%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	1547039	99.38	ug/L		99
3) Chloromethane	4.416	50	2295343	208.58	ug/L		100
4) Vinyl Chloride	4.586	62	1712749	138.95	ug/L		96
5) Bromomethane	5.233	94	549148	65.88	ug/L	#	98
6) Chloroethane	5.438	64	349847	47.84	ug/L		98
7) Trichlorofluoromethane	5.697	101	1917052	102.56	ug/L		100
8) Diethyl ether	6.179	59	1070734	133.43	ug/L		91
9) 1,1-Dichloroethene	6.531	96	1057935	100.41	ug/L		98
10) Trichlorotrifluoroethane	6.555	151	717843	90.12	ug/L		97
11) Acrolein	7.019	56	3692747	2370.01	ug/L		97
12) Iodomethane	6.778	142	6502858	646.52	ug/L		93
13) Carbon Disulfide	6.625	76	18350278	552.78	ug/L		98
14) 3-chloropropene	7.195	41	1681058	134.01	ug/L	#	72
15) Acetone	7.395	43	2386286	1214.44	ug/L		93
16) Methylene Chloride	7.342	84	1408234	109.96	ug/L	#	77
17) Methyl Acetate	7.518	43	1337813	281.88	ug/L	#	77
18) t-1,2-Dichloroethene	7.548	96	1278376	105.98	ug/L		92
19) Methyl tert-butyl ether	7.630	73	3622490	129.94	ug/L	#	88
20) Acetonitrile	8.012	41	3524861m	2810.23	ug/L		
21) Isopropyl ether	8.053	45	4498676	172.15	ug/L	#	88
22) Chloroprene	8.276	88	1346697	133.66	ug/L		98
23) 1,1-Dichloroethane	8.311	63	2439063	110.37	ug/L		97
24) Acrylonitrile	8.388	53	6793689	2352.29	ug/L		96
25) Vinyl Acetate	8.541	43	14667727	875.21	ug/L		95
26) c-1,2-Dichloroethene	8.952	96	1538113	111.28	ug/L		93
27) 2,2-Dichloropropane	9.075	77	1885174	90.27	ug/L		96
28) Bromochloromethane	9.187	128	440475	68.02	ug/L		93
29) Cyclohexane	9.193	56	2416857	136.67	ug/L		88
30) Chloroform	9.222	83	2413056	95.00	ug/L		98
32) Dibromofluoromethane	9.428	113	995193	73.93	ug/L	#	89
33) 2-Butanone	9.545	72	1237887	1070.56	ug/L	#	47
34) 1,1,1-Trichloroethane	9.487	97	1893008	87.43	ug/L		97
35) 1,1-Dichloropropene	9.604	75	1997561	114.31	ug/L		97
36) Propionitrile	9.898	54	2650826	2253.67	ug/L	#	59
37) Methacrylonitrile	9.915	41	10164402	1884.61	ug/L		89
38) Isobutyl Alcohol	9.957	43	2733958m	4380.66	ug/L		
40) Carbon Tetrachloride	9.416	117	1433480m	87.71	ug/L		
41) Benzene	9.880	78	5478513	105.98	ug/L		96
42) 1,2-Dichloroethane	10.092	62	1693199	94.92	ug/L	#	84
43) Trichloroethene	10.456	130	1310961	98.81	ug/L		96
44) Methyl cyclohexane	10.456	83	2583246	80.78	ug/L		92
45) Dibromomethane	10.903	93	898722	121.72	ug/L		96
46) 1,2-Dichloropropane	10.985	63	1697235	145.61	ug/L	#	80
47) Bromodichloromethane	11.020	83	1834121	111.44	ug/L		97
48) Methyl Methacrylate	11.079	69	1376991	242.38	ug/L		90
49) 1,4-Dioxane	11.202	88	333584	4783.93	ug/L	#	72
50) 2-Chloroethyl vinyl ether	11.490	63	4624044	797.06	ug/L		91
51) C-1,3-Dichloropropene	11.614	75	2787028	133.92	ug/L		97

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG011.D
Acq On : 12 May 2021 12:34 pm
Operator : kkw
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 12 12:59:11 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed May 12 12:41:11 2021
Response via : Initial Calibration

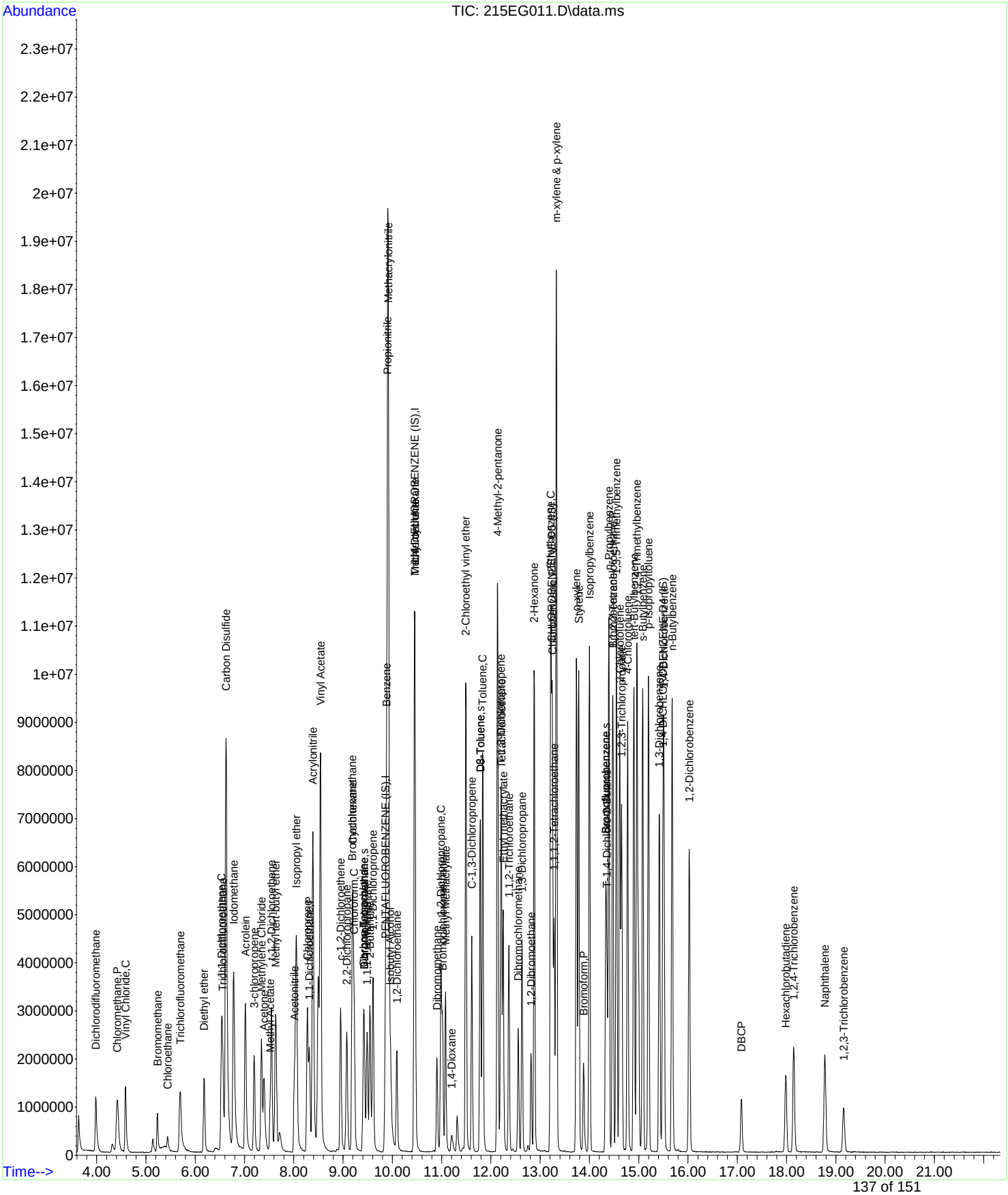
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.784	98	4730148	86.44	ug/L		96
54) 4-Methyl-2-pentanone	12.136	100	1380703	948.45	ug/L	#	78
56) Toluene	11.831	92	3957890	107.43	ug/L		99
57) T-1,3-Dichloropropene	12.201	75	2148638	108.72	ug/L		98
58) Tetrachloroethene	12.213	164	1143952	112.07	ug/L		99
59) Ethyl methacrylate	12.248	69	2628183	193.27	ug/L		97
60) 1,1,2-Trichloroethane	12.366	97	1460529	125.13	ug/L		97
61) Dibromochloromethane	12.554	129	1404941	112.72	ug/L		98
62) 1,3-Dichloropropane	12.630	76	2692793	128.96	ug/L		89
63) 1,2-Dibromoethane	12.812	107	1568677	132.03	ug/L		100
64) 2-Hexanone	12.877	43	6495897	1387.25	ug/L	#	96
65) Ethylbenzene	13.212	106	2401055	108.37	ug/L		98
66) Chlorobenzene	13.247	112	4145944	98.12	ug/L		100
67) 1,1,1,2-Tetrachloroethane	13.282	131	1348268	99.76	ug/L		98
68) m-xylene & p-xylene	13.329	106	5693692	198.05	ug/L		96
69) o-xylene	13.735	106	3138321	115.44	ug/L		96
70) Styrene	13.782	104	5217436	118.69	ug/L	#	96
71) Bromoform	13.882	173	854255	133.14	ug/L		99
72) Isopropylbenzene	13.999	105	7813838	113.81	ug/L		99
74) Bromofluorobenzene	14.334	95	2155311	75.64	ug/L		87
75) n-Propylbenzene	14.393	91	9867998	112.24	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.475	83	2482090	148.03	ug/L		97
77) 1,2,3-Trichloropropane	14.651	61	561242	165.49	ug/L	#	75
78) T-1,4-Dichloro-2-Butene	14.352	53	824151	157.30	ug/L		84
80) Bromobenzene	14.475	156	1656425	105.84	ug/L		93
81) 1,2,4-Trimethylbenzene	14.963	105	6817219	113.65	ug/L		99
82) 2-Chlorotoluene	14.616	91	5970857	114.40	ug/L		99
83) 4-Chlorotoluene	14.775	91	6177850	116.92	ug/L		99
84) tert-Butylbenzene	14.904	119	5657250	118.79	ug/L		97
85) 1,3,5-Trimethylbenzene	14.545	105	6849110	114.59	ug/L		99
86) p-Isopropyltoluene	15.198	119	6942702	119.68	ug/L		99
87) s-Butylbenzene	15.080	105	8254455	119.12	ug/L		99
88) 1,3-Dichlorobenzene	15.415	146	3368556	110.33	ug/L		99
89) 1,4-Dichlorobenzene	15.509	146	3388661	102.77	ug/L		96
90) n-Butylbenzene	15.679	91	6828761	127.82	ug/L		99
91) 1,2-Dichlorobenzene	16.026	146	3166411	113.05	ug/L		99
92) DBCP	17.084	157	405758	225.17	ug/L		94
93) Hexachlorobutadiene	17.983	225	420014	131.17	ug/L	#	84
94) 1,2,4-Trichlorobenzene	18.141	180	985506	163.45	ug/L		92
95) Naphthalene	18.776	128	2706010	244.62	ug/L		98
96) 1,2,3-Trichlorobenzene	19.158	180	458414	163.97	ug/L		91

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG011.D
Acq On : 12 May 2021 12:34 pm
Operator : kkw
Sample : CAL8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 12 12:59:11 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Wed May 12 12:41:11 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG014.D
Acq On : 12 May 2021 1:58 pm
Operator : kkw
Sample : AA66374-SCV1
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 13 10:11:35 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1233367	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2480656	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1551144	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1411405	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	679867	52.30	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 104.60%				
52) D8-Toluene	11.784	98	3207465	52.69	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 105.38%				
73) Bromofluorobenzene	14.334	95	1442116	53.78	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 107.56%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	335093	22.63	ug/L		99
3) Chloromethane	4.422	50	439577	22.69	ug/L		98
4) Vinyl Chloride	4.586	62	327638	22.00	ug/L	#	84
5) Bromomethane	5.232	94	97805	23.18	ug/L		98
6) Chloroethane	5.456	64	132460	22.08	ug/L		96
7) Trichlorofluoromethane	5.703	101	364101	22.18	ug/L		100
8) Diethyl ether	6.184	59	571388	56.64	ug/L		98
9) 1,1-Dichloroethene	6.537	96	615485	62.25	ug/L		99
10) Trichlorotrifluoroethane	6.560	151	401096	59.69	ug/L		98
11) Acrolein	7.025	56	662660	205.11	ug/L		98
12) Iodomethane	6.784	142	640512	51.16	ug/L		100
13) Carbon Disulfide	6.631	76	2130570	55.44	ug/L		100
14) 3-chloropropene	7.201	41	1031377	57.18	ug/L		99
15) Acetone	7.395	43	1150552	279.11	ug/L		100
16) Methylene Chloride	7.342	84	731126	56.32	ug/L		99
17) Methyl Acetate	7.524	43	662201	56.95	ug/L		98
18) t-1,2-Dichloroethene	7.547	96	695036	57.41	ug/L		98
19) Methyl tert-butyl ether	7.636	73	1764062	58.08	ug/L		100
20) Acetonitrile	8.053	41	471488	156.93	ug/L	#	78
21) Isopropyl ether	8.053	45	2208557	57.50	ug/L		99
22) Chloroprene	8.276	88	651249	57.32	ug/L		98
23) 1,1-Dichloroethane	8.317	63	1249534	58.84	ug/L		100
24) Acrylonitrile	8.394	53	374049	57.42	ug/L		98
25) Vinyl Acetate	8.546	43	1441167	53.19	ug/L		99
26) c-1,2-Dichloroethene	8.952	96	740075	55.04	ug/L		99
27) 2,2-Dichloropropane	9.075	77	932742	58.94	ug/L		100
28) Bromochloromethane	9.193	128	256116	59.09	ug/L		99
29) Cyclohexane	9.193	56	1348560	58.58	ug/L		98
30) Chloroform	9.222	83	1180600	54.64	ug/L		98
32) Dibromofluoromethane	9.428	113	679867	52.30	ug/L	#	90
33) 2-Butanone	9.545	72	611170	280.53	ug/L		98
34) 1,1,1-Trichloroethane	9.492	97	947849	58.82	ug/L		99
35) 1,1-Dichloropropene	9.610	75	990680	57.53	ug/L		100
36) Propionitrile	9.904	54	164489	61.71	ug/L	#	1
37) Methacrylonitrile	9.915	41	790033	75.63	ug/L	#	83
38) Isobutyl Alcohol	9.909	43	603404	479.37	ug/L	#	70
40) Carbon Tetrachloride	9.416	117	706494	54.09	ug/L		84
41) Benzene	9.880	78	2960368	56.84	ug/L		99
42) 1,2-Dichloroethane	10.092	62	824023	54.55	ug/L		98
43) Trichloroethene	10.456	130	659806	55.49	ug/L		98
44) Methyl cyclohexane	10.456	83	1359691	53.16	ug/L		98
45) Dibromomethane	10.902	93	424787	52.42	ug/L		100
46) 1,2-Dichloropropane	10.991	63	810483	54.12	ug/L		99
47) Bromodichloromethane	11.020	83	877994	52.74	ug/L		99
48) Methyl Methacrylate	11.079	69	645343	55.33	ug/L		98
49) 1,4-Dioxane	11.202	88	158443	1005.01	ug/L		97
50) 2-Chloroethyl vinyl ether	11.490	63	2384376	263.17	ug/L		99
51) C-1,3-Dichloropropene	11.613	75	1233333	49.05	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG014.D
Acq On : 12 May 2021 1:58 pm
Operator : kkw
Sample : AA66374-SCV1
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 13 10:11:35 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

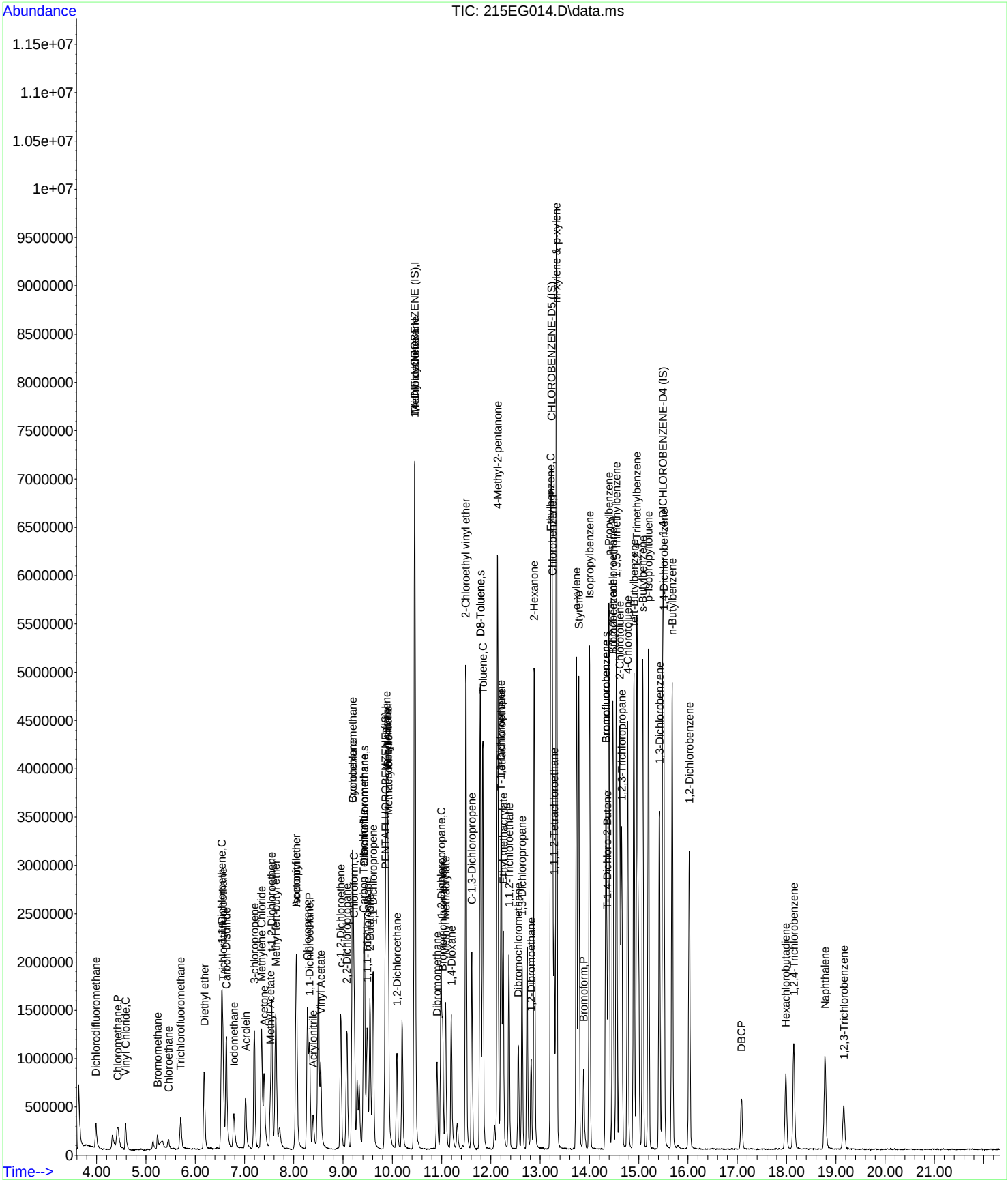
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.784	98	3205556	52.66	ug/L		96
54) 4-Methyl-2-pentanone	12.136	100	698057	259.64	ug/L		98
56) Toluene	11.837	92	1970474	55.91	ug/L		98
57) T-1,3-Dichloropropene	12.201	75	1070453	57.74	ug/L		99
58) Tetrachloroethene	12.213	164	512652	53.20	ug/L		99
59) Ethyl methacrylate	12.248	69	1178460	54.22	ug/L		99
60) 1,1,2-Trichloroethane	12.365	97	685365	53.95	ug/L		98
61) Dibromochloromethane	12.553	129	618545	52.00	ug/L		100
62) 1,3-Dichloropropane	12.630	76	1214474	51.26	ug/L		99
63) 1,2-Dibromoethane	12.818	107	715880	54.66	ug/L		99
64) 2-Hexanone	12.877	43	3330638	294.17	ug/L		99
65) Ethylbenzene	13.212	106	1180477	55.55	ug/L		100
66) Chlorobenzene	13.247	112	2086536	55.62	ug/L		98
67) 1,1,1,2-Tetrachloroethane	13.282	131	629599	52.61	ug/L		99
68) m-xylene & p-xylene	13.329	106	2919384	110.65	ug/L		100
69) o-xylene	13.734	106	1513757	56.14	ug/L		100
70) Styrene	13.781	104	2552138	58.48	ug/L		99
71) Bromoform	13.881	173	373121	53.60	ug/L		99
72) Isopropylbenzene	13.999	105	3896102	57.41	ug/L		99
74) Bromofluorobenzene	14.334	95	1444090	53.85	ug/L		88
75) n-Propylbenzene	14.393	91	4995983	57.83	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.475	83	1184732	53.91	ug/L		99
77) 1,2,3-Trichloropropane	14.657	61	257380	42.17	ug/L	#	78
78) T-1,4-Dichloro-2-Butene	14.357	53	403485	56.01	ug/L		99
80) Bromobenzene	14.475	156	796839	55.48	ug/L		99
81) 1,2,4-Trimethylbenzene	14.962	105	3485709	58.87	ug/L		99
82) 2-Chlorotoluene	14.616	91	2906150	54.82	ug/L		98
83) 4-Chlorotoluene	14.774	91	3025906	57.16	ug/L		99
84) tert-Butylbenzene	14.904	119	2791410	55.47	ug/L		99
85) 1,3,5-Trimethylbenzene	14.545	105	3403405	57.17	ug/L		100
86) p-Isopropyltoluene	15.197	119	3616865	53.30	ug/L		100
87) s-Butylbenzene	15.080	105	4290145	59.98	ug/L		99
88) 1,3-Dichlorobenzene	15.421	146	1686415	56.04	ug/L		99
89) 1,4-Dichlorobenzene	15.509	146	1681281	54.24	ug/L		99
90) n-Butylbenzene	15.679	91	3472532	52.26	ug/L		99
91) 1,2-Dichlorobenzene	16.026	146	1568731	56.45	ug/L		100
92) DBCP	17.084	157	192700	52.92	ug/L		93
93) Hexachlorobutadiene	17.983	225	211124	52.29	ug/L		97
94) 1,2,4-Trichlorobenzene	18.147	180	490545	55.39	ug/L		98
95) Naphthalene	18.782	128	1324353	55.02	ug/L		100
96) 1,2,3-Trichlorobenzene	19.163	180	225709	55.03	ug/L		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG014.D
Acq On : 12 May 2021 1:58 pm
Operator : kkw
Sample : AA66374-SCV1
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 13 10:11:35 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG015.D
Acq On : 12 May 2021 2:27 pm
Operator : kkw
Sample : BS1/SCV2
Misc :
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 13 10:11:50 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1246532	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2519816	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1538857	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1383356	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.434	113	691029	52.59	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 105.18%				
52) D8-Toluene	11.784	98	3210327	51.92	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 103.84%				
73) Bromofluorobenzene	14.334	95	1384440	52.04	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 104.08%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.987	85	319061	21.32	ug/L		99
3) Chloromethane	4.428	50	413453	21.17	ug/L		97
4) Vinyl Chloride	4.592	62	315234	20.94	ug/L		88
5) Bromomethane	5.238	94	64872	15.60	ug/L		98
6) Chloroethane	5.462	64	143945	23.74	ug/L		97
7) Trichlorofluoromethane	5.703	101	334820	20.18	ug/L		99
8) Diethyl ether	6.179	59	220368	21.62	ug/L		99
9) 1,1-Dichloroethene	6.543	96	236910	23.71	ug/L		99
10) Trichlorotrifluoroethane	6.560	151	151118	22.25	ug/L		99
11) Acrolein	7.025	56	252504	77.33	ug/L		98
12) Iodomethane	6.790	142	359042	28.38	ug/L		95
13) Carbon Disulfide	6.631	76	805159	20.59	ug/L		99
14) 3-chloropropene	7.195	41	396539	21.75	ug/L		96
15) Acetone	7.401	43	439318	105.45	ug/L		98
16) Methylene Chloride	7.348	84	293447	22.36	ug/L		99
17) Methyl Acetate	7.524	43	244982	22.41	ug/L		98
18) t-1,2-Dichloroethene	7.553	96	264114	21.59	ug/L		97
19) Methyl tert-butyl ether	7.636	73	688990	22.45	ug/L		100
20) Acetonitrile	8.059	41	178727	58.86	ug/L	#	81
21) Isopropyl ether	8.053	45	828191	21.33	ug/L		99
22) Chloroprene	8.282	88	254937	22.20	ug/L		97
23) 1,1-Dichloroethane	8.317	63	488555	22.76	ug/L		99
24) Acrylonitrile	8.399	53	143719	21.83	ug/L	#	97
25) Vinyl Acetate	8.552	43	511662	18.68	ug/L		99
26) c-1,2-Dichloroethene	8.958	96	283912	20.89	ug/L		97
27) 2,2-Dichloropropane	9.081	77	361539	22.61	ug/L		99
28) Bromochloromethane	9.187	128	104149	23.77	ug/L		91
29) Cyclohexane	9.199	56	517940	22.26	ug/L		98
30) Chloroform	9.228	83	456626	20.91	ug/L		97
32) Dibromofluoromethane	9.434	113	691029	52.59	ug/L	#	90
33) 2-Butanone	9.551	72	231550	105.16	ug/L		95
34) 1,1,1-Trichloroethane	9.492	97	369480	22.69	ug/L		99
35) 1,1-Dichloropropene	9.610	75	382584	21.98	ug/L		97
36) Propionitrile	9.909	54	65334	24.25	ug/L	#	1
37) Methacrylonitrile	9.915	41	302878	28.69	ug/L	#	79
38) Isobutyl Alcohol	9.904	43	230266	181.00	ug/L	#	55
40) Carbon Tetrachloride	9.422	117	256756	20.96	ug/L	#	83
41) Benzene	9.880	78	1142455	21.60	ug/L		100
42) 1,2-Dichloroethane	10.092	62	304636	19.85	ug/L		97
43) Trichloroethene	10.456	130	249580	20.66	ug/L		87
44) Methyl cyclohexane	10.456	83	545080	20.98	ug/L		100
45) Dibromomethane	10.908	93	167324	20.33	ug/L		97
46) 1,2-Dichloropropane	10.991	63	308817	20.30	ug/L		99
47) Bromodichloromethane	11.020	83	315921	20.09	ug/L		97
48) Methyl Methacrylate	11.085	69	233806	19.73	ug/L		98
49) 1,4-Dioxane	11.202	88	70903	442.75	ug/L		97
50) 2-Chloroethyl vinyl ether	11.496	63	942129	102.37	ug/L		100
51) C-1,3-Dichloropropene	11.613	75	449356	18.83	ug/L		95

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG015.D
Acq On : 12 May 2021 2:27 pm
Operator : kkw
Sample : BS1/SCV2
Misc :
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 13 10:11:50 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

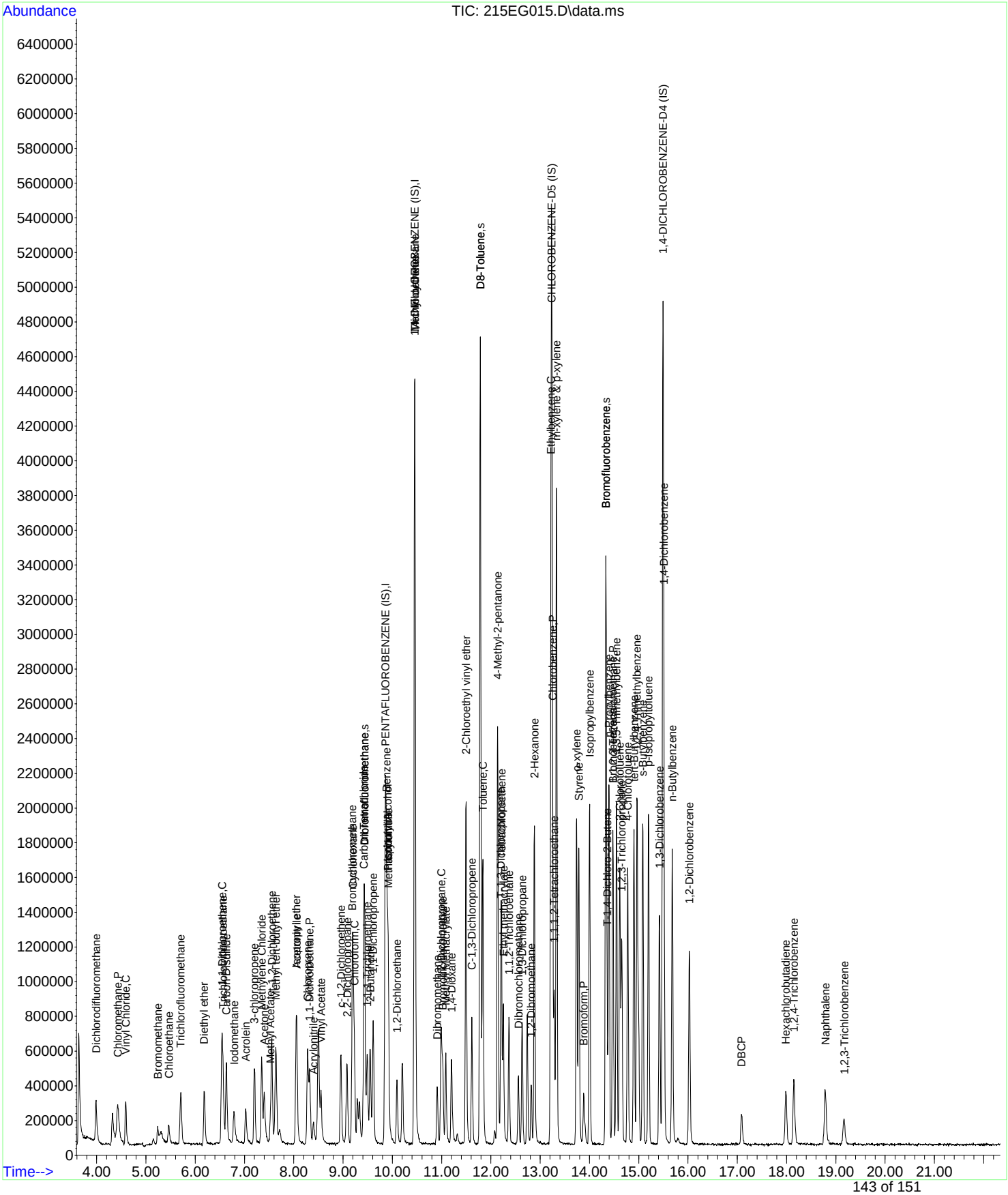
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.784	98	3206107	51.85	ug/L		96
54) 4-Methyl-2-pentanone	12.136	100	265085	98.55	ug/L		97
56) Toluene	11.837	92	744382	21.29	ug/L		98
57) T-1,3-Dichloropropene	12.201	75	416171	22.63	ug/L		99
58) Tetrachloroethene	12.213	164	201613	21.09	ug/L		98
59) Ethyl methacrylate	12.254	69	452751	21.00	ug/L		98
60) 1,1,2-Trichloroethane	12.371	97	264410	20.98	ug/L		97
61) Dibromochloromethane	12.559	129	220732	20.44	ug/L		97
62) 1,3-Dichloropropane	12.636	76	454585	19.34	ug/L		99
63) 1,2-Dibromoethane	12.818	107	265618	20.44	ug/L		99
64) 2-Hexanone	12.883	43	1250355	111.32	ug/L		98
65) Ethylbenzene	13.217	106	440946	20.92	ug/L		99
66) Chlorobenzene	13.253	112	781209	20.99	ug/L		100
67) 1,1,1,2-Tetrachloroethane	13.282	131	226287	20.13	ug/L		99
68) m-xylene & p-xylene	13.329	106	1132655	43.27	ug/L		99
69) o-xylene	13.740	106	566061	21.16	ug/L		100
70) Styrene	13.781	104	954092	22.04	ug/L		97
71) Bromoform	13.881	173	120353	19.88	ug/L		93
72) Isopropylbenzene	14.005	105	1449867	21.54	ug/L		99
74) Bromofluorobenzene	14.334	95	1384440	52.04	ug/L		88
75) n-Propylbenzene	14.393	91	1851293	21.60	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.475	83	438605	20.12	ug/L		98
77) 1,2,3-Trichloropropane	14.651	61	97212	16.95	ug/L	#	78
78) T-1,4-Dichloro-2-Butene	14.357	53	137960	19.30	ug/L	#	64
80) Bromobenzene	14.475	156	293412	20.84	ug/L		98
81) 1,2,4-Trimethylbenzene	14.963	105	1289478	22.22	ug/L		99
82) 2-Chlorotoluene	14.616	91	1070057	20.60	ug/L		99
83) 4-Chlorotoluene	14.774	91	1102996	21.26	ug/L		100
84) tert-Butylbenzene	14.904	119	1031599	20.92	ug/L		99
85) 1,3,5-Trimethylbenzene	14.545	105	1249880	21.42	ug/L		99
86) p-Isopropyltoluene	15.198	119	1313137	19.74	ug/L		100
87) s-Butylbenzene	15.080	105	1574559	22.46	ug/L		99
88) 1,3-Dichlorobenzene	15.421	146	625750	21.22	ug/L		99
89) 1,4-Dichlorobenzene	15.509	146	625327	20.58	ug/L	#	81
90) n-Butylbenzene	15.679	91	1223425	18.79	ug/L		99
91) 1,2-Dichlorobenzene	16.026	146	575751	21.14	ug/L		99
92) DBCP	17.084	157	67282	20.19	ug/L		99
93) Hexachlorobutadiene	17.983	225	81665	21.02	ug/L		96
94) 1,2,4-Trichlorobenzene	18.147	180	169590	20.99	ug/L		99
95) Naphthalene	18.788	128	474480	21.76	ug/L		100
96) 1,2,3-Trichlorobenzene	19.175	180	82442	22.02	ug/L		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG015.D
Acq On : 12 May 2021 2:27 pm
Operator : kkw
Sample : BS1/SCV2
Misc :
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 13 10:11:50 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG024.D
Acq On : 12 May 2021 6:38 pm
Operator : kkw
Sample : 1E12037-MSD1
Misc :
ALS Vial : 21 Sample Multiplier: 1

Quant Time: May 13 10:12:22 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1249937	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2509958	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	1555003	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1395317	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.434	113	703122	53.37	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 106.74%				
52) D8-Toluene	11.784	98	3223812	52.34	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 104.68%				
73) Bromofluorobenzene	14.334	95	1427957	53.12	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 106.24%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	359989	23.99	ug/L		98
3) Chloromethane	4.428	50	428952	21.88	ug/L		99
4) Vinyl Chloride	4.586	62	340627	22.57	ug/L	#	31
5) Bromomethane	5.238	94	65648	15.73	ug/L		99
6) Chloroethane	5.468	64	166514	27.38	ug/L		98
7) Trichlorofluoromethane	5.708	101	376666	22.65	ug/L		98
8) Diethyl ether	6.184	59	235935	23.08	ug/L		98
9) 1,1-Dichloroethene	6.537	96	257883	25.74	ug/L		92
10) Trichlorotrifluoroethane	6.560	151	179518	26.36	ug/L		96
11) Acrolein	7.025	56	248468	75.89	ug/L		94
12) Iodomethane	6.784	142	277525	21.87	ug/L		98
13) Carbon Disulfide	6.631	76	924571	23.59	ug/L		99
14) 3-chloropropene	7.201	41	468138	25.61	ug/L		99
15) Acetone	7.401	43	434188	103.93	ug/L		99
16) Methylene Chloride	7.348	84	315027	23.94	ug/L		98
17) Methyl Acetate	7.524	43	258844	23.56	ug/L		98
18) t-1,2-Dichloroethene	7.553	96	302158	24.63	ug/L		96
19) Methyl tert-butyl ether	7.642	73	737504	23.96	ug/L		99
20) Acetonitrile	7.971	41	1313	0.43	ug/L	#	1
21) Isopropyl ether	8.053	45	928160	23.84	ug/L		99
22) Chloroprene	8.282	88	273708	23.77	ug/L		98
23) 1,1-Dichloroethane	8.323	63	542828	25.22	ug/L		99
24) Acrylonitrile	8.399	53	138660	21.00	ug/L	#	98
25) Vinyl Acetate	8.552	43	540335	19.68	ug/L		99
26) c-1,2-Dichloroethene	8.952	96	325144	23.86	ug/L		99
27) 2,2-Dichloropropane	9.075	77	390663	24.36	ug/L		99
28) Bromochloromethane	9.187	128	136598	31.10	ug/L		96
29) Cyclohexane	9.199	56	599997	25.72	ug/L		100
30) Chloroform	9.228	83	510169	23.30	ug/L		98
32) Dibromofluoromethane	9.434	113	703122	53.37	ug/L	#	89
33) 2-Butanone	9.551	72	232605	105.35	ug/L		95
34) 1,1,1-Trichloroethane	9.492	97	398148	24.38	ug/L		96
35) 1,1-Dichloropropene	9.610	75	430218	24.65	ug/L		99
36) Propionitrile	9.915	54	64430	23.85	ug/L	#	1
37) Methacrylonitrile	9.915	41	308138	29.11	ug/L	#	82
38) Isobutyl Alcohol	9.904	43	252471	197.91	ug/L	#	48
40) Carbon Tetrachloride	9.416	117	305659	24.81	ug/L		94
41) Benzene	9.880	78	1293989	24.56	ug/L		98
42) 1,2-Dichloroethane	10.092	62	340813	22.30	ug/L		98
43) Trichloroethene	10.456	130	552120	45.89	ug/L		97
44) Methyl cyclohexane	10.456	83	639153	24.70	ug/L		98
45) Dibromomethane	10.908	93	171836	20.96	ug/L		94
46) 1,2-Dichloropropane	10.991	63	348772	23.02	ug/L		97
47) Bromodichloromethane	11.020	83	355122	22.54	ug/L		99
48) Methyl Methacrylate	11.085	69	238451	20.20	ug/L		99
49) 1,4-Dioxane	11.196	88	58339	365.73	ug/L		97
50) 2-Chloroethyl vinyl ether	11.408	63	1049	N.D.			
51) C-1,3-Dichloropropene	11.619	75	509915	21.33	ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG024.D
Acq On : 12 May 2021 6:38 pm
Operator : kkw
Sample : 1E12037-MSD1
Misc :
ALS Vial : 21 Sample Multiplier: 1

Quant Time: May 13 10:12:22 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

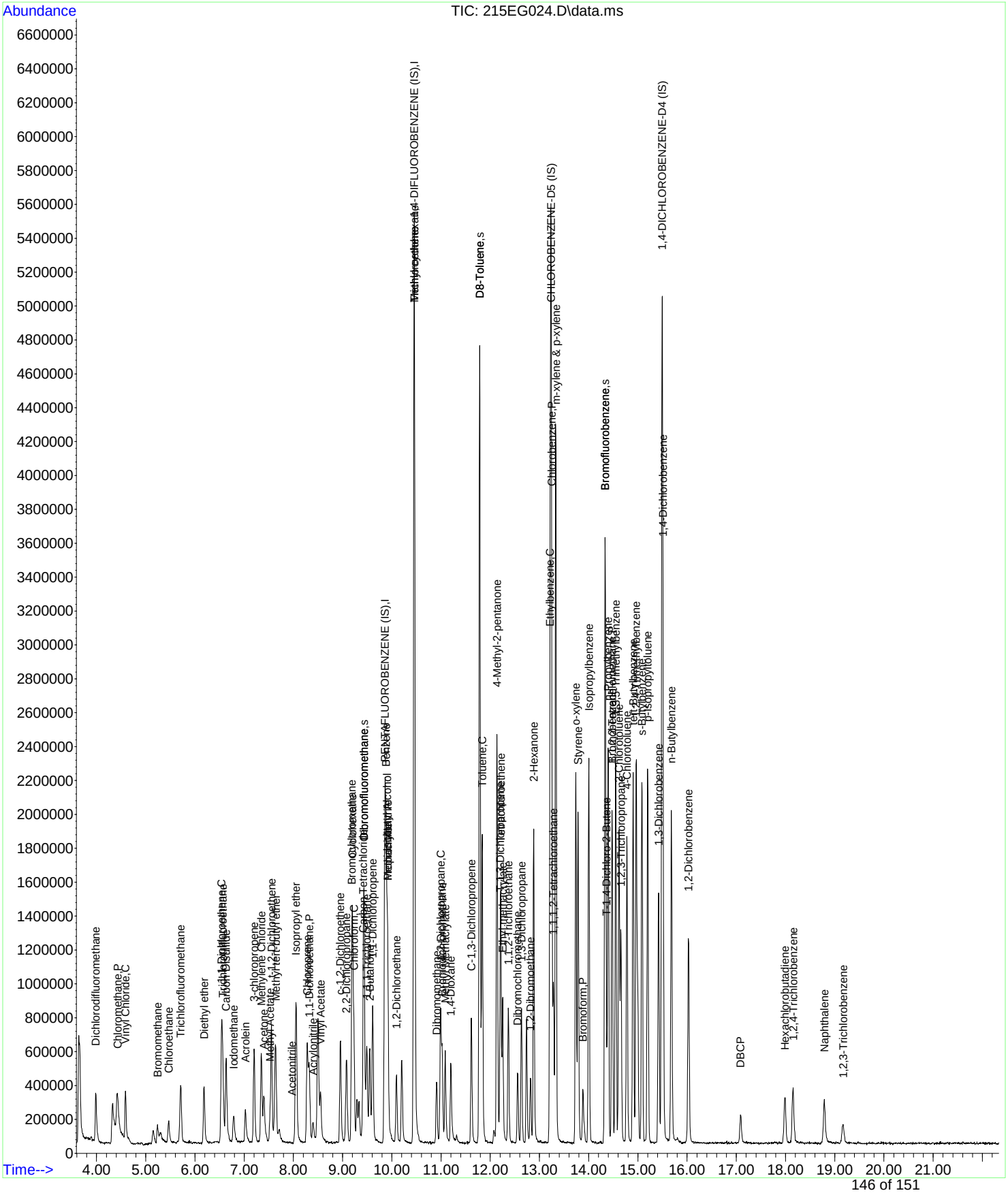
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.784	98	3223812	52.34 ug/L	96
54) 4-Methyl-2-pentanone	12.136	100	259720	96.95 ug/L	93
56) Toluene	11.837	92	848360	24.01 ug/L	96
57) T-1,3-Dichloropropene	12.201	75	449496	24.18 ug/L	99
58) Tetrachloroethene	12.213	164	223394	23.13 ug/L	98
59) Ethyl methacrylate	12.248	69	491055	22.54 ug/L	96
60) 1,1,2-Trichloroethane	12.371	97	287252	22.56 ug/L	99
61) Dibromochloromethane	12.554	129	235784	21.54 ug/L	100
62) 1,3-Dichloropropane	12.636	76	505640	21.29 ug/L	99
63) 1,2-Dibromoethane	12.818	107	292274	22.26 ug/L	99
64) 2-Hexanone	12.883	43	1213258	106.89 ug/L	100
65) Ethylbenzene	13.212	106	507605	23.83 ug/L	99
66) Chlorobenzene	13.247	112	876820	23.31 ug/L	99
67) 1,1,1,2-Tetrachloroethane	13.282	131	247445	21.72 ug/L	99
68) m-xylene & p-xylene	13.335	106	1262889	47.75 ug/L	98
69) o-xylene	13.740	106	641731	23.74 ug/L	99
70) Styrene	13.782	104	1032987	23.61 ug/L	99
71) Bromoform	13.881	173	131750	21.40 ug/L	99
72) Isopropylbenzene	14.005	105	1695650	24.93 ug/L	100
74) Bromofluorobenzene	14.334	95	1427957	53.12 ug/L	88
75) n-Propylbenzene	14.393	91	2130177	24.60 ug/L	99
76) 1,1,2,2-Tetrachloroethane	14.475	83	464285	21.07 ug/L	100
77) 1,2,3-Trichloropropane	14.657	61	99271	17.12 ug/L #	73
78) T-1,4-Dichloro-2-Butene	14.357	53	146871	20.34 ug/L #	72
80) Bromobenzene	14.475	156	332937	23.45 ug/L	99
81) 1,2,4-Trimethylbenzene	14.963	105	1468594	25.09 ug/L	100
82) 2-Chlorotoluene	14.616	91	1227440	23.42 ug/L	98
83) 4-Chlorotoluene	14.775	91	1254286	23.97 ug/L	99
84) tert-Butylbenzene	14.904	119	1194304	24.01 ug/L	100
85) 1,3,5-Trimethylbenzene	14.551	105	1421674	24.16 ug/L	99
86) p-Isopropyltoluene	15.198	119	1531557	22.83 ug/L	100
87) s-Butylbenzene	15.080	105	1860627	26.31 ug/L	100
88) 1,3-Dichlorobenzene	15.421	146	688564	23.15 ug/L	99
89) 1,4-Dichlorobenzene	15.509	146	676657	22.08 ug/L #	82
90) n-Butylbenzene	15.679	91	1439521	21.91 ug/L	99
91) 1,2-Dichlorobenzene	16.026	146	624953	22.75 ug/L	99
92) DBCP	17.084	157	57135	17.11 ug/L	89
93) Hexachlorobutadiene	17.988	225	75304	19.24 ug/L	99
94) 1,2,4-Trichlorobenzene	18.153	180	153610	18.93 ug/L	98
95) Naphthalene	18.788	128	368517	16.96 ug/L	100
96) 1,2,3-Trichlorobenzene	19.175	180	62325	16.70 ug/L	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG024.D
Acq On : 12 May 2021 6:38 pm
Operator : kkw
Sample : 1E12037-MSD1
Misc :
ALS Vial : 21 Sample Multiplier: 1

Quant Time: May 13 10:12:22 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG025.D
Acq On : 12 May 2021 7:06 pm
Operator : kkw
Sample : AA66378-LCV1
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: May 13 10:12:40 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1269862	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2562797	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.235	82	1609708	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1431093	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.434	113	703746	52.58	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 105.16%				
52) D8-Toluene	11.784	98	3311303	52.65	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 105.30%				
73) Bromofluorobenzene	14.334	95	1478306	53.12	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 106.24%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.987	85	266066	17.45	ug/L		98
3) Chloromethane	4.428	50	412159	20.74	ug/L		98
4) Vinyl Chloride	4.586	62	288367	18.80	ug/L	#	69
5) Bromomethane	5.233	94	176345	38.63	ug/L		95
6) Chloroethane	5.462	64	121394	19.65	ug/L		95
7) Trichlorofluoromethane	5.703	101	311136	18.41	ug/L		98
8) Diethyl ether	6.184	59	486093	46.80	ug/L		97
9) 1,1-Dichloroethene	6.537	96	463307	45.51	ug/L		100
10) Trichlorotrifluoroethane	6.566	151	300076	43.37	ug/L		95
11) Acrolein	7.019	56	1648021	495.45	ug/L		100
12) Iodomethane	6.784	142	2654976	205.98	ug/L		99
13) Carbon Disulfide	6.631	76	9094455	238.17	ug/L		100
14) 3-chloropropene	7.201	41	943792	50.82	ug/L		98
15) Acetone	7.401	43	977131	230.23	ug/L		99
16) Methylene Chloride	7.348	84	663728	49.66	ug/L		100
17) Methyl Acetate	7.524	43	589522	49.95	ug/L		97
18) t-1,2-Dichloroethene	7.553	96	591759	47.48	ug/L		99
19) Methyl tert-butyl ether	7.636	73	1669516	53.39	ug/L		98
20) Acetonitrile	8.018	41	1487373	480.83	ug/L		99
21) Isopropyl ether	8.047	45	2085388	52.73	ug/L		100
22) Chloroprene	8.276	88	617360	52.77	ug/L		97
23) 1,1-Dichloroethane	8.317	63	1123736	51.39	ug/L		99
24) Acrylonitrile	8.388	53	3167864	472.29	ug/L		100
25) Vinyl Acetate	8.546	43	6542115	234.52	ug/L		100
26) c-1,2-Dichloroethene	8.952	96	719868	52.00	ug/L		98
27) 2,2-Dichloropropane	9.081	77	827207	50.77	ug/L		99
28) Bromochloromethane	9.187	128	232189	52.03	ug/L		97
29) Cyclohexane	9.199	56	1102510	46.52	ug/L		99
30) Chloroform	9.228	83	1149495	51.67	ug/L		100
32) Dibromofluoromethane	9.434	113	703746	52.58	ug/L	#	91
33) 2-Butanone	9.545	72	521239	232.37	ug/L		100
34) 1,1,1-Trichloroethane	9.492	97	874871	52.73	ug/L		99
35) 1,1-Dichloropropene	9.610	75	912503	51.46	ug/L		99
36) Propionitrile	9.898	54	1264271	460.68	ug/L		97
37) Methacrylonitrile	9.915	41	5146271	478.48	ug/L		100
38) Isobutyl Alcohol	9.957	43	1148667	886.32	ug/L	#	54
40) Carbon Tetrachloride	9.422	117	642320	48.25	ug/L		98
41) Benzene	9.880	78	2678630	49.79	ug/L		100
42) 1,2-Dichloroethane	10.092	62	800841	51.31	ug/L		99
43) Trichloroethene	10.456	130	633495	51.57	ug/L		97
44) Methyl cyclohexane	10.456	83	1205737	45.63	ug/L		99
45) Dibromomethane	10.908	93	427798	51.10	ug/L		99
46) 1,2-Dichloropropane	10.991	63	781580	50.52	ug/L		99
47) Bromodichloromethane	11.020	83	839112	49.16	ug/L		99
48) Methyl Methacrylate	11.079	69	597052	49.55	ug/L		98
49) 1,4-Dioxane	11.208	88	124635	765.23	ug/L		99
50) 2-Chloroethyl vinyl ether	11.496	63	2219208	237.09	ug/L		99
51) C-1,3-Dichloropropene	11.614	75	1277926	49.18	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG025.D
Acq On : 12 May 2021 7:06 pm
Operator : kkw
Sample : AA66378-LCV1
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: May 13 10:12:40 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

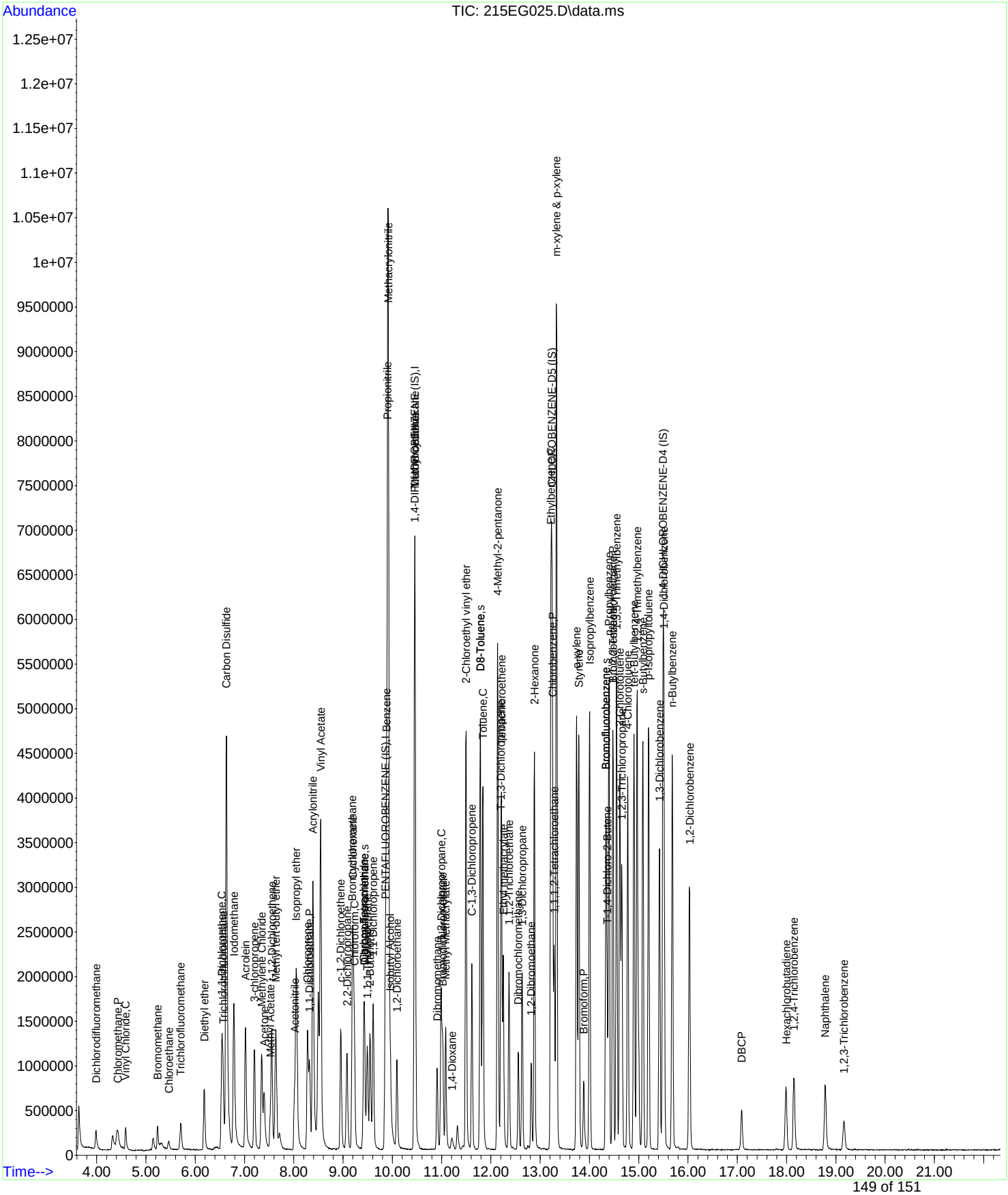
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.784	98	3311303	52.65	ug/L		96
54) 4-Methyl-2-pentanone	12.136	100	633888	228.88	ug/L		98
56) Toluene	11.837	92	1858922	50.82	ug/L		99
57) T-1,3-Dichloropropene	12.201	75	1012970	52.65	ug/L		97
58) Tetrachloroethene	12.213	164	676898	67.69	ug/L		100
59) Ethyl methacrylate	12.254	69	1139621	50.53	ug/L		99
60) 1,1,2-Trichloroethane	12.366	97	697842	52.93	ug/L		97
61) Dibromochloromethane	12.554	129	610040	49.72	ug/L		99
62) 1,3-Dichloropropane	12.636	76	1260253	51.26	ug/L		99
63) 1,2-Dibromoethane	12.818	107	721586	53.09	ug/L		99
64) 2-Hexanone	12.883	43	2907940	247.49	ug/L		99
65) Ethylbenzene	13.218	106	1139298	51.66	ug/L		100
66) Chlorobenzene	13.253	112	1975171	50.74	ug/L		99
67) 1,1,1,2-Tetrachloroethane	13.288	131	611259	49.47	ug/L		100
68) m-xylene & p-xylene	13.329	106	2872781	104.93	ug/L		98
69) o-xylene	13.740	106	1452931	51.92	ug/L		99
70) Styrene	13.782	104	2453365	54.17	ug/L		99
71) Bromoform	13.881	173	342669	48.36	ug/L		98
72) Isopropylbenzene	14.005	105	3695807	52.48	ug/L		100
74) Bromofluorobenzene	14.334	95	1478306	53.12	ug/L		87
75) n-Propylbenzene	14.393	91	4763057	53.13	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.475	83	1154921	50.64	ug/L		100
77) 1,2,3-Trichloropropane	14.657	61	248102	39.40	ug/L	#	75
78) T-1,4-Dichloro-2-Butene	14.357	53	355822	47.59	ug/L		93
80) Bromobenzene	14.475	156	776196	53.30	ug/L		99
81) 1,2,4-Trimethylbenzene	14.968	105	3305406	55.06	ug/L		99
82) 2-Chlorotoluene	14.616	91	2845387	52.94	ug/L		100
83) 4-Chlorotoluene	14.775	91	2924430	54.48	ug/L		99
84) tert-Butylbenzene	14.904	119	2673143	52.39	ug/L		99
85) 1,3,5-Trimethylbenzene	14.551	105	3292369	54.54	ug/L		100
86) p-Isopropyltoluene	15.198	119	3319475	48.24	ug/L		99
87) s-Butylbenzene	15.086	105	3978258	54.85	ug/L		100
88) 1,3-Dichlorobenzene	15.421	146	1602409	52.52	ug/L		99
89) 1,4-Dichlorobenzene	15.509	146	1625127	51.71	ug/L		99
90) n-Butylbenzene	15.679	91	3197571	47.46	ug/L		100
91) 1,2-Dichlorobenzene	16.032	146	1478509	52.47	ug/L		97
92) DBCP	17.090	157	158469	43.74	ug/L		93
93) Hexachlorobutadiene	17.994	225	179613	44.09	ug/L		96
94) 1,2,4-Trichlorobenzene	18.147	180	386405	44.04	ug/L		98
95) Naphthalene	18.782	128	982954	41.55	ug/L		99
96) 1,2,3-Trichlorobenzene	19.164	180	164511	40.77	ug/L		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051221\
Data File : 215EG025.D
Acq On : 12 May 2021 7:06 pm
Operator : kkw
Sample : AA66378-LCV1
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: May 13 10:12:40 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration



TETRA TECH ISG
TtEGS, Information Systems Group

Completion Ticket

On 6/11/2021 at 1:38 PM the following files were submitted to Tetra Tech by kdylnicki@encolabs.com with ENCO:

TE016AE04350A1.txt, TE016AE04350A3.txt

If you need to identify this session at a later date refer to Ticket Key:

2021611_4441538711_ledd_ENCO

You may print this page by clicking on the "Print This Page" button

Thank you for using the Data Checker, to upload more files click the "Upload/Check Files" link on navigation menu.

Print this Page Back To Upload

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I Lori S. Mangrum, as the designated Quality Assurance Officer, hereby attest that all electronic deliverables have been thoroughly reviewed and are in agreement with the associated hardcopy data. The enclosed electronic files have been reviewed for accuracy (including significant figures), completeness and format. The laboratory will be responsible for any labor time necessary to correct enclosed electronic deliverables that have been found to be in error. I can be reached at (407) 826-5314 if there are any questions or problems with the enclosed electronic deliverables.

Signature:_____ Title: Quality Assurance Manager Date: June 15, 2021

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Project Narrative	3
Flags/Notes and Definitions	15
Chain of Custody	17
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ENCO Laboratories

Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Wednesday, May 26, 2021
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AE04350

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Thursday, May 20, 2021.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

www.encolabs.com

Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Client PM: Alex Murphy
Project Number: 112G08970
ENCO Project ID: AE04350
SDG: AE04350-TE016

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling and processing will be discussed in the Remarks section below.

Remarks

List of instruments used:

Analytical and Preparation Method	SOP Reference Instrument
EPA 8260D / 5030B_MS	OVGCMS5

Analysis: EPA 8260D

Manual integrations were performed on samples associated with EPA 8260D. All data & explanations are included in the raw data section of the report.

Affected Samples: AA66553-CCV1, CRCA-ASEFFLUENT-20210520[AE04350-01], CRCA-ASINFLUENT-20210520[AE04350-02]
The associated calibration verification standard for bromomethane exhibited high bias. Analyte(s) not detected in the sample.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Kaitlin Dylnicki
Project Manager

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-ASEFFLUENT-20210520	Lab ID: AE04350-01	Sampled: 05/20/21 08:15	Received: 05/20/21 14:05

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	06/03/21	05/24/21 09:12	05/24/21 10:28

Client ID: CRCA-ASINFLUENT-20210520	Lab ID: AE04350-02	Sampled: 05/20/21 08:20	Received: 05/20/21 14:05

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	06/03/21	05/24/21 09:12	05/24/21 10:56

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-ASINFLUENT-20210520 **Lab ID:** AE04350-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
trans-1,2-Dichloroethene	0.76	I	0.73	2.5	ug/L	EPA 8260D	
Vinyl chloride	13		0.71	2.5	ug/L	EPA 8260D	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20210520 **Lab Sample ID:** AE04350-01 **Received:** 05/20/21 14:05

Matrix: Ground Water **Sampled:** 05/20/21 08:15 **Work Order:** AE04350

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1E24012	EPA 8260D	05/24/21 10:28	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1E24012	EPA 8260D	05/24/21 10:28	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20210520 **Lab Sample ID:** AE04350-01 **Received:** 05/20/21 14:05

Matrix: Ground Water **Sampled:** 05/20/21 08:15 **Work Order:** AE04350

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1E24012	EPA 8260D	05/24/21 10:28	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1E24012	EPA 8260D	05/24/21 10:28	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*52*	*1*	*50.0*	*104 %*	*41-142*	*1E24012*	*EPA 8260D*	*05/24/21 10:28*	*kkw*	
Dibromofluoromethane	*55*	*1*	*50.0*	*109 %*	*53-146*	*1E24012*	*EPA 8260D*	*05/24/21 10:28*	*kkw*	
Toluene-d8	*51*	*1*	*50.0*	*102 %*	*41-146*	*1E24012*	*EPA 8260D*	*05/24/21 10:28*	*kkw*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20210520 **Lab Sample ID:** AE04350-02 **Received:** 05/20/21 14:05

Matrix: Ground Water **Sampled:** 05/20/21 08:20 **Work Order:** AE04350

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1E24012	EPA 8260D	05/24/21 10:56	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1E24012	EPA 8260D	05/24/21 10:56	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
trans-1,2-Dichloroethene [156-60-5]^	**0.76**	I	ug/L	1	0.73	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	

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ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20210520 **Lab Sample ID:** AE04350-02 **Received:** 05/20/21 14:05

Matrix: Ground Water **Sampled:** 05/20/21 08:20 **Work Order:** AE04350

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Vinyl chloride [75-01-4]^	**13**		ug/L	1	0.71	2.5	1E24012	EPA 8260D	05/24/21 10:56	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1E24012	EPA 8260D	05/24/21 10:56	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*51*	*1*	*50.0*	*102 %*	*41-142*	*1E24012*	*EPA 8260D*	*05/24/21 10:56*	*kkw*	
Dibromofluoromethane	*54*	*1*	*50.0*	*109 %*	*53-146*	*1E24012*	*EPA 8260D*	*05/24/21 10:56*	*kkw*	
Toluene-d8	*53*	*1*	*50.0*	*105 %*	*41-146*	*1E24012*	*EPA 8260D*	*05/24/21 10:56*	*kkw*	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1E24012 - EPA 5030B_MS

Blank (1E24012-BLK1) Prepared: 05/24/2021 00:00 Analyzed: 05/24/2021 09:32

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1E24012 - EPA 5030B_MS - Continued

Blank (1E24012-BLK1) Continued Prepared: 05/24/2021 00:00 Analyzed: 05/24/2021 09:32

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*50*			*ug/L*	*50.0*		*101*	*41-142*			
Dibromofluoromethane	*53*			*ug/L*	*50.0*		*107*	*53-146*			
Toluene-d8	*52*			*ug/L*	*50.0*		*103*	*41-146*			

LCS (1E24012-BS1) Prepared: 05/24/2021 00:00 Analyzed: 05/24/2021 08:37

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	22		2.5	ug/L	20.0		112	57-148			
1,1,2,2-Tetrachloroethane	19		2.5	ug/L	20.0		95	60-139			
1,1,2-Trichloroethane	20		2.5	ug/L	20.0		101	57-141			
1,1-Dichloroethane	23		2.5	ug/L	20.0		114	57-142			
1,1-Dichloroethene	24		2.5	ug/L	20.0		118	47-139			
1,2,4-Trichlorobenzene	15		2.5	ug/L	20.0		74	52-159			
1,2-Dibromo-3-chloropropane	17		2.5	ug/L	20.0		85	48-150			
1,2-Dibromoethane	19		2.5	ug/L	20.0		95	57-140			
1,2-Dichlorobenzene	20		2.5	ug/L	20.0		101	63-131			
1,2-Dichloroethane	19		2.5	ug/L	20.0		97	50-156			
1,2-Dichloropropane	19		2.5	ug/L	20.0		97	61-133			
1,3-Dichlorobenzene	21		2.5	ug/L	20.0		105	66-129			
1,4-Dichlorobenzene	20		2.5	ug/L	20.0		102	65-133			
2-Butanone	94		12	ug/L	100		94	10-180			
2-Hexanone	94		12	ug/L	100		94	12-180			
4-Methyl-2-pentanone	85		12	ug/L	100		85	19-180			
Acetone	90		25	ug/L	100		90	10-180			
Benzene	21		2.5	ug/L	20.0		105	56-136			
Bromodichloromethane	20		2.5	ug/L	20.0		98	58-135			
Bromoform	20		2.5	ug/L	20.0		99	46-148			
Bromomethane	7.7		2.5	ug/L	20.0		39	10-173			
Carbon disulfide	20		12	ug/L	20.0		102	43-153			
Carbon Tetrachloride	21		2.5	ug/L	20.0		106	54-156			
Chlorobenzene	20		2.5	ug/L	20.0		102	51-139			
Chloroethane	24		2.5	ug/L	20.0		121	27-180			
Chloroform	21		2.5	ug/L	20.0		105	58-139			
Chloromethane	17		2.5	ug/L	20.0		84	33-154			
cis-1,2-Dichloroethene	21		2.5	ug/L	20.0		104	56-128			
cis-1,3-Dichloropropene	18		2.5	ug/L	20.0		92	64-128			
Cyclohexane	23		2.5	ug/L	20.0		113	70-130			
Dibromochloromethane	20		2.5	ug/L	20.0		100	50-140			
Dichlorodifluoromethane	20		2.5	ug/L	20.0		100	10-180			
Ethylbenzene	20		2.5	ug/L	20.0		101	63-133			
Freon 113	21		2.5	ug/L	20.0		106	47-173			
Isopropylbenzene	21		2.5	ug/L	20.0		106	60-132			
m,p-Xylenes	43		5.0	ug/L	40.0		107	64-133			
Methyl acetate	20		2.5	ug/L	20.0		102	70-130			
Methyl cyclohexane	20		2.5	ug/L	20.0		101	70-130			
Methylene Chloride	21		12	ug/L	20.0		103	43-142			
Methyl-tert-Butyl Ether	21		2.5	ug/L	20.0		104	51-145			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1E24012 - EPA 5030B_MS - Continued

LCS (1E24012-BS1) Continued Prepared: 05/24/2021 00:00 Analyzed: 05/24/2021 08:37

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
o-Xylene	21		2.5	ug/L	20.0		103	61-129			
Styrene	21		2.5	ug/L	20.0		106	59-136			
Tetrachloroethene	19		2.5	ug/L	20.0		97	60-147			
Toluene	22		2.5	ug/L	20.0		108	64-131			
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0		110	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0		105	65-149			
Trichloroethene	20		2.5	ug/L	20.0		99	62-135			
Trichlorofluoromethane	20		2.5	ug/L	20.0		99	56-155			
Vinyl chloride	21		2.5	ug/L	20.0		104	20-167			
4-Bromofluorobenzene	*52*			*ug/L*	*50.0*		*103*	*41-142*			
Dibromofluoromethane	*54*			*ug/L*	*50.0*		*108*	*53-146*			
Toluene-d8	*52*			*ug/L*	*50.0*		*104*	*41-146*			

Matrix Spike (1E24012-MS1) Prepared: 05/24/2021 00:00 Analyzed: 05/24/2021 11:23

Source: AE04350-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	25		2.5	ug/L	20.0	0.80 U	123	57-148			
1,1,2,2-Tetrachloroethane	19		2.5	ug/L	20.0	0.54 U	96	60-139			
1,1,2-Trichloroethane	20		2.5	ug/L	20.0	0.76 U	98	57-141			
1,1-Dichloroethane	25		2.5	ug/L	20.0	0.62 U	124	57-142			
1,1-Dichloroethene	26		2.5	ug/L	20.0	0.94 U	130	47-139			
1,2,4-Trichlorobenzene	14		2.5	ug/L	20.0	0.70 U	71	52-159			
1,2-Dibromo-3-chloropropane	17		2.5	ug/L	20.0	0.96 U	83	48-150			
1,2-Dibromoethane	19		2.5	ug/L	20.0	0.78 U	96	57-140			
1,2-Dichlorobenzene	21		2.5	ug/L	20.0	0.73 U	105	63-131			
1,2-Dichloroethane	20		2.5	ug/L	20.0	0.63 U	102	50-156			
1,2-Dichloropropane	21		2.5	ug/L	20.0	0.80 U	106	61-133			
1,3-Dichlorobenzene	22		2.5	ug/L	20.0	0.77 U	109	66-129			
1,4-Dichlorobenzene	21		2.5	ug/L	20.0	0.76 U	105	65-133			
2-Butanone	94		12	ug/L	100	4.5 U	94	10-180			
2-Hexanone	98		12	ug/L	100	2.5 U	98	12-180			
4-Methyl-2-pentanone	95		12	ug/L	100	2.5 U	95	19-180			
Acetone	89		25	ug/L	100	10 U	89	10-180			
Benzene	23		2.5	ug/L	20.0	0.71 U	116	56-136			
Bromodichloromethane	21		2.5	ug/L	20.0	0.52 U	103	58-135			
Bromoform	19		2.5	ug/L	20.0	0.75 U	93	46-148			
Bromomethane	11		2.5	ug/L	20.0	0.95 U	54	10-173			
Carbon disulfide	23		12	ug/L	20.0	2.5 U	114	43-153			
Carbon Tetrachloride	23		2.5	ug/L	20.0	0.94 U	116	54-156			
Chlorobenzene	22		2.5	ug/L	20.0	0.72 U	108	51-139			
Chloroethane	27		2.5	ug/L	20.0	0.98 U	133	27-180			
Chloroform	23		2.5	ug/L	20.0	0.80 U	117	58-139			
Chloromethane	19		2.5	ug/L	20.0	0.82 U	97	33-154			
cis-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.53 U	112	56-128			
cis-1,3-Dichloropropene	19		2.5	ug/L	20.0	0.59 U	95	64-128			
Cyclohexane	25		2.5	ug/L	20.0	0.93 U	126	70-130			
Dibromochloromethane	19		2.5	ug/L	20.0	0.50 U	97	50-140			
Dichlorodifluoromethane	23		2.5	ug/L	20.0	0.74 U	114	10-180			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1E24012 - EPA 5030B_MS - Continued

Matrix Spike (1E24012-MS1) Continued Prepared: 05/24/2021 00:00 Analyzed: 05/24/2021 11:23

Source: AE04350-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	22		2.5	ug/L	20.0	0.69 U	111	63-133			
Freon 113	24		2.5	ug/L	20.0	0.73 U	122	47-173			
Isopropylbenzene	23		2.5	ug/L	20.0	0.67 U	114	60-132			
m,p-Xylenes	45		5.0	ug/L	40.0	1.3 U	112	64-133			
Methyl acetate	21		2.5	ug/L	20.0	0.95 U	103	70-130			
Methyl cyclohexane	23		2.5	ug/L	20.0	0.64 U	115	70-130			
Methylene Chloride	23		12	ug/L	20.0	2.5 U	115	43-142			
Methyl-tert-Butyl Ether	22		2.5	ug/L	20.0	0.60 U	109	51-145			
o-Xylene	22		2.5	ug/L	20.0	0.53 U	108	61-129			
Styrene	22		2.5	ug/L	20.0	0.61 U	112	59-136			
Tetrachloroethene	21		2.5	ug/L	20.0	0.76 U	103	60-147			
Toluene	22		2.5	ug/L	20.0	0.72 U	112	64-131			
trans-1,2-Dichloroethene	24		2.5	ug/L	20.0	0.73 U	122	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0	0.73 U	107	65-149			
Trichloroethene	22		2.5	ug/L	20.0	0.89 U	112	62-135			
Trichlorofluoromethane	23		2.5	ug/L	20.0	0.94 U	114	56-155			
Vinyl chloride	24		2.5	ug/L	20.0	0.71 U	119	20-167			
4-Bromofluorobenzene	*51*			*ug/L*	*50.0*		*103*	*41-142*			
Dibromofluoromethane	*55*			*ug/L*	*50.0*		*110*	*53-146*			
Toluene-d8	*54*			*ug/L*	*50.0*		*108*	*41-146*			

Matrix Spike Dup (1E24012-MSD1) Prepared: 05/24/2021 00:00 Analyzed: 05/24/2021 11:51

Source: AE04350-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	25		2.5	ug/L	20.0	0.80 U	123	57-148	0.4	25	
1,1,2,2-Tetrachloroethane	20		2.5	ug/L	20.0	0.54 U	98	60-139	2	17	
1,1,2-Trichloroethane	20		2.5	ug/L	20.0	0.76 U	100	57-141	2	16	
1,1-Dichloroethane	25		2.5	ug/L	20.0	0.62 U	124	57-142	0.04	24	
1,1-Dichloroethene	26		2.5	ug/L	20.0	0.94 U	130	47-139	0.2	16	
1,2,4-Trichlorobenzene	15		2.5	ug/L	20.0	0.70 U	73	52-159	3	24	
1,2-Dibromo-3-chloropropane	16		2.5	ug/L	20.0	0.96 U	78	48-150	7	21	
1,2-Dibromoethane	20		2.5	ug/L	20.0	0.78 U	101	57-140	5	16	
1,2-Dichlorobenzene	21		2.5	ug/L	20.0	0.73 U	106	63-131	1	25	
1,2-Dichloroethane	21		2.5	ug/L	20.0	0.63 U	104	50-156	2	18	
1,2-Dichloropropane	20		2.5	ug/L	20.0	0.80 U	102	61-133	4	26	
1,3-Dichlorobenzene	23		2.5	ug/L	20.0	0.77 U	113	66-129	3	23	
1,4-Dichlorobenzene	22		2.5	ug/L	20.0	0.76 U	110	65-133	5	23	
2-Butanone	97		12	ug/L	100	4.5 U	97	10-180	3	29	
2-Hexanone	100		12	ug/L	100	2.5 U	101	12-180	3	28	
4-Methyl-2-pentanone	96		12	ug/L	100	2.5 U	96	19-180	0.6	24	
Acetone	88		25	ug/L	100	10 U	88	10-180	0.6	19	
Benzene	23		2.5	ug/L	20.0	0.71 U	113	56-136	2	14	
Bromodichloromethane	21		2.5	ug/L	20.0	0.52 U	103	58-135	0.2	19	
Bromoform	20		2.5	ug/L	20.0	0.75 U	100	46-148	8	18	
Bromomethane	12		2.5	ug/L	20.0	0.95 U	61	10-173	11	29	
Carbon disulfide	22		12	ug/L	20.0	2.5 U	108	43-153	6	26	
Carbon Tetrachloride	27		2.5	ug/L	20.0	0.94 U	134	54-156	14	27	
Chlorobenzene	22		2.5	ug/L	20.0	0.72 U	109	51-139	0.9	13	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1E24012 - EPA 5030B_MS - Continued

Matrix Spike Dup (1E24012-MSD1) Continued Prepared: 05/24/2021 00:00 Analyzed: 05/24/2021 11:51

Source: AE04350-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloroethane	27		2.5	ug/L	20.0	0.98 U	137	27-180	3	22	
Chloroform	23		2.5	ug/L	20.0	0.80 U	115	58-139	1	17	
Chloromethane	19		2.5	ug/L	20.0	0.82 U	97	33-154	0.1	31	
cis-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.53 U	112	56-128	0.4	17	
cis-1,3-Dichloropropene	19		2.5	ug/L	20.0	0.59 U	93	64-128	2	20	
Cyclohexane	25		2.5	ug/L	20.0	0.93 U	126	70-130	0	20	
Dibromochloromethane	20		2.5	ug/L	20.0	0.50 U	100	50-140	3	18	
Dichlorodifluoromethane	22		2.5	ug/L	20.0	0.74 U	112	10-180	2	26	
Ethylbenzene	21		2.5	ug/L	20.0	0.69 U	107	63-133	4	18	
Freon 113	24		2.5	ug/L	20.0	0.73 U	118	47-173	3	30	
Isopropylbenzene	23		2.5	ug/L	20.0	0.67 U	117	60-132	3	23	
m,p-Xylenes	44		5.0	ug/L	40.0	1.3 U	110	64-133	1	18	
Methyl acetate	21		2.5	ug/L	20.0	0.95 U	104	70-130	0.6	20	
Methyl cyclohexane	23		2.5	ug/L	20.0	0.64 U	113	70-130	1	20	
Methylene Chloride	23		12	ug/L	20.0	2.5 U	114	43-142	0.6	23	
Methyl-tert-Butyl Ether	22		2.5	ug/L	20.0	0.60 U	111	51-145	1	22	
o-Xylene	22		2.5	ug/L	20.0	0.53 U	109	61-129	0.6	16	
Styrene	23		2.5	ug/L	20.0	0.61 U	113	59-136	0.4	32	
Tetrachloroethene	21		2.5	ug/L	20.0	0.76 U	103	60-147	0.3	21	
Toluene	22		2.5	ug/L	20.0	0.72 U	109	64-131	2	16	
trans-1,2-Dichloroethene	23		2.5	ug/L	20.0	0.73 U	117	54-134	4	20	
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0	0.73 U	107	65-149	0.3	17	
Trichloroethene	21		2.5	ug/L	20.0	0.89 U	106	62-135	6	20	
Trichlorofluoromethane	23		2.5	ug/L	20.0	0.94 U	114	56-155	0.3	22	
Vinyl chloride	22		2.5	ug/L	20.0	0.71 U	111	20-167	6	24	
4-Bromofluorobenzene	*52*			*ug/L*	*50.0*		*105*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*112*	*53-146*			
Toluene-d8	*52*			*ug/L*	*50.0*		*105*	*41-146*			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported result is an estimated value.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence (85% or greater confidence) to make a “tentative identification".
Q	One or more quality control criteria failed.

Tetra Tech, Inc.

CHAIN OF CUSTODY NUMBER AE04350 No. 1401 | PAGE 1 OF 1

PROJECT NO: 112G08970	FACILITY: CIRCA	PROJECT MANAGER: ALEX MURPHY	PHONE NUMBER: 321-636-6470	LABORATORY NAME AND CONTACT: ENCO ORLANDO
SAMPLERS (SIGNATURE):		FIELD OPERATIONS LEADER: DAN FORSTER	PHONE NUMBER: 304-780-1426	ADDRESS
		CARRIER/WAYBILL NUMBER		CITY, STATE: ORLANDO, FL

STANDARD TAT ☑
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2021	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TYPE OF ANALYSIS: 8260 CLASS2 TCL Semi 1,2 CUSTOM LIST	COMMENTS
									G	HCl		
20MAY	0815	CIRCA-ASEFFLUENT-20210520	CIRCA	—	—	GW	G	3			X	
20MAY	0820	CIRCA-ASINFLUENT-20210520	CIRCA	—		GW	G	3			X	

1. RELINQUISHED BY	DATE 20may21	TIME 1405	1. RECEIVED BY	DATE 20MAY21	TIME 1405
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS: COOLED ON ICE — Analyzable 1.7°C

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

5/20/2021

Environmental Conservation Labs, Inc.

Alex Murphy
Tetra Tech, Inc. (TE016)
11 Riverside Drive, Suite 204
Cocoa, FL 32922
Phone: (321) 636-6470
Fax: (321) 636-6473

Reference : **Sample Receipt Confirmation - *Please Review***
Project Name / Number : NASA KSC CRCA / 112G08970
Purchase Order # : 1165883

Lab Reference # : AE04350 Lab Receipt Date: 20-May-21 14:05
Anticipated ***(Estimated)*** Completion Date: 27-May-21 19:00

This is an automated notification from our laboratory information management system (LIMS), indicating the samples we have recently received and their associated analyses. Should any of the following information be in error, please contact us immediately.

Thank you for choosing Environmental Conservation Laboratories. Should any events occur that delay the processing of your samples or inhibit our ability to complete the project within the projected time frame you will be contacted.

Sincerely,

Kaitlin Dylnicki

Client: Tetra Tech, Inc. (TE016) **Project Name:** NASA KSC CRCA
Requested TAT: 5 **Project Number:** 112G08970

Analysis	TAT	Expires	Status
Sample ID: CRCA-ASEFFLUENT-20210520(Lab ID: AE04350-01), Matrix: Ground Water, Sampled: 20-May-21 08:15 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	03-Jun-21 23:59	Received
Sample ID: CRCA-ASINFLUENT-20210520(Lab ID: AE04350-02), Matrix: Ground Water, Sampled: 20-May-21 08:20 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	03-Jun-21 23:59	Received

Analysis Groups included in this work order

ENCO Orlando

SDG: AE04350-TE016

CLASS: 01_VOA_MS

METHOD: EPA 8260D

ANALYSES DATA PACKAGE COVER PAGE

EPA 8260D

Laboratory: ENCO Orlando

SDG: AE04350-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-ASEFFLUENT-20210520	AE04350-01
CRCA-ASINFLUENT-20210520	AE04350-02

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLUENT-20210520

Laboratory: ENCO Orlando SDG: AE04350-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE04350-01 File ID: 215ES007.D

Sampled: 05/20/21 08:15 Prepared: 05/24/21 09:12 Analyzed: 05/24/21 10:28

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1E24012 Sequence: AA66553 Calibration: 2105058 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLUENT-20210520

Laboratory: ENCO Orlando SDG: AE04350-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE04350-01 File ID: 215ES007.D

Sampled: 05/20/21 08:15 Prepared: 05/24/21 09:12 Analyzed: 05/24/21 10:28

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1E24012 Sequence: AA66553 Calibration: 2105058 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	55	109	53 - 146	
Toluene-d8	50.0	51	102	41 - 146	
4-Bromofluorobenzene	50.0	52	104	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1011658	9.851	1246947	9.857	
1,4-Difluorobenzene	2184866	10.444	2520262	10.45	
Chlorobenzene-d5	1285964	13.223	1596030	13.229	
1,4-Dichlorobenzene-d4	1104046	15.48	1464563	15.485	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLUENT-20210520

Laboratory: ENCO Orlando SDG: AE04350-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE04350-02 File ID: 215ES008.D

Sampled: 05/20/21 08:20 Prepared: 05/24/21 09:12 Analyzed: 05/24/21 10:56

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1E24012 Sequence: AA66553 Calibration: 2105058 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	13		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.76	J	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLUENT-20210520

Laboratory: ENCO Orlando SDG: AE04350-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE04350-02 File ID: 215ES008.D

Sampled: 05/20/21 08:20 Prepared: 05/24/21 09:12 Analyzed: 05/24/21 10:56

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1E24012 Sequence: AA66553 Calibration: 2105058 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	54	109	53 - 146	
Toluene-d8	50.0	53	105	41 - 146	
4-Bromofluorobenzene	50.0	51	102	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1012700	9.851	1246947	9.857	
1,4-Difluorobenzene	2150758	10.444	2520262	10.45	
Chlorobenzene-d5	1296142	13.223	1596030	13.229	
1,4-Dichlorobenzene-d4	1095730	15.485	1464563	15.485	

* Values outside of QC limits

HOLDING TIME SUMMARY

EPA 8260D

Laboratory: ENCO Orlando

SDG: AE04350-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-ASEFFLUENT-20210520	05/20/21 08:15	05/20/21 14:05	05/24/21 09:12	4.04	NA	05/24/21 10:28	4.00	14.00	
CRCA-ASINFLUENT-20210520	05/20/21 08:20	05/20/21 14:05	05/24/21 09:12	4.04	NA	05/24/21 10:56	4.00	14.00	

PREPARATION BATCH SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AE04350-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1E24012 Batch Matrix: Water Preparation: EPA 5030B_MS

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1E24012-BLK1	215ES005.D	05/24/21 00:00	
LCS	1E24012-BS1	215ES003.D	05/24/21 00:00	
CRCA-ASEFFLUENT-20210520	1E24012-MS1	215ES009.D	05/24/21 00:00	
CRCA-ASEFFLUENT-20210520	1E24012-MSD1	215ES010.D	05/24/21 00:00	
CRCA-ASEFFLUENT-20210520	AE04350-01	215ES007.D	05/24/21 09:12	
CRCA-ASINFLUENT-20210520	AE04350-02	215ES008.D	05/24/21 09:12	

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE04350-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1E24012-BLK1	File ID:	215ES005.D
Prepared:	05/24/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	05/24/21 09:32	Instrument:	OVGCMS5		
Batch:	1E24012	Sequence:	AA66553	Calibration:	2105058

CAS NO.	COMPOUND	CONC. (ug/L)	Q
75-71-8	Dichlorodifluoromethane	0.74	U
74-87-3	Chloromethane	0.82	U
75-01-4	Vinyl chloride	0.71	U
74-83-9	Bromomethane	0.95	U
75-00-3	Chloroethane	0.98	U
75-69-4	Trichlorofluoromethane	0.94	U
76-13-1	Freon 113	0.73	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	0.94	U
75-15-0	Carbon disulfide	2.5	U
75-09-2	Methylene Chloride	2.5	U
1634-04-4	Methyl-tert-Butyl Ether	0.60	U
156-60-5	trans-1,2-Dichloroethene	0.73	U
156-59-2	cis-1,2-Dichloroethene	0.53	U
75-34-3	1,1-Dichloroethane	0.62	U
78-93-3	2-Butanone	4.5	U
67-66-3	Chloroform	0.80	U
71-55-6	1,1,1-Trichloroethane	0.80	U
79-20-9	Methyl acetate	0.95	U
110-82-7	Cyclohexane	0.93	U
108-87-2	Methyl cyclohexane	0.64	U
56-23-5	Carbon Tetrachloride	0.94	U
107-06-2	1,2-Dichloroethane	0.63	U
71-43-2	Benzene	0.71	U
79-01-6	Trichloroethene	0.89	U
78-87-5	1,2-Dichloropropane	0.80	U
75-27-4	Bromodichloromethane	0.52	U
108-10-1	4-Methyl-2-pentanone	2.5	U
591-78-6	2-Hexanone	2.5	U
10061-01-5	cis-1,3-Dichloropropene	0.59	U

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE04350-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1E24012-BLK1	File ID:	215ES005.D
Prepared:	05/24/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	05/24/21 09:32	Instrument:	OVGCMS5		
Batch:	1E24012	Sequence:	AA66553	Calibration:	2105058

CAS NO.	COMPOUND	CONC. (ug/L)	Q
108-88-3	Toluene	0.72	U
10061-02-6	trans-1,3-Dichloropropene	0.73	U
79-00-5	1,1,2-Trichloroethane	0.76	U
127-18-4	Tetrachloroethene	0.76	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.78	U
108-90-7	Chlorobenzene	0.72	U
100-41-4	Ethylbenzene	0.69	U
108-38-3/106-42-3	m,p-Xylenes	1.3	U
95-47-6	o-Xylene	0.53	U
75-25-2	Bromoform	0.75	U
100-42-5	Styrene	0.61	U
98-82-8	Isopropylbenzene	0.67	U
79-34-5	1,1,2,2-Tetrachloroethane	0.54	U
120-82-1	1,2,4-Trichlorobenzene	0.70	U
541-73-1	1,3-Dichlorobenzene	0.77	U
106-46-7	1,4-Dichlorobenzene	0.76	U
95-50-1	1,2-Dichlorobenzene	0.73	U
96-12-8	1,2-Dibromo-3-chloropropane	0.96	U
1330-20-7	Xylenes (Total)	1.3	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	53	107	53 - 146	
Toluene-d8	50.0	52	103	41 - 146	
4-Bromofluorobenzene	50.0	50	101	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1037705	9.851	1246947	9.857	
1,4-Difluorobenzene	2198868	10.444	2520262	10.45	
Chlorobenzene-d5	1317044	13.223	1596030	13.229	
1,4-Dichlorobenzene-d4	1132422	15.486	1464563	15.485	

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE04350-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1E24012	Laboratory ID:	1E24012-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	20	100	10 - 180
Chloromethane	20.0	17	84	33 - 154
Vinyl chloride	20.0	21	104	20 - 167
Bromomethane	20.0	7.7	39	10 - 173
Chloroethane	20.0	24	121	27 - 180
Trichlorofluoromethane	20.0	20	99	56 - 155
Freon 113	20.0	21	106	47 - 173
Acetone	100	90	90	10 - 180
1,1-Dichloroethene	20.0	24	118	47 - 139
Carbon disulfide	20.0	20	102	43 - 153
Methylene Chloride	20.0	21	103	43 - 142
Methyl-tert-Butyl Ether	20.0	21	104	51 - 145
trans-1,2-Dichloroethene	20.0	22	110	54 - 134
cis-1,2-Dichloroethene	20.0	21	104	56 - 128
1,1-Dichloroethane	20.0	23	114	57 - 142
2-Butanone	100	94	94	10 - 180
Chloroform	20.0	21	105	58 - 139
1,1,1-Trichloroethane	20.0	22	112	57 - 148
Methyl acetate	20.0	20	102	70 - 130
Cyclohexane	20.0	23	113	70 - 130
Methyl cyclohexane	20.0	20	101	70 - 130
Carbon Tetrachloride	20.0	21	106	54 - 156
1,2-Dichloroethane	20.0	19	97	50 - 156
Benzene	20.0	21	105	56 - 136
Trichloroethene	20.0	20	99	62 - 135
1,2-Dichloropropane	20.0	19	97	61 - 133
Bromodichloromethane	20.0	20	98	58 - 135
4-Methyl-2-pentanone	100	85	85	19 - 180
2-Hexanone	100	94	94	12 - 180
cis-1,3-Dichloropropene	20.0	18	92	64 - 128

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE04350-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1E24012	Laboratory ID:	1E24012-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Toluene	20.0	22	108	64 - 131
trans-1,3-Dichloropropene	20.0	21	105	65 - 149
1,1,2-Trichloroethane	20.0	20	101	57 - 141
Tetrachloroethene	20.0	19	97	60 - 147
Dibromochloromethane	20.0	20	100	50 - 140
1,2-Dibromoethane	20.0	19	95	57 - 140
Chlorobenzene	20.0	20	102	51 - 139
Ethylbenzene	20.0	20	101	63 - 133
m,p-Xylenes	40.0	43	107	64 - 133
o-Xylene	20.0	21	103	61 - 129
Bromoform	20.0	20	99	46 - 148
Styrene	20.0	21	106	59 - 136
Isopropylbenzene	20.0	21	106	60 - 132
1,1,2,2-Tetrachloroethane	20.0	19	95	60 - 139
1,2,4-Trichlorobenzene	20.0	15	74	52 - 159
1,3-Dichlorobenzene	20.0	21	105	66 - 129
1,4-Dichlorobenzene	20.0	20	102	65 - 133
1,2-Dichlorobenzene	20.0	20	101	63 - 131
1,2-Dibromo-3-chloropropane	20.0	17	85	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASEFFLUENT-20210520

Laboratory: ENCO Orlando
SDG: AE04350-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1E24012
Laboratory ID: 1E24012-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-ASEFFLUENT-20210520

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	ND	23	114	10 - 180
Chloromethane	20.0	ND	19	97	33 - 154
Vinyl chloride	20.0	ND	24	119	20 - 167
Bromomethane	20.0	ND	11	54	10 - 173
Chloroethane	20.0	ND	27	133	27 - 180
Trichlorofluoromethane	20.0	ND	23	114	56 - 155
Freon 113	20.0	ND	24	122	47 - 173
Acetone	100	ND	89	89	10 - 180
1,1-Dichloroethene	20.0	ND	26	130	47 - 139
Carbon disulfide	20.0	ND	23	114	43 - 153
Methylene Chloride	20.0	ND	23	115	43 - 142
Methyl-tert-Butyl Ether	20.0	ND	22	109	51 - 145
trans-1,2-Dichloroethene	20.0	ND	24	122	54 - 134
cis-1,2-Dichloroethene	20.0	ND	22	112	56 - 128
1,1-Dichloroethane	20.0	ND	25	124	57 - 142
2-Butanone	100	ND	94	94	10 - 180
Chloroform	20.0	ND	23	117	58 - 139
1,1,1-Trichloroethane	20.0	ND	25	123	57 - 148
Methyl acetate	20.0	ND	21	103	70 - 130
Cyclohexane	20.0	ND	25	126	70 - 130
Methyl cyclohexane	20.0	ND	23	115	70 - 130
Carbon Tetrachloride	20.0	ND	23	116	54 - 156
1,2-Dichloroethane	20.0	ND	20	102	50 - 156
Benzene	20.0	ND	23	116	56 - 136
Trichloroethene	20.0	ND	22	112	62 - 135
1,2-Dichloropropane	20.0	ND	21	106	61 - 133
Bromodichloromethane	20.0	ND	21	103	58 - 135
4-Methyl-2-pentanone	100	ND	95	95	19 - 180
2-Hexanone	100	ND	98	98	12 - 180
cis-1,3-Dichloropropene	20.0	ND	19	95	64 - 128
Toluene	20.0	ND	22	112	64 - 131

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASEFFLUENT-20210520

Laboratory: ENCO Orlando
SDG: AE04350-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1E24012
Laboratory ID: 1E24012-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-ASEFFLUENT-20210520

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
trans-1,3-Dichloropropene	20.0	ND	21	107	65 - 149
1,1,2-Trichloroethane	20.0	ND	20	98	57 - 141
Tetrachloroethene	20.0	ND	21	103	60 - 147
Dibromochloromethane	20.0	ND	19	97	50 - 140
1,2-Dibromoethane	20.0	ND	19	96	57 - 140
Chlorobenzene	20.0	ND	22	108	51 - 139
Ethylbenzene	20.0	ND	22	111	63 - 133
m,p-Xylenes	40.0	ND	45	112	64 - 133
o-Xylene	20.0	ND	22	108	61 - 129
Bromoform	20.0	ND	19	93	46 - 148
Styrene	20.0	ND	22	112	59 - 136
Isopropylbenzene	20.0	ND	23	114	60 - 132
1,1,2,2-Tetrachloroethane	20.0	ND	19	96	60 - 139
1,2,4-Trichlorobenzene	20.0	ND	14	71	52 - 159
1,3-Dichlorobenzene	20.0	ND	22	109	66 - 129
1,4-Dichlorobenzene	20.0	ND	21	105	65 - 133
1,2-Dichlorobenzene	20.0	ND	21	105	63 - 131
1,2-Dibromo-3-chloropropane	20.0	ND	17	83	48 - 150

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASEFFLUENT-20210520

Laboratory: ENCO Orlando
SDG: AE04350-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1E24012
Laboratory ID: 1E24012-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-ASEFFLUENT-20210520

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20.0	22	112	2	26	10 - 180
Chloromethane	20.0	19	97	0.1	31	33 - 154
Vinyl chloride	20.0	22	111	6	24	20 - 167
Bromomethane	20.0	12	61	11	29	10 - 173
Chloroethane	20.0	27	137	3	22	27 - 180
Trichlorofluoromethane	20.0	23	114	0.3	22	56 - 155
Freon 113	20.0	24	118	3	30	47 - 173
Acetone	100	88	88	0.6	19	10 - 180
1,1-Dichloroethene	20.0	26	130	0.2	16	47 - 139
Carbon disulfide	20.0	22	108	6	26	43 - 153
Methylene Chloride	20.0	23	114	0.6	23	43 - 142
Methyl-tert-Butyl Ether	20.0	22	111	1	22	51 - 145
trans-1,2-Dichloroethene	20.0	23	117	4	20	54 - 134
cis-1,2-Dichloroethene	20.0	22	112	0.4	17	56 - 128
1,1-Dichloroethane	20.0	25	124	0.04	24	57 - 142
2-Butanone	100	97	97	3	29	10 - 180
Chloroform	20.0	23	115	1	17	58 - 139
1,1,1-Trichloroethane	20.0	25	123	0.4	25	57 - 148
Methyl acetate	20.0	21	104	0.6	20	70 - 130
Cyclohexane	20.0	25	126	0	20	70 - 130
Methyl cyclohexane	20.0	23	113	1	20	70 - 130
Carbon Tetrachloride	20.0	27	134	14	27	54 - 156
1,2-Dichloroethane	20.0	21	104	2	18	50 - 156
Benzene	20.0	23	113	2	14	56 - 136
Trichloroethene	20.0	21	106	6	20	62 - 135
1,2-Dichloropropane	20.0	20	102	4	26	61 - 133
Bromodichloromethane	20.0	21	103	0.2	19	58 - 135
4-Methyl-2-pentanone	100	96	96	0.6	24	19 - 180
2-Hexanone	100	100	101	3	28	12 - 180
cis-1,3-Dichloropropene	20.0	19	93	2	20	64 - 128
Toluene	20.0	22	109	2	16	64 - 131
trans-1,3-Dichloropropene	20.0	21	107	0.3	17	65 - 149

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASEFFLUENT-20210520

Laboratory: ENCO Orlando
SDG: AE04350-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1E24012
Laboratory ID: 1E24012-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-ASEFFLUENT-20210520

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,2-Trichloroethane	20.0	20	100	2	16	57 - 141
Tetrachloroethene	20.0	21	103	0.3	21	60 - 147
Dibromochloromethane	20.0	20	100	3	18	50 - 140
1,2-Dibromoethane	20.0	20	101	5	16	57 - 140
Chlorobenzene	20.0	22	109	0.9	13	51 - 139
Ethylbenzene	20.0	21	107	4	18	63 - 133
m,p-Xylenes	40.0	44	110	1	18	64 - 133
o-Xylene	20.0	22	109	0.6	16	61 - 129
Bromoform	20.0	20	100	8	18	46 - 148
Styrene	20.0	23	113	0.4	32	59 - 136
Isopropylbenzene	20.0	23	117	3	23	60 - 132
1,1,2,2-Tetrachloroethane	20.0	20	98	2	17	60 - 139
1,2,4-Trichlorobenzene	20.0	15	73	3	24	52 - 159
1,3-Dichlorobenzene	20.0	23	113	3	23	66 - 129
1,4-Dichlorobenzene	20.0	22	110	5	23	65 - 133
1,2-Dichlorobenzene	20.0	21	106	1	25	63 - 131
1,2-Dibromo-3-chloropropane	20.0	16	78	7	21	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04350-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA66374
Instrument: OVGCMS5
Matrix: Water
Calibration: 2105058

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA66374-SCV1)			Lab File ID: 215EG014.D		Analyzed: 05/12/21 13:58			
Dibromofluoromethane	50.0	105	70 - 130	9.428	9.428625	-0.0006	+/-0.5	
Toluene-d8	50.0	105	70 - 130	11.784	11.784	0.0000	+/-0.5	
4-Bromofluorobenzene	50.0	108	70 - 130	14.334	14.33175	0.0023	+/-0.5	
Secondary Cal Check (AA66374-SCV2)			Lab File ID: 215EG015.D		Analyzed: 05/12/21 14:27			
Dibromofluoromethane	50.0	105	70 - 130	9.434	9.428625	0.0054	+/-0.5	
Toluene-d8	50.0	104	70 - 130	11.784	11.784	0.0000	+/-0.5	
4-Bromofluorobenzene	50.0	104	70 - 130	14.334	14.33175	0.0023	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04350-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA66553
Instrument: OVGCMS5
Matrix: Water
Calibration: 2105058

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA66553-CCV1)			Lab File ID: 215ES002.D		Analyzed: 05/24/21 08:03			
Dibromofluoromethane	50.0	107	80 - 120	9.428	9.428625	-0.0006	+/-0.5	
Toluene-d8	50.0	107	80 - 120	11.778	11.784	-0.0060	+/-0.5	
4-Bromofluorobenzene	50.0	106	80 - 120	14.328	14.33175	-0.0038	+/-0.5	
LCS (1E24012-BS1)			Lab File ID: 215ES003.D		Analyzed: 05/24/21 08:37			
Dibromofluoromethane	50.0	108	53 - 146	9.428	9.428625	-0.0006	+/-0.5	
Toluene-d8	50.0	104	41 - 146	11.778	11.784	-0.0060	+/-0.5	
4-Bromofluorobenzene	50.0	103	41 - 142	14.328	14.33175	-0.0038	+/-0.5	
Blank (1E24012-BLK1)			Lab File ID: 215ES005.D		Analyzed: 05/24/21 09:32			
Dibromofluoromethane	50.0	107	53 - 146	9.428	9.428625	-0.0006	+/-0.5	
Toluene-d8	50.0	103	41 - 146	11.778	11.784	-0.0060	+/-0.5	
4-Bromofluorobenzene	50.0	101	41 - 142	14.328	14.33175	-0.0038	+/-0.5	
Instrument RL Check (AA66553-CRL1)			Lab File ID: 215ES006.D		Analyzed: 05/24/21 10:00			
Dibromofluoromethane	50.0	109	1 - 199	9.428	9.428625	-0.0006	+/-0.5	
Toluene-d8	50.0	104	1 - 199	11.778	11.784	-0.0060	+/-0.5	
4-Bromofluorobenzene	50.0	101	1 - 199	14.322	14.33175	-0.0098	+/-0.5	
CRCA-ASEFFLUENT-20210520 (AE04350-01)			Lab File ID: 215ES007.D		Analyzed: 05/24/21 10:28			
Dibromofluoromethane	50.0	109	53 - 146	9.422	9.428625	-0.0066	+/-0.5	
Toluene-d8	50.0	102	41 - 146	11.778	11.784	-0.0060	+/-0.5	
4-Bromofluorobenzene	50.0	104	41 - 142	14.328	14.33175	-0.0038	+/-0.5	
CRCA-ASINFLUENT-20210520 (AE04350-02)			Lab File ID: 215ES008.D		Analyzed: 05/24/21 10:56			
Dibromofluoromethane	50.0	109	53 - 146	9.422	9.428625	-0.0066	+/-0.5	
Toluene-d8	50.0	105	41 - 146	11.778	11.784	-0.0060	+/-0.5	
4-Bromofluorobenzene	50.0	102	41 - 142	14.328	14.33175	-0.0038	+/-0.5	
Matrix Spike (1E24012-MS1)			Lab File ID: 215ES009.D		Analyzed: 05/24/21 11:23			
Dibromofluoromethane	50.0	110	53 - 146	9.422	9.428625	-0.0066	+/-0.5	
Toluene-d8	50.0	108	41 - 146	11.778	11.784	-0.0060	+/-0.5	
4-Bromofluorobenzene	50.0	103	41 - 142	14.322	14.33175	-0.0098	+/-0.5	
Matrix Spike Dup (1E24012-MSD1)			Lab File ID: 215ES010.D		Analyzed: 05/24/21 11:51			
Dibromofluoromethane	50.0	112	53 - 146	9.422	9.428625	-0.0066	+/-0.5	
Toluene-d8	50.0	105	41 - 146	11.772	11.784	-0.0120	+/-0.5	
4-Bromofluorobenzene	50.0	105	41 - 142	14.322	14.33175	-0.0098	+/-0.5	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04350-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA66374
Instrument: OVGCMS5
Matrix: Water
Calibration: 2105058

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA66374-CAL1)			Lab File ID: 215EG004.D			Analyzed: 05/12/21 09:18			
Pentafluorobenzene	1265136	9.857	1246947	9.857	101	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2590360	10.45	2520262	10.45	103	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1542984	13.235	1596030	13.229	97	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1417072	15.491	1464563	15.485	97	50 - 200	0.0060	+/-0.50	
Cal Standard (AA66374-CAL2)			Lab File ID: 215EG005.D			Analyzed: 05/12/21 09:46			
Pentafluorobenzene	1247564	9.857	1246947	9.857	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2557529	10.45	2520262	10.45	101	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1531879	13.229	1596030	13.229	96	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1385234	15.486	1464563	15.485	95	50 - 200	0.0010	+/-0.50	
Cal Standard (AA66374-CAL3)			Lab File ID: 215EG006.D			Analyzed: 05/12/21 10:14			
Pentafluorobenzene	1240863	9.851	1246947	9.857	100	50 - 200	-0.0060	+/-0.50	
1,4-Difluorobenzene	2518910	10.45	2520262	10.45	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1518139	13.229	1596030	13.229	95	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1380311	15.491	1464563	15.485	94	50 - 200	0.0060	+/-0.50	
Cal Standard (AA66374-CAL4)			Lab File ID: 215EG007.D			Analyzed: 05/12/21 10:42			
Pentafluorobenzene	1222071	9.857	1246947	9.857	98	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2491366	10.45	2520262	10.45	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1496226	13.229	1596030	13.229	94	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1385715	15.491	1464563	15.485	95	50 - 200	0.0060	+/-0.50	
Cal Standard (AA66374-CAL5)			Lab File ID: 215EG008.D			Analyzed: 05/12/21 11:10			
Pentafluorobenzene	1257629	9.857	1246947	9.857	101	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2533835	10.45	2520262	10.45	101	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1556127	13.229	1596030	13.229	97	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1417269	15.485	1464563	15.485	97	50 - 200	0.0000	+/-0.50	
Cal Standard (AA66374-CAL6)			Lab File ID: 215EG009.D			Analyzed: 05/12/21 11:38			
Pentafluorobenzene	1246947	9.857	1246947	9.857	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2520262	10.45	2520262	10.45	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1596030	13.229	1596030	13.229	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1464563	15.485	1464563	15.485	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA66374-CAL7)			Lab File ID: 215EG010.D			Analyzed: 05/12/21 12:06			
Pentafluorobenzene	1257942	9.857	1246947	9.857	101	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2485495	10.45	2520262	10.45	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1625354	13.229	1596030	13.229	102	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1455287	15.491	1464563	15.485	99	50 - 200	0.0060	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04350-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA66374
Instrument: OVGCMS5
Matrix: Water
Calibration: 2105058

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA66374-CAL8)			Lab File ID: 215EG011.D			Analyzed: 05/12/21 12:34			
Pentafluorobenzene	1296417	9.857	1246947	9.857	104	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2494917	10.45	2520262	10.45	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1633060	13.229	1596030	13.229	102	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1453740	15.491	1464563	15.485	99	50 - 200	0.0060	+/-0.50	
Secondary Cal Check (AA66374-SCV1)			Lab File ID: 215EG014.D			Analyzed: 05/12/21 13:58			
Pentafluorobenzene	1233367	9.857	1246947	9.857	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2480656	10.45	2520262	10.45	98	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1551144	13.229	1596030	13.229	97	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1411405	15.491	1464563	15.485	96	50 - 200	0.0060	+/-0.50	
Secondary Cal Check (AA66374-SCV2)			Lab File ID: 215EG015.D			Analyzed: 05/12/21 14:27			
Pentafluorobenzene	1246532	9.857	1246947	9.857	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2519816	10.45	2520262	10.45	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1538857	13.229	1596030	13.229	96	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1383356	15.491	1464563	15.485	94	50 - 200	0.0060	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04350-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA66553
Instrument: OVGCMS5
Matrix: Water
Calibration: 2105058

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA66553-CCV1)			Lab File ID: 215ES002.D			Analyzed: 05/24/21 08:03			
Pentafluorobenzene	1113025	9.851	1246947	9.857	89	50 - 200	-0.0060	+/-0.50	
1,4-Difluorobenzene	2273043	10.444	2520262	10.45	90	50 - 200	-0.0060	+/-0.50	
Chlorobenzene-d5	1444171	13.223	1596030	13.229	90	50 - 200	-0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1262702	15.486	1464563	15.485	86	50 - 200	0.0010	+/-0.50	
LCS (1E24012-BS1)			Lab File ID: 215ES003.D			Analyzed: 05/24/21 08:37			
Pentafluorobenzene	1117313	9.851	1246947	9.857	90	50 - 200	-0.0060	+/-0.50	
1,4-Difluorobenzene	2318302	10.444	2520262	10.45	92	50 - 200	-0.0060	+/-0.50	
Chlorobenzene-d5	1399350	13.223	1596030	13.229	88	50 - 200	-0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1204907	15.485	1464563	15.485	82	50 - 200	0.0000	+/-0.50	
Blank (1E24012-BLK1)			Lab File ID: 215ES005.D			Analyzed: 05/24/21 09:32			
Pentafluorobenzene	1037705	9.851	1246947	9.857	83	50 - 200	-0.0060	+/-0.50	
1,4-Difluorobenzene	2198868	10.444	2520262	10.45	87	50 - 200	-0.0060	+/-0.50	
Chlorobenzene-d5	1317044	13.223	1596030	13.229	83	50 - 200	-0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1132422	15.486	1464563	15.485	77	50 - 200	0.0010	+/-0.50	
Instrument RL Check (AA66553-CRL1)			Lab File ID: 215ES006.D			Analyzed: 05/24/21 10:00			
Pentafluorobenzene	1021933	9.851	1246947	9.857	82	50 - 200	-0.0060	+/-0.50	
1,4-Difluorobenzene	2193576	10.444	2520262	10.45	87	50 - 200	-0.0060	+/-0.50	
Chlorobenzene-d5	1310949	13.223	1596030	13.229	82	50 - 200	-0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1126030	15.48	1464563	15.485	77	50 - 200	-0.0050	+/-0.50	
CRCA-ASEFFLUENT-20210520 (AE04350-01)			Lab File ID: 215ES007.D			Analyzed: 05/24/21 10:28			
Pentafluorobenzene	1011658	9.851	1246947	9.857	81	50 - 200	-0.0060	+/-0.50	
1,4-Difluorobenzene	2184866	10.444	2520262	10.45	87	50 - 200	-0.0060	+/-0.50	
Chlorobenzene-d5	1285964	13.223	1596030	13.229	81	50 - 200	-0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1104046	15.48	1464563	15.485	75	50 - 200	-0.0050	+/-0.50	
CRCA-ASINFLUENT-20210520 (AE04350-02)			Lab File ID: 215ES008.D			Analyzed: 05/24/21 10:56			
Pentafluorobenzene	1012700	9.851	1246947	9.857	81	50 - 200	-0.0060	+/-0.50	
1,4-Difluorobenzene	2150758	10.444	2520262	10.45	85	50 - 200	-0.0060	+/-0.50	
Chlorobenzene-d5	1296142	13.223	1596030	13.229	81	50 - 200	-0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1095730	15.485	1464563	15.485	75	50 - 200	0.0000	+/-0.50	
Matrix Spike (1E24012-MS1)			Lab File ID: 215ES009.D			Analyzed: 05/24/21 11:23			
Pentafluorobenzene	998540	9.851	1246947	9.857	80	50 - 200	-0.0060	+/-0.50	
1,4-Difluorobenzene	2100740	10.444	2520262	10.45	83	50 - 200	-0.0060	+/-0.50	
Chlorobenzene-d5	1318050	13.223	1596030	13.229	83	50 - 200	-0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1136018	15.479	1464563	15.485	78	50 - 200	-0.0060	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04350-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA66553
Instrument: OVGCMS5
Matrix: Water
Calibration: 2105058

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Matrix Spike Dup (1E24012-MSD1)			Lab File ID: 215ES010.D			Analyzed: 05/24/21 11:51			
Pentafluorobenzene	1006891	9.851	1246947	9.857	81	50 - 200	-0.0060	+/-0.50	
1,4-Difluorobenzene	2163506	10.444	2520262	10.45	86	50 - 200	-0.0060	+/-0.50	
Chlorobenzene-d5	1319861	13.223	1596030	13.229	83	50 - 200	-0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1138725	15.479	1464563	15.485	78	50 - 200	-0.0060	+/-0.50	

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE04350-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA66374		
Calibration:	2105058	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA66374-TUN1	215EG003.D	05/12/21 08:47
Cal Standard	AA66374-CAL1	215EG004.D	05/12/21 09:18
Cal Standard	AA66374-CAL2	215EG005.D	05/12/21 09:46
Cal Standard	AA66374-CAL3	215EG006.D	05/12/21 10:14
Cal Standard	AA66374-CAL4	215EG007.D	05/12/21 10:42
Cal Standard	AA66374-CAL5	215EG008.D	05/12/21 11:10
Cal Standard	AA66374-CAL6	215EG009.D	05/12/21 11:38
Cal Standard	AA66374-CAL7	215EG010.D	05/12/21 12:06
Cal Standard	AA66374-CAL8	215EG011.D	05/12/21 12:34
Secondary Cal Check	AA66374-SCV1	215EG014.D	05/12/21 13:58
Secondary Cal Check	AA66374-SCV2	215EG015.D	05/12/21 14:27

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE04350-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA66553		
Calibration:	2105058	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA66553-CCV1	215ES002.D	05/24/21 08:03
LCS	1E24012-BS1	215ES003.D	05/24/21 08:37
Blank	1E24012-BLK1	215ES005.D	05/24/21 09:32
Instrument RL Check	AA66553-CRL1	215ES006.D	05/24/21 10:00
CRCA-ASEFFLUENT-20210520	AE04350-01	215ES007.D	05/24/21 10:28
CRCA-ASINFLUENT-20210520	AE04350-02	215ES008.D	05/24/21 10:56
CRCA-ASEFFLUENT-20210520	1E24012-MS1	215ES009.D	05/24/21 11:23
CRCA-ASEFFLUENT-20210520	1E24012-MSD1	215ES010.D	05/24/21 11:51

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE04350-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	215EG003.D	Injection Date:	05/12/21
Instrument ID:	OVGCMS5	Injection Time:	08:47
Sequence:	AA66374	Lab Sample ID:	AA66374-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	159	PASS
96	5 - 9% of 95	7.55	PASS
173	Less than 2% of 174	0.0953	PASS
174	50 - 200% of 95	63	PASS
175	5 - 9% of 174	8.25	PASS
176	95 - 105% of 174	98.8	PASS
177	5 - 10% of 176	6.6	PASS

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE04350-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2105058
Lab File ID:	215ES002.D	Calibration Date:	05/12/21 09:58
Sequence:	AA66553	Injection Date:	05/24/21
Lab Sample ID:	AA66553-CCV1	Injection Time:	08:03

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Dichlorodifluoromethane	A	20.0	16	0.552269	0.4817569		-20	20	
Chloromethane	A	20.0	16	0.8795451	0.6336718		-18	20	
Vinyl chloride	A	20.0	19	0.6038055	0.5761798		-4.6	20	
Bromomethane	A	20.0	26	0.2319187	0.2257766		31	20	*
Chloroethane	A	20.0	22	0.2914257	0.264273		8.6	20	
Trichlorofluoromethane	A	20.0	20	0.6653593	0.6662923		0.10	20	
Freon 113	A	50.0	52	0.2449811	0.284088		4.3	20	
Acetone	A	250	240	0.1671133	0.1598519		-4.3	20	
1,1-Dichloroethene	A	50.0	54	0.3575427	0.4311979		7.6	20	
Carbon disulfide	A	250	240	1.414021	1.415606		-5.9	20	
Methylene Chloride	A	50.0	50	0.5263035	0.5299917		0.70	20	
Methyl-tert-Butyl Ether	A	50.0	53	1.231249	1.299892		5.6	20	
trans-1,2-Dichloroethene	A	50.0	51	0.4586679	0.5036518		2.6	20	
cis-1,2-Dichloroethene	A	50.0	52	0.5450738	0.5670475		4.0	20	
1,1-Dichloroethane	A	50.0	54	0.8609557	0.9355414		8.7	20	
2-Butanone	A	250	240	8.832097E-02	8.470645E-02		-4.1	20	
Chloroform	A	50.0	52	0.8759761	0.9125941		4.2	20	
1,1,1-Trichloroethane	A	50.0	56	0.6533048	0.7256441		11	20	
Methyl acetate	A	50.0	46	0.525676	0.4233041		-8.1	20	
Cyclohexane	A	50.0	53	0.8383986	0.9916624		6.3	20	
Methyl cyclohexane	A	50.0	50	0.5704033	0.5166457		0.20	20	
Carbon Tetrachloride	A	50.0	59	0.2386424	0.312771		18	20	
1,2-Dichloroethane	A	50.0	52	0.3044876	0.3136135		3.0	20	
Benzene	A	50.0	52	1.049685	1.088408		3.7	20	
Trichloroethene	A	50.0	51	0.2396557	0.2451146		2.3	20	
1,2-Dichloropropane	A	50.0	50	0.3018457	0.3006485		-0.4	20	
Bromodichloromethane	A	50.0	49	0.2992191	0.3290452		-1.2	20	
4-Methyl-2-pentanone	A	250	220	4.939991E-02	4.773645E-02		-12	20	
2-Hexanone	A	250	240	0.2266324	0.2199725		-2.9	20	

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE04350-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2105058
Lab File ID:	215ES002.D	Calibration Date:	05/12/21 09:58
Sequence:	AA66553	Injection Date:	05/24/21
Lab Sample ID:	AA66553-CCV1	Injection Time:	08:03

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
cis-1,3-Dichloropropene	A	50.0	48	0.4572468	0.4909617		-3	20
Toluene	A	50.0	52	1.136079	1.170908		3.1	20
trans-1,3-Dichloropropene	A	50.0	52	0.5976235	0.6219485		4.1	20
1,1,2-Trichloroethane	A	50.0	49	0.4094956	0.4038407		-1.4	20
Tetrachloroethene	A	50.0	47	0.3106005	0.2937969		-5.4	20
Dibromochloromethane	A	50.0	49	0.3345547	0.3768058		-1.1	20
1,2-Dibromoethane	A	50.0	50	0.4222027	0.4261379		0.90	20
Chlorobenzene	A	50.0	50	1.209254	1.209501		0.020	20
Ethylbenzene	A	50.0	52	0.6849939	0.7072916		3.3	20
m,p-Xylenes	A	100	100	0.8504395	0.8894286		4.6	20
o-Xylene	A	50.0	52	0.8692331	0.9110639		4.8	20
Bromoform	A	50.0	48	0.1914775	0.2110304		-4	20
Styrene	A	50.0	54	1.406753	1.528236		8.6	20
Isopropylbenzene	A	50.0	53	2.187386	2.335262		6.8	20
1,1,2,2-Tetrachloroethane	A	50.0	50	0.7083977	0.7025775		-0.8	20
1,2,4-Trichlorobenzene	A	50.0	41	0.2653884	0.2520175		-17	20
1,3-Dichlorobenzene	A	50.0	52	1.066014	1.112131		4.3	20
1,4-Dichlorobenzene	A	50.0	51	1.098085	1.128767		2.8	20
1,2-Dichlorobenzene	A	50.0	52	0.9844665	1.015074		3.1	20
1,2-Dibromo-3-chloropropane	A	50.0	43	0.1046042	0.1086012		-14	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04350-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA66374
Instrument: OVGCMS5

Calibration: 2105058

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A1B1157	MS Tune	AA66374-TUN1	215EG003.D	05/12/21 08:47
A1E0845	8260 1.0 PPB	AA66374-CAL1	215EG004.D	05/12/21 09:18
A1E0846	8260 2.0 PPB	AA66374-CAL2	215EG005.D	05/12/21 09:46
A1E0847	8260 5.0 PPB	AA66374-CAL3	215EG006.D	05/12/21 10:14
A1E0848	8260 10 PPB	AA66374-CAL4	215EG007.D	05/12/21 10:42
A1E0849	8260 20 PPB	AA66374-CAL5	215EG008.D	05/12/21 11:10
A1E0850	8260 50 PPB	AA66374-CAL6	215EG009.D	05/12/21 11:38
A1E0851	8260 80 PPB	AA66374-CAL7	215EG010.D	05/12/21 12:06
A1E0852	8260 100 PPB	AA66374-CAL8	215EG011.D	05/12/21 12:34
A1E0865	8260 SCV 50 PPB/20 gases (surr. lower conc.)	AA66374-SCV1	215EG014.D	05/12/21 13:58
A1E0874	8260 SCV 20 PPB (surr. lower conc.)	AA66374-SCV2	215EG015.D	05/12/21 14:27

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04350-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2105058
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 05/12/21 09:58

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	1	0.539942	2	0.5056454	5	0.488402	10	0.5405046	20	0.5434592	50	0.5874941
Chloromethane	1	1.13055	2	0.9745191	5	0.8404393	10	0.7514989	20	0.770245	50	0.8176474
Vinyl chloride	1	0.6040062	2	0.5417157	5	0.5801124	10	0.5687845	20	0.569047	50	0.6439295
Bromomethane	1	0.4171093	2	0.340724	5	0.1794557	10	0.1627729	20	0.1508513	50	0.1842107
Chloroethane	1	0.3834766	2	0.260668	5	0.3209943	10	0.2951792	20	0.2488333	50	0.2394031
Trichlorofluoromethane	1	0.6481912	2	0.6124535	5	0.6226795	10	0.6252501	20	0.6244131	50	0.7070918
Freon 113	1	0.1827867	2	0.2409095	5	0.2495924	10	0.2307681	20	0.2428836	50	0.2651251
Acetone	5	0.1505372	10	0.1748928	25	0.1503357	50	0.1514519	100	0.1638162	250	0.1814404
1,1-Dichloroethene	1	0.3480258	2	0.3332094	5	0.3278444	10	0.3232873	20	0.3339339	50	0.3842184
Carbon disulfide	5	1.190402	10	1.461376	25	1.416335	50	1.397534	100	1.432246	250	1.529389
Methylene Chloride	1	0.5694249	2	0.5319968	5	0.5281163	10	0.4822838	20	0.4777562	50	0.5303922
Methyl-tert-Butyl Ether	1	0.9505697	2	1.104913	5	1.221053	10	1.172309	20	1.220913	50	1.361285
trans-1,2-Dichloroethene	1	0.42201	2	0.4463298	5	0.479779	10	0.4105694	20	0.4444912	50	0.4758647
cis-1,2-Dichloroethene	1	0.4709375	2	0.4923395	5	0.5706674	10	0.5277067	20	0.5185373	50	0.579752
1,1-Dichloroethane	1	0.64333	2	0.85695	5	0.8895986	10	0.8292112	20	0.8473326	50	0.9262134
2-Butanone	5	7.269574E-02	10	9.324171E-02	25	8.556948E-02	50	8.544839E-02	100	8.528628E-02	250	9.420866E-02
Chloroform	1	0.7897175	2	0.8081349	5	0.8799843	10	0.8547294	20	0.8552482	50	0.9325753
1,1,1-Trichloroethane	1	0.5592284	2	0.587044	5	0.6601696	10	0.6005338	20	0.6156645	50	0.7249763
Methyl acetate	1	0.8293575	2	0.4102996	5	0.6671728	10	0.3989703	20	0.4256661	50	0.4735189
Cyclohexane	1	0.6879102	2	0.8201984	5	0.8224518	10	0.7587243	20	0.8206892	50	0.9114854
Methyl cyclohexane	1	0.8606912	2	0.660667	5	0.5591903	10	0.4710749	20	0.4682862	50	0.5064481
Carbon Tetrachloride	1	0.2178269	2	0.1983066	5	0.2327475	10	0.1975643	20	0.2295966	50	0.2583628
1,2-Dichloroethane	1	0.2759462	2	0.3023622	5	0.3005189	10	0.2696653	20	0.2896469	50	0.3276013
Benzene	1	0.9941089	2	1.006235	5	1.12484	10	0.9771306	20	1.018591	50	1.067974
Trichloroethene	1	0.2014199	2	0.2402417	5	0.2376504	10	0.2207985	20	0.2297436	50	0.2569701
1,2-Dichloropropane	1	0.2936271	2	0.2690292	5	0.2930474	10	0.2864292	20	0.2795762	50	0.3187867
Bromodichloromethane	1	0.234118	2	0.2613265	5	0.2725901	10	0.2615754	20	0.3013495	50	0.3366912
4-Methyl-2-pentanone	5	3.157476E-02	10	4.876387E-02	25	4.922288E-02	50	4.911121E-02	100	0.0511896	250	5.516339E-02
2-Hexanone	5	0.1531177	10	0.2260991	25	0.219063	50	0.2125798	100	0.2305574	250	0.2546118
cis-1,3-Dichloropropene	1	0.3375207	2	0.3915107	5	0.4475468	10	0.4215218	20	0.4404865	50	0.5114282
Toluene	1	1.009116	2	1.116684	5	1.13319	10	1.106588	20	1.133081	50	1.179065

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04350-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2105058
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 05/12/21 09:58

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	1	0.5597271	2	0.529203	5	0.5629063	10	0.5538502	20	0.5866584	50	0.664089
1,1,2-Trichloroethane	1	0.3746312	2	0.4074245	5	0.386045	10	0.3810153	20	0.400316	50	0.4341923
Tetrachloroethene	1	0.2291015	2	0.3260049	5	0.3344885	10	0.2827882	20	0.3125082	50	0.3260666
Dibromochloromethane	1	0.228421	2	0.2953725	5	0.3111902	10	0.2838274	20	0.3217443	50	0.3887483
1,2-Dibromoethane	1	0.3403794	2	0.3675062	5	0.4372788	10	0.399963	20	0.4180009	50	0.4613905
Chlorobenzene	1	1.13637	2	1.075787	5	1.297898	10	1.184691	20	1.183437	50	1.256152
Ethylbenzene	1	0.6217498	2	0.6522056	5	0.6763873	10	0.649444	20	0.6813695	50	0.7247195
m,p-Xylenes	2	0.6912256	4	0.8017686	10	0.8910284	20	0.8476644	40	0.8878324	100	0.9145417
o-Xylene	1	0.7580117	2	0.7626418	5	0.9063729	10	0.8265563	20	0.8531968	50	0.9350645
Bromoform	1	0.1359055	2	0.1462746	5	0.1692994	10	0.1564135	20	0.1905548	50	0.2246537
Styrene	1	1.068579	2	1.177263	5	1.423868	10	1.388734	20	1.432304	50	1.55487
Isopropylbenzene	1	1.813175	2	1.961513	5	2.205246	10	2.089671	20	2.235015	50	2.385982
1,1,2,2-Tetrachloroethane	1	0.5860074	2	0.6430338	5	0.7361447	10	0.6787778	20	0.724009	50	0.7673866
1,2,4-Trichlorobenzene	1	8.651642E-02	2	0.2822628	5	0.2383014	10	0.2595158	20	0.2697706	50	0.3132518
1,3-Dichlorobenzene	1	0.8597305	2	0.9718214	5	1.110496	10	1.002594	20	1.077204	50	1.159295
1,4-Dichlorobenzene	1	0.9775791	2	1.089401	5	1.123435	10	1.035769	20	1.068532	50	1.147977
1,2-Dichlorobenzene	1	0.7860222	2	0.9573473	5	0.969086	10	0.9288779	20	0.9940474	50	1.065211
1,2-Dibromo-3-chloropropane	1	5.835977E-02	2	7.946311E-02	5	8.821925E-02	10	9.131026E-02	20	0.1105965	50	0.1301433
Dibromofluoromethane	50	0.5386267	55	0.5267064	60	0.4598137	50	0.5578792	65	0.5283679	50	0.5663336
Toluene-d8	50	1.246961	55	1.208644	60	1.043974	50	1.284369	65	1.207223	50	1.319707
4-Bromofluorobenzene	50	0.8867111	55	0.856388	60	0.7378689	50	0.9051814	65	0.8447778	50	0.9352669

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04350-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2105058
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 05/12/21 09:58

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	80	0.6160449	100	0.5966595								
Chloromethane	80	0.866197	100	0.8852642								
Vinyl chloride	80	0.6622786	100	0.6605702								
Bromomethane	80	0.2084312	100	0.2117945								
Chloroethane	80	~~0.1740402~~	100	~~0.1349284~~								
Trichlorofluoromethane	80	0.7434295	100	0.7393655								
Freon 113	80	0.2709266	100	0.2768565								
Acetone	400	0.1803647	500	0.1840678								
1,1-Dichloroethene	80	0.4018001	100	0.4080227								
Carbon disulfide	400	1.469428	500	1.415461								
Methylene Chloride	80	0.547332	100	0.5431254								
Methyl-tert-Butyl Ether	80	1.421836	100	1.397116								
trans-1,2-Dichloroethene	80	0.4972571	100	0.493042								
cis-1,2-Dichloroethene	80	0.6074331	100	0.5932169								
1,1-Dichloroethane	80	0.9543162	100	0.9406939								
2-Butanone	400	9.463224E-02	500	9.548525E-02								
Chloroform	80	0.9567557	100	0.9306635								
1,1,1-Trichloroethane	80	0.7487299	100	0.7300922								
Methyl acetate	80	0.484457	100	0.5159655								
Cyclohexane	80	0.9535997	100	0.9321295								
Methyl cyclohexane	80	0.519167	100	0.5177018								
Carbon Tetrachloride	80	0.2874546	100	0.2872801								
1,2-Dichloroethane	80	0.33083	100	0.3393297								
Benzene	80	1.110667	100	1.097935								
Trichloroethene	80	0.2676952	100	0.2627264								
1,2-Dichloropropane	80	0.3341309	100	0.3401386								
Bromodichloromethane	80	0.3585309	100	0.3675715								
4-Methyl-2-pentanone	400	5.483289E-02	500	5.534064E-02								
2-Hexanone	400	0.2566653	500	0.2603653								
cis-1,3-Dichloropropene	80	0.5494185	100	0.5585412								
Toluene	80	1.199106	100	1.211802								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04350-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2105058
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 05/12/21 09:58

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	80	0.6666975	100	0.6578564								
1,1,2-Trichloroethane	80	0.4451649	100	0.4471755								
Tetrachloroethene	80	0.323598	100	0.350248								
Dibromochloromethane	80	0.416978	100	0.430156								
1,2-Dibromoethane	80	0.4728155	100	0.4802876								
Chlorobenzene	80	1.270316	100	1.269379								
Ethylbenzene	80	0.7389356	100	0.7351399								
m,p-Xylenes	160	0.8978256	200	0.8716293								
o-Xylene	80	0.9511493	100	0.9608713								
Bromoform	80	0.2471685	100	0.2615504								
Styrene	80	1.610968	100	1.597442								
Isopropylbenzene	80	2.416098	100	2.392392								
1,1,2,2-Tetrachloroethane	80	0.7718715	100	0.7599506								
1,2,4-Trichlorobenzene	80	0.3345328	100	0.3389554								
1,3-Dichlorobenzene	80	1.188391	100	1.158583								
1,4-Dichlorobenzene	80	1.176485	100	1.165498								
1,2-Dichlorobenzene	80	1.086083	100	1.089057								
1,2-Dibromo-3-chloropropane	80	0.1391852	100	0.1395566								
Dibromofluoromethane	70	0.5244337	75	0.5117659								
Toluene-d8	70	1.246606	75	1.264916								
4-Bromofluorobenzene	70	0.8681344	75	0.879866								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04350-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2105058
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 05/12/21 09:58

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	0.552269	8.068601	3.981	8.172534E-02	0.9989304		0.99	
Chloromethane	0.8795451	13.98677	4.41525	8.673023E-02		0.9998988	0.99	
Vinyl chloride	0.6038055	7.69267	4.58375	6.459559E-02			20	
Bromomethane	0.2319187	41.0589	5.231875	6.847071E-02		0.9987047	0.99	
Chloroethane	0.2914257	18.68668	5.458	8.974752E-02	0.994888		0.99	
Trichlorofluoromethane	0.6653593	8.332146	5.702	9.869623E-02			20	
Freon 113	0.2449811	12.1555	6.560875	8.821082E-02	0.9988858		0.99	
Acetone	0.1671133	8.879245	7.403	0.1442108			20	
1,1-Dichloroethene	0.3575427	9.754171	6.5355	0.0646795	0.9978577		0.99	
Carbon disulfide	1.414021	7.033487	6.62725	4.673323E-02		0.9994093	0.99	
Methylene Chloride	0.5263035	5.979069	7.34275	5.168217E-02			20	
Methyl-tert-Butyl Ether	1.231249	12.99388	7.6345	3.508243E-02			20	
trans-1,2-Dichloroethene	0.4586679	7.099544	7.549625	3.721468E-02	0.999074		0.99	
cis-1,2-Dichloroethene	0.5450738	9.132868	8.95425	5.013422E-02			20	
1,1-Dichloroethane	0.8609557	11.50862	8.317	5.257998E-02			20	
2-Butanone	8.832097E-02	8.762073	9.553875	0.1739808			20	
Chloroform	0.8759761	6.911683	9.22275	2.638527E-02			20	
1,1,1-Trichloroethane	0.6533048	11.22263	9.4885	4.899427E-02			20	
Methyl acetate	0.525676	28.4099	7.527625	0.1492322		0.9990168	0.99	
Cyclohexane	0.8383986	10.79068	9.194375	4.258047E-02	0.9986828		0.99	
Methyl cyclohexane	0.5704033	23.17558	10.45225	3.264403E-02	0.9993996		0.99	
Carbon Tetrachloride	0.2386424	15.02653	9.4175	5.752166E-02		0.9990417	0.99	
1,2-Dichloroethane	0.3044876	8.51893	10.09263	7.078664E-02			20	
Benzene	1.049685	5.488876	9.88075	3.757161E-02			20	
Trichloroethene	0.2396557	9.381441	10.45525	3.775919E-02			20	
1,2-Dichloropropane	0.3018457	8.63109	10.99012	6.007444E-02			20	
Bromodichloromethane	0.2992191	16.66178	11.0215	6.195491E-02		0.9997195	0.99	
4-Methyl-2-pentanone	4.939991E-02	15.67052	12.13537	2.644287E-02		0.9997801	0.99	
2-Hexanone	0.2266324	15.37366	12.88275	4.558642E-02			20	
cis-1,3-Dichloropropene	0.4572468	16.94017	11.61325	3.199718E-02		0.9995838	0.99	

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04350-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2105058
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 05/12/21 09:58

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Toluene	1.136079	5.659383	11.83325	1.935367E-02			20	
trans-1,3-Dichloropropene	0.5976235	9.418142	12.20475	4.833532E-02			20	
1,1,2-Trichloroethane	0.4094956	7.129917	12.36563	1.766573E-02			20	
Tetrachloroethene	0.3106005	12.29428	12.21438	3.508924E-02			20	
Dibromochloromethane	0.3345547	21.12157	12.55563	2.810383E-02		0.9994726	0.99	
1,2-Dibromoethane	0.4222027	11.9764	12.81575	3.543673E-02			20	
Chlorobenzene	1.209254	6.390011	13.247	2.263552E-02			20	
Ethylbenzene	0.6849939	6.394034	13.21387	2.272686E-02			20	
m,p-Xylenes	0.8504395	8.615015	13.3305	1.330767E-03			20	
o-Xylene	0.8692331	9.389744	13.73675	3.401465E-02			20	
Bromoform	0.1914775	24.94208	13.8835	0.0814868		0.9997542	0.99	
Styrene	1.406753	13.917	13.78587	0.0497903			20	
Isopropylbenzene	2.187386	10.03039	14.0005	1.441719E-02	0.9995966		0.99	
1,1,2,2-Tetrachloroethane	0.7083977	9.4408	14.47575	0.0114337			20	
1,2,4-Trichlorobenzene	0.2653884	30.3962	18.15588	9.598869E-02		0.9994901	0.99	
1,3-Dichlorobenzene	1.066014	10.62479	15.4195	2.374437E-02			20	
1,4-Dichlorobenzene	1.098085	6.269482	15.50825	1.114643E-02			20	
1,2-Dichlorobenzene	0.9844665	10.25302	16.02975	2.911352E-02			20	
1,2-Dibromo-3-chloropropane	0.1046042	28.7284	17.08875	4.379559E-02		0.9988678	0.99	
Dibromofluoromethane	0.5267409	6.1684	9.428625	1.731689E-02			20	
Toluene-d8	1.2278	6.767393	11.784	2.136903E-02			20	
4-Bromofluorobenzene	0.8642743	6.760153	14.33175	1.981368E-02			20	

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE04350-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2105058 **Laboratory ID:** AA66374-SCV1

Sequence: AA66374 **Standard ID:** A1E0865

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Trichlorofluoromethane	20.0	22	10.9	30.00
1,2-Dibromo-3-chloropropane	50.0	53	5.8	30.00
1,1,1-Trichloroethane	50.0	59	17.6	30.00
Bromomethane	20.0	23	15.9	30.00
Chloromethane	20.0	23	13.4	30.00
Chloroethane	20.0	22	10.4	30.00
Vinyl chloride	20.0	22	10.0	30.00
Methylene Chloride	50.0	56	12.6	30.00
Carbon disulfide	50.0	55	10.9	30.00
Bromoform	50.0	54	7.2	30.00
Bromodichloromethane	50.0	53	5.5	30.00
Chloroform	50.0	55	9.3	30.00
1,1-Dichloroethene	50.0	62	24.5	30.00
Acetone	250	280	11.6	30.00
Dichlorodifluoromethane	20.0	23	13.2	30.00
Freon 113	50.0	60	19.4	30.00
1,2-Dichloropropane	50.0	54	8.2	30.00
2-Butanone	250	280	12.2	30.00
1,1,2-Trichloroethane	50.0	54	7.9	30.00
Trichloroethene	50.0	55	11.0	30.00
Methyl acetate	50.0	57	13.9	30.00
1,1,2,2-Tetrachloroethane	50.0	54	7.8	30.00
o-Xylene	50.0	56	12.3	30.00
1,2-Dichlorobenzene	50.0	56	12.9	30.00
Ethylbenzene	50.0	56	11.1	30.00
1,1-Dichloroethane	50.0	59	17.7	30.00
1,2,4-Trichlorobenzene	50.0	55	10.8	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE04350-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2105058 **Laboratory ID:** AA66374-SCV1

Sequence: AA66374 **Standard ID:** A1E0865

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Styrene	50.0	58	17.0	30.00
cis-1,3-Dichloropropene	50.0	49	-1.9	30.00
trans-1,3-Dichloropropene	50.0	58	15.5	30.00
1,4-Dichlorobenzene	50.0	54	8.5	30.00
1,2-Dibromoethane	50.0	55	9.3	30.00
1,2-Dichloroethane	50.0	55	9.1	30.00
4-Methyl-2-pentanone	250	260	3.9	30.00
m,p-Xylenes	100	110	10.6	30.00
Methyl cyclohexane	50.0	53	6.3	30.00
Toluene	50.0	56	11.8	30.00
Benzene	50.0	57	13.7	30.00
Cyclohexane	50.0	59	17.2	30.00
Isopropylbenzene	50.0	57	14.8	30.00
Dibromochloromethane	50.0	52	4.0	30.00
Tetrachloroethene	50.0	53	6.4	30.00
cis-1,2-Dichloroethene	50.0	55	10.1	30.00
trans-1,2-Dichloroethene	50.0	57	14.8	30.00
Methyl-tert-Butyl Ether	50.0	58	16.2	30.00
Dibromofluoromethane	50.0	52	4.6	30.00
Toluene-d8	50.0	53	5.4	30.00
4-Bromofluorobenzene	50.0	54	7.6	30.00
1,3-Dichlorobenzene	50.0	56	12.1	30.00
Carbon Tetrachloride	50.0	54	8.2	30.00
2-Hexanone	250	290	17.7	30.00
Chlorobenzene	50.0	56	11.2	30.00

* Values outside of QC limits

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE04350-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2105058 **Laboratory ID:** AA66374-SCV2

Sequence: AA66374 **Standard ID:** A1E0874

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Trichlorofluoromethane	20.0	20	0.9	30.00
Ethylbenzene	20.0	21	4.6	30.00
1,1,1-Trichloroethane	20.0	23	13.4	30.00
Bromomethane	20.0	16	-22.0	30.00
Chloromethane	20.0	21	5.8	30.00
Chloroethane	20.0	24	18.7	30.00
Vinyl chloride	20.0	21	4.7	30.00
Methylene Chloride	20.0	22	11.8	30.00
Carbon disulfide	20.0	21	3.0	30.00
Bromoform	20.0	20	-0.6	30.00
Bromodichloromethane	20.0	20	0.4	30.00
Chloroform	20.0	21	4.6	30.00
1,1-Dichloroethene	20.0	24	18.6	30.00
Acetone	100	110	5.4	30.00
Dichlorodifluoromethane	20.0	21	6.6	30.00
Freon 113	20.0	22	11.2	30.00
1,2-Dichloropropane	20.0	20	1.5	30.00
2-Butanone	100	110	5.2	30.00
1,1,2-Trichloroethane	20.0	21	4.9	30.00
Trichloroethene	20.0	21	3.3	30.00
Methyl acetate	20.0	22	12.0	30.00
1,1,2,2-Tetrachloroethane	20.0	20	0.6	30.00
o-Xylene	20.0	21	5.8	30.00
1,2-Dichlorobenzene	20.0	21	5.7	30.00
1,2-Dibromo-3-chloropropane	20.0	20	1.0	30.00
1,1-Dichloroethane	20.0	23	13.8	30.00
1,2,4-Trichlorobenzene	20.0	21	5.0	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE04350-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2105058 **Laboratory ID:** AA66374-SCV2

Sequence: AA66374 **Standard ID:** A1E0874

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Styrene	20.0	22	10.2	30.00
cis-1,3-Dichloropropene	20.0	19	-5.8	30.00
trans-1,3-Dichloropropene	20.0	23	13.2	30.00
1,4-Dichlorobenzene	20.0	21	2.9	30.00
1,2-Dibromoethane	20.0	20	2.2	30.00
1,2-Dichloroethane	20.0	20	-0.8	30.00
4-Methyl-2-pentanone	100	99	-1.4	30.00
m,p-Xylenes	40.0	43	8.2	30.00
Methyl cyclohexane	20.0	21	4.9	30.00
Toluene	20.0	21	6.4	30.00
Benzene	20.0	22	8.0	30.00
Cyclohexane	20.0	22	11.3	30.00
Isopropylbenzene	20.0	22	7.7	30.00
Dibromochloromethane	20.0	20	2.2	30.00
Tetrachloroethene	20.0	21	5.4	30.00
cis-1,2-Dichloroethene	20.0	21	4.4	30.00
trans-1,2-Dichloroethene	20.0	22	8.0	30.00
Methyl-tert-Butyl Ether	20.0	22	12.2	30.00
Dibromofluoromethane	50.0	53	5.2	30.00
Toluene-d8	50.0	52	3.8	30.00
4-Bromofluorobenzene	50.0	52	4.1	30.00
1,3-Dichlorobenzene	20.0	21	6.1	30.00
Carbon Tetrachloride	20.0	21	4.8	30.00
2-Hexanone	100	110	11.3	30.00
Chlorobenzene	20.0	21	5.0	30.00

* Values outside of QC limits

TETRA TECH ISG
TtEGS, Information Systems Group

Completion Ticket

On 6/11/2021 at 1:38 PM the following files were submitted to Tetra Tech by kdylnicki@encolabs.com with ENCO:

TE016AE04350A1.txt, TE016AE04350A3.txt

If you need to identify this session at a later date refer to Ticket Key:

2021611_4441538711_ledd_ENCO

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I Lori S. Mangrum, as the designated Quality Assurance Officer, hereby attest that all electronic deliverables have been thoroughly reviewed and are in agreement with the associated hardcopy data. The enclosed electronic files have been reviewed for accuracy (including significant figures), completeness and format. The laboratory will be responsible for any labor time necessary to correct enclosed electronic deliverables that have been found to be in error. I can be reached at (407) 826-5314 if there are any questions or problems with the enclosed electronic deliverables.

Signature:_____ Title: Quality Assurance Manager Date: June 15, 2021

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ENCO Laboratories
Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Monday, June 28, 2021
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AE04257

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Friday, June 18, 2021.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

www.encolabs.com

Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Client PM: Alex Murphy
Project Number: 112G08970
ENCO Project ID: AE04257
SDG: AE04257-TE016

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling and processing will be discussed in the Remarks section below.

Remarks

List of instruments used:

Analytical and Preparation Method	SOP Reference Instrument
EPA 8260D / 5030B_MS	OVGCMS5

Analysis: EPA 8260D

Manual integrations were performed on samples associated with EPA 8260D. All data & explanations are included in the raw data section of the report.

Affected Samples: AA67037-CCV1, CRCA-ASEFFLEUNT-20210617[AE04257-01], CRCA-ASINFLEUNT-20210617[AE04257-02]
The associated calibration verification standard for bromomethane and dichlorodifluoromethane exhibited high bias. Analyte(s) not detected in the sample.

Affected Samples: AA66932-SCV1
Recovery for carbon disulfide and dichlorodifluoromethane was outside acceptance limits. Analytes were not detected in the sample.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Kaitlin Dylnicki
Project Manager

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-ASEFFLEUNT-20210617	Lab ID: AE04257-01	Sampled: 06/17/21 13:30	Received: 06/18/21 13:56

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	07/01/21	06/24/21 08:45	06/24/21 09:53

Client ID: CRCA-ASINFLEUNT-20210617	Lab ID: AE04257-02	Sampled: 06/17/21 13:40	Received: 06/18/21 13:56

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	07/01/21	06/24/21 08:45	06/24/21 10:21

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-ASINFLEUNT-20210617 **Lab ID:** AE04257-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	12		0.71	2.5	ug/L	EPA 8260D	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLEUNT-20210617 **Lab Sample ID:** AE04257-01 **Received:** 06/18/21 13:56

Matrix: Ground Water **Sampled:** 06/17/21 13:30 **Work Order:** AE04257

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1F24014	EPA 8260D	06/24/21 09:53	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1F24014	EPA 8260D	06/24/21 09:53	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLEUNT-20210617 **Lab Sample ID:** AE04257-01 **Received:** 06/18/21 13:56

Matrix: Ground Water **Sampled:** 06/17/21 13:30 **Work Order:** AE04257

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1F24014	EPA 8260D	06/24/21 09:53	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*51*	*1*	*50.0*	*102 %*	*41-142*	*1F24014*	*EPA 8260D*	*06/24/21 09:53*	*kkw*	
Dibromofluoromethane	*54*	*1*	*50.0*	*107 %*	*53-146*	*1F24014*	*EPA 8260D*	*06/24/21 09:53*	*kkw*	
Toluene-d8	*53*	*1*	*50.0*	*107 %*	*41-146*	*1F24014*	*EPA 8260D*	*06/24/21 09:53*	*kkw*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASINFLEUNT-20210617 **Lab Sample ID:** AE04257-02 **Received:** 06/18/21 13:56

Matrix: Ground Water **Sampled:** 06/17/21 13:40 **Work Order:** AE04257

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1F24014	EPA 8260D	06/24/21 10:21	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1F24014	EPA 8260D	06/24/21 10:21	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	

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ANALYTICAL RESULTS

Description: CRCA-ASINFLEUNT-20210617 **Lab Sample ID:** AE04257-02 **Received:** 06/18/21 13:56

Matrix: Ground Water **Sampled:** 06/17/21 13:40 **Work Order:** AE04257

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Vinyl chloride [75-01-4]^	**12**		ug/L	1	0.71	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1F24014	EPA 8260D	06/24/21 10:21	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*52*	*1*	*50.0*	*104 %*	*41-142*	*1F24014*	*EPA 8260D*	*06/24/21 10:21*	*kkw*	
Dibromofluoromethane	*54*	*1*	*50.0*	*109 %*	*53-146*	*1F24014*	*EPA 8260D*	*06/24/21 10:21*	*kkw*	
Toluene-d8	*52*	*1*	*50.0*	*104 %*	*41-146*	*1F24014*	*EPA 8260D*	*06/24/21 10:21*	*kkw*	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1F24014 - EPA 5030B_MS

Blank (1F24014-BLK1) Prepared: 06/24/2021 00:00 Analyzed: 06/24/2021 09:25

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1F24014 - EPA 5030B_MS - Continued

Blank (1F24014-BLK1) Continued Prepared: 06/24/2021 00:00 Analyzed: 06/24/2021 09:25

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*50*			*ug/L*	*50.0*		*100*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*112*	*53-146*			
Toluene-d8	*53*			*ug/L*	*50.0*		*105*	*41-146*			

LCS (1F24014-BS1) Prepared: 06/24/2021 00:00 Analyzed: 06/24/2021 08:29

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	22		2.5	ug/L	20.0		108	57-148			
1,1,2,2-Tetrachloroethane	20		2.5	ug/L	20.0		99	60-139			
1,1,2-Trichloroethane	21		2.5	ug/L	20.0		103	57-141			
1,1-Dichloroethane	21		2.5	ug/L	20.0		104	57-142			
1,1-Dichloroethene	20		2.5	ug/L	20.0		99	47-139			
1,2,4-Trichlorobenzene	22		2.5	ug/L	20.0		111	52-159			
1,2-Dibromo-3-chloropropane	22		2.5	ug/L	20.0		111	48-150			
1,2-Dibromoethane	19		2.5	ug/L	20.0		95	57-140			
1,2-Dichlorobenzene	20		2.5	ug/L	20.0		100	63-131			
1,2-Dichloroethane	19		2.5	ug/L	20.0		96	50-156			
1,2-Dichloropropane	20		2.5	ug/L	20.0		100	61-133			
1,3-Dichlorobenzene	22		2.5	ug/L	20.0		108	66-129			
1,4-Dichlorobenzene	20		2.5	ug/L	20.0		100	65-133			
2-Butanone	100		12	ug/L	100		100	10-180			
2-Hexanone	87		12	ug/L	100		87	12-180			
4-Methyl-2-pentanone	100		12	ug/L	100		100	19-180			
Acetone	86		25	ug/L	100		86	10-180			
Benzene	21		2.5	ug/L	20.0		103	56-136			
Bromodichloromethane	21		2.5	ug/L	20.0		105	58-135			
Bromoform	18		2.5	ug/L	20.0		90	46-148			
Bromomethane	8.8		2.5	ug/L	20.0		44	10-173			
Carbon disulfide	23		12	ug/L	20.0		117	43-153			
Carbon Tetrachloride	23		2.5	ug/L	20.0		113	54-156			
Chlorobenzene	20		2.5	ug/L	20.0		102	51-139			
Chloroethane	19		2.5	ug/L	20.0		93	27-180			
Chloroform	20		2.5	ug/L	20.0		99	58-139			
Chloromethane	19		2.5	ug/L	20.0		94	33-154			
cis-1,2-Dichloroethene	21		2.5	ug/L	20.0		103	56-128			
cis-1,3-Dichloropropene	20		2.5	ug/L	20.0		98	64-128			
Cyclohexane	22		2.5	ug/L	20.0		111	70-130			
Dibromochloromethane	18		2.5	ug/L	20.0		89	50-140			
Dichlorodifluoromethane	25		2.5	ug/L	20.0		125	10-180			
Ethylbenzene	21		2.5	ug/L	20.0		103	63-133			
Freon 113	19		2.5	ug/L	20.0		97	47-173			
Isopropylbenzene	20		2.5	ug/L	20.0		98	60-132			
m,p-Xylenes	40		5.0	ug/L	40.0		101	64-133			
Methyl acetate	20		2.5	ug/L	20.0		100	70-130			
Methyl cyclohexane	21		2.5	ug/L	20.0		104	70-130			
Methylene Chloride	20		12	ug/L	20.0		99	43-142			
Methyl-tert-Butyl Ether	21		2.5	ug/L	20.0		106	51-145			

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1F24014 - EPA 5030B_MS - Continued

LCS (1F24014-BS1) Continued Prepared: 06/24/2021 00:00 Analyzed: 06/24/2021 08:29

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
o-Xylene	21		2.5	ug/L	20.0		104	61-129			
Styrene	20		2.5	ug/L	20.0		100	59-136			
Tetrachloroethene	20		2.5	ug/L	20.0		98	60-147			
Toluene	20		2.5	ug/L	20.0		99	64-131			
trans-1,2-Dichloroethene	20		2.5	ug/L	20.0		100	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0		104	65-149			
Trichloroethene	20		2.5	ug/L	20.0		99	62-135			
Trichlorofluoromethane	20		2.5	ug/L	20.0		102	56-155			
Vinyl chloride	20		2.5	ug/L	20.0		99	20-167			
4-Bromofluorobenzene	*52*			*ug/L*	*50.0*		*104*	*41-142*			
Dibromofluoromethane	*54*			*ug/L*	*50.0*		*109*	*53-146*			
Toluene-d8	*54*			*ug/L*	*50.0*		*108*	*41-146*			

Matrix Spike (1F24014-MS1) Prepared: 06/24/2021 00:00 Analyzed: 06/24/2021 10:49

Source: AE04257-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	24		2.5	ug/L	20.0	0.80 U	118	57-148			
1,1,2,2-Tetrachloroethane	21		2.5	ug/L	20.0	0.54 U	103	60-139			
1,1,2-Trichloroethane	21		2.5	ug/L	20.0	0.76 U	104	57-141			
1,1-Dichloroethane	23		2.5	ug/L	20.0	0.62 U	115	57-142			
1,1-Dichloroethene	23		2.5	ug/L	20.0	0.94 U	116	47-139			
1,2,4-Trichlorobenzene	27		2.5	ug/L	20.0	0.70 U	135	52-159			
1,2-Dibromo-3-chloropropane	25		2.5	ug/L	20.0	0.96 U	123	48-150			
1,2-Dibromoethane	21		2.5	ug/L	20.0	0.78 U	104	57-140			
1,2-Dichlorobenzene	20		2.5	ug/L	20.0	0.73 U	100	63-131			
1,2-Dichloroethane	19		2.5	ug/L	20.0	0.63 U	95	50-156			
1,2-Dichloropropane	20		2.5	ug/L	20.0	0.80 U	102	61-133			
1,3-Dichlorobenzene	21		2.5	ug/L	20.0	0.77 U	107	66-129			
1,4-Dichlorobenzene	21		2.5	ug/L	20.0	0.76 U	105	65-133			
2-Butanone	110		12	ug/L	100	4.5 U	111	10-180			
2-Hexanone	100		12	ug/L	100	2.5 U	103	12-180			
4-Methyl-2-pentanone	120		12	ug/L	100	2.5 U	122	19-180			
Acetone	96		25	ug/L	100	10 U	96	10-180			
Benzene	22		2.5	ug/L	20.0	0.71 U	110	56-136			
Bromodichloromethane	22		2.5	ug/L	20.0	0.52 U	109	58-135			
Bromoform	14		2.5	ug/L	20.0	0.75 U	68	46-148			
Bromomethane	14		2.5	ug/L	20.0	0.95 U	71	10-173			
Carbon disulfide	27		12	ug/L	20.0	2.5 U	133	43-153			
Carbon Tetrachloride	22		2.5	ug/L	20.0	0.94 U	109	54-156			
Chlorobenzene	22		2.5	ug/L	20.0	0.72 U	110	51-139			
Chloroethane	21		2.5	ug/L	20.0	0.98 U	105	27-180			
Chloroform	22		2.5	ug/L	20.0	0.80 U	111	58-139			
Chloromethane	19		2.5	ug/L	20.0	0.82 U	94	33-154			
cis-1,2-Dichloroethene	21		2.5	ug/L	20.0	0.53 U	107	56-128			
cis-1,3-Dichloropropene	20		2.5	ug/L	20.0	0.59 U	98	64-128			
Cyclohexane	24		2.5	ug/L	20.0	0.93 U	119	70-130			
Dibromochloromethane	18		2.5	ug/L	20.0	0.50 U	92	50-140			
Dichlorodifluoromethane	22		2.5	ug/L	20.0	0.74 U	112	10-180			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1F24014 - EPA 5030B_MS - Continued

Matrix Spike (1F24014-MS1) Continued Prepared: 06/24/2021 00:00 Analyzed: 06/24/2021 10:49

Source: AE04257-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	21		2.5	ug/L	20.0	0.69 U	107	63-133			
Freon 113	22		2.5	ug/L	20.0	0.73 U	108	47-173			
Isopropylbenzene	21		2.5	ug/L	20.0	0.67 U	103	60-132			
m,p-Xylenes	44		5.0	ug/L	40.0	1.3 U	111	64-133			
Methyl acetate	21		2.5	ug/L	20.0	0.95 U	106	70-130			
Methyl cyclohexane	22		2.5	ug/L	20.0	0.64 U	111	70-130			
Methylene Chloride	21		12	ug/L	20.0	2.5 U	107	43-142			
Methyl-tert-Butyl Ether	22		2.5	ug/L	20.0	0.60 U	108	51-145			
o-Xylene	23		2.5	ug/L	20.0	0.53 U	114	61-129			
Styrene	21		2.5	ug/L	20.0	0.61 U	106	59-136			
Tetrachloroethene	20		2.5	ug/L	20.0	0.76 U	101	60-147			
Toluene	22		2.5	ug/L	20.0	0.72 U	108	64-131			
trans-1,2-Dichloroethene	23		2.5	ug/L	20.0	0.73 U	116	54-134			
trans-1,3-Dichloropropene	22		2.5	ug/L	20.0	0.73 U	108	65-149			
Trichloroethene	23		2.5	ug/L	20.0	0.89 U	115	62-135			
Trichlorofluoromethane	22		2.5	ug/L	20.0	0.94 U	108	56-155			
Vinyl chloride	20		2.5	ug/L	20.0	0.71 U	102	20-167			
4-Bromofluorobenzene	*51*			*ug/L*	*50.0*		*103*	*41-142*			
Dibromofluoromethane	*54*			*ug/L*	*50.0*		*108*	*53-146*			
Toluene-d8	*54*			*ug/L*	*50.0*		*107*	*41-146*			

Matrix Spike Dup (1F24014-MSD1) Prepared: 06/24/2021 00:00 Analyzed: 06/24/2021 11:17

Source: AE04257-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	25		2.5	ug/L	20.0	0.80 U	124	57-148	5	25	
1,1,2,2-Tetrachloroethane	21		2.5	ug/L	20.0	0.54 U	105	60-139	1	17	
1,1,2-Trichloroethane	21		2.5	ug/L	20.0	0.76 U	103	57-141	1	16	
1,1-Dichloroethane	23		2.5	ug/L	20.0	0.62 U	115	57-142	0.3	24	
1,1-Dichloroethene	24		2.5	ug/L	20.0	0.94 U	119	47-139	3	16	
1,2,4-Trichlorobenzene	27		2.5	ug/L	20.0	0.70 U	134	52-159	0.9	24	
1,2-Dibromo-3-chloropropane	24		2.5	ug/L	20.0	0.96 U	118	48-150	4	21	
1,2-Dibromoethane	21		2.5	ug/L	20.0	0.78 U	103	57-140	1	16	
1,2-Dichlorobenzene	20		2.5	ug/L	20.0	0.73 U	102	63-131	2	25	
1,2-Dichloroethane	19		2.5	ug/L	20.0	0.63 U	95	50-156	0.4	18	
1,2-Dichloropropane	20		2.5	ug/L	20.0	0.80 U	102	61-133	0.3	26	
1,3-Dichlorobenzene	22		2.5	ug/L	20.0	0.77 U	110	66-129	3	23	
1,4-Dichlorobenzene	21		2.5	ug/L	20.0	0.76 U	106	65-133	0.9	23	
2-Butanone	110		12	ug/L	100	4.5 U	113	10-180	2	29	
2-Hexanone	100		12	ug/L	100	2.5 U	105	12-180	1	28	
4-Methyl-2-pentanone	120		12	ug/L	100	2.5 U	121	19-180	0.7	24	
Acetone	100		25	ug/L	100	10 U	100	10-180	4	19	
Benzene	22		2.5	ug/L	20.0	0.71 U	108	56-136	2	14	
Bromodichloromethane	22		2.5	ug/L	20.0	0.52 U	109	58-135	0	19	
Bromoform	15		2.5	ug/L	20.0	0.75 U	73	46-148	7	18	
Bromomethane	17		2.5	ug/L	20.0	0.95 U	85	10-173	18	29	
Carbon disulfide	26		12	ug/L	20.0	2.5 U	131	43-153	1	26	
Carbon Tetrachloride	26		2.5	ug/L	20.0	0.94 U	128	54-156	16	27	
Chlorobenzene	22		2.5	ug/L	20.0	0.72 U	110	51-139	0.6	13	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1F24014 - EPA 5030B_MS - Continued

Matrix Spike Dup (1F24014-MSD1) Continued Prepared: 06/24/2021 00:00 Analyzed: 06/24/2021 11:17

Source: AE04257-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloroethane	23		2.5	ug/L	20.0	0.98 U	113	27-180	7	22	
Chloroform	22		2.5	ug/L	20.0	0.80 U	111	58-139	0.05	17	
Chloromethane	20		2.5	ug/L	20.0	0.82 U	101	33-154	8	31	
cis-1,2-Dichloroethene	24		2.5	ug/L	20.0	0.53 U	118	56-128	10	17	
cis-1,3-Dichloropropene	19		2.5	ug/L	20.0	0.59 U	97	64-128	1	20	
Cyclohexane	25		2.5	ug/L	20.0	0.93 U	125	70-130	4	20	
Dibromochloromethane	19		2.5	ug/L	20.0	0.50 U	94	50-140	2	18	
Dichlorodifluoromethane	22		2.5	ug/L	20.0	0.74 U	111	10-180	1	26	
Ethylbenzene	23		2.5	ug/L	20.0	0.69 U	114	63-133	6	18	
Freon 113	22		2.5	ug/L	20.0	0.73 U	112	47-173	4	30	
Isopropylbenzene	21		2.5	ug/L	20.0	0.67 U	103	60-132	0	23	
m,p-Xylenes	44		5.0	ug/L	40.0	1.3 U	109	64-133	2	18	
Methyl acetate	23		2.5	ug/L	20.0	0.95 U	114	70-130	7	20	
Methyl cyclohexane	24		2.5	ug/L	20.0	0.64 U	118	70-130	6	20	
Methylene Chloride	22		12	ug/L	20.0	2.5 U	109	43-142	2	23	
Methyl-tert-Butyl Ether	21		2.5	ug/L	20.0	0.60 U	107	51-145	0.3	22	
o-Xylene	22		2.5	ug/L	20.0	0.53 U	109	61-129	5	16	
Styrene	21		2.5	ug/L	20.0	0.61 U	106	59-136	0.8	32	
Tetrachloroethene	22		2.5	ug/L	20.0	0.76 U	109	60-147	8	21	
Toluene	22		2.5	ug/L	20.0	0.72 U	108	64-131	0.3	16	
trans-1,2-Dichloroethene	24		2.5	ug/L	20.0	0.73 U	118	54-134	1	20	
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0	0.73 U	107	65-149	1	17	
Trichloroethene	21		2.5	ug/L	20.0	0.89 U	106	62-135	8	20	
Trichlorofluoromethane	22		2.5	ug/L	20.0	0.94 U	108	56-155	0.05	22	
Vinyl chloride	20		2.5	ug/L	20.0	0.71 U	100	20-167	2	24	
4-Bromofluorobenzene	*52*			*ug/L*	*50.0*		*104*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*112*	*53-146*			
Toluene-d8	*53*			*ug/L*	*50.0*		*107*	*41-146*			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported result is an estimated value.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence (85% or greater confidence) to make a “tentative identification".
Q	One or more quality control criteria failed.

AE54257

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 1395 | PAGE 1 OF 1

PROJECT NO: 112G08970	FACILITY: CRRA	PROJECT MANAGER: Alex Murphy	PHONE NUMBER	LABORATORY NAME AND CONTACT: ENCO ORLANDO
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER: Dan Forester	PHONE NUMBER: 304-780-1426	ADDRESS
		CARRIER/WAYBILL NUMBER: Courier		CITY, STATE: ORLANDO, FL

STANDARD TAT ☒
RUSH TAT ☐ ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2021	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TYPE OF ANALYSIS: VOCs SW8260D TCL SOM01.2 ACC CLP-LIKE CUSTOMLIST	COMMENTS: COOLED ON ICE
17Jun	1330	CRRA-A$EFFLUENT-20210617	CRRA	/	/	GW	G	3	G		X	
17Jun	1340	CRRA-A$INFLUENT-20210617	CRRA	/	/	GW	G	3	G		X	

1. RELINQUISHED BY	DATE 18Jun21	TIME 1356	1. RECEIVED BY	DATE 18Jun21	TIME 1356
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS: SM-2161 0.3°C

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

6/18/2021

Environmental Conservation Labs, Inc.

Alex Murphy
Tetra Tech, Inc. (TE016)
11 Riverside Drive, Suite 204
Cocoa, FL 32922
Phone: (321) 636-6470
Fax: (321) 636-6473

Reference : **Sample Receipt Confirmation - *Please Review***
Project Name / Number : NASA KSC CRCA / 112G08970
Purchase Order # : 1165883

Lab Reference # : AE04257 Lab Receipt Date: 18-Jun-21 13:56
Anticipated ***(Estimated)*** Completion Date: 25-Jun-21 19:00

This is an automated notification from our laboratory information management system (LIMS), indicating the samples we have recently received and their associated analyses. Should any of the following information be in error, please contact us immediately.

Thank you for choosing Environmental Conservation Laboratories. Should any events occur that delay the processing of your samples or inhibit our ability to complete the project within the projected time frame you will be contacted.

Sincerely,

Kaitlin Dylnicki

Client: Tetra Tech, Inc. (TE016) **Project Name:** NASA KSC CRCA
Requested TAT: 5 **Project Number:** 112G08970

Analysis	TAT	Expires	Status
Sample ID: CRCA-ASEFFLEUNT-20210617(Lab ID: AE04257-01), Matrix: Ground Water, Sampled: 17-Jun-21 13:30 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	01-Jul-21 23:59	Received
Sample ID: CRCA-ASINFLEUNT-20210617(Lab ID: AE04257-02), Matrix: Ground Water, Sampled: 17-Jun-21 13:40 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	01-Jul-21 23:59	Received

Analysis Groups included in this work order

ENCO Orlando

SDG: AE04257-TE016

CLASS: 01_VOA_MS

METHOD: EPA 8260D

ANALYSES DATA PACKAGE COVER PAGE

EPA 8260D

Laboratory: ENCO Orlando

SDG: AE04257-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-ASEFFLEUNT-20210617	AE04257-01
CRCA-ASINFLEUNT-20210617	AE04257-02

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLEUNT-20210617

Laboratory: ENCO Orlando SDG: AE04257-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE04257-01 File ID: 215FS006.D

Sampled: 06/17/21 13:30 Prepared: 06/24/21 08:45 Analyzed: 06/24/21 09:53

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1F24014 Sequence: AA67037 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLEUNT-20210617

Laboratory: ENCO Orlando SDG: AE04257-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE04257-01 File ID: 215FS006.D

Sampled: 06/17/21 13:30 Prepared: 06/24/21 08:45 Analyzed: 06/24/21 09:53

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1F24014 Sequence: AA67037 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	54	107	53 - 146	
Toluene-d8	50.0	53	107	41 - 146	
4-Bromofluorobenzene	50.0	51	102	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1092179	9.851	1101889	9.851	
1,4-Difluorobenzene	2601615	10.444	2525815	10.444	
Chlorobenzene-d5	1700431	13.223	1610233	13.223	
1,4-Dichlorobenzene-d4	1303013	15.486	1271242	15.485	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLEUNT-20210617

Laboratory: ENCO Orlando SDG: AE04257-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE04257-02 File ID: 215FS007.D

Sampled: 06/17/21 13:40 Prepared: 06/24/21 08:45 Analyzed: 06/24/21 10:21

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1F24014 Sequence: AA67037 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	12		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLEUNT-20210617

Laboratory: ENCO Orlando SDG: AE04257-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE04257-02 File ID: 215FS007.D

Sampled: 06/17/21 13:40 Prepared: 06/24/21 08:45 Analyzed: 06/24/21 10:21

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1F24014 Sequence: AA67037 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	54	109	53 - 146	
Toluene-d8	50.0	52	104	41 - 146	
4-Bromofluorobenzene	50.0	52	104	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1102332	9.851	1101889	9.851	
1,4-Difluorobenzene	2606732	10.444	2525815	10.444	
Chlorobenzene-d5	1653264	13.223	1610233	13.223	
1,4-Dichlorobenzene-d4	1316405	15.486	1271242	15.485	

* Values outside of QC limits

HOLDING TIME SUMMARY

EPA 8260D

Laboratory: ENCO Orlando

SDG: AE04257-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-ASEFFLEUNT-20210617	06/17/21 13:30	06/18/21 13:56	06/24/21 08:45	6.80	NA	06/24/21 09:53	7.00	14.00	
CRCA-ASINFLEUNT-20210617	06/17/21 13:40	06/18/21 13:56	06/24/21 08:45	6.80	NA	06/24/21 10:21	7.00	14.00	

PREPARATION BATCH SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AE04257-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1F24014 Batch Matrix: Water Preparation: EPA 5030B_MS

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1F24014-BLK1	215FS005.D	06/24/21 00:00	
LCS	1F24014-BS1	215FS003.D	06/24/21 00:00	
CRCA-ASEFFLEUNT-20210617	1F24014-MS1	215FS008.D	06/24/21 00:00	
CRCA-ASEFFLEUNT-20210617	1F24014-MSD1	215FS009.D	06/24/21 00:00	
CRCA-ASEFFLEUNT-20210617	AE04257-01	215FS006.D	06/24/21 08:45	
CRCA-ASINFLEUNT-20210617	AE04257-02	215FS007.D	06/24/21 08:45	

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE04257-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1F24014-BLK1	File ID:	215FS005.D
Prepared:	06/24/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	06/24/21 09:25	Instrument:	OVGCMS5		
Batch:	1F24014	Sequence:	AA67037	Calibration:	2106098

CAS NO.	COMPOUND	CONC. (ug/L)	Q
75-71-8	Dichlorodifluoromethane	0.74	U
74-87-3	Chloromethane	0.82	U
75-01-4	Vinyl chloride	0.71	U
74-83-9	Bromomethane	0.95	U
75-00-3	Chloroethane	0.98	U
75-69-4	Trichlorofluoromethane	0.94	U
76-13-1	Freon 113	0.73	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	0.94	U
75-15-0	Carbon disulfide	2.5	U
75-09-2	Methylene Chloride	2.5	U
1634-04-4	Methyl-tert-Butyl Ether	0.60	U
156-60-5	trans-1,2-Dichloroethene	0.73	U
156-59-2	cis-1,2-Dichloroethene	0.53	U
75-34-3	1,1-Dichloroethane	0.62	U
78-93-3	2-Butanone	4.5	U
67-66-3	Chloroform	0.80	U
71-55-6	1,1,1-Trichloroethane	0.80	U
79-20-9	Methyl acetate	0.95	U
110-82-7	Cyclohexane	0.93	U
108-87-2	Methyl cyclohexane	0.64	U
56-23-5	Carbon Tetrachloride	0.94	U
107-06-2	1,2-Dichloroethane	0.63	U
71-43-2	Benzene	0.71	U
79-01-6	Trichloroethene	0.89	U
78-87-5	1,2-Dichloropropane	0.80	U
75-27-4	Bromodichloromethane	0.52	U
108-10-1	4-Methyl-2-pentanone	2.5	U
591-78-6	2-Hexanone	2.5	U
10061-01-5	cis-1,3-Dichloropropene	0.59	U

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE04257-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1F24014-BLK1	File ID:	215FS005.D
Prepared:	06/24/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	06/24/21 09:25	Instrument:	OVGCMS5		
Batch:	1F24014	Sequence:	AA67037	Calibration:	2106098

CAS NO.	COMPOUND	CONC. (ug/L)	Q
108-88-3	Toluene	0.72	U
10061-02-6	trans-1,3-Dichloropropene	0.73	U
79-00-5	1,1,2-Trichloroethane	0.76	U
127-18-4	Tetrachloroethene	0.76	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.78	U
108-90-7	Chlorobenzene	0.72	U
100-41-4	Ethylbenzene	0.69	U
108-38-3/106-42-3	m,p-Xylenes	1.3	U
95-47-6	o-Xylene	0.53	U
75-25-2	Bromoform	0.75	U
100-42-5	Styrene	0.61	U
98-82-8	Isopropylbenzene	0.67	U
79-34-5	1,1,2,2-Tetrachloroethane	0.54	U
120-82-1	1,2,4-Trichlorobenzene	0.70	U
541-73-1	1,3-Dichlorobenzene	0.77	U
106-46-7	1,4-Dichlorobenzene	0.76	U
95-50-1	1,2-Dichlorobenzene	0.73	U
96-12-8	1,2-Dibromo-3-chloropropane	0.96	U
1330-20-7	Xylenes (Total)	1.3	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	56	112	53 - 146	
Toluene-d8	50.0	53	105	41 - 146	
4-Bromofluorobenzene	50.0	50	100	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1094115	9.851	1101889	9.851	
1,4-Difluorobenzene	2686869	10.444	2525815	10.444	
Chlorobenzene-d5	1729939	13.223	1610233	13.223	
1,4-Dichlorobenzene-d4	1343643	15.486	1271242	15.485	

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE04257-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1F24014	Laboratory ID:	1F24014-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	25	125	10 - 180
Chloromethane	20.0	19	94	33 - 154
Vinyl chloride	20.0	20	99	20 - 167
Bromomethane	20.0	8.8	44	10 - 173
Chloroethane	20.0	19	93	27 - 180
Trichlorofluoromethane	20.0	20	102	56 - 155
Freon 113	20.0	19	97	47 - 173
Acetone	100	86	86	10 - 180
1,1-Dichloroethene	20.0	20	99	47 - 139
Carbon disulfide	20.0	23	117	43 - 153
Methylene Chloride	20.0	20	99	43 - 142
Methyl-tert-Butyl Ether	20.0	21	106	51 - 145
trans-1,2-Dichloroethene	20.0	20	100	54 - 134
cis-1,2-Dichloroethene	20.0	21	103	56 - 128
1,1-Dichloroethane	20.0	21	104	57 - 142
2-Butanone	100	100	100	10 - 180
Chloroform	20.0	20	99	58 - 139
1,1,1-Trichloroethane	20.0	22	108	57 - 148
Methyl acetate	20.0	20	100	70 - 130
Cyclohexane	20.0	22	111	70 - 130
Methyl cyclohexane	20.0	21	104	70 - 130
Carbon Tetrachloride	20.0	23	113	54 - 156
1,2-Dichloroethane	20.0	19	96	50 - 156
Benzene	20.0	21	103	56 - 136
Trichloroethene	20.0	20	99	62 - 135
1,2-Dichloropropane	20.0	20	100	61 - 133
Bromodichloromethane	20.0	21	105	58 - 135
4-Methyl-2-pentanone	100	100	100	19 - 180
2-Hexanone	100	87	87	12 - 180
cis-1,3-Dichloropropene	20.0	20	98	64 - 128

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE04257-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1F24014	Laboratory ID:	1F24014-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Toluene	20.0	20	99	64 - 131
trans-1,3-Dichloropropene	20.0	21	104	65 - 149
1,1,2-Trichloroethane	20.0	21	103	57 - 141
Tetrachloroethene	20.0	20	98	60 - 147
Dibromochloromethane	20.0	18	89	50 - 140
1,2-Dibromoethane	20.0	19	95	57 - 140
Chlorobenzene	20.0	20	102	51 - 139
Ethylbenzene	20.0	21	103	63 - 133
m,p-Xylenes	40.0	40	101	64 - 133
o-Xylene	20.0	21	104	61 - 129
Bromoform	20.0	18	90	46 - 148
Styrene	20.0	20	100	59 - 136
Isopropylbenzene	20.0	20	98	60 - 132
1,1,2,2-Tetrachloroethane	20.0	20	99	60 - 139
1,2,4-Trichlorobenzene	20.0	22	111	52 - 159
1,3-Dichlorobenzene	20.0	22	108	66 - 129
1,4-Dichlorobenzene	20.0	20	100	65 - 133
1,2-Dichlorobenzene	20.0	20	100	63 - 131
1,2-Dibromo-3-chloropropane	20.0	22	111	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASEFFLEUNT-20210617

Laboratory: ENCO Orlando
SDG: AE04257-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1F24014
Laboratory ID: 1F24014-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-ASEFFLEUNT-20210617

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	ND	22	112	10 - 180
Chloromethane	20.0	ND	19	94	33 - 154
Vinyl chloride	20.0	ND	20	102	20 - 167
Bromomethane	20.0	ND	14	71	10 - 173
Chloroethane	20.0	ND	21	105	27 - 180
Trichlorofluoromethane	20.0	ND	22	108	56 - 155
Freon 113	20.0	ND	22	108	47 - 173
Acetone	100	ND	96	96	10 - 180
1,1-Dichloroethene	20.0	ND	23	116	47 - 139
Carbon disulfide	20.0	ND	27	133	43 - 153
Methylene Chloride	20.0	ND	21	107	43 - 142
Methyl-tert-Butyl Ether	20.0	ND	22	108	51 - 145
trans-1,2-Dichloroethene	20.0	ND	23	116	54 - 134
cis-1,2-Dichloroethene	20.0	ND	21	107	56 - 128
1,1-Dichloroethane	20.0	ND	23	115	57 - 142
2-Butanone	100	ND	110	111	10 - 180
Chloroform	20.0	ND	22	111	58 - 139
1,1,1-Trichloroethane	20.0	ND	24	118	57 - 148
Methyl acetate	20.0	ND	21	106	70 - 130
Cyclohexane	20.0	ND	24	119	70 - 130
Methyl cyclohexane	20.0	ND	22	111	70 - 130
Carbon Tetrachloride	20.0	ND	22	109	54 - 156
1,2-Dichloroethane	20.0	ND	19	95	50 - 156
Benzene	20.0	ND	22	110	56 - 136
Trichloroethene	20.0	ND	23	115	62 - 135
1,2-Dichloropropane	20.0	ND	20	102	61 - 133
Bromodichloromethane	20.0	ND	22	109	58 - 135
4-Methyl-2-pentanone	100	ND	120	122	19 - 180
2-Hexanone	100	ND	100	103	12 - 180
cis-1,3-Dichloropropene	20.0	ND	20	98	64 - 128
Toluene	20.0	ND	22	108	64 - 131

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASEFFLEUNT-20210617

Laboratory: ENCO Orlando
SDG: AE04257-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1F24014
Laboratory ID: 1F24014-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-ASEFFLEUNT-20210617

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
trans-1,3-Dichloropropene	20.0	ND	22	108	65 - 149
1,1,2-Trichloroethane	20.0	ND	21	104	57 - 141
Tetrachloroethene	20.0	ND	20	101	60 - 147
Dibromochloromethane	20.0	ND	18	92	50 - 140
1,2-Dibromoethane	20.0	ND	21	104	57 - 140
Chlorobenzene	20.0	ND	22	110	51 - 139
Ethylbenzene	20.0	ND	21	107	63 - 133
m,p-Xylenes	40.0	ND	44	111	64 - 133
o-Xylene	20.0	ND	23	114	61 - 129
Bromoform	20.0	ND	14	68	46 - 148
Styrene	20.0	ND	21	106	59 - 136
Isopropylbenzene	20.0	ND	21	103	60 - 132
1,1,2,2-Tetrachloroethane	20.0	ND	21	103	60 - 139
1,2,4-Trichlorobenzene	20.0	ND	27	135	52 - 159
1,3-Dichlorobenzene	20.0	ND	21	107	66 - 129
1,4-Dichlorobenzene	20.0	ND	21	105	65 - 133
1,2-Dichlorobenzene	20.0	ND	20	100	63 - 131
1,2-Dibromo-3-chloropropane	20.0	ND	25	123	48 - 150

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASEFFLEUNT-20210617

Laboratory: ENCO Orlando
SDG: AE04257-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1F24014
Laboratory ID: 1F24014-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-ASEFFLEUNT-20210617

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20.0	22	111	1	26	10 - 180
Chloromethane	20.0	20	101	8	31	33 - 154
Vinyl chloride	20.0	20	100	2	24	20 - 167
Bromomethane	20.0	17	85	18	29	10 - 173
Chloroethane	20.0	23	113	7	22	27 - 180
Trichlorofluoromethane	20.0	22	108	0.05	22	56 - 155
Freon 113	20.0	22	112	4	30	47 - 173
Acetone	100	100	100	4	19	10 - 180
1,1-Dichloroethene	20.0	24	119	3	16	47 - 139
Carbon disulfide	20.0	26	131	1	26	43 - 153
Methylene Chloride	20.0	22	109	2	23	43 - 142
Methyl-tert-Butyl Ether	20.0	21	107	0.3	22	51 - 145
trans-1,2-Dichloroethene	20.0	24	118	1	20	54 - 134
cis-1,2-Dichloroethene	20.0	24	118	10	17	56 - 128
1,1-Dichloroethane	20.0	23	115	0.3	24	57 - 142
2-Butanone	100	110	113	2	29	10 - 180
Chloroform	20.0	22	111	0.05	17	58 - 139
1,1,1-Trichloroethane	20.0	25	124	5	25	57 - 148
Methyl acetate	20.0	23	114	7	20	70 - 130
Cyclohexane	20.0	25	125	4	20	70 - 130
Methyl cyclohexane	20.0	24	118	6	20	70 - 130
Carbon Tetrachloride	20.0	26	128	16	27	54 - 156
1,2-Dichloroethane	20.0	19	95	0.4	18	50 - 156
Benzene	20.0	22	108	2	14	56 - 136
Trichloroethene	20.0	21	106	8	20	62 - 135
1,2-Dichloropropane	20.0	20	102	0.3	26	61 - 133
Bromodichloromethane	20.0	22	109	0	19	58 - 135
4-Methyl-2-pentanone	100	120	121	0.7	24	19 - 180
2-Hexanone	100	100	105	1	28	12 - 180
cis-1,3-Dichloropropene	20.0	19	97	1	20	64 - 128
Toluene	20.0	22	108	0.3	16	64 - 131
trans-1,3-Dichloropropene	20.0	21	107	1	17	65 - 149

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASEFFLEUNT-20210617

Laboratory:	ENCO Orlando	SDG:	AE04257-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1F24014	Laboratory ID:	1F24014-MSD1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

Source Sample Name: CRCA-ASEFFLEUNT-20210617

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,2-Trichloroethane	20.0	21	103	1	16	57 - 141
Tetrachloroethene	20.0	22	109	8	21	60 - 147
Dibromochloromethane	20.0	19	94	2	18	50 - 140
1,2-Dibromoethane	20.0	21	103	1	16	57 - 140
Chlorobenzene	20.0	22	110	0.6	13	51 - 139
Ethylbenzene	20.0	23	114	6	18	63 - 133
m,p-Xylenes	40.0	44	109	2	18	64 - 133
o-Xylene	20.0	22	109	5	16	61 - 129
Bromoform	20.0	15	73	7	18	46 - 148
Styrene	20.0	21	106	0.8	32	59 - 136
Isopropylbenzene	20.0	21	103	0	23	60 - 132
1,1,2,2-Tetrachloroethane	20.0	21	105	1	17	60 - 139
1,2,4-Trichlorobenzene	20.0	27	134	0.9	24	52 - 159
1,3-Dichlorobenzene	20.0	22	110	3	23	66 - 129
1,4-Dichlorobenzene	20.0	21	106	0.9	23	65 - 133
1,2-Dichlorobenzene	20.0	20	102	2	25	63 - 131
1,2-Dibromo-3-chloropropane	20.0	24	118	4	21	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04257-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA66932
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA66932-SCV1)			Lab File ID: 215FM013.D		Analyzed: 06/18/21 12:15			
Dibromofluoromethane	50.0	100	70 - 130	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	110	70 - 130	11.778	11.7795	-0.0015	+/-0.5	
4-Bromofluorobenzene	50.0	109	70 - 130	14.328	14.32875	-0.0008	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04257-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA67037
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA67037-CCV1)			Lab File ID: 215FS002.D		Analyzed: 06/24/21 08:02			
Dibromofluoromethane	50.0	111	80 - 120	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	112	80 - 120	11.778	11.7795	-0.0015	+/-0.5	
4-Bromofluorobenzene	50.0	109	80 - 120	14.328	14.32875	-0.0008	+/-0.5	
LCS (1F24014-BS1)			Lab File ID: 215FS003.D		Analyzed: 06/24/21 08:29			
Dibromofluoromethane	50.0	109	53 - 146	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	108	41 - 146	11.778	11.7795	-0.0015	+/-0.5	
4-Bromofluorobenzene	50.0	104	41 - 142	14.328	14.32875	-0.0008	+/-0.5	
Blank (1F24014-BLK1)			Lab File ID: 215FS005.D		Analyzed: 06/24/21 09:25			
Dibromofluoromethane	50.0	112	53 - 146	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	105	41 - 146	11.778	11.7795	-0.0015	+/-0.5	
4-Bromofluorobenzene	50.0	100	41 - 142	14.328	14.32875	-0.0008	+/-0.5	
CRCA-ASEFFLEUNT-20210617 (AE04257-01)			Lab File ID: 215FS006.D		Analyzed: 06/24/21 09:53			
Dibromofluoromethane	50.0	107	53 - 146	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	107	41 - 146	11.778	11.7795	-0.0015	+/-0.5	
4-Bromofluorobenzene	50.0	102	41 - 142	14.328	14.32875	-0.0008	+/-0.5	
CRCA-ASINFLEUNT-20210617 (AE04257-02)			Lab File ID: 215FS007.D		Analyzed: 06/24/21 10:21			
Dibromofluoromethane	50.0	109	53 - 146	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	104	41 - 146	11.778	11.7795	-0.0015	+/-0.5	
4-Bromofluorobenzene	50.0	104	41 - 142	14.328	14.32875	-0.0008	+/-0.5	
Matrix Spike (1F24014-MS1)			Lab File ID: 215FS008.D		Analyzed: 06/24/21 10:49			
Dibromofluoromethane	50.0	108	53 - 146	9.422	9.428	-0.0060	+/-0.5	
Toluene-d8	50.0	107	41 - 146	11.778	11.7795	-0.0015	+/-0.5	
4-Bromofluorobenzene	50.0	103	41 - 142	14.322	14.32875	-0.0068	+/-0.5	
Matrix Spike Dup (1F24014-MSD1)			Lab File ID: 215FS009.D		Analyzed: 06/24/21 11:17			
Dibromofluoromethane	50.0	112	53 - 146	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	107	41 - 146	11.778	11.7795	-0.0015	+/-0.5	
4-Bromofluorobenzene	50.0	104	41 - 142	14.328	14.32875	-0.0008	+/-0.5	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04257-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA66932
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA66932-CAL1)			Lab File ID: 215FM004.D			Analyzed: 06/18/21 08:05			
Pentafluorobenzene	1201889	9.857	1101889	9.851	109	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2686237	10.45	2525815	10.444	106	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1505146	13.229	1610233	13.223	93	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1176558	15.491	1271242	15.485	93	50 - 200	0.0060	+/-0.50	
Cal Standard (AA66932-CAL2)			Lab File ID: 215FM005.D			Analyzed: 06/18/21 08:32			
Pentafluorobenzene	1226065	9.857	1101889	9.851	111	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2753498	10.45	2525815	10.444	109	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1619681	13.229	1610233	13.223	101	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1248669	15.491	1271242	15.485	98	50 - 200	0.0060	+/-0.50	
Cal Standard (AA66932-CAL3)			Lab File ID: 215FM006.D			Analyzed: 06/18/21 09:00			
Pentafluorobenzene	1047198	9.857	1101889	9.851	95	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2419754	10.45	2525815	10.444	96	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1545028	13.229	1610233	13.223	96	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1320874	15.486	1271242	15.485	104	50 - 200	0.0010	+/-0.50	
Cal Standard (AA66932-CAL4)			Lab File ID: 215FM007.D			Analyzed: 06/18/21 09:28			
Pentafluorobenzene	1235637	9.857	1101889	9.851	112	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2720919	10.45	2525815	10.444	108	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1709586	13.229	1610233	13.223	106	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1365508	15.485	1271242	15.485	107	50 - 200	0.0000	+/-0.50	
Cal Standard (AA66932-CAL5)			Lab File ID: 215FM008.D			Analyzed: 06/18/21 09:56			
Pentafluorobenzene	1048667	9.857	1101889	9.851	95	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2471790	10.444	2525815	10.444	98	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1553840	13.229	1610233	13.223	96	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1230662	15.485	1271242	15.485	97	50 - 200	0.0000	+/-0.50	
Cal Standard (AA66932-CAL6)			Lab File ID: 215FM009.D			Analyzed: 06/18/21 10:24			
Pentafluorobenzene	1101889	9.851	1101889	9.851	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2525815	10.444	2525815	10.444	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1610233	13.223	1610233	13.223	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1271242	15.485	1271242	15.485	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA66932-CAL7)			Lab File ID: 215FM010.D			Analyzed: 06/18/21 10:52			
Pentafluorobenzene	1123435	9.851	1101889	9.851	102	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2544231	10.444	2525815	10.444	101	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1714182	13.229	1610233	13.223	106	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1273276	15.485	1271242	15.485	100	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04257-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA66932
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA66932-CAL8)			Lab File ID: 215FM011.D			Analyzed: 06/18/21 11:20			
Pentafluorobenzene	1129487	9.851	1101889	9.851	103	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2502919	10.444	2525815	10.444	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1697989	13.223	1610233	13.223	105	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1266610	15.485	1271242	15.485	100	50 - 200	0.0000	+/-0.50	
Secondary Cal Check (AA66932-SCV1)			Lab File ID: 215FM013.D			Analyzed: 06/18/21 12:15			
Pentafluorobenzene	1128318	9.857	1101889	9.851	102	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2499257	10.444	2525815	10.444	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1604968	13.229	1610233	13.223	100	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1259307	15.485	1271242	15.485	99	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04257-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA67037
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA67037-CCV1)			Lab File ID: 215FS002.D			Analyzed: 06/24/21 08:02			
Pentafluorobenzene	1101516	9.857	1101889	9.851	100	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2640300	10.444	2525815	10.444	105	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1759573	13.223	1610233	13.223	109	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1411022	15.485	1271242	15.485	111	50 - 200	0.0000	+/-0.50	
LCS (1F24014-BS1)			Lab File ID: 215FS003.D			Analyzed: 06/24/21 08:29			
Pentafluorobenzene	1175956	9.851	1101889	9.851	107	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2744360	10.444	2525815	10.444	109	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1801802	13.223	1610233	13.223	112	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1376596	15.485	1271242	15.485	108	50 - 200	0.0000	+/-0.50	
Blank (1F24014-BLK1)			Lab File ID: 215FS005.D			Analyzed: 06/24/21 09:25			
Pentafluorobenzene	1094115	9.851	1101889	9.851	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2686869	10.444	2525815	10.444	106	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1729939	13.223	1610233	13.223	107	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1343643	15.486	1271242	15.485	106	50 - 200	0.0010	+/-0.50	
CRCA-ASEFFLEUNT-20210617 (AE04257-01)			Lab File ID: 215FS006.D			Analyzed: 06/24/21 09:53			
Pentafluorobenzene	1092179	9.851	1101889	9.851	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2601615	10.444	2525815	10.444	103	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1700431	13.223	1610233	13.223	106	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1303013	15.486	1271242	15.485	102	50 - 200	0.0010	+/-0.50	
CRCA-ASINFLEUNT-20210617 (AE04257-02)			Lab File ID: 215FS007.D			Analyzed: 06/24/21 10:21			
Pentafluorobenzene	1102332	9.851	1101889	9.851	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2606732	10.444	2525815	10.444	103	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1653264	13.223	1610233	13.223	103	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1316405	15.486	1271242	15.485	104	50 - 200	0.0010	+/-0.50	
Matrix Spike (1F24014-MS1)			Lab File ID: 215FS008.D			Analyzed: 06/24/21 10:49			
Pentafluorobenzene	1089333	9.851	1101889	9.851	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2579118	10.444	2525815	10.444	102	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1694983	13.223	1610233	13.223	105	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1336896	15.485	1271242	15.485	105	50 - 200	0.0000	+/-0.50	
Matrix Spike Dup (1F24014-MSD1)			Lab File ID: 215FS009.D			Analyzed: 06/24/21 11:17			
Pentafluorobenzene	1109422	9.851	1101889	9.851	101	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2680606	10.444	2525815	10.444	106	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1732614	13.223	1610233	13.223	108	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1341026	15.486	1271242	15.485	105	50 - 200	0.0010	+/-0.50	

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE04257-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA66932		
Calibration:	2106098	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA66932-TUN1	215FM003.D	06/18/21 07:34
Cal Standard	AA66932-CAL1	215FM004.D	06/18/21 08:05
Cal Standard	AA66932-CAL2	215FM005.D	06/18/21 08:32
Cal Standard	AA66932-CAL3	215FM006.D	06/18/21 09:00
Cal Standard	AA66932-CAL4	215FM007.D	06/18/21 09:28
Cal Standard	AA66932-CAL5	215FM008.D	06/18/21 09:56
Cal Standard	AA66932-CAL6	215FM009.D	06/18/21 10:24
Cal Standard	AA66932-CAL7	215FM010.D	06/18/21 10:52
Cal Standard	AA66932-CAL8	215FM011.D	06/18/21 11:20
Secondary Cal Check	AA66932-SCV1	215FM013.D	06/18/21 12:15

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE04257-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA67037		
Calibration:	2106098	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA67037-CCV1	215FS002.D	06/24/21 08:02
LCS	1F24014-BS1	215FS003.D	06/24/21 08:29
Blank	1F24014-BLK1	215FS005.D	06/24/21 09:25
CRCA-ASEFFLEUNT-20210617	AE04257-01	215FS006.D	06/24/21 09:53
CRCA-ASINFLEUNT-20210617	AE04257-02	215FS007.D	06/24/21 10:21
CRCA-ASEFFLEUNT-20210617	1F24014-MS1	215FS008.D	06/24/21 10:49
CRCA-ASEFFLEUNT-20210617	1F24014-MSD1	215FS009.D	06/24/21 11:17

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE04257-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	215FM003.D	Injection Date:	06/18/21
Instrument ID:	OVGCMS5	Injection Time:	07:34
Sequence:	AA66932	Lab Sample ID:	AA66932-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	191	PASS
96	5 - 9% of 95	7.06	PASS
173	Less than 2% of 174	0.214	PASS
174	50 - 200% of 95	52.3	PASS
175	5 - 9% of 174	5.23	PASS
176	95 - 105% of 174	95.8	PASS
177	5 - 10% of 176	6.95	PASS

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE04257-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2106098
Lab File ID:	215FS002.D	Calibration Date:	06/18/21 08:08
Sequence:	AA67037	Injection Date:	06/24/21
Lab Sample ID:	AA67037-CCV1	Injection Time:	08:02

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Dichlorodifluoromethane	A	20.0	26	0.5094763	0.6727705		31	20	*
Chloromethane	A	20.0	21	0.7825336	0.8000111		4.7	20	
Vinyl chloride	A	20.0	20	0.6650027	0.6760183		1.7	20	
Bromomethane	A	20.0	29	0.2460614	0.2546195		44	20	*
Chloroethane	A	20.0	18	0.3880182	0.3386265		-7.7	20	
Trichlorofluoromethane	A	20.0	21	0.7609833	0.7897843		3.8	20	
Freon 113	A	50.0	48	0.3222191	0.3118629		-3.2	20	
Acetone	A	250	220	0.1924489	0.1908936		-10	20	
1,1-Dichloroethene	A	50.0	51	0.5314554	0.5372096		1.1	20	
Carbon disulfide	A	250	240	1.455719	1.434954		-5.6	20	
Methylene Chloride	A	50.0	48	0.6815178	0.6479679		-4.9	20	
Methyl-tert-Butyl Ether	A	50.0	51	1.537398	1.569967		2.1	20	
trans-1,2-Dichloroethene	A	50.0	51	0.6064423	0.619163		2.1	20	
cis-1,2-Dichloroethene	A	50.0	51	0.6549615	0.6680602		2.0	20	
1,1-Dichloroethane	A	50.0	50	1.152866	1.150607		-0.2	20	
2-Butanone	A	250	260	9.841208E-02	0.1037363		5.4	20	
Chloroform	A	50.0	51	1.100938	1.128555		2.5	20	
1,1,1-Trichloroethane	A	50.0	53	0.8164118	0.8600674		5.3	20	
Methyl acetate	A	50.0	45	0.573727	0.5029287		-9.8	20	
Cyclohexane	A	50.0	52	1.148895	1.194823		4.0	20	
Methyl cyclohexane	A	50.0	49	0.6594789	0.5226194		-2.1	20	
Carbon Tetrachloride	A	50.0	55	0.285844	0.316875		11	20	
1,2-Dichloroethane	A	50.0	47	0.3513194	0.3335068		-5.1	20	
Benzene	A	50.0	48	1.184952	1.12961		-4.7	20	
Trichloroethene	A	50.0	49	0.2450156	0.2415214		-1.4	20	
1,2-Dichloropropane	A	50.0	47	0.3371891	0.3185089		-5.5	20	
Bromodichloromethane	A	50.0	52	0.3308186	0.3418278		3.3	20	
4-Methyl-2-pentanone	A	250	270	4.594368E-02	4.872908E-02		6.1	20	
2-Hexanone	A	250	220	0.3312611	0.3403012		-10	20	

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE04257-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2106098
Lab File ID:	215FS002.D	Calibration Date:	06/18/21 08:08
Sequence:	AA67037	Injection Date:	06/24/21
Lab Sample ID:	AA67037-CCV1	Injection Time:	08:02

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
cis-1,3-Dichloropropene	A	50.0	51	0.4967443	0.5045461		1.6	20
Toluene	A	50.0	47	1.222815	1.156783		-5.4	20
trans-1,3-Dichloropropene	A	50.0	49	0.6187986	0.6015567		-2.8	20
1,1,2-Trichloroethane	A	50.0	47	0.420744	0.3981994		-5.4	20
Tetrachloroethene	A	50.0	47	0.2798147	0.2630883		-6	20
Dibromochloromethane	A	50.0	45	0.3204024	0.3406559		-9.1	20
1,2-Dibromoethane	A	50.0	49	0.4215299	0.4152928		-1.5	20
Chlorobenzene	A	50.0	48	1.214708	1.168069		-3.8	20
Ethylbenzene	A	50.0	49	0.6898253	0.6743437		-2.2	20
m,p-Xylenes	A	100	97	0.8851906	0.859219		-2.9	20
o-Xylene	A	50.0	48	0.8732591	0.8429903		-3.5	20
Bromoform	A	50.0	42	0.175043	0.1782552		-17	20
Styrene	A	50.0	47	1.378538	1.450734		-6.2	20
Isopropylbenzene	A	50.0	48	2.223963	2.237739		-3.7	20
1,1,2,2-Tetrachloroethane	A	50.0	50	0.7197231	0.7129741		-0.9	20
1,2,4-Trichlorobenzene	A	50.0	47	0.2087952	0.2271814		-6.5	20
1,3-Dichlorobenzene	A	50.0	47	1.132817	1.058647		-6.5	20
1,4-Dichlorobenzene	A	50.0	46	1.174038	1.089987		-7.2	20
1,2-Dichlorobenzene	A	50.0	45	1.038218	0.9880711		-9.6	20
1,2-Dibromo-3-chloropropane	A	50.0	47	0.1005424	0.1002387		-5.7	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE04257-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA66932	Instrument:	OVGCMS5
Calibration:	2106098		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A1B1159	MS Tune (lower conc.)	AA66932-TUN1	215FM003.D	06/18/21 07:34
A1F0975	8260 1.0 PPB ms5	AA66932-CAL1	215FM004.D	06/18/21 08:05
A1F0976	8260 2.0 PPB ms5	AA66932-CAL2	215FM005.D	06/18/21 08:32
A1F0977	8260 5.0 PPB ms5	AA66932-CAL3	215FM006.D	06/18/21 09:00
A1F0978	8260 10 PPB ms5	AA66932-CAL4	215FM007.D	06/18/21 09:28
A1F0979	8260 20 PPB ms5	AA66932-CAL5	215FM008.D	06/18/21 09:56
A1F0980	8260 50 PPB ms5	AA66932-CAL6	215FM009.D	06/18/21 10:24
A1F0981	8260 80 PPB ms5	AA66932-CAL7	215FM010.D	06/18/21 10:52
A1F0982	8260 100 PPB ms5	AA66932-CAL8	215FM011.D	06/18/21 11:20
A1F0991	8260 SCV 50 PPB/20 gases (surr. lower conc.)	AA66932-SCV1	215FM013.D	06/18/21 12:15

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04257-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	1	0.5444762	2	0.4223063	5	0.5914354	10	0.4929725	20	0.4782643	50	0.5144729
Chloromethane	1	1.059332	2	0.6707638	5	0.8644306	10	0.7204098	20	0.7205409	50	0.6904153
Vinyl chloride	1	0.775862	2	0.5365335	5	0.6922473	10	0.650021	20	0.6440319	50	0.6499421
Bromomethane	1	0.3234076	2	0.3255129	5	0.3281328	10	0.219142	20	0.182968	50	0.1756765
Chloroethane	1	0.5053711	2	0.3404387	5	0.4826976	10	0.340112	20	0.3719102	50	0.2875798
Trichlorofluoromethane	1	0.7781085	2	0.6195022	5	0.8260138	10	0.7531864	20	0.7735416	50	0.7678532
Freon 113	1	0.2607978	2	0.3637858	5	0.3770729	10	0.3089054	20	0.3269222	50	0.3197173
Acetone	5	0.1268337	10	0.1831306	25	0.2239481	50	0.1920774	100	0.1898639	250	0.1957422
1,1-Dichloroethene	1	0.4355227	2	0.5684854	5	0.5852284	10	0.4930696	20	0.527627	50	0.5515247
Carbon disulfide	5	1.120095	10	1.355324	25	1.710983	50	1.475901	100	1.585499	250	1.52274
Methylene Chloride	1	0.5906119	2	0.7214544	5	0.7546519	10	0.6982431	20	0.6824497	50	0.6582142
Methyl-tert-Butyl Ether	1	1.228691	2	1.467826	5	1.698991	10	1.494367	20	1.514682	50	1.584127
trans-1,2-Dichloroethene	1	0.4844873	2	0.6339387	5	0.7476141	10	0.5671123	20	0.6072805	50	0.6066591
cis-1,2-Dichloroethene	1	0.5911944	2	0.6827126	5	0.6306257	10	0.6005607	20	0.6701389	50	0.6974786
1,1-Dichloroethane	1	0.9991355	2	1.197143	5	1.248112	10	1.143127	20	1.182508	50	1.151263
2-Butanone	5	8.611444E-02	10	9.231158E-02	25	0.1019234	50	0.0921379	100	0.0990753	250	9.898384E-02
Chloroform	1	0.9484237	2	1.219878	5	1.187922	10	1.043696	20	1.126225	50	1.095959
1,1,1-Trichloroethane	1	0.6124942	2	0.8466313	5	0.8294324	10	0.8444389	20	0.8295007	50	0.8605141
Methyl acetate	1	0.8340204	2	0.5208941	5	0.6154519	10	0.4900873	20	0.5014533	50	0.5008726
Cyclohexane	1	0.9308264	2	1.158299	5	1.12907	10	1.075644	20	1.216363	50	1.25072
Methyl cyclohexane	1	1.035333	2	0.8960511	5	0.6276093	10	0.5654248	20	0.5513575	50	0.5359486
Carbon Tetrachloride	1	0.2938125	2	0.272744	5	0.2453059	10	0.2456946	20	0.3170405	50	0.2849243
1,2-Dichloroethane	1	0.3728822	2	0.3760035	5	0.354193	10	0.3600144	20	0.3324898	50	0.3267591
Benzene	1	1.020889	2	1.335683	5	1.280419	10	1.205074	20	1.205519	50	1.154164
Trichloroethene	1	0.1995915	2	0.2675143	5	0.2457729	10	0.2576097	20	0.2522099	50	0.247163
1,2-Dichloropropane	1	0.3317094	2	0.3444437	5	0.3345588	10	0.3309305	20	0.32462	50	0.3363809
Bromodichloromethane	1	0.2784006	2	0.3158437	5	0.3279466	10	0.3133996	20	0.3348848	50	0.3464648
4-Methyl-2-pentanone	5	3.874193E-02	10	4.347198E-02	25	4.604022E-02	50	4.379807E-02	100	4.563434E-02	250	0.0479853
2-Hexanone	5	0.1920212	10	0.2973425	25	0.328939	50	0.3560921	100	0.3508167	250	0.3654472
cis-1,3-Dichloropropene	1	0.3791549	2	0.4859364	5	0.4863015	10	0.482609	20	0.5082976	50	0.531607
Toluene	1	1.215098	2	1.389193	5	1.235324	10	1.133236	20	1.24708	50	1.245802

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04257-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	1	0.5121762	2	0.6622446	5	0.6454576	10	0.5523355	20	0.6458741	50	0.6536197
1,1,2-Trichloroethane	1	0.3809597	2	0.4742446	5	0.4274421	10	0.3892404	20	0.4263599	50	0.4245764
Tetrachloroethene	1	0.2623334	2	0.3509024	5	0.3066935	10	0.246393	20	0.2806483	50	0.273779
Dibromochloromethane	1	0.1954628	2	0.3058781	5	0.2995091	10	0.3067263	20	0.3443887	50	0.3599448
1,2-Dibromoethane	1	0.387205	2	0.4152207	5	0.4139148	10	0.4117751	20	0.4205098	50	0.439896
Chlorobenzene	1	1.141484	2	1.300256	5	1.22289	10	1.222196	20	1.268013	50	1.234034
Ethylbenzene	1	0.5916037	2	0.6971589	5	0.6987964	10	0.7353856	20	0.7037018	50	0.7166845
m,p-Xylenes	2	0.8130441	4	0.9200809	10	0.9356853	20	0.9204158	40	0.9535119	100	0.8998223
o-Xylene	1	0.7031544	2	0.8522975	5	0.928378	10	0.8650837	20	0.9465502	50	0.9192626
Bromoform	1	0.129921	2	0.1507396	5	0.1403793	10	0.1654611	20	0.1852009	50	0.1967156
Styrene	1	0.7825155	2	1.203015	5	1.465928	10	1.317717	20	1.612473	50	1.562396
Isopropylbenzene	1	1.704453	2	2.252172	5	2.4154	10	2.193867	20	2.416191	50	2.372754
1,1,2,2-Tetrachloroethane	1	0.5720375	2	0.7488666	5	0.7870861	10	0.7104761	20	0.7506403	50	0.7288423
1,2,4-Trichlorobenzene	1	6.982231E-02	2	0.148378	5	0.2032745	10	0.2020054	20	0.2092492	50	0.2466564
1,3-Dichlorobenzene	1	0.948657	2	1.182099	5	1.105942	10	1.139155	20	1.151222	50	1.175941
1,4-Dichlorobenzene	1	1.112015	2	1.169665	5	1.232994	10	1.151103	20	1.196167	50	1.17052
1,2-Dichlorobenzene	1	0.834553	2	1.111243	5	1.040463	10	1.00277	20	1.046587	50	1.081676
1,2-Dibromo-3-chloropropane	1	3.782219E-02	2	0.1234915	5	9.587591E-02	10	8.741802E-02	20	9.065852E-02	50	0.1109498
Dibromofluoromethane	50	0.5913957	55	0.5857742	60	0.6050241	50	0.6090502	65	0.599548	50	0.6278028
Toluene-d8	50	1.156133	55	1.20606	60	1.22483	50	1.244223	65	1.198461	50	1.336655
4-Bromofluorobenzene	50	0.8721141	55	0.8442948	60	0.860972	50	0.8437756	65	0.8369979	50	0.9245401

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04257-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	80	0.5188117	100	0.513071								
Chloromethane	80	0.7237385	100	0.8106379								
Vinyl chloride	80	0.6784366	100	0.6929469								
Bromomethane	80	0.2018831	100	0.2117683								
Chloroethane	80	~~0.2324829~~	100	~~0.1721268~~								
Trichlorofluoromethane	80	0.7833297	100	0.7863313								
Freon 113	80	0.307747	100	0.3128048								
Acetone	400	0.2070738	500	0.2209217								
1,1-Dichloroethene	80	0.5362744	100	0.5539112								
Carbon disulfide	400	1.455013	500	1.4202								
Methylene Chloride	80	0.6765417	100	0.6699758								
Methyl-tert-Butyl Ether	80	1.611962	100	1.698542								
trans-1,2-Dichloroethene	80	0.5978528	100	0.6065935								
cis-1,2-Dichloroethene	80	0.6769028	100	0.6900783								
1,1-Dichloroethane	80	1.149155	100	1.152482								
2-Butanone	400	0.1060309	500	0.1107193								
Chloroform	80	1.088278	100	1.097122								
1,1,1-Trichloroethane	80	0.8538667	100	0.8544162								
Methyl acetate	80	0.543619	100	0.5834171								
Cyclohexane	80	1.217302	100	1.212934								
Methyl cyclohexane	80	0.5283242	100	0.5357824								
Carbon Tetrachloride	80	0.3354238	100	0.2918061								
1,2-Dichloroethane	80	0.3378516	100	0.3503619								
Benzene	80	1.128018	100	1.149851								
Trichloroethene	80	0.2419864	100	0.2482773								
1,2-Dichloropropane	80	0.3393545	100	0.3555149								
Bromodichloromethane	80	0.3580559	100	0.3715528								
4-Methyl-2-pentanone	400	4.872666E-02	500	0.0531509								
2-Hexanone	400	0.3642195	500	0.3952106								
cis-1,3-Dichloropropene	80	0.5418855	100	0.5581627								
Toluene	80	1.157336	100	1.159454								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04257-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	80	0.6300793	100	0.648602								
1,1,2-Trichloroethane	80	0.4164825	100	0.4266462								
Tetrachloroethene	80	0.2557776	100	0.2619908								
Dibromochloromethane	80	0.3640785	100	0.3872307								
1,2-Dibromoethane	80	0.4359692	100	0.4477482								
Chlorobenzene	80	1.162731	100	1.166059								
Ethylbenzene	80	0.6822879	100	0.6929839								
m,p-Xylenes	160	0.8278378	200	0.8111269								
o-Xylene	80	0.8813923	100	0.8899545								
Bromoform	80	0.209795	100	0.2221316								
Styrene	80	1.533573	100	1.550684								
Isopropylbenzene	80	2.211864	100	2.225002								
1,1,2,2-Tetrachloroethane	80	0.7238183	100	0.7360177								
1,2,4-Trichlorobenzene	80	0.2835707	100	0.3074052								
1,3-Dichlorobenzene	80	1.171958	100	1.187558								
1,4-Dichlorobenzene	80	1.186322	100	1.17352								
1,2-Dichlorobenzene	80	1.084059	100	1.10439								
1,2-Dibromo-3-chloropropane	80	0.1211319	100	0.1369917								
Dibromofluoromethane	70	0.5842909	75	0.5832016								
Toluene-d8	70	1.244561	75	1.260871								
4-Bromofluorobenzene	70	0.8334529	75	0.8539871								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04257-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	0.5094763	9.647847	3.98025	5.556263E-02	0.9996769		0.99	
Chloromethane	0.7825336	16.46827	4.40925	0.135073	0.9923367		0.99	
Vinyl chloride	0.6650027	10.06966	4.5845	5.710391E-02			20	
Bromomethane	0.2460614	27.39954	5.228375	4.862762E-02		0.9963293	0.99	
Chloroethane	0.3880182	22.36143	5.459	0.1512648		0.9973848	0.99	
Trichlorofluoromethane	0.7609833	8.000491	5.701125	0.1864209			20	
Freon 113	0.3222191	11.13614	6.55825	9.342257E-02			20	
Acetone	0.1924489	15.74444	7.4	0.1278971	0.9960612		0.99	
1,1-Dichloroethene	0.5314554	8.963278	6.53325	4.564842E-02			20	
Carbon disulfide	1.455719	11.92334	6.625	6.868896E-02		0.9998954	0.99	
Methylene Chloride	0.6815178	7.056421	7.34125	0.0518812			20	
Methyl-tert-Butyl Ether	1.537398	9.90525	7.63075	2.123095E-02			20	
trans-1,2-Dichloroethene	0.6064423	12.01755	7.5505	0.1224101			20	
cis-1,2-Dichloroethene	0.6549615	6.358542	8.9505	6.797787E-02			20	
1,1-Dichloroethane	1.152866	6.19063	8.31475	5.035179E-02			20	
2-Butanone	9.841208E-02	8.151038	9.550125	0.1662186			20	
Chloroform	1.100938	7.606441	9.222	3.620673E-02			20	
1,1,1-Trichloroethane	0.8164118	10.18657	9.485375	5.345546E-02			20	
Methyl acetate	0.573727	19.85262	7.511375	0.5213447	0.9945246		0.99	
Cyclohexane	1.148895	9.134873	9.19225	5.174988E-02			20	
Methyl cyclohexane	0.6594789	29.58945	10.45075	3.931351E-02	0.9995099		0.99	
Carbon Tetrachloride	0.285844	11.02986	9.4145	6.564497E-02			20	
1,2-Dichloroethane	0.3513194	5.157523	10.08825	2.752186E-02			20	
Benzene	1.184952	8.132168	9.87925	4.856943E-02			20	
Trichloroethene	0.2450156	8.169892	10.453	4.611096E-02			20	
1,2-Dichloropropane	0.3371891	2.808828	10.98725	3.084346E-02			20	
Bromodichloromethane	0.3308186	8.809988	11.01775	4.062078E-02			20	
4-Methyl-2-pentanone	4.594368E-02	9.254212	12.13475	6.688867E-02			20	
2-Hexanone	0.3312611	19.05383	12.88125	4.379245E-02	0.9967168		0.99	
cis-1,3-Dichloropropene	0.4967443	11.13382	11.6105	4.251153E-02			20	

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04257-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Toluene	1.222815	6.581686	11.83175	2.131752E-03			20	
trans-1,3-Dichloropropene	0.6187986	8.92381	12.19875	3.889151E-02			20	
1,1,2-Trichloroethane	0.420744	6.711427	12.36275	0.0322457			20	
Tetrachloroethene	0.2798147	12.18024	12.21	0.0317417			20	
Dibromochloromethane	0.3204024	18.63594	12.55363	2.959019E-02	0.9973738		0.99	
1,2-Dibromoethane	0.4215299	4.576784	12.81575	3.543673E-02			20	
Chlorobenzene	1.214708	4.518369	13.2455	1.871819E-02			20	
Ethylbenzene	0.6898253	6.208191	13.21175	3.216336E-02			20	
m,p-Xylenes	0.8851906	6.596866	13.329	4.748539E-02			20	
o-Xylene	0.8732591	8.690183	13.736	3.869105E-02			20	
Bromoform	0.175043	19.21377	13.87912	4.188187E-02	0.9953063		0.99	
Styrene	1.378538	20.14016	13.78075	3.574971E-02	0.9995972		0.99	
Isopropylbenzene	2.223963	10.30242	13.999	3.611421E-02		0.9994846	0.99	
1,1,2,2-Tetrachloroethane	0.7197231	8.881911	14.47125	2.257241E-02			20	
1,2,4-Trichlorobenzene	0.2087952	36.10883	18.155	0.111192		0.9993635	0.99	
1,3-Dichlorobenzene	1.132817	6.985412	15.41725	1.644861E-02			20	
1,4-Dichlorobenzene	1.174038	2.971778	15.50525	1.679585E-02			20	
1,2-Dichlorobenzene	1.038218	8.654341	16.02525	3.415201E-02	0.9996843		0.99	
1,2-Dibromo-3-chloropropane	0.1005424	30.57038	17.0955	0.1851555		0.9994421	0.99	
Dibromofluoromethane	0.5982609	2.57523	9.428	9.589849E-03			20	
Toluene-d8	1.233974	4.295517	11.7795	2.799324E-02			20	
4-Bromofluorobenzene	0.8587668	3.43207	14.32875	7.284017E-03			20	

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE04257-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2106098 **Laboratory ID:** AA66932-SCV1

Sequence: AA66932 **Standard ID:** A1F0991

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Cyclohexane	50.0	60	20.5	30.00
Ethylbenzene	50.0	60	19.7	30.00
Carbon Tetrachloride	50.0	55	10.0	30.00
1,3-Dichlorobenzene	50.0	60	19.3	30.00
4-Bromofluorobenzene	50.0	55	9.4	30.00
Toluene-d8	50.0	55	9.6	30.00
Dibromofluoromethane	50.0	50	0.06	30.00
Methyl-tert-Butyl Ether	50.0	56	12.6	30.00
trans-1,2-Dichloroethene	50.0	55	10.3	30.00
cis-1,2-Dichloroethene	50.0	56	12.7	30.00
Tetrachloroethene	50.0	56	11.2	30.00
Acetone	250	260	3.8	30.00
1,2,4-Trichlorobenzene	50.0	60	19.1	30.00
Chloroform	50.0	54	8.2	30.00
Chlorobenzene	50.0	57	14.7	30.00
Toluene	50.0	56	12.6	30.00
Methyl cyclohexane	50.0	57	14.2	30.00
m,p-Xylenes	100	110	11.2	30.00
4-Methyl-2-pentanone	250	300	20.0	30.00
1,2-Dichloroethane	50.0	53	5.4	30.00
1,2-Dibromoethane	50.0	58	15.2	30.00
1,4-Dichlorobenzene	50.0	57	13.3	30.00
trans-1,3-Dichloropropene	50.0	61	21.5	30.00
cis-1,3-Dichloropropene	50.0	57	13.0	30.00
Styrene	50.0	59	18.6	30.00
Dibromochloromethane	50.0	55	9.5	30.00
1,1-Dichloroethene	50.0	57	13.1	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE04257-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2106098 **Laboratory ID:** AA66932-SCV1

Sequence: AA66932 **Standard ID:** A1F0991

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
1,2-Dibromo-3-chloropropane	50.0	59	17.5	30.00
1,2-Dichlorobenzene	50.0	57	14.1	30.00
o-Xylene	50.0	60	19.9	30.00
1,1,2,2-Tetrachloroethane	50.0	56	12.7	30.00
Methyl acetate	50.0	58	16.7	30.00
Trichloroethene	50.0	56	11.0	30.00
1,1,2-Trichloroethane	50.0	56	12.3	30.00
2-Butanone	250	280	13.7	30.00
1,2-Dichloropropane	50.0	55	11.0	30.00
Freon 113	50.0	57	13.2	30.00
2-Hexanone	250	280	12.6	30.00
Trichlorofluoromethane	20.0	20	1.2	30.00
Isopropylbenzene	50.0	58	16.4	30.00
1,1-Dichloroethane	50.0	56	12.5	30.00
Bromodichloromethane	50.0	60	19.7	30.00
Bromoform	50.0	55	10.2	30.00
Carbon disulfide	50.0	66	31.2 *	30.00
Methylene Chloride	50.0	51	2.5	30.00
Vinyl chloride	20.0	20	2.4	30.00
Chloroethane	20.0	16	-21.2	30.00
Chloromethane	20.0	23	14.0	30.00
Bromomethane	20.0	22	7.7	30.00
1,1,1-Trichloroethane	50.0	58	15.3	30.00
Benzene	50.0	57	13.8	30.00
Dichlorodifluoromethane	20.0	27	36.8 *	30.00

* Values outside of QC limits

ANALYSIS SEQUENCE

AA67037

Instrument: OVGCMS5

Calibration ID: 2106098

Printed: 6/24/2021 8:56:21AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA67037-CCV1	QC		1		A1F1110	A1D0593		
1F24014-BS1	QC		2			A1D0593		
1F24014-BLK1	QC		3			A1D0593		
AE04257-01	TCLP 8260D	B	4			A1D0593	Tetra Tech, Inc. (TE016)	BatchQC
AE04257-01	60D TCL SOM01.2 CLP-LIK	B	5			A1D0593	Tetra Tech, Inc. (TE016)	History 1x ND jmw 6/18/21 custom
AE04257-01	8260D Halo	B	6			A1D0593	Tetra Tech, Inc. (TE016)	BatchQC
AE04257-01	8260D Extended	B	7			A1D0593	Tetra Tech, Inc. (TE016)	BatchQC
AE04257-01	8260D Arom/Halo	B	8			A1D0593	Tetra Tech, Inc. (TE016)	BatchQC
AE04257-01	8260D Arom	B	9			A1D0593	Tetra Tech, Inc. (TE016)	BatchQC
AE04257-02	60D TCL SOM01.2 CLP-LIK	A	10			A1D0593	Tetra Tech, Inc. (TE016)	History 1x VC jmw 6/18/21 custom
1F24014-MS1	QC		11			A1D0593		
1F24014-MSD1	QC		12			A1D0593		
AE05065-01RE1	TCLP 8260D	A 04	13			A1D0593		rr100x high pce ccv Re-extract added 6
AE05162-05RE1	8260D Arom	C	14			A1D0593		rr@5x xylenes Re-extract added 6/21/ run 10x xylene
AE05241-02RE1	8260D Extended	C	15			A1D0593		rr20x c12dce, tce Re-extract added 6/2
AE05241-03RE1	8260D Extended	B	16			A1D0593		rr20x c12dce Re-extract added 6/23/20
AE05241-04RE1	8260D Extended	C	17			A1D0593		rr1x c12dce c/o Re-extract added 6/23/
AE04960-01RE1	8260D Halo	B	18			A1D0593		rr1x pce high ccv Re-extract added 6/2
AE04262-02RE1	8260D Arom/Halo	C	19			A1D0593		rr@1x PCE high CCV Re-extract adde rr5x TCE
AE04262-03	8260D Arom/Halo	B	20			A1D0593		ADD AFA run 1x kkw062321 rr 5x TCE
AE04262-04	8260D Arom/Halo	B	21			A1D0593		ADD AFA run 1x kkw062321
AE04262-05	8260D Arom/Halo	B	22			A1D0593		ADD AFA run 1x kkw062321
AE04262-06	8260D Arom/Halo	B	23			A1D0593		ADD AFA run 1x kkw062321

Samples Loaded By Date

Data Processed By Date

ANALYSIS SEQUENCE

AA67037

Instrument: OVGCMS5

Calibration ID: 2106098

Printed: 6/24/2021 8:56:21AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AE04262-07	8260D Arom/Halo	B	24			A1D0593		ADD AFA run 1x kkw062321
AE04262-08	8260D Arom/Halo	B	25			A1D0593		ADD AFA run 1x kkw062321
AE04262-09	8260D Arom/Halo	B	26			A1D0593		ADD AFA run 1x kkw062321
AE04262-10	8260D Arom/Halo	B	27			A1D0593		ADD AFA run 1x kkw062321
AE04262-11	8260D Arom/Halo	B	28			A1D0593		ADD AFA run 1x kkw062321

Samples Loaded By 06/24/21 Date

Data Processed By 06/25/21 Date

PREPARATION BENCH SHEET

1F24014

ENCO Orlando

Printed: 6/24/2021 8:53:51AM

Analysis
8260D Arom [EPA 8260D]
8260D Arom/Halo [EPA 8260D]
8260D Extended [EPA 8260D]
8260D Halo [EPA 8260D]
8260D TCL SOM01.2 CLP-LIKE [EPA 8260D]
TCLP 8260D [EPA 8260D]

Surrogate Solution
___ A1B1158 8260 surr working (lower conc.)

Prepared using: EPA 5030B_MS

Spiking Solution
A1E1154 8260 2nd source Mega Mix
A1F1032 8260 2nd source Gases/Acrolein virtual

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
1F24014-BLK1		Blank		QC			5	5			5	
1F24014-BS1		LCS		QC			5	5	A1F1032 A1E1154	2 2	5	
1F24014-MS1		Matrix Spike [AE04257-01]		QC	≤2	N	5	5	A1F1032 A1E1154	2 2	5	
1F24014-MSD1		Matrix Spike Dup [AE04257-01]		QC	≤2	N	5	5	A1F1032 A1E1154	2 2	5	
AE04257-01	C	CRCA-ASEFFLEUNT-2021061B[MS41		8260D Halo	≤2	N	5	5			5	Added for BatchQC in: 1F24014
AE04257-01	C	CRCA-ASEFFLEUNT-2021061B[MS41		TCLP 8260D			5	5			5	Added for BatchQC in: 1F24014
AE04257-01	C	CRCA-ASEFFLEUNT-2021061B[MS41		8260D Arom			5	5			5	Added for BatchQC in: 1F24014
AE04257-01	C	CRCA-ASEFFLEUNT-2021061B[MS41		8260D Extended			5	5			5	Added for BatchQC in: 1F24014
AE04257-01	C	CRCA-ASEFFLEUNT-2021061B[MS41		8260D Arom/Halo			5	5			5	Added for BatchQC in: 1F24014
AE04257-01	C	CRCA-ASEFFLEUNT-2021061B[MS41	25-Jun-21	8260D TCL SOM01.2 CLP-LIKE			5	5			5	History 1x ND jmw 6/18/21 custom
AE04257-02	C	CRCA-ASINFLEUNT-2021061A[MS41	25-Jun-21	8260D TCL SOM01.2 CLP-LIKE	≤2	N	5	5			5	History 1x VC jmw 6/18/21 custom
AE04262-02RE1		RW-1B C[MS27	28-Jun-21	8260D Arom/Halo	≤2	N	5	5			5	rr@1x PCE high CCV Re-extract added 6/24/2021 by KKW
AE04262-03		RW-3B B[MS27	28-Jun-21	8260D Arom/Halo	≤2	N	5	5			5	ADD AFA run 1x kkw062321
AE04262-04		RW-2B B[MS27	28-Jun-21	8260D Arom/Halo	≤2	N	5	5			5	ADD AFA run 1x kkw062321
AE04262-05		MW-2A B[MS27	28-Jun-21	8260D Arom/Halo	≤2	N	5	5			5	ADD AFA run 1x kkw062321

PREPARATION BENCH SHEET

Printed: 6/24/2021 8:53:51AM

1F24014

ENCO Orlando

Prepared using: EPA 5030B_MS

Surrogate Solution
___ A1B1158 8260 surr working (lower conc.)

Spiking Solution
A1E1154 8260 2nd source Mega Mix
A1F1032 8260 2nd source Gases/Acrolein virtual

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
AE04262-06		MW-2B B[MS27	28-Jun-21	8260D Arom/Halo	<2	N	5	5			5	ADD AFA run 1x kkw062321
AE04262-07		MW-3A B[MS28	28-Jun-21	8260D Arom/Halo	<2	N	5	5			5	ADD AFA run 1x kkw062321
AE04262-08		MW-3B B[MS28	28-Jun-21	8260D Arom/Halo	<2	N	5	5			5	ADD AFA run 1x kkw062321
AE04262-09		MW-3C B[MS28	28-Jun-21	8260D Arom/Halo	<2	N	5	5			5	ADD AFA run 1x kkw062321
AE04262-10		MW-4A B[MS28	28-Jun-21	8260D Arom/Halo	<2	N	5	5			5	ADD AFA run 1x kkw062321
AE04262-11		MW-4B B[MS28	28-Jun-21	8260D Arom/Halo	<2	N	5	5			5	ADD AFA run 1x kkw062321
AE04960-01RE1		TMW-1 B[MS24	24-Jun-21	8260D Halo	<2	N	5	5			5	rr1x pce high ccv Re-extract added 6/24/2021 by NMC
AE05065-01RE1	2	5577 / OWS Sludge A 04[C6	23-Jun-21	TCLP 8260D	<2	N	5	5			5	rr100x high pce ccv Re-extract added 6/24/2021 by NMC
AE05162-05RE1		MW-38 C[MS23	23-Jun-21	8260D Arom	<2	N	5	5			5	rr@5x xylenes Re-extract added 6/21/2021 by KKW
AE05241-02RE1		MW104 C[MS26	25-Jun-21	8260D Extended	<2	N	5	5			5	rr20x c12dce, tce Re-extract added 6/23/2021 by NMC
AE05241-03RE1		IW1 B[MS26	25-Jun-21	8260D Extended	<2	N	5	5			5	rr20x c12dce Re-extract added 6/23/2021 by NMC
AE05241-04RE1		MW105 C[MS26	25-Jun-21	8260D Extended	<2	N	5	5			5	rr1x c12dce c/o Re-extract added 6/23/2021 by NMC

(1) Before solvent extraction proceeds, verify that there is no residual chlorine above 0.5 mg/L. Any sample above this must be treated to remove excess chlorine before extraction, and this documented as a comment.

PREPARATION BENCH SHEET

Printed: 6/24/2021 8:53:51AM

1F24014

ENCO Orlando

Prepared using: EPA 5030B_MS

Surrogate Solution

___	A1B1158	8260 surr working (lower conc.)

Spiking Solution

A1E1154	8260 2nd source Mega Mix
A1F1032	8260 2nd source Gases/Acrolein virtual

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments

Instrument 5
EST Centurian autosampler manufacturer reccommends adding 5 uL of IS/SS.

Start Date 06/24/21

StopDate 06/24/21

Instrument ID OVOCMS5

06/24/21

Samples Prepared By Date

Samples Prepared By Date

Standard ID#	Description	Manufacture Lot#
A0A1401	pH Test Papers (1.0 to 12.0)	231018
A1B0955	Residual Chlorine Strips (Potassium Iodide S	102916
A1F1109	P&T Anti-Foam working solution	N/A

Sequence Name: C:\msdchem\1\sequence\215FS.s
Comment:
Operator: kkw
Data Path: C:\msdchem\1\DATA\062421\
Instrument Control Pre-Seq Cmd:
Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:
Data Analysis Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

Sequence Barcode Options
(X) On Mismatch, Inject Anyway
( ) On Mismatch, Don't Inject
( ) Barcode Disabled

Line		Sample Name/Misc Info		
1)	Sample	1	215FS001 8260S	RINSE
2)	Sample	2	215FS002 8260S	CCV1
3)	Sample	3	215FS003 8260S	BS1
4)	Sample	4	215FS004 8260S	RINSE
5)	Sample	5	215FS005 8260S	1F24014-BLK1
6)	Sample	6	215FS006 8260S	AE04257-01
7)	Sample	7	215FS007 8260S	AE04257-02
8)	Sample	8	215FS008 8260S	1F24014-MS1
9)	Sample	8	215FS009 8260S	1F24014-MSD1
10)	Sample	9	215FS010 8260S	AE05065-01RE1@100X
11)	Sample	10	215FS011 8260S	AE05162-05RE1@5X
12)	Sample	11	215FS012 8260S	AE05241-02RE1@20X
13)	Sample	12	215FS013 8260S	AE05241-03RE1@20X
14)	Sample	13	215FS014 8260S	AE05241-04RE1
15)	Sample	14	215FS015 8260S	AE04960-01RE1
16)	Sample	15	215FS016 8260S	AE04262-02RE1
17)	Sample	16	215FS017 8260S	AE05262-03
18)	Sample	17	215FS018 8260S	AE05262-04
19)	Sample	18	215FS019 8260S	AE05262-05
20)	Sample	19	215FS020 8260S	AE05262-06
21)	Sample	20	215FS021 8260S	AE05262-07
22)	Sample	21	215FS022 8260S	AE05262-08
23)	Sample	22	215FS023 8260S	AE05262-09
24)	Sample	23	215FS024 8260S	AE05262-10
25)	Sample	24	215FS025 8260S	AE05262-11
26)	Sample	25	215FS026 8260S	rinse
27)	Sample	26	215FS027 8260S	AA67045-CCV1
28)	Sample	27	215FS028 8260S	1F24024-BS1
29)	Sample	28	215FS029 8260S	1F24024-MS1
30)	Sample	28	215FS030 8260S	1F24024-MSD1
31)	Sample	29	215FS031 8260S	RINSE
32)	Sample	30	215FS032 8260S	1F24024-BLK1
33)	Sample	31	215FS033 8260S	AA67045-CRL1
34)	Sample	32	215FS034 8260S	AE05336-02
35)	Sample	33	215FS035 8260S	AE04262-12
36)	Sample	34	215FS036 8260S	AE04262-13
37)	Sample	35	215FS037 8260S	AE04262-15
38)	Sample	36	215FS038 8260S	AE04262-16
39)	Sample	37	215FS039 8260S	AE04262-17
40)	Sample	38	215FS040 8260S	AE04262-18
41)	Sample	39	215FS041 8260S	AE04262-19
42)	Sample	40	215FS042 8260S	AE04262-20
43)	Sample	41	215FS043 8260S	AE04262-22

Sequence Name: C:\msdchem\1\sequence\215FS.s

	Line Type	Vial	DataFile	Method	Sample Name
44)	Sample	42	215FS044	8260S	AE04262-23
45)	Sample	43	215FS045	8260S	AE04262-24
46)	Sample	44	215FS046	8260S	AE04262-25
47)	Sample	45	215FS047	8260S	AE04262-26
48)	Sample	46	215FS048	8260S	AE04262-27
49)	Sample	47	215FS049	8260S	AE04262-28
50)	Sample	48	215FS050	8260S	AE04262-29

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\062421\
Data File : 215FS002.D
Acq On : 24 Jun 2021 8:02 am
Operator : kkw
Sample : CCV1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 24 08:24:49 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1101516	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2640300	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.223	82	1759573	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1411022	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	732927	55.61	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 111.22%				
52) D8-Toluene	11.778	98	3633933	55.81	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 111.62%				
73) Bromofluorobenzene	14.328	95	1640993	54.29	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 108.58%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.975	85	296427	26.16	ug/L		99
3) Chloromethane	4.404	50	352490	20.94	ug/L		100
4) Vinyl Chloride	4.580	62	297858	20.33	ug/L	#	45
5) Bromomethane	5.227	94	112187	28.87	ug/L	#	91
6) Chloroethane	5.444	64	149201	18.46	ug/L		99
7) Trichlorofluoromethane	5.697	101	347984	20.76	ug/L		99
8) Diethyl ether	6.173	59	542913	47.69	ug/L		97
9) 1,1-Dichloroethene	6.531	96	591745	50.54	ug/L		99
10) Trichlorotrifluoroethane	6.554	151	343522	48.39	ug/L		99
11) Acrolein	7.013	56	1757855	594.42	ug/L		99
12) Iodomethane	6.778	142	2369470	233.11	ug/L		99
13) Carbon Disulfide	6.625	76	7903124	235.88	ug/L		99
14) 3-chloropropene	7.195	41	923989	46.93	ug/L		99
15) Acetone	7.389	43	1051362	224.77	ug/L		98
16) Methylene Chloride	7.336	84	713747	47.54	ug/L		100
17) Methyl Acetate	7.518	43	553984	45.10	ug/L		98
18) t-1,2-Dichloroethene	7.547	96	682018	51.05	ug/L		98
19) Methyl tert-butyl ether	7.630	73	1729344	51.06	ug/L		99
20) Acetonitrile	8.006	41	1478431	475.54	ug/L		99
21) Isopropyl ether	8.047	45	2104758	49.52	ug/L		98
22) Chloroprene	8.270	88	621632	48.69	ug/L		99
23) 1,1-Dichloroethane	8.311	63	1267412	49.90	ug/L		99
24) Acrylonitrile	8.376	53	3338910	570.42	ug/L		99
25) Vinyl Acetate	8.534	43	7642946	253.52	ug/L		98
26) c-1,2-Dichloroethene	8.946	96	735879	51.00	ug/L		95
27) 2,2-Dichloropropane	9.075	77	945153	51.79	ug/L		98
28) Bromochloromethane	9.181	128	238966	44.84	ug/L		94
29) Cyclohexane	9.193	56	1316117	52.00	ug/L		99
30) Chloroform	9.216	83	1243121	51.25	ug/L		99
32) Dibromofluoromethane	9.428	113	732927	55.61	ug/L	#	91
33) 2-Butanone	9.539	72	571336	263.53	ug/L		91
34) 1,1,1-Trichloroethane	9.480	97	947378	52.67	ug/L		99
35) 1,1-Dichloropropene	9.604	75	1027343	51.36	ug/L		97
36) Propionitrile	9.892	54	1360672	520.92	ug/L		97
37) Methacrylonitrile	9.903	41	5390083	526.73	ug/L		99
38) Isobutyl Alcohol	9.945	43	1134975	907.98	ug/L	#	51
40) Carbon Tetrachloride	9.410	117	836645	55.43	ug/L	#	85
41) Benzene	9.874	78	2982508	47.66	ug/L		98
42) 1,2-Dichloroethane	10.086	62	880558	47.46	ug/L		97
43) Trichloroethene	10.450	130	637689	49.29	ug/L		98
44) Methyl cyclohexane	10.450	83	1379872	48.93	ug/L		97
45) Dibromomethane	10.902	93	429754	46.70	ug/L		99
46) 1,2-Dichloropropane	10.985	63	840959	47.23	ug/L		98
47) Bromodichloromethane	11.014	83	902528	51.66	ug/L		98
48) Methyl Methacrylate	11.073	69	625500	44.41	ug/L		99
49) 1,4-Dioxane	11.196	88	146084	1002.86	ug/L		92
50) 2-Chloroethyl vinyl ether	11.484	63	2150625	215.69	ug/L		98
51) C-1,3-Dichloropropene	11.607	75	1332153	50.79	ug/L		100

Data Path : C:\msdchem\1\data\062421\
Data File : 215FS002.D
Acq On : 24 Jun 2021 8:02 am
Operator : kkw
Sample : CCV1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 24 08:24:49 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

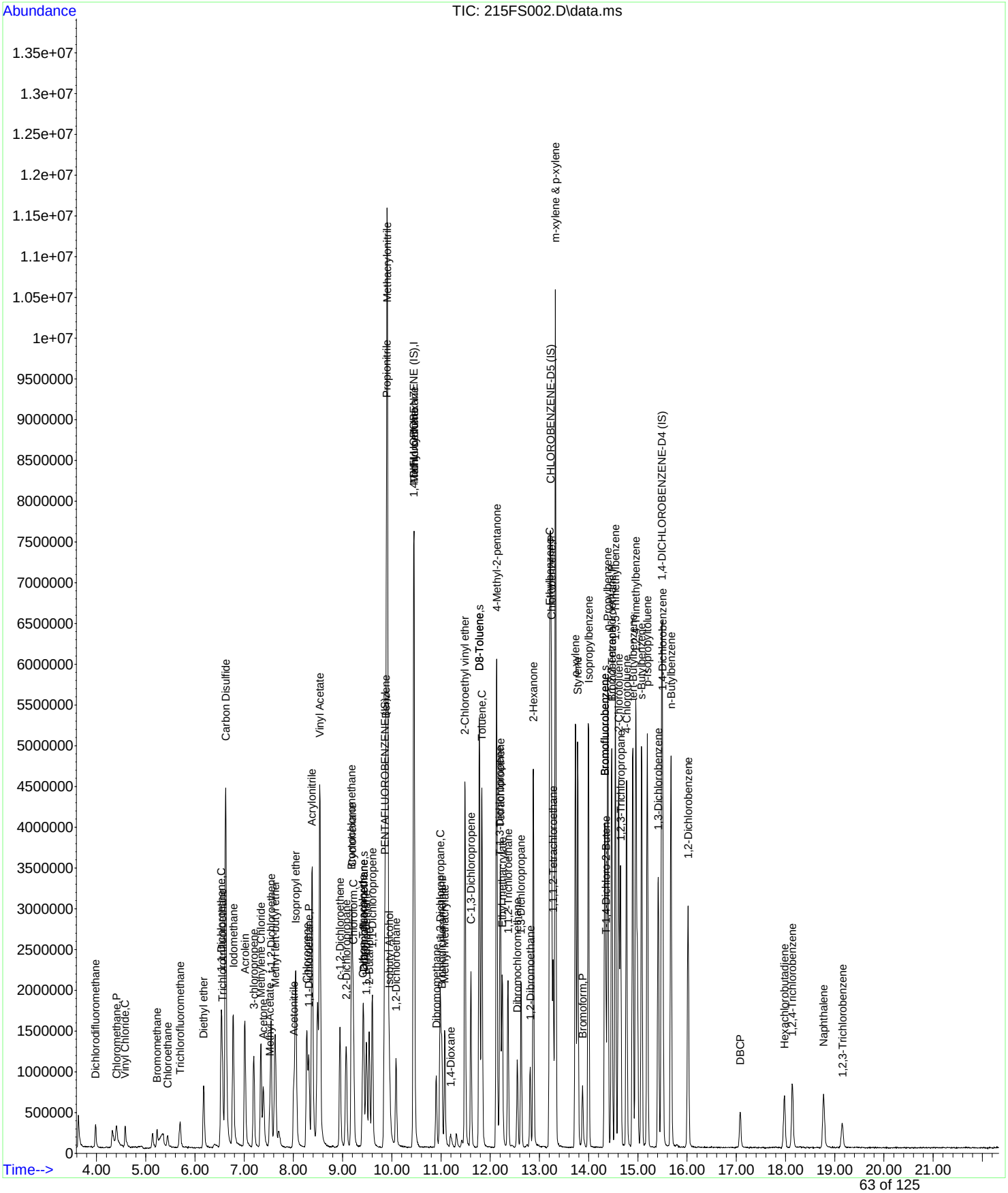
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	3632474	55.79	ug/L		97
54) 4-Methyl-2-pentanone	12.130	100	643297	265.16	ug/L		98
56) Toluene	11.831	92	2035444	47.30	ug/L		98
57) T-1,3-Dichloropropene	12.195	75	1058483	48.61	ug/L		99
58) Tetrachloroethene	12.207	164	462923	47.01	ug/L		96
59) Ethyl methacrylate	12.242	69	1140391	45.13	ug/L		99
60) 1,1,2-Trichloroethane	12.360	97	700661	47.32	ug/L		99
61) Dibromochloromethane	12.548	129	599409	45.46	ug/L		98
62) 1,3-Dichloropropane	12.624	76	1306100	48.16	ug/L		95
63) 1,2-Dibromoethane	12.812	107	730738	49.26	ug/L		99
64) 2-Hexanone	12.877	43	2993924	223.92	ug/L		98
65) Ethylbenzene	13.206	106	1186557	48.88	ug/L		97
66) Chlorobenzene	13.241	112	2055302	48.08	ug/L		100
67) 1,1,1,2-Tetrachloroethane	13.276	131	620311	50.27	ug/L		97
68) m-xylene & p-xylene	13.323	106	3023717	97.07	ug/L		97
69) o-xylene	13.729	106	1483303	48.27	ug/L		97
70) Styrene	13.775	104	2552672	46.91	ug/L		99
71) Bromoform	13.875	173	313653	41.72	ug/L		99
72) Isopropylbenzene	13.999	105	3937465	48.13	ug/L		100
74) Bromofluorobenzene	14.328	95	1640993	54.29	ug/L	#	74
75) n-Propylbenzene	14.387	91	5120871	47.73	ug/L		98
76) 1,1,2,2-Tetrachloroethane	14.469	83	1254530	49.53	ug/L		99
77) 1,2,3-Trichloropropane	14.651	61	277961	47.42	ug/L		97
78) T-1,4-Dichloro-2-Butene	14.351	53	370818	50.00	ug/L		99
80) Bromobenzene	14.469	156	719387	47.08	ug/L		99
81) 1,2,4-Trimethylbenzene	14.957	105	3523491	47.23	ug/L		99
82) 2-Chlorotoluene	14.610	91	3059008	48.97	ug/L		99
83) 4-Chlorotoluene	14.768	91	3123704	45.58	ug/L		100
84) tert-Butylbenzene	14.898	119	2774017	47.19	ug/L		100
85) 1,3,5-Trimethylbenzene	14.539	105	3482007	46.76	ug/L		100
86) p-Isopropyltoluene	15.192	119	3421102	47.56	ug/L		100
87) s-Butylbenzene	15.074	105	4196149	46.94	ug/L		99
88) 1,3-Dichlorobenzene	15.415	146	1493774	46.73	ug/L		98
89) 1,4-Dichlorobenzene	15.503	146	1537995	46.42	ug/L		98
90) n-Butylbenzene	15.673	91	3456886	46.56	ug/L		100
91) 1,2-Dichlorobenzene	16.020	146	1394190	45.20	ug/L		98
92) DBCP	17.078	157	141439	47.17	ug/L		91
93) Hexachlorobutadiene	17.977	225	141540	40.97	ug/L		97
94) 1,2,4-Trichlorobenzene	18.135	180	320558	46.75	ug/L		97
95) Naphthalene	18.770	128	897046	46.87	ug/L		100
96) 1,2,3-Trichlorobenzene	19.158	180	141124	47.22	ug/L		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\062421\
Data File : 215FS002.D
Acq On : 24 Jun 2021 8:02 am
Operator : kkw
Sample : CCV1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 24 08:24:49 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\062421\
Data File : 215FS003.D
Acq On : 24 Jun 2021 8:29 am
Operator : kkw
Sample : BS1
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 24 08:57:45 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.851	168	1175956	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2744360	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.223	82	1801802	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1376596	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	763609	54.27	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 108.54%				
52) D8-Toluene	11.778	98	3640089	53.78	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 107.56%				
73) Bromofluorobenzene	14.328	95	1604221	51.83	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 103.66%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	301631	24.93	ug/L		97
3) Chloromethane	4.404	50	336226	18.71	ug/L		98
4) Vinyl Chloride	4.586	62	309646	19.80	ug/L	#	67
5) Bromomethane	5.227	94	34485	8.80	ug/L	#	84
6) Chloroethane	5.450	64	160807	18.67	ug/L		96
7) Trichlorofluoromethane	5.697	101	365659	20.43	ug/L		97
8) Diethyl ether	6.173	59	251220	20.67	ug/L		96
9) 1,1-Dichloroethene	6.531	96	247341	19.79	ug/L		96
10) Trichlorotrifluoroethane	6.555	151	147331	19.44	ug/L		100
11) Acrolein	7.019	56	120623	38.21	ug/L		99
12) Iodomethane	6.778	142	370645	35.32	ug/L		97
13) Carbon Disulfide	6.625	76	882656	23.42	ug/L		99
14) 3-chloropropene	7.195	41	442808	20.43	ug/L		98
15) Acetone	7.389	43	429427	85.99	ug/L		97
16) Methylene Chloride	7.336	84	318492	19.87	ug/L		98
17) Methyl Acetate	7.518	43	262901	20.05	ug/L		99
18) t-1,2-Dichloroethene	7.548	96	286748	20.10	ug/L		98
19) Methyl tert-butyl ether	7.630	73	765834	21.18	ug/L		98
20) Acetonitrile	8.047	41	398543	120.08	ug/L	#	92
21) Isopropyl ether	8.047	45	918329	20.24	ug/L		97
22) Chloroprene	8.270	88	271962	19.95	ug/L		98
23) 1,1-Dichloroethane	8.311	63	565420	20.85	ug/L		98
24) Acrylonitrile	8.388	53	153313	24.53	ug/L		100
25) Vinyl Acetate	8.541	43	533886	16.59	ug/L		96
26) c-1,2-Dichloroethene	8.946	96	316369	20.54	ug/L		97
27) 2,2-Dichloropropane	9.069	77	433900	22.27	ug/L		99
28) Bromochloromethane	9.181	128	124797	21.93	ug/L		94
29) Cyclohexane	9.187	56	599993	22.20	ug/L		98
30) Chloroform	9.222	83	513966	19.85	ug/L		100
32) Dibromofluoromethane	9.428	113	763609	54.27	ug/L	#	89
33) 2-Butanone	9.539	72	231832	100.16	ug/L		96
34) 1,1,1-Trichloroethane	9.487	97	414652	21.60	ug/L		96
35) 1,1-Dichloropropene	9.604	75	422664	19.79	ug/L		98
36) Propionitrile	9.898	54	69994	25.10	ug/L	#	1
37) Methacrylonitrile	9.910	41	329926	30.20	ug/L	#	81
38) Isobutyl Alcohol	9.904	43	264624	198.30	ug/L	#	53
40) Carbon Tetrachloride	9.404	117	355479	22.66	ug/L	#	79
41) Benzene	9.874	78	1345946	20.69	ug/L		98
42) 1,2-Dichloroethane	10.086	62	368234	19.10	ug/L		99
43) Trichloroethene	10.450	130	267463	19.89	ug/L		86
44) Methyl cyclohexane	10.450	83	608613	20.76	ug/L		96
45) Dibromomethane	10.903	93	175850	18.38	ug/L		94
46) 1,2-Dichloropropane	10.985	63	368693	19.92	ug/L		99
47) Bromodichloromethane	11.014	83	381858	21.03	ug/L		100
48) Methyl Methacrylate	11.079	69	256909	17.55	ug/L		93
49) 1,4-Dioxane	11.190	88	78441	568.89	ug/L		96
50) 2-Chloroethyl vinyl ether	11.490	63	897772	86.62	ug/L		100
51) C-1,3-Dichloropropene	11.608	75	536458	19.68	ug/L		98

Data Path : C:\msdchem\1\data\062421\
Data File : 215FS003.D
Acq On : 24 Jun 2021 8:29 am
Operator : kkw
Sample : BS1
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 24 08:57:45 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

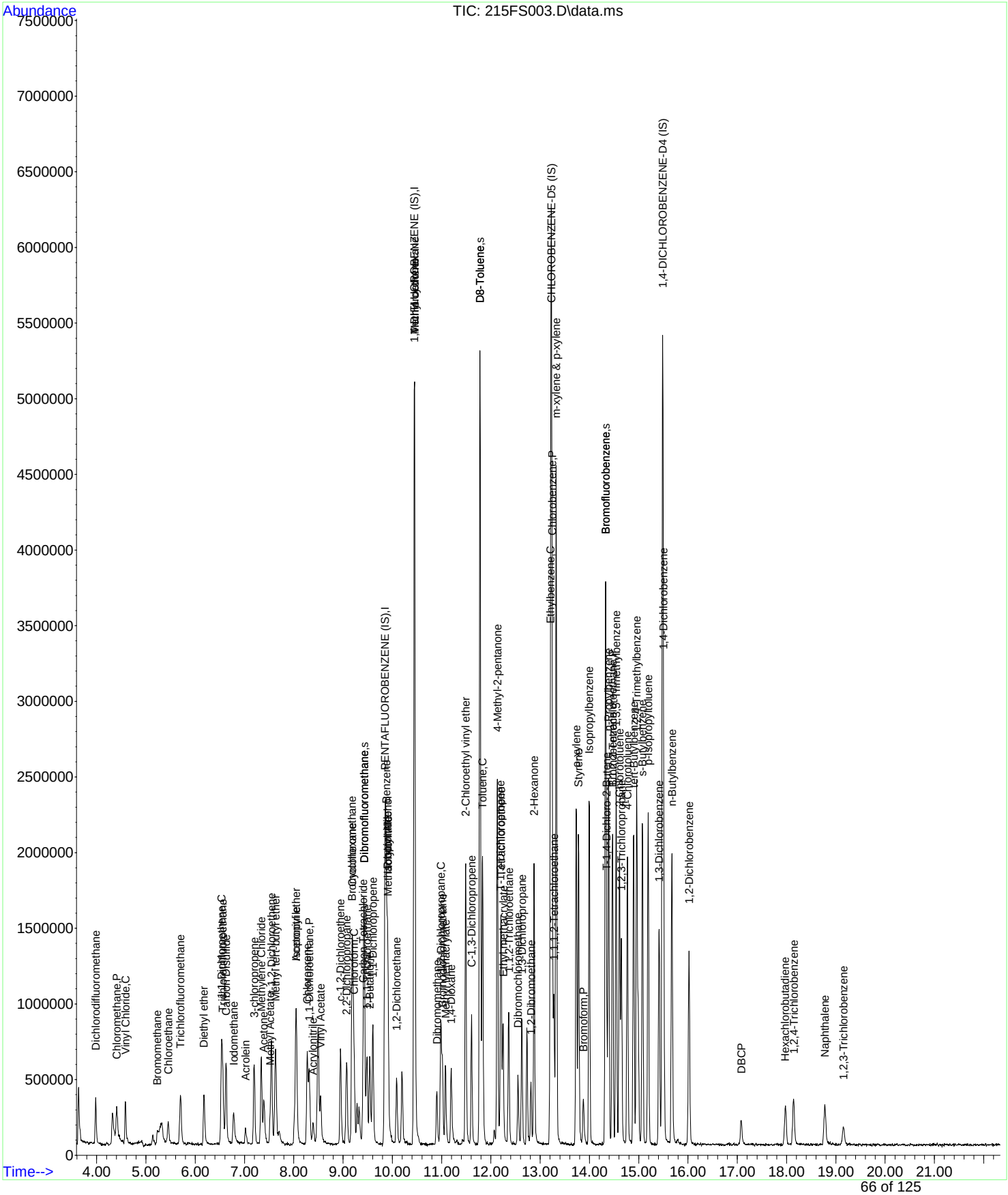
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	3640089	53.78	ug/L		96
54) 4-Methyl-2-pentanone	12.131	100	252469	100.12	ug/L		97
56) Toluene	11.831	92	869782	19.74	ug/L		97
57) T-1,3-Dichloropropene	12.195	75	465432	20.87	ug/L		98
58) Tetrachloroethene	12.207	164	198256	19.66	ug/L		95
59) Ethyl methacrylate	12.248	69	466530	18.03	ug/L		98
60) 1,1,2-Trichloroethane	12.366	97	311188	20.52	ug/L		97
61) Dibromochloromethane	12.548	129	240281	17.80	ug/L		99
62) 1,3-Dichloropropane	12.630	76	533993	19.23	ug/L		96
63) 1,2-Dibromoethane	12.812	107	289291	19.04	ug/L		91
64) 2-Hexanone	12.877	43	1193998	87.21	ug/L		99
65) Ethylbenzene	13.206	106	511153	20.56	ug/L		98
66) Chlorobenzene	13.241	112	891212	20.36	ug/L		99
67) 1,1,1,2-Tetrachloroethane	13.282	131	260419	20.61	ug/L		99
68) m-xylene & p-xylene	13.323	106	1290877	40.47	ug/L		100
69) o-xylene	13.735	106	655580	20.83	ug/L		97
70) Styrene	13.776	104	1110220	19.92	ug/L		97
71) Bromoform	13.876	173	137937	17.92	ug/L		99
72) Isopropylbenzene	13.993	105	1685613	19.59	ug/L		100
74) Bromofluorobenzene	14.328	95	1604221	51.83	ug/L	#	73
75) n-Propylbenzene	14.387	91	2182948	19.27	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.469	83	514214	19.83	ug/L		100
77) 1,2,3-Trichloropropane	14.645	61	115323	19.21	ug/L		98
78) T-1,4-Dichloro-2-Butene	14.346	53	150445	19.81	ug/L	#	71
80) Bromobenzene	14.469	156	312483	20.96	ug/L		99
81) 1,2,4-Trimethylbenzene	14.957	105	1491574	20.42	ug/L		99
82) 2-Chlorotoluene	14.610	91	1284989	21.08	ug/L		99
83) 4-Chlorotoluene	14.769	91	1327921	19.86	ug/L		100
84) tert-Butylbenzene	14.898	119	1144297	19.95	ug/L		99
85) 1,3,5-Trimethylbenzene	14.540	105	1455147	20.03	ug/L		99
86) p-Isopropyltoluene	15.192	119	1463258	20.85	ug/L		100
87) s-Butylbenzene	15.074	105	1797661	20.61	ug/L		98
88) 1,3-Dichlorobenzene	15.415	146	673083	21.58	ug/L		97
89) 1,4-Dichlorobenzene	15.503	146	648548	20.06	ug/L	#	81
90) n-Butylbenzene	15.674	91	1452343	20.05	ug/L		99
91) 1,2-Dichlorobenzene	16.020	146	599134	19.91	ug/L		97
92) DBCP	17.084	157	56605	22.25	ug/L		98
93) Hexachlorobutadiene	17.971	225	61431	18.23	ug/L		92
94) 1,2,4-Trichlorobenzene	18.147	180	129759	22.12	ug/L		95
95) Naphthalene	18.776	128	386064	24.91	ug/L	#	95
96) 1,2,3-Trichlorobenzene	19.152	180	56553	23.24	ug/L		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\062421\
Data File : 215FS003.D
Acq On : 24 Jun 2021 8:29 am
Operator : kkw
Sample : BS1
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 24 08:57:45 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\062421\
Data File : 215FS005.D
Acq On : 24 Jun 2021 9:25 am
Operator : kkw
Sample : 1F24014-BLK1
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 24 14:11:08 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.851	168	1094115	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2686869	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.223	82	1729939	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.486	152	1343643	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	733049	55.99	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 111.98%				
52) D8-Toluene	11.778	98	3488492	52.65	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 105.30%				
73) Bromofluorobenzene	14.328	95	1479783	49.80	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 99.60%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.			
3) Chloromethane	0.000		0	N.D. d			
4) Vinyl Chloride	0.000		0	N.D.			
5) Bromomethane	0.000		0	N.D.			
6) Chloroethane	0.000		0	N.D.			
7) Trichlorofluoromethane	0.000		0	N.D.			
8) Diethyl ether	0.000		0	N.D.			
9) 1,1-Dichloroethene	0.000		0	N.D.			
10) Trichlorotrifluoroethane	0.000		0	N.D.			
11) Acrolein	0.000		0	N.D.			
12) Iodomethane	0.000		0	N.D. d			
13) Carbon Disulfide	0.000		0	N.D. d			
14) 3-chloropropene	0.000		0	N.D.			
15) Acetone	0.000		0	N.D.			
16) Methylene Chloride	7.354	84	17902	1.20	ug/L		88
17) Methyl Acetate	0.000		0	N.D.			
18) t-1,2-Dichloroethene	0.000		0	N.D.			
19) Methyl tert-butyl ether	0.000		0	N.D.			
20) Acetonitrile	0.000		0	N.D.			
21) Isopropyl ether	0.000		0	N.D.			
22) Chloroprene	0.000		0	N.D.			
23) 1,1-Dichloroethane	0.000		0	N.D.			
24) Acrylonitrile	0.000		0	N.D.			
25) Vinyl Acetate	0.000		0	N.D.			
26) c-1,2-Dichloroethene	0.000		0	N.D.			
27) 2,2-Dichloropropane	0.000		0	N.D.			
28) Bromochloromethane	0.000		0	N.D.			
29) Cyclohexane	0.000		0	N.D.			
30) Chloroform	0.000		0	N.D.			
32) Dibromofluoromethane	9.428	113	733483	56.03	ug/L	#	89
33) 2-Butanone	0.000		0	N.D. d			
34) 1,1,1-Trichloroethane	0.000		0	N.D.			
35) 1,1-Dichloropropene	0.000		0	N.D.			
36) Propionitrile	0.000		0	N.D.			
37) Methacrylonitrile	0.000		0	N.D.			
38) Isobutyl Alcohol	0.000		0	N.D. d			
40) Carbon Tetrachloride	0.000		0	N.D.			
41) Benzene	0.000		0	N.D.			
42) 1,2-Dichloroethane	0.000		0	N.D.			
43) Trichloroethene	0.000		0	N.D.			
44) Methyl cyclohexane	0.000		0	N.D. d			
45) Dibromomethane	0.000		0	N.D.			
46) 1,2-Dichloropropane	0.000		0	N.D.			
47) Bromodichloromethane	0.000		0	N.D.			
48) Methyl Methacrylate	0.000		0	N.D.			
49) 1,4-Dioxane	0.000		0	N.D.			
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.			
51) C-1,3-Dichloropropene	11.778	75	4902	N.D.			

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\062421\
Data File : 215FS005.D
Acq On : 24 Jun 2021 9:25 am
Operator : kkw
Sample : 1F24014-BLK1
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 24 14:11:08 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

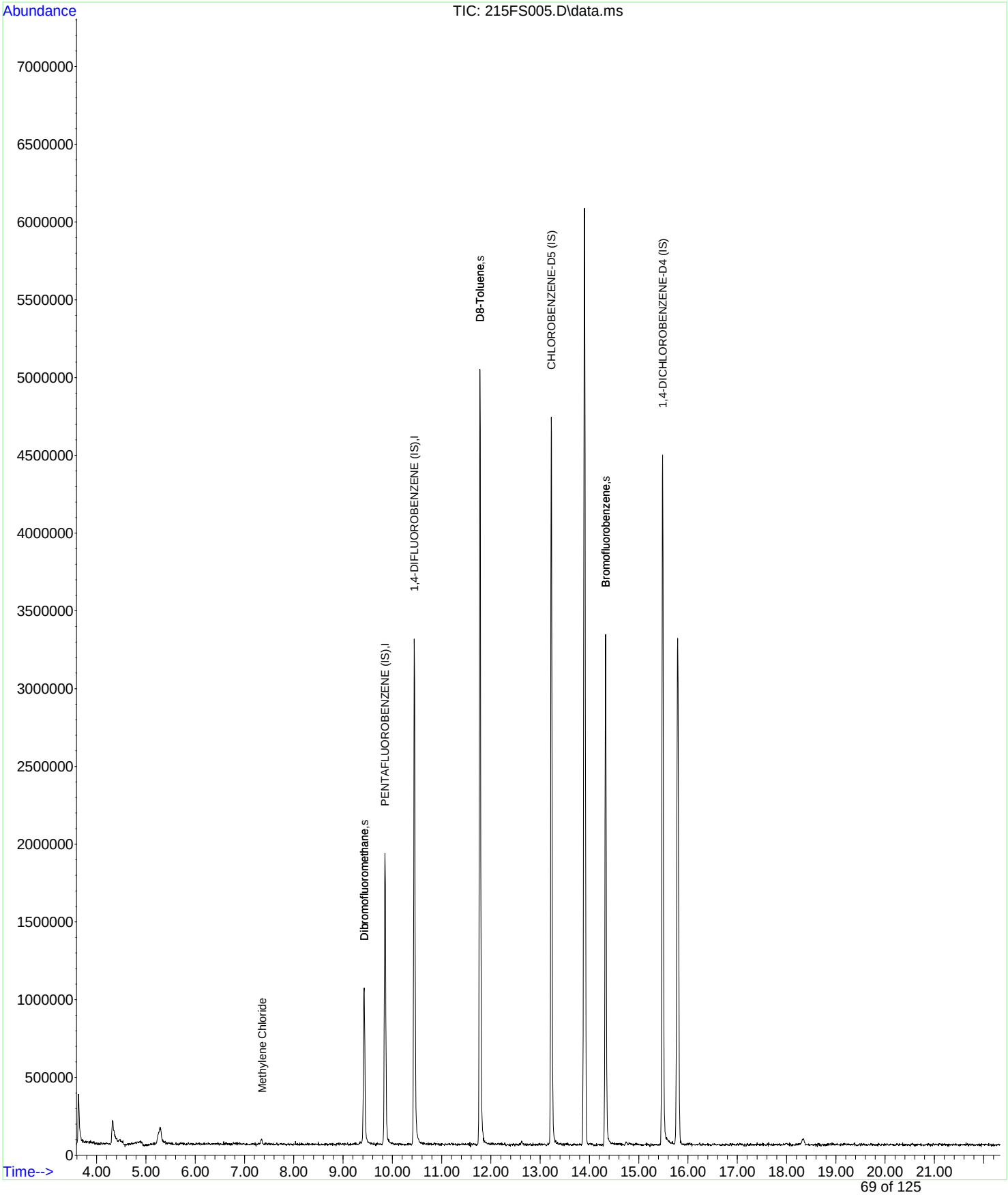
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.778	98	3485648	52.60 ug/L	95
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	0.000		0	N.D.	
57) T-1,3-Dichloropropene	0.000		0	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	0.000		0	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	0.000		0	N.D.	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	0.000		0	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	0.000		0	N.D.	
70) Styrene	0.000		0	N.D. d	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	0.000		0	N.D. d	
74) Bromofluorobenzene	14.328	95	1479783	49.80 ug/L #	74
75) n-Propylbenzene	14.328	91	4530	N.D.	
76) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D.	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D.	
80) Bromobenzene	0.000		0	N.D.	
81) 1,2,4-Trimethylbenzene	0.000		0	N.D.	
82) 2-Chlorotoluene	0.000		0	N.D.	
83) 4-Chlorotoluene	0.000		0	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	0.000		0	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	0.000		0	N.D.	
88) 1,3-Dichlorobenzene	15.486	146	4425	N.D.	
89) 1,4-Dichlorobenzene	15.486	146	4425	N.D.	
90) n-Butylbenzene	15.497	91	4184	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	0.000		0	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\062421\
Data File : 215FS005.D
Acq On : 24 Jun 2021 9:25 am
Operator : kkw
Sample : 1F24014-BLK1
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 24 14:11:08 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\062421\
Data File : 215FS006.D
Acq On : 24 Jun 2021 9:53 am
Operator : kkw
Sample : AE04257-01
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 24 14:11:11 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.851	168	1092179	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2601615	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.223	82	1700431	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.486	152	1303013	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	699674	53.54	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 107.08%				
52) D8-Toluene	11.778	98	3430611	53.47	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 106.94%				
73) Bromofluorobenzene	14.328	95	1489169	50.98	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 101.96%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.			
3) Chloromethane	0.000		0	N.D. d			
4) Vinyl Chloride	0.000		0	N.D.			
5) Bromomethane	0.000		0	N.D.			
6) Chloroethane	0.000		0	N.D.			
7) Trichlorofluoromethane	0.000		0	N.D.			
8) Diethyl ether	0.000		0	N.D.			
9) 1,1-Dichloroethene	0.000		0	N.D.			
10) Trichlorotrifluoroethane	0.000		0	N.D.			
11) Acrolein	0.000		0	N.D.			
12) Iodomethane	0.000		0	N.D. d			
13) Carbon Disulfide	0.000		0	N.D. d			
14) 3-chloropropene	0.000		0	N.D.			
15) Acetone	0.000		0	N.D. d			
16) Methylene Chloride	0.000		0	N.D. d			
17) Methyl Acetate	0.000		0	N.D. d			
18) t-1,2-Dichloroethene	0.000		0	N.D.			
19) Methyl tert-butyl ether	0.000		0	N.D.			
20) Acetonitrile	0.000		0	N.D.			
21) Isopropyl ether	0.000		0	N.D.			
22) Chloroprene	0.000		0	N.D.			
23) 1,1-Dichloroethane	0.000		0	N.D.			
24) Acrylonitrile	0.000		0	N.D.			
25) Vinyl Acetate	0.000		0	N.D.			
26) c-1,2-Dichloroethene	0.000		0	N.D.			
27) 2,2-Dichloropropane	0.000		0	N.D.			
28) Bromochloromethane	0.000		0	N.D.			
29) Cyclohexane	0.000		0	N.D.			
30) Chloroform	0.000		0	N.D.			
32) Dibromofluoromethane	9.428	113	699770	53.55	ug/L	#	85
33) 2-Butanone	0.000		0	N.D.			
34) 1,1,1-Trichloroethane	0.000		0	N.D.			
35) 1,1-Dichloropropene	0.000		0	N.D.			
36) Propionitrile	0.000		0	N.D.			
37) Methacrylonitrile	0.000		0	N.D.			
38) Isobutyl Alcohol	0.000		0	N.D.			
40) Carbon Tetrachloride	0.000		0	N.D.			
41) Benzene	9.886	78	8302	N.D.			
42) 1,2-Dichloroethane	0.000		0	N.D.			
43) Trichloroethene	0.000		0	N.D.			
44) Methyl cyclohexane	0.000		0	N.D. d			
45) Dibromomethane	0.000		0	N.D.			
46) 1,2-Dichloropropane	0.000		0	N.D.			
47) Bromodichloromethane	0.000		0	N.D.			
48) Methyl Methacrylate	0.000		0	N.D.			
49) 1,4-Dioxane	0.000		0	N.D.			
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.			
51) C-1,3-Dichloropropene	0.000		0	N.D.			

Data Path : C:\msdchem\1\data\062421\
Data File : 215FS006.D
Acq On : 24 Jun 2021 9:53 am
Operator : kkw
Sample : AE04257-01
Misc :
ALS Vial : 6 Sample Multiplier: 1

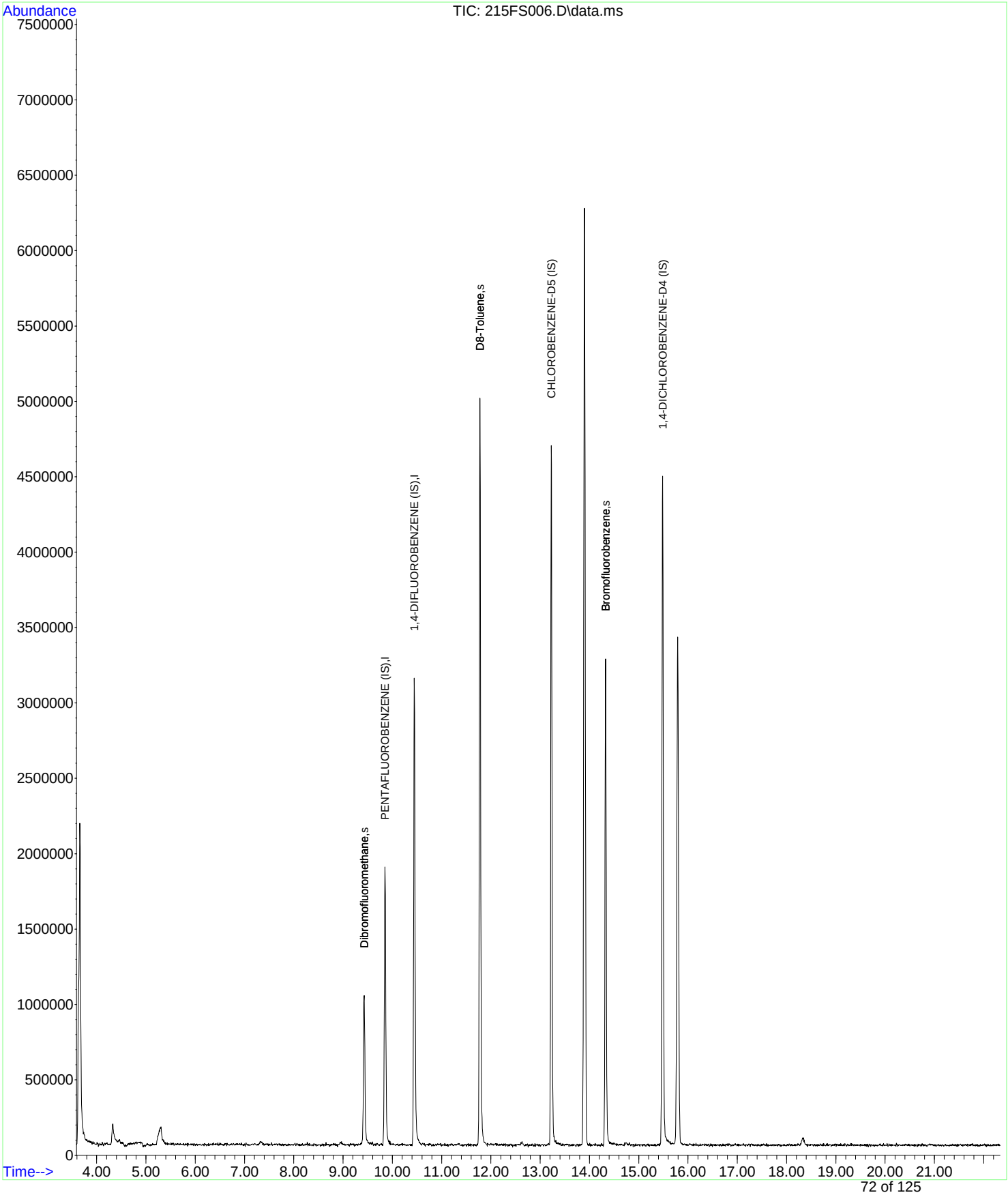
Quant Time: Jun 24 14:11:11 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.778	98	3430729	53.47 ug/L	96
54) 4-Methyl-2-pentanone	0.000		0	N.D.	
56) Toluene	11.772	92	6935	N.D.	
57) T-1,3-Dichloropropene	0.000		0	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	0.000		0	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	0.000		0	N.D.	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	0.000		0	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	0.000		0	N.D.	
70) Styrene	0.000		0	N.D. d	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	0.000		0	N.D. d	
74) Bromofluorobenzene	14.328	95	1490635	51.03 ug/L #	73
75) n-Propylbenzene	14.322	91	5842	N.D.	
76) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D.	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D.	
80) Bromobenzene	0.000		0	N.D.	
81) 1,2,4-Trimethylbenzene	0.000		0	N.D.	
82) 2-Chlorotoluene	0.000		0	N.D.	
83) 4-Chlorotoluene	0.000		0	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	0.000		0	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	0.000		0	N.D.	
88) 1,3-Dichlorobenzene	0.000		0	N.D.	
89) 1,4-Dichlorobenzene	0.000		0	N.D.	
90) n-Butylbenzene	0.000		0	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	0.000		0	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\062421\
Data File : 215FS006.D
Acq On : 24 Jun 2021 9:53 am
Operator : kkw
Sample : AE04257-01
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 24 14:11:11 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\062421\
Data File : 215FS007.D
Acq On : 24 Jun 2021 10:21 am
Operator : kkw
Sample : AE04257-02
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jun 24 14:11:14 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.851	168	1102332	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2606732	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.223	82	1653264	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.486	152	1316405	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	718506	54.47	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 108.94%				
52) D8-Toluene	11.778	98	3354692	52.19	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 104.38%				
73) Bromofluorobenzene	14.328	95	1474632	51.92	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 103.84%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.			
3) Chloromethane	0.000		0	N.D. d			
4) Vinyl Chloride	4.580	62	175486	11.97	ug/L	#	1
5) Bromomethane	0.000		0	N.D.			
6) Chloroethane	0.000		0	N.D.			
7) Trichlorofluoromethane	0.000		0	N.D.			
8) Diethyl ether	0.000		0	N.D.			
9) 1,1-Dichloroethene	0.000		0	N.D.			
10) Trichlorotrifluoroethane	0.000		0	N.D.			
11) Acrolein	0.000		0	N.D.			
12) Iodomethane	0.000		0	N.D. d			
13) Carbon Disulfide	0.000		0	N.D. d			
14) 3-chloropropene	0.000		0	N.D.			
15) Acetone	0.000		0	N.D.			
16) Methylene Chloride	0.000		0	N.D.			
17) Methyl Acetate	0.000		0	N.D.			
18) t-1,2-Dichloroethene	7.565	96	7928	0.59	ug/L	#	91
19) Methyl tert-butyl ether	0.000		0	N.D.			
20) Acetonitrile	0.000		0	N.D.			
21) Isopropyl ether	0.000		0	N.D.			
22) Chloroprene	0.000		0	N.D.			
23) 1,1-Dichloroethane	0.000		0	N.D.			
24) Acrylonitrile	0.000		0	N.D.			
25) Vinyl Acetate	0.000		0	N.D.			
26) c-1,2-Dichloroethene	0.000		0	N.D.			
27) 2,2-Dichloropropane	0.000		0	N.D.			
28) Bromochloromethane	0.000		0	N.D.			
29) Cyclohexane	0.000		0	N.D.			
30) Chloroform	0.000		0	N.D.			
32) Dibromofluoromethane	9.428	113	718965	54.51	ug/L	#	90
33) 2-Butanone	0.000		0	N.D.			
34) 1,1,1-Trichloroethane	0.000		0	N.D.			
35) 1,1-Dichloropropene	0.000		0	N.D.			
36) Propionitrile	0.000		0	N.D.			
37) Methacrylonitrile	0.000		0	N.D.			
38) Isobutyl Alcohol	0.000		0	N.D.			
40) Carbon Tetrachloride	0.000		0	N.D. d			
41) Benzene	9.892	78	8003	N.D.			
42) 1,2-Dichloroethane	0.000		0	N.D.			
43) Trichloroethene	0.000		0	N.D.			
44) Methyl cyclohexane	0.000		0	N.D. d			
45) Dibromomethane	0.000		0	N.D.			
46) 1,2-Dichloropropane	0.000		0	N.D.			
47) Bromodichloromethane	0.000		0	N.D.			
48) Methyl Methacrylate	0.000		0	N.D.			
49) 1,4-Dioxane	0.000		0	N.D.			
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.			
51) C-1,3-Dichloropropene	0.000		0	N.D.			

Data Path : C:\msdchem\1\data\062421\
Data File : 215FS007.D
Acq On : 24 Jun 2021 10:21 am
Operator : kkw
Sample : AE04257-02
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jun 24 14:11:14 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

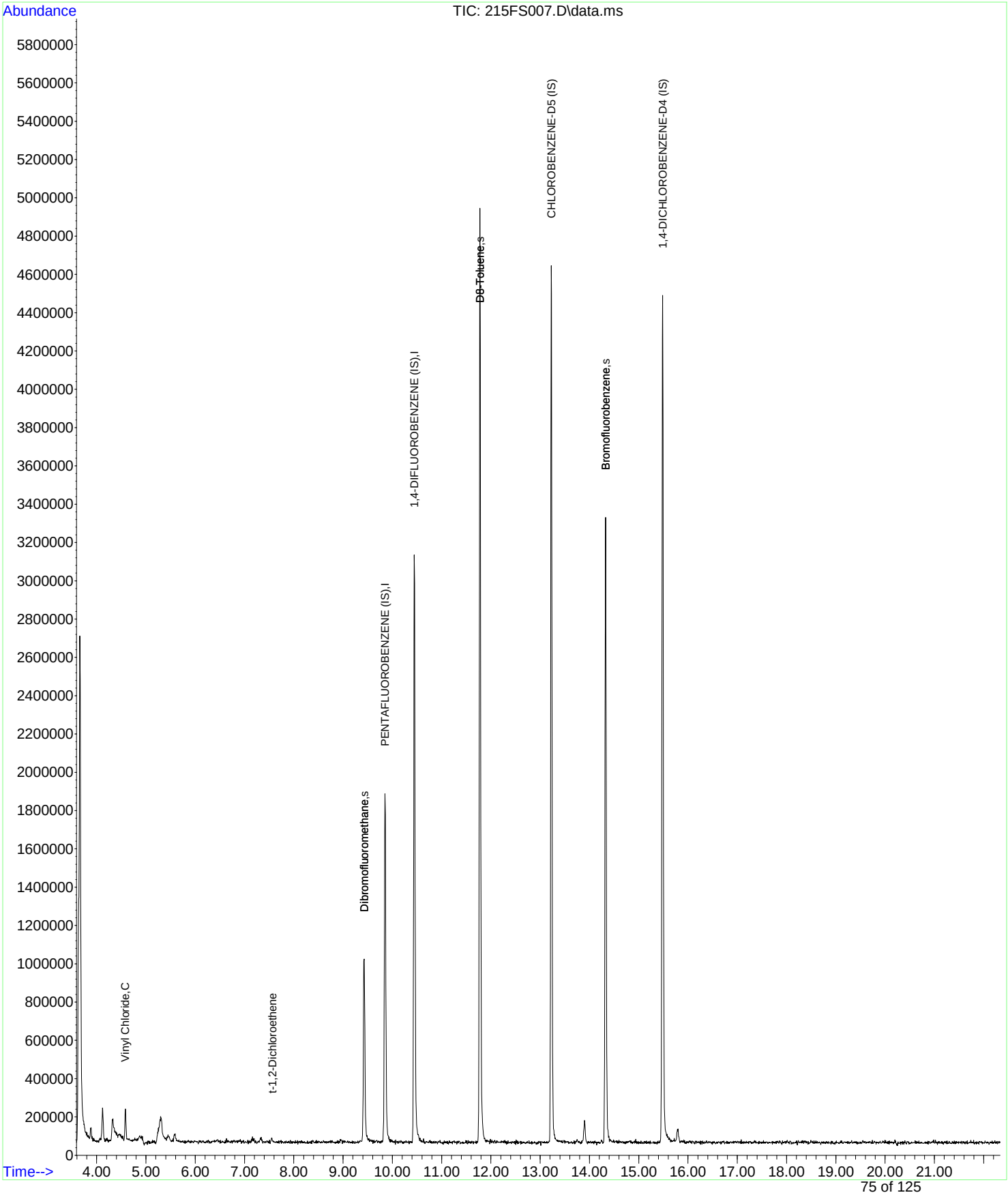
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.778	98	3354692	52.19 ug/L	95
54) 4-Methyl-2-pentanone	0.000		0	N.D.	
56) Toluene	0.000		0	N.D.	
57) T-1,3-Dichloropropene	0.000		0	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	0.000		0	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	0.000		0	N.D.	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	0.000		0	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	0.000		0	N.D. d	
70) Styrene	0.000		0	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	0.000		0	N.D.	
74) Bromofluorobenzene	14.328	95	1474632	51.92 ug/L #	75
75) n-Propylbenzene	14.322	91	5591	N.D.	
76) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D.	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D.	
80) Bromobenzene	0.000		0	N.D.	
81) 1,2,4-Trimethylbenzene	0.000		0	N.D.	
82) 2-Chlorotoluene	0.000		0	N.D.	
83) 4-Chlorotoluene	0.000		0	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	0.000		0	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	0.000		0	N.D.	
88) 1,3-Dichlorobenzene	0.000		0	N.D.	
89) 1,4-Dichlorobenzene	0.000		0	N.D.	
90) n-Butylbenzene	0.000		0	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	0.000		0	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\062421\
Data File : 215FS007.D
Acq On : 24 Jun 2021 10:21 am
Operator : kkw
Sample : AE04257-02
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jun 24 14:11:14 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\062421\
Data File : 215FS008.D
Acq On : 24 Jun 2021 10:49 am
Operator : kkw
Sample : 1F24014-MS1
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 24 14:11:17 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.851	168	1089333	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2579118	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.223	82	1694983	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1336896	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.422	113	705287	54.11	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 108.22%				
52) D8-Toluene	11.778	98	3414092	53.68	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 107.36%				
73) Bromofluorobenzene	14.322	95	1497115	51.42	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 102.84%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.975	85	251437	22.44	ug/L		95
3) Chloromethane	4.404	50	311698	18.72	ug/L		98
4) Vinyl Chloride	4.580	62	295661	20.41	ug/L	#	69
5) Bromomethane	5.226	94	52509	14.24	ug/L	#	86
6) Chloroethane	5.438	64	165427	21.08	ug/L		97
7) Trichlorofluoromethane	5.691	101	356602	21.51	ug/L		100
8) Diethyl ether	6.172	59	238629	21.20	ug/L		94
9) 1,1-Dichloroethene	6.531	96	268698	23.21	ug/L		100
10) Trichlorotrifluoroethane	6.554	151	151952	21.65	ug/L		96
11) Acrolein	7.019	56	111227	38.03	ug/L		90
12) Iodomethane	6.778	142	250587	25.82	ug/L		99
13) Carbon Disulfide	6.619	76	926299	26.55	ug/L		99
14) 3-chloropropene	7.189	41	433187	21.61	ug/L		98
15) Acetone	7.395	43	445323	96.27	ug/L		100
16) Methylene Chloride	7.336	84	317926	21.41	ug/L		98
17) Methyl Acetate	7.518	43	257505	21.20	ug/L		98
18) t-1,2-Dichloroethene	7.541	96	306253	23.18	ug/L		98
19) Methyl tert-butyl ether	7.624	73	721722	21.55	ug/L		99
20) Acetonitrile	8.017	41	387510	126.04	ug/L	#	90
21) Isopropyl ether	8.047	45	884038	21.03	ug/L		99
22) Chloroprene	8.276	88	272832	21.61	ug/L		98
23) 1,1-Dichloroethane	8.311	63	578313	23.02	ug/L		98
24) Acrylonitrile	8.388	53	152770	26.39	ug/L		85
25) Vinyl Acetate	8.546	43	492186	16.51	ug/L		98
26) c-1,2-Dichloroethene	8.946	96	305617	21.42	ug/L		96
27) 2,2-Dichloropropane	9.069	77	430165	23.83	ug/L		98
28) Bromochloromethane	9.187	128	112146	21.28	ug/L		93
29) Cyclohexane	9.187	56	597427	23.87	ug/L		96
30) Chloroform	9.216	83	533047	22.22	ug/L		99
32) Dibromofluoromethane	9.422	113	705287	54.11	ug/L	#	89
33) 2-Butanone	9.539	72	237341	110.70	ug/L		93
34) 1,1,1-Trichloroethane	9.486	97	420495	23.64	ug/L		98
35) 1,1-Dichloropropene	9.604	75	450342	22.77	ug/L		99
36) Propionitrile	9.903	54	69523	26.91	ug/L	#	1
37) Methacrylonitrile	9.909	41	297837	29.43	ug/L		88
38) Isobutyl Alcohol	10.027	43	6738	5.45	ug/L	#	23
40) Carbon Tetrachloride	9.410	117	322715	21.89	ug/L		85
41) Benzene	9.874	78	1350955	22.10	ug/L		97
42) 1,2-Dichloroethane	10.086	62	344234	19.00	ug/L		99
43) Trichloroethene	10.444	130	290685	23.00	ug/L		92
44) Methyl cyclohexane	10.450	83	612905	22.25	ug/L		96
45) Dibromomethane	10.902	93	177760	19.77	ug/L		98
46) 1,2-Dichloropropane	10.985	63	354398	20.38	ug/L		96
47) Bromodichloromethane	11.014	83	372427	21.82	ug/L		98
48) Methyl Methacrylate	11.079	69	251687	18.29	ug/L		96
49) 1,4-Dioxane	11.202	88	70039	543.61	ug/L		95
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.			
51) C-1,3-Dichloropropene	11.607	75	502844	19.62	ug/L		97

Data Path : C:\msdchem\1\data\062421\
Data File : 215FS008.D
Acq On : 24 Jun 2021 10:49 am
Operator : kkw
Sample : 1F24014-MS1
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 24 14:11:17 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

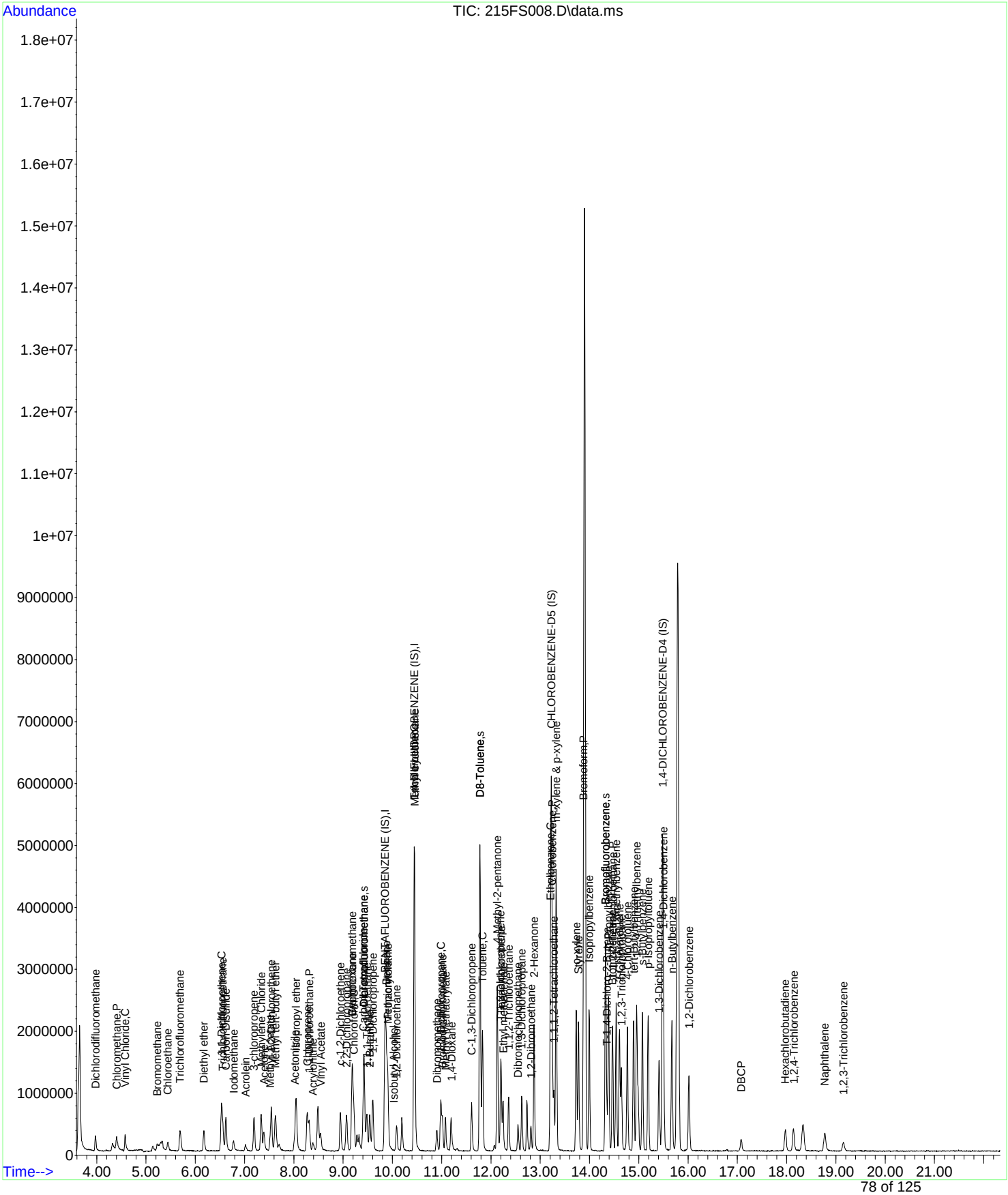
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	3412118	53.65	ug/L		96
54) 4-Methyl-2-pentanone	12.124	100	289909	122.33	ug/L		96
56) Toluene	11.831	92	898568	21.68	ug/L		100
57) T-1,3-Dichloropropene	12.195	75	454143	21.65	ug/L		97
58) Tetrachloroethene	12.207	164	191043	20.14	ug/L		100
59) Ethyl methacrylate	12.248	69	445077	18.29	ug/L		99
60) 1,1,2-Trichloroethane	12.359	97	296930	20.82	ug/L		100
61) Dibromochloromethane	12.547	129	233038	18.35	ug/L		100
62) 1,3-Dichloropropane	12.624	76	520855	19.94	ug/L		96
63) 1,2-Dibromoethane	12.812	107	297697	20.83	ug/L		99
64) 2-Hexanone	12.876	43	1328040	103.11	ug/L		97
65) Ethylbenzene	13.206	106	500832	21.42	ug/L		94
66) Chlorobenzene	13.241	112	902455	21.92	ug/L		98
67) 1,1,1,2-Tetrachloroethane	13.276	131	249381	20.98	ug/L		97
68) m-xylene & p-xylene	13.323	106	1332537	44.41	ug/L		99
69) o-xylene	13.734	106	677422	22.88	ug/L		97
70) Styrene	13.775	104	1114857	21.27	ug/L		96
71) Bromoform	13.875	173	99092	13.68	ug/L		98
72) Isopropylbenzene	13.993	105	1665464	20.60	ug/L		99
74) Bromofluorobenzene	14.322	95	1497115	51.42	ug/L	#	71
75) n-Propylbenzene	14.386	91	2226933	20.93	ug/L		97
76) 1,1,2,2-Tetrachloroethane	14.469	83	504029	20.66	ug/L		98
77) 1,2,3-Trichloropropane	14.651	61	110104	19.50	ug/L		96
78) T-1,4-Dichloro-2-Butene	14.351	53	146255	20.47	ug/L	#	68
80) Bromobenzene	14.463	156	283487	19.58	ug/L		92
81) 1,2,4-Trimethylbenzene	14.956	105	1528308	21.54	ug/L		97
82) 2-Chlorotoluene	14.610	91	1337281	22.59	ug/L		98
83) 4-Chlorotoluene	14.768	91	1350013	20.79	ug/L		99
84) tert-Butylbenzene	14.898	119	1191242	21.39	ug/L		99
85) 1,3,5-Trimethylbenzene	14.539	105	1461675	20.72	ug/L		100
86) p-Isopropyltoluene	15.191	119	1472849	21.61	ug/L		100
87) s-Butylbenzene	15.074	105	1866778	22.04	ug/L		99
88) 1,3-Dichlorobenzene	15.415	146	649278	21.44	ug/L		96
89) 1,4-Dichlorobenzene	15.503	146	660226	21.03	ug/L	#	86
90) n-Butylbenzene	15.673	91	1502562	21.36	ug/L		99
91) 1,2-Dichlorobenzene	16.020	146	586188	20.06	ug/L		96
92) DBCP	17.078	157	61558	24.57	ug/L		97
93) Hexachlorobutadiene	17.971	225	70818	21.64	ug/L		95
94) 1,2,4-Trichlorobenzene	18.147	180	158112	27.00	ug/L		99
95) Naphthalene	18.770	128	436870	28.17	ug/L		98
96) 1,2,3-Trichlorobenzene	19.152	180	66273	27.16	ug/L		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\062421\
Data File : 215FS008.D
Acq On : 24 Jun 2021 10:49 am
Operator : kkw
Sample : 1F24014-MS1
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 24 14:11:17 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\062421\
Data File : 215FS009.D
Acq On : 24 Jun 2021 11:17 am
Operator : kkw
Sample : 1F24014-MSD1
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 24 14:11:20 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.851	168	1109422	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2680606	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.223	82	1732614	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.486	152	1341026	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	741432	55.85	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 111.70%				
52) D8-Toluene	11.778	98	3529382	53.39	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 106.78%				
73) Bromofluorobenzene	14.328	95	1554928	52.24	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 104.48%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.975	85	253062	22.17	ug/L		96
3) Chloromethane	4.404	50	344006	20.29	ug/L		96
4) Vinyl Chloride	4.580	62	295078	20.00	ug/L	#	78
5) Bromomethane	5.227	94	64360	17.00	ug/L	#	90
6) Chloroethane	5.444	64	179094	22.65	ug/L		94
7) Trichlorofluoromethane	5.703	101	363040	21.50	ug/L		97
8) Diethyl ether	6.179	59	232014	20.24	ug/L		97
9) 1,1-Dichloroethene	6.531	96	281622	23.88	ug/L		96
10) Trichlorotrifluoroethane	6.555	151	160339	22.43	ug/L		99
11) Acrolein	7.019	56	120161	40.34	ug/L		97
12) Iodomethane	6.778	142	278387	28.16	ug/L		95
13) Carbon Disulfide	6.625	76	931815	26.23	ug/L		99
14) 3-chloropropene	7.195	41	462616	22.68	ug/L		95
15) Acetone	7.395	43	470446	99.86	ug/L		98
16) Methylene Chloride	7.336	84	329542	21.79	ug/L		99
17) Methyl Acetate	7.518	43	282329	22.82	ug/L		99
18) t-1,2-Dichloroethene	7.548	96	316369	23.51	ug/L		99
19) Methyl tert-butyl ether	7.624	73	733214	21.49	ug/L		97
20) Acetonitrile	8.018	41	404285	129.11	ug/L		94
21) Isopropyl ether	8.047	45	928013	21.68	ug/L		96
22) Chloroprene	8.270	88	287919	22.39	ug/L		99
23) 1,1-Dichloroethane	8.311	63	590377	23.08	ug/L		98
24) Acrylonitrile	8.394	53	151473	25.69	ug/L	#	13
25) Vinyl Acetate	8.546	43	518877	17.09	ug/L		99
26) c-1,2-Dichloroethene	8.946	96	343033	23.60	ug/L		99
27) 2,2-Dichloropropane	9.075	77	469418	25.54	ug/L		99
28) Bromochloromethane	9.181	128	121195	22.58	ug/L		94
29) Cyclohexane	9.187	56	635090	24.91	ug/L		100
30) Chloroform	9.222	83	542648	22.21	ug/L		98
32) Dibromofluoromethane	9.428	113	741432	55.85	ug/L	#	88
33) 2-Butanone	9.545	72	247282	113.24	ug/L		91
34) 1,1,1-Trichloroethane	9.481	97	449610	24.82	ug/L		98
35) 1,1-Dichloropropene	9.598	75	473533	23.51	ug/L		97
36) Propionitrile	9.904	54	58407	22.20	ug/L	#	1
37) Methacrylonitrile	9.910	41	323555	31.39	ug/L	#	81
38) Isobutyl Alcohol	9.904	43	261112	207.40	ug/L	#	47
40) Carbon Tetrachloride	9.410	117	393633	25.69	ug/L	#	76
41) Benzene	9.874	78	1377202	21.68	ug/L		100
42) 1,2-Dichloroethane	10.086	62	356373	18.92	ug/L		96
43) Trichloroethene	10.450	130	278694	21.22	ug/L	#	82
44) Methyl cyclohexane	10.450	83	674216	23.55	ug/L		94
45) Dibromomethane	10.903	93	181963	19.48	ug/L		97
46) 1,2-Dichloropropane	10.979	63	367128	20.31	ug/L		98
47) Bromodichloromethane	11.014	83	387080	21.82	ug/L		98
48) Methyl Methacrylate	11.073	69	241445	16.89	ug/L		99
49) 1,4-Dioxane	11.196	88	68985	518.16	ug/L		89
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.	d		
51) C-1,3-Dichloropropene	11.608	75	515866	19.37	ug/L		98

Data Path : C:\msdchem\1\data\062421\
Data File : 215FS009.D
Acq On : 24 Jun 2021 11:17 am
Operator : kkw
Sample : 1F24014-MSD1
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 24 14:11:20 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

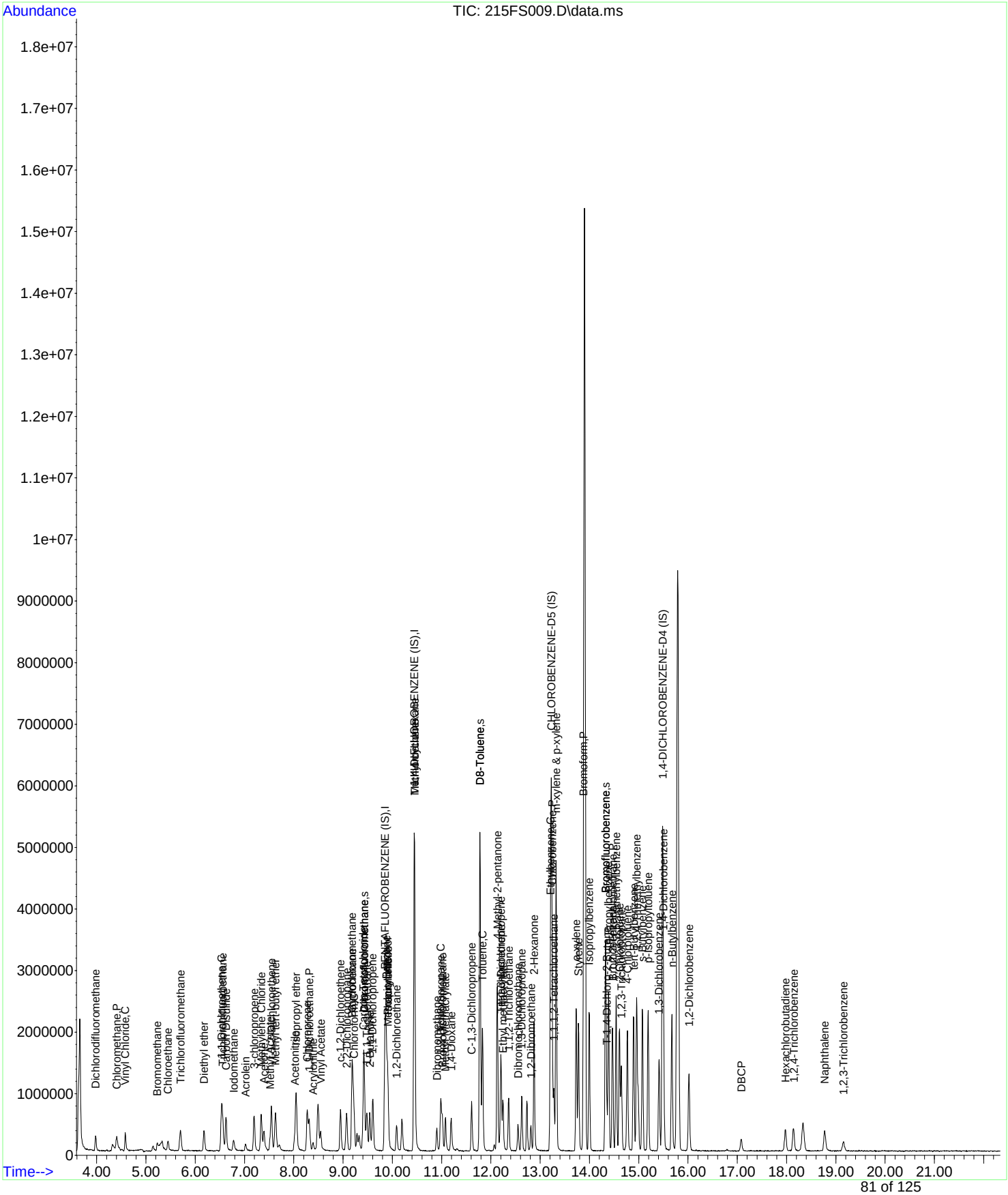
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	3529382	53.39	ug/L		97
54) 4-Methyl-2-pentanone	12.131	100	299103	121.43	ug/L		97
56) Toluene	11.831	92	915757	21.61	ug/L		97
57) T-1,3-Dichloropropene	12.201	75	457927	21.36	ug/L		98
58) Tetrachloroethene	12.207	164	210567	21.72	ug/L		94
59) Ethyl methacrylate	12.242	69	462489	18.59	ug/L		97
60) 1,1,2-Trichloroethane	12.360	97	299375	20.53	ug/L		98
61) Dibromochloromethane	12.554	129	244105	18.80	ug/L		97
62) 1,3-Dichloropropane	12.624	76	523700	19.61	ug/L		95
63) 1,2-Dibromoethane	12.812	107	300376	20.56	ug/L		98
64) 2-Hexanone	12.877	43	1377347	104.62	ug/L		100
65) Ethylbenzene	13.206	106	543652	22.74	ug/L		97
66) Chlorobenzene	13.241	112	928089	22.05	ug/L		99
67) 1,1,1,2-Tetrachloroethane	13.276	131	260141	21.41	ug/L		100
68) m-xylene & p-xylene	13.323	106	1336797	43.58	ug/L		99
69) o-xylene	13.729	106	661538	21.86	ug/L		99
70) Styrene	13.776	104	1131051	21.11	ug/L		98
71) Bromoform	13.876	173	108298	14.63	ug/L		98
72) Isopropylbenzene	13.993	105	1702582	20.60	ug/L		99
74) Bromofluorobenzene	14.328	95	1554928	52.24	ug/L	#	72
75) n-Propylbenzene	14.387	91	2289728	21.06	ug/L		98
76) 1,1,2,2-Tetrachloroethane	14.469	83	521760	20.92	ug/L		99
77) 1,2,3-Trichloropropane	14.645	61	104552	18.11	ug/L		92
78) T-1,4-Dichloro-2-Butene	14.352	53	144543	19.79	ug/L	#	77
80) Bromobenzene	14.469	156	301591	20.77	ug/L		96
81) 1,2,4-Trimethylbenzene	14.957	105	1573377	22.11	ug/L		98
82) 2-Chlorotoluene	14.610	91	1337884	22.53	ug/L		100
83) 4-Chlorotoluene	14.769	91	1381561	21.21	ug/L		98
84) tert-Butylbenzene	14.898	119	1217329	21.79	ug/L		99
85) 1,3,5-Trimethylbenzene	14.540	105	1535017	21.69	ug/L		99
86) p-Isopropyltoluene	15.192	119	1540109	22.53	ug/L		98
87) s-Butylbenzene	15.074	105	1946809	22.91	ug/L		100
88) 1,3-Dichlorobenzene	15.409	146	670750	22.08	ug/L		100
89) 1,4-Dichlorobenzene	15.503	146	668223	21.22	ug/L	#	82
90) n-Butylbenzene	15.674	91	1602018	22.71	ug/L		100
91) 1,2-Dichlorobenzene	16.020	146	600742	20.49	ug/L		96
92) DBCP	17.084	157	59068	23.64	ug/L		95
93) Hexachlorobutadiene	17.977	225	69468	21.16	ug/L		94
94) 1,2,4-Trichlorobenzene	18.147	180	157066	26.77	ug/L		95
95) Naphthalene	18.770	128	462917	29.42	ug/L		99
96) 1,2,3-Trichlorobenzene	19.152	180	73031	29.33	ug/L		94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\062421\
Data File : 215FS009.D
Acq On : 24 Jun 2021 11:17 am
Operator : kkw
Sample : 1F24014-MSD1
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 24 14:11:20 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration



ANALYSIS SEQUENCE

AA66932

Instrument: OVGCMS5

Calibration ID: 2105058

Printed: 6/18/2021 10:00:04AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA66932-TUN1	QC		1		A1B1159			
AA66932-CAL1	QC		2		A1F0975	A1D0593		
AA66932-CAL2	QC		3		A1F0976	A1D0593		
AA66932-CAL3	QC		4		A1F0977	A1D0593		
AA66932-CAL4	QC		5		A1F0978	A1D0593		
AA66932-CAL5	QC		6		A1F0979	A1D0593		
AA66932-CAL6	QC		7		A1F0980	A1D0593		
AA66932-CAL7	QC		8		A1F0981	A1D0593		
AA66932-CAL8	QC		9		A1F0982	A1D0593		
AA66932-SCV1	QC		10		A1F0991	A1D0593		

Samples Loaded By 6/18/21 Date

Data Processed By 6/18/21 Date Rev'd 6/21/21

Sequence Name: C:\msdchem\1\sequence\215FM.s
Comment:
Operator: kkw
Data Path: C:\msdchem\1\DATA\061821\
Instrument Control Pre-Seq Cmd:
Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:
Data Analysis Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

Sequence Barcode Options
(X) On Mismatch, Inject Anyway
( ) On Mismatch, Don't Inject
( ) Barcode Disabled

Line		Sample Name/Misc Info		
1)	Sample	1	215FM001 8260S	tun1
2)	Sample	1	215FM002 8260S	tun1
3)	Sample	1	215FM003 8260S	tun1
4)	Sample	2	215FM004 8260S	aa66932-cal1
5)	Sample	3	215FM005 8260S	aa66932-cal2
6)	Sample	4	215FM006 8260S	aa66932-cal3
7)	Sample	5	215FM007 8260S	aa66932-cal4
8)	Sample	6	215FM008 8260S	aa66932-cal5
9)	Sample	7	215FM009 8260S	aa66932-cal6
10)	Sample	8	215FM010 8260S	aa66932-cal7
11)	Sample	9	215FM011 8260S	aa66932-cal8
12)	Sample	10	215FM012 8260S	rinse
13)	Sample	11	215FM013 8260S	aa66932-scv1
14)	Sample	12	215FM014 8260S	1F18027-bs1
15)	Sample	13	215FM015 8260S	1F18027-blk1
16)	Sample	14	215FM016 8260S	AE05123-07
17)	Sample	15	215FM017 8260S	AE04936-21RE1@2
18)	Sample	16	215FM018 8260S	AE04936-22RE1@2
19)	Sample	17	215FM019 8260S	AE04936-23RE1
20)	Sample	18	215FM020 8260S	AE04966-06RE1@2
21)	Sample	19	215FM021 8260S	AE04966-07RE1@2
22)	Sample	20	215FM022 8260S	AE04966-08RE1@20
23)	Sample	21	215FM023 8260S	1F18027-MS1
24)	Sample	21	215FM024 8260S	1F18027-MSD1
25)	Sample	22	215FM025 8260S	AA66946-LCV1
26)	Sample	23	215FM026 8260S	1F18022-BS1
27)	Sample	24	215FM027 8260S	1F18022-MS1
28)	Sample	24	215FM028 8260S	1F18022-MSD1
29)	Sample	25	215FM029 8260S	1F18022-BLK1
30)	Sample	26	215FM030 8260S	AA66949-CRL1
31)	Sample	27	215FM031 8260S	AE03776-01
32)	Sample	28	215FM032 8260S	AE03776-02
33)	Sample	29	215FM033 8260S	AE03776-03
34)	Sample	30	215FM034 8260S	AE05210-01
35)	Sample	31	215FM035 8260S	AE05210-02
36)	Sample	32	215FM036 8260S	AE05210-03
37)	Sample	33	215FM037 8260S	AE05210-04
38)	Sample	34	215FM038 8260S	AE05210-05
39)	Sample	35	215FM039 8260S	AE05190-01
40)	Sample	36	215FM040 8260S	AE05190-02
41)	Sample	37	215FM041 8260S	AE05190-03
42)	Sample	38	215FM042 8260S	AE05190-04
43)	Sample	39	215FM043 8260S	AE05190-05

Sequence Name: C:\msdchem\1\sequence\215FM.s

	Line	Type	Vial	DataFile	Method	Sample Name
44)		Sample	40	215FM044	8260S	AE05162-01
45)		Sample	41	215FM045	8260S	AE05162-02
46)		Sample	42	215FM046	8260S	AE05162-03
47)		Sample	43	215FM047	8260S	AE05162-04
48)		Sample	44	215FM048	8260S	AE05162-05

Manual Integration Review Form

ENVIRONMENTAL CONSERVATION LABORATORIES, INC. ☐ Cary ☐ Jacksonville ☒ Orlando

I hereby attest that the manual integrations contained in this package have been thoroughly reviewed and are in agreement with the associated hardcopy data.

The electronic files listed below have been reviewed for accuracy, completeness and comply with ENCO labs QA-11 Manual Integration Policy including:

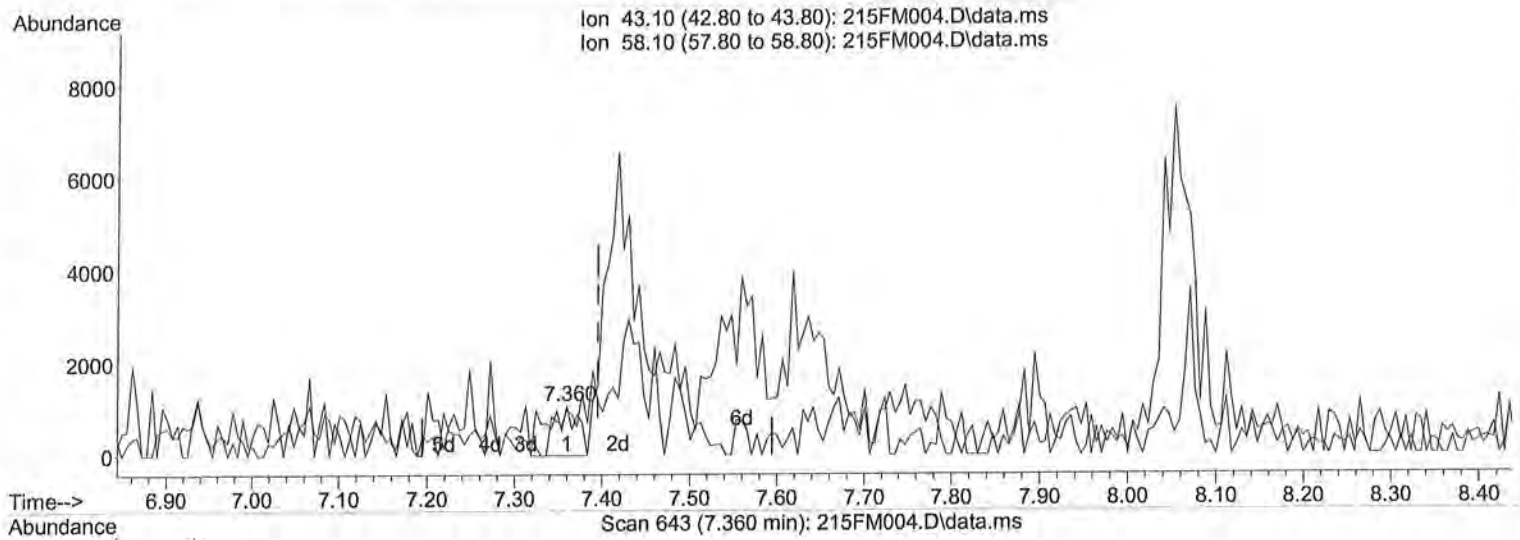
- "Before" and "After" chromatograms are provided
- Manual integrations are indicated on expanded scale "after" chromatograms at a scale large enough to see the manual integration performed.
- Reintegration technique marked if available on the data system
- Technical justification for manual integration
- Appropriate flags indicating which analytes were manually integrated are included in the raw data
- Analyst's initials and date.

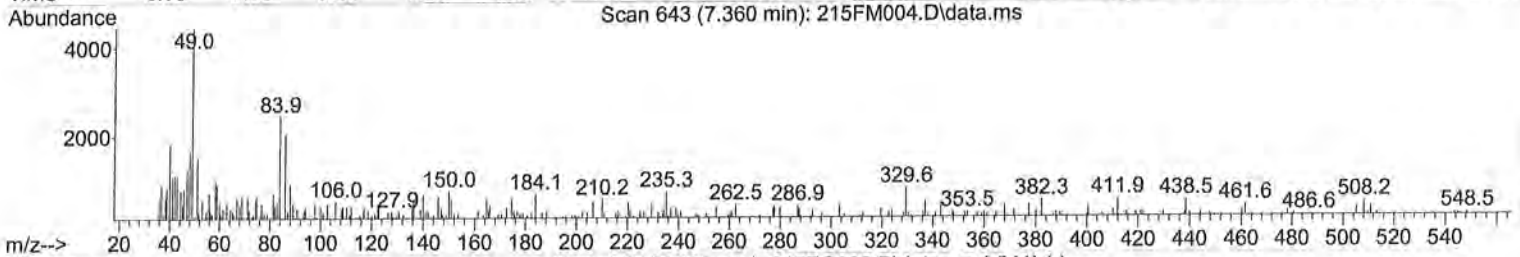
Instrument ID:	OVGCMS5
Sequence/Batch ID:	AA66932
Data File Prefix:	215FM
Date and Time Range of MIs:	06/18/21 0948-0950 06/21/21 0758
Reviewer Print Name:	Karie Gonzalez
Reviewer Signature:	Karie Gonzalez
Date of Review:	6/21/21

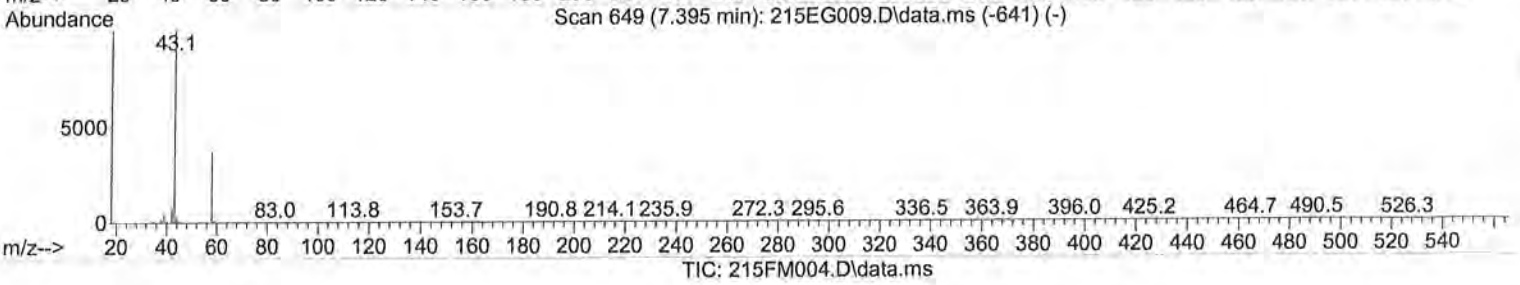
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM004.D
Acq On : 18 Jun 2021 8:05 am
Operator : kkw
Sample : aa66932-cal1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 18 08:40:28 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration







TIC: 215FM004.D\data.ms

(15) Acetone

7.360min (-0.035) 0.68 ug/L

response 2727

Ion	Exp%	Act%
43.10	100.00	100.00
58.10	36.90	191.53#
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

X Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

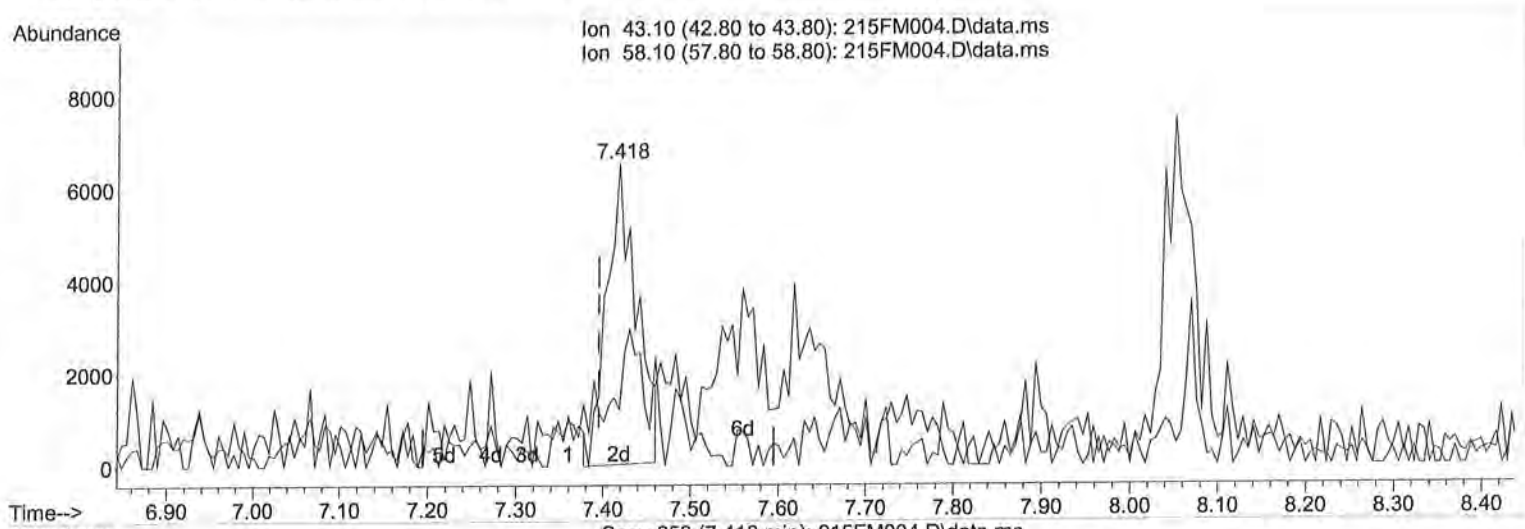
Review by/Date KJ 06/21/21

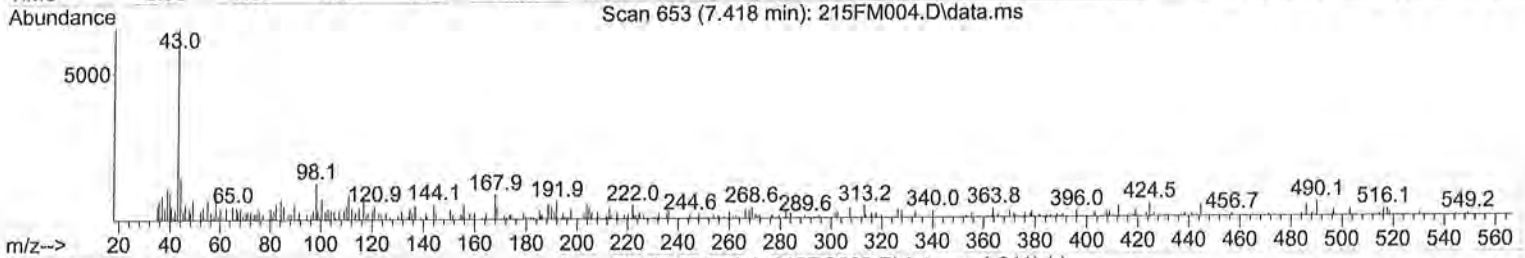
Review by/Date:

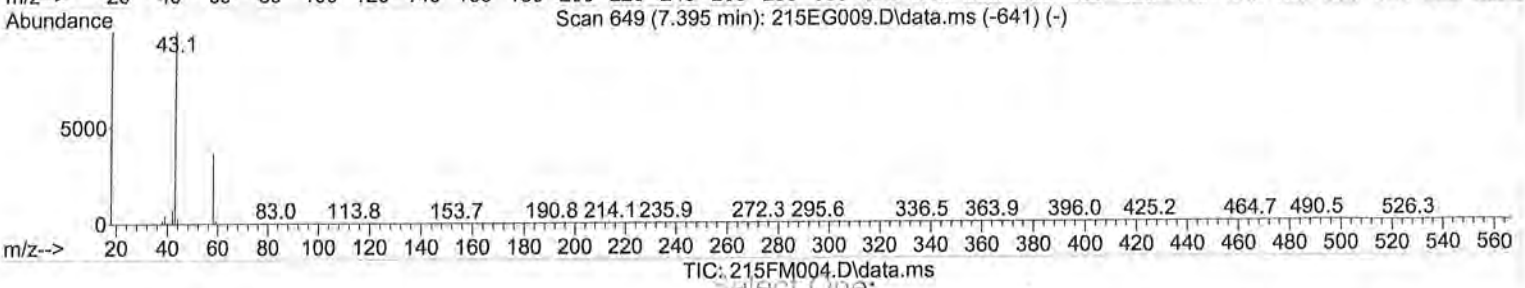
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM004.D
Acq On : 18 Jun 2021 8:05 am
Operator : kkw
Sample : aa66932-cal1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 18 08:40:28 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration







TIC: 215FM004.D\data.ms

(15) Acetone

7.418min (+ 0.024) 3.79 ug/L m

response 15244

Ion	Exp%	Act%
43.10	100.00	100.00
58.10	36.90	34.26
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

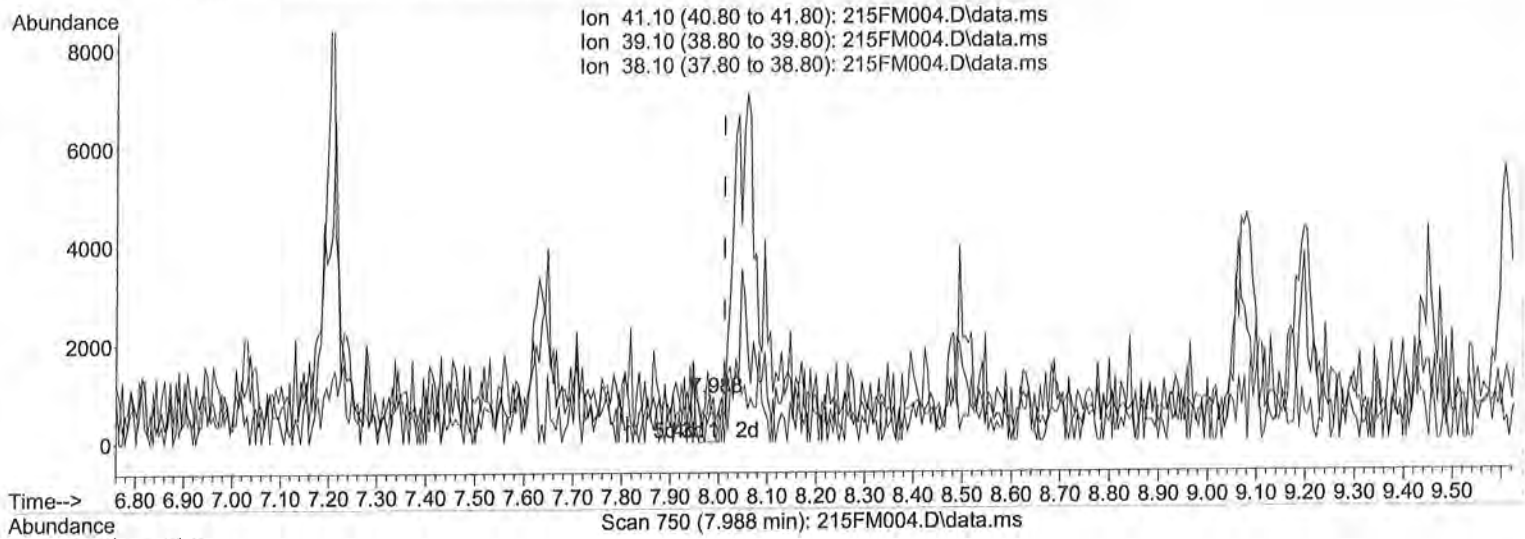
Review by/Date W 06/21/21

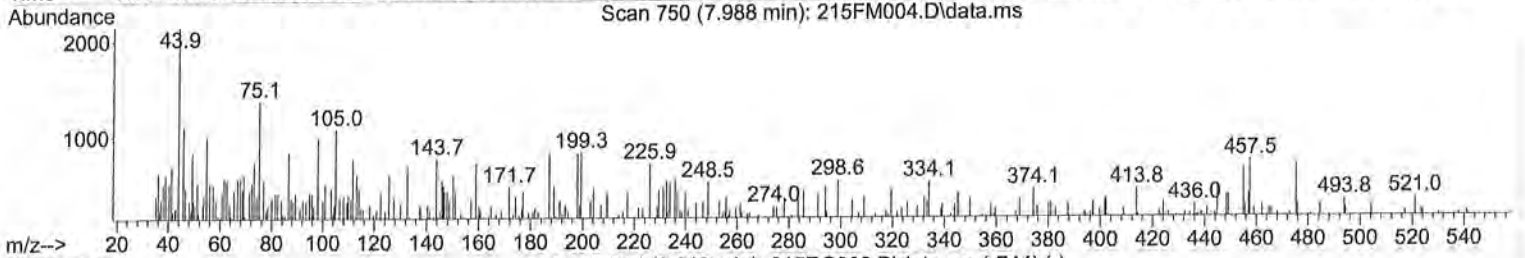
Review by/Date:

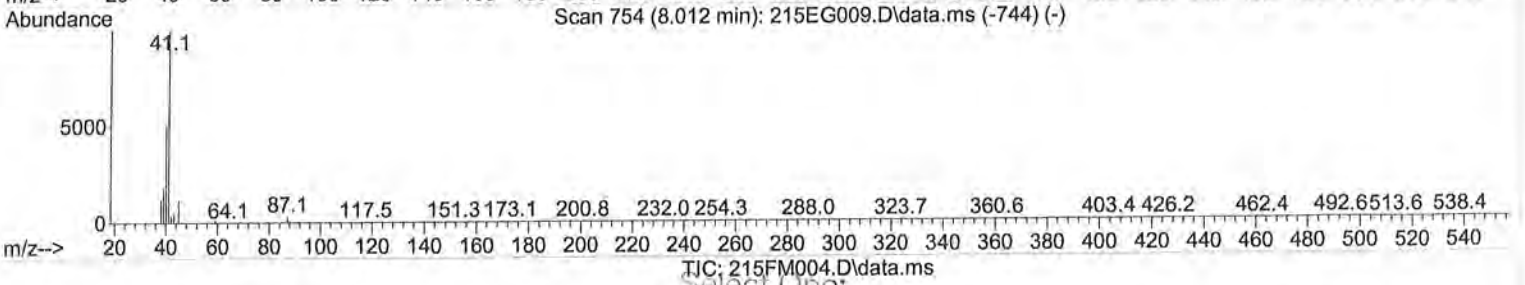
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM004.D
Acq On : 18 Jun 2021 8:05 am
Operator : kkw
Sample : aa66932-cal1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 18 08:40:28 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration







TIC: 215FM004.D\data.ms

(20) Acetonitrile

7.988min (-0.024) 0.44 ug/L

response 1281

Ion	Exp%	Act%
41.10	100.00	100.00
39.10	24.40	147.85#
38.10	10.00	60.42#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

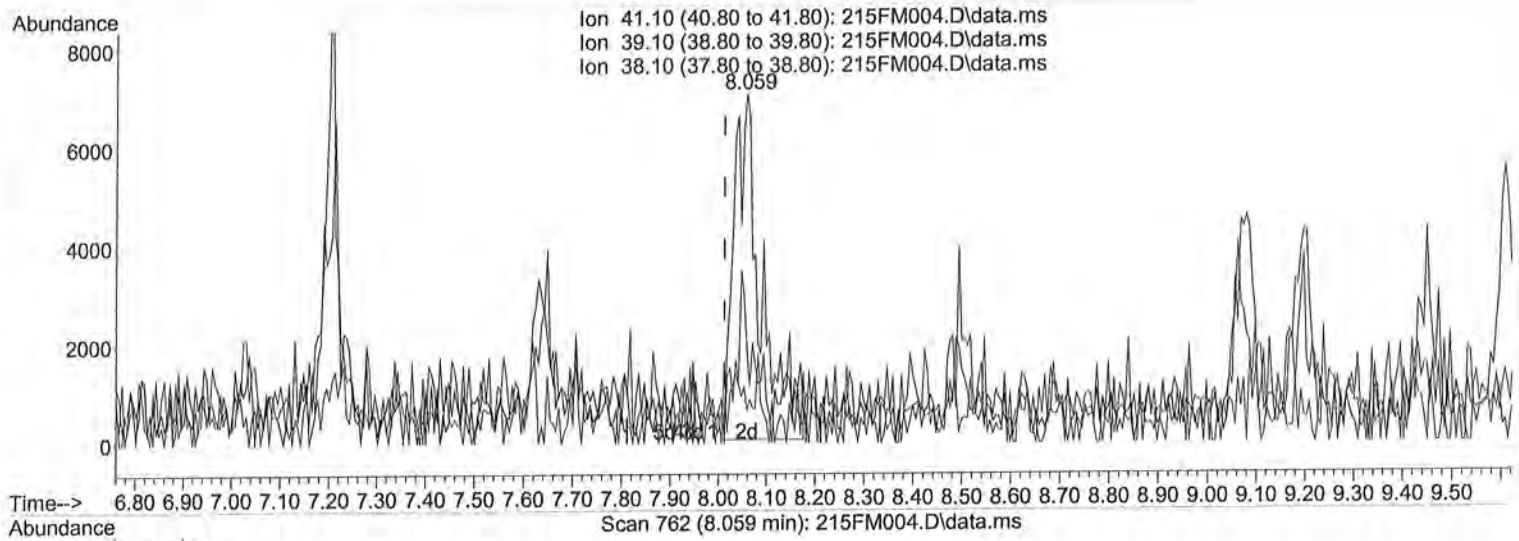
Review by/Date KKW 06/18/21 KKW 06/18/21

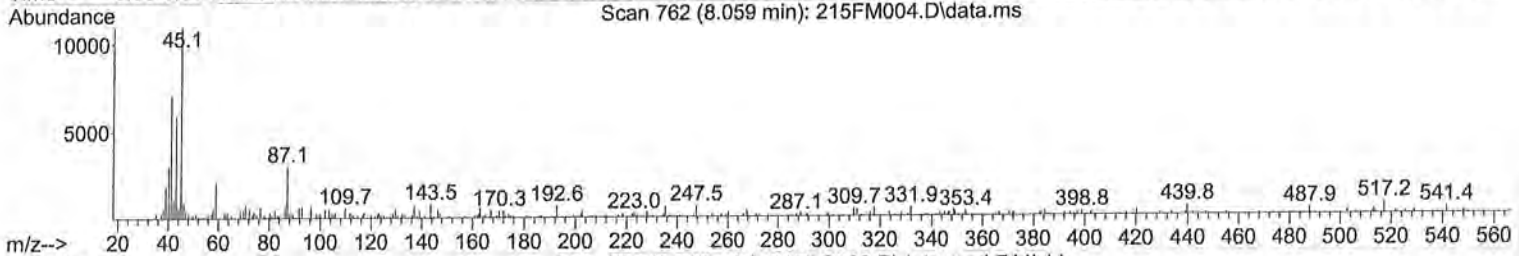
Review by/Date:

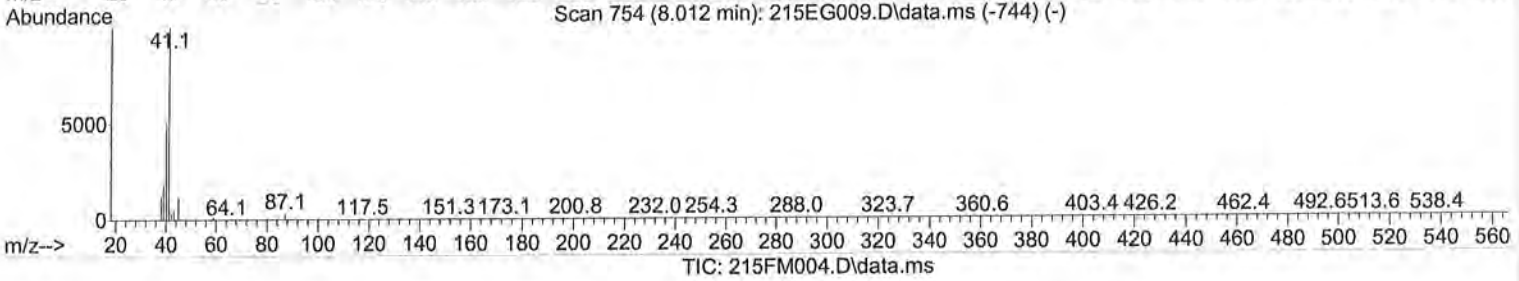
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM004.D
Acq On : 18 Jun 2021 8:05 am
Operator : kkw
Sample : aa66932-cal1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 18 08:40:28 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration







TIC: 215FM004.D\data.ms

(20) Acetonitrile

8.059min (+ 0.047) 9.55 ug/L m

response 27963

Ion	Exp%	Act%
41.10	100.00	100.00
39.10	24.40	6.77#
38.10	10.00	2.77#
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Uncorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

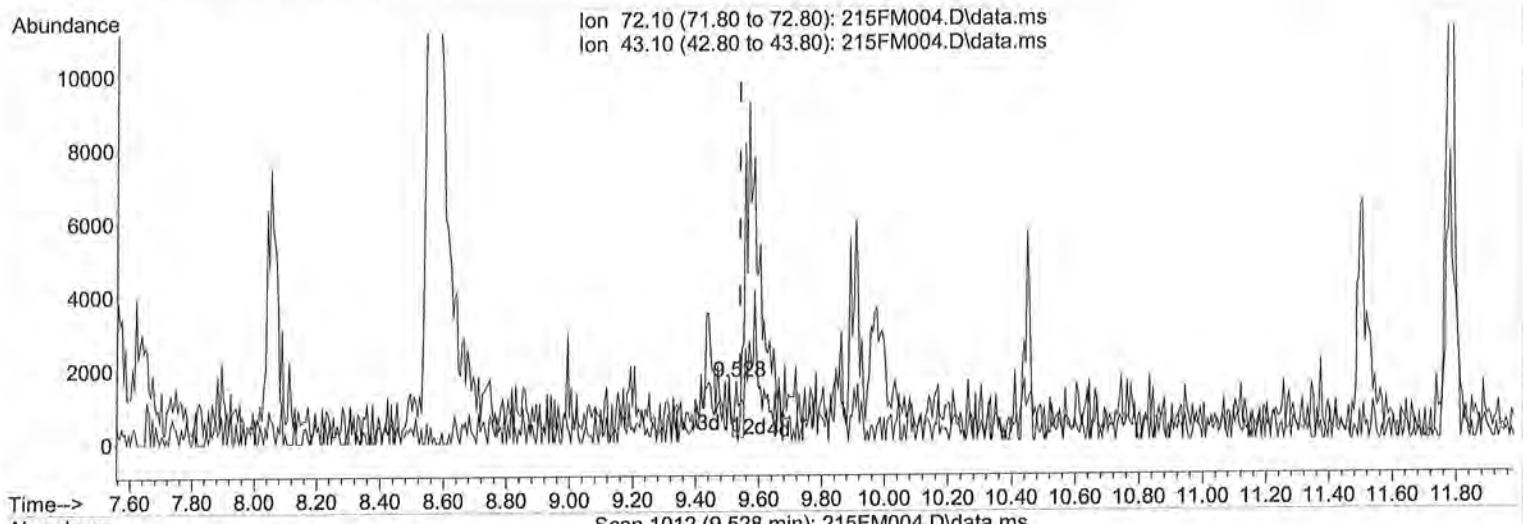
Review by/Date KJ 06/21/21

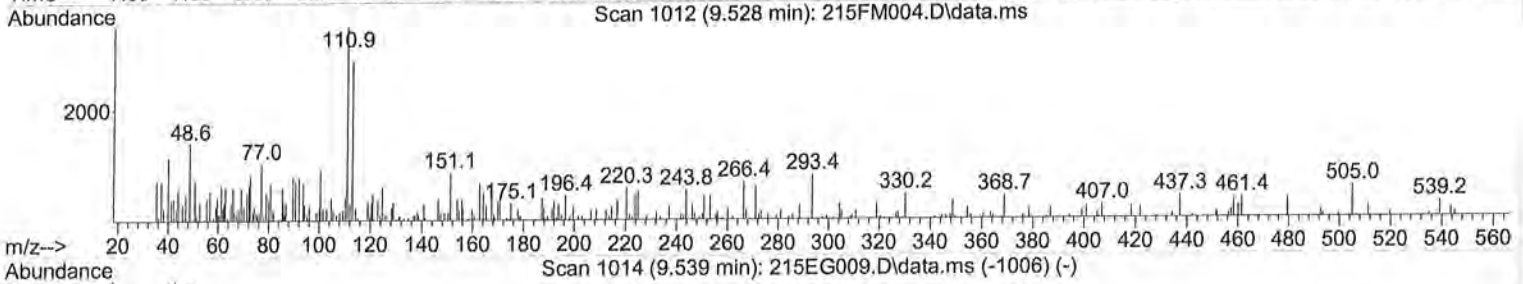
Review by/Date:

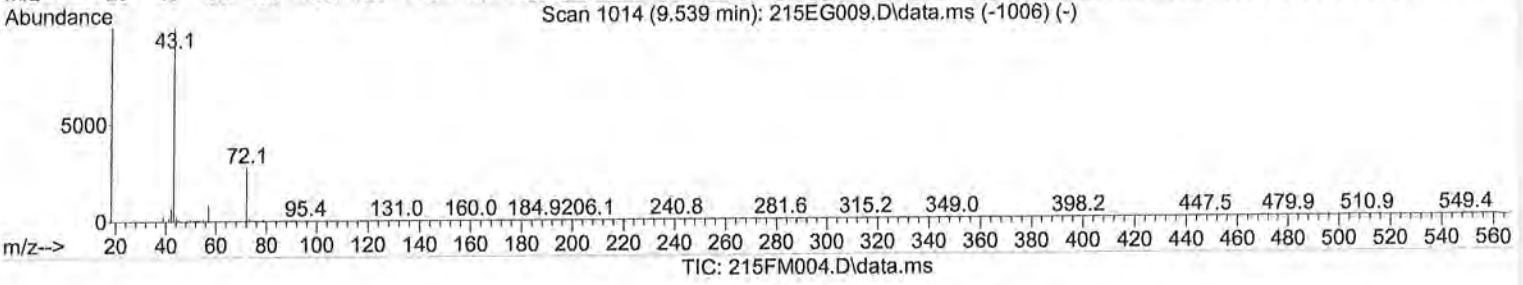
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM004.D
Acq On : 18 Jun 2021 8:05 am
Operator : kkw
Sample : aa66932-cal1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 18 08:40:28 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration







TIC: 215FM004.D\data.ms

(33) 2-Butanone

9.528min (-0.012) 0.95 ug/L

response 2013

Ion	Exp%	Act%
72.10	100.00	100.00
43.10	347.70	63.09#
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

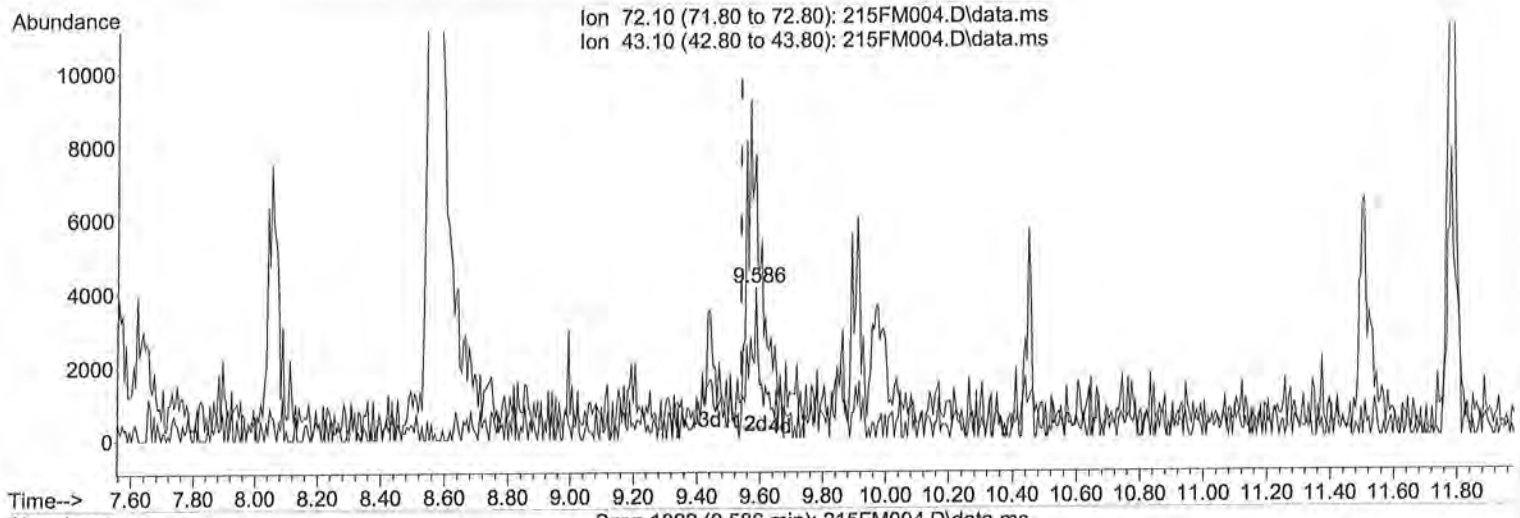
Review by/Date W 6/21/21

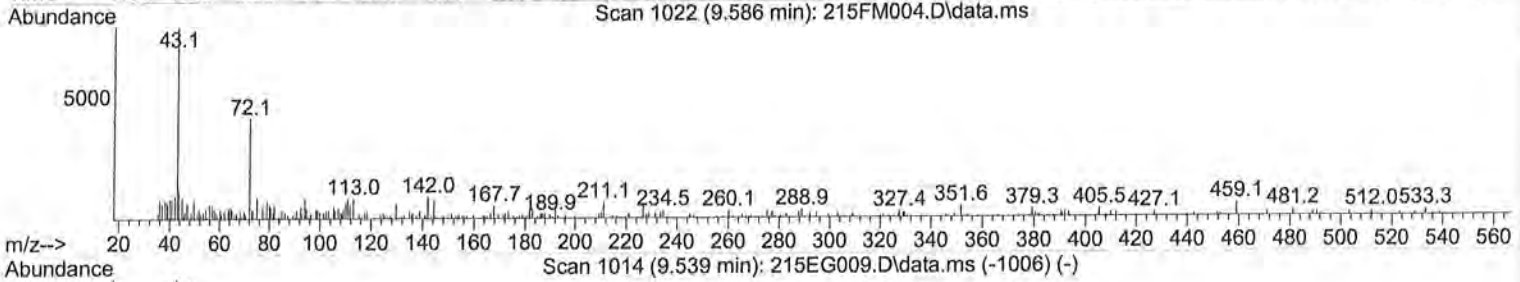
Review by/Date:

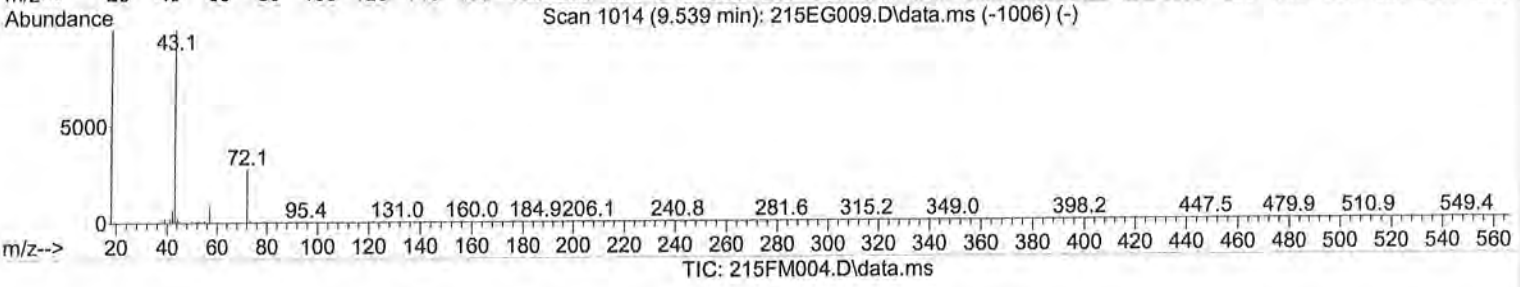
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM004.D
Acq On : 18 Jun 2021 8:05 am
Operator : kkw
Sample : aa66932-cal1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 18 08:40:28 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration







TIC: 215FM004.D\data.ms

(33) 2-Butanone

9.586min (+ 0.047) 4.88 ug/L m

response 10350

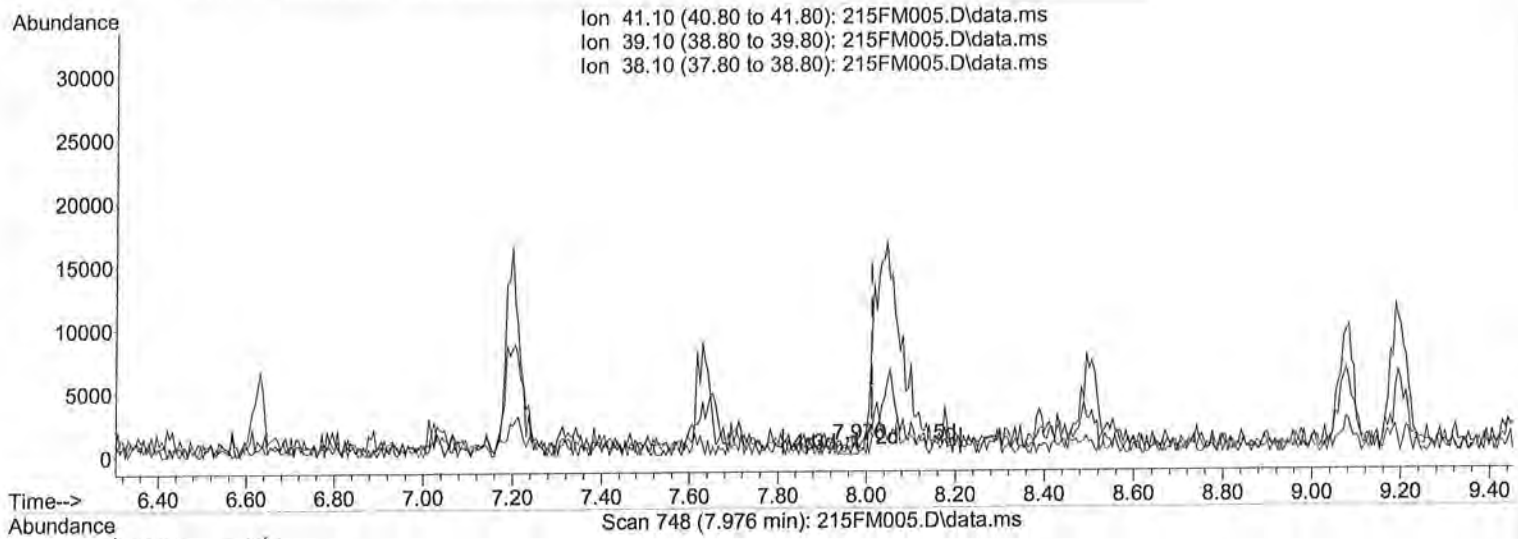
Ion	Exp%	Act%
72.10	100.00	100.00
43.10	347.70	12.27#
0.00	0.00	0.00
0.00	0.00	0.00

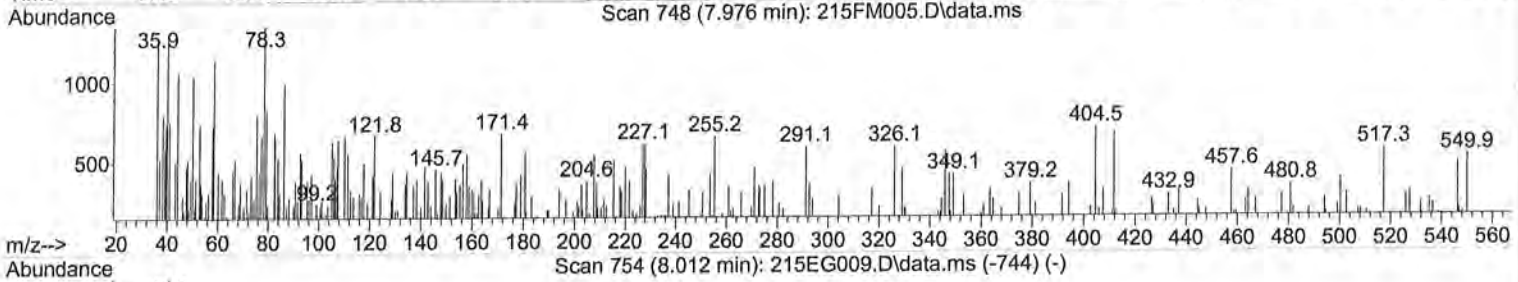
Select One:
[ ] Original Integration [X] Manual Integration
Select reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[X] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date: W 6/18/21
Review by/Date:

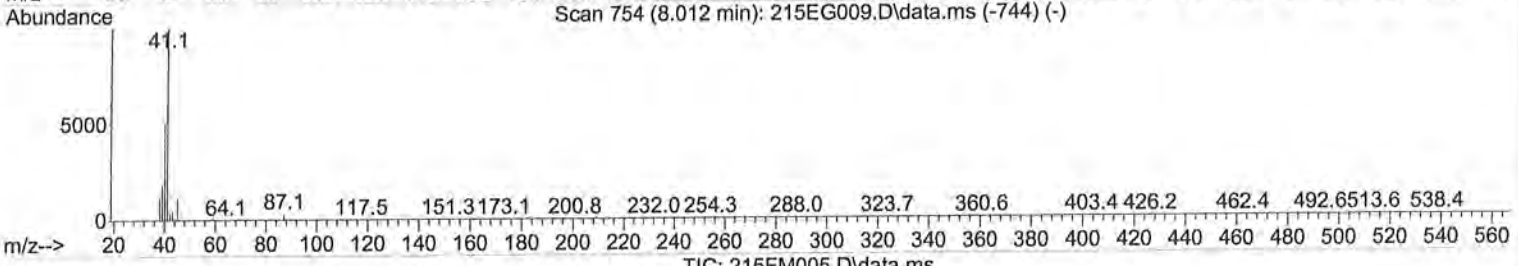
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM005.D
Acq On : 18 Jun 2021 8:32 am
Operator : kkw
Sample : aa66932-cal2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 18 09:50:22 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration







TIC: 215FM005.D\data.ms

(20) Acetonitrile

7.976min (-0.036) 0.51 ug/L

response 1524

Ion	Exp%	Act%
41.10	100.00	100.00
39.10	24.40	142.52#
38.10	10.00	44.29#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

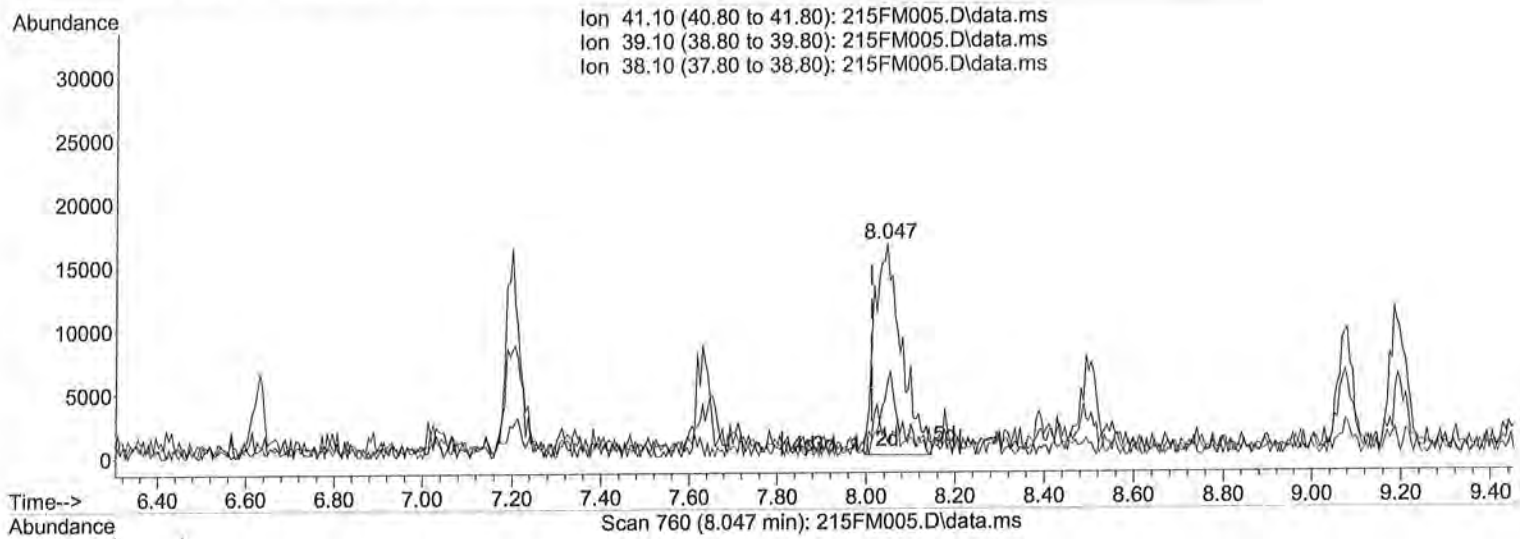
Review by/Date Woshi

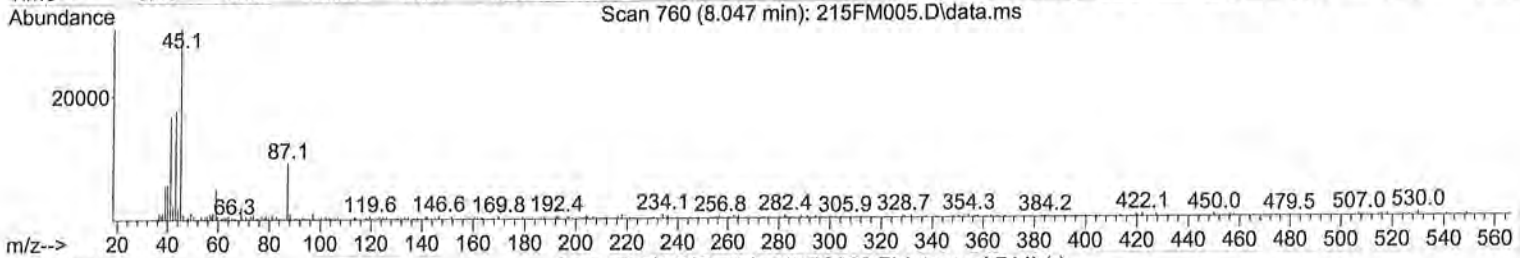
Review by/Date:

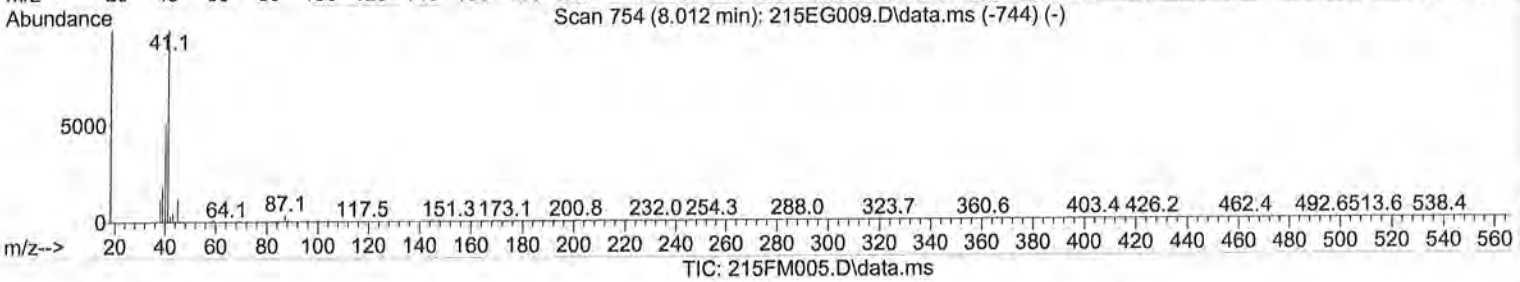
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM005.D
Acq On : 18 Jun 2021 8:32 am
Operator : kkw
Sample : aa66932-cal2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 18 09:50:22 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration







TIC: 215FM005.D\data.ms

(20) Acetonitrile

8.047min (+ 0.035) 23.44 ug/L m

response 69992

Ion	Exp%	Act%
41.10	100.00	100.00
39.10	24.40	3.10#
38.10	10.00	0.96#
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

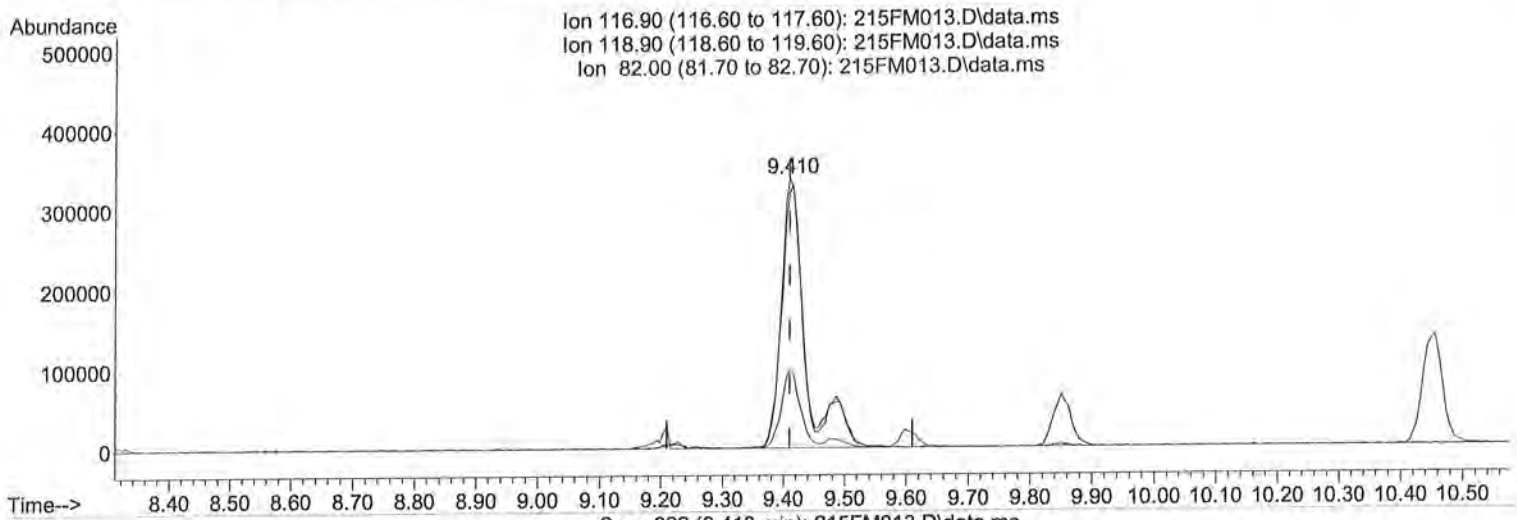
Review by/Date W 06/21/21

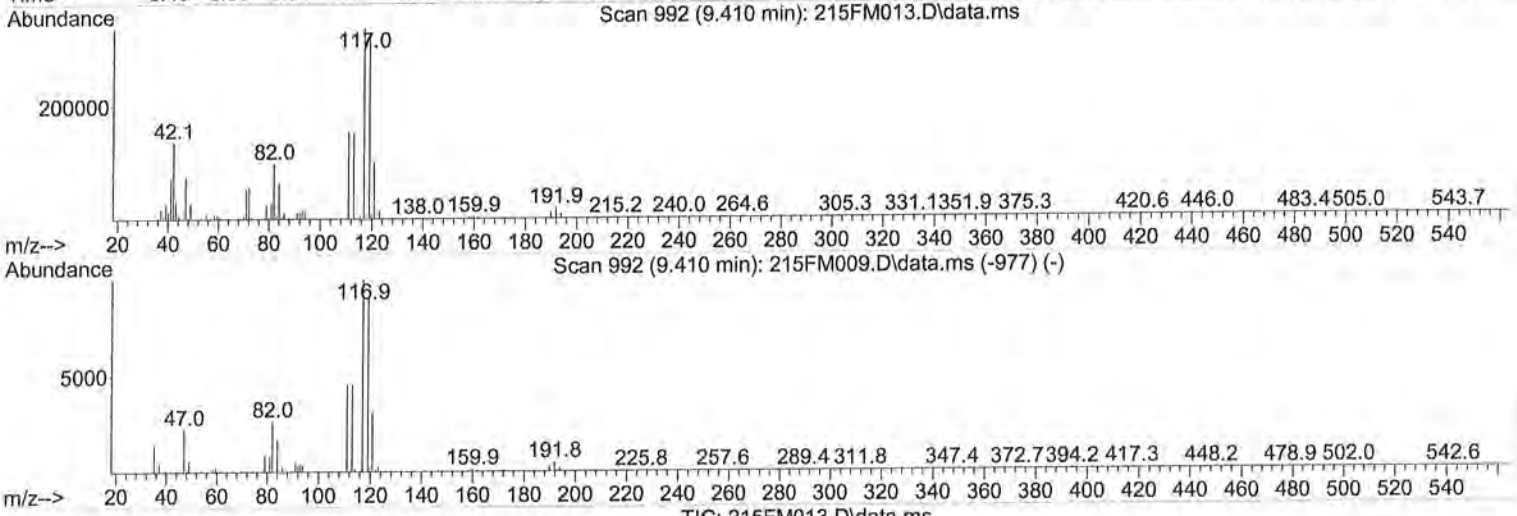
Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM013.D
Acq On : 18 Jun 2021 12:15 pm
Operator : kkw
Sample : aa66932-scv1
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jun 21 07:55:38 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Mon Jun 21 07:54:29 2021
Response via : Initial Calibration





TIC: 215FM013.D\data.ms

(40) Carbon Tetrachloride

9.410min (+ 0.000) 65.73 ug/L

response 939082

Ion	Exp%	Act%
116.90	100.00	100.00
118.90	111.60	94.19
82.00	32.10	26.21
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

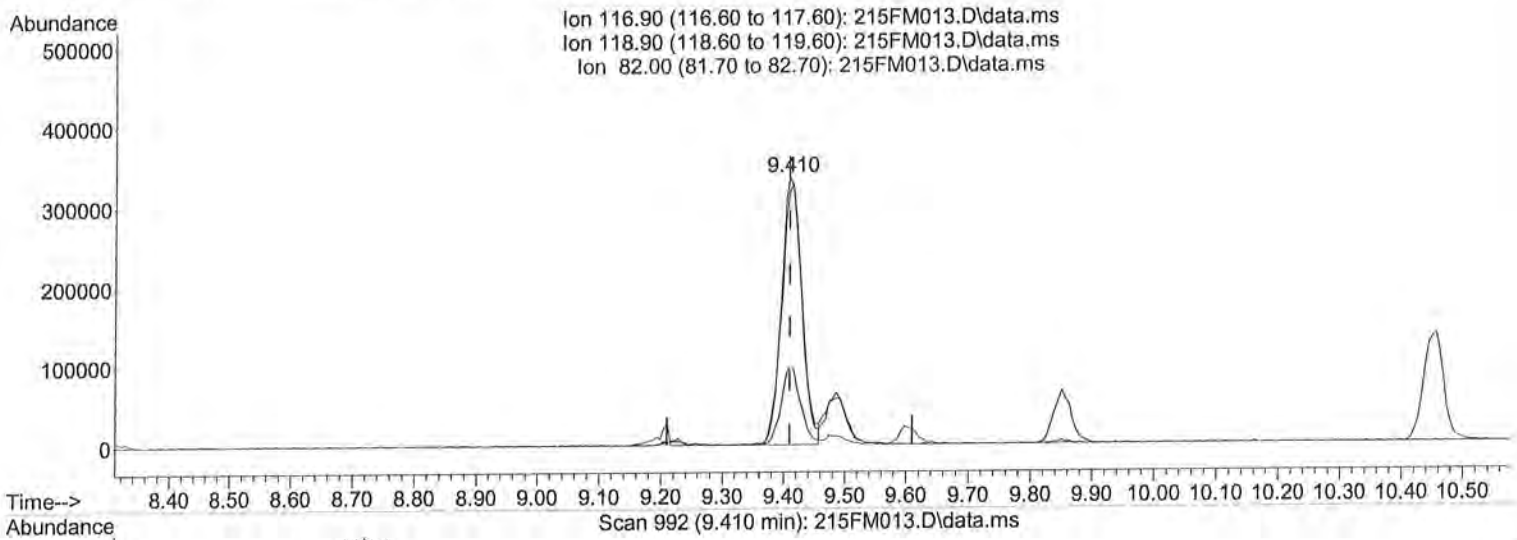
Review by/Date W 06/21/21

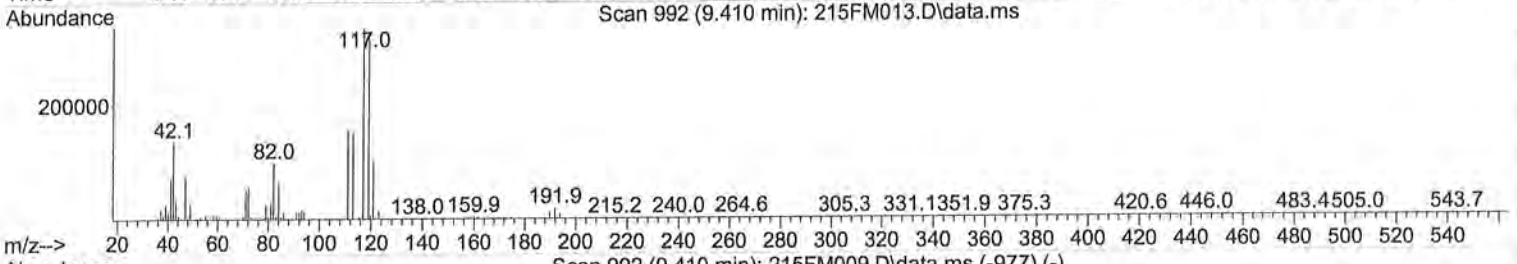
Review by/Date:

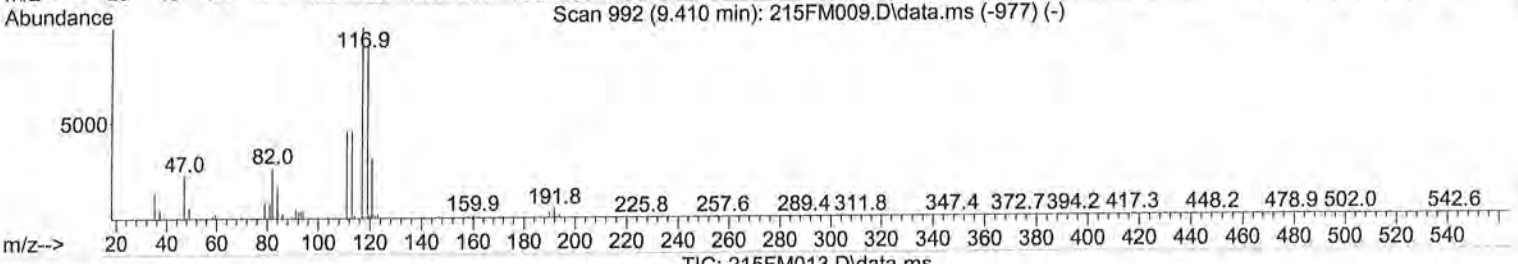
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM013.D
Acq On : 18 Jun 2021 12:15 pm
Operator : kkw
Sample : aa66932-scv1
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jun 21 07:55:38 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Mon Jun 21 07:54:29 2021
Response via : Initial Calibration







TIC: 215FM013.D\data.ms

(40) Carbon Tetrachloride

9.410min (+ 0.000) 54.98 ug/L m

response 785492

Ion	Exp%	Act%
116.90	100.00	100.00
118.90	111.60	112.60
82.00	32.10	31.33
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

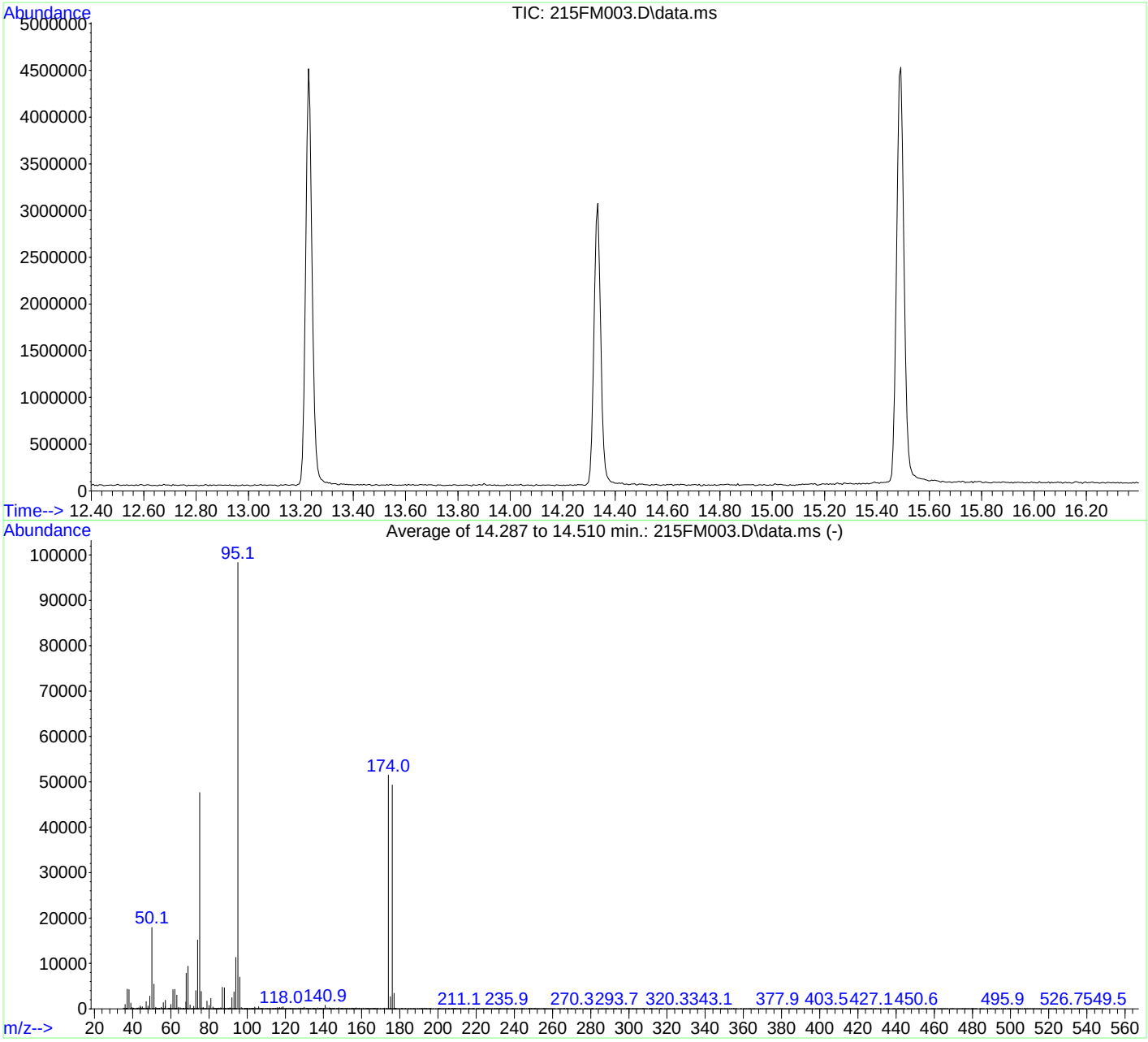
Review by/Date WJ 6/24/21

Review by/Date:

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM003.D
Acq On : 18 Jun 2021 7:34 am
Operator : kkw
Sample : tun1
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\methods\061821W.M
Title : ENCO SOP VGCMS05; Element Cal 2106098
Last Update : Mon Jun 21 08:16:13 2021



Spectrum Information: Average of 14.287 to 14.510 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
95	174	50	200	191.0	98343	PASS
96	95	5	9	7.1	6939	PASS
173	174	0.00	2	0.2	110	PASS
174	95	50	200	52.3	51480	PASS
175	174	5	9	5.2	2692	PASS
176	174	95	105	95.8	49319	PASS
177	176	5	10	7.0	3428	PASS

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM004.D
Acq On : 18 Jun 2021 8:05 am
Operator : kkw
Sample : aa66932-cal1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 18 08:40:28 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1201889	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2686237	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1505146	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1176558	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	710792	56.11	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 112.22%				
52) D8-Toluene	11.784	98	3105646	47.11	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 94.22%				
73) Bromofluorobenzene	14.334	95	1312659	50.45	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 100.90%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.975	85	13088	0.91	ug/L	#	78
3) Chloromethane	4.422	50	25464	1.40	ug/L		98
4) Vinyl Chloride	4.586	62	18650	1.28	ug/L	#	37
5) Bromomethane	5.227	94	7774	2.03	ug/L	#	92
6) Chloroethane	5.468	64	12148	2.08	ug/L	#	87
7) Trichlorofluoromethane	5.720	101	18704	1.17	ug/L	#	32
8) Diethyl ether	6.190	59	9025	0.92	ug/L	#	75
9) 1,1-Dichloroethene	6.531	96	10469	1.09	ug/L	#	80
10) Trichlorotrifluoroethane	6.561	151	6269	0.96	ug/L	#	63
11) Acrolein	7.025	56	26803	8.51	ug/L		88
12) Iodomethane	6.784	142	25695	2.11	ug/L	#	87
13) Carbon Disulfide	6.631	76	134623	3.56	ug/L	#	90
14) 3-chloropropene	7.207	41	16650	0.95	ug/L	#	75
15) Acetone	7.418	43	15244m	3.79	ug/L		
16) Methylene Chloride	7.348	84	14197	1.12	ug/L		86
17) Methyl Acetate	7.418	43	20048	1.99	ug/L	#	71
18) t-1,2-Dichloroethene	7.571	96	11646	0.99	ug/L		97
19) Methyl tert-butyl ether	7.630	73	29535	1.00	ug/L	#	83
20) Acetonitrile	8.059	41	27963m	9.55	ug/L		
21) Isopropyl ether	8.053	45	34223	0.91	ug/L		92
22) Chloroprene	8.282	88	7485	0.68	ug/L	#	94
23) 1,1-Dichloroethane	8.323	63	24017	1.16	ug/L	#	86
24) Acrylonitrile	8.405	53	56665	8.93	ug/L	#	95
25) Vinyl Acetate	8.558	43	85554	3.24	ug/L		99
26) c-1,2-Dichloroethene	8.964	96	14211	1.08	ug/L	#	79
27) 2,2-Dichloropropane	9.081	77	17235	1.12	ug/L		94
28) Bromochloromethane	9.205	128	5671	1.34	ug/L		85
29) Cyclohexane	9.199	56	22375	1.00	ug/L		95
30) Chloroform	9.228	83	22798	1.08	ug/L		96
32) Dibromofluoromethane	9.428	113	711007	56.12	ug/L	#	90
33) 2-Butanone	9.586	72	10350m	4.88	ug/L		
34) 1,1,1-Trichloroethane	9.492	97	14723	0.94	ug/L	#	66
35) 1,1-Dichloropropene	9.610	75	20902	1.25	ug/L		91
36) Propionitrile	9.910	54	24811	9.55	ug/L	#	51
37) Methacrylonitrile	9.915	41	86360	8.48	ug/L		96
38) Isobutyl Alcohol	9.974	43	15505	12.64	ug/L	#	53
40) Carbon Tetrachloride	9.428	117	15785	1.27	ug/L	#	60
41) Benzene	9.886	78	54847	0.97	ug/L		98
42) 1,2-Dichloroethane	10.092	62	20033	1.22	ug/L	#	87
43) Trichloroethene	10.462	130	10723	0.83	ug/L	#	1
44) Methyl cyclohexane	10.450	83	55623	2.01	ug/L	#	70
45) Dibromomethane	10.908	93	10260	1.17	ug/L	#	81
46) 1,2-Dichloropropane	10.991	63	17821	1.10	ug/L	#	89
47) Bromodichloromethane	11.020	83	14957	0.93	ug/L	#	88
48) Methyl Methacrylate	11.114	69	8962	0.71	ug/L		85
49) 1,4-Dioxane	11.208	88	1959	11.48	ug/L	#	18
50) 2-Chloroethyl vinyl ether	11.502	63	24607	2.51	ug/L	#	90
51) C-1,3-Dichloropropene	11.614	75	20370	0.84	ug/L	#	89

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM004.D
Acq On : 18 Jun 2021 8:05 am
Operator : kkw
Sample : aa66932-cal1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 18 08:40:28 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

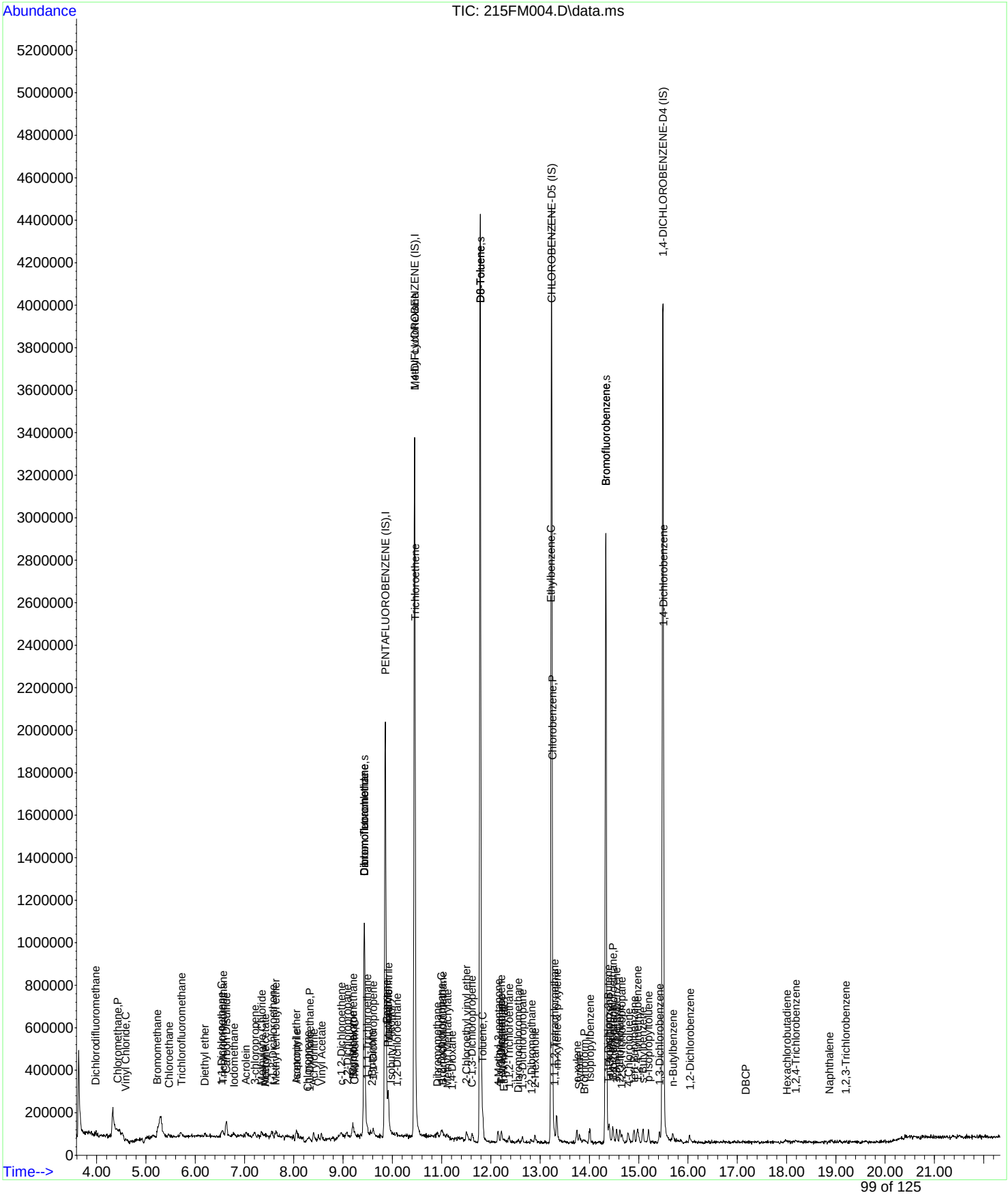
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.784	98	3098200	47.00	ug/L		96
54) 4-Methyl-2-pentanone	12.154	100	10407	3.66	ug/L	#	65
56) Toluene	11.831	92	36578	1.07	ug/L		86
57) T-1,3-Dichloropropene	12.207	75	15418	0.86	ug/L		95
58) Tetrachloroethene	12.213	164	7897	0.84	ug/L	#	81
59) Ethyl methacrylate	12.266	69	9442	0.45	ug/L	#	94
60) 1,1,2-Trichloroethane	12.371	97	11468	0.93	ug/L	#	72
61) Dibromochloromethane	12.554	129	5884	0.59	ug/L	#	77
62) 1,3-Dichloropropane	12.642	76	19550	0.85	ug/L	#	92
63) 1,2-Dibromoethane	12.824	107	11656	0.92	ug/L	#	72
64) 2-Hexanone	12.894	43	28902	2.63	ug/L	#	88
65) Ethylbenzene	13.218	106	17809	0.86	ug/L	#	83
66) Chlorobenzene	13.247	112	34362	0.94	ug/L	#	85
67) 1,1,1,2-Tetrachloroethane	13.294	131	8869	0.83	ug/L	#	87
68) m-xylene & p-xylene	13.341	106	48950	1.91	ug/L		85
69) o-xylene	13.746	106	21167	0.81	ug/L		94
70) Styrene	13.787	104	23556	0.56	ug/L	#	83
71) Bromoform	13.893	173	3911	0.72	ug/L	#	73
72) Isopropylbenzene	14.011	105	51309	0.78	ug/L	#	95
74) Bromofluorobenzene	14.334	95	1313882	50.49	ug/L	#	76
75) n-Propylbenzene	14.399	91	68531	0.82	ug/L		94
76) 1,1,2,2-Tetrachloroethane	14.475	83	17220	0.81	ug/L	#	89
77) 1,2,3-Trichloropropane	14.651	61	4423	0.82	ug/L	#	80
78) T-1,4-Dichloro-2-Butene	14.381	53	5458m	0.78	ug/L		
80) Bromobenzene	14.475	156	9545	0.80	ug/L	#	59
81) 1,2,4-Trimethylbenzene	14.974	105	41636	0.84	ug/L	#	91
82) 2-Chlorotoluene	14.616	91	40735	0.92	ug/L		94
83) 4-Chlorotoluene	14.792	91	40333	0.91	ug/L		98
84) tert-Butylbenzene	14.904	119	35468	0.85	ug/L		99
85) 1,3,5-Trimethylbenzene	14.545	105	41886	0.84	ug/L	#	95
86) p-Isopropyltoluene	15.198	119	37494	0.66	ug/L	#	92
87) s-Butylbenzene	15.080	105	54823	0.92	ug/L		95
88) 1,3-Dichlorobenzene	15.421	146	22323	0.89	ug/L		99
89) 1,4-Dichlorobenzene	15.503	146	26167	1.01	ug/L	#	1
90) n-Butylbenzene	15.691	91	39375	0.71	ug/L	#	85
91) 1,2-Dichlorobenzene	16.038	146	19638	0.85	ug/L		98
92) DBCP	17.172	157	890	0.33	ug/L		90
93) Hexachlorobutadiene	18.006	225	663	0.20	ug/L	#	1
94) 1,2,4-Trichlorobenzene	18.188	180	1643	0.25	ug/L	#	33
95) Naphthalene	18.870	128	7080	0.40	ug/L	#	92
96) 1,2,3-Trichlorobenzene	19.199	180	1743	0.57	ug/L	#	42

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM004.D
Acq On : 18 Jun 2021 8:05 am
Operator : kkw
Sample : aa66932-cal1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 18 08:40:28 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM005.D
Acq On : 18 Jun 2021 8:32 am
Operator : kkw
Sample : aa66932-cal2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 18 09:50:22 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1226065	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2753498	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1619681	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1248669	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	790017	61.13	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 122.26%				
52) D8-Toluene	11.784	98	3652972	54.06	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 108.12%				
73) Bromofluorobenzene	14.328	95	1504237	53.72	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 107.44%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	20711	1.41	ug/L	#	93
3) Chloromethane	4.410	50	32896	1.77	ug/L		97
4) Vinyl Chloride	4.586	62	26313	1.78	ug/L	#	1
5) Bromomethane	5.227	94	15964	4.06	ug/L	#	92
6) Chloroethane	5.462	64	16696	2.80	ug/L		96
7) Trichlorofluoromethane	5.708	101	30382	1.86	ug/L	#	95
8) Diethyl ether	6.178	59	28917	2.88	ug/L		96
9) 1,1-Dichloroethene	6.537	96	27880	2.84	ug/L		98
10) Trichlorotrifluoroethane	6.572	151	17841	2.67	ug/L		94
11) Acrolein	7.030	56	63840	19.88	ug/L		93
12) Iodomethane	6.778	142	59716	4.80	ug/L	#	96
13) Carbon Disulfide	6.631	76	332343	8.62	ug/L		99
14) 3-chloropropene	7.201	41	37310	2.08	ug/L		92
15) Acetone	7.406	43	44906	10.96	ug/L		90
16) Methylene Chloride	7.342	84	35382	2.74	ug/L		98
17) Methyl Acetate	7.547	43	25546	2.48	ug/L	#	81
18) t-1,2-Dichloroethene	7.553	96	31090	2.58	ug/L		98
19) Methyl tert-butyl ether	7.636	73	71986	2.38	ug/L		96
20) Acetonitrile	8.047	41	69992m	23.44	ug/L		
21) Isopropyl ether	8.053	45	88770	2.32	ug/L		96
22) Chloroprene	8.276	88	20632	1.83	ug/L		97
23) 1,1-Dichloroethane	8.317	63	58711	2.78	ug/L		93
24) Acrylonitrile	8.394	53	128785	19.89	ug/L	#	97
25) Vinyl Acetate	8.558	43	269446	10.00	ug/L		96
26) c-1,2-Dichloroethene	8.946	96	33482	2.51	ug/L		93
27) 2,2-Dichloropropane	9.075	77	40179	2.55	ug/L	#	95
28) Bromochloromethane	9.181	128	14081	3.27	ug/L		86
29) Cyclohexane	9.193	56	56806	2.48	ug/L		99
30) Chloroform	9.222	83	59826	2.79	ug/L		91
32) Dibromofluoromethane	9.428	113	790017	61.13	ug/L	#	89
33) 2-Butanone	9.557	72	22636	10.45	ug/L		93
34) 1,1,1-Trichloroethane	9.486	97	41521	2.59	ug/L		96
35) 1,1-Dichloropropene	9.604	75	44111	2.58	ug/L	#	84
36) Propionitrile	9.909	54	59592	22.49	ug/L	#	81
37) Methacrylonitrile	9.915	41	238410	22.96	ug/L		96
38) Isobutyl Alcohol	9.909	43	42490	33.96	ug/L	#	54
40) Carbon Tetrachloride	9.416	117	30040	2.35	ug/L	#	84
41) Benzene	9.886	78	147112	2.54	ug/L		97
42) 1,2-Dichloroethane	10.092	62	41413	2.47	ug/L		98
43) Trichloroethene	10.456	130	29464	2.23	ug/L	#	1
44) Methyl cyclohexane	10.456	83	98691	3.48	ug/L	#	75
45) Dibromomethane	10.902	93	18756	2.09	ug/L		94
46) 1,2-Dichloropropane	10.991	63	37937	2.28	ug/L		92
47) Bromodichloromethane	11.014	83	34787	2.11	ug/L	#	89
48) Methyl Methacrylate	11.090	69	19813	1.53	ug/L		85
49) 1,4-Dioxane	11.231	88	7880	45.03	ug/L		92
50) 2-Chloroethyl vinyl ether	11.502	63	73114	7.27	ug/L	#	92
51) C-1,3-Dichloropropene	11.619	75	53521	2.14	ug/L	#	88

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM005.D
Acq On : 18 Jun 2021 8:32 am
Operator : kkw
Sample : aa66932-cal2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 18 09:50:22 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

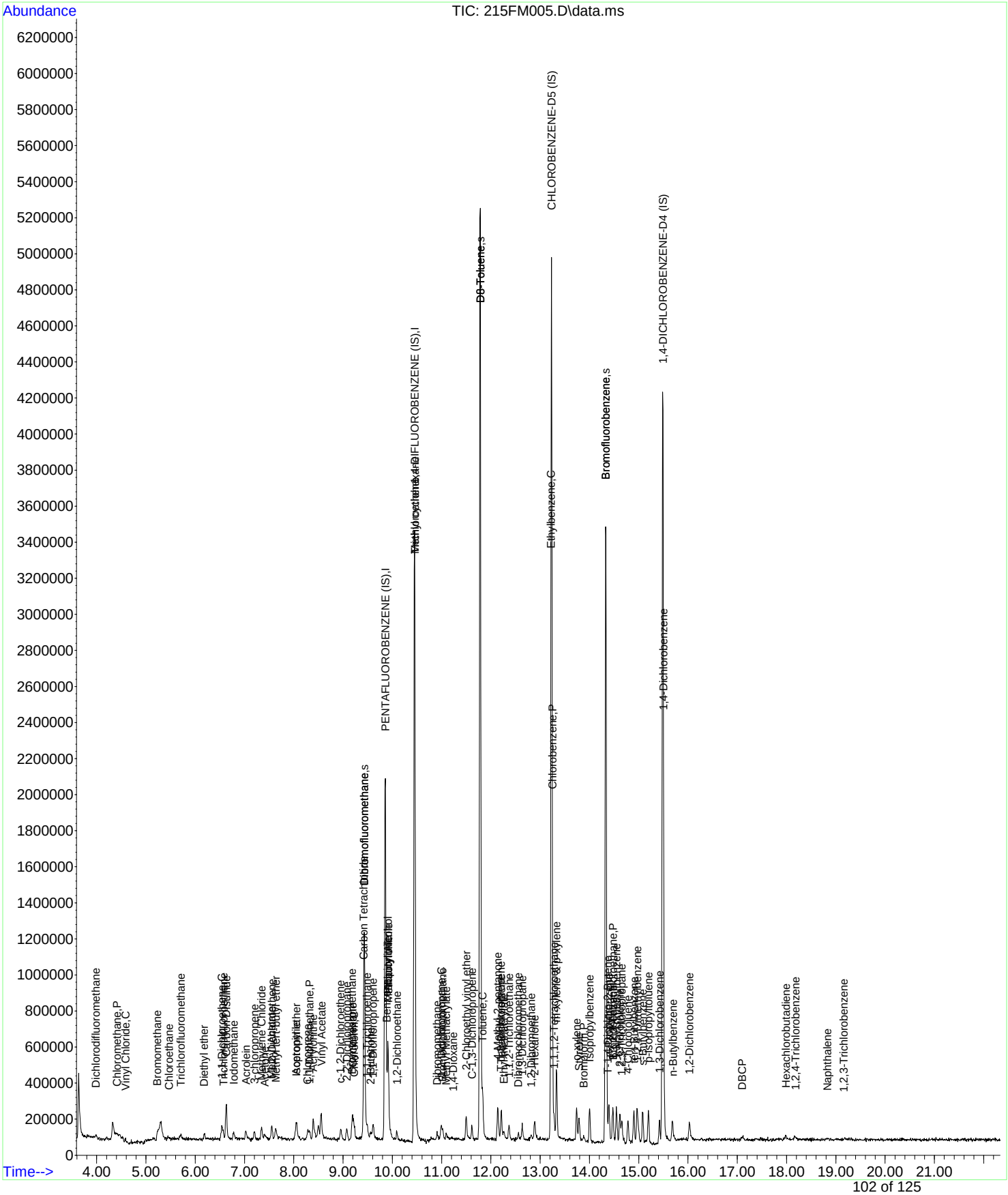
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.784	98	3650908	54.03	ug/L		95
54) 4-Methyl-2-pentanone	12.136	100	23940	8.22	ug/L		96
56) Toluene	11.831	92	90002	2.45	ug/L		90
57) T-1,3-Dichloropropene	12.201	75	42905	2.22	ug/L	#	82
58) Tetrachloroethene	12.207	164	22734	2.26	ug/L		94
59) Ethyl methacrylate	12.266	69	36140	1.59	ug/L		98
60) 1,1,2-Trichloroethane	12.365	97	30725	2.32	ug/L		93
61) Dibromochloromethane	12.553	129	19817	1.84	ug/L	#	87
62) 1,3-Dichloropropane	12.636	76	52835	2.14	ug/L	#	95
63) 1,2-Dibromoethane	12.818	107	26901	1.97	ug/L	#	92
64) 2-Hexanone	12.883	43	96320	8.15	ug/L		91
65) Ethylbenzene	13.217	106	45167	2.04	ug/L	#	85
66) Chlorobenzene	13.247	112	84240	2.15	ug/L		93
67) 1,1,1,2-Tetrachloroethane	13.282	131	24035	2.10	ug/L	#	86
68) m-xylene & p-xylene	13.329	106	119219	4.33	ug/L		99
69) o-xylene	13.740	106	55218	1.96	ug/L		97
70) Styrene	13.787	104	77940	1.71	ug/L	#	91
71) Bromoform	13.881	173	9766	1.66	ug/L	#	72
72) Isopropylbenzene	13.999	105	145912	2.06	ug/L		98
74) Bromofluorobenzene	14.328	95	1504564	53.73	ug/L	#	80
75) n-Propylbenzene	14.393	91	195277	2.16	ug/L		97
76) 1,1,2,2-Tetrachloroethane	14.475	83	48517	2.11	ug/L	#	97
77) 1,2,3-Trichloropropane	14.651	61	10589	1.81	ug/L	#	59
78) T-1,4-Dichloro-2-Butene	14.369	53	12126	1.61	ug/L	#	27
80) Bromobenzene	14.475	156	28658	2.26	ug/L	#	82
81) 1,2,4-Trimethylbenzene	14.968	105	117439	2.24	ug/L		96
82) 2-Chlorotoluene	14.616	91	118998	2.54	ug/L		93
83) 4-Chlorotoluene	14.780	91	104463	2.23	ug/L		96
84) tert-Butylbenzene	14.904	119	101030	2.27	ug/L		96
85) 1,3,5-Trimethylbenzene	14.545	105	121842	2.31	ug/L		96
86) p-Isopropyltoluene	15.197	119	113438	1.89	ug/L	#	91
87) s-Butylbenzene	15.080	105	145770	2.30	ug/L		99
88) 1,3-Dichlorobenzene	15.421	146	59042	2.22	ug/L		98
89) 1,4-Dichlorobenzene	15.503	146	58421	2.13	ug/L	#	1
90) n-Butylbenzene	15.691	91	113515	1.93	ug/L		97
91) 1,2-Dichlorobenzene	16.026	146	55503	2.26	ug/L	#	90
92) DBCP	17.095	157	6168	2.13	ug/L		96
93) Hexachlorobutadiene	17.988	225	6852	1.98	ug/L	#	68
94) 1,2,4-Trichlorobenzene	18.182	180	7411	1.06	ug/L	#	55
95) Naphthalene	18.829	128	18402	0.99	ug/L	#	84
96) 1,2,3-Trichlorobenzene	19.158	180	1698	0.53	ug/L	#	1

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM005.D
Acq On : 18 Jun 2021 8:32 am
Operator : kkw
Sample : aa66932-cal2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 18 09:50:22 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM006.D
Acq On : 18 Jun 2021 9:00 am
Operator : kkw
Sample : aa66932-cal3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 18 09:51:46 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1047198	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2419754	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1545028	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.486	152	1320874	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	760296	68.88	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 137.76%#				
52) D8-Toluene	11.778	98	3556545	59.90	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 119.80%				
73) Bromofluorobenzene	14.328	95	1596271	59.76	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 119.52%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	61935	4.93	ug/L	#	93
3) Chloromethane	4.410	50	90523	5.67	ug/L		94
4) Vinyl Chloride	4.586	62	72492	5.73	ug/L	#	66
5) Bromomethane	5.233	94	34362	10.02	ug/L		99
6) Chloroethane	5.456	64	50548	9.92	ug/L		96
7) Trichlorofluoromethane	5.703	101	86500	6.21	ug/L	#	98
8) Diethyl ether	6.179	59	65817	7.68	ug/L		92
9) 1,1-Dichloroethene	6.537	96	61285	7.30	ug/L		86
10) Trichlorotrifluoroethane	6.555	151	39487	6.92	ug/L		92
11) Acrolein	7.025	56	163918	59.76	ug/L		99
12) Iodomethane	6.784	142	175341	16.50	ug/L		98
13) Carbon Disulfide	6.625	76	895869	27.31	ug/L		98
14) 3-chloropropene	7.195	41	101509	6.63	ug/L		94
15) Acetone	7.407	43	117259	33.50	ug/L		98
16) Methylene Chloride	7.342	84	79027	7.17	ug/L		90
17) Methyl Acetate	7.530	43	64450	7.26	ug/L	#	95
18) t-1,2-Dichloroethene	7.548	96	78290	7.62	ug/L		96
19) Methyl tert-butyl ether	7.630	73	177918	6.90	ug/L	#	91
20) Acetonitrile	8.024	41	163006	63.90	ug/L		98
21) Isopropyl ether	8.053	45	228181	7.00	ug/L		96
22) Chloroprene	8.282	88	57674	5.98	ug/L		94
23) 1,1-Dichloroethane	8.317	63	130702	7.25	ug/L		95
24) Acrylonitrile	8.388	53	290245	52.47	ug/L		100
25) Vinyl Acetate	8.547	43	642675	27.94	ug/L		100
26) c-1,2-Dichloroethene	8.952	96	66039	5.78	ug/L		92
27) 2,2-Dichloropropane	9.075	77	81316	6.05	ug/L	#	91
28) Bromochloromethane	9.187	128	27460	7.46	ug/L		94
29) Cyclohexane	9.199	56	118236	6.05	ug/L		95
30) Chloroform	9.222	83	124399	6.78	ug/L		94
32) Dibromofluoromethane	9.428	113	760296	68.88	ug/L	#	90
33) 2-Butanone	9.551	72	53367	28.85	ug/L		92
34) 1,1,1-Trichloroethane	9.492	97	86858	6.35	ug/L		94
35) 1,1-Dichloropropene	9.610	75	96357	6.59	ug/L		99
36) Propionitrile	9.904	54	134736	59.53	ug/L		90
37) Methacrylonitrile	9.910	41	520530	58.69	ug/L		100
38) Isobutyl Alcohol	9.963	43	48521	45.40	ug/L	#	54
40) Carbon Tetrachloride	9.416	117	59358	5.25	ug/L	#	84
41) Benzene	9.880	78	309830	6.10	ug/L		96
42) 1,2-Dichloroethane	10.092	62	85706	5.82	ug/L		95
43) Trichloroethene	10.450	130	59471	5.13	ug/L	#	9
44) Methyl cyclohexane	10.444	83	151866	6.09	ug/L		90
45) Dibromomethane	10.903	93	37804	4.78	ug/L		88
46) 1,2-Dichloropropane	10.991	63	80955	5.54	ug/L		99
47) Bromodichloromethane	11.026	83	79355	5.44	ug/L		95
48) Methyl Methacrylate	11.085	69	50080	4.40	ug/L		92
49) 1,4-Dioxane	11.191	88	12290	79.92	ug/L	#	53
50) 2-Chloroethyl vinyl ether	11.490	63	204286	23.11	ug/L	#	97
51) C-1,3-Dichloropropene	11.608	75	117673	5.30	ug/L		92

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM006.D
Acq On : 18 Jun 2021 9:00 am
Operator : kkw
Sample : aa66932-cal3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 18 09:51:46 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

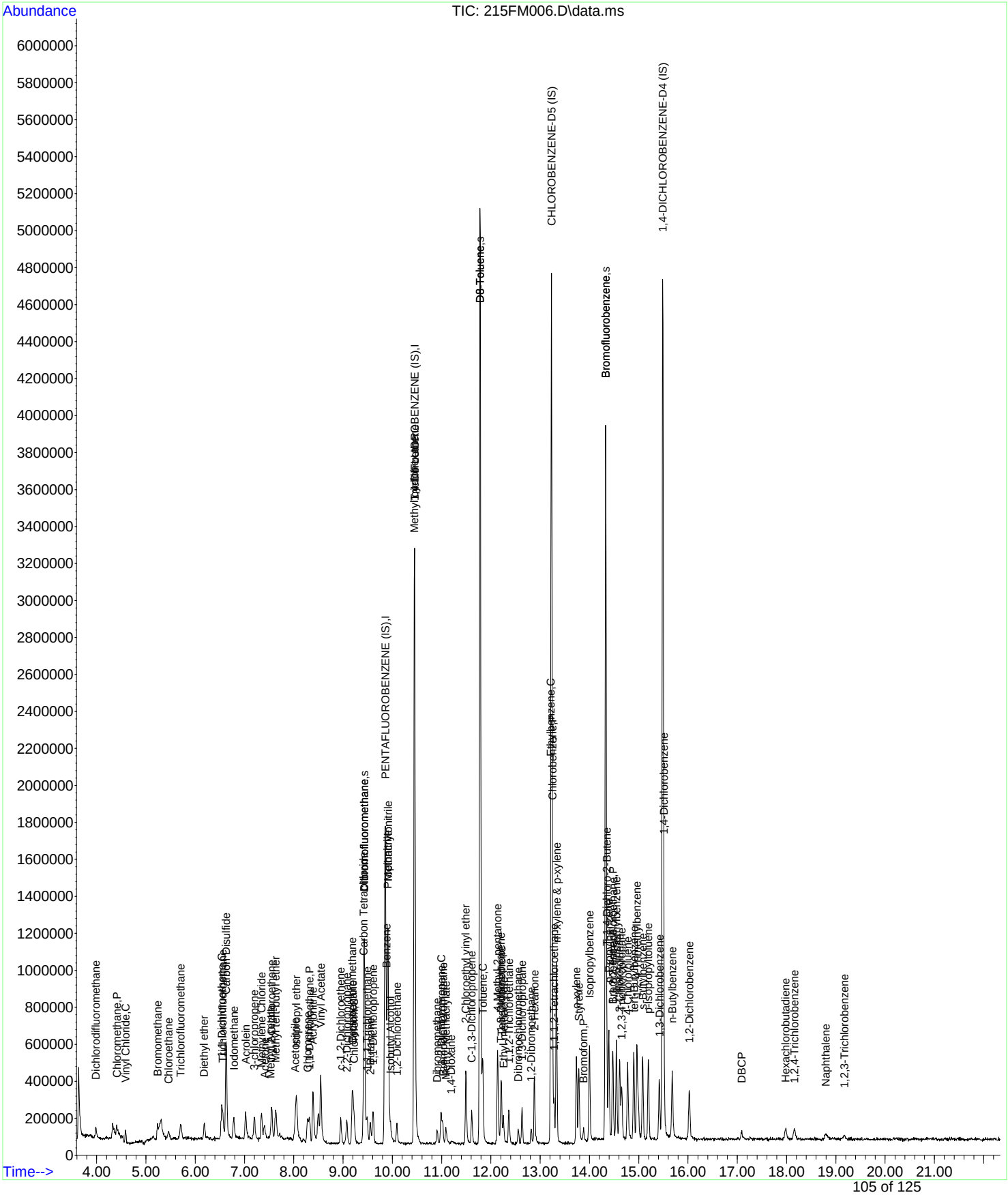
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	3550703	59.80	ug/L		95
54) 4-Methyl-2-pentanone	12.131	100	55703	21.72	ug/L		91
56) Toluene	11.837	92	190861	5.44	ug/L		99
57) T-1,3-Dichloropropene	12.201	75	99725	5.40	ug/L		95
58) Tetrachloroethene	12.213	164	47385	4.94	ug/L		92
59) Ethyl methacrylate	12.254	69	84587	3.91	ug/L		96
60) 1,1,2-Trichloroethane	12.366	97	66041	5.22	ug/L		91
61) Dibromochloromethane	12.554	129	46275	4.48	ug/L	#	96
62) 1,3-Dichloropropane	12.630	76	118485	5.02	ug/L		95
63) 1,2-Dibromoethane	12.818	107	63951	4.90	ug/L	#	97
64) 2-Hexanone	12.883	43	254110	22.53	ug/L		100
65) Ethylbenzene	13.212	106	107966	5.10	ug/L	#	92
66) Chlorobenzene	13.247	112	188940	5.06	ug/L		93
67) 1,1,1,2-Tetrachloroethane	13.282	131	51398	4.68	ug/L		92
68) m-xylene & p-xylene	13.335	106	289132	11.00	ug/L		97
69) o-xylene	13.735	106	143437	5.34	ug/L		99
70) Styrene	13.782	104	226490	5.21	ug/L		97
71) Bromoform	13.876	173	21689	3.82	ug/L	#	67
72) Isopropylbenzene	13.999	105	373186	5.52	ug/L		97
74) Bromofluorobenzene	14.328	95	1596271	59.76	ug/L	#	82
75) n-Propylbenzene	14.393	91	481924	5.60	ug/L		97
76) 1,1,2,2-Tetrachloroethane	14.475	83	121607	5.56	ug/L		98
77) 1,2,3-Trichloropropane	14.651	61	35191	6.26	ug/L	#	90
78) T-1,4-Dichloro-2-Butene	14.352	53	33578	4.68	ug/L	#	1
80) Bromobenzene	14.469	156	73468	5.47	ug/L		87
81) 1,2,4-Trimethylbenzene	14.963	105	315484	5.69	ug/L		99
82) 2-Chlorotoluene	14.610	91	277788	5.60	ug/L	#	97
83) 4-Chlorotoluene	14.775	91	285041	5.75	ug/L		99
84) tert-Butylbenzene	14.904	119	249895	5.31	ug/L		97
85) 1,3,5-Trimethylbenzene	14.545	105	309597	5.56	ug/L		99
86) p-Isopropyltoluene	15.192	119	301672	4.75	ug/L		99
87) s-Butylbenzene	15.080	105	362754	5.42	ug/L		99
88) 1,3-Dichlorobenzene	15.421	146	146081	5.19	ug/L		96
89) 1,4-Dichlorobenzene	15.509	146	162863	5.61	ug/L	#	1
90) n-Butylbenzene	15.679	91	279037	4.49	ug/L		99
91) 1,2-Dichlorobenzene	16.026	146	137432	5.28	ug/L		98
92) DBCP	17.090	157	12664	4.12	ug/L		98
93) Hexachlorobutadiene	17.977	225	12997	3.54	ug/L	#	72
94) 1,2,4-Trichlorobenzene	18.159	180	26850	3.62	ug/L	#	84
95) Naphthalene	18.794	128	57797	2.91	ug/L	#	79
96) 1,2,3-Trichlorobenzene	19.175	180	14302	4.17	ug/L	#	62

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM006.D
Acq On : 18 Jun 2021 9:00 am
Operator : kkw
Sample : aa66932-cal3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 18 09:51:46 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM007.D
Acq On : 18 Jun 2021 9:28 am
Operator : kkw
Sample : aa66932-cal4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 18 09:52:17 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1235637	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2720919	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1709586	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1365508	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	752565	57.78	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 115.56%				
52) D8-Toluene	11.778	98	3385429	50.70	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 101.40%				
73) Bromofluorobenzene	14.328	95	1442507	48.81	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 97.62%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	121827	8.21	ug/L		98
3) Chloromethane	4.410	50	178033	9.38	ug/L		97
4) Vinyl Chloride	4.586	62	160638	10.77	ug/L		93
5) Bromomethane	5.227	94	54156	13.24	ug/L		94
6) Chloroethane	5.462	64	84051	13.98	ug/L		97
7) Trichlorofluoromethane	5.702	101	186133	11.32	ug/L		97
8) Diethyl ether	6.184	59	116071	11.49	ug/L		96
9) 1,1-Dichloroethene	6.531	96	121851	12.30	ug/L		86
10) Trichlorotrifluoroethane	6.560	151	76339	11.34	ug/L		93
11) Acrolein	7.019	56	301887	93.27	ug/L		97
12) Iodomethane	6.778	142	432218	34.46	ug/L		98
13) Carbon Disulfide	6.625	76	1823678	47.29	ug/L		98
14) 3-chloropropene	7.201	41	199304	11.03	ug/L		92
15) Acetone	7.395	43	237338	57.47	ug/L		100
16) Methylene Chloride	7.342	84	172555	13.27	ug/L		91
17) Methyl Acetate	7.524	43	121114	11.45	ug/L	#	91
18) t-1,2-Dichloroethene	7.553	96	140149	11.56	ug/L		92
19) Methyl tert-butyl ether	7.630	73	369299	12.14	ug/L		97
20) Acetonitrile	8.023	41	338616	112.50	ug/L		98
21) Isopropyl ether	8.053	45	461755	12.00	ug/L		98
22) Chloroprene	8.276	88	117678	10.34	ug/L		90
23) 1,1-Dichloroethane	8.311	63	282498	13.28	ug/L		99
24) Acrylonitrile	8.388	53	591099	90.57	ug/L		99
25) Vinyl Acetate	8.540	43	1551165	57.14	ug/L		99
26) c-1,2-Dichloroethene	8.952	96	148415	11.02	ug/L		90
27) 2,2-Dichloropropane	9.075	77	198257	12.51	ug/L		98
28) Bromochloromethane	9.187	128	64168	14.78	ug/L		98
29) Cyclohexane	9.193	56	265821	11.53	ug/L		98
30) Chloroform	9.222	83	257926	11.91	ug/L	#	93
32) Dibromofluoromethane	9.428	113	752565	57.78	ug/L	#	91
33) 2-Butanone	9.545	72	113849	52.16	ug/L		97
34) 1,1,1-Trichloroethane	9.480	97	208684	12.93	ug/L		96
35) 1,1-Dichloropropene	9.610	75	215540	12.49	ug/L		96
36) Propionitrile	9.898	54	301294	112.83	ug/L		94
37) Methacrylonitrile	9.909	41	1228878	117.42	ug/L		98
38) Isobutyl Alcohol	9.904	43	263215	208.72	ug/L	#	67
40) Carbon Tetrachloride	9.416	117	133703	10.38	ug/L	#	85
41) Benzene	9.880	78	655782	11.48	ug/L		100
42) 1,2-Dichloroethane	10.086	62	195914	11.82	ug/L		99
43) Trichloroethene	10.456	130	140187	10.75	ug/L	#	62
44) Methyl cyclohexane	10.456	83	307695	10.97	ug/L		95
45) Dibromomethane	10.902	93	98012	11.03	ug/L	#	85
46) 1,2-Dichloropropane	10.985	63	180087	10.96	ug/L		93
47) Bromodichloromethane	11.020	83	170547	10.28	ug/L		95
48) Methyl Methacrylate	11.085	69	108165	8.45	ug/L		99
49) 1,4-Dioxane	11.196	88	26438	152.89	ug/L	#	65
50) 2-Chloroethyl vinyl ether	11.490	63	468112	47.10	ug/L	#	93
51) C-1,3-Dichloropropene	11.613	75	262628	10.40	ug/L		93

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM007.D
Acq On : 18 Jun 2021 9:28 am
Operator : kkw
Sample : aa66932-cal4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 18 09:52:17 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

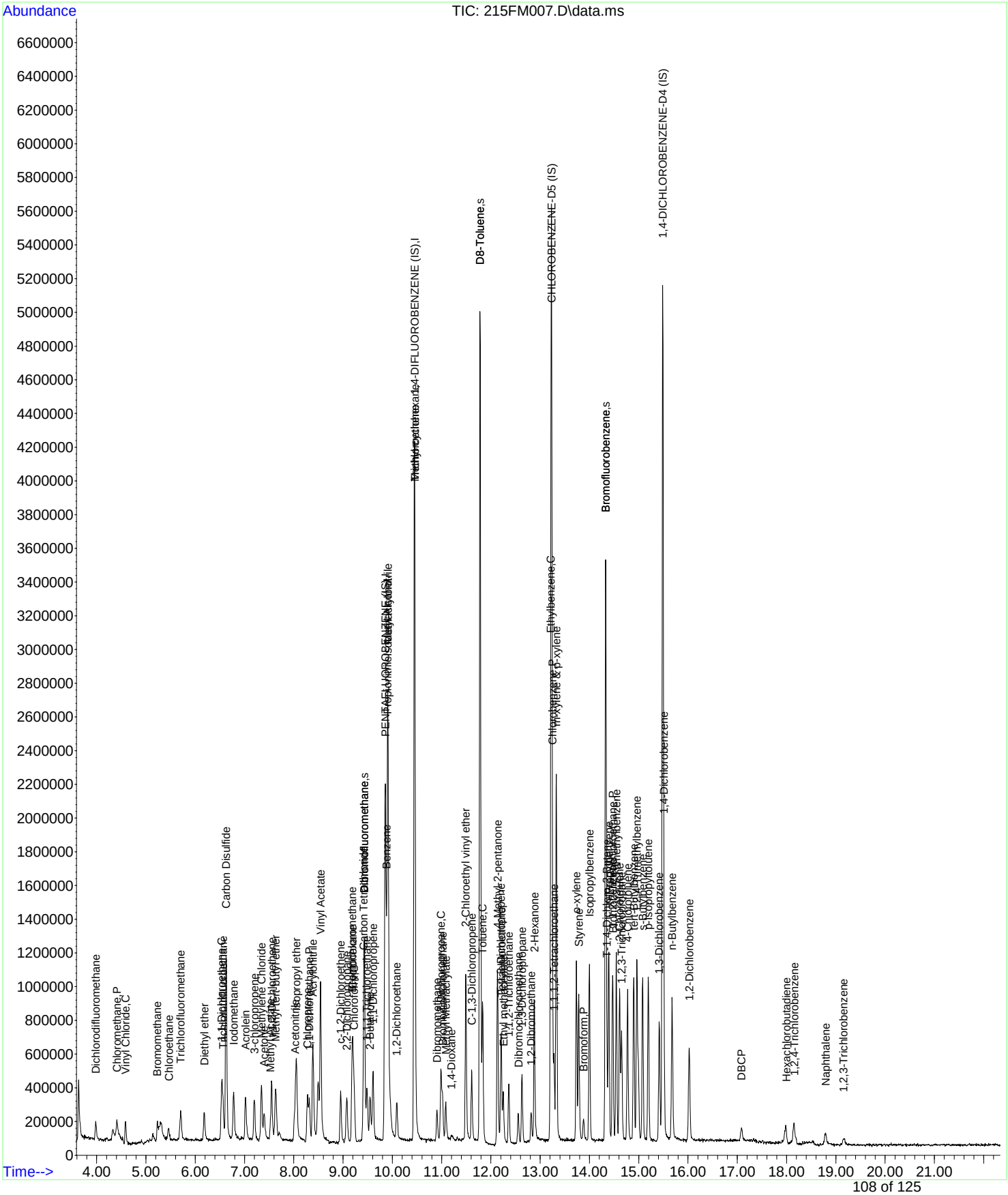
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	3385429	50.70	ug/L		96
54) 4-Methyl-2-pentanone	12.136	100	119171	41.26	ug/L		98
56) Toluene	11.831	92	387473	9.97	ug/L		97
57) T-1,3-Dichloropropene	12.201	75	188853	9.24	ug/L	#	94
58) Tetrachloroethene	12.213	164	84246	7.93	ug/L		86
59) Ethyl methacrylate	12.254	69	185862	7.76	ug/L		98
60) 1,1,2-Trichloroethane	12.360	97	133088	9.51	ug/L		95
61) Dibromochloromethane	12.559	129	104875	9.05	ug/L		97
62) 1,3-Dichloropropane	12.630	76	263488	10.09	ug/L		97
63) 1,2-Dibromoethane	12.818	107	140793	9.75	ug/L	#	93
64) 2-Hexanone	12.882	43	608770	48.78	ug/L		95
65) Ethylbenzene	13.211	106	251441	10.74	ug/L		94
66) Chlorobenzene	13.247	112	417890	10.11	ug/L		96
67) 1,1,1,2-Tetrachloroethane	13.282	131	118240	9.64	ug/L		95
68) m-xylene & p-xylene	13.329	106	629412	21.65	ug/L		94
69) o-xylene	13.734	106	295787	9.95	ug/L		94
70) Styrene	13.781	104	450550	9.37	ug/L		94
71) Bromoform	13.881	173	56574	8.82	ug/L	#	88
72) Isopropylbenzene	13.999	105	750121	10.03	ug/L		97
74) Bromofluorobenzene	14.328	95	1442507	48.81	ug/L	#	81
75) n-Propylbenzene	14.392	91	1000959	10.51	ug/L		98
76) 1,1,2,2-Tetrachloroethane	14.469	83	242924	10.03	ug/L		97
77) 1,2,3-Trichloropropane	14.651	61	73846	11.72	ug/L		94
78) T-1,4-Dichloro-2-Butene	14.351	53	71229	8.97	ug/L	#	1
80) Bromobenzene	14.475	156	149248	10.74	ug/L		84
81) 1,2,4-Trimethylbenzene	14.962	105	648191	11.32	ug/L		99
82) 2-Chlorotoluene	14.610	91	586883	11.44	ug/L		96
83) 4-Chlorotoluene	14.774	91	596106	11.64	ug/L		96
84) tert-Butylbenzene	14.898	119	524494	10.77	ug/L		99
85) 1,3,5-Trimethylbenzene	14.545	105	674843	11.72	ug/L		97
86) p-Isopropyltoluene	15.192	119	663916	10.11	ug/L		98
87) s-Butylbenzene	15.080	105	799657	11.56	ug/L		98
88) 1,3-Dichlorobenzene	15.415	146	311105	10.69	ug/L		98
89) 1,4-Dichlorobenzene	15.509	146	314368	10.48	ug/L	#	45
90) n-Butylbenzene	15.673	91	633951	9.86	ug/L		97
91) 1,2-Dichlorobenzene	16.026	146	273858	10.19	ug/L		93
92) DBCP	17.083	157	23874	7.46	ug/L		92
93) Hexachlorobutadiene	17.994	225	23531	6.19	ug/L	#	87
94) 1,2,4-Trichlorobenzene	18.153	180	55168	7.13	ug/L	#	91
95) Naphthalene	18.793	128	113841	5.51	ug/L	#	91
96) 1,2,3-Trichlorobenzene	19.152	180	19431	5.46	ug/L		89

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM007.D
Acq On : 18 Jun 2021 9:28 am
Operator : kkw
Sample : aa66932-cal4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 18 09:52:17 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM008.D
Acq On : 18 Jun 2021 9:56 am
Operator : kkw
Sample : aa66932-cal5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 18 10:34:37 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1048667	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2471790	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1553840	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1230662	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	817344	73.95	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 147.90%#				
52) D8-Toluene	11.778	98	3851047	63.49	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 126.98%#				
73) Bromofluorobenzene	14.328	95	1690729	62.94	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 125.88%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	200616	15.93	ug/L		94
3) Chloromethane	4.410	50	302243	18.48	ug/L		100
4) Vinyl Chloride	4.586	62	270150	21.33	ug/L		96
5) Bromomethane	5.227	94	76749	21.51	ug/L	#	96
6) Chloroethane	5.462	64	156004	30.58	ug/L		99
7) Trichlorofluoromethane	5.703	101	324475	23.25	ug/L		99
8) Diethyl ether	6.184	59	214890	25.05	ug/L		99
9) 1,1-Dichloroethene	6.537	96	221322	26.33	ug/L		91
10) Trichlorotrifluoroethane	6.555	151	137133	24.00	ug/L		94
11) Acrolein	7.013	56	561975	204.58	ug/L		100
12) Iodomethane	6.778	142	915747	86.03	ug/L		97
13) Carbon Disulfide	6.625	76	3325322	102.69	ug/L		100
14) 3-chloropropene	7.195	41	352274	22.97	ug/L		97
15) Acetone	7.395	43	398208	113.61	ug/L		96
16) Methylene Chloride	7.342	84	286265	25.93	ug/L		93
17) Methyl Acetate	7.524	43	210343	22.85	ug/L	#	97
18) t-1,2-Dichloroethene	7.548	96	254734	24.75	ug/L		94
19) Methyl tert-butyl ether	7.630	73	635359	24.60	ug/L		94
20) Acetonitrile	8.012	41	573594	224.54	ug/L		97
21) Isopropyl ether	8.053	45	835803	25.59	ug/L		100
22) Chloroprene	8.276	88	239238	24.76	ug/L		99
23) 1,1-Dichloroethane	8.317	63	496023	27.47	ug/L		98
24) Acrylonitrile	8.382	53	1142636	206.28	ug/L		100
25) Vinyl Acetate	8.541	43	2933507	127.34	ug/L		98
26) c-1,2-Dichloroethene	8.952	96	281101	24.59	ug/L		95
27) 2,2-Dichloropropane	9.075	77	361450	26.86	ug/L		99
28) Bromochloromethane	9.181	128	109839	29.80	ug/L		97
29) Cyclohexane	9.187	56	510224	26.07	ug/L		97
30) Chloroform	9.222	83	472414	25.71	ug/L		95
32) Dibromofluoromethane	9.428	113	817344	73.95	ug/L	#	90
33) 2-Butanone	9.545	72	207794	112.18	ug/L		98
34) 1,1,1-Trichloroethane	9.486	97	347948	25.39	ug/L		93
35) 1,1-Dichloropropene	9.604	75	389732	26.62	ug/L		97
36) Propionitrile	9.892	54	522201	230.42	ug/L		94
37) Methacrylonitrile	9.910	41	2068765	232.92	ug/L		99
38) Isobutyl Alcohol	9.910	43	433436	404.99	ug/L	#	83
40) Carbon Tetrachloride	9.410	117	313463	25.77	ug/L	#	71
41) Benzene	9.880	78	1191916	22.97	ug/L		99
42) 1,2-Dichloroethane	10.086	62	328738	21.84	ug/L		99
43) Trichloroethene	10.450	130	249364	21.05	ug/L	#	78
44) Methyl cyclohexane	10.450	83	545136	21.39	ug/L		97
45) Dibromomethane	10.903	93	165729	20.52	ug/L		91
46) 1,2-Dichloropropane	10.985	63	320957	21.51	ug/L		98
47) Bromodichloromethane	11.020	83	331106	21.40	ug/L		98
48) Methyl Methacrylate	11.079	69	213806	18.40	ug/L		97
49) 1,4-Dioxane	11.196	88	51801	329.76	ug/L		91
50) 2-Chloroethyl vinyl ether	11.490	63	862819	95.57	ug/L		97
51) C-1,3-Dichloropropene	11.608	75	502562	21.35	ug/L		98

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM008.D
Acq On : 18 Jun 2021 9:56 am
Operator : kkw
Sample : aa66932-cal5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 18 10:34:37 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

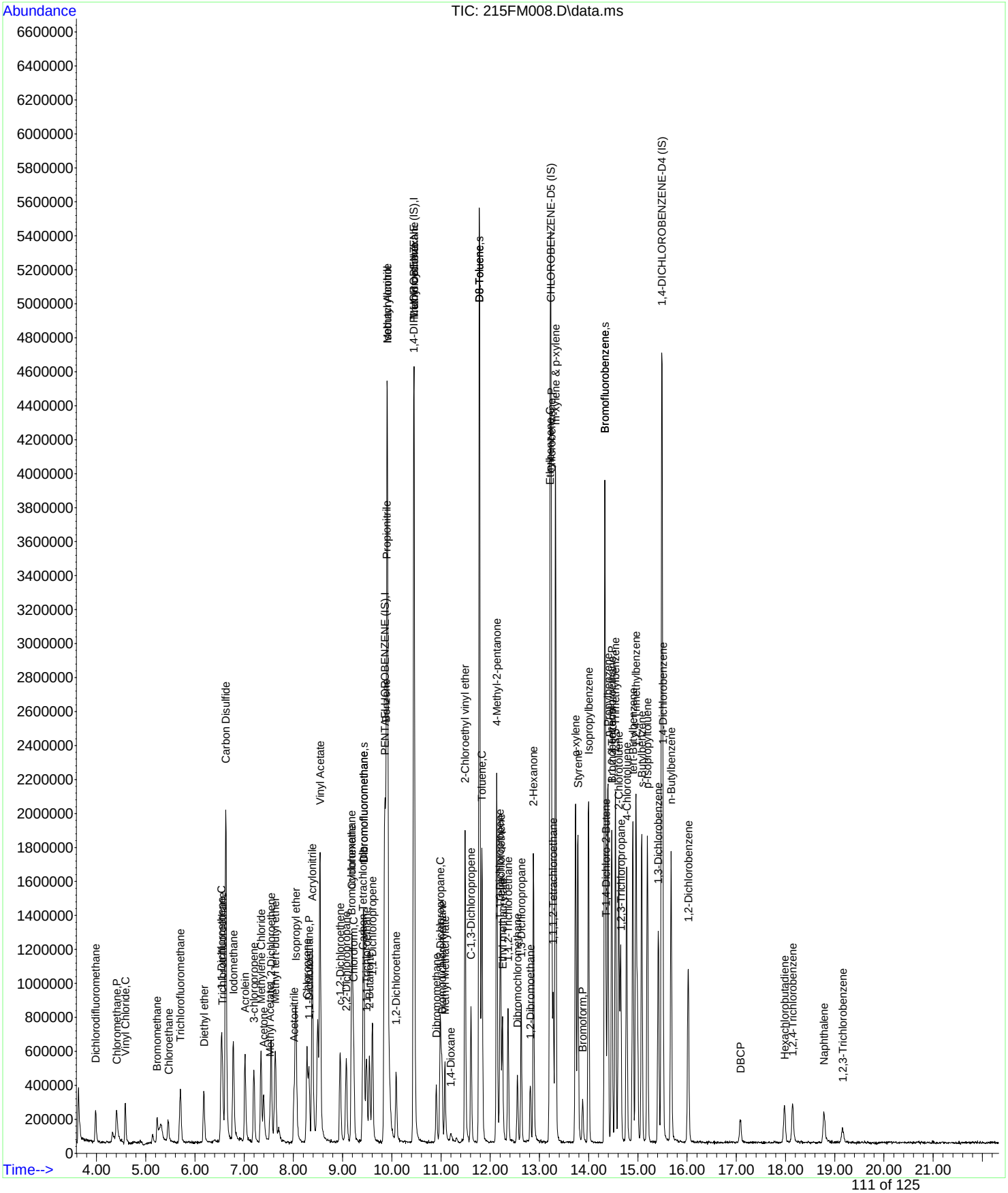
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	3846540	63.42	ug/L		95
54) 4-Methyl-2-pentanone	12.131	100	225597	85.61	ug/L		87
56) Toluene	11.831	92	775105	21.95	ug/L		100
57) T-1,3-Dichloropropene	12.195	75	401434	21.61	ug/L		97
58) Tetrachloroethene	12.213	164	174433	18.07	ug/L		94
59) Ethyl methacrylate	12.248	69	404512	18.58	ug/L		98
60) 1,1,2-Trichloroethane	12.360	97	264998	20.82	ug/L		99
61) Dibromochloromethane	12.554	129	214050	19.68	ug/L		96
62) 1,3-Dichloropropane	12.630	76	478862	20.18	ug/L		98
63) 1,2-Dibromoethane	12.812	107	261362	19.92	ug/L		100
64) 2-Hexanone	12.877	43	1090226	96.12	ug/L		98
65) Ethylbenzene	13.212	106	437376	20.55	ug/L		90
66) Chlorobenzene	13.241	112	788116	20.97	ug/L		98
67) 1,1,1,2-Tetrachloroethane	13.276	131	220728	19.47	ug/L		98
68) m-xylene & p-xylene	13.329	106	1185284	44.85	ug/L		95
69) o-xylene	13.735	106	588315	21.78	ug/L		100
70) Styrene	13.782	104	1002210	22.92	ug/L		98
71) Bromoform	13.876	173	115109	18.90	ug/L		97
72) Isopropylbenzene	13.999	105	1501750	22.09	ug/L		98
74) Bromofluorobenzene	14.328	95	1690729	62.94	ug/L	#	75
75) n-Propylbenzene	14.393	91	1936701	22.38	ug/L		97
76) 1,1,2,2-Tetrachloroethane	14.469	83	466550	21.19	ug/L		97
77) 1,2,3-Trichloropropane	14.657	61	97684	16.87	ug/L	#	79
78) T-1,4-Dichloro-2-Butene	14.351	53	132350	18.34	ug/L	#	52
80) Bromobenzene	14.469	156	275454	21.99	ug/L		84
81) 1,2,4-Trimethylbenzene	14.963	105	1290180	24.99	ug/L		99
82) 2-Chlorotoluene	14.610	91	1123138	24.30	ug/L		98
83) 4-Chlorotoluene	14.775	91	1182452	25.62	ug/L		96
84) tert-Butylbenzene	14.898	119	1017327	23.19	ug/L		97
85) 1,3,5-Trimethylbenzene	14.540	105	1306656	25.17	ug/L		96
86) p-Isopropyltoluene	15.192	119	1250358	21.13	ug/L		97
87) s-Butylbenzene	15.080	105	1534533	24.60	ug/L		98
88) 1,3-Dichlorobenzene	15.415	146	566706	21.60	ug/L		93
89) 1,4-Dichlorobenzene	15.509	146	588831	21.79	ug/L	#	76
90) n-Butylbenzene	15.673	91	1239760	21.40	ug/L		96
91) 1,2-Dichlorobenzene	16.026	146	515198	21.26	ug/L		93
92) DBCP	17.090	157	44628	15.22	ug/L		86
93) Hexachlorobutadiene	17.983	225	49921	14.50	ug/L		93
94) 1,2,4-Trichlorobenzene	18.141	180	103006	14.53	ug/L		95
95) Naphthalene	18.782	128	267664	14.07	ug/L		97
96) 1,2,3-Trichlorobenzene	19.164	180	39009	11.98	ug/L	#	92

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM008.D
Acq On : 18 Jun 2021 9:56 am
Operator : kkw
Sample : aa66932-cal5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 18 10:34:37 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM009.D
Acq On : 18 Jun 2021 10:24 am
Operator : kkw
Sample : aa66932-cal6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jun 18 11:10:05 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Fri Jun 18 11:10:02 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.851	168	1101889	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2525815	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.223	82	1610233	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1271242	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	691769	52.47	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 104.94%				
52) D8-Toluene	11.778	98	3376143	55.48	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 110.96%				
73) Bromofluorobenzene	14.328	95	1488725	54.27	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 108.54%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	566892	50.85	ug/L		99
3) Chloromethane	4.404	50	760761	47.45	ug/L		98
4) Vinyl Chloride	4.586	62	716164	49.26	ug/L		88
5) Bromomethane	5.227	94	193576	31.84	ug/L		99
6) Chloroethane	5.444	64	316881	35.23	ug/L		95
7) Trichlorofluoromethane	5.697	101	846089	51.19	ug/L		100
8) Diethyl ether	6.178	59	555943	48.97	ug/L		98
9) 1,1-Dichloroethene	6.531	96	607719	52.83	ug/L		96
10) Trichlorotrifluoroethane	6.554	151	352293	48.81	ug/L		90
11) Acrolein	7.013	56	1477050	512.15	ug/L		100
12) Iodomethane	6.778	142	2614644	375.79	ug/L		97
13) Carbon Disulfide	6.625	76	8389451	262.62	ug/L		99
14) 3-chloropropene	7.195	41	986635	55.01	ug/L		99
15) Acetone	7.395	43	1078431	267.16	ug/L		100
16) Methylene Chloride	7.342	84	725279	47.73	ug/L		100
17) Methyl Acetate	7.518	43	551906	42.28	ug/L	#	95
18) t-1,2-Dichloroethene	7.547	96	668471	49.88	ug/L		97
19) Methyl tert-butyl ether	7.630	73	1745532	53.48	ug/L		99
20) Acetonitrile	8.006	41	1530457	504.36	ug/L		100
21) Isopropyl ether	8.047	45	2233077	54.63	ug/L		99
22) Chloroprene	8.270	88	624635	60.84	ug/L		96
23) 1,1-Dichloroethane	8.311	63	1268564	49.88	ug/L		100
24) Acrylonitrile	8.382	53	2947243	519.53	ug/L		99
25) Vinyl Acetate	8.534	43	7542136	300.62	ug/L		98
26) c-1,2-Dichloroethene	8.946	96	768544	54.92	ug/L		97
27) 2,2-Dichloropropane	9.075	77	961942	54.88	ug/L		98
28) Bromochloromethane	9.187	128	241159	41.87	ug/L		96
29) Cyclohexane	9.187	56	1378155	56.75	ug/L		96
30) Chloroform	9.222	83	1207625	49.58	ug/L		99
32) Dibromofluoromethane	9.428	113	691769	52.47	ug/L	#	90
33) 2-Butanone	9.539	72	545346	262.38	ug/L		99
34) 1,1,1-Trichloroethane	9.480	97	948191	54.29	ug/L		98
35) 1,1-Dichloropropene	9.604	75	1020890	51.58	ug/L		98
36) Propionitrile	9.892	54	1278807	483.73	ug/L		92
37) Methacrylonitrile	9.909	41	5156465	501.48	ug/L		100
38) Isobutyl Alcohol	9.950	43	1181083	1315.77	ug/L		97
40) Carbon Tetrachloride	9.410	117	719666	51.82	ug/L	#	94
41) Benzene	9.874	78	2915205	47.71	ug/L		99
42) 1,2-Dichloroethane	10.086	62	825333	45.49	ug/L		99
43) Trichloroethene	10.450	130	624288	50.54	ug/L		92
44) Methyl cyclohexane	10.450	83	1353707	36.45	ug/L		96
45) Dibromomethane	10.902	93	434739	49.73	ug/L		92
46) 1,2-Dichloropropane	10.985	63	849636	50.47	ug/L		99
47) Bromodichloromethane	11.014	83	875106	55.15	ug/L		99
48) Methyl Methacrylate	11.079	69	618545	63.20	ug/L		97
49) 1,4-Dioxane	11.202	88	139925	1066.27	ug/L		97
50) 2-Chloroethyl vinyl ether	11.484	63	2289741	306.35	ug/L		96
51) C-1,3-Dichloropropene	11.607	75	1342741	56.74	ug/L		99

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM009.D
Acq On : 18 Jun 2021 10:24 am
Operator : kkw
Sample : aa66932-cal6
Misc :
ALS Vial : 7 Sample Multiplier: 1

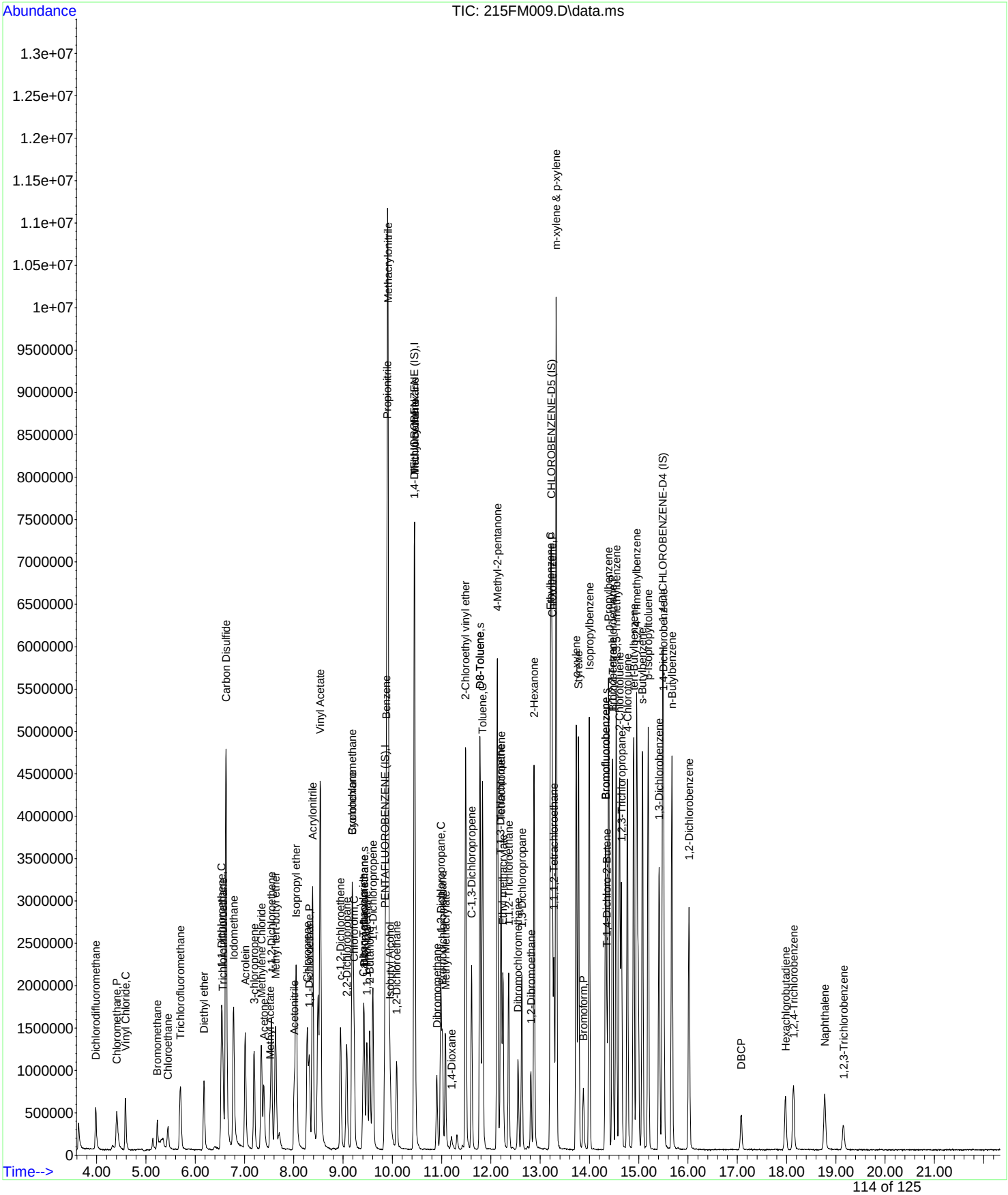
Quant Time: Jun 18 11:10:05 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Fri Jun 18 11:10:02 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	3376143	55.48	ug/L		96
54) 4-Methyl-2-pentanone	12.130	100	606010	275.54	ug/L		91
56) Toluene	11.831	92	2006031	50.07	ug/L		97
57) T-1,3-Dichloropropene	12.195	75	1052480	54.14	ug/L		99
58) Tetrachloroethene	12.207	164	440848	47.30	ug/L		94
59) Ethyl methacrylate	12.242	69	1112969	66.12	ug/L		100
60) 1,1,2-Trichloroethane	12.360	97	683667	50.59	ug/L		98
61) Dibromochloromethane	12.548	129	579595	61.98	ug/L		99
62) 1,3-Dichloropropane	12.630	76	1280096	52.68	ug/L		98
63) 1,2-Dibromoethane	12.812	107	708335	53.68	ug/L	#	98
64) 2-Hexanone	12.877	43	2942276	299.51	ug/L		99
65) Ethylbenzene	13.206	106	1154029	52.29	ug/L		93
66) Chlorobenzene	13.241	112	1987083	50.12	ug/L		98
67) 1,1,1,2-Tetrachloroethane	13.276	131	588973	53.81	ug/L		98
68) m-xylene & p-xylene	13.323	106	2897847	99.04	ug/L		95
69) o-xylene	13.729	106	1480227	53.50	ug/L		94
70) Styrene	13.775	104	2515821	61.21	ug/L		98
71) Bromoform	13.875	173	316758	63.73	ug/L		90
72) Isopropylbenzene	13.999	105	3820687	54.01	ug/L		97
74) Bromofluorobenzene	14.328	95	1488725	54.27	ug/L	#	75
75) n-Propylbenzene	14.387	91	4988753	53.59	ug/L		98
76) 1,1,2,2-Tetrachloroethane	14.469	83	1173606	51.05	ug/L		98
77) 1,2,3-Trichloropropane	14.651	61	258789	44.09	ug/L		84
78) T-1,4-Dichloro-2-Butene	14.351	53	339718	52.37	ug/L		89
80) Bromobenzene	14.469	156	704271	52.43	ug/L		80
81) 1,2,4-Trimethylbenzene	14.957	105	3383669	57.85	ug/L		98
82) 2-Chlorotoluene	14.610	91	2945298	54.40	ug/L		97
83) 4-Chlorotoluene	14.768	91	3058188	57.02	ug/L		97
84) tert-Butylbenzene	14.898	119	2702281	56.48	ug/L		96
85) 1,3,5-Trimethylbenzene	14.545	105	3401507	57.23	ug/L		97
86) p-Isopropyltoluene	15.192	119	3319147	58.70	ug/L		97
87) s-Butylbenzene	15.074	105	4096072	57.37	ug/L		99
88) 1,3-Dichlorobenzene	15.415	146	1494905	53.19	ug/L		93
89) 1,4-Dichlorobenzene	15.503	146	1488014	49.92	ug/L		91
90) n-Butylbenzene	15.673	91	3375228	60.91	ug/L		97
91) 1,2-Dichlorobenzene	16.020	146	1375072	53.70	ug/L		95
92) DBCP	17.078	157	141044	63.73	ug/L		98
93) Hexachlorobutadiene	17.982	225	142097	61.92	ug/L	#	90
94) 1,2,4-Trichlorobenzene	18.141	180	313560	74.05	ug/L		92
95) Naphthalene	18.776	128	896222	85.25	ug/L		100
96) 1,2,3-Trichlorobenzene	19.158	180	138934	74.50	ug/L	#	92

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM009.D
Acq On : 18 Jun 2021 10:24 am
Operator : kkw
Sample : aa66932-cal6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jun 18 11:10:05 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Fri Jun 18 11:10:02 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM010.D
Acq On : 18 Jun 2021 10:52 am
Operator : kkw
Sample : aa66932-cal7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 18 11:43:10 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Fri Jun 18 11:11:17 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.851	168	1123435	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2544231	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1714182	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1273276	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	918978	67.81	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 135.62%#				
52) D8-Toluene	11.778	98	4433031	71.03	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 142.06%#				
73) Bromofluorobenzene	14.328	95	2000166	67.53	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 135.06%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	932562	81.81	ug/L		98
3) Chloromethane	4.404	50	1300917	83.08	ug/L		100
4) Vinyl Chloride	4.580	62	1219487	82.47	ug/L		96
5) Bromomethane	5.232	94	362884	62.32	ug/L		96
6) Chloroethane	5.432	64	417887	47.93	ug/L		96
7) Trichlorofluoromethane	5.691	101	1408032	83.22	ug/L		100
8) Diethyl ether	6.178	59	932975	80.89	ug/L		99
9) 1,1-Dichloroethene	6.531	96	963951	81.42	ug/L		99
10) Trichlorotrifluoroethane	6.554	151	553174	75.47	ug/L		99
11) Acrolein	7.013	56	2505933	848.80	ug/L		99
12) Iodomethane	6.778	142	4278069	556.41	ug/L		99
13) Carbon Disulfide	6.619	76	13076901	398.15	ug/L		99
14) 3-chloropropene	7.195	41	1588991	85.47	ug/L		97
15) Acetone	7.389	43	1861072	447.08	ug/L		99
16) Methylene Chloride	7.336	84	1216081	79.10	ug/L		97
17) Methyl Acetate	7.512	43	977153	75.35	ug/L	#	96
18) t-1,2-Dichloroethene	7.542	96	1074638	78.68	ug/L		97
19) Methyl tert-butyl ether	7.630	73	2897495	86.08	ug/L		99
20) Acetonitrile	8.006	41	2616075	844.36	ug/L		99
21) Isopropyl ether	8.047	45	3676890	86.89	ug/L		99
22) Chloroprene	8.270	88	1026205	94.62	ug/L		99
23) 1,1-Dichloroethane	8.311	63	2065602	79.70	ug/L		99
24) Acrylonitrile	8.382	53	5029725	863.99	ug/L		98
25) Vinyl Acetate	8.535	43	12211820	461.83	ug/L		99
26) c-1,2-Dichloroethene	8.946	96	1216730	83.90	ug/L		97
27) 2,2-Dichloropropane	9.069	77	1594058	87.77	ug/L		100
28) Bromochloromethane	9.181	128	379875	66.49	ug/L		99
29) Cyclohexane	9.193	56	2188095	86.42	ug/L		98
30) Chloroform	9.222	83	1956175	78.88	ug/L		98
32) Dibromofluoromethane	9.428	113	918978	67.81	ug/L	#	88
33) 2-Butanone	9.539	72	952951	446.02	ug/L		95
34) 1,1,1-Trichloroethane	9.481	97	1534822	84.98	ug/L		99
35) 1,1-Dichloropropene	9.604	75	1668352	82.24	ug/L		99
36) Propionitrile	9.898	54	2058819	768.01	ug/L		97
37) Methacrylonitrile	9.909	41	8187682	780.62	ug/L		98
38) Isobutyl Alcohol	9.951	43	1979594	2054.90	ug/L		96
40) Carbon Tetrachloride	9.410	117	1365433	97.02	ug/L		86
41) Benzene	9.874	78	4591902	75.18	ug/L		99
42) 1,2-Dichloroethane	10.086	62	1375316	76.41	ug/L		98
43) Trichloroethene	10.450	130	985071	79.02	ug/L		99
44) Methyl cyclohexane	10.450	83	2150686	60.21	ug/L		98
45) Dibromomethane	10.897	93	718501	81.67	ug/L		99
46) 1,2-Dichloropropane	10.985	63	1381434	81.34	ug/L		98
47) Bromodichloromethane	11.014	83	1457563	89.66	ug/L		100
48) Methyl Methacrylate	11.073	69	1042641	101.31	ug/L		100
49) 1,4-Dioxane	11.202	88	245538	1837.24	ug/L		99
50) 2-Chloroethyl vinyl ether	11.490	63	3769965	482.61	ug/L		99
51) C-1,3-Dichloropropene	11.607	75	2205891	90.51	ug/L		99

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM010.D
Acq On : 18 Jun 2021 10:52 am
Operator : kkw
Sample : aa66932-cal7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 18 11:43:10 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Fri Jun 18 11:11:17 2021
Response via : Initial Calibration

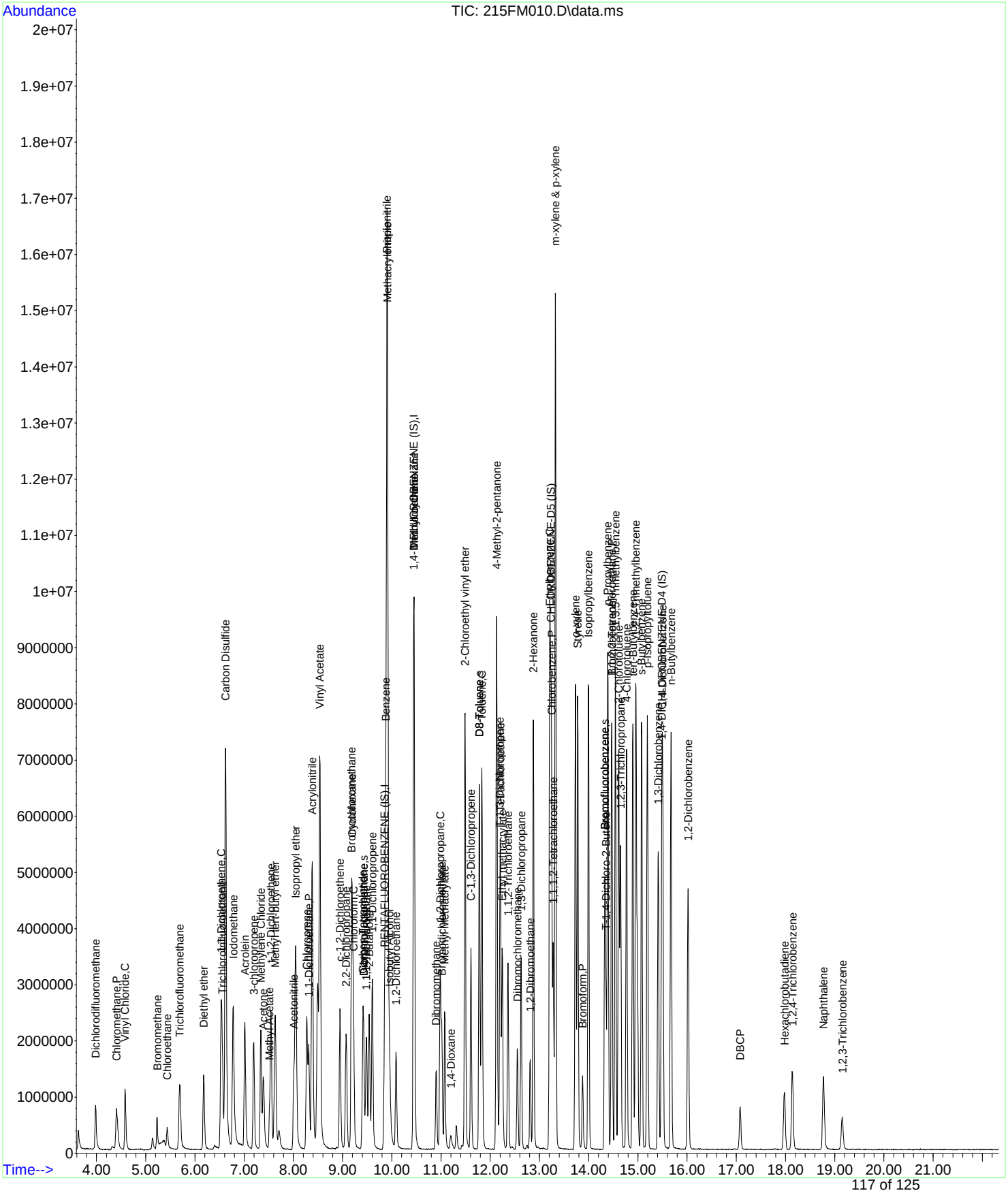
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	4433031	71.03	ug/L		95
54) 4-Methyl-2-pentanone	12.130	100	991775	440.18	ug/L		96
56) Toluene	11.831	92	3174215	74.41	ug/L		100
57) T-1,3-Dichloropropene	12.195	75	1728113	82.37	ug/L		99
58) Tetrachloroethene	12.207	164	701519	71.35	ug/L		98
59) Ethyl methacrylate	12.242	69	1898301	100.53	ug/L		99
60) 1,1,2-Trichloroethane	12.360	97	1142283	79.24	ug/L		98
61) Dibromochloromethane	12.553	129	998555	96.45	ug/L		99
62) 1,3-Dichloropropane	12.630	76	2158658	82.71	ug/L		100
63) 1,2-Dibromoethane	12.812	107	1195729	84.09	ug/L		99
64) 2-Hexanone	12.877	43	4994708	462.34	ug/L		99
65) Ethylbenzene	13.206	106	1871305	79.04	ug/L		96
66) Chlorobenzene	13.247	112	3189012	75.53	ug/L		100
67) 1,1,1,2-Tetrachloroethane	13.282	131	1009037	85.52	ug/L		97
68) m-xylene & p-xylene	13.323	106	4541007	146.02	ug/L		97
69) o-xylene	13.734	106	2417387	81.13	ug/L		99
70) Styrene	13.776	104	4206117	92.66	ug/L		99
71) Bromoform	13.875	173	575403	103.99	ug/L		98
72) Isopropylbenzene	13.993	105	6066459	79.50	ug/L		98
74) Bromofluorobenzene	14.328	95	2000166	67.53	ug/L	#	75
75) n-Propylbenzene	14.387	91	7982408	79.59	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.469	83	1985210	80.84	ug/L		98
77) 1,2,3-Trichloropropane	14.651	61	457507	74.69	ug/L		94
78) T-1,4-Dichloro-2-Butene	14.351	53	625157	89.82	ug/L		90
80) Bromobenzene	14.469	156	1148624	84.69	ug/L		100
81) 1,2,4-Trimethylbenzene	14.957	105	5391829	89.68	ug/L		99
82) 2-Chlorotoluene	14.610	91	4808303	87.39	ug/L		99
83) 4-Chlorotoluene	14.769	91	4948469	90.01	ug/L		100
84) tert-Butylbenzene	14.898	119	4242901	86.67	ug/L		98
85) 1,3,5-Trimethylbenzene	14.545	105	5336569	87.53	ug/L		98
86) p-Isopropyltoluene	15.192	119	5201226	89.25	ug/L		99
87) s-Butylbenzene	15.074	105	6457795	88.14	ug/L		100
88) 1,3-Dichlorobenzene	15.415	146	2387561	83.92	ug/L		99
89) 1,4-Dichlorobenzene	15.503	146	2416825	80.97	ug/L		96
90) n-Butylbenzene	15.673	91	5350880	93.02	ug/L		99
91) 1,2-Dichlorobenzene	16.020	146	2208490	85.06	ug/L		97
92) DBCP	17.078	157	246775	106.45	ug/L		95
93) Hexachlorobutadiene	17.982	225	250885	104.97	ug/L		96
94) 1,2,4-Trichlorobenzene	18.141	180	577702	126.10	ug/L		97
95) Naphthalene	18.770	128	1722375	146.37	ug/L		100
96) 1,2,3-Trichlorobenzene	19.158	180	265407	131.36	ug/L		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM010.D
Acq On : 18 Jun 2021 10:52 am
Operator : kkw
Sample : aa66932-cal7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 18 11:43:10 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Fri Jun 18 11:11:17 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM011.D
Acq On : 18 Jun 2021 11:20 am
Operator : kkw
Sample : aa66932-cal8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jun 18 11:43:26 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Fri Jun 18 11:11:17 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.851	168	1129487	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2502919	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.223	82	1697989	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1266610	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	988078	72.52	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 145.04%#				
52) D8-Toluene	11.778	98	4733786	77.10	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 154.20%#				
73) Bromofluorobenzene	14.328	95	2175091	74.14	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 148.28%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	1159014	101.13	ug/L		99
3) Chloromethane	4.404	50	1831210	116.32	ug/L		100
4) Vinyl Chloride	4.580	62	1565349	105.29	ug/L		96
5) Bromomethane	5.227	94	478379	81.72	ug/L		98
6) Chloroethane	5.432	64	388830	44.36	ug/L		97
7) Trichlorofluoromethane	5.685	101	1776302	104.42	ug/L		99
8) Diethyl ether	6.179	59	1207374	104.12	ug/L		99
9) 1,1-Dichloroethene	6.531	96	1251271	105.12	ug/L		99
10) Trichlorotrifluoroethane	6.555	151	706618	95.89	ug/L		98
11) Acrolein	7.013	56	3300114	1111.81	ug/L		100
12) Iodomethane	6.772	142	5419952	701.14	ug/L		99
13) Carbon Disulfide	6.619	76	16040976	485.79	ug/L		99
14) 3-chloropropene	7.189	41	1865214	99.79	ug/L		99
15) Acetone	7.395	43	2495282	596.23	ug/L		100
16) Methylene Chloride	7.336	84	1513458	97.91	ug/L		95
17) Methyl Acetate	7.518	43	1317924	101.09	ug/L		96
18) t-1,2-Dichloroethene	7.542	96	1370279	99.79	ug/L		99
19) Methyl tert-butyl ether	7.630	73	3836963	113.38	ug/L		99
20) Acetonitrile	8.012	41	3525661	1131.84	ug/L		99
21) Isopropyl ether	8.047	45	4718235	110.90	ug/L		99
22) Chloroprene	8.270	88	1332291	122.18	ug/L		99
23) 1,1-Dichloroethane	8.311	63	2603426	99.91	ug/L		100
24) Acrylonitrile	8.382	53	6578133	1123.92	ug/L		100
25) Vinyl Acetate	8.535	43	15529950	584.17	ug/L		98
26) c-1,2-Dichloroethene	8.946	96	1558869	106.91	ug/L		98
27) 2,2-Dichloropropane	9.069	77	2012990	110.25	ug/L		99
28) Bromochloromethane	9.181	128	448159	78.02	ug/L		100
29) Cyclohexane	9.187	56	2739986	107.64	ug/L		98
30) Chloroform	9.216	83	2478369	99.41	ug/L		99
32) Dibromofluoromethane	9.428	113	988078	72.52	ug/L	#	89
33) 2-Butanone	9.539	72	1250560	582.17	ug/L		99
34) 1,1,1-Trichloroethane	9.486	97	1930104	106.29	ug/L		99
35) 1,1-Dichloropropene	9.604	75	2074189	101.70	ug/L		99
36) Propionitrile	9.898	54	2668820	990.22	ug/L		96
37) Methacrylonitrile	9.909	41	10381958	984.52	ug/L		97
38) Isobutyl Alcohol	9.951	43	2662337	2748.81	ug/L		94
40) Carbon Tetrachloride	9.410	117	1460734	105.50	ug/L		88
41) Benzene	9.874	78	5755966	95.80	ug/L		99
42) 1,2-Dichloroethane	10.086	62	1753855	99.05	ug/L		99
43) Trichloroethene	10.450	130	1242836	101.35	ug/L		97
44) Methyl cyclohexane	10.450	83	2682040	76.33	ug/L		99
45) Dibromomethane	10.902	93	902694	104.30	ug/L		100
46) 1,2-Dichloropropane	10.985	63	1779650	106.51	ug/L		99
47) Bromodichloromethane	11.014	83	1859933	116.30	ug/L		100
48) Methyl Methacrylate	11.073	69	1410763	139.34	ug/L		97
49) 1,4-Dioxane	11.196	88	336711	2561.02	ug/L		97
50) 2-Chloroethyl vinyl ether	11.490	63	4851460	631.31	ug/L		99
51) C-1,3-Dichloropropene	11.608	75	2794072	116.53	ug/L		98

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM011.D
Acq On : 18 Jun 2021 11:20 am
Operator : kkw
Sample : aa66932-cal8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jun 18 11:43:26 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Fri Jun 18 11:11:17 2021
Response via : Initial Calibration

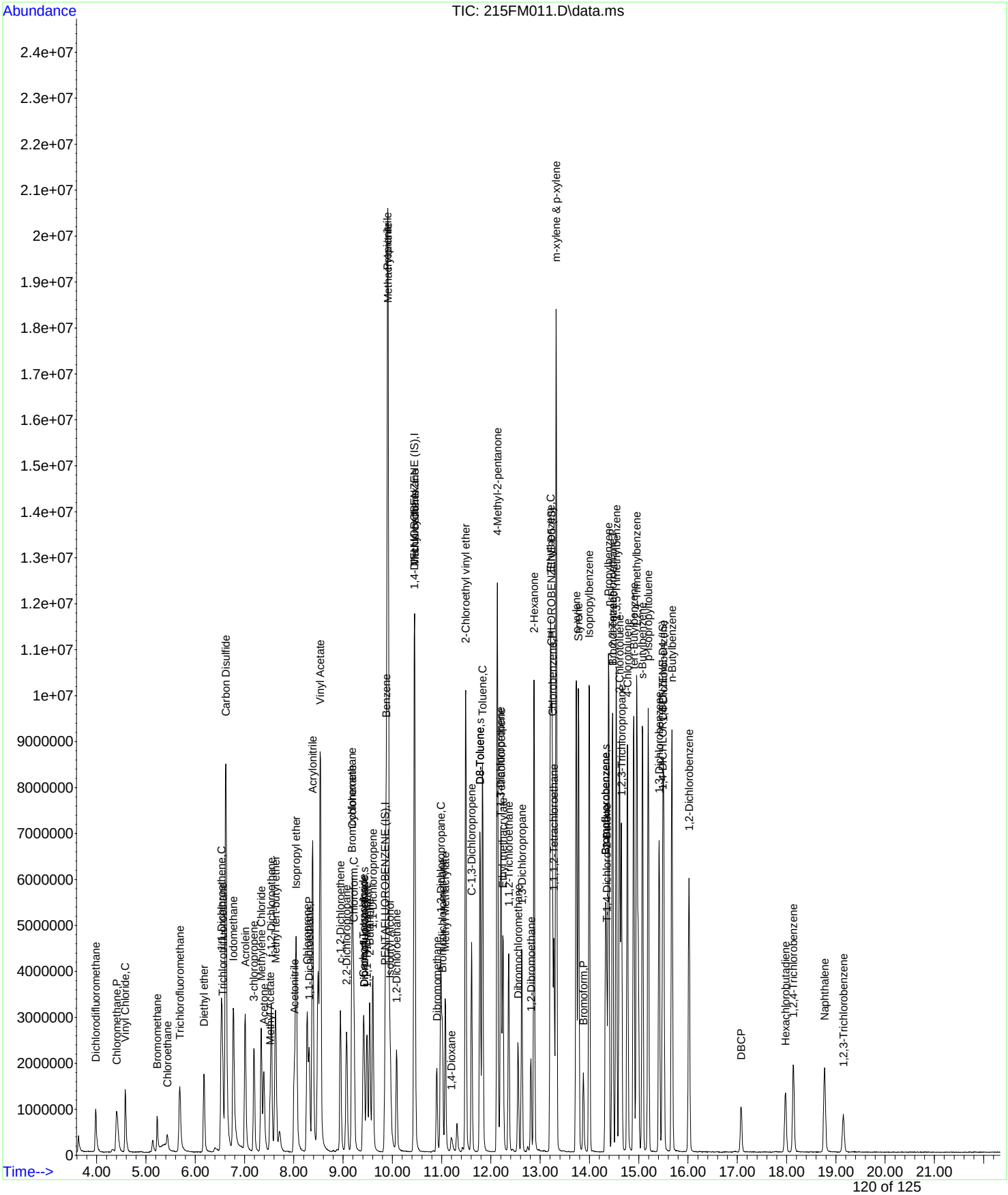
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	4731800	77.06	ug/L		97
54) 4-Methyl-2-pentanone	12.130	100	1330324	600.19	ug/L		99
56) Toluene	11.831	92	3937479	93.18	ug/L		98
57) T-1,3-Dichloropropene	12.195	75	2202638	105.99	ug/L		99
58) Tetrachloroethene	12.207	164	889715	91.35	ug/L		99
59) Ethyl methacrylate	12.242	69	2533929	135.48	ug/L		99
60) 1,1,2-Trichloroethane	12.360	97	1448881	101.47	ug/L		98
61) Dibromochloromethane	12.554	129	1315027	128.23	ug/L		99
62) 1,3-Dichloropropane	12.630	76	2753469	106.50	ug/L		99
63) 1,2-Dibromoethane	12.812	107	1520543	107.96	ug/L		98
64) 2-Hexanone	12.877	43	6710633	627.10	ug/L		100
65) Ethylbenzene	13.212	106	2353358	100.35	ug/L		94
66) Chlorobenzene	13.247	112	3959910	94.69	ug/L		98
67) 1,1,1,2-Tetrachloroethane	13.276	131	1264489	108.19	ug/L		98
68) m-xylene & p-xylene	13.323	106	5509138	178.84	ug/L		95
69) o-xylene	13.735	106	3022266	102.40	ug/L		98
70) Styrene	13.776	104	5266090	117.12	ug/L		98
71) Bromoform	13.876	173	754354	137.63	ug/L		97
72) Isopropylbenzene	13.993	105	7556057	99.96	ug/L		99
74) Bromofluorobenzene	14.328	95	2175091	74.14	ug/L	#	75
75) n-Propylbenzene	14.387	91	9784340	98.49	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.469	83	2499500	102.75	ug/L		98
77) 1,2,3-Trichloropropane	14.651	61	569211	93.81	ug/L		98
78) T-1,4-Dichloro-2-Butene	14.351	53	814740	118.18	ug/L		89
80) Bromobenzene	14.469	156	1450425	107.50	ug/L		100
81) 1,2,4-Trimethylbenzene	14.957	105	6619787	110.69	ug/L		100
82) 2-Chlorotoluene	14.610	91	6041910	110.39	ug/L		99
83) 4-Chlorotoluene	14.769	91	6177797	112.96	ug/L		99
84) tert-Butylbenzene	14.898	119	5257735	107.96	ug/L		97
85) 1,3,5-Trimethylbenzene	14.545	105	6695668	110.40	ug/L		99
86) p-Isopropyltoluene	15.192	119	6418293	110.72	ug/L		99
87) s-Butylbenzene	15.074	105	8000918	109.78	ug/L		99
88) 1,3-Dichlorobenzene	15.415	146	3008346	106.30	ug/L		98
89) 1,4-Dichlorobenzene	15.503	146	2972784	100.12	ug/L		96
90) n-Butylbenzene	15.673	91	6678774	116.72	ug/L		99
91) 1,2-Dichlorobenzene	16.020	146	2797662	108.32	ug/L		97
92) DBCP	17.078	157	347030	150.48	ug/L		96
93) Hexachlorobutadiene	17.977	225	318853	134.11	ug/L		95
94) 1,2,4-Trichlorobenzene	18.135	180	778725	170.88	ug/L		95
95) Naphthalene	18.770	128	2428103	207.43	ug/L		99
96) 1,2,3-Trichlorobenzene	19.152	180	365181	181.70	ug/L		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM011.D
Acq On : 18 Jun 2021 11:20 am
Operator : kkw
Sample : aa66932-cal8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jun 18 11:43:26 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Fri Jun 18 11:11:17 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM013.D
Acq On : 18 Jun 2021 12:15 pm
Operator : kkw
Sample : aa66932-scv1
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jun 21 07:55:38 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Mon Jun 21 07:54:29 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1128318	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2499257	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1604968	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1259307	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	675508	50.03	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 100.06%				
52) D8-Toluene	11.778	98	3378392	54.81	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 109.62%				
73) Bromofluorobenzene	14.328	95	1508083	54.70	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 109.40%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	317681	27.37	ug/L		100
3) Chloromethane	4.410	50	382583	22.81	ug/L		98
4) Vinyl Chloride	4.586	62	307174	20.47	ug/L		93
5) Bromomethane	5.232	94	84016	21.54	ug/L	#	96
6) Chloroethane	5.450	64	132898	15.76	ug/L		96
7) Trichlorofluoromethane	5.703	101	347490	20.24	ug/L		99
8) Diethyl ether	6.178	59	634347	54.40	ug/L		100
9) 1,1-Dichloroethene	6.531	96	677949	56.53	ug/L		99
10) Trichlorotrifluoroethane	6.554	151	411529	56.60	ug/L		94
11) Acrolein	7.013	56	629146	207.69	ug/L		99
12) Iodomethane	6.778	142	503465	49.88	ug/L		98
13) Carbon Disulfide	6.625	76	2348205	65.60	ug/L		99
14) 3-chloropropene	7.195	41	1236698	62.45	ug/L		98
15) Acetone	7.389	43	1243457	259.52	ug/L		99
16) Methylene Chloride	7.342	84	787950	51.23	ug/L		94
17) Methyl Acetate	7.518	43	734153	58.35	ug/L		96
18) t-1,2-Dichloroethene	7.547	96	754914	55.16	ug/L		98
19) Methyl tert-butyl ether	7.630	73	1953142	56.30	ug/L		95
20) Acetonitrile	8.018	41	1104090	346.70	ug/L		92
21) Isopropyl ether	8.047	45	2555237	58.69	ug/L		97
22) Chloroprene	8.276	88	718883	54.97	ug/L		98
23) 1,1-Dichloroethane	8.311	63	1463462	56.25	ug/L		99
24) Acrylonitrile	8.388	53	417621	69.65	ug/L		94
25) Vinyl Acetate	8.540	43	1576358	51.05	ug/L		100
26) c-1,2-Dichloroethene	8.946	96	833017	56.36	ug/L		99
27) 2,2-Dichloropropane	9.069	77	1104018	59.05	ug/L		98
28) Bromochloromethane	9.181	128	266462	48.81	ug/L		94
29) Cyclohexane	9.193	56	1561550	60.23	ug/L		99
30) Chloroform	9.222	83	1344676	54.12	ug/L		99
32) Dibromofluoromethane	9.428	113	675508	50.03	ug/L	#	86
33) 2-Butanone	9.539	72	631495	284.35	ug/L		97
34) 1,1,1-Trichloroethane	9.486	97	1061984	57.64	ug/L		99
35) 1,1-Dichloropropene	9.604	75	1126769	55.00	ug/L		100
36) Propionitrile	9.898	54	180773	67.56	ug/L	#	1
37) Methacrylonitrile	9.909	41	863237	82.35	ug/L	#	79
38) Isobutyl Alcohol	9.904	43	695681	543.32	ug/L	#	77
40) Carbon Tetrachloride	9.410	117	785492m	54.98	ug/L		
41) Benzene	9.874	78	3370646	56.91	ug/L		98
42) 1,2-Dichloroethane	10.086	62	925481	52.70	ug/L		100
43) Trichloroethene	10.450	130	679710	55.50	ug/L		97
44) Methyl cyclohexane	10.450	83	1523625	57.08	ug/L		99
45) Dibromomethane	10.902	93	463343	53.19	ug/L		98
46) 1,2-Dichloropropane	10.985	63	935139	55.48	ug/L		99
47) Bromodichloromethane	11.014	83	989499	59.84	ug/L		99
48) Methyl Methacrylate	11.073	69	699733	52.49	ug/L		97
49) 1,4-Dioxane	11.196	88	169592	1185.40	ug/L		94
50) 2-Chloroethyl vinyl ether	11.490	63	2580815	273.44	ug/L		100
51) C-1,3-Dichloropropene	11.607	75	1403408	56.52	ug/L		97

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM013.D
Acq On : 18 Jun 2021 12:15 pm
Operator : kkw
Sample : aa66932-scv1
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jun 21 07:55:38 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Mon Jun 21 07:54:29 2021
Response via : Initial Calibration

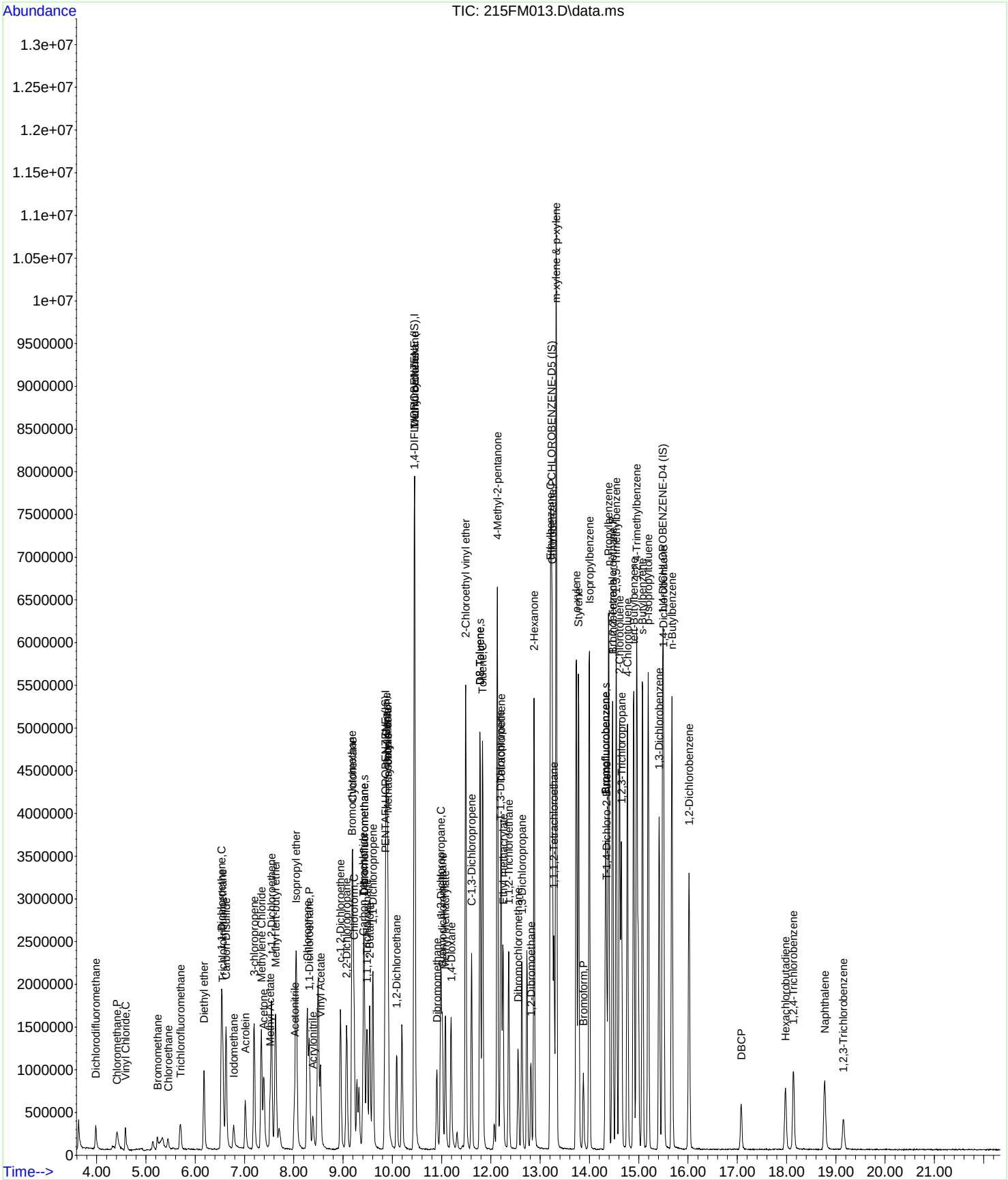
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	3378392	54.81	ug/L		97
54) 4-Methyl-2-pentanone	12.130	100	688870	299.97	ug/L		97
56) Toluene	11.831	92	2210166	56.31	ug/L		97
57) T-1,3-Dichloropropene	12.195	75	1206284	60.73	ug/L		99
58) Tetrachloroethene	12.207	164	499288	55.59	ug/L		97
59) Ethyl methacrylate	12.248	69	1298219	56.33	ug/L		98
60) 1,1,2-Trichloroethane	12.360	97	758031	56.13	ug/L		98
61) Dibromochloromethane	12.553	129	658705	54.77	ug/L		99
62) 1,3-Dichloropropane	12.630	76	1377135	55.67	ug/L		98
63) 1,2-Dibromoethane	12.812	107	779275	57.59	ug/L		99
64) 2-Hexanone	12.877	43	3434594	281.62	ug/L		100
65) Ethylbenzene	13.206	106	1325600	59.87	ug/L		94
66) Chlorobenzene	13.241	112	2236687	57.36	ug/L		99
67) 1,1,1,2-Tetrachloroethane	13.276	131	673028	59.79	ug/L		97
68) m-xylene & p-xylene	13.323	106	3160551	111.23	ug/L		99
69) o-xylene	13.734	106	1680946	59.97	ug/L		99
70) Styrene	13.776	104	2944712	59.32	ug/L		98
71) Bromoform	13.875	173	377979	55.12	ug/L		99
72) Isopropylbenzene	13.999	105	4302693	58.22	ug/L		100
74) Bromofluorobenzene	14.328	95	1508083	54.70	ug/L	#	75
75) n-Propylbenzene	14.387	91	5648912	58.42	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.469	83	1301910	56.35	ug/L		100
77) 1,2,3-Trichloropropane	14.651	61	278456	52.08	ug/L		97
78) T-1,4-Dichloro-2-Butene	14.345	53	414145	61.22	ug/L		97
80) Bromobenzene	14.469	156	792623	58.12	ug/L		98
81) 1,2,4-Trimethylbenzene	14.957	105	3805773	57.25	ug/L		100
82) 2-Chlorotoluene	14.610	91	3324563	59.63	ug/L		99
83) 4-Chlorotoluene	14.769	91	3457410	56.52	ug/L		99
84) tert-Butylbenzene	14.898	119	3023903	57.64	ug/L		99
85) 1,3,5-Trimethylbenzene	14.539	105	3786947	56.99	ug/L		99
86) p-Isopropyltoluene	15.192	119	3793402	59.08	ug/L		100
87) s-Butylbenzene	15.074	105	4663834	58.46	ug/L		99
88) 1,3-Dichlorobenzene	15.415	146	1701572	59.64	ug/L		99
89) 1,4-Dichlorobenzene	15.503	146	1674850	56.64	ug/L		99
90) n-Butylbenzene	15.673	91	3858101	58.23	ug/L		99
91) 1,2-Dichlorobenzene	16.020	146	1570468	57.05	ug/L		99
92) DBCP	17.084	157	166845	58.77	ug/L		92
93) Hexachlorobutadiene	17.977	225	175248	56.84	ug/L		92
94) 1,2,4-Trichlorobenzene	18.135	180	387780	59.56	ug/L		99
95) Naphthalene	18.776	128	1102665	59.02	ug/L		98
96) 1,2,3-Trichlorobenzene	19.146	180	163143	57.21	ug/L		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM013.D
Acq On : 18 Jun 2021 12:15 pm
Operator : kkw
Sample : aa66932-scv1
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jun 21 07:55:38 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Mon Jun 21 07:54:29 2021
Response via : Initial Calibration



TETRA TECH ISG
TtEGS, Information Systems Group

Completion Ticket

On 7/22/2021 at 12:49 PM the following files were submitted to Tetra Tech by kdylnicki@encolabs.com with ENCO:

TE016AE04257A1.txt, TE016AE04257A3.txt

If you need to identify this session at a later date refer to Ticket Key:

2021722_3451359919_ledd_ENCO

You may print this page by clicking on the "Print This Page" button

Thank you for using the Data Checker, to upload more files click the "Upload/Check Files" link on navigation menu.

Print this Page Back To Upload

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I Lori S. Mangrum, as the designated Quality Assurance Officer, hereby attest that all electronic deliverables have been thoroughly reviewed and are in agreement with the associated hardcopy data. The enclosed electronic files have been reviewed for accuracy (including significant figures), completeness and format. The laboratory will be responsible for any labor time necessary to correct enclosed electronic deliverables that have been found to be in error. I can be reached at (407) 826-5314 if there are any questions or problems with the enclosed electronic deliverables.

Signature:_____ Title: Quality Assurance Manager Date: July 23, 2021

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Flags/Notes and Definitions	15
Chain of Custody	17
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ENCO Laboratories

Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Monday, June 28, 2021
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AE04257

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Friday, June 18, 2021.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

www.encolabs.com

Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Client PM: Alex Murphy
Project Number: 112G08970
ENCO Project ID: AE04257
SDG: AE04257-TE016

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling and processing will be discussed in the Remarks section below.

Remarks

List of instruments used:

Analytical and Preparation Method	SOP Reference Instrument
EPA 8260D / 5030B_MS	OVGCMS5

Analysis: EPA 8260D

Manual integrations were performed on samples associated with EPA 8260D. All data & explanations are included in the raw data section of the report.

Affected Samples: AA67037-CCV1, CRCA-ASEFFLEUNT-20210617[AE04257-01], CRCA-ASINFLEUNT-20210617[AE04257-02]
The associated calibration verification standard for bromomethane and dichlorodifluoromethane exhibited high bias. Analyte(s) not detected in the sample.

Affected Samples: AA66932-SCV1
Recovery for carbon disulfide and dichlorodifluoromethane was outside acceptance limits. Analytes were not detected in the sample.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Kaitlin Dylnicki
Project Manager

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-ASEFFLEUNT-20210617 **Lab ID: AE04257-01** **Sampled: 06/17/21 13:30** **Received: 06/18/21 13:56**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	07/01/21	06/24/21 08:45	06/24/21 09:53

Client ID: CRCA-ASINFLEUNT-20210617 **Lab ID: AE04257-02** **Sampled: 06/17/21 13:40** **Received: 06/18/21 13:56**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	07/01/21	06/24/21 08:45	06/24/21 10:21

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-ASINFLEUNT-20210617 **Lab ID:** AE04257-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	12		0.71	2.5	ug/L	EPA 8260D	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLEUNT-20210617 **Lab Sample ID:** AE04257-01 **Received:** 06/18/21 13:56

Matrix: Ground Water **Sampled:** 06/17/21 13:30 **Work Order:** AE04257

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1F24014	EPA 8260D	06/24/21 09:53	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1F24014	EPA 8260D	06/24/21 09:53	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLEUNT-20210617 **Lab Sample ID:** AE04257-01 **Received:** 06/18/21 13:56

Matrix: Ground Water **Sampled:** 06/17/21 13:30 **Work Order:** AE04257

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1F24014	EPA 8260D	06/24/21 09:53	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1F24014	EPA 8260D	06/24/21 09:53	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*51*	*1*	*50.0*	*102 %*	*41-142*	*1F24014*	*EPA 8260D*	*06/24/21 09:53*	*kkw*	
Dibromofluoromethane	*54*	*1*	*50.0*	*107 %*	*53-146*	*1F24014*	*EPA 8260D*	*06/24/21 09:53*	*kkw*	
Toluene-d8	*53*	*1*	*50.0*	*107 %*	*41-146*	*1F24014*	*EPA 8260D*	*06/24/21 09:53*	*kkw*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASINFLEUNT-20210617 **Lab Sample ID:** AE04257-02 **Received:** 06/18/21 13:56

Matrix: Ground Water **Sampled:** 06/17/21 13:40 **Work Order:** AE04257

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1F24014	EPA 8260D	06/24/21 10:21	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1F24014	EPA 8260D	06/24/21 10:21	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	

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ANALYTICAL RESULTS

Description: CRCA-ASINFLEUNT-20210617 **Lab Sample ID:** AE04257-02 **Received:** 06/18/21 13:56

Matrix: Ground Water **Sampled:** 06/17/21 13:40 **Work Order:** AE04257

Project: NASA KSC CRCA **Sampled By:** Dan Forester

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Vinyl chloride [75-01-4]^	**12**		ug/L	1	0.71	2.5	1F24014	EPA 8260D	06/24/21 10:21	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1F24014	EPA 8260D	06/24/21 10:21	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*52*	*1*	*50.0*	*104 %*	*41-142*	*1F24014*	*EPA 8260D*	*06/24/21 10:21*	*kkw*	
Dibromofluoromethane	*54*	*1*	*50.0*	*109 %*	*53-146*	*1F24014*	*EPA 8260D*	*06/24/21 10:21*	*kkw*	
Toluene-d8	*52*	*1*	*50.0*	*104 %*	*41-146*	*1F24014*	*EPA 8260D*	*06/24/21 10:21*	*kkw*	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1F24014 - EPA 5030B_MS

Blank (1F24014-BLK1) Prepared: 06/24/2021 00:00 Analyzed: 06/24/2021 09:25

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1F24014 - EPA 5030B_MS - Continued

Blank (1F24014-BLK1) Continued Prepared: 06/24/2021 00:00 Analyzed: 06/24/2021 09:25

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*50*			*ug/L*	*50.0*		*100*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*112*	*53-146*			
Toluene-d8	*53*			*ug/L*	*50.0*		*105*	*41-146*			

LCS (1F24014-BS1) Prepared: 06/24/2021 00:00 Analyzed: 06/24/2021 08:29

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	22		2.5	ug/L	20.0		108	57-148			
1,1,2,2-Tetrachloroethane	20		2.5	ug/L	20.0		99	60-139			
1,1,2-Trichloroethane	21		2.5	ug/L	20.0		103	57-141			
1,1-Dichloroethane	21		2.5	ug/L	20.0		104	57-142			
1,1-Dichloroethene	20		2.5	ug/L	20.0		99	47-139			
1,2,4-Trichlorobenzene	22		2.5	ug/L	20.0		111	52-159			
1,2-Dibromo-3-chloropropane	22		2.5	ug/L	20.0		111	48-150			
1,2-Dibromoethane	19		2.5	ug/L	20.0		95	57-140			
1,2-Dichlorobenzene	20		2.5	ug/L	20.0		100	63-131			
1,2-Dichloroethane	19		2.5	ug/L	20.0		96	50-156			
1,2-Dichloropropane	20		2.5	ug/L	20.0		100	61-133			
1,3-Dichlorobenzene	22		2.5	ug/L	20.0		108	66-129			
1,4-Dichlorobenzene	20		2.5	ug/L	20.0		100	65-133			
2-Butanone	100		12	ug/L	100		100	10-180			
2-Hexanone	87		12	ug/L	100		87	12-180			
4-Methyl-2-pentanone	100		12	ug/L	100		100	19-180			
Acetone	86		25	ug/L	100		86	10-180			
Benzene	21		2.5	ug/L	20.0		103	56-136			
Bromodichloromethane	21		2.5	ug/L	20.0		105	58-135			
Bromoform	18		2.5	ug/L	20.0		90	46-148			
Bromomethane	8.8		2.5	ug/L	20.0		44	10-173			
Carbon disulfide	23		12	ug/L	20.0		117	43-153			
Carbon Tetrachloride	23		2.5	ug/L	20.0		113	54-156			
Chlorobenzene	20		2.5	ug/L	20.0		102	51-139			
Chloroethane	19		2.5	ug/L	20.0		93	27-180			
Chloroform	20		2.5	ug/L	20.0		99	58-139			
Chloromethane	19		2.5	ug/L	20.0		94	33-154			
cis-1,2-Dichloroethene	21		2.5	ug/L	20.0		103	56-128			
cis-1,3-Dichloropropene	20		2.5	ug/L	20.0		98	64-128			
Cyclohexane	22		2.5	ug/L	20.0		111	70-130			
Dibromochloromethane	18		2.5	ug/L	20.0		89	50-140			
Dichlorodifluoromethane	25		2.5	ug/L	20.0		125	10-180			
Ethylbenzene	21		2.5	ug/L	20.0		103	63-133			
Freon 113	19		2.5	ug/L	20.0		97	47-173			
Isopropylbenzene	20		2.5	ug/L	20.0		98	60-132			
m,p-Xylenes	40		5.0	ug/L	40.0		101	64-133			
Methyl acetate	20		2.5	ug/L	20.0		100	70-130			
Methyl cyclohexane	21		2.5	ug/L	20.0		104	70-130			
Methylene Chloride	20		12	ug/L	20.0		99	43-142			
Methyl-tert-Butyl Ether	21		2.5	ug/L	20.0		106	51-145			

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1F24014 - EPA 5030B_MS - Continued

LCS (1F24014-BS1) Continued Prepared: 06/24/2021 00:00 Analyzed: 06/24/2021 08:29

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
o-Xylene	21		2.5	ug/L	20.0		104	61-129			
Styrene	20		2.5	ug/L	20.0		100	59-136			
Tetrachloroethene	20		2.5	ug/L	20.0		98	60-147			
Toluene	20		2.5	ug/L	20.0		99	64-131			
trans-1,2-Dichloroethene	20		2.5	ug/L	20.0		100	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0		104	65-149			
Trichloroethene	20		2.5	ug/L	20.0		99	62-135			
Trichlorofluoromethane	20		2.5	ug/L	20.0		102	56-155			
Vinyl chloride	20		2.5	ug/L	20.0		99	20-167			
4-Bromofluorobenzene	*52*			*ug/L*	*50.0*		*104*	*41-142*			
Dibromofluoromethane	*54*			*ug/L*	*50.0*		*109*	*53-146*			
Toluene-d8	*54*			*ug/L*	*50.0*		*108*	*41-146*			

Matrix Spike (1F24014-MS1) Prepared: 06/24/2021 00:00 Analyzed: 06/24/2021 10:49

Source: AE04257-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	24		2.5	ug/L	20.0	0.80 U	118	57-148			
1,1,2,2-Tetrachloroethane	21		2.5	ug/L	20.0	0.54 U	103	60-139			
1,1,2-Trichloroethane	21		2.5	ug/L	20.0	0.76 U	104	57-141			
1,1-Dichloroethane	23		2.5	ug/L	20.0	0.62 U	115	57-142			
1,1-Dichloroethene	23		2.5	ug/L	20.0	0.94 U	116	47-139			
1,2,4-Trichlorobenzene	27		2.5	ug/L	20.0	0.70 U	135	52-159			
1,2-Dibromo-3-chloropropane	25		2.5	ug/L	20.0	0.96 U	123	48-150			
1,2-Dibromoethane	21		2.5	ug/L	20.0	0.78 U	104	57-140			
1,2-Dichlorobenzene	20		2.5	ug/L	20.0	0.73 U	100	63-131			
1,2-Dichloroethane	19		2.5	ug/L	20.0	0.63 U	95	50-156			
1,2-Dichloropropane	20		2.5	ug/L	20.0	0.80 U	102	61-133			
1,3-Dichlorobenzene	21		2.5	ug/L	20.0	0.77 U	107	66-129			
1,4-Dichlorobenzene	21		2.5	ug/L	20.0	0.76 U	105	65-133			
2-Butanone	110		12	ug/L	100	4.5 U	111	10-180			
2-Hexanone	100		12	ug/L	100	2.5 U	103	12-180			
4-Methyl-2-pentanone	120		12	ug/L	100	2.5 U	122	19-180			
Acetone	96		25	ug/L	100	10 U	96	10-180			
Benzene	22		2.5	ug/L	20.0	0.71 U	110	56-136			
Bromodichloromethane	22		2.5	ug/L	20.0	0.52 U	109	58-135			
Bromoform	14		2.5	ug/L	20.0	0.75 U	68	46-148			
Bromomethane	14		2.5	ug/L	20.0	0.95 U	71	10-173			
Carbon disulfide	27		12	ug/L	20.0	2.5 U	133	43-153			
Carbon Tetrachloride	22		2.5	ug/L	20.0	0.94 U	109	54-156			
Chlorobenzene	22		2.5	ug/L	20.0	0.72 U	110	51-139			
Chloroethane	21		2.5	ug/L	20.0	0.98 U	105	27-180			
Chloroform	22		2.5	ug/L	20.0	0.80 U	111	58-139			
Chloromethane	19		2.5	ug/L	20.0	0.82 U	94	33-154			
cis-1,2-Dichloroethene	21		2.5	ug/L	20.0	0.53 U	107	56-128			
cis-1,3-Dichloropropene	20		2.5	ug/L	20.0	0.59 U	98	64-128			
Cyclohexane	24		2.5	ug/L	20.0	0.93 U	119	70-130			
Dibromochloromethane	18		2.5	ug/L	20.0	0.50 U	92	50-140			
Dichlorodifluoromethane	22		2.5	ug/L	20.0	0.74 U	112	10-180			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1F24014 - EPA 5030B_MS - Continued

Matrix Spike (1F24014-MS1) Continued Prepared: 06/24/2021 00:00 Analyzed: 06/24/2021 10:49

Source: AE04257-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	21		2.5	ug/L	20.0	0.69 U	107	63-133			
Freon 113	22		2.5	ug/L	20.0	0.73 U	108	47-173			
Isopropylbenzene	21		2.5	ug/L	20.0	0.67 U	103	60-132			
m,p-Xylenes	44		5.0	ug/L	40.0	1.3 U	111	64-133			
Methyl acetate	21		2.5	ug/L	20.0	0.95 U	106	70-130			
Methyl cyclohexane	22		2.5	ug/L	20.0	0.64 U	111	70-130			
Methylene Chloride	21		12	ug/L	20.0	2.5 U	107	43-142			
Methyl-tert-Butyl Ether	22		2.5	ug/L	20.0	0.60 U	108	51-145			
o-Xylene	23		2.5	ug/L	20.0	0.53 U	114	61-129			
Styrene	21		2.5	ug/L	20.0	0.61 U	106	59-136			
Tetrachloroethene	20		2.5	ug/L	20.0	0.76 U	101	60-147			
Toluene	22		2.5	ug/L	20.0	0.72 U	108	64-131			
trans-1,2-Dichloroethene	23		2.5	ug/L	20.0	0.73 U	116	54-134			
trans-1,3-Dichloropropene	22		2.5	ug/L	20.0	0.73 U	108	65-149			
Trichloroethene	23		2.5	ug/L	20.0	0.89 U	115	62-135			
Trichlorofluoromethane	22		2.5	ug/L	20.0	0.94 U	108	56-155			
Vinyl chloride	20		2.5	ug/L	20.0	0.71 U	102	20-167			
4-Bromofluorobenzene	*51*			*ug/L*	*50.0*		*103*	*41-142*			
Dibromofluoromethane	*54*			*ug/L*	*50.0*		*108*	*53-146*			
Toluene-d8	*54*			*ug/L*	*50.0*		*107*	*41-146*			

Matrix Spike Dup (1F24014-MSD1) Prepared: 06/24/2021 00:00 Analyzed: 06/24/2021 11:17

Source: AE04257-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	25		2.5	ug/L	20.0	0.80 U	124	57-148	5	25	
1,1,2,2-Tetrachloroethane	21		2.5	ug/L	20.0	0.54 U	105	60-139	1	17	
1,1,2-Trichloroethane	21		2.5	ug/L	20.0	0.76 U	103	57-141	1	16	
1,1-Dichloroethane	23		2.5	ug/L	20.0	0.62 U	115	57-142	0.3	24	
1,1-Dichloroethene	24		2.5	ug/L	20.0	0.94 U	119	47-139	3	16	
1,2,4-Trichlorobenzene	27		2.5	ug/L	20.0	0.70 U	134	52-159	0.9	24	
1,2-Dibromo-3-chloropropane	24		2.5	ug/L	20.0	0.96 U	118	48-150	4	21	
1,2-Dibromoethane	21		2.5	ug/L	20.0	0.78 U	103	57-140	1	16	
1,2-Dichlorobenzene	20		2.5	ug/L	20.0	0.73 U	102	63-131	2	25	
1,2-Dichloroethane	19		2.5	ug/L	20.0	0.63 U	95	50-156	0.4	18	
1,2-Dichloropropane	20		2.5	ug/L	20.0	0.80 U	102	61-133	0.3	26	
1,3-Dichlorobenzene	22		2.5	ug/L	20.0	0.77 U	110	66-129	3	23	
1,4-Dichlorobenzene	21		2.5	ug/L	20.0	0.76 U	106	65-133	0.9	23	
2-Butanone	110		12	ug/L	100	4.5 U	113	10-180	2	29	
2-Hexanone	100		12	ug/L	100	2.5 U	105	12-180	1	28	
4-Methyl-2-pentanone	120		12	ug/L	100	2.5 U	121	19-180	0.7	24	
Acetone	100		25	ug/L	100	10 U	100	10-180	4	19	
Benzene	22		2.5	ug/L	20.0	0.71 U	108	56-136	2	14	
Bromodichloromethane	22		2.5	ug/L	20.0	0.52 U	109	58-135	0	19	
Bromoform	15		2.5	ug/L	20.0	0.75 U	73	46-148	7	18	
Bromomethane	17		2.5	ug/L	20.0	0.95 U	85	10-173	18	29	
Carbon disulfide	26		12	ug/L	20.0	2.5 U	131	43-153	1	26	
Carbon Tetrachloride	26		2.5	ug/L	20.0	0.94 U	128	54-156	16	27	
Chlorobenzene	22		2.5	ug/L	20.0	0.72 U	110	51-139	0.6	13	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1F24014 - EPA 5030B_MS - Continued

Matrix Spike Dup (1F24014-MSD1) Continued Prepared: 06/24/2021 00:00 Analyzed: 06/24/2021 11:17

Source: AE04257-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloroethane	23		2.5	ug/L	20.0	0.98 U	113	27-180	7	22	
Chloroform	22		2.5	ug/L	20.0	0.80 U	111	58-139	0.05	17	
Chloromethane	20		2.5	ug/L	20.0	0.82 U	101	33-154	8	31	
cis-1,2-Dichloroethene	24		2.5	ug/L	20.0	0.53 U	118	56-128	10	17	
cis-1,3-Dichloropropene	19		2.5	ug/L	20.0	0.59 U	97	64-128	1	20	
Cyclohexane	25		2.5	ug/L	20.0	0.93 U	125	70-130	4	20	
Dibromochloromethane	19		2.5	ug/L	20.0	0.50 U	94	50-140	2	18	
Dichlorodifluoromethane	22		2.5	ug/L	20.0	0.74 U	111	10-180	1	26	
Ethylbenzene	23		2.5	ug/L	20.0	0.69 U	114	63-133	6	18	
Freon 113	22		2.5	ug/L	20.0	0.73 U	112	47-173	4	30	
Isopropylbenzene	21		2.5	ug/L	20.0	0.67 U	103	60-132	0	23	
m,p-Xylenes	44		5.0	ug/L	40.0	1.3 U	109	64-133	2	18	
Methyl acetate	23		2.5	ug/L	20.0	0.95 U	114	70-130	7	20	
Methyl cyclohexane	24		2.5	ug/L	20.0	0.64 U	118	70-130	6	20	
Methylene Chloride	22		12	ug/L	20.0	2.5 U	109	43-142	2	23	
Methyl-tert-Butyl Ether	21		2.5	ug/L	20.0	0.60 U	107	51-145	0.3	22	
o-Xylene	22		2.5	ug/L	20.0	0.53 U	109	61-129	5	16	
Styrene	21		2.5	ug/L	20.0	0.61 U	106	59-136	0.8	32	
Tetrachloroethene	22		2.5	ug/L	20.0	0.76 U	109	60-147	8	21	
Toluene	22		2.5	ug/L	20.0	0.72 U	108	64-131	0.3	16	
trans-1,2-Dichloroethene	24		2.5	ug/L	20.0	0.73 U	118	54-134	1	20	
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0	0.73 U	107	65-149	1	17	
Trichloroethene	21		2.5	ug/L	20.0	0.89 U	106	62-135	8	20	
Trichlorofluoromethane	22		2.5	ug/L	20.0	0.94 U	108	56-155	0.05	22	
Vinyl chloride	20		2.5	ug/L	20.0	0.71 U	100	20-167	2	24	
4-Bromofluorobenzene	*52*			*ug/L*	*50.0*		*104*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*112*	*53-146*			
Toluene-d8	*53*			*ug/L*	*50.0*		*107*	*41-146*			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported result is an estimated value.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence (85% or greater confidence) to make a “tentative identification".
Q	One or more quality control criteria failed.

AE54257

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 1395 | PAGE 1 OF 1

PROJECT NO: 112G08970	FACILITY: CREA	PROJECT MANAGER: Alex Murphy	PHONE NUMBER	LABORATORY NAME AND CONTACT: ENCO ORLANDO
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER: Dan Forester	PHONE NUMBER: 304-780-1426	ADDRESS
		CARRIER/WAYBILL NUMBER: Courier		CITY, STATE: ORLANDO FL

STANDARD TAT ☒
RUSH TAT ☐ ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2021	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G): G	PRESERVATIVE USED: ACC	TYPE OF ANALYSIS: VOCs 8260 TCL SOM01.2 CLP-LIKE CUSTOMLIST	COMMENTS: COOLED ON ICE
17Jun	1330	CREA-A$EFFLUENT-20210617	CREA	/	/	GW	G	3			X	
17Jun	1340	CREA-A$INFLUENT-20210617	CREA	/	/	GW	G	3			X	

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	18Jun21	1356	1. RECEIVED BY	18Jun21	1356
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS: SM-2610.3E

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

6/18/2021

Environmental Conservation Labs, Inc.

Alex Murphy
Tetra Tech, Inc. (TE016)
11 Riverside Drive, Suite 204
Cocoa, FL 32922
Phone: (321) 636-6470
Fax: (321) 636-6473

Reference : **Sample Receipt Confirmation - *Please Review***
Project Name / Number : NASA KSC CRCA / 112G08970
Purchase Order # : 1165883

Lab Reference # : AE04257 Lab Receipt Date: 18-Jun-21 13:56
Anticipated ***(Estimated)*** Completion Date: 25-Jun-21 19:00

This is an automated notification from our laboratory information management system (LIMS), indicating the samples we have recently received and their associated analyses. Should any of the following information be in error, please contact us immediately.

Thank you for choosing Environmental Conservation Laboratories. Should any events occur that delay the processing of your samples or inhibit our ability to complete the project within the projected time frame you will be contacted.

Sincerely,

Kaitlin Dylnicki

Client: Tetra Tech, Inc. (TE016) **Project Name:** NASA KSC CRCA
Requested TAT: 5 **Project Number:** 112G08970

Analysis	TAT	Expires	Status
Sample ID: CRCA-ASEFFLEUNT-20210617(Lab ID: AE04257-01), Matrix: Ground Water, Sampled: 17-Jun-21 13:30 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	01-Jul-21 23:59	Received
Sample ID: CRCA-ASINFLEUNT-20210617(Lab ID: AE04257-02), Matrix: Ground Water, Sampled: 17-Jun-21 13:40 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	01-Jul-21 23:59	Received

Analysis Groups included in this work order

ENCO Orlando

SDG: AE04257-TE016

CLASS: 01_VOA_MS

METHOD: EPA 8260D

ANALYSES DATA PACKAGE COVER PAGE

EPA 8260D

Laboratory: ENCO Orlando

SDG: AE04257-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-ASEFFLEUNT-20210617	AE04257-01
CRCA-ASINFLEUNT-20210617	AE04257-02

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLEUNT-20210617

Laboratory: ENCO Orlando SDG: AE04257-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE04257-01 File ID: 215FS006.D

Sampled: 06/17/21 13:30 Prepared: 06/24/21 08:45 Analyzed: 06/24/21 09:53

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1F24014 Sequence: AA67037 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLEUNT-20210617

Laboratory: ENCO Orlando SDG: AE04257-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE04257-01 File ID: 215FS006.D

Sampled: 06/17/21 13:30 Prepared: 06/24/21 08:45 Analyzed: 06/24/21 09:53

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1F24014 Sequence: AA67037 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	54	107	53 - 146	
Toluene-d8	50.0	53	107	41 - 146	
4-Bromofluorobenzene	50.0	51	102	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1092179	9.851	1101889	9.851	
1,4-Difluorobenzene	2601615	10.444	2525815	10.444	
Chlorobenzene-d5	1700431	13.223	1610233	13.223	
1,4-Dichlorobenzene-d4	1303013	15.486	1271242	15.485	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLEUNT-20210617

Laboratory: ENCO Orlando SDG: AE04257-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE04257-02 File ID: 215FS007.D

Sampled: 06/17/21 13:40 Prepared: 06/24/21 08:45 Analyzed: 06/24/21 10:21

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1F24014 Sequence: AA67037 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	12		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLEUNT-20210617

Laboratory: ENCO Orlando SDG: AE04257-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE04257-02 File ID: 215FS007.D

Sampled: 06/17/21 13:40 Prepared: 06/24/21 08:45 Analyzed: 06/24/21 10:21

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1F24014 Sequence: AA67037 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	54	109	53 - 146	
Toluene-d8	50.0	52	104	41 - 146	
4-Bromofluorobenzene	50.0	52	104	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1102332	9.851	1101889	9.851	
1,4-Difluorobenzene	2606732	10.444	2525815	10.444	
Chlorobenzene-d5	1653264	13.223	1610233	13.223	
1,4-Dichlorobenzene-d4	1316405	15.486	1271242	15.485	

* Values outside of QC limits

HOLDING TIME SUMMARY

EPA 8260D

Laboratory: ENCO Orlando

SDG: AE04257-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-ASEFFLEUNT-20210617	06/17/21 13:30	06/18/21 13:56	06/24/21 08:45	6.80	NA	06/24/21 09:53	7.00	14.00	
CRCA-ASINFLEUNT-20210617	06/17/21 13:40	06/18/21 13:56	06/24/21 08:45	6.80	NA	06/24/21 10:21	7.00	14.00	

PREPARATION BATCH SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AE04257-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1F24014 Batch Matrix: Water Preparation: EPA 5030B_MS

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1F24014-BLK1	215FS005.D	06/24/21 00:00	
LCS	1F24014-BS1	215FS003.D	06/24/21 00:00	
CRCA-ASEFFLEUNT-20210617	1F24014-MS1	215FS008.D	06/24/21 00:00	
CRCA-ASEFFLEUNT-20210617	1F24014-MSD1	215FS009.D	06/24/21 00:00	
CRCA-ASEFFLEUNT-20210617	AE04257-01	215FS006.D	06/24/21 08:45	
CRCA-ASINFLEUNT-20210617	AE04257-02	215FS007.D	06/24/21 08:45	

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE04257-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1F24014-BLK1	File ID:	215FS005.D
Prepared:	06/24/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	06/24/21 09:25	Instrument:	OVGCMS5		
Batch:	1F24014	Sequence:	AA67037	Calibration:	2106098

CAS NO.	COMPOUND	CONC. (ug/L)	Q
75-71-8	Dichlorodifluoromethane	0.74	U
74-87-3	Chloromethane	0.82	U
75-01-4	Vinyl chloride	0.71	U
74-83-9	Bromomethane	0.95	U
75-00-3	Chloroethane	0.98	U
75-69-4	Trichlorofluoromethane	0.94	U
76-13-1	Freon 113	0.73	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	0.94	U
75-15-0	Carbon disulfide	2.5	U
75-09-2	Methylene Chloride	2.5	U
1634-04-4	Methyl-tert-Butyl Ether	0.60	U
156-60-5	trans-1,2-Dichloroethene	0.73	U
156-59-2	cis-1,2-Dichloroethene	0.53	U
75-34-3	1,1-Dichloroethane	0.62	U
78-93-3	2-Butanone	4.5	U
67-66-3	Chloroform	0.80	U
71-55-6	1,1,1-Trichloroethane	0.80	U
79-20-9	Methyl acetate	0.95	U
110-82-7	Cyclohexane	0.93	U
108-87-2	Methyl cyclohexane	0.64	U
56-23-5	Carbon Tetrachloride	0.94	U
107-06-2	1,2-Dichloroethane	0.63	U
71-43-2	Benzene	0.71	U
79-01-6	Trichloroethene	0.89	U
78-87-5	1,2-Dichloropropane	0.80	U
75-27-4	Bromodichloromethane	0.52	U
108-10-1	4-Methyl-2-pentanone	2.5	U
591-78-6	2-Hexanone	2.5	U
10061-01-5	cis-1,3-Dichloropropene	0.59	U

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE04257-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1F24014-BLK1	File ID:	215FS005.D
Prepared:	06/24/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	06/24/21 09:25	Instrument:	OVGCMS5		
Batch:	1F24014	Sequence:	AA67037	Calibration:	2106098

CAS NO.	COMPOUND	CONC. (ug/L)	Q
108-88-3	Toluene	0.72	U
10061-02-6	trans-1,3-Dichloropropene	0.73	U
79-00-5	1,1,2-Trichloroethane	0.76	U
127-18-4	Tetrachloroethene	0.76	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.78	U
108-90-7	Chlorobenzene	0.72	U
100-41-4	Ethylbenzene	0.69	U
108-38-3/106-42-3	m,p-Xylenes	1.3	U
95-47-6	o-Xylene	0.53	U
75-25-2	Bromoform	0.75	U
100-42-5	Styrene	0.61	U
98-82-8	Isopropylbenzene	0.67	U
79-34-5	1,1,2,2-Tetrachloroethane	0.54	U
120-82-1	1,2,4-Trichlorobenzene	0.70	U
541-73-1	1,3-Dichlorobenzene	0.77	U
106-46-7	1,4-Dichlorobenzene	0.76	U
95-50-1	1,2-Dichlorobenzene	0.73	U
96-12-8	1,2-Dibromo-3-chloropropane	0.96	U
1330-20-7	Xylenes (Total)	1.3	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	56	112	53 - 146	
Toluene-d8	50.0	53	105	41 - 146	
4-Bromofluorobenzene	50.0	50	100	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1094115	9.851	1101889	9.851	
1,4-Difluorobenzene	2686869	10.444	2525815	10.444	
Chlorobenzene-d5	1729939	13.223	1610233	13.223	
1,4-Dichlorobenzene-d4	1343643	15.486	1271242	15.485	

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE04257-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1F24014	Laboratory ID:	1F24014-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	25	125	10 - 180
Chloromethane	20.0	19	94	33 - 154
Vinyl chloride	20.0	20	99	20 - 167
Bromomethane	20.0	8.8	44	10 - 173
Chloroethane	20.0	19	93	27 - 180
Trichlorofluoromethane	20.0	20	102	56 - 155
Freon 113	20.0	19	97	47 - 173
Acetone	100	86	86	10 - 180
1,1-Dichloroethene	20.0	20	99	47 - 139
Carbon disulfide	20.0	23	117	43 - 153
Methylene Chloride	20.0	20	99	43 - 142
Methyl-tert-Butyl Ether	20.0	21	106	51 - 145
trans-1,2-Dichloroethene	20.0	20	100	54 - 134
cis-1,2-Dichloroethene	20.0	21	103	56 - 128
1,1-Dichloroethane	20.0	21	104	57 - 142
2-Butanone	100	100	100	10 - 180
Chloroform	20.0	20	99	58 - 139
1,1,1-Trichloroethane	20.0	22	108	57 - 148
Methyl acetate	20.0	20	100	70 - 130
Cyclohexane	20.0	22	111	70 - 130
Methyl cyclohexane	20.0	21	104	70 - 130
Carbon Tetrachloride	20.0	23	113	54 - 156
1,2-Dichloroethane	20.0	19	96	50 - 156
Benzene	20.0	21	103	56 - 136
Trichloroethene	20.0	20	99	62 - 135
1,2-Dichloropropane	20.0	20	100	61 - 133
Bromodichloromethane	20.0	21	105	58 - 135
4-Methyl-2-pentanone	100	100	100	19 - 180
2-Hexanone	100	87	87	12 - 180
cis-1,3-Dichloropropene	20.0	20	98	64 - 128

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE04257-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1F24014	Laboratory ID:	1F24014-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Toluene	20.0	20	99	64 - 131
trans-1,3-Dichloropropene	20.0	21	104	65 - 149
1,1,2-Trichloroethane	20.0	21	103	57 - 141
Tetrachloroethene	20.0	20	98	60 - 147
Dibromochloromethane	20.0	18	89	50 - 140
1,2-Dibromoethane	20.0	19	95	57 - 140
Chlorobenzene	20.0	20	102	51 - 139
Ethylbenzene	20.0	21	103	63 - 133
m,p-Xylenes	40.0	40	101	64 - 133
o-Xylene	20.0	21	104	61 - 129
Bromoform	20.0	18	90	46 - 148
Styrene	20.0	20	100	59 - 136
Isopropylbenzene	20.0	20	98	60 - 132
1,1,2,2-Tetrachloroethane	20.0	20	99	60 - 139
1,2,4-Trichlorobenzene	20.0	22	111	52 - 159
1,3-Dichlorobenzene	20.0	22	108	66 - 129
1,4-Dichlorobenzene	20.0	20	100	65 - 133
1,2-Dichlorobenzene	20.0	20	100	63 - 131
1,2-Dibromo-3-chloropropane	20.0	22	111	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASEFFLEUNT-20210617

Laboratory: ENCO Orlando
SDG: AE04257-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1F24014
Laboratory ID: 1F24014-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-ASEFFLEUNT-20210617

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	ND	22	112	10 - 180
Chloromethane	20.0	ND	19	94	33 - 154
Vinyl chloride	20.0	ND	20	102	20 - 167
Bromomethane	20.0	ND	14	71	10 - 173
Chloroethane	20.0	ND	21	105	27 - 180
Trichlorofluoromethane	20.0	ND	22	108	56 - 155
Freon 113	20.0	ND	22	108	47 - 173
Acetone	100	ND	96	96	10 - 180
1,1-Dichloroethene	20.0	ND	23	116	47 - 139
Carbon disulfide	20.0	ND	27	133	43 - 153
Methylene Chloride	20.0	ND	21	107	43 - 142
Methyl-tert-Butyl Ether	20.0	ND	22	108	51 - 145
trans-1,2-Dichloroethene	20.0	ND	23	116	54 - 134
cis-1,2-Dichloroethene	20.0	ND	21	107	56 - 128
1,1-Dichloroethane	20.0	ND	23	115	57 - 142
2-Butanone	100	ND	110	111	10 - 180
Chloroform	20.0	ND	22	111	58 - 139
1,1,1-Trichloroethane	20.0	ND	24	118	57 - 148
Methyl acetate	20.0	ND	21	106	70 - 130
Cyclohexane	20.0	ND	24	119	70 - 130
Methyl cyclohexane	20.0	ND	22	111	70 - 130
Carbon Tetrachloride	20.0	ND	22	109	54 - 156
1,2-Dichloroethane	20.0	ND	19	95	50 - 156
Benzene	20.0	ND	22	110	56 - 136
Trichloroethene	20.0	ND	23	115	62 - 135
1,2-Dichloropropane	20.0	ND	20	102	61 - 133
Bromodichloromethane	20.0	ND	22	109	58 - 135
4-Methyl-2-pentanone	100	ND	120	122	19 - 180
2-Hexanone	100	ND	100	103	12 - 180
cis-1,3-Dichloropropene	20.0	ND	20	98	64 - 128
Toluene	20.0	ND	22	108	64 - 131

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASEFFLEUNT-20210617

Laboratory: ENCO Orlando
SDG: AE04257-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1F24014
Laboratory ID: 1F24014-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-ASEFFLEUNT-20210617

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
trans-1,3-Dichloropropene	20.0	ND	22	108	65 - 149
1,1,2-Trichloroethane	20.0	ND	21	104	57 - 141
Tetrachloroethene	20.0	ND	20	101	60 - 147
Dibromochloromethane	20.0	ND	18	92	50 - 140
1,2-Dibromoethane	20.0	ND	21	104	57 - 140
Chlorobenzene	20.0	ND	22	110	51 - 139
Ethylbenzene	20.0	ND	21	107	63 - 133
m,p-Xylenes	40.0	ND	44	111	64 - 133
o-Xylene	20.0	ND	23	114	61 - 129
Bromoform	20.0	ND	14	68	46 - 148
Styrene	20.0	ND	21	106	59 - 136
Isopropylbenzene	20.0	ND	21	103	60 - 132
1,1,2,2-Tetrachloroethane	20.0	ND	21	103	60 - 139
1,2,4-Trichlorobenzene	20.0	ND	27	135	52 - 159
1,3-Dichlorobenzene	20.0	ND	21	107	66 - 129
1,4-Dichlorobenzene	20.0	ND	21	105	65 - 133
1,2-Dichlorobenzene	20.0	ND	20	100	63 - 131
1,2-Dibromo-3-chloropropane	20.0	ND	25	123	48 - 150

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASEFFLEUNT-20210617

Laboratory: ENCO Orlando
SDG: AE04257-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1F24014
Laboratory ID: 1F24014-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-ASEFFLEUNT-20210617

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20.0	22	111	1	26	10 - 180
Chloromethane	20.0	20	101	8	31	33 - 154
Vinyl chloride	20.0	20	100	2	24	20 - 167
Bromomethane	20.0	17	85	18	29	10 - 173
Chloroethane	20.0	23	113	7	22	27 - 180
Trichlorofluoromethane	20.0	22	108	0.05	22	56 - 155
Freon 113	20.0	22	112	4	30	47 - 173
Acetone	100	100	100	4	19	10 - 180
1,1-Dichloroethene	20.0	24	119	3	16	47 - 139
Carbon disulfide	20.0	26	131	1	26	43 - 153
Methylene Chloride	20.0	22	109	2	23	43 - 142
Methyl-tert-Butyl Ether	20.0	21	107	0.3	22	51 - 145
trans-1,2-Dichloroethene	20.0	24	118	1	20	54 - 134
cis-1,2-Dichloroethene	20.0	24	118	10	17	56 - 128
1,1-Dichloroethane	20.0	23	115	0.3	24	57 - 142
2-Butanone	100	110	113	2	29	10 - 180
Chloroform	20.0	22	111	0.05	17	58 - 139
1,1,1-Trichloroethane	20.0	25	124	5	25	57 - 148
Methyl acetate	20.0	23	114	7	20	70 - 130
Cyclohexane	20.0	25	125	4	20	70 - 130
Methyl cyclohexane	20.0	24	118	6	20	70 - 130
Carbon Tetrachloride	20.0	26	128	16	27	54 - 156
1,2-Dichloroethane	20.0	19	95	0.4	18	50 - 156
Benzene	20.0	22	108	2	14	56 - 136
Trichloroethene	20.0	21	106	8	20	62 - 135
1,2-Dichloropropane	20.0	20	102	0.3	26	61 - 133
Bromodichloromethane	20.0	22	109	0	19	58 - 135
4-Methyl-2-pentanone	100	120	121	0.7	24	19 - 180
2-Hexanone	100	100	105	1	28	12 - 180
cis-1,3-Dichloropropene	20.0	19	97	1	20	64 - 128
Toluene	20.0	22	108	0.3	16	64 - 131
trans-1,3-Dichloropropene	20.0	21	107	1	17	65 - 149

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASEFFLEUNT-20210617

Laboratory: ENCO Orlando
SDG: AE04257-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1F24014
Laboratory ID: 1F24014-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-ASEFFLEUNT-20210617

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,2-Trichloroethane	20.0	21	103	1	16	57 - 141
Tetrachloroethene	20.0	22	109	8	21	60 - 147
Dibromochloromethane	20.0	19	94	2	18	50 - 140
1,2-Dibromoethane	20.0	21	103	1	16	57 - 140
Chlorobenzene	20.0	22	110	0.6	13	51 - 139
Ethylbenzene	20.0	23	114	6	18	63 - 133
m,p-Xylenes	40.0	44	109	2	18	64 - 133
o-Xylene	20.0	22	109	5	16	61 - 129
Bromoform	20.0	15	73	7	18	46 - 148
Styrene	20.0	21	106	0.8	32	59 - 136
Isopropylbenzene	20.0	21	103	0	23	60 - 132
1,1,2,2-Tetrachloroethane	20.0	21	105	1	17	60 - 139
1,2,4-Trichlorobenzene	20.0	27	134	0.9	24	52 - 159
1,3-Dichlorobenzene	20.0	22	110	3	23	66 - 129
1,4-Dichlorobenzene	20.0	21	106	0.9	23	65 - 133
1,2-Dichlorobenzene	20.0	20	102	2	25	63 - 131
1,2-Dibromo-3-chloropropane	20.0	24	118	4	21	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04257-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA66932
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA66932-SCV1)				Lab File ID: 215FM013.D		Analyzed: 06/18/21 12:15		
Dibromofluoromethane	50.0	100	70 - 130	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	110	70 - 130	11.778	11.7795	-0.0015	+/-0.5	
4-Bromofluorobenzene	50.0	109	70 - 130	14.328	14.32875	-0.0008	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04257-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA67037
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA67037-CCV1)			Lab File ID: 215FS002.D		Analyzed: 06/24/21 08:02			
Dibromofluoromethane	50.0	111	80 - 120	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	112	80 - 120	11.778	11.7795	-0.0015	+/-0.5	
4-Bromofluorobenzene	50.0	109	80 - 120	14.328	14.32875	-0.0008	+/-0.5	
LCS (1F24014-BS1)			Lab File ID: 215FS003.D		Analyzed: 06/24/21 08:29			
Dibromofluoromethane	50.0	109	53 - 146	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	108	41 - 146	11.778	11.7795	-0.0015	+/-0.5	
4-Bromofluorobenzene	50.0	104	41 - 142	14.328	14.32875	-0.0008	+/-0.5	
Blank (1F24014-BLK1)			Lab File ID: 215FS005.D		Analyzed: 06/24/21 09:25			
Dibromofluoromethane	50.0	112	53 - 146	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	105	41 - 146	11.778	11.7795	-0.0015	+/-0.5	
4-Bromofluorobenzene	50.0	100	41 - 142	14.328	14.32875	-0.0008	+/-0.5	
CRCA-ASEFFLEUNT-20210617 (AE04257-01)			Lab File ID: 215FS006.D		Analyzed: 06/24/21 09:53			
Dibromofluoromethane	50.0	107	53 - 146	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	107	41 - 146	11.778	11.7795	-0.0015	+/-0.5	
4-Bromofluorobenzene	50.0	102	41 - 142	14.328	14.32875	-0.0008	+/-0.5	
CRCA-ASINFLEUNT-20210617 (AE04257-02)			Lab File ID: 215FS007.D		Analyzed: 06/24/21 10:21			
Dibromofluoromethane	50.0	109	53 - 146	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	104	41 - 146	11.778	11.7795	-0.0015	+/-0.5	
4-Bromofluorobenzene	50.0	104	41 - 142	14.328	14.32875	-0.0008	+/-0.5	
Matrix Spike (1F24014-MS1)			Lab File ID: 215FS008.D		Analyzed: 06/24/21 10:49			
Dibromofluoromethane	50.0	108	53 - 146	9.422	9.428	-0.0060	+/-0.5	
Toluene-d8	50.0	107	41 - 146	11.778	11.7795	-0.0015	+/-0.5	
4-Bromofluorobenzene	50.0	103	41 - 142	14.322	14.32875	-0.0068	+/-0.5	
Matrix Spike Dup (1F24014-MSD1)			Lab File ID: 215FS009.D		Analyzed: 06/24/21 11:17			
Dibromofluoromethane	50.0	112	53 - 146	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	107	41 - 146	11.778	11.7795	-0.0015	+/-0.5	
4-Bromofluorobenzene	50.0	104	41 - 142	14.328	14.32875	-0.0008	+/-0.5	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04257-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA66932
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA66932-CAL1)			Lab File ID: 215FM004.D			Analyzed: 06/18/21 08:05			
Pentafluorobenzene	1201889	9.857	1101889	9.851	109	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2686237	10.45	2525815	10.444	106	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1505146	13.229	1610233	13.223	93	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1176558	15.491	1271242	15.485	93	50 - 200	0.0060	+/-0.50	
Cal Standard (AA66932-CAL2)			Lab File ID: 215FM005.D			Analyzed: 06/18/21 08:32			
Pentafluorobenzene	1226065	9.857	1101889	9.851	111	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2753498	10.45	2525815	10.444	109	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1619681	13.229	1610233	13.223	101	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1248669	15.491	1271242	15.485	98	50 - 200	0.0060	+/-0.50	
Cal Standard (AA66932-CAL3)			Lab File ID: 215FM006.D			Analyzed: 06/18/21 09:00			
Pentafluorobenzene	1047198	9.857	1101889	9.851	95	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2419754	10.45	2525815	10.444	96	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1545028	13.229	1610233	13.223	96	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1320874	15.486	1271242	15.485	104	50 - 200	0.0010	+/-0.50	
Cal Standard (AA66932-CAL4)			Lab File ID: 215FM007.D			Analyzed: 06/18/21 09:28			
Pentafluorobenzene	1235637	9.857	1101889	9.851	112	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2720919	10.45	2525815	10.444	108	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1709586	13.229	1610233	13.223	106	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1365508	15.485	1271242	15.485	107	50 - 200	0.0000	+/-0.50	
Cal Standard (AA66932-CAL5)			Lab File ID: 215FM008.D			Analyzed: 06/18/21 09:56			
Pentafluorobenzene	1048667	9.857	1101889	9.851	95	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2471790	10.444	2525815	10.444	98	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1553840	13.229	1610233	13.223	96	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1230662	15.485	1271242	15.485	97	50 - 200	0.0000	+/-0.50	
Cal Standard (AA66932-CAL6)			Lab File ID: 215FM009.D			Analyzed: 06/18/21 10:24			
Pentafluorobenzene	1101889	9.851	1101889	9.851	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2525815	10.444	2525815	10.444	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1610233	13.223	1610233	13.223	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1271242	15.485	1271242	15.485	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA66932-CAL7)			Lab File ID: 215FM010.D			Analyzed: 06/18/21 10:52			
Pentafluorobenzene	1123435	9.851	1101889	9.851	102	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2544231	10.444	2525815	10.444	101	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1714182	13.229	1610233	13.223	106	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1273276	15.485	1271242	15.485	100	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04257-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA66932
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA66932-CAL8)			Lab File ID: 215FM011.D			Analyzed: 06/18/21 11:20			
Pentafluorobenzene	1129487	9.851	1101889	9.851	103	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2502919	10.444	2525815	10.444	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1697989	13.223	1610233	13.223	105	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1266610	15.485	1271242	15.485	100	50 - 200	0.0000	+/-0.50	
Secondary Cal Check (AA66932-SCV1)			Lab File ID: 215FM013.D			Analyzed: 06/18/21 12:15			
Pentafluorobenzene	1128318	9.857	1101889	9.851	102	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2499257	10.444	2525815	10.444	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1604968	13.229	1610233	13.223	100	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1259307	15.485	1271242	15.485	99	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04257-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA67037
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA67037-CCV1)			Lab File ID: 215FS002.D			Analyzed: 06/24/21 08:02			
Pentafluorobenzene	1101516	9.857	1101889	9.851	100	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2640300	10.444	2525815	10.444	105	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1759573	13.223	1610233	13.223	109	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1411022	15.485	1271242	15.485	111	50 - 200	0.0000	+/-0.50	
LCS (1F24014-BS1)			Lab File ID: 215FS003.D			Analyzed: 06/24/21 08:29			
Pentafluorobenzene	1175956	9.851	1101889	9.851	107	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2744360	10.444	2525815	10.444	109	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1801802	13.223	1610233	13.223	112	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1376596	15.485	1271242	15.485	108	50 - 200	0.0000	+/-0.50	
Blank (1F24014-BLK1)			Lab File ID: 215FS005.D			Analyzed: 06/24/21 09:25			
Pentafluorobenzene	1094115	9.851	1101889	9.851	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2686869	10.444	2525815	10.444	106	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1729939	13.223	1610233	13.223	107	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1343643	15.486	1271242	15.485	106	50 - 200	0.0010	+/-0.50	
CRCA-ASEFFLEUNT-20210617 (AE04257-01)			Lab File ID: 215FS006.D			Analyzed: 06/24/21 09:53			
Pentafluorobenzene	1092179	9.851	1101889	9.851	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2601615	10.444	2525815	10.444	103	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1700431	13.223	1610233	13.223	106	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1303013	15.486	1271242	15.485	102	50 - 200	0.0010	+/-0.50	
CRCA-ASINFLEUNT-20210617 (AE04257-02)			Lab File ID: 215FS007.D			Analyzed: 06/24/21 10:21			
Pentafluorobenzene	1102332	9.851	1101889	9.851	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2606732	10.444	2525815	10.444	103	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1653264	13.223	1610233	13.223	103	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1316405	15.486	1271242	15.485	104	50 - 200	0.0010	+/-0.50	
Matrix Spike (1F24014-MS1)			Lab File ID: 215FS008.D			Analyzed: 06/24/21 10:49			
Pentafluorobenzene	1089333	9.851	1101889	9.851	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2579118	10.444	2525815	10.444	102	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1694983	13.223	1610233	13.223	105	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1336896	15.485	1271242	15.485	105	50 - 200	0.0000	+/-0.50	
Matrix Spike Dup (1F24014-MSD1)			Lab File ID: 215FS009.D			Analyzed: 06/24/21 11:17			
Pentafluorobenzene	1109422	9.851	1101889	9.851	101	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2680606	10.444	2525815	10.444	106	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1732614	13.223	1610233	13.223	108	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1341026	15.486	1271242	15.485	105	50 - 200	0.0010	+/-0.50	

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE04257-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA66932		
Calibration:	2106098	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA66932-TUN1	215FM003.D	06/18/21 07:34
Cal Standard	AA66932-CAL1	215FM004.D	06/18/21 08:05
Cal Standard	AA66932-CAL2	215FM005.D	06/18/21 08:32
Cal Standard	AA66932-CAL3	215FM006.D	06/18/21 09:00
Cal Standard	AA66932-CAL4	215FM007.D	06/18/21 09:28
Cal Standard	AA66932-CAL5	215FM008.D	06/18/21 09:56
Cal Standard	AA66932-CAL6	215FM009.D	06/18/21 10:24
Cal Standard	AA66932-CAL7	215FM010.D	06/18/21 10:52
Cal Standard	AA66932-CAL8	215FM011.D	06/18/21 11:20
Secondary Cal Check	AA66932-SCV1	215FM013.D	06/18/21 12:15

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE04257-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA67037		
Calibration:	2106098	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA67037-CCV1	215FS002.D	06/24/21 08:02
LCS	1F24014-BS1	215FS003.D	06/24/21 08:29
Blank	1F24014-BLK1	215FS005.D	06/24/21 09:25
CRCA-ASEFFLEUNT-20210617	AE04257-01	215FS006.D	06/24/21 09:53
CRCA-ASINFLEUNT-20210617	AE04257-02	215FS007.D	06/24/21 10:21
CRCA-ASEFFLEUNT-20210617	1F24014-MS1	215FS008.D	06/24/21 10:49
CRCA-ASEFFLEUNT-20210617	1F24014-MSD1	215FS009.D	06/24/21 11:17

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE04257-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	215FM003.D	Injection Date:	06/18/21
Instrument ID:	OVGCMS5	Injection Time:	07:34
Sequence:	AA66932	Lab Sample ID:	AA66932-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	191	PASS
96	5 - 9% of 95	7.06	PASS
173	Less than 2% of 174	0.214	PASS
174	50 - 200% of 95	52.3	PASS
175	5 - 9% of 174	5.23	PASS
176	95 - 105% of 174	95.8	PASS
177	5 - 10% of 176	6.95	PASS

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE04257-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2106098
Lab File ID:	215FS002.D	Calibration Date:	06/18/21 08:08
Sequence:	AA67037	Injection Date:	06/24/21
Lab Sample ID:	AA67037-CCV1	Injection Time:	08:02

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Dichlorodifluoromethane	A	20.0	26	0.5094763	0.6727705		31	20	*
Chloromethane	A	20.0	21	0.7825336	0.8000111		4.7	20	
Vinyl chloride	A	20.0	20	0.6650027	0.6760183		1.7	20	
Bromomethane	A	20.0	29	0.2460614	0.2546195		44	20	*
Chloroethane	A	20.0	18	0.3880182	0.3386265		-7.7	20	
Trichlorofluoromethane	A	20.0	21	0.7609833	0.7897843		3.8	20	
Freon 113	A	50.0	48	0.3222191	0.3118629		-3.2	20	
Acetone	A	250	220	0.1924489	0.1908936		-10	20	
1,1-Dichloroethene	A	50.0	51	0.5314554	0.5372096		1.1	20	
Carbon disulfide	A	250	240	1.455719	1.434954		-5.6	20	
Methylene Chloride	A	50.0	48	0.6815178	0.6479679		-4.9	20	
Methyl-tert-Butyl Ether	A	50.0	51	1.537398	1.569967		2.1	20	
trans-1,2-Dichloroethene	A	50.0	51	0.6064423	0.619163		2.1	20	
cis-1,2-Dichloroethene	A	50.0	51	0.6549615	0.6680602		2.0	20	
1,1-Dichloroethane	A	50.0	50	1.152866	1.150607		-0.2	20	
2-Butanone	A	250	260	9.841208E-02	0.1037363		5.4	20	
Chloroform	A	50.0	51	1.100938	1.128555		2.5	20	
1,1,1-Trichloroethane	A	50.0	53	0.8164118	0.8600674		5.3	20	
Methyl acetate	A	50.0	45	0.573727	0.5029287		-9.8	20	
Cyclohexane	A	50.0	52	1.148895	1.194823		4.0	20	
Methyl cyclohexane	A	50.0	49	0.6594789	0.5226194		-2.1	20	
Carbon Tetrachloride	A	50.0	55	0.285844	0.316875		11	20	
1,2-Dichloroethane	A	50.0	47	0.3513194	0.3335068		-5.1	20	
Benzene	A	50.0	48	1.184952	1.12961		-4.7	20	
Trichloroethene	A	50.0	49	0.2450156	0.2415214		-1.4	20	
1,2-Dichloropropane	A	50.0	47	0.3371891	0.3185089		-5.5	20	
Bromodichloromethane	A	50.0	52	0.3308186	0.3418278		3.3	20	
4-Methyl-2-pentanone	A	250	270	4.594368E-02	4.872908E-02		6.1	20	
2-Hexanone	A	250	220	0.3312611	0.3403012		-10	20	

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE04257-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2106098
Lab File ID:	215FS002.D	Calibration Date:	06/18/21 08:08
Sequence:	AA67037	Injection Date:	06/24/21
Lab Sample ID:	AA67037-CCV1	Injection Time:	08:02

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
cis-1,3-Dichloropropene	A	50.0	51	0.4967443	0.5045461		1.6	20
Toluene	A	50.0	47	1.222815	1.156783		-5.4	20
trans-1,3-Dichloropropene	A	50.0	49	0.6187986	0.6015567		-2.8	20
1,1,2-Trichloroethane	A	50.0	47	0.420744	0.3981994		-5.4	20
Tetrachloroethene	A	50.0	47	0.2798147	0.2630883		-6	20
Dibromochloromethane	A	50.0	45	0.3204024	0.3406559		-9.1	20
1,2-Dibromoethane	A	50.0	49	0.4215299	0.4152928		-1.5	20
Chlorobenzene	A	50.0	48	1.214708	1.168069		-3.8	20
Ethylbenzene	A	50.0	49	0.6898253	0.6743437		-2.2	20
m,p-Xylenes	A	100	97	0.8851906	0.859219		-2.9	20
o-Xylene	A	50.0	48	0.8732591	0.8429903		-3.5	20
Bromoform	A	50.0	42	0.175043	0.1782552		-17	20
Styrene	A	50.0	47	1.378538	1.450734		-6.2	20
Isopropylbenzene	A	50.0	48	2.223963	2.237739		-3.7	20
1,1,2,2-Tetrachloroethane	A	50.0	50	0.7197231	0.7129741		-0.9	20
1,2,4-Trichlorobenzene	A	50.0	47	0.2087952	0.2271814		-6.5	20
1,3-Dichlorobenzene	A	50.0	47	1.132817	1.058647		-6.5	20
1,4-Dichlorobenzene	A	50.0	46	1.174038	1.089987		-7.2	20
1,2-Dichlorobenzene	A	50.0	45	1.038218	0.9880711		-9.6	20
1,2-Dibromo-3-chloropropane	A	50.0	47	0.1005424	0.1002387		-5.7	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE04257-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA66932	Instrument:	OVGCMS5
Calibration:	2106098		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A1B1159	MS Tune (lower conc.)	AA66932-TUN1	215FM003.D	06/18/21 07:34
A1F0975	8260 1.0 PPB ms5	AA66932-CAL1	215FM004.D	06/18/21 08:05
A1F0976	8260 2.0 PPB ms5	AA66932-CAL2	215FM005.D	06/18/21 08:32
A1F0977	8260 5.0 PPB ms5	AA66932-CAL3	215FM006.D	06/18/21 09:00
A1F0978	8260 10 PPB ms5	AA66932-CAL4	215FM007.D	06/18/21 09:28
A1F0979	8260 20 PPB ms5	AA66932-CAL5	215FM008.D	06/18/21 09:56
A1F0980	8260 50 PPB ms5	AA66932-CAL6	215FM009.D	06/18/21 10:24
A1F0981	8260 80 PPB ms5	AA66932-CAL7	215FM010.D	06/18/21 10:52
A1F0982	8260 100 PPB ms5	AA66932-CAL8	215FM011.D	06/18/21 11:20
A1F0991	8260 SCV 50 PPB/20 gases (surr. lower conc.)	AA66932-SCV1	215FM013.D	06/18/21 12:15

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04257-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	1	0.5444762	2	0.4223063	5	0.5914354	10	0.4929725	20	0.4782643	50	0.5144729
Chloromethane	1	1.059332	2	0.6707638	5	0.8644306	10	0.7204098	20	0.7205409	50	0.6904153
Vinyl chloride	1	0.775862	2	0.5365335	5	0.6922473	10	0.650021	20	0.6440319	50	0.6499421
Bromomethane	1	0.3234076	2	0.3255129	5	0.3281328	10	0.219142	20	0.182968	50	0.1756765
Chloroethane	1	0.5053711	2	0.3404387	5	0.4826976	10	0.340112	20	0.3719102	50	0.2875798
Trichlorofluoromethane	1	0.7781085	2	0.6195022	5	0.8260138	10	0.7531864	20	0.7735416	50	0.7678532
Freon 113	1	0.2607978	2	0.3637858	5	0.3770729	10	0.3089054	20	0.3269222	50	0.3197173
Acetone	5	0.1268337	10	0.1831306	25	0.2239481	50	0.1920774	100	0.1898639	250	0.1957422
1,1-Dichloroethene	1	0.4355227	2	0.5684854	5	0.5852284	10	0.4930696	20	0.527627	50	0.5515247
Carbon disulfide	5	1.120095	10	1.355324	25	1.710983	50	1.475901	100	1.585499	250	1.52274
Methylene Chloride	1	0.5906119	2	0.7214544	5	0.7546519	10	0.6982431	20	0.6824497	50	0.6582142
Methyl-tert-Butyl Ether	1	1.228691	2	1.467826	5	1.698991	10	1.494367	20	1.514682	50	1.584127
trans-1,2-Dichloroethene	1	0.4844873	2	0.6339387	5	0.7476141	10	0.5671123	20	0.6072805	50	0.6066591
cis-1,2-Dichloroethene	1	0.5911944	2	0.6827126	5	0.6306257	10	0.6005607	20	0.6701389	50	0.6974786
1,1-Dichloroethane	1	0.9991355	2	1.197143	5	1.248112	10	1.143127	20	1.182508	50	1.151263
2-Butanone	5	8.611444E-02	10	9.231158E-02	25	0.1019234	50	0.0921379	100	0.0990753	250	9.898384E-02
Chloroform	1	0.9484237	2	1.219878	5	1.187922	10	1.043696	20	1.126225	50	1.095959
1,1,1-Trichloroethane	1	0.6124942	2	0.8466313	5	0.8294324	10	0.8444389	20	0.8295007	50	0.8605141
Methyl acetate	1	0.8340204	2	0.5208941	5	0.6154519	10	0.4900873	20	0.5014533	50	0.5008726
Cyclohexane	1	0.9308264	2	1.158299	5	1.12907	10	1.075644	20	1.216363	50	1.25072
Methyl cyclohexane	1	1.035333	2	0.8960511	5	0.6276093	10	0.5654248	20	0.5513575	50	0.5359486
Carbon Tetrachloride	1	0.2938125	2	0.272744	5	0.2453059	10	0.2456946	20	0.3170405	50	0.2849243
1,2-Dichloroethane	1	0.3728822	2	0.3760035	5	0.354193	10	0.3600144	20	0.3324898	50	0.3267591
Benzene	1	1.020889	2	1.335683	5	1.280419	10	1.205074	20	1.205519	50	1.154164
Trichloroethene	1	0.1995915	2	0.2675143	5	0.2457729	10	0.2576097	20	0.2522099	50	0.247163
1,2-Dichloropropane	1	0.3317094	2	0.3444437	5	0.3345588	10	0.3309305	20	0.32462	50	0.3363809
Bromodichloromethane	1	0.2784006	2	0.3158437	5	0.3279466	10	0.3133996	20	0.3348848	50	0.3464648
4-Methyl-2-pentanone	5	3.874193E-02	10	4.347198E-02	25	4.604022E-02	50	4.379807E-02	100	4.563434E-02	250	0.0479853
2-Hexanone	5	0.1920212	10	0.2973425	25	0.328939	50	0.3560921	100	0.3508167	250	0.3654472
cis-1,3-Dichloropropene	1	0.3791549	2	0.4859364	5	0.4863015	10	0.482609	20	0.5082976	50	0.531607
Toluene	1	1.215098	2	1.389193	5	1.235324	10	1.133236	20	1.24708	50	1.245802

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04257-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	1	0.5121762	2	0.6622446	5	0.6454576	10	0.5523355	20	0.6458741	50	0.6536197
1,1,2-Trichloroethane	1	0.3809597	2	0.4742446	5	0.4274421	10	0.3892404	20	0.4263599	50	0.4245764
Tetrachloroethene	1	0.2623334	2	0.3509024	5	0.3066935	10	0.246393	20	0.2806483	50	0.273779
Dibromochloromethane	1	0.1954628	2	0.3058781	5	0.2995091	10	0.3067263	20	0.3443887	50	0.3599448
1,2-Dibromoethane	1	0.387205	2	0.4152207	5	0.4139148	10	0.4117751	20	0.4205098	50	0.439896
Chlorobenzene	1	1.141484	2	1.300256	5	1.22289	10	1.222196	20	1.268013	50	1.234034
Ethylbenzene	1	0.5916037	2	0.6971589	5	0.6987964	10	0.7353856	20	0.7037018	50	0.7166845
m,p-Xylenes	2	0.8130441	4	0.9200809	10	0.9356853	20	0.9204158	40	0.9535119	100	0.8998223
o-Xylene	1	0.7031544	2	0.8522975	5	0.928378	10	0.8650837	20	0.9465502	50	0.9192626
Bromoform	1	0.129921	2	0.1507396	5	0.1403793	10	0.1654611	20	0.1852009	50	0.1967156
Styrene	1	0.7825155	2	1.203015	5	1.465928	10	1.317717	20	1.612473	50	1.562396
Isopropylbenzene	1	1.704453	2	2.252172	5	2.4154	10	2.193867	20	2.416191	50	2.372754
1,1,2,2-Tetrachloroethane	1	0.5720375	2	0.7488666	5	0.7870861	10	0.7104761	20	0.7506403	50	0.7288423
1,2,4-Trichlorobenzene	1	6.982231E-02	2	0.148378	5	0.2032745	10	0.2020054	20	0.2092492	50	0.2466564
1,3-Dichlorobenzene	1	0.948657	2	1.182099	5	1.105942	10	1.139155	20	1.151222	50	1.175941
1,4-Dichlorobenzene	1	1.112015	2	1.169665	5	1.232994	10	1.151103	20	1.196167	50	1.17052
1,2-Dichlorobenzene	1	0.834553	2	1.111243	5	1.040463	10	1.00277	20	1.046587	50	1.081676
1,2-Dibromo-3-chloropropane	1	3.782219E-02	2	0.1234915	5	9.587591E-02	10	8.741802E-02	20	9.065852E-02	50	0.1109498
Dibromofluoromethane	50	0.5913957	55	0.5857742	60	0.6050241	50	0.6090502	65	0.599548	50	0.6278028
Toluene-d8	50	1.156133	55	1.20606	60	1.22483	50	1.244223	65	1.198461	50	1.336655
4-Bromofluorobenzene	50	0.8721141	55	0.8442948	60	0.860972	50	0.8437756	65	0.8369979	50	0.9245401

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04257-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	80	0.5188117	100	0.513071								
Chloromethane	80	0.7237385	100	0.8106379								
Vinyl chloride	80	0.6784366	100	0.6929469								
Bromomethane	80	0.2018831	100	0.2117683								
Chloroethane	80	~~0.2324829~~	100	~~0.1721268~~								
Trichlorofluoromethane	80	0.7833297	100	0.7863313								
Freon 113	80	0.307747	100	0.3128048								
Acetone	400	0.2070738	500	0.2209217								
1,1-Dichloroethene	80	0.5362744	100	0.5539112								
Carbon disulfide	400	1.455013	500	1.4202								
Methylene Chloride	80	0.6765417	100	0.6699758								
Methyl-tert-Butyl Ether	80	1.611962	100	1.698542								
trans-1,2-Dichloroethene	80	0.5978528	100	0.6065935								
cis-1,2-Dichloroethene	80	0.6769028	100	0.6900783								
1,1-Dichloroethane	80	1.149155	100	1.152482								
2-Butanone	400	0.1060309	500	0.1107193								
Chloroform	80	1.088278	100	1.097122								
1,1,1-Trichloroethane	80	0.8538667	100	0.8544162								
Methyl acetate	80	0.543619	100	0.5834171								
Cyclohexane	80	1.217302	100	1.212934								
Methyl cyclohexane	80	0.5283242	100	0.5357824								
Carbon Tetrachloride	80	0.3354238	100	0.2918061								
1,2-Dichloroethane	80	0.3378516	100	0.3503619								
Benzene	80	1.128018	100	1.149851								
Trichloroethene	80	0.2419864	100	0.2482773								
1,2-Dichloropropane	80	0.3393545	100	0.3555149								
Bromodichloromethane	80	0.3580559	100	0.3715528								
4-Methyl-2-pentanone	400	4.872666E-02	500	0.0531509								
2-Hexanone	400	0.3642195	500	0.3952106								
cis-1,3-Dichloropropene	80	0.5418855	100	0.5581627								
Toluene	80	1.157336	100	1.159454								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04257-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	80	0.6300793	100	0.648602								
1,1,2-Trichloroethane	80	0.4164825	100	0.4266462								
Tetrachloroethene	80	0.2557776	100	0.2619908								
Dibromochloromethane	80	0.3640785	100	0.3872307								
1,2-Dibromoethane	80	0.4359692	100	0.4477482								
Chlorobenzene	80	1.162731	100	1.166059								
Ethylbenzene	80	0.6822879	100	0.6929839								
m,p-Xylenes	160	0.8278378	200	0.8111269								
o-Xylene	80	0.8813923	100	0.8899545								
Bromoform	80	0.209795	100	0.2221316								
Styrene	80	1.533573	100	1.550684								
Isopropylbenzene	80	2.211864	100	2.225002								
1,1,2,2-Tetrachloroethane	80	0.7238183	100	0.7360177								
1,2,4-Trichlorobenzene	80	0.2835707	100	0.3074052								
1,3-Dichlorobenzene	80	1.171958	100	1.187558								
1,4-Dichlorobenzene	80	1.186322	100	1.17352								
1,2-Dichlorobenzene	80	1.084059	100	1.10439								
1,2-Dibromo-3-chloropropane	80	0.1211319	100	0.1369917								
Dibromofluoromethane	70	0.5842909	75	0.5832016								
Toluene-d8	70	1.244561	75	1.260871								
4-Bromofluorobenzene	70	0.8334529	75	0.8539871								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04257-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	0.5094763	9.647847	3.98025	5.556263E-02	0.9996769		0.99	
Chloromethane	0.7825336	16.46827	4.40925	0.135073	0.9923367		0.99	
Vinyl chloride	0.6650027	10.06966	4.5845	5.710391E-02			20	
Bromomethane	0.2460614	27.39954	5.228375	4.862762E-02		0.9963293	0.99	
Chloroethane	0.3880182	22.36143	5.459	0.1512648		0.9973848	0.99	
Trichlorofluoromethane	0.7609833	8.000491	5.701125	0.1864209			20	
Freon 113	0.3222191	11.13614	6.55825	9.342257E-02			20	
Acetone	0.1924489	15.74444	7.4	0.1278971	0.9960612		0.99	
1,1-Dichloroethene	0.5314554	8.963278	6.53325	4.564842E-02			20	
Carbon disulfide	1.455719	11.92334	6.625	6.868896E-02		0.9998954	0.99	
Methylene Chloride	0.6815178	7.056421	7.34125	0.0518812			20	
Methyl-tert-Butyl Ether	1.537398	9.90525	7.63075	2.123095E-02			20	
trans-1,2-Dichloroethene	0.6064423	12.01755	7.5505	0.1224101			20	
cis-1,2-Dichloroethene	0.6549615	6.358542	8.9505	6.797787E-02			20	
1,1-Dichloroethane	1.152866	6.19063	8.31475	5.035179E-02			20	
2-Butanone	9.841208E-02	8.151038	9.550125	0.1662186			20	
Chloroform	1.100938	7.606441	9.222	3.620673E-02			20	
1,1,1-Trichloroethane	0.8164118	10.18657	9.485375	5.345546E-02			20	
Methyl acetate	0.573727	19.85262	7.511375	0.5213447	0.9945246		0.99	
Cyclohexane	1.148895	9.134873	9.19225	5.174988E-02			20	
Methyl cyclohexane	0.6594789	29.58945	10.45075	3.931351E-02	0.9995099		0.99	
Carbon Tetrachloride	0.285844	11.02986	9.4145	6.564497E-02			20	
1,2-Dichloroethane	0.3513194	5.157523	10.08825	2.752186E-02			20	
Benzene	1.184952	8.132168	9.87925	4.856943E-02			20	
Trichloroethene	0.2450156	8.169892	10.453	4.611096E-02			20	
1,2-Dichloropropane	0.3371891	2.808828	10.98725	3.084346E-02			20	
Bromodichloromethane	0.3308186	8.809988	11.01775	4.062078E-02			20	
4-Methyl-2-pentanone	4.594368E-02	9.254212	12.13475	6.688867E-02			20	
2-Hexanone	0.3312611	19.05383	12.88125	4.379245E-02	0.9967168		0.99	
cis-1,3-Dichloropropene	0.4967443	11.13382	11.6105	4.251153E-02			20	

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE04257-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Toluene	1.222815	6.581686	11.83175	2.131752E-03			20	
trans-1,3-Dichloropropene	0.6187986	8.92381	12.19875	3.889151E-02			20	
1,1,2-Trichloroethane	0.420744	6.711427	12.36275	0.0322457			20	
Tetrachloroethene	0.2798147	12.18024	12.21	0.0317417			20	
Dibromochloromethane	0.3204024	18.63594	12.55363	2.959019E-02	0.9973738		0.99	
1,2-Dibromoethane	0.4215299	4.576784	12.81575	3.543673E-02			20	
Chlorobenzene	1.214708	4.518369	13.2455	1.871819E-02			20	
Ethylbenzene	0.6898253	6.208191	13.21175	3.216336E-02			20	
m,p-Xylenes	0.8851906	6.596866	13.329	4.748539E-02			20	
o-Xylene	0.8732591	8.690183	13.736	3.869105E-02			20	
Bromoform	0.175043	19.21377	13.87912	4.188187E-02	0.9953063		0.99	
Styrene	1.378538	20.14016	13.78075	3.574971E-02	0.9995972		0.99	
Isopropylbenzene	2.223963	10.30242	13.999	3.611421E-02		0.9994846	0.99	
1,1,2,2-Tetrachloroethane	0.7197231	8.881911	14.47125	2.257241E-02			20	
1,2,4-Trichlorobenzene	0.2087952	36.10883	18.155	0.111192		0.9993635	0.99	
1,3-Dichlorobenzene	1.132817	6.985412	15.41725	1.644861E-02			20	
1,4-Dichlorobenzene	1.174038	2.971778	15.50525	1.679585E-02			20	
1,2-Dichlorobenzene	1.038218	8.654341	16.02525	3.415201E-02	0.9996843		0.99	
1,2-Dibromo-3-chloropropane	0.1005424	30.57038	17.0955	0.1851555		0.9994421	0.99	
Dibromofluoromethane	0.5982609	2.57523	9.428	9.589849E-03			20	
Toluene-d8	1.233974	4.295517	11.7795	2.799324E-02			20	
4-Bromofluorobenzene	0.8587668	3.43207	14.32875	7.284017E-03			20	

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE04257-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2106098 **Laboratory ID:** AA66932-SCV1

Sequence: AA66932 **Standard ID:** A1F0991

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Cyclohexane	50.0	60	20.5	30.00
Ethylbenzene	50.0	60	19.7	30.00
Carbon Tetrachloride	50.0	55	10.0	30.00
1,3-Dichlorobenzene	50.0	60	19.3	30.00
4-Bromofluorobenzene	50.0	55	9.4	30.00
Toluene-d8	50.0	55	9.6	30.00
Dibromofluoromethane	50.0	50	0.06	30.00
Methyl-tert-Butyl Ether	50.0	56	12.6	30.00
trans-1,2-Dichloroethene	50.0	55	10.3	30.00
cis-1,2-Dichloroethene	50.0	56	12.7	30.00
Tetrachloroethene	50.0	56	11.2	30.00
Acetone	250	260	3.8	30.00
1,2,4-Trichlorobenzene	50.0	60	19.1	30.00
Chloroform	50.0	54	8.2	30.00
Chlorobenzene	50.0	57	14.7	30.00
Toluene	50.0	56	12.6	30.00
Methyl cyclohexane	50.0	57	14.2	30.00
m,p-Xylenes	100	110	11.2	30.00
4-Methyl-2-pentanone	250	300	20.0	30.00
1,2-Dichloroethane	50.0	53	5.4	30.00
1,2-Dibromoethane	50.0	58	15.2	30.00
1,4-Dichlorobenzene	50.0	57	13.3	30.00
trans-1,3-Dichloropropene	50.0	61	21.5	30.00
cis-1,3-Dichloropropene	50.0	57	13.0	30.00
Styrene	50.0	59	18.6	30.00
Dibromochloromethane	50.0	55	9.5	30.00
1,1-Dichloroethene	50.0	57	13.1	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE04257-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2106098 **Laboratory ID:** AA66932-SCV1

Sequence: AA66932 **Standard ID:** A1F0991

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
1,2-Dibromo-3-chloropropane	50.0	59	17.5	30.00
1,2-Dichlorobenzene	50.0	57	14.1	30.00
o-Xylene	50.0	60	19.9	30.00
1,1,2,2-Tetrachloroethane	50.0	56	12.7	30.00
Methyl acetate	50.0	58	16.7	30.00
Trichloroethene	50.0	56	11.0	30.00
1,1,2-Trichloroethane	50.0	56	12.3	30.00
2-Butanone	250	280	13.7	30.00
1,2-Dichloropropane	50.0	55	11.0	30.00
Freon 113	50.0	57	13.2	30.00
2-Hexanone	250	280	12.6	30.00
Trichlorofluoromethane	20.0	20	1.2	30.00
Isopropylbenzene	50.0	58	16.4	30.00
1,1-Dichloroethane	50.0	56	12.5	30.00
Bromodichloromethane	50.0	60	19.7	30.00
Bromoform	50.0	55	10.2	30.00
Carbon disulfide	50.0	66	31.2 *	30.00
Methylene Chloride	50.0	51	2.5	30.00
Vinyl chloride	20.0	20	2.4	30.00
Chloroethane	20.0	16	-21.2	30.00
Chloromethane	20.0	23	14.0	30.00
Bromomethane	20.0	22	7.7	30.00
1,1,1-Trichloroethane	50.0	58	15.3	30.00
Benzene	50.0	57	13.8	30.00
Dichlorodifluoromethane	20.0	27	36.8 *	30.00

* Values outside of QC limits

TETRA TECH ISG
TtEGS, Information Systems Group

Completion Ticket

On 7/22/2021 at 12:49 PM the following files were submitted to Tetra Tech by kdylnicki@encolabs.com with ENCO:

TE016AE04257A1.txt, TE016AE04257A3.txt

If you need to identify this session at a later date refer to Ticket Key:

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I Lori S. Mangrum, as the designated Quality Assurance Officer, hereby attest that all electronic deliverables have been thoroughly reviewed and are in agreement with the associated hardcopy data. The enclosed electronic files have been reviewed for accuracy (including significant figures), completeness and format. The laboratory will be responsible for any labor time necessary to correct enclosed electronic deliverables that have been found to be in error. I can be reached at (407) 826-5314 if there are any questions or problems with the enclosed electronic deliverables.

Signature:_____ Title: Quality Assurance Manager Date: July 23, 2021

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ENCO Laboratories

Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Thursday, July 29, 2021
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AE06178

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Friday, July 23, 2021.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

www.encolabs.com

Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Client PM: Alex Murphy
Project Number: 112G08970
ENCO Project ID: AE06178
SDG: AE06178-TE016

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling and processing will be discussed in the Remarks section below.

Remarks

List of instruments used:

Analytical Method / Preparation Method	SOP Reference Instrument
EPA 8260D / EPA_5030B_MS	OVGCMS5

Analysis: EPA 8260D

Manual integrations were performed on samples associated with EPA 8260D. All data & explanations are included in the raw data section of the report

Affected Samples: CRCA-ASINFLUENT-20210723 [AE06178-01], 1G27016-MSD1
Precision between duplicate matrix spikes of the same sample was outside the acceptance limits for 1,2,4-trichlorobenzene.

Affected Samples: CRCA-ASEFFLUENT-20210723 [AE06178-02], AA67520-CCV1
The associated calibration verification standard for bromomethane and dichlorodifluoromethane exhibited high bias. Analytes not detected in the sample.

Affected Samples: AA66932-SCV1
Recovery for carbon disulfide and dichlorodifluoromethane were outside acceptance limits. Analytes were not detected in the samples.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Kaitlin Dylnicki
Project Manager

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-ASINFLUENT-20210723	Lab ID: AE06178-01	Sampled: 07/23/21 12:30	Received: 07/23/21 15:00

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	08/06/21	07/27/21 09:06	07/27/21 10:02

Client ID: CRCA-ASEFFLUENT-20210723	Lab ID: AE06178-02	Sampled: 07/23/21 12:40	Received: 07/23/21 15:00

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	08/06/21	07/27/21 09:06	07/27/21 10:30

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-ASINFLUENT-20210723 **Lab ID:** AE06178-01

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	12		0.71	2.5	ug/L	EPA 8260D	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20210723 **Lab Sample ID:** AE06178-01 **Received:** 07/23/21 15:00

Matrix: Ground Water **Sampled:** 07/23/21 12:30 **Work Order:** AE06178

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	QM-11
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1G27016	EPA 8260D	07/27/21 10:02	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1G27016	EPA 8260D	07/27/21 10:02	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	

ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20210723 **Lab Sample ID:** AE06178-01 **Received:** 07/23/21 15:00

Matrix: Ground Water **Sampled:** 07/23/21 12:30 **Work Order:** AE06178

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Vinyl chloride [75-01-4]^	**12**		ug/L	1	0.71	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1G27016	EPA 8260D	07/27/21 10:02	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*50*	*1*	*50.0*	*100 %*	*41-142*	*1G27016*	*EPA 8260D*	*07/27/21 10:02*	*kkw*	
Dibromofluoromethane	*53*	*1*	*50.0*	*107 %*	*53-146*	*1G27016*	*EPA 8260D*	*07/27/21 10:02*	*kkw*	
Toluene-d8	*51*	*1*	*50.0*	*103 %*	*41-146*	*1G27016*	*EPA 8260D*	*07/27/21 10:02*	*kkw*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20210723 **Lab Sample ID:** AE06178-02 **Received:** 07/23/21 15:00

Matrix: Ground Water **Sampled:** 07/23/21 12:40 **Work Order:** AE06178

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1G27016	EPA 8260D	07/27/21 10:30	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1G27016	EPA 8260D	07/27/21 10:30	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20210723 **Lab Sample ID:** AE06178-02 **Received:** 07/23/21 15:00

Matrix: Ground Water **Sampled:** 07/23/21 12:40 **Work Order:** AE06178

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1G27016	EPA 8260D	07/27/21 10:30	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*51*	*1*	*50.0*	*102 %*	*41-142*	*1G27016*	*EPA 8260D*	*07/27/21 10:30*	*kkw*	
Dibromofluoromethane	*52*	*1*	*50.0*	*103 %*	*53-146*	*1G27016*	*EPA 8260D*	*07/27/21 10:30*	*kkw*	
Toluene-d8	*51*	*1*	*50.0*	*102 %*	*41-146*	*1G27016*	*EPA 8260D*	*07/27/21 10:30*	*kkw*	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1G27016 - EPA 5030B_MS

Blank (1G27016-BLK1) Prepared: 07/27/2021 00:00 Analyzed: 07/27/2021 09:34

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1G27016 - EPA 5030B_MS - Continued

Blank (1G27016-BLK1) Continued Prepared: 07/27/2021 00:00 Analyzed: 07/27/2021 09:34

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*50*			*ug/L*	*50.0*		*99*	*41-142*			
Dibromofluoromethane	*53*			*ug/L*	*50.0*		*106*	*53-146*			
Toluene-d8	*51*			*ug/L*	*50.0*		*101*	*41-146*			

LCS (1G27016-BS1) Prepared: 07/27/2021 00:00 Analyzed: 07/27/2021 08:38

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	23		2.5	ug/L	20.0		113	57-148			
1,1,2,2-Tetrachloroethane	21		2.5	ug/L	20.0		105	60-139			
1,1,2-Trichloroethane	21		2.5	ug/L	20.0		103	57-141			
1,1-Dichloroethane	22		2.5	ug/L	20.0		111	57-142			
1,1-Dichloroethene	22		2.5	ug/L	20.0		109	47-139			
1,2,4-Trichlorobenzene	27		2.5	ug/L	20.0		134	52-159			
1,2-Dibromo-3-chloropropane	24		2.5	ug/L	20.0		118	48-150			
1,2-Dibromoethane	21		2.5	ug/L	20.0		103	57-140			
1,2-Dichlorobenzene	21		2.5	ug/L	20.0		105	63-131			
1,2-Dichloroethane	19		2.5	ug/L	20.0		97	50-156			
1,2-Dichloropropane	21		2.5	ug/L	20.0		103	61-133			
1,3-Dichlorobenzene	22		2.5	ug/L	20.0		111	66-129			
1,4-Dichlorobenzene	22		2.5	ug/L	20.0		108	65-133			
2-Butanone	61		12	ug/L	100		61	10-180			
2-Hexanone	51		12	ug/L	100		51	12-180			
4-Methyl-2-pentanone	57		12	ug/L	100		57	19-180			
Acetone	50		25	ug/L	100		50	10-180			
Benzene	21		2.5	ug/L	20.0		106	56-136			
Bromodichloromethane	21		2.5	ug/L	20.0		104	58-135			
Bromoform	19		2.5	ug/L	20.0		96	46-148			
Bromomethane	15		2.5	ug/L	20.0		75	10-173			
Carbon disulfide	25		12	ug/L	20.0		123	43-153			
Carbon Tetrachloride	19		2.5	ug/L	20.0		95	54-156			
Chlorobenzene	21		2.5	ug/L	20.0		105	51-139			
Chloroethane	23		2.5	ug/L	20.0		113	27-180			
Chloroform	22		2.5	ug/L	20.0		108	58-139			
Chloromethane	23		2.5	ug/L	20.0		116	33-154			
cis-1,2-Dichloroethene	23		2.5	ug/L	20.0		114	56-128			
cis-1,3-Dichloropropene	20		2.5	ug/L	20.0		102	64-128			
Cyclohexane	23		2.5	ug/L	20.0		114	70-130			
Dibromochloromethane	19		2.5	ug/L	20.0		95	50-140			
Dichlorodifluoromethane	28		2.5	ug/L	20.0		141	10-180			
Ethylbenzene	21		2.5	ug/L	20.0		105	63-133			
Freon 113	20		2.5	ug/L	20.0		102	47-173			
Isopropylbenzene	20		2.5	ug/L	20.0		101	60-132			
m,p-Xylenes	42		5.0	ug/L	40.0		106	64-133			
Methyl acetate	22		2.5	ug/L	20.0		108	70-130			
Methyl cyclohexane	20		2.5	ug/L	20.0		100	70-130			
Methylene Chloride	22		12	ug/L	20.0		109	43-142			
Methyl-tert-Butyl Ether	22		2.5	ug/L	20.0		108	51-145			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1G27016 - EPA 5030B_MS - Continued

LCS (1G27016-BS1) Continued Prepared: 07/27/2021 00:00 Analyzed: 07/27/2021 08:38

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
o-Xylene	21		2.5	ug/L	20.0		106	61-129			
Styrene	20		2.5	ug/L	20.0		100	59-136			
Tetrachloroethene	21		2.5	ug/L	20.0		104	60-147			
Toluene	21		2.5	ug/L	20.0		103	64-131			
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0		108	54-134			
trans-1,3-Dichloropropene	23		2.5	ug/L	20.0		115	65-149			
Trichloroethene	20		2.5	ug/L	20.0		100	62-135			
Trichlorofluoromethane	21		2.5	ug/L	20.0		106	56-155			
Vinyl chloride	23		2.5	ug/L	20.0		115	20-167			
4-Bromofluorobenzene	*51*			*ug/L*	*50.0*		*102*	*41-142*			
Dibromofluoromethane	*57*			*ug/L*	*50.0*		*113*	*53-146*			
Toluene-d8	*51*			*ug/L*	*50.0*		*102*	*41-146*			

Matrix Spike (1G27016-MS1) Prepared: 07/27/2021 00:00 Analyzed: 07/27/2021 18:28

Source: AE06178-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	24		2.5	ug/L	20.0	0.80 U	118	57-148			
1,1,2,2-Tetrachloroethane	21		2.5	ug/L	20.0	0.54 U	103	60-139			
1,1,2-Trichloroethane	21		2.5	ug/L	20.0	0.76 U	103	57-141			
1,1-Dichloroethane	22		2.5	ug/L	20.0	0.62 U	111	57-142			
1,1-Dichloroethene	22		2.5	ug/L	20.0	0.94 U	111	47-139			
1,2,4-Trichlorobenzene	20		2.5	ug/L	20.0	0.70 U	101	52-159			QM-11
1,2-Dibromo-3-chloropropane	22		2.5	ug/L	20.0	0.96 U	110	48-150			
1,2-Dibromoethane	19		2.5	ug/L	20.0	0.78 U	97	57-140			
1,2-Dichlorobenzene	20		2.5	ug/L	20.0	0.73 U	102	63-131			
1,2-Dichloroethane	20		2.5	ug/L	20.0	0.63 U	100	50-156			
1,2-Dichloropropane	19		2.5	ug/L	20.0	0.80 U	96	61-133			
1,3-Dichlorobenzene	22		2.5	ug/L	20.0	0.77 U	108	66-129			
1,4-Dichlorobenzene	21		2.5	ug/L	20.0	0.76 U	106	65-133			
2-Butanone	55		12	ug/L	100	4.5 U	55	10-180			
2-Hexanone	48		12	ug/L	100	2.5 U	48	12-180			
4-Methyl-2-pentanone	54		12	ug/L	100	2.5 U	54	19-180			
Acetone	44		25	ug/L	100	10 U	44	10-180			
Benzene	22		2.5	ug/L	20.0	0.71 U	108	56-136			
Bromodichloromethane	21		2.5	ug/L	20.0	0.52 U	104	58-135			
Bromoform	17		2.5	ug/L	20.0	0.75 U	84	46-148			
Bromomethane	24		2.5	ug/L	20.0	0.95 U	120	10-173			
Carbon disulfide	24		12	ug/L	20.0	2.5 U	122	43-153			
Carbon Tetrachloride	24		2.5	ug/L	20.0	0.94 U	120	54-156			
Chlorobenzene	22		2.5	ug/L	20.0	0.72 U	108	51-139			
Chloroethane	26		2.5	ug/L	20.0	0.98 U	129	27-180			
Chloroform	22		2.5	ug/L	20.0	0.80 U	111	58-139			
Chloromethane	24		2.5	ug/L	20.0	0.82 U	122	33-154			
cis-1,2-Dichloroethene	23		2.5	ug/L	20.0	0.53 U	114	56-128			
cis-1,3-Dichloropropene	19		2.5	ug/L	20.0	0.59 U	93	64-128			
Cyclohexane	23		2.5	ug/L	20.0	0.93 U	113	70-130			
Dibromochloromethane	19		2.5	ug/L	20.0	0.50 U	95	50-140			
Dichlorodifluoromethane	30		2.5	ug/L	20.0	0.74 U	148	10-180			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1G27016 - EPA 5030B_MS - Continued

Matrix Spike (1G27016-MS1) Continued Prepared: 07/27/2021 00:00 Analyzed: 07/27/2021 18:28

Source: AE06178-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	22		2.5	ug/L	20.0	0.69 U	108	63-133			
Freon 113	20		2.5	ug/L	20.0	0.73 U	100	47-173			
Isopropylbenzene	21		2.5	ug/L	20.0	0.67 U	105	60-132			
m,p-Xylenes	43		5.0	ug/L	40.0	1.3 U	106	64-133			
Methyl acetate	18		2.5	ug/L	20.0	0.95 U	88	70-130			
Methyl cyclohexane	21		2.5	ug/L	20.0	0.64 U	103	70-130			
Methylene Chloride	21		12	ug/L	20.0	2.5 U	104	43-142			
Methyl-tert-Butyl Ether	21		2.5	ug/L	20.0	0.60 U	104	51-145			
o-Xylene	22		2.5	ug/L	20.0	0.53 U	109	61-129			
Styrene	20		2.5	ug/L	20.0	0.61 U	99	59-136			
Tetrachloroethene	20		2.5	ug/L	20.0	0.76 U	100	60-147			
Toluene	21		2.5	ug/L	20.0	0.72 U	107	64-131			
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.73 U	112	54-134			
trans-1,3-Dichloropropene	22		2.5	ug/L	20.0	0.73 U	109	65-149			
Trichloroethene	21		2.5	ug/L	20.0	0.89 U	106	62-135			
Trichlorofluoromethane	23		2.5	ug/L	20.0	0.94 U	116	56-155			
Vinyl chloride	35		2.5	ug/L	20.0	12	115	20-167			
4-Bromofluorobenzene	*51*			*ug/L*	*50.0*		*103*	*41-142*			
Dibromofluoromethane	*54*			*ug/L*	*50.0*		*108*	*53-146*			
Toluene-d8	*51*			*ug/L*	*50.0*		*103*	*41-146*			

Matrix Spike Dup (1G27016-MSD1) Prepared: 07/27/2021 00:00 Analyzed: 07/27/2021 18:56

Source: AE06178-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	22		2.5	ug/L	20.0	0.80 U	111	57-148	6	25	
1,1,2,2-Tetrachloroethane	20		2.5	ug/L	20.0	0.54 U	100	60-139	2	17	
1,1,2-Trichloroethane	21		2.5	ug/L	20.0	0.76 U	104	57-141	0.7	16	
1,1-Dichloroethane	22		2.5	ug/L	20.0	0.62 U	110	57-142	1	24	
1,1-Dichloroethene	22		2.5	ug/L	20.0	0.94 U	108	47-139	3	16	
1,2,4-Trichlorobenzene	26		2.5	ug/L	20.0	0.70 U	129	52-159	25	24	QM-11
1,2-Dibromo-3-chloropropane	25		2.5	ug/L	20.0	0.96 U	124	48-150	12	21	
1,2-Dibromoethane	19		2.5	ug/L	20.0	0.78 U	94	57-140	3	16	
1,2-Dichlorobenzene	21		2.5	ug/L	20.0	0.73 U	106	63-131	4	25	
1,2-Dichloroethane	19		2.5	ug/L	20.0	0.63 U	96	50-156	4	18	
1,2-Dichloropropane	20		2.5	ug/L	20.0	0.80 U	102	61-133	5	26	
1,3-Dichlorobenzene	22		2.5	ug/L	20.0	0.77 U	109	66-129	1	23	
1,4-Dichlorobenzene	21		2.5	ug/L	20.0	0.76 U	105	65-133	1	23	
2-Butanone	56		12	ug/L	100	4.5 U	56	10-180	1	29	
2-Hexanone	49		12	ug/L	100	2.5 U	49	12-180	0.6	28	
4-Methyl-2-pentanone	58		12	ug/L	100	2.5 U	58	19-180	6	24	
Acetone	45		25	ug/L	100	10 U	45	10-180	2	19	
Benzene	21		2.5	ug/L	20.0	0.71 U	107	56-136	0.6	14	
Bromodichloromethane	21		2.5	ug/L	20.0	0.52 U	103	58-135	1	19	
Bromoform	17		2.5	ug/L	20.0	0.75 U	83	46-148	1	18	
Bromomethane	22		2.5	ug/L	20.0	0.95 U	109	10-173	10	29	
Carbon disulfide	23		12	ug/L	20.0	2.5 U	116	43-153	5	26	
Carbon Tetrachloride	20		2.5	ug/L	20.0	0.94 U	102	54-156	17	27	
Chlorobenzene	21		2.5	ug/L	20.0	0.72 U	106	51-139	2	13	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1G27016 - EPA 5030B_MS - Continued

Matrix Spike Dup (1G27016-MSD1) Continued Prepared: 07/27/2021 00:00 Analyzed: 07/27/2021 18:56

Source: AE06178-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloroethane	22		2.5	ug/L	20.0	0.98 U	111	27-180	15	22	
Chloroform	22		2.5	ug/L	20.0	0.80 U	108	58-139	3	17	
Chloromethane	23		2.5	ug/L	20.0	0.82 U	116	33-154	5	31	
cis-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.53 U	108	56-128	5	17	
cis-1,3-Dichloropropene	18		2.5	ug/L	20.0	0.59 U	92	64-128	0.6	20	
Cyclohexane	22		2.5	ug/L	20.0	0.93 U	110	70-130	3	20	
Dibromochloromethane	18		2.5	ug/L	20.0	0.50 U	91	50-140	4	18	
Dichlorodifluoromethane	28		2.5	ug/L	20.0	0.74 U	142	10-180	5	26	
Ethylbenzene	21		2.5	ug/L	20.0	0.69 U	106	63-133	1	18	
Freon 113	20		2.5	ug/L	20.0	0.73 U	102	47-173	2	30	
Isopropylbenzene	20		2.5	ug/L	20.0	0.67 U	102	60-132	3	23	
m,p-Xylenes	41		5.0	ug/L	40.0	1.3 U	103	64-133	3	18	
Methyl acetate	18		2.5	ug/L	20.0	0.95 U	92	70-130	4	20	
Methyl cyclohexane	21		2.5	ug/L	20.0	0.64 U	106	70-130	2	20	
Methylene Chloride	19		12	ug/L	20.0	2.5 U	97	43-142	7	23	
Methyl-tert-Butyl Ether	20		2.5	ug/L	20.0	0.60 U	99	51-145	4	22	
o-Xylene	21		2.5	ug/L	20.0	0.53 U	107	61-129	2	16	
Styrene	20		2.5	ug/L	20.0	0.61 U	99	59-136	0.4	32	
Tetrachloroethene	20		2.5	ug/L	20.0	0.76 U	101	60-147	0.3	21	
Toluene	21		2.5	ug/L	20.0	0.72 U	103	64-131	4	16	
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.73 U	109	54-134	3	20	
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0	0.73 U	106	65-149	3	17	
Trichloroethene	20		2.5	ug/L	20.0	0.89 U	101	62-135	5	20	
Trichlorofluoromethane	23		2.5	ug/L	20.0	0.94 U	113	56-155	3	22	
Vinyl chloride	34		2.5	ug/L	20.0	12	110	20-167	3	24	
4-Bromofluorobenzene	*51*			*ug/L*	*50.0*		*102*	*41-142*			
Dibromofluoromethane	*52*			*ug/L*	*50.0*		*104*	*53-146*			
Toluene-d8	*52*			*ug/L*	*50.0*		*104*	*41-146*			

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FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-11	Precision between duplicate matrix spikes of the same sample was outside acceptance limits.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported result is an estimated value.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence (85% or greater confidence) to make a “tentative identification".
Q	One or more quality control criteria failed.

AEOG178

Tetra Tech, Inc. | **CHAIN OF CUSTODY** | **NUMBER** No. 1386 | **PAGE** 1 **OF** 1

PROJECT NO: 112G03970	**FACILITY:** CICA	**PROJECT MANAGER** Alex Murphy	**PHONE NUMBER** (321) 292-0842	**LABORATORY NAME AND CONTACT:** ENCO — Kaitlin Orlnicki
SAMPLERS (SIGNATURE) Chuck Sorden		**FIELD OPERATIONS LEADER** Chuck Sorden	**PHONE NUMBER** (321) 591-7580	**ADDRESS** 10775 Central Park Dr.
		CARRIER/WAYBILL NUMBER		**CITY, STATE** ORLANDO, FL

STANDARD TAT ☒
RUSH TAT ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2021	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TYPE OF ANALYSIS: 8260 TCL SM01.2 CLP-LIKE Custom List	COMMENTS
									G	HCL		
7/23	1430	CICA-AS-INFLUENT-20210723CICA		—	—	GW	G	3	X			
7/23	1440	CICA-AS-EFFLUENT-20210723CICA		—	—	GW	G	3	X			

1. RELINQUISHED BY	DATE 07/23/2021	TIME 1500	1. RECEIVED BY	DATE 7/23/21	TIME 1500
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS: SM — 418 1.8°

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

7/23/2021

Environmental Conservation Labs, Inc.

Alex Murphy
Tetra Tech, Inc. (TE016)
11 Riverside Drive, Suite 204
Cocoa, FL 32922
Phone: (321) 636-6470
Fax: (321) 636-6473

Reference : **Sample Receipt Confirmation - *Please Review***
Project Name / Number : NASA KSC CRCA / 112G08970
Purchase Order # : 1165883

Lab Reference # : AE06178 Lab Receipt Date: 23-Jul-21 15:00
Anticipated ***(Estimated)*** Completion Date: 30-Jul-21 19:00

This is an automated notification from our laboratory information management system (LIMS), indicating the samples we have recently received and their associated analyses. Should any of the following information be in error, please contact us immediately.

Thank you for choosing Environmental Conservation Laboratories. Should any events occur that delay the processing of your samples or inhibit our ability to complete the project within the projected time frame you will be contacted.

Sincerely,

Kaitlin Dylnicki

Client: Tetra Tech, Inc. (TE016) **Project Name:** NASA KSC CRCA
Requested TAT: 5 **Project Number:** 112G08970

Analysis	TAT	Expires	Status
Sample ID: CRCA-ASINFLUENT-20210723(Lab ID: AE06178-01), Matrix: Ground Water, Sampled: 23-Jul-21 12:30 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	06-Aug-21 23:59	Received
Sample ID: CRCA-ASEFFLUENT-20210723(Lab ID: AE06178-02), Matrix: Ground Water, Sampled: 23-Jul-21 12:40 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	06-Aug-21 23:59	Received

Analysis Groups included in this work order

ENCO Orlando

SDG: AE06178-TE016

CLASS: 01_VOA_MS

METHOD: EPA 8260D

ANALYSES DATA PACKAGE COVER PAGE

EPA 8260D

Laboratory: ENCO Orlando

SDG: AE06178-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-ASINFLUENT-20210723	AE06178-01
CRCA-ASEFFLUENT-20210723	AE06178-02

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLUENT-20210723

Laboratory: ENCO Orlando SDG: AE06178-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE06178-01 File ID: 215GV006.D

Sampled: 07/23/21 12:30 Prepared: 07/27/21 09:06 Analyzed: 07/27/21 10:02

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G27016 Sequence: AA67520 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	12		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLUENT-20210723

Laboratory: ENCO Orlando SDG: AE06178-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE06178-01 File ID: 215GV006.D

Sampled: 07/23/21 12:30 Prepared: 07/27/21 09:06 Analyzed: 07/27/21 10:02

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G27016 Sequence: AA67520 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	53	107	53 - 146	
Toluene-d8	50.0	51	103	41 - 146	
4-Bromofluorobenzene	50.0	50	100	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1005038	9.857	1101889	9.851	
1,4-Difluorobenzene	2469097	10.45	2525815	10.444	
Chlorobenzene-d5	1531646	13.229	1610233	13.223	
1,4-Dichlorobenzene-d4	1159017	15.491	1271242	15.485	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLUENT-20210723

Laboratory: ENCO Orlando SDG: AE06178-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE06178-02 File ID: 215GV007.D

Sampled: 07/23/21 12:40 Prepared: 07/27/21 09:06 Analyzed: 07/27/21 10:30

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G27016 Sequence: AA67520 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLUENT-20210723

Laboratory: ENCO Orlando SDG: AE06178-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE06178-02 File ID: 215GV007.D

Sampled: 07/23/21 12:40 Prepared: 07/27/21 09:06 Analyzed: 07/27/21 10:30

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G27016 Sequence: AA67520 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	52	103	53 - 146	
Toluene-d8	50.0	51	102	41 - 146	
4-Bromofluorobenzene	50.0	51	102	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1005403	9.857	1101889	9.851	
1,4-Difluorobenzene	2455447	10.45	2525815	10.444	
Chlorobenzene-d5	1512165	13.229	1610233	13.223	
1,4-Dichlorobenzene-d4	1159306	15.491	1271242	15.485	

* Values outside of QC limits

HOLDING TIME SUMMARY

EPA 8260D

Laboratory: ENCO Orlando

SDG: AE06178-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-ASINFLUENT-20210723	07/23/21 12:30	07/23/21 15:00	07/27/21 09:06	3.86	NA	07/27/21 10:02	4.00	14.00	
CRCA-ASEFFLUENT-20210723	07/23/21 12:40	07/23/21 15:00	07/27/21 09:06	3.85	NA	07/27/21 10:30	4.00	14.00	

PREPARATION BATCH SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AE06178-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1G27016 Batch Matrix: Water Preparation: EPA 5030B_MS

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1G27016-BLK1	215GV005.D	07/27/21 00:00	
LCS	1G27016-BS1	215GV003.D	07/27/21 00:00	
CRCA-ASINFLUENT-20210723	1G27016-MS1	215GV024.D	07/27/21 00:00	
CRCA-ASINFLUENT-20210723	1G27016-MSD1	215GV025.D	07/27/21 00:00	
CRCA-ASINFLUENT-20210723	AE06178-01	215GV006.D	07/27/21 09:06	
CRCA-ASEFFLUENT-20210723	AE06178-02	215GV007.D	07/27/21 09:06	

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE06178-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1G27016-BLK1	File ID:	215GV005.D
Prepared:	07/27/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	07/27/21 09:34	Instrument:	OVGCMS5		
Batch:	1G27016	Sequence:	AA67520	Calibration:	2106098

CAS NO.	COMPOUND	CONC. (ug/L)	Q
75-71-8	Dichlorodifluoromethane	0.74	U
74-87-3	Chloromethane	0.82	U
75-01-4	Vinyl chloride	0.71	U
74-83-9	Bromomethane	0.95	U
75-00-3	Chloroethane	0.98	U
75-69-4	Trichlorofluoromethane	0.94	U
76-13-1	Freon 113	0.73	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	0.94	U
75-15-0	Carbon disulfide	2.5	U
75-09-2	Methylene Chloride	2.5	U
1634-04-4	Methyl-tert-Butyl Ether	0.60	U
156-60-5	trans-1,2-Dichloroethene	0.73	U
156-59-2	cis-1,2-Dichloroethene	0.53	U
75-34-3	1,1-Dichloroethane	0.62	U
78-93-3	2-Butanone	4.5	U
67-66-3	Chloroform	0.80	U
71-55-6	1,1,1-Trichloroethane	0.80	U
79-20-9	Methyl acetate	0.95	U
110-82-7	Cyclohexane	0.93	U
108-87-2	Methyl cyclohexane	0.64	U
56-23-5	Carbon Tetrachloride	0.94	U
107-06-2	1,2-Dichloroethane	0.63	U
71-43-2	Benzene	0.71	U
79-01-6	Trichloroethene	0.89	U
78-87-5	1,2-Dichloropropane	0.80	U
75-27-4	Bromodichloromethane	0.52	U
108-10-1	4-Methyl-2-pentanone	2.5	U
591-78-6	2-Hexanone	2.5	U
10061-01-5	cis-1,3-Dichloropropene	0.59	U

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE06178-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1G27016-BLK1	File ID:	215GV005.D
Prepared:	07/27/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	07/27/21 09:34	Instrument:	OVGCMS5		
Batch:	1G27016	Sequence:	AA67520	Calibration:	2106098

CAS NO.	COMPOUND	CONC. (ug/L)	Q
108-88-3	Toluene	0.72	U
10061-02-6	trans-1,3-Dichloropropene	0.73	U
79-00-5	1,1,2-Trichloroethane	0.76	U
127-18-4	Tetrachloroethene	0.76	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.78	U
108-90-7	Chlorobenzene	0.72	U
100-41-4	Ethylbenzene	0.69	U
108-38-3/106-42-3	m,p-Xylenes	1.3	U
95-47-6	o-Xylene	0.53	U
75-25-2	Bromoform	0.75	U
100-42-5	Styrene	0.61	U
98-82-8	Isopropylbenzene	0.67	U
79-34-5	1,1,2,2-Tetrachloroethane	0.54	U
120-82-1	1,2,4-Trichlorobenzene	0.70	U
541-73-1	1,3-Dichlorobenzene	0.77	U
106-46-7	1,4-Dichlorobenzene	0.76	U
95-50-1	1,2-Dichlorobenzene	0.73	U
96-12-8	1,2-Dibromo-3-chloropropane	0.96	U
1330-20-7	Xylenes (Total)	1.3	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	53	106	53 - 146	
Toluene-d8	50.0	51	101	41 - 146	
4-Bromofluorobenzene	50.0	50	99	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1024672	9.857	1101889	9.851	
1,4-Difluorobenzene	2497844	10.45	2525815	10.444	
Chlorobenzene-d5	1573333	13.229	1610233	13.223	
1,4-Dichlorobenzene-d4	1175358	15.491	1271242	15.485	

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE06178-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1G27016	Laboratory ID:	1G27016-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	28	141	10 - 180
Chloromethane	20.0	23	116	33 - 154
Vinyl chloride	20.0	23	115	20 - 167
Bromomethane	20.0	15	75	10 - 173
Chloroethane	20.0	23	113	27 - 180
Trichlorofluoromethane	20.0	21	106	56 - 155
Freon 113	20.0	20	102	47 - 173
Acetone	100	50	50	10 - 180
1,1-Dichloroethene	20.0	22	109	47 - 139
Carbon disulfide	20.0	25	123	43 - 153
Methylene Chloride	20.0	22	109	43 - 142
Methyl-tert-Butyl Ether	20.0	22	108	51 - 145
trans-1,2-Dichloroethene	20.0	22	108	54 - 134
cis-1,2-Dichloroethene	20.0	23	114	56 - 128
1,1-Dichloroethane	20.0	22	111	57 - 142
2-Butanone	100	61	61	10 - 180
Chloroform	20.0	22	108	58 - 139
1,1,1-Trichloroethane	20.0	23	113	57 - 148
Methyl acetate	20.0	22	108	70 - 130
Cyclohexane	20.0	23	114	70 - 130
Methyl cyclohexane	20.0	20	100	70 - 130
Carbon Tetrachloride	20.0	19	95	54 - 156
1,2-Dichloroethane	20.0	19	97	50 - 156
Benzene	20.0	21	106	56 - 136
Trichloroethene	20.0	20	100	62 - 135
1,2-Dichloropropane	20.0	21	103	61 - 133
Bromodichloromethane	20.0	21	104	58 - 135
4-Methyl-2-pentanone	100	57	57	19 - 180
2-Hexanone	100	51	51	12 - 180
cis-1,3-Dichloropropene	20.0	20	102	64 - 128

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE06178-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1G27016	Laboratory ID:	1G27016-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Toluene	20.0	21	103	64 - 131
trans-1,3-Dichloropropene	20.0	23	115	65 - 149
1,1,2-Trichloroethane	20.0	21	103	57 - 141
Tetrachloroethene	20.0	21	104	60 - 147
Dibromochloromethane	20.0	19	95	50 - 140
1,2-Dibromoethane	20.0	21	103	57 - 140
Chlorobenzene	20.0	21	105	51 - 139
Ethylbenzene	20.0	21	105	63 - 133
m,p-Xylenes	40.0	42	106	64 - 133
o-Xylene	20.0	21	106	61 - 129
Bromoform	20.0	19	96	46 - 148
Styrene	20.0	20	100	59 - 136
Isopropylbenzene	20.0	20	101	60 - 132
1,1,2,2-Tetrachloroethane	20.0	21	105	60 - 139
1,2,4-Trichlorobenzene	20.0	27	134	52 - 159
1,3-Dichlorobenzene	20.0	22	111	66 - 129
1,4-Dichlorobenzene	20.0	22	108	65 - 133
1,2-Dichlorobenzene	20.0	21	105	63 - 131
1,2-Dibromo-3-chloropropane	20.0	24	118	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASINFLUENT-20210723

Laboratory: ENCO Orlando
SDG: AE06178-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1G27016
Laboratory ID: 1G27016-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-ASINFLUENT-20210723

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	ND	30	148	10 - 180
Chloromethane	20.0	ND	24	122	33 - 154
Vinyl chloride	20.0	12	35	115	20 - 167
Bromomethane	20.0	ND	24	120	10 - 173
Chloroethane	20.0	ND	26	129	27 - 180
Trichlorofluoromethane	20.0	ND	23	116	56 - 155
Freon 113	20.0	ND	20	100	47 - 173
Acetone	100	ND	44	44	10 - 180
1,1-Dichloroethene	20.0	ND	22	111	47 - 139
Carbon disulfide	20.0	ND	24	122	43 - 153
Methylene Chloride	20.0	ND	21	104	43 - 142
Methyl-tert-Butyl Ether	20.0	ND	21	104	51 - 145
trans-1,2-Dichloroethene	20.0	ND	22	112	54 - 134
cis-1,2-Dichloroethene	20.0	ND	23	114	56 - 128
1,1-Dichloroethane	20.0	ND	22	111	57 - 142
2-Butanone	100	ND	55	55	10 - 180
Chloroform	20.0	ND	22	111	58 - 139
1,1,1-Trichloroethane	20.0	ND	24	118	57 - 148
Methyl acetate	20.0	ND	18	88	70 - 130
Cyclohexane	20.0	ND	23	113	70 - 130
Methyl cyclohexane	20.0	ND	21	103	70 - 130
Carbon Tetrachloride	20.0	ND	24	120	54 - 156
1,2-Dichloroethane	20.0	ND	20	100	50 - 156
Benzene	20.0	ND	22	108	56 - 136
Trichloroethene	20.0	ND	21	106	62 - 135
1,2-Dichloropropane	20.0	ND	19	96	61 - 133
Bromodichloromethane	20.0	ND	21	104	58 - 135
4-Methyl-2-pentanone	100	ND	54	54	19 - 180
2-Hexanone	100	ND	48	48	12 - 180
cis-1,3-Dichloropropene	20.0	ND	19	93	64 - 128
Toluene	20.0	ND	21	107	64 - 131

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASINFLUENT-20210723

Laboratory: ENCO Orlando
SDG: AE06178-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1G27016
Laboratory ID: 1G27016-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-ASINFLUENT-20210723

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
trans-1,3-Dichloropropene	20.0	ND	22	109	65 - 149
1,1,2-Trichloroethane	20.0	ND	21	103	57 - 141
Tetrachloroethene	20.0	ND	20	100	60 - 147
Dibromochloromethane	20.0	ND	19	95	50 - 140
1,2-Dibromoethane	20.0	ND	19	97	57 - 140
Chlorobenzene	20.0	ND	22	108	51 - 139
Ethylbenzene	20.0	ND	22	108	63 - 133
m,p-Xylenes	40.0	ND	43	106	64 - 133
o-Xylene	20.0	ND	22	109	61 - 129
Bromoform	20.0	ND	17	84	46 - 148
Styrene	20.0	ND	20	99	59 - 136
Isopropylbenzene	20.0	ND	21	105	60 - 132
1,1,2,2-Tetrachloroethane	20.0	ND	21	103	60 - 139
1,2,4-Trichlorobenzene	20.0	ND	20	101	52 - 159
1,3-Dichlorobenzene	20.0	ND	22	108	66 - 129
1,4-Dichlorobenzene	20.0	ND	21	106	65 - 133
1,2-Dichlorobenzene	20.0	ND	20	102	63 - 131
1,2-Dibromo-3-chloropropane	20.0	ND	22	110	48 - 150

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASINFLUENT-20210723

Laboratory: ENCO Orlando
SDG: AE06178-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1G27016
Laboratory ID: 1G27016-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-ASINFLUENT-20210723

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20.0	28	142	5	26	10 - 180
Chloromethane	20.0	23	116	5	31	33 - 154
Vinyl chloride	20.0	34	110	3	24	20 - 167
Bromomethane	20.0	22	109	10	29	10 - 173
Chloroethane	20.0	22	111	15	22	27 - 180
Trichlorofluoromethane	20.0	23	113	3	22	56 - 155
Freon 113	20.0	20	102	2	30	47 - 173
Acetone	100	45	45	2	19	10 - 180
1,1-Dichloroethene	20.0	22	108	3	16	47 - 139
Carbon disulfide	20.0	23	116	5	26	43 - 153
Methylene Chloride	20.0	19	97	7	23	43 - 142
Methyl-tert-Butyl Ether	20.0	20	99	4	22	51 - 145
trans-1,2-Dichloroethene	20.0	22	109	3	20	54 - 134
cis-1,2-Dichloroethene	20.0	22	108	5	17	56 - 128
1,1-Dichloroethane	20.0	22	110	1	24	57 - 142
2-Butanone	100	56	56	1	29	10 - 180
Chloroform	20.0	22	108	3	17	58 - 139
1,1,1-Trichloroethane	20.0	22	111	6	25	57 - 148
Methyl acetate	20.0	18	92	4	20	70 - 130
Cyclohexane	20.0	22	110	3	20	70 - 130
Methyl cyclohexane	20.0	21	106	2	20	70 - 130
Carbon Tetrachloride	20.0	20	102	17	27	54 - 156
1,2-Dichloroethane	20.0	19	96	4	18	50 - 156
Benzene	20.0	21	107	0.6	14	56 - 136
Trichloroethene	20.0	20	101	5	20	62 - 135
1,2-Dichloropropane	20.0	20	102	5	26	61 - 133
Bromodichloromethane	20.0	21	103	1	19	58 - 135
4-Methyl-2-pentanone	100	58	58	6	24	19 - 180
2-Hexanone	100	49	49	0.6	28	12 - 180
cis-1,3-Dichloropropene	20.0	18	92	0.6	20	64 - 128
Toluene	20.0	21	103	4	16	64 - 131
trans-1,3-Dichloropropene	20.0	21	106	3	17	65 - 149

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASINFLUENT-20210723

Laboratory:	ENCO Orlando	SDG:	AE06178-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1G27016	Laboratory ID:	1G27016-MSD1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

Source Sample Name: CRCA-ASINFLUENT-20210723

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,2-Trichloroethane	20.0	21	104	0.7	16	57 - 141
Tetrachloroethene	20.0	20	101	0.3	21	60 - 147
Dibromochloromethane	20.0	18	91	4	18	50 - 140
1,2-Dibromoethane	20.0	19	94	3	16	57 - 140
Chlorobenzene	20.0	21	106	2	13	51 - 139
Ethylbenzene	20.0	21	106	1	18	63 - 133
m,p-Xylenes	40.0	41	103	3	18	64 - 133
o-Xylene	20.0	21	107	2	16	61 - 129
Bromoform	20.0	17	83	1	18	46 - 148
Styrene	20.0	20	99	0.4	32	59 - 136
Isopropylbenzene	20.0	20	102	3	23	60 - 132
1,1,2,2-Tetrachloroethane	20.0	20	100	2	17	60 - 139
1,2,4-Trichlorobenzene	20.0	26	129	25 *	24	52 - 159
1,3-Dichlorobenzene	20.0	22	109	1	23	66 - 129
1,4-Dichlorobenzene	20.0	21	105	1	23	65 - 133
1,2-Dichlorobenzene	20.0	21	106	4	25	63 - 131
1,2-Dibromo-3-chloropropane	20.0	25	124	12	21	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE06178-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA66932
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA66932-SCV1)				Lab File ID: 215FM013.D		Analyzed: 06/18/21 12:15		
Dibromofluoromethane	50.0	100	70 - 130	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	110	70 - 130	11.778	11.7795	-0.0015	+/-0.5	
4-Bromofluorobenzene	50.0	109	70 - 130	14.328	14.32875	-0.0008	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE06178-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA67520
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA67520-CCV1)			Lab File ID: 215GV002.D		Analyzed: 07/27/21 08:02			
Dibromofluoromethane	50.0	106	80 - 120	9.434	9.428	0.0060	+/-0.5	
Toluene-d8	50.0	106	80 - 120	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	105	80 - 120	14.334	14.32875	0.0053	+/-0.5	
LCS (1G27016-BS1)			Lab File ID: 215GV003.D		Analyzed: 07/27/21 08:38			
Dibromofluoromethane	50.0	113	53 - 146	9.434	9.428	0.0060	+/-0.5	
Toluene-d8	50.0	102	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	102	41 - 142	14.334	14.32875	0.0053	+/-0.5	
Blank (1G27016-BLK1)			Lab File ID: 215GV005.D		Analyzed: 07/27/21 09:34			
Dibromofluoromethane	50.0	106	53 - 146	9.434	9.428	0.0060	+/-0.5	
Toluene-d8	50.0	101	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	99	41 - 142	14.334	14.32875	0.0053	+/-0.5	
CRCA-ASINFLUENT-20210723 (AE06178-01)			Lab File ID: 215GV006.D		Analyzed: 07/27/21 10:02			
Dibromofluoromethane	50.0	107	53 - 146	9.434	9.428	0.0060	+/-0.5	
Toluene-d8	50.0	103	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	100	41 - 142	14.334	14.32875	0.0053	+/-0.5	
CRCA-ASEFFLUENT-20210723 (AE06178-02)			Lab File ID: 215GV007.D		Analyzed: 07/27/21 10:30			
Dibromofluoromethane	50.0	103	53 - 146	9.434	9.428	0.0060	+/-0.5	
Toluene-d8	50.0	102	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	102	41 - 142	14.328	14.32875	-0.0008	+/-0.5	
Matrix Spike (1G27016-MS1)			Lab File ID: 215GV024.D		Analyzed: 07/27/21 18:28			
Dibromofluoromethane	50.0	108	53 - 146	9.434	9.428	0.0060	+/-0.5	
Toluene-d8	50.0	103	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	103	41 - 142	14.334	14.32875	0.0053	+/-0.5	
Matrix Spike Dup (1G27016-MSD1)			Lab File ID: 215GV025.D		Analyzed: 07/27/21 18:56			
Dibromofluoromethane	50.0	104	53 - 146	9.434	9.428	0.0060	+/-0.5	
Toluene-d8	50.0	104	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	102	41 - 142	14.334	14.32875	0.0053	+/-0.5	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE06178-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA66932
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA66932-CAL1)			Lab File ID: 215FM004.D			Analyzed: 06/18/21 08:05			
Pentafluorobenzene	1201889	9.857	1101889	9.851	109	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2686237	10.45	2525815	10.444	106	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1505146	13.229	1610233	13.223	93	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1176558	15.491	1271242	15.485	93	50 - 200	0.0060	+/-0.50	
Cal Standard (AA66932-CAL2)			Lab File ID: 215FM005.D			Analyzed: 06/18/21 08:32			
Pentafluorobenzene	1226065	9.857	1101889	9.851	111	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2753498	10.45	2525815	10.444	109	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1619681	13.229	1610233	13.223	101	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1248669	15.491	1271242	15.485	98	50 - 200	0.0060	+/-0.50	
Cal Standard (AA66932-CAL3)			Lab File ID: 215FM006.D			Analyzed: 06/18/21 09:00			
Pentafluorobenzene	1047198	9.857	1101889	9.851	95	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2419754	10.45	2525815	10.444	96	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1545028	13.229	1610233	13.223	96	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1320874	15.486	1271242	15.485	104	50 - 200	0.0010	+/-0.50	
Cal Standard (AA66932-CAL4)			Lab File ID: 215FM007.D			Analyzed: 06/18/21 09:28			
Pentafluorobenzene	1235637	9.857	1101889	9.851	112	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2720919	10.45	2525815	10.444	108	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1709586	13.229	1610233	13.223	106	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1365508	15.485	1271242	15.485	107	50 - 200	0.0000	+/-0.50	
Cal Standard (AA66932-CAL5)			Lab File ID: 215FM008.D			Analyzed: 06/18/21 09:56			
Pentafluorobenzene	1048667	9.857	1101889	9.851	95	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2471790	10.444	2525815	10.444	98	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1553840	13.229	1610233	13.223	96	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1230662	15.485	1271242	15.485	97	50 - 200	0.0000	+/-0.50	
Cal Standard (AA66932-CAL6)			Lab File ID: 215FM009.D			Analyzed: 06/18/21 10:24			
Pentafluorobenzene	1101889	9.851	1101889	9.851	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2525815	10.444	2525815	10.444	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1610233	13.223	1610233	13.223	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1271242	15.485	1271242	15.485	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA66932-CAL7)			Lab File ID: 215FM010.D			Analyzed: 06/18/21 10:52			
Pentafluorobenzene	1123435	9.851	1101889	9.851	102	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2544231	10.444	2525815	10.444	101	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1714182	13.229	1610233	13.223	106	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1273276	15.485	1271242	15.485	100	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE06178-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA66932
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA66932-CAL8)			Lab File ID: 215FM011.D			Analyzed: 06/18/21 11:20			
Pentafluorobenzene	1129487	9.851	1101889	9.851	103	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2502919	10.444	2525815	10.444	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1697989	13.223	1610233	13.223	105	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1266610	15.485	1271242	15.485	100	50 - 200	0.0000	+/-0.50	
Secondary Cal Check (AA66932-SCV1)			Lab File ID: 215FM013.D			Analyzed: 06/18/21 12:15			
Pentafluorobenzene	1128318	9.857	1101889	9.851	102	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2499257	10.444	2525815	10.444	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1604968	13.229	1610233	13.223	100	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1259307	15.485	1271242	15.485	99	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE06178-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA67520
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA67520-CCV1)			Lab File ID: 215GV002.D			Analyzed: 07/27/21 08:02			
Pentafluorobenzene	1102000	9.857	1101889	9.851	100	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2569272	10.456	2525815	10.444	102	50 - 200	0.0120	+/-0.50	
Chlorobenzene-d5	1689287	13.235	1610233	13.223	105	50 - 200	0.0120	+/-0.50	
1,4-Dichlorobenzene-d4	1269237	15.491	1271242	15.485	100	50 - 200	0.0060	+/-0.50	
LCS (1G27016-BS1)			Lab File ID: 215GV003.D			Analyzed: 07/27/21 08:38			
Pentafluorobenzene	1079201	9.857	1101889	9.851	98	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2646304	10.456	2525815	10.444	105	50 - 200	0.0120	+/-0.50	
Chlorobenzene-d5	1669456	13.235	1610233	13.223	104	50 - 200	0.0120	+/-0.50	
1,4-Dichlorobenzene-d4	1259086	15.491	1271242	15.485	99	50 - 200	0.0060	+/-0.50	
Blank (1G27016-BLK1)			Lab File ID: 215GV005.D			Analyzed: 07/27/21 09:34			
Pentafluorobenzene	1024672	9.857	1101889	9.851	93	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2497844	10.45	2525815	10.444	99	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1573333	13.229	1610233	13.223	98	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1175358	15.491	1271242	15.485	92	50 - 200	0.0060	+/-0.50	
CRCA-ASINFLUENT-20210723 (AE06178-01)			Lab File ID: 215GV006.D			Analyzed: 07/27/21 10:02			
Pentafluorobenzene	1005038	9.857	1101889	9.851	91	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2469097	10.45	2525815	10.444	98	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1531646	13.229	1610233	13.223	95	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1159017	15.491	1271242	15.485	91	50 - 200	0.0060	+/-0.50	
CRCA-ASEFFLUENT-20210723 (AE06178-02)			Lab File ID: 215GV007.D			Analyzed: 07/27/21 10:30			
Pentafluorobenzene	1005403	9.857	1101889	9.851	91	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2455447	10.45	2525815	10.444	97	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1512165	13.229	1610233	13.223	94	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1159306	15.491	1271242	15.485	91	50 - 200	0.0060	+/-0.50	
Matrix Spike (1G27016-MS1)			Lab File ID: 215GV024.D			Analyzed: 07/27/21 18:28			
Pentafluorobenzene	980087	9.857	1101889	9.851	89	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2366093	10.45	2525815	10.444	94	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1510186	13.229	1610233	13.223	94	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1158475	15.491	1271242	15.485	91	50 - 200	0.0060	+/-0.50	
Matrix Spike Dup (1G27016-MSD1)			Lab File ID: 215GV025.D			Analyzed: 07/27/21 18:56			
Pentafluorobenzene	1025902	9.857	1101889	9.851	93	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2409457	10.456	2525815	10.444	95	50 - 200	0.0120	+/-0.50	
Chlorobenzene-d5	1551003	13.235	1610233	13.223	96	50 - 200	0.0120	+/-0.50	
1,4-Dichlorobenzene-d4	1153393	15.491	1271242	15.485	91	50 - 200	0.0060	+/-0.50	

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE06178-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA66932
Calibration: 2106098
Instrument: OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA66932-TUN1	215FM003.D	06/18/21 07:34
Cal Standard	AA66932-CAL1	215FM004.D	06/18/21 08:05
Cal Standard	AA66932-CAL2	215FM005.D	06/18/21 08:32
Cal Standard	AA66932-CAL3	215FM006.D	06/18/21 09:00
Cal Standard	AA66932-CAL4	215FM007.D	06/18/21 09:28
Cal Standard	AA66932-CAL5	215FM008.D	06/18/21 09:56
Cal Standard	AA66932-CAL6	215FM009.D	06/18/21 10:24
Cal Standard	AA66932-CAL7	215FM010.D	06/18/21 10:52
Cal Standard	AA66932-CAL8	215FM011.D	06/18/21 11:20
Secondary Cal Check	AA66932-SCV1	215FM013.D	06/18/21 12:15

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE06178-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA67520		
Calibration:	2106098	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA67520-CCV1	215GV002.D	07/27/21 08:02
LCS	1G27016-BS1	215GV003.D	07/27/21 08:38
Blank	1G27016-BLK1	215GV005.D	07/27/21 09:34
CRCA-ASINFLUENT-20210723	AE06178-01	215GV006.D	07/27/21 10:02
CRCA-ASEFFLUENT-20210723	AE06178-02	215GV007.D	07/27/21 10:30
CRCA-ASINFLUENT-20210723	1G27016-MS1	215GV024.D	07/27/21 18:28
CRCA-ASINFLUENT-20210723	1G27016-MSD1	215GV025.D	07/27/21 18:56

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE06178-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	215FM003.D	Injection Date:	06/18/21
Instrument ID:	OVGCMS5	Injection Time:	07:34
Sequence:	AA66932	Lab Sample ID:	AA66932-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	191	PASS
96	5 - 9% of 95	7.06	PASS
173	Less than 2% of 174	0.214	PASS
174	50 - 200% of 95	52.3	PASS
175	5 - 9% of 174	5.23	PASS
176	95 - 105% of 174	95.8	PASS
177	5 - 10% of 176	6.95	PASS

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE06178-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2106098
Lab File ID:	215GV002.D	Calibration Date:	06/18/21 08:08
Sequence:	AA67520	Injection Date:	07/27/21
Lab Sample ID:	AA67520-CCV1	Injection Time:	08:02

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Dichlorodifluoromethane	A	20.0	26	0.5094763	0.661529		29	20	*
Chloromethane	A	20.0	24	0.7825336	0.9051792		18	20	
Vinyl chloride	A	20.0	21	0.6650027	0.69451		4.4	20	
Bromomethane	A	20.0	42	0.2460614	0.3788816		110	20	*
Chloroethane	A	20.0	19	0.3880182	0.3515449		-3.6	20	
Trichlorofluoromethane	A	20.0	21	0.7609833	0.7885572		3.6	20	
Freon 113	A	50.0	40	0.3222191	0.258922		-20	20	
Acetone	A	250	230	0.1924489	0.1923996		-9.4	20	
1,1-Dichloroethene	A	50.0	42	0.5314554	0.4423648		-17	20	
Carbon disulfide	A	250	270	1.455719	1.628622		8.0	20	
Methylene Chloride	A	50.0	45	0.6815178	0.6148966		-9.8	20	
Methyl-tert-Butyl Ether	A	50.0	51	1.537398	1.572776		2.3	20	
trans-1,2-Dichloroethene	A	50.0	47	0.6064423	0.5711425		-5.8	20	
cis-1,2-Dichloroethene	A	50.0	53	0.6549615	0.6980889		6.6	20	
1,1-Dichloroethane	A	50.0	50	1.152866	1.150461		-0.2	20	
2-Butanone	A	250	260	9.841208E-02	0.1033621		5.0	20	
Chloroform	A	50.0	51	1.100938	1.120191		1.7	20	
1,1,1-Trichloroethane	A	50.0	52	0.8164118	0.8560989		4.9	20	
Methyl acetate	A	50.0	47	0.573727	0.5219628		-6.4	20	
Cyclohexane	A	50.0	49	1.148895	1.116454		-2.8	20	
Methyl cyclohexane	A	50.0	47	0.6594789	0.5047387		-5.5	20	
Carbon Tetrachloride	A	50.0	48	0.285844	0.2716723		-5	20	
1,2-Dichloroethane	A	50.0	47	0.3513194	0.3286577		-6.5	20	
Benzene	A	50.0	48	1.184952	1.148349		-3.1	20	
Trichloroethene	A	50.0	51	0.2450156	0.2485856		1.5	20	
1,2-Dichloropropane	A	50.0	50	0.3371891	0.3378424		0.20	20	
Bromodichloromethane	A	50.0	53	0.3308186	0.3515801		6.3	20	
4-Methyl-2-pentanone	A	250	270	4.594368E-02	5.052248E-02		10	20	
2-Hexanone	A	250	240	0.3312611	0.3665455		-3.5	20	

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE06178-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2106098
Lab File ID:	215GV002.D	Calibration Date:	06/18/21 08:08
Sequence:	AA67520	Injection Date:	07/27/21
Lab Sample ID:	AA67520-CCV1	Injection Time:	08:02

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
cis-1,3-Dichloropropene	A	50.0	54	0.4967443	0.5337442		7.4	20
Toluene	A	50.0	48	1.222815	1.180093		-3.5	20
trans-1,3-Dichloropropene	A	50.0	53	0.6187986	0.6507177		5.2	20
1,1,2-Trichloroethane	A	50.0	50	0.420744	0.4248461		1.0	20
Tetrachloroethene	A	50.0	48	0.2798147	0.2669292		-4.6	20
Dibromochloromethane	A	50.0	48	0.3204024	0.3577166		-4.5	20
1,2-Dibromoethane	A	50.0	51	0.4215299	0.4260513		1.1	20
Chlorobenzene	A	50.0	49	1.214708	1.197018		-1.5	20
Ethylbenzene	A	50.0	51	0.6898253	0.7090601		2.8	20
m,p-Xylenes	A	100	99	0.8851906	0.8769892		-0.9	20
o-Xylene	A	50.0	52	0.8732591	0.9039044		3.5	20
Bromoform	A	50.0	47	0.175043	0.2003064		-6.2	20
Styrene	A	50.0	49	1.378538	1.524797		-1.4	20
Isopropylbenzene	A	50.0	49	2.223963	2.278467		-1.9	20
1,1,2,2-Tetrachloroethane	A	50.0	52	0.7197231	0.7514685		4.4	20
1,2,4-Trichlorobenzene	A	50.0	50	0.2087952	0.2482759		0.50	20
1,3-Dichlorobenzene	A	50.0	52	1.132817	1.186722		4.8	20
1,4-Dichlorobenzene	A	50.0	51	1.174038	1.192889		1.6	20
1,2-Dichlorobenzene	A	50.0	49	1.038218	1.071853		-1.9	20
1,2-Dibromo-3-chloropropane	A	50.0	51	0.1005424	0.1115387		2.7	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE06178-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA66932	Instrument:	OVGCMS5
Calibration:	2106098		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A1B1159	MS Tune (lower conc.)	AA66932-TUN1	215FM003.D	06/18/21 07:34
A1F0975	8260 1.0 PPB ms5	AA66932-CAL1	215FM004.D	06/18/21 08:05
A1F0976	8260 2.0 PPB ms5	AA66932-CAL2	215FM005.D	06/18/21 08:32
A1F0977	8260 5.0 PPB ms5	AA66932-CAL3	215FM006.D	06/18/21 09:00
A1F0978	8260 10 PPB ms5	AA66932-CAL4	215FM007.D	06/18/21 09:28
A1F0979	8260 20 PPB ms5	AA66932-CAL5	215FM008.D	06/18/21 09:56
A1F0980	8260 50 PPB ms5	AA66932-CAL6	215FM009.D	06/18/21 10:24
A1F0981	8260 80 PPB ms5	AA66932-CAL7	215FM010.D	06/18/21 10:52
A1F0982	8260 100 PPB ms5	AA66932-CAL8	215FM011.D	06/18/21 11:20
A1F0991	8260 SCV 50 PPB/20 gases (surr. lower conc.)	AA66932-SCV1	215FM013.D	06/18/21 12:15

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE06178-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	1	0.5444762	2	0.4223063	5	0.5914354	10	0.4929725	20	0.4782643	50	0.5144729
Chloromethane	1	1.059332	2	0.6707638	5	0.8644306	10	0.7204098	20	0.7205409	50	0.6904153
Vinyl chloride	1	0.775862	2	0.5365335	5	0.6922473	10	0.650021	20	0.6440319	50	0.6499421
Bromomethane	1	0.3234076	2	0.3255129	5	0.3281328	10	0.219142	20	0.182968	50	0.1756765
Chloroethane	1	0.5053711	2	0.3404387	5	0.4826976	10	0.340112	20	0.3719102	50	0.2875798
Trichlorofluoromethane	1	0.7781085	2	0.6195022	5	0.8260138	10	0.7531864	20	0.7735416	50	0.7678532
Freon 113	1	0.2607978	2	0.3637858	5	0.3770729	10	0.3089054	20	0.3269222	50	0.3197173
Acetone	5	0.1268337	10	0.1831306	25	0.2239481	50	0.1920774	100	0.1898639	250	0.1957422
1,1-Dichloroethene	1	0.4355227	2	0.5684854	5	0.5852284	10	0.4930696	20	0.527627	50	0.5515247
Carbon disulfide	5	1.120095	10	1.355324	25	1.710983	50	1.475901	100	1.585499	250	1.52274
Methylene Chloride	1	0.5906119	2	0.7214544	5	0.7546519	10	0.6982431	20	0.6824497	50	0.6582142
Methyl-tert-Butyl Ether	1	1.228691	2	1.467826	5	1.698991	10	1.494367	20	1.514682	50	1.584127
trans-1,2-Dichloroethene	1	0.4844873	2	0.6339387	5	0.7476141	10	0.5671123	20	0.6072805	50	0.6066591
cis-1,2-Dichloroethene	1	0.5911944	2	0.6827126	5	0.6306257	10	0.6005607	20	0.6701389	50	0.6974786
1,1-Dichloroethane	1	0.9991355	2	1.197143	5	1.248112	10	1.143127	20	1.182508	50	1.151263
2-Butanone	5	8.611444E-02	10	9.231158E-02	25	0.1019234	50	0.0921379	100	0.0990753	250	9.898384E-02
Chloroform	1	0.9484237	2	1.219878	5	1.187922	10	1.043696	20	1.126225	50	1.095959
1,1,1-Trichloroethane	1	0.6124942	2	0.8466313	5	0.8294324	10	0.8444389	20	0.8295007	50	0.8605141
Methyl acetate	1	0.8340204	2	0.5208941	5	0.6154519	10	0.4900873	20	0.5014533	50	0.5008726
Cyclohexane	1	0.9308264	2	1.158299	5	1.12907	10	1.075644	20	1.216363	50	1.25072
Methyl cyclohexane	1	1.035333	2	0.8960511	5	0.6276093	10	0.5654248	20	0.5513575	50	0.5359486
Carbon Tetrachloride	1	0.2938125	2	0.272744	5	0.2453059	10	0.2456946	20	0.3170405	50	0.2849243
1,2-Dichloroethane	1	0.3728822	2	0.3760035	5	0.354193	10	0.3600144	20	0.3324898	50	0.3267591
Benzene	1	1.020889	2	1.335683	5	1.280419	10	1.205074	20	1.205519	50	1.154164
Trichloroethene	1	0.1995915	2	0.2675143	5	0.2457729	10	0.2576097	20	0.2522099	50	0.247163
1,2-Dichloropropane	1	0.3317094	2	0.3444437	5	0.3345588	10	0.3309305	20	0.32462	50	0.3363809
Bromodichloromethane	1	0.2784006	2	0.3158437	5	0.3279466	10	0.3133996	20	0.3348848	50	0.3464648
4-Methyl-2-pentanone	5	3.874193E-02	10	4.347198E-02	25	4.604022E-02	50	4.379807E-02	100	4.563434E-02	250	0.0479853
2-Hexanone	5	0.1920212	10	0.2973425	25	0.328939	50	0.3560921	100	0.3508167	250	0.3654472
cis-1,3-Dichloropropene	1	0.3791549	2	0.4859364	5	0.4863015	10	0.482609	20	0.5082976	50	0.531607
Toluene	1	1.215098	2	1.389193	5	1.235324	10	1.133236	20	1.24708	50	1.245802

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE06178-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	1	0.5121762	2	0.6622446	5	0.6454576	10	0.5523355	20	0.6458741	50	0.6536197
1,1,2-Trichloroethane	1	0.3809597	2	0.4742446	5	0.4274421	10	0.3892404	20	0.4263599	50	0.4245764
Tetrachloroethene	1	0.2623334	2	0.3509024	5	0.3066935	10	0.246393	20	0.2806483	50	0.273779
Dibromochloromethane	1	0.1954628	2	0.3058781	5	0.2995091	10	0.3067263	20	0.3443887	50	0.3599448
1,2-Dibromoethane	1	0.387205	2	0.4152207	5	0.4139148	10	0.4117751	20	0.4205098	50	0.439896
Chlorobenzene	1	1.141484	2	1.300256	5	1.22289	10	1.222196	20	1.268013	50	1.234034
Ethylbenzene	1	0.5916037	2	0.6971589	5	0.6987964	10	0.7353856	20	0.7037018	50	0.7166845
m,p-Xylenes	2	0.8130441	4	0.9200809	10	0.9356853	20	0.9204158	40	0.9535119	100	0.8998223
o-Xylene	1	0.7031544	2	0.8522975	5	0.928378	10	0.8650837	20	0.9465502	50	0.9192626
Bromoform	1	0.129921	2	0.1507396	5	0.1403793	10	0.1654611	20	0.1852009	50	0.1967156
Styrene	1	0.7825155	2	1.203015	5	1.465928	10	1.317717	20	1.612473	50	1.562396
Isopropylbenzene	1	1.704453	2	2.252172	5	2.4154	10	2.193867	20	2.416191	50	2.372754
1,1,2,2-Tetrachloroethane	1	0.5720375	2	0.7488666	5	0.7870861	10	0.7104761	20	0.7506403	50	0.7288423
1,2,4-Trichlorobenzene	1	6.982231E-02	2	0.148378	5	0.2032745	10	0.2020054	20	0.2092492	50	0.2466564
1,3-Dichlorobenzene	1	0.948657	2	1.182099	5	1.105942	10	1.139155	20	1.151222	50	1.175941
1,4-Dichlorobenzene	1	1.112015	2	1.169665	5	1.232994	10	1.151103	20	1.196167	50	1.17052
1,2-Dichlorobenzene	1	0.834553	2	1.111243	5	1.040463	10	1.00277	20	1.046587	50	1.081676
1,2-Dibromo-3-chloropropane	1	3.782219E-02	2	0.1234915	5	9.587591E-02	10	8.741802E-02	20	9.065852E-02	50	0.1109498
Dibromofluoromethane	50	0.5913957	55	0.5857742	60	0.6050241	50	0.6090502	65	0.599548	50	0.6278028
Toluene-d8	50	1.156133	55	1.20606	60	1.22483	50	1.244223	65	1.198461	50	1.336655
4-Bromofluorobenzene	50	0.8721141	55	0.8442948	60	0.860972	50	0.8437756	65	0.8369979	50	0.9245401

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE06178-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	80	0.5188117	100	0.513071								
Chloromethane	80	0.7237385	100	0.8106379								
Vinyl chloride	80	0.6784366	100	0.6929469								
Bromomethane	80	0.2018831	100	0.2117683								
Chloroethane	80	~~0.2324829~~	100	~~0.1721268~~								
Trichlorofluoromethane	80	0.7833297	100	0.7863313								
Freon 113	80	0.307747	100	0.3128048								
Acetone	400	0.2070738	500	0.2209217								
1,1-Dichloroethene	80	0.5362744	100	0.5539112								
Carbon disulfide	400	1.455013	500	1.4202								
Methylene Chloride	80	0.6765417	100	0.6699758								
Methyl-tert-Butyl Ether	80	1.611962	100	1.698542								
trans-1,2-Dichloroethene	80	0.5978528	100	0.6065935								
cis-1,2-Dichloroethene	80	0.6769028	100	0.6900783								
1,1-Dichloroethane	80	1.149155	100	1.152482								
2-Butanone	400	0.1060309	500	0.1107193								
Chloroform	80	1.088278	100	1.097122								
1,1,1-Trichloroethane	80	0.8538667	100	0.8544162								
Methyl acetate	80	0.543619	100	0.5834171								
Cyclohexane	80	1.217302	100	1.212934								
Methyl cyclohexane	80	0.5283242	100	0.5357824								
Carbon Tetrachloride	80	0.3354238	100	0.2918061								
1,2-Dichloroethane	80	0.3378516	100	0.3503619								
Benzene	80	1.128018	100	1.149851								
Trichloroethene	80	0.2419864	100	0.2482773								
1,2-Dichloropropane	80	0.3393545	100	0.3555149								
Bromodichloromethane	80	0.3580559	100	0.3715528								
4-Methyl-2-pentanone	400	4.872666E-02	500	0.0531509								
2-Hexanone	400	0.3642195	500	0.3952106								
cis-1,3-Dichloropropene	80	0.5418855	100	0.5581627								
Toluene	80	1.157336	100	1.159454								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE06178-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	80	0.6300793	100	0.648602								
1,1,2-Trichloroethane	80	0.4164825	100	0.4266462								
Tetrachloroethene	80	0.2557776	100	0.2619908								
Dibromochloromethane	80	0.3640785	100	0.3872307								
1,2-Dibromoethane	80	0.4359692	100	0.4477482								
Chlorobenzene	80	1.162731	100	1.166059								
Ethylbenzene	80	0.6822879	100	0.6929839								
m,p-Xylenes	160	0.8278378	200	0.8111269								
o-Xylene	80	0.8813923	100	0.8899545								
Bromoform	80	0.209795	100	0.2221316								
Styrene	80	1.533573	100	1.550684								
Isopropylbenzene	80	2.211864	100	2.225002								
1,1,2,2-Tetrachloroethane	80	0.7238183	100	0.7360177								
1,2,4-Trichlorobenzene	80	0.2835707	100	0.3074052								
1,3-Dichlorobenzene	80	1.171958	100	1.187558								
1,4-Dichlorobenzene	80	1.186322	100	1.17352								
1,2-Dichlorobenzene	80	1.084059	100	1.10439								
1,2-Dibromo-3-chloropropane	80	0.1211319	100	0.1369917								
Dibromofluoromethane	70	0.5842909	75	0.5832016								
Toluene-d8	70	1.244561	75	1.260871								
4-Bromofluorobenzene	70	0.8334529	75	0.8539871								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE06178-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	0.5094763	9.647847	3.98025	5.556263E-02	0.9996769		0.99	
Chloromethane	0.7825336	16.46827	4.40925	0.135073	0.9923367		0.99	
Vinyl chloride	0.6650027	10.06966	4.5845	5.710391E-02			20	
Bromomethane	0.2460614	27.39954	5.228375	4.862762E-02		0.9963293	0.99	
Chloroethane	0.3880182	22.36143	5.459	0.1512648		0.9973848	0.99	
Trichlorofluoromethane	0.7609833	8.000491	5.701125	0.1864209			20	
Freon 113	0.3222191	11.13614	6.55825	9.342257E-02			20	
Acetone	0.1924489	15.74444	7.4	0.1278971	0.9960612		0.99	
1,1-Dichloroethene	0.5314554	8.963278	6.53325	4.564842E-02			20	
Carbon disulfide	1.455719	11.92334	6.625	6.868896E-02		0.9998954	0.99	
Methylene Chloride	0.6815178	7.056421	7.34125	0.0518812			20	
Methyl-tert-Butyl Ether	1.537398	9.90525	7.63075	2.123095E-02			20	
trans-1,2-Dichloroethene	0.6064423	12.01755	7.5505	0.1224101			20	
cis-1,2-Dichloroethene	0.6549615	6.358542	8.9505	6.797787E-02			20	
1,1-Dichloroethane	1.152866	6.19063	8.31475	5.035179E-02			20	
2-Butanone	9.841208E-02	8.151038	9.550125	0.1662186			20	
Chloroform	1.100938	7.606441	9.222	3.620673E-02			20	
1,1,1-Trichloroethane	0.8164118	10.18657	9.485375	5.345546E-02			20	
Methyl acetate	0.573727	19.85262	7.511375	0.5213447	0.9945246		0.99	
Cyclohexane	1.148895	9.134873	9.19225	5.174988E-02			20	
Methyl cyclohexane	0.6594789	29.58945	10.45075	3.931351E-02	0.9995099		0.99	
Carbon Tetrachloride	0.285844	11.02986	9.4145	6.564497E-02			20	
1,2-Dichloroethane	0.3513194	5.157523	10.08825	2.752186E-02			20	
Benzene	1.184952	8.132168	9.87925	4.856943E-02			20	
Trichloroethene	0.2450156	8.169892	10.453	4.611096E-02			20	
1,2-Dichloropropane	0.3371891	2.808828	10.98725	3.084346E-02			20	
Bromodichloromethane	0.3308186	8.809988	11.01775	4.062078E-02			20	
4-Methyl-2-pentanone	4.594368E-02	9.254212	12.13475	6.688867E-02			20	
2-Hexanone	0.3312611	19.05383	12.88125	4.379245E-02	0.9967168		0.99	
cis-1,3-Dichloropropene	0.4967443	11.13382	11.6105	4.251153E-02			20	

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE06178-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Toluene	1.222815	6.581686	11.83175	2.131752E-03			20	
trans-1,3-Dichloropropene	0.6187986	8.92381	12.19875	3.889151E-02			20	
1,1,2-Trichloroethane	0.420744	6.711427	12.36275	0.0322457			20	
Tetrachloroethene	0.2798147	12.18024	12.21	0.0317417			20	
Dibromochloromethane	0.3204024	18.63594	12.55363	2.959019E-02	0.9973738		0.99	
1,2-Dibromoethane	0.4215299	4.576784	12.81575	3.543673E-02			20	
Chlorobenzene	1.214708	4.518369	13.2455	1.871819E-02			20	
Ethylbenzene	0.6898253	6.208191	13.21175	3.216336E-02			20	
m,p-Xylenes	0.8851906	6.596866	13.329	4.748539E-02			20	
o-Xylene	0.8732591	8.690183	13.736	3.869105E-02			20	
Bromoform	0.175043	19.21377	13.87912	4.188187E-02	0.9953063		0.99	
Styrene	1.378538	20.14016	13.78075	3.574971E-02	0.9995972		0.99	
Isopropylbenzene	2.223963	10.30242	13.999	3.611421E-02		0.9994846	0.99	
1,1,2,2-Tetrachloroethane	0.7197231	8.881911	14.47125	2.257241E-02			20	
1,2,4-Trichlorobenzene	0.2087952	36.10883	18.155	0.111192		0.9993635	0.99	
1,3-Dichlorobenzene	1.132817	6.985412	15.41725	1.644861E-02			20	
1,4-Dichlorobenzene	1.174038	2.971778	15.50525	1.679585E-02			20	
1,2-Dichlorobenzene	1.038218	8.654341	16.02525	3.415201E-02	0.9996843		0.99	
1,2-Dibromo-3-chloropropane	0.1005424	30.57038	17.0955	0.1851555		0.9994421	0.99	
Dibromofluoromethane	0.5982609	2.57523	9.428	9.589849E-03			20	
Toluene-d8	1.233974	4.295517	11.7795	2.799324E-02			20	
4-Bromofluorobenzene	0.8587668	3.43207	14.32875	7.284017E-03			20	

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE06178-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2106098 **Laboratory ID:** AA66932-SCV1

Sequence: AA66932 **Standard ID:** A1F0991

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Cyclohexane	50.0	60	20.5	30.00
Ethylbenzene	50.0	60	19.7	30.00
Carbon Tetrachloride	50.0	55	10.0	30.00
1,3-Dichlorobenzene	50.0	60	19.3	30.00
4-Bromofluorobenzene	50.0	55	9.4	30.00
Toluene-d8	50.0	55	9.6	30.00
Dibromofluoromethane	50.0	50	0.06	30.00
Methyl-tert-Butyl Ether	50.0	56	12.6	30.00
trans-1,2-Dichloroethene	50.0	55	10.3	30.00
cis-1,2-Dichloroethene	50.0	56	12.7	30.00
Tetrachloroethene	50.0	56	11.2	30.00
Acetone	250	260	3.8	30.00
1,2,4-Trichlorobenzene	50.0	60	19.1	30.00
Chloroform	50.0	54	8.2	30.00
Chlorobenzene	50.0	57	14.7	30.00
Toluene	50.0	56	12.6	30.00
Methyl cyclohexane	50.0	57	14.2	30.00
m,p-Xylenes	100	110	11.2	30.00
4-Methyl-2-pentanone	250	300	20.0	30.00
1,2-Dichloroethane	50.0	53	5.4	30.00
1,2-Dibromoethane	50.0	58	15.2	30.00
1,4-Dichlorobenzene	50.0	57	13.3	30.00
trans-1,3-Dichloropropene	50.0	61	21.5	30.00
cis-1,3-Dichloropropene	50.0	57	13.0	30.00
Styrene	50.0	59	18.6	30.00
Dibromochloromethane	50.0	55	9.5	30.00
1,1-Dichloroethene	50.0	57	13.1	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE06178-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2106098 **Laboratory ID:** AA66932-SCV1

Sequence: AA66932 **Standard ID:** A1F0991

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
1,2-Dibromo-3-chloropropane	50.0	59	17.5	30.00
1,2-Dichlorobenzene	50.0	57	14.1	30.00
o-Xylene	50.0	60	19.9	30.00
1,1,2,2-Tetrachloroethane	50.0	56	12.7	30.00
Methyl acetate	50.0	58	16.7	30.00
Trichloroethene	50.0	56	11.0	30.00
1,1,2-Trichloroethane	50.0	56	12.3	30.00
2-Butanone	250	280	13.7	30.00
1,2-Dichloropropane	50.0	55	11.0	30.00
Freon 113	50.0	57	13.2	30.00
2-Hexanone	250	280	12.6	30.00
Trichlorofluoromethane	20.0	20	1.2	30.00
Isopropylbenzene	50.0	58	16.4	30.00
1,1-Dichloroethane	50.0	56	12.5	30.00
Bromodichloromethane	50.0	60	19.7	30.00
Bromoform	50.0	55	10.2	30.00
Carbon disulfide	50.0	66	31.2 *	30.00
Methylene Chloride	50.0	51	2.5	30.00
Vinyl chloride	20.0	20	2.4	30.00
Chloroethane	20.0	16	-21.2	30.00
Chloromethane	20.0	23	14.0	30.00
Bromomethane	20.0	22	7.7	30.00
1,1,1-Trichloroethane	50.0	58	15.3	30.00
Benzene	50.0	57	13.8	30.00
Dichlorodifluoromethane	20.0	27	36.8 *	30.00

* Values outside of QC limits

ANALYSIS SEQUENCE

AA67520

Instrument: OVGCMS5

Calibration ID: 2106098

Printed: 7/27/2021 9:09:41AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA67520-CCV1	QC		1		A1G0800	A1D0593		
1G27016-BS1	QC		2			A1D0593		
1G27016-BLK1	QC		3			A1D0593		
AE06178-01	60D TCL SOM01.2 CLP-LIK	B	4			A1D0593	Tetra Tech, Inc. (TE016)	history 1x jmw 7/26/21 custom
AE06178-01	8260D	B	5			A1D0593	Tetra Tech, Inc. (TE016)	BatchQC
AE06178-02	60D TCL SOM01.2 CLP-LIK	A	6			A1D0593	Tetra Tech, Inc. (TE016)	history 1x ND jmw 7/26/21 custom
AE05878-04RE1	60D TCL SOM01.2 CLP-LIK	B	7			A1D0593		
AE05878-14RE1	60D TCL SOM01.2 CLP-LIK	B	8			A1D0593		
AE05878-19RE1	60D TCL SOM01.2 CLP-LIK	B	9			A1D0593		
AE05878-20	60D TCL SOM01.2 CLP-LIK	A	10			A1D0593		
AE05878-21	60D TCL SOM01.2 CLP-LIK	A	11			A1D0593		
AE05878-22	60D TCL SOM01.2 CLP-LIK	A	12			A1D0593		
AE05878-23	60D TCL SOM01.2 CLP-LIK	A	13			A1D0593		
AE05878-24	60D TCL SOM01.2 CLP-LIK	A	14			A1D0593		
AE05878-25	60D TCL SOM01.2 CLP-LIK	A	15			A1D0593		
AE05878-26	60D TCL SOM01.2 CLP-LIK	A	16			A1D0593		
AE05878-27	60D TCL SOM01.2 CLP-LIK	A	17			A1D0593		
AE05878-28	60D TCL SOM01.2 CLP-LIK	B	18			A1D0593		
AE06141-01	8260D	I	19			A1D0593		
AE06141-02	8260D	H	20			A1D0593		
AE06141-03	8260D	H	21			A1D0593		
AE06168-01	8260D	A	22			A1D0593		
1G27016-MS1	QC		23			A1D0593		

Samples Loaded By 07/27/21 Date

Data Processed By 07/28/21 Date

ANALYSIS SEQUENCE

AA67520

Instrument: OVGCMS5

Calibration ID: 2106098

Printed: 7/27/2021 9:09:41AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
IG27016-MSD1	QC		24			A1D0593		

Samples Loaded By 07/27/21 Date

Data Processed By 07/28/21 Date

PREPARATION BENCH SHEET

Printed: 7/27/2021 9:08:33AM

Analysis
8260D [EPA 8260D]
8260D TCL SOM01.2 CLP-LIKE [EPA 8260D]

1G27016
ENCO Orlando

Surrogate Solution
___ A1B1158 8260 surr working (lower conc.)

Prepared using: EPA 5030B_MS

Spiking Solution
A1G0849 8260 2nd source Mega Mix
A1G0888 8260 2nd source Gases/Acrolein virtual

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
1G27016-BLK1		Blank		QC			5	5			5	
1G27016-BS1		LCS		QC			5	5	A1G0888 A1G0849	2 2	5	
1G27016-MS1		Matrix Spike [AE06178-01]		QC	≤2	N	5	5	A1G0888 A1G0849	2 2	5	
1G27016-MSD1		Matrix Spike Dup [AE06178-01]		QC	≤2	N	5	5	A1G0888 A1G0849	2 2	5	
AE05878-04RE1	C	HMPN-MW0047-025.0-202107[illegible][MS45	29-Jul-21	8260D TCL SOM01.2 CLP-LIKE	≤2	N	5	5			5	rr@1x overdilute Re-extract added 7/27/2021 by KKW
AE05878-14RE1	C	HMPN-MW0044-042.5-202107[illegible][MS45	29-Jul-21	8260D TCL SOM01.2 CLP-LIKE	≤2	N	5	5			5	rr@200x overdilute Re-extract added 7/27/2021 by KKW
AE05878-19RE1	C	HMPN-MW0016-010.0-202107[illegible]MS45	29-Jul-21	8260D TCL SOM01.2 CLP-LIKE	≤2	N	5	5			5	rr@1x overdilute Re-extract added 7/27/2021 by KKW
AE05878-20	C	HMPN-MW0029-015.0-202107[illegible]MS45	29-Jul-21	8260D TCL SOM01.2 CLP-LIKE	≤2	N	5	5			5	run1x nc7/26/21 custom
AE05878-21	C	HMPN-MW0030-025.0-202107[illegible]MS45	29-Jul-21	8260D TCL SOM01.2 CLP-LIKE	≤2	N	5	5			5	run1x nc7/26/21 custom
AE05878-22	C	HMPN-MW0031-035.0-202107[illegible]MS45	29-Jul-21	8260D TCL SOM01.2 CLP-LIKE	≤2	N	5	5			5	run10x c12, tce nc7/26/21 custom
AE05878-23	C	HMPN-MW0032-042.5-202107[illegible]MS45	29-Jul-21	8260D TCL SOM01.2 CLP-LIKE	≤2	N	5	5			5	run100x nc7/26/21 custom
AE05878-24	C	HMPN-MW0033-047.5-202107[illegible]MS45	29-Jul-21	8260D TCL SOM01.2 CLP-LIKE	≤2	N	5	5			5	run200x nc7/26/21 custom
AE05878-25	C	HMPN-MW0008-025.0-202107[illegible]MS45	29-Jul-21	8260D TCL SOM01.2 CLP-LIKE	≤2	N	5	5			5	run1x nc7/26/21 custom
AE05878-26	C	HMPN-MW0024-060.0-202107[illegible]MS45	29-Jul-21	8260D TCL SOM01.2 CLP-LIKE	≤2	N	5	5			5	hist 1x 7/23/21 kg custom
AE05878-27	C	HMPN-MW0002-035.0-202107[illegible]MS45	29-Jul-21	8260D TCL SOM01.2 CLP-LIKE	≤2	N	5	5			5	run10x f113 nc7/26/21 custom
AE05878-28	C	HMPN-MW0004-010.0-202107[illegible]MS45	29-Jul-21	8260D TCL SOM01.2 CLP-LIKE	≤2	N	5	5			5	run1x nc7/26/21 custom
AE06141-01		Pit-4 [illegible][MS13]	29-Jul-21	8260D	≤2	N	5	5			5	run1x nc7/26/21

PREPARATION BENCH SHEET

1G27016

ENCO Orlando

Printed: 7/27/2021 9:08:33AM

Prepared using: EPA 5030B_MS

Surrogate Solution
___ A1B1158 8260 surr working (lower conc.)

Spiking Solution
A1G0849 8260 2nd source Mega Mix
A1G0888 8260 2nd source Gases/Acrolein virtual

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
AE06141-02		Pit-9 H[MS13	29-Jul-21	8260D	<2	N	5	5			5	run1x nc7/26/21
AE06141-03		Pit-10 H[MS13	29-Jul-21	8260D	<2	N	5	5			5	run1x nc7/26/21
AE06168-01		Sample #1 A[MS14	03-Aug-21	8260D	<2	N	5	5			5	run 10x jmw 7/27/21; foam and chlorinated limited sample
AE06178-01	C	CRCA-ASINFLUENT-20210723 B[MS45		8260D	<2	N	5	5			5	Added for BatchQC in: 1G27016
AE06178-01	C	CRCA-ASINFLUENT-20210723 B[MS45	30-Jul-21	8260D TCL SOM01.2 CLP-LIKE	<2	N	5	5			5	history 1x jmw 7/26/21 custom
AE06178-02	C	CRCA-ASEFFLUENT-20210726 B[MS45	30-Jul-21	8260D TCL SOM01.2 CLP-LIKE	<2	N	5	5			5	history 1x ND jmw 7/26/21 custom

(1) Before solvent extraction proceeds, verify that there is no residual chlorine above 0.5 mg/L. Any sample above this must be treated to remove excess chlorine before extraction, and this documented as a comment.

Instrument 5
EST Centurian autosampler manufacturer reccommends adding 5 uL of IS/SS.

Start Date 07/27/21

StopDate 07/27/21

Instrument ID ONGCMS-5

Standard ID#	Description	Manufacture Lot#
A0A1401	pH Test Papers (1.0 to 12.0)	231018
A1B0955	Residual Chlorine Strips (Potassium Iodide S	102916
A1G0592	P&T Anti-Foam working solution	N/A

07/27/21
Samples Prepared By Date

Samples Prepared By Date

Sequence Name: C:\msdchem\1\sequence\215GV.s
Comment:
Operator: kkw
Data Path: C:\msdchem\1\DATA\072721\
Instrument Control Pre-Seq Cmd:
Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:
Data Analysis Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

Sequence Barcode Options
(X) On Mismatch, Inject Anyway
( ) On Mismatch, Don't Inject
( ) Barcode Disabled

Line		Sample Name/Misc Info		
1)	Sample 1	215GV001	8260S	rinse
2)	Sample 2	215GV002	8260S	CCV1
3)	Sample 3	215GV003	8260S	BS1
4)	Sample 4	215GV004	8260S	RINSE
5)	Sample 5	215GV005	8260S	BLK1
6)	Sample 6	215GV006	8260S	AE06178-01
7)	Sample 7	215GV007	8260S	AE06178-02
8)	Sample 8	215GV008	8260S	AE05878-04RE1
9)	Sample 9	215GV009	8260S	AE05878-14RE1@200X
10)	Sample 10	215GV010	8260S	AE05878-19RE1
11)	Sample 11	215GV011	8260S	AE05878-20
12)	Sample 12	215GV012	8260S	AE05878-21
13)	Sample 13	215GV013	8260S	AE05878-22@10X
14)	Sample 14	215GV014	8260S	AE05878-23@100X
15)	Sample 15	215GV015	8260S	AE05878-24@200X
16)	Sample 16	215GV016	8260S	AE05878-25
17)	Sample 17	215GV017	8260S	AE05878-26
18)	Sample 18	215GV018	8260S	AE05878-27@10X
19)	Sample 19	215GV019	8260S	AE05878-28
20)	Sample 20	215GV020	8260S	AE06141-01
21)	Sample 21	215GV021	8260S	AE06141-02
22)	Sample 22	215GV022	8260S	AE06141-03
23)	Sample 23	215GV023	8260S	AE06168-01@10X
24)	Sample 24	215GV024	8260S	1G27016-MS1
25)	Sample 24	215GV025	8260S	1G27016-MSD1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072721\
Data File : 215GV002.D
Acq On : 27 Jul 2021 8:02 am
Operator : kkw
Sample : CCV1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 27 09:11:39 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1102000	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.456	114	2569272	50.00	ug/L		0.01
55) CHLOROBENZENE-D5 (IS)	13.235	82	1689287	50.00	ug/L		0.01
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1269237	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.434	113	699084	53.02	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 106.04%				
52) D8-Toluene	11.784	98	3361366	53.05	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 106.10%				
73) Bromofluorobenzene	14.334	95	1525652	52.58	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 105.16%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.987	85	291602	25.72	ug/L		98
3) Chloromethane	4.416	50	399003	23.69	ug/L		96
4) Vinyl Chloride	4.592	62	306140	20.89	ug/L		90
5) Bromomethane	5.239	94	167011	41.52	ug/L		92
6) Chloroethane	5.444	64	154961	19.27	ug/L		97
7) Trichlorofluoromethane	5.703	101	347596	20.72	ug/L		98
8) Diethyl ether	6.190	59	509916	44.78	ug/L		99
9) 1,1-Dichloroethene	6.543	96	487486	41.62	ug/L		99
10) Trichlorotrifluoroethane	6.566	151	285332	40.18	ug/L		95
11) Acrolein	7.025	56	1805928	610.41	ug/L		100
12) Iodomethane	6.784	142	2708700	264.95	ug/L		99
13) Carbon Disulfide	6.631	76	8973707	270.04	ug/L		99
14) 3-chloropropene	7.201	41	1012768	51.70	ug/L		99
15) Acetone	7.401	43	1060122	226.54	ug/L		99
16) Methylene Chloride	7.348	84	677616	45.11	ug/L		93
17) Methyl Acetate	7.524	43	575203	46.81	ug/L		98
18) t-1,2-Dichloroethene	7.553	96	629399	47.09	ug/L		98
19) Methyl tert-butyl ether	7.642	73	1733199	51.15	ug/L		99
20) Acetonitrile	8.018	41	1639651	527.16	ug/L		99
21) Isopropyl ether	8.053	45	2238374	52.64	ug/L		98
22) Chloroprene	8.282	88	628226	49.18	ug/L		99
23) 1,1-Dichloroethane	8.323	63	1267808	49.90	ug/L		99
24) Acrylonitrile	8.388	53	3433373	586.30	ug/L		100
25) Vinyl Acetate	8.546	43	7982236	264.66	ug/L		99
26) c-1,2-Dichloroethene	8.952	96	769294	53.29	ug/L		99
27) 2,2-Dichloropropane	9.081	77	960073	52.58	ug/L		99
28) Bromochloromethane	9.187	128	239792	44.97	ug/L		96
29) Cyclohexane	9.193	56	1230332	48.59	ug/L		99
30) Chloroform	9.228	83	1234451	50.87	ug/L		99
32) Dibromofluoromethane	9.434	113	699084	53.02	ug/L	#	91
33) 2-Butanone	9.545	72	569525	262.57	ug/L		99
34) 1,1,1-Trichloroethane	9.492	97	943421	52.43	ug/L		98
35) 1,1-Dichloropropene	9.610	75	979794	48.96	ug/L		100
36) Propionitrile	9.904	54	1429919	547.19	ug/L		94
37) Methacrylonitrile	9.915	41	5715523	558.29	ug/L		99
38) Isobutyl Alcohol	9.957	43	1279543	1023.18	ug/L		99
40) Carbon Tetrachloride	9.416	117	698000	47.52	ug/L		97
41) Benzene	9.880	78	2950421	48.46	ug/L		100
42) 1,2-Dichloroethane	10.092	62	844411	46.77	ug/L		98
43) Trichloroethene	10.456	130	638684	50.73	ug/L		98
44) Methyl cyclohexane	10.456	83	1296811	47.26	ug/L		98
45) Dibromomethane	10.914	93	429605	47.97	ug/L		97
46) 1,2-Dichloropropane	10.991	63	868009	50.10	ug/L		99
47) Bromodichloromethane	11.020	83	903305	53.14	ug/L		99
48) Methyl Methacrylate	11.085	69	625519	45.64	ug/L		96
49) 1,4-Dioxane	11.202	88	181574	1224.95	ug/L		99
50) 2-Chloroethyl vinyl ether	11.490	63	2397154	247.06	ug/L		99
51) C-1,3-Dichloropropene	11.614	75	1371334	53.72	ug/L		99

Data Path : C:\msdchem\1\data\072721\
Data File : 215GV002.D
Acq On : 27 Jul 2021 8:02 am
Operator : kkw
Sample : CCV1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 27 09:11:39 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

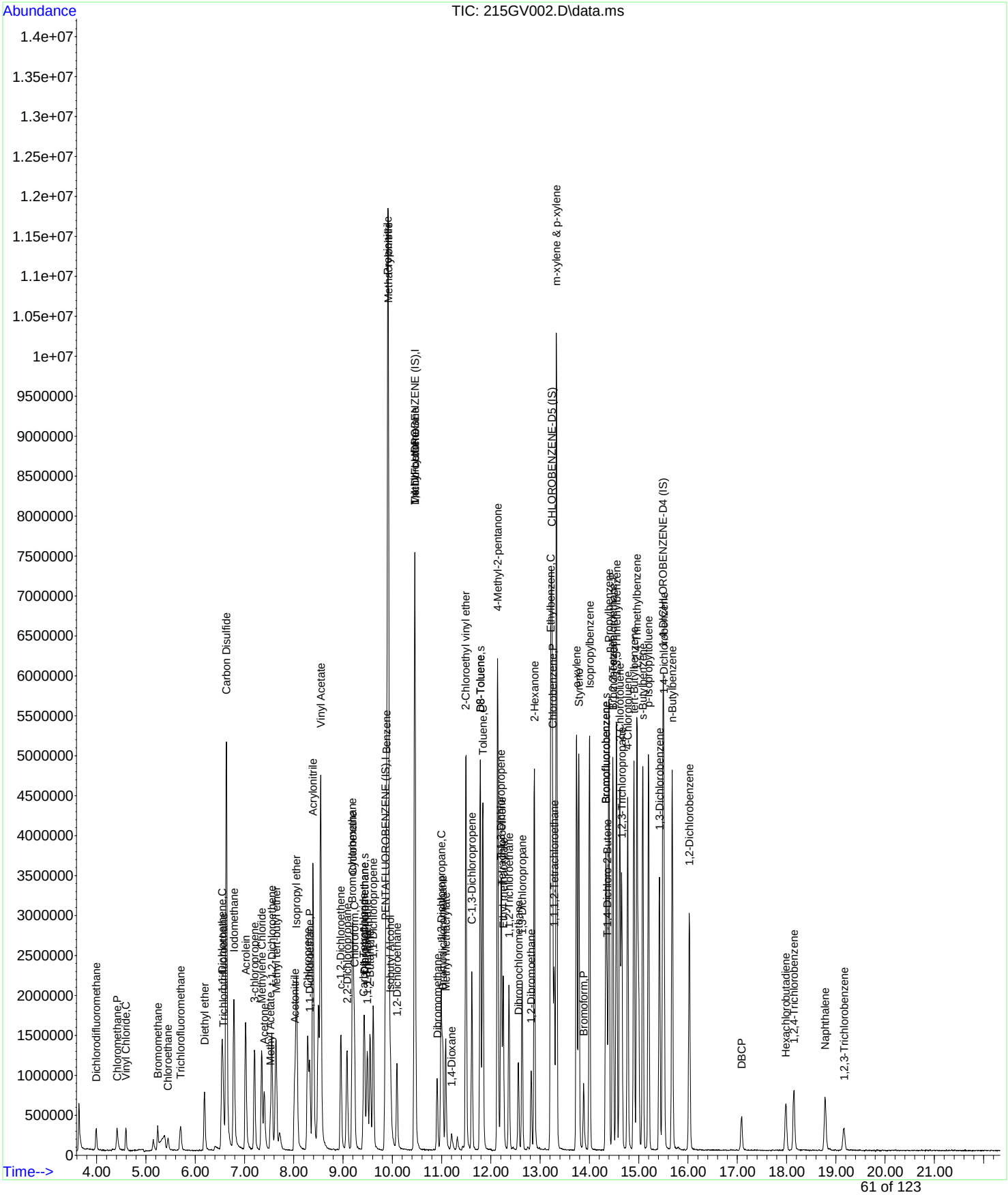
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.784	98	3361366	53.05	ug/L		96
54) 4-Methyl-2-pentanone	12.136	100	649030	274.92	ug/L		100
56) Toluene	11.837	92	1993515	48.25	ug/L		97
57) T-1,3-Dichloropropene	12.201	75	1099249	52.58	ug/L		99
58) Tetrachloroethene	12.219	164	450920	47.70	ug/L		97
59) Ethyl methacrylate	12.248	69	1194186	49.23	ug/L		96
60) 1,1,2-Trichloroethane	12.366	97	717687	50.49	ug/L		99
61) Dibromochloromethane	12.559	129	604286	47.74	ug/L		99
62) 1,3-Dichloropropane	12.636	76	1309480	50.29	ug/L		99
63) 1,2-Dibromoethane	12.818	107	719723	50.54	ug/L		99
64) 2-Hexanone	12.883	43	3096003	241.19	ug/L		99
65) Ethylbenzene	13.212	106	1197806	51.39	ug/L		94
66) Chlorobenzene	13.253	112	2022107	49.27	ug/L		99
67) 1,1,1,2-Tetrachloroethane	13.288	131	617542	52.13	ug/L		99
68) m-xylene & p-xylene	13.329	106	2962973	99.07	ug/L		98
69) o-xylene	13.740	106	1526954	51.75	ug/L		98
70) Styrene	13.782	104	2575819	49.30	ug/L		99
71) Bromoform	13.881	173	338375	46.88	ug/L		97
72) Isopropylbenzene	14.005	105	3848985	49.05	ug/L		100
74) Bromofluorobenzene	14.334	95	1525652	52.58	ug/L	#	75
75) n-Propylbenzene	14.393	91	5061964	49.23	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.475	83	1269446	52.21	ug/L		98
77) 1,2,3-Trichloropropane	14.657	61	349771	62.15	ug/L	#	78
78) T-1,4-Dichloro-2-Butene	14.357	53	393784	55.31	ug/L		92
80) Bromobenzene	14.475	156	712104	51.80	ug/L		97
81) 1,2,4-Trimethylbenzene	14.963	105	3386643	50.50	ug/L		100
82) 2-Chlorotoluene	14.616	91	3020773	53.76	ug/L		100
83) 4-Chlorotoluene	14.775	91	3117192	50.56	ug/L		99
84) tert-Butylbenzene	14.904	119	2645815	50.04	ug/L		99
85) 1,3,5-Trimethylbenzene	14.551	105	3396828	50.72	ug/L		98
86) p-Isopropyltoluene	15.198	119	3333170	51.51	ug/L		100
87) s-Butylbenzene	15.080	105	4115697	51.18	ug/L		99
88) 1,3-Dichlorobenzene	15.421	146	1506231	52.38	ug/L		99
89) 1,4-Dichlorobenzene	15.509	146	1514059	50.80	ug/L		99
90) n-Butylbenzene	15.679	91	3364915	50.39	ug/L		100
91) 1,2-Dichlorobenzene	16.026	146	1360435	49.03	ug/L		96
92) DBCP	17.090	157	141569	51.36	ug/L		98
93) Hexachlorobutadiene	17.983	225	145312	46.76	ug/L		91
94) 1,2,4-Trichlorobenzene	18.147	180	315121	50.23	ug/L		95
95) Naphthalene	18.782	128	871556	49.59	ug/L		98
96) 1,2,3-Trichlorobenzene	19.169	180	138317	50.36	ug/L		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072721\
Data File : 215GV002.D
Acq On : 27 Jul 2021 8:02 am
Operator : kkw
Sample : CCV1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 27 09:11:39 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072721\
Data File : 215GV003.D
Acq On : 27 Jul 2021 8:38 am
Operator : kkw
Sample : BS1
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 27 09:11:58 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1079201	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.456	114	2646304	50.00	ug/L		0.01
55) CHLOROBENZENE-D5 (IS)	13.235	82	1669456	50.00	ug/L		0.01
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1259086	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.434	113	731304	56.63	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 113.26%				
52) D8-Toluene	11.784	98	3336959	51.13	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 102.26%				
73) Bromofluorobenzene	14.334	95	1459713	50.90	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 101.80%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.987	85	312331	28.13	ug/L		99
3) Chloromethane	4.422	50	381140	23.10	ug/L		100
4) Vinyl Chloride	4.592	62	329405	22.95	ug/L		92
5) Bromomethane	5.238	94	54943	15.00	ug/L	#	88
6) Chloroethane	5.456	64	174353	22.67	ug/L		93
7) Trichlorofluoromethane	5.709	101	347447	21.15	ug/L		98
8) Diethyl ether	6.190	59	259645	23.28	ug/L		96
9) 1,1-Dichloroethene	6.543	96	250122	21.80	ug/L		98
10) Trichlorotrifluoroethane	6.566	151	141758	20.38	ug/L		96
11) Acrolein	7.031	56	96628	33.35	ug/L		98
12) Iodomethane	6.790	142	375761	39.00	ug/L		98
13) Carbon Disulfide	6.637	76	847312	24.51	ug/L		99
14) 3-chloropropene	7.201	41	463250	23.37	ug/L		100
15) Acetone	7.407	43	230672	50.33	ug/L		99
16) Methylene Chloride	7.348	84	320228	21.77	ug/L		95
17) Methyl Acetate	7.530	43	258847	21.51	ug/L		99
18) t-1,2-Dichloroethene	7.559	96	282970	21.62	ug/L		98
19) Methyl tert-butyl ether	7.636	73	718780	21.66	ug/L		97
20) Acetonitrile	8.035	41	421090	138.24	ug/L		93
21) Isopropyl ether	8.059	45	956755	22.98	ug/L		98
22) Chloroprene	8.282	88	267036	21.35	ug/L		98
23) 1,1-Dichloroethane	8.323	63	550389	22.12	ug/L		99
24) Acrylonitrile	8.405	53	164922	28.76	ug/L	#	99
25) Vinyl Acetate	8.552	43	592665	20.07	ug/L		97
26) c-1,2-Dichloroethene	8.958	96	323068	22.85	ug/L		99
27) 2,2-Dichloropropane	9.075	77	406729	22.75	ug/L		99
28) Bromochloromethane	9.193	128	120262	23.03	ug/L		96
29) Cyclohexane	9.204	56	567623	22.89	ug/L		100
30) Chloroform	9.234	83	511651	21.53	ug/L		98
32) Dibromofluoromethane	9.434	113	731304	56.63	ug/L	#	93
33) 2-Butanone	9.551	72	129725	61.07	ug/L		91
34) 1,1,1-Trichloroethane	9.492	97	397579	22.56	ug/L		99
35) 1,1-Dichloropropene	9.616	75	429540	21.92	ug/L		97
36) Propionitrile	9.910	54	78311	30.60	ug/L	#	1
37) Methacrylonitrile	9.921	41	351779	35.09	ug/L	#	80
38) Isobutyl Alcohol	9.910	43	273472	223.30	ug/L	#	57
40) Carbon Tetrachloride	9.422	117	287525	19.01	ug/L		98
41) Benzene	9.886	78	1335291	21.29	ug/L		96
42) 1,2-Dichloroethane	10.098	62	361003	19.42	ug/L		99
43) Trichloroethene	10.462	130	259931	20.04	ug/L	#	82
44) Methyl cyclohexane	10.456	83	566480	20.04	ug/L		98
45) Dibromomethane	10.908	93	181423	19.67	ug/L		97
46) 1,2-Dichloropropane	10.991	63	367582	20.60	ug/L		98
47) Bromodichloromethane	11.020	83	363928	20.79	ug/L		100
48) Methyl Methacrylate	11.085	69	247062	17.50	ug/L		97
49) 1,4-Dioxane	11.202	88	82416	613.66	ug/L		92
50) 2-Chloroethyl vinyl ether	11.496	63	998919	99.95	ug/L		99
51) C-1,3-Dichloropropene	11.613	75	538988	20.50	ug/L		99

Data Path : C:\msdchem\1\data\072721\
Data File : 215GV003.D
Acq On : 27 Jul 2021 8:38 am
Operator : kkw
Sample : BS1
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 27 09:11:58 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

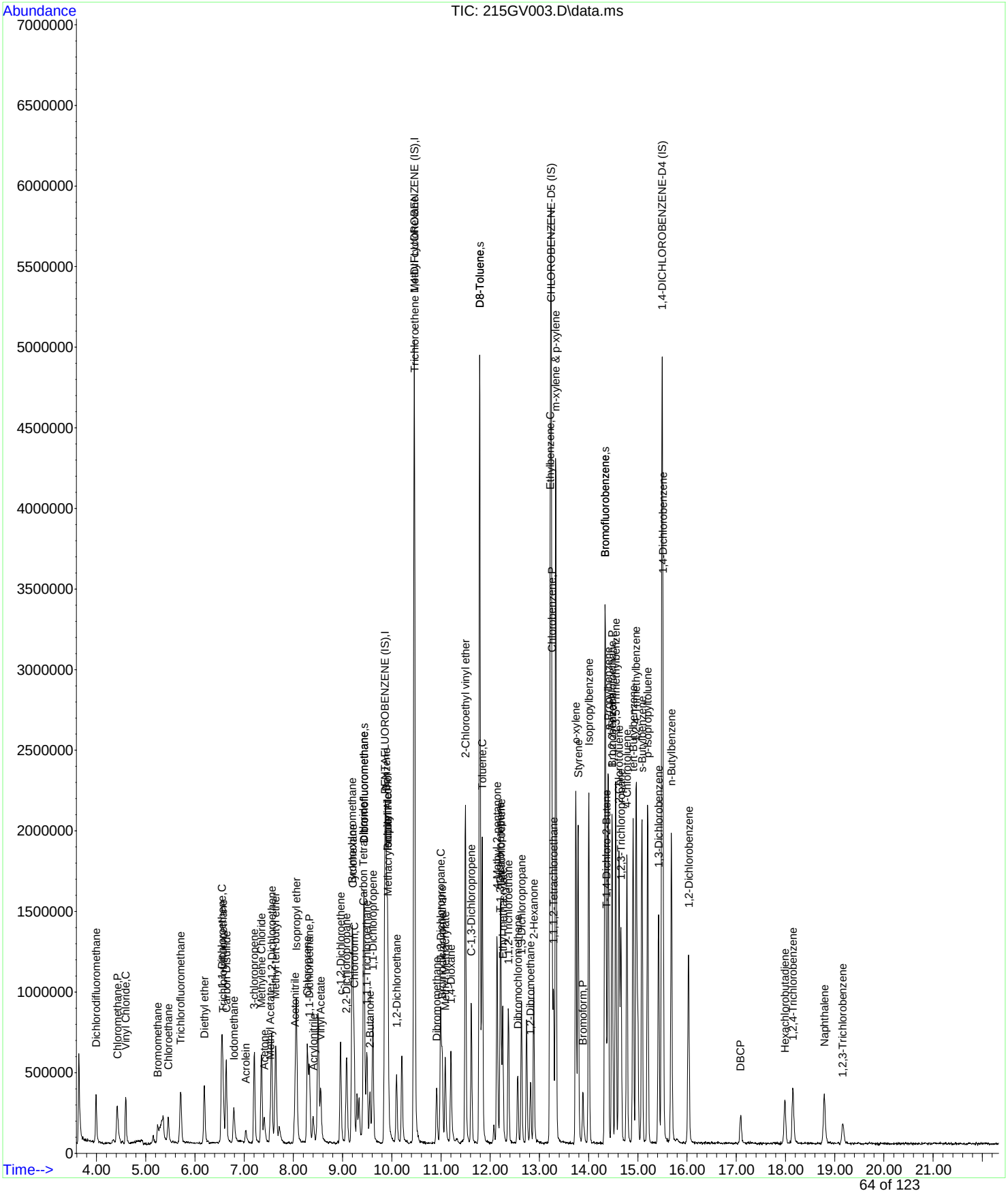
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.784	98	3336959	51.13	ug/L		96
54) 4-Methyl-2-pentanone	12.136	100	138037	56.77	ug/L		99
56) Toluene	11.837	92	839483	20.56	ug/L		96
57) T-1,3-Dichloropropene	12.201	75	477004	23.09	ug/L		98
58) Tetrachloroethene	12.219	164	193857	20.75	ug/L		97
59) Ethyl methacrylate	12.254	69	484074	20.19	ug/L		98
60) 1,1,2-Trichloroethane	12.371	97	290179	20.66	ug/L		96
61) Dibromochloromethane	12.559	129	238530	19.07	ug/L		100
62) 1,3-Dichloropropane	12.636	76	542239	21.07	ug/L		99
63) 1,2-Dibromoethane	12.818	107	288714	20.51	ug/L	#	99
64) 2-Hexanone	12.883	43	652396	51.43	ug/L		99
65) Ethylbenzene	13.218	106	484807	21.05	ug/L		99
66) Chlorobenzene	13.253	112	848429	20.92	ug/L		98
67) 1,1,1,2-Tetrachloroethane	13.288	131	244127	20.85	ug/L		97
68) m-xylene & p-xylene	13.329	106	1249455	42.27	ug/L		99
69) o-xylene	13.740	106	617851	21.19	ug/L		99
70) Styrene	13.787	104	1032081	19.99	ug/L		99
71) Bromoform	13.881	173	137131	19.23	ug/L		96
72) Isopropylbenzene	14.005	105	1610038	20.21	ug/L		99
74) Bromofluorobenzene	14.334	95	1459713	50.90	ug/L	#	76
75) n-Propylbenzene	14.399	91	2106174	20.08	ug/L		98
76) 1,1,2,2-Tetrachloroethane	14.475	83	504824	21.01	ug/L		99
77) 1,2,3-Trichloropropane	14.657	61	108782	19.56	ug/L		97
78) T-1,4-Dichloro-2-Butene	14.357	53	158347	22.50	ug/L	#	83
80) Bromobenzene	14.475	156	291344	21.37	ug/L		95
81) 1,2,4-Trimethylbenzene	14.963	105	1417033	21.21	ug/L		99
82) 2-Chlorotoluene	14.616	91	1261897	22.64	ug/L		99
83) 4-Chlorotoluene	14.775	91	1298507	21.23	ug/L		100
84) tert-Butylbenzene	14.904	119	1079690	20.58	ug/L		99
85) 1,3,5-Trimethylbenzene	14.551	105	1365672	20.55	ug/L		98
86) p-Isopropyltoluene	15.198	119	1401602	21.83	ug/L		99
87) s-Butylbenzene	15.086	105	1740775	21.82	ug/L		99
88) 1,3-Dichlorobenzene	15.421	146	635844	22.29	ug/L		99
89) 1,4-Dichlorobenzene	15.509	146	639069	21.62	ug/L	#	83
90) n-Butylbenzene	15.679	91	1425068	21.51	ug/L		99
91) 1,2-Dichlorobenzene	16.032	146	579659	21.06	ug/L		98
92) DBCP	17.084	157	55441	23.63	ug/L		98
93) Hexachlorobutadiene	17.988	225	61293	19.88	ug/L		94
94) 1,2,4-Trichlorobenzene	18.147	180	148180	26.89	ug/L		94
95) Naphthalene	18.788	128	425275	28.92	ug/L		100
96) 1,2,3-Trichlorobenzene	19.158	180	61662	26.89	ug/L		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072721\
Data File : 215GV003.D
Acq On : 27 Jul 2021 8:38 am
Operator : kkw
Sample : BS1
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 27 09:11:58 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072721\
Data File : 215GV005.D
Acq On : 27 Jul 2021 9:34 am
Operator : kkw
Sample : BLK1
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 27 10:28:38 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) PENTAFLUOROBENZENE (IS)	9.857	168	1024672	50.00	ug/L	0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2497844	50.00	ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1573333	50.00	ug/L	# 0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1175358	50.00	ug/L	0.00
System Monitoring Compounds						
31) Dibromofluoromethane	9.434	113	648443	52.89	ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 105.78%			
52) D8-Toluene	11.784	98	3125331	50.74	ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 101.48%			
73) Bromofluorobenzene	14.334	95	1338005	49.51	ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 99.02%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.		
3) Chloromethane	0.000		0	N.D.		
4) Vinyl Chloride	0.000		0	N.D.		
5) Bromomethane	0.000		0	N.D.		
6) Chloroethane	0.000		0	N.D.		
7) Trichlorofluoromethane	0.000		0	N.D.		
8) Diethyl ether	0.000		0	N.D.		
9) 1,1-Dichloroethene	0.000		0	N.D.		
10) Trichlorotrifluoroethane	0.000		0	N.D.		
11) Acrolein	0.000		0	N.D.		
12) Iodomethane	0.000		0	N.D.	d	
13) Carbon Disulfide	0.000		0	N.D.		
14) 3-chloropropene	0.000		0	N.D.		
15) Acetone	0.000		0	N.D.		
16) Methylene Chloride	0.000		0	N.D.		
17) Methyl Acetate	0.000		0	N.D.		
18) t-1,2-Dichloroethene	0.000		0	N.D.		
19) Methyl tert-butyl ether	0.000		0	N.D.		
20) Acetonitrile	0.000		0	N.D.		
21) Isopropyl ether	0.000		0	N.D.		
22) Chloroprene	0.000		0	N.D.		
23) 1,1-Dichloroethane	0.000		0	N.D.		
24) Acrylonitrile	0.000		0	N.D.		
25) Vinyl Acetate	0.000		0	N.D.		
26) c-1,2-Dichloroethene	0.000		0	N.D.		
27) 2,2-Dichloropropane	0.000		0	N.D.		
28) Bromochloromethane	0.000		0	N.D.		
29) Cyclohexane	0.000		0	N.D.		
30) Chloroform	0.000		0	N.D.		
32) Dibromofluoromethane	9.434	113	648443	52.89	ug/L #	88
33) 2-Butanone	0.000		0	N.D.	d	
34) 1,1,1-Trichloroethane	0.000		0	N.D.		
35) 1,1-Dichloropropene	0.000		0	N.D.		
36) Propionitrile	0.000		0	N.D.		
37) Methacrylonitrile	0.000		0	N.D.		
38) Isobutyl Alcohol	0.000		0	N.D.	d	
40) Carbon Tetrachloride	0.000		0	N.D.		
41) Benzene	9.880	78	4564	N.D.		
42) 1,2-Dichloroethane	0.000		0	N.D.		
43) Trichloroethene	0.000		0	N.D.		
44) Methyl cyclohexane	0.000		0	N.D.	d	
45) Dibromomethane	0.000		0	N.D.		
46) 1,2-Dichloropropane	0.000		0	N.D.		
47) Bromodichloromethane	0.000		0	N.D.		
48) Methyl Methacrylate	0.000		0	N.D.		
49) 1,4-Dioxane	0.000		0	N.D.		
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.		
51) C-1,3-Dichloropropene	0.000		0	N.D.		

Data Path : C:\msdchem\1\data\072721\
Data File : 215GV005.D
Acq On : 27 Jul 2021 9:34 am
Operator : kkw
Sample : BLK1
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 27 10:28:38 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

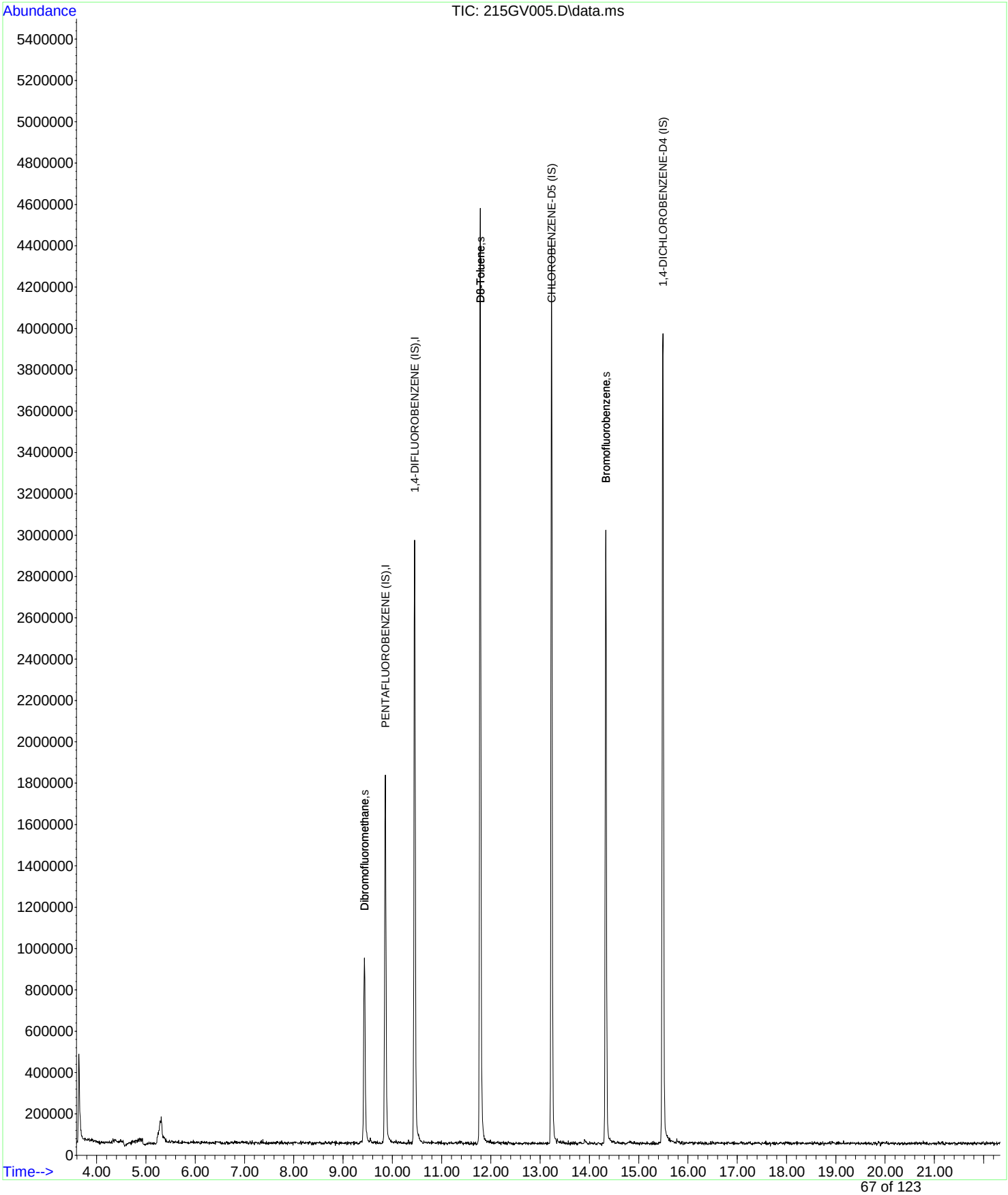
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.784	98	3125331	50.74 ug/L	95
54) 4-Methyl-2-pentanone	0.000		0	N.D.	
56) Toluene	0.000		0	N.D.	
57) T-1,3-Dichloropropene	0.000		0	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	0.000		0	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	0.000		0	N.D.	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	0.000		0	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	0.000		0	N.D.	
70) Styrene	0.000		0	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	0.000		0	N.D.	
74) Bromofluorobenzene	14.334	95	1338788	49.54 ug/L #	77
75) n-Propylbenzene	14.340	91	4486	N.D.	
76) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D.	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D.	
80) Bromobenzene	0.000		0	N.D.	
81) 1,2,4-Trimethylbenzene	0.000		0	N.D.	
82) 2-Chlorotoluene	0.000		0	N.D.	
83) 4-Chlorotoluene	0.000		0	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	0.000		0	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	0.000		0	N.D.	
88) 1,3-Dichlorobenzene	0.000		0	N.D.	
89) 1,4-Dichlorobenzene	0.000		0	N.D.	
90) n-Butylbenzene	0.000		0	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	0.000		0	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072721\
Data File : 215GV005.D
Acq On : 27 Jul 2021 9:34 am
Operator : kkw
Sample : BLK1
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 27 10:28:38 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072721\
Data File : 215GV006.D
Acq On : 27 Jul 2021 10:02 am
Operator : kkw
Sample : AE06178-01
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 27 10:28:53 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1005038	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2469097	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1531646	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1159017	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.434	113	640985	53.30	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 106.60%				
52) D8-Toluene	11.784	98	3126527	51.35	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 102.70%				
73) Bromofluorobenzene	14.334	95	1314491	49.96	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 99.92%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.			
3) Chloromethane	0.000		0	N.D.			
4) Vinyl Chloride	4.586	62	156765	11.73	ug/L	#	88
5) Bromomethane	0.000		0	N.D.			
6) Chloroethane	0.000		0	N.D.			
7) Trichlorofluoromethane	0.000		0	N.D.			
8) Diethyl ether	0.000		0	N.D.			
9) 1,1-Dichloroethene	0.000		0	N.D.			
10) Trichlorotrifluoroethane	0.000		0	N.D.			
11) Acrolein	0.000		0	N.D.			
12) Iodomethane	0.000		0	N.D.	d		
13) Carbon Disulfide	0.000		0	N.D.	d		
14) 3-chloropropene	0.000		0	N.D.	d		
15) Acetone	0.000		0	N.D.			
16) Methylene Chloride	0.000		0	N.D.			
17) Methyl Acetate	0.000		0	N.D.			
18) t-1,2-Dichloroethene	7.565	96	5703	0.47	ug/L	#	66
19) Methyl tert-butyl ether	0.000		0	N.D.			
20) Acetonitrile	0.000		0	N.D.			
21) Isopropyl ether	0.000		0	N.D.			
22) Chloroprene	0.000		0	N.D.			
23) 1,1-Dichloroethane	0.000		0	N.D.			
24) Acrylonitrile	0.000		0	N.D.			
25) Vinyl Acetate	0.000		0	N.D.			
26) c-1,2-Dichloroethene	8.964	96	4248	0.32	ug/L	#	72
27) 2,2-Dichloropropane	0.000		0	N.D.			
28) Bromochloromethane	0.000		0	N.D.			
29) Cyclohexane	0.000		0	N.D.			
30) Chloroform	0.000		0	N.D.			
32) Dibromofluoromethane	9.434	113	640985	53.30	ug/L	#	88
33) 2-Butanone	0.000		0	N.D.			
34) 1,1,1-Trichloroethane	0.000		0	N.D.			
35) 1,1-Dichloropropene	0.000		0	N.D.			
36) Propionitrile	0.000		0	N.D.			
37) Methacrylonitrile	0.000		0	N.D.			
38) Isobutyl Alcohol	0.000		0	N.D.			
40) Carbon Tetrachloride	0.000		0	N.D.			
41) Benzene	9.880	78	7314	N.D.			
42) 1,2-Dichloroethane	0.000		0	N.D.			
43) Trichloroethene	0.000		0	N.D.			
44) Methyl cyclohexane	0.000		0	N.D.	d		
45) Dibromomethane	0.000		0	N.D.			
46) 1,2-Dichloropropane	0.000		0	N.D.			
47) Bromodichloromethane	0.000		0	N.D.			
48) Methyl Methacrylate	0.000		0	N.D.			
49) 1,4-Dioxane	0.000		0	N.D.			
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.			
51) C-1,3-Dichloropropene	0.000		0	N.D.			

Data Path : C:\msdchem\1\data\072721\
Data File : 215GV006.D
Acq On : 27 Jul 2021 10:02 am
Operator : kkw
Sample : AE06178-01
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 27 10:28:53 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

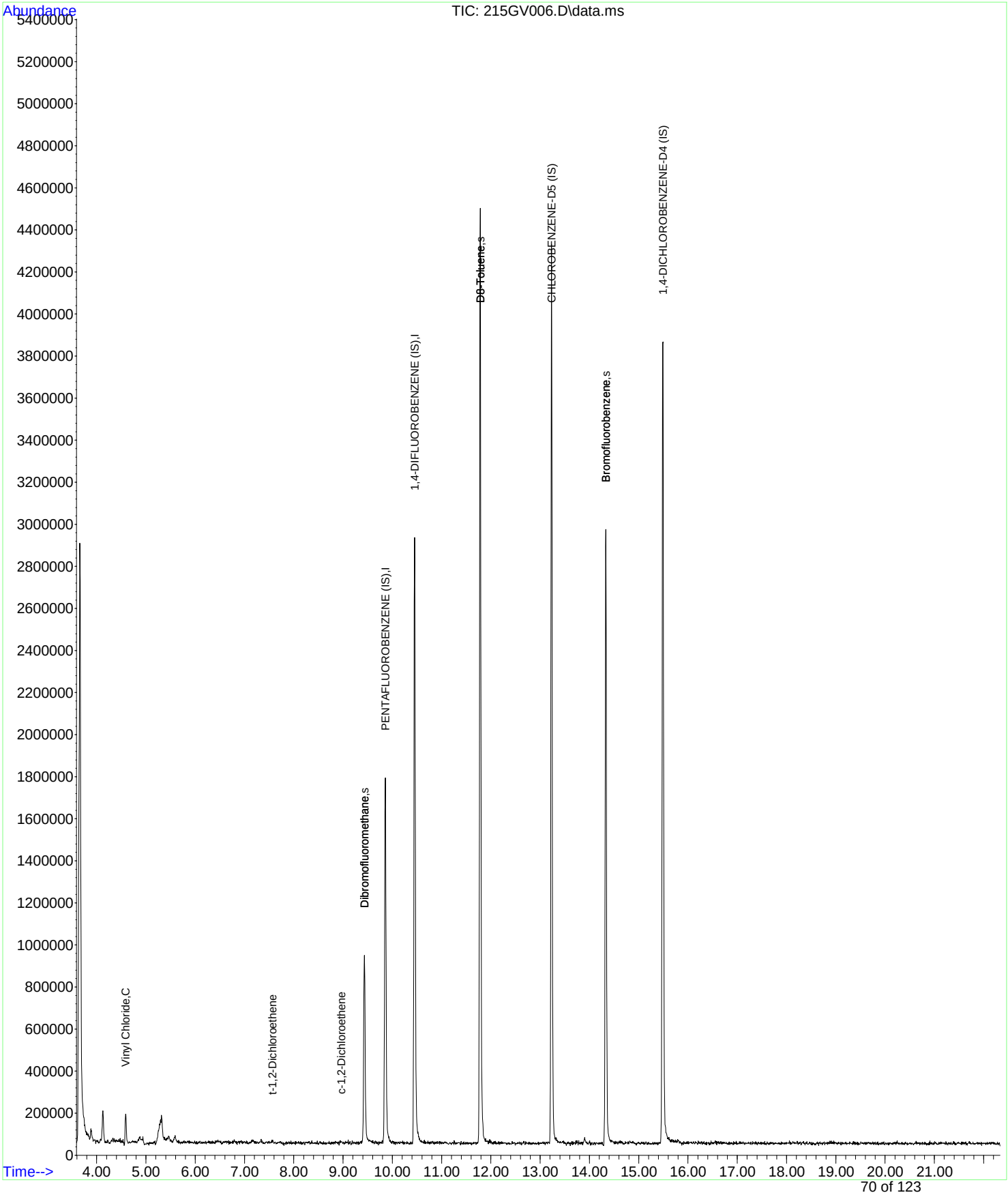
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.784	98	3126527	51.35 ug/L	95
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	0.000		0	N.D.	
57) T-1,3-Dichloropropene	0.000		0	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	0.000		0	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	0.000		0	N.D.	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	0.000		0	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	0.000		0	N.D.	
70) Styrene	0.000		0	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	0.000		0	N.D.	
74) Bromofluorobenzene	14.334	95	1314491	49.96 ug/L #	77
75) n-Propylbenzene	0.000		0	N.D.	
76) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D.	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D.	
80) Bromobenzene	0.000		0	N.D.	
81) 1,2,4-Trimethylbenzene	0.000		0	N.D.	
82) 2-Chlorotoluene	0.000		0	N.D.	
83) 4-Chlorotoluene	0.000		0	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	0.000		0	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	0.000		0	N.D.	
88) 1,3-Dichlorobenzene	0.000		0	N.D.	
89) 1,4-Dichlorobenzene	0.000		0	N.D.	
90) n-Butylbenzene	0.000		0	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	0.000		0	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072721\
Data File : 215GV006.D
Acq On : 27 Jul 2021 10:02 am
Operator : kkw
Sample : AE06178-01
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 27 10:28:53 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072721\
Data File : 215GV007.D
Acq On : 27 Jul 2021 10:30 am
Operator : kkw
Sample : AE06178-02
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 27 11:29:14 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) PENTAFLUOROBENZENE (IS)	9.857	168	1005403	50.00	ug/L	0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2455447	50.00	ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1512165	50.00	ug/L	# 0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1159306	50.00	ug/L	0.00
System Monitoring Compounds						
31) Dibromofluoromethane	9.434	113	620951	51.62	ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 103.24%			
52) D8-Toluene	11.784	98	3098197	51.16	ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 102.32%			
73) Bromofluorobenzene	14.328	95	1330039	51.20	ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 102.40%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.		
3) Chloromethane	0.000		0	N.D.		
4) Vinyl Chloride	0.000		0	N.D.		
5) Bromomethane	0.000		0	N.D.		
6) Chloroethane	0.000		0	N.D.		
7) Trichlorofluoromethane	0.000		0	N.D.		
8) Diethyl ether	0.000		0	N.D.		
9) 1,1-Dichloroethene	0.000		0	N.D.		
10) Trichlorotrifluoroethane	0.000		0	N.D.		
11) Acrolein	0.000		0	N.D.		
12) Iodomethane	0.000		0	N.D.	d	
13) Carbon Disulfide	0.000		0	N.D.	d	
14) 3-chloropropene	0.000		0	N.D.	d	
15) Acetone	0.000		0	N.D.	d	
16) Methylene Chloride	0.000		0	N.D.		
17) Methyl Acetate	0.000		0	N.D.	d	
18) t-1,2-Dichloroethene	0.000		0	N.D.		
19) Methyl tert-butyl ether	0.000		0	N.D.		
20) Acetonitrile	0.000		0	N.D.		
21) Isopropyl ether	0.000		0	N.D.		
22) Chloroprene	0.000		0	N.D.		
23) 1,1-Dichloroethane	0.000		0	N.D.		
24) Acrylonitrile	0.000		0	N.D.		
25) Vinyl Acetate	0.000		0	N.D.		
26) c-1,2-Dichloroethene	0.000		0	N.D.		
27) 2,2-Dichloropropane	0.000		0	N.D.		
28) Bromochloromethane	0.000		0	N.D.		
29) Cyclohexane	0.000		0	N.D.		
30) Chloroform	0.000		0	N.D.		
32) Dibromofluoromethane	9.434	113	621728	51.68	ug/L #	87
33) 2-Butanone	0.000		0	N.D.		
34) 1,1,1-Trichloroethane	0.000		0	N.D.		
35) 1,1-Dichloropropene	0.000		0	N.D.		
36) Propionitrile	0.000		0	N.D.		
37) Methacrylonitrile	0.000		0	N.D.		
38) Isobutyl Alcohol	0.000		0	N.D.		
40) Carbon Tetrachloride	0.000		0	N.D.		
41) Benzene	9.910	78	5221	N.D.		
42) 1,2-Dichloroethane	0.000		0	N.D.		
43) Trichloroethene	0.000		0	N.D.		
44) Methyl cyclohexane	0.000		0	N.D.	d	
45) Dibromomethane	0.000		0	N.D.		
46) 1,2-Dichloropropane	0.000		0	N.D.		
47) Bromodichloromethane	0.000		0	N.D.		
48) Methyl Methacrylate	0.000		0	N.D.		
49) 1,4-Dioxane	0.000		0	N.D.		
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.		
51) C-1,3-Dichloropropene	0.000		0	N.D.		

Data Path : C:\msdchem\1\data\072721\
Data File : 215GV007.D
Acq On : 27 Jul 2021 10:30 am
Operator : kkw
Sample : AE06178-02
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 27 11:29:14 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

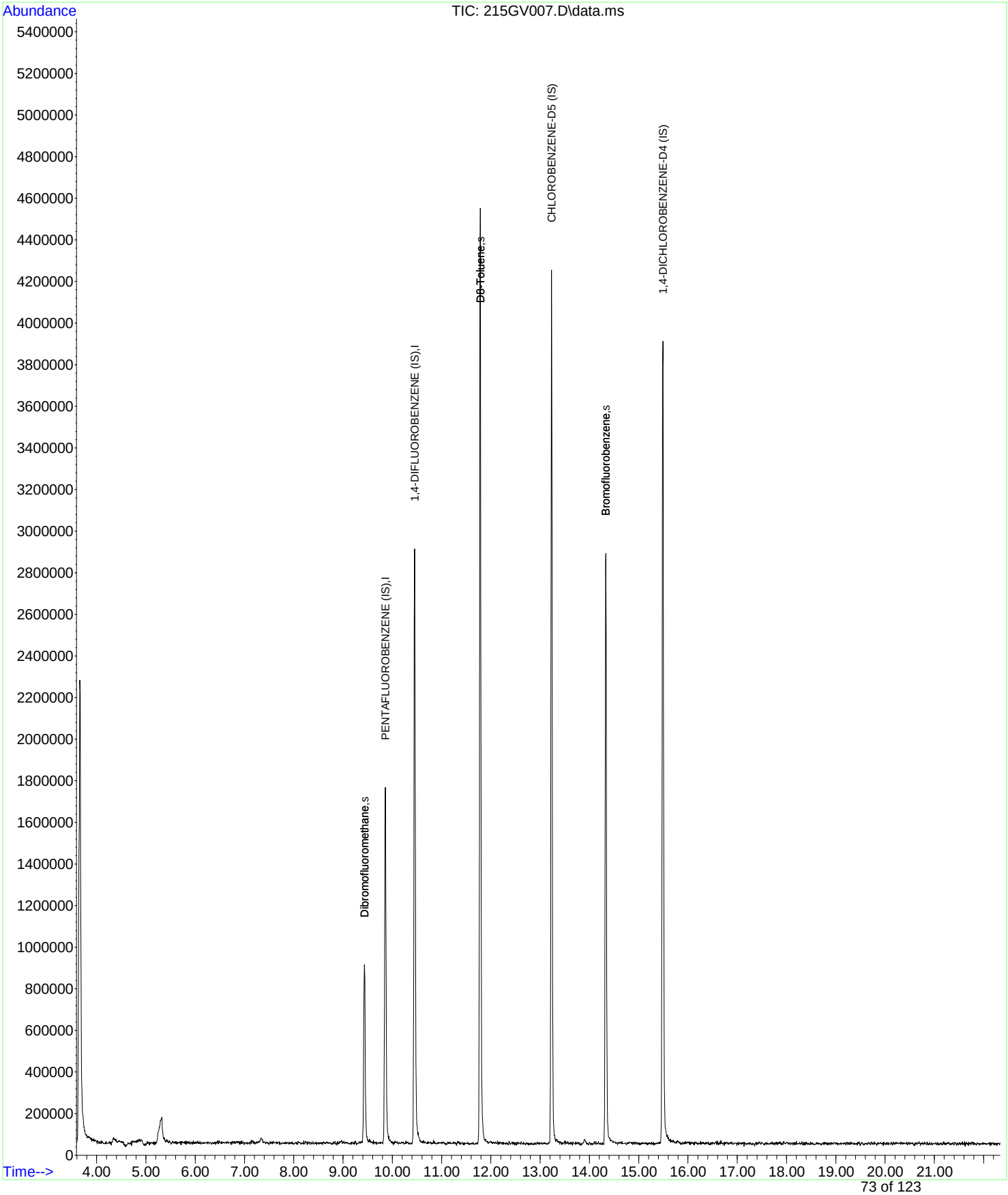
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.784	98	3098197	51.16 ug/L	95
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	0.000		0	N.D.	
57) T-1,3-Dichloropropene	0.000		0	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	0.000		0	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	0.000		0	N.D.	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	0.000		0	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	0.000		0	N.D.	
70) Styrene	0.000		0	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	0.000		0	N.D.	
74) Bromofluorobenzene	14.328	95	1330039	51.20 ug/L #	77
75) n-Propylbenzene	14.328	91	4759	N.D.	
76) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D.	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D.	
80) Bromobenzene	0.000		0	N.D.	
81) 1,2,4-Trimethylbenzene	0.000		0	N.D.	
82) 2-Chlorotoluene	0.000		0	N.D.	
83) 4-Chlorotoluene	0.000		0	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	0.000		0	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	0.000		0	N.D.	
88) 1,3-Dichlorobenzene	0.000		0	N.D.	
89) 1,4-Dichlorobenzene	0.000		0	N.D.	
90) n-Butylbenzene	0.000		0	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	0.000		0	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072721\
Data File : 215GV007.D
Acq On : 27 Jul 2021 10:30 am
Operator : kkw
Sample : AE06178-02
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 27 11:29:14 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072721\
Data File : 215GV024.D
Acq On : 27 Jul 2021 6:28 pm
Operator : kkw
Sample : 1G27016-MS1
Misc :
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Jul 28 07:19:37 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	980087	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2366093	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1510186	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1158475	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.434	113	631912	53.88	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 107.76%				
52) D8-Toluene	11.784	98	3002675	51.46	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 102.92%				
73) Bromofluorobenzene	14.334	95	1333741	51.41	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 102.82%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.993	85	299047	29.66	ug/L		97
3) Chloromethane	4.422	50	365035	24.37	ug/L		100
4) Vinyl Chloride	4.592	62	452262	34.70	ug/L	#	76
5) Bromomethane	5.239	94	82022	24.04	ug/L		92
6) Chloroethane	5.456	64	176070	25.77	ug/L		96
7) Trichlorofluoromethane	5.714	101	346218	23.21	ug/L		98
8) Diethyl ether	6.179	59	199244	19.67	ug/L		99
9) 1,1-Dichloroethene	6.537	96	230772	22.15	ug/L		98
10) Trichlorotrifluoroethane	6.566	151	126055	19.96	ug/L		88
11) Acrolein	7.036	56	67307	25.58	ug/L		96
12) Iodomethane	6.790	142	168182	19.29	ug/L		96
13) Carbon Disulfide	6.631	76	766050	24.40	ug/L		100
14) 3-chloropropene	7.207	41	391918	21.73	ug/L		98
15) Acetone	7.407	43	182060	43.74	ug/L		97
16) Methylene Chloride	7.348	84	278827	20.87	ug/L		96
17) Methyl Acetate	7.530	43	192551	17.62	ug/L		97
18) t-1,2-Dichloroethene	7.554	96	265134	22.30	ug/L		97
19) Methyl tert-butyl ether	7.636	73	626124	20.78	ug/L		98
20) Acetonitrile	8.053	41	332099	120.05	ug/L	#	90
21) Isopropyl ether	8.053	45	785423	20.77	ug/L		99
22) Chloroprene	8.282	88	246527	21.70	ug/L		95
23) 1,1-Dichloroethane	8.323	63	502689	22.24	ug/L		99
24) Acrylonitrile	8.400	53	121542	23.34	ug/L	#	98
25) Vinyl Acetate	8.552	43	460334	17.16	ug/L		100
26) c-1,2-Dichloroethene	8.952	96	292137	22.75	ug/L		96
27) 2,2-Dichloropropane	9.081	77	340875	20.99	ug/L		99
28) Bromochloromethane	9.187	128	106385	22.43	ug/L		99
29) Cyclohexane	9.199	56	509800	22.64	ug/L		99
30) Chloroform	9.228	83	479311	22.21	ug/L		99
32) Dibromofluoromethane	9.434	113	631912	53.88	ug/L	#	90
33) 2-Butanone	9.557	72	106798	55.36	ug/L		80
34) 1,1,1-Trichloroethane	9.492	97	377908	23.61	ug/L		99
35) 1,1-Dichloropropene	9.610	75	408695	22.96	ug/L		98
36) Propionitrile	9.910	54	59035	25.40	ug/L	#	1
37) Methacrylonitrile	9.916	41	274109	30.11	ug/L	#	83
38) Isobutyl Alcohol	9.916	43	229573	206.41	ug/L	#	50
40) Carbon Tetrachloride	9.422	117	325713	24.08	ug/L	#	77
41) Benzene	9.886	78	1208205	21.55	ug/L		97
42) 1,2-Dichloroethane	10.098	62	332437	20.00	ug/L		97
43) Trichloroethene	10.462	130	246299	21.24	ug/L		91
44) Methyl cyclohexane	10.462	83	521338	20.63	ug/L		98
45) Dibromomethane	10.908	93	157155	19.06	ug/L		99
46) 1,2-Dichloropropane	10.991	63	307153	19.25	ug/L		97
47) Bromodichloromethane	11.020	83	326147	20.83	ug/L		99
48) Methyl Methacrylate	11.079	69	213959	16.95	ug/L		96
49) 1,4-Dioxane	11.202	88	60028	511.58	ug/L		90
50) 2-Chloroethyl vinyl ether	11.614	63	4445	0.50	ug/L	#	51
51) C-1,3-Dichloropropene	11.614	75	436808	18.58	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072721\
Data File : 215GV024.D
Acq On : 27 Jul 2021 6:28 pm
Operator : kkw
Sample : 1G27016-MS1
Misc :
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Jul 28 07:19:37 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

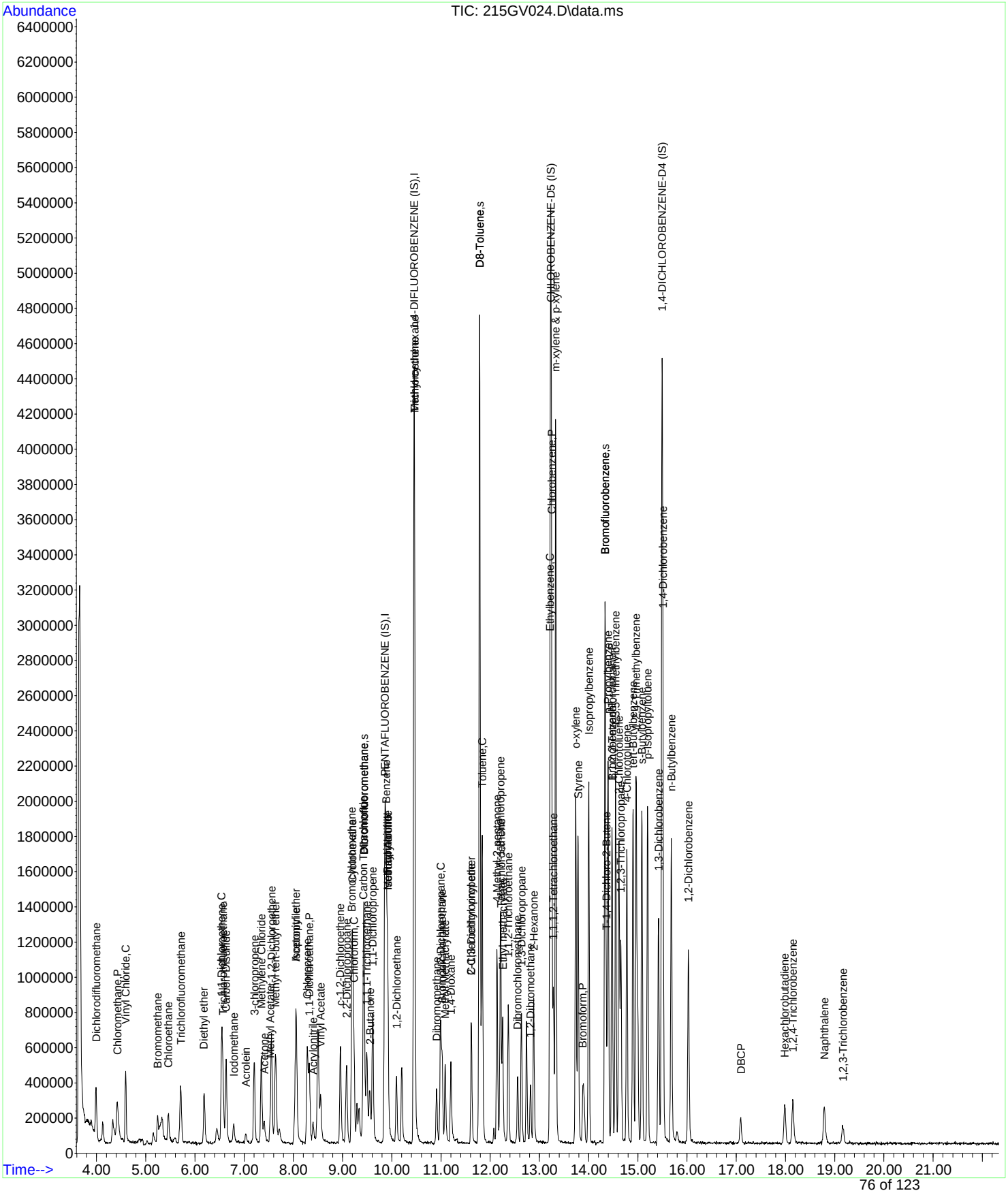
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.784	98	3002675	51.46	ug/L		95
54) 4-Methyl-2-pentanone	12.136	100	118201	54.37	ug/L		97
56) Toluene	11.837	92	792970	21.47	ug/L		99
57) T-1,3-Dichloropropene	12.207	75	407128	21.78	ug/L		98
58) Tetrachloroethene	12.219	164	169533	20.06	ug/L		95
59) Ethyl methacrylate	12.254	69	403130	18.59	ug/L		97
60) 1,1,2-Trichloroethane	12.366	97	261885	20.61	ug/L		96
61) Dibromochloromethane	12.554	129	214209	18.93	ug/L		95
62) 1,3-Dichloropropane	12.636	76	466217	20.03	ug/L		99
63) 1,2-Dibromoethane	12.818	107	245923	19.32	ug/L	#	94
64) 2-Hexanone	12.883	43	555470	48.40	ug/L		98
65) Ethylbenzene	13.212	106	448465	21.52	ug/L		98
66) Chlorobenzene	13.247	112	790003	21.53	ug/L		99
67) 1,1,1,2-Tetrachloroethane	13.282	131	220672	20.84	ug/L		100
68) m-xylene & p-xylene	13.329	106	1137240	42.54	ug/L		100
69) o-xylene	13.741	106	575268	21.81	ug/L		100
70) Styrene	13.788	104	928740	19.88	ug/L		98
71) Bromoform	13.876	173	108556	16.82	ug/L		93
72) Isopropylbenzene	14.005	105	1517663	21.07	ug/L		98
74) Bromofluorobenzene	14.334	95	1333741	51.41	ug/L	#	75
75) n-Propylbenzene	14.393	91	1939655	20.45	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.475	83	446361	20.53	ug/L		99
77) 1,2,3-Trichloropropane	14.651	61	91046	18.10	ug/L		93
78) T-1,4-Dichloro-2-Butene	14.357	53	126468	19.87	ug/L	#	68
80) Bromobenzene	14.475	156	259452	20.68	ug/L		94
81) 1,2,4-Trimethylbenzene	14.963	105	1332699	21.68	ug/L		98
82) 2-Chlorotoluene	14.616	91	1149773	22.42	ug/L		99
83) 4-Chlorotoluene	14.775	91	1165830	20.72	ug/L		98
84) tert-Butylbenzene	14.898	119	1036136	21.47	ug/L		99
85) 1,3,5-Trimethylbenzene	14.545	105	1286067	21.04	ug/L		99
86) p-Isopropyltoluene	15.198	119	1287964	21.81	ug/L		99
87) s-Butylbenzene	15.080	105	1619182	22.06	ug/L		98
88) 1,3-Dichlorobenzene	15.421	146	566206	21.57	ug/L		100
89) 1,4-Dichlorobenzene	15.509	146	578262	21.26	ug/L	#	83
90) n-Butylbenzene	15.679	91	1266405	20.78	ug/L		100
91) 1,2-Dichlorobenzene	16.026	146	517616	20.44	ug/L		99
92) DBCP	17.095	157	47100	22.03	ug/L		88
93) Hexachlorobutadiene	17.983	225	54475	19.21	ug/L	#	95
94) 1,2,4-Trichlorobenzene	18.147	180	98451	20.17	ug/L		97
95) Naphthalene	18.788	128	285433	22.40	ug/L		99
96) 1,2,3-Trichlorobenzene	19.170	180	47190	23.07	ug/L		95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072721\
Data File : 215GV024.D
Acq On : 27 Jul 2021 6:28 pm
Operator : kkw
Sample : 1G27016-MS1
Misc :
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Jul 28 07:19:37 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072721\
Data File : 215GV025.D
Acq On : 27 Jul 2021 6:56 pm
Operator : kkw
Sample : 1G27016-MSD1
Misc :
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Jul 28 07:19:40 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1025902	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.456	114	2409457	50.00	ug/L		0.01
55) CHLOROBENZENE-D5 (IS)	13.235	82	1551003	50.00	ug/L		0.01
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1153393	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.434	113	640415	52.17	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 104.34%				
52) D8-Toluene	11.784	98	3086530	51.94	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 103.88%				
73) Bromofluorobenzene	14.334	95	1364494	51.21	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 102.42%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.987	85	299211	28.35	ug/L		99
3) Chloromethane	4.428	50	364818	23.26	ug/L		98
4) Vinyl Chloride	4.592	62	459907	33.71	ug/L	#	71
5) Bromomethane	5.238	94	77217	21.76	ug/L	#	96
6) Chloroethane	5.456	64	162571	22.16	ug/L		97
7) Trichlorofluoromethane	5.708	101	352553	22.58	ug/L		100
8) Diethyl ether	6.190	59	216644	20.43	ug/L		95
9) 1,1-Dichloroethene	6.537	96	234977	21.55	ug/L		98
10) Trichlorotrifluoroethane	6.566	151	135280	20.46	ug/L		99
11) Acrolein	7.036	56	74467	27.04	ug/L		91
12) Iodomethane	6.784	142	189751	20.78	ug/L		98
13) Carbon Disulfide	6.631	76	766119	23.30	ug/L		99
14) 3-chloropropene	7.207	41	419228	22.22	ug/L		96
15) Acetone	7.407	43	194340	44.61	ug/L		97
16) Methylene Chloride	7.348	84	272398	19.48	ug/L		93
17) Methyl Acetate	7.530	43	210310	18.38	ug/L		98
18) t-1,2-Dichloroethene	7.559	96	270117	21.71	ug/L		99
19) Methyl tert-butyl ether	7.636	73	626737	19.87	ug/L		96
20) Acetonitrile	8.041	41	357499	123.46	ug/L	#	91
21) Isopropyl ether	8.059	45	812817	20.53	ug/L		98
22) Chloroprene	8.282	88	232659	19.57	ug/L		93
23) 1,1-Dichloroethane	8.323	63	519417	21.96	ug/L		99
24) Acrylonitrile	8.399	53	137961	25.31	ug/L		92
25) Vinyl Acetate	8.552	43	471708	16.80	ug/L		99
26) c-1,2-Dichloroethene	8.958	96	290891	21.65	ug/L		98
27) 2,2-Dichloropropane	9.081	77	329199	19.37	ug/L		98
28) Bromochloromethane	9.193	128	106950	21.55	ug/L		100
29) Cyclohexane	9.193	56	516565	21.91	ug/L		99
30) Chloroform	9.228	83	485841	21.51	ug/L		98
32) Dibromofluoromethane	9.434	113	640415	52.17	ug/L	#	90
33) 2-Butanone	9.551	72	113369	56.14	ug/L		81
34) 1,1,1-Trichloroethane	9.492	97	373245	22.28	ug/L		98
35) 1,1-Dichloropropene	9.610	75	386143	20.73	ug/L		100
36) Propionitrile	9.910	54	62932	25.87	ug/L	#	1
37) Methacrylonitrile	9.915	41	293058	30.75	ug/L	#	79
38) Isobutyl Alcohol	9.910	43	238003	204.44	ug/L	#	52
40) Carbon Tetrachloride	9.422	117	279854	20.32	ug/L		98
41) Benzene	9.886	78	1223482	21.43	ug/L		99
42) 1,2-Dichloroethane	10.098	62	325430	19.22	ug/L		99
43) Trichloroethene	10.456	130	237586	20.12	ug/L	#	83
44) Methyl cyclohexane	10.456	83	543556	21.12	ug/L		97
45) Dibromomethane	10.908	93	157686	18.78	ug/L		98
46) 1,2-Dichloropropane	10.991	63	330144	20.32	ug/L		99
47) Bromodichloromethane	11.020	83	327464	20.54	ug/L		97
48) Methyl Methacrylate	11.085	69	207776	16.17	ug/L		95
49) 1,4-Dioxane	11.214	88	68969	569.63	ug/L		100
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.			
51) C-1,3-Dichloropropene	11.613	75	441889	18.46	ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072721\
Data File : 215GV025.D
Acq On : 27 Jul 2021 6:56 pm
Operator : kkw
Sample : 1G27016-MSD1
Misc :
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Jul 28 07:19:40 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

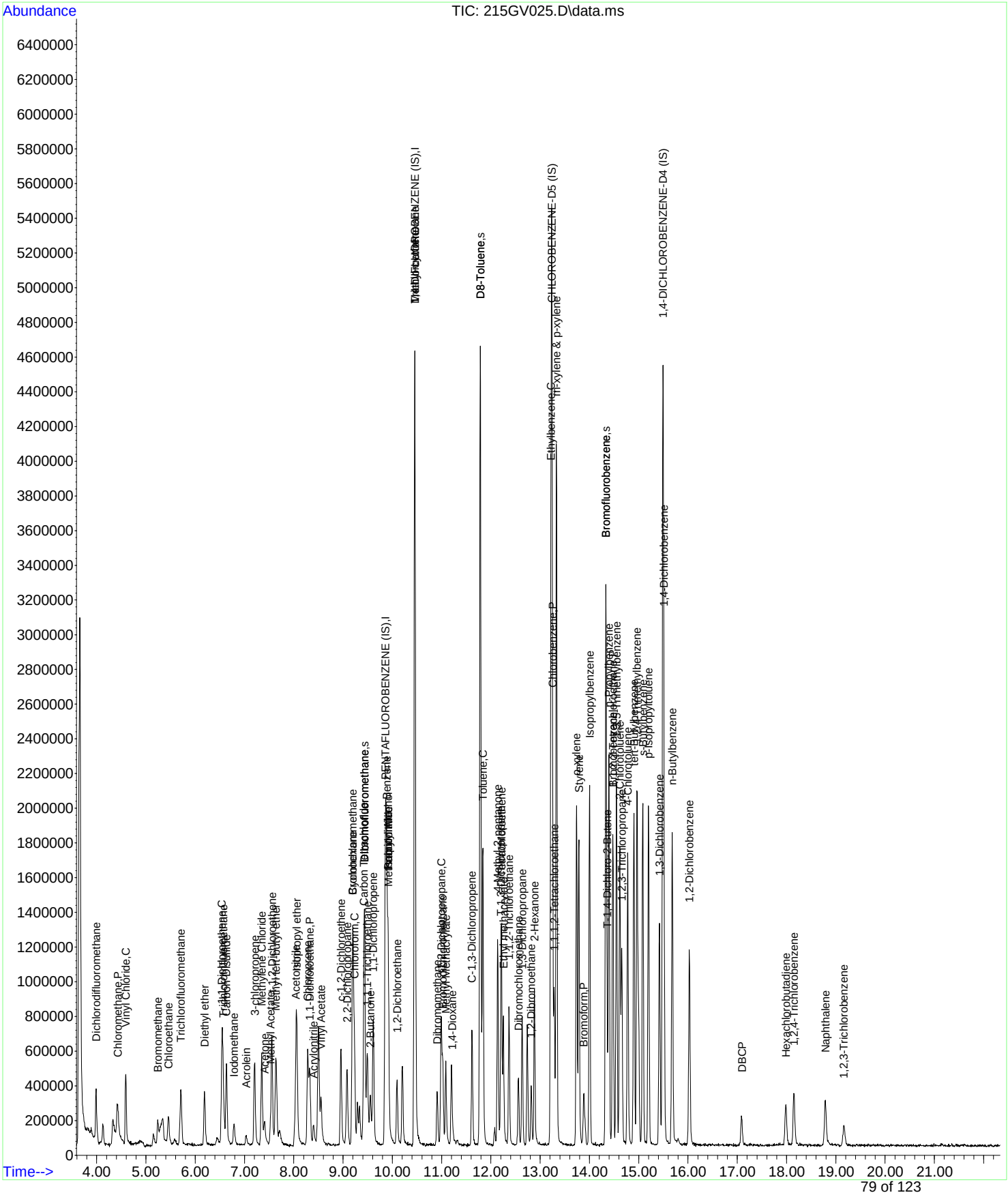
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.784	98	3086530	51.94	ug/L		95
54) 4-Methyl-2-pentanone	12.136	100	127550	57.61	ug/L		96
56) Toluene	11.837	92	782952	20.64	ug/L		98
57) T-1,3-Dichloropropene	12.201	75	405249	21.11	ug/L		99
58) Tetrachloroethene	12.213	164	174644	20.12	ug/L		95
59) Ethyl methacrylate	12.254	69	409123	18.37	ug/L		98
60) 1,1,2-Trichloroethane	12.366	97	270763	20.75	ug/L		97
61) Dibromochloromethane	12.559	129	211494	18.20	ug/L		97
62) 1,3-Dichloropropane	12.636	76	486847	20.36	ug/L		96
63) 1,2-Dibromoethane	12.818	107	245122	18.75	ug/L		96
64) 2-Hexanone	12.883	43	573607	48.67	ug/L		95
65) Ethylbenzene	13.217	106	454728	21.25	ug/L		97
66) Chlorobenzene	13.253	112	795384	21.11	ug/L		99
67) 1,1,1,2-Tetrachloroethane	13.288	131	222923	20.49	ug/L		99
68) m-xylene & p-xylene	13.329	106	1134084	41.30	ug/L		98
69) o-xylene	13.735	106	577248	21.31	ug/L		97
70) Styrene	13.787	104	950050	19.81	ug/L		99
71) Bromoform	13.881	173	110412	16.66	ug/L		100
72) Isopropylbenzene	14.005	105	1511370	20.42	ug/L		100
74) Bromofluorobenzene	14.334	95	1364494	51.21	ug/L	#	74
75) n-Propylbenzene	14.393	91	2005169	20.59	ug/L		98
76) 1,1,2,2-Tetrachloroethane	14.475	83	447761	20.06	ug/L		99
77) 1,2,3-Trichloropropane	14.657	61	97670	18.90	ug/L		95
78) T-1,4-Dichloro-2-Butene	14.357	53	142711	21.83	ug/L	#	80
80) Bromobenzene	14.475	156	263322	21.08	ug/L		97
81) 1,2,4-Trimethylbenzene	14.963	105	1333987	21.80	ug/L		97
82) 2-Chlorotoluene	14.616	91	1159473	22.71	ug/L		99
83) 4-Chlorotoluene	14.774	91	1170342	20.89	ug/L		100
84) tert-Butylbenzene	14.904	119	1057053	22.00	ug/L		99
85) 1,3,5-Trimethylbenzene	14.551	105	1300212	21.36	ug/L		98
86) p-Isopropyltoluene	15.198	119	1298721	22.09	ug/L		99
87) s-Butylbenzene	15.086	105	1652903	22.62	ug/L		98
88) 1,3-Dichlorobenzene	15.421	146	570646	21.84	ug/L		99
89) 1,4-Dichlorobenzene	15.509	146	568487	20.99	ug/L	#	84
90) n-Butylbenzene	15.679	91	1320484	21.76	ug/L		100
91) 1,2-Dichlorobenzene	16.026	146	536647	21.29	ug/L		100
92) DBCP	17.095	157	53529	24.74	ug/L		96
93) Hexachlorobutadiene	17.988	225	51844	18.36	ug/L		95
94) 1,2,4-Trichlorobenzene	18.147	180	129978	25.89	ug/L		93
95) Naphthalene	18.788	128	355776	26.89	ug/L		98
96) 1,2,3-Trichlorobenzene	19.158	180	53894	25.87	ug/L		95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072721\
Data File : 215GV025.D
Acq On : 27 Jul 2021 6:56 pm
Operator : kkw
Sample : 1G27016-MSD1
Misc :
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Jul 28 07:19:40 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration



ANALYSIS SEQUENCE

AA66932

Instrument: OVGCMS5

Calibration ID: 2105058

Printed: 6/18/2021 10:00:04AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA66932-TUN1	QC		1		A1B1159			
AA66932-CAL1	QC		2		A1F0975	A1D0593		
AA66932-CAL2	QC		3		A1F0976	A1D0593		
AA66932-CAL3	QC		4		A1F0977	A1D0593		
AA66932-CAL4	QC		5		A1F0978	A1D0593		
AA66932-CAL5	QC		6		A1F0979	A1D0593		
AA66932-CAL6	QC		7		A1F0980	A1D0593		
AA66932-CAL7	QC		8		A1F0981	A1D0593		
AA66932-CAL8	QC		9		A1F0982	A1D0593		
AA66932-SCV1	QC		10		A1F0991	A1D0593		

Samples Loaded By 6/18/21 Date

Data Processed By 6/18/21 Date Rec'd 6/21/21

Sequence Name: C:\msdchem\1\sequence\215FM.s
Comment:
Operator: kkw
Data Path: C:\msdchem\1\DATA\061821\
Instrument Control Pre-Seq Cmd:
Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:
Data Analysis Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

Sequence Barcode Options
(X) On Mismatch, Inject Anyway
( ) On Mismatch, Don't Inject
( ) Barcode Disabled

Line		Sample Name/Misc Info		
1)	Sample	1	215FM001 8260S	tun1
2)	Sample	1	215FM002 8260S	tun1
3)	Sample	1	215FM003 8260S	tun1
4)	Sample	2	215FM004 8260S	aa66932-cal1
5)	Sample	3	215FM005 8260S	aa66932-cal2
6)	Sample	4	215FM006 8260S	aa66932-cal3
7)	Sample	5	215FM007 8260S	aa66932-cal4
8)	Sample	6	215FM008 8260S	aa66932-cal5
9)	Sample	7	215FM009 8260S	aa66932-cal6
10)	Sample	8	215FM010 8260S	aa66932-cal7
11)	Sample	9	215FM011 8260S	aa66932-cal8
12)	Sample	10	215FM012 8260S	rinse
13)	Sample	11	215FM013 8260S	aa66932-scv1
14)	Sample	12	215FM014 8260S	1F18027-bs1
15)	Sample	13	215FM015 8260S	1F18027-blk1
16)	Sample	14	215FM016 8260S	AE05123-07
17)	Sample	15	215FM017 8260S	AE04936-21RE1@2
18)	Sample	16	215FM018 8260S	AE04936-22RE1@2
19)	Sample	17	215FM019 8260S	AE04936-23RE1
20)	Sample	18	215FM020 8260S	AE04966-06RE1@2
21)	Sample	19	215FM021 8260S	AE04966-07RE1@2
22)	Sample	20	215FM022 8260S	AE04966-08RE1@20
23)	Sample	21	215FM023 8260S	1F18027-MS1
24)	Sample	21	215FM024 8260S	1F18027-MSD1
25)	Sample	22	215FM025 8260S	AA66946-LCV1
26)	Sample	23	215FM026 8260S	1F18022-BS1
27)	Sample	24	215FM027 8260S	1F18022-MS1
28)	Sample	24	215FM028 8260S	1F18022-MSD1
29)	Sample	25	215FM029 8260S	1F18022-BLK1
30)	Sample	26	215FM030 8260S	AA66949-CRL1
31)	Sample	27	215FM031 8260S	AE03776-01
32)	Sample	28	215FM032 8260S	AE03776-02
33)	Sample	29	215FM033 8260S	AE03776-03
34)	Sample	30	215FM034 8260S	AE05210-01
35)	Sample	31	215FM035 8260S	AE05210-02
36)	Sample	32	215FM036 8260S	AE05210-03
37)	Sample	33	215FM037 8260S	AE05210-04
38)	Sample	34	215FM038 8260S	AE05210-05
39)	Sample	35	215FM039 8260S	AE05190-01
40)	Sample	36	215FM040 8260S	AE05190-02
41)	Sample	37	215FM041 8260S	AE05190-03
42)	Sample	38	215FM042 8260S	AE05190-04
43)	Sample	39	215FM043 8260S	AE05190-05

Sequence Name: C:\msdchem\1\sequence\215FM.s

	Line	Type	Vial	DataFile	Method	Sample Name
44)		Sample	40	215FM044	8260S	AE05162-01
45)		Sample	41	215FM045	8260S	AE05162-02
46)		Sample	42	215FM046	8260S	AE05162-03
47)		Sample	43	215FM047	8260S	AE05162-04
48)		Sample	44	215FM048	8260S	AE05162-05

Manual Integration Review Form

ENVIRONMENTAL CONSERVATION LABORATORIES, INC. ☐ Cary ☐ Jacksonville ☒ Orlando

I hereby attest that the manual integrations contained in this package have been thoroughly reviewed and are in agreement with the associated hardcopy data.

The electronic files listed below have been reviewed for accuracy, completeness and comply with ENCO labs QA-11 Manual Integration Policy including:

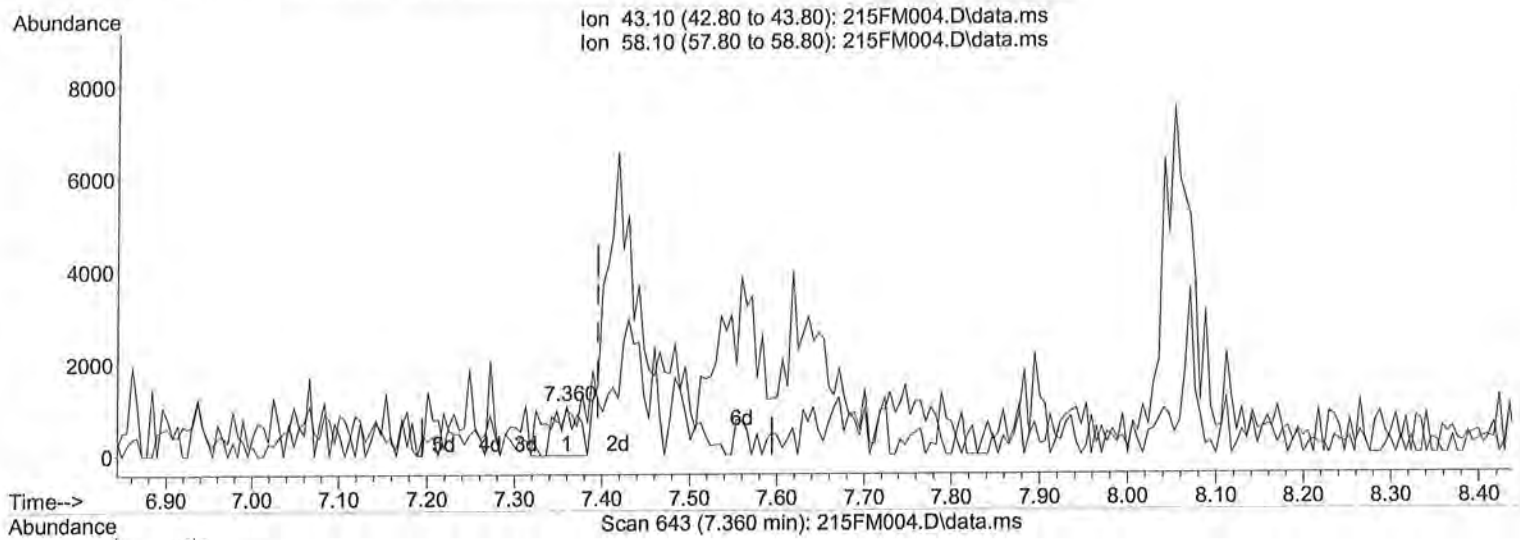
- "Before" and "After" chromatograms are provided
- Manual integrations are indicated on expanded scale "after" chromatograms at a scale large enough to see the manual integration performed.
- Reintegration technique marked if available on the data system
- Technical justification for manual integration
- Appropriate flags indicating which analytes were manually integrated are included in the raw data
- Analyst's initials and date.

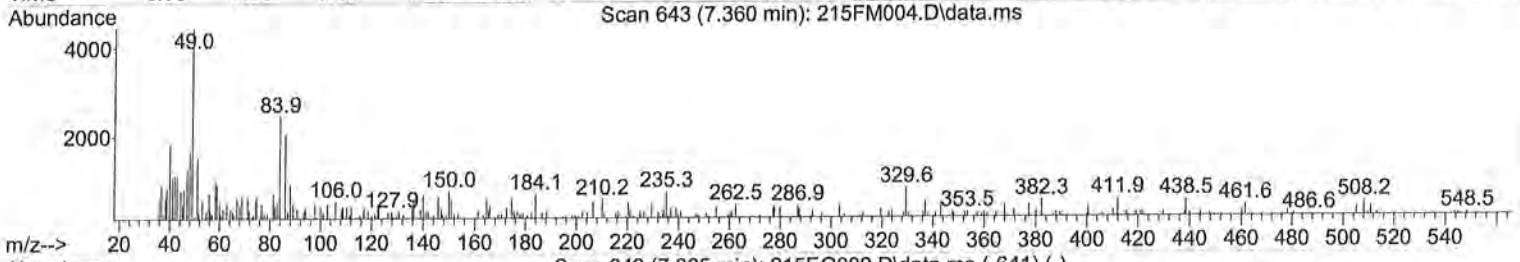
Instrument ID:	OVGCMS5
Sequence/Batch ID:	AA66932
Data File Prefix:	215FM
Date and Time Range of MIs:	06/18/21 0948-0950 06/21/21 0758
Reviewer Print Name:	Karie Gonzalez
Reviewer Signature:	Karie Gonzalez
Date of Review:	6/21/21

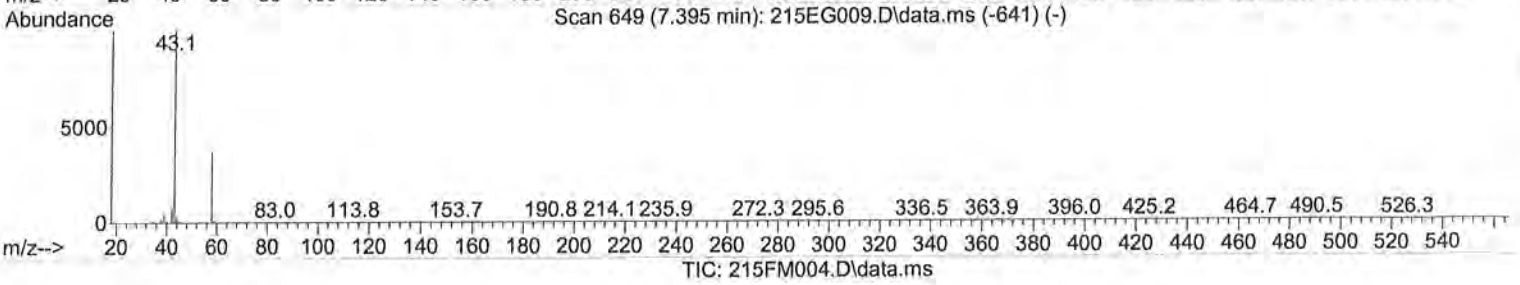
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM004.D
Acq On : 18 Jun 2021 8:05 am
Operator : kkw
Sample : aa66932-cal1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 18 08:40:28 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration







(15) Acetone

7.360min (-0.035) 0.68 ug/L

response 2727

Ion	Exp%	Act%
43.10	100.00	100.00
58.10	36.90	191.53#
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

X Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

X [ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

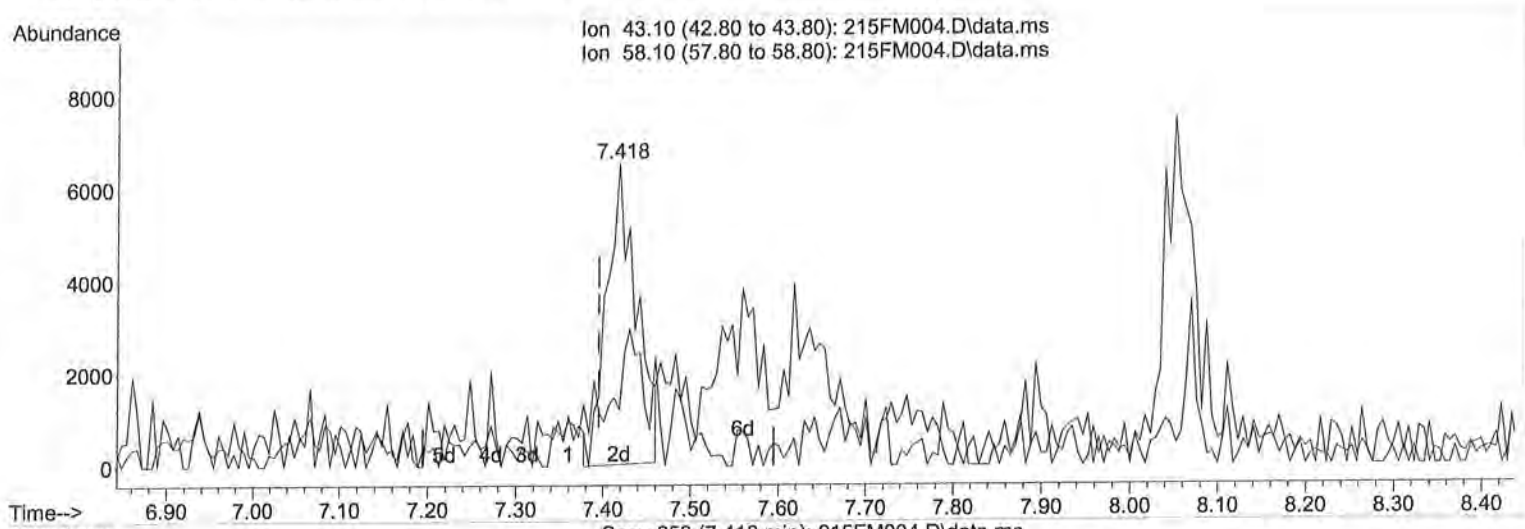
Review by/Date K 06/21/21

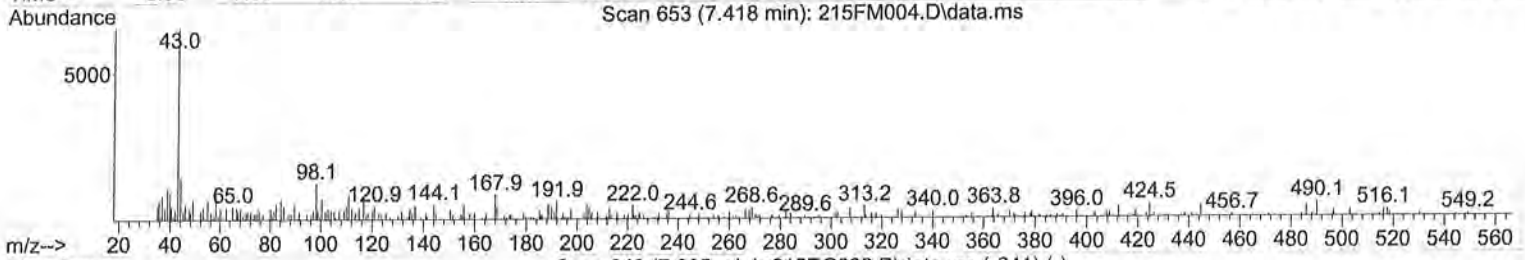
Review by/Date:

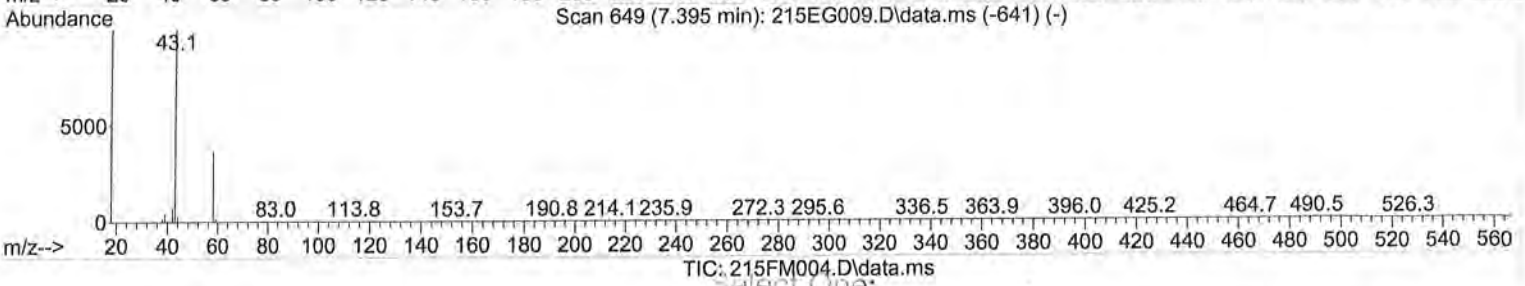
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM004.D
Acq On : 18 Jun 2021 8:05 am
Operator : kkw
Sample : aa66932-cal1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 18 08:40:28 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration







TIC: 215FM004.D\data.ms

(15) Acetone

7.418min (+ 0.024) 3.79 ug/L m

response 15244

Ion	Exp%	Act%
43.10	100.00	100.00
58.10	36.90	34.26
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

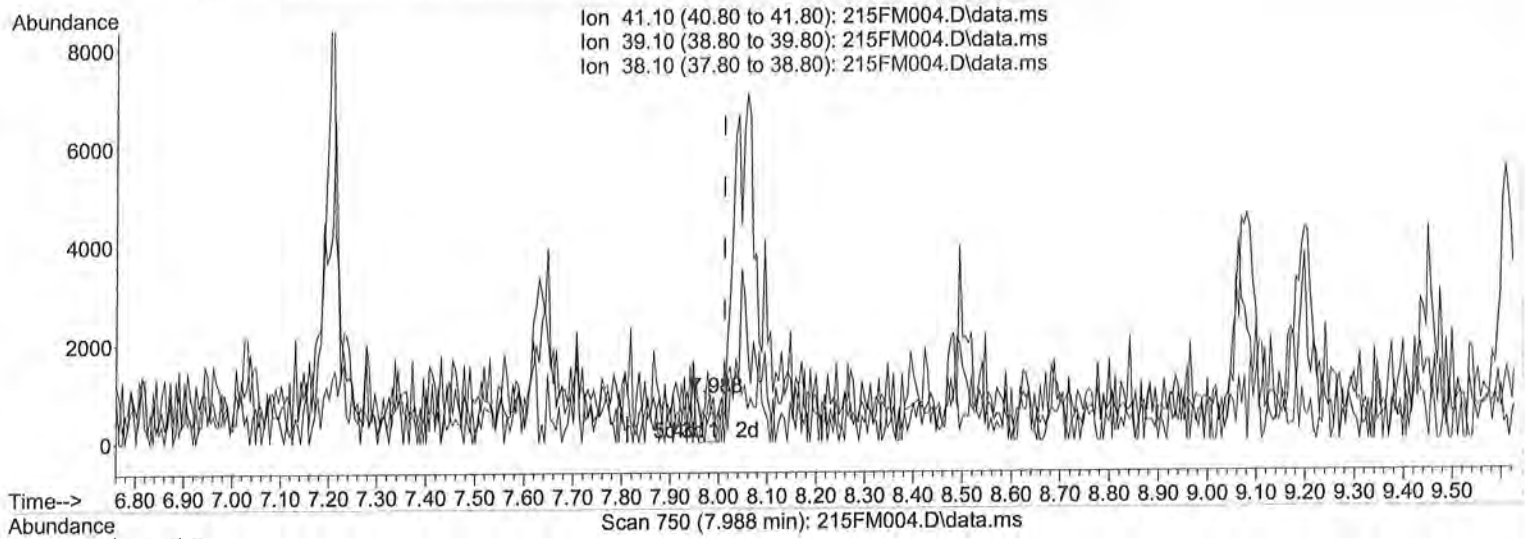
Review by/Date W 06/21/21

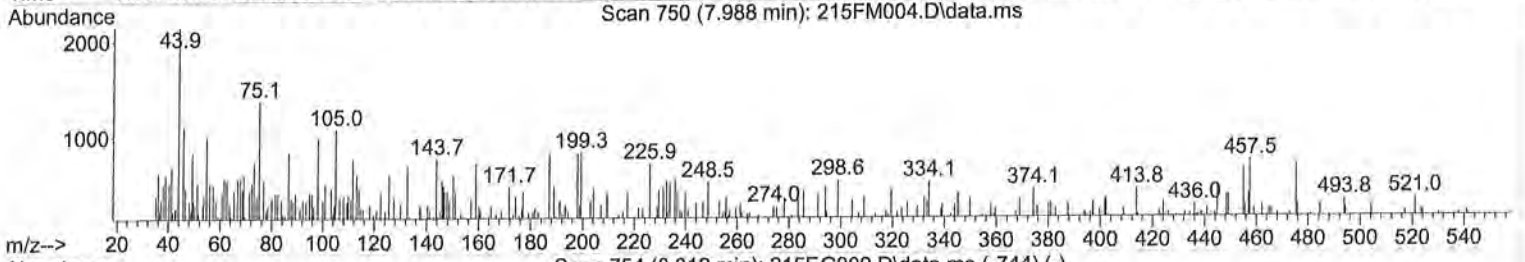
Review by/Date:

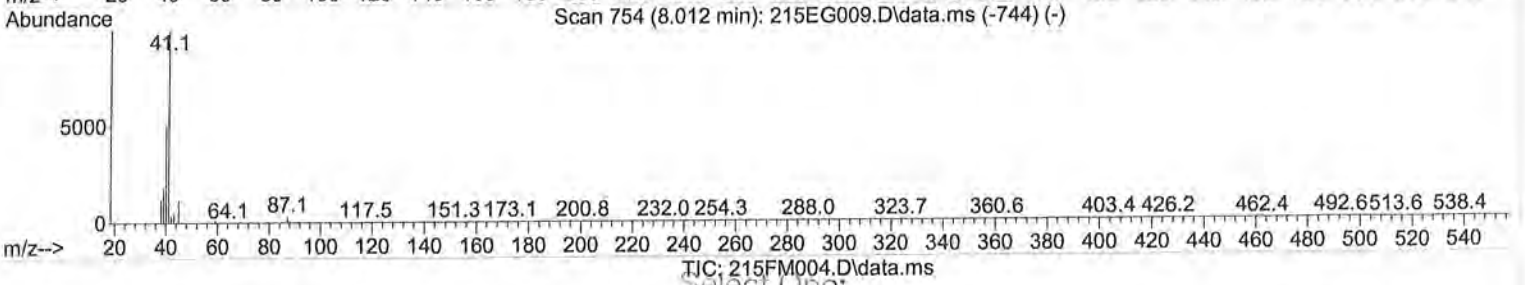
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM004.D
Acq On : 18 Jun 2021 8:05 am
Operator : kkw
Sample : aa66932-cal1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 18 08:40:28 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration







TIC: 215FM004.D\data.ms

(20) Acetonitrile

7.988min (-0.024) 0.44 ug/L

response 1281

Ion	Exp%	Act%
41.10	100.00	100.00
39.10	24.40	147.85#
38.10	10.00	60.42#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

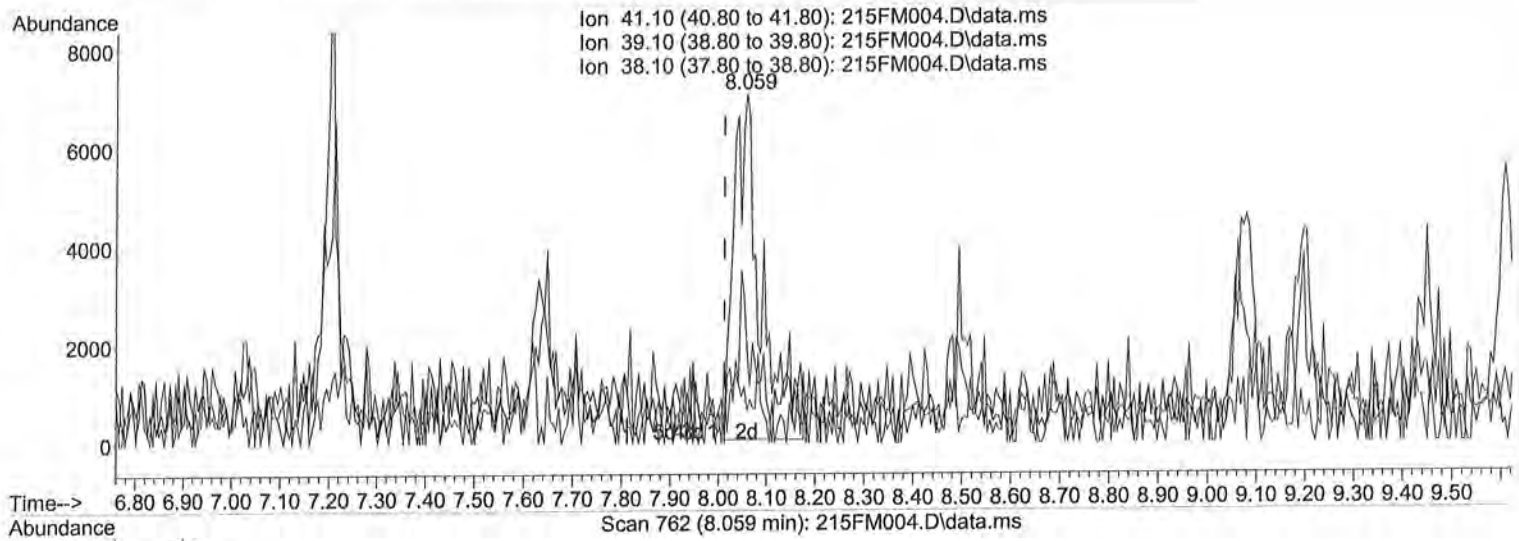
Review by/Date KKW 06/18/21 KKW 06/18/21

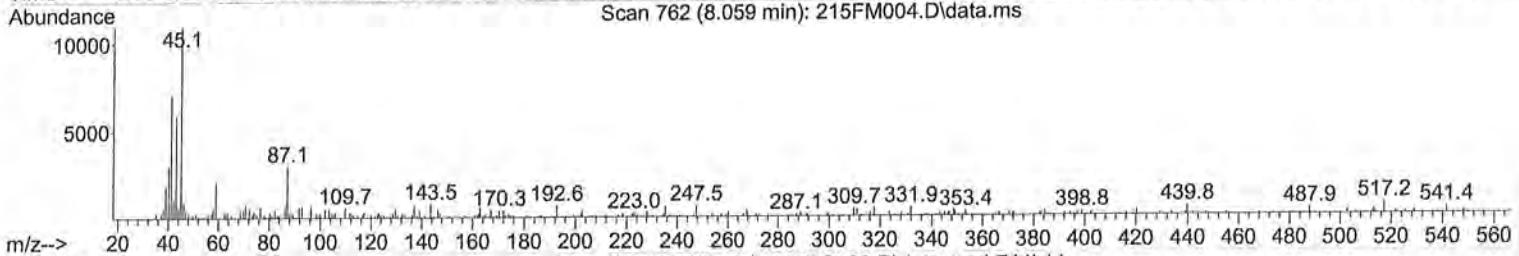
Review by/Date:

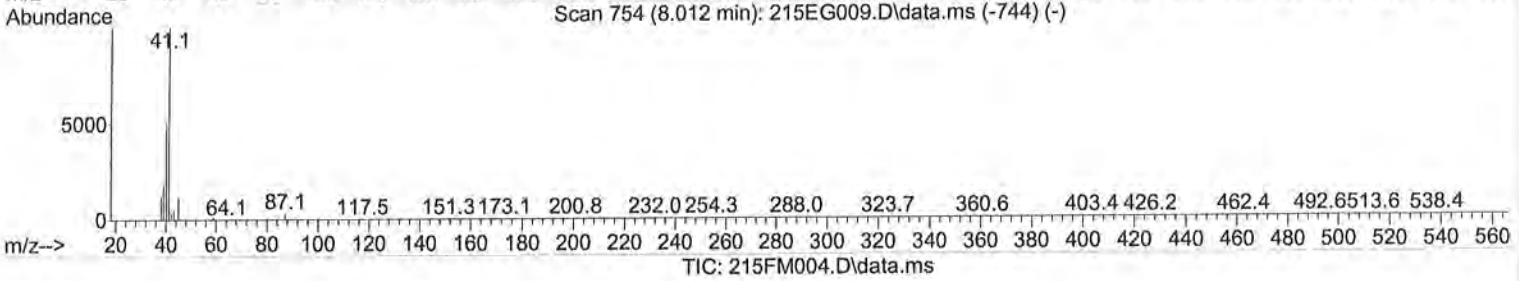
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM004.D
Acq On : 18 Jun 2021 8:05 am
Operator : kkw
Sample : aa66932-cal1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 18 08:40:28 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration







TIC: 215FM004.D\data.ms

(20) Acetonitrile

8.059min (+ 0.047) 9.55 ug/L m

response 27963

Ion	Exp%	Act%
41.10	100.00	100.00
39.10	24.40	6.77#
38.10	10.00	2.77#
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Uncorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

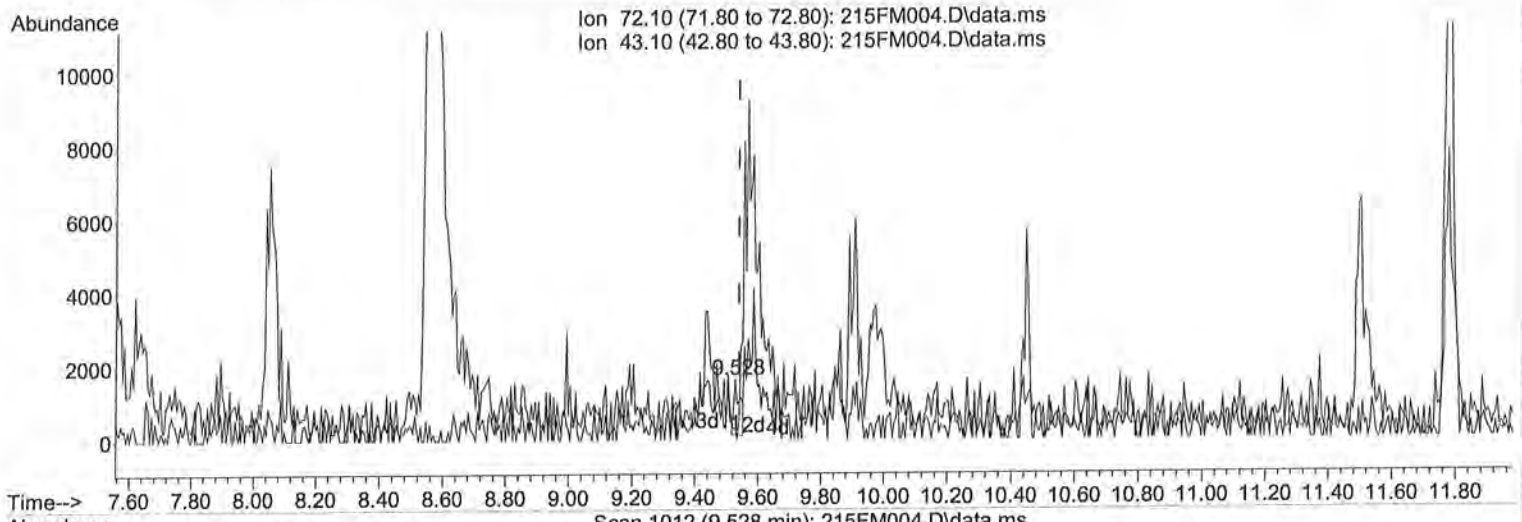
Review by/Date KJ 06/21/21

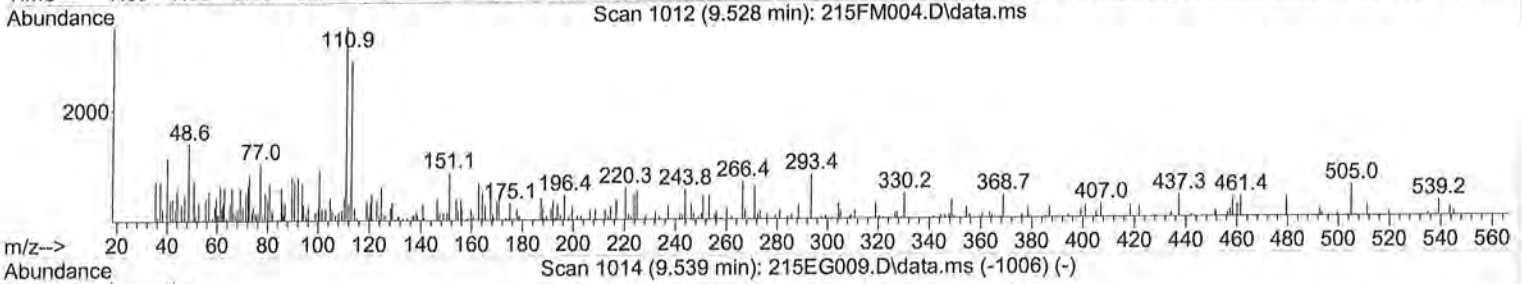
Review by/Date:

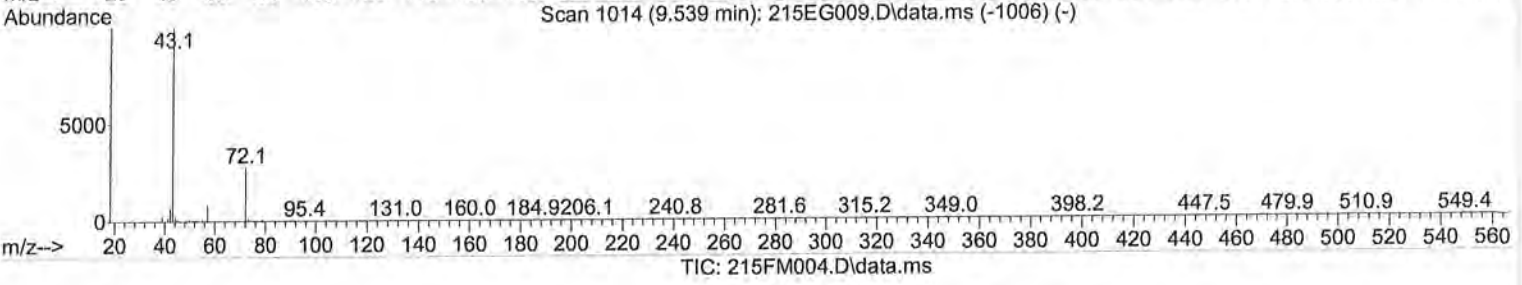
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM004.D
Acq On : 18 Jun 2021 8:05 am
Operator : kkw
Sample : aa66932-cal1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 18 08:40:28 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration







TIC: 215FM004.D\data.ms

(33) 2-Butanone

9.528min (-0.012) 0.95 ug/L

response 2013

Ion	Exp%	Act%
72.10	100.00	100.00
43.10	347.70	63.09#
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

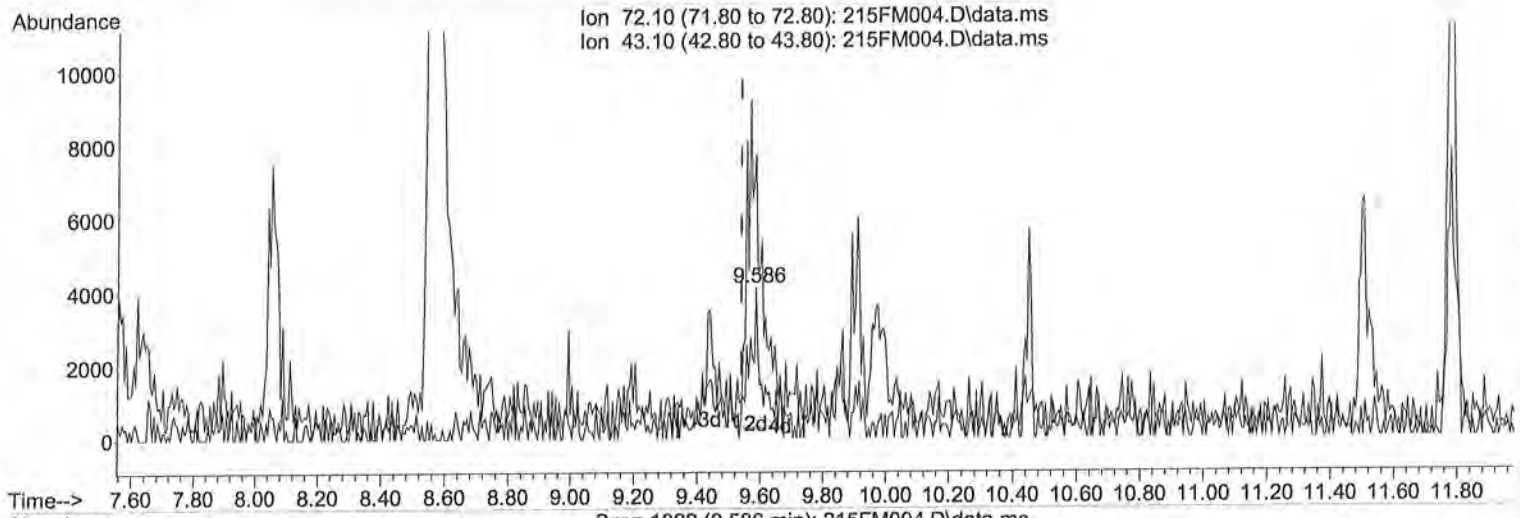
Review by/Date W 6/21/21

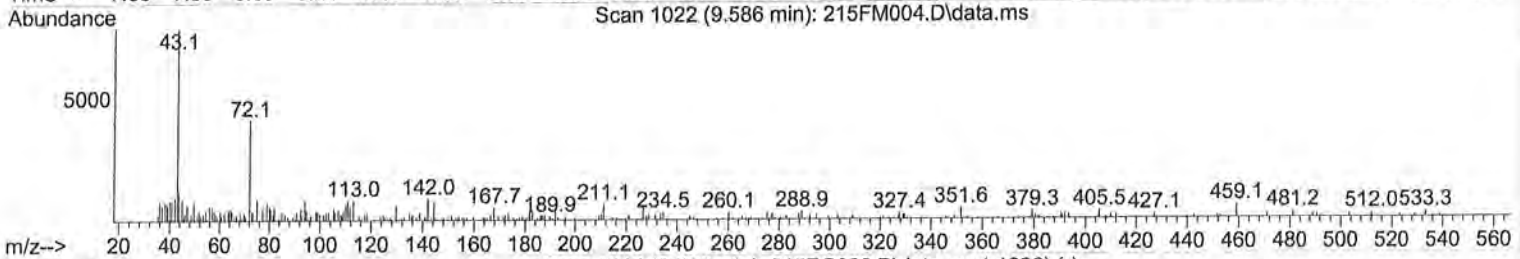
Review by/Date:

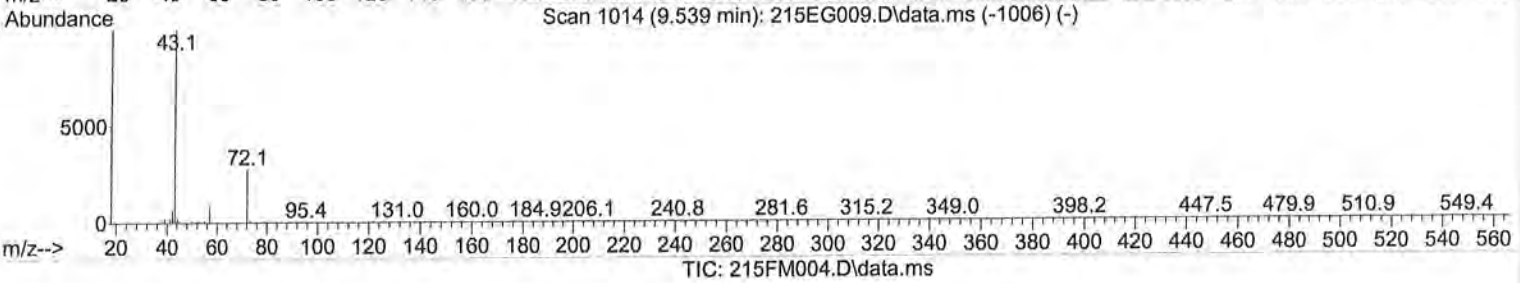
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM004.D
Acq On : 18 Jun 2021 8:05 am
Operator : kkw
Sample : aa66932-cal1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 18 08:40:28 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration







TIC: 215FM004.D\data.ms

(33) 2-Butanone

9.586min (+ 0.047) 4.88 ug/L m

response 10350

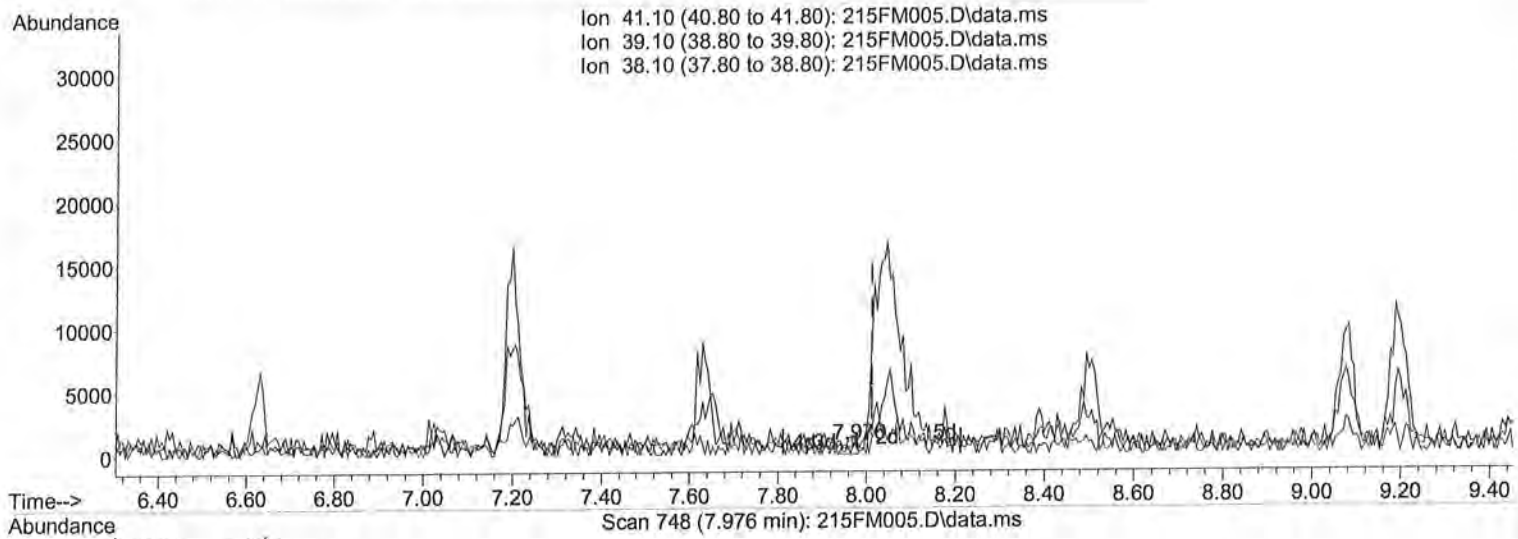
Ion	Exp%	Act%
72.10	100.00	100.00
43.10	347.70	12.27#
0.00	0.00	0.00
0.00	0.00	0.00

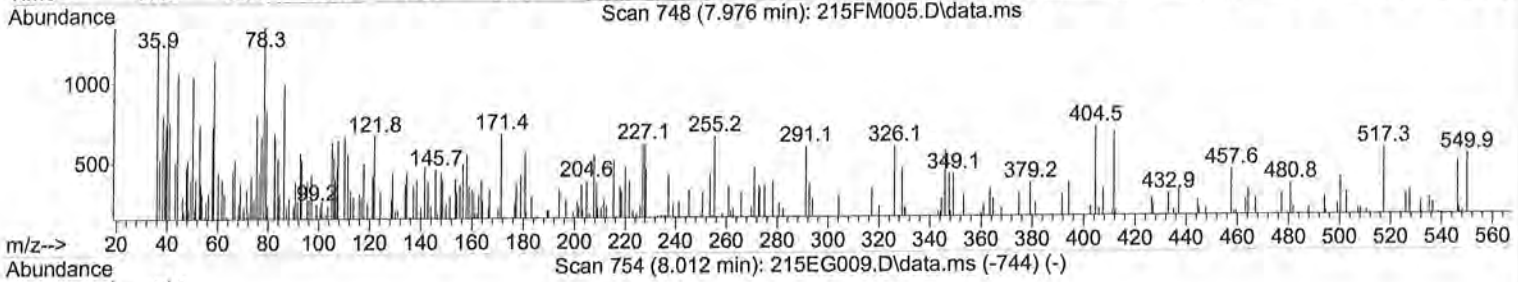
Select One:
[ ] Original Integration [X] Manual Integration
Select reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[X] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date: W 6/18/21
Review by/Date:

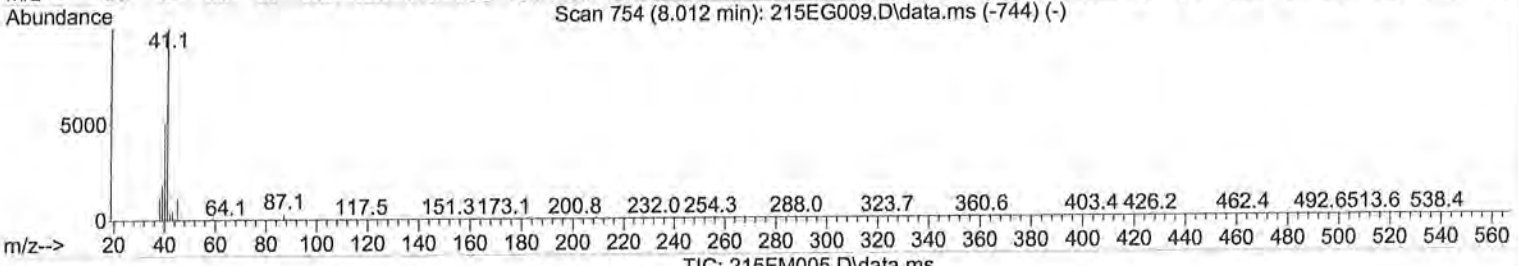
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM005.D
Acq On : 18 Jun 2021 8:32 am
Operator : kkw
Sample : aa66932-cal2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 18 09:50:22 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration







TIC: 215FM005.D\data.ms

(20) Acetonitrile

7.976min (-0.036) 0.51 ug/L

response 1524

Ion	Exp%	Act%
41.10	100.00	100.00
39.10	24.40	142.52#
38.10	10.00	44.29#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

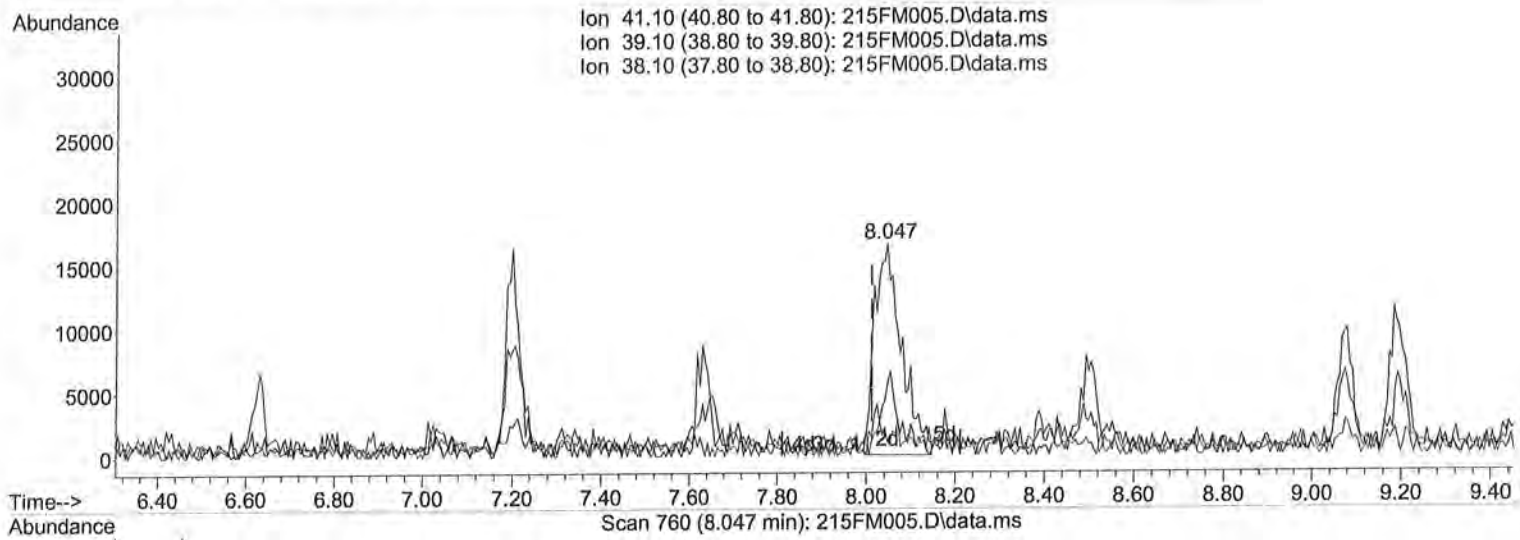
Review by/Date Woshi

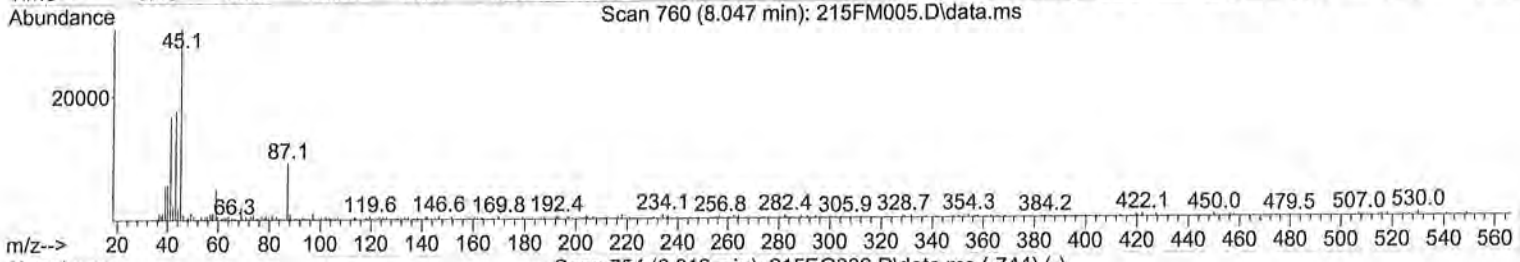
Review by/Date:

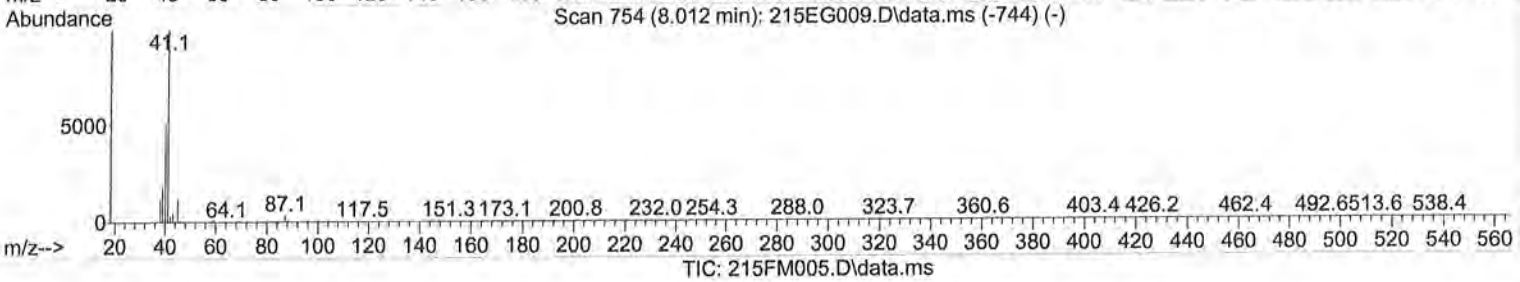
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM005.D
Acq On : 18 Jun 2021 8:32 am
Operator : kkw
Sample : aa66932-cal2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 18 09:50:22 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration







TIC: 215FM005.D\data.ms

(20) Acetonitrile

8.047min (+ 0.035) 23.44 ug/L m

response 69992

Ion	Exp%	Act%
41.10	100.00	100.00
39.10	24.40	3.10#
38.10	10.00	0.96#
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

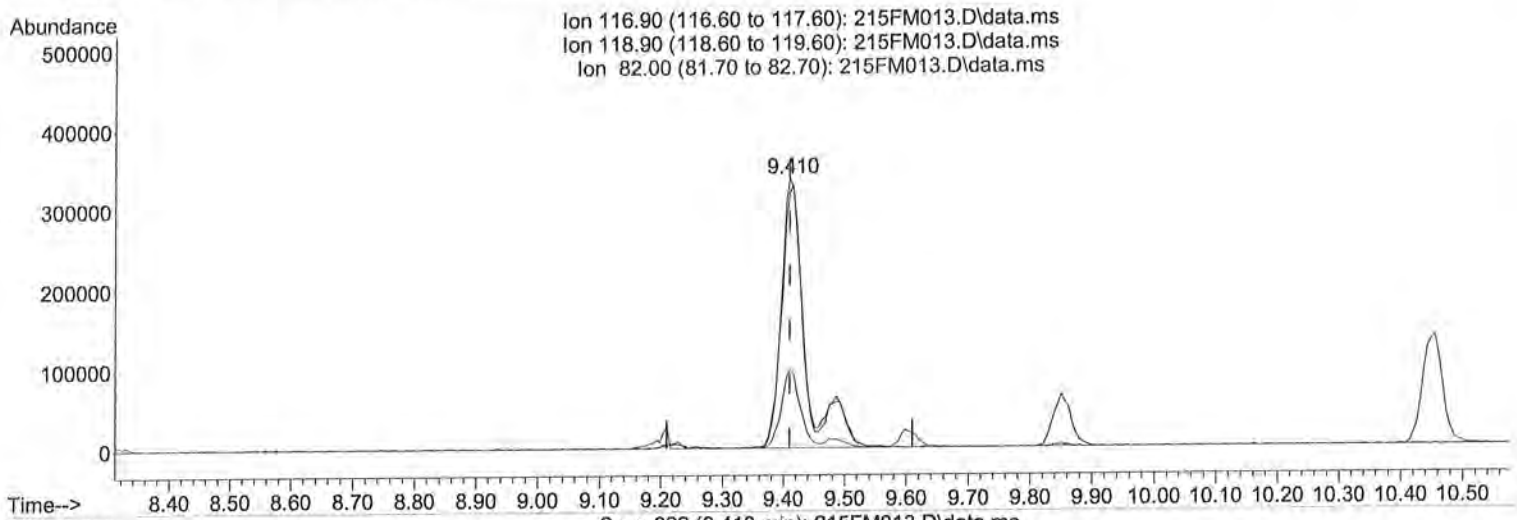
Review by/Date KK 06/21/21

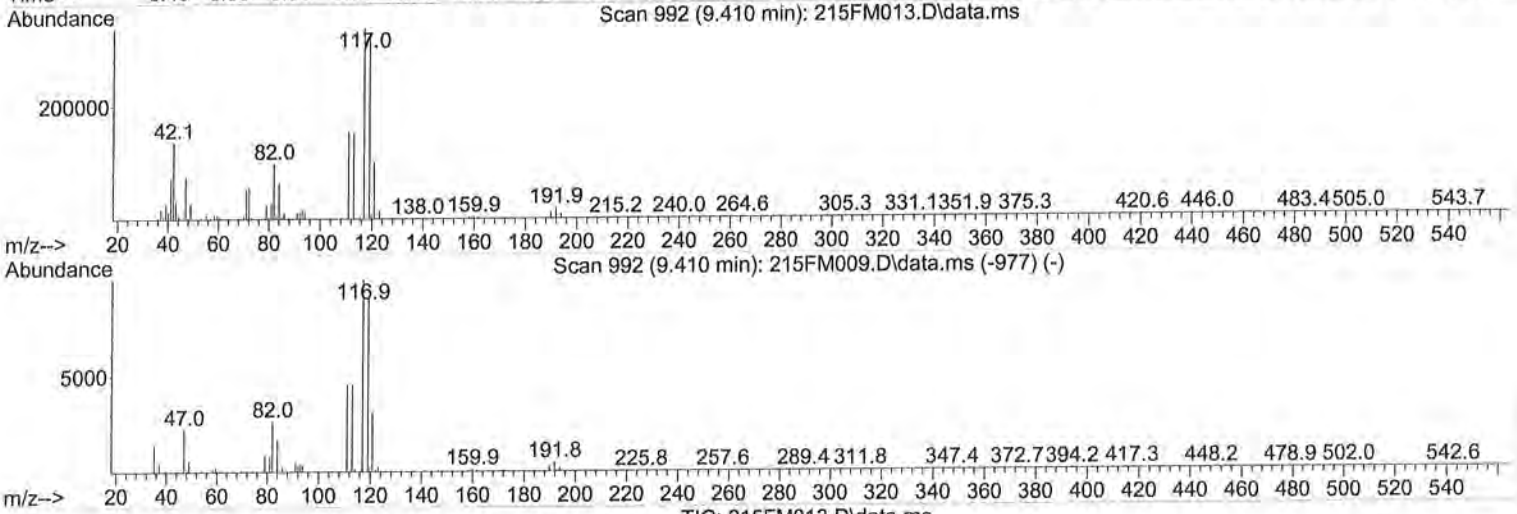
Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM013.D
Acq On : 18 Jun 2021 12:15 pm
Operator : kkw
Sample : aa66932-scv1
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jun 21 07:55:38 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Mon Jun 21 07:54:29 2021
Response via : Initial Calibration





TIC: 215FM013.D\data.ms

(40) Carbon Tetrachloride

9.410min (+ 0.000) 65.73 ug/L

response 939082

Ion	Exp%	Act%
116.90	100.00	100.00
118.90	111.60	94.19
82.00	32.10	26.21
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

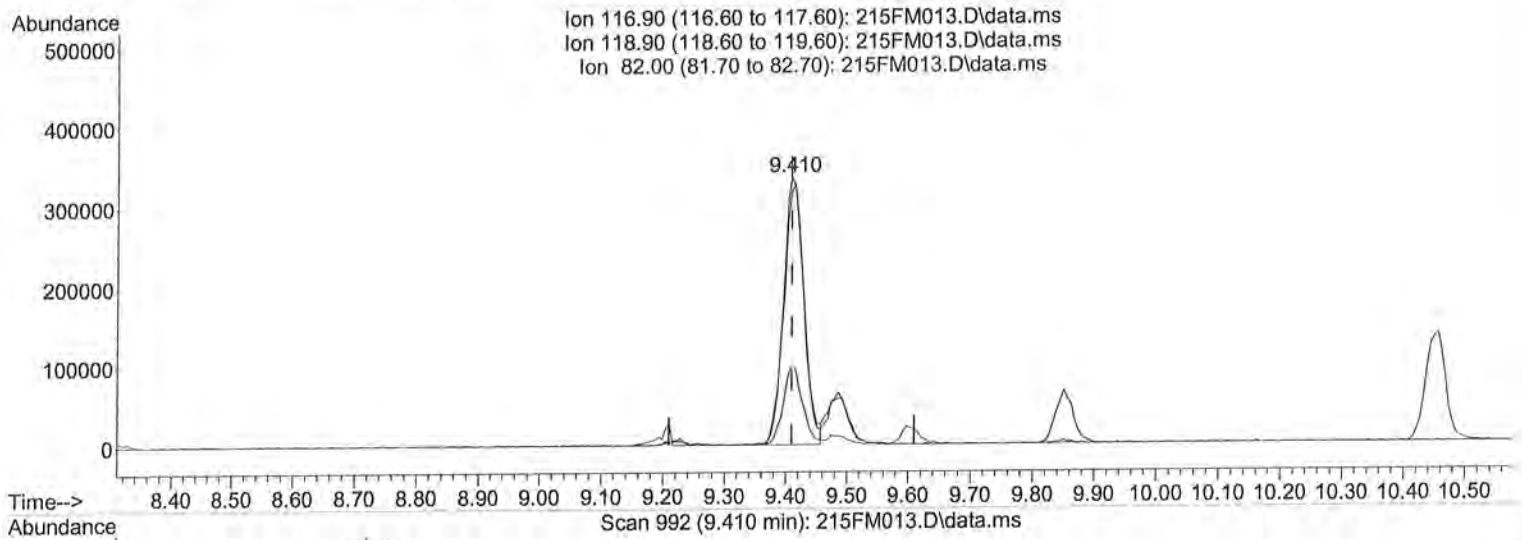
Review by/Date W 06/21/21

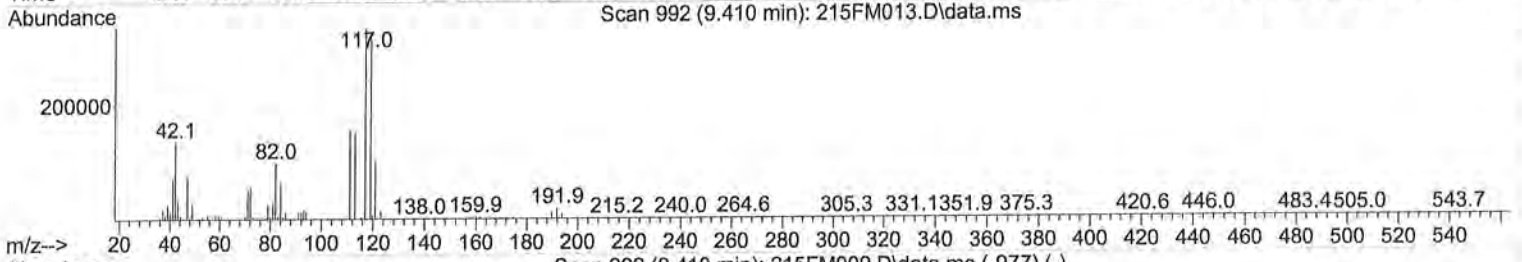
Review by/Date:

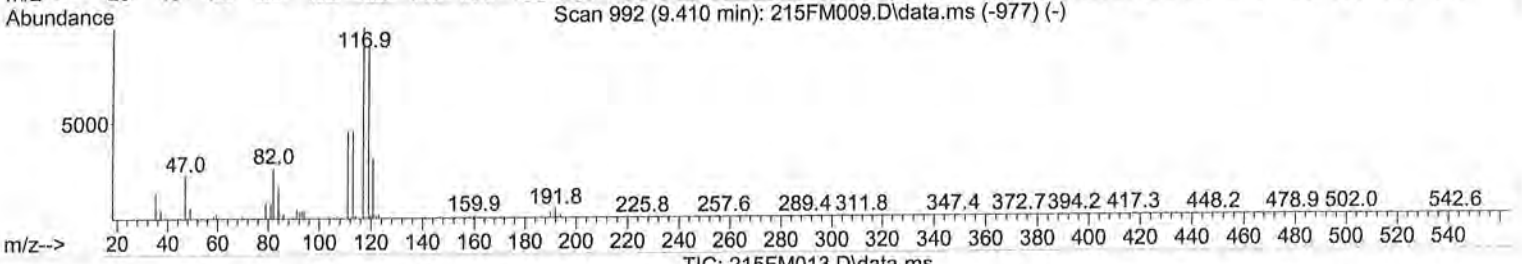
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM013.D
Acq On : 18 Jun 2021 12:15 pm
Operator : kkw
Sample : aa66932-scv1
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jun 21 07:55:38 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Mon Jun 21 07:54:29 2021
Response via : Initial Calibration







TIC: 215FM013.D\data.ms

(40) Carbon Tetrachloride

9.410min (+ 0.000) 54.98 ug/L m

response 785492

Ion	Exp%	Act%
116.90	100.00	100.00
118.90	111.60	112.60
82.00	32.10	31.33
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date WJ 6/24/21

Review by/Date:

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM004.D
Acq On : 18 Jun 2021 8:05 am
Operator : kkw
Sample : aa66932-cal1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 18 08:40:28 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1201889	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2686237	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1505146	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1176558	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	710792	56.11	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 112.22%				
52) D8-Toluene	11.784	98	3105646	47.11	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 94.22%				
73) Bromofluorobenzene	14.334	95	1312659	50.45	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 100.90%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.975	85	13088	0.91	ug/L	#	78
3) Chloromethane	4.422	50	25464	1.40	ug/L		98
4) Vinyl Chloride	4.586	62	18650	1.28	ug/L	#	37
5) Bromomethane	5.227	94	7774	2.03	ug/L	#	92
6) Chloroethane	5.468	64	12148	2.08	ug/L	#	87
7) Trichlorofluoromethane	5.720	101	18704	1.17	ug/L	#	32
8) Diethyl ether	6.190	59	9025	0.92	ug/L	#	75
9) 1,1-Dichloroethene	6.531	96	10469	1.09	ug/L	#	80
10) Trichlorotrifluoroethane	6.561	151	6269	0.96	ug/L	#	63
11) Acrolein	7.025	56	26803	8.51	ug/L		88
12) Iodomethane	6.784	142	25695	2.11	ug/L	#	87
13) Carbon Disulfide	6.631	76	134623	3.56	ug/L	#	90
14) 3-chloropropene	7.207	41	16650	0.95	ug/L	#	75
15) Acetone	7.418	43	15244m	3.79	ug/L		
16) Methylene Chloride	7.348	84	14197	1.12	ug/L		86
17) Methyl Acetate	7.418	43	20048	1.99	ug/L	#	71
18) t-1,2-Dichloroethene	7.571	96	11646	0.99	ug/L		97
19) Methyl tert-butyl ether	7.630	73	29535	1.00	ug/L	#	83
20) Acetonitrile	8.059	41	27963m	9.55	ug/L		
21) Isopropyl ether	8.053	45	34223	0.91	ug/L		92
22) Chloroprene	8.282	88	7485	0.68	ug/L	#	94
23) 1,1-Dichloroethane	8.323	63	24017	1.16	ug/L	#	86
24) Acrylonitrile	8.405	53	56665	8.93	ug/L	#	95
25) Vinyl Acetate	8.558	43	85554	3.24	ug/L		99
26) c-1,2-Dichloroethene	8.964	96	14211	1.08	ug/L	#	79
27) 2,2-Dichloropropane	9.081	77	17235	1.12	ug/L		94
28) Bromochloromethane	9.205	128	5671	1.34	ug/L		85
29) Cyclohexane	9.199	56	22375	1.00	ug/L		95
30) Chloroform	9.228	83	22798	1.08	ug/L		96
32) Dibromofluoromethane	9.428	113	711007	56.12	ug/L	#	90
33) 2-Butanone	9.586	72	10350m	4.88	ug/L		
34) 1,1,1-Trichloroethane	9.492	97	14723	0.94	ug/L	#	66
35) 1,1-Dichloropropene	9.610	75	20902	1.25	ug/L		91
36) Propionitrile	9.910	54	24811	9.55	ug/L	#	51
37) Methacrylonitrile	9.915	41	86360	8.48	ug/L		96
38) Isobutyl Alcohol	9.974	43	15505	12.64	ug/L	#	53
40) Carbon Tetrachloride	9.428	117	15785	1.27	ug/L	#	60
41) Benzene	9.886	78	54847	0.97	ug/L		98
42) 1,2-Dichloroethane	10.092	62	20033	1.22	ug/L	#	87
43) Trichloroethene	10.462	130	10723	0.83	ug/L	#	1
44) Methyl cyclohexane	10.450	83	55623	2.01	ug/L	#	70
45) Dibromomethane	10.908	93	10260	1.17	ug/L	#	81
46) 1,2-Dichloropropane	10.991	63	17821	1.10	ug/L	#	89
47) Bromodichloromethane	11.020	83	14957	0.93	ug/L	#	88
48) Methyl Methacrylate	11.114	69	8962	0.71	ug/L		85
49) 1,4-Dioxane	11.208	88	1959	11.48	ug/L	#	18
50) 2-Chloroethyl vinyl ether	11.502	63	24607	2.51	ug/L	#	90
51) C-1,3-Dichloropropene	11.614	75	20370	0.84	ug/L	#	89

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM004.D
Acq On : 18 Jun 2021 8:05 am
Operator : kkw
Sample : aa66932-cal1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 18 08:40:28 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

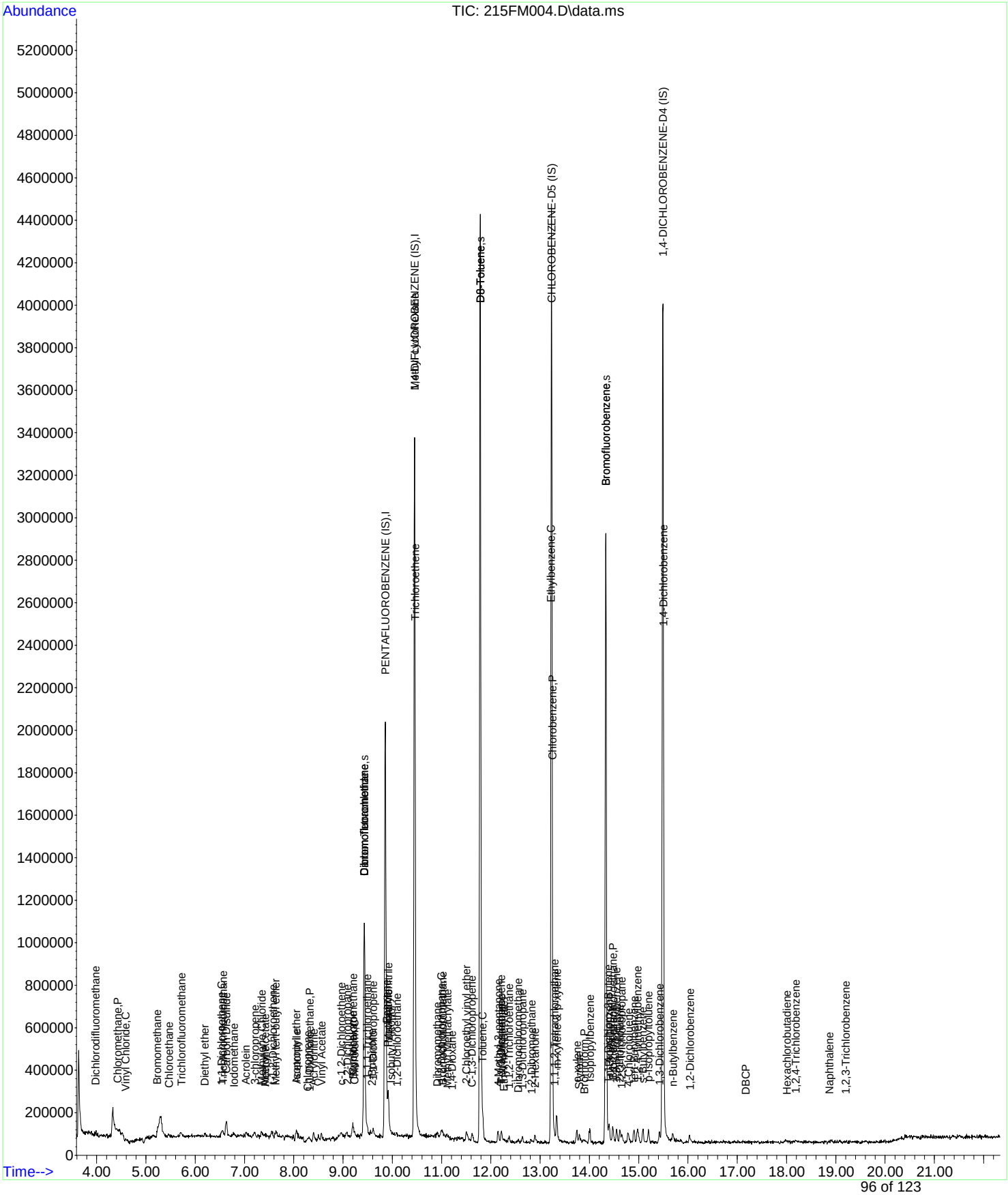
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.784	98	3098200	47.00	ug/L		96
54) 4-Methyl-2-pentanone	12.154	100	10407	3.66	ug/L	#	65
56) Toluene	11.831	92	36578	1.07	ug/L		86
57) T-1,3-Dichloropropene	12.207	75	15418	0.86	ug/L		95
58) Tetrachloroethene	12.213	164	7897	0.84	ug/L	#	81
59) Ethyl methacrylate	12.266	69	9442	0.45	ug/L	#	94
60) 1,1,2-Trichloroethane	12.371	97	11468	0.93	ug/L	#	72
61) Dibromochloromethane	12.554	129	5884	0.59	ug/L	#	77
62) 1,3-Dichloropropane	12.642	76	19550	0.85	ug/L	#	92
63) 1,2-Dibromoethane	12.824	107	11656	0.92	ug/L	#	72
64) 2-Hexanone	12.894	43	28902	2.63	ug/L	#	88
65) Ethylbenzene	13.218	106	17809	0.86	ug/L	#	83
66) Chlorobenzene	13.247	112	34362	0.94	ug/L	#	85
67) 1,1,1,2-Tetrachloroethane	13.294	131	8869	0.83	ug/L	#	87
68) m-xylene & p-xylene	13.341	106	48950	1.91	ug/L		85
69) o-xylene	13.746	106	21167	0.81	ug/L		94
70) Styrene	13.787	104	23556	0.56	ug/L	#	83
71) Bromoform	13.893	173	3911	0.72	ug/L	#	73
72) Isopropylbenzene	14.011	105	51309	0.78	ug/L	#	95
74) Bromofluorobenzene	14.334	95	1313882	50.49	ug/L	#	76
75) n-Propylbenzene	14.399	91	68531	0.82	ug/L		94
76) 1,1,2,2-Tetrachloroethane	14.475	83	17220	0.81	ug/L	#	89
77) 1,2,3-Trichloropropane	14.651	61	4423	0.82	ug/L	#	80
78) T-1,4-Dichloro-2-Butene	14.381	53	5458m	0.78	ug/L		
80) Bromobenzene	14.475	156	9545	0.80	ug/L	#	59
81) 1,2,4-Trimethylbenzene	14.974	105	41636	0.84	ug/L	#	91
82) 2-Chlorotoluene	14.616	91	40735	0.92	ug/L		94
83) 4-Chlorotoluene	14.792	91	40333	0.91	ug/L		98
84) tert-Butylbenzene	14.904	119	35468	0.85	ug/L		99
85) 1,3,5-Trimethylbenzene	14.545	105	41886	0.84	ug/L	#	95
86) p-Isopropyltoluene	15.198	119	37494	0.66	ug/L	#	92
87) s-Butylbenzene	15.080	105	54823	0.92	ug/L		95
88) 1,3-Dichlorobenzene	15.421	146	22323	0.89	ug/L		99
89) 1,4-Dichlorobenzene	15.503	146	26167	1.01	ug/L	#	1
90) n-Butylbenzene	15.691	91	39375	0.71	ug/L	#	85
91) 1,2-Dichlorobenzene	16.038	146	19638	0.85	ug/L		98
92) DBCP	17.172	157	890	0.33	ug/L		90
93) Hexachlorobutadiene	18.006	225	663	0.20	ug/L	#	1
94) 1,2,4-Trichlorobenzene	18.188	180	1643	0.25	ug/L	#	33
95) Naphthalene	18.870	128	7080	0.40	ug/L	#	92
96) 1,2,3-Trichlorobenzene	19.199	180	1743	0.57	ug/L	#	42

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM004.D
Acq On : 18 Jun 2021 8:05 am
Operator : kkw
Sample : aa66932-cal1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 18 08:40:28 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM005.D
Acq On : 18 Jun 2021 8:32 am
Operator : kkw
Sample : aa66932-cal2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 18 09:50:22 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1226065	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2753498	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1619681	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1248669	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	790017	61.13	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 122.26%				
52) D8-Toluene	11.784	98	3652972	54.06	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 108.12%				
73) Bromofluorobenzene	14.328	95	1504237	53.72	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 107.44%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	20711	1.41	ug/L	#	93
3) Chloromethane	4.410	50	32896	1.77	ug/L		97
4) Vinyl Chloride	4.586	62	26313	1.78	ug/L	#	1
5) Bromomethane	5.227	94	15964	4.06	ug/L	#	92
6) Chloroethane	5.462	64	16696	2.80	ug/L		96
7) Trichlorofluoromethane	5.708	101	30382	1.86	ug/L	#	95
8) Diethyl ether	6.178	59	28917	2.88	ug/L		96
9) 1,1-Dichloroethene	6.537	96	27880	2.84	ug/L		98
10) Trichlorotrifluoroethane	6.572	151	17841	2.67	ug/L		94
11) Acrolein	7.030	56	63840	19.88	ug/L		93
12) Iodomethane	6.778	142	59716	4.80	ug/L	#	96
13) Carbon Disulfide	6.631	76	332343	8.62	ug/L		99
14) 3-chloropropene	7.201	41	37310	2.08	ug/L		92
15) Acetone	7.406	43	44906	10.96	ug/L		90
16) Methylene Chloride	7.342	84	35382	2.74	ug/L		98
17) Methyl Acetate	7.547	43	25546	2.48	ug/L	#	81
18) t-1,2-Dichloroethene	7.553	96	31090	2.58	ug/L		98
19) Methyl tert-butyl ether	7.636	73	71986	2.38	ug/L		96
20) Acetonitrile	8.047	41	69992m	23.44	ug/L		
21) Isopropyl ether	8.053	45	88770	2.32	ug/L		96
22) Chloroprene	8.276	88	20632	1.83	ug/L		97
23) 1,1-Dichloroethane	8.317	63	58711	2.78	ug/L		93
24) Acrylonitrile	8.394	53	128785	19.89	ug/L	#	97
25) Vinyl Acetate	8.558	43	269446	10.00	ug/L		96
26) c-1,2-Dichloroethene	8.946	96	33482	2.51	ug/L		93
27) 2,2-Dichloropropane	9.075	77	40179	2.55	ug/L	#	95
28) Bromochloromethane	9.181	128	14081	3.27	ug/L		86
29) Cyclohexane	9.193	56	56806	2.48	ug/L		99
30) Chloroform	9.222	83	59826	2.79	ug/L		91
32) Dibromofluoromethane	9.428	113	790017	61.13	ug/L	#	89
33) 2-Butanone	9.557	72	22636	10.45	ug/L		93
34) 1,1,1-Trichloroethane	9.486	97	41521	2.59	ug/L		96
35) 1,1-Dichloropropene	9.604	75	44111	2.58	ug/L	#	84
36) Propionitrile	9.909	54	59592	22.49	ug/L	#	81
37) Methacrylonitrile	9.915	41	238410	22.96	ug/L		96
38) Isobutyl Alcohol	9.909	43	42490	33.96	ug/L	#	54
40) Carbon Tetrachloride	9.416	117	30040	2.35	ug/L	#	84
41) Benzene	9.886	78	147112	2.54	ug/L		97
42) 1,2-Dichloroethane	10.092	62	41413	2.47	ug/L		98
43) Trichloroethene	10.456	130	29464	2.23	ug/L	#	1
44) Methyl cyclohexane	10.456	83	98691	3.48	ug/L	#	75
45) Dibromomethane	10.902	93	18756	2.09	ug/L		94
46) 1,2-Dichloropropane	10.991	63	37937	2.28	ug/L		92
47) Bromodichloromethane	11.014	83	34787	2.11	ug/L	#	89
48) Methyl Methacrylate	11.090	69	19813	1.53	ug/L		85
49) 1,4-Dioxane	11.231	88	7880	45.03	ug/L		92
50) 2-Chloroethyl vinyl ether	11.502	63	73114	7.27	ug/L	#	92
51) C-1,3-Dichloropropene	11.619	75	53521	2.14	ug/L	#	88

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM005.D
Acq On : 18 Jun 2021 8:32 am
Operator : kkw
Sample : aa66932-cal2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 18 09:50:22 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

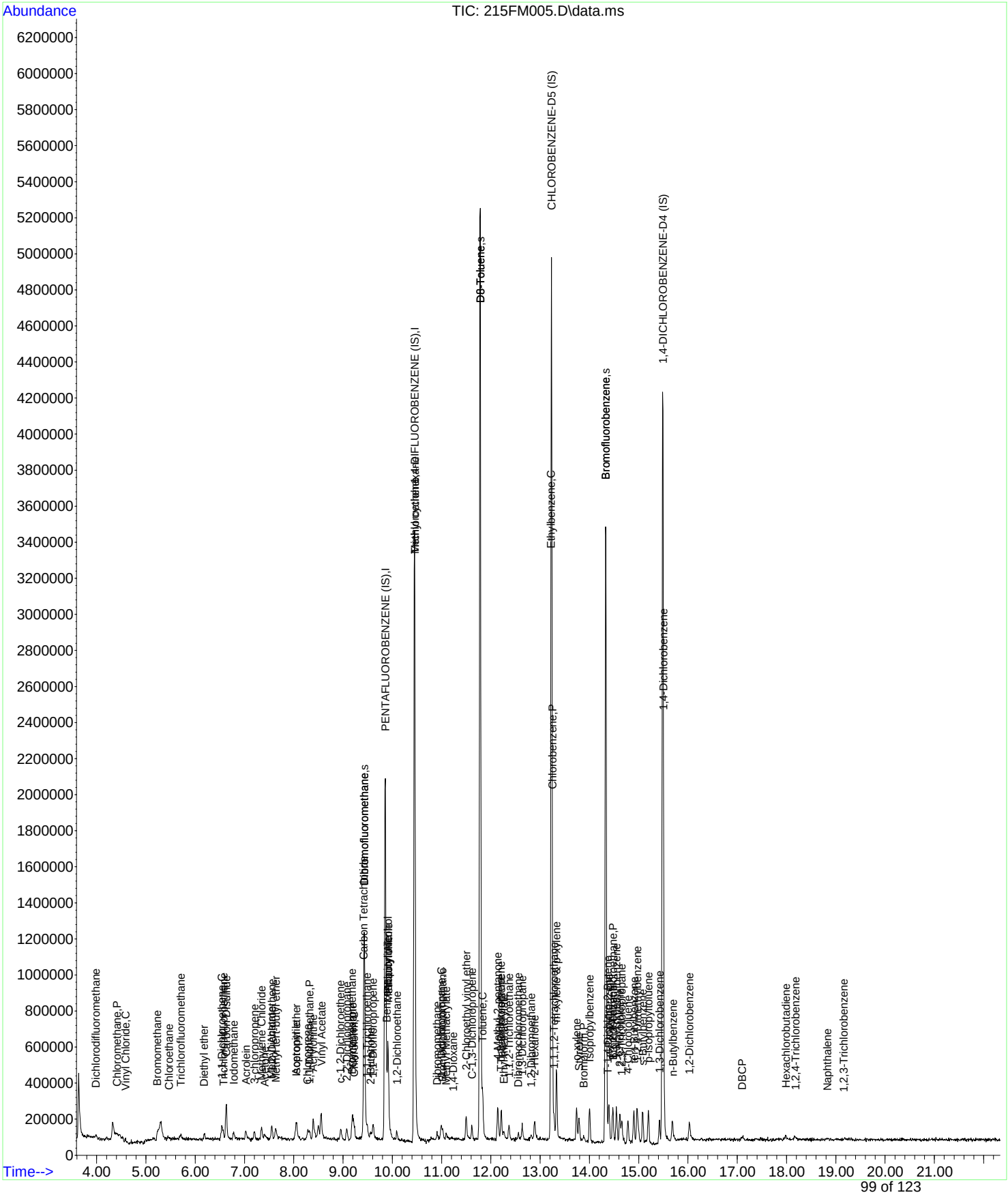
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.784	98	3650908	54.03	ug/L		95
54) 4-Methyl-2-pentanone	12.136	100	23940	8.22	ug/L		96
56) Toluene	11.831	92	90002	2.45	ug/L		90
57) T-1,3-Dichloropropene	12.201	75	42905	2.22	ug/L	#	82
58) Tetrachloroethene	12.207	164	22734	2.26	ug/L		94
59) Ethyl methacrylate	12.266	69	36140	1.59	ug/L		98
60) 1,1,2-Trichloroethane	12.365	97	30725	2.32	ug/L		93
61) Dibromochloromethane	12.553	129	19817	1.84	ug/L	#	87
62) 1,3-Dichloropropane	12.636	76	52835	2.14	ug/L	#	95
63) 1,2-Dibromoethane	12.818	107	26901	1.97	ug/L	#	92
64) 2-Hexanone	12.883	43	96320	8.15	ug/L		91
65) Ethylbenzene	13.217	106	45167	2.04	ug/L	#	85
66) Chlorobenzene	13.247	112	84240	2.15	ug/L		93
67) 1,1,1,2-Tetrachloroethane	13.282	131	24035	2.10	ug/L	#	86
68) m-xylene & p-xylene	13.329	106	119219	4.33	ug/L		99
69) o-xylene	13.740	106	55218	1.96	ug/L		97
70) Styrene	13.787	104	77940	1.71	ug/L	#	91
71) Bromoform	13.881	173	9766	1.66	ug/L	#	72
72) Isopropylbenzene	13.999	105	145912	2.06	ug/L		98
74) Bromofluorobenzene	14.328	95	1504564	53.73	ug/L	#	80
75) n-Propylbenzene	14.393	91	195277	2.16	ug/L		97
76) 1,1,2,2-Tetrachloroethane	14.475	83	48517	2.11	ug/L	#	97
77) 1,2,3-Trichloropropane	14.651	61	10589	1.81	ug/L	#	59
78) T-1,4-Dichloro-2-Butene	14.369	53	12126	1.61	ug/L	#	27
80) Bromobenzene	14.475	156	28658	2.26	ug/L	#	82
81) 1,2,4-Trimethylbenzene	14.968	105	117439	2.24	ug/L		96
82) 2-Chlorotoluene	14.616	91	118998	2.54	ug/L		93
83) 4-Chlorotoluene	14.780	91	104463	2.23	ug/L		96
84) tert-Butylbenzene	14.904	119	101030	2.27	ug/L		96
85) 1,3,5-Trimethylbenzene	14.545	105	121842	2.31	ug/L		96
86) p-Isopropyltoluene	15.197	119	113438	1.89	ug/L	#	91
87) s-Butylbenzene	15.080	105	145770	2.30	ug/L		99
88) 1,3-Dichlorobenzene	15.421	146	59042	2.22	ug/L		98
89) 1,4-Dichlorobenzene	15.503	146	58421	2.13	ug/L	#	1
90) n-Butylbenzene	15.691	91	113515	1.93	ug/L		97
91) 1,2-Dichlorobenzene	16.026	146	55503	2.26	ug/L	#	90
92) DBCP	17.095	157	6168	2.13	ug/L		96
93) Hexachlorobutadiene	17.988	225	6852	1.98	ug/L	#	68
94) 1,2,4-Trichlorobenzene	18.182	180	7411	1.06	ug/L	#	55
95) Naphthalene	18.829	128	18402	0.99	ug/L	#	84
96) 1,2,3-Trichlorobenzene	19.158	180	1698	0.53	ug/L	#	1

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM005.D
Acq On : 18 Jun 2021 8:32 am
Operator : kkw
Sample : aa66932-cal2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 18 09:50:22 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM006.D
Acq On : 18 Jun 2021 9:00 am
Operator : kkw
Sample : aa66932-cal3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 18 09:51:46 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1047198	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2419754	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1545028	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.486	152	1320874	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	760296	68.88	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 137.76%#				
52) D8-Toluene	11.778	98	3556545	59.90	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 119.80%				
73) Bromofluorobenzene	14.328	95	1596271	59.76	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 119.52%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	61935	4.93	ug/L	#	93
3) Chloromethane	4.410	50	90523	5.67	ug/L		94
4) Vinyl Chloride	4.586	62	72492	5.73	ug/L	#	66
5) Bromomethane	5.233	94	34362	10.02	ug/L		99
6) Chloroethane	5.456	64	50548	9.92	ug/L		96
7) Trichlorofluoromethane	5.703	101	86500	6.21	ug/L	#	98
8) Diethyl ether	6.179	59	65817	7.68	ug/L		92
9) 1,1-Dichloroethene	6.537	96	61285	7.30	ug/L		86
10) Trichlorotrifluoroethane	6.555	151	39487	6.92	ug/L		92
11) Acrolein	7.025	56	163918	59.76	ug/L		99
12) Iodomethane	6.784	142	175341	16.50	ug/L		98
13) Carbon Disulfide	6.625	76	895869	27.31	ug/L		98
14) 3-chloropropene	7.195	41	101509	6.63	ug/L		94
15) Acetone	7.407	43	117259	33.50	ug/L		98
16) Methylene Chloride	7.342	84	79027	7.17	ug/L		90
17) Methyl Acetate	7.530	43	64450	7.26	ug/L	#	95
18) t-1,2-Dichloroethene	7.548	96	78290	7.62	ug/L		96
19) Methyl tert-butyl ether	7.630	73	177918	6.90	ug/L	#	91
20) Acetonitrile	8.024	41	163006	63.90	ug/L		98
21) Isopropyl ether	8.053	45	228181	7.00	ug/L		96
22) Chloroprene	8.282	88	57674	5.98	ug/L		94
23) 1,1-Dichloroethane	8.317	63	130702	7.25	ug/L		95
24) Acrylonitrile	8.388	53	290245	52.47	ug/L		100
25) Vinyl Acetate	8.547	43	642675	27.94	ug/L		100
26) c-1,2-Dichloroethene	8.952	96	66039	5.78	ug/L		92
27) 2,2-Dichloropropane	9.075	77	81316	6.05	ug/L	#	91
28) Bromochloromethane	9.187	128	27460	7.46	ug/L		94
29) Cyclohexane	9.199	56	118236	6.05	ug/L		95
30) Chloroform	9.222	83	124399	6.78	ug/L		94
32) Dibromofluoromethane	9.428	113	760296	68.88	ug/L	#	90
33) 2-Butanone	9.551	72	53367	28.85	ug/L		92
34) 1,1,1-Trichloroethane	9.492	97	86858	6.35	ug/L		94
35) 1,1-Dichloropropene	9.610	75	96357	6.59	ug/L		99
36) Propionitrile	9.904	54	134736	59.53	ug/L		90
37) Methacrylonitrile	9.910	41	520530	58.69	ug/L		100
38) Isobutyl Alcohol	9.963	43	48521	45.40	ug/L	#	54
40) Carbon Tetrachloride	9.416	117	59358	5.25	ug/L	#	84
41) Benzene	9.880	78	309830	6.10	ug/L		96
42) 1,2-Dichloroethane	10.092	62	85706	5.82	ug/L		95
43) Trichloroethene	10.450	130	59471	5.13	ug/L	#	9
44) Methyl cyclohexane	10.444	83	151866	6.09	ug/L		90
45) Dibromomethane	10.903	93	37804	4.78	ug/L		88
46) 1,2-Dichloropropane	10.991	63	80955	5.54	ug/L		99
47) Bromodichloromethane	11.026	83	79355	5.44	ug/L		95
48) Methyl Methacrylate	11.085	69	50080	4.40	ug/L		92
49) 1,4-Dioxane	11.191	88	12290	79.92	ug/L	#	53
50) 2-Chloroethyl vinyl ether	11.490	63	204286	23.11	ug/L	#	97
51) C-1,3-Dichloropropene	11.608	75	117673	5.30	ug/L		92

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM006.D
Acq On : 18 Jun 2021 9:00 am
Operator : kkw
Sample : aa66932-cal3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 18 09:51:46 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

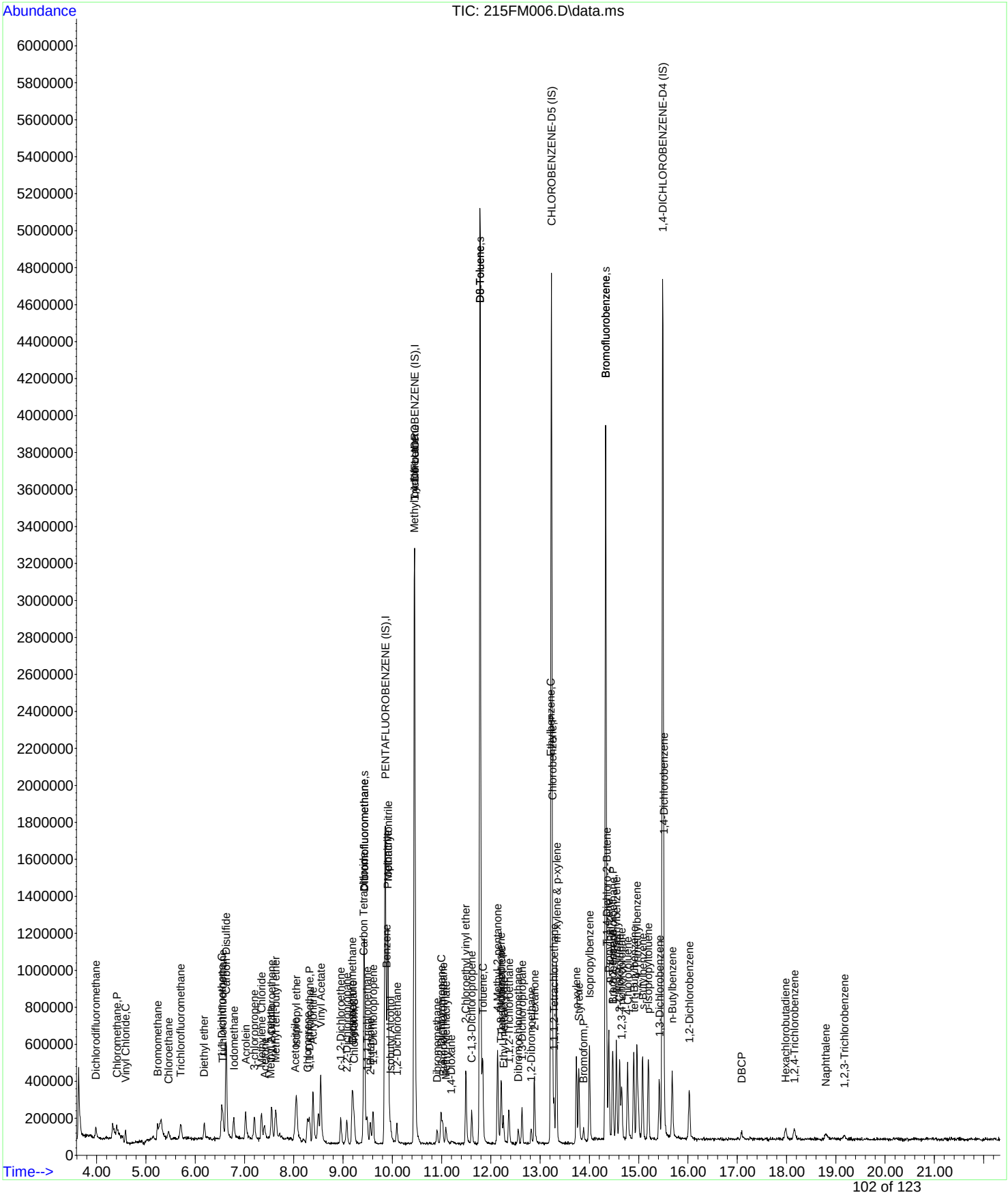
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	3550703	59.80	ug/L		95
54) 4-Methyl-2-pentanone	12.131	100	55703	21.72	ug/L		91
56) Toluene	11.837	92	190861	5.44	ug/L		99
57) T-1,3-Dichloropropene	12.201	75	99725	5.40	ug/L		95
58) Tetrachloroethene	12.213	164	47385	4.94	ug/L		92
59) Ethyl methacrylate	12.254	69	84587	3.91	ug/L		96
60) 1,1,2-Trichloroethane	12.366	97	66041	5.22	ug/L		91
61) Dibromochloromethane	12.554	129	46275	4.48	ug/L	#	96
62) 1,3-Dichloropropane	12.630	76	118485	5.02	ug/L		95
63) 1,2-Dibromoethane	12.818	107	63951	4.90	ug/L	#	97
64) 2-Hexanone	12.883	43	254110	22.53	ug/L		100
65) Ethylbenzene	13.212	106	107966	5.10	ug/L	#	92
66) Chlorobenzene	13.247	112	188940	5.06	ug/L		93
67) 1,1,1,2-Tetrachloroethane	13.282	131	51398	4.68	ug/L		92
68) m-xylene & p-xylene	13.335	106	289132	11.00	ug/L		97
69) o-xylene	13.735	106	143437	5.34	ug/L		99
70) Styrene	13.782	104	226490	5.21	ug/L		97
71) Bromoform	13.876	173	21689	3.82	ug/L	#	67
72) Isopropylbenzene	13.999	105	373186	5.52	ug/L		97
74) Bromofluorobenzene	14.328	95	1596271	59.76	ug/L	#	82
75) n-Propylbenzene	14.393	91	481924	5.60	ug/L		97
76) 1,1,2,2-Tetrachloroethane	14.475	83	121607	5.56	ug/L		98
77) 1,2,3-Trichloropropane	14.651	61	35191	6.26	ug/L	#	90
78) T-1,4-Dichloro-2-Butene	14.352	53	33578	4.68	ug/L	#	1
80) Bromobenzene	14.469	156	73468	5.47	ug/L		87
81) 1,2,4-Trimethylbenzene	14.963	105	315484	5.69	ug/L		99
82) 2-Chlorotoluene	14.610	91	277788	5.60	ug/L	#	97
83) 4-Chlorotoluene	14.775	91	285041	5.75	ug/L		99
84) tert-Butylbenzene	14.904	119	249895	5.31	ug/L		97
85) 1,3,5-Trimethylbenzene	14.545	105	309597	5.56	ug/L		99
86) p-Isopropyltoluene	15.192	119	301672	4.75	ug/L		99
87) s-Butylbenzene	15.080	105	362754	5.42	ug/L		99
88) 1,3-Dichlorobenzene	15.421	146	146081	5.19	ug/L		96
89) 1,4-Dichlorobenzene	15.509	146	162863	5.61	ug/L	#	1
90) n-Butylbenzene	15.679	91	279037	4.49	ug/L		99
91) 1,2-Dichlorobenzene	16.026	146	137432	5.28	ug/L		98
92) DBCP	17.090	157	12664	4.12	ug/L		98
93) Hexachlorobutadiene	17.977	225	12997	3.54	ug/L	#	72
94) 1,2,4-Trichlorobenzene	18.159	180	26850	3.62	ug/L	#	84
95) Naphthalene	18.794	128	57797	2.91	ug/L	#	79
96) 1,2,3-Trichlorobenzene	19.175	180	14302	4.17	ug/L	#	62

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM006.D
Acq On : 18 Jun 2021 9:00 am
Operator : kkw
Sample : aa66932-cal3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 18 09:51:46 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM007.D
Acq On : 18 Jun 2021 9:28 am
Operator : kkw
Sample : aa66932-cal4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 18 09:52:17 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1235637	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2720919	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1709586	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1365508	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	752565	57.78	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 115.56%				
52) D8-Toluene	11.778	98	3385429	50.70	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 101.40%				
73) Bromofluorobenzene	14.328	95	1442507	48.81	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 97.62%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	121827	8.21	ug/L		98
3) Chloromethane	4.410	50	178033	9.38	ug/L		97
4) Vinyl Chloride	4.586	62	160638	10.77	ug/L		93
5) Bromomethane	5.227	94	54156	13.24	ug/L		94
6) Chloroethane	5.462	64	84051	13.98	ug/L		97
7) Trichlorofluoromethane	5.702	101	186133	11.32	ug/L		97
8) Diethyl ether	6.184	59	116071	11.49	ug/L		96
9) 1,1-Dichloroethene	6.531	96	121851	12.30	ug/L		86
10) Trichlorotrifluoroethane	6.560	151	76339	11.34	ug/L		93
11) Acrolein	7.019	56	301887	93.27	ug/L		97
12) Iodomethane	6.778	142	432218	34.46	ug/L		98
13) Carbon Disulfide	6.625	76	1823678	47.29	ug/L		98
14) 3-chloropropene	7.201	41	199304	11.03	ug/L		92
15) Acetone	7.395	43	237338	57.47	ug/L		100
16) Methylene Chloride	7.342	84	172555	13.27	ug/L		91
17) Methyl Acetate	7.524	43	121114	11.45	ug/L	#	91
18) t-1,2-Dichloroethene	7.553	96	140149	11.56	ug/L		92
19) Methyl tert-butyl ether	7.630	73	369299	12.14	ug/L		97
20) Acetonitrile	8.023	41	338616	112.50	ug/L		98
21) Isopropyl ether	8.053	45	461755	12.00	ug/L		98
22) Chloroprene	8.276	88	117678	10.34	ug/L		90
23) 1,1-Dichloroethane	8.311	63	282498	13.28	ug/L		99
24) Acrylonitrile	8.388	53	591099	90.57	ug/L		99
25) Vinyl Acetate	8.540	43	1551165	57.14	ug/L		99
26) c-1,2-Dichloroethene	8.952	96	148415	11.02	ug/L		90
27) 2,2-Dichloropropane	9.075	77	198257	12.51	ug/L		98
28) Bromochloromethane	9.187	128	64168	14.78	ug/L		98
29) Cyclohexane	9.193	56	265821	11.53	ug/L		98
30) Chloroform	9.222	83	257926	11.91	ug/L	#	93
32) Dibromofluoromethane	9.428	113	752565	57.78	ug/L	#	91
33) 2-Butanone	9.545	72	113849	52.16	ug/L		97
34) 1,1,1-Trichloroethane	9.480	97	208684	12.93	ug/L		96
35) 1,1-Dichloropropene	9.610	75	215540	12.49	ug/L		96
36) Propionitrile	9.898	54	301294	112.83	ug/L		94
37) Methacrylonitrile	9.909	41	1228878	117.42	ug/L		98
38) Isobutyl Alcohol	9.904	43	263215	208.72	ug/L	#	67
40) Carbon Tetrachloride	9.416	117	133703	10.38	ug/L	#	85
41) Benzene	9.880	78	655782	11.48	ug/L		100
42) 1,2-Dichloroethane	10.086	62	195914	11.82	ug/L		99
43) Trichloroethene	10.456	130	140187	10.75	ug/L	#	62
44) Methyl cyclohexane	10.456	83	307695	10.97	ug/L		95
45) Dibromomethane	10.902	93	98012	11.03	ug/L	#	85
46) 1,2-Dichloropropane	10.985	63	180087	10.96	ug/L		93
47) Bromodichloromethane	11.020	83	170547	10.28	ug/L		95
48) Methyl Methacrylate	11.085	69	108165	8.45	ug/L		99
49) 1,4-Dioxane	11.196	88	26438	152.89	ug/L	#	65
50) 2-Chloroethyl vinyl ether	11.490	63	468112	47.10	ug/L	#	93
51) C-1,3-Dichloropropene	11.613	75	262628	10.40	ug/L		93

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM007.D
Acq On : 18 Jun 2021 9:28 am
Operator : kkw
Sample : aa66932-cal4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 18 09:52:17 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

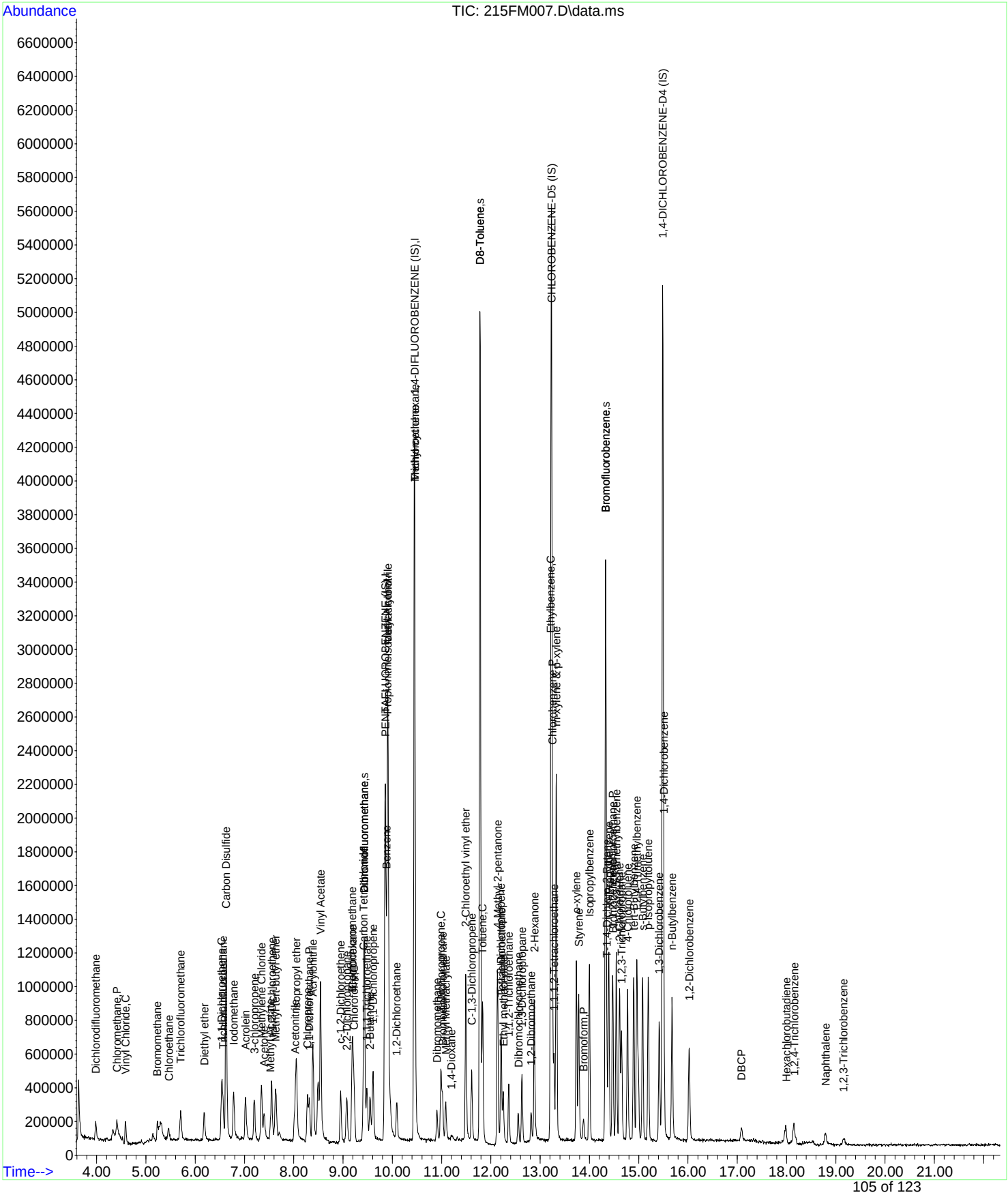
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	3385429	50.70	ug/L		96
54) 4-Methyl-2-pentanone	12.136	100	119171	41.26	ug/L		98
56) Toluene	11.831	92	387473	9.97	ug/L		97
57) T-1,3-Dichloropropene	12.201	75	188853	9.24	ug/L	#	94
58) Tetrachloroethene	12.213	164	84246	7.93	ug/L		86
59) Ethyl methacrylate	12.254	69	185862	7.76	ug/L		98
60) 1,1,2-Trichloroethane	12.360	97	133088	9.51	ug/L		95
61) Dibromochloromethane	12.559	129	104875	9.05	ug/L		97
62) 1,3-Dichloropropane	12.630	76	263488	10.09	ug/L		97
63) 1,2-Dibromoethane	12.818	107	140793	9.75	ug/L	#	93
64) 2-Hexanone	12.882	43	608770	48.78	ug/L		95
65) Ethylbenzene	13.211	106	251441	10.74	ug/L		94
66) Chlorobenzene	13.247	112	417890	10.11	ug/L		96
67) 1,1,1,2-Tetrachloroethane	13.282	131	118240	9.64	ug/L		95
68) m-xylene & p-xylene	13.329	106	629412	21.65	ug/L		94
69) o-xylene	13.734	106	295787	9.95	ug/L		94
70) Styrene	13.781	104	450550	9.37	ug/L		94
71) Bromoform	13.881	173	56574	8.82	ug/L	#	88
72) Isopropylbenzene	13.999	105	750121	10.03	ug/L		97
74) Bromofluorobenzene	14.328	95	1442507	48.81	ug/L	#	81
75) n-Propylbenzene	14.392	91	1000959	10.51	ug/L		98
76) 1,1,2,2-Tetrachloroethane	14.469	83	242924	10.03	ug/L		97
77) 1,2,3-Trichloropropane	14.651	61	73846	11.72	ug/L		94
78) T-1,4-Dichloro-2-Butene	14.351	53	71229	8.97	ug/L	#	1
80) Bromobenzene	14.475	156	149248	10.74	ug/L		84
81) 1,2,4-Trimethylbenzene	14.962	105	648191	11.32	ug/L		99
82) 2-Chlorotoluene	14.610	91	586883	11.44	ug/L		96
83) 4-Chlorotoluene	14.774	91	596106	11.64	ug/L		96
84) tert-Butylbenzene	14.898	119	524494	10.77	ug/L		99
85) 1,3,5-Trimethylbenzene	14.545	105	674843	11.72	ug/L		97
86) p-Isopropyltoluene	15.192	119	663916	10.11	ug/L		98
87) s-Butylbenzene	15.080	105	799657	11.56	ug/L		98
88) 1,3-Dichlorobenzene	15.415	146	311105	10.69	ug/L		98
89) 1,4-Dichlorobenzene	15.509	146	314368	10.48	ug/L	#	45
90) n-Butylbenzene	15.673	91	633951	9.86	ug/L		97
91) 1,2-Dichlorobenzene	16.026	146	273858	10.19	ug/L		93
92) DBCP	17.083	157	23874	7.46	ug/L		92
93) Hexachlorobutadiene	17.994	225	23531	6.19	ug/L	#	87
94) 1,2,4-Trichlorobenzene	18.153	180	55168	7.13	ug/L	#	91
95) Naphthalene	18.793	128	113841	5.51	ug/L	#	91
96) 1,2,3-Trichlorobenzene	19.152	180	19431	5.46	ug/L		89

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM007.D
Acq On : 18 Jun 2021 9:28 am
Operator : kkw
Sample : aa66932-cal4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 18 09:52:17 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM008.D
Acq On : 18 Jun 2021 9:56 am
Operator : kkw
Sample : aa66932-cal5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 18 10:34:37 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1048667	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2471790	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1553840	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1230662	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	817344	73.95	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 147.90%#				
52) D8-Toluene	11.778	98	3851047	63.49	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 126.98%#				
73) Bromofluorobenzene	14.328	95	1690729	62.94	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 125.88%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	200616	15.93	ug/L		94
3) Chloromethane	4.410	50	302243	18.48	ug/L		100
4) Vinyl Chloride	4.586	62	270150	21.33	ug/L		96
5) Bromomethane	5.227	94	76749	21.51	ug/L	#	96
6) Chloroethane	5.462	64	156004	30.58	ug/L		99
7) Trichlorofluoromethane	5.703	101	324475	23.25	ug/L		99
8) Diethyl ether	6.184	59	214890	25.05	ug/L		99
9) 1,1-Dichloroethene	6.537	96	221322	26.33	ug/L		91
10) Trichlorotrifluoroethane	6.555	151	137133	24.00	ug/L		94
11) Acrolein	7.013	56	561975	204.58	ug/L		100
12) Iodomethane	6.778	142	915747	86.03	ug/L		97
13) Carbon Disulfide	6.625	76	3325322	102.69	ug/L		100
14) 3-chloropropene	7.195	41	352274	22.97	ug/L		97
15) Acetone	7.395	43	398208	113.61	ug/L		96
16) Methylene Chloride	7.342	84	286265	25.93	ug/L		93
17) Methyl Acetate	7.524	43	210343	22.85	ug/L	#	97
18) t-1,2-Dichloroethene	7.548	96	254734	24.75	ug/L		94
19) Methyl tert-butyl ether	7.630	73	635359	24.60	ug/L		94
20) Acetonitrile	8.012	41	573594	224.54	ug/L		97
21) Isopropyl ether	8.053	45	835803	25.59	ug/L		100
22) Chloroprene	8.276	88	239238	24.76	ug/L		99
23) 1,1-Dichloroethane	8.317	63	496023	27.47	ug/L		98
24) Acrylonitrile	8.382	53	1142636	206.28	ug/L		100
25) Vinyl Acetate	8.541	43	2933507	127.34	ug/L		98
26) c-1,2-Dichloroethene	8.952	96	281101	24.59	ug/L		95
27) 2,2-Dichloropropane	9.075	77	361450	26.86	ug/L		99
28) Bromochloromethane	9.181	128	109839	29.80	ug/L		97
29) Cyclohexane	9.187	56	510224	26.07	ug/L		97
30) Chloroform	9.222	83	472414	25.71	ug/L		95
32) Dibromofluoromethane	9.428	113	817344	73.95	ug/L	#	90
33) 2-Butanone	9.545	72	207794	112.18	ug/L		98
34) 1,1,1-Trichloroethane	9.486	97	347948	25.39	ug/L		93
35) 1,1-Dichloropropene	9.604	75	389732	26.62	ug/L		97
36) Propionitrile	9.892	54	522201	230.42	ug/L		94
37) Methacrylonitrile	9.910	41	2068765	232.92	ug/L		99
38) Isobutyl Alcohol	9.910	43	433436	404.99	ug/L	#	83
40) Carbon Tetrachloride	9.410	117	313463	25.77	ug/L	#	71
41) Benzene	9.880	78	1191916	22.97	ug/L		99
42) 1,2-Dichloroethane	10.086	62	328738	21.84	ug/L		99
43) Trichloroethene	10.450	130	249364	21.05	ug/L	#	78
44) Methyl cyclohexane	10.450	83	545136	21.39	ug/L		97
45) Dibromomethane	10.903	93	165729	20.52	ug/L		91
46) 1,2-Dichloropropane	10.985	63	320957	21.51	ug/L		98
47) Bromodichloromethane	11.020	83	331106	21.40	ug/L		98
48) Methyl Methacrylate	11.079	69	213806	18.40	ug/L		97
49) 1,4-Dioxane	11.196	88	51801	329.76	ug/L		91
50) 2-Chloroethyl vinyl ether	11.490	63	862819	95.57	ug/L		97
51) C-1,3-Dichloropropene	11.608	75	502562	21.35	ug/L		98

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM008.D
Acq On : 18 Jun 2021 9:56 am
Operator : kkw
Sample : aa66932-cal5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 18 10:34:37 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

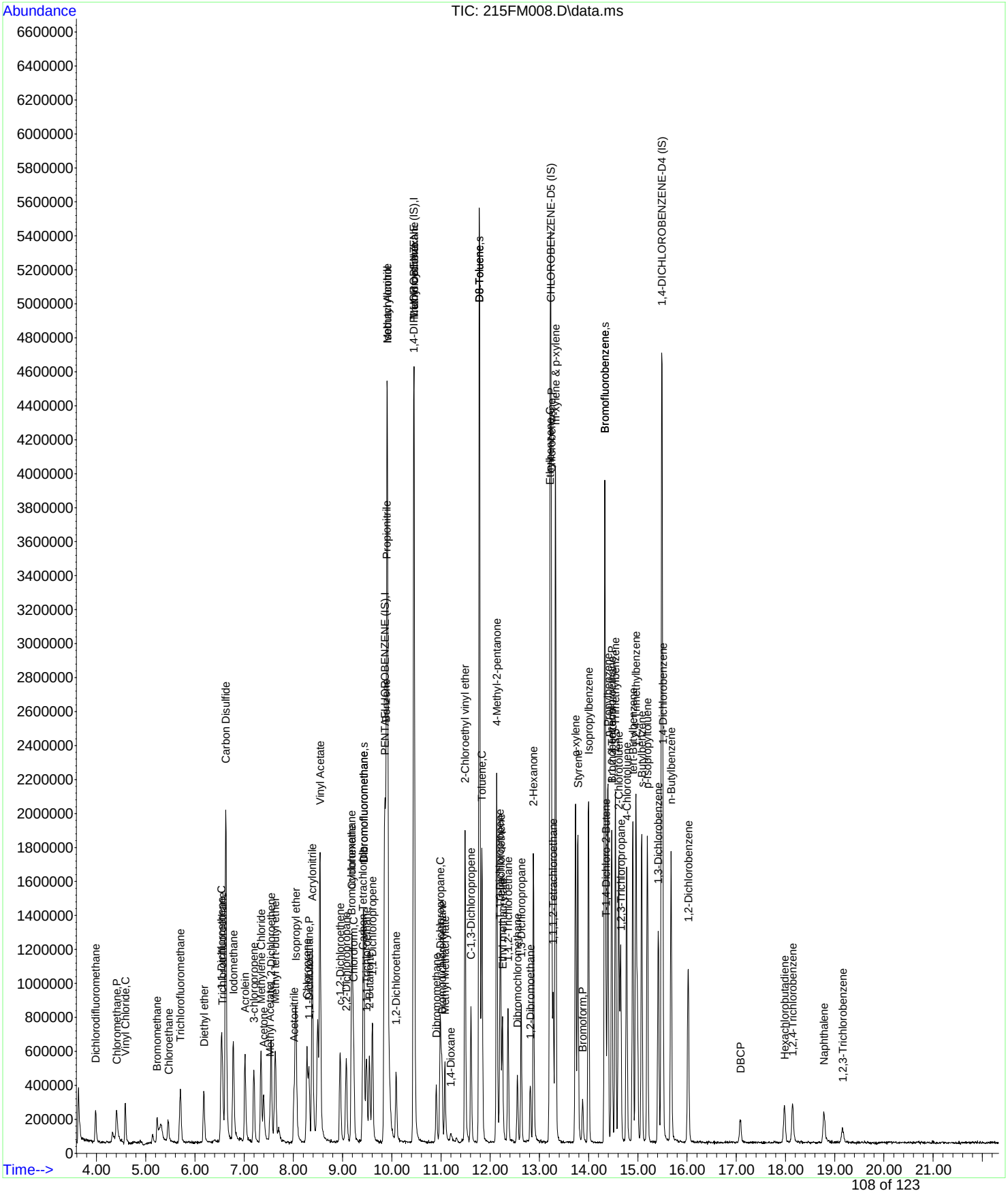
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	3846540	63.42	ug/L		95
54) 4-Methyl-2-pentanone	12.131	100	225597	85.61	ug/L		87
56) Toluene	11.831	92	775105	21.95	ug/L		100
57) T-1,3-Dichloropropene	12.195	75	401434	21.61	ug/L		97
58) Tetrachloroethene	12.213	164	174433	18.07	ug/L		94
59) Ethyl methacrylate	12.248	69	404512	18.58	ug/L		98
60) 1,1,2-Trichloroethane	12.360	97	264998	20.82	ug/L		99
61) Dibromochloromethane	12.554	129	214050	19.68	ug/L		96
62) 1,3-Dichloropropane	12.630	76	478862	20.18	ug/L		98
63) 1,2-Dibromoethane	12.812	107	261362	19.92	ug/L		100
64) 2-Hexanone	12.877	43	1090226	96.12	ug/L		98
65) Ethylbenzene	13.212	106	437376	20.55	ug/L		90
66) Chlorobenzene	13.241	112	788116	20.97	ug/L		98
67) 1,1,1,2-Tetrachloroethane	13.276	131	220728	19.47	ug/L		98
68) m-xylene & p-xylene	13.329	106	1185284	44.85	ug/L		95
69) o-xylene	13.735	106	588315	21.78	ug/L		100
70) Styrene	13.782	104	1002210	22.92	ug/L		98
71) Bromoform	13.876	173	115109	18.90	ug/L		97
72) Isopropylbenzene	13.999	105	1501750	22.09	ug/L		98
74) Bromofluorobenzene	14.328	95	1690729	62.94	ug/L	#	75
75) n-Propylbenzene	14.393	91	1936701	22.38	ug/L		97
76) 1,1,2,2-Tetrachloroethane	14.469	83	466550	21.19	ug/L		97
77) 1,2,3-Trichloropropane	14.657	61	97684	16.87	ug/L	#	79
78) T-1,4-Dichloro-2-Butene	14.351	53	132350	18.34	ug/L	#	52
80) Bromobenzene	14.469	156	275454	21.99	ug/L		84
81) 1,2,4-Trimethylbenzene	14.963	105	1290180	24.99	ug/L		99
82) 2-Chlorotoluene	14.610	91	1123138	24.30	ug/L		98
83) 4-Chlorotoluene	14.775	91	1182452	25.62	ug/L		96
84) tert-Butylbenzene	14.898	119	1017327	23.19	ug/L		97
85) 1,3,5-Trimethylbenzene	14.540	105	1306656	25.17	ug/L		96
86) p-Isopropyltoluene	15.192	119	1250358	21.13	ug/L		97
87) s-Butylbenzene	15.080	105	1534533	24.60	ug/L		98
88) 1,3-Dichlorobenzene	15.415	146	566706	21.60	ug/L		93
89) 1,4-Dichlorobenzene	15.509	146	588831	21.79	ug/L	#	76
90) n-Butylbenzene	15.673	91	1239760	21.40	ug/L		96
91) 1,2-Dichlorobenzene	16.026	146	515198	21.26	ug/L		93
92) DBCP	17.090	157	44628	15.22	ug/L		86
93) Hexachlorobutadiene	17.983	225	49921	14.50	ug/L		93
94) 1,2,4-Trichlorobenzene	18.141	180	103006	14.53	ug/L		95
95) Naphthalene	18.782	128	267664	14.07	ug/L		97
96) 1,2,3-Trichlorobenzene	19.164	180	39009	11.98	ug/L	#	92

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM008.D
Acq On : 18 Jun 2021 9:56 am
Operator : kkw
Sample : aa66932-cal5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 18 10:34:37 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM009.D
Acq On : 18 Jun 2021 10:24 am
Operator : kkw
Sample : aa66932-cal6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jun 18 11:10:05 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Fri Jun 18 11:10:02 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.851	168	1101889	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2525815	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.223	82	1610233	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1271242	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	691769	52.47	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 104.94%				
52) D8-Toluene	11.778	98	3376143	55.48	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 110.96%				
73) Bromofluorobenzene	14.328	95	1488725	54.27	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 108.54%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	566892	50.85	ug/L		99
3) Chloromethane	4.404	50	760761	47.45	ug/L		98
4) Vinyl Chloride	4.586	62	716164	49.26	ug/L		88
5) Bromomethane	5.227	94	193576	31.84	ug/L		99
6) Chloroethane	5.444	64	316881	35.23	ug/L		95
7) Trichlorofluoromethane	5.697	101	846089	51.19	ug/L		100
8) Diethyl ether	6.178	59	555943	48.97	ug/L		98
9) 1,1-Dichloroethene	6.531	96	607719	52.83	ug/L		96
10) Trichlorotrifluoroethane	6.554	151	352293	48.81	ug/L		90
11) Acrolein	7.013	56	1477050	512.15	ug/L		100
12) Iodomethane	6.778	142	2614644	375.79	ug/L		97
13) Carbon Disulfide	6.625	76	8389451	262.62	ug/L		99
14) 3-chloropropene	7.195	41	986635	55.01	ug/L		99
15) Acetone	7.395	43	1078431	267.16	ug/L		100
16) Methylene Chloride	7.342	84	725279	47.73	ug/L		100
17) Methyl Acetate	7.518	43	551906	42.28	ug/L	#	95
18) t-1,2-Dichloroethene	7.547	96	668471	49.88	ug/L		97
19) Methyl tert-butyl ether	7.630	73	1745532	53.48	ug/L		99
20) Acetonitrile	8.006	41	1530457	504.36	ug/L		100
21) Isopropyl ether	8.047	45	2233077	54.63	ug/L		99
22) Chloroprene	8.270	88	624635	60.84	ug/L		96
23) 1,1-Dichloroethane	8.311	63	1268564	49.88	ug/L		100
24) Acrylonitrile	8.382	53	2947243	519.53	ug/L		99
25) Vinyl Acetate	8.534	43	7542136	300.62	ug/L		98
26) c-1,2-Dichloroethene	8.946	96	768544	54.92	ug/L		97
27) 2,2-Dichloropropane	9.075	77	961942	54.88	ug/L		98
28) Bromochloromethane	9.187	128	241159	41.87	ug/L		96
29) Cyclohexane	9.187	56	1378155	56.75	ug/L		96
30) Chloroform	9.222	83	1207625	49.58	ug/L		99
32) Dibromofluoromethane	9.428	113	691769	52.47	ug/L	#	90
33) 2-Butanone	9.539	72	545346	262.38	ug/L		99
34) 1,1,1-Trichloroethane	9.480	97	948191	54.29	ug/L		98
35) 1,1-Dichloropropene	9.604	75	1020890	51.58	ug/L		98
36) Propionitrile	9.892	54	1278807	483.73	ug/L		92
37) Methacrylonitrile	9.909	41	5156465	501.48	ug/L		100
38) Isobutyl Alcohol	9.950	43	1181083	1315.77	ug/L		97
40) Carbon Tetrachloride	9.410	117	719666	51.82	ug/L	#	94
41) Benzene	9.874	78	2915205	47.71	ug/L		99
42) 1,2-Dichloroethane	10.086	62	825333	45.49	ug/L		99
43) Trichloroethene	10.450	130	624288	50.54	ug/L		92
44) Methyl cyclohexane	10.450	83	1353707	36.45	ug/L		96
45) Dibromomethane	10.902	93	434739	49.73	ug/L		92
46) 1,2-Dichloropropane	10.985	63	849636	50.47	ug/L		99
47) Bromodichloromethane	11.014	83	875106	55.15	ug/L		99
48) Methyl Methacrylate	11.079	69	618545	63.20	ug/L		97
49) 1,4-Dioxane	11.202	88	139925	1066.27	ug/L		97
50) 2-Chloroethyl vinyl ether	11.484	63	2289741	306.35	ug/L		96
51) C-1,3-Dichloropropene	11.607	75	1342741	56.74	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM009.D
Acq On : 18 Jun 2021 10:24 am
Operator : kkw
Sample : aa66932-cal6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jun 18 11:10:05 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Fri Jun 18 11:10:02 2021
Response via : Initial Calibration

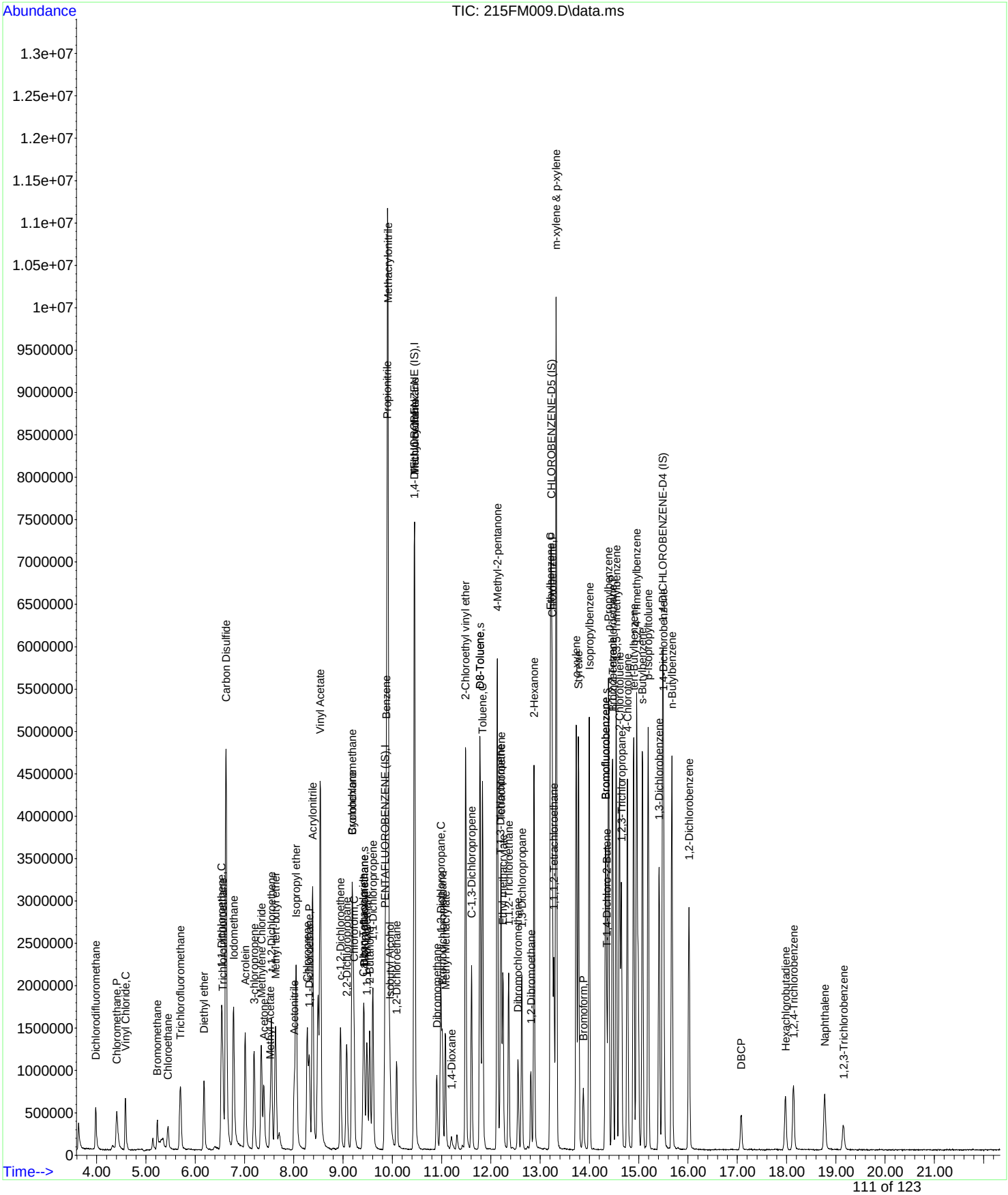
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	3376143	55.48	ug/L		96
54) 4-Methyl-2-pentanone	12.130	100	606010	275.54	ug/L		91
56) Toluene	11.831	92	2006031	50.07	ug/L		97
57) T-1,3-Dichloropropene	12.195	75	1052480	54.14	ug/L		99
58) Tetrachloroethene	12.207	164	440848	47.30	ug/L		94
59) Ethyl methacrylate	12.242	69	1112969	66.12	ug/L		100
60) 1,1,2-Trichloroethane	12.360	97	683667	50.59	ug/L		98
61) Dibromochloromethane	12.548	129	579595	61.98	ug/L		99
62) 1,3-Dichloropropane	12.630	76	1280096	52.68	ug/L		98
63) 1,2-Dibromoethane	12.812	107	708335	53.68	ug/L	#	98
64) 2-Hexanone	12.877	43	2942276	299.51	ug/L		99
65) Ethylbenzene	13.206	106	1154029	52.29	ug/L		93
66) Chlorobenzene	13.241	112	1987083	50.12	ug/L		98
67) 1,1,1,2-Tetrachloroethane	13.276	131	588973	53.81	ug/L		98
68) m-xylene & p-xylene	13.323	106	2897847	99.04	ug/L		95
69) o-xylene	13.729	106	1480227	53.50	ug/L		94
70) Styrene	13.775	104	2515821	61.21	ug/L		98
71) Bromoform	13.875	173	316758	63.73	ug/L		90
72) Isopropylbenzene	13.999	105	3820687	54.01	ug/L		97
74) Bromofluorobenzene	14.328	95	1488725	54.27	ug/L	#	75
75) n-Propylbenzene	14.387	91	4988753	53.59	ug/L		98
76) 1,1,2,2-Tetrachloroethane	14.469	83	1173606	51.05	ug/L		98
77) 1,2,3-Trichloropropane	14.651	61	258789	44.09	ug/L		84
78) T-1,4-Dichloro-2-Butene	14.351	53	339718	52.37	ug/L		89
80) Bromobenzene	14.469	156	704271	52.43	ug/L		80
81) 1,2,4-Trimethylbenzene	14.957	105	3383669	57.85	ug/L		98
82) 2-Chlorotoluene	14.610	91	2945298	54.40	ug/L		97
83) 4-Chlorotoluene	14.768	91	3058188	57.02	ug/L		97
84) tert-Butylbenzene	14.898	119	2702281	56.48	ug/L		96
85) 1,3,5-Trimethylbenzene	14.545	105	3401507	57.23	ug/L		97
86) p-Isopropyltoluene	15.192	119	3319147	58.70	ug/L		97
87) s-Butylbenzene	15.074	105	4096072	57.37	ug/L		99
88) 1,3-Dichlorobenzene	15.415	146	1494905	53.19	ug/L		93
89) 1,4-Dichlorobenzene	15.503	146	1488014	49.92	ug/L		91
90) n-Butylbenzene	15.673	91	3375228	60.91	ug/L		97
91) 1,2-Dichlorobenzene	16.020	146	1375072	53.70	ug/L		95
92) DBCP	17.078	157	141044	63.73	ug/L		98
93) Hexachlorobutadiene	17.982	225	142097	61.92	ug/L	#	90
94) 1,2,4-Trichlorobenzene	18.141	180	313560	74.05	ug/L		92
95) Naphthalene	18.776	128	896222	85.25	ug/L		100
96) 1,2,3-Trichlorobenzene	19.158	180	138934	74.50	ug/L	#	92

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM009.D
Acq On : 18 Jun 2021 10:24 am
Operator : kkw
Sample : aa66932-cal6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jun 18 11:10:05 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Fri Jun 18 11:10:02 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM010.D
Acq On : 18 Jun 2021 10:52 am
Operator : kkw
Sample : aa66932-cal7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 18 11:43:10 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Fri Jun 18 11:11:17 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.851	168	1123435	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2544231	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1714182	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1273276	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	918978	67.81	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 135.62%#				
52) D8-Toluene	11.778	98	4433031	71.03	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 142.06%#				
73) Bromofluorobenzene	14.328	95	2000166	67.53	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 135.06%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	932562	81.81	ug/L		98
3) Chloromethane	4.404	50	1300917	83.08	ug/L		100
4) Vinyl Chloride	4.580	62	1219487	82.47	ug/L		96
5) Bromomethane	5.232	94	362884	62.32	ug/L		96
6) Chloroethane	5.432	64	417887	47.93	ug/L		96
7) Trichlorofluoromethane	5.691	101	1408032	83.22	ug/L		100
8) Diethyl ether	6.178	59	932975	80.89	ug/L		99
9) 1,1-Dichloroethene	6.531	96	963951	81.42	ug/L		99
10) Trichlorotrifluoroethane	6.554	151	553174	75.47	ug/L		99
11) Acrolein	7.013	56	2505933	848.80	ug/L		99
12) Iodomethane	6.778	142	4278069	556.41	ug/L		99
13) Carbon Disulfide	6.619	76	13076901	398.15	ug/L		99
14) 3-chloropropene	7.195	41	1588991	85.47	ug/L		97
15) Acetone	7.389	43	1861072	447.08	ug/L		99
16) Methylene Chloride	7.336	84	1216081	79.10	ug/L		97
17) Methyl Acetate	7.512	43	977153	75.35	ug/L	#	96
18) t-1,2-Dichloroethene	7.542	96	1074638	78.68	ug/L		97
19) Methyl tert-butyl ether	7.630	73	2897495	86.08	ug/L		99
20) Acetonitrile	8.006	41	2616075	844.36	ug/L		99
21) Isopropyl ether	8.047	45	3676890	86.89	ug/L		99
22) Chloroprene	8.270	88	1026205	94.62	ug/L		99
23) 1,1-Dichloroethane	8.311	63	2065602	79.70	ug/L		99
24) Acrylonitrile	8.382	53	5029725	863.99	ug/L		98
25) Vinyl Acetate	8.535	43	12211820	461.83	ug/L		99
26) c-1,2-Dichloroethene	8.946	96	1216730	83.90	ug/L		97
27) 2,2-Dichloropropane	9.069	77	1594058	87.77	ug/L		100
28) Bromochloromethane	9.181	128	379875	66.49	ug/L		99
29) Cyclohexane	9.193	56	2188095	86.42	ug/L		98
30) Chloroform	9.222	83	1956175	78.88	ug/L		98
32) Dibromofluoromethane	9.428	113	918978	67.81	ug/L	#	88
33) 2-Butanone	9.539	72	952951	446.02	ug/L		95
34) 1,1,1-Trichloroethane	9.481	97	1534822	84.98	ug/L		99
35) 1,1-Dichloropropene	9.604	75	1668352	82.24	ug/L		99
36) Propionitrile	9.898	54	2058819	768.01	ug/L		97
37) Methacrylonitrile	9.909	41	8187682	780.62	ug/L		98
38) Isobutyl Alcohol	9.951	43	1979594	2054.90	ug/L		96
40) Carbon Tetrachloride	9.410	117	1365433	97.02	ug/L		86
41) Benzene	9.874	78	4591902	75.18	ug/L		99
42) 1,2-Dichloroethane	10.086	62	1375316	76.41	ug/L		98
43) Trichloroethene	10.450	130	985071	79.02	ug/L		99
44) Methyl cyclohexane	10.450	83	2150686	60.21	ug/L		98
45) Dibromomethane	10.897	93	718501	81.67	ug/L		99
46) 1,2-Dichloropropane	10.985	63	1381434	81.34	ug/L		98
47) Bromodichloromethane	11.014	83	1457563	89.66	ug/L		100
48) Methyl Methacrylate	11.073	69	1042641	101.31	ug/L		100
49) 1,4-Dioxane	11.202	88	245538	1837.24	ug/L		99
50) 2-Chloroethyl vinyl ether	11.490	63	3769965	482.61	ug/L		99
51) C-1,3-Dichloropropene	11.607	75	2205891	90.51	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM010.D
Acq On : 18 Jun 2021 10:52 am
Operator : kkw
Sample : aa66932-cal7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 18 11:43:10 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Fri Jun 18 11:11:17 2021
Response via : Initial Calibration

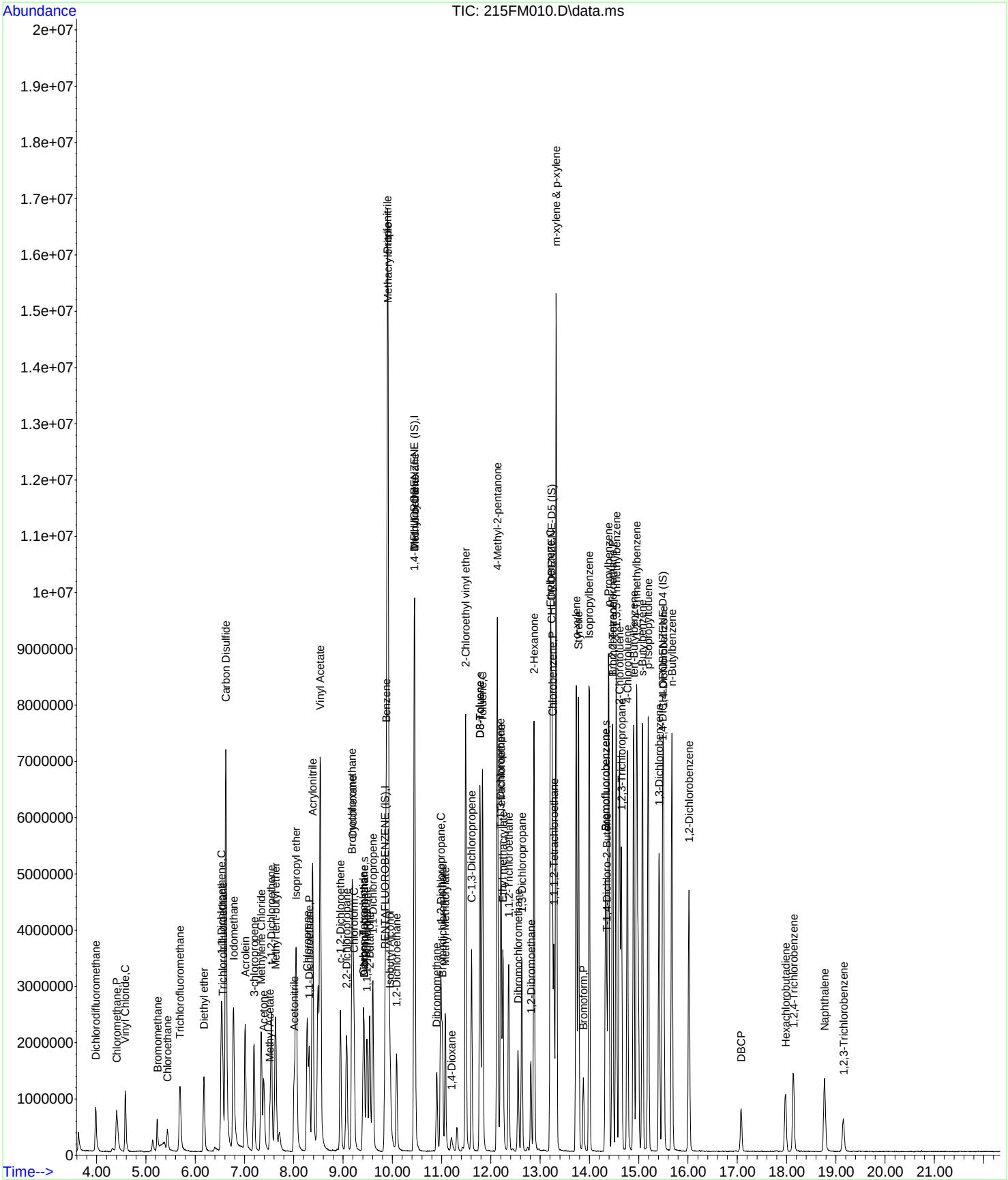
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	4433031	71.03	ug/L		95
54) 4-Methyl-2-pentanone	12.130	100	991775	440.18	ug/L		96
56) Toluene	11.831	92	3174215	74.41	ug/L		100
57) T-1,3-Dichloropropene	12.195	75	1728113	82.37	ug/L		99
58) Tetrachloroethene	12.207	164	701519	71.35	ug/L		98
59) Ethyl methacrylate	12.242	69	1898301	100.53	ug/L		99
60) 1,1,2-Trichloroethane	12.360	97	1142283	79.24	ug/L		98
61) Dibromochloromethane	12.553	129	998555	96.45	ug/L		99
62) 1,3-Dichloropropane	12.630	76	2158658	82.71	ug/L		100
63) 1,2-Dibromoethane	12.812	107	1195729	84.09	ug/L		99
64) 2-Hexanone	12.877	43	4994708	462.34	ug/L		99
65) Ethylbenzene	13.206	106	1871305	79.04	ug/L		96
66) Chlorobenzene	13.247	112	3189012	75.53	ug/L		100
67) 1,1,1,2-Tetrachloroethane	13.282	131	1009037	85.52	ug/L		97
68) m-xylene & p-xylene	13.323	106	4541007	146.02	ug/L		97
69) o-xylene	13.734	106	2417387	81.13	ug/L		99
70) Styrene	13.776	104	4206117	92.66	ug/L		99
71) Bromoform	13.875	173	575403	103.99	ug/L		98
72) Isopropylbenzene	13.993	105	6066459	79.50	ug/L		98
74) Bromofluorobenzene	14.328	95	2000166	67.53	ug/L	#	75
75) n-Propylbenzene	14.387	91	7982408	79.59	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.469	83	1985210	80.84	ug/L		98
77) 1,2,3-Trichloropropane	14.651	61	457507	74.69	ug/L		94
78) T-1,4-Dichloro-2-Butene	14.351	53	625157	89.82	ug/L		90
80) Bromobenzene	14.469	156	1148624	84.69	ug/L		100
81) 1,2,4-Trimethylbenzene	14.957	105	5391829	89.68	ug/L		99
82) 2-Chlorotoluene	14.610	91	4808303	87.39	ug/L		99
83) 4-Chlorotoluene	14.769	91	4948469	90.01	ug/L		100
84) tert-Butylbenzene	14.898	119	4242901	86.67	ug/L		98
85) 1,3,5-Trimethylbenzene	14.545	105	5336569	87.53	ug/L		98
86) p-Isopropyltoluene	15.192	119	5201226	89.25	ug/L		99
87) s-Butylbenzene	15.074	105	6457795	88.14	ug/L		100
88) 1,3-Dichlorobenzene	15.415	146	2387561	83.92	ug/L		99
89) 1,4-Dichlorobenzene	15.503	146	2416825	80.97	ug/L		96
90) n-Butylbenzene	15.673	91	5350880	93.02	ug/L		99
91) 1,2-Dichlorobenzene	16.020	146	2208490	85.06	ug/L		97
92) DBCP	17.078	157	246775	106.45	ug/L		95
93) Hexachlorobutadiene	17.982	225	250885	104.97	ug/L		96
94) 1,2,4-Trichlorobenzene	18.141	180	577702	126.10	ug/L		97
95) Naphthalene	18.770	128	1722375	146.37	ug/L		100
96) 1,2,3-Trichlorobenzene	19.158	180	265407	131.36	ug/L		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM010.D
Acq On : 18 Jun 2021 10:52 am
Operator : kkw
Sample : aa66932-cal7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 18 11:43:10 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Fri Jun 18 11:11:17 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM011.D
Acq On : 18 Jun 2021 11:20 am
Operator : kkw
Sample : aa66932-cal8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jun 18 11:43:26 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Fri Jun 18 11:11:17 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.851	168	1129487	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2502919	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.223	82	1697989	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1266610	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	988078	72.52	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 145.04%#				
52) D8-Toluene	11.778	98	4733786	77.10	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 154.20%#				
73) Bromofluorobenzene	14.328	95	2175091	74.14	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 148.28%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	1159014	101.13	ug/L		99
3) Chloromethane	4.404	50	1831210	116.32	ug/L		100
4) Vinyl Chloride	4.580	62	1565349	105.29	ug/L		96
5) Bromomethane	5.227	94	478379	81.72	ug/L		98
6) Chloroethane	5.432	64	388830	44.36	ug/L		97
7) Trichlorofluoromethane	5.685	101	1776302	104.42	ug/L		99
8) Diethyl ether	6.179	59	1207374	104.12	ug/L		99
9) 1,1-Dichloroethene	6.531	96	1251271	105.12	ug/L		99
10) Trichlorotrifluoroethane	6.555	151	706618	95.89	ug/L		98
11) Acrolein	7.013	56	3300114	1111.81	ug/L		100
12) Iodomethane	6.772	142	5419952	701.14	ug/L		99
13) Carbon Disulfide	6.619	76	16040976	485.79	ug/L		99
14) 3-chloropropene	7.189	41	1865214	99.79	ug/L		99
15) Acetone	7.395	43	2495282	596.23	ug/L		100
16) Methylene Chloride	7.336	84	1513458	97.91	ug/L		95
17) Methyl Acetate	7.518	43	1317924	101.09	ug/L		96
18) t-1,2-Dichloroethene	7.542	96	1370279	99.79	ug/L		99
19) Methyl tert-butyl ether	7.630	73	3836963	113.38	ug/L		99
20) Acetonitrile	8.012	41	3525661	1131.84	ug/L		99
21) Isopropyl ether	8.047	45	4718235	110.90	ug/L		99
22) Chloroprene	8.270	88	1332291	122.18	ug/L		99
23) 1,1-Dichloroethane	8.311	63	2603426	99.91	ug/L		100
24) Acrylonitrile	8.382	53	6578133	1123.92	ug/L		100
25) Vinyl Acetate	8.535	43	15529950	584.17	ug/L		98
26) c-1,2-Dichloroethene	8.946	96	1558869	106.91	ug/L		98
27) 2,2-Dichloropropane	9.069	77	2012990	110.25	ug/L		99
28) Bromochloromethane	9.181	128	448159	78.02	ug/L		100
29) Cyclohexane	9.187	56	2739986	107.64	ug/L		98
30) Chloroform	9.216	83	2478369	99.41	ug/L		99
32) Dibromofluoromethane	9.428	113	988078	72.52	ug/L	#	89
33) 2-Butanone	9.539	72	1250560	582.17	ug/L		99
34) 1,1,1-Trichloroethane	9.486	97	1930104	106.29	ug/L		99
35) 1,1-Dichloropropene	9.604	75	2074189	101.70	ug/L		99
36) Propionitrile	9.898	54	2668820	990.22	ug/L		96
37) Methacrylonitrile	9.909	41	10381958	984.52	ug/L		97
38) Isobutyl Alcohol	9.951	43	2662337	2748.81	ug/L		94
40) Carbon Tetrachloride	9.410	117	1460734	105.50	ug/L		88
41) Benzene	9.874	78	5755966	95.80	ug/L		99
42) 1,2-Dichloroethane	10.086	62	1753855	99.05	ug/L		99
43) Trichloroethene	10.450	130	1242836	101.35	ug/L		97
44) Methyl cyclohexane	10.450	83	2682040	76.33	ug/L		99
45) Dibromomethane	10.902	93	902694	104.30	ug/L		100
46) 1,2-Dichloropropane	10.985	63	1779650	106.51	ug/L		99
47) Bromodichloromethane	11.014	83	1859933	116.30	ug/L		100
48) Methyl Methacrylate	11.073	69	1410763	139.34	ug/L		97
49) 1,4-Dioxane	11.196	88	336711	2561.02	ug/L		97
50) 2-Chloroethyl vinyl ether	11.490	63	4851460	631.31	ug/L		99
51) C-1,3-Dichloropropene	11.608	75	2794072	116.53	ug/L		98

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM011.D
Acq On : 18 Jun 2021 11:20 am
Operator : kkw
Sample : aa66932-cal8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jun 18 11:43:26 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Fri Jun 18 11:11:17 2021
Response via : Initial Calibration

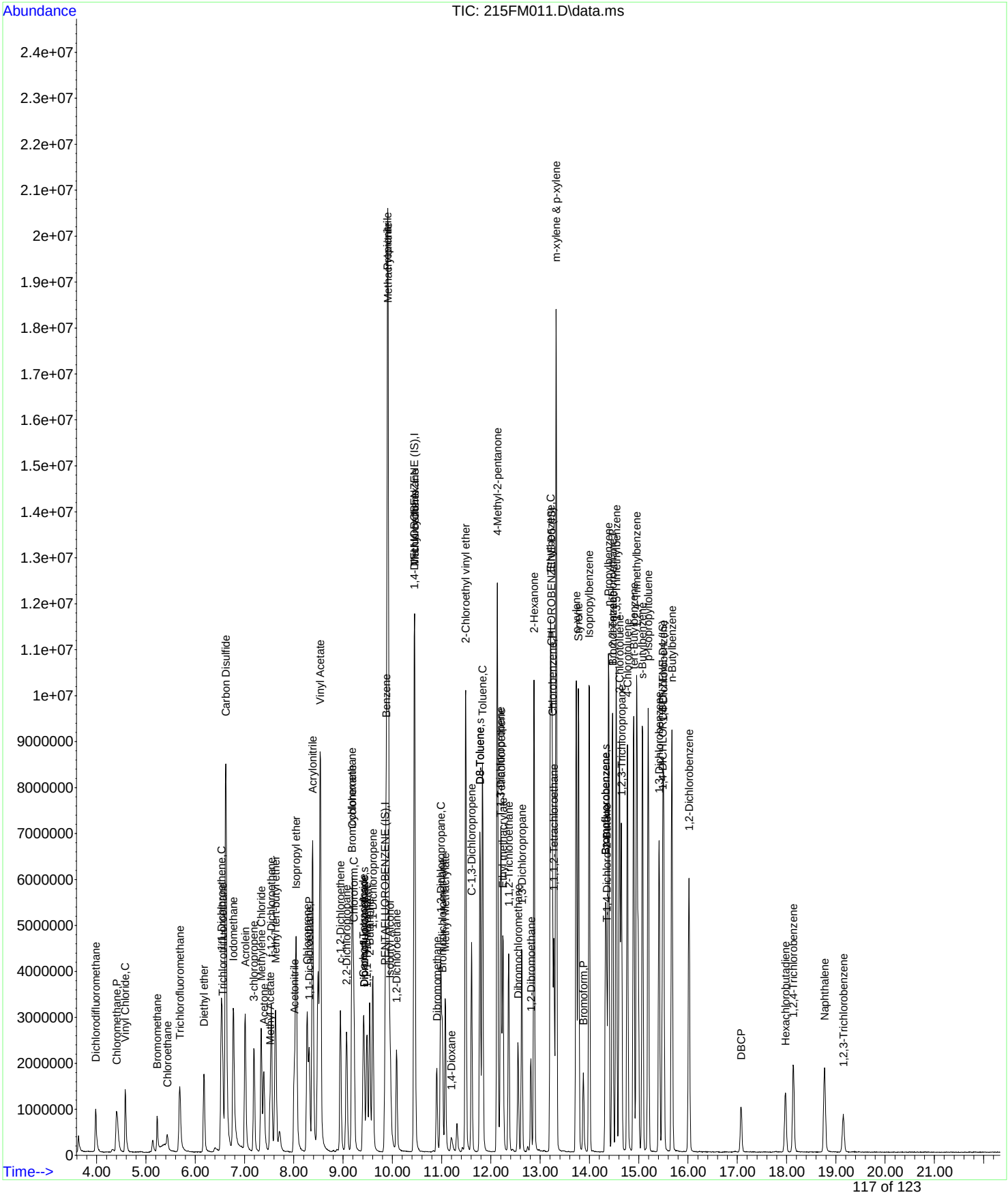
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	4731800	77.06	ug/L		97
54) 4-Methyl-2-pentanone	12.130	100	1330324	600.19	ug/L		99
56) Toluene	11.831	92	3937479	93.18	ug/L		98
57) T-1,3-Dichloropropene	12.195	75	2202638	105.99	ug/L		99
58) Tetrachloroethene	12.207	164	889715	91.35	ug/L		99
59) Ethyl methacrylate	12.242	69	2533929	135.48	ug/L		99
60) 1,1,2-Trichloroethane	12.360	97	1448881	101.47	ug/L		98
61) Dibromochloromethane	12.554	129	1315027	128.23	ug/L		99
62) 1,3-Dichloropropane	12.630	76	2753469	106.50	ug/L		99
63) 1,2-Dibromoethane	12.812	107	1520543	107.96	ug/L		98
64) 2-Hexanone	12.877	43	6710633	627.10	ug/L		100
65) Ethylbenzene	13.212	106	2353358	100.35	ug/L		94
66) Chlorobenzene	13.247	112	3959910	94.69	ug/L		98
67) 1,1,1,2-Tetrachloroethane	13.276	131	1264489	108.19	ug/L		98
68) m-xylene & p-xylene	13.323	106	5509138	178.84	ug/L		95
69) o-xylene	13.735	106	3022266	102.40	ug/L		98
70) Styrene	13.776	104	5266090	117.12	ug/L		98
71) Bromoform	13.876	173	754354	137.63	ug/L		97
72) Isopropylbenzene	13.993	105	7556057	99.96	ug/L		99
74) Bromofluorobenzene	14.328	95	2175091	74.14	ug/L	#	75
75) n-Propylbenzene	14.387	91	9784340	98.49	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.469	83	2499500	102.75	ug/L		98
77) 1,2,3-Trichloropropane	14.651	61	569211	93.81	ug/L		98
78) T-1,4-Dichloro-2-Butene	14.351	53	814740	118.18	ug/L		89
80) Bromobenzene	14.469	156	1450425	107.50	ug/L		100
81) 1,2,4-Trimethylbenzene	14.957	105	6619787	110.69	ug/L		100
82) 2-Chlorotoluene	14.610	91	6041910	110.39	ug/L		99
83) 4-Chlorotoluene	14.769	91	6177797	112.96	ug/L		99
84) tert-Butylbenzene	14.898	119	5257735	107.96	ug/L		97
85) 1,3,5-Trimethylbenzene	14.545	105	6695668	110.40	ug/L		99
86) p-Isopropyltoluene	15.192	119	6418293	110.72	ug/L		99
87) s-Butylbenzene	15.074	105	8000918	109.78	ug/L		99
88) 1,3-Dichlorobenzene	15.415	146	3008346	106.30	ug/L		98
89) 1,4-Dichlorobenzene	15.503	146	2972784	100.12	ug/L		96
90) n-Butylbenzene	15.673	91	6678774	116.72	ug/L		99
91) 1,2-Dichlorobenzene	16.020	146	2797662	108.32	ug/L		97
92) DBCP	17.078	157	347030	150.48	ug/L		96
93) Hexachlorobutadiene	17.977	225	318853	134.11	ug/L		95
94) 1,2,4-Trichlorobenzene	18.135	180	778725	170.88	ug/L		95
95) Naphthalene	18.770	128	2428103	207.43	ug/L		99
96) 1,2,3-Trichlorobenzene	19.152	180	365181	181.70	ug/L		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM011.D
Acq On : 18 Jun 2021 11:20 am
Operator : kkw
Sample : aa66932-cal8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jun 18 11:43:26 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Fri Jun 18 11:11:17 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM013.D
Acq On : 18 Jun 2021 12:15 pm
Operator : kkw
Sample : aa66932-scv1
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jun 21 07:55:38 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Mon Jun 21 07:54:29 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1128318	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2499257	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1604968	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1259307	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	675508	50.03	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 100.06%				
52) D8-Toluene	11.778	98	3378392	54.81	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 109.62%				
73) Bromofluorobenzene	14.328	95	1508083	54.70	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 109.40%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	317681	27.37	ug/L		100
3) Chloromethane	4.410	50	382583	22.81	ug/L		98
4) Vinyl Chloride	4.586	62	307174	20.47	ug/L		93
5) Bromomethane	5.232	94	84016	21.54	ug/L	#	96
6) Chloroethane	5.450	64	132898	15.76	ug/L		96
7) Trichlorofluoromethane	5.703	101	347490	20.24	ug/L		99
8) Diethyl ether	6.178	59	634347	54.40	ug/L		100
9) 1,1-Dichloroethene	6.531	96	677949	56.53	ug/L		99
10) Trichlorotrifluoroethane	6.554	151	411529	56.60	ug/L		94
11) Acrolein	7.013	56	629146	207.69	ug/L		99
12) Iodomethane	6.778	142	503465	49.88	ug/L		98
13) Carbon Disulfide	6.625	76	2348205	65.60	ug/L		99
14) 3-chloropropene	7.195	41	1236698	62.45	ug/L		98
15) Acetone	7.389	43	1243457	259.52	ug/L		99
16) Methylene Chloride	7.342	84	787950	51.23	ug/L		94
17) Methyl Acetate	7.518	43	734153	58.35	ug/L		96
18) t-1,2-Dichloroethene	7.547	96	754914	55.16	ug/L		98
19) Methyl tert-butyl ether	7.630	73	1953142	56.30	ug/L		95
20) Acetonitrile	8.018	41	1104090	346.70	ug/L		92
21) Isopropyl ether	8.047	45	2555237	58.69	ug/L		97
22) Chloroprene	8.276	88	718883	54.97	ug/L		98
23) 1,1-Dichloroethane	8.311	63	1463462	56.25	ug/L		99
24) Acrylonitrile	8.388	53	417621	69.65	ug/L		94
25) Vinyl Acetate	8.540	43	1576358	51.05	ug/L		100
26) c-1,2-Dichloroethene	8.946	96	833017	56.36	ug/L		99
27) 2,2-Dichloropropane	9.069	77	1104018	59.05	ug/L		98
28) Bromochloromethane	9.181	128	266462	48.81	ug/L		94
29) Cyclohexane	9.193	56	1561550	60.23	ug/L		99
30) Chloroform	9.222	83	1344676	54.12	ug/L		99
32) Dibromofluoromethane	9.428	113	675508	50.03	ug/L	#	86
33) 2-Butanone	9.539	72	631495	284.35	ug/L		97
34) 1,1,1-Trichloroethane	9.486	97	1061984	57.64	ug/L		99
35) 1,1-Dichloropropene	9.604	75	1126769	55.00	ug/L		100
36) Propionitrile	9.898	54	180773	67.56	ug/L	#	1
37) Methacrylonitrile	9.909	41	863237	82.35	ug/L	#	79
38) Isobutyl Alcohol	9.904	43	695681	543.32	ug/L	#	77
40) Carbon Tetrachloride	9.410	117	785492m	54.98	ug/L		
41) Benzene	9.874	78	3370646	56.91	ug/L		98
42) 1,2-Dichloroethane	10.086	62	925481	52.70	ug/L		100
43) Trichloroethene	10.450	130	679710	55.50	ug/L		97
44) Methyl cyclohexane	10.450	83	1523625	57.08	ug/L		99
45) Dibromomethane	10.902	93	463343	53.19	ug/L		98
46) 1,2-Dichloropropane	10.985	63	935139	55.48	ug/L		99
47) Bromodichloromethane	11.014	83	989499	59.84	ug/L		99
48) Methyl Methacrylate	11.073	69	699733	52.49	ug/L		97
49) 1,4-Dioxane	11.196	88	169592	1185.40	ug/L		94
50) 2-Chloroethyl vinyl ether	11.490	63	2580815	273.44	ug/L		100
51) C-1,3-Dichloropropene	11.607	75	1403408	56.52	ug/L		97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM013.D
Acq On : 18 Jun 2021 12:15 pm
Operator : kkw
Sample : aa66932-scv1
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jun 21 07:55:38 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Mon Jun 21 07:54:29 2021
Response via : Initial Calibration

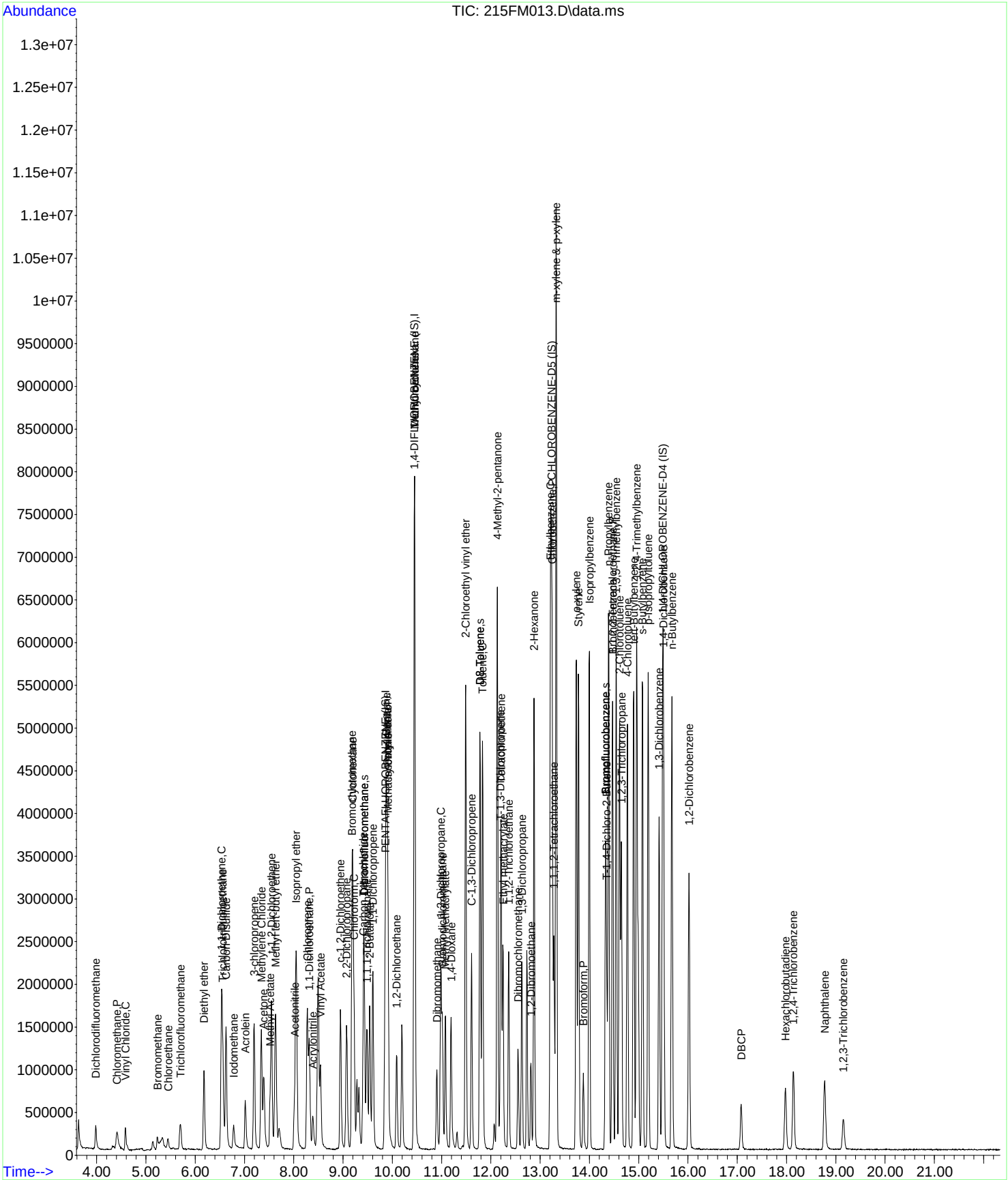
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	3378392	54.81	ug/L		97
54) 4-Methyl-2-pentanone	12.130	100	688870	299.97	ug/L		97
56) Toluene	11.831	92	2210166	56.31	ug/L		97
57) T-1,3-Dichloropropene	12.195	75	1206284	60.73	ug/L		99
58) Tetrachloroethene	12.207	164	499288	55.59	ug/L		97
59) Ethyl methacrylate	12.248	69	1298219	56.33	ug/L		98
60) 1,1,2-Trichloroethane	12.360	97	758031	56.13	ug/L		98
61) Dibromochloromethane	12.553	129	658705	54.77	ug/L		99
62) 1,3-Dichloropropane	12.630	76	1377135	55.67	ug/L		98
63) 1,2-Dibromoethane	12.812	107	779275	57.59	ug/L		99
64) 2-Hexanone	12.877	43	3434594	281.62	ug/L		100
65) Ethylbenzene	13.206	106	1325600	59.87	ug/L		94
66) Chlorobenzene	13.241	112	2236687	57.36	ug/L		99
67) 1,1,1,2-Tetrachloroethane	13.276	131	673028	59.79	ug/L		97
68) m-xylene & p-xylene	13.323	106	3160551	111.23	ug/L		99
69) o-xylene	13.734	106	1680946	59.97	ug/L		99
70) Styrene	13.776	104	2944712	59.32	ug/L		98
71) Bromoform	13.875	173	377979	55.12	ug/L		99
72) Isopropylbenzene	13.999	105	4302693	58.22	ug/L		100
74) Bromofluorobenzene	14.328	95	1508083	54.70	ug/L	#	75
75) n-Propylbenzene	14.387	91	5648912	58.42	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.469	83	1301910	56.35	ug/L		100
77) 1,2,3-Trichloropropane	14.651	61	278456	52.08	ug/L		97
78) T-1,4-Dichloro-2-Butene	14.345	53	414145	61.22	ug/L		97
80) Bromobenzene	14.469	156	792623	58.12	ug/L		98
81) 1,2,4-Trimethylbenzene	14.957	105	3805773	57.25	ug/L		100
82) 2-Chlorotoluene	14.610	91	3324563	59.63	ug/L		99
83) 4-Chlorotoluene	14.769	91	3457410	56.52	ug/L		99
84) tert-Butylbenzene	14.898	119	3023903	57.64	ug/L		99
85) 1,3,5-Trimethylbenzene	14.539	105	3786947	56.99	ug/L		99
86) p-Isopropyltoluene	15.192	119	3793402	59.08	ug/L		100
87) s-Butylbenzene	15.074	105	4663834	58.46	ug/L		99
88) 1,3-Dichlorobenzene	15.415	146	1701572	59.64	ug/L		99
89) 1,4-Dichlorobenzene	15.503	146	1674850	56.64	ug/L		99
90) n-Butylbenzene	15.673	91	3858101	58.23	ug/L		99
91) 1,2-Dichlorobenzene	16.020	146	1570468	57.05	ug/L		99
92) DBCP	17.084	157	166845	58.77	ug/L		92
93) Hexachlorobutadiene	17.977	225	175248	56.84	ug/L		92
94) 1,2,4-Trichlorobenzene	18.135	180	387780	59.56	ug/L		99
95) Naphthalene	18.776	128	1102665	59.02	ug/L		98
96) 1,2,3-Trichlorobenzene	19.146	180	163143	57.21	ug/L		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM013.D
Acq On : 18 Jun 2021 12:15 pm
Operator : kkw
Sample : aa66932-scv1
Misc :
ALS Vial : 11 Sample Multiplier: 1

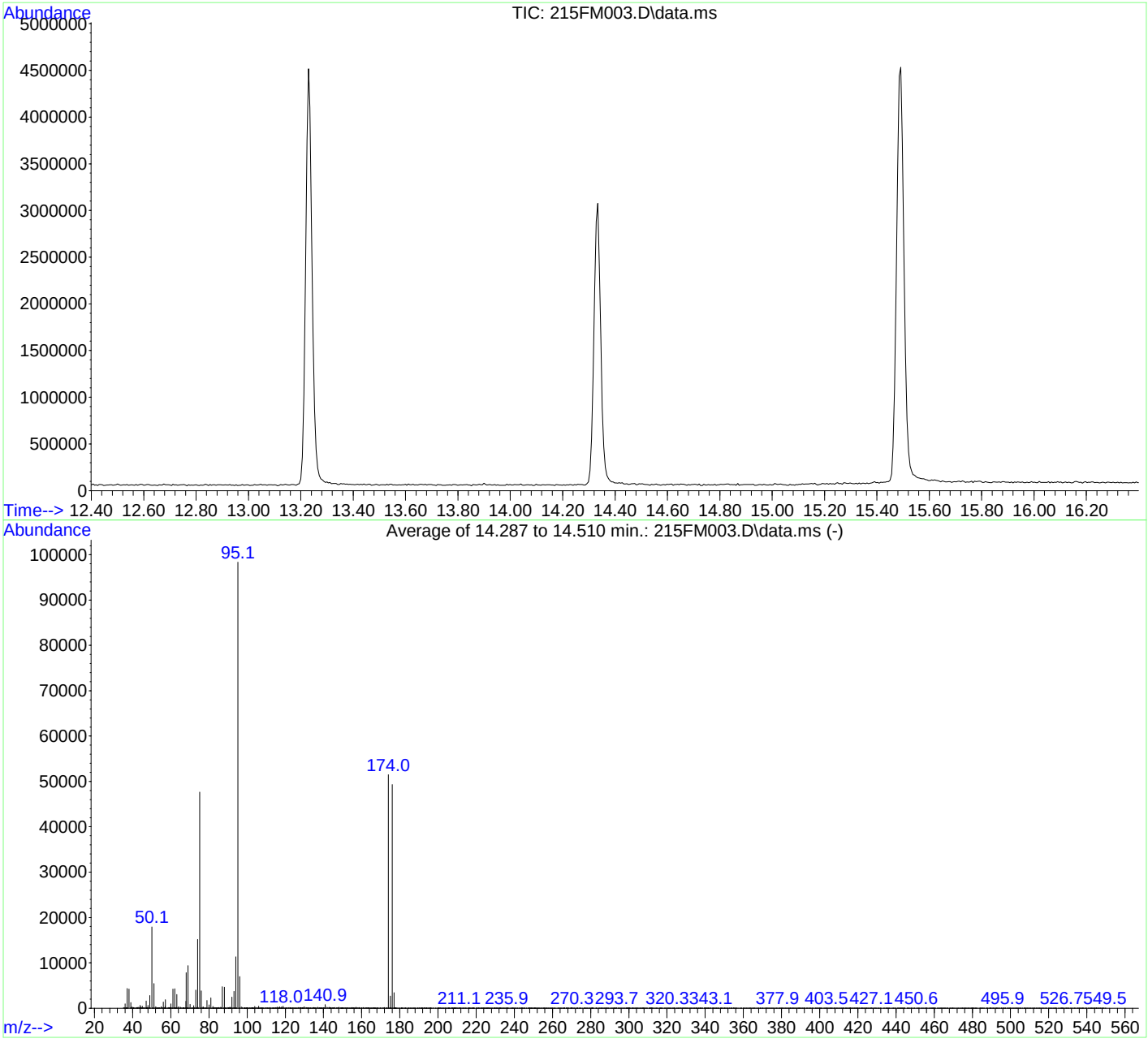
Quant Time: Jun 21 07:55:38 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Mon Jun 21 07:54:29 2021
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\061821\
Data File : 215FM003.D
Acq On : 18 Jun 2021 7:34 am
Operator : kkw
Sample : tun1
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\methods\061821W.M
Title : ENCO SOP VGCMS05; Element Cal 2106098
Last Update : Mon Jun 21 08:16:13 2021



Spectrum Information: Average of 14.287 to 14.510 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
95	174	50	200	191.0	98343	PASS
96	95	5	9	7.1	6939	PASS
173	174	0.00	2	0.2	110	PASS
174	95	50	200	52.3	51480	PASS
175	174	5	9	5.2	2692	PASS
176	174	95	105	95.8	49319	PASS
177	176	5	10	7.0	3428	PASS

TETRA TECH ISG
TtEGS, Information Systems Group

Completion Ticket

On 8/9/2021 at 12:05 PM the following files were submitted to Tetra Tech by kdylnicki@encolabs.com with ENCO:

TE016AE06178A1.txt, TE016AE06178A3.txt

If you need to identify this session at a later date refer to Ticket Key:

202189_517307933_ledd_ENCO

You may print this page by clicking on the "Print This Page" button

Thank you for using the Data Checker, to upload more files click the "Upload/Check Files" link on navigation menu.

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I Lori S. Mangrum, as the designated Quality Assurance Officer, hereby attest that all electronic deliverables have been thoroughly reviewed and are in agreement with the associated hardcopy data. The enclosed electronic files have been reviewed for accuracy (including significant figures), completeness and format. The laboratory will be responsible for any labor time necessary to correct enclosed electronic deliverables that have been found to be in error. I can be reached at (407) 826-5314 if there are any questions or problems with the enclosed electronic deliverables.

Signature:_____ Title: Quality Assurance Manager Date: August 11, 201

TABLE OF CONTENTS

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Project Narrative	3
Flags/Notes and Definitions	15
Chain of Custody	17
Login Report	18
EPA 8260D Package	19

ENCO Laboratories

Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Thursday, July 29, 2021
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AE06178

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Friday, July 23, 2021.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

www.encolabs.com

Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Client PM: Alex Murphy
Project Number: 112G08970
ENCO Project ID: AE06178
SDG: AE06178-TE016

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling and processing will be discussed in the Remarks section below.

Remarks

List of instruments used:

Analytical Method / Preparation Method	SOP Reference Instrument
EPA 8260D / EPA_5030B_MS	OVGCMS5

Analysis: EPA 8260D

Manual integrations were performed on samples associated with EPA 8260D. All data & explanations are included in the raw data section of the report

Affected Samples: CRCA-ASINFLUENT-20210723 [AE06178-01], 1G27016-MSD1
Precision between duplicate matrix spikes of the same sample was outside the acceptance limits for 1,2,4-trichlorobenzene.

Affected Samples: CRCA-ASEFFLUENT-20210723 [AE06178-02], AA67520-CCV1
The associated calibration verification standard for bromomethane and dichlorodifluoromethane exhibited high bias. Analytes not detected in the sample.

Affected Samples: AA66932-SCV1
Recovery for carbon disulfide and dichlorodifluoromethane were outside acceptance limits. Analytes were not detected in the samples.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Kaitlin Dylnicki
Project Manager

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-ASINFLUENT-20210723 | **Lab ID: AE06178-01** | **Sampled: 07/23/21 12:30** | **Received: 07/23/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	08/06/21	07/27/21 09:06	07/27/21 10:02

Client ID: CRCA-ASEFFLUENT-20210723 | **Lab ID: AE06178-02** | **Sampled: 07/23/21 12:40** | **Received: 07/23/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	08/06/21	07/27/21 09:06	07/27/21 10:30

SAMPLE DETECTION SUMMARY

Client ID: CRCA-ASINFLUENT-20210723 **Lab ID:** AE06178-01

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	12		0.71	2.5	ug/L	EPA 8260D	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20210723 **Lab Sample ID:** AE06178-01 **Received:** 07/23/21 15:00

Matrix: Ground Water **Sampled:** 07/23/21 12:30 **Work Order:** AE06178

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	QM-11
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1G27016	EPA 8260D	07/27/21 10:02	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1G27016	EPA 8260D	07/27/21 10:02	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASINFLUENT-20210723 **Lab Sample ID:** AE06178-01 **Received:** 07/23/21 15:00

Matrix: Ground Water **Sampled:** 07/23/21 12:30 **Work Order:** AE06178

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Vinyl chloride [75-01-4]^	**12**		ug/L	1	0.71	2.5	1G27016	EPA 8260D	07/27/21 10:02	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1G27016	EPA 8260D	07/27/21 10:02	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*50*	*1*	*50.0*	*100 %*	*41-142*	*1G27016*	*EPA 8260D*	*07/27/21 10:02*	*kkw*	
Dibromofluoromethane	*53*	*1*	*50.0*	*107 %*	*53-146*	*1G27016*	*EPA 8260D*	*07/27/21 10:02*	*kkw*	
Toluene-d8	*51*	*1*	*50.0*	*103 %*	*41-146*	*1G27016*	*EPA 8260D*	*07/27/21 10:02*	*kkw*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20210723 **Lab Sample ID:** AE06178-02 **Received:** 07/23/21 15:00

Matrix: Ground Water **Sampled:** 07/23/21 12:40 **Work Order:** AE06178

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1G27016	EPA 8260D	07/27/21 10:30	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1G27016	EPA 8260D	07/27/21 10:30	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	

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ANALYTICAL RESULTS

Description: CRCA-ASEFFLUENT-20210723 **Lab Sample ID:** AE06178-02 **Received:** 07/23/21 15:00

Matrix: Ground Water **Sampled:** 07/23/21 12:40 **Work Order:** AE06178

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1G27016	EPA 8260D	07/27/21 10:30	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1G27016	EPA 8260D	07/27/21 10:30	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*51*	*1*	*50.0*	*102 %*	*41-142*	*1G27016*	*EPA 8260D*	*07/27/21 10:30*	*kkw*	
Dibromofluoromethane	*52*	*1*	*50.0*	*103 %*	*53-146*	*1G27016*	*EPA 8260D*	*07/27/21 10:30*	*kkw*	
Toluene-d8	*51*	*1*	*50.0*	*102 %*	*41-146*	*1G27016*	*EPA 8260D*	*07/27/21 10:30*	*kkw*	

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1G27016 - EPA 5030B_MS

Blank (1G27016-BLK1) Prepared: 07/27/2021 00:00 Analyzed: 07/27/2021 09:34

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1G27016 - EPA 5030B_MS - Continued

Blank (1G27016-BLK1) Continued Prepared: 07/27/2021 00:00 Analyzed: 07/27/2021 09:34

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*50*			*ug/L*	*50.0*		*99*	*41-142*			
Dibromofluoromethane	*53*			*ug/L*	*50.0*		*106*	*53-146*			
Toluene-d8	*51*			*ug/L*	*50.0*		*101*	*41-146*			

LCS (1G27016-BS1) Prepared: 07/27/2021 00:00 Analyzed: 07/27/2021 08:38

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	23		2.5	ug/L	20.0		113	57-148			
1,1,2,2-Tetrachloroethane	21		2.5	ug/L	20.0		105	60-139			
1,1,2-Trichloroethane	21		2.5	ug/L	20.0		103	57-141			
1,1-Dichloroethane	22		2.5	ug/L	20.0		111	57-142			
1,1-Dichloroethene	22		2.5	ug/L	20.0		109	47-139			
1,2,4-Trichlorobenzene	27		2.5	ug/L	20.0		134	52-159			
1,2-Dibromo-3-chloropropane	24		2.5	ug/L	20.0		118	48-150			
1,2-Dibromoethane	21		2.5	ug/L	20.0		103	57-140			
1,2-Dichlorobenzene	21		2.5	ug/L	20.0		105	63-131			
1,2-Dichloroethane	19		2.5	ug/L	20.0		97	50-156			
1,2-Dichloropropane	21		2.5	ug/L	20.0		103	61-133			
1,3-Dichlorobenzene	22		2.5	ug/L	20.0		111	66-129			
1,4-Dichlorobenzene	22		2.5	ug/L	20.0		108	65-133			
2-Butanone	61		12	ug/L	100		61	10-180			
2-Hexanone	51		12	ug/L	100		51	12-180			
4-Methyl-2-pentanone	57		12	ug/L	100		57	19-180			
Acetone	50		25	ug/L	100		50	10-180			
Benzene	21		2.5	ug/L	20.0		106	56-136			
Bromodichloromethane	21		2.5	ug/L	20.0		104	58-135			
Bromoform	19		2.5	ug/L	20.0		96	46-148			
Bromomethane	15		2.5	ug/L	20.0		75	10-173			
Carbon disulfide	25		12	ug/L	20.0		123	43-153			
Carbon Tetrachloride	19		2.5	ug/L	20.0		95	54-156			
Chlorobenzene	21		2.5	ug/L	20.0		105	51-139			
Chloroethane	23		2.5	ug/L	20.0		113	27-180			
Chloroform	22		2.5	ug/L	20.0		108	58-139			
Chloromethane	23		2.5	ug/L	20.0		116	33-154			
cis-1,2-Dichloroethene	23		2.5	ug/L	20.0		114	56-128			
cis-1,3-Dichloropropene	20		2.5	ug/L	20.0		102	64-128			
Cyclohexane	23		2.5	ug/L	20.0		114	70-130			
Dibromochloromethane	19		2.5	ug/L	20.0		95	50-140			
Dichlorodifluoromethane	28		2.5	ug/L	20.0		141	10-180			
Ethylbenzene	21		2.5	ug/L	20.0		105	63-133			
Freon 113	20		2.5	ug/L	20.0		102	47-173			
Isopropylbenzene	20		2.5	ug/L	20.0		101	60-132			
m,p-Xylenes	42		5.0	ug/L	40.0		106	64-133			
Methyl acetate	22		2.5	ug/L	20.0		108	70-130			
Methyl cyclohexane	20		2.5	ug/L	20.0		100	70-130			
Methylene Chloride	22		12	ug/L	20.0		109	43-142			
Methyl-tert-Butyl Ether	22		2.5	ug/L	20.0		108	51-145			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1G27016 - EPA 5030B_MS - Continued

LCS (1G27016-BS1) Continued Prepared: 07/27/2021 00:00 Analyzed: 07/27/2021 08:38

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
o-Xylene	21		2.5	ug/L	20.0		106	61-129			
Styrene	20		2.5	ug/L	20.0		100	59-136			
Tetrachloroethene	21		2.5	ug/L	20.0		104	60-147			
Toluene	21		2.5	ug/L	20.0		103	64-131			
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0		108	54-134			
trans-1,3-Dichloropropene	23		2.5	ug/L	20.0		115	65-149			
Trichloroethene	20		2.5	ug/L	20.0		100	62-135			
Trichlorofluoromethane	21		2.5	ug/L	20.0		106	56-155			
Vinyl chloride	23		2.5	ug/L	20.0		115	20-167			
4-Bromofluorobenzene	*51*			*ug/L*	*50.0*		*102*	*41-142*			
Dibromofluoromethane	*57*			*ug/L*	*50.0*		*113*	*53-146*			
Toluene-d8	*51*			*ug/L*	*50.0*		*102*	*41-146*			

Matrix Spike (1G27016-MS1) Prepared: 07/27/2021 00:00 Analyzed: 07/27/2021 18:28

Source: AE06178-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	24		2.5	ug/L	20.0	0.80 U	118	57-148			
1,1,2,2-Tetrachloroethane	21		2.5	ug/L	20.0	0.54 U	103	60-139			
1,1,2-Trichloroethane	21		2.5	ug/L	20.0	0.76 U	103	57-141			
1,1-Dichloroethane	22		2.5	ug/L	20.0	0.62 U	111	57-142			
1,1-Dichloroethene	22		2.5	ug/L	20.0	0.94 U	111	47-139			
1,2,4-Trichlorobenzene	20		2.5	ug/L	20.0	0.70 U	101	52-159			QM-11
1,2-Dibromo-3-chloropropane	22		2.5	ug/L	20.0	0.96 U	110	48-150			
1,2-Dibromoethane	19		2.5	ug/L	20.0	0.78 U	97	57-140			
1,2-Dichlorobenzene	20		2.5	ug/L	20.0	0.73 U	102	63-131			
1,2-Dichloroethane	20		2.5	ug/L	20.0	0.63 U	100	50-156			
1,2-Dichloropropane	19		2.5	ug/L	20.0	0.80 U	96	61-133			
1,3-Dichlorobenzene	22		2.5	ug/L	20.0	0.77 U	108	66-129			
1,4-Dichlorobenzene	21		2.5	ug/L	20.0	0.76 U	106	65-133			
2-Butanone	55		12	ug/L	100	4.5 U	55	10-180			
2-Hexanone	48		12	ug/L	100	2.5 U	48	12-180			
4-Methyl-2-pentanone	54		12	ug/L	100	2.5 U	54	19-180			
Acetone	44		25	ug/L	100	10 U	44	10-180			
Benzene	22		2.5	ug/L	20.0	0.71 U	108	56-136			
Bromodichloromethane	21		2.5	ug/L	20.0	0.52 U	104	58-135			
Bromoform	17		2.5	ug/L	20.0	0.75 U	84	46-148			
Bromomethane	24		2.5	ug/L	20.0	0.95 U	120	10-173			
Carbon disulfide	24		12	ug/L	20.0	2.5 U	122	43-153			
Carbon Tetrachloride	24		2.5	ug/L	20.0	0.94 U	120	54-156			
Chlorobenzene	22		2.5	ug/L	20.0	0.72 U	108	51-139			
Chloroethane	26		2.5	ug/L	20.0	0.98 U	129	27-180			
Chloroform	22		2.5	ug/L	20.0	0.80 U	111	58-139			
Chloromethane	24		2.5	ug/L	20.0	0.82 U	122	33-154			
cis-1,2-Dichloroethene	23		2.5	ug/L	20.0	0.53 U	114	56-128			
cis-1,3-Dichloropropene	19		2.5	ug/L	20.0	0.59 U	93	64-128			
Cyclohexane	23		2.5	ug/L	20.0	0.93 U	113	70-130			
Dibromochloromethane	19		2.5	ug/L	20.0	0.50 U	95	50-140			
Dichlorodifluoromethane	30		2.5	ug/L	20.0	0.74 U	148	10-180			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1G27016 - EPA 5030B_MS - Continued

Matrix Spike (1G27016-MS1) Continued Prepared: 07/27/2021 00:00 Analyzed: 07/27/2021 18:28

Source: AE06178-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	22		2.5	ug/L	20.0	0.69 U	108	63-133			
Freon 113	20		2.5	ug/L	20.0	0.73 U	100	47-173			
Isopropylbenzene	21		2.5	ug/L	20.0	0.67 U	105	60-132			
m,p-Xylenes	43		5.0	ug/L	40.0	1.3 U	106	64-133			
Methyl acetate	18		2.5	ug/L	20.0	0.95 U	88	70-130			
Methyl cyclohexane	21		2.5	ug/L	20.0	0.64 U	103	70-130			
Methylene Chloride	21		12	ug/L	20.0	2.5 U	104	43-142			
Methyl-tert-Butyl Ether	21		2.5	ug/L	20.0	0.60 U	104	51-145			
o-Xylene	22		2.5	ug/L	20.0	0.53 U	109	61-129			
Styrene	20		2.5	ug/L	20.0	0.61 U	99	59-136			
Tetrachloroethene	20		2.5	ug/L	20.0	0.76 U	100	60-147			
Toluene	21		2.5	ug/L	20.0	0.72 U	107	64-131			
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.73 U	112	54-134			
trans-1,3-Dichloropropene	22		2.5	ug/L	20.0	0.73 U	109	65-149			
Trichloroethene	21		2.5	ug/L	20.0	0.89 U	106	62-135			
Trichlorofluoromethane	23		2.5	ug/L	20.0	0.94 U	116	56-155			
Vinyl chloride	35		2.5	ug/L	20.0	12	115	20-167			
4-Bromofluorobenzene	*51*			*ug/L*	*50.0*		*103*	*41-142*			
Dibromofluoromethane	*54*			*ug/L*	*50.0*		*108*	*53-146*			
Toluene-d8	*51*			*ug/L*	*50.0*		*103*	*41-146*			

Matrix Spike Dup (1G27016-MSD1) Prepared: 07/27/2021 00:00 Analyzed: 07/27/2021 18:56

Source: AE06178-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	22		2.5	ug/L	20.0	0.80 U	111	57-148	6	25	
1,1,2,2-Tetrachloroethane	20		2.5	ug/L	20.0	0.54 U	100	60-139	2	17	
1,1,2-Trichloroethane	21		2.5	ug/L	20.0	0.76 U	104	57-141	0.7	16	
1,1-Dichloroethane	22		2.5	ug/L	20.0	0.62 U	110	57-142	1	24	
1,1-Dichloroethene	22		2.5	ug/L	20.0	0.94 U	108	47-139	3	16	
1,2,4-Trichlorobenzene	26		2.5	ug/L	20.0	0.70 U	129	52-159	25	24	QM-11
1,2-Dibromo-3-chloropropane	25		2.5	ug/L	20.0	0.96 U	124	48-150	12	21	
1,2-Dibromoethane	19		2.5	ug/L	20.0	0.78 U	94	57-140	3	16	
1,2-Dichlorobenzene	21		2.5	ug/L	20.0	0.73 U	106	63-131	4	25	
1,2-Dichloroethane	19		2.5	ug/L	20.0	0.63 U	96	50-156	4	18	
1,2-Dichloropropane	20		2.5	ug/L	20.0	0.80 U	102	61-133	5	26	
1,3-Dichlorobenzene	22		2.5	ug/L	20.0	0.77 U	109	66-129	1	23	
1,4-Dichlorobenzene	21		2.5	ug/L	20.0	0.76 U	105	65-133	1	23	
2-Butanone	56		12	ug/L	100	4.5 U	56	10-180	1	29	
2-Hexanone	49		12	ug/L	100	2.5 U	49	12-180	0.6	28	
4-Methyl-2-pentanone	58		12	ug/L	100	2.5 U	58	19-180	6	24	
Acetone	45		25	ug/L	100	10 U	45	10-180	2	19	
Benzene	21		2.5	ug/L	20.0	0.71 U	107	56-136	0.6	14	
Bromodichloromethane	21		2.5	ug/L	20.0	0.52 U	103	58-135	1	19	
Bromoform	17		2.5	ug/L	20.0	0.75 U	83	46-148	1	18	
Bromomethane	22		2.5	ug/L	20.0	0.95 U	109	10-173	10	29	
Carbon disulfide	23		12	ug/L	20.0	2.5 U	116	43-153	5	26	
Carbon Tetrachloride	20		2.5	ug/L	20.0	0.94 U	102	54-156	17	27	
Chlorobenzene	21		2.5	ug/L	20.0	0.72 U	106	51-139	2	13	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1G27016 - EPA 5030B_MS - Continued

Matrix Spike Dup (1G27016-MSD1) Continued Prepared: 07/27/2021 00:00 Analyzed: 07/27/2021 18:56

Source: AE06178-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloroethane	22		2.5	ug/L	20.0	0.98 U	111	27-180	15	22	
Chloroform	22		2.5	ug/L	20.0	0.80 U	108	58-139	3	17	
Chloromethane	23		2.5	ug/L	20.0	0.82 U	116	33-154	5	31	
cis-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.53 U	108	56-128	5	17	
cis-1,3-Dichloropropene	18		2.5	ug/L	20.0	0.59 U	92	64-128	0.6	20	
Cyclohexane	22		2.5	ug/L	20.0	0.93 U	110	70-130	3	20	
Dibromochloromethane	18		2.5	ug/L	20.0	0.50 U	91	50-140	4	18	
Dichlorodifluoromethane	28		2.5	ug/L	20.0	0.74 U	142	10-180	5	26	
Ethylbenzene	21		2.5	ug/L	20.0	0.69 U	106	63-133	1	18	
Freon 113	20		2.5	ug/L	20.0	0.73 U	102	47-173	2	30	
Isopropylbenzene	20		2.5	ug/L	20.0	0.67 U	102	60-132	3	23	
m,p-Xylenes	41		5.0	ug/L	40.0	1.3 U	103	64-133	3	18	
Methyl acetate	18		2.5	ug/L	20.0	0.95 U	92	70-130	4	20	
Methyl cyclohexane	21		2.5	ug/L	20.0	0.64 U	106	70-130	2	20	
Methylene Chloride	19		12	ug/L	20.0	2.5 U	97	43-142	7	23	
Methyl-tert-Butyl Ether	20		2.5	ug/L	20.0	0.60 U	99	51-145	4	22	
o-Xylene	21		2.5	ug/L	20.0	0.53 U	107	61-129	2	16	
Styrene	20		2.5	ug/L	20.0	0.61 U	99	59-136	0.4	32	
Tetrachloroethene	20		2.5	ug/L	20.0	0.76 U	101	60-147	0.3	21	
Toluene	21		2.5	ug/L	20.0	0.72 U	103	64-131	4	16	
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.73 U	109	54-134	3	20	
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0	0.73 U	106	65-149	3	17	
Trichloroethene	20		2.5	ug/L	20.0	0.89 U	101	62-135	5	20	
Trichlorofluoromethane	23		2.5	ug/L	20.0	0.94 U	113	56-155	3	22	
Vinyl chloride	34		2.5	ug/L	20.0	12	110	20-167	3	24	
4-Bromofluorobenzene	*51*			*ug/L*	*50.0*		*102*	*41-142*			
Dibromofluoromethane	*52*			*ug/L*	*50.0*		*104*	*53-146*			
Toluene-d8	*52*			*ug/L*	*50.0*		*104*	*41-146*			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-11	Precision between duplicate matrix spikes of the same sample was outside acceptance limits.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.

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B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported result is an estimated value.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence (85% or greater confidence) to make a “tentative identification".
Q	One or more quality control criteria failed.

AEOG178

Tetra Tech, Inc. | **CHAIN OF CUSTODY** | **NUMBER** No. 1386 | **PAGE** 1 **OF** 1

PROJECT NO: 112G03970	**FACILITY:** CICA	**PROJECT MANAGER** ALEX MURPHY	**PHONE NUMBER** (321) 292-0842	**LABORATORY NAME AND CONTACT:** ENCO — Kaitlin Orlnicki
SAMPLERS (SIGNATURE) Chuck Sorden		**FIELD OPERATIONS LEADER** Chuck SOLDEN	**PHONE NUMBER** (321) 591-7580	**ADDRESS** 10775 Central Park Dr.
		CARRIER/WAYBILL NUMBER		**CITY, STATE** ORLANDO, FL

STANDARD TAT ☒
RUSH TAT ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2021	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TYPE OF ANALYSIS: 8260 TCL SM01.2 CLP-LIKE CUSTOM LIST	COMMENTS
7/23	1130	CICA-AS-INFLUENT-20210723CICA		—	—	GW	G	3	G	HCL	X	
7/23	1240	CICA-AS-EFFLUENT-20210723CICA		—	—	GW	G	3	G	HCL	X	

1. RELINQUISHED BY	DATE 07/23/2021	TIME 1500	1. RECEIVED BY Jonathan Gregory	DATE 7/23/21	TIME 1500
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS: SM — 418 1.8°

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

7/23/2021

Environmental Conservation Labs, Inc.

Alex Murphy
Tetra Tech, Inc. (TE016)
11 Riverside Drive, Suite 204
Cocoa, FL 32922

Phone: (321) 636-6470
Fax: (321) 636-6473

Reference : **Sample Receipt Confirmation - *Please Review***
Project Name / Number : NASA KSC CRCA / 112G08970
Purchase Order # : 1165883

Lab Reference # : AE06178 Lab Receipt Date: 23-Jul-21 15:00
Anticipated ***(Estimated)*** Completion Date: 30-Jul-21 19:00

This is an automated notification from our laboratory information management system (LIMS), indicating the samples we have recently received and their associated analyses. Should any of the following information be in error, please contact us immediately.

Thank you for choosing Environmental Conservation Laboratories. Should any events occur that delay the processing of your samples or inhibit our ability to complete the project within the projected time frame you will be contacted.

Sincerely,

Kaitlin Dylnicki

Client: Tetra Tech, Inc. (TE016) **Project Name:** NASA KSC CRCA
Requested TAT: 5 **Project Number:** 112G08970

Analysis	TAT	Expires	Status
Sample ID: CRCA-ASINFLUENT-20210723(Lab ID: AE06178-01), Matrix: Ground Water, Sampled: 23-Jul-21 12:30 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	06-Aug-21 23:59	Received
Sample ID: CRCA-ASEFFLUENT-20210723(Lab ID: AE06178-02), Matrix: Ground Water, Sampled: 23-Jul-21 12:40 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	06-Aug-21 23:59	Received

Analysis Groups included in this work order

ENCO Orlando

SDG: AE06178-TE016

CLASS: 01_VOA_MS

METHOD: EPA 8260D

ANALYSES DATA PACKAGE COVER PAGE

EPA 8260D

Laboratory: ENCO Orlando

SDG: AE06178-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-ASINFLUENT-20210723	AE06178-01
CRCA-ASEFFLUENT-20210723	AE06178-02

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLUENT-20210723

Laboratory: ENCO Orlando SDG: AE06178-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE06178-01 File ID: 215GV006.D

Sampled: 07/23/21 12:30 Prepared: 07/27/21 09:06 Analyzed: 07/27/21 10:02

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G27016 Sequence: AA67520 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	12		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASINFLUENT-20210723

Laboratory: ENCO Orlando SDG: AE06178-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE06178-01 File ID: 215GV006.D

Sampled: 07/23/21 12:30 Prepared: 07/27/21 09:06 Analyzed: 07/27/21 10:02

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G27016 Sequence: AA67520 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	53	107	53 - 146	
Toluene-d8	50.0	51	103	41 - 146	
4-Bromofluorobenzene	50.0	50	100	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1005038	9.857	1101889	9.851	
1,4-Difluorobenzene	2469097	10.45	2525815	10.444	
Chlorobenzene-d5	1531646	13.229	1610233	13.223	
1,4-Dichlorobenzene-d4	1159017	15.491	1271242	15.485	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLUENT-20210723

Laboratory: ENCO Orlando SDG: AE06178-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE06178-02 File ID: 215GV007.D

Sampled: 07/23/21 12:40 Prepared: 07/27/21 09:06 Analyzed: 07/27/21 10:30

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G27016 Sequence: AA67520 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-ASEFFLUENT-20210723

Laboratory: ENCO Orlando SDG: AE06178-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE06178-02 File ID: 215GV007.D

Sampled: 07/23/21 12:40 Prepared: 07/27/21 09:06 Analyzed: 07/27/21 10:30

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G27016 Sequence: AA67520 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	52	103	53 - 146	
Toluene-d8	50.0	51	102	41 - 146	
4-Bromofluorobenzene	50.0	51	102	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1005403	9.857	1101889	9.851	
1,4-Difluorobenzene	2455447	10.45	2525815	10.444	
Chlorobenzene-d5	1512165	13.229	1610233	13.223	
1,4-Dichlorobenzene-d4	1159306	15.491	1271242	15.485	

* Values outside of QC limits

HOLDING TIME SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AE06178-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-ASINFLUENT-20210723	07/23/21 12:30	07/23/21 15:00	07/27/21 09:06	3.86	NA	07/27/21 10:02	4.00	14.00	
CRCA-ASEFFLUENT-20210723	07/23/21 12:40	07/23/21 15:00	07/27/21 09:06	3.85	NA	07/27/21 10:30	4.00	14.00	

PREPARATION BATCH SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AE06178-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1G27016 Batch Matrix: Water Preparation: EPA 5030B_MS

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1G27016-BLK1	215GV005.D	07/27/21 00:00	
LCS	1G27016-BS1	215GV003.D	07/27/21 00:00	
CRCA-ASINFLUENT-20210723	1G27016-MS1	215GV024.D	07/27/21 00:00	
CRCA-ASINFLUENT-20210723	1G27016-MSD1	215GV025.D	07/27/21 00:00	
CRCA-ASINFLUENT-20210723	AE06178-01	215GV006.D	07/27/21 09:06	
CRCA-ASEFFLUENT-20210723	AE06178-02	215GV007.D	07/27/21 09:06	

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE06178-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1G27016-BLK1	File ID:	215GV005.D
Prepared:	07/27/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	07/27/21 09:34	Instrument:	OVGCMS5		
Batch:	1G27016	Sequence:	AA67520	Calibration:	2106098

CAS NO.	COMPOUND	CONC. (ug/L)	Q
75-71-8	Dichlorodifluoromethane	0.74	U
74-87-3	Chloromethane	0.82	U
75-01-4	Vinyl chloride	0.71	U
74-83-9	Bromomethane	0.95	U
75-00-3	Chloroethane	0.98	U
75-69-4	Trichlorofluoromethane	0.94	U
76-13-1	Freon 113	0.73	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	0.94	U
75-15-0	Carbon disulfide	2.5	U
75-09-2	Methylene Chloride	2.5	U
1634-04-4	Methyl-tert-Butyl Ether	0.60	U
156-60-5	trans-1,2-Dichloroethene	0.73	U
156-59-2	cis-1,2-Dichloroethene	0.53	U
75-34-3	1,1-Dichloroethane	0.62	U
78-93-3	2-Butanone	4.5	U
67-66-3	Chloroform	0.80	U
71-55-6	1,1,1-Trichloroethane	0.80	U
79-20-9	Methyl acetate	0.95	U
110-82-7	Cyclohexane	0.93	U
108-87-2	Methyl cyclohexane	0.64	U
56-23-5	Carbon Tetrachloride	0.94	U
107-06-2	1,2-Dichloroethane	0.63	U
71-43-2	Benzene	0.71	U
79-01-6	Trichloroethene	0.89	U
78-87-5	1,2-Dichloropropane	0.80	U
75-27-4	Bromodichloromethane	0.52	U
108-10-1	4-Methyl-2-pentanone	2.5	U
591-78-6	2-Hexanone	2.5	U
10061-01-5	cis-1,3-Dichloropropene	0.59	U

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE06178-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1G27016-BLK1	File ID:	215GV005.D
Prepared:	07/27/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	07/27/21 09:34	Instrument:	OVGCMS5		
Batch:	1G27016	Sequence:	AA67520	Calibration:	2106098

CAS NO.	COMPOUND	CONC. (ug/L)	Q
108-88-3	Toluene	0.72	U
10061-02-6	trans-1,3-Dichloropropene	0.73	U
79-00-5	1,1,2-Trichloroethane	0.76	U
127-18-4	Tetrachloroethene	0.76	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.78	U
108-90-7	Chlorobenzene	0.72	U
100-41-4	Ethylbenzene	0.69	U
108-38-3/106-42-3	m,p-Xylenes	1.3	U
95-47-6	o-Xylene	0.53	U
75-25-2	Bromoform	0.75	U
100-42-5	Styrene	0.61	U
98-82-8	Isopropylbenzene	0.67	U
79-34-5	1,1,2,2-Tetrachloroethane	0.54	U
120-82-1	1,2,4-Trichlorobenzene	0.70	U
541-73-1	1,3-Dichlorobenzene	0.77	U
106-46-7	1,4-Dichlorobenzene	0.76	U
95-50-1	1,2-Dichlorobenzene	0.73	U
96-12-8	1,2-Dibromo-3-chloropropane	0.96	U
1330-20-7	Xylenes (Total)	1.3	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	53	106	53 - 146	
Toluene-d8	50.0	51	101	41 - 146	
4-Bromofluorobenzene	50.0	50	99	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1024672	9.857	1101889	9.851	
1,4-Difluorobenzene	2497844	10.45	2525815	10.444	
Chlorobenzene-d5	1573333	13.229	1610233	13.223	
1,4-Dichlorobenzene-d4	1175358	15.491	1271242	15.485	

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE06178-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1G27016	Laboratory ID:	1G27016-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	28	141	10 - 180
Chloromethane	20.0	23	116	33 - 154
Vinyl chloride	20.0	23	115	20 - 167
Bromomethane	20.0	15	75	10 - 173
Chloroethane	20.0	23	113	27 - 180
Trichlorofluoromethane	20.0	21	106	56 - 155
Freon 113	20.0	20	102	47 - 173
Acetone	100	50	50	10 - 180
1,1-Dichloroethene	20.0	22	109	47 - 139
Carbon disulfide	20.0	25	123	43 - 153
Methylene Chloride	20.0	22	109	43 - 142
Methyl-tert-Butyl Ether	20.0	22	108	51 - 145
trans-1,2-Dichloroethene	20.0	22	108	54 - 134
cis-1,2-Dichloroethene	20.0	23	114	56 - 128
1,1-Dichloroethane	20.0	22	111	57 - 142
2-Butanone	100	61	61	10 - 180
Chloroform	20.0	22	108	58 - 139
1,1,1-Trichloroethane	20.0	23	113	57 - 148
Methyl acetate	20.0	22	108	70 - 130
Cyclohexane	20.0	23	114	70 - 130
Methyl cyclohexane	20.0	20	100	70 - 130
Carbon Tetrachloride	20.0	19	95	54 - 156
1,2-Dichloroethane	20.0	19	97	50 - 156
Benzene	20.0	21	106	56 - 136
Trichloroethene	20.0	20	100	62 - 135
1,2-Dichloropropane	20.0	21	103	61 - 133
Bromodichloromethane	20.0	21	104	58 - 135
4-Methyl-2-pentanone	100	57	57	19 - 180
2-Hexanone	100	51	51	12 - 180
cis-1,3-Dichloropropene	20.0	20	102	64 - 128

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE06178-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1G27016	Laboratory ID:	1G27016-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Toluene	20.0	21	103	64 - 131
trans-1,3-Dichloropropene	20.0	23	115	65 - 149
1,1,2-Trichloroethane	20.0	21	103	57 - 141
Tetrachloroethene	20.0	21	104	60 - 147
Dibromochloromethane	20.0	19	95	50 - 140
1,2-Dibromoethane	20.0	21	103	57 - 140
Chlorobenzene	20.0	21	105	51 - 139
Ethylbenzene	20.0	21	105	63 - 133
m,p-Xylenes	40.0	42	106	64 - 133
o-Xylene	20.0	21	106	61 - 129
Bromoform	20.0	19	96	46 - 148
Styrene	20.0	20	100	59 - 136
Isopropylbenzene	20.0	20	101	60 - 132
1,1,2,2-Tetrachloroethane	20.0	21	105	60 - 139
1,2,4-Trichlorobenzene	20.0	27	134	52 - 159
1,3-Dichlorobenzene	20.0	22	111	66 - 129
1,4-Dichlorobenzene	20.0	22	108	65 - 133
1,2-Dichlorobenzene	20.0	21	105	63 - 131
1,2-Dibromo-3-chloropropane	20.0	24	118	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASINFLUENT-20210723

Laboratory: ENCO Orlando
SDG: AE06178-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1G27016
Laboratory ID: 1G27016-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-ASINFLUENT-20210723

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	ND	30	148	10 - 180
Chloromethane	20.0	ND	24	122	33 - 154
Vinyl chloride	20.0	12	35	115	20 - 167
Bromomethane	20.0	ND	24	120	10 - 173
Chloroethane	20.0	ND	26	129	27 - 180
Trichlorofluoromethane	20.0	ND	23	116	56 - 155
Freon 113	20.0	ND	20	100	47 - 173
Acetone	100	ND	44	44	10 - 180
1,1-Dichloroethene	20.0	ND	22	111	47 - 139
Carbon disulfide	20.0	ND	24	122	43 - 153
Methylene Chloride	20.0	ND	21	104	43 - 142
Methyl-tert-Butyl Ether	20.0	ND	21	104	51 - 145
trans-1,2-Dichloroethene	20.0	ND	22	112	54 - 134
cis-1,2-Dichloroethene	20.0	ND	23	114	56 - 128
1,1-Dichloroethane	20.0	ND	22	111	57 - 142
2-Butanone	100	ND	55	55	10 - 180
Chloroform	20.0	ND	22	111	58 - 139
1,1,1-Trichloroethane	20.0	ND	24	118	57 - 148
Methyl acetate	20.0	ND	18	88	70 - 130
Cyclohexane	20.0	ND	23	113	70 - 130
Methyl cyclohexane	20.0	ND	21	103	70 - 130
Carbon Tetrachloride	20.0	ND	24	120	54 - 156
1,2-Dichloroethane	20.0	ND	20	100	50 - 156
Benzene	20.0	ND	22	108	56 - 136
Trichloroethene	20.0	ND	21	106	62 - 135
1,2-Dichloropropane	20.0	ND	19	96	61 - 133
Bromodichloromethane	20.0	ND	21	104	58 - 135
4-Methyl-2-pentanone	100	ND	54	54	19 - 180
2-Hexanone	100	ND	48	48	12 - 180
cis-1,3-Dichloropropene	20.0	ND	19	93	64 - 128
Toluene	20.0	ND	21	107	64 - 131

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASINFLUENT-20210723

Laboratory: ENCO Orlando
SDG: AE06178-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1G27016
Laboratory ID: 1G27016-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-ASINFLUENT-20210723

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
trans-1,3-Dichloropropene	20.0	ND	22	109	65 - 149
1,1,2-Trichloroethane	20.0	ND	21	103	57 - 141
Tetrachloroethene	20.0	ND	20	100	60 - 147
Dibromochloromethane	20.0	ND	19	95	50 - 140
1,2-Dibromoethane	20.0	ND	19	97	57 - 140
Chlorobenzene	20.0	ND	22	108	51 - 139
Ethylbenzene	20.0	ND	22	108	63 - 133
m,p-Xylenes	40.0	ND	43	106	64 - 133
o-Xylene	20.0	ND	22	109	61 - 129
Bromoform	20.0	ND	17	84	46 - 148
Styrene	20.0	ND	20	99	59 - 136
Isopropylbenzene	20.0	ND	21	105	60 - 132
1,1,2,2-Tetrachloroethane	20.0	ND	21	103	60 - 139
1,2,4-Trichlorobenzene	20.0	ND	20	101	52 - 159
1,3-Dichlorobenzene	20.0	ND	22	108	66 - 129
1,4-Dichlorobenzene	20.0	ND	21	106	65 - 133
1,2-Dichlorobenzene	20.0	ND	20	102	63 - 131
1,2-Dibromo-3-chloropropane	20.0	ND	22	110	48 - 150

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASINFLUENT-20210723

Laboratory: ENCO Orlando
SDG: AE06178-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1G27016
Laboratory ID: 1G27016-MSD1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-ASINFLUENT-20210723

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20.0	28	142	5	26	10 - 180
Chloromethane	20.0	23	116	5	31	33 - 154
Vinyl chloride	20.0	34	110	3	24	20 - 167
Bromomethane	20.0	22	109	10	29	10 - 173
Chloroethane	20.0	22	111	15	22	27 - 180
Trichlorofluoromethane	20.0	23	113	3	22	56 - 155
Freon 113	20.0	20	102	2	30	47 - 173
Acetone	100	45	45	2	19	10 - 180
1,1-Dichloroethene	20.0	22	108	3	16	47 - 139
Carbon disulfide	20.0	23	116	5	26	43 - 153
Methylene Chloride	20.0	19	97	7	23	43 - 142
Methyl-tert-Butyl Ether	20.0	20	99	4	22	51 - 145
trans-1,2-Dichloroethene	20.0	22	109	3	20	54 - 134
cis-1,2-Dichloroethene	20.0	22	108	5	17	56 - 128
1,1-Dichloroethane	20.0	22	110	1	24	57 - 142
2-Butanone	100	56	56	1	29	10 - 180
Chloroform	20.0	22	108	3	17	58 - 139
1,1,1-Trichloroethane	20.0	22	111	6	25	57 - 148
Methyl acetate	20.0	18	92	4	20	70 - 130
Cyclohexane	20.0	22	110	3	20	70 - 130
Methyl cyclohexane	20.0	21	106	2	20	70 - 130
Carbon Tetrachloride	20.0	20	102	17	27	54 - 156
1,2-Dichloroethane	20.0	19	96	4	18	50 - 156
Benzene	20.0	21	107	0.6	14	56 - 136
Trichloroethene	20.0	20	101	5	20	62 - 135
1,2-Dichloropropane	20.0	20	102	5	26	61 - 133
Bromodichloromethane	20.0	21	103	1	19	58 - 135
4-Methyl-2-pentanone	100	58	58	6	24	19 - 180
2-Hexanone	100	49	49	0.6	28	12 - 180
cis-1,3-Dichloropropene	20.0	18	92	0.6	20	64 - 128
Toluene	20.0	21	103	4	16	64 - 131
trans-1,3-Dichloropropene	20.0	21	106	3	17	65 - 149

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-ASINFLUENT-20210723

Laboratory:	ENCO Orlando	SDG:	AE06178-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1G27016	Laboratory ID:	1G27016-MSD1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

Source Sample Name: CRCA-ASINFLUENT-20210723

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,2-Trichloroethane	20.0	21	104	0.7	16	57 - 141
Tetrachloroethene	20.0	20	101	0.3	21	60 - 147
Dibromochloromethane	20.0	18	91	4	18	50 - 140
1,2-Dibromoethane	20.0	19	94	3	16	57 - 140
Chlorobenzene	20.0	21	106	2	13	51 - 139
Ethylbenzene	20.0	21	106	1	18	63 - 133
m,p-Xylenes	40.0	41	103	3	18	64 - 133
o-Xylene	20.0	21	107	2	16	61 - 129
Bromoform	20.0	17	83	1	18	46 - 148
Styrene	20.0	20	99	0.4	32	59 - 136
Isopropylbenzene	20.0	20	102	3	23	60 - 132
1,1,2,2-Tetrachloroethane	20.0	20	100	2	17	60 - 139
1,2,4-Trichlorobenzene	20.0	26	129	25 *	24	52 - 159
1,3-Dichlorobenzene	20.0	22	109	1	23	66 - 129
1,4-Dichlorobenzene	20.0	21	105	1	23	65 - 133
1,2-Dichlorobenzene	20.0	21	106	4	25	63 - 131
1,2-Dibromo-3-chloropropane	20.0	25	124	12	21	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE06178-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA66932
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA66932-SCV1)			Lab File ID: 215FM013.D		Analyzed: 06/18/21 12:15			
Dibromofluoromethane	50.0	100	70 - 130	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	110	70 - 130	11.778	11.7795	-0.0015	+/-0.5	
4-Bromofluorobenzene	50.0	109	70 - 130	14.328	14.32875	-0.0008	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE06178-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA67520
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA67520-CCV1)			Lab File ID: 215GV002.D		Analyzed: 07/27/21 08:02			
Dibromofluoromethane	50.0	106	80 - 120	9.434	9.428	0.0060	+/-0.5	
Toluene-d8	50.0	106	80 - 120	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	105	80 - 120	14.334	14.32875	0.0053	+/-0.5	
LCS (1G27016-BS1)			Lab File ID: 215GV003.D		Analyzed: 07/27/21 08:38			
Dibromofluoromethane	50.0	113	53 - 146	9.434	9.428	0.0060	+/-0.5	
Toluene-d8	50.0	102	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	102	41 - 142	14.334	14.32875	0.0053	+/-0.5	
Blank (1G27016-BLK1)			Lab File ID: 215GV005.D		Analyzed: 07/27/21 09:34			
Dibromofluoromethane	50.0	106	53 - 146	9.434	9.428	0.0060	+/-0.5	
Toluene-d8	50.0	101	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	99	41 - 142	14.334	14.32875	0.0053	+/-0.5	
CRCA-ASINFLUENT-20210723 (AE06178-01)			Lab File ID: 215GV006.D		Analyzed: 07/27/21 10:02			
Dibromofluoromethane	50.0	107	53 - 146	9.434	9.428	0.0060	+/-0.5	
Toluene-d8	50.0	103	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	100	41 - 142	14.334	14.32875	0.0053	+/-0.5	
CRCA-ASEFFLUENT-20210723 (AE06178-02)			Lab File ID: 215GV007.D		Analyzed: 07/27/21 10:30			
Dibromofluoromethane	50.0	103	53 - 146	9.434	9.428	0.0060	+/-0.5	
Toluene-d8	50.0	102	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	102	41 - 142	14.328	14.32875	-0.0008	+/-0.5	
Matrix Spike (1G27016-MS1)			Lab File ID: 215GV024.D		Analyzed: 07/27/21 18:28			
Dibromofluoromethane	50.0	108	53 - 146	9.434	9.428	0.0060	+/-0.5	
Toluene-d8	50.0	103	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	103	41 - 142	14.334	14.32875	0.0053	+/-0.5	
Matrix Spike Dup (1G27016-MSD1)			Lab File ID: 215GV025.D		Analyzed: 07/27/21 18:56			
Dibromofluoromethane	50.0	104	53 - 146	9.434	9.428	0.0060	+/-0.5	
Toluene-d8	50.0	104	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	102	41 - 142	14.334	14.32875	0.0053	+/-0.5	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE06178-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA66932
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA66932-CAL1)			Lab File ID: 215FM004.D			Analyzed: 06/18/21 08:05			
Pentafluorobenzene	1201889	9.857	1101889	9.851	109	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2686237	10.45	2525815	10.444	106	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1505146	13.229	1610233	13.223	93	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1176558	15.491	1271242	15.485	93	50 - 200	0.0060	+/-0.50	
Cal Standard (AA66932-CAL2)			Lab File ID: 215FM005.D			Analyzed: 06/18/21 08:32			
Pentafluorobenzene	1226065	9.857	1101889	9.851	111	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2753498	10.45	2525815	10.444	109	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1619681	13.229	1610233	13.223	101	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1248669	15.491	1271242	15.485	98	50 - 200	0.0060	+/-0.50	
Cal Standard (AA66932-CAL3)			Lab File ID: 215FM006.D			Analyzed: 06/18/21 09:00			
Pentafluorobenzene	1047198	9.857	1101889	9.851	95	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2419754	10.45	2525815	10.444	96	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1545028	13.229	1610233	13.223	96	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1320874	15.486	1271242	15.485	104	50 - 200	0.0010	+/-0.50	
Cal Standard (AA66932-CAL4)			Lab File ID: 215FM007.D			Analyzed: 06/18/21 09:28			
Pentafluorobenzene	1235637	9.857	1101889	9.851	112	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2720919	10.45	2525815	10.444	108	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1709586	13.229	1610233	13.223	106	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1365508	15.485	1271242	15.485	107	50 - 200	0.0000	+/-0.50	
Cal Standard (AA66932-CAL5)			Lab File ID: 215FM008.D			Analyzed: 06/18/21 09:56			
Pentafluorobenzene	1048667	9.857	1101889	9.851	95	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2471790	10.444	2525815	10.444	98	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1553840	13.229	1610233	13.223	96	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1230662	15.485	1271242	15.485	97	50 - 200	0.0000	+/-0.50	
Cal Standard (AA66932-CAL6)			Lab File ID: 215FM009.D			Analyzed: 06/18/21 10:24			
Pentafluorobenzene	1101889	9.851	1101889	9.851	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2525815	10.444	2525815	10.444	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1610233	13.223	1610233	13.223	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1271242	15.485	1271242	15.485	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA66932-CAL7)			Lab File ID: 215FM010.D			Analyzed: 06/18/21 10:52			
Pentafluorobenzene	1123435	9.851	1101889	9.851	102	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2544231	10.444	2525815	10.444	101	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1714182	13.229	1610233	13.223	106	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1273276	15.485	1271242	15.485	100	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE06178-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA66932
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA66932-CAL8)			Lab File ID: 215FM011.D			Analyzed: 06/18/21 11:20			
Pentafluorobenzene	1129487	9.851	1101889	9.851	103	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2502919	10.444	2525815	10.444	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1697989	13.223	1610233	13.223	105	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1266610	15.485	1271242	15.485	100	50 - 200	0.0000	+/-0.50	
Secondary Cal Check (AA66932-SCV1)			Lab File ID: 215FM013.D			Analyzed: 06/18/21 12:15			
Pentafluorobenzene	1128318	9.857	1101889	9.851	102	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2499257	10.444	2525815	10.444	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1604968	13.229	1610233	13.223	100	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1259307	15.485	1271242	15.485	99	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE06178-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA67520
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA67520-CCV1)			Lab File ID: 215GV002.D			Analyzed: 07/27/21 08:02			
Pentafluorobenzene	1102000	9.857	1101889	9.851	100	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2569272	10.456	2525815	10.444	102	50 - 200	0.0120	+/-0.50	
Chlorobenzene-d5	1689287	13.235	1610233	13.223	105	50 - 200	0.0120	+/-0.50	
1,4-Dichlorobenzene-d4	1269237	15.491	1271242	15.485	100	50 - 200	0.0060	+/-0.50	
LCS (1G27016-BS1)			Lab File ID: 215GV003.D			Analyzed: 07/27/21 08:38			
Pentafluorobenzene	1079201	9.857	1101889	9.851	98	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2646304	10.456	2525815	10.444	105	50 - 200	0.0120	+/-0.50	
Chlorobenzene-d5	1669456	13.235	1610233	13.223	104	50 - 200	0.0120	+/-0.50	
1,4-Dichlorobenzene-d4	1259086	15.491	1271242	15.485	99	50 - 200	0.0060	+/-0.50	
Blank (1G27016-BLK1)			Lab File ID: 215GV005.D			Analyzed: 07/27/21 09:34			
Pentafluorobenzene	1024672	9.857	1101889	9.851	93	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2497844	10.45	2525815	10.444	99	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1573333	13.229	1610233	13.223	98	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1175358	15.491	1271242	15.485	92	50 - 200	0.0060	+/-0.50	
CRCA-ASINFLUENT-20210723 (AE06178-01)			Lab File ID: 215GV006.D			Analyzed: 07/27/21 10:02			
Pentafluorobenzene	1005038	9.857	1101889	9.851	91	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2469097	10.45	2525815	10.444	98	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1531646	13.229	1610233	13.223	95	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1159017	15.491	1271242	15.485	91	50 - 200	0.0060	+/-0.50	
CRCA-ASEFFLUENT-20210723 (AE06178-02)			Lab File ID: 215GV007.D			Analyzed: 07/27/21 10:30			
Pentafluorobenzene	1005403	9.857	1101889	9.851	91	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2455447	10.45	2525815	10.444	97	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1512165	13.229	1610233	13.223	94	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1159306	15.491	1271242	15.485	91	50 - 200	0.0060	+/-0.50	
Matrix Spike (1G27016-MS1)			Lab File ID: 215GV024.D			Analyzed: 07/27/21 18:28			
Pentafluorobenzene	980087	9.857	1101889	9.851	89	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2366093	10.45	2525815	10.444	94	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1510186	13.229	1610233	13.223	94	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1158475	15.491	1271242	15.485	91	50 - 200	0.0060	+/-0.50	
Matrix Spike Dup (1G27016-MSD1)			Lab File ID: 215GV025.D			Analyzed: 07/27/21 18:56			
Pentafluorobenzene	1025902	9.857	1101889	9.851	93	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2409457	10.456	2525815	10.444	95	50 - 200	0.0120	+/-0.50	
Chlorobenzene-d5	1551003	13.235	1610233	13.223	96	50 - 200	0.0120	+/-0.50	
1,4-Dichlorobenzene-d4	1153393	15.491	1271242	15.485	91	50 - 200	0.0060	+/-0.50	

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE06178-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA66932		
Calibration:	2106098	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA66932-TUN1	215FM003.D	06/18/21 07:34
Cal Standard	AA66932-CAL1	215FM004.D	06/18/21 08:05
Cal Standard	AA66932-CAL2	215FM005.D	06/18/21 08:32
Cal Standard	AA66932-CAL3	215FM006.D	06/18/21 09:00
Cal Standard	AA66932-CAL4	215FM007.D	06/18/21 09:28
Cal Standard	AA66932-CAL5	215FM008.D	06/18/21 09:56
Cal Standard	AA66932-CAL6	215FM009.D	06/18/21 10:24
Cal Standard	AA66932-CAL7	215FM010.D	06/18/21 10:52
Cal Standard	AA66932-CAL8	215FM011.D	06/18/21 11:20
Secondary Cal Check	AA66932-SCV1	215FM013.D	06/18/21 12:15

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE06178-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA67520		
Calibration:	2106098	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA67520-CCV1	215GV002.D	07/27/21 08:02
LCS	1G27016-BS1	215GV003.D	07/27/21 08:38
Blank	1G27016-BLK1	215GV005.D	07/27/21 09:34
CRCA-ASINFLUENT-20210723	AE06178-01	215GV006.D	07/27/21 10:02
CRCA-ASEFFLUENT-20210723	AE06178-02	215GV007.D	07/27/21 10:30
CRCA-ASINFLUENT-20210723	1G27016-MS1	215GV024.D	07/27/21 18:28
CRCA-ASINFLUENT-20210723	1G27016-MSD1	215GV025.D	07/27/21 18:56

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE06178-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	215FM003.D	Injection Date:	06/18/21
Instrument ID:	OVGCMS5	Injection Time:	07:34
Sequence:	AA66932	Lab Sample ID:	AA66932-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	191	PASS
96	5 - 9% of 95	7.06	PASS
173	Less than 2% of 174	0.214	PASS
174	50 - 200% of 95	52.3	PASS
175	5 - 9% of 174	5.23	PASS
176	95 - 105% of 174	95.8	PASS
177	5 - 10% of 176	6.95	PASS

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE06178-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2106098
Lab File ID:	215GV002.D	Calibration Date:	06/18/21 08:08
Sequence:	AA67520	Injection Date:	07/27/21
Lab Sample ID:	AA67520-CCV1	Injection Time:	08:02

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Dichlorodifluoromethane	A	20.0	26	0.5094763	0.661529		29	20	*
Chloromethane	A	20.0	24	0.7825336	0.9051792		18	20	
Vinyl chloride	A	20.0	21	0.6650027	0.69451		4.4	20	
Bromomethane	A	20.0	42	0.2460614	0.3788816		110	20	*
Chloroethane	A	20.0	19	0.3880182	0.3515449		-3.6	20	
Trichlorofluoromethane	A	20.0	21	0.7609833	0.7885572		3.6	20	
Freon 113	A	50.0	40	0.3222191	0.258922		-20	20	
Acetone	A	250	230	0.1924489	0.1923996		-9.4	20	
1,1-Dichloroethene	A	50.0	42	0.5314554	0.4423648		-17	20	
Carbon disulfide	A	250	270	1.455719	1.628622		8.0	20	
Methylene Chloride	A	50.0	45	0.6815178	0.6148966		-9.8	20	
Methyl-tert-Butyl Ether	A	50.0	51	1.537398	1.572776		2.3	20	
trans-1,2-Dichloroethene	A	50.0	47	0.6064423	0.5711425		-5.8	20	
cis-1,2-Dichloroethene	A	50.0	53	0.6549615	0.6980889		6.6	20	
1,1-Dichloroethane	A	50.0	50	1.152866	1.150461		-0.2	20	
2-Butanone	A	250	260	9.841208E-02	0.1033621		5.0	20	
Chloroform	A	50.0	51	1.100938	1.120191		1.7	20	
1,1,1-Trichloroethane	A	50.0	52	0.8164118	0.8560989		4.9	20	
Methyl acetate	A	50.0	47	0.573727	0.5219628		-6.4	20	
Cyclohexane	A	50.0	49	1.148895	1.116454		-2.8	20	
Methyl cyclohexane	A	50.0	47	0.6594789	0.5047387		-5.5	20	
Carbon Tetrachloride	A	50.0	48	0.285844	0.2716723		-5	20	
1,2-Dichloroethane	A	50.0	47	0.3513194	0.3286577		-6.5	20	
Benzene	A	50.0	48	1.184952	1.148349		-3.1	20	
Trichloroethene	A	50.0	51	0.2450156	0.2485856		1.5	20	
1,2-Dichloropropane	A	50.0	50	0.3371891	0.3378424		0.20	20	
Bromodichloromethane	A	50.0	53	0.3308186	0.3515801		6.3	20	
4-Methyl-2-pentanone	A	250	270	4.594368E-02	5.052248E-02		10	20	
2-Hexanone	A	250	240	0.3312611	0.3665455		-3.5	20	

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE06178-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2106098
Lab File ID:	215GV002.D	Calibration Date:	06/18/21 08:08
Sequence:	AA67520	Injection Date:	07/27/21
Lab Sample ID:	AA67520-CCV1	Injection Time:	08:02

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
cis-1,3-Dichloropropene	A	50.0	54	0.4967443	0.5337442		7.4	20
Toluene	A	50.0	48	1.222815	1.180093		-3.5	20
trans-1,3-Dichloropropene	A	50.0	53	0.6187986	0.6507177		5.2	20
1,1,2-Trichloroethane	A	50.0	50	0.420744	0.4248461		1.0	20
Tetrachloroethene	A	50.0	48	0.2798147	0.2669292		-4.6	20
Dibromochloromethane	A	50.0	48	0.3204024	0.3577166		-4.5	20
1,2-Dibromoethane	A	50.0	51	0.4215299	0.4260513		1.1	20
Chlorobenzene	A	50.0	49	1.214708	1.197018		-1.5	20
Ethylbenzene	A	50.0	51	0.6898253	0.7090601		2.8	20
m,p-Xylenes	A	100	99	0.8851906	0.8769892		-0.9	20
o-Xylene	A	50.0	52	0.8732591	0.9039044		3.5	20
Bromoform	A	50.0	47	0.175043	0.2003064		-6.2	20
Styrene	A	50.0	49	1.378538	1.524797		-1.4	20
Isopropylbenzene	A	50.0	49	2.223963	2.278467		-1.9	20
1,1,2,2-Tetrachloroethane	A	50.0	52	0.7197231	0.7514685		4.4	20
1,2,4-Trichlorobenzene	A	50.0	50	0.2087952	0.2482759		0.50	20
1,3-Dichlorobenzene	A	50.0	52	1.132817	1.186722		4.8	20
1,4-Dichlorobenzene	A	50.0	51	1.174038	1.192889		1.6	20
1,2-Dichlorobenzene	A	50.0	49	1.038218	1.071853		-1.9	20
1,2-Dibromo-3-chloropropane	A	50.0	51	0.1005424	0.1115387		2.7	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE06178-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA66932	Instrument:	OVGCMS5
Calibration:	2106098		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A1B1159	MS Tune (lower conc.)	AA66932-TUN1	215FM003.D	06/18/21 07:34
A1F0975	8260 1.0 PPB ms5	AA66932-CAL1	215FM004.D	06/18/21 08:05
A1F0976	8260 2.0 PPB ms5	AA66932-CAL2	215FM005.D	06/18/21 08:32
A1F0977	8260 5.0 PPB ms5	AA66932-CAL3	215FM006.D	06/18/21 09:00
A1F0978	8260 10 PPB ms5	AA66932-CAL4	215FM007.D	06/18/21 09:28
A1F0979	8260 20 PPB ms5	AA66932-CAL5	215FM008.D	06/18/21 09:56
A1F0980	8260 50 PPB ms5	AA66932-CAL6	215FM009.D	06/18/21 10:24
A1F0981	8260 80 PPB ms5	AA66932-CAL7	215FM010.D	06/18/21 10:52
A1F0982	8260 100 PPB ms5	AA66932-CAL8	215FM011.D	06/18/21 11:20
A1F0991	8260 SCV 50 PPB/20 gases (surr. lower conc.)	AA66932-SCV1	215FM013.D	06/18/21 12:15

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE06178-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	1	0.5444762	2	0.4223063	5	0.5914354	10	0.4929725	20	0.4782643	50	0.5144729
Chloromethane	1	1.059332	2	0.6707638	5	0.8644306	10	0.7204098	20	0.7205409	50	0.6904153
Vinyl chloride	1	0.775862	2	0.5365335	5	0.6922473	10	0.650021	20	0.6440319	50	0.6499421
Bromomethane	1	0.3234076	2	0.3255129	5	0.3281328	10	0.219142	20	0.182968	50	0.1756765
Chloroethane	1	0.5053711	2	0.3404387	5	0.4826976	10	0.340112	20	0.3719102	50	0.2875798
Trichlorofluoromethane	1	0.7781085	2	0.6195022	5	0.8260138	10	0.7531864	20	0.7735416	50	0.7678532
Freon 113	1	0.2607978	2	0.3637858	5	0.3770729	10	0.3089054	20	0.3269222	50	0.3197173
Acetone	5	0.1268337	10	0.1831306	25	0.2239481	50	0.1920774	100	0.1898639	250	0.1957422
1,1-Dichloroethene	1	0.4355227	2	0.5684854	5	0.5852284	10	0.4930696	20	0.527627	50	0.5515247
Carbon disulfide	5	1.120095	10	1.355324	25	1.710983	50	1.475901	100	1.585499	250	1.52274
Methylene Chloride	1	0.5906119	2	0.7214544	5	0.7546519	10	0.6982431	20	0.6824497	50	0.6582142
Methyl-tert-Butyl Ether	1	1.228691	2	1.467826	5	1.698991	10	1.494367	20	1.514682	50	1.584127
trans-1,2-Dichloroethene	1	0.4844873	2	0.6339387	5	0.7476141	10	0.5671123	20	0.6072805	50	0.6066591
cis-1,2-Dichloroethene	1	0.5911944	2	0.6827126	5	0.6306257	10	0.6005607	20	0.6701389	50	0.6974786
1,1-Dichloroethane	1	0.9991355	2	1.197143	5	1.248112	10	1.143127	20	1.182508	50	1.151263
2-Butanone	5	8.611444E-02	10	9.231158E-02	25	0.1019234	50	0.0921379	100	0.0990753	250	9.898384E-02
Chloroform	1	0.9484237	2	1.219878	5	1.187922	10	1.043696	20	1.126225	50	1.095959
1,1,1-Trichloroethane	1	0.6124942	2	0.8466313	5	0.8294324	10	0.8444389	20	0.8295007	50	0.8605141
Methyl acetate	1	0.8340204	2	0.5208941	5	0.6154519	10	0.4900873	20	0.5014533	50	0.5008726
Cyclohexane	1	0.9308264	2	1.158299	5	1.12907	10	1.075644	20	1.216363	50	1.25072
Methyl cyclohexane	1	1.035333	2	0.8960511	5	0.6276093	10	0.5654248	20	0.5513575	50	0.5359486
Carbon Tetrachloride	1	0.2938125	2	0.272744	5	0.2453059	10	0.2456946	20	0.3170405	50	0.2849243
1,2-Dichloroethane	1	0.3728822	2	0.3760035	5	0.354193	10	0.3600144	20	0.3324898	50	0.3267591
Benzene	1	1.020889	2	1.335683	5	1.280419	10	1.205074	20	1.205519	50	1.154164
Trichloroethene	1	0.1995915	2	0.2675143	5	0.2457729	10	0.2576097	20	0.2522099	50	0.247163
1,2-Dichloropropane	1	0.3317094	2	0.3444437	5	0.3345588	10	0.3309305	20	0.32462	50	0.3363809
Bromodichloromethane	1	0.2784006	2	0.3158437	5	0.3279466	10	0.3133996	20	0.3348848	50	0.3464648
4-Methyl-2-pentanone	5	3.874193E-02	10	4.347198E-02	25	4.604022E-02	50	4.379807E-02	100	4.563434E-02	250	0.0479853
2-Hexanone	5	0.1920212	10	0.2973425	25	0.328939	50	0.3560921	100	0.3508167	250	0.3654472
cis-1,3-Dichloropropene	1	0.3791549	2	0.4859364	5	0.4863015	10	0.482609	20	0.5082976	50	0.531607
Toluene	1	1.215098	2	1.389193	5	1.235324	10	1.133236	20	1.24708	50	1.245802

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE06178-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	1	0.5121762	2	0.6622446	5	0.6454576	10	0.5523355	20	0.6458741	50	0.6536197
1,1,2-Trichloroethane	1	0.3809597	2	0.4742446	5	0.4274421	10	0.3892404	20	0.4263599	50	0.4245764
Tetrachloroethene	1	0.2623334	2	0.3509024	5	0.3066935	10	0.246393	20	0.2806483	50	0.273779
Dibromochloromethane	1	0.1954628	2	0.3058781	5	0.2995091	10	0.3067263	20	0.3443887	50	0.3599448
1,2-Dibromoethane	1	0.387205	2	0.4152207	5	0.4139148	10	0.4117751	20	0.4205098	50	0.439896
Chlorobenzene	1	1.141484	2	1.300256	5	1.22289	10	1.222196	20	1.268013	50	1.234034
Ethylbenzene	1	0.5916037	2	0.6971589	5	0.6987964	10	0.7353856	20	0.7037018	50	0.7166845
m,p-Xylenes	2	0.8130441	4	0.9200809	10	0.9356853	20	0.9204158	40	0.9535119	100	0.8998223
o-Xylene	1	0.7031544	2	0.8522975	5	0.928378	10	0.8650837	20	0.9465502	50	0.9192626
Bromoform	1	0.129921	2	0.1507396	5	0.1403793	10	0.1654611	20	0.1852009	50	0.1967156
Styrene	1	0.7825155	2	1.203015	5	1.465928	10	1.317717	20	1.612473	50	1.562396
Isopropylbenzene	1	1.704453	2	2.252172	5	2.4154	10	2.193867	20	2.416191	50	2.372754
1,1,2,2-Tetrachloroethane	1	0.5720375	2	0.7488666	5	0.7870861	10	0.7104761	20	0.7506403	50	0.7288423
1,2,4-Trichlorobenzene	1	6.982231E-02	2	0.148378	5	0.2032745	10	0.2020054	20	0.2092492	50	0.2466564
1,3-Dichlorobenzene	1	0.948657	2	1.182099	5	1.105942	10	1.139155	20	1.151222	50	1.175941
1,4-Dichlorobenzene	1	1.112015	2	1.169665	5	1.232994	10	1.151103	20	1.196167	50	1.17052
1,2-Dichlorobenzene	1	0.834553	2	1.111243	5	1.040463	10	1.00277	20	1.046587	50	1.081676
1,2-Dibromo-3-chloropropane	1	3.782219E-02	2	0.1234915	5	9.587591E-02	10	8.741802E-02	20	9.065852E-02	50	0.1109498
Dibromofluoromethane	50	0.5913957	55	0.5857742	60	0.6050241	50	0.6090502	65	0.599548	50	0.6278028
Toluene-d8	50	1.156133	55	1.20606	60	1.22483	50	1.244223	65	1.198461	50	1.336655
4-Bromofluorobenzene	50	0.8721141	55	0.8442948	60	0.860972	50	0.8437756	65	0.8369979	50	0.9245401

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE06178-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	80	0.5188117	100	0.513071								
Chloromethane	80	0.7237385	100	0.8106379								
Vinyl chloride	80	0.6784366	100	0.6929469								
Bromomethane	80	0.2018831	100	0.2117683								
Chloroethane	80	~~0.2324829~~	100	~~0.1721268~~								
Trichlorofluoromethane	80	0.7833297	100	0.7863313								
Freon 113	80	0.307747	100	0.3128048								
Acetone	400	0.2070738	500	0.2209217								
1,1-Dichloroethene	80	0.5362744	100	0.5539112								
Carbon disulfide	400	1.455013	500	1.4202								
Methylene Chloride	80	0.6765417	100	0.6699758								
Methyl-tert-Butyl Ether	80	1.611962	100	1.698542								
trans-1,2-Dichloroethene	80	0.5978528	100	0.6065935								
cis-1,2-Dichloroethene	80	0.6769028	100	0.6900783								
1,1-Dichloroethane	80	1.149155	100	1.152482								
2-Butanone	400	0.1060309	500	0.1107193								
Chloroform	80	1.088278	100	1.097122								
1,1,1-Trichloroethane	80	0.8538667	100	0.8544162								
Methyl acetate	80	0.543619	100	0.5834171								
Cyclohexane	80	1.217302	100	1.212934								
Methyl cyclohexane	80	0.5283242	100	0.5357824								
Carbon Tetrachloride	80	0.3354238	100	0.2918061								
1,2-Dichloroethane	80	0.3378516	100	0.3503619								
Benzene	80	1.128018	100	1.149851								
Trichloroethene	80	0.2419864	100	0.2482773								
1,2-Dichloropropane	80	0.3393545	100	0.3555149								
Bromodichloromethane	80	0.3580559	100	0.3715528								
4-Methyl-2-pentanone	400	4.872666E-02	500	0.0531509								
2-Hexanone	400	0.3642195	500	0.3952106								
cis-1,3-Dichloropropene	80	0.5418855	100	0.5581627								
Toluene	80	1.157336	100	1.159454								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE06178-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	80	0.6300793	100	0.648602								
1,1,2-Trichloroethane	80	0.4164825	100	0.4266462								
Tetrachloroethene	80	0.2557776	100	0.2619908								
Dibromochloromethane	80	0.3640785	100	0.3872307								
1,2-Dibromoethane	80	0.4359692	100	0.4477482								
Chlorobenzene	80	1.162731	100	1.166059								
Ethylbenzene	80	0.6822879	100	0.6929839								
m,p-Xylenes	160	0.8278378	200	0.8111269								
o-Xylene	80	0.8813923	100	0.8899545								
Bromoform	80	0.209795	100	0.2221316								
Styrene	80	1.533573	100	1.550684								
Isopropylbenzene	80	2.211864	100	2.225002								
1,1,2,2-Tetrachloroethane	80	0.7238183	100	0.7360177								
1,2,4-Trichlorobenzene	80	0.2835707	100	0.3074052								
1,3-Dichlorobenzene	80	1.171958	100	1.187558								
1,4-Dichlorobenzene	80	1.186322	100	1.17352								
1,2-Dichlorobenzene	80	1.084059	100	1.10439								
1,2-Dibromo-3-chloropropane	80	0.1211319	100	0.1369917								
Dibromofluoromethane	70	0.5842909	75	0.5832016								
Toluene-d8	70	1.244561	75	1.260871								
4-Bromofluorobenzene	70	0.8334529	75	0.8539871								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE06178-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	0.5094763	9.647847	3.98025	5.556263E-02	0.9996769		0.99	
Chloromethane	0.7825336	16.46827	4.40925	0.135073	0.9923367		0.99	
Vinyl chloride	0.6650027	10.06966	4.5845	5.710391E-02			20	
Bromomethane	0.2460614	27.39954	5.228375	4.862762E-02		0.9963293	0.99	
Chloroethane	0.3880182	22.36143	5.459	0.1512648		0.9973848	0.99	
Trichlorofluoromethane	0.7609833	8.000491	5.701125	0.1864209			20	
Freon 113	0.3222191	11.13614	6.55825	9.342257E-02			20	
Acetone	0.1924489	15.74444	7.4	0.1278971	0.9960612		0.99	
1,1-Dichloroethene	0.5314554	8.963278	6.53325	4.564842E-02			20	
Carbon disulfide	1.455719	11.92334	6.625	6.868896E-02		0.9998954	0.99	
Methylene Chloride	0.6815178	7.056421	7.34125	0.0518812			20	
Methyl-tert-Butyl Ether	1.537398	9.90525	7.63075	2.123095E-02			20	
trans-1,2-Dichloroethene	0.6064423	12.01755	7.5505	0.1224101			20	
cis-1,2-Dichloroethene	0.6549615	6.358542	8.9505	6.797787E-02			20	
1,1-Dichloroethane	1.152866	6.19063	8.31475	5.035179E-02			20	
2-Butanone	9.841208E-02	8.151038	9.550125	0.1662186			20	
Chloroform	1.100938	7.606441	9.222	3.620673E-02			20	
1,1,1-Trichloroethane	0.8164118	10.18657	9.485375	5.345546E-02			20	
Methyl acetate	0.573727	19.85262	7.511375	0.5213447	0.9945246		0.99	
Cyclohexane	1.148895	9.134873	9.19225	5.174988E-02			20	
Methyl cyclohexane	0.6594789	29.58945	10.45075	3.931351E-02	0.9995099		0.99	
Carbon Tetrachloride	0.285844	11.02986	9.4145	6.564497E-02			20	
1,2-Dichloroethane	0.3513194	5.157523	10.08825	2.752186E-02			20	
Benzene	1.184952	8.132168	9.87925	4.856943E-02			20	
Trichloroethene	0.2450156	8.169892	10.453	4.611096E-02			20	
1,2-Dichloropropane	0.3371891	2.808828	10.98725	3.084346E-02			20	
Bromodichloromethane	0.3308186	8.809988	11.01775	4.062078E-02			20	
4-Methyl-2-pentanone	4.594368E-02	9.254212	12.13475	6.688867E-02			20	
2-Hexanone	0.3312611	19.05383	12.88125	4.379245E-02	0.9967168		0.99	
cis-1,3-Dichloropropene	0.4967443	11.13382	11.6105	4.251153E-02			20	

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE06178-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Toluene	1.222815	6.581686	11.83175	2.131752E-03			20	
trans-1,3-Dichloropropene	0.6187986	8.92381	12.19875	3.889151E-02			20	
1,1,2-Trichloroethane	0.420744	6.711427	12.36275	0.0322457			20	
Tetrachloroethene	0.2798147	12.18024	12.21	0.0317417			20	
Dibromochloromethane	0.3204024	18.63594	12.55363	2.959019E-02	0.9973738		0.99	
1,2-Dibromoethane	0.4215299	4.576784	12.81575	3.543673E-02			20	
Chlorobenzene	1.214708	4.518369	13.2455	1.871819E-02			20	
Ethylbenzene	0.6898253	6.208191	13.21175	3.216336E-02			20	
m,p-Xylenes	0.8851906	6.596866	13.329	4.748539E-02			20	
o-Xylene	0.8732591	8.690183	13.736	3.869105E-02			20	
Bromoform	0.175043	19.21377	13.87912	4.188187E-02	0.9953063		0.99	
Styrene	1.378538	20.14016	13.78075	3.574971E-02	0.9995972		0.99	
Isopropylbenzene	2.223963	10.30242	13.999	3.611421E-02		0.9994846	0.99	
1,1,2,2-Tetrachloroethane	0.7197231	8.881911	14.47125	2.257241E-02			20	
1,2,4-Trichlorobenzene	0.2087952	36.10883	18.155	0.111192		0.9993635	0.99	
1,3-Dichlorobenzene	1.132817	6.985412	15.41725	1.644861E-02			20	
1,4-Dichlorobenzene	1.174038	2.971778	15.50525	1.679585E-02			20	
1,2-Dichlorobenzene	1.038218	8.654341	16.02525	3.415201E-02	0.9996843		0.99	
1,2-Dibromo-3-chloropropane	0.1005424	30.57038	17.0955	0.1851555		0.9994421	0.99	
Dibromofluoromethane	0.5982609	2.57523	9.428	9.589849E-03			20	
Toluene-d8	1.233974	4.295517	11.7795	2.799324E-02			20	
4-Bromofluorobenzene	0.8587668	3.43207	14.32875	7.284017E-03			20	

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE06178-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2106098 **Laboratory ID:** AA66932-SCV1

Sequence: AA66932 **Standard ID:** A1F0991

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Cyclohexane	50.0	60	20.5	30.00
Ethylbenzene	50.0	60	19.7	30.00
Carbon Tetrachloride	50.0	55	10.0	30.00
1,3-Dichlorobenzene	50.0	60	19.3	30.00
4-Bromofluorobenzene	50.0	55	9.4	30.00
Toluene-d8	50.0	55	9.6	30.00
Dibromofluoromethane	50.0	50	0.06	30.00
Methyl-tert-Butyl Ether	50.0	56	12.6	30.00
trans-1,2-Dichloroethene	50.0	55	10.3	30.00
cis-1,2-Dichloroethene	50.0	56	12.7	30.00
Tetrachloroethene	50.0	56	11.2	30.00
Acetone	250	260	3.8	30.00
1,2,4-Trichlorobenzene	50.0	60	19.1	30.00
Chloroform	50.0	54	8.2	30.00
Chlorobenzene	50.0	57	14.7	30.00
Toluene	50.0	56	12.6	30.00
Methyl cyclohexane	50.0	57	14.2	30.00
m,p-Xylenes	100	110	11.2	30.00
4-Methyl-2-pentanone	250	300	20.0	30.00
1,2-Dichloroethane	50.0	53	5.4	30.00
1,2-Dibromoethane	50.0	58	15.2	30.00
1,4-Dichlorobenzene	50.0	57	13.3	30.00
trans-1,3-Dichloropropene	50.0	61	21.5	30.00
cis-1,3-Dichloropropene	50.0	57	13.0	30.00
Styrene	50.0	59	18.6	30.00
Dibromochloromethane	50.0	55	9.5	30.00
1,1-Dichloroethene	50.0	57	13.1	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE06178-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2106098 **Laboratory ID:** AA66932-SCV1

Sequence: AA66932 **Standard ID:** A1F0991

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
1,2-Dibromo-3-chloropropane	50.0	59	17.5	30.00
1,2-Dichlorobenzene	50.0	57	14.1	30.00
o-Xylene	50.0	60	19.9	30.00
1,1,2,2-Tetrachloroethane	50.0	56	12.7	30.00
Methyl acetate	50.0	58	16.7	30.00
Trichloroethene	50.0	56	11.0	30.00
1,1,2-Trichloroethane	50.0	56	12.3	30.00
2-Butanone	250	280	13.7	30.00
1,2-Dichloropropane	50.0	55	11.0	30.00
Freon 113	50.0	57	13.2	30.00
2-Hexanone	250	280	12.6	30.00
Trichlorofluoromethane	20.0	20	1.2	30.00
Isopropylbenzene	50.0	58	16.4	30.00
1,1-Dichloroethane	50.0	56	12.5	30.00
Bromodichloromethane	50.0	60	19.7	30.00
Bromoform	50.0	55	10.2	30.00
Carbon disulfide	50.0	66	31.2 *	30.00
Methylene Chloride	50.0	51	2.5	30.00
Vinyl chloride	20.0	20	2.4	30.00
Chloroethane	20.0	16	-21.2	30.00
Chloromethane	20.0	23	14.0	30.00
Bromomethane	20.0	22	7.7	30.00
1,1,1-Trichloroethane	50.0	58	15.3	30.00
Benzene	50.0	57	13.8	30.00
Dichlorodifluoromethane	20.0	27	36.8 *	30.00

* Values outside of QC limits

TETRA TECH ISG
TtEGS, Information Systems Group

Completion Ticket

On 8/9/2021 at 12:05 PM the following files were submitted to Tetra Tech by kdylnicki@encolabs.com with ENCO:

TE016AE06178A1.txt, TE016AE06178A3.txt

If you need to identify this session at a later date refer to Ticket Key:

202189_517307933_ledd_ENCO

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I Lori S. Mangrum, as the designated Quality Assurance Officer, hereby attest that all electronic deliverables have been thoroughly reviewed and are in agreement with the associated hardcopy data. The enclosed electronic files have been reviewed for accuracy (including significant figures), completeness and format. The laboratory will be responsible for any labor time necessary to correct enclosed electronic deliverables that have been found to be in error. I can be reached at (407) 826-5314 if there are any questions or problems with the enclosed electronic deliverables.

Signature:_____ Title: Quality Assurance Manager Date: August 11, 2021

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ENCO Laboratories

Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Tuesday, August 3, 2021
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AE05483

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Tuesday, July 27, 2021.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

www.encolabs.com

Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Client PM: Alex Murphy
Project Number: 112G08970
ENCO Project ID: AE05483
SDG: AE05483-TE016

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling and processing will be discussed in the Remarks section below.

Remarks

List of instruments used:

Analytical Method / Preparation Method	SOP Reference Instrument
EPA 8260D / EPA_5030B_MS	OVGCMS5
RSK 175	OVGCFID2

Analysis: EPA 8260D

Manual integrations were performed on samples associated with EPA 8260D. All data & explanations are included in the raw data section of the report

Affected Samples: AA67540-CCV1, RCA-MW0002-032.5-20210726 [AE05483-01], CRCA-MW0018-058.0-20210726 [AE05483-02], CRCA-MW0013-027.5-20210726 [AE05483-03], CRCA-MW0012-027.5-20210726 [AE05483-04], CRCA-MW0015-027.5-20210726 [AE05483-05], CRCA-MW0031-058.0-20210726 [AE05483-06], CRCA-MW0019-058.0-20210726 [AE05483-07]
The associated calibration verification standard for bromomethane and dichlorodifluoromethane exhibited high bias. Analytes not detected in the sample.

Affected Batch: 1G28012
Due to instrument error the matrix spike duplicate was not analyzed.

Affected Samples: AA67540-CCV1
The continuing calibration verification standard exhibited low bias for chloroethane; the associated sample had ND (non-detect) results, but sensitivity was verified by analyzing a standard with a concentration equivalent to the reporting limit.

Affected Samples: AA66932-SCV1
Recovery for carbon disulfide and dichlorodifluoromethane was outside acceptance limits. Analyte was not detected in the samples.

Analysis: RSK 175

Manual integrations were performed on samples associated with RSK 175. All data & explanations are included in the raw data section of the report

Affected Samples: CCRCA-MW0018-058.0-20210726 [AE05483-02]
Result for methane was above the calibration range of the instrument. Sample was reanalyzed at a dilution.

Affected Samples: CRCA-MW0019-058.0-20210726 [AE05483-07], 1G28011-DUP1
Precision between duplicate samples was outside acceptance limits for methane.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Kaitlin Dylnicki
Project Manager

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-MW0002-032.5-20210726 **Lab ID: AE05483-01** **Sampled: 07/26/21 09:25** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	08/09/21	07/28/21 08:53	07/28/21 10:16

Client ID: CRCA-MW0018-058.0-20210726 **Lab ID: AE05483-02** **Sampled: 07/26/21 10:00** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	08/09/21	07/28/21 08:53	07/28/21 10:44
RSK 175	Same	08/09/21	07/28/21 00:00	07/28/21 11:22

Client ID: CRCA-MW0018-058.0-20210726 **Lab ID: AE05483-02RE1** **Sampled: 07/26/21 10:00** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	08/09/21	07/28/21 00:00	07/28/21 13:15

Client ID: CRCA-MW0013-027.5-20210726 **Lab ID: AE05483-03** **Sampled: 07/26/21 10:40** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	08/09/21	07/28/21 08:53	07/28/21 11:12

Client ID: CRCA-MW0012-027.5-20210726 **Lab ID: AE05483-04** **Sampled: 07/26/21 11:15** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	08/09/21	07/28/21 08:53	07/28/21 11:40

Client ID: CRCA-MW0015-027.5-20210726 **Lab ID: AE05483-05** **Sampled: 07/26/21 12:25** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	08/09/21	07/28/21 08:53	07/28/21 12:08

Client ID: CRCA-MW0031-058.0-20210726 **Lab ID: AE05483-06** **Sampled: 07/26/21 13:15** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	08/09/21	07/28/21 08:53	07/28/21 12:37
RSK 175	Same	08/09/21	07/28/21 00:00	07/28/21 11:38

Client ID: CRCA-MW0019-058.0-20210726 **Lab ID: AE05483-07** **Sampled: 07/26/21 14:00** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	08/09/21	07/28/21 08:53	07/28/21 13:05
RSK 175	Same	08/09/21	07/28/21 00:00	07/28/21 12:14

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-MW0002-032.5-20210726 **Lab ID:** AE05483-01

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
trans-1,2-Dichloroethene	0.73	I	0.73	2.5	ug/L	EPA 8260D	
Vinyl chloride	7.4		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0018-058.0-20210726 **Lab ID:** AE05483-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethene	0.00842		0.00510	0.00600	mg/L	RSK 175	
Vinyl chloride	55		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0018-058.0-20210726 **Lab ID:** AE05483-02RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	1.41		0.0600	0.0750	mg/L	RSK 175	

Client ID: CRCA-MW0013-027.5-20210726 **Lab ID:** AE05483-03

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	1.4	I	0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0031-058.0-20210726 **Lab ID:** AE05483-06

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	0.582		0.00400	0.00500	mg/L	RSK 175	
Vinyl chloride	18		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0019-058.0-20210726 **Lab ID:** AE05483-07

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	0.203		0.00400	0.00500	mg/L	RSK 175	QM-12
Vinyl chloride	1.4	I	0.71	2.5	ug/L	EPA 8260D	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0002-032.5-20210726 **Lab Sample ID:** AE05483-01 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 09:25 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1G28012	EPA 8260D	07/28/21 10:16	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 10:16	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
trans-1,2-Dichloroethene [156-60-5]^	**0.73**	I	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0002-032.5-20210726 **Lab Sample ID:** AE05483-01 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 09:25 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Vinyl chloride [75-01-4]^	**7.4**		ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 10:16	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*50*	*1*	*50.0*	*100 %*	*41-142*	*1G28012*	*EPA 8260D*	*07/28/21 10:16*	*kkw*	
Dibromofluoromethane	*51*	*1*	*50.0*	*102 %*	*53-146*	*1G28012*	*EPA 8260D*	*07/28/21 10:16*	*kkw*	
Toluene-d8	*52*	*1*	*50.0*	*104 %*	*41-146*	*1G28012*	*EPA 8260D*	*07/28/21 10:16*	*kkw*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0018-058.0-20210726 **Lab Sample ID:** AE05483-02 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 10:00 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1G28012	EPA 8260D	07/28/21 10:44	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 10:44	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0018-058.0-20210726 **Lab Sample ID:** AE05483-02 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 10:00 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Vinyl chloride [75-01-4]^	**55**		ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 10:44	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*51*	*1*	*50.0*	*102 %*	*41-142*	*1G28012*	*EPA 8260D*	*07/28/21 10:44*	*kkw*	
Dibromofluoromethane	*53*	*1*	*50.0*	*106 %*	*53-146*	*1G28012*	*EPA 8260D*	*07/28/21 10:44*	*kkw*	
Toluene-d8	*51*	*1*	*50.0*	*102 %*	*41-146*	*1G28012*	*EPA 8260D*	*07/28/21 10:44*	*kkw*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1G28011	RSK 175	07/28/21 11:22	jmw	
Ethene [74-85-1]^	**0.00842**		mg/L	1	0.00510	0.00600	1G28011	RSK 175	07/28/21 11:22	jmw	
Methane [74-82-8]^	**1.41**		mg/L	15	0.0600	0.0750	1G28011	RSK 175	07/28/21 13:15	jmw	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0013-027.5-20210726 **Lab Sample ID:** AE05483-03 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 10:40 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1G28012	EPA 8260D	07/28/21 11:12	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 11:12	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0013-027.5-20210726 **Lab Sample ID:** AE05483-03 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 10:40 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Vinyl chloride [75-01-4]^	**1.4**	I	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 11:12	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*50*	*1*	*50.0*	*100 %*	*41-142*	*1G28012*	*EPA 8260D*	*07/28/21 11:12*	*kkw*	
Dibromofluoromethane	*51*	*1*	*50.0*	*102 %*	*53-146*	*1G28012*	*EPA 8260D*	*07/28/21 11:12*	*kkw*	
Toluene-d8	*51*	*1*	*50.0*	*102 %*	*41-146*	*1G28012*	*EPA 8260D*	*07/28/21 11:12*	*kkw*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0012-027.5-20210726 **Lab Sample ID:** AE05483-04 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 11:15 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1G28012	EPA 8260D	07/28/21 11:40	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 11:40	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	

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ANALYTICAL RESULTS

Description: CRCA-MW0012-027.5-20210726 **Lab Sample ID:** AE05483-04 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 11:15 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 11:40	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*50*	*1*	*50.0*	*99 %*	*41-142*	*1G28012*	*EPA 8260D*	*07/28/21 11:40*	*kkw*	
Dibromofluoromethane	*51*	*1*	*50.0*	*102 %*	*53-146*	*1G28012*	*EPA 8260D*	*07/28/21 11:40*	*kkw*	
Toluene-d8	*52*	*1*	*50.0*	*103 %*	*41-146*	*1G28012*	*EPA 8260D*	*07/28/21 11:40*	*kkw*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0015-027.5-20210726 **Lab Sample ID:** AE05483-05 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 12:25 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1G28012	EPA 8260D	07/28/21 12:08	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 12:08	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0015-027.5-20210726 **Lab Sample ID:** AE05483-05 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 12:25 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 12:08	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*49*	*1*	*50.0*	*99 %*	*41-142*	*1G28012*	*EPA 8260D*	*07/28/21 12:08*	*kkw*	
Dibromofluoromethane	*51*	*1*	*50.0*	*101 %*	*53-146*	*1G28012*	*EPA 8260D*	*07/28/21 12:08*	*kkw*	
Toluene-d8	*51*	*1*	*50.0*	*102 %*	*41-146*	*1G28012*	*EPA 8260D*	*07/28/21 12:08*	*kkw*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0031-058.0-20210726 **Lab Sample ID:** AE05483-06 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 13:15 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1G28012	EPA 8260D	07/28/21 12:37	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 12:37	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	

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ANALYTICAL RESULTS

Description: CRCA-MW0031-058.0-20210726 **Lab Sample ID:** AE05483-06 **Received:** 07/27/21 15:00
Matrix: Ground Water **Sampled:** 07/26/21 13:15 **Work Order:** AE05483
Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Vinyl chloride [75-01-4]^	**18**		ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 12:37	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*51*	*1*	*50.0*	*102 %*	*41-142*	*1G28012*	*EPA 8260D*	*07/28/21 12:37*	*kkw*	
Dibromofluoromethane	*51*	*1*	*50.0*	*101 %*	*53-146*	*1G28012*	*EPA 8260D*	*07/28/21 12:37*	*kkw*	
Toluene-d8	*52*	*1*	*50.0*	*104 %*	*41-146*	*1G28012*	*EPA 8260D*	*07/28/21 12:37*	*kkw*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1G28011	RSK 175	07/28/21 11:38	jmw	
Ethene [74-85-1]^	0.00510	U	mg/L	1	0.00510	0.00600	1G28011	RSK 175	07/28/21 11:38	jmw	
Methane [74-82-8]^	**0.582**		mg/L	1	0.00400	0.00500	1G28011	RSK 175	07/28/21 11:38	jmw	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0019-058.0-20210726 **Lab Sample ID:** AE05483-07 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 14:00 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1G28012	EPA 8260D	07/28/21 13:05	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 13:05	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0019-058.0-20210726 **Lab Sample ID:** AE05483-07 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 14:00 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Vinyl chloride [75-01-4]^	**1.4**	I	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 13:05	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*50*	*1*	*50.0*	*100 %*	*41-142*	*1G28012*	*EPA 8260D*	*07/28/21 13:05*	*kkw*	
Dibromofluoromethane	*51*	*1*	*50.0*	*102 %*	*53-146*	*1G28012*	*EPA 8260D*	*07/28/21 13:05*	*kkw*	
Toluene-d8	*52*	*1*	*50.0*	*104 %*	*41-146*	*1G28012*	*EPA 8260D*	*07/28/21 13:05*	*kkw*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1G28011	RSK 175	07/28/21 12:14	jmw	
Ethene [74-85-1]^	0.00510	U	mg/L	1	0.00510	0.00600	1G28011	RSK 175	07/28/21 12:14	jmw	
Methane [74-82-8]^	**0.203**		mg/L	1	0.00400	0.00500	1G28011	RSK 175	07/28/21 12:14	jmw	QM-12

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1G28012 - EPA 5030B_MS

Blank (1G28012-BLK1) Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 09:48

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1G28012 - EPA 5030B_MS - Continued

Blank (1G28012-BLK1) Continued Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 09:48

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*50*			*ug/L*	*50.0*		*99*	*41-142*			
Dibromofluoromethane	*49*	*I*		*ug/L*	*50.0*		*99*	*53-146*			
Toluene-d8	*51*			*ug/L*	*50.0*		*103*	*41-146*			

LCS (1G28012-BS1) Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 08:52

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	22		2.5	ug/L	20.0		110	57-148			
1,1,2,2-Tetrachloroethane	20		2.5	ug/L	20.0		102	60-139			
1,1,2-Trichloroethane	20		2.5	ug/L	20.0		101	57-141			
1,1-Dichloroethane	21		2.5	ug/L	20.0		107	57-142			
1,1-Dichloroethene	21		2.5	ug/L	20.0		105	47-139			
1,2,4-Trichlorobenzene	27		2.5	ug/L	20.0		133	52-159			
1,2-Dibromo-3-chloropropane	23		2.5	ug/L	20.0		114	48-150			
1,2-Dibromoethane	20		2.5	ug/L	20.0		98	57-140			
1,2-Dichlorobenzene	20		2.5	ug/L	20.0		100	63-131			
1,2-Dichloroethane	19		2.5	ug/L	20.0		93	50-156			
1,2-Dichloropropane	20		2.5	ug/L	20.0		98	61-133			
1,3-Dichlorobenzene	22		2.5	ug/L	20.0		108	66-129			
1,4-Dichlorobenzene	21		2.5	ug/L	20.0		105	65-133			
2-Butanone	60		12	ug/L	50.0		119	10-180			
2-Hexanone	52		12	ug/L	50.0		104	12-180			
4-Methyl-2-pentanone	52		12	ug/L	50.0		103	19-180			
Acetone	51		25	ug/L	50.0		102	10-180			
Benzene	20		2.5	ug/L	20.0		102	56-136			
Bromodichloromethane	21		2.5	ug/L	20.0		103	58-135			
Bromoform	18		2.5	ug/L	20.0		91	46-148			
Bromomethane	14		2.5	ug/L	20.0		68	10-173			
Carbon disulfide	23		12	ug/L	20.0		117	43-153			
Carbon Tetrachloride	18		2.5	ug/L	20.0		91	54-156			
Chlorobenzene	20		2.5	ug/L	20.0		102	51-139			
Chloroethane	18		2.5	ug/L	20.0		92	27-180			
Chloroform	21		2.5	ug/L	20.0		106	58-139			
Chloromethane	20		2.5	ug/L	20.0		98	33-154			
cis-1,2-Dichloroethene	22		2.5	ug/L	20.0		108	56-128			
cis-1,3-Dichloropropene	20		2.5	ug/L	20.0		98	64-128			
Cyclohexane	22		2.5	ug/L	20.0		109	70-130			
Dibromochloromethane	19		2.5	ug/L	20.0		93	50-140			
Dichlorodifluoromethane	18		2.5	ug/L	20.0		88	10-180			
Ethylbenzene	21		2.5	ug/L	20.0		103	63-133			
Freon 113	19		2.5	ug/L	20.0		97	47-173			
Isopropylbenzene	19		2.5	ug/L	20.0		96	60-132			
m,p-Xylenes	41		5.0	ug/L	40.0		101	64-133			
Methyl acetate	22		2.5	ug/L	20.0		108	70-130			
Methyl cyclohexane	20		2.5	ug/L	20.0		99	70-130			
Methylene Chloride	21		12	ug/L	20.0		105	43-142			
Methyl-tert-Butyl Ether	21		2.5	ug/L	20.0		106	51-145			

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1G28012 - EPA 5030B_MS - Continued

LCS (1G28012-BS1) Continued Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 08:52

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
o-Xylene	20		2.5	ug/L	20.0		100	61-129			
Styrene	19		2.5	ug/L	20.0		97	59-136			
Tetrachloroethene	20		2.5	ug/L	20.0		101	60-147			
Toluene	20		2.5	ug/L	20.0		100	64-131			
trans-1,2-Dichloroethene	20		2.5	ug/L	20.0		102	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0		107	65-149			
Trichloroethene	20		2.5	ug/L	20.0		101	62-135			
Trichlorofluoromethane	20		2.5	ug/L	20.0		98	56-155			
Vinyl chloride	19		2.5	ug/L	20.0		94	20-167			
4-Bromofluorobenzene	*50*			*ug/L*	*50.0*		*100*	*41-142*			
Dibromofluoromethane	*52*			*ug/L*	*50.0*		*105*	*53-146*			
Toluene-d8	*51*			*ug/L*	*50.0*		*103*	*41-146*			

Matrix Spike (1G28012-MS1) Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 19:08

Source: AE05483-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	23		2.5	ug/L	20.0	0.80 U	113	57-148			
1,1,2,2-Tetrachloroethane	20		2.5	ug/L	20.0	0.54 U	101	60-139			
1,1,2-Trichloroethane	20		2.5	ug/L	20.0	0.76 U	102	57-141			
1,1-Dichloroethane	22		2.5	ug/L	20.0	0.62 U	112	57-142			
1,1-Dichloroethene	23		2.5	ug/L	20.0	0.94 U	113	47-139			
1,2,4-Trichlorobenzene	23		2.5	ug/L	20.0	0.70 U	116	52-159			
1,2-Dibromo-3-chloropropane	22		2.5	ug/L	20.0	0.96 U	110	48-150			
1,2-Dibromoethane	19		2.5	ug/L	20.0	0.78 U	97	57-140			
1,2-Dichlorobenzene	20		2.5	ug/L	20.0	0.73 U	99	63-131			
1,2-Dichloroethane	19		2.5	ug/L	20.0	0.63 U	93	50-156			
1,2-Dichloropropane	20		2.5	ug/L	20.0	0.80 U	101	61-133			
1,3-Dichlorobenzene	21		2.5	ug/L	20.0	0.77 U	104	66-129			
1,4-Dichlorobenzene	20		2.5	ug/L	20.0	0.76 U	102	65-133			
2-Butanone	56		12	ug/L	50.0	4.5 U	113	10-180			
2-Hexanone	47		12	ug/L	50.0	2.5 U	94	12-180			
4-Methyl-2-pentanone	54		12	ug/L	50.0	2.5 U	108	19-180			
Acetone	45		25	ug/L	50.0	10 U	90	10-180			
Benzene	22		2.5	ug/L	20.0	0.71 U	110	56-136			
Bromodichloromethane	21		2.5	ug/L	20.0	0.52 U	103	58-135			
Bromoform	15		2.5	ug/L	20.0	0.75 U	74	46-148			
Bromomethane	8.3		2.5	ug/L	20.0	0.95 U	42	10-173			
Carbon disulfide	25		12	ug/L	20.0	2.5 U	125	43-153			
Carbon Tetrachloride	21		2.5	ug/L	20.0	0.94 U	106	54-156			
Chlorobenzene	22		2.5	ug/L	20.0	0.72 U	108	51-139			
Chloroethane	18		2.5	ug/L	20.0	0.98 U	92	27-180			
Chloroform	21		2.5	ug/L	20.0	0.80 U	106	58-139			
Chloromethane	17		2.5	ug/L	20.0	0.82 U	85	33-154			
cis-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.53 U	110	56-128			
cis-1,3-Dichloropropene	18		2.5	ug/L	20.0	0.59 U	92	64-128			
Cyclohexane	22		2.5	ug/L	20.0	0.93 U	111	70-130			
Dibromochloromethane	18		2.5	ug/L	20.0	0.50 U	91	50-140			
Dichlorodifluoromethane	19		2.5	ug/L	20.0	0.74 U	93	10-180			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1G28012 - EPA 5030B_MS - Continued

Matrix Spike (1G28012-MS1) Continued Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 19:08

Source: AE05483-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	21		2.5	ug/L	20.0	0.69 U	105	63-133			
Freon 113	21		2.5	ug/L	20.0	0.73 U	107	47-173			
Isopropylbenzene	21		2.5	ug/L	20.0	0.67 U	104	60-132			
m,p-Xylenes	43		5.0	ug/L	40.0	1.3 U	107	64-133			
Methyl acetate	17		2.5	ug/L	20.0	0.95 U	87	70-130			
Methyl cyclohexane	21		2.5	ug/L	20.0	0.64 U	104	70-130			
Methylene Chloride	19		12	ug/L	20.0	2.5 U	97	43-142			
Methyl-tert-Butyl Ether	19		2.5	ug/L	20.0	0.60 U	97	51-145			
o-Xylene	22		2.5	ug/L	20.0	0.53 U	110	61-129			
Styrene	20		2.5	ug/L	20.0	0.61 U	98	59-136			
Tetrachloroethene	20		2.5	ug/L	20.0	0.76 U	102	60-147			
Toluene	22		2.5	ug/L	20.0	0.72 U	110	64-131			
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.73	107	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0	0.73 U	106	65-149			
Trichloroethene	22		2.5	ug/L	20.0	0.89 U	109	62-135			
Trichlorofluoromethane	22		2.5	ug/L	20.0	0.94 U	111	56-155			
Vinyl chloride	25		2.5	ug/L	20.0	7.4	87	20-167			
4-Bromofluorobenzene	*52*			*ug/L*	*50.0*		*104*	*41-142*			
Dibromofluoromethane	*53*			*ug/L*	*50.0*		*106*	*53-146*			
Toluene-d8	*52*			*ug/L*	*50.0*		*104*	*41-146*			

Dissolved Gases by GC - Quality Control

Batch 1G28011 - Same

Blank (1G28011-BLK1) Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 10:35

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.00510	U	0.00600	mg/L							
Ethene	0.00510	U	0.00600	mg/L							
Methane	0.00400	U	0.00500	mg/L							

LCS (1G28011-BS1) Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 10:03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.322		0.00600	mg/L	0.323		100	70-130			
Ethene	0.324		0.00600	mg/L	0.302		107	70-130			
Methane	0.179		0.00500	mg/L	0.172		104	70-130			

LCS Dup (1G28011-BSD1) Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 10:19

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.326		0.00600	mg/L	0.323		101	70-130	1	30	
Ethene	0.326		0.00600	mg/L	0.302		108	70-130	0.5	30	
Methane	0.181		0.00500	mg/L	0.172		105	70-130	1	30	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Dissolved Gases by GC - Quality Control

Batch 1G28011 - Same - Continued

Duplicate (1G28011-DUP1) Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 14:03

Source: AE05483-07

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.00510	U	0.00600	mg/L		0.00510 U				30	
Ethene	0.00510	U	0.00600	mg/L		0.00510 U				30	
Methane	0.120		0.00500	mg/L		0.203			51	30	QM-12

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-12	Precision between duplicate samples was outside acceptance limits.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.

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B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported result is an estimated value.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence (85% or greater confidence) to make a “tentative identification".
Q	One or more quality control criteria failed.

AE-05483

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 2499 | PAGE 1 OF 1

PROJECT NO: 112G08570	FACILITY: KSL-CRCA	PROJECT MANAGER Alex Murphy	PHONE NUMBER (321) 292-0842	LABORATORY NAME AND CONTACT: ENCO – Kaitlin Dykiewicz
SAMPLERS (SIGNATURE) Chuck Sorden		FIELD OPERATIONS LEADER Chuck Sorden	PHONE NUMBER (321) 591-7580	ADDRESS 10775 Central Port Dr.
		CARRIER/WAYBILL NUMBER		CITY, STATE Orlando, FL

STANDARD TAT ☒
RUSH TAT ☐ ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2021	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TYPE OF ANALYSIS 8260DTLL SOMOI	RSK175 MEE	COMMENTS
									G	G			
										HCl			
										4°C			
07/26	0925	CRCA-MW0002-032.5-2021	0726	30	35	GW	G	3	X				
	1000	CRCA-MW0018-058.0-2021	0726	53	63			6		X			
	1040	CRCA-MW0013-027.5-2021	0726	25	30			3					
	1115	CRCA-MW0012-027.5-2021	0726	25	30			3					
	1225	CRCA-MW0015-027.5-2021	0726	25	30			3					
	1315	CRCA-MW0031-058.0-2021	0726	53	63			6		X			
07/26	1400	CRCA-MW0019-058.0-2021	0726	53	63	GW	G	6	X	X			

1. RELINQUISHED BY	DATE	TIME	1. RECEIVED BY	DATE 7/27/21	TIME 1500
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS MDL-3331 0.3°C

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

7/27/2021

Environmental Conservation Labs, Inc.

Alex Murphy
Tetra Tech, Inc. (TE016)
11 Riverside Drive, Suite 204
Cocoa, FL 32922
Phone: (321) 636-6470
Fax: (321) 636-6473

Reference : **Sample Receipt Confirmation - *Please Review***
Project Name / Number : NASA KSC CRCA / 112G08970
Purchase Order # : 1165883

Lab Reference # : AE05483 Lab Receipt Date: 27-Jul-21 15:00
Anticipated ***(Estimated)*** Completion Date: 03-Aug-21 19:00

This is an automated notification from our laboratory information management system (LIMS), indicating the samples we have recently received and their associated analyses. Should any of the following information be in error, please contact us immediately.

Thank you for choosing Environmental Conservation Laboratories. Should any events occur that delay the processing of your samples or inhibit our ability to complete the project within the projected time frame you will be contacted.

Sincerely,

Kaitlin Dylnicki

Client: Tetra Tech, Inc. (TE016) **Project Name:** NASA KSC CRCA
Requested TAT: 5 **Project Number:** 112G08970

Analysis	TAT	Expires	Status
Sample ID: CRCA-MW0002-032.5-20210726(Lab ID: AE05483-01), Matrix: Ground Water, Sampled: 26-Jul-21 09:25 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	09-Aug-21 23:59	Received
Sample ID: CRCA-MW0018-058.0-20210726(Lab ID: AE05483-02), Matrix: Ground Water, Sampled: 26-Jul-21 10:00 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	09-Aug-21 23:59	Received
RSK175	5	09-Aug-21 23:59	Received
Sample ID: CRCA-MW0013-027.5-20210726(Lab ID: AE05483-03), Matrix: Ground Water, Sampled: 26-Jul-21 10:40 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	09-Aug-21 23:59	Received
Sample ID: CRCA-MW0012-027.5-20210726(Lab ID: AE05483-04), Matrix: Ground Water, Sampled: 26-Jul-21 11:15 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	09-Aug-21 23:59	Received
Sample ID: CRCA-MW0015-027.5-20210726(Lab ID: AE05483-05), Matrix: Ground Water, Sampled: 26-Jul-21 12:25 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	09-Aug-21 23:59	Received
Sample ID: CRCA-MW0031-058.0-20210726(Lab ID: AE05483-06), Matrix: Ground Water, Sampled: 26-Jul-21 13:15 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	09-Aug-21 23:59	Received
RSK175	5	09-Aug-21 23:59	Received
Sample ID: CRCA-MW0019-058.0-20210726(Lab ID: AE05483-07), Matrix: Ground Water, Sampled: 26-Jul-21 14:00 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	09-Aug-21 23:59	Received
RSK175	5	09-Aug-21 23:59	Received

Client: Tetra Tech, Inc. (TE016)	**Project Name:** NASA KSC CRCA
Requested TAT: 5	**Project Number:** 112G08970

Analysis Groups included in this work order

ENCO Orlando

SDG: AE05483-TE016

CLASS: 01_VOA_MS

METHOD: EPA 8260D

ANALYSES DATA PACKAGE COVER PAGE

EPA 8260D

Laboratory: ENCO Orlando

SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-MW0002-032.5-20210726	AE05483-01
CRCA-MW0018-058.0-20210726	AE05483-02
CRCA-MW0013-027.5-20210726	AE05483-03
CRCA-MW0012-027.5-20210726	AE05483-04
CRCA-MW0015-027.5-20210726	AE05483-05
CRCA-MW0031-058.0-20210726	AE05483-06
CRCA-MW0019-058.0-20210726	AE05483-07

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0002-032.5-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-01 File ID: 215GW007.D

Sampled: 07/26/21 09:25 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 10:16

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	7.4		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	J	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0002-032.5-20210726

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE05483-01
File ID: 215GW007.D
Sampled: 07/26/21 09:25
Prepared: 07/28/21 08:53
Analyzed: 07/28/21 10:16
Solids:
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Batch: 1G28012
Sequence: AA67540
Calibration: 2106098
Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	51	102	53 - 146	
Toluene-d8	50.0	52	104	41 - 146	
4-Bromofluorobenzene	50.0	50	100	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1040767	9.857	1101889	9.851	
1,4-Difluorobenzene	2434148	10.45	2525815	10.444	
Chlorobenzene-d5	1534041	13.229	1610233	13.223	
1,4-Dichlorobenzene-d4	1160628	15.491	1271242	15.485	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0018-058.0-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-02 File ID: 215GW008.D

Sampled: 07/26/21 10:00 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 10:44

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	55		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0018-058.0-20210726

Laboratory: ENCO Orlando | SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) | Project: NASA KSC CRCA

Matrix: Ground Water | Laboratory ID: AE05483-02 | File ID: 215GW008.D

Sampled: 07/26/21 10:00 | Prepared: 07/28/21 08:53 | Analyzed: 07/28/21 10:44

Solids: | Preparation: EPA 5030B_MS | Initial/Final: 5 mL / 5 mL

Batch: 1G28012 | Sequence: AA67540 | Calibration: 2106098 | Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	53	106	53 - 146	
Toluene-d8	50.0	51	102	41 - 146	
4-Bromofluorobenzene	50.0	51	102	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1010974	9.857	1101889	9.851	
1,4-Difluorobenzene	2428360	10.45	2525815	10.444	
Chlorobenzene-d5	1504622	13.229	1610233	13.223	
1,4-Dichlorobenzene-d4	1151894	15.491	1271242	15.485	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0013-027.5-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-03 File ID: 215GW009.D

Sampled: 07/26/21 10:40 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 11:12

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	1.4	J	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0013-027.5-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-03 File ID: 215GW009.D

Sampled: 07/26/21 10:40 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 11:12

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	51	102	53 - 146	
Toluene-d8	50.0	51	102	41 - 146	
4-Bromofluorobenzene	50.0	50	100	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1022104	9.857	1101889	9.851	
1,4-Difluorobenzene	2402398	10.45	2525815	10.444	
Chlorobenzene-d5	1514817	13.229	1610233	13.223	
1,4-Dichlorobenzene-d4	1127294	15.485	1271242	15.485	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0012-027.5-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-04 File ID: 215GW010.D

Sampled: 07/26/21 11:15 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 11:40

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0012-027.5-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-04 File ID: 215GW010.D

Sampled: 07/26/21 11:15 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 11:40

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	51	102	53 - 146	
Toluene-d8	50.0	52	103	41 - 146	
4-Bromofluorobenzene	50.0	50	99	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	990018	9.857	1101889	9.851	
1,4-Difluorobenzene	2368009	10.45	2525815	10.444	
Chlorobenzene-d5	1506429	13.229	1610233	13.223	
1,4-Dichlorobenzene-d4	1129481	15.486	1271242	15.485	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0015-027.5-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-05 File ID: 215GW011.D

Sampled: 07/26/21 12:25 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 12:08

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0015-027.5-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-05 File ID: 215GW011.D

Sampled: 07/26/21 12:25 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 12:08

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	51	101	53 - 146	
Toluene-d8	50.0	51	102	41 - 146	
4-Bromofluorobenzene	50.0	49	99	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	979486	9.857	1101889	9.851	
1,4-Difluorobenzene	2357320	10.45	2525815	10.444	
Chlorobenzene-d5	1479523	13.229	1610233	13.223	
1,4-Dichlorobenzene-d4	1121546	15.485	1271242	15.485	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0031-058.0-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-06 File ID: 215GW012.D

Sampled: 07/26/21 13:15 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 12:37

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	18		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0031-058.0-20210726

Laboratory: ENCO Orlando | SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) | Project: NASA KSC CRCA

Matrix: Ground Water | Laboratory ID: AE05483-06 | File ID: 215GW012.D

Sampled: 07/26/21 13:15 | Prepared: 07/28/21 08:53 | Analyzed: 07/28/21 12:37

Solids: | Preparation: EPA 5030B_MS | Initial/Final: 5 mL / 5 mL

Batch: 1G28012 | Sequence: AA67540 | Calibration: 2106098 | Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	51	101	53 - 146	
Toluene-d8	50.0	52	104	41 - 146	
4-Bromofluorobenzene	50.0	51	102	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	975384	9.857	1101889	9.851	
1,4-Difluorobenzene	2333021	10.45	2525815	10.444	
Chlorobenzene-d5	1444445	13.229	1610233	13.223	
1,4-Dichlorobenzene-d4	1110125	15.491	1271242	15.485	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0019-058.0-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-07 File ID: 215GW013.D

Sampled: 07/26/21 14:00 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 13:05

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	1.4	J	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0019-058.0-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-07 File ID: 215GW013.D

Sampled: 07/26/21 14:00 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 13:05

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	51	102	53 - 146	
Toluene-d8	50.0	52	104	41 - 146	
4-Bromofluorobenzene	50.0	50	100	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	971946	9.857	1101889	9.851	
1,4-Difluorobenzene	2288770	10.45	2525815	10.444	
Chlorobenzene-d5	1447392	13.229	1610233	13.223	
1,4-Dichlorobenzene-d4	1103226	15.491	1271242	15.485	

* Values outside of QC limits

HOLDING TIME SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-MW0002-032.5-20210726	07/26/21 09:25	07/27/21 15:00	07/28/21 08:53	1.98	NA	07/28/21 10:16	2.00	14.00	
CRCA-MW0018-058.0-20210726	07/26/21 10:00	07/27/21 15:00	07/28/21 08:53	1.95	NA	07/28/21 10:44	2.00	14.00	
CRCA-MW0013-027.5-20210726	07/26/21 10:40	07/27/21 15:00	07/28/21 08:53	1.93	NA	07/28/21 11:12	2.00	14.00	
CRCA-MW0012-027.5-20210726	07/26/21 11:15	07/27/21 15:00	07/28/21 08:53	1.90	NA	07/28/21 11:40	2.00	14.00	
CRCA-MW0015-027.5-20210726	07/26/21 12:25	07/27/21 15:00	07/28/21 08:53	1.85	NA	07/28/21 12:08	2.00	14.00	
CRCA-MW0031-058.0-20210726	07/26/21 13:15	07/27/21 15:00	07/28/21 08:53	1.82	NA	07/28/21 12:37	2.00	14.00	
CRCA-MW0019-058.0-20210726	07/26/21 14:00	07/27/21 15:00	07/28/21 08:53	1.79	NA	07/28/21 13:05	2.00	14.00	

PREPARATION BATCH SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1G28012 Batch Matrix: Water Preparation: EPA 5030B_MS

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1G28012-BLK1	215GW006.D	07/28/21 00:00	
LCS	1G28012-BS1	215GW004.D	07/28/21 00:00	
CRCA-MW0002-032.5-20210726	1G28012-MS1	215GW026.D	07/28/21 00:00	
CRCA-MW0002-032.5-20210726	AE05483-01	215GW007.D	07/28/21 08:53	
CRCA-MW0018-058.0-20210726	AE05483-02	215GW008.D	07/28/21 08:53	
CRCA-MW0013-027.5-20210726	AE05483-03	215GW009.D	07/28/21 08:53	
CRCA-MW0012-027.5-20210726	AE05483-04	215GW010.D	07/28/21 08:53	
CRCA-MW0015-027.5-20210726	AE05483-05	215GW011.D	07/28/21 08:53	
CRCA-MW0031-058.0-20210726	AE05483-06	215GW012.D	07/28/21 08:53	
CRCA-MW0019-058.0-20210726	AE05483-07	215GW013.D	07/28/21 08:53	

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1G28012-BLK1	File ID:	215GW006.D
Prepared:	07/28/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	07/28/21 09:48	Instrument:	OVGCMS5		
Batch:	1G28012	Sequence:	AA67540	Calibration:	2106098

CAS NO.	COMPOUND	CONC. (ug/L)	Q
75-71-8	Dichlorodifluoromethane	0.74	U
74-87-3	Chloromethane	0.82	U
75-01-4	Vinyl chloride	0.71	U
74-83-9	Bromomethane	0.95	U
75-00-3	Chloroethane	0.98	U
75-69-4	Trichlorofluoromethane	0.94	U
76-13-1	Freon 113	0.73	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	0.94	U
75-15-0	Carbon disulfide	2.5	U
75-09-2	Methylene Chloride	2.5	U
1634-04-4	Methyl-tert-Butyl Ether	0.60	U
156-60-5	trans-1,2-Dichloroethene	0.73	U
156-59-2	cis-1,2-Dichloroethene	0.53	U
75-34-3	1,1-Dichloroethane	0.62	U
78-93-3	2-Butanone	4.5	U
67-66-3	Chloroform	0.80	U
71-55-6	1,1,1-Trichloroethane	0.80	U
79-20-9	Methyl acetate	0.95	U
110-82-7	Cyclohexane	0.93	U
108-87-2	Methyl cyclohexane	0.64	U
56-23-5	Carbon Tetrachloride	0.94	U
107-06-2	1,2-Dichloroethane	0.63	U
71-43-2	Benzene	0.71	U
79-01-6	Trichloroethene	0.89	U
78-87-5	1,2-Dichloropropane	0.80	U
75-27-4	Bromodichloromethane	0.52	U
108-10-1	4-Methyl-2-pentanone	2.5	U
591-78-6	2-Hexanone	2.5	U
10061-01-5	cis-1,3-Dichloropropene	0.59	U

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1G28012-BLK1	File ID:	215GW006.D
Prepared:	07/28/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	07/28/21 09:48	Instrument:	OVGCMS5		
Batch:	1G28012	Sequence:	AA67540	Calibration:	2106098

CAS NO.	COMPOUND	CONC. (ug/L)	Q
108-88-3	Toluene	0.72	U
10061-02-6	trans-1,3-Dichloropropene	0.73	U
79-00-5	1,1,2-Trichloroethane	0.76	U
127-18-4	Tetrachloroethene	0.76	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.78	U
108-90-7	Chlorobenzene	0.72	U
100-41-4	Ethylbenzene	0.69	U
108-38-3/106-42-3	m,p-Xylenes	1.3	U
95-47-6	o-Xylene	0.53	U
75-25-2	Bromoform	0.75	U
100-42-5	Styrene	0.61	U
98-82-8	Isopropylbenzene	0.67	U
79-34-5	1,1,2,2-Tetrachloroethane	0.54	U
120-82-1	1,2,4-Trichlorobenzene	0.70	U
541-73-1	1,3-Dichlorobenzene	0.77	U
106-46-7	1,4-Dichlorobenzene	0.76	U
95-50-1	1,2-Dichlorobenzene	0.73	U
96-12-8	1,2-Dibromo-3-chloropropane	0.96	U
1330-20-7	Xylenes (Total)	1.3	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	49	99	53 - 146	
Toluene-d8	50.0	51	103	41 - 146	
4-Bromofluorobenzene	50.0	50	99	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1058005	9.857	1101889	9.851	
1,4-Difluorobenzene	2459389	10.45	2525815	10.444	
Chlorobenzene-d5	1530623	13.229	1610233	13.223	
1,4-Dichlorobenzene-d4	1152122	15.485	1271242	15.485	

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1G28012	Laboratory ID:	1G28012-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	18	88	10 - 180
Chloromethane	20.0	20	98	33 - 154
Vinyl chloride	20.0	19	94	20 - 167
Bromomethane	20.0	14	68	10 - 173
Chloroethane	20.0	18	92	27 - 180
Trichlorofluoromethane	20.0	20	98	56 - 155
Freon 113	20.0	19	97	47 - 173
Acetone	50.0	51	102	10 - 180
1,1-Dichloroethene	20.0	21	105	47 - 139
Carbon disulfide	20.0	23	117	43 - 153
Methylene Chloride	20.0	21	105	43 - 142
Methyl-tert-Butyl Ether	20.0	21	106	51 - 145
trans-1,2-Dichloroethene	20.0	20	102	54 - 134
cis-1,2-Dichloroethene	20.0	22	108	56 - 128
1,1-Dichloroethane	20.0	21	107	57 - 142
2-Butanone	50.0	60	119	10 - 180
Chloroform	20.0	21	106	58 - 139
1,1,1-Trichloroethane	20.0	22	110	57 - 148
Methyl acetate	20.0	22	108	70 - 130
Cyclohexane	20.0	22	109	70 - 130
Methyl cyclohexane	20.0	20	99	70 - 130
Carbon Tetrachloride	20.0	18	91	54 - 156
1,2-Dichloroethane	20.0	19	93	50 - 156
Benzene	20.0	20	102	56 - 136
Trichloroethene	20.0	20	101	62 - 135
1,2-Dichloropropane	20.0	20	98	61 - 133
Bromodichloromethane	20.0	21	103	58 - 135
4-Methyl-2-pentanone	50.0	52	103	19 - 180
2-Hexanone	50.0	52	104	12 - 180
cis-1,3-Dichloropropene	20.0	20	98	64 - 128

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1G28012	Laboratory ID:	1G28012-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Toluene	20.0	20	100	64 - 131
trans-1,3-Dichloropropene	20.0	21	107	65 - 149
1,1,2-Trichloroethane	20.0	20	101	57 - 141
Tetrachloroethene	20.0	20	101	60 - 147
Dibromochloromethane	20.0	19	93	50 - 140
1,2-Dibromoethane	20.0	20	98	57 - 140
Chlorobenzene	20.0	20	102	51 - 139
Ethylbenzene	20.0	21	103	63 - 133
m,p-Xylenes	40.0	41	101	64 - 133
o-Xylene	20.0	20	100	61 - 129
Bromoform	20.0	18	91	46 - 148
Styrene	20.0	19	97	59 - 136
Isopropylbenzene	20.0	19	96	60 - 132
1,1,2,2-Tetrachloroethane	20.0	20	102	60 - 139
1,2,4-Trichlorobenzene	20.0	27	133	52 - 159
1,3-Dichlorobenzene	20.0	22	108	66 - 129
1,4-Dichlorobenzene	20.0	21	105	65 - 133
1,2-Dichlorobenzene	20.0	20	100	63 - 131
1,2-Dibromo-3-chloropropane	20.0	23	114	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0002-032.5-20210726

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1G28012
Laboratory ID: 1G28012-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0002-032.5-20210726

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	ND	19	93	10 - 180
Chloromethane	20.0	ND	17	85	33 - 154
Vinyl chloride	20.0	7.4	25	87	20 - 167
Bromomethane	20.0	ND	8.3	42	10 - 173
Chloroethane	20.0	ND	18	92	27 - 180
Trichlorofluoromethane	20.0	ND	22	111	56 - 155
Freon 113	20.0	ND	21	107	47 - 173
Acetone	50.0	ND	45	90	10 - 180
1,1-Dichloroethene	20.0	ND	23	113	47 - 139
Carbon disulfide	20.0	ND	25	125	43 - 153
Methylene Chloride	20.0	ND	19	97	43 - 142
Methyl-tert-Butyl Ether	20.0	ND	19	97	51 - 145
trans-1,2-Dichloroethene	20.0	0.73	22	107	54 - 134
cis-1,2-Dichloroethene	20.0	ND	22	110	56 - 128
1,1-Dichloroethane	20.0	ND	22	112	57 - 142
2-Butanone	50.0	ND	56	113	10 - 180
Chloroform	20.0	ND	21	106	58 - 139
1,1,1-Trichloroethane	20.0	ND	23	113	57 - 148
Methyl acetate	20.0	ND	17	87	70 - 130
Cyclohexane	20.0	ND	22	111	70 - 130
Methyl cyclohexane	20.0	ND	21	104	70 - 130
Carbon Tetrachloride	20.0	ND	21	106	54 - 156
1,2-Dichloroethane	20.0	ND	19	93	50 - 156
Benzene	20.0	ND	22	110	56 - 136
Trichloroethene	20.0	ND	22	109	62 - 135
1,2-Dichloropropane	20.0	ND	20	101	61 - 133
Bromodichloromethane	20.0	ND	21	103	58 - 135
4-Methyl-2-pentanone	50.0	ND	54	108	19 - 180
2-Hexanone	50.0	ND	47	94	12 - 180
cis-1,3-Dichloropropene	20.0	ND	18	92	64 - 128
Toluene	20.0	ND	22	110	64 - 131

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0002-032.5-20210726

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1G28012
Laboratory ID: 1G28012-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0002-032.5-20210726

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
trans-1,3-Dichloropropene	20.0	ND	21	106	65 - 149
1,1,2-Trichloroethane	20.0	ND	20	102	57 - 141
Tetrachloroethene	20.0	ND	20	102	60 - 147
Dibromochloromethane	20.0	ND	18	91	50 - 140
1,2-Dibromoethane	20.0	ND	19	97	57 - 140
Chlorobenzene	20.0	ND	22	108	51 - 139
Ethylbenzene	20.0	ND	21	105	63 - 133
m,p-Xylenes	40.0	ND	43	107	64 - 133
o-Xylene	20.0	ND	22	110	61 - 129
Bromoform	20.0	ND	15	74	46 - 148
Styrene	20.0	ND	20	98	59 - 136
Isopropylbenzene	20.0	ND	21	104	60 - 132
1,1,2,2-Tetrachloroethane	20.0	ND	20	101	60 - 139
1,2,4-Trichlorobenzene	20.0	ND	23	116	52 - 159
1,3-Dichlorobenzene	20.0	ND	21	104	66 - 129
1,4-Dichlorobenzene	20.0	ND	20	102	65 - 133
1,2-Dichlorobenzene	20.0	ND	20	99	63 - 131
1,2-Dibromo-3-chloropropane	20.0	ND	22	110	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA66932
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA66932-SCV1)			Lab File ID: 215FM013.D		Analyzed: 06/18/21 12:15			
Dibromofluoromethane	50.0	100	70 - 130	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	110	70 - 130	11.778	11.7795	-0.0015	+/-0.5	
4-Bromofluorobenzene	50.0	109	70 - 130	14.328	14.32875	-0.0008	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA67540
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA67540-CCV1)				Lab File ID: 215GW003.D		Analyzed: 07/28/21 08:24		
Dibromofluoromethane	50.0	104	80 - 120	9.433	9.428	0.0050	+/-0.5	
Toluene-d8	50.0	106	80 - 120	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	104	80 - 120	14.334	14.32875	0.0053	+/-0.5	
LCS (1G28012-BS1)				Lab File ID: 215GW004.D		Analyzed: 07/28/21 08:52		
Dibromofluoromethane	50.0	105	53 - 146	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	103	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	100	41 - 142	14.328	14.32875	-0.0008	+/-0.5	
Instrument RL Check (AA67540-CRL1)				Lab File ID: 215GW005.D		Analyzed: 07/28/21 09:20		
Dibromofluoromethane	50.0	102	1 - 199	9.434	9.428	0.0060	+/-0.5	
Toluene-d8	50.0	101	1 - 199	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	100	1 - 199	14.328	14.32875	-0.0008	+/-0.5	
Blank (1G28012-BLK1)				Lab File ID: 215GW006.D		Analyzed: 07/28/21 09:48		
Dibromofluoromethane	50.0	99	53 - 146	9.434	9.428	0.0060	+/-0.5	
Toluene-d8	50.0	103	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	99	41 - 142	14.328	14.32875	-0.0008	+/-0.5	
CRCA-MW0002-032.5-20210726 (AE05483-01)				Lab File ID: 215GW007.D		Analyzed: 07/28/21 10:16		
Dibromofluoromethane	50.0	102	53 - 146	9.434	9.428	0.0060	+/-0.5	
Toluene-d8	50.0	104	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	100	41 - 142	14.334	14.32875	0.0053	+/-0.5	
CRCA-MW0018-058.0-20210726 (AE05483-02)				Lab File ID: 215GW008.D		Analyzed: 07/28/21 10:44		
Dibromofluoromethane	50.0	106	53 - 146	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	102	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	102	41 - 142	14.328	14.32875	-0.0008	+/-0.5	
CRCA-MW0013-027.5-20210726 (AE05483-03)				Lab File ID: 215GW009.D		Analyzed: 07/28/21 11:12		
Dibromofluoromethane	50.0	102	53 - 146	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	102	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	100	41 - 142	14.328	14.32875	-0.0008	+/-0.5	
CRCA-MW0012-027.5-20210726 (AE05483-04)				Lab File ID: 215GW010.D		Analyzed: 07/28/21 11:40		
Dibromofluoromethane	50.0	102	53 - 146	9.434	9.428	0.0060	+/-0.5	
Toluene-d8	50.0	103	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	99	41 - 142	14.334	14.32875	0.0053	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA67540
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
CRCA-MW0015-027.5-20210726 (AE05483-05)			Lab File ID: 215GW011.D		Analyzed: 07/28/21 12:08			
Dibromofluoromethane	50.0	101	53 - 146	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	102	41 - 146	11.778	11.7795	-0.0015	+/-0.5	
4-Bromofluorobenzene	50.0	99	41 - 142	14.328	14.32875	-0.0008	+/-0.5	
CRCA-MW0031-058.0-20210726 (AE05483-06)			Lab File ID: 215GW012.D		Analyzed: 07/28/21 12:37			
Dibromofluoromethane	50.0	101	53 - 146	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	104	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	102	41 - 142	14.334	14.32875	0.0053	+/-0.5	
CRCA-MW0019-058.0-20210726 (AE05483-07)			Lab File ID: 215GW013.D		Analyzed: 07/28/21 13:05			
Dibromofluoromethane	50.0	102	53 - 146	9.434	9.428	0.0060	+/-0.5	
Toluene-d8	50.0	104	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	100	41 - 142	14.334	14.32875	0.0053	+/-0.5	
Matrix Spike (1G28012-MS1)			Lab File ID: 215GW026.D		Analyzed: 07/28/21 19:08			
Dibromofluoromethane	50.0	106	53 - 146	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	104	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	104	41 - 142	14.334	14.32875	0.0053	+/-0.5	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA66932
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA66932-CAL1)			Lab File ID: 215FM004.D			Analyzed: 06/18/21 08:05			
Pentafluorobenzene	1201889	9.857	1101889	9.851	109	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2686237	10.45	2525815	10.444	106	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1505146	13.229	1610233	13.223	93	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1176558	15.491	1271242	15.485	93	50 - 200	0.0060	+/-0.50	
Cal Standard (AA66932-CAL2)			Lab File ID: 215FM005.D			Analyzed: 06/18/21 08:32			
Pentafluorobenzene	1226065	9.857	1101889	9.851	111	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2753498	10.45	2525815	10.444	109	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1619681	13.229	1610233	13.223	101	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1248669	15.491	1271242	15.485	98	50 - 200	0.0060	+/-0.50	
Cal Standard (AA66932-CAL3)			Lab File ID: 215FM006.D			Analyzed: 06/18/21 09:00			
Pentafluorobenzene	1047198	9.857	1101889	9.851	95	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2419754	10.45	2525815	10.444	96	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1545028	13.229	1610233	13.223	96	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1320874	15.486	1271242	15.485	104	50 - 200	0.0010	+/-0.50	
Cal Standard (AA66932-CAL4)			Lab File ID: 215FM007.D			Analyzed: 06/18/21 09:28			
Pentafluorobenzene	1235637	9.857	1101889	9.851	112	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2720919	10.45	2525815	10.444	108	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1709586	13.229	1610233	13.223	106	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1365508	15.485	1271242	15.485	107	50 - 200	0.0000	+/-0.50	
Cal Standard (AA66932-CAL5)			Lab File ID: 215FM008.D			Analyzed: 06/18/21 09:56			
Pentafluorobenzene	1048667	9.857	1101889	9.851	95	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2471790	10.444	2525815	10.444	98	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1553840	13.229	1610233	13.223	96	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1230662	15.485	1271242	15.485	97	50 - 200	0.0000	+/-0.50	
Cal Standard (AA66932-CAL6)			Lab File ID: 215FM009.D			Analyzed: 06/18/21 10:24			
Pentafluorobenzene	1101889	9.851	1101889	9.851	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2525815	10.444	2525815	10.444	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1610233	13.223	1610233	13.223	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1271242	15.485	1271242	15.485	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA66932-CAL7)			Lab File ID: 215FM010.D			Analyzed: 06/18/21 10:52			
Pentafluorobenzene	1123435	9.851	1101889	9.851	102	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2544231	10.444	2525815	10.444	101	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1714182	13.229	1610233	13.223	106	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1273276	15.485	1271242	15.485	100	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA66932
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA66932-CAL8)			Lab File ID: 215FM011.D			Analyzed: 06/18/21 11:20			
Pentafluorobenzene	1129487	9.851	1101889	9.851	103	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2502919	10.444	2525815	10.444	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1697989	13.223	1610233	13.223	105	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1266610	15.485	1271242	15.485	100	50 - 200	0.0000	+/-0.50	
Secondary Cal Check (AA66932-SCV1)			Lab File ID: 215FM013.D			Analyzed: 06/18/21 12:15			
Pentafluorobenzene	1128318	9.857	1101889	9.851	102	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2499257	10.444	2525815	10.444	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1604968	13.229	1610233	13.223	100	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1259307	15.485	1271242	15.485	99	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA67540
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA67540-CCV1)			Lab File ID: 215GW003.D			Analyzed: 07/28/21 08:24			
Pentafluorobenzene	1146370	9.857	1101889	9.851	104	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2613862	10.45	2525815	10.444	103	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1696790	13.229	1610233	13.223	105	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1272980	15.491	1271242	15.485	100	50 - 200	0.0060	+/-0.50	
LCS (1G28012-BS1)			Lab File ID: 215GW004.D			Analyzed: 07/28/21 08:52			
Pentafluorobenzene	1095048	9.857	1101889	9.851	99	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2655898	10.45	2525815	10.444	105	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1705509	13.229	1610233	13.223	106	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1278565	15.485	1271242	15.485	101	50 - 200	0.0000	+/-0.50	
Instrument RL Check (AA67540-CRL1)			Lab File ID: 215GW005.D			Analyzed: 07/28/21 09:20			
Pentafluorobenzene	1105421	9.857	1101889	9.851	100	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2599785	10.45	2525815	10.444	103	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1608323	13.229	1610233	13.223	100	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1192315	15.491	1271242	15.485	94	50 - 200	0.0060	+/-0.50	
Blank (1G28012-BLK1)			Lab File ID: 215GW006.D			Analyzed: 07/28/21 09:48			
Pentafluorobenzene	1058005	9.857	1101889	9.851	96	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2459389	10.45	2525815	10.444	97	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1530623	13.229	1610233	13.223	95	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1152122	15.485	1271242	15.485	91	50 - 200	0.0000	+/-0.50	
CRCA-MW0002-032.5-20210726 (AE05483-01)			Lab File ID: 215GW007.D			Analyzed: 07/28/21 10:16			
Pentafluorobenzene	1040767	9.857	1101889	9.851	94	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2434148	10.45	2525815	10.444	96	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1534041	13.229	1610233	13.223	95	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1160628	15.491	1271242	15.485	91	50 - 200	0.0060	+/-0.50	
CRCA-MW0018-058.0-20210726 (AE05483-02)			Lab File ID: 215GW008.D			Analyzed: 07/28/21 10:44			
Pentafluorobenzene	1010974	9.857	1101889	9.851	92	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2428360	10.45	2525815	10.444	96	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1504622	13.229	1610233	13.223	93	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1151894	15.491	1271242	15.485	91	50 - 200	0.0060	+/-0.50	
CRCA-MW0013-027.5-20210726 (AE05483-03)			Lab File ID: 215GW009.D			Analyzed: 07/28/21 11:12			
Pentafluorobenzene	1022104	9.857	1101889	9.851	93	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2402398	10.45	2525815	10.444	95	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1514817	13.229	1610233	13.223	94	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1127294	15.485	1271242	15.485	89	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA67540
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
CRCA-MW0012-027.5-20210726 (AE05483-04)			Lab File ID: 215GW010.D			Analyzed: 07/28/21 11:40			
Pentafluorobenzene	990018	9.857	1101889	9.851	90	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2368009	10.45	2525815	10.444	94	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1506429	13.229	1610233	13.223	94	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1129481	15.486	1271242	15.485	89	50 - 200	0.0010	+/-0.50	
CRCA-MW0015-027.5-20210726 (AE05483-05)			Lab File ID: 215GW011.D			Analyzed: 07/28/21 12:08			
Pentafluorobenzene	979486	9.857	1101889	9.851	89	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2357320	10.45	2525815	10.444	93	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1479523	13.229	1610233	13.223	92	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1121546	15.485	1271242	15.485	88	50 - 200	0.0000	+/-0.50	
CRCA-MW0031-058.0-20210726 (AE05483-06)			Lab File ID: 215GW012.D			Analyzed: 07/28/21 12:37			
Pentafluorobenzene	975384	9.857	1101889	9.851	89	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2333021	10.45	2525815	10.444	92	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1444445	13.229	1610233	13.223	90	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1110125	15.491	1271242	15.485	87	50 - 200	0.0060	+/-0.50	
CRCA-MW0019-058.0-20210726 (AE05483-07)			Lab File ID: 215GW013.D			Analyzed: 07/28/21 13:05			
Pentafluorobenzene	971946	9.857	1101889	9.851	88	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2288770	10.45	2525815	10.444	91	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1447392	13.229	1610233	13.223	90	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1103226	15.491	1271242	15.485	87	50 - 200	0.0060	+/-0.50	
Matrix Spike (1G28012-MS1)			Lab File ID: 215GW026.D			Analyzed: 07/28/21 19:08			
Pentafluorobenzene	997249	9.856	1101889	9.851	91	50 - 200	0.0050	+/-0.50	
1,4-Difluorobenzene	2338476	10.45	2525815	10.444	93	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1494708	13.229	1610233	13.223	93	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1150265	15.491	1271242	15.485	90	50 - 200	0.0060	+/-0.50	

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA66932		
Calibration:	2106098	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA66932-TUN1	215FM003.D	06/18/21 07:34
Cal Standard	AA66932-CAL1	215FM004.D	06/18/21 08:05
Cal Standard	AA66932-CAL2	215FM005.D	06/18/21 08:32
Cal Standard	AA66932-CAL3	215FM006.D	06/18/21 09:00
Cal Standard	AA66932-CAL4	215FM007.D	06/18/21 09:28
Cal Standard	AA66932-CAL5	215FM008.D	06/18/21 09:56
Cal Standard	AA66932-CAL6	215FM009.D	06/18/21 10:24
Cal Standard	AA66932-CAL7	215FM010.D	06/18/21 10:52
Cal Standard	AA66932-CAL8	215FM011.D	06/18/21 11:20
Secondary Cal Check	AA66932-SCV1	215FM013.D	06/18/21 12:15

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA67540		
Calibration:	2106098	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA67540-CCV1	215GW003.D	07/28/21 08:24
LCS	1G28012-BS1	215GW004.D	07/28/21 08:52
Instrument RL Check	AA67540-CRL1	215GW005.D	07/28/21 09:20
Blank	1G28012-BLK1	215GW006.D	07/28/21 09:48
CRCA-MW0002-032.5-20210726	AE05483-01	215GW007.D	07/28/21 10:16
CRCA-MW0018-058.0-20210726	AE05483-02	215GW008.D	07/28/21 10:44
CRCA-MW0013-027.5-20210726	AE05483-03	215GW009.D	07/28/21 11:12
CRCA-MW0012-027.5-20210726	AE05483-04	215GW010.D	07/28/21 11:40
CRCA-MW0015-027.5-20210726	AE05483-05	215GW011.D	07/28/21 12:08
CRCA-MW0031-058.0-20210726	AE05483-06	215GW012.D	07/28/21 12:37
CRCA-MW0019-058.0-20210726	AE05483-07	215GW013.D	07/28/21 13:05
CRCA-MW0002-032.5-20210726	1G28012-MS1	215GW026.D	07/28/21 19:08

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	215FM003.D	Injection Date:	06/18/21
Instrument ID:	OVGCMS5	Injection Time:	07:34
Sequence:	AA66932	Lab Sample ID:	AA66932-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	191	PASS
96	5 - 9% of 95	7.06	PASS
173	Less than 2% of 174	0.214	PASS
174	50 - 200% of 95	52.3	PASS
175	5 - 9% of 174	5.23	PASS
176	95 - 105% of 174	95.8	PASS
177	5 - 10% of 176	6.95	PASS

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2106098
Lab File ID:	215GW003.D	Calibration Date:	06/18/21 08:08
Sequence:	AA67540	Injection Date:	07/28/21
Lab Sample ID:	AA67540-CCV1	Injection Time:	08:24

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Dichlorodifluoromethane	A	20.0	25	0.5094763	0.6361602		24	20	*
Chloromethane	A	20.0	22	0.7825336	0.8585012		12	20	
Vinyl chloride	A	20.0	21	0.6650027	0.6942239		4.4	20	
Bromomethane	A	20.0	33	0.2460614	0.2897756		63	20	*
Chloroethane	A	20.0	13	0.3880182	0.2387689		-37	20	*
Trichlorofluoromethane	A	20.0	19	0.7609833	0.7073349		-7	20	
Freon 113	A	50.0	41	0.3222191	0.2611024		-19	20	
Acetone	A	250	240	0.1924489	0.2016049		-5	20	
1,1-Dichloroethene	A	50.0	41	0.5314554	0.4331734		-19	20	
Carbon disulfide	A	250	250	1.455719	1.528085		0.90	20	
Methylene Chloride	A	50.0	45	0.6815178	0.609387		-11	20	
Methyl-tert-Butyl Ether	A	50.0	51	1.537398	1.565024		1.8	20	
trans-1,2-Dichloroethene	A	50.0	47	0.6064423	0.570055		-6	20	
cis-1,2-Dichloroethene	A	50.0	52	0.6549615	0.6817677		4.1	20	
1,1-Dichloroethane	A	50.0	49	1.152866	1.134178		-1.6	20	
2-Butanone	A	250	260	9.841208E-02	0.1039277		5.6	20	
Chloroform	A	50.0	50	1.100938	1.099845		-0.1	20	
1,1,1-Trichloroethane	A	50.0	50	0.8164118	0.8233476		0.80	20	
Methyl acetate	A	50.0	51	0.573727	0.5725726		2.7	20	
Cyclohexane	A	50.0	48	1.148895	1.110131		-3.4	20	
Methyl cyclohexane	A	50.0	49	0.6594789	0.5222361		-2.2	20	
Carbon Tetrachloride	A	50.0	56	0.285844	0.3209668		12	20	
1,2-Dichloroethane	A	50.0	47	0.3513194	0.3335628		-5.1	20	
Benzene	A	50.0	49	1.184952	1.151618		-2.8	20	
Trichloroethene	A	50.0	49	0.2450156	0.2385757		-2.6	20	
1,2-Dichloropropane	A	50.0	50	0.3371891	0.3378927		0.20	20	
Bromodichloromethane	A	50.0	53	0.3308186	0.3537612		6.9	20	
4-Methyl-2-pentanone	A	250	280	4.594368E-02	5.137142E-02		12	20	
2-Hexanone	A	250	260	0.3312611	0.3997522		5.2	20	

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2106098
Lab File ID:	215GW003.D	Calibration Date:	06/18/21 08:08
Sequence:	AA67540	Injection Date:	07/28/21
Lab Sample ID:	AA67540-CCV1	Injection Time:	08:24

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
cis-1,3-Dichloropropene	A	50.0	54	0.4967443	0.5404076		8.8	20
Toluene	A	50.0	50	1.222815	1.216614		-0.5	20
trans-1,3-Dichloropropene	A	50.0	54	0.6187986	0.6736721		8.9	20
1,1,2-Trichloroethane	A	50.0	49	0.420744	0.416312		-1.1	20
Tetrachloroethene	A	50.0	47	0.2798147	0.2630314		-6	20
Dibromochloromethane	A	50.0	49	0.3204024	0.365146		-2.5	20
1,2-Dibromoethane	A	50.0	50	0.4215299	0.4232227		0.40	20
Chlorobenzene	A	50.0	50	1.214708	1.207261		-0.6	20
Ethylbenzene	A	50.0	51	0.6898253	0.709607		2.9	20
m,p-Xylenes	A	100	99	0.8851906	0.8778579		-0.8	20
o-Xylene	A	50.0	52	0.8732591	0.9056418		3.7	20
Bromoform	A	50.0	49	0.175043	0.2084601		-2.4	20
Styrene	A	50.0	50	1.378538	1.541095		-0.3	20
Isopropylbenzene	A	50.0	50	2.223963	2.313458		-0.3	20
1,1,2,2-Tetrachloroethane	A	50.0	53	0.7197231	0.7629312		6.0	20
1,2,4-Trichlorobenzene	A	50.0	58	0.2087952	0.2989646		16	20
1,3-Dichlorobenzene	A	50.0	52	1.132817	1.185287		4.6	20
1,4-Dichlorobenzene	A	50.0	51	1.174038	1.20361		2.5	20
1,2-Dichlorobenzene	A	50.0	51	1.038218	1.111954		1.7	20
1,2-Dibromo-3-chloropropane	A	50.0	58	0.1005424	0.1301403		16	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA66932	Instrument:	OVGCMS5
Calibration:	2106098		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A1B1159	MS Tune (lower conc.)	AA66932-TUN1	215FM003.D	06/18/21 07:34
A1F0975	8260 1.0 PPB ms5	AA66932-CAL1	215FM004.D	06/18/21 08:05
A1F0976	8260 2.0 PPB ms5	AA66932-CAL2	215FM005.D	06/18/21 08:32
A1F0977	8260 5.0 PPB ms5	AA66932-CAL3	215FM006.D	06/18/21 09:00
A1F0978	8260 10 PPB ms5	AA66932-CAL4	215FM007.D	06/18/21 09:28
A1F0979	8260 20 PPB ms5	AA66932-CAL5	215FM008.D	06/18/21 09:56
A1F0980	8260 50 PPB ms5	AA66932-CAL6	215FM009.D	06/18/21 10:24
A1F0981	8260 80 PPB ms5	AA66932-CAL7	215FM010.D	06/18/21 10:52
A1F0982	8260 100 PPB ms5	AA66932-CAL8	215FM011.D	06/18/21 11:20
A1F0991	8260 SCV 50 PPB/20 gases (surr. lower conc.)	AA66932-SCV1	215FM013.D	06/18/21 12:15

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	1	0.5444762	2	0.4223063	5	0.5914354	10	0.4929725	20	0.4782643	50	0.5144729
Chloromethane	1	1.059332	2	0.6707638	5	0.8644306	10	0.7204098	20	0.7205409	50	0.6904153
Vinyl chloride	1	0.775862	2	0.5365335	5	0.6922473	10	0.650021	20	0.6440319	50	0.6499421
Bromomethane	1	0.3234076	2	0.3255129	5	0.3281328	10	0.219142	20	0.182968	50	0.1756765
Chloroethane	1	0.5053711	2	0.3404387	5	0.4826976	10	0.340112	20	0.3719102	50	0.2875798
Trichlorofluoromethane	1	0.7781085	2	0.6195022	5	0.8260138	10	0.7531864	20	0.7735416	50	0.7678532
Freon 113	1	0.2607978	2	0.3637858	5	0.3770729	10	0.3089054	20	0.3269222	50	0.3197173
Acetone	5	0.1268337	10	0.1831306	25	0.2239481	50	0.1920774	100	0.1898639	250	0.1957422
1,1-Dichloroethene	1	0.4355227	2	0.5684854	5	0.5852284	10	0.4930696	20	0.527627	50	0.5515247
Carbon disulfide	5	1.120095	10	1.355324	25	1.710983	50	1.475901	100	1.585499	250	1.52274
Methylene Chloride	1	0.5906119	2	0.7214544	5	0.7546519	10	0.6982431	20	0.6824497	50	0.6582142
Methyl-tert-Butyl Ether	1	1.228691	2	1.467826	5	1.698991	10	1.494367	20	1.514682	50	1.584127
trans-1,2-Dichloroethene	1	0.4844873	2	0.6339387	5	0.7476141	10	0.5671123	20	0.6072805	50	0.6066591
cis-1,2-Dichloroethene	1	0.5911944	2	0.6827126	5	0.6306257	10	0.6005607	20	0.6701389	50	0.6974786
1,1-Dichloroethane	1	0.9991355	2	1.197143	5	1.248112	10	1.143127	20	1.182508	50	1.151263
2-Butanone	5	8.611444E-02	10	9.231158E-02	25	0.1019234	50	0.0921379	100	0.0990753	250	9.898384E-02
Chloroform	1	0.9484237	2	1.219878	5	1.187922	10	1.043696	20	1.126225	50	1.095959
1,1,1-Trichloroethane	1	0.6124942	2	0.8466313	5	0.8294324	10	0.8444389	20	0.8295007	50	0.8605141
Methyl acetate	1	0.8340204	2	0.5208941	5	0.6154519	10	0.4900873	20	0.5014533	50	0.5008726
Cyclohexane	1	0.9308264	2	1.158299	5	1.12907	10	1.075644	20	1.216363	50	1.25072
Methyl cyclohexane	1	1.035333	2	0.8960511	5	0.6276093	10	0.5654248	20	0.5513575	50	0.5359486
Carbon Tetrachloride	1	0.2938125	2	0.272744	5	0.2453059	10	0.2456946	20	0.3170405	50	0.2849243
1,2-Dichloroethane	1	0.3728822	2	0.3760035	5	0.354193	10	0.3600144	20	0.3324898	50	0.3267591
Benzene	1	1.020889	2	1.335683	5	1.280419	10	1.205074	20	1.205519	50	1.154164
Trichloroethene	1	0.1995915	2	0.2675143	5	0.2457729	10	0.2576097	20	0.2522099	50	0.247163
1,2-Dichloropropane	1	0.3317094	2	0.3444437	5	0.3345588	10	0.3309305	20	0.32462	50	0.3363809
Bromodichloromethane	1	0.2784006	2	0.3158437	5	0.3279466	10	0.3133996	20	0.3348848	50	0.3464648
4-Methyl-2-pentanone	5	3.874193E-02	10	4.347198E-02	25	4.604022E-02	50	4.379807E-02	100	4.563434E-02	250	0.0479853
2-Hexanone	5	0.1920212	10	0.2973425	25	0.328939	50	0.3560921	100	0.3508167	250	0.3654472
cis-1,3-Dichloropropene	1	0.3791549	2	0.4859364	5	0.4863015	10	0.482609	20	0.5082976	50	0.531607
Toluene	1	1.215098	2	1.389193	5	1.235324	10	1.133236	20	1.24708	50	1.245802

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	1	0.5121762	2	0.6622446	5	0.6454576	10	0.5523355	20	0.6458741	50	0.6536197
1,1,2-Trichloroethane	1	0.3809597	2	0.4742446	5	0.4274421	10	0.3892404	20	0.4263599	50	0.4245764
Tetrachloroethene	1	0.2623334	2	0.3509024	5	0.3066935	10	0.246393	20	0.2806483	50	0.273779
Dibromochloromethane	1	0.1954628	2	0.3058781	5	0.2995091	10	0.3067263	20	0.3443887	50	0.3599448
1,2-Dibromoethane	1	0.387205	2	0.4152207	5	0.4139148	10	0.4117751	20	0.4205098	50	0.439896
Chlorobenzene	1	1.141484	2	1.300256	5	1.22289	10	1.222196	20	1.268013	50	1.234034
Ethylbenzene	1	0.5916037	2	0.6971589	5	0.6987964	10	0.7353856	20	0.7037018	50	0.7166845
m,p-Xylenes	2	0.8130441	4	0.9200809	10	0.9356853	20	0.9204158	40	0.9535119	100	0.8998223
o-Xylene	1	0.7031544	2	0.8522975	5	0.928378	10	0.8650837	20	0.9465502	50	0.9192626
Bromoform	1	0.129921	2	0.1507396	5	0.1403793	10	0.1654611	20	0.1852009	50	0.1967156
Styrene	1	0.7825155	2	1.203015	5	1.465928	10	1.317717	20	1.612473	50	1.562396
Isopropylbenzene	1	1.704453	2	2.252172	5	2.4154	10	2.193867	20	2.416191	50	2.372754
1,1,2,2-Tetrachloroethane	1	0.5720375	2	0.7488666	5	0.7870861	10	0.7104761	20	0.7506403	50	0.7288423
1,2,4-Trichlorobenzene	1	6.982231E-02	2	0.148378	5	0.2032745	10	0.2020054	20	0.2092492	50	0.2466564
1,3-Dichlorobenzene	1	0.948657	2	1.182099	5	1.105942	10	1.139155	20	1.151222	50	1.175941
1,4-Dichlorobenzene	1	1.112015	2	1.169665	5	1.232994	10	1.151103	20	1.196167	50	1.17052
1,2-Dichlorobenzene	1	0.834553	2	1.111243	5	1.040463	10	1.00277	20	1.046587	50	1.081676
1,2-Dibromo-3-chloropropane	1	3.782219E-02	2	0.1234915	5	9.587591E-02	10	8.741802E-02	20	9.065852E-02	50	0.1109498
Dibromofluoromethane	50	0.5913957	55	0.5857742	60	0.6050241	50	0.6090502	65	0.599548	50	0.6278028
Toluene-d8	50	1.156133	55	1.20606	60	1.22483	50	1.244223	65	1.198461	50	1.336655
4-Bromofluorobenzene	50	0.8721141	55	0.8442948	60	0.860972	50	0.8437756	65	0.8369979	50	0.9245401

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	80	0.5188117	100	0.513071								
Chloromethane	80	0.7237385	100	0.8106379								
Vinyl chloride	80	0.6784366	100	0.6929469								
Bromomethane	80	0.2018831	100	0.2117683								
Chloroethane	80	~~0.2324829~~	100	~~0.1721268~~								
Trichlorofluoromethane	80	0.7833297	100	0.7863313								
Freon 113	80	0.307747	100	0.3128048								
Acetone	400	0.2070738	500	0.2209217								
1,1-Dichloroethene	80	0.5362744	100	0.5539112								
Carbon disulfide	400	1.455013	500	1.4202								
Methylene Chloride	80	0.6765417	100	0.6699758								
Methyl-tert-Butyl Ether	80	1.611962	100	1.698542								
trans-1,2-Dichloroethene	80	0.5978528	100	0.6065935								
cis-1,2-Dichloroethene	80	0.6769028	100	0.6900783								
1,1-Dichloroethane	80	1.149155	100	1.152482								
2-Butanone	400	0.1060309	500	0.1107193								
Chloroform	80	1.088278	100	1.097122								
1,1,1-Trichloroethane	80	0.8538667	100	0.8544162								
Methyl acetate	80	0.543619	100	0.5834171								
Cyclohexane	80	1.217302	100	1.212934								
Methyl cyclohexane	80	0.5283242	100	0.5357824								
Carbon Tetrachloride	80	0.3354238	100	0.2918061								
1,2-Dichloroethane	80	0.3378516	100	0.3503619								
Benzene	80	1.128018	100	1.149851								
Trichloroethene	80	0.2419864	100	0.2482773								
1,2-Dichloropropane	80	0.3393545	100	0.3555149								
Bromodichloromethane	80	0.3580559	100	0.3715528								
4-Methyl-2-pentanone	400	4.872666E-02	500	0.0531509								
2-Hexanone	400	0.3642195	500	0.3952106								
cis-1,3-Dichloropropene	80	0.5418855	100	0.5581627								
Toluene	80	1.157336	100	1.159454								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	80	0.6300793	100	0.648602								
1,1,2-Trichloroethane	80	0.4164825	100	0.4266462								
Tetrachloroethene	80	0.2557776	100	0.2619908								
Dibromochloromethane	80	0.3640785	100	0.3872307								
1,2-Dibromoethane	80	0.4359692	100	0.4477482								
Chlorobenzene	80	1.162731	100	1.166059								
Ethylbenzene	80	0.6822879	100	0.6929839								
m,p-Xylenes	160	0.8278378	200	0.8111269								
o-Xylene	80	0.8813923	100	0.8899545								
Bromoform	80	0.209795	100	0.2221316								
Styrene	80	1.533573	100	1.550684								
Isopropylbenzene	80	2.211864	100	2.225002								
1,1,2,2-Tetrachloroethane	80	0.7238183	100	0.7360177								
1,2,4-Trichlorobenzene	80	0.2835707	100	0.3074052								
1,3-Dichlorobenzene	80	1.171958	100	1.187558								
1,4-Dichlorobenzene	80	1.186322	100	1.17352								
1,2-Dichlorobenzene	80	1.084059	100	1.10439								
1,2-Dibromo-3-chloropropane	80	0.1211319	100	0.1369917								
Dibromofluoromethane	70	0.5842909	75	0.5832016								
Toluene-d8	70	1.244561	75	1.260871								
4-Bromofluorobenzene	70	0.8334529	75	0.8539871								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	0.5094763	9.647847	3.98025	5.556263E-02	0.9996769		0.99	
Chloromethane	0.7825336	16.46827	4.40925	0.135073	0.9923367		0.99	
Vinyl chloride	0.6650027	10.06966	4.5845	5.710391E-02			20	
Bromomethane	0.2460614	27.39954	5.228375	4.862762E-02		0.9963293	0.99	
Chloroethane	0.3880182	22.36143	5.459	0.1512648		0.9973848	0.99	
Trichlorofluoromethane	0.7609833	8.000491	5.701125	0.1864209			20	
Freon 113	0.3222191	11.13614	6.55825	9.342257E-02			20	
Acetone	0.1924489	15.74444	7.4	0.1278971	0.9960612		0.99	
1,1-Dichloroethene	0.5314554	8.963278	6.53325	4.564842E-02			20	
Carbon disulfide	1.455719	11.92334	6.625	6.868896E-02		0.9998954	0.99	
Methylene Chloride	0.6815178	7.056421	7.34125	0.0518812			20	
Methyl-tert-Butyl Ether	1.537398	9.90525	7.63075	2.123095E-02			20	
trans-1,2-Dichloroethene	0.6064423	12.01755	7.5505	0.1224101			20	
cis-1,2-Dichloroethene	0.6549615	6.358542	8.9505	6.797787E-02			20	
1,1-Dichloroethane	1.152866	6.19063	8.31475	5.035179E-02			20	
2-Butanone	9.841208E-02	8.151038	9.550125	0.1662186			20	
Chloroform	1.100938	7.606441	9.222	3.620673E-02			20	
1,1,1-Trichloroethane	0.8164118	10.18657	9.485375	5.345546E-02			20	
Methyl acetate	0.573727	19.85262	7.511375	0.5213447	0.9945246		0.99	
Cyclohexane	1.148895	9.134873	9.19225	5.174988E-02			20	
Methyl cyclohexane	0.6594789	29.58945	10.45075	3.931351E-02	0.9995099		0.99	
Carbon Tetrachloride	0.285844	11.02986	9.4145	6.564497E-02			20	
1,2-Dichloroethane	0.3513194	5.157523	10.08825	2.752186E-02			20	
Benzene	1.184952	8.132168	9.87925	4.856943E-02			20	
Trichloroethene	0.2450156	8.169892	10.453	4.611096E-02			20	
1,2-Dichloropropane	0.3371891	2.808828	10.98725	3.084346E-02			20	
Bromodichloromethane	0.3308186	8.809988	11.01775	4.062078E-02			20	
4-Methyl-2-pentanone	4.594368E-02	9.254212	12.13475	6.688867E-02			20	
2-Hexanone	0.3312611	19.05383	12.88125	4.379245E-02	0.9967168		0.99	
cis-1,3-Dichloropropene	0.4967443	11.13382	11.6105	4.251153E-02			20	

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Toluene	1.222815	6.581686	11.83175	2.131752E-03			20	
trans-1,3-Dichloropropene	0.6187986	8.92381	12.19875	3.889151E-02			20	
1,1,2-Trichloroethane	0.420744	6.711427	12.36275	0.0322457			20	
Tetrachloroethene	0.2798147	12.18024	12.21	0.0317417			20	
Dibromochloromethane	0.3204024	18.63594	12.55363	2.959019E-02	0.9973738		0.99	
1,2-Dibromoethane	0.4215299	4.576784	12.81575	3.543673E-02			20	
Chlorobenzene	1.214708	4.518369	13.2455	1.871819E-02			20	
Ethylbenzene	0.6898253	6.208191	13.21175	3.216336E-02			20	
m,p-Xylenes	0.8851906	6.596866	13.329	4.748539E-02			20	
o-Xylene	0.8732591	8.690183	13.736	3.869105E-02			20	
Bromoform	0.175043	19.21377	13.87912	4.188187E-02	0.9953063		0.99	
Styrene	1.378538	20.14016	13.78075	3.574971E-02	0.9995972		0.99	
Isopropylbenzene	2.223963	10.30242	13.999	3.611421E-02		0.9994846	0.99	
1,1,2,2-Tetrachloroethane	0.7197231	8.881911	14.47125	2.257241E-02			20	
1,2,4-Trichlorobenzene	0.2087952	36.10883	18.155	0.111192		0.9993635	0.99	
1,3-Dichlorobenzene	1.132817	6.985412	15.41725	1.644861E-02			20	
1,4-Dichlorobenzene	1.174038	2.971778	15.50525	1.679585E-02			20	
1,2-Dichlorobenzene	1.038218	8.654341	16.02525	3.415201E-02	0.9996843		0.99	
1,2-Dibromo-3-chloropropane	0.1005424	30.57038	17.0955	0.1851555		0.9994421	0.99	
Dibromofluoromethane	0.5982609	2.57523	9.428	9.589849E-03			20	
Toluene-d8	1.233974	4.295517	11.7795	2.799324E-02			20	
4-Bromofluorobenzene	0.8587668	3.43207	14.32875	7.284017E-03			20	

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE05483-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2106098 **Laboratory ID:** AA66932-SCV1

Sequence: AA66932 **Standard ID:** A1F0991

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Cyclohexane	50.0	60	20.5	30.00
Ethylbenzene	50.0	60	19.7	30.00
Carbon Tetrachloride	50.0	55	10.0	30.00
1,3-Dichlorobenzene	50.0	60	19.3	30.00
4-Bromofluorobenzene	50.0	55	9.4	30.00
Toluene-d8	50.0	55	9.6	30.00
Dibromofluoromethane	50.0	50	0.06	30.00
Methyl-tert-Butyl Ether	50.0	56	12.6	30.00
trans-1,2-Dichloroethene	50.0	55	10.3	30.00
cis-1,2-Dichloroethene	50.0	56	12.7	30.00
Tetrachloroethene	50.0	56	11.2	30.00
Acetone	250	260	3.8	30.00
1,2,4-Trichlorobenzene	50.0	60	19.1	30.00
Chloroform	50.0	54	8.2	30.00
Chlorobenzene	50.0	57	14.7	30.00
Toluene	50.0	56	12.6	30.00
Methyl cyclohexane	50.0	57	14.2	30.00
m,p-Xylenes	100	110	11.2	30.00
4-Methyl-2-pentanone	250	300	20.0	30.00
1,2-Dichloroethane	50.0	53	5.4	30.00
1,2-Dibromoethane	50.0	58	15.2	30.00
1,4-Dichlorobenzene	50.0	57	13.3	30.00
trans-1,3-Dichloropropene	50.0	61	21.5	30.00
cis-1,3-Dichloropropene	50.0	57	13.0	30.00
Styrene	50.0	59	18.6	30.00
Dibromochloromethane	50.0	55	9.5	30.00
1,1-Dichloroethene	50.0	57	13.1	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE05483-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2106098 **Laboratory ID:** AA66932-SCV1

Sequence: AA66932 **Standard ID:** A1F0991

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
1,2-Dibromo-3-chloropropane	50.0	59	17.5	30.00
1,2-Dichlorobenzene	50.0	57	14.1	30.00
o-Xylene	50.0	60	19.9	30.00
1,1,2,2-Tetrachloroethane	50.0	56	12.7	30.00
Methyl acetate	50.0	58	16.7	30.00
Trichloroethene	50.0	56	11.0	30.00
1,1,2-Trichloroethane	50.0	56	12.3	30.00
2-Butanone	250	280	13.7	30.00
1,2-Dichloropropane	50.0	55	11.0	30.00
Freon 113	50.0	57	13.2	30.00
2-Hexanone	250	280	12.6	30.00
Trichlorofluoromethane	20.0	20	1.2	30.00
Isopropylbenzene	50.0	58	16.4	30.00
1,1-Dichloroethane	50.0	56	12.5	30.00
Bromodichloromethane	50.0	60	19.7	30.00
Bromoform	50.0	55	10.2	30.00
Carbon disulfide	50.0	66	31.2 *	30.00
Methylene Chloride	50.0	51	2.5	30.00
Vinyl chloride	20.0	20	2.4	30.00
Chloroethane	20.0	16	-21.2	30.00
Chloromethane	20.0	23	14.0	30.00
Bromomethane	20.0	22	7.7	30.00
1,1,1-Trichloroethane	50.0	58	15.3	30.00
Benzene	50.0	57	13.8	30.00
Dichlorodifluoromethane	20.0	27	36.8 *	30.00

* Values outside of QC limits

ANALYSIS SEQUENCE

AA67540

Instrument: OVGCMS5

Calibration ID: 2106098

Printed: 7/28/2021 8:56:57AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA67540-CCV1	QC		1		A1G0800	A1D0593		
1G28012-BS1	QC		2			A1D0593		
AA67540-CRL1	QC		3		A1G0802	A1D0593		
1G28012-BLK1	QC		4			A1D0593		
AE05483-01	60D TCL SOM01.2 CLP-LIK	B	5			A1D0593	Tetra Tech, Inc. (TE016)	hist1x nc7/28/21 custom
AE05483-01	8260D Halo	B	6			A1D0593	Tetra Tech, Inc. (TE016)	BatchQC
AE05483-02	60D TCL SOM01.2 CLP-LIK	D	7			A1D0593	Tetra Tech, Inc. (TE016)	hist1x nc7/28/21 custom
AE05483-03	60D TCL SOM01.2 CLP-LIK	A	8			A1D0593	Tetra Tech, Inc. (TE016)	hist1x nc7/28/21 custom
AE05483-04	60D TCL SOM01.2 CLP-LIK	A	9			A1D0593	Tetra Tech, Inc. (TE016)	hist1x nc7/28/21 custom
AE05483-05	60D TCL SOM01.2 CLP-LIK	A	10			A1D0593	Tetra Tech, Inc. (TE016)	hist1x nc7/28/21 custom
AE05483-06	60D TCL SOM01.2 CLP-LIK	D	11			A1D0593	Tetra Tech, Inc. (TE016)	hist1x nc7/28/21 custom
AE05483-07	60D TCL SOM01.2 CLP-LIK	D	12			A1D0593	Tetra Tech, Inc. (TE016)	hist1x nc7/28/21 custom
AE05878-23RE1	60D TCL SOM01.2 CLP-LIK	B	13			A1D0593		
AE05878-27RE1	60D TCL SOM01.2 CLP-LIK	B	14			A1D0593		
AE06241-11	8260D Halo	B	15			A1D0593		
AE06241-12	8260D Halo	B	16			A1D0593		
AE06241-13	8260D Halo	B	17			A1D0593		
AE06241-14	8260D Halo	B	18			A1D0593		
AE06241-15	8260D Halo	B	19			A1D0593		
AE06241-16	8260D Halo	B	20			A1D0593		
AE06241-17	8260D Halo	B	21			A1D0593		
AE06241-18	8260D Halo	B	22			A1D0593		
AE06241-19	8260D Halo	B	23			A1D0593		

Samples Loaded By 07/28/21 Date

Data Processed By 07/29/21 Date

ANALYSIS SEQUENCE

AA67540

Instrument: OVGCMS5

Calibration ID: 2106098

Printed: 7/28/2021 8:56:57AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AE06241-20	8260D Halo	B	24			A1D0593		
1G28012-MS1	QC		25			A1D0593		
1G28012-MSD1	QC		26			A1D0593		

Samples Loaded By — Date: 07/20/21

Data Processed By — Date: 07/29/21

PREPARATION BENCH SHEET

Printed: 7/28/2021 8:55:28AM

1G28012

ENCO Orlando

Analysis
8260D Halo [EPA 8260D]
8260D TCL SOM01.2 CLP-LIKE [EPA 8260D]

Surrogate Solution
___ A1B1158 8260 surr working (lower conc.)

Prepared using: EPA 5030B_MS

Spiking Solution
A1G0849 8260 2nd source Mega Mix
A1G0888 8260 2nd source Gases/Acrolein virtual

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
1G28012-BLK1		Blank		QC			5	5			5	
1G28012-BS1		LCS		QC			5	5	A1G0888 A1G0849	2 2	5	
1G28012-MS1		Matrix Spike [AE05483-01]		QC	≤2	N	5	5	A1G0888 A1G0849	2 2	5	
1G28012-MSD1		Matrix Spike Dup [AE05483-01]		QC	≤2	N	5	5	A1G0888 A1G0849	2 2	5	
AE05483-01	C	CRCA-MW0002-032.5-20210726 B[MS46		8260D Halo	≤2	N	5	5			5	Added for BatchQC in: 1G28012
AE05483-01	C	CRCA-MW0002-032.5-20210726 B[MS46	03-Aug-21	8260D TCL SOM01.2 CLP-LIKE	≤2	N	5	5			5	hist1x nc7/28/21 custom
AE05483-02	C	CRCA-MW0018-058.0-20210726 B[MS46	03-Aug-21	8260D TCL SOM01.2 CLP-LIKE	≤2	N	5	5			5	hist1x nc7/28/21 custom
AE05483-03	C	CRCA-MW0013-027.5-20210726 B[MS46	03-Aug-21	8260D TCL SOM01.2 CLP-LIKE	≤2	N	5	5			5	hist1x nc7/28/21 custom
AE05483-04	C	CRCA-MW0012-027.5-20210726 B[MS46	03-Aug-21	8260D TCL SOM01.2 CLP-LIKE	≤2	N	5	5			5	hist1x nc7/28/21 custom
AE05483-05	C	CRCA-MW0015-027.5-20210726 B[MS46	03-Aug-21	8260D TCL SOM01.2 CLP-LIKE	≤2	N	5	5			5	hist1x nc7/28/21 custom
AE05483-06	C	CRCA-MW0031-058.0-20210726 B[MS46	03-Aug-21	8260D TCL SOM01.2 CLP-LIKE	≤2	N	5	5			5	hist1x nc7/28/21 custom
AE05483-07	C	CRCA-MW0019-058.0-20210726 B[MS46	03-Aug-21	8260D TCL SOM01.2 CLP-LIKE	≤2	N	5	5			5	hist1x nc7/28/21 custom
AE05878-23RE1	C	HMPN-MW0032-042.5-20210729 B[MS45	29-Jul-21	8260D TCL SOM01.2 CLP-LIKE	≤2	N	5	5			5	rr@50x overdilute Re-extract added 7/28/2021 by KKW
AE05878-27RE1	C	HMPN-MW0002-035.0-20210729 B[MS45	29-Jul-21	8260D TCL SOM01.2 CLP-LIKE	≤2	N	5	5			5	rr@5x overdilute Re-extract added 7/28/2021 by KKW
AE06241-11		BE01903-11 (MW-18DR) B[MS15	04-Aug-21	8260D Halo	≤2	N	5	5			5	run1x high ketones nc7/28/21 only 2 vials received
AE06241-12		BE01903-12 (I-18D) B[MS15	04-Aug-21	8260D Halo	≤2	N	5	5			5	run1x high ketones nc7/28/21 only 2 vials received
AE06241-13		BE01903-13 (MW-19R) B[MS15	04-Aug-21	8260D Halo	≤2	N	5	5			5	run1x nc7/28/21 only 2 vials received

PREPARATION BENCH SHEET

Printed: 7/28/2021 8:55:28AM

1G28012

ENCO Orlando

Prepared using: EPA 5030B_MS

Surrogate Solution

__ A1B1158 8260 surr working (lower conc.)

Spiking Solution

A1G0849 8260 2nd source Mega Mix

A1G0888 8260 2nd source Gases/Acrolein virtual

Matrix: Water

Lab Number Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
AE06241-14	BE01903-14 (MW-19DR) B[MS15	04-Aug-21	8260D Halo	<2	N	5	5			5	run1x nc7/28/21 only 2 vials received
AE06241-15	BE01903-15 (MW-20) B[MS15	04-Aug-21	8260D Halo	<2	N	5	5			5	run1x nc7/28/21 only 2 vials received
AE06241-16	BE01903-16 (MW-20D) B[MS15	04-Aug-21	8260D Halo	<2	N	5	5			5	run1x nc7/28/21 only 2 vials received
AE06241-17	BE01903-17 (MW-23R) B[MS15	04-Aug-21	8260D Halo	<2	N	5	5			5	run1x nc7/28/21 only 2 vials received
AE06241-18	BE01903-18 (MW-23D) B[MS15	04-Aug-21	8260D Halo	<2	N	5	5			5	run1x nc7/28/21 only 2 vials received
AE06241-19	BE01903-19 (MW-24) B[MS15	04-Aug-21	8260D Halo	<2	N	5	5			5	run1x nc7/28/21 only 2 vials received
AE06241-20	BE01903-20 (MW-24D) B[MS15	04-Aug-21	8260D Halo	<2	N	5	5			5	run1x nc7/28/21 only 2 vials received

(1) Before solvent extraction proceeds, verify that there is no residual chlorine above 0.5 mg/L. Any sample above this must be treated to remove excess chlorine before extraction, and this documented as a comment.

Instrument 5

EST Centurian autosampler manufacturer reccommends adding 5 uL of IS/SS.

Start Date 07/28/21

StopDate 07/28/21

Instrument ID GCMS-5

Standard ID#	Description	Manufacture Lot#
A0A1401	pH Test Papers (1.0 to 12.0)	231018
A1B0955	Residual Chlorine Strips (Potassium Iodide S	102916
A1G0592	P&T Anti-Foam working solution	N/A

Samples Prepared By 07/29/21 Date

Samples Prepared By Date

Sequence Name: C:\msdchem\1\sequence\215GW.s
Comment:
Operator: kkw
Data Path: C:\msdchem\1\DATA\072821\
Instrument Control Pre-Seq Cmd:
Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:
Data Analysis Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

Sequence Barcode Options
(X) On Mismatch, Inject Anyway
( ) On Mismatch, Don't Inject
( ) Barcode Disabled

Line			Sample Name/Misc Info	
1)	Sample	1	215GW001 8260S	rinse
2)	Sample	2	215GW002 8260S	CCV1
3)	Sample	3	215GW003 8260S	CCV1
4)	Sample	4	215GW004 8260S	BS1
5)	Sample	5	215GW005 8260S	CRL1
6)	Sample	6	215GW006 8260S	BLK1
7)	Sample	6	215GW007 8260S	AE05483-01
8)	Sample	7	215GW008 8260S	AE05483-02
9)	Sample	8	215GW009 8260S	AE05483-03
10)	Sample	9	215GW010 8260S	AE05483-04
11)	Sample	10	215GW011 8260S	AE05483-05
12)	Sample	11	215GW012 8260S	AE05483-06
13)	Sample	12	215GW013 8260S	AE05483-07
14)	Sample	13	215GW014 8260S	AE05878-23RE1@50X
15)	Sample	14	215GW015 8260S	AE05878-27RE1@5X
16)	Sample	15	215GW016 8260S	AE06241-11
17)	Sample	16	215GW017 8260S	AE06241-12
18)	Sample	17	215GW018 8260S	AE06241-13
19)	Sample	18	215GW019 8260S	AE06241-14
20)	Sample	19	215GW020 8260S	AE06241-15
21)	Sample	20	215GW021 8260S	AE06241-16
22)	Sample	21	215GW022 8260S	AE06241-17
23)	Sample	22	215GW023 8260S	AE06241-18
24)	Sample	23	215GW024 8260S	AE06241-19
25)	Sample	24	215GW025 8260S	AE06241-20
26)	Sample	25	215GW026 8260S	1G28012-MS1
27)	Sample	25	215GW027 8260S	1G28012-MSD1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW003.D
Acq On : 28 Jul 2021 8:24 am
Operator : kkw
Sample : CCV1
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 28 08:53:20 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1146370	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2613862	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1696790	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1272980	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.433	113	711938	51.90	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 103.80%				
52) D8-Toluene	11.784	98	3401508	52.77	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 105.54%				
73) Bromofluorobenzene	14.334	95	1515075	51.98	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 103.96%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.987	85	291710	24.73	ug/L		99
3) Chloromethane	4.416	50	393664	22.47	ug/L		98
4) Vinyl Chloride	4.586	62	318335	20.88	ug/L	#	76
5) Bromomethane	5.238	94	132876	32.53	ug/L		93
6) Chloroethane	5.438	64	109487	12.51	ug/L		96
7) Trichlorofluoromethane	5.691	101	324347	18.59	ug/L		99
8) Diethyl ether	6.184	59	539882	45.57	ug/L		98
9) 1,1-Dichloroethene	6.537	96	496577	40.75	ug/L		98
10) Trichlorotrifluoroethane	6.560	151	299320	40.52	ug/L		98
11) Acrolein	7.019	56	1936777	629.30	ug/L		100
12) Iodomethane	6.784	142	2687828	253.23	ug/L		99
13) Carbon Disulfide	6.625	76	8758755	252.22	ug/L		99
14) 3-chloropropene	7.201	41	1059289	52.00	ug/L		99
15) Acetone	7.401	43	1155569	237.38	ug/L		100
16) Methylene Chloride	7.348	84	698583	44.71	ug/L		96
17) Methyl Acetate	7.524	43	656380	51.35	ug/L		97
18) t-1,2-Dichloroethene	7.553	96	653494	47.00	ug/L		99
19) Methyl tert-butyl ether	7.636	73	1794097	50.90	ug/L		97
20) Acetonitrile	8.017	41	1781857	550.71	ug/L		99
21) Isopropyl ether	8.053	45	2352829	53.19	ug/L		98
22) Chloroprene	8.276	88	632924	47.63	ug/L		98
23) 1,1-Dichloroethane	8.317	63	1300188	49.19	ug/L		100
24) Acrylonitrile	8.388	53	3715076	609.85	ug/L		99
25) Vinyl Acetate	8.540	43	8303438	264.65	ug/L		100
26) c-1,2-Dichloroethene	8.958	96	781558	52.05	ug/L		97
27) 2,2-Dichloropropane	9.081	77	979208	51.55	ug/L		98
28) Bromochloromethane	9.187	128	245887	44.33	ug/L		100
29) Cyclohexane	9.193	56	1272621	48.31	ug/L		98
30) Chloroform	9.228	83	1260829	49.95	ug/L		99
32) Dibromofluoromethane	9.433	113	711938	51.90	ug/L	#	90
33) 2-Butanone	9.551	72	595698	264.01	ug/L		98
34) 1,1,1-Trichloroethane	9.492	97	943861	50.42	ug/L		99
35) 1,1-Dichloropropene	9.610	75	1005562	48.31	ug/L		98
36) Propionitrile	9.898	54	1534072	564.32	ug/L		92
37) Methacrylonitrile	9.915	41	5990988	562.55	ug/L		98
38) Isobutyl Alcohol	9.956	43	1483626	1140.46	ug/L	#	51
40) Carbon Tetrachloride	9.416	117	838963	56.14	ug/L	#	84
41) Benzene	9.880	78	3010171	48.59	ug/L		100
42) 1,2-Dichloroethane	10.092	62	871887	47.47	ug/L		99
43) Trichloroethene	10.456	130	623604	48.69	ug/L		96
44) Methyl cyclohexane	10.456	83	1365053	48.89	ug/L		96
45) Dibromomethane	10.908	93	448582	49.24	ug/L		98
46) 1,2-Dichloropropane	10.991	63	883205	50.10	ug/L		98
47) Bromodichloromethane	11.020	83	924683	53.47	ug/L		100
48) Methyl Methacrylate	11.085	69	660844	47.40	ug/L		98
49) 1,4-Dioxane	11.196	88	226726	1441.90	ug/L		96
50) 2-Chloroethyl vinyl ether	11.490	63	2268127	229.77	ug/L		98
51) C-1,3-Dichloropropene	11.613	75	1412551	54.39	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW003.D
Acq On : 28 Jul 2021 8:24 am
Operator : kkw
Sample : CCV1
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 28 08:53:20 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

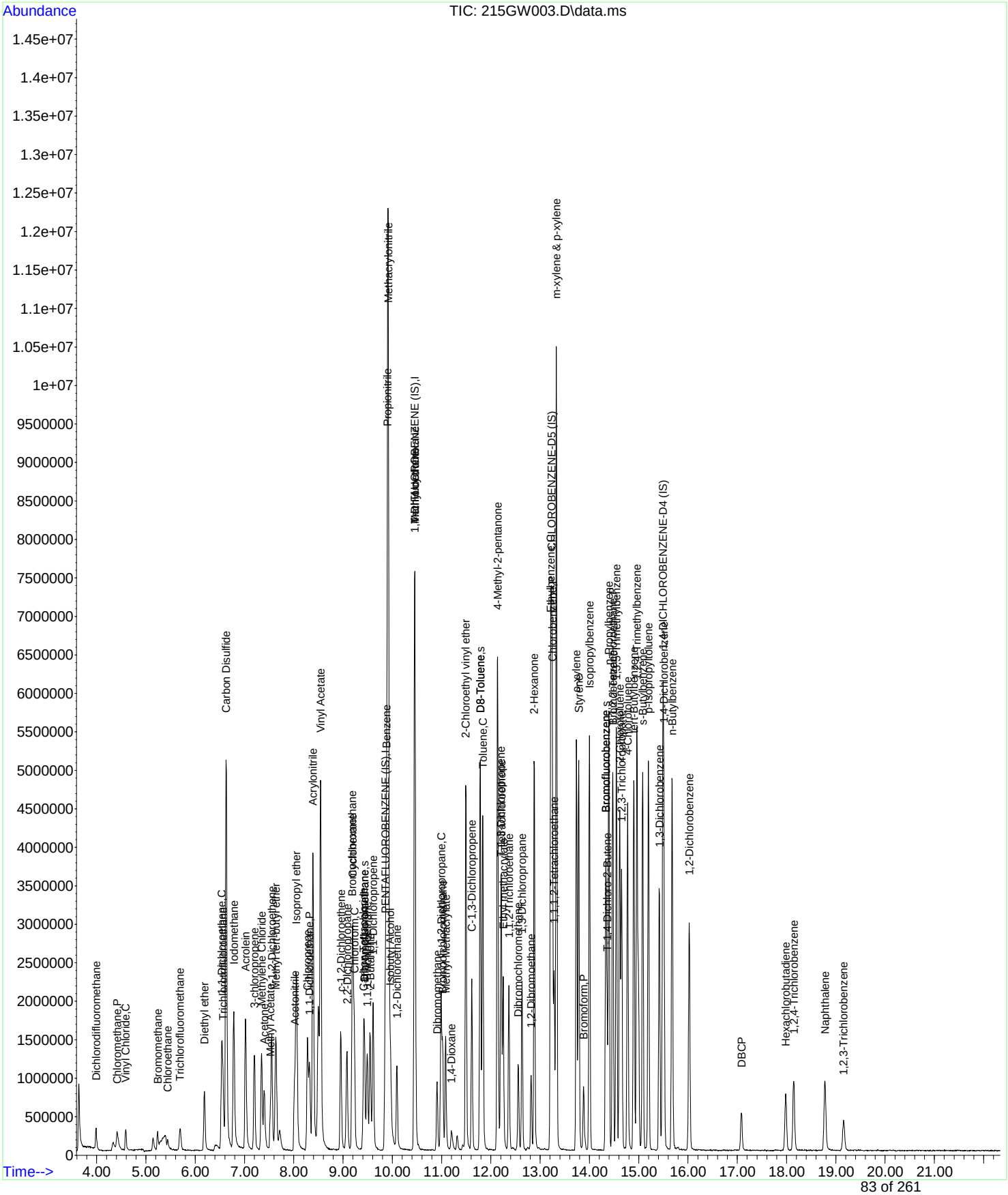
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.784	98	3401508	52.77	ug/L		95
54) 4-Methyl-2-pentanone	12.136	100	671389	279.53	ug/L		97
56) Toluene	11.837	92	2064338	49.75	ug/L		100
57) T-1,3-Dichloropropene	12.201	75	1143080	54.43	ug/L		99
58) Tetrachloroethene	12.213	164	446309	47.00	ug/L		98
59) Ethyl methacrylate	12.248	69	1226695	50.35	ug/L		97
60) 1,1,2-Trichloroethane	12.365	97	706394	49.47	ug/L		99
61) Dibromochloromethane	12.553	129	619576	48.73	ug/L		98
62) 1,3-Dichloropropane	12.630	76	1351146	51.66	ug/L		97
63) 1,2-Dibromoethane	12.818	107	718120	50.20	ug/L		95
64) 2-Hexanone	12.877	43	3391478	263.04	ug/L		100
65) Ethylbenzene	13.211	106	1204054	51.43	ug/L		97
66) Chlorobenzene	13.247	112	2048469	49.69	ug/L		99
67) 1,1,1,2-Tetrachloroethane	13.282	131	635035	53.37	ug/L		99
68) m-xylene & p-xylene	13.329	106	2979081	99.17	ug/L		99
69) o-xylene	13.734	106	1536684	51.85	ug/L		98
70) Styrene	13.781	104	2614915	49.83	ug/L		99
71) Bromoform	13.881	173	353713	48.79	ug/L		98
72) Isopropylbenzene	13.999	105	3925453	49.84	ug/L		99
74) Bromofluorobenzene	14.334	95	1515075	51.98	ug/L	#	75
75) n-Propylbenzene	14.392	91	5085585	49.24	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.475	83	1294534	53.00	ug/L		100
77) 1,2,3-Trichloropropane	14.651	61	291358	51.54	ug/L		96
78) T-1,4-Dichloro-2-Butene	14.357	53	401536	56.15	ug/L		98
80) Bromobenzene	14.475	156	719918	52.22	ug/L		98
81) 1,2,4-Trimethylbenzene	14.962	105	3429047	50.98	ug/L		100
82) 2-Chlorotoluene	14.616	91	3064472	54.37	ug/L		99
83) 4-Chlorotoluene	14.774	91	3164306	51.17	ug/L		98
84) tert-Butylbenzene	14.898	119	2690916	50.74	ug/L		98
85) 1,3,5-Trimethylbenzene	14.545	105	3436734	51.16	ug/L		99
86) p-Isopropyltoluene	15.197	119	3335883	51.40	ug/L		100
87) s-Butylbenzene	15.080	105	4146212	51.41	ug/L		99
88) 1,3-Dichlorobenzene	15.421	146	1508847	52.32	ug/L		98
89) 1,4-Dichlorobenzene	15.509	146	1532171	51.26	ug/L		99
90) n-Butylbenzene	15.679	91	3522995	52.60	ug/L		99
91) 1,2-Dichlorobenzene	16.026	146	1415495	50.87	ug/L		98
92) DBCP	17.089	157	165666	57.96	ug/L		96
93) Hexachlorobutadiene	17.982	225	162218	52.05	ug/L		94
94) 1,2,4-Trichlorobenzene	18.147	180	380576	58.20	ug/L		95
95) Naphthalene	18.782	128	1189080	61.76	ug/L		98
96) 1,2,3-Trichlorobenzene	19.152	180	176308	60.06	ug/L		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW003.D
Acq On : 28 Jul 2021 8:24 am
Operator : kkw
Sample : CCV1
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 28 08:53:20 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW004.D
Acq On : 28 Jul 2021 8:52 am
Operator : kkw
Sample : BS1
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 28 09:19:31 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1095048	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2655898	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1705509	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1278565	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	684973	52.28	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 104.56%				
52) D8-Toluene	11.784	98	3363288	51.35	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 102.70%				
73) Bromofluorobenzene	14.328	95	1462746	49.93	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 99.86%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.987	85	198047	17.58	ug/L		97
3) Chloromethane	4.416	50	329366	19.68	ug/L		97
4) Vinyl Chloride	4.586	62	275119	18.89	ug/L	#	74
5) Bromomethane	5.238	94	50701	13.70	ug/L	#	85
6) Chloroethane	5.450	64	148124	18.43	ug/L		98
7) Trichlorofluoromethane	5.703	101	328040	19.68	ug/L		98
8) Diethyl ether	6.190	59	240335	21.24	ug/L		99
9) 1,1-Dichloroethene	6.537	96	244773	21.03	ug/L		99
10) Trichlorotrifluoroethane	6.554	151	136457	19.34	ug/L		99
11) Acrolein	7.036	56	103911	35.35	ug/L		97
12) Iodomethane	6.784	142	330180	33.80	ug/L		96
13) Carbon Disulfide	6.631	76	819854	23.36	ug/L		99
14) 3-chloropropene	7.201	41	453280	22.51	ug/L		98
15) Acetone	7.401	43	237611	51.10	ug/L		97
16) Methylene Chloride	7.348	84	312179	20.92	ug/L		96
17) Methyl Acetate	7.530	43	264486	21.66	ug/L		98
18) t-1,2-Dichloroethene	7.553	96	271546	20.45	ug/L		94
19) Methyl tert-butyl ether	7.636	73	715061	21.24	ug/L		96
20) Acetonitrile	8.047	41	422521	136.71	ug/L		95
21) Isopropyl ether	8.053	45	928861	21.98	ug/L		98
22) Chloroprene	8.282	88	262164	20.66	ug/L		98
23) 1,1-Dichloroethane	8.317	63	541179	21.43	ug/L		99
24) Acrylonitrile	8.394	53	169903	29.20	ug/L		99
25) Vinyl Acetate	8.552	43	600114	20.02	ug/L		99
26) c-1,2-Dichloroethene	8.952	96	309412	21.57	ug/L		96
27) 2,2-Dichloropropane	9.081	77	391549	21.58	ug/L		98
28) Bromochloromethane	9.187	128	112283	21.19	ug/L		91
29) Cyclohexane	9.193	56	550683	21.89	ug/L		98
30) Chloroform	9.228	83	512953	21.27	ug/L		99
32) Dibromofluoromethane	9.428	113	684973	52.28	ug/L	#	89
33) 2-Butanone	9.551	72	128612	59.67	ug/L		94
34) 1,1,1-Trichloroethane	9.492	97	392922	21.98	ug/L		98
35) 1,1-Dichloropropene	9.610	75	415399	20.89	ug/L		98
36) Propionitrile	9.904	54	74393	28.65	ug/L	#	1
37) Methacrylonitrile	9.909	41	336632	33.09	ug/L	#	83
38) Isobutyl Alcohol	9.909	43	266453	214.42	ug/L	#	56
40) Carbon Tetrachloride	9.416	117	276464	18.21	ug/L		90
41) Benzene	9.880	78	1280954	20.35	ug/L		98
42) 1,2-Dichloroethane	10.092	62	345779	18.53	ug/L		99
43) Trichloroethene	10.450	130	261895	20.12	ug/L		88
44) Methyl cyclohexane	10.450	83	561569	19.80	ug/L		97
45) Dibromomethane	10.908	93	177177	19.14	ug/L		98
46) 1,2-Dichloropropane	10.985	63	351437	19.62	ug/L		98
47) Bromodichloromethane	11.020	83	361965	20.60	ug/L		99
48) Methyl Methacrylate	11.079	69	256816	18.13	ug/L		98
49) 1,4-Dioxane	11.196	88	87205	642.78	ug/L		100
50) 2-Chloroethyl vinyl ether	11.490	63	951401	94.86	ug/L		99
51) C-1,3-Dichloropropene	11.613	75	515980	19.56	ug/L		97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW004.D
Acq On : 28 Jul 2021 8:52 am
Operator : kkw
Sample : BS1
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 28 09:19:31 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

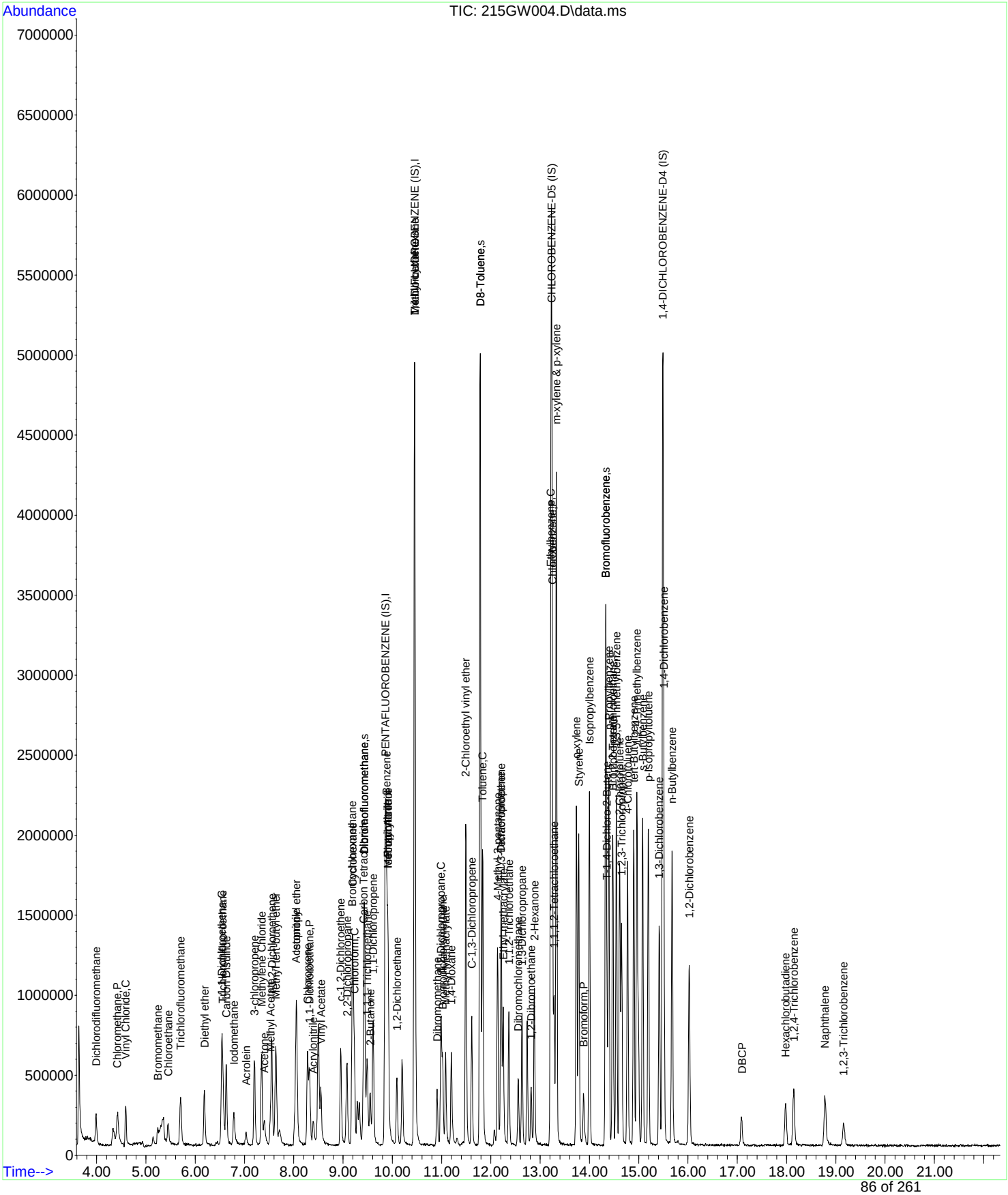
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.784	98	3363288	51.35	ug/L		95
54) 4-Methyl-2-pentanone	12.136	100	126186	51.71	ug/L		91
56) Toluene	11.831	92	831107	19.93	ug/L		97
57) T-1,3-Dichloropropene	12.201	75	451764	21.40	ug/L		98
58) Tetrachloroethene	12.207	164	192938	20.21	ug/L		99
59) Ethyl methacrylate	12.248	69	491119	20.05	ug/L		97
60) 1,1,2-Trichloroethane	12.365	97	289131	20.15	ug/L		98
61) Dibromochloromethane	12.553	129	236727	18.52	ug/L		99
62) 1,3-Dichloropropane	12.630	76	517920	19.70	ug/L		98
63) 1,2-Dibromoethane	12.818	107	280731	19.52	ug/L		99
64) 2-Hexanone	12.882	43	675109	52.09	ug/L		100
65) Ethylbenzene	13.212	106	482574	20.51	ug/L		99
66) Chlorobenzene	13.247	112	844214	20.37	ug/L		99
67) 1,1,1,2-Tetrachloroethane	13.282	131	243109	20.33	ug/L		98
68) m-xylene & p-xylene	13.329	106	1225437	40.59	ug/L		99
69) o-xylene	13.734	106	593183	19.91	ug/L		97
70) Styrene	13.781	104	1022273	19.38	ug/L		99
71) Bromoform	13.881	173	132644	18.20	ug/L		99
72) Isopropylbenzene	13.999	105	1567762	19.24	ug/L		99
74) Bromofluorobenzene	14.328	95	1462746	49.93	ug/L	#	75
75) n-Propylbenzene	14.393	91	2069147	19.29	ug/L		98
76) 1,1,2,2-Tetrachloroethane	14.469	83	499657	20.35	ug/L		99
77) 1,2,3-Trichloropropane	14.651	61	105540	18.58	ug/L		95
78) T-1,4-Dichloro-2-Butene	14.351	53	154186	21.45	ug/L	#	77
80) Bromobenzene	14.475	156	295906	21.37	ug/L		97
81) 1,2,4-Trimethylbenzene	14.962	105	1400824	20.65	ug/L		99
82) 2-Chlorotoluene	14.610	91	1244938	21.99	ug/L		99
83) 4-Chlorotoluene	14.774	91	1248275	20.10	ug/L		99
84) tert-Butylbenzene	14.898	119	1060092	19.90	ug/L		99
85) 1,3,5-Trimethylbenzene	14.545	105	1354196	20.07	ug/L		99
86) p-Isopropyltoluene	15.197	119	1340288	20.56	ug/L		99
87) s-Butylbenzene	15.080	105	1670136	20.62	ug/L		98
88) 1,3-Dichlorobenzene	15.415	146	627265	21.65	ug/L		97
89) 1,4-Dichlorobenzene	15.509	146	629001	20.95	ug/L	#	84
90) n-Butylbenzene	15.673	91	1381001	20.53	ug/L		98
91) 1,2-Dichlorobenzene	16.026	146	558451	19.98	ug/L		96
92) DBCP	17.095	157	54287	22.89	ug/L		92
93) Hexachlorobutadiene	17.977	225	65442	20.91	ug/L		92
94) 1,2,4-Trichlorobenzene	18.147	180	149046	26.66	ug/L		98
95) Naphthalene	18.776	128	445192	29.62	ug/L		97
96) 1,2,3-Trichlorobenzene	19.152	180	62162	26.73	ug/L		95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW004.D
Acq On : 28 Jul 2021 8:52 am
Operator : kkw
Sample : BS1
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 28 09:19:31 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW005.D
Acq On : 28 Jul 2021 9:20 am
Operator : kkw
Sample : CRL1
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 28 10:33:26 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1105421	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2599785	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1608323	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1192315	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.434	113	671572	50.77	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 101.54%				
52) D8-Toluene	11.784	98	3231309	50.40	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 100.80%				
73) Bromofluorobenzene	14.328	95	1388391	50.25	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 100.50%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.987	85	14607	1.28	ug/L	#	93
3) Chloromethane	4.422	50	26269	1.55	ug/L	#	82
4) Vinyl Chloride	4.592	62	15781	1.07	ug/L	#	44
5) Bromomethane	5.244	94	6156	1.71	ug/L	#	10
6) Chloroethane	5.474	64	9748	1.07	ug/L	#	44
7) Trichlorofluoromethane	5.709	101	16917	1.01	ug/L	#	73
8) Diethyl ether	0.000		0	N.D.			
9) 1,1-Dichloroethene	0.000		0	N.D.			
10) Trichlorotrifluoroethane	0.000		0	N.D.			
11) Acrolein	0.000		0	N.D.			
12) Iodomethane	6.801	142	21624	2.21	ug/L	#	81
13) Carbon Disulfide	0.000		0	N.D.	d		
14) 3-chloropropene	0.000		0	N.D.	d		
15) Acetone	0.000		0	N.D.			
16) Methylene Chloride	0.000		0	N.D.			
17) Methyl Acetate	0.000		0	N.D.			
18) t-1,2-Dichloroethene	0.000		0	N.D.			
19) Methyl tert-butyl ether	0.000		0	N.D.			
20) Acetonitrile	0.000		0	N.D.			
21) Isopropyl ether	0.000		0	N.D.			
22) Chloroprene	0.000		0	N.D.			
23) 1,1-Dichloroethane	0.000		0	N.D.			
24) Acrylonitrile	0.000		0	N.D.			
25) Vinyl Acetate	0.000		0	N.D.			
26) c-1,2-Dichloroethene	0.000		0	N.D.			
27) 2,2-Dichloropropane	0.000		0	N.D.			
28) Bromochloromethane	0.000		0	N.D.			
29) Cyclohexane	0.000		0	N.D.			
30) Chloroform	0.000		0	N.D.			
32) Dibromofluoromethane	9.434	113	671781	50.79	ug/L	#	88
33) 2-Butanone	0.000		0	N.D.			
34) 1,1,1-Trichloroethane	0.000		0	N.D.			
35) 1,1-Dichloropropene	0.000		0	N.D.			
36) Propionitrile	0.000		0	N.D.			
37) Methacrylonitrile	0.000		0	N.D.			
38) Isobutyl Alcohol	0.000		0	N.D.	d		
40) Carbon Tetrachloride	0.000		0	N.D.			
41) Benzene	9.892	78	9499	N.D.			
42) 1,2-Dichloroethane	0.000		0	N.D.			
43) Trichloroethene	0.000		0	N.D.			
44) Methyl cyclohexane	0.000		0	N.D.	d		
45) Dibromomethane	0.000		0	N.D.	d		
46) 1,2-Dichloropropane	0.000		0	N.D.			
47) Bromodichloromethane	0.000		0	N.D.			
48) Methyl Methacrylate	0.000		0	N.D.			
49) 1,4-Dioxane	0.000		0	N.D.			
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.			
51) C-1,3-Dichloropropene	0.000		0	N.D.			

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW005.D
Acq On : 28 Jul 2021 9:20 am
Operator : kkw
Sample : CRL1
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 28 10:33:26 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

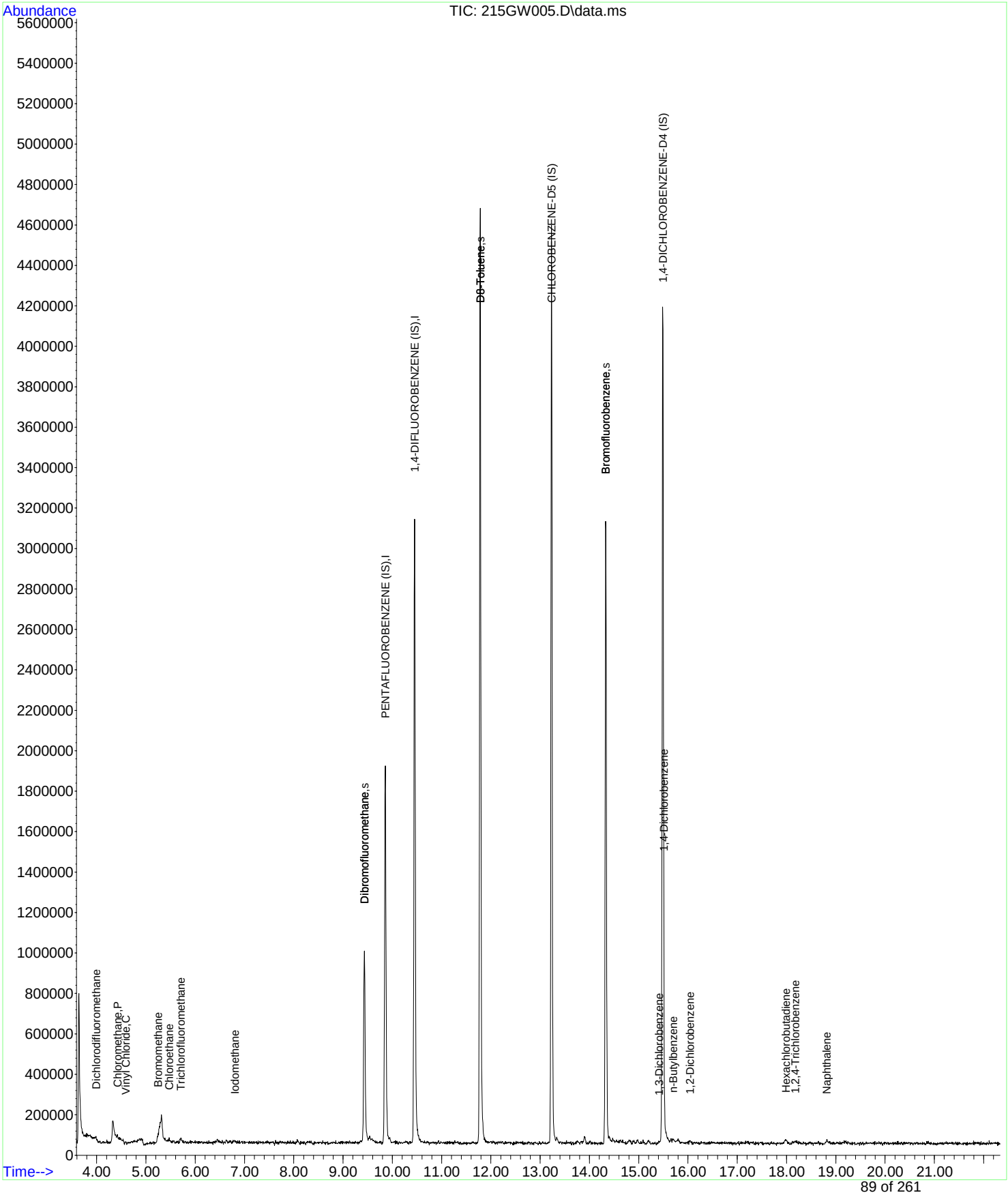
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.784	98	3228293	50.35 ug/L	95
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	11.831	92	4295	N.D.	
57) T-1,3-Dichloropropene	0.000		0	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	0.000		0	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	0.000		0	N.D. d	
65) Ethylbenzene	0.000		0	N.D. d	
66) Chlorobenzene	13.241	112	6713	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	13.335	106	5573	N.D.	
69) o-xylene	13.746	106	4580	N.D.	
70) Styrene	13.811	104	4486	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	14.011	105	8804	N.D.	
74) Bromofluorobenzene	14.328	95	1390411	50.33 ug/L #	77
75) n-Propylbenzene	14.404	91	16386	N.D.	
76) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D.	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D.	
80) Bromobenzene	0.000		0	N.D.	
81) 1,2,4-Trimethylbenzene	14.980	105	7894	N.D.	
82) 2-Chlorotoluene	14.622	91	10440	N.D.	
83) 4-Chlorotoluene	14.798	91	11540	N.D.	
84) tert-Butylbenzene	14.910	119	6094	N.D.	
85) 1,3,5-Trimethylbenzene	14.545	105	7987	N.D.	
86) p-Isopropyltoluene	15.209	119	8062	N.D.	
87) s-Butylbenzene	15.092	105	12365	N.D.	
88) 1,3-Dichlorobenzene	15.415	146	7307	0.27 ug/L #	55
89) 1,4-Dichlorobenzene	15.509	146	6978	0.25 ug/L #	1
90) n-Butylbenzene	15.697	91	14888	0.24 ug/L #	59
91) 1,2-Dichlorobenzene	16.038	146	5794	0.22 ug/L #	51
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	17.989	225	4463	1.53 ug/L #	29
94) 1,2,4-Trichlorobenzene	18.177	180	4339	0.97 ug/L #	36
95) Naphthalene	18.811	128	22208	2.10 ug/L #	69
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW005.D
Acq On : 28 Jul 2021 9:20 am
Operator : kkw
Sample : CRL1
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 28 10:33:26 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW006.D
Acq On : 28 Jul 2021 9:48 am
Operator : kkw
Sample : BLK1
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 28 10:35:52 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1058005	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2459389	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1530623	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1152122	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.434	113	623925	49.28	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 98.56%				
52) D8-Toluene	11.784	98	3112050	51.31	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 102.62%				
73) Bromofluorobenzene	14.328	95	1306869	49.70	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 99.40%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.			
3) Chloromethane	0.000		0	N.D. d			
4) Vinyl Chloride	0.000		0	N.D.			
5) Bromomethane	0.000		0	N.D.			
6) Chloroethane	0.000		0	N.D.			
7) Trichlorofluoromethane	0.000		0	N.D.			
8) Diethyl ether	0.000		0	N.D.			
9) 1,1-Dichloroethene	0.000		0	N.D.			
10) Trichlorotrifluoroethane	0.000		0	N.D.			
11) Acrolein	0.000		0	N.D.			
12) Iodomethane	0.000		0	N.D. d			
13) Carbon Disulfide	0.000		0	N.D. d			
14) 3-chloropropene	0.000		0	N.D.			
15) Acetone	0.000		0	N.D.			
16) Methylene Chloride	0.000		0	N.D.			
17) Methyl Acetate	0.000		0	N.D.			
18) t-1,2-Dichloroethene	0.000		0	N.D.			
19) Methyl tert-butyl ether	0.000		0	N.D.			
20) Acetonitrile	0.000		0	N.D.			
21) Isopropyl ether	0.000		0	N.D.			
22) Chloroprene	0.000		0	N.D.			
23) 1,1-Dichloroethane	0.000		0	N.D.			
24) Acrylonitrile	0.000		0	N.D.			
25) Vinyl Acetate	0.000		0	N.D.			
26) c-1,2-Dichloroethene	0.000		0	N.D.			
27) 2,2-Dichloropropane	0.000		0	N.D.			
28) Bromochloromethane	0.000		0	N.D.			
29) Cyclohexane	0.000		0	N.D.			
30) Chloroform	0.000		0	N.D.			
32) Dibromofluoromethane	9.434	113	624108	49.30	ug/L	#	87
33) 2-Butanone	0.000		0	N.D. d			
34) 1,1,1-Trichloroethane	0.000		0	N.D.			
35) 1,1-Dichloropropene	0.000		0	N.D.			
36) Propionitrile	0.000		0	N.D.			
37) Methacrylonitrile	0.000		0	N.D.			
38) Isobutyl Alcohol	0.000		0	N.D.			
40) Carbon Tetrachloride	0.000		0	N.D. d			
41) Benzene	9.892	78	6481	N.D.			
42) 1,2-Dichloroethane	0.000		0	N.D.			
43) Trichloroethene	0.000		0	N.D.			
44) Methyl cyclohexane	0.000		0	N.D. d			
45) Dibromomethane	0.000		0	N.D.			
46) 1,2-Dichloropropane	0.000		0	N.D.			
47) Bromodichloromethane	0.000		0	N.D.			
48) Methyl Methacrylate	0.000		0	N.D.			
49) 1,4-Dioxane	0.000		0	N.D.			
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.			
51) C-1,3-Dichloropropene	0.000		0	N.D.			

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW006.D
Acq On : 28 Jul 2021 9:48 am
Operator : kkw
Sample : BLK1
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 28 10:35:52 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

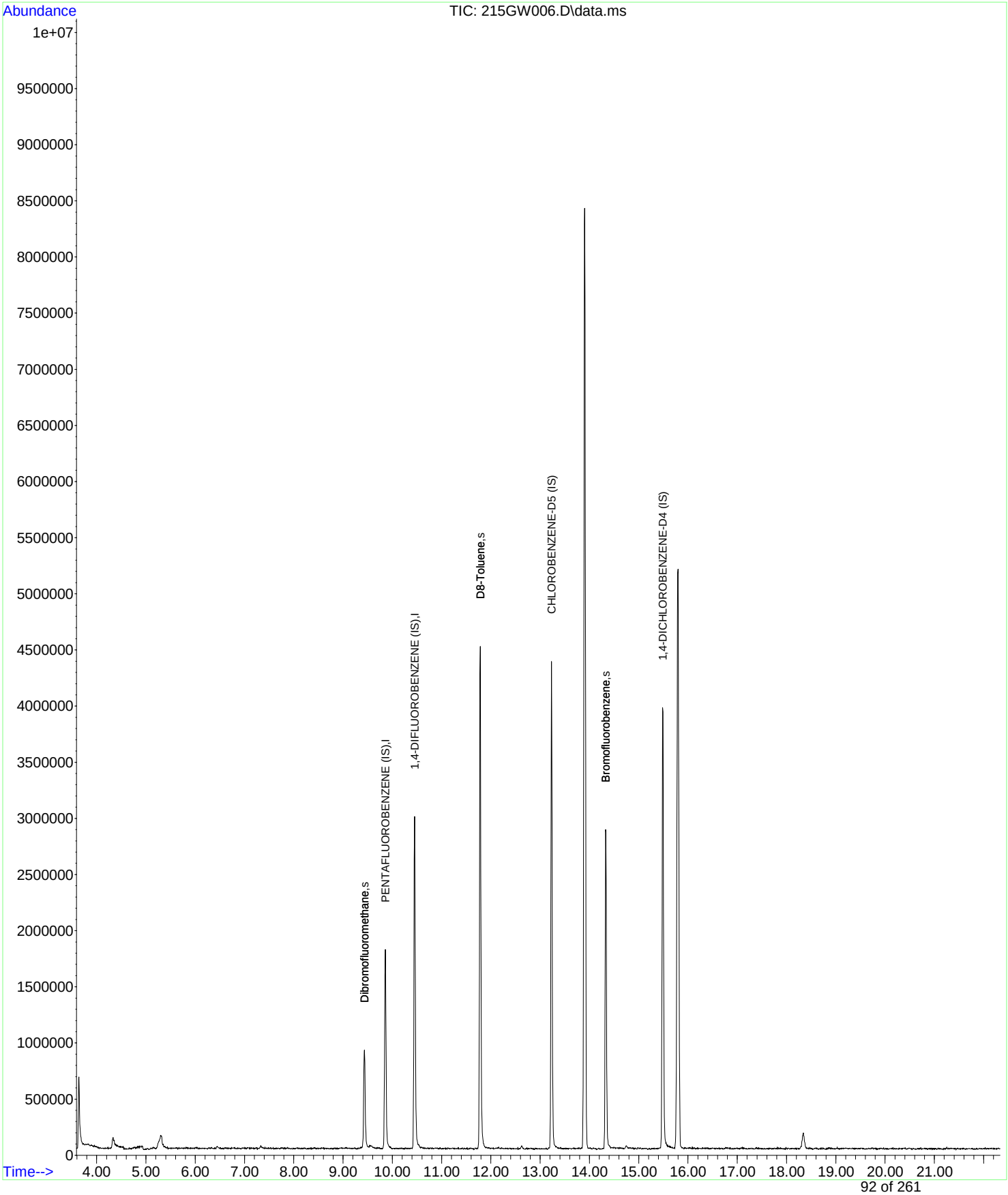
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.784	98	3111985	51.31 ug/L	95
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	0.000		0	N.D.	
57) T-1,3-Dichloropropene	0.000		0	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	0.000		0	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	0.000		0	N.D.	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	0.000		0	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	0.000		0	N.D.	
70) Styrene	0.000		0	N.D. d	
71) Bromoform	0.000		0	N.D. d	
72) Isopropylbenzene	0.000		0	N.D. d	
74) Bromofluorobenzene	14.328	95	1308375	49.76 ug/L #	76
75) n-Propylbenzene	14.334	91	4370	N.D.	
76) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D.	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D.	
80) Bromobenzene	0.000		0	N.D.	
81) 1,2,4-Trimethylbenzene	0.000		0	N.D.	
82) 2-Chlorotoluene	0.000		0	N.D.	
83) 4-Chlorotoluene	0.000		0	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	0.000		0	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	0.000		0	N.D.	
88) 1,3-Dichlorobenzene	0.000		0	N.D.	
89) 1,4-Dichlorobenzene	0.000		0	N.D.	
90) n-Butylbenzene	0.000		0	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	0.000		0	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW006.D
Acq On : 28 Jul 2021 9:48 am
Operator : kkw
Sample : BLK1
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 28 10:35:52 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW007.D
Acq On : 28 Jul 2021 10:16 am
Operator : kkw
Sample : AE05483-01
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 28 10:39:01 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1040767	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2434148	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1534041	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1160628	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.434	113	636175	51.08	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 102.16%				
52) D8-Toluene	11.784	98	3125049	52.06	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 104.12%				
73) Bromofluorobenzene	14.334	95	1324088	50.25	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 100.50%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.			
3) Chloromethane	0.000		0	N.D. d			
4) Vinyl Chloride	4.586	62	102299	7.39	ug/L	#	1
5) Bromomethane	0.000		0	N.D.			
6) Chloroethane	0.000		0	N.D.			
7) Trichlorofluoromethane	0.000		0	N.D. d			
8) Diethyl ether	0.000		0	N.D.			
9) 1,1-Dichloroethene	0.000		0	N.D.			
10) Trichlorotrifluoroethane	0.000		0	N.D.			
11) Acrolein	0.000		0	N.D.			
12) Iodomethane	0.000		0	N.D. d			
13) Carbon Disulfide	0.000		0	N.D. d			
14) 3-chloropropene	0.000		0	N.D.			
15) Acetone	0.000		0	N.D. d			
16) Methylene Chloride	0.000		0	N.D.			
17) Methyl Acetate	0.000		0	N.D. d			
18) t-1,2-Dichloroethene	7.559	96	9216	0.73	ug/L		93
19) Methyl tert-butyl ether	0.000		0	N.D.			
20) Acetonitrile	0.000		0	N.D.			
21) Isopropyl ether	0.000		0	N.D.			
22) Chloroprene	0.000		0	N.D.			
23) 1,1-Dichloroethane	0.000		0	N.D.			
24) Acrylonitrile	0.000		0	N.D.			
25) Vinyl Acetate	0.000		0	N.D.			
26) c-1,2-Dichloroethene	0.000		0	N.D.			
27) 2,2-Dichloropropane	0.000		0	N.D.			
28) Bromochloromethane	0.000		0	N.D.			
29) Cyclohexane	0.000		0	N.D.			
30) Chloroform	0.000		0	N.D.			
32) Dibromofluoromethane	9.434	113	636402	51.10	ug/L	#	90
33) 2-Butanone	0.000		0	N.D.			
34) 1,1,1-Trichloroethane	0.000		0	N.D.			
35) 1,1-Dichloropropene	0.000		0	N.D.			
36) Propionitrile	0.000		0	N.D.			
37) Methacrylonitrile	0.000		0	N.D.			
38) Isobutyl Alcohol	0.000		0	N.D. d			
40) Carbon Tetrachloride	0.000		0	N.D.			
41) Benzene	0.000		0	N.D. d			
42) 1,2-Dichloroethane	0.000		0	N.D.			
43) Trichloroethene	0.000		0	N.D.			
44) Methyl cyclohexane	0.000		0	N.D. d			
45) Dibromomethane	0.000		0	N.D.			
46) 1,2-Dichloropropane	0.000		0	N.D.			
47) Bromodichloromethane	0.000		0	N.D.			
48) Methyl Methacrylate	0.000		0	N.D.			
49) 1,4-Dioxane	0.000		0	N.D.			
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.			
51) C-1,3-Dichloropropene	11.778	75	4815	N.D.			

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW007.D
Acq On : 28 Jul 2021 10:16 am
Operator : kkw
Sample : AE05483-01
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 28 10:39:01 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

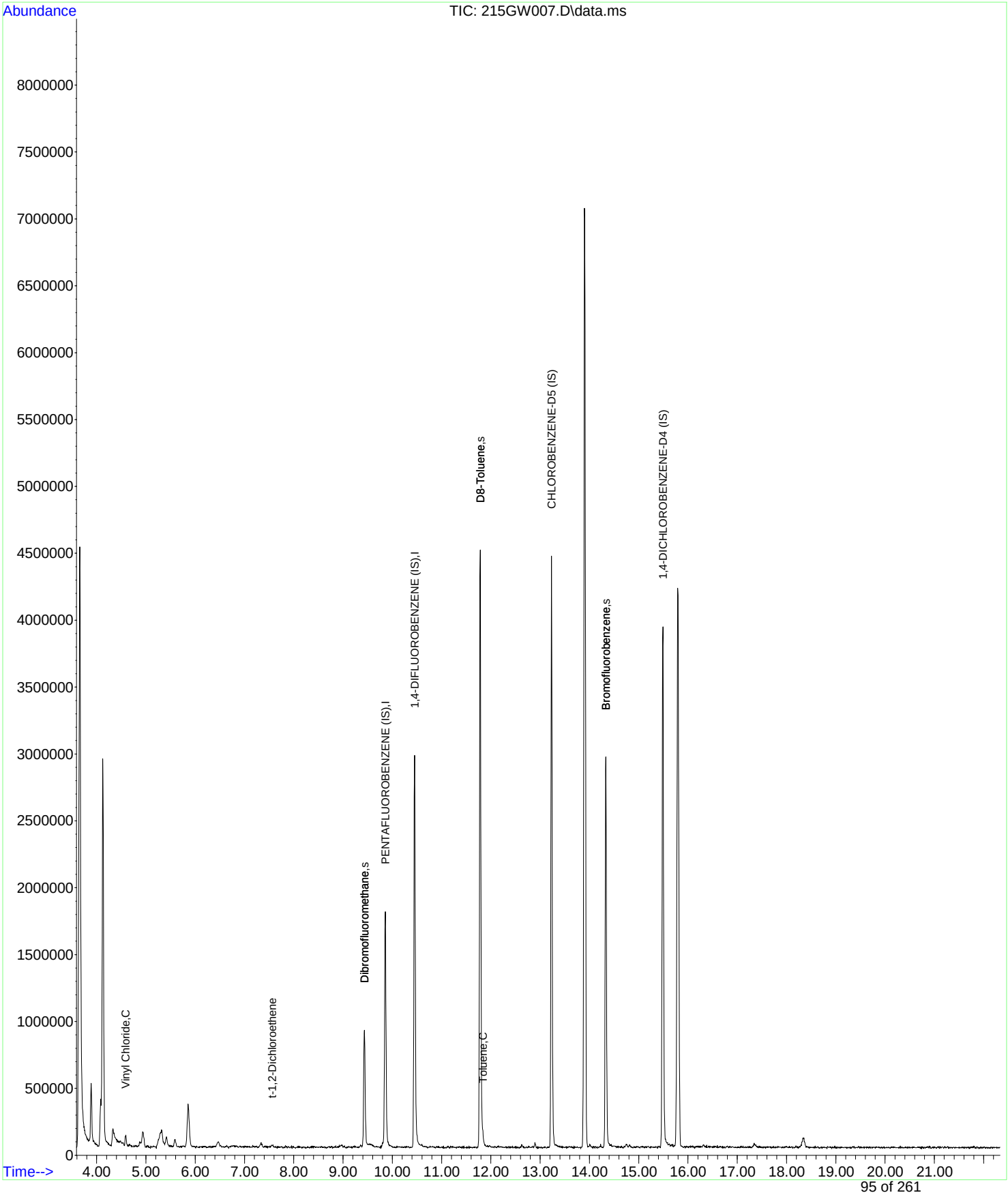
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.784	98	3125049	52.06 ug/L	96
54) 4-Methyl-2-pentanone	0.000		0	N.D.	
56) Toluene	11.837	92	17239	0.46 ug/L #	84
57) T-1,3-Dichloropropene	0.000		0	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	0.000		0	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D. d	
64) 2-Hexanone	0.000		0	N.D.	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	0.000		0	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	0.000		0	N.D.	
70) Styrene	0.000		0	N.D. d	
71) Bromoform	0.000		0	N.D. d	
72) Isopropylbenzene	14.005	105	10456	N.D.	
74) Bromofluorobenzene	14.334	95	1324636	50.27 ug/L #	76
75) n-Propylbenzene	14.404	91	7470	N.D.	
76) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D.	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D.	
80) Bromobenzene	0.000		0	N.D.	
81) 1,2,4-Trimethylbenzene	14.998	105	5019	N.D.	
82) 2-Chlorotoluene	0.000		0	N.D.	
83) 4-Chlorotoluene	0.000		0	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	0.000		0	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	15.086	105	5706	N.D.	
88) 1,3-Dichlorobenzene	0.000		0	N.D.	
89) 1,4-Dichlorobenzene	0.000		0	N.D.	
90) n-Butylbenzene	0.000		0	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	0.000		0	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW007.D
Acq On : 28 Jul 2021 10:16 am
Operator : kkw
Sample : AE05483-01
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 28 10:39:01 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW008.D
Acq On : 28 Jul 2021 10:44 am
Operator : kkw
Sample : AE05483-02
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 28 11:49:15 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1010974	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2428360	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1504622	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1151894	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	639945	52.90	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 105.80%				
52) D8-Toluene	11.784	98	3065721	51.19	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 102.38%				
73) Bromofluorobenzene	14.328	95	1314987	50.88	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 101.76%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.			
3) Chloromethane	0.000		0	N.D.	d		
4) Vinyl Chloride	4.586	62	742314	55.21	ug/L	#	72
5) Bromomethane	0.000		0	N.D.			
6) Chloroethane	0.000		0	N.D.			
7) Trichlorofluoromethane	0.000		0	N.D.			
8) Diethyl ether	0.000		0	N.D.			
9) 1,1-Dichloroethene	0.000		0	N.D.			
10) Trichlorotrifluoroethane	0.000		0	N.D.			
11) Acrolein	0.000		0	N.D.			
12) Iodomethane	6.784	142	7315	0.82	ug/L	#	48
13) Carbon Disulfide	0.000		0	N.D.	d		
14) 3-chloropropene	0.000		0	N.D.			
15) Acetone	0.000		0	N.D.	d		
16) Methylene Chloride	0.000		0	N.D.			
17) Methyl Acetate	0.000		0	N.D.	d		
18) t-1,2-Dichloroethene	0.000		0	N.D.			
19) Methyl tert-butyl ether	0.000		0	N.D.			
20) Acetonitrile	0.000		0	N.D.			
21) Isopropyl ether	0.000		0	N.D.			
22) Chloroprene	0.000		0	N.D.			
23) 1,1-Dichloroethane	0.000		0	N.D.			
24) Acrylonitrile	0.000		0	N.D.			
25) Vinyl Acetate	0.000		0	N.D.			
26) c-1,2-Dichloroethene	0.000		0	N.D.			
27) 2,2-Dichloropropane	0.000		0	N.D.			
28) Bromochloromethane	0.000		0	N.D.			
29) Cyclohexane	0.000		0	N.D.			
30) Chloroform	0.000		0	N.D.			
32) Dibromofluoromethane	9.428	113	639945	52.90	ug/L	#	90
33) 2-Butanone	0.000		0	N.D.			
34) 1,1,1-Trichloroethane	0.000		0	N.D.			
35) 1,1-Dichloropropene	0.000		0	N.D.			
36) Propionitrile	0.000		0	N.D.			
37) Methacrylonitrile	0.000		0	N.D.	d		
38) Isobutyl Alcohol	0.000		0	N.D.			
40) Carbon Tetrachloride	0.000		0	N.D.			
41) Benzene	9.892	78	5965	N.D.			
42) 1,2-Dichloroethane	0.000		0	N.D.			
43) Trichloroethene	0.000		0	N.D.			
44) Methyl cyclohexane	0.000		0	N.D.	d		
45) Dibromomethane	0.000		0	N.D.			
46) 1,2-Dichloropropane	0.000		0	N.D.			
47) Bromodichloromethane	0.000		0	N.D.			
48) Methyl Methacrylate	0.000		0	N.D.			
49) 1,4-Dioxane	0.000		0	N.D.			
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.			
51) C-1,3-Dichloropropene	0.000		0	N.D.			

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW008.D
Acq On : 28 Jul 2021 10:44 am
Operator : kkw
Sample : AE05483-02
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 28 11:49:15 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

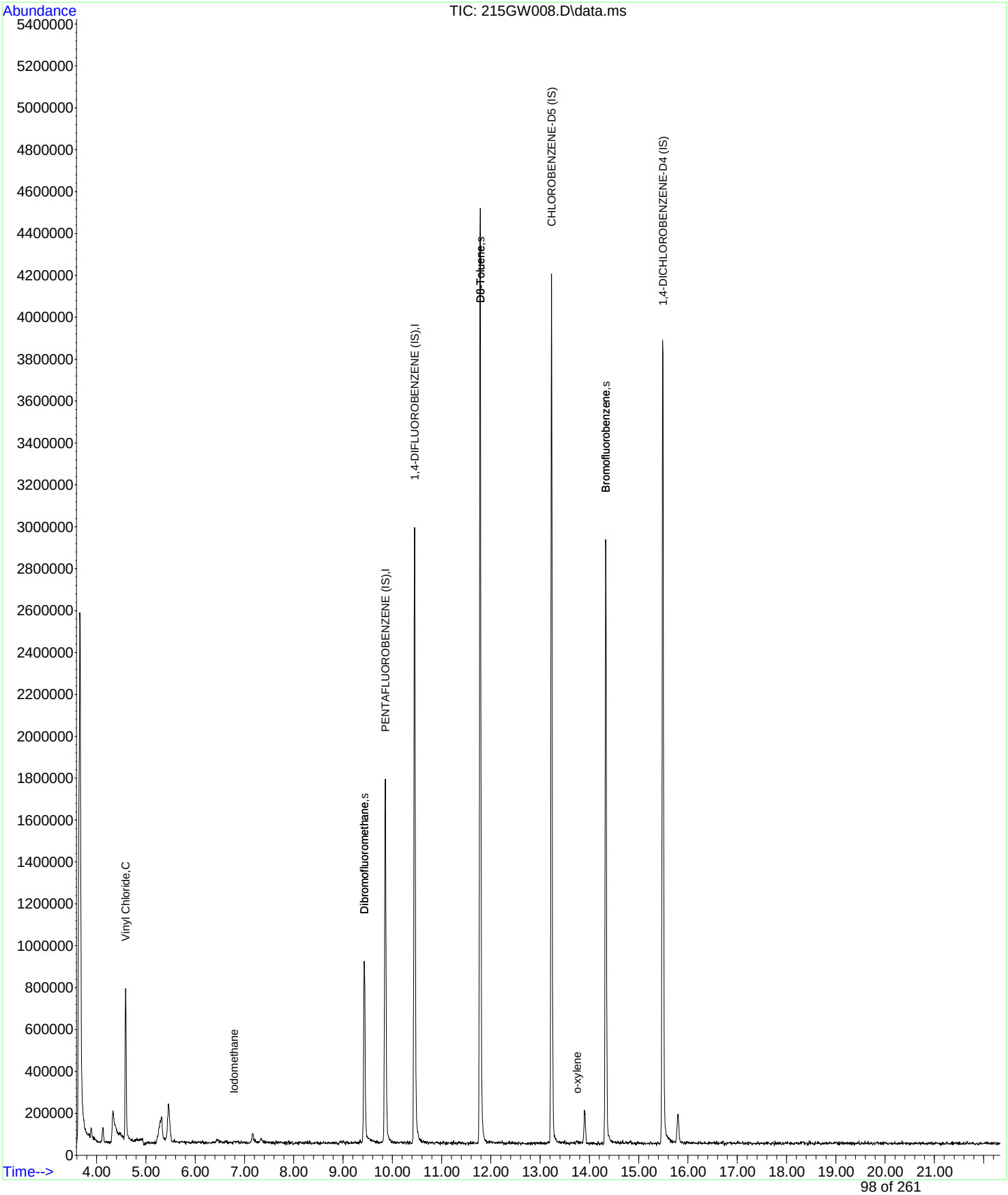
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.784	98	3063054	51.15 ug/L	95
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	0.000		0	N.D.	
57) T-1,3-Dichloropropene	0.000		0	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	0.000		0	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	0.000		0	N.D.	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	0.000		0	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	13.746	106	7074	0.27 ug/L #	55
70) Styrene	0.000		0	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	0.000		0	N.D.	
74) Bromofluorobenzene	14.328	95	1314987	50.88 ug/L #	76
75) n-Propylbenzene	0.000		0	N.D.	
76) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D.	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D.	
80) Bromobenzene	0.000		0	N.D.	
81) 1,2,4-Trimethylbenzene	0.000		0	N.D.	
82) 2-Chlorotoluene	0.000		0	N.D.	
83) 4-Chlorotoluene	0.000		0	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	0.000		0	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	0.000		0	N.D.	
88) 1,3-Dichlorobenzene	0.000		0	N.D.	
89) 1,4-Dichlorobenzene	0.000		0	N.D.	
90) n-Butylbenzene	0.000		0	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	0.000		0	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW008.D
Acq On : 28 Jul 2021 10:44 am
Operator : kkw
Sample : AE05483-02
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 28 11:49:15 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW009.D
Acq On : 28 Jul 2021 11:12 am
Operator : kkw
Sample : AE05483-03
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 28 11:50:06 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1022104	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2402398	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1514817	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1127294	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	623119	50.95	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 101.90%				
52) D8-Toluene	11.784	98	3027397	51.10	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 102.20%				
73) Bromofluorobenzene	14.328	95	1299782	49.95	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 99.90%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.			
3) Chloromethane	0.000		0	N.D. d			
4) Vinyl Chloride	4.592	62	19208	1.41	ug/L	#	1
5) Bromomethane	0.000		0	N.D.			
6) Chloroethane	0.000		0	N.D.			
7) Trichlorofluoromethane	0.000		0	N.D.			
8) Diethyl ether	0.000		0	N.D.			
9) 1,1-Dichloroethene	0.000		0	N.D.			
10) Trichlorotrifluoroethane	0.000		0	N.D.			
11) Acrolein	0.000		0	N.D.			
12) Iodomethane	6.795	142	9061	1.00	ug/L	#	43
13) Carbon Disulfide	6.637	76	5431	N.D.			
14) 3-chloropropene	0.000		0	N.D. d			
15) Acetone	7.418	43	10609	2.44	ug/L		96
16) Methylene Chloride	0.000		0	N.D.			
17) Methyl Acetate	0.000		0	N.D. d			
18) t-1,2-Dichloroethene	7.559	96	4127	0.33	ug/L	#	1
19) Methyl tert-butyl ether	0.000		0	N.D.			
20) Acetonitrile	0.000		0	N.D.			
21) Isopropyl ether	0.000		0	N.D.			
22) Chloroprene	0.000		0	N.D.			
23) 1,1-Dichloroethane	0.000		0	N.D.			
24) Acrylonitrile	0.000		0	N.D.			
25) Vinyl Acetate	0.000		0	N.D.			
26) c-1,2-Dichloroethene	0.000		0	N.D.			
27) 2,2-Dichloropropane	0.000		0	N.D.			
28) Bromochloromethane	0.000		0	N.D.			
29) Cyclohexane	0.000		0	N.D.			
30) Chloroform	0.000		0	N.D.			
32) Dibromofluoromethane	9.428	113	623119	50.95	ug/L	#	90
33) 2-Butanone	0.000		0	N.D.			
34) 1,1,1-Trichloroethane	0.000		0	N.D.			
35) 1,1-Dichloropropene	0.000		0	N.D.			
36) Propionitrile	0.000		0	N.D.			
37) Methacrylonitrile	0.000		0	N.D.			
38) Isobutyl Alcohol	0.000		0	N.D.			
40) Carbon Tetrachloride	0.000		0	N.D.			
41) Benzene	9.880	78	10803	N.D.			
42) 1,2-Dichloroethane	0.000		0	N.D.			
43) Trichloroethene	0.000		0	N.D.			
44) Methyl cyclohexane	0.000		0	N.D. d			
45) Dibromomethane	0.000		0	N.D.			
46) 1,2-Dichloropropane	0.000		0	N.D.			
47) Bromodichloromethane	0.000		0	N.D.			
48) Methyl Methacrylate	0.000		0	N.D.			
49) 1,4-Dioxane	0.000		0	N.D.			
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.			
51) C-1,3-Dichloropropene	0.000		0	N.D.			

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW009.D
Acq On : 28 Jul 2021 11:12 am
Operator : kkw
Sample : AE05483-03
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 28 11:50:06 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

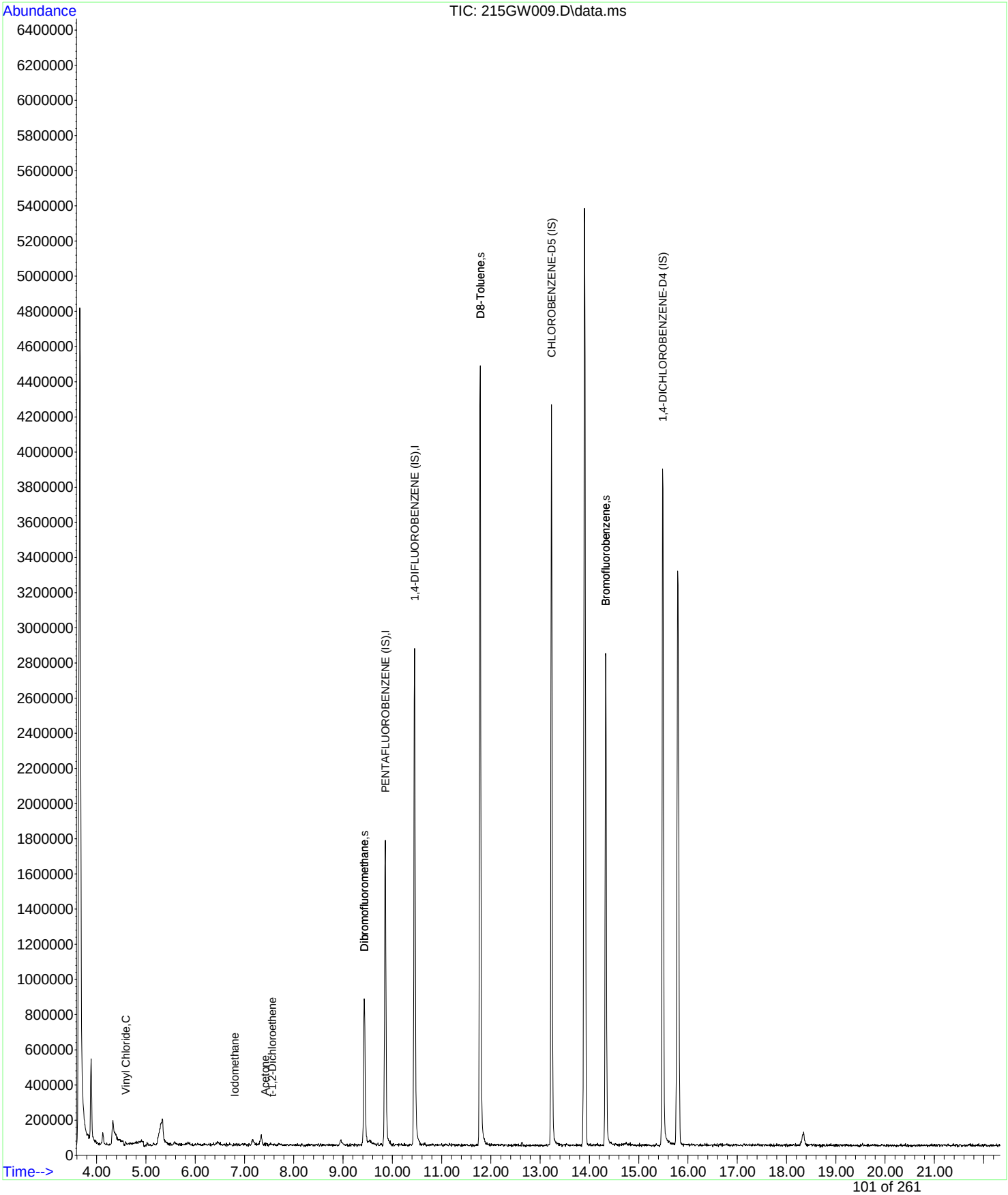
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.784	98	3027397	51.10 ug/L	95
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	0.000		0	N.D.	
57) T-1,3-Dichloropropene	0.000		0	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	0.000		0	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	0.000		0	N.D.	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	0.000		0	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	0.000		0	N.D.	
70) Styrene	0.000		0	N.D. d	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	0.000		0	N.D. d	
74) Bromofluorobenzene	14.328	95	1299782	49.95 ug/L #	75
75) n-Propylbenzene	0.000		0	N.D.	
76) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D.	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D.	
80) Bromobenzene	0.000		0	N.D.	
81) 1,2,4-Trimethylbenzene	0.000		0	N.D.	
82) 2-Chlorotoluene	0.000		0	N.D.	
83) 4-Chlorotoluene	0.000		0	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	0.000		0	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	0.000		0	N.D.	
88) 1,3-Dichlorobenzene	0.000		0	N.D.	
89) 1,4-Dichlorobenzene	0.000		0	N.D.	
90) n-Butylbenzene	0.000		0	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	0.000		0	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW009.D
Acq On : 28 Jul 2021 11:12 am
Operator : kkw
Sample : AE05483-03
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 28 11:50:06 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW010.D
Acq On : 28 Jul 2021 11:40 am
Operator : kkw
Sample : AE05483-04
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jul 28 12:57:33 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) PENTAFLUOROBENZENE (IS)	9.857	168	990018	50.00	ug/L	0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2368009	50.00	ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1506429	50.00	ug/L	# 0.00
79) 1,4-DICHLOROBENZENE-D4...	15.486	152	1129481	50.00	ug/L	0.00
System Monitoring Compounds						
31) Dibromofluoromethane	9.434	113	601911	50.81	ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 101.62%			
52) D8-Toluene	11.784	98	3021088	51.73	ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 103.46%			
73) Bromofluorobenzene	14.334	95	1285307	49.67	ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 99.34%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.		
3) Chloromethane	0.000		0	N.D.	d	
4) Vinyl Chloride	4.592	62	7655	0.58	ug/L #	44
5) Bromomethane	0.000		0	N.D.		
6) Chloroethane	0.000		0	N.D.		
7) Trichlorofluoromethane	0.000		0	N.D.		
8) Diethyl ether	0.000		0	N.D.		
9) 1,1-Dichloroethene	0.000		0	N.D.		
10) Trichlorotrifluoroethane	0.000		0	N.D.		
11) Acrolein	0.000		0	N.D.		
12) Iodomethane	0.000		0	N.D.	d	
13) Carbon Disulfide	6.625	76	4998	N.D.		
14) 3-chloropropene	0.000		0	N.D.		
15) Acetone	0.000		0	N.D.	d	
16) Methylene Chloride	0.000		0	N.D.		
17) Methyl Acetate	0.000		0	N.D.	d	
18) t-1,2-Dichloroethene	0.000		0	N.D.		
19) Methyl tert-butyl ether	0.000		0	N.D.		
20) Acetonitrile	0.000		0	N.D.		
21) Isopropyl ether	0.000		0	N.D.		
22) Chloroprene	0.000		0	N.D.		
23) 1,1-Dichloroethane	0.000		0	N.D.		
24) Acrylonitrile	0.000		0	N.D.		
25) Vinyl Acetate	0.000		0	N.D.		
26) c-1,2-Dichloroethene	0.000		0	N.D.		
27) 2,2-Dichloropropane	0.000		0	N.D.		
28) Bromochloromethane	0.000		0	N.D.		
29) Cyclohexane	0.000		0	N.D.		
30) Chloroform	0.000		0	N.D.		
32) Dibromofluoromethane	9.434	113	601911	50.81	ug/L #	86
33) 2-Butanone	0.000		0	N.D.		
34) 1,1,1-Trichloroethane	0.000		0	N.D.		
35) 1,1-Dichloropropene	0.000		0	N.D.		
36) Propionitrile	0.000		0	N.D.		
37) Methacrylonitrile	0.000		0	N.D.		
38) Isobutyl Alcohol	0.000		0	N.D.		
40) Carbon Tetrachloride	0.000		0	N.D.		
41) Benzene	9.886	78	9423	N.D.		
42) 1,2-Dichloroethane	0.000		0	N.D.		
43) Trichloroethene	0.000		0	N.D.		
44) Methyl cyclohexane	0.000		0	N.D.	d	
45) Dibromomethane	0.000		0	N.D.		
46) 1,2-Dichloropropane	0.000		0	N.D.		
47) Bromodichloromethane	0.000		0	N.D.		
48) Methyl Methacrylate	0.000		0	N.D.		
49) 1,4-Dioxane	0.000		0	N.D.		
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.		
51) C-1,3-Dichloropropene	0.000		0	N.D.		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW010.D
Acq On : 28 Jul 2021 11:40 am
Operator : kkw
Sample : AE05483-04
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jul 28 12:57:33 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

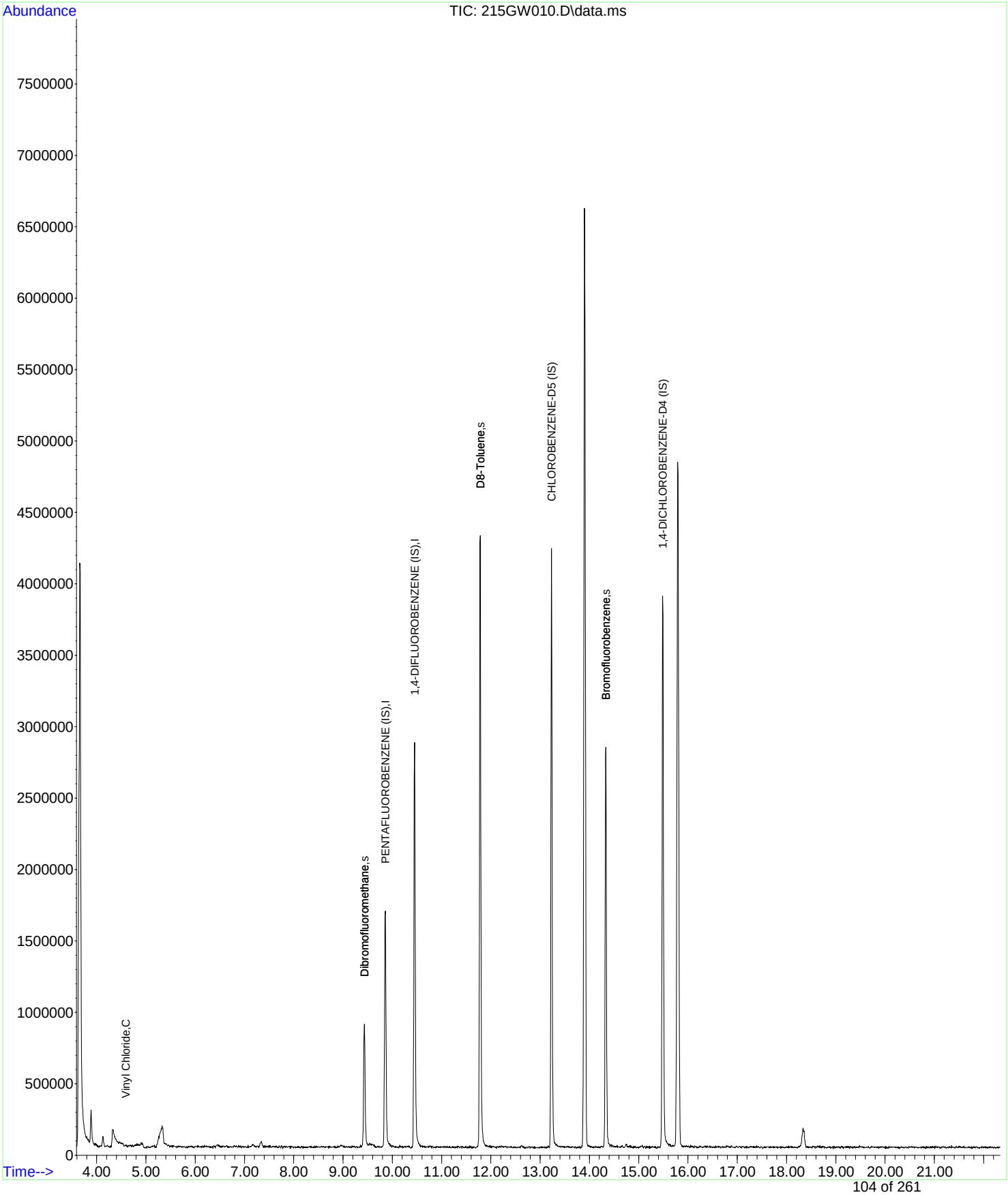
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.784	98	3021088	51.73 ug/L	95
54) 4-Methyl-2-pentanone	0.000		0	N.D.	
56) Toluene	0.000		0	N.D.	
57) T-1,3-Dichloropropene	0.000		0	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	0.000		0	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	0.000		0	N.D.	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	0.000		0	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	0.000		0	N.D.	
70) Styrene	0.000		0	N.D. d	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	0.000		0	N.D. d	
74) Bromofluorobenzene	14.334	95	1285307	49.67 ug/L #	75
75) n-Propylbenzene	0.000		0	N.D.	
76) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D.	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D.	
80) Bromobenzene	0.000		0	N.D.	
81) 1,2,4-Trimethylbenzene	0.000		0	N.D.	
82) 2-Chlorotoluene	0.000		0	N.D.	
83) 4-Chlorotoluene	0.000		0	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	0.000		0	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	0.000		0	N.D.	
88) 1,3-Dichlorobenzene	0.000		0	N.D.	
89) 1,4-Dichlorobenzene	0.000		0	N.D.	
90) n-Butylbenzene	0.000		0	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	0.000		0	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW010.D
Acq On : 28 Jul 2021 11:40 am
Operator : kkw
Sample : AE05483-04
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jul 28 12:57:33 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW011.D
Acq On : 28 Jul 2021 12:08 pm
Operator : kkw
Sample : AE05483-05
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jul 28 12:59:08 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	979486	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2357320	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1479523	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1121546	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	593870	50.67	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 101.34%				
52) D8-Toluene	11.778	98	2973094	51.14	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 102.28%				
73) Bromofluorobenzene	14.328	95	1253205	49.31	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 98.62%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.			
3) Chloromethane	0.000		0	N.D. d			
4) Vinyl Chloride	0.000		0	N.D.			
5) Bromomethane	0.000		0	N.D.			
6) Chloroethane	0.000		0	N.D.			
7) Trichlorofluoromethane	0.000		0	N.D.			
8) Diethyl ether	0.000		0	N.D.			
9) 1,1-Dichloroethene	0.000		0	N.D.			
10) Trichlorotrifluoroethane	0.000		0	N.D.			
11) Acrolein	0.000		0	N.D.			
12) Iodomethane	0.000		0	N.D. d			
13) Carbon Disulfide	6.637	76	4665	N.D.			
14) 3-chloropropene	0.000		0	N.D.			
15) Acetone	0.000		0	N.D. d			
16) Methylene Chloride	0.000		0	N.D.			
17) Methyl Acetate	0.000		0	N.D. d			
18) t-1,2-Dichloroethene	0.000		0	N.D.			
19) Methyl tert-butyl ether	0.000		0	N.D.			
20) Acetonitrile	0.000		0	N.D.			
21) Isopropyl ether	0.000		0	N.D.			
22) Chloroprene	0.000		0	N.D.			
23) 1,1-Dichloroethane	0.000		0	N.D.			
24) Acrylonitrile	0.000		0	N.D.			
25) Vinyl Acetate	0.000		0	N.D.			
26) c-1,2-Dichloroethene	0.000		0	N.D.			
27) 2,2-Dichloropropane	0.000		0	N.D.			
28) Bromochloromethane	0.000		0	N.D.			
29) Cyclohexane	0.000		0	N.D.			
30) Chloroform	0.000		0	N.D.			
32) Dibromofluoromethane	9.428	113	593870	50.67	ug/L	#	87
33) 2-Butanone	0.000		0	N.D.			
34) 1,1,1-Trichloroethane	0.000		0	N.D.			
35) 1,1-Dichloropropene	0.000		0	N.D.			
36) Propionitrile	0.000		0	N.D.			
37) Methacrylonitrile	0.000		0	N.D.			
38) Isobutyl Alcohol	0.000		0	N.D.			
40) Carbon Tetrachloride	0.000		0	N.D.			
41) Benzene	9.898	78	6882	N.D.			
42) 1,2-Dichloroethane	0.000		0	N.D.			
43) Trichloroethene	0.000		0	N.D.			
44) Methyl cyclohexane	0.000		0	N.D. d			
45) Dibromomethane	0.000		0	N.D.			
46) 1,2-Dichloropropane	0.000		0	N.D.			
47) Bromodichloromethane	0.000		0	N.D.			
48) Methyl Methacrylate	0.000		0	N.D.			
49) 1,4-Dioxane	0.000		0	N.D.			
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.			
51) C-1,3-Dichloropropene	0.000		0	N.D.			

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW011.D
Acq On : 28 Jul 2021 12:08 pm
Operator : kkw
Sample : AE05483-05
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jul 28 12:59:08 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

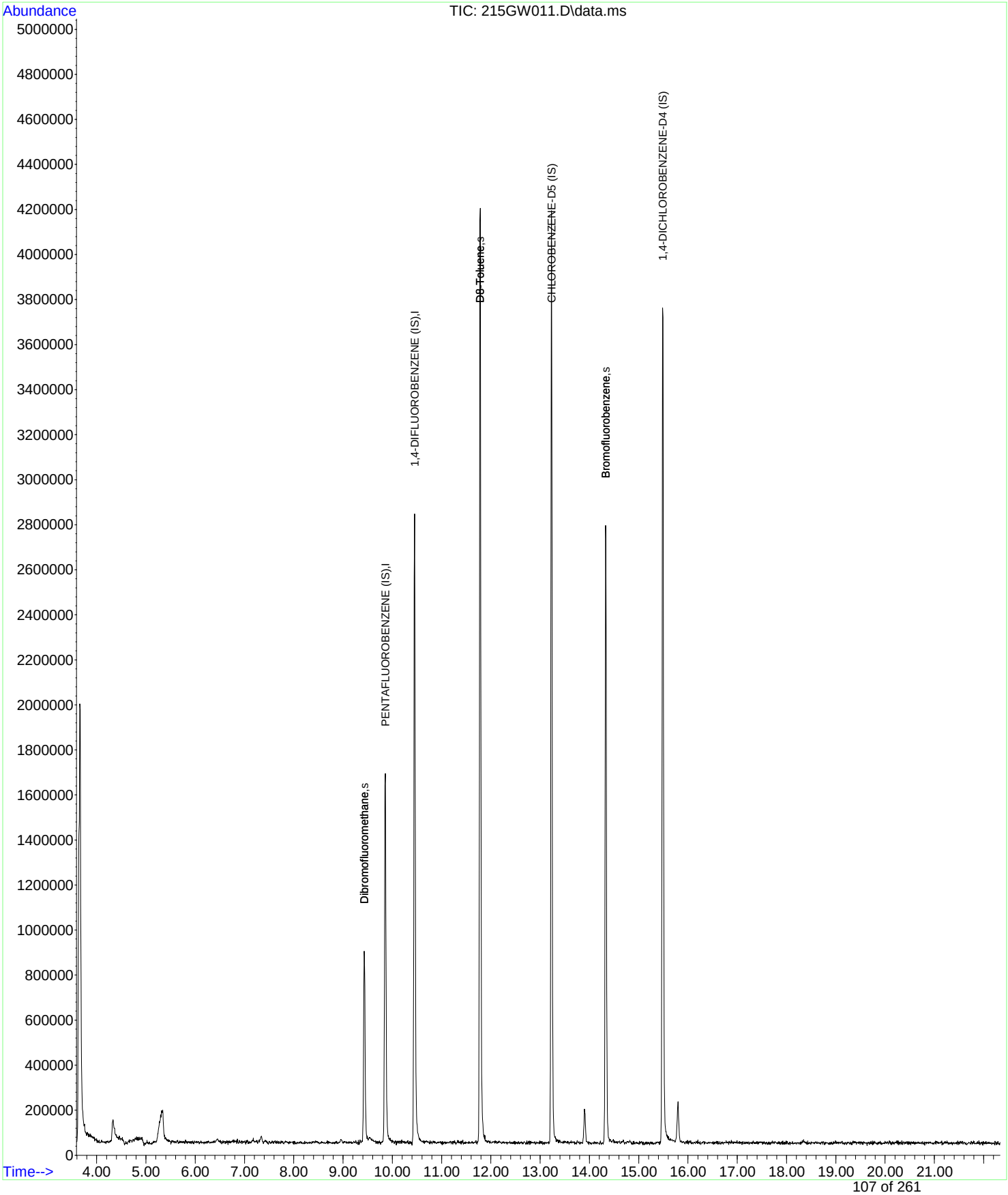
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.778	98	2968316	51.06 ug/L	95
54) 4-Methyl-2-pentanone	0.000		0	N.D.	
56) Toluene	0.000		0	N.D.	
57) T-1,3-Dichloropropene	0.000		0	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	0.000		0	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	0.000		0	N.D.	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	0.000		0	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	0.000		0	N.D.	
70) Styrene	0.000		0	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	0.000		0	N.D.	
74) Bromofluorobenzene	14.328	95	1254601	49.36 ug/L #	77
75) n-Propylbenzene	14.340	91	4507	N.D.	
76) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D.	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D.	
80) Bromobenzene	0.000		0	N.D.	
81) 1,2,4-Trimethylbenzene	0.000		0	N.D.	
82) 2-Chlorotoluene	0.000		0	N.D.	
83) 4-Chlorotoluene	0.000		0	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	0.000		0	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	0.000		0	N.D.	
88) 1,3-Dichlorobenzene	0.000		0	N.D.	
89) 1,4-Dichlorobenzene	0.000		0	N.D.	
90) n-Butylbenzene	0.000		0	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	0.000		0	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW011.D
Acq On : 28 Jul 2021 12:08 pm
Operator : kkw
Sample : AE05483-05
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jul 28 12:59:08 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW012.D
Acq On : 28 Jul 2021 12:37 pm
Operator : kkw
Sample : AE05483-06
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 28 14:00:29 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	975384	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2333021	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1444445	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1110125	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	591298	50.66	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 101.32%				
52) D8-Toluene	11.784	98	3002521	52.19	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 104.38%				
73) Bromofluorobenzene	14.334	95	1264763	50.97	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 101.94%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.			
3) Chloromethane	0.000		0	N.D.	d		
4) Vinyl Chloride	4.592	62	227441	17.53	ug/L	#	65
5) Bromomethane	0.000		0	N.D.			
6) Chloroethane	0.000		0	N.D.			
7) Trichlorofluoromethane	0.000		0	N.D.			
8) Diethyl ether	0.000		0	N.D.			
9) 1,1-Dichloroethene	0.000		0	N.D.			
10) Trichlorotrifluoroethane	0.000		0	N.D.			
11) Acrolein	0.000		0	N.D.			
12) Iodomethane	0.000		0	N.D.			
13) Carbon Disulfide	0.000		0	N.D.			
14) 3-chloropropene	0.000		0	N.D.			
15) Acetone	0.000		0	N.D.	d		
16) Methylene Chloride	0.000		0	N.D.			
17) Methyl Acetate	0.000		0	N.D.	d		
18) t-1,2-Dichloroethene	0.000		0	N.D.			
19) Methyl tert-butyl ether	0.000		0	N.D.			
20) Acetonitrile	0.000		0	N.D.			
21) Isopropyl ether	0.000		0	N.D.			
22) Chloroprene	0.000		0	N.D.			
23) 1,1-Dichloroethane	0.000		0	N.D.			
24) Acrylonitrile	0.000		0	N.D.			
25) Vinyl Acetate	0.000		0	N.D.			
26) c-1,2-Dichloroethene	0.000		0	N.D.			
27) 2,2-Dichloropropane	0.000		0	N.D.			
28) Bromochloromethane	0.000		0	N.D.			
29) Cyclohexane	0.000		0	N.D.			
30) Chloroform	0.000		0	N.D.			
32) Dibromofluoromethane	9.428	113	591298	50.66	ug/L	#	88
33) 2-Butanone	0.000		0	N.D.			
34) 1,1,1-Trichloroethane	0.000		0	N.D.			
35) 1,1-Dichloropropene	0.000		0	N.D.			
36) Propionitrile	0.000		0	N.D.			
37) Methacrylonitrile	0.000		0	N.D.			
38) Isobutyl Alcohol	0.000		0	N.D.			
40) Carbon Tetrachloride	0.000		0	N.D.			
41) Benzene	9.892	78	5674	N.D.			
42) 1,2-Dichloroethane	0.000		0	N.D.			
43) Trichloroethene	0.000		0	N.D.			
44) Methyl cyclohexane	0.000		0	N.D.	d		
45) Dibromomethane	0.000		0	N.D.			
46) 1,2-Dichloropropane	0.000		0	N.D.			
47) Bromodichloromethane	0.000		0	N.D.			
48) Methyl Methacrylate	0.000		0	N.D.			
49) 1,4-Dioxane	0.000		0	N.D.			
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.			
51) C-1,3-Dichloropropene	0.000		0	N.D.			

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW012.D
Acq On : 28 Jul 2021 12:37 pm
Operator : kkw
Sample : AE05483-06
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 28 14:00:29 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

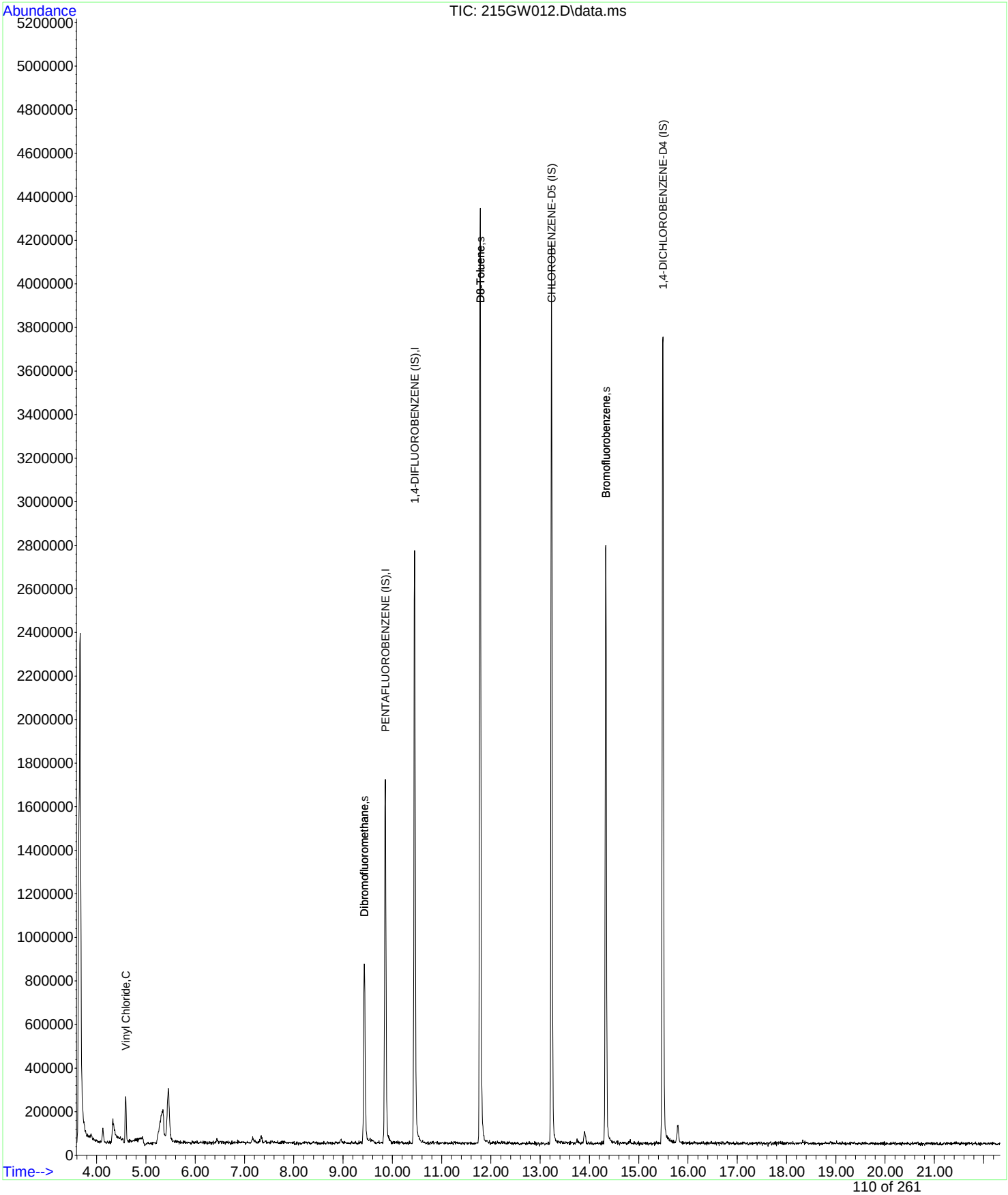
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.784	98	2997941	52.11 ug/L	95
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	0.000		0	N.D.	
57) T-1,3-Dichloropropene	0.000		0	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	0.000		0	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	0.000		0	N.D.	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	0.000		0	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	13.752	106	4601	N.D.	
70) Styrene	0.000		0	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	0.000		0	N.D.	
74) Bromofluorobenzene	14.334	95	1264763	50.97 ug/L #	76
75) n-Propylbenzene	0.000		0	N.D.	
76) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D.	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D.	
80) Bromobenzene	0.000		0	N.D.	
81) 1,2,4-Trimethylbenzene	0.000		0	N.D.	
82) 2-Chlorotoluene	0.000		0	N.D.	
83) 4-Chlorotoluene	0.000		0	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	0.000		0	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	0.000		0	N.D.	
88) 1,3-Dichlorobenzene	0.000		0	N.D.	
89) 1,4-Dichlorobenzene	0.000		0	N.D.	
90) n-Butylbenzene	0.000		0	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	0.000		0	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW012.D
Acq On : 28 Jul 2021 12:37 pm
Operator : kkw
Sample : AE05483-06
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 28 14:00:29 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW013.D
Acq On : 28 Jul 2021 1:05 pm
Operator : kkw
Sample : AE05483-07
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jul 28 14:03:46 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) PENTAFLUOROBENZENE (IS)	9.857	168	971946	50.00 ug/L	0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2288770	50.00 ug/L	0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1447392	50.00 ug/L	# 0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1103226	50.00 ug/L	0.00
System Monitoring Compounds					
31) Dibromofluoromethane	9.434	113	593242	51.01 ug/L	0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 102.02%		
52) D8-Toluene	11.784	98	2939381	52.08 ug/L	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 104.16%		
73) Bromofluorobenzene	14.334	95	1247793	50.19 ug/L	0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 100.38%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.	
3) Chloromethane	0.000		0	N.D. d	
4) Vinyl Chloride	4.592	62	17773	1.37 ug/L #	1
5) Bromomethane	0.000		0	N.D.	
6) Chloroethane	0.000		0	N.D.	
7) Trichlorofluoromethane	0.000		0	N.D.	
8) Diethyl ether	0.000		0	N.D.	
9) 1,1-Dichloroethene	0.000		0	N.D.	
10) Trichlorotrifluoroethane	0.000		0	N.D.	
11) Acrolein	0.000		0	N.D.	
12) Iodomethane	0.000		0	N.D. d	
13) Carbon Disulfide	6.631	76	4336	N.D.	
14) 3-chloropropene	0.000		0	N.D.	
15) Acetone	0.000		0	N.D. d	
16) Methylene Chloride	0.000		0	N.D.	
17) Methyl Acetate	0.000		0	N.D. d	
18) t-1,2-Dichloroethene	0.000		0	N.D.	
19) Methyl tert-butyl ether	0.000		0	N.D.	
20) Acetonitrile	0.000		0	N.D.	
21) Isopropyl ether	0.000		0	N.D.	
22) Chloroprene	0.000		0	N.D.	
23) 1,1-Dichloroethane	0.000		0	N.D.	
24) Acrylonitrile	0.000		0	N.D.	
25) Vinyl Acetate	0.000		0	N.D.	
26) c-1,2-Dichloroethene	0.000		0	N.D.	
27) 2,2-Dichloropropane	0.000		0	N.D.	
28) Bromochloromethane	0.000		0	N.D.	
29) Cyclohexane	0.000		0	N.D.	
30) Chloroform	0.000		0	N.D.	
32) Dibromofluoromethane	9.434	113	593242	51.01 ug/L #	89
33) 2-Butanone	0.000		0	N.D.	
34) 1,1,1-Trichloroethane	0.000		0	N.D.	
35) 1,1-Dichloropropene	0.000		0	N.D.	
36) Propionitrile	0.000		0	N.D.	
37) Methacrylonitrile	0.000		0	N.D.	
38) Isobutyl Alcohol	0.000		0	N.D.	
40) Carbon Tetrachloride	0.000		0	N.D.	
41) Benzene	9.892	78	5745	N.D.	
42) 1,2-Dichloroethane	0.000		0	N.D.	
43) Trichloroethene	0.000		0	N.D.	
44) Methyl cyclohexane	0.000		0	N.D. d	
45) Dibromomethane	0.000		0	N.D.	
46) 1,2-Dichloropropane	0.000		0	N.D.	
47) Bromodichloromethane	0.000		0	N.D.	
48) Methyl Methacrylate	0.000		0	N.D.	
49) 1,4-Dioxane	0.000		0	N.D.	
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.	
51) C-1,3-Dichloropropene	0.000		0	N.D.	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW013.D
Acq On : 28 Jul 2021 1:05 pm
Operator : kkw
Sample : AE05483-07
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jul 28 14:03:46 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

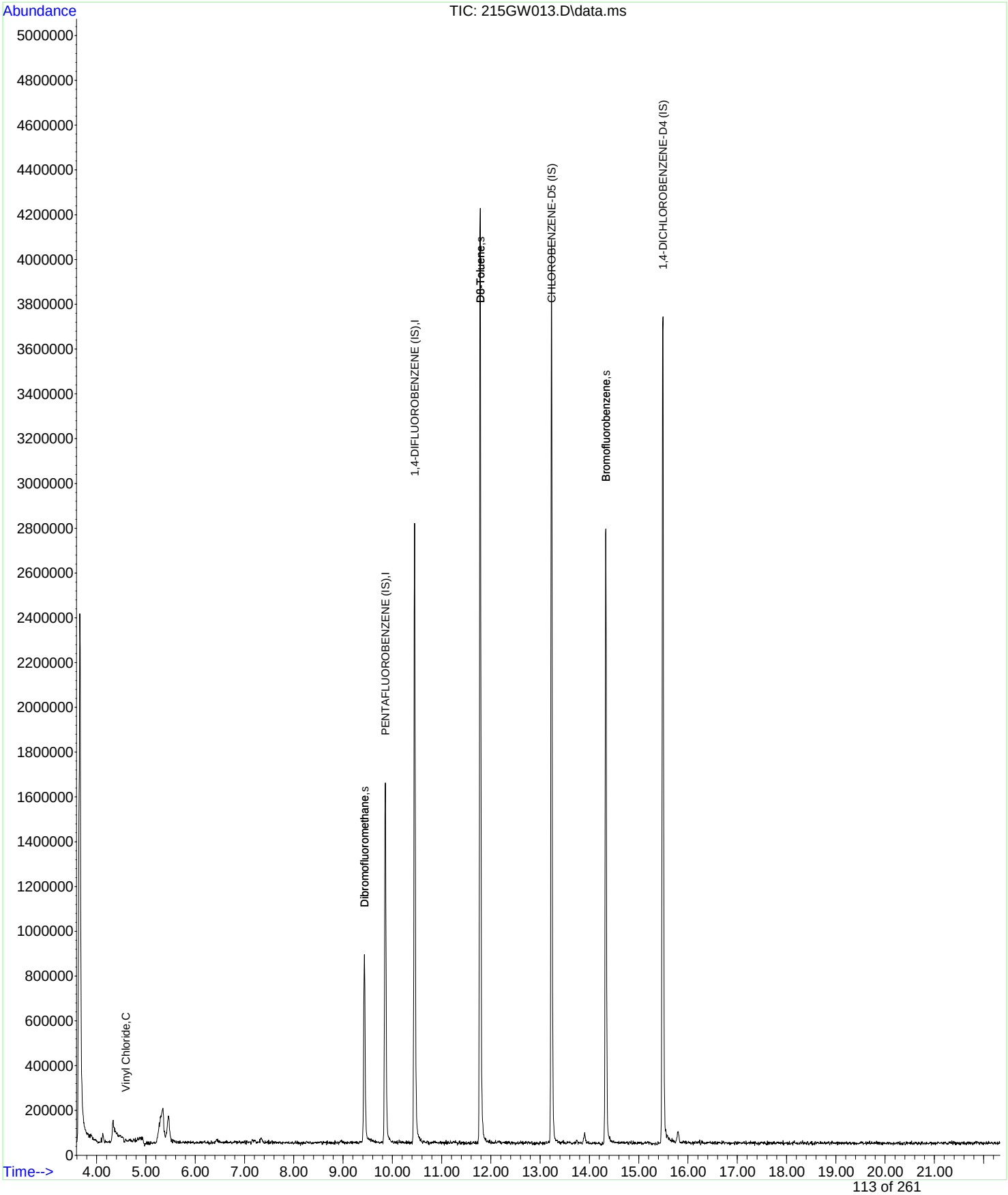
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.784	98	2936247	52.02 ug/L	95
54) 4-Methyl-2-pentanone	0.000		0	N.D. d	
56) Toluene	0.000		0	N.D.	
57) T-1,3-Dichloropropene	0.000		0	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	0.000		0	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	0.000		0	N.D.	
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	0.000		0	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	0.000		0	N.D. d	
70) Styrene	0.000		0	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	0.000		0	N.D.	
74) Bromofluorobenzene	14.334	95	1247793	50.19 ug/L #	76
75) n-Propylbenzene	14.334	91	4635	N.D.	
76) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D.	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D.	
80) Bromobenzene	0.000		0	N.D.	
81) 1,2,4-Trimethylbenzene	0.000		0	N.D.	
82) 2-Chlorotoluene	0.000		0	N.D.	
83) 4-Chlorotoluene	0.000		0	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	0.000		0	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	0.000		0	N.D.	
88) 1,3-Dichlorobenzene	0.000		0	N.D.	
89) 1,4-Dichlorobenzene	0.000		0	N.D.	
90) n-Butylbenzene	0.000		0	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
95) Naphthalene	0.000		0	N.D.	
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW013.D
Acq On : 28 Jul 2021 1:05 pm
Operator : kkw
Sample : AE05483-07
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jul 28 14:03:46 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW026.D
Acq On : 28 Jul 2021 7:08 pm
Operator : kkw
Sample : 1G28012-MS1
Misc :
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Jul 29 07:18:15 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.856	168	997249	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2338476	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1494708	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1150265	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	630368	52.83	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 105.66%				
52) D8-Toluene	11.784	98	3005898	52.12	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 104.24%				
73) Bromofluorobenzene	14.334	95	1339848	52.18	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 104.36%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.987	85	190133	18.53	ug/L		99
3) Chloromethane	4.416	50	257923	16.92	ug/L		96
4) Vinyl Chloride	4.586	62	329091	24.81	ug/L	#	37
5) Bromomethane	5.232	94	27661	8.33	ug/L	#	88
6) Chloroethane	5.450	64	134916	18.44	ug/L		96
7) Trichlorofluoromethane	5.702	101	338068	22.27	ug/L		99
8) Diethyl ether	6.184	59	196212	19.04	ug/L		98
9) 1,1-Dichloroethene	6.537	96	238557	22.51	ug/L		99
10) Trichlorotrifluoroethane	6.572	151	137948	21.46	ug/L		96
11) Acrolein	7.030	56	65812	24.58	ug/L		98
12) Iodomethane	6.784	142	151328	17.06	ug/L		97
13) Carbon Disulfide	6.631	76	797526	24.96	ug/L		99
14) 3-chloropropene	7.201	41	396557	21.60	ug/L		98
15) Acetone	7.401	43	190103	44.89	ug/L		97
16) Methylene Chloride	7.342	84	263848	19.41	ug/L		94
17) Methyl Acetate	7.524	43	193824	17.43	ug/L		98
18) t-1,2-Dichloroethene	7.553	96	266795	22.06	ug/L		97
19) Methyl tert-butyl ether	7.636	73	596237	19.44	ug/L		95
20) Acetonitrile	8.041	41	343113	121.90	ug/L	#	91
21) Isopropyl ether	8.059	45	776639	20.18	ug/L		98
22) Chloroprene	8.276	88	239688	20.74	ug/L		95
23) 1,1-Dichloroethane	8.317	63	515401	22.41	ug/L		99
24) Acrylonitrile	8.399	53	125652	23.71	ug/L		93
25) Vinyl Acetate	8.546	43	431883	15.82	ug/L		99
26) c-1,2-Dichloroethene	8.952	96	288553	22.09	ug/L		98
27) 2,2-Dichloropropane	9.075	77	342453	20.73	ug/L		98
28) Bromochloromethane	9.187	128	103235	21.40	ug/L		91
29) Cyclohexane	9.193	56	509618	22.24	ug/L		97
30) Chloroform	9.222	83	463823	21.12	ug/L		98
32) Dibromofluoromethane	9.428	113	630368	52.83	ug/L	#	91
33) 2-Butanone	9.551	72	110813	56.46	ug/L		76
34) 1,1,1-Trichloroethane	9.486	97	368840	22.65	ug/L		98
35) 1,1-Dichloropropene	9.610	75	404927	22.36	ug/L		98
36) Propionitrile	9.909	54	54155	22.90	ug/L	#	1
37) Methacrylonitrile	9.915	41	277177	29.92	ug/L	#	78
38) Isobutyl Alcohol	9.909	43	218079	192.70	ug/L	#	45
40) Carbon Tetrachloride	9.422	117	282150	21.11	ug/L		86
41) Benzene	9.880	78	1222058	22.05	ug/L		97
42) 1,2-Dichloroethane	10.092	62	306559	18.66	ug/L		99
43) Trichloroethene	10.456	130	250591	21.87	ug/L		87
44) Methyl cyclohexane	10.456	83	518178	20.75	ug/L		97
45) Dibromomethane	10.908	93	154838	19.00	ug/L		98
46) 1,2-Dichloropropane	10.985	63	318679	20.21	ug/L		99
47) Bromodichloromethane	11.020	83	318485	20.58	ug/L		99
48) Methyl Methacrylate	11.079	69	201915	16.19	ug/L		98
49) 1,4-Dioxane	11.202	88	78881	658.11	ug/L		98
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.	d		
51) C-1,3-Dichloropropene	11.613	75	428112	18.43	ug/L		100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW026.D
Acq On : 28 Jul 2021 7:08 pm
Operator : kkw
Sample : 1G28012-MS1
Misc :
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Jul 29 07:18:15 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

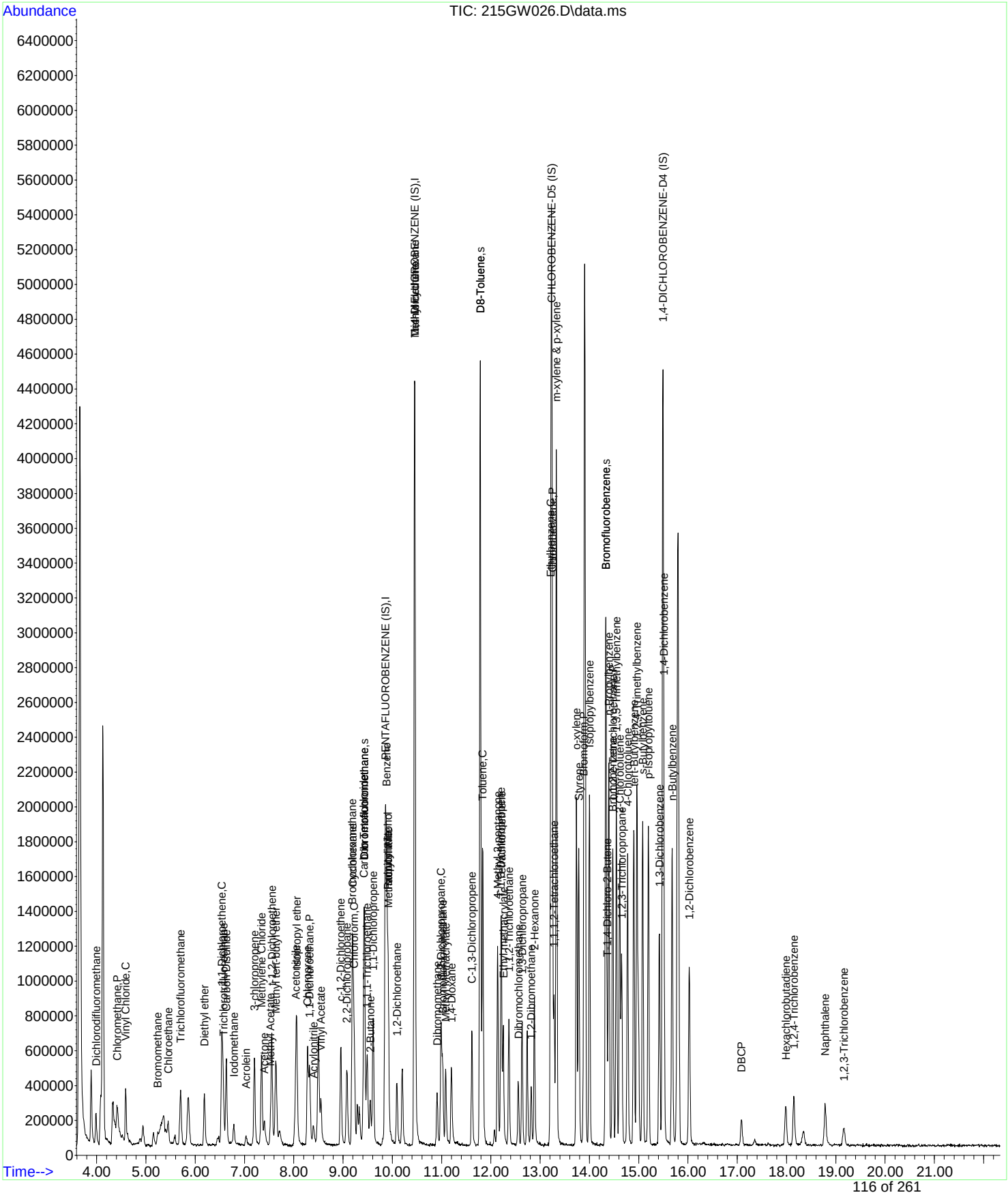
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.784	98	3005898	52.12	ug/L		94
54) 4-Methyl-2-pentanone	12.136	100	115942	53.96	ug/L		99
56) Toluene	11.831	92	805972	22.05	ug/L		98
57) T-1,3-Dichloropropene	12.201	75	392725	21.23	ug/L		99
58) Tetrachloroethene	12.213	164	171467	20.50	ug/L		99
59) Ethyl methacrylate	12.254	69	395109	18.41	ug/L		95
60) 1,1,2-Trichloroethane	12.365	97	256879	20.42	ug/L		98
61) Dibromochloromethane	12.559	129	203840	18.20	ug/L		97
62) 1,3-Dichloropropane	12.636	76	435547	18.90	ug/L		99
63) 1,2-Dibromoethane	12.818	107	243578	19.33	ug/L		95
64) 2-Hexanone	12.882	43	533695	46.99	ug/L		98
65) Ethylbenzene	13.211	106	431395	20.92	ug/L		95
66) Chlorobenzene	13.247	112	781338	21.52	ug/L		98
67) 1,1,1,2-Tetrachloroethane	13.282	131	218312	20.83	ug/L		98
68) m-xylene & p-xylene	13.329	106	1128411	42.64	ug/L		99
69) o-xylene	13.734	106	574592	22.01	ug/L		94
70) Styrene	13.781	104	909351	19.67	ug/L		99
71) Bromoform	13.881	173	94291	14.77	ug/L		99
72) Isopropylbenzene	13.999	105	1486028	20.84	ug/L		99
74) Bromofluorobenzene	14.334	95	1339848	52.18	ug/L	#	73
75) n-Propylbenzene	14.392	91	1932539	20.59	ug/L		98
76) 1,1,2,2-Tetrachloroethane	14.475	83	434281	20.18	ug/L		99
77) 1,2,3-Trichloropropane	14.657	61	89661	18.01	ug/L		94
78) T-1,4-Dichloro-2-Butene	14.357	53	118990	18.89	ug/L	#	67
80) Bromobenzene	14.469	156	260598	20.92	ug/L		97
81) 1,2,4-Trimethylbenzene	14.962	105	1303913	21.36	ug/L		99
82) 2-Chlorotoluene	14.616	91	1112509	21.85	ug/L		99
83) 4-Chlorotoluene	14.774	91	1144898	20.49	ug/L		99
84) tert-Butylbenzene	14.904	119	995229	20.77	ug/L		99
85) 1,3,5-Trimethylbenzene	14.545	105	1248360	20.57	ug/L		100
86) p-Isopropyltoluene	15.197	119	1247673	21.28	ug/L		99
87) s-Butylbenzene	15.080	105	1567774	21.51	ug/L		100
88) 1,3-Dichlorobenzene	15.421	146	544676	20.90	ug/L		98
89) 1,4-Dichlorobenzene	15.509	146	552856	20.47	ug/L	#	83
90) n-Butylbenzene	15.679	91	1230311	20.33	ug/L		99
91) 1,2-Dichlorobenzene	16.026	146	498884	19.84	ug/L		98
92) DBCP	17.083	157	46868	22.07	ug/L		88
93) Hexachlorobutadiene	17.988	225	54602	19.39	ug/L		91
94) 1,2,4-Trichlorobenzene	18.147	180	114677	23.25	ug/L		96
95) Naphthalene	18.782	128	319104	24.69	ug/L		99
96) 1,2,3-Trichlorobenzene	19.163	180	48103	23.59	ug/L		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW026.D
Acq On : 28 Jul 2021 7:08 pm
Operator : kkw
Sample : 1G28012-MS1
Misc :
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Jul 29 07:18:15 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW027.D
Acq On : 28 Jul 2021 7:36 pm
Operator : kkw
Sample : 1G28012-MSD1
Misc :
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Jul 29 07:18:19 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1150116	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2743352	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1660336	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1091251	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.434	113	686432	49.88	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 99.76%				
52) D8-Toluene	11.784	98	3405828	50.34	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 100.68%				
73) Bromofluorobenzene	14.334	95	1376717	48.27	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 96.54%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.			
3) Chloromethane	4.387	50	4363	0.25	ug/L	#	41
4) Vinyl Chloride	0.000		0	N.D.			
5) Bromomethane	0.000		0	N.D.			
6) Chloroethane	0.000		0	N.D.			
7) Trichlorofluoromethane	0.000		0	N.D.			
8) Diethyl ether	0.000		0	N.D.			
9) 1,1-Dichloroethene	0.000		0	N.D.			
10) Trichlorotrifluoroethane	0.000		0	N.D.			
11) Acrolein	0.000		0	N.D.			
12) Iodomethane	0.000		0	N.D.			
13) Carbon Disulfide	6.643	76	14633	0.39	ug/L	#	9
14) 3-chloropropene	0.000		0	N.D.			
15) Acetone	0.000		0	N.D.			
16) Methylene Chloride	0.000		0	N.D.			
17) Methyl Acetate	0.000		0	N.D.			
18) t-1,2-Dichloroethene	0.000		0	N.D.			
19) Methyl tert-butyl ether	0.000		0	N.D.			
20) Acetonitrile	0.000		0	N.D.			
21) Isopropyl ether	0.000		0	N.D.			
22) Chloroprene	0.000		0	N.D.			
23) 1,1-Dichloroethane	0.000		0	N.D.			
24) Acrylonitrile	0.000		0	N.D.			
25) Vinyl Acetate	0.000		0	N.D.			
26) c-1,2-Dichloroethene	0.000		0	N.D.			
27) 2,2-Dichloropropane	0.000		0	N.D.			
28) Bromochloromethane	0.000		0	N.D.			
29) Cyclohexane	0.000		0	N.D.			
30) Chloroform	0.000		0	N.D.			
32) Dibromofluoromethane	9.434	113	686432	49.88	ug/L	#	87
33) 2-Butanone	0.000		0	N.D.			
34) 1,1,1-Trichloroethane	0.000		0	N.D.			
35) 1,1-Dichloropropene	0.000		0	N.D.			
36) Propionitrile	0.000		0	N.D.			
37) Methacrylonitrile	0.000		0	N.D.			
38) Isobutyl Alcohol	0.000		0	N.D.			
40) Carbon Tetrachloride	9.357	117	4278	0.27	ug/L	#	1
41) Benzene	9.880	78	5254	N.D.			
42) 1,2-Dichloroethane	0.000		0	N.D.			
43) Trichloroethene	0.000		0	N.D.			
44) Methyl cyclohexane	10.456	83	33836	1.15	ug/L	#	44
45) Dibromomethane	0.000		0	N.D.			
46) 1,2-Dichloropropane	0.000		0	N.D.			
47) Bromodichloromethane	0.000		0	N.D.			
48) Methyl Methacrylate	0.000		0	N.D.			
49) 1,4-Dioxane	0.000		0	N.D.			
50) 2-Chloroethyl vinyl ether	0.000		0	N.D.			
51) C-1,3-Dichloropropene	0.000		0	N.D.			

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW027.D
Acq On : 28 Jul 2021 7:36 pm
Operator : kkw
Sample : 1G28012-MSD1
Misc :
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Jul 29 07:18:19 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration

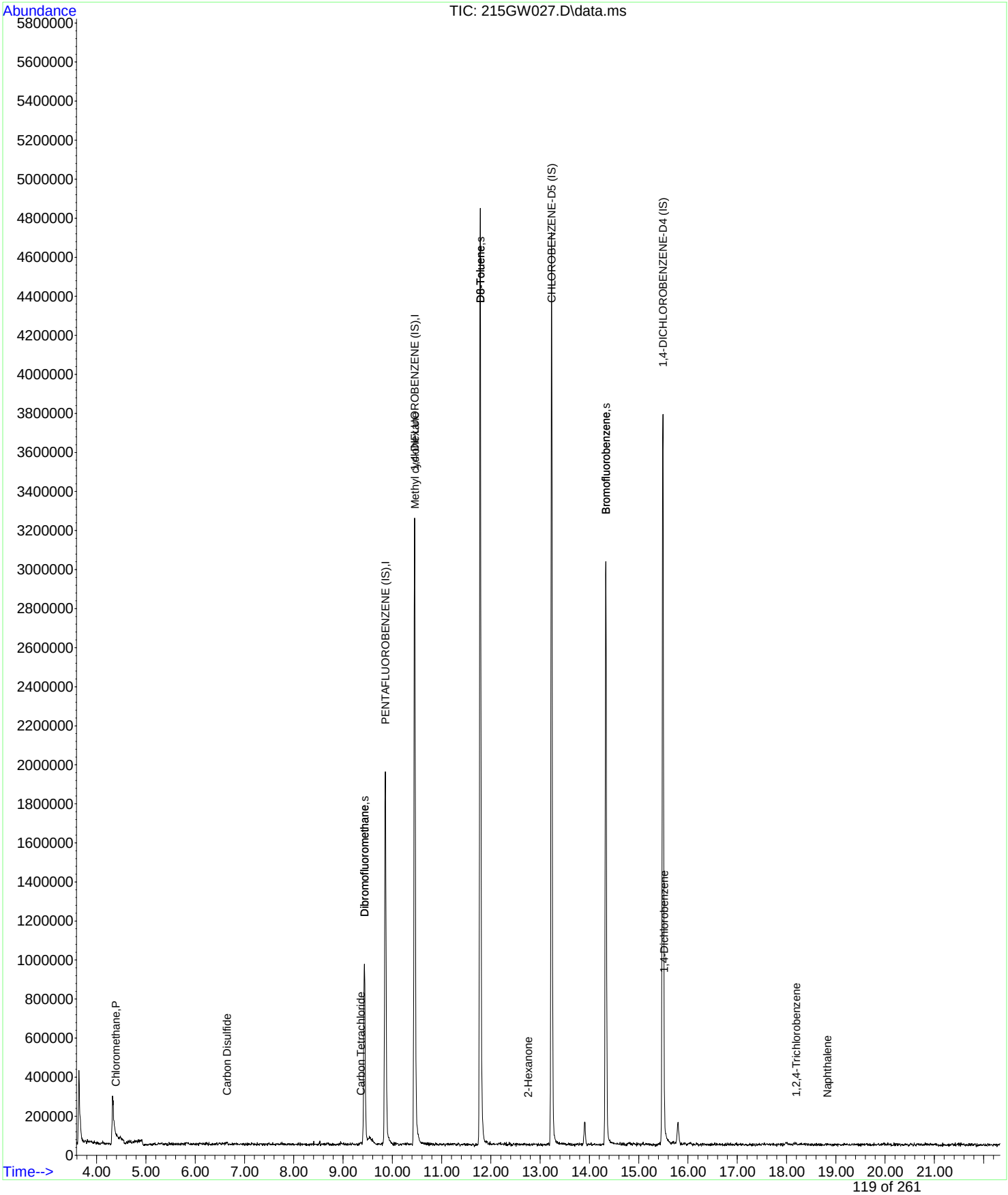
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.784	98	3405828	50.34 ug/L	95
54) 4-Methyl-2-pentanone	0.000		0	N.D.	
56) Toluene	0.000		0	N.D.	
57) T-1,3-Dichloropropene	0.000		0	N.D.	
58) Tetrachloroethene	0.000		0	N.D.	
59) Ethyl methacrylate	0.000		0	N.D.	
60) 1,1,2-Trichloroethane	0.000		0	N.D.	
61) Dibromochloromethane	0.000		0	N.D.	
62) 1,3-Dichloropropane	0.000		0	N.D.	
63) 1,2-Dibromoethane	0.000		0	N.D.	
64) 2-Hexanone	12.753	43	4250	0.34 ug/L #	28
65) Ethylbenzene	0.000		0	N.D.	
66) Chlorobenzene	0.000		0	N.D.	
67) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
68) m-xylene & p-xylene	0.000		0	N.D.	
69) o-xylene	0.000		0	N.D.	
70) Styrene	0.000		0	N.D.	
71) Bromoform	0.000		0	N.D.	
72) Isopropylbenzene	0.000		0	N.D.	
74) Bromofluorobenzene	14.334	95	1376717	48.27 ug/L #	75
75) n-Propylbenzene	14.410	91	4175	N.D.	
76) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
77) 1,2,3-Trichloropropane	0.000		0	N.D.	
78) T-1,4-Dichloro-2-Butene	0.000		0	N.D.	
80) Bromobenzene	0.000		0	N.D.	
81) 1,2,4-Trimethylbenzene	15.092	105	7096	N.D.	
82) 2-Chlorotoluene	0.000		0	N.D.	
83) 4-Chlorotoluene	14.798	91	4655	N.D.	
84) tert-Butylbenzene	0.000		0	N.D.	
85) 1,3,5-Trimethylbenzene	0.000		0	N.D.	
86) p-Isopropyltoluene	0.000		0	N.D.	
87) s-Butylbenzene	15.092	105	7096	N.D.	
88) 1,3-Dichlorobenzene	15.415	146	4196	N.D.	
89) 1,4-Dichlorobenzene	15.515	146	5158	0.20 ug/L #	1
90) n-Butylbenzene	15.721	91	7499	N.D.	
91) 1,2-Dichlorobenzene	0.000		0	N.D.	
92) DBCP	0.000		0	N.D.	
93) Hexachlorobutadiene	0.000		0	N.D.	
94) 1,2,4-Trichlorobenzene	18.194	180	4169	1.02 ug/L #	36
95) Naphthalene	18.829	128	10459	1.09 ug/L #	69
96) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 215GW027.D
Acq On : 28 Jul 2021 7:36 pm
Operator : kkw
Sample : 1G28012-MSD1
Misc :
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Jul 29 07:18:19 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2106098
QLast Update : Mon Jun 21 08:16:13 2021
Response via : Initial Calibration



ANALYSIS SEQUENCE

AA66932

Instrument: OVGCMS5

Calibration ID: 2105058

Printed: 6/18/2021 10:00:04AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA66932-TUN1	QC		1		A1B1159			
AA66932-CAL1	QC		2		A1F0975	A1D0593		
AA66932-CAL2	QC		3		A1F0976	A1D0593		
AA66932-CAL3	QC		4		A1F0977	A1D0593		
AA66932-CAL4	QC		5		A1F0978	A1D0593		
AA66932-CAL5	QC		6		A1F0979	A1D0593		
AA66932-CAL6	QC		7		A1F0980	A1D0593		
AA66932-CAL7	QC		8		A1F0981	A1D0593		
AA66932-CAL8	QC		9		A1F0982	A1D0593		
AA66932-SCV1	QC		10		A1F0991	A1D0593		

Samples Loaded By 6/18/21 Date

Data Processed By 6/18/21 Date Rec'd 6/21/21

Sequence Name: C:\msdchem\1\sequence\215FM.s
Comment:
Operator: kkw
Data Path: C:\msdchem\1\DATA\061821\
Instrument Control Pre-Seq Cmd:
Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:
Data Analysis Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

Sequence Barcode Options
(X) On Mismatch, Inject Anyway
( ) On Mismatch, Don't Inject
( ) Barcode Disabled

Line		Sample Name/Misc Info		
1)	Sample	1	215FM001 8260S	tun1
2)	Sample	1	215FM002 8260S	tun1
3)	Sample	1	215FM003 8260S	tun1
4)	Sample	2	215FM004 8260S	aa66932-cal1
5)	Sample	3	215FM005 8260S	aa66932-cal2
6)	Sample	4	215FM006 8260S	aa66932-cal3
7)	Sample	5	215FM007 8260S	aa66932-cal4
8)	Sample	6	215FM008 8260S	aa66932-cal5
9)	Sample	7	215FM009 8260S	aa66932-cal6
10)	Sample	8	215FM010 8260S	aa66932-cal7
11)	Sample	9	215FM011 8260S	aa66932-cal8
12)	Sample	10	215FM012 8260S	rinse
13)	Sample	11	215FM013 8260S	aa66932-scv1
14)	Sample	12	215FM014 8260S	1F18027-bs1
15)	Sample	13	215FM015 8260S	1F18027-blk1
16)	Sample	14	215FM016 8260S	AE05123-07
17)	Sample	15	215FM017 8260S	AE04936-21RE1@2
18)	Sample	16	215FM018 8260S	AE04936-22RE1@2
19)	Sample	17	215FM019 8260S	AE04936-23RE1
20)	Sample	18	215FM020 8260S	AE04966-06RE1@2
21)	Sample	19	215FM021 8260S	AE04966-07RE1@2
22)	Sample	20	215FM022 8260S	AE04966-08RE1@20
23)	Sample	21	215FM023 8260S	1F18027-MS1
24)	Sample	21	215FM024 8260S	1F18027-MSD1
25)	Sample	22	215FM025 8260S	AA66946-LCV1
26)	Sample	23	215FM026 8260S	1F18022-BS1
27)	Sample	24	215FM027 8260S	1F18022-MS1
28)	Sample	24	215FM028 8260S	1F18022-MSD1
29)	Sample	25	215FM029 8260S	1F18022-BLK1
30)	Sample	26	215FM030 8260S	AA66949-CRL1
31)	Sample	27	215FM031 8260S	AE03776-01
32)	Sample	28	215FM032 8260S	AE03776-02
33)	Sample	29	215FM033 8260S	AE03776-03
34)	Sample	30	215FM034 8260S	AE05210-01
35)	Sample	31	215FM035 8260S	AE05210-02
36)	Sample	32	215FM036 8260S	AE05210-03
37)	Sample	33	215FM037 8260S	AE05210-04
38)	Sample	34	215FM038 8260S	AE05210-05
39)	Sample	35	215FM039 8260S	AE05190-01
40)	Sample	36	215FM040 8260S	AE05190-02
41)	Sample	37	215FM041 8260S	AE05190-03
42)	Sample	38	215FM042 8260S	AE05190-04
43)	Sample	39	215FM043 8260S	AE05190-05

Sequence Name: C:\msdchem\1\sequence\215FM.s

	Line	Type	Vial	DataFile	Method	Sample Name
44)		Sample	40	215FM044	8260S	AE05162-01
45)		Sample	41	215FM045	8260S	AE05162-02
46)		Sample	42	215FM046	8260S	AE05162-03
47)		Sample	43	215FM047	8260S	AE05162-04
48)		Sample	44	215FM048	8260S	AE05162-05

Manual Integration Review Form

ENVIRONMENTAL CONSERVATION LABORATORIES, INC. ☐ Cary ☐ Jacksonville ☒ Orlando

I hereby attest that the manual integrations contained in this package have been thoroughly reviewed and are in agreement with the associated hardcopy data.

The electronic files listed below have been reviewed for accuracy, completeness and comply with ENCO labs QA-11 Manual Integration Policy including:

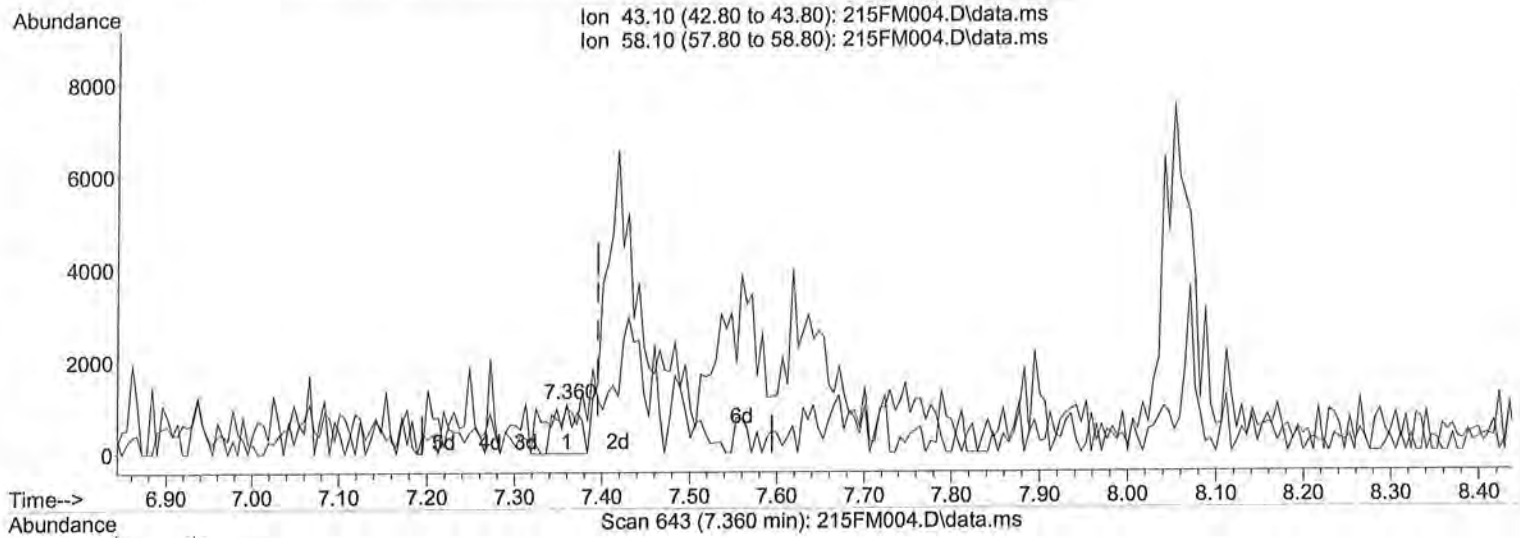
- "Before" and "After" chromatograms are provided
- Manual integrations are indicated on expanded scale "after" chromatograms at a scale large enough to see the manual integration performed.
- Reintegration technique marked if available on the data system
- Technical justification for manual integration
- Appropriate flags indicating which analytes were manually integrated are included in the raw data
- Analyst's initials and date.

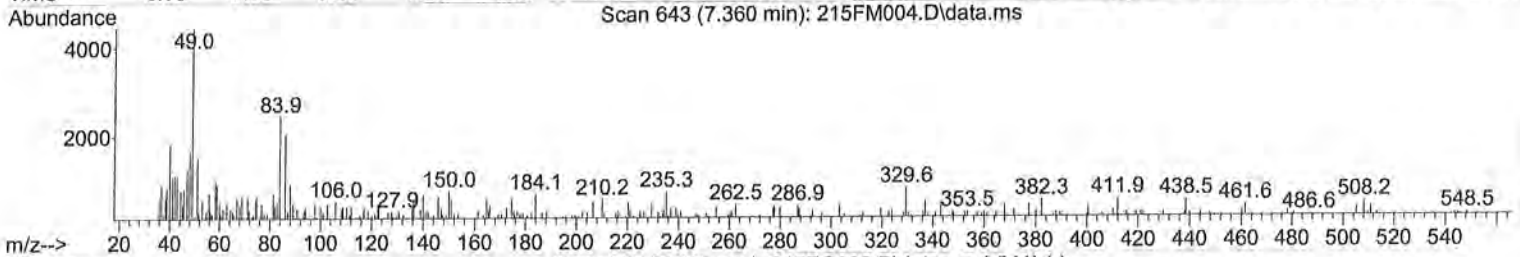
Instrument ID:	OVGCMS5
Sequence/Batch ID:	AA66932
Data File Prefix:	215FM
Date and Time Range of MIs:	06/18/21 0948-0950 06/21/21 0758
Reviewer Print Name:	Karie Gonzalez
Reviewer Signature:	Karie Gonzalez
Date of Review:	6/21/21

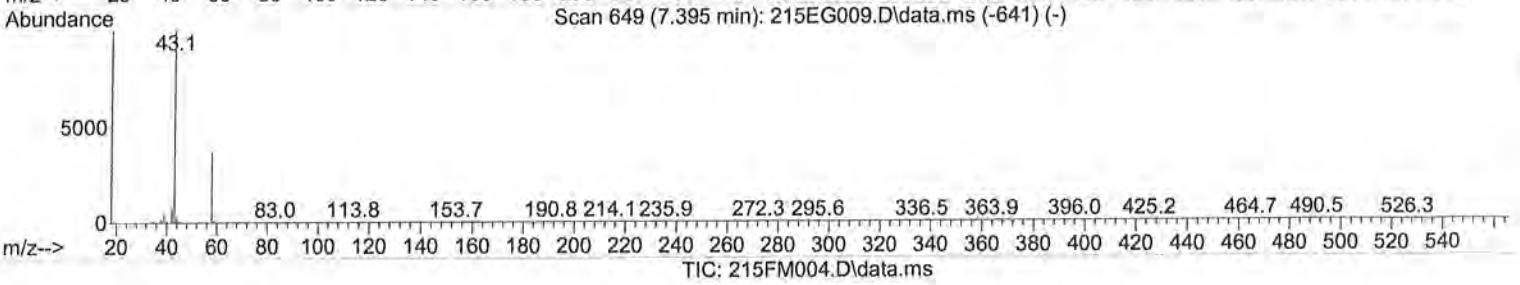
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM004.D
Acq On : 18 Jun 2021 8:05 am
Operator : kkw
Sample : aa66932-cal1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 18 08:40:28 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration







TIC: 215FM004.D\data.ms

(15) Acetone

7.360min (-0.035) 0.68 ug/L

response 2727

Ion	Exp%	Act%
43.10	100.00	100.00
58.10	36.90	191.53#
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

X Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

X Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

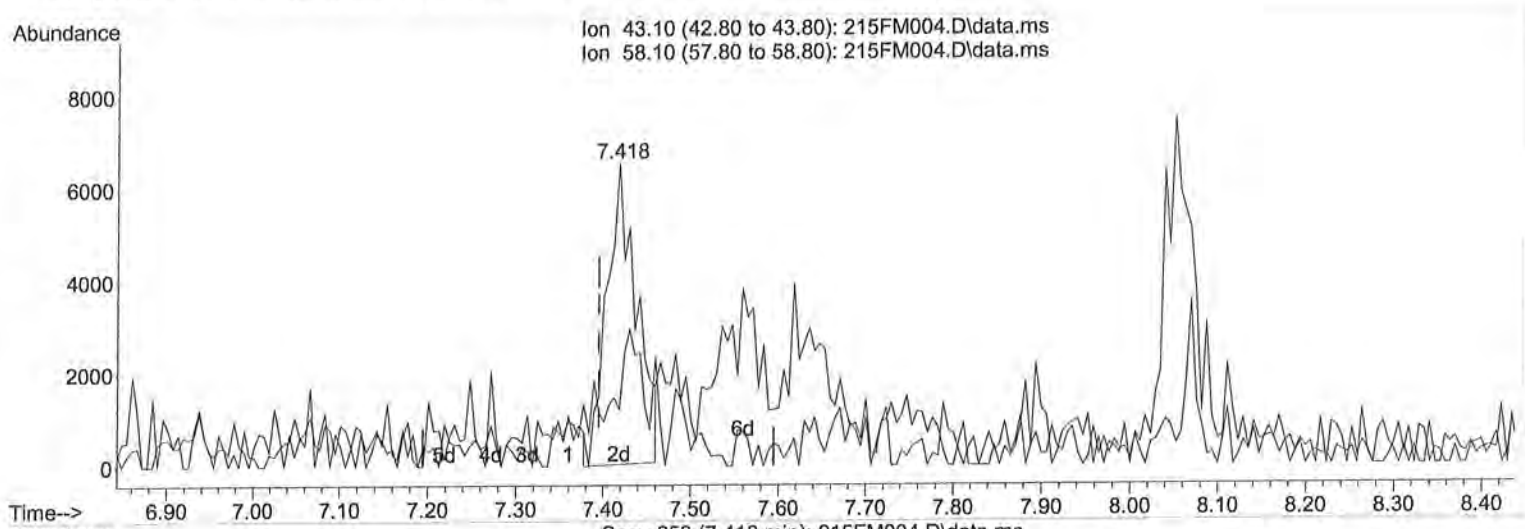
Review by/Date KJ 06/21/21

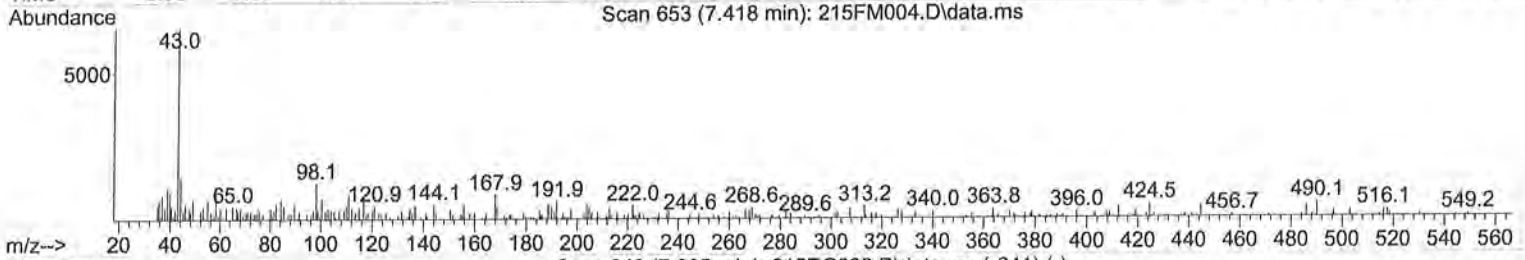
Review by/Date:

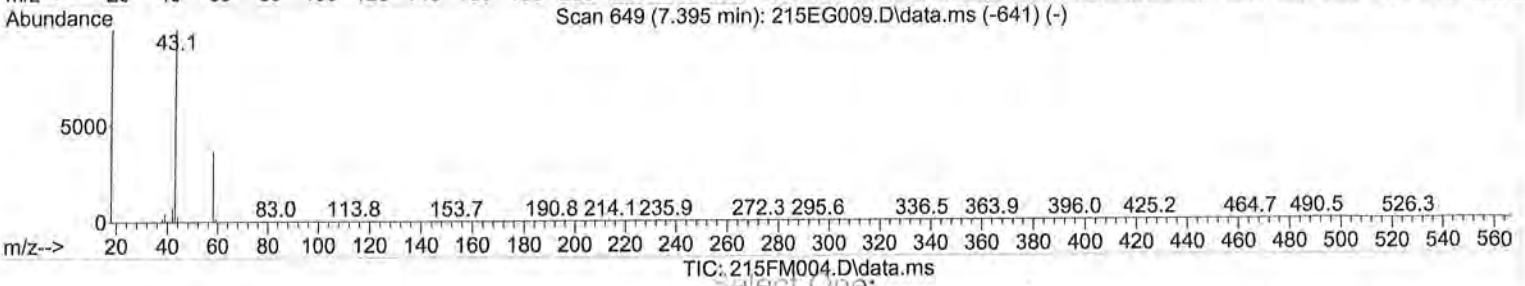
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM004.D
Acq On : 18 Jun 2021 8:05 am
Operator : kkw
Sample : aa66932-cal1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 18 08:40:28 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration







TIC: 215FM004.D\data.ms

(15) Acetone

7.418min (+ 0.024) 3.79 ug/L m

response 15244

Ion	Exp%	Act%
43.10	100.00	100.00
58.10	36.90	34.26
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

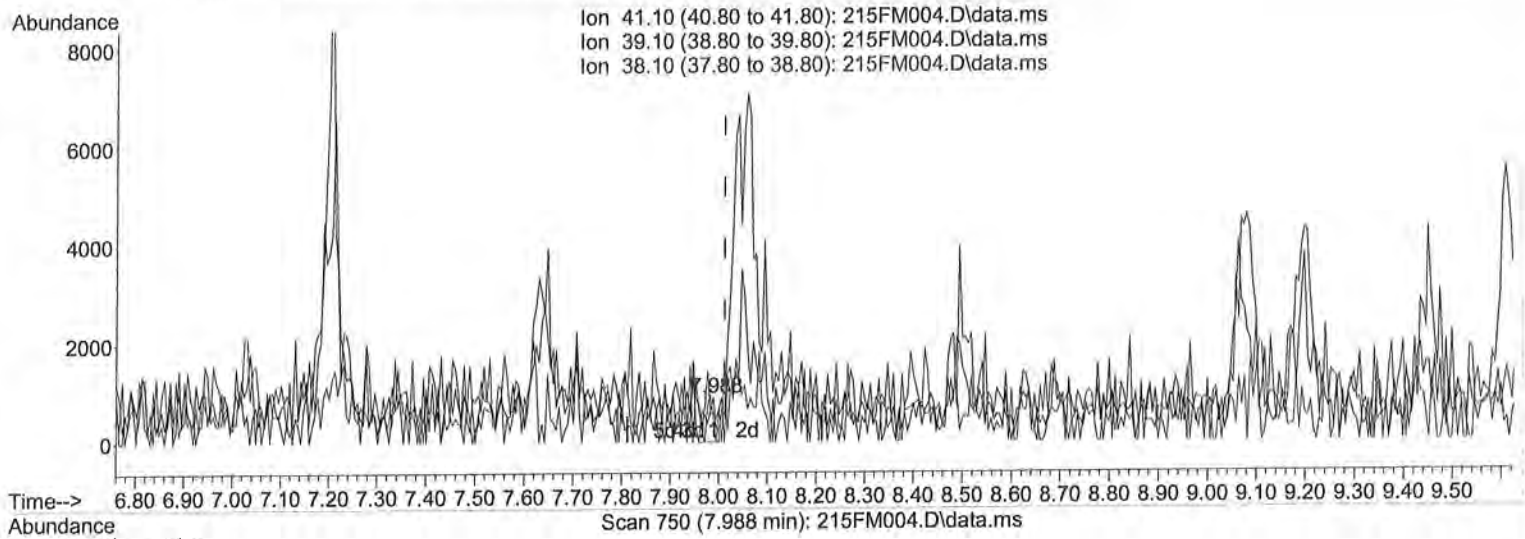
Review by/Date W 06/21/21

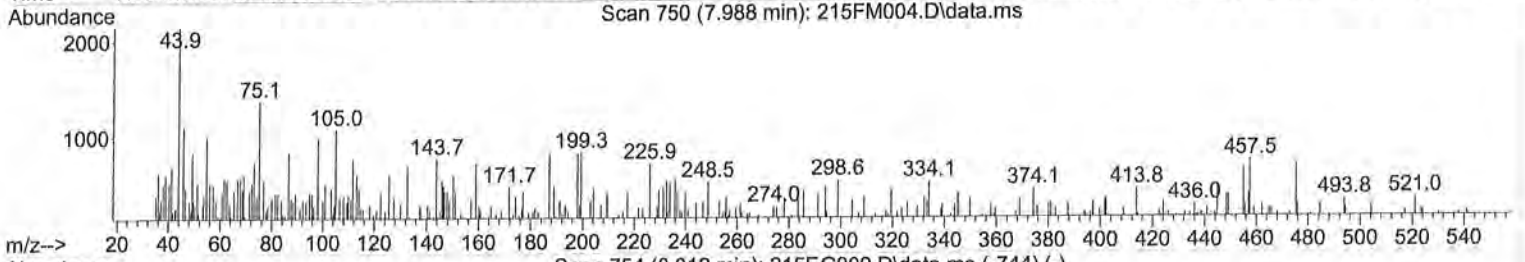
Review by/Date:

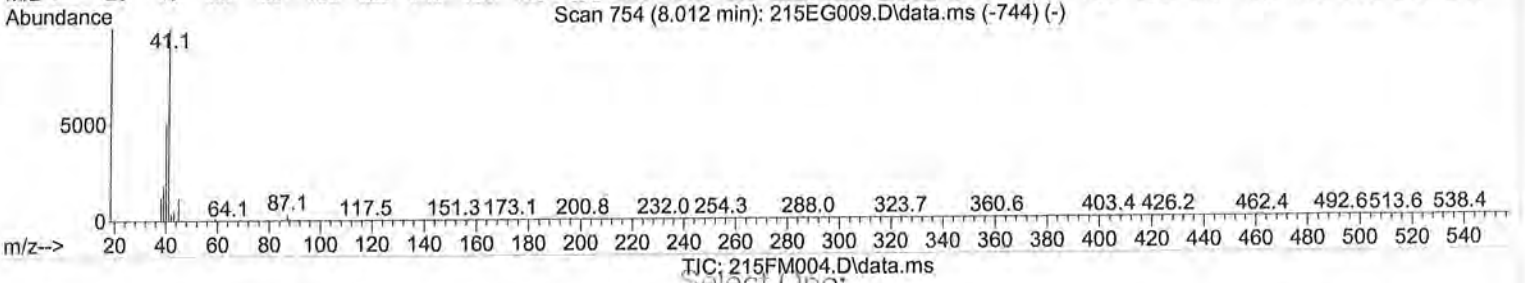
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM004.D
Acq On : 18 Jun 2021 8:05 am
Operator : kkw
Sample : aa66932-cal1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 18 08:40:28 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration







TIC: 215FM004.D\data.ms

(20) Acetonitrile

7.988min (-0.024) 0.44 ug/L

response 1281

Ion	Exp%	Act%
41.10	100.00	100.00
39.10	24.40	147.85#
38.10	10.00	60.42#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

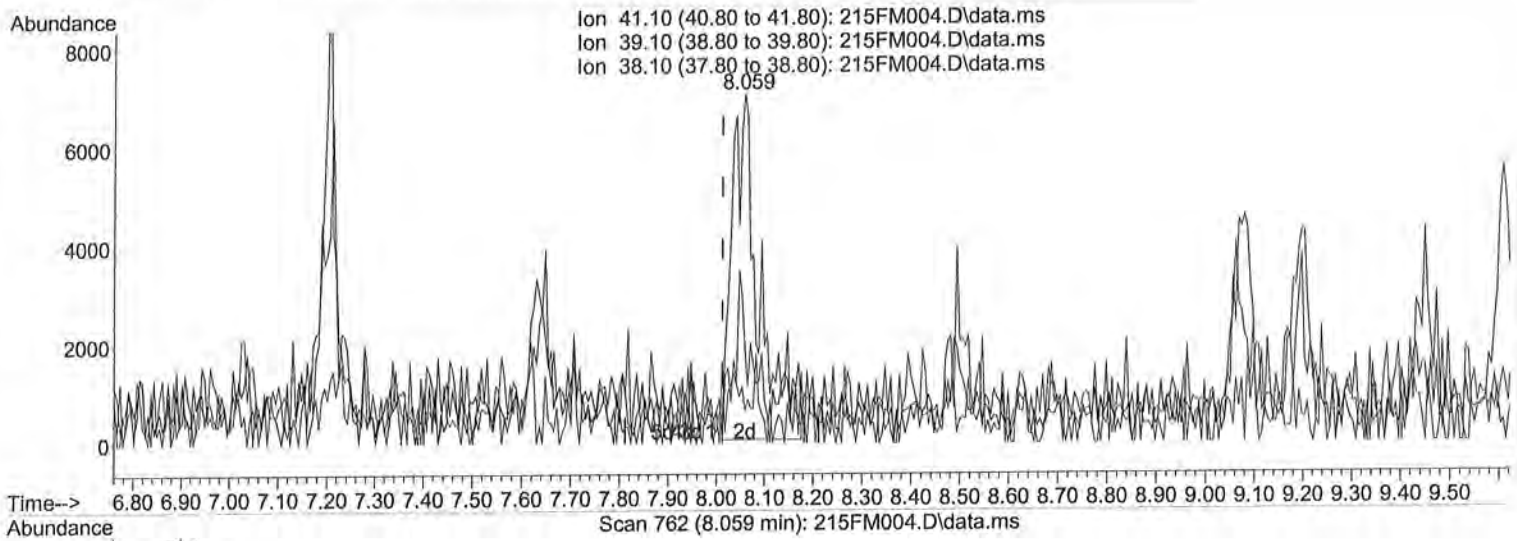
Review by/Date KKW 06/18/21 KKW 06/18/21

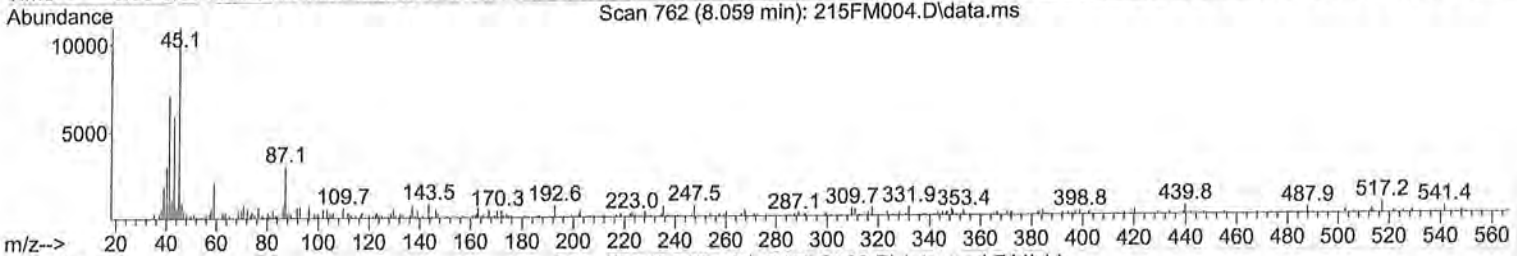
Review by/Date:

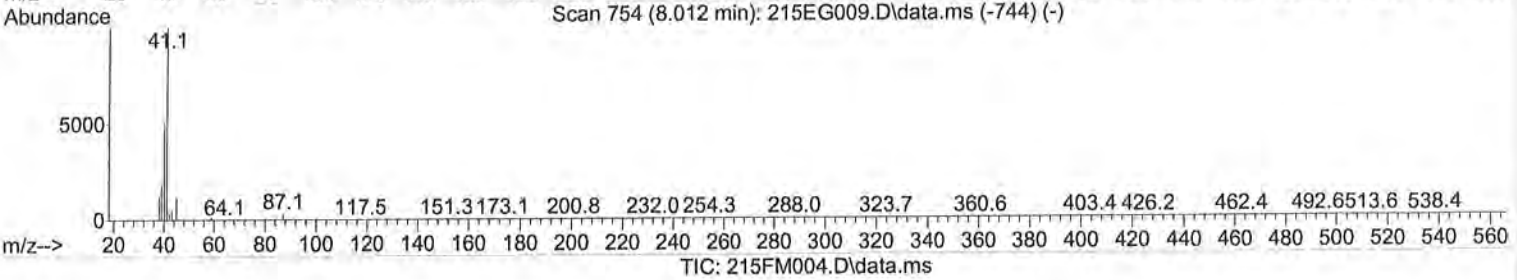
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM004.D
Acq On : 18 Jun 2021 8:05 am
Operator : kkw
Sample : aa66932-cal1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 18 08:40:28 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration







TIC: 215FM004.D\data.ms

(20) Acetonitrile

8.059min (+ 0.047) 9.55 ug/L m

response 27963

Ion	Exp%	Act%
41.10	100.00	100.00
39.10	24.40	6.77#
38.10	10.00	2.77#
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Uncorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

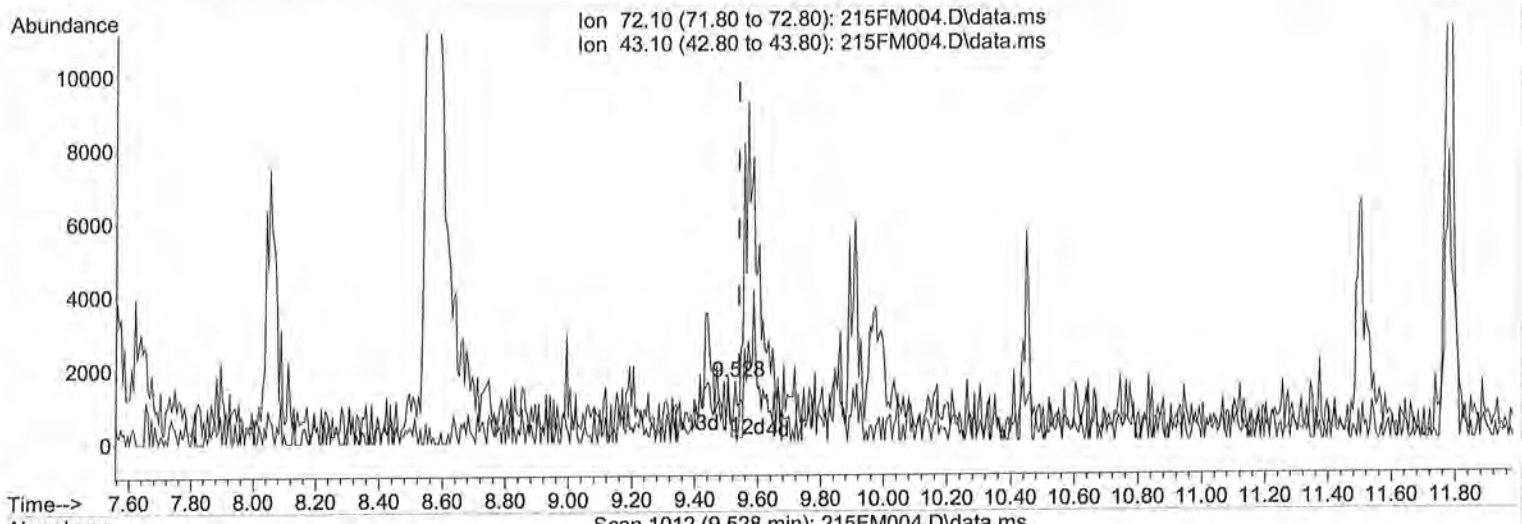
Review by/Date KJ 06/21/21

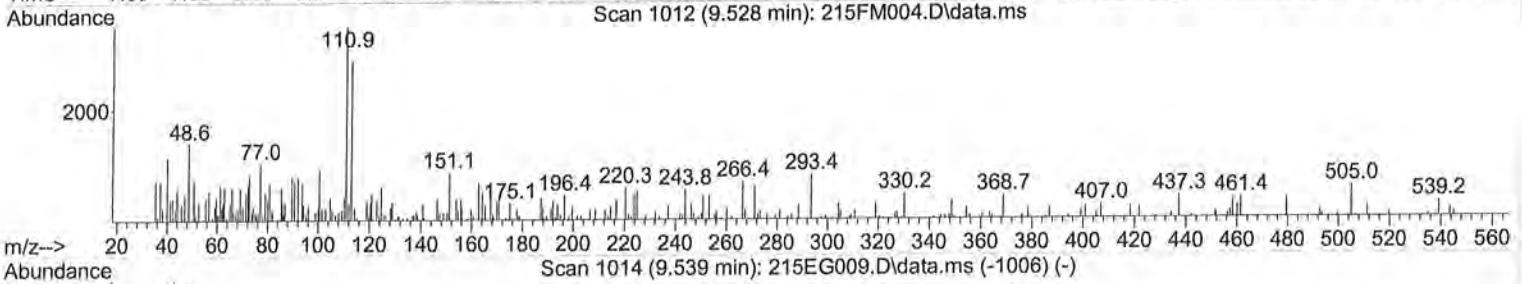
Review by/Date:

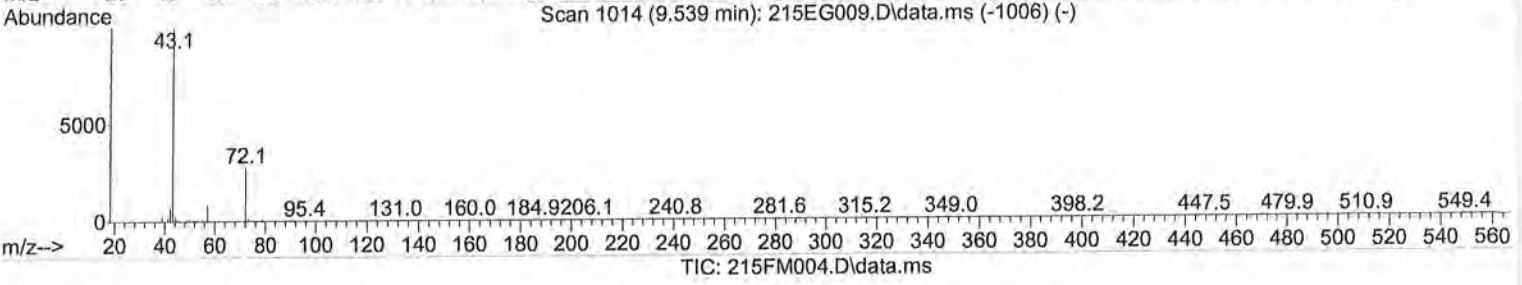
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM004.D
Acq On : 18 Jun 2021 8:05 am
Operator : kkw
Sample : aa66932-cal1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 18 08:40:28 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration







TIC: 215FM004.D\data.ms

(33) 2-Butanone

9.528min (-0.012) 0.95 ug/L

response 2013

Ion	Exp%	Act%
72.10	100.00	100.00
43.10	347.70	63.09#
0.00	0.00	0.00
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

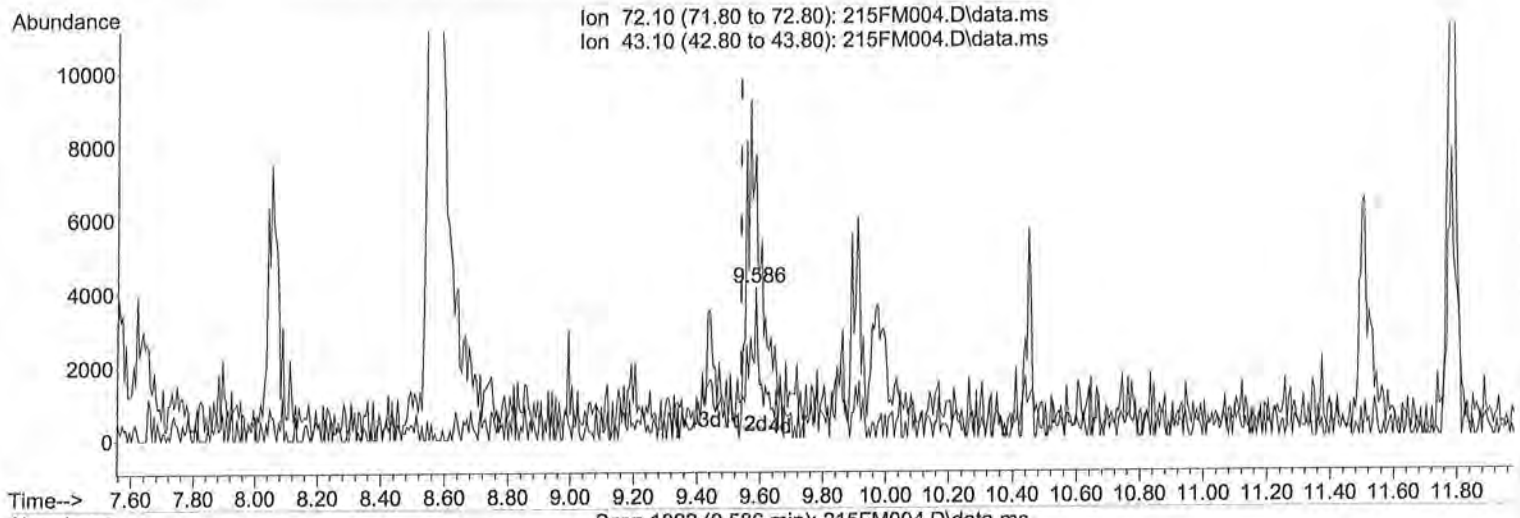
Review by/Date W 6/21/21

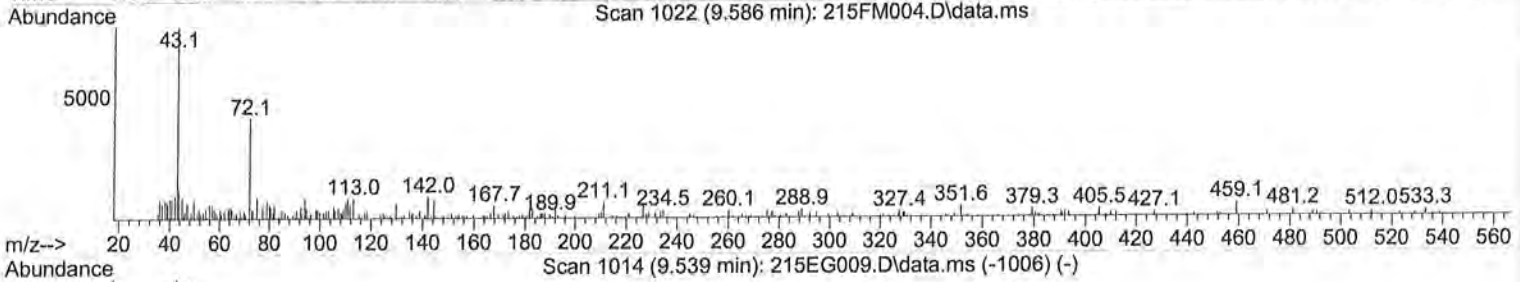
Review by/Date:

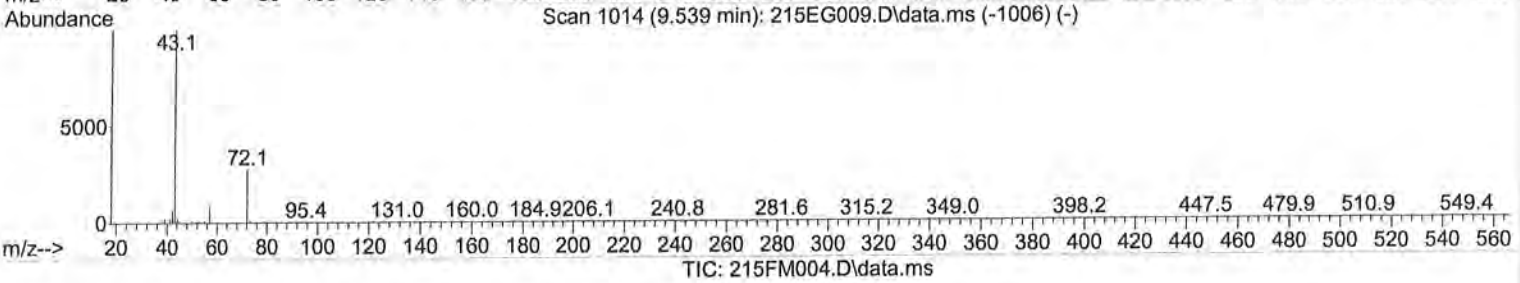
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM004.D
Acq On : 18 Jun 2021 8:05 am
Operator : kkw
Sample : aa66932-cal1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 18 08:40:28 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration







TIC: 215FM004.D\data.ms

(33) 2-Butanone

9.586min (+ 0.047) 4.88 ug/L m

response 10350

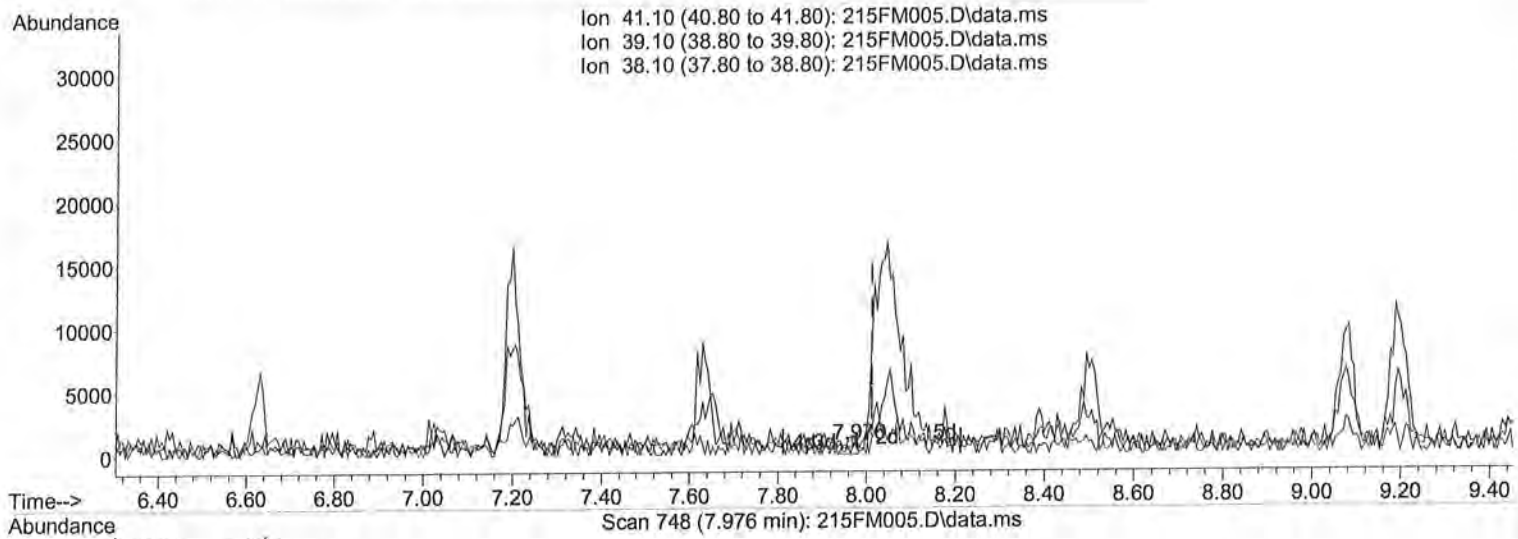
Ion	Exp%	Act%
72.10	100.00	100.00
43.10	347.70	12.27#
0.00	0.00	0.00
0.00	0.00	0.00

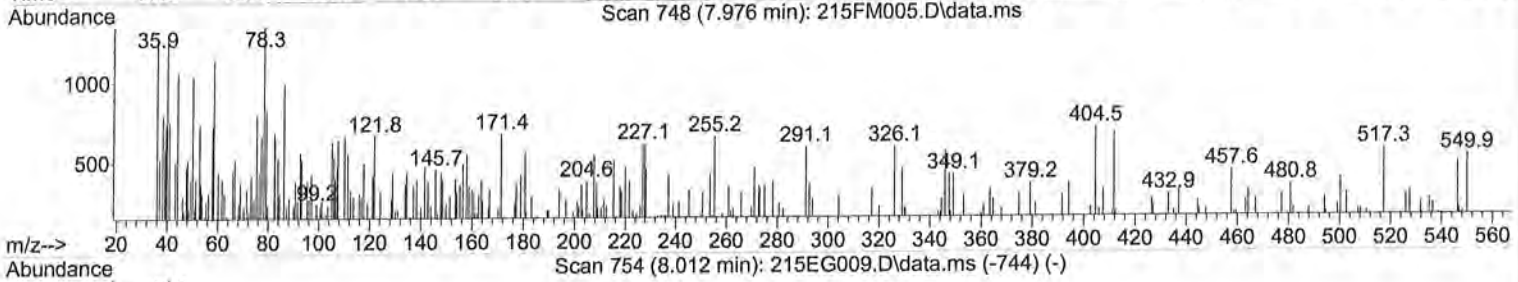
Select One:
[ ] Original Integration [X] Manual Integration
Select reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[X] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date: W 6/18/21
Review by/Date:

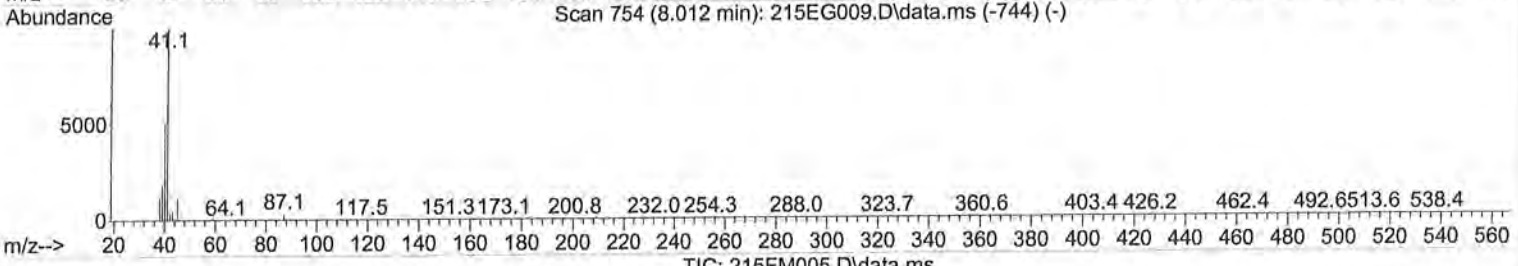
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM005.D
Acq On : 18 Jun 2021 8:32 am
Operator : kkw
Sample : aa66932-cal2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 18 09:50:22 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration







TIC: 215FM005.D\data.ms

(20) Acetonitrile

7.976min (-0.036) 0.51 ug/L

response 1524

Ion	Exp%	Act%
41.10	100.00	100.00
39.10	24.40	142.52#
38.10	10.00	44.29#
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

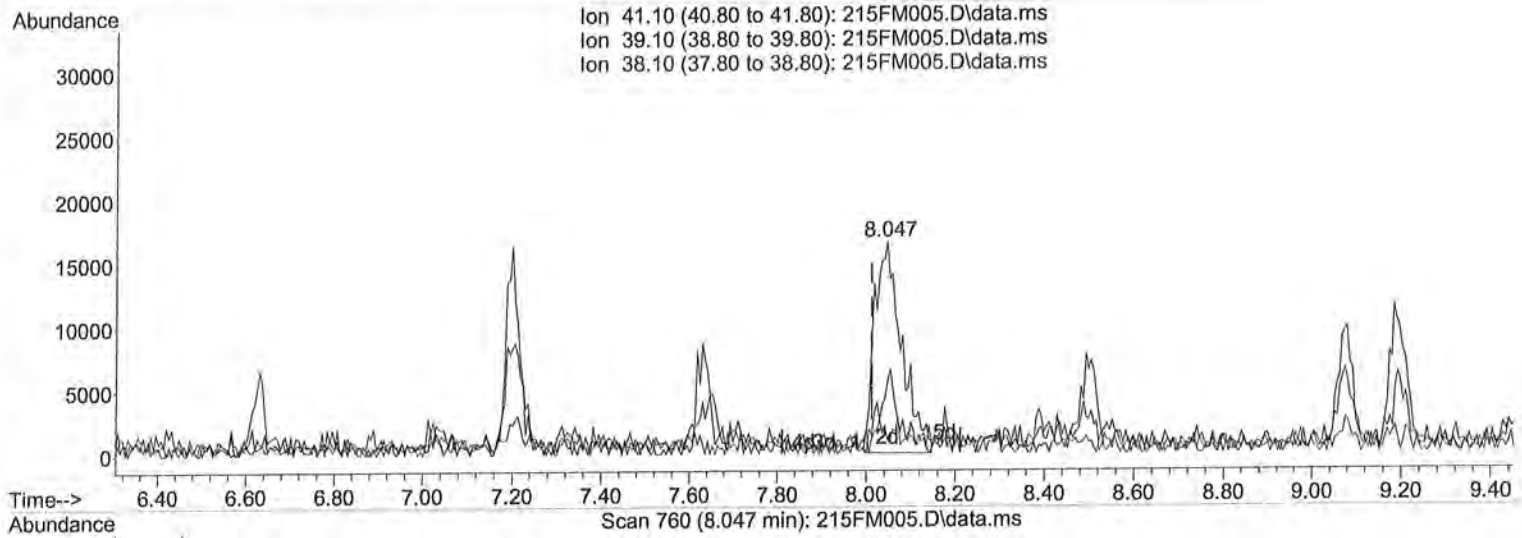
Review by/Date Woshi

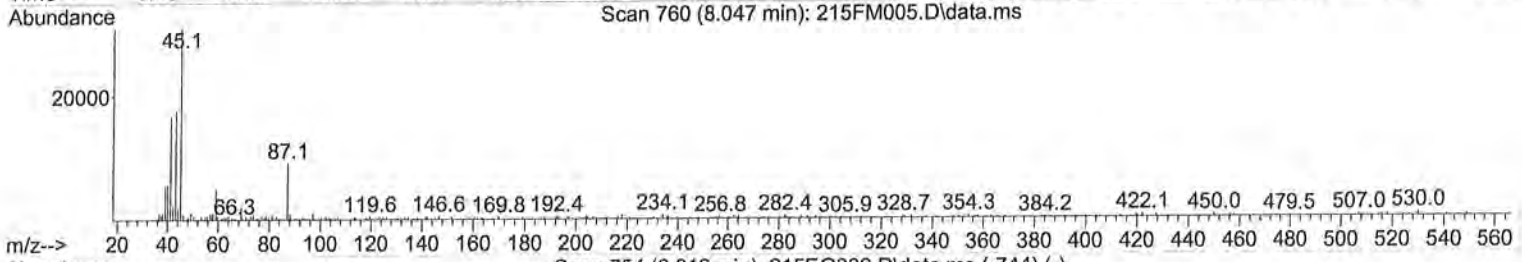
Review by/Date:

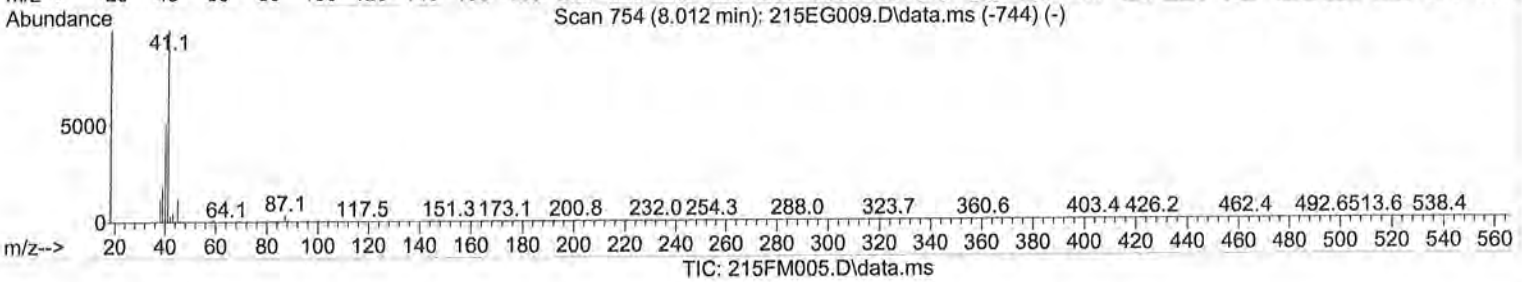
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM005.D
Acq On : 18 Jun 2021 8:32 am
Operator : kkw
Sample : aa66932-cal2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 18 09:50:22 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration







TIC: 215FM005.D\data.ms

(20) Acetonitrile

8.047min (+ 0.035) 23.44 ug/L m

response 69992

Ion	Exp%	Act%
41.10	100.00	100.00
39.10	24.40	3.10#
38.10	10.00	0.96#
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[X] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

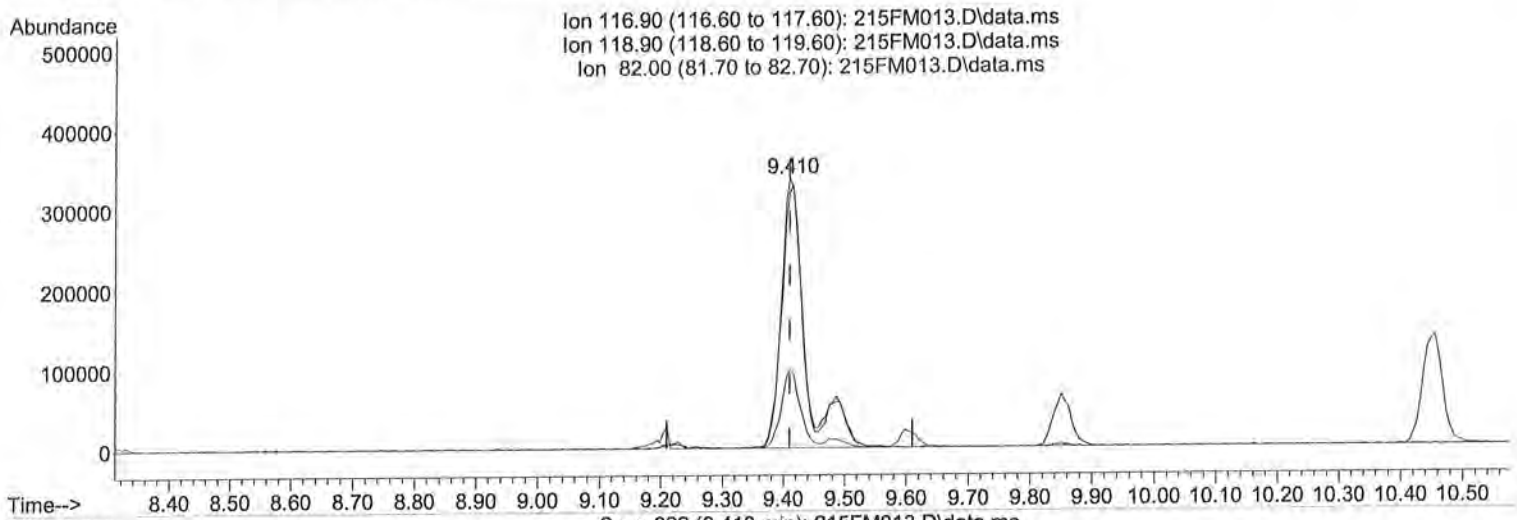
Review by/Date W 06/21/21

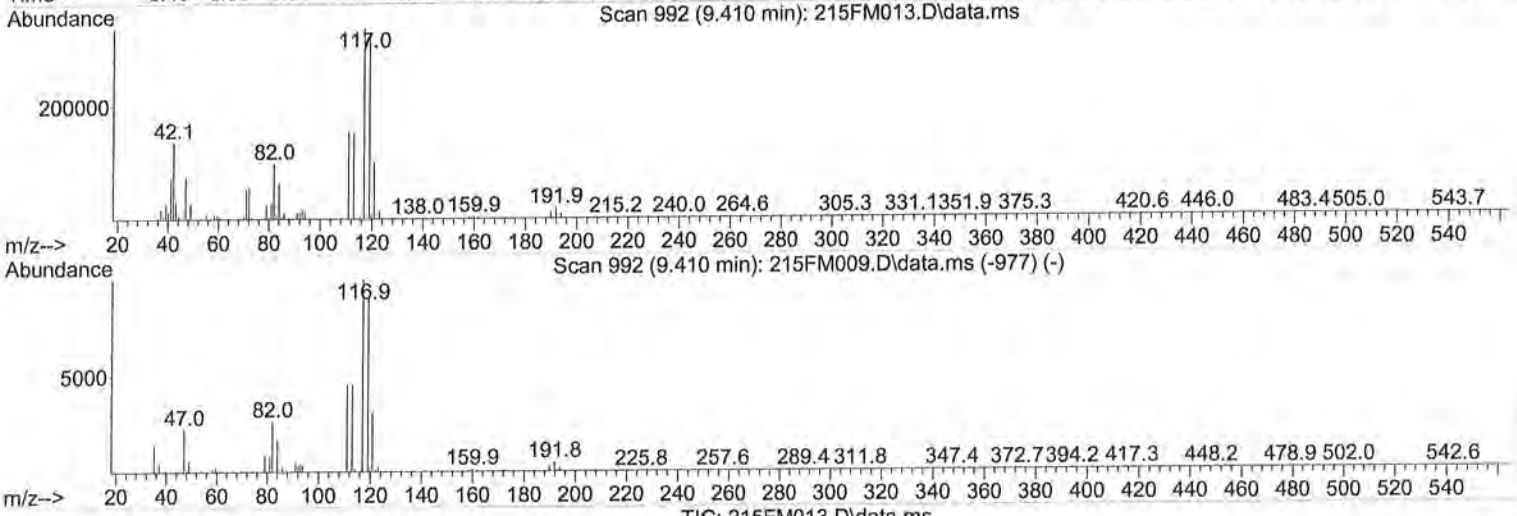
Review by/Date:

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM013.D
Acq On : 18 Jun 2021 12:15 pm
Operator : kkw
Sample : aa66932-scv1
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jun 21 07:55:38 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Mon Jun 21 07:54:29 2021
Response via : Initial Calibration





TIC: 215FM013.D\data.ms

(40) Carbon Tetrachloride

9.410min (+ 0.000) 65.73 ug/L

response 939082

Ion	Exp%	Act%
116.90	100.00	100.00
118.90	111.60	94.19
82.00	32.10	26.21
0.00	0.00	0.00

Select One:

[X] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

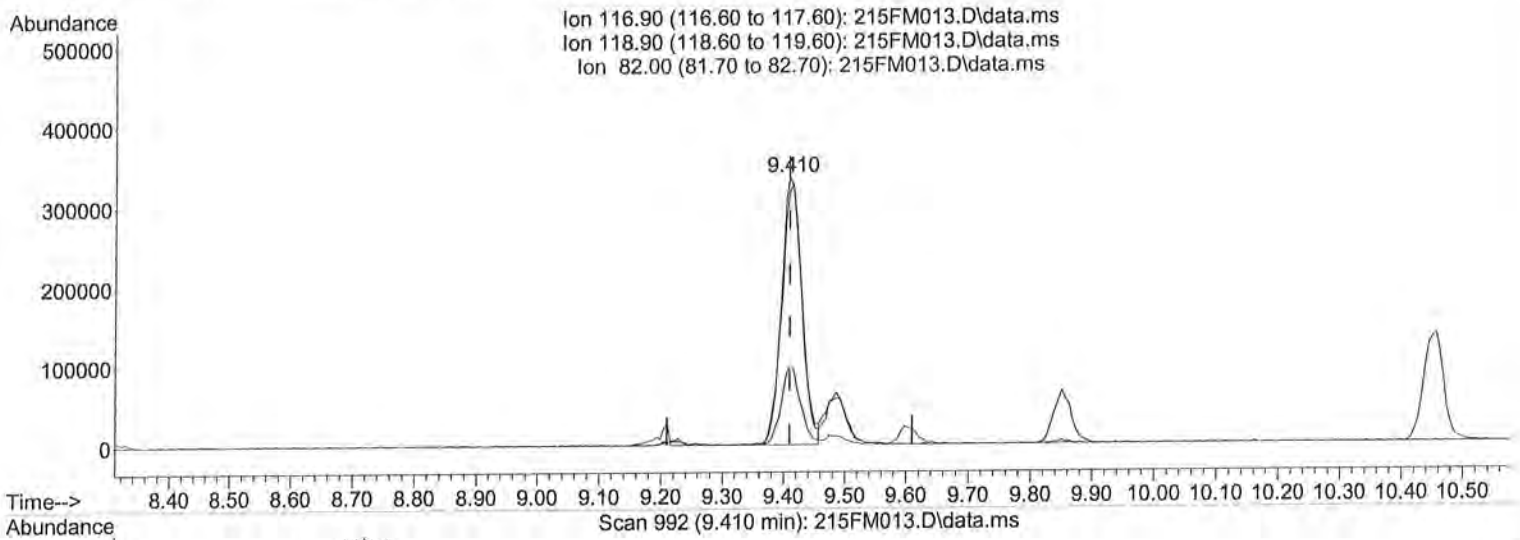
Review by/Date W 06/21/21

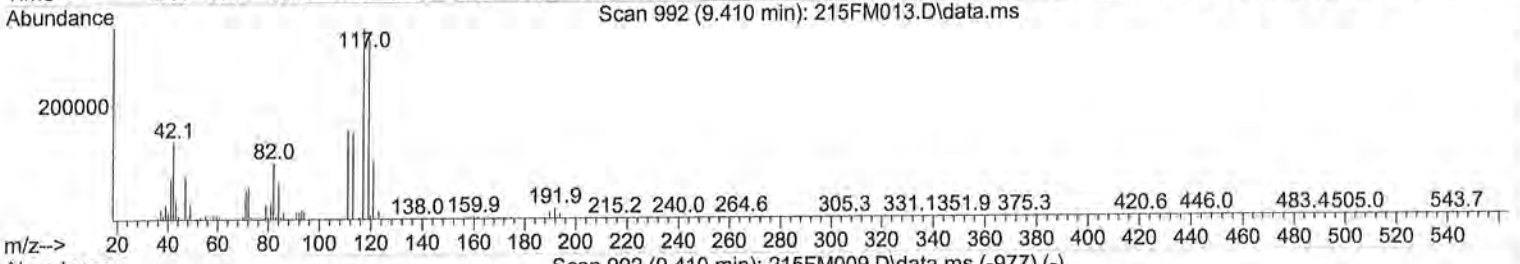
Review by/Date:

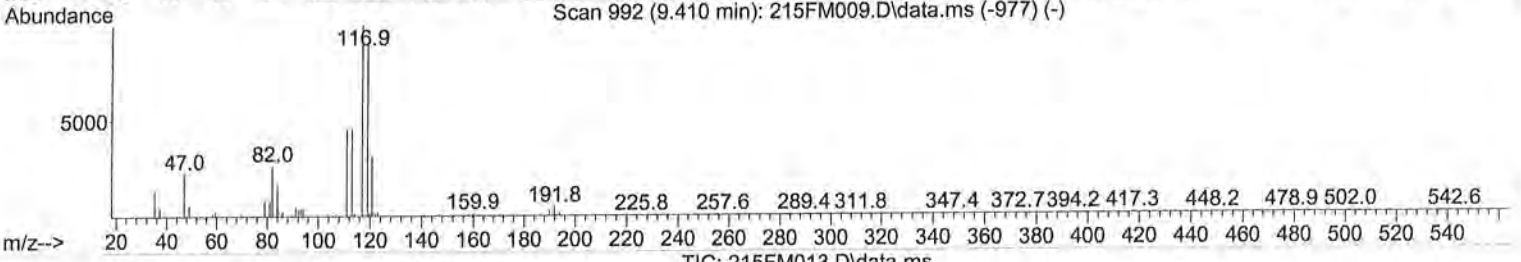
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM013.D
Acq On : 18 Jun 2021 12:15 pm
Operator : kkw
Sample : aa66932-scv1
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jun 21 07:55:38 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Mon Jun 21 07:54:29 2021
Response via : Initial Calibration







TIC: 215FM013.D\data.ms

(40) Carbon Tetrachloride

9.410min (+ 0.000) 54.98 ug/L m

response 785492

Ion	Exp%	Act%
116.90	100.00	100.00
118.90	111.60	112.60
82.00	32.10	31.33
0.00	0.00	0.00

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date WJ 6/21/21

Review by/Date:

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM004.D
Acq On : 18 Jun 2021 8:05 am
Operator : kkw
Sample : aa66932-cal1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 18 08:40:28 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1201889	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2686237	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1505146	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1176558	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	710792	56.11	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 112.22%				
52) D8-Toluene	11.784	98	3105646	47.11	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 94.22%				
73) Bromofluorobenzene	14.334	95	1312659	50.45	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 100.90%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.975	85	13088	0.91	ug/L	#	78
3) Chloromethane	4.422	50	25464	1.40	ug/L		98
4) Vinyl Chloride	4.586	62	18650	1.28	ug/L	#	37
5) Bromomethane	5.227	94	7774	2.03	ug/L	#	92
6) Chloroethane	5.468	64	12148	2.08	ug/L	#	87
7) Trichlorofluoromethane	5.720	101	18704	1.17	ug/L	#	32
8) Diethyl ether	6.190	59	9025	0.92	ug/L	#	75
9) 1,1-Dichloroethene	6.531	96	10469	1.09	ug/L	#	80
10) Trichlorotrifluoroethane	6.561	151	6269	0.96	ug/L	#	63
11) Acrolein	7.025	56	26803	8.51	ug/L		88
12) Iodomethane	6.784	142	25695	2.11	ug/L	#	87
13) Carbon Disulfide	6.631	76	134623	3.56	ug/L	#	90
14) 3-chloropropene	7.207	41	16650	0.95	ug/L	#	75
15) Acetone	7.418	43	15244m	3.79	ug/L		
16) Methylene Chloride	7.348	84	14197	1.12	ug/L		86
17) Methyl Acetate	7.418	43	20048	1.99	ug/L	#	71
18) t-1,2-Dichloroethene	7.571	96	11646	0.99	ug/L		97
19) Methyl tert-butyl ether	7.630	73	29535	1.00	ug/L	#	83
20) Acetonitrile	8.059	41	27963m	9.55	ug/L		
21) Isopropyl ether	8.053	45	34223	0.91	ug/L		92
22) Chloroprene	8.282	88	7485	0.68	ug/L	#	94
23) 1,1-Dichloroethane	8.323	63	24017	1.16	ug/L	#	86
24) Acrylonitrile	8.405	53	56665	8.93	ug/L	#	95
25) Vinyl Acetate	8.558	43	85554	3.24	ug/L		99
26) c-1,2-Dichloroethene	8.964	96	14211	1.08	ug/L	#	79
27) 2,2-Dichloropropane	9.081	77	17235	1.12	ug/L		94
28) Bromochloromethane	9.205	128	5671	1.34	ug/L		85
29) Cyclohexane	9.199	56	22375	1.00	ug/L		95
30) Chloroform	9.228	83	22798	1.08	ug/L		96
32) Dibromofluoromethane	9.428	113	711007	56.12	ug/L	#	90
33) 2-Butanone	9.586	72	10350m	4.88	ug/L		
34) 1,1,1-Trichloroethane	9.492	97	14723	0.94	ug/L	#	66
35) 1,1-Dichloropropene	9.610	75	20902	1.25	ug/L		91
36) Propionitrile	9.910	54	24811	9.55	ug/L	#	51
37) Methacrylonitrile	9.915	41	86360	8.48	ug/L		96
38) Isobutyl Alcohol	9.974	43	15505	12.64	ug/L	#	53
40) Carbon Tetrachloride	9.428	117	15785	1.27	ug/L	#	60
41) Benzene	9.886	78	54847	0.97	ug/L		98
42) 1,2-Dichloroethane	10.092	62	20033	1.22	ug/L	#	87
43) Trichloroethene	10.462	130	10723	0.83	ug/L	#	1
44) Methyl cyclohexane	10.450	83	55623	2.01	ug/L	#	70
45) Dibromomethane	10.908	93	10260	1.17	ug/L	#	81
46) 1,2-Dichloropropane	10.991	63	17821	1.10	ug/L	#	89
47) Bromodichloromethane	11.020	83	14957	0.93	ug/L	#	88
48) Methyl Methacrylate	11.114	69	8962	0.71	ug/L		85
49) 1,4-Dioxane	11.208	88	1959	11.48	ug/L	#	18
50) 2-Chloroethyl vinyl ether	11.502	63	24607	2.51	ug/L	#	90
51) C-1,3-Dichloropropene	11.614	75	20370	0.84	ug/L	#	89

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM004.D
Acq On : 18 Jun 2021 8:05 am
Operator : kkw
Sample : aa66932-cal1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 18 08:40:28 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

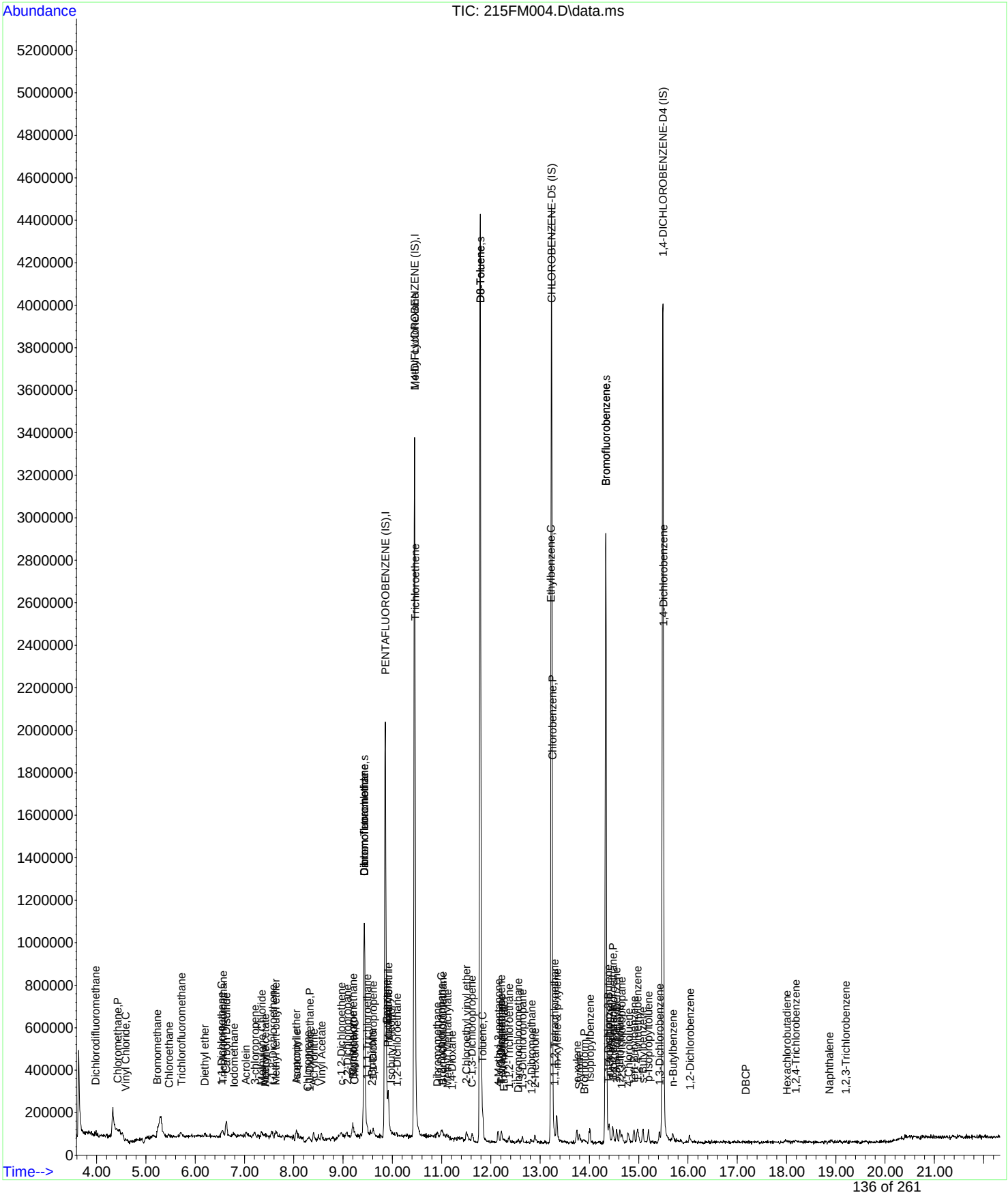
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.784	98	3098200	47.00	ug/L		96
54) 4-Methyl-2-pentanone	12.154	100	10407	3.66	ug/L	#	65
56) Toluene	11.831	92	36578	1.07	ug/L		86
57) T-1,3-Dichloropropene	12.207	75	15418	0.86	ug/L		95
58) Tetrachloroethene	12.213	164	7897	0.84	ug/L	#	81
59) Ethyl methacrylate	12.266	69	9442	0.45	ug/L	#	94
60) 1,1,2-Trichloroethane	12.371	97	11468	0.93	ug/L	#	72
61) Dibromochloromethane	12.554	129	5884	0.59	ug/L	#	77
62) 1,3-Dichloropropane	12.642	76	19550	0.85	ug/L	#	92
63) 1,2-Dibromoethane	12.824	107	11656	0.92	ug/L	#	72
64) 2-Hexanone	12.894	43	28902	2.63	ug/L	#	88
65) Ethylbenzene	13.218	106	17809	0.86	ug/L	#	83
66) Chlorobenzene	13.247	112	34362	0.94	ug/L	#	85
67) 1,1,1,2-Tetrachloroethane	13.294	131	8869	0.83	ug/L	#	87
68) m-xylene & p-xylene	13.341	106	48950	1.91	ug/L		85
69) o-xylene	13.746	106	21167	0.81	ug/L		94
70) Styrene	13.787	104	23556	0.56	ug/L	#	83
71) Bromoform	13.893	173	3911	0.72	ug/L	#	73
72) Isopropylbenzene	14.011	105	51309	0.78	ug/L	#	95
74) Bromofluorobenzene	14.334	95	1313882	50.49	ug/L	#	76
75) n-Propylbenzene	14.399	91	68531	0.82	ug/L		94
76) 1,1,2,2-Tetrachloroethane	14.475	83	17220	0.81	ug/L	#	89
77) 1,2,3-Trichloropropane	14.651	61	4423	0.82	ug/L	#	80
78) T-1,4-Dichloro-2-Butene	14.381	53	5458m	0.78	ug/L		
80) Bromobenzene	14.475	156	9545	0.80	ug/L	#	59
81) 1,2,4-Trimethylbenzene	14.974	105	41636	0.84	ug/L	#	91
82) 2-Chlorotoluene	14.616	91	40735	0.92	ug/L		94
83) 4-Chlorotoluene	14.792	91	40333	0.91	ug/L		98
84) tert-Butylbenzene	14.904	119	35468	0.85	ug/L		99
85) 1,3,5-Trimethylbenzene	14.545	105	41886	0.84	ug/L	#	95
86) p-Isopropyltoluene	15.198	119	37494	0.66	ug/L	#	92
87) s-Butylbenzene	15.080	105	54823	0.92	ug/L		95
88) 1,3-Dichlorobenzene	15.421	146	22323	0.89	ug/L		99
89) 1,4-Dichlorobenzene	15.503	146	26167	1.01	ug/L	#	1
90) n-Butylbenzene	15.691	91	39375	0.71	ug/L	#	85
91) 1,2-Dichlorobenzene	16.038	146	19638	0.85	ug/L		98
92) DBCP	17.172	157	890	0.33	ug/L		90
93) Hexachlorobutadiene	18.006	225	663	0.20	ug/L	#	1
94) 1,2,4-Trichlorobenzene	18.188	180	1643	0.25	ug/L	#	33
95) Naphthalene	18.870	128	7080	0.40	ug/L	#	92
96) 1,2,3-Trichlorobenzene	19.199	180	1743	0.57	ug/L	#	42

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM004.D
Acq On : 18 Jun 2021 8:05 am
Operator : kkw
Sample : aa66932-cal1
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 18 08:40:28 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM005.D
Acq On : 18 Jun 2021 8:32 am
Operator : kkw
Sample : aa66932-cal2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 18 09:50:22 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1226065	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2753498	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1619681	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.491	152	1248669	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	790017	61.13	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 122.26%				
52) D8-Toluene	11.784	98	3652972	54.06	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 108.12%				
73) Bromofluorobenzene	14.328	95	1504237	53.72	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 107.44%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	20711	1.41	ug/L	#	93
3) Chloromethane	4.410	50	32896	1.77	ug/L		97
4) Vinyl Chloride	4.586	62	26313	1.78	ug/L	#	1
5) Bromomethane	5.227	94	15964	4.06	ug/L	#	92
6) Chloroethane	5.462	64	16696	2.80	ug/L		96
7) Trichlorofluoromethane	5.708	101	30382	1.86	ug/L	#	95
8) Diethyl ether	6.178	59	28917	2.88	ug/L		96
9) 1,1-Dichloroethene	6.537	96	27880	2.84	ug/L		98
10) Trichlorotrifluoroethane	6.572	151	17841	2.67	ug/L		94
11) Acrolein	7.030	56	63840	19.88	ug/L		93
12) Iodomethane	6.778	142	59716	4.80	ug/L	#	96
13) Carbon Disulfide	6.631	76	332343	8.62	ug/L		99
14) 3-chloropropene	7.201	41	37310	2.08	ug/L		92
15) Acetone	7.406	43	44906	10.96	ug/L		90
16) Methylene Chloride	7.342	84	35382	2.74	ug/L		98
17) Methyl Acetate	7.547	43	25546	2.48	ug/L	#	81
18) t-1,2-Dichloroethene	7.553	96	31090	2.58	ug/L		98
19) Methyl tert-butyl ether	7.636	73	71986	2.38	ug/L		96
20) Acetonitrile	8.047	41	69992m	23.44	ug/L		
21) Isopropyl ether	8.053	45	88770	2.32	ug/L		96
22) Chloroprene	8.276	88	20632	1.83	ug/L		97
23) 1,1-Dichloroethane	8.317	63	58711	2.78	ug/L		93
24) Acrylonitrile	8.394	53	128785	19.89	ug/L	#	97
25) Vinyl Acetate	8.558	43	269446	10.00	ug/L		96
26) c-1,2-Dichloroethene	8.946	96	33482	2.51	ug/L		93
27) 2,2-Dichloropropane	9.075	77	40179	2.55	ug/L	#	95
28) Bromochloromethane	9.181	128	14081	3.27	ug/L		86
29) Cyclohexane	9.193	56	56806	2.48	ug/L		99
30) Chloroform	9.222	83	59826	2.79	ug/L		91
32) Dibromofluoromethane	9.428	113	790017	61.13	ug/L	#	89
33) 2-Butanone	9.557	72	22636	10.45	ug/L		93
34) 1,1,1-Trichloroethane	9.486	97	41521	2.59	ug/L		96
35) 1,1-Dichloropropene	9.604	75	44111	2.58	ug/L	#	84
36) Propionitrile	9.909	54	59592	22.49	ug/L	#	81
37) Methacrylonitrile	9.915	41	238410	22.96	ug/L		96
38) Isobutyl Alcohol	9.909	43	42490	33.96	ug/L	#	54
40) Carbon Tetrachloride	9.416	117	30040	2.35	ug/L	#	84
41) Benzene	9.886	78	147112	2.54	ug/L		97
42) 1,2-Dichloroethane	10.092	62	41413	2.47	ug/L		98
43) Trichloroethene	10.456	130	29464	2.23	ug/L	#	1
44) Methyl cyclohexane	10.456	83	98691	3.48	ug/L	#	75
45) Dibromomethane	10.902	93	18756	2.09	ug/L		94
46) 1,2-Dichloropropane	10.991	63	37937	2.28	ug/L		92
47) Bromodichloromethane	11.014	83	34787	2.11	ug/L	#	89
48) Methyl Methacrylate	11.090	69	19813	1.53	ug/L		85
49) 1,4-Dioxane	11.231	88	7880	45.03	ug/L		92
50) 2-Chloroethyl vinyl ether	11.502	63	73114	7.27	ug/L	#	92
51) C-1,3-Dichloropropene	11.619	75	53521	2.14	ug/L	#	88

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM005.D
Acq On : 18 Jun 2021 8:32 am
Operator : kkw
Sample : aa66932-cal2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 18 09:50:22 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

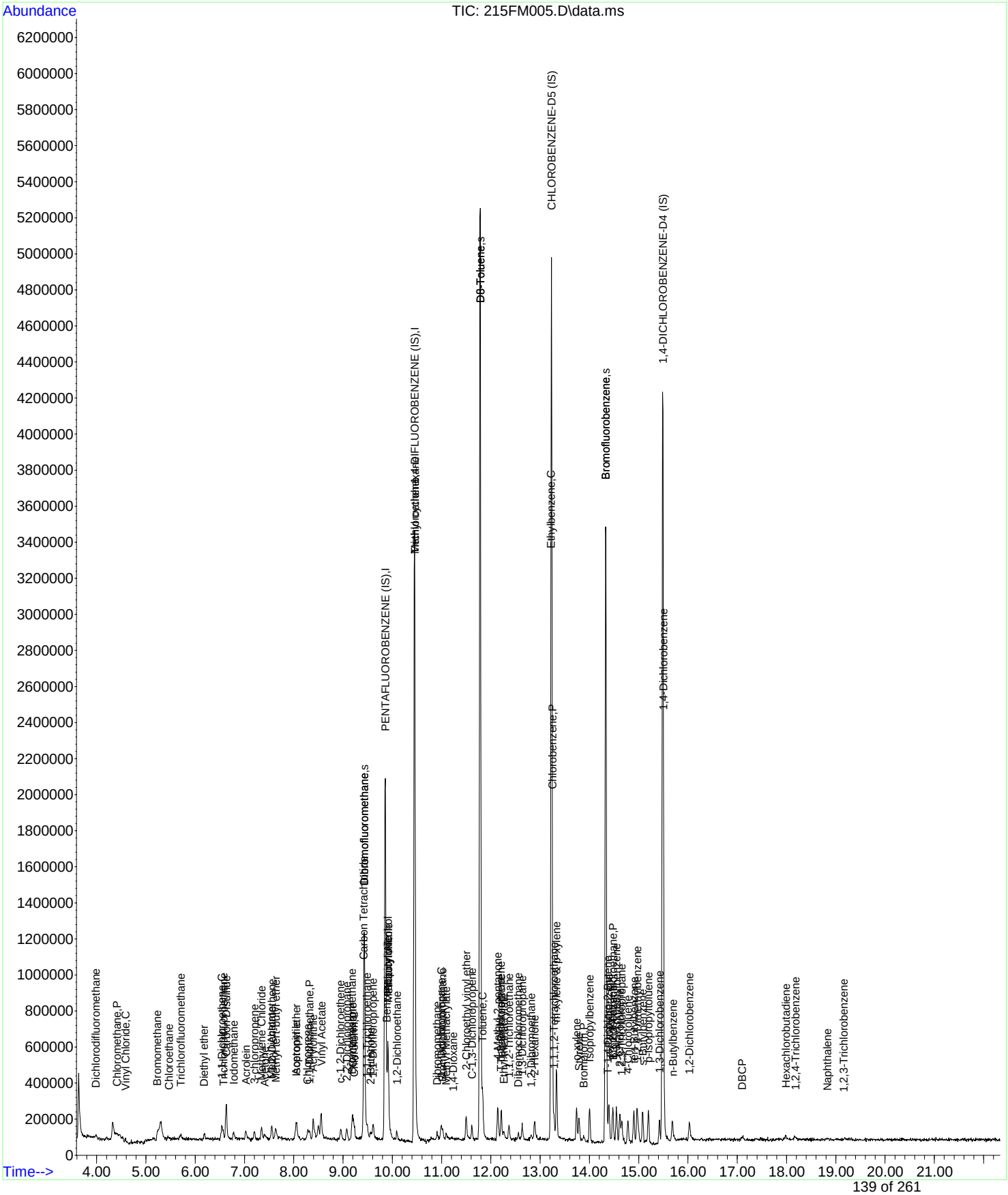
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.784	98	3650908	54.03	ug/L		95
54) 4-Methyl-2-pentanone	12.136	100	23940	8.22	ug/L		96
56) Toluene	11.831	92	90002	2.45	ug/L		90
57) T-1,3-Dichloropropene	12.201	75	42905	2.22	ug/L	#	82
58) Tetrachloroethene	12.207	164	22734	2.26	ug/L		94
59) Ethyl methacrylate	12.266	69	36140	1.59	ug/L		98
60) 1,1,2-Trichloroethane	12.365	97	30725	2.32	ug/L		93
61) Dibromochloromethane	12.553	129	19817	1.84	ug/L	#	87
62) 1,3-Dichloropropane	12.636	76	52835	2.14	ug/L	#	95
63) 1,2-Dibromoethane	12.818	107	26901	1.97	ug/L	#	92
64) 2-Hexanone	12.883	43	96320	8.15	ug/L		91
65) Ethylbenzene	13.217	106	45167	2.04	ug/L	#	85
66) Chlorobenzene	13.247	112	84240	2.15	ug/L		93
67) 1,1,1,2-Tetrachloroethane	13.282	131	24035	2.10	ug/L	#	86
68) m-xylene & p-xylene	13.329	106	119219	4.33	ug/L		99
69) o-xylene	13.740	106	55218	1.96	ug/L		97
70) Styrene	13.787	104	77940	1.71	ug/L	#	91
71) Bromoform	13.881	173	9766	1.66	ug/L	#	72
72) Isopropylbenzene	13.999	105	145912	2.06	ug/L		98
74) Bromofluorobenzene	14.328	95	1504564	53.73	ug/L	#	80
75) n-Propylbenzene	14.393	91	195277	2.16	ug/L		97
76) 1,1,2,2-Tetrachloroethane	14.475	83	48517	2.11	ug/L	#	97
77) 1,2,3-Trichloropropane	14.651	61	10589	1.81	ug/L	#	59
78) T-1,4-Dichloro-2-Butene	14.369	53	12126	1.61	ug/L	#	27
80) Bromobenzene	14.475	156	28658	2.26	ug/L	#	82
81) 1,2,4-Trimethylbenzene	14.968	105	117439	2.24	ug/L		96
82) 2-Chlorotoluene	14.616	91	118998	2.54	ug/L		93
83) 4-Chlorotoluene	14.780	91	104463	2.23	ug/L		96
84) tert-Butylbenzene	14.904	119	101030	2.27	ug/L		96
85) 1,3,5-Trimethylbenzene	14.545	105	121842	2.31	ug/L		96
86) p-Isopropyltoluene	15.197	119	113438	1.89	ug/L	#	91
87) s-Butylbenzene	15.080	105	145770	2.30	ug/L		99
88) 1,3-Dichlorobenzene	15.421	146	59042	2.22	ug/L		98
89) 1,4-Dichlorobenzene	15.503	146	58421	2.13	ug/L	#	1
90) n-Butylbenzene	15.691	91	113515	1.93	ug/L		97
91) 1,2-Dichlorobenzene	16.026	146	55503	2.26	ug/L	#	90
92) DBCP	17.095	157	6168	2.13	ug/L		96
93) Hexachlorobutadiene	17.988	225	6852	1.98	ug/L	#	68
94) 1,2,4-Trichlorobenzene	18.182	180	7411	1.06	ug/L	#	55
95) Naphthalene	18.829	128	18402	0.99	ug/L	#	84
96) 1,2,3-Trichlorobenzene	19.158	180	1698	0.53	ug/L	#	1

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM005.D
Acq On : 18 Jun 2021 8:32 am
Operator : kkw
Sample : aa66932-cal2
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 18 09:50:22 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM006.D
Acq On : 18 Jun 2021 9:00 am
Operator : kkw
Sample : aa66932-cal3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 18 09:51:46 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1047198	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2419754	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1545028	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.486	152	1320874	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	760296	68.88	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 137.76%#				
52) D8-Toluene	11.778	98	3556545	59.90	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 119.80%				
73) Bromofluorobenzene	14.328	95	1596271	59.76	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 119.52%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	61935	4.93	ug/L	#	93
3) Chloromethane	4.410	50	90523	5.67	ug/L		94
4) Vinyl Chloride	4.586	62	72492	5.73	ug/L	#	66
5) Bromomethane	5.233	94	34362	10.02	ug/L		99
6) Chloroethane	5.456	64	50548	9.92	ug/L		96
7) Trichlorofluoromethane	5.703	101	86500	6.21	ug/L	#	98
8) Diethyl ether	6.179	59	65817	7.68	ug/L		92
9) 1,1-Dichloroethene	6.537	96	61285	7.30	ug/L		86
10) Trichlorotrifluoroethane	6.555	151	39487	6.92	ug/L		92
11) Acrolein	7.025	56	163918	59.76	ug/L		99
12) Iodomethane	6.784	142	175341	16.50	ug/L		98
13) Carbon Disulfide	6.625	76	895869	27.31	ug/L		98
14) 3-chloropropene	7.195	41	101509	6.63	ug/L		94
15) Acetone	7.407	43	117259	33.50	ug/L		98
16) Methylene Chloride	7.342	84	79027	7.17	ug/L		90
17) Methyl Acetate	7.530	43	64450	7.26	ug/L	#	95
18) t-1,2-Dichloroethene	7.548	96	78290	7.62	ug/L		96
19) Methyl tert-butyl ether	7.630	73	177918	6.90	ug/L	#	91
20) Acetonitrile	8.024	41	163006	63.90	ug/L		98
21) Isopropyl ether	8.053	45	228181	7.00	ug/L		96
22) Chloroprene	8.282	88	57674	5.98	ug/L		94
23) 1,1-Dichloroethane	8.317	63	130702	7.25	ug/L		95
24) Acrylonitrile	8.388	53	290245	52.47	ug/L		100
25) Vinyl Acetate	8.547	43	642675	27.94	ug/L		100
26) c-1,2-Dichloroethene	8.952	96	66039	5.78	ug/L		92
27) 2,2-Dichloropropane	9.075	77	81316	6.05	ug/L	#	91
28) Bromochloromethane	9.187	128	27460	7.46	ug/L		94
29) Cyclohexane	9.199	56	118236	6.05	ug/L		95
30) Chloroform	9.222	83	124399	6.78	ug/L		94
32) Dibromofluoromethane	9.428	113	760296	68.88	ug/L	#	90
33) 2-Butanone	9.551	72	53367	28.85	ug/L		92
34) 1,1,1-Trichloroethane	9.492	97	86858	6.35	ug/L		94
35) 1,1-Dichloropropene	9.610	75	96357	6.59	ug/L		99
36) Propionitrile	9.904	54	134736	59.53	ug/L		90
37) Methacrylonitrile	9.910	41	520530	58.69	ug/L		100
38) Isobutyl Alcohol	9.963	43	48521	45.40	ug/L	#	54
40) Carbon Tetrachloride	9.416	117	59358	5.25	ug/L	#	84
41) Benzene	9.880	78	309830	6.10	ug/L		96
42) 1,2-Dichloroethane	10.092	62	85706	5.82	ug/L		95
43) Trichloroethene	10.450	130	59471	5.13	ug/L	#	9
44) Methyl cyclohexane	10.444	83	151866	6.09	ug/L		90
45) Dibromomethane	10.903	93	37804	4.78	ug/L		88
46) 1,2-Dichloropropane	10.991	63	80955	5.54	ug/L		99
47) Bromodichloromethane	11.026	83	79355	5.44	ug/L		95
48) Methyl Methacrylate	11.085	69	50080	4.40	ug/L		92
49) 1,4-Dioxane	11.191	88	12290	79.92	ug/L	#	53
50) 2-Chloroethyl vinyl ether	11.490	63	204286	23.11	ug/L	#	97
51) C-1,3-Dichloropropene	11.608	75	117673	5.30	ug/L		92

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM006.D
Acq On : 18 Jun 2021 9:00 am
Operator : kkw
Sample : aa66932-cal3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 18 09:51:46 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

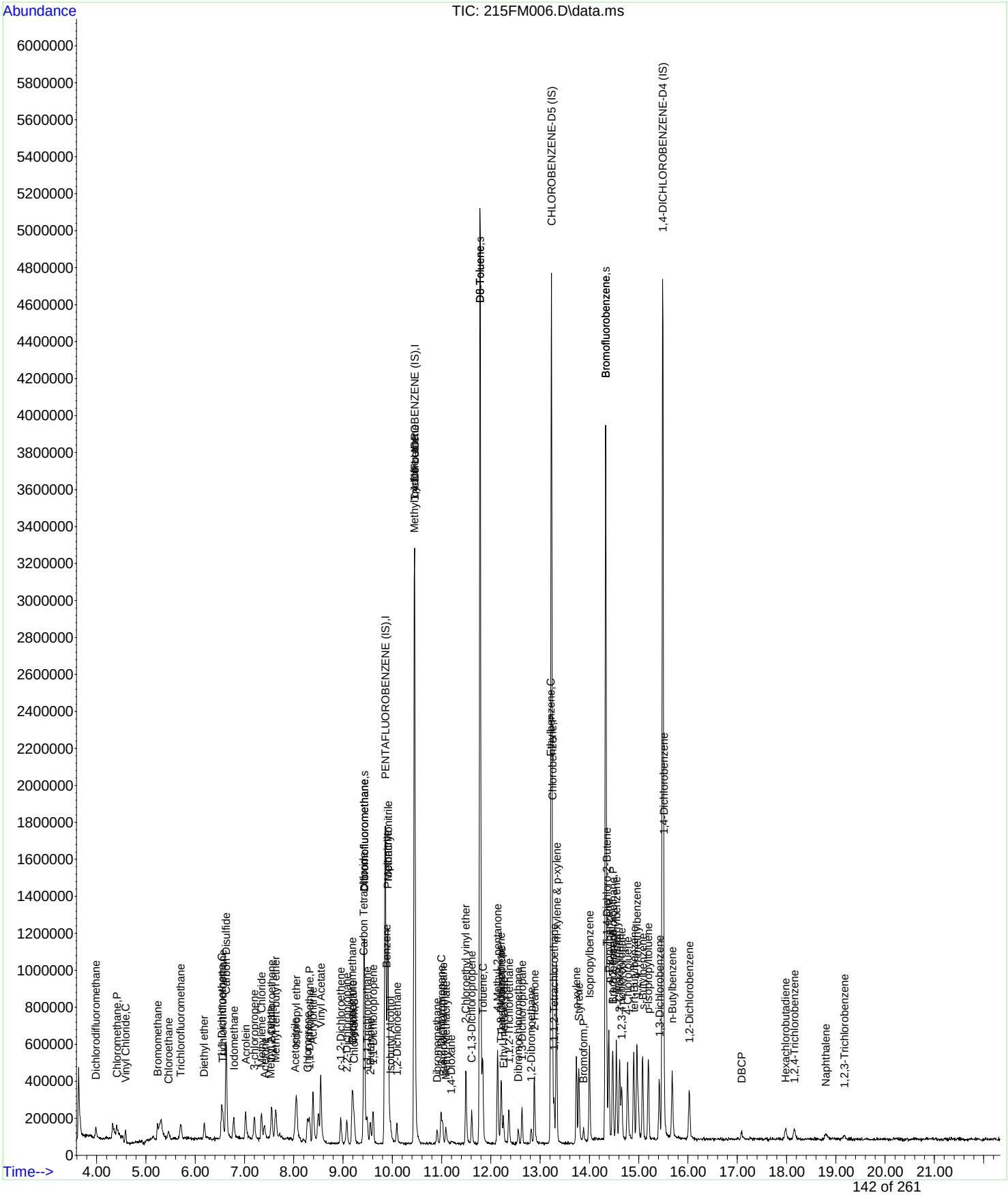
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	3550703	59.80	ug/L		95
54) 4-Methyl-2-pentanone	12.131	100	55703	21.72	ug/L		91
56) Toluene	11.837	92	190861	5.44	ug/L		99
57) T-1,3-Dichloropropene	12.201	75	99725	5.40	ug/L		95
58) Tetrachloroethene	12.213	164	47385	4.94	ug/L		92
59) Ethyl methacrylate	12.254	69	84587	3.91	ug/L		96
60) 1,1,2-Trichloroethane	12.366	97	66041	5.22	ug/L		91
61) Dibromochloromethane	12.554	129	46275	4.48	ug/L	#	96
62) 1,3-Dichloropropane	12.630	76	118485	5.02	ug/L		95
63) 1,2-Dibromoethane	12.818	107	63951	4.90	ug/L	#	97
64) 2-Hexanone	12.883	43	254110	22.53	ug/L		100
65) Ethylbenzene	13.212	106	107966	5.10	ug/L	#	92
66) Chlorobenzene	13.247	112	188940	5.06	ug/L		93
67) 1,1,1,2-Tetrachloroethane	13.282	131	51398	4.68	ug/L		92
68) m-xylene & p-xylene	13.335	106	289132	11.00	ug/L		97
69) o-xylene	13.735	106	143437	5.34	ug/L		99
70) Styrene	13.782	104	226490	5.21	ug/L		97
71) Bromoform	13.876	173	21689	3.82	ug/L	#	67
72) Isopropylbenzene	13.999	105	373186	5.52	ug/L		97
74) Bromofluorobenzene	14.328	95	1596271	59.76	ug/L	#	82
75) n-Propylbenzene	14.393	91	481924	5.60	ug/L		97
76) 1,1,2,2-Tetrachloroethane	14.475	83	121607	5.56	ug/L		98
77) 1,2,3-Trichloropropane	14.651	61	35191	6.26	ug/L	#	90
78) T-1,4-Dichloro-2-Butene	14.352	53	33578	4.68	ug/L	#	1
80) Bromobenzene	14.469	156	73468	5.47	ug/L		87
81) 1,2,4-Trimethylbenzene	14.963	105	315484	5.69	ug/L		99
82) 2-Chlorotoluene	14.610	91	277788	5.60	ug/L	#	97
83) 4-Chlorotoluene	14.775	91	285041	5.75	ug/L		99
84) tert-Butylbenzene	14.904	119	249895	5.31	ug/L		97
85) 1,3,5-Trimethylbenzene	14.545	105	309597	5.56	ug/L		99
86) p-Isopropyltoluene	15.192	119	301672	4.75	ug/L		99
87) s-Butylbenzene	15.080	105	362754	5.42	ug/L		99
88) 1,3-Dichlorobenzene	15.421	146	146081	5.19	ug/L		96
89) 1,4-Dichlorobenzene	15.509	146	162863	5.61	ug/L	#	1
90) n-Butylbenzene	15.679	91	279037	4.49	ug/L		99
91) 1,2-Dichlorobenzene	16.026	146	137432	5.28	ug/L		98
92) DBCP	17.090	157	12664	4.12	ug/L		98
93) Hexachlorobutadiene	17.977	225	12997	3.54	ug/L	#	72
94) 1,2,4-Trichlorobenzene	18.159	180	26850	3.62	ug/L	#	84
95) Naphthalene	18.794	128	57797	2.91	ug/L	#	79
96) 1,2,3-Trichlorobenzene	19.175	180	14302	4.17	ug/L	#	62

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM006.D
Acq On : 18 Jun 2021 9:00 am
Operator : kkw
Sample : aa66932-cal3
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 18 09:51:46 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM007.D
Acq On : 18 Jun 2021 9:28 am
Operator : kkw
Sample : aa66932-cal4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 18 09:52:17 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1235637	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.450	114	2720919	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1709586	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1365508	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	752565	57.78	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 115.56%				
52) D8-Toluene	11.778	98	3385429	50.70	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 101.40%				
73) Bromofluorobenzene	14.328	95	1442507	48.81	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 97.62%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	121827	8.21	ug/L		98
3) Chloromethane	4.410	50	178033	9.38	ug/L		97
4) Vinyl Chloride	4.586	62	160638	10.77	ug/L		93
5) Bromomethane	5.227	94	54156	13.24	ug/L		94
6) Chloroethane	5.462	64	84051	13.98	ug/L		97
7) Trichlorofluoromethane	5.702	101	186133	11.32	ug/L		97
8) Diethyl ether	6.184	59	116071	11.49	ug/L		96
9) 1,1-Dichloroethene	6.531	96	121851	12.30	ug/L		86
10) Trichlorotrifluoroethane	6.560	151	76339	11.34	ug/L		93
11) Acrolein	7.019	56	301887	93.27	ug/L		97
12) Iodomethane	6.778	142	432218	34.46	ug/L		98
13) Carbon Disulfide	6.625	76	1823678	47.29	ug/L		98
14) 3-chloropropene	7.201	41	199304	11.03	ug/L		92
15) Acetone	7.395	43	237338	57.47	ug/L		100
16) Methylene Chloride	7.342	84	172555	13.27	ug/L		91
17) Methyl Acetate	7.524	43	121114	11.45	ug/L	#	91
18) t-1,2-Dichloroethene	7.553	96	140149	11.56	ug/L		92
19) Methyl tert-butyl ether	7.630	73	369299	12.14	ug/L		97
20) Acetonitrile	8.023	41	338616	112.50	ug/L		98
21) Isopropyl ether	8.053	45	461755	12.00	ug/L		98
22) Chloroprene	8.276	88	117678	10.34	ug/L		90
23) 1,1-Dichloroethane	8.311	63	282498	13.28	ug/L		99
24) Acrylonitrile	8.388	53	591099	90.57	ug/L		99
25) Vinyl Acetate	8.540	43	1551165	57.14	ug/L		99
26) c-1,2-Dichloroethene	8.952	96	148415	11.02	ug/L		90
27) 2,2-Dichloropropane	9.075	77	198257	12.51	ug/L		98
28) Bromochloromethane	9.187	128	64168	14.78	ug/L		98
29) Cyclohexane	9.193	56	265821	11.53	ug/L		98
30) Chloroform	9.222	83	257926	11.91	ug/L	#	93
32) Dibromofluoromethane	9.428	113	752565	57.78	ug/L	#	91
33) 2-Butanone	9.545	72	113849	52.16	ug/L		97
34) 1,1,1-Trichloroethane	9.480	97	208684	12.93	ug/L		96
35) 1,1-Dichloropropene	9.610	75	215540	12.49	ug/L		96
36) Propionitrile	9.898	54	301294	112.83	ug/L		94
37) Methacrylonitrile	9.909	41	1228878	117.42	ug/L		98
38) Isobutyl Alcohol	9.904	43	263215	208.72	ug/L	#	67
40) Carbon Tetrachloride	9.416	117	133703	10.38	ug/L	#	85
41) Benzene	9.880	78	655782	11.48	ug/L		100
42) 1,2-Dichloroethane	10.086	62	195914	11.82	ug/L		99
43) Trichloroethene	10.456	130	140187	10.75	ug/L	#	62
44) Methyl cyclohexane	10.456	83	307695	10.97	ug/L		95
45) Dibromomethane	10.902	93	98012	11.03	ug/L	#	85
46) 1,2-Dichloropropane	10.985	63	180087	10.96	ug/L		93
47) Bromodichloromethane	11.020	83	170547	10.28	ug/L		95
48) Methyl Methacrylate	11.085	69	108165	8.45	ug/L		99
49) 1,4-Dioxane	11.196	88	26438	152.89	ug/L	#	65
50) 2-Chloroethyl vinyl ether	11.490	63	468112	47.10	ug/L	#	93
51) C-1,3-Dichloropropene	11.613	75	262628	10.40	ug/L		93

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM007.D
Acq On : 18 Jun 2021 9:28 am
Operator : kkw
Sample : aa66932-cal4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 18 09:52:17 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

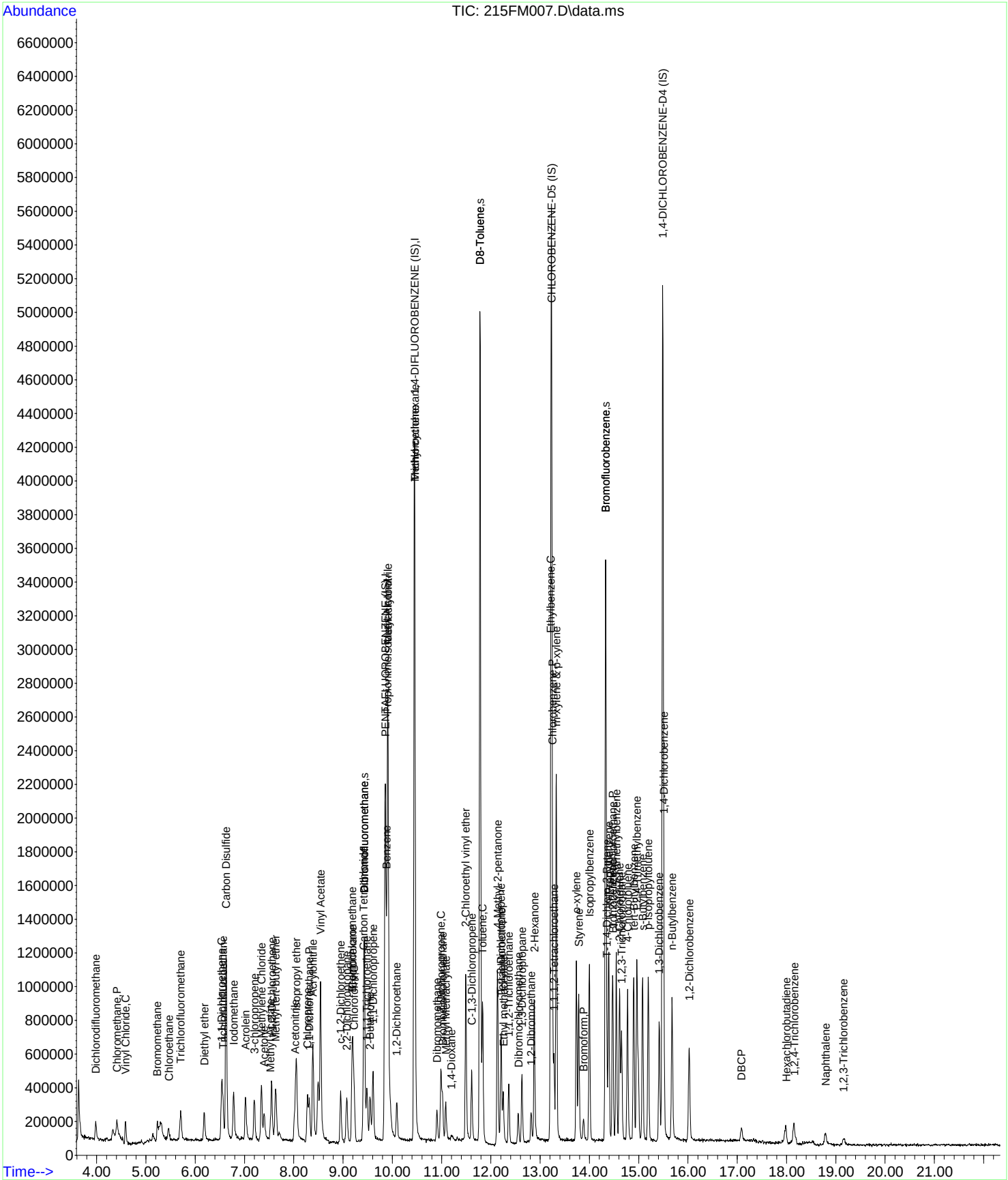
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	3385429	50.70	ug/L		96
54) 4-Methyl-2-pentanone	12.136	100	119171	41.26	ug/L		98
56) Toluene	11.831	92	387473	9.97	ug/L		97
57) T-1,3-Dichloropropene	12.201	75	188853	9.24	ug/L	#	94
58) Tetrachloroethene	12.213	164	84246	7.93	ug/L		86
59) Ethyl methacrylate	12.254	69	185862	7.76	ug/L		98
60) 1,1,2-Trichloroethane	12.360	97	133088	9.51	ug/L		95
61) Dibromochloromethane	12.559	129	104875	9.05	ug/L		97
62) 1,3-Dichloropropane	12.630	76	263488	10.09	ug/L		97
63) 1,2-Dibromoethane	12.818	107	140793	9.75	ug/L	#	93
64) 2-Hexanone	12.882	43	608770	48.78	ug/L		95
65) Ethylbenzene	13.211	106	251441	10.74	ug/L		94
66) Chlorobenzene	13.247	112	417890	10.11	ug/L		96
67) 1,1,1,2-Tetrachloroethane	13.282	131	118240	9.64	ug/L		95
68) m-xylene & p-xylene	13.329	106	629412	21.65	ug/L		94
69) o-xylene	13.734	106	295787	9.95	ug/L		94
70) Styrene	13.781	104	450550	9.37	ug/L		94
71) Bromoform	13.881	173	56574	8.82	ug/L	#	88
72) Isopropylbenzene	13.999	105	750121	10.03	ug/L		97
74) Bromofluorobenzene	14.328	95	1442507	48.81	ug/L	#	81
75) n-Propylbenzene	14.392	91	1000959	10.51	ug/L		98
76) 1,1,2,2-Tetrachloroethane	14.469	83	242924	10.03	ug/L		97
77) 1,2,3-Trichloropropane	14.651	61	73846	11.72	ug/L		94
78) T-1,4-Dichloro-2-Butene	14.351	53	71229	8.97	ug/L	#	1
80) Bromobenzene	14.475	156	149248	10.74	ug/L		84
81) 1,2,4-Trimethylbenzene	14.962	105	648191	11.32	ug/L		99
82) 2-Chlorotoluene	14.610	91	586883	11.44	ug/L		96
83) 4-Chlorotoluene	14.774	91	596106	11.64	ug/L		96
84) tert-Butylbenzene	14.898	119	524494	10.77	ug/L		99
85) 1,3,5-Trimethylbenzene	14.545	105	674843	11.72	ug/L		97
86) p-Isopropyltoluene	15.192	119	663916	10.11	ug/L		98
87) s-Butylbenzene	15.080	105	799657	11.56	ug/L		98
88) 1,3-Dichlorobenzene	15.415	146	311105	10.69	ug/L		98
89) 1,4-Dichlorobenzene	15.509	146	314368	10.48	ug/L	#	45
90) n-Butylbenzene	15.673	91	633951	9.86	ug/L		97
91) 1,2-Dichlorobenzene	16.026	146	273858	10.19	ug/L		93
92) DBCP	17.083	157	23874	7.46	ug/L		92
93) Hexachlorobutadiene	17.994	225	23531	6.19	ug/L	#	87
94) 1,2,4-Trichlorobenzene	18.153	180	55168	7.13	ug/L	#	91
95) Naphthalene	18.793	128	113841	5.51	ug/L	#	91
96) 1,2,3-Trichlorobenzene	19.152	180	19431	5.46	ug/L		89

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM007.D
Acq On : 18 Jun 2021 9:28 am
Operator : kkw
Sample : aa66932-cal4
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 18 09:52:17 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM008.D
Acq On : 18 Jun 2021 9:56 am
Operator : kkw
Sample : aa66932-cal5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 18 10:34:37 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1048667	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2471790	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1553840	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1230662	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	817344	73.95	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 147.90%#				
52) D8-Toluene	11.778	98	3851047	63.49	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 126.98%#				
73) Bromofluorobenzene	14.328	95	1690729	62.94	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 125.88%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	200616	15.93	ug/L		94
3) Chloromethane	4.410	50	302243	18.48	ug/L		100
4) Vinyl Chloride	4.586	62	270150	21.33	ug/L		96
5) Bromomethane	5.227	94	76749	21.51	ug/L	#	96
6) Chloroethane	5.462	64	156004	30.58	ug/L		99
7) Trichlorofluoromethane	5.703	101	324475	23.25	ug/L		99
8) Diethyl ether	6.184	59	214890	25.05	ug/L		99
9) 1,1-Dichloroethene	6.537	96	221322	26.33	ug/L		91
10) Trichlorotrifluoroethane	6.555	151	137133	24.00	ug/L		94
11) Acrolein	7.013	56	561975	204.58	ug/L		100
12) Iodomethane	6.778	142	915747	86.03	ug/L		97
13) Carbon Disulfide	6.625	76	3325322	102.69	ug/L		100
14) 3-chloropropene	7.195	41	352274	22.97	ug/L		97
15) Acetone	7.395	43	398208	113.61	ug/L		96
16) Methylene Chloride	7.342	84	286265	25.93	ug/L		93
17) Methyl Acetate	7.524	43	210343	22.85	ug/L	#	97
18) t-1,2-Dichloroethene	7.548	96	254734	24.75	ug/L		94
19) Methyl tert-butyl ether	7.630	73	635359	24.60	ug/L		94
20) Acetonitrile	8.012	41	573594	224.54	ug/L		97
21) Isopropyl ether	8.053	45	835803	25.59	ug/L		100
22) Chloroprene	8.276	88	239238	24.76	ug/L		99
23) 1,1-Dichloroethane	8.317	63	496023	27.47	ug/L		98
24) Acrylonitrile	8.382	53	1142636	206.28	ug/L		100
25) Vinyl Acetate	8.541	43	2933507	127.34	ug/L		98
26) c-1,2-Dichloroethene	8.952	96	281101	24.59	ug/L		95
27) 2,2-Dichloropropane	9.075	77	361450	26.86	ug/L		99
28) Bromochloromethane	9.181	128	109839	29.80	ug/L		97
29) Cyclohexane	9.187	56	510224	26.07	ug/L		97
30) Chloroform	9.222	83	472414	25.71	ug/L		95
32) Dibromofluoromethane	9.428	113	817344	73.95	ug/L	#	90
33) 2-Butanone	9.545	72	207794	112.18	ug/L		98
34) 1,1,1-Trichloroethane	9.486	97	347948	25.39	ug/L		93
35) 1,1-Dichloropropene	9.604	75	389732	26.62	ug/L		97
36) Propionitrile	9.892	54	522201	230.42	ug/L		94
37) Methacrylonitrile	9.910	41	2068765	232.92	ug/L		99
38) Isobutyl Alcohol	9.910	43	433436	404.99	ug/L	#	83
40) Carbon Tetrachloride	9.410	117	313463	25.77	ug/L	#	71
41) Benzene	9.880	78	1191916	22.97	ug/L		99
42) 1,2-Dichloroethane	10.086	62	328738	21.84	ug/L		99
43) Trichloroethene	10.450	130	249364	21.05	ug/L	#	78
44) Methyl cyclohexane	10.450	83	545136	21.39	ug/L		97
45) Dibromomethane	10.903	93	165729	20.52	ug/L		91
46) 1,2-Dichloropropane	10.985	63	320957	21.51	ug/L		98
47) Bromodichloromethane	11.020	83	331106	21.40	ug/L		98
48) Methyl Methacrylate	11.079	69	213806	18.40	ug/L		97
49) 1,4-Dioxane	11.196	88	51801	329.76	ug/L		91
50) 2-Chloroethyl vinyl ether	11.490	63	862819	95.57	ug/L		97
51) C-1,3-Dichloropropene	11.608	75	502562	21.35	ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM008.D
Acq On : 18 Jun 2021 9:56 am
Operator : kkw
Sample : aa66932-cal5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 18 10:34:37 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration

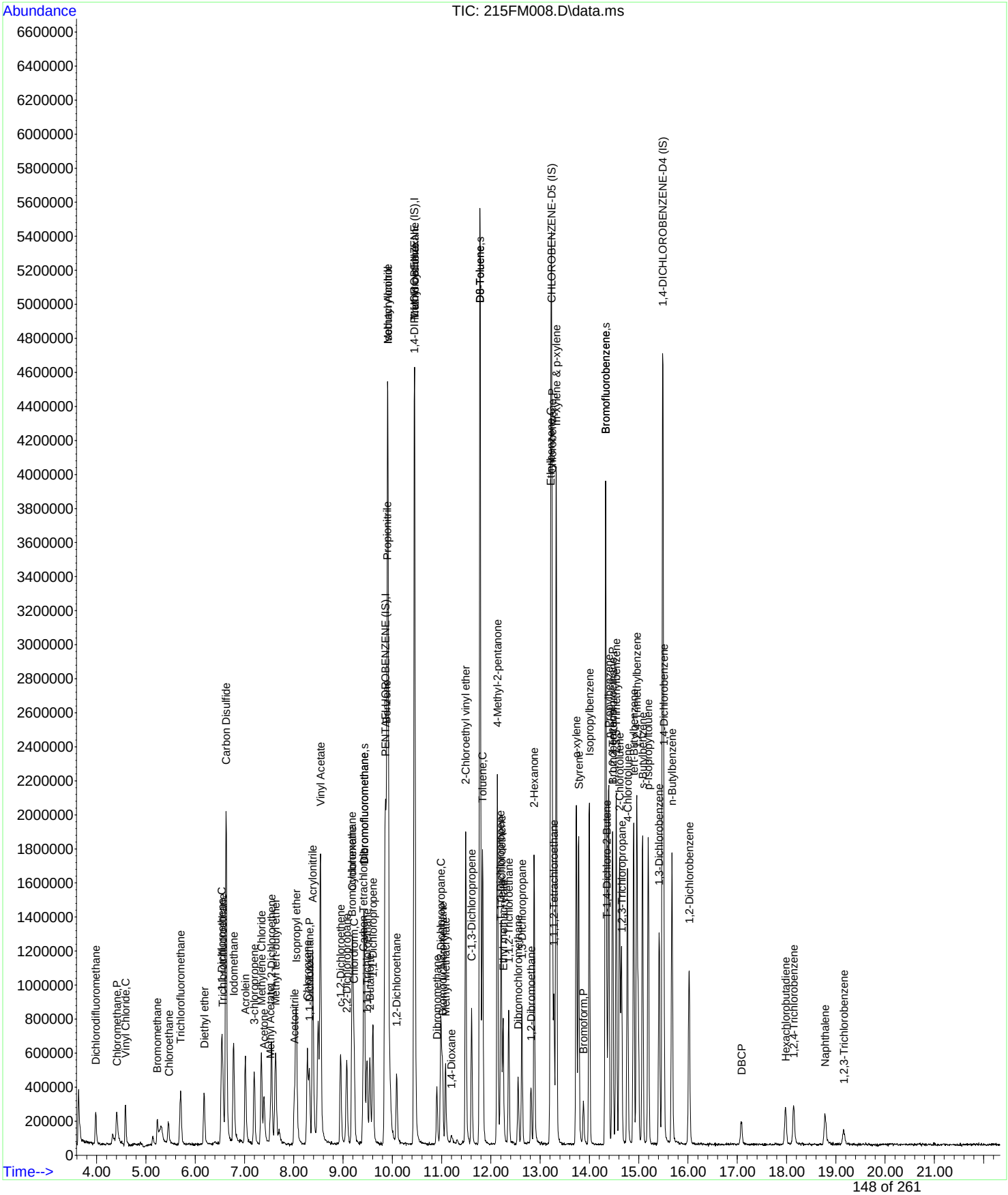
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
53) D8-Toluene	11.778	98	3846540	63.42 ug/L	95
54) 4-Methyl-2-pentanone	12.131	100	225597	85.61 ug/L	87
56) Toluene	11.831	92	775105	21.95 ug/L	100
57) T-1,3-Dichloropropene	12.195	75	401434	21.61 ug/L	97
58) Tetrachloroethene	12.213	164	174433	18.07 ug/L	94
59) Ethyl methacrylate	12.248	69	404512	18.58 ug/L	98
60) 1,1,2-Trichloroethane	12.360	97	264998	20.82 ug/L	99
61) Dibromochloromethane	12.554	129	214050	19.68 ug/L	96
62) 1,3-Dichloropropane	12.630	76	478862	20.18 ug/L	98
63) 1,2-Dibromoethane	12.812	107	261362	19.92 ug/L	100
64) 2-Hexanone	12.877	43	1090226	96.12 ug/L	98
65) Ethylbenzene	13.212	106	437376	20.55 ug/L	90
66) Chlorobenzene	13.241	112	788116	20.97 ug/L	98
67) 1,1,1,2-Tetrachloroethane	13.276	131	220728	19.47 ug/L	98
68) m-xylene & p-xylene	13.329	106	1185284	44.85 ug/L	95
69) o-xylene	13.735	106	588315	21.78 ug/L	100
70) Styrene	13.782	104	1002210	22.92 ug/L	98
71) Bromoform	13.876	173	115109	18.90 ug/L	97
72) Isopropylbenzene	13.999	105	1501750	22.09 ug/L	98
74) Bromofluorobenzene	14.328	95	1690729	62.94 ug/L #	75
75) n-Propylbenzene	14.393	91	1936701	22.38 ug/L	97
76) 1,1,2,2-Tetrachloroethane	14.469	83	466550	21.19 ug/L	97
77) 1,2,3-Trichloropropane	14.657	61	97684	16.87 ug/L #	79
78) T-1,4-Dichloro-2-Butene	14.351	53	132350	18.34 ug/L #	52
80) Bromobenzene	14.469	156	275454	21.99 ug/L	84
81) 1,2,4-Trimethylbenzene	14.963	105	1290180	24.99 ug/L	99
82) 2-Chlorotoluene	14.610	91	1123138	24.30 ug/L	98
83) 4-Chlorotoluene	14.775	91	1182452	25.62 ug/L	96
84) tert-Butylbenzene	14.898	119	1017327	23.19 ug/L	97
85) 1,3,5-Trimethylbenzene	14.540	105	1306656	25.17 ug/L	96
86) p-Isopropyltoluene	15.192	119	1250358	21.13 ug/L	97
87) s-Butylbenzene	15.080	105	1534533	24.60 ug/L	98
88) 1,3-Dichlorobenzene	15.415	146	566706	21.60 ug/L	93
89) 1,4-Dichlorobenzene	15.509	146	588831	21.79 ug/L #	76
90) n-Butylbenzene	15.673	91	1239760	21.40 ug/L	96
91) 1,2-Dichlorobenzene	16.026	146	515198	21.26 ug/L	93
92) DBCP	17.090	157	44628	15.22 ug/L	86
93) Hexachlorobutadiene	17.983	225	49921	14.50 ug/L	93
94) 1,2,4-Trichlorobenzene	18.141	180	103006	14.53 ug/L	95
95) Naphthalene	18.782	128	267664	14.07 ug/L	97
96) 1,2,3-Trichlorobenzene	19.164	180	39009	11.98 ug/L #	92

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM008.D
Acq On : 18 Jun 2021 9:56 am
Operator : kkw
Sample : aa66932-cal5
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 18 10:34:37 2021
Quant Method : C:\msdchem\1\methods\051221W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Thu May 13 10:05:21 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM009.D
Acq On : 18 Jun 2021 10:24 am
Operator : kkw
Sample : aa66932-cal6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jun 18 11:10:05 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Fri Jun 18 11:10:02 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.851	168	1101889	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2525815	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.223	82	1610233	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1271242	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	691769	52.47	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 104.94%				
52) D8-Toluene	11.778	98	3376143	55.48	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 110.96%				
73) Bromofluorobenzene	14.328	95	1488725	54.27	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 108.54%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	566892	50.85	ug/L		99
3) Chloromethane	4.404	50	760761	47.45	ug/L		98
4) Vinyl Chloride	4.586	62	716164	49.26	ug/L		88
5) Bromomethane	5.227	94	193576	31.84	ug/L		99
6) Chloroethane	5.444	64	316881	35.23	ug/L		95
7) Trichlorofluoromethane	5.697	101	846089	51.19	ug/L		100
8) Diethyl ether	6.178	59	555943	48.97	ug/L		98
9) 1,1-Dichloroethene	6.531	96	607719	52.83	ug/L		96
10) Trichlorotrifluoroethane	6.554	151	352293	48.81	ug/L		90
11) Acrolein	7.013	56	1477050	512.15	ug/L		100
12) Iodomethane	6.778	142	2614644	375.79	ug/L		97
13) Carbon Disulfide	6.625	76	8389451	262.62	ug/L		99
14) 3-chloropropene	7.195	41	986635	55.01	ug/L		99
15) Acetone	7.395	43	1078431	267.16	ug/L		100
16) Methylene Chloride	7.342	84	725279	47.73	ug/L		100
17) Methyl Acetate	7.518	43	551906	42.28	ug/L	#	95
18) t-1,2-Dichloroethene	7.547	96	668471	49.88	ug/L		97
19) Methyl tert-butyl ether	7.630	73	1745532	53.48	ug/L		99
20) Acetonitrile	8.006	41	1530457	504.36	ug/L		100
21) Isopropyl ether	8.047	45	2233077	54.63	ug/L		99
22) Chloroprene	8.270	88	624635	60.84	ug/L		96
23) 1,1-Dichloroethane	8.311	63	1268564	49.88	ug/L		100
24) Acrylonitrile	8.382	53	2947243	519.53	ug/L		99
25) Vinyl Acetate	8.534	43	7542136	300.62	ug/L		98
26) c-1,2-Dichloroethene	8.946	96	768544	54.92	ug/L		97
27) 2,2-Dichloropropane	9.075	77	961942	54.88	ug/L		98
28) Bromochloromethane	9.187	128	241159	41.87	ug/L		96
29) Cyclohexane	9.187	56	1378155	56.75	ug/L		96
30) Chloroform	9.222	83	1207625	49.58	ug/L		99
32) Dibromofluoromethane	9.428	113	691769	52.47	ug/L	#	90
33) 2-Butanone	9.539	72	545346	262.38	ug/L		99
34) 1,1,1-Trichloroethane	9.480	97	948191	54.29	ug/L		98
35) 1,1-Dichloropropene	9.604	75	1020890	51.58	ug/L		98
36) Propionitrile	9.892	54	1278807	483.73	ug/L		92
37) Methacrylonitrile	9.909	41	5156465	501.48	ug/L		100
38) Isobutyl Alcohol	9.950	43	1181083	1315.77	ug/L		97
40) Carbon Tetrachloride	9.410	117	719666	51.82	ug/L	#	94
41) Benzene	9.874	78	2915205	47.71	ug/L		99
42) 1,2-Dichloroethane	10.086	62	825333	45.49	ug/L		99
43) Trichloroethene	10.450	130	624288	50.54	ug/L		92
44) Methyl cyclohexane	10.450	83	1353707	36.45	ug/L		96
45) Dibromomethane	10.902	93	434739	49.73	ug/L		92
46) 1,2-Dichloropropane	10.985	63	849636	50.47	ug/L		99
47) Bromodichloromethane	11.014	83	875106	55.15	ug/L		99
48) Methyl Methacrylate	11.079	69	618545	63.20	ug/L		97
49) 1,4-Dioxane	11.202	88	139925	1066.27	ug/L		97
50) 2-Chloroethyl vinyl ether	11.484	63	2289741	306.35	ug/L		96
51) C-1,3-Dichloropropene	11.607	75	1342741	56.74	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM009.D
Acq On : 18 Jun 2021 10:24 am
Operator : kkw
Sample : aa66932-cal6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jun 18 11:10:05 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Fri Jun 18 11:10:02 2021
Response via : Initial Calibration

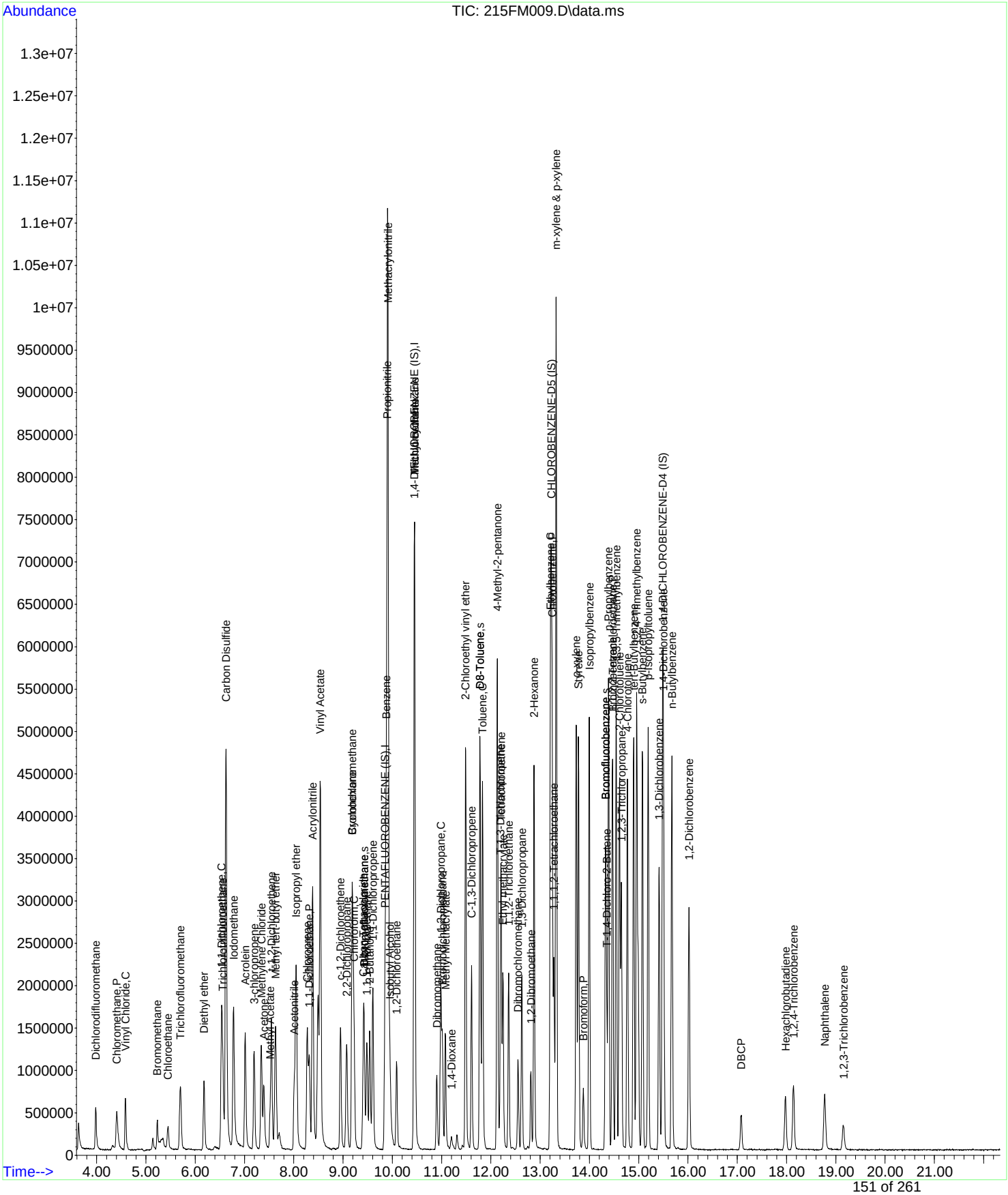
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	3376143	55.48	ug/L		96
54) 4-Methyl-2-pentanone	12.130	100	606010	275.54	ug/L		91
56) Toluene	11.831	92	2006031	50.07	ug/L		97
57) T-1,3-Dichloropropene	12.195	75	1052480	54.14	ug/L		99
58) Tetrachloroethene	12.207	164	440848	47.30	ug/L		94
59) Ethyl methacrylate	12.242	69	1112969	66.12	ug/L		100
60) 1,1,2-Trichloroethane	12.360	97	683667	50.59	ug/L		98
61) Dibromochloromethane	12.548	129	579595	61.98	ug/L		99
62) 1,3-Dichloropropane	12.630	76	1280096	52.68	ug/L		98
63) 1,2-Dibromoethane	12.812	107	708335	53.68	ug/L	#	98
64) 2-Hexanone	12.877	43	2942276	299.51	ug/L		99
65) Ethylbenzene	13.206	106	1154029	52.29	ug/L		93
66) Chlorobenzene	13.241	112	1987083	50.12	ug/L		98
67) 1,1,1,2-Tetrachloroethane	13.276	131	588973	53.81	ug/L		98
68) m-xylene & p-xylene	13.323	106	2897847	99.04	ug/L		95
69) o-xylene	13.729	106	1480227	53.50	ug/L		94
70) Styrene	13.775	104	2515821	61.21	ug/L		98
71) Bromoform	13.875	173	316758	63.73	ug/L		90
72) Isopropylbenzene	13.999	105	3820687	54.01	ug/L		97
74) Bromofluorobenzene	14.328	95	1488725	54.27	ug/L	#	75
75) n-Propylbenzene	14.387	91	4988753	53.59	ug/L		98
76) 1,1,2,2-Tetrachloroethane	14.469	83	1173606	51.05	ug/L		98
77) 1,2,3-Trichloropropane	14.651	61	258789	44.09	ug/L		84
78) T-1,4-Dichloro-2-Butene	14.351	53	339718	52.37	ug/L		89
80) Bromobenzene	14.469	156	704271	52.43	ug/L		80
81) 1,2,4-Trimethylbenzene	14.957	105	3383669	57.85	ug/L		98
82) 2-Chlorotoluene	14.610	91	2945298	54.40	ug/L		97
83) 4-Chlorotoluene	14.768	91	3058188	57.02	ug/L		97
84) tert-Butylbenzene	14.898	119	2702281	56.48	ug/L		96
85) 1,3,5-Trimethylbenzene	14.545	105	3401507	57.23	ug/L		97
86) p-Isopropyltoluene	15.192	119	3319147	58.70	ug/L		97
87) s-Butylbenzene	15.074	105	4096072	57.37	ug/L		99
88) 1,3-Dichlorobenzene	15.415	146	1494905	53.19	ug/L		93
89) 1,4-Dichlorobenzene	15.503	146	1488014	49.92	ug/L		91
90) n-Butylbenzene	15.673	91	3375228	60.91	ug/L		97
91) 1,2-Dichlorobenzene	16.020	146	1375072	53.70	ug/L		95
92) DBCP	17.078	157	141044	63.73	ug/L		98
93) Hexachlorobutadiene	17.982	225	142097	61.92	ug/L	#	90
94) 1,2,4-Trichlorobenzene	18.141	180	313560	74.05	ug/L		92
95) Naphthalene	18.776	128	896222	85.25	ug/L		100
96) 1,2,3-Trichlorobenzene	19.158	180	138934	74.50	ug/L	#	92

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM009.D
Acq On : 18 Jun 2021 10:24 am
Operator : kkw
Sample : aa66932-cal6
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jun 18 11:10:05 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Fri Jun 18 11:10:02 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM010.D
Acq On : 18 Jun 2021 10:52 am
Operator : kkw
Sample : aa66932-cal7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 18 11:43:10 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Fri Jun 18 11:11:17 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.851	168	1123435	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2544231	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1714182	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1273276	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	918978	67.81	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 135.62%#				
52) D8-Toluene	11.778	98	4433031	71.03	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 142.06%#				
73) Bromofluorobenzene	14.328	95	2000166	67.53	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 135.06%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	932562	81.81	ug/L		98
3) Chloromethane	4.404	50	1300917	83.08	ug/L		100
4) Vinyl Chloride	4.580	62	1219487	82.47	ug/L		96
5) Bromomethane	5.232	94	362884	62.32	ug/L		96
6) Chloroethane	5.432	64	417887	47.93	ug/L		96
7) Trichlorofluoromethane	5.691	101	1408032	83.22	ug/L		100
8) Diethyl ether	6.178	59	932975	80.89	ug/L		99
9) 1,1-Dichloroethene	6.531	96	963951	81.42	ug/L		99
10) Trichlorotrifluoroethane	6.554	151	553174	75.47	ug/L		99
11) Acrolein	7.013	56	2505933	848.80	ug/L		99
12) Iodomethane	6.778	142	4278069	556.41	ug/L		99
13) Carbon Disulfide	6.619	76	13076901	398.15	ug/L		99
14) 3-chloropropene	7.195	41	1588991	85.47	ug/L		97
15) Acetone	7.389	43	1861072	447.08	ug/L		99
16) Methylene Chloride	7.336	84	1216081	79.10	ug/L		97
17) Methyl Acetate	7.512	43	977153	75.35	ug/L	#	96
18) t-1,2-Dichloroethene	7.542	96	1074638	78.68	ug/L		97
19) Methyl tert-butyl ether	7.630	73	2897495	86.08	ug/L		99
20) Acetonitrile	8.006	41	2616075	844.36	ug/L		99
21) Isopropyl ether	8.047	45	3676890	86.89	ug/L		99
22) Chloroprene	8.270	88	1026205	94.62	ug/L		99
23) 1,1-Dichloroethane	8.311	63	2065602	79.70	ug/L		99
24) Acrylonitrile	8.382	53	5029725	863.99	ug/L		98
25) Vinyl Acetate	8.535	43	12211820	461.83	ug/L		99
26) c-1,2-Dichloroethene	8.946	96	1216730	83.90	ug/L		97
27) 2,2-Dichloropropane	9.069	77	1594058	87.77	ug/L		100
28) Bromochloromethane	9.181	128	379875	66.49	ug/L		99
29) Cyclohexane	9.193	56	2188095	86.42	ug/L		98
30) Chloroform	9.222	83	1956175	78.88	ug/L		98
32) Dibromofluoromethane	9.428	113	918978	67.81	ug/L	#	88
33) 2-Butanone	9.539	72	952951	446.02	ug/L		95
34) 1,1,1-Trichloroethane	9.481	97	1534822	84.98	ug/L		99
35) 1,1-Dichloropropene	9.604	75	1668352	82.24	ug/L		99
36) Propionitrile	9.898	54	2058819	768.01	ug/L		97
37) Methacrylonitrile	9.909	41	8187682	780.62	ug/L		98
38) Isobutyl Alcohol	9.951	43	1979594	2054.90	ug/L		96
40) Carbon Tetrachloride	9.410	117	1365433	97.02	ug/L		86
41) Benzene	9.874	78	4591902	75.18	ug/L		99
42) 1,2-Dichloroethane	10.086	62	1375316	76.41	ug/L		98
43) Trichloroethene	10.450	130	985071	79.02	ug/L		99
44) Methyl cyclohexane	10.450	83	2150686	60.21	ug/L		98
45) Dibromomethane	10.897	93	718501	81.67	ug/L		99
46) 1,2-Dichloropropane	10.985	63	1381434	81.34	ug/L		98
47) Bromodichloromethane	11.014	83	1457563	89.66	ug/L		100
48) Methyl Methacrylate	11.073	69	1042641	101.31	ug/L		100
49) 1,4-Dioxane	11.202	88	245538	1837.24	ug/L		99
50) 2-Chloroethyl vinyl ether	11.490	63	3769965	482.61	ug/L		99
51) C-1,3-Dichloropropene	11.607	75	2205891	90.51	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM010.D
Acq On : 18 Jun 2021 10:52 am
Operator : kkw
Sample : aa66932-cal7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 18 11:43:10 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Fri Jun 18 11:11:17 2021
Response via : Initial Calibration

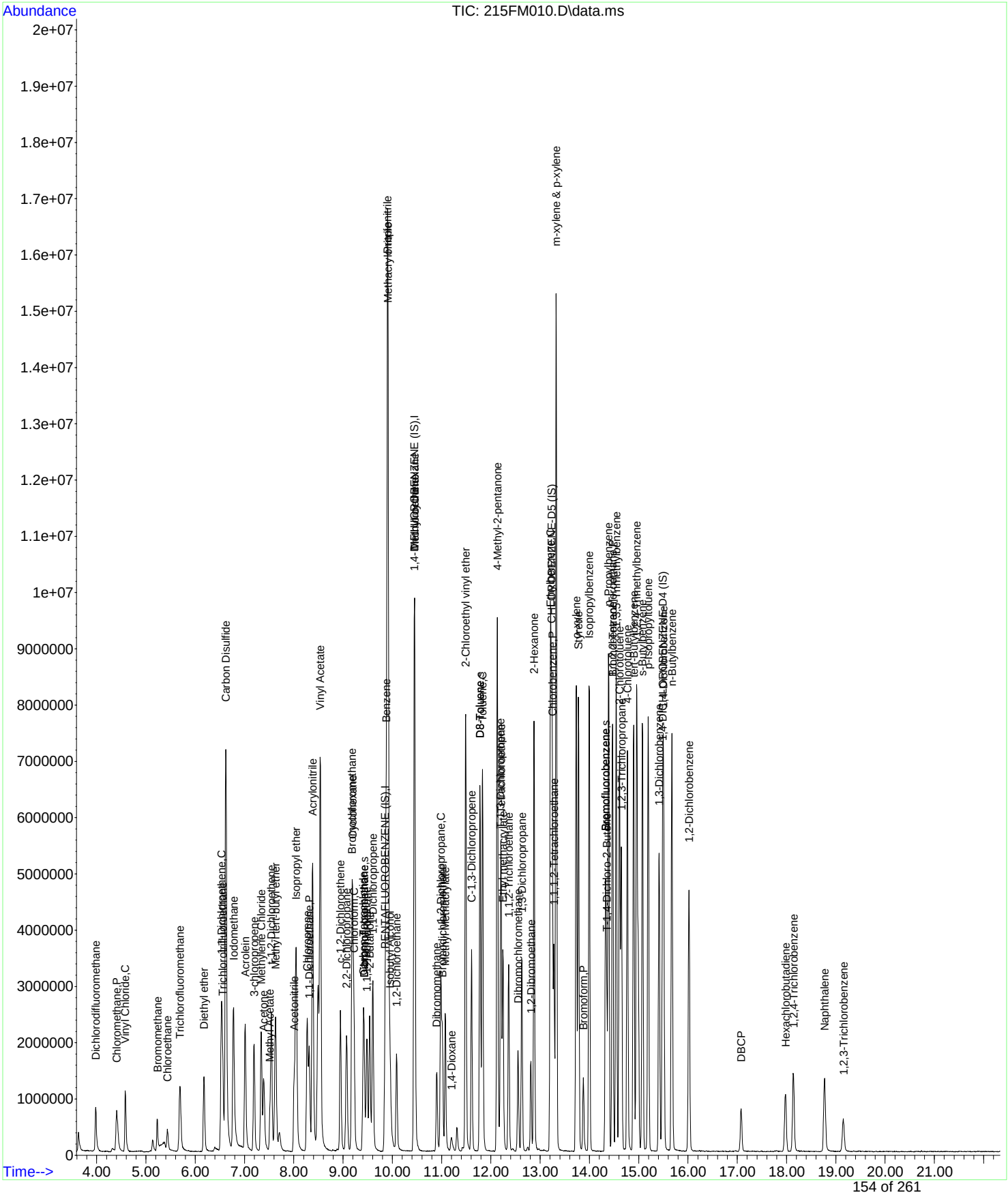
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	4433031	71.03	ug/L		95
54) 4-Methyl-2-pentanone	12.130	100	991775	440.18	ug/L		96
56) Toluene	11.831	92	3174215	74.41	ug/L		100
57) T-1,3-Dichloropropene	12.195	75	1728113	82.37	ug/L		99
58) Tetrachloroethene	12.207	164	701519	71.35	ug/L		98
59) Ethyl methacrylate	12.242	69	1898301	100.53	ug/L		99
60) 1,1,2-Trichloroethane	12.360	97	1142283	79.24	ug/L		98
61) Dibromochloromethane	12.553	129	998555	96.45	ug/L		99
62) 1,3-Dichloropropane	12.630	76	2158658	82.71	ug/L		100
63) 1,2-Dibromoethane	12.812	107	1195729	84.09	ug/L		99
64) 2-Hexanone	12.877	43	4994708	462.34	ug/L		99
65) Ethylbenzene	13.206	106	1871305	79.04	ug/L		96
66) Chlorobenzene	13.247	112	3189012	75.53	ug/L		100
67) 1,1,1,2-Tetrachloroethane	13.282	131	1009037	85.52	ug/L		97
68) m-xylene & p-xylene	13.323	106	4541007	146.02	ug/L		97
69) o-xylene	13.734	106	2417387	81.13	ug/L		99
70) Styrene	13.776	104	4206117	92.66	ug/L		99
71) Bromoform	13.875	173	575403	103.99	ug/L		98
72) Isopropylbenzene	13.993	105	6066459	79.50	ug/L		98
74) Bromofluorobenzene	14.328	95	2000166	67.53	ug/L	#	75
75) n-Propylbenzene	14.387	91	7982408	79.59	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.469	83	1985210	80.84	ug/L		98
77) 1,2,3-Trichloropropane	14.651	61	457507	74.69	ug/L		94
78) T-1,4-Dichloro-2-Butene	14.351	53	625157	89.82	ug/L		90
80) Bromobenzene	14.469	156	1148624	84.69	ug/L		100
81) 1,2,4-Trimethylbenzene	14.957	105	5391829	89.68	ug/L		99
82) 2-Chlorotoluene	14.610	91	4808303	87.39	ug/L		99
83) 4-Chlorotoluene	14.769	91	4948469	90.01	ug/L		100
84) tert-Butylbenzene	14.898	119	4242901	86.67	ug/L		98
85) 1,3,5-Trimethylbenzene	14.545	105	5336569	87.53	ug/L		98
86) p-Isopropyltoluene	15.192	119	5201226	89.25	ug/L		99
87) s-Butylbenzene	15.074	105	6457795	88.14	ug/L		100
88) 1,3-Dichlorobenzene	15.415	146	2387561	83.92	ug/L		99
89) 1,4-Dichlorobenzene	15.503	146	2416825	80.97	ug/L		96
90) n-Butylbenzene	15.673	91	5350880	93.02	ug/L		99
91) 1,2-Dichlorobenzene	16.020	146	2208490	85.06	ug/L		97
92) DBCP	17.078	157	246775	106.45	ug/L		95
93) Hexachlorobutadiene	17.982	225	250885	104.97	ug/L		96
94) 1,2,4-Trichlorobenzene	18.141	180	577702	126.10	ug/L		97
95) Naphthalene	18.770	128	1722375	146.37	ug/L		100
96) 1,2,3-Trichlorobenzene	19.158	180	265407	131.36	ug/L		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM010.D
Acq On : 18 Jun 2021 10:52 am
Operator : kkw
Sample : aa66932-cal7
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 18 11:43:10 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Fri Jun 18 11:11:17 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM011.D
Acq On : 18 Jun 2021 11:20 am
Operator : kkw
Sample : aa66932-cal8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jun 18 11:43:26 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Fri Jun 18 11:11:17 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.851	168	1129487	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2502919	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.223	82	1697989	50.00	ug/L	#	0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1266610	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	988078	72.52	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 145.04%#				
52) D8-Toluene	11.778	98	4733786	77.10	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 154.20%#				
73) Bromofluorobenzene	14.328	95	2175091	74.14	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 148.28%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	1159014	101.13	ug/L		99
3) Chloromethane	4.404	50	1831210	116.32	ug/L		100
4) Vinyl Chloride	4.580	62	1565349	105.29	ug/L		96
5) Bromomethane	5.227	94	478379	81.72	ug/L		98
6) Chloroethane	5.432	64	388830	44.36	ug/L		97
7) Trichlorofluoromethane	5.685	101	1776302	104.42	ug/L		99
8) Diethyl ether	6.179	59	1207374	104.12	ug/L		99
9) 1,1-Dichloroethene	6.531	96	1251271	105.12	ug/L		99
10) Trichlorotrifluoroethane	6.555	151	706618	95.89	ug/L		98
11) Acrolein	7.013	56	3300114	1111.81	ug/L		100
12) Iodomethane	6.772	142	5419952	701.14	ug/L		99
13) Carbon Disulfide	6.619	76	16040976	485.79	ug/L		99
14) 3-chloropropene	7.189	41	1865214	99.79	ug/L		99
15) Acetone	7.395	43	2495282	596.23	ug/L		100
16) Methylene Chloride	7.336	84	1513458	97.91	ug/L		95
17) Methyl Acetate	7.518	43	1317924	101.09	ug/L		96
18) t-1,2-Dichloroethene	7.542	96	1370279	99.79	ug/L		99
19) Methyl tert-butyl ether	7.630	73	3836963	113.38	ug/L		99
20) Acetonitrile	8.012	41	3525661	1131.84	ug/L		99
21) Isopropyl ether	8.047	45	4718235	110.90	ug/L		99
22) Chloroprene	8.270	88	1332291	122.18	ug/L		99
23) 1,1-Dichloroethane	8.311	63	2603426	99.91	ug/L		100
24) Acrylonitrile	8.382	53	6578133	1123.92	ug/L		100
25) Vinyl Acetate	8.535	43	15529950	584.17	ug/L		98
26) c-1,2-Dichloroethene	8.946	96	1558869	106.91	ug/L		98
27) 2,2-Dichloropropane	9.069	77	2012990	110.25	ug/L		99
28) Bromochloromethane	9.181	128	448159	78.02	ug/L		100
29) Cyclohexane	9.187	56	2739986	107.64	ug/L		98
30) Chloroform	9.216	83	2478369	99.41	ug/L		99
32) Dibromofluoromethane	9.428	113	988078	72.52	ug/L	#	89
33) 2-Butanone	9.539	72	1250560	582.17	ug/L		99
34) 1,1,1-Trichloroethane	9.486	97	1930104	106.29	ug/L		99
35) 1,1-Dichloropropene	9.604	75	2074189	101.70	ug/L		99
36) Propionitrile	9.898	54	2668820	990.22	ug/L		96
37) Methacrylonitrile	9.909	41	10381958	984.52	ug/L		97
38) Isobutyl Alcohol	9.951	43	2662337	2748.81	ug/L		94
40) Carbon Tetrachloride	9.410	117	1460734	105.50	ug/L		88
41) Benzene	9.874	78	5755966	95.80	ug/L		99
42) 1,2-Dichloroethane	10.086	62	1753855	99.05	ug/L		99
43) Trichloroethene	10.450	130	1242836	101.35	ug/L		97
44) Methyl cyclohexane	10.450	83	2682040	76.33	ug/L		99
45) Dibromomethane	10.902	93	902694	104.30	ug/L		100
46) 1,2-Dichloropropane	10.985	63	1779650	106.51	ug/L		99
47) Bromodichloromethane	11.014	83	1859933	116.30	ug/L		100
48) Methyl Methacrylate	11.073	69	1410763	139.34	ug/L		97
49) 1,4-Dioxane	11.196	88	336711	2561.02	ug/L		97
50) 2-Chloroethyl vinyl ether	11.490	63	4851460	631.31	ug/L		99
51) C-1,3-Dichloropropene	11.608	75	2794072	116.53	ug/L		98

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM011.D
Acq On : 18 Jun 2021 11:20 am
Operator : kkw
Sample : aa66932-cal8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jun 18 11:43:26 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Fri Jun 18 11:11:17 2021
Response via : Initial Calibration

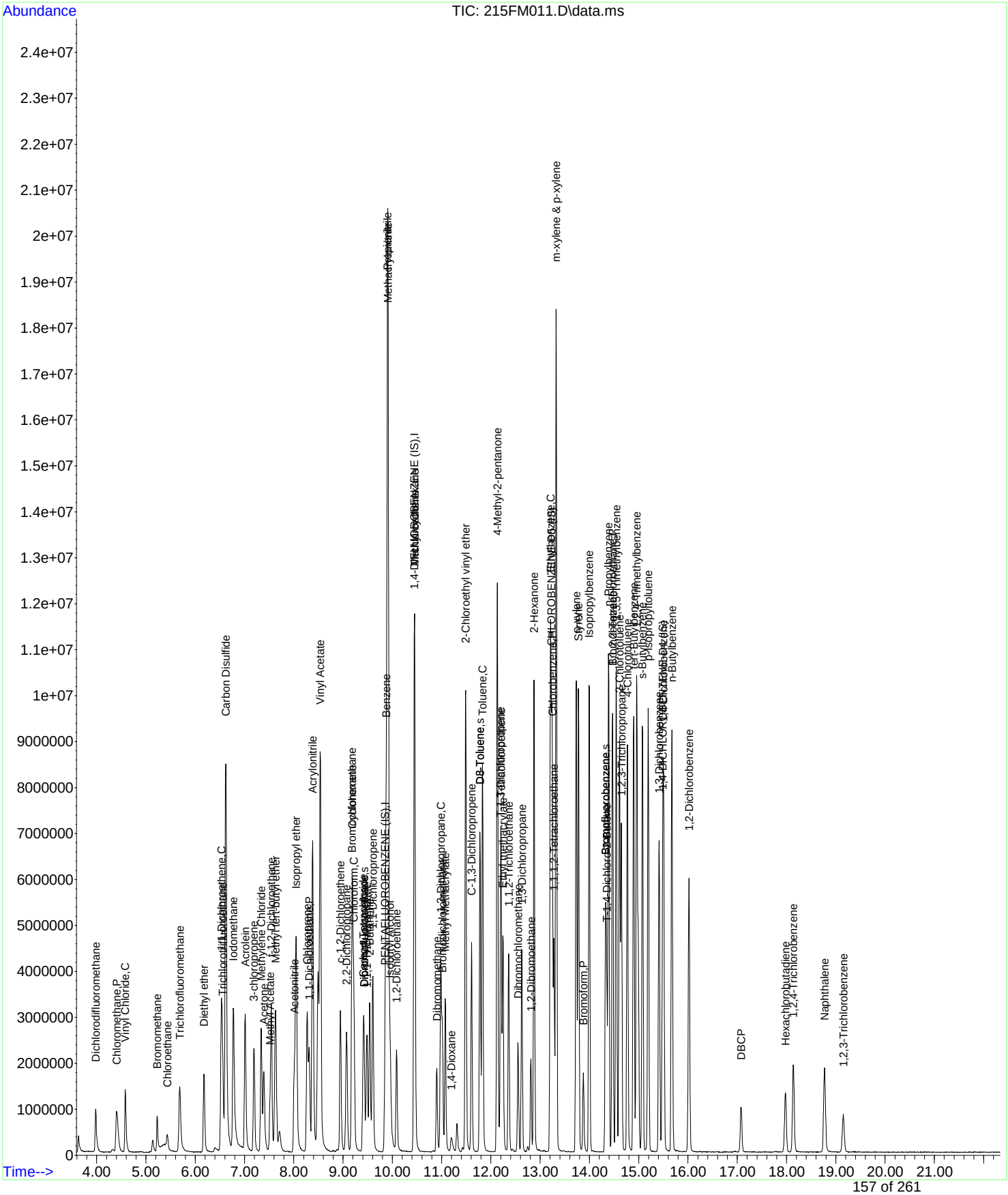
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	4731800	77.06	ug/L		97
54) 4-Methyl-2-pentanone	12.130	100	1330324	600.19	ug/L		99
56) Toluene	11.831	92	3937479	93.18	ug/L		98
57) T-1,3-Dichloropropene	12.195	75	2202638	105.99	ug/L		99
58) Tetrachloroethene	12.207	164	889715	91.35	ug/L		99
59) Ethyl methacrylate	12.242	69	2533929	135.48	ug/L		99
60) 1,1,2-Trichloroethane	12.360	97	1448881	101.47	ug/L		98
61) Dibromochloromethane	12.554	129	1315027	128.23	ug/L		99
62) 1,3-Dichloropropane	12.630	76	2753469	106.50	ug/L		99
63) 1,2-Dibromoethane	12.812	107	1520543	107.96	ug/L		98
64) 2-Hexanone	12.877	43	6710633	627.10	ug/L		100
65) Ethylbenzene	13.212	106	2353358	100.35	ug/L		94
66) Chlorobenzene	13.247	112	3959910	94.69	ug/L		98
67) 1,1,1,2-Tetrachloroethane	13.276	131	1264489	108.19	ug/L		98
68) m-xylene & p-xylene	13.323	106	5509138	178.84	ug/L		95
69) o-xylene	13.735	106	3022266	102.40	ug/L		98
70) Styrene	13.776	104	5266090	117.12	ug/L		98
71) Bromoform	13.876	173	754354	137.63	ug/L		97
72) Isopropylbenzene	13.993	105	7556057	99.96	ug/L		99
74) Bromofluorobenzene	14.328	95	2175091	74.14	ug/L	#	75
75) n-Propylbenzene	14.387	91	9784340	98.49	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.469	83	2499500	102.75	ug/L		98
77) 1,2,3-Trichloropropane	14.651	61	569211	93.81	ug/L		98
78) T-1,4-Dichloro-2-Butene	14.351	53	814740	118.18	ug/L		89
80) Bromobenzene	14.469	156	1450425	107.50	ug/L		100
81) 1,2,4-Trimethylbenzene	14.957	105	6619787	110.69	ug/L		100
82) 2-Chlorotoluene	14.610	91	6041910	110.39	ug/L		99
83) 4-Chlorotoluene	14.769	91	6177797	112.96	ug/L		99
84) tert-Butylbenzene	14.898	119	5257735	107.96	ug/L		97
85) 1,3,5-Trimethylbenzene	14.545	105	6695668	110.40	ug/L		99
86) p-Isopropyltoluene	15.192	119	6418293	110.72	ug/L		99
87) s-Butylbenzene	15.074	105	8000918	109.78	ug/L		99
88) 1,3-Dichlorobenzene	15.415	146	3008346	106.30	ug/L		98
89) 1,4-Dichlorobenzene	15.503	146	2972784	100.12	ug/L		96
90) n-Butylbenzene	15.673	91	6678774	116.72	ug/L		99
91) 1,2-Dichlorobenzene	16.020	146	2797662	108.32	ug/L		97
92) DBCP	17.078	157	347030	150.48	ug/L		96
93) Hexachlorobutadiene	17.977	225	318853	134.11	ug/L		95
94) 1,2,4-Trichlorobenzene	18.135	180	778725	170.88	ug/L		95
95) Naphthalene	18.770	128	2428103	207.43	ug/L		99
96) 1,2,3-Trichlorobenzene	19.152	180	365181	181.70	ug/L		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM011.D
Acq On : 18 Jun 2021 11:20 am
Operator : kkw
Sample : aa66932-cal8
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jun 18 11:43:26 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Fri Jun 18 11:11:17 2021
Response via : Initial Calibration



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Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM013.D
Acq On : 18 Jun 2021 12:15 pm
Operator : kkw
Sample : aa66932-scv1
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jun 21 07:55:38 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Mon Jun 21 07:54:29 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) PENTAFLUOROBENZENE (IS)	9.857	168	1128318	50.00	ug/L		0.00
39) 1,4-DIFLUOROBENZENE (IS)	10.444	114	2499257	50.00	ug/L		0.00
55) CHLOROBENZENE-D5 (IS)	13.229	82	1604968	50.00	ug/L		0.00
79) 1,4-DICHLOROBENZENE-D4...	15.485	152	1259307	50.00	ug/L		0.00
System Monitoring Compounds							
31) Dibromofluoromethane	9.428	113	675508	50.03	ug/L		0.00
Spiked Amount 50.000	Range 72 - 133		Recovery = 100.06%				
52) D8-Toluene	11.778	98	3378392	54.81	ug/L		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 109.62%				
73) Bromofluorobenzene	14.328	95	1508083	54.70	ug/L		0.00
Spiked Amount 50.000	Range 75 - 120		Recovery = 109.40%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.981	85	317681	27.37	ug/L		100
3) Chloromethane	4.410	50	382583	22.81	ug/L		98
4) Vinyl Chloride	4.586	62	307174	20.47	ug/L		93
5) Bromomethane	5.232	94	84016	21.54	ug/L	#	96
6) Chloroethane	5.450	64	132898	15.76	ug/L		96
7) Trichlorofluoromethane	5.703	101	347490	20.24	ug/L		99
8) Diethyl ether	6.178	59	634347	54.40	ug/L		100
9) 1,1-Dichloroethene	6.531	96	677949	56.53	ug/L		99
10) Trichlorotrifluoroethane	6.554	151	411529	56.60	ug/L		94
11) Acrolein	7.013	56	629146	207.69	ug/L		99
12) Iodomethane	6.778	142	503465	49.88	ug/L		98
13) Carbon Disulfide	6.625	76	2348205	65.60	ug/L		99
14) 3-chloropropene	7.195	41	1236698	62.45	ug/L		98
15) Acetone	7.389	43	1243457	259.52	ug/L		99
16) Methylene Chloride	7.342	84	787950	51.23	ug/L		94
17) Methyl Acetate	7.518	43	734153	58.35	ug/L		96
18) t-1,2-Dichloroethene	7.547	96	754914	55.16	ug/L		98
19) Methyl tert-butyl ether	7.630	73	1953142	56.30	ug/L		95
20) Acetonitrile	8.018	41	1104090	346.70	ug/L		92
21) Isopropyl ether	8.047	45	2555237	58.69	ug/L		97
22) Chloroprene	8.276	88	718883	54.97	ug/L		98
23) 1,1-Dichloroethane	8.311	63	1463462	56.25	ug/L		99
24) Acrylonitrile	8.388	53	417621	69.65	ug/L		94
25) Vinyl Acetate	8.540	43	1576358	51.05	ug/L		100
26) c-1,2-Dichloroethene	8.946	96	833017	56.36	ug/L		99
27) 2,2-Dichloropropane	9.069	77	1104018	59.05	ug/L		98
28) Bromochloromethane	9.181	128	266462	48.81	ug/L		94
29) Cyclohexane	9.193	56	1561550	60.23	ug/L		99
30) Chloroform	9.222	83	1344676	54.12	ug/L		99
32) Dibromofluoromethane	9.428	113	675508	50.03	ug/L	#	86
33) 2-Butanone	9.539	72	631495	284.35	ug/L		97
34) 1,1,1-Trichloroethane	9.486	97	1061984	57.64	ug/L		99
35) 1,1-Dichloropropene	9.604	75	1126769	55.00	ug/L		100
36) Propionitrile	9.898	54	180773	67.56	ug/L	#	1
37) Methacrylonitrile	9.909	41	863237	82.35	ug/L	#	79
38) Isobutyl Alcohol	9.904	43	695681	543.32	ug/L	#	77
40) Carbon Tetrachloride	9.410	117	785492m	54.98	ug/L		
41) Benzene	9.874	78	3370646	56.91	ug/L		98
42) 1,2-Dichloroethane	10.086	62	925481	52.70	ug/L		100
43) Trichloroethene	10.450	130	679710	55.50	ug/L		97
44) Methyl cyclohexane	10.450	83	1523625	57.08	ug/L		99
45) Dibromomethane	10.902	93	463343	53.19	ug/L		98
46) 1,2-Dichloropropane	10.985	63	935139	55.48	ug/L		99
47) Bromodichloromethane	11.014	83	989499	59.84	ug/L		99
48) Methyl Methacrylate	11.073	69	699733	52.49	ug/L		97
49) 1,4-Dioxane	11.196	88	169592	1185.40	ug/L		94
50) 2-Chloroethyl vinyl ether	11.490	63	2580815	273.44	ug/L		100
51) C-1,3-Dichloropropene	11.607	75	1403408	56.52	ug/L		97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM013.D
Acq On : 18 Jun 2021 12:15 pm
Operator : kkw
Sample : aa66932-scv1
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jun 21 07:55:38 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Mon Jun 21 07:54:29 2021
Response via : Initial Calibration

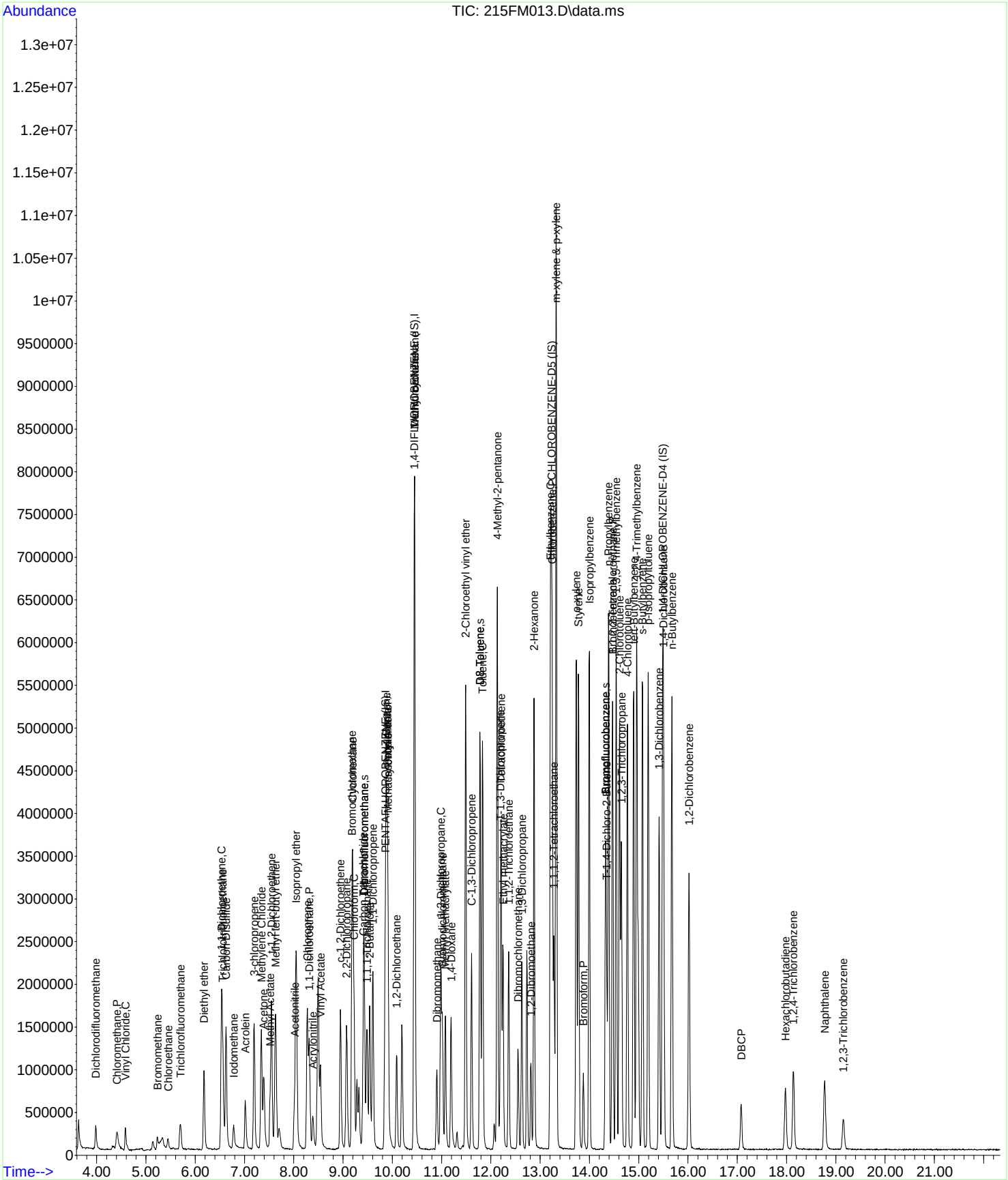
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) D8-Toluene	11.778	98	3378392	54.81	ug/L		97
54) 4-Methyl-2-pentanone	12.130	100	688870	299.97	ug/L		97
56) Toluene	11.831	92	2210166	56.31	ug/L		97
57) T-1,3-Dichloropropene	12.195	75	1206284	60.73	ug/L		99
58) Tetrachloroethene	12.207	164	499288	55.59	ug/L		97
59) Ethyl methacrylate	12.248	69	1298219	56.33	ug/L		98
60) 1,1,2-Trichloroethane	12.360	97	758031	56.13	ug/L		98
61) Dibromochloromethane	12.553	129	658705	54.77	ug/L		99
62) 1,3-Dichloropropane	12.630	76	1377135	55.67	ug/L		98
63) 1,2-Dibromoethane	12.812	107	779275	57.59	ug/L		99
64) 2-Hexanone	12.877	43	3434594	281.62	ug/L		100
65) Ethylbenzene	13.206	106	1325600	59.87	ug/L		94
66) Chlorobenzene	13.241	112	2236687	57.36	ug/L		99
67) 1,1,1,2-Tetrachloroethane	13.276	131	673028	59.79	ug/L		97
68) m-xylene & p-xylene	13.323	106	3160551	111.23	ug/L		99
69) o-xylene	13.734	106	1680946	59.97	ug/L		99
70) Styrene	13.776	104	2944712	59.32	ug/L		98
71) Bromoform	13.875	173	377979	55.12	ug/L		99
72) Isopropylbenzene	13.999	105	4302693	58.22	ug/L		100
74) Bromofluorobenzene	14.328	95	1508083	54.70	ug/L	#	75
75) n-Propylbenzene	14.387	91	5648912	58.42	ug/L		99
76) 1,1,2,2-Tetrachloroethane	14.469	83	1301910	56.35	ug/L		100
77) 1,2,3-Trichloropropane	14.651	61	278456	52.08	ug/L		97
78) T-1,4-Dichloro-2-Butene	14.345	53	414145	61.22	ug/L		97
80) Bromobenzene	14.469	156	792623	58.12	ug/L		98
81) 1,2,4-Trimethylbenzene	14.957	105	3805773	57.25	ug/L		100
82) 2-Chlorotoluene	14.610	91	3324563	59.63	ug/L		99
83) 4-Chlorotoluene	14.769	91	3457410	56.52	ug/L		99
84) tert-Butylbenzene	14.898	119	3023903	57.64	ug/L		99
85) 1,3,5-Trimethylbenzene	14.539	105	3786947	56.99	ug/L		99
86) p-Isopropyltoluene	15.192	119	3793402	59.08	ug/L		100
87) s-Butylbenzene	15.074	105	4663834	58.46	ug/L		99
88) 1,3-Dichlorobenzene	15.415	146	1701572	59.64	ug/L		99
89) 1,4-Dichlorobenzene	15.503	146	1674850	56.64	ug/L		99
90) n-Butylbenzene	15.673	91	3858101	58.23	ug/L		99
91) 1,2-Dichlorobenzene	16.020	146	1570468	57.05	ug/L		99
92) DBCP	17.084	157	166845	58.77	ug/L		92
93) Hexachlorobutadiene	17.977	225	175248	56.84	ug/L		92
94) 1,2,4-Trichlorobenzene	18.135	180	387780	59.56	ug/L		99
95) Naphthalene	18.776	128	1102665	59.02	ug/L		98
96) 1,2,3-Trichlorobenzene	19.146	180	163143	57.21	ug/L		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\061821\
Data File : 215FM013.D
Acq On : 18 Jun 2021 12:15 pm
Operator : kkw
Sample : aa66932-scv1
Misc :
ALS Vial : 11 Sample Multiplier: 1

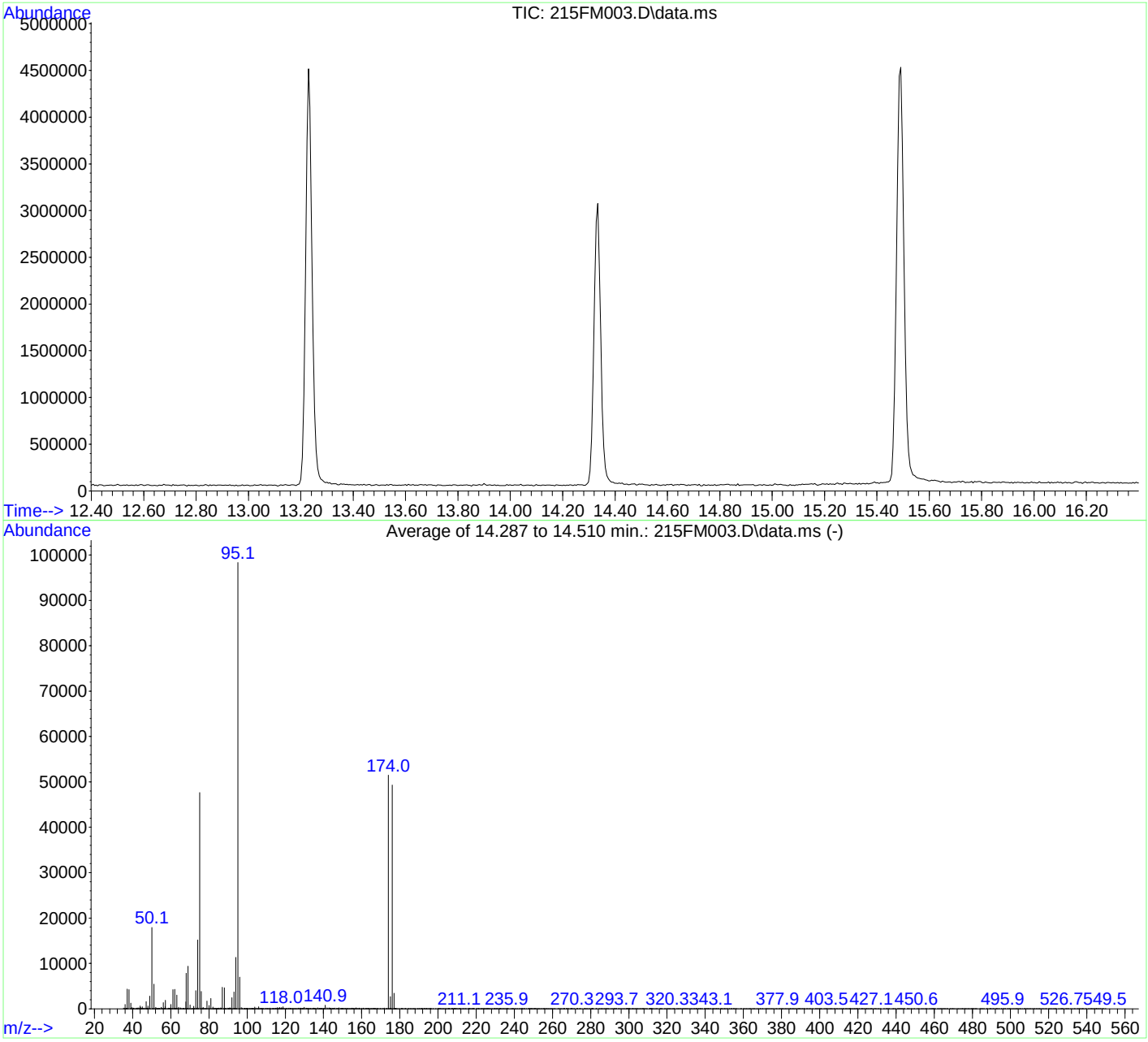
Quant Time: Jun 21 07:55:38 2021
Quant Method : C:\msdchem\1\methods\061821W.M
Quant Title : ENCO SOP VGCMS05; Element Cal 2105058
QLast Update : Mon Jun 21 07:54:29 2021
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\061821\
Data File : 215FM003.D
Acq On : 18 Jun 2021 7:34 am
Operator : kkw
Sample : tun1
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\methods\061821W.M
Title : ENCO SOP VGCMS05; Element Cal 2106098
Last Update : Mon Jun 21 08:16:13 2021



Spectrum Information: Average of 14.287 to 14.510 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
95	174	50	200	191.0	98343	PASS
96	95	5	9	7.1	6939	PASS
173	174	0.00	2	0.2	110	PASS
174	95	50	200	52.3	51480	PASS
175	174	5	9	5.2	2692	PASS
176	174	95	105	95.8	49319	PASS
177	176	5	10	7.0	3428	PASS

ENCO Orlando

SDG: AE05483-TE016

CLASS: 06_VOA_AIR_RSK

METHOD: RSK 175

ANALYSES DATA PACKAGE COVER PAGE

RSK 175

Laboratory: ENCO Orlando

SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-MW0018-058.0-20210726	AE05483-02
CRCA-MW0018-058.0-20210726	AE05483-02RE1
CRCA-MW0031-058.0-20210726	AE05483-06
CRCA-MW0019-058.0-20210726	AE05483-07

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0018-058.0-20210726

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE05483-02
File ID: 21GW008.D
Sampled: 07/26/21 10:00
Prepared: 07/28/21 00:00
Analyzed: 07/28/21 11:22
Solids:
Preparation: Same
Initial/Final: 1 mL / 1 mL
Batch: 1G28011
Sequence: AA67536
Calibration: 2102005
Instrument: OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-85-1	Ethene	1	0.00842		0.00510	0.00600
74-84-0	Ethane	1	0.00510	U	0.00510	0.00600

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0018-058.0-20210726

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE05483-02RE1
File ID: 21GW014.D
Sampled: 07/26/21 10:00
Prepared: 07/28/21 00:00
Analyzed: 07/28/21 13:15
Solids:
Preparation: Same
Initial/Final: 1 mL / 1 mL
Batch: 1G28011
Sequence: AA67536
Calibration: 2102005
Instrument: OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-82-8	Methane	15	1.41	D	0.0600	0.0750

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0031-058.0-20210726

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE05483-06
File ID: 21GW009.D
Sampled: 07/26/21 13:15
Prepared: 07/28/21 00:00
Analyzed: 07/28/21 11:38
Solids:
Preparation: Same
Initial/Final: 1 mL / 1 mL
Batch: 1G28011
Sequence: AA67536
Calibration: 2102005
Instrument: OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-82-8	Methane	1	0.582		0.00400	0.00500
74-85-1	Ethene	1	0.00510	U	0.00510	0.00600
74-84-0	Ethane	1	0.00510	U	0.00510	0.00600

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0019-058.0-20210726

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE05483-07
File ID: 21GW010.D
Sampled: 07/26/21 14:00
Prepared: 07/28/21 00:00
Analyzed: 07/28/21 12:14
Solids:
Preparation: Same
Initial/Final: 1 mL / 1 mL
Batch: 1G28011
Sequence: AA67536
Calibration: 2102005
Instrument: OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-82-8	Methane	1	0.203		0.00400	0.00500
74-85-1	Ethene	1	0.00510	U	0.00510	0.00600
74-84-0	Ethane	1	0.00510	U	0.00510	0.00600

* Values outside of QC limits

HOLDING TIME SUMMARY

RSK 175

Laboratory: ENCO Orlando

SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-MW0018-058.0-20210726	07/26/21 10:00	07/27/21 15:00	07/28/21 00:00	1.58	NA	07/28/21 11:22	2.00	14.00	
CRCA-MW0018-058.0-20210726	07/26/21 10:00	07/27/21 15:00	07/28/21 00:00	1.58	NA	07/28/21 13:15	2.00	14.00	
CRCA-MW0031-058.0-20210726	07/26/21 13:15	07/27/21 15:00	07/28/21 00:00	1.45	NA	07/28/21 11:38	2.00	14.00	
CRCA-MW0019-058.0-20210726	07/26/21 14:00	07/27/21 15:00	07/28/21 00:00	1.42	NA	07/28/21 12:14	2.00	14.00	

PREPARATION BATCH SUMMARY

RSK 175

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1G28011 Batch Matrix: Water Preparation: Same

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1G28011-BLK1	21GW005.D	07/28/21 00:00	
LCS	1G28011-BS1	21GW003.D	07/28/21 00:00	
LCS Dup	1G28011-BSD1	21GW004.D	07/28/21 00:00	
CRCA-MW0019-058.0-20210726	1G28011-DUP1	21GW017.D	07/28/21 00:00	
CRCA-MW0018-058.0-20210726	AE05483-02	21GW008.D	07/28/21 00:00	
CRCA-MW0018-058.0-20210726	AE05483-02RE1	21GW014.D	07/28/21 00:00	
CRCA-MW0031-058.0-20210726	AE05483-06	21GW009.D	07/28/21 00:00	
CRCA-MW0019-058.0-20210726	AE05483-07	21GW010.D	07/28/21 00:00	

METHOD BLANK DATA SHEET
RSK 175

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1G28011-BLK1	File ID:	21GW005.D
Prepared:	07/28/21 00:00	Preparation:	Same	Initial/Final:	1 mL / 1 mL
Analyzed:	07/28/21 10:35	Instrument:	OVGCFID2		
Batch:	1G28011	Sequence:	AA67536	Calibration:	2102005

CAS NO.	COMPOUND	CONC. (mg/L)	Q
74-82-8	Methane	0.00400	U
74-85-1	Ethene	0.00510	U
74-84-0	Ethane	0.00510	U

LCS / LCS DUPLICATE RECOVERY

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1G28011	Laboratory ID:	1G28011-BS1
Preparation:	Same	Initial/Final:	1 mL / 1 mL

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC. #	QC LIMITS REC.
Methane	0.172	0.179	104	70 - 130
Ethene	0.302	0.324	107	70 - 130
Ethane	0.323	0.322	100	70 - 130

COMPOUND	SPIKE ADDED (mg/L)	LCSD CONCENTRATION (mg/L)	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Methane	0.172	0.181	105	1	30	70 - 130
Ethene	0.302	0.326	108	0.5	30	70 - 130
Ethane	0.323	0.326	101	1	30	70 - 130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

DUPLICATES

RSK 175

CRCA-MW0019-058.0-20210726

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Water
Laboratory ID: 1G28011-DUP1
Batch: 1G28011
Lab Source ID: AE05483-07
Preparation: Same
Initial/Final: 1 mL / 1 mL
Source Sample Name: CRCA-MW0019-058.0-20210726
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/L)	C	DUPLICATE CONCENTRATION (mg/L)	C	RPD %	Q	METHOD
Methane	30	0.203		0.120		51	*	RSK 175
Ethene	30	0.00		ND				RSK 175
Ethane	30	0.00		ND				RSK 175

* Values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64746		
Calibration:	2102005	Instrument:	OVGCFID2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	AA64746-CAL8	21B1014.D	02/01/21 14:12
Cal Standard	AA64746-CAL9	21B1015.D	02/01/21 14:27
Cal Standard	AA64746-CALB	21B1017.D	02/01/21 14:59
Cal Standard	AA64746-CALC	21B1018.D	02/01/21 15:15
Cal Standard	AA64746-CALD	21B1019.D	02/01/21 15:31
Cal Standard	AA64746-CALE	21B1020.D	02/01/21 15:47
Cal Standard	AA64746-CALA	21B1022.D	02/01/21 16:18
Secondary Cal Check	AA64746-SCV1	21B1023.D	02/01/21 17:03

ANALYSIS BATCH (SEQUENCE) SUMMARY

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA67536		
Calibration:	2102005	Instrument:	OVGCFID2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA67536-CCV1	21GW001.D	07/28/21 09:31
LCS	1G28011-BS1	21GW003.D	07/28/21 10:03
LCS Dup	1G28011-BSD1	21GW004.D	07/28/21 10:19
Blank	1G28011-BLK1	21GW005.D	07/28/21 10:35
CRCA-MW0018-058.0-20210726	AE05483-02	21GW008.D	07/28/21 11:22
CRCA-MW0031-058.0-20210726	AE05483-06	21GW009.D	07/28/21 11:38
CRCA-MW0019-058.0-20210726	AE05483-07	21GW010.D	07/28/21 12:14
CRCA-MW0018-058.0-20210726	AE05483-02RE1	21GW014.D	07/28/21 13:15
CRCA-MW0019-058.0-20210726	1G28011-DUP1	21GW017.D	07/28/21 14:03
Calibration Check	AA67536-CCV3	21GW021.D	07/28/21 15:07

CONTINUING CALIBRATION CHECK

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCFID2	Calibration:	2102005
Lab File ID:	21GW001.D	Calibration Date:	02/01/21 15:19
Sequence:	AA67536	Injection Date:	07/28/21
Lab Sample ID:	AA67536-CCV1	Injection Time:	09:31

		CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Methane	A	0.174	0.180	1.362132E+08	1.242828E+08		3.7	20
Ethene	A	0.302	0.327	7.977246E+07	8.627546E+07		8.2	20
Ethane	A	0.323	0.326	1.170026E+08	1.18272E+08		1.1	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

CONTINUING CALIBRATION CHECK

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCFID2	Calibration:	2102005
Lab File ID:	21GW021.D	Calibration Date:	02/01/21 15:19
Sequence:	AA67536	Injection Date:	07/28/21
Lab Sample ID:	AA67536-CCV3	Injection Time:	15:07

		CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Methane	A	0.174	0.156	1.362132E+08	1.072014E+08		-11	20
Ethene	A	0.302	0.282	7.977246E+07	7.459017E+07		-6.5	20
Ethane	A	0.323	0.280	1.170026E+08	1.015725E+08		-13	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64746	Instrument:	OVGCFID2
Calibration:	2102005		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A1B0547	RSK175-Cal 1 02/01/2021	AA64746-CAL8	21B1014.D	02/01/21 14:12
A1B0548	RSK175-Cal 2 02/01/2021	AA64746-CAL9	21B1015.D	02/01/21 14:27
A1B0550	RSK175-Cal 4 02/01/2021	AA64746-CALB	21B1017.D	02/01/21 14:59
A1B0551	RSK175-Cal 5 02/01/2021	AA64746-CALC	21B1018.D	02/01/21 15:15
A1B0552	RSK175-Cal 6 02/01/2021	AA64746-CALD	21B1019.D	02/01/21 15:31
A1B0553	RSK175-Cal 7 02/01/2021	AA64746-CALE	21B1020.D	02/01/21 15:47
A1B0549	RSK175-Cal 3 02/01/2021	AA64746-CALA	21B1022.D	02/01/21 16:18
A1A0933	RSK175- SCV/BS water CO2 and MEE	AA64746-SCV1	21B1023.D	02/01/21 17:03

INITIAL CALIBRATION DATA

RSK 175

Laboratory: ENCO Orlando

SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Calibration: 2102005

Instrument: OVGCFID2

Matrix: Water

Calibration Date: 02/01/21 15:19

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Methane												
Ethene												
Ethane												

INITIAL CALIBRATION DATA (Continued)

RSK 175

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2102005
Instrument: OVGCFID2
Matrix: Water
Calibration Date: 02/01/21 15:19

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Methane			0.000869	2.083245E+08	0.00869	1.311052E+08	0.0348	1.235944E+08	0.0869	1.272044E+08	0.174	1.263457E+08
Ethene			0.00151	5.315364E+07	0.0151	8.579782E+07	0.0603	8.372541E+07	0.151	8.751709E+07	0.302	8.48997E+07
Ethane			0.00161	1.263348E+08	0.0161	1.172619E+08	0.0646	1.169587E+08	0.161	1.212085E+08	0.323	1.152432E+08

INITIAL CALIBRATION DATA

RSK 175

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2102005
Instrument: OVGCFID2
Matrix: Water
Calibration Date: 02/01/21 15:19

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Methane	0.348	1.167678E+08	0.695	1.201502E+08								
Ethene	0.603	8.025572E+07	1.21	8.305785E+07								
Ethane	0.646	1.092976E+08	1.29	1.127132E+08								

INITIAL CALIBRATION DATA (Continued)

RSK 175

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2102005
Instrument: OVGCFID2
Matrix: Water
Calibration Date: 02/01/21 15:19

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Methane	1.362132E+08	23.59947	1.965429	4.209304E-02	0.9994672		0.99	
Ethene	7.977246E+07	14.9886	3.742286	0.1553695			20	
Ethane	1.170026E+08	4.754952	4.669571	0.2502584			20	

SECOND-SOURCE CALIBRATION VERIFICATION

RSK 175

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2102005
Laboratory ID: AA64746-SCV1
Sequence: AA64746
Standard ID: A1A0933

ANALYTE	EXPECTED (mg/L)	FOUND (mg/L)	% DRIFT	QC LIMIT
Ethene	0.302	0.315	4.2	25.00
Ethane	0.323	0.312	-3.4	25.00
Methane	0.172	0.171	-0.7	25.00

* Values outside of QC limits

ANALYSIS SEQUENCE

AA67536

Instrument: OVGCFID2

Calibration ID: 2102005

Printed: 7/28/2021 3:30:12PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA67536-CCV1	QC		1	1	A0L0956			
AA67536-CCV2	QC		2	2	A0J0840			
1G28011-BS1	QC		3	3				
1G28011-BSD1	QC		4	4				
1G28011-BLK1	QC		5	5				
AE05667-01	RSK 175 + CO2	A	6	6				
AE05667-02	RSK 175 + CO2	A	7	7				
AE05483-02	RSK175	A	8	8			Tetra Tech, Inc. (TE016)	CLP like need raw data
AE05483-06	RSK175	A	9	9			Tetra Tech, Inc. (TE016)	CLP like need raw data
AE05483-07	RSK175	A	10	10			Tetra Tech, Inc. (TE016)	CLP like need raw data
AE05483-07	RSK 175 + CO2	A	11	10			Tetra Tech, Inc. (TE016)	BatchQC
AE06241-31	RSK175	E	12	11				
AE06241-32	RSK175	E	13	12				
AE06241-33	RSK175	E	14	13				
AE05483-02RE1	RSK175	B	15	14			Tetra Tech, Inc. (TE016)	rr @15x Methane jmw 7/28/21
AE06241-32RE1	RSK175	F	16	15				
AE06241-33RE1	RSK175	F	17	16				
1G28011-DUP1	QC		18	17				
AE06241-33RE2	RSK175	G	19	20				
AA67536-CCV3	QC		20	21	A0L0956			
AA67536-CCV4	QC		21	22	A0J0840			

JMW 7/28/2021
Samples Loaded By Date

JMW 7/28/2021
Data Processed By Date

PREPARATION BENCH SHEET

Printed: 7/28/2021 2:33:03PM

1G28011

ENCO Orlando

Analysis
RSK 175 + CO2 [RSK 175]
RSK175 [RSK 175]

Prepared using: Same

Surrogate Solution
—

Spiking Solution
A1G0536 RSK175- SCV/BS water CO2 and MEE

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments
1G28011-BLK1		Blank		QC			1	1				
1G28011-BS1		LCS		QC			1	1	A1G0536	1000		
1G28011-BSD1		LCS Dup		QC			1	1	A1G0536	1000		
1G28011-DUP1		Duplicate [AE05483-07]		QC			1	1				
AE05483-02	C	CRCA-MW0018-058.0-20210726[R21]	03-Aug-21	RSK175			1	1				CLP like need raw data
AE05483-02RE1	C	CRCA-MW0018-058.0-20210726[R21]	03-Aug-21	RSK175			1	1				rr @15x Methane jmw 7/28/21
AE05483-06	C	CRCA-MW0031-058.0-20210726[R21]	03-Aug-21	RSK175			1	1				CLP like need raw data
AE05483-07	C	CRCA-MW0019-058.0-20210726[R21]	03-Aug-21	RSK175			1	1				CLP like need raw data
AE05483-07	C	CRCA-MW0019-058.0-20210726[R21]		RSK 175 + CO2			1	1				Added for BatchQC in: 1G28011
AE05667-01		RSK STORAGE BLANK A[MS2]	26-Jul-21	RSK 175 + CO2			1	1				
AE05667-02		RSK WALK-IN COOLER BLANK[MS2]	26-Jul-21	RSK 175 + CO2			1	1				
AE06241-31		BE01903-31 (MW-9D) E[R19]	04-Aug-21	RSK175			1	1				
AE06241-32		BE01903-32 (I-19D) E[R19]	04-Aug-21	RSK175			1	1				
AE06241-32RE1		BE01903-32 (I-19D) F[R19]	04-Aug-21	RSK175			1	1				rr @70x Methane jmw 7/28/21
AE06241-33		BE01903-33 (MW-34D) E[R19]	04-Aug-21	RSK175			1	1				
AE06241-33RE1		BE01903-33 (MW-34D) F[R19]	04-Aug-21	RSK175			1	1				rr 1x bad injection jmw 7/28/21
AE06241-33RE2		BE01903-33 (MW-34D) G[R19]	04-Aug-21	RSK175			1	1				rr @1x bad injection jmw 7/28/21

(1) Before solvent extraction proceeds, verify that there is no residual chlorine above 0.5 mg/L. Any sample above this must be treated to remove excess chlorine before extraction, and this documented as a comment.

PREPARATION BENCH SHEET

Printed: 7/28/2021 2:33:03PM

1G28011

ENCO Orlando

Prepared using: Same

Surrogate Solution

—

Spiking Solution

A1G0536 **RSK175- SCV/BS water CO2 and MEE**

Matrix: Water

Lab Number	Code	Sample ID, Source and Sample Location	Due Date	Analysis	pH adj	Res Cl(1)	Initial (mL)	Final (mL)	Spike ID	ul Spike	ul Surr1	Comments

Start Date 7/28/2021

StopDate 7/28/2021

Instrument ID OVGCFID2

Standard ID#	Description	Manufacture Lot#

JMW 7/28/2021

Samples Prepared By Date

Samples Prepared By Date

VOLATILES GC/MS LOGBOOK (EPA Method 624.1 / SW-846 Method 8260D)

Tune Start Date: 7/28/2021
Sequence: AA67536 / AA67547
Batch: # 1628011 / 1628028
Method: BSK
Analyst: JMW
Instrument EM Voltage: N/A

Surrogate: N/A
Internal: N/A
LCS Mix 2°: N/A A160533
LCS Acrolein 2°: N/A
LCS Gas 2°: N/A

8260 Mix: N/A
8260 Add: N/A A0L0912
8260 Ac/Ac: N/A A0K0739
8260 Gases: N/A
Instrument #: OVOCFID2

JMW 7/28/21

21GW Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)	Comments	LIMS
001	AA67536-CCV1			1			MEE ✓	✓
002	AA67536-CCV2			2			CO_2 ✓	✓
003	1628011-BS1			3			✓	✓
004	1628011-BSD1		JMW 7/28/21	4			✓	✓
005	1628011-BLK1			5			✓	✓
006	AE05667-01	A	1	6			✓	✓
007	AE05667-02	A	1	7			✓ RR@15x Methane	✓
008	AE05483-02	A	1	8			✓	✓
009	AE05483-06	A	1	9			✓ Dup1	✓
JMW 7/28/21 010	AE05483-07	A	1	10			✓	✓
011	AE06241-31	E	1	11			✓ RR@70x Methane	✓
012	AE06241-32	E	1	12			✓ RR@1x Bad injection	✓
013	AE06241-33	E	1	13			✓	✓
014	AE05483-02RE1	B	15	14			✓	✓
015	AE06241-32RE1	F	70	15			✓ RR@1x Bad injection;	✓
016	AE06241-33RE1	F	1	16			✓	✓
017	1628011-Dup1	B	1	17			✓ MDL MEE	✓
018	AE05536-02	A	1	18			✓ MDL CO_2	✓
019	AE05536-02RE1	B	1	19	JMW 7/28/21		✓ Matrix	✓
020	AE06241-33RE2	G	1	20			MEE ✓	✓
021	AA67536-CCV3	JMW 7/28/21		21				

Tune Start Date:
Sequence:
Batch:
Method:
Analyst:
Instrument EM Voltage: See page 185 JMW 7/28/21

Surrogate:
Internal:
LCS Mix 2⁰:
LCS Acrolein 2⁰:
LCS Gas 2⁰:

8260 Mix:
8260 Add:
8260 Ac/Ac:
8260 Gases:
Instrument #: OVGCFID2

21GW Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)	Comments	LIMS
022	AA67536-CCV4	JMW	7/28/21	22	JMW 7/28/21		CO_2 ✓	✓

JMW 7/28/21

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW001.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 9:31 am
Operator : jmw
Sample : AA67536-CCV1
Misc :
ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 09:39:11 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue May 11 08:11:20 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.680	2.797	1160228	9504	1.832376	NoCal	#
2)	Methane	0.000	1.963	0	21625207	N.D.	0.180367	#
3)	Ethene	3.707f	3.735	902180	26055191	NoCal	0.326622	#
4)	Ethyne	0.000	4.400	0	5418696	N.D.	NoCal	
5)	Ethane	4.634f	4.660	50769591	38201871	NoCal	0.326495	#

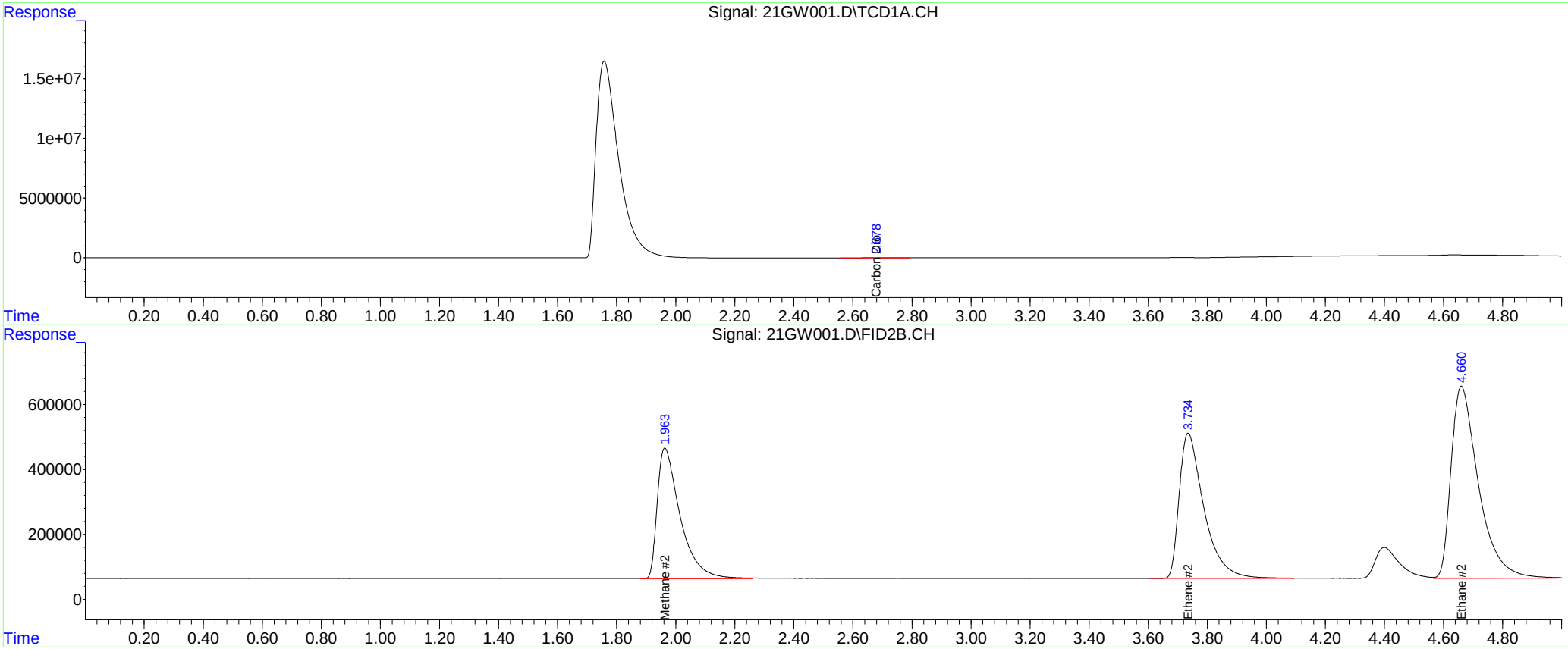
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW001.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 9:31 am
Operator : jmw
Sample : AA67536-CCV1
Misc :
ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 09:39:11 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue May 11 08:11:20 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW002.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 9:47 am
Operator : jmw
Sample : AA67536-CCV2
Misc :
ALS Vial : 2 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 09:55:30 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.666	2.779	32466001	6653	51.274367	NoCal	#
2)	Methane	0.000	0.000	0	0	N.D. d	N.D. d	
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	0.000	4.393	0	4619	N.D.	NoCal	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

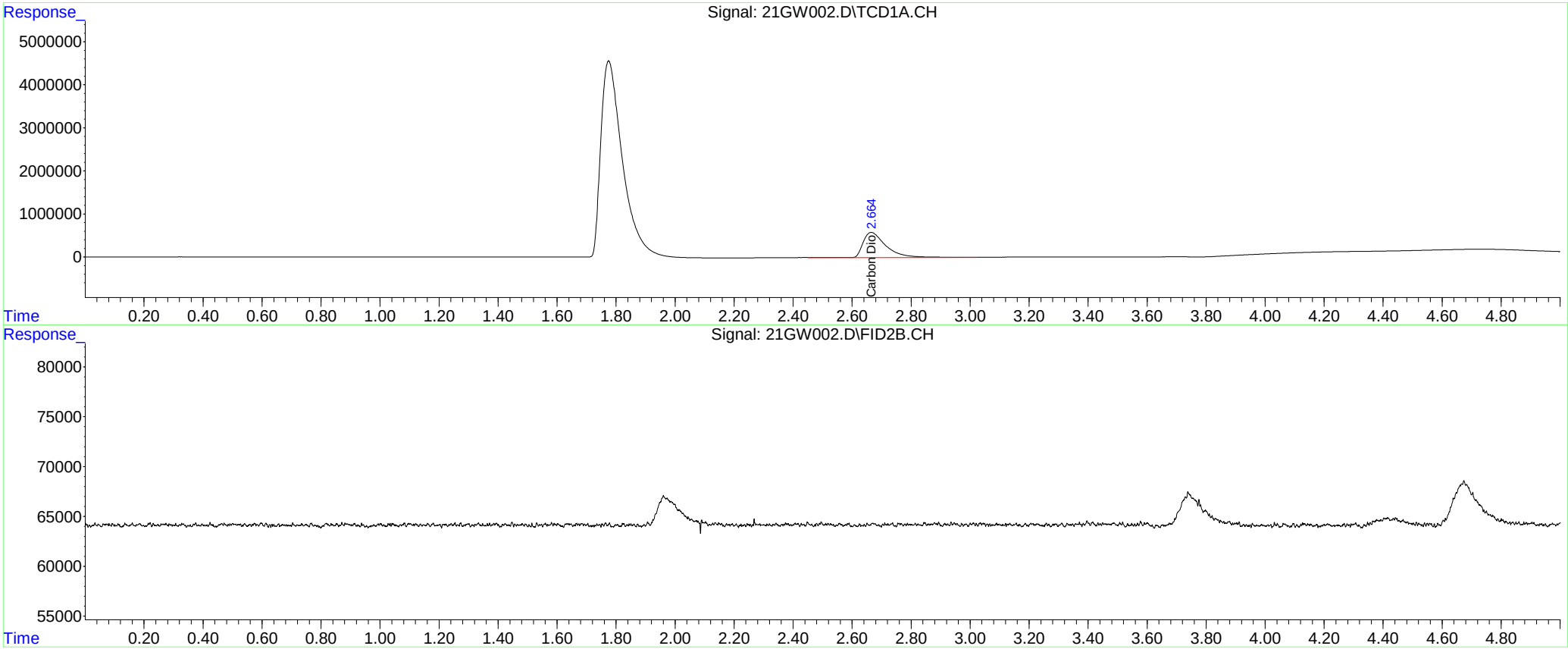
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW002.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 9:47 am
Operator : jmw
Sample : AA67536-CCV2
Misc :
ALS Vial : 2 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 09:55:30 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW003.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 10:03 am
Operator : jmw
Sample : 1G28011-BS1
Misc :
ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 10:08:45 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.667	2.799	31087481	7484	49.097235	NoCal	#
2)	Methane	0.000	1.967	0	21508093	N.D.	0.179390	#
3)	Ethene	3.712	3.740f	892025	25874040	NoCal	0.324352	#
4)	Ethyne	0.000	4.405f	0	5399564	N.D.	NoCal	
5)	Ethane	4.641	4.666f	36709868	37708253	NoCal	0.322276	#

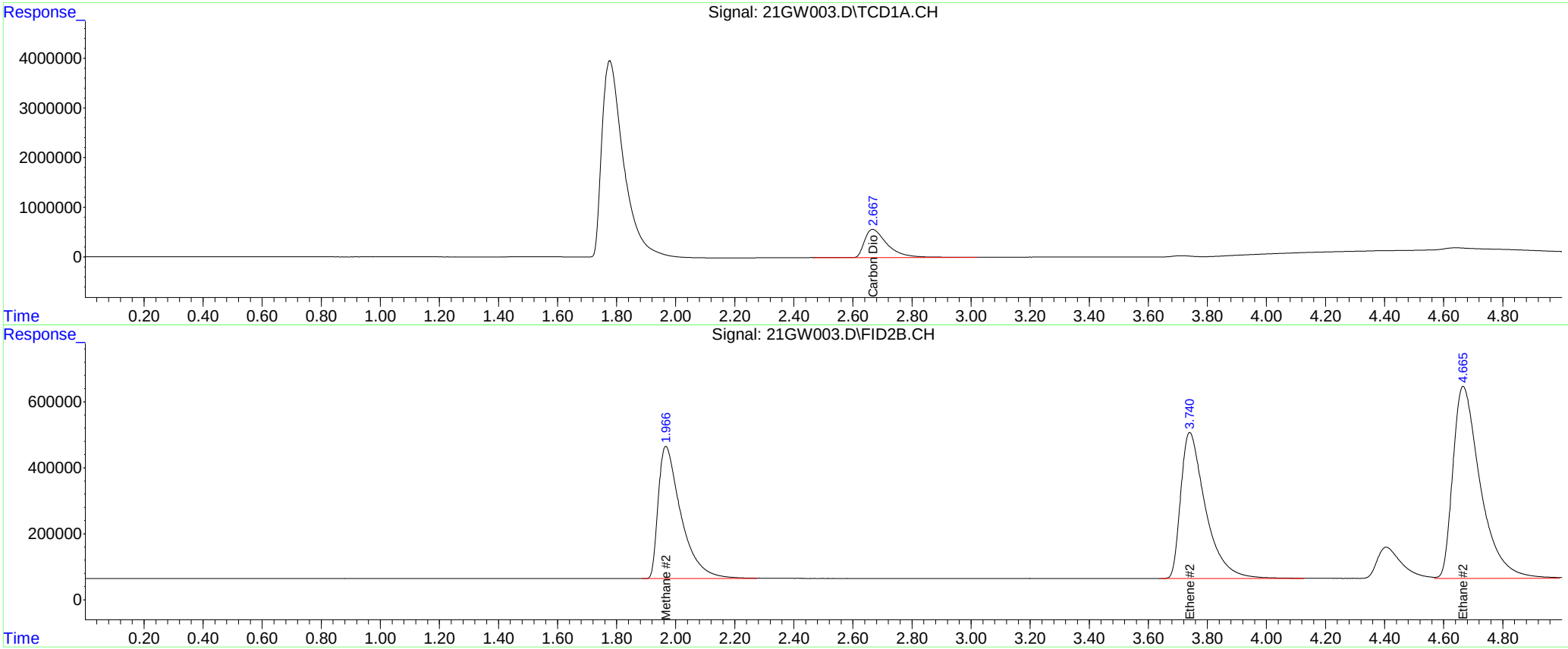
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW003.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 10:03 am
Operator : jmw
Sample : 1G28011-BS1
Misc :
ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 10:08:45 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW004.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 10:19 am
Operator : jmw
Sample : 1G28011-BSD1
Misc :
ALS Vial : 4 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 10:39:49 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.667	2.785	29771358	4768	47.018650	NoCal	#
2)	Methane	0.000	1.966	0	21727095	N.D.	0.181217	#
3)	Ethene	3.711	3.740f	692472	26001928	NoCal	0.325955	#
4)	Ethyne	0.000	4.405f	0	5373965	N.D.	NoCal	
5)	Ethane	4.640	4.666f	32596370	38125107	NoCal	0.325839	#

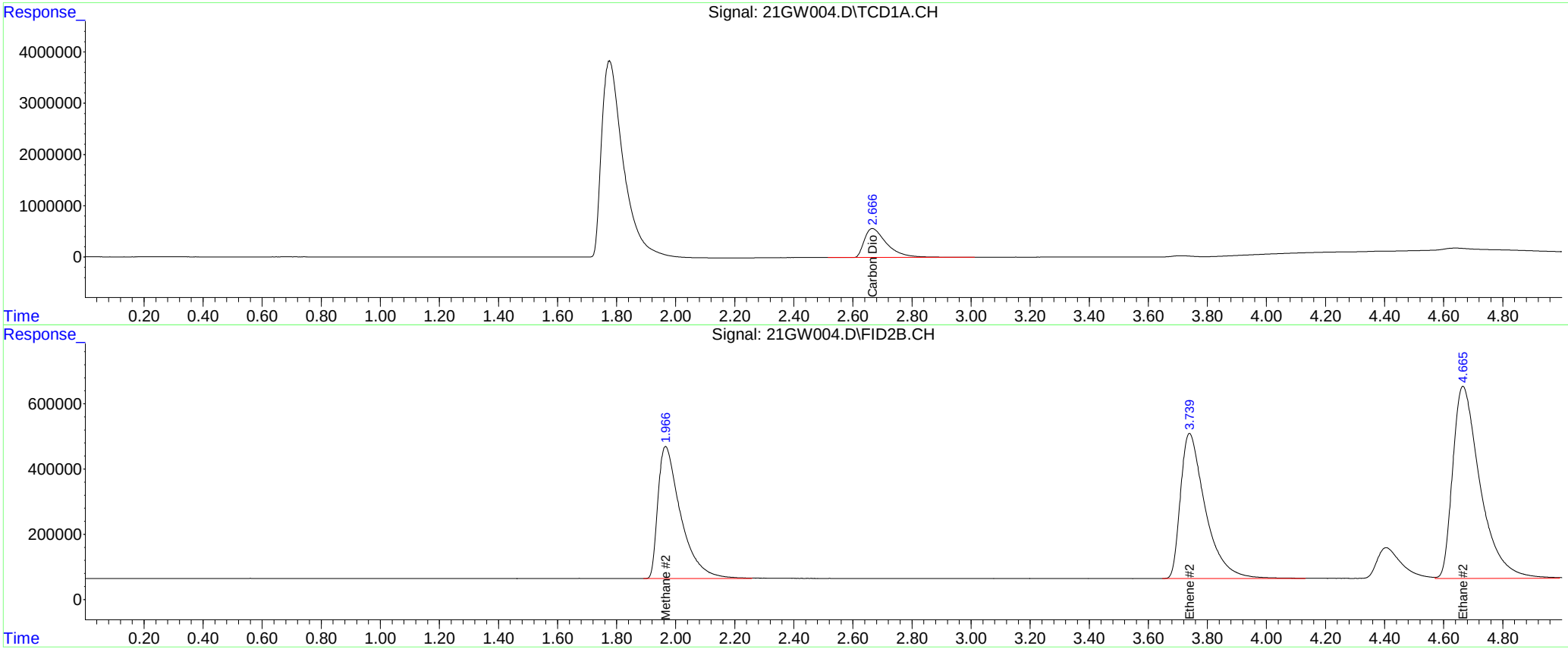
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW004.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 10:19 am
Operator : jmw
Sample : 1G28011-BSD1
Misc :
ALS Vial : 4 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 10:39:49 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW005.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 10:35 am
Operator : jmw
Sample : 1G28011-BLK1
Misc :
ALS Vial : 5 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 10:47:31 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L
	Target Compounds						
1)	Carbon Di...	0.000	2.812	0	24981	N.D.	NoCal
2)	Methane	0.000	0.000	0	0	N.D. d	N.D. d
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d
4)	Ethyne	0.000	4.387	0	7939	N.D.	NoCal
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d

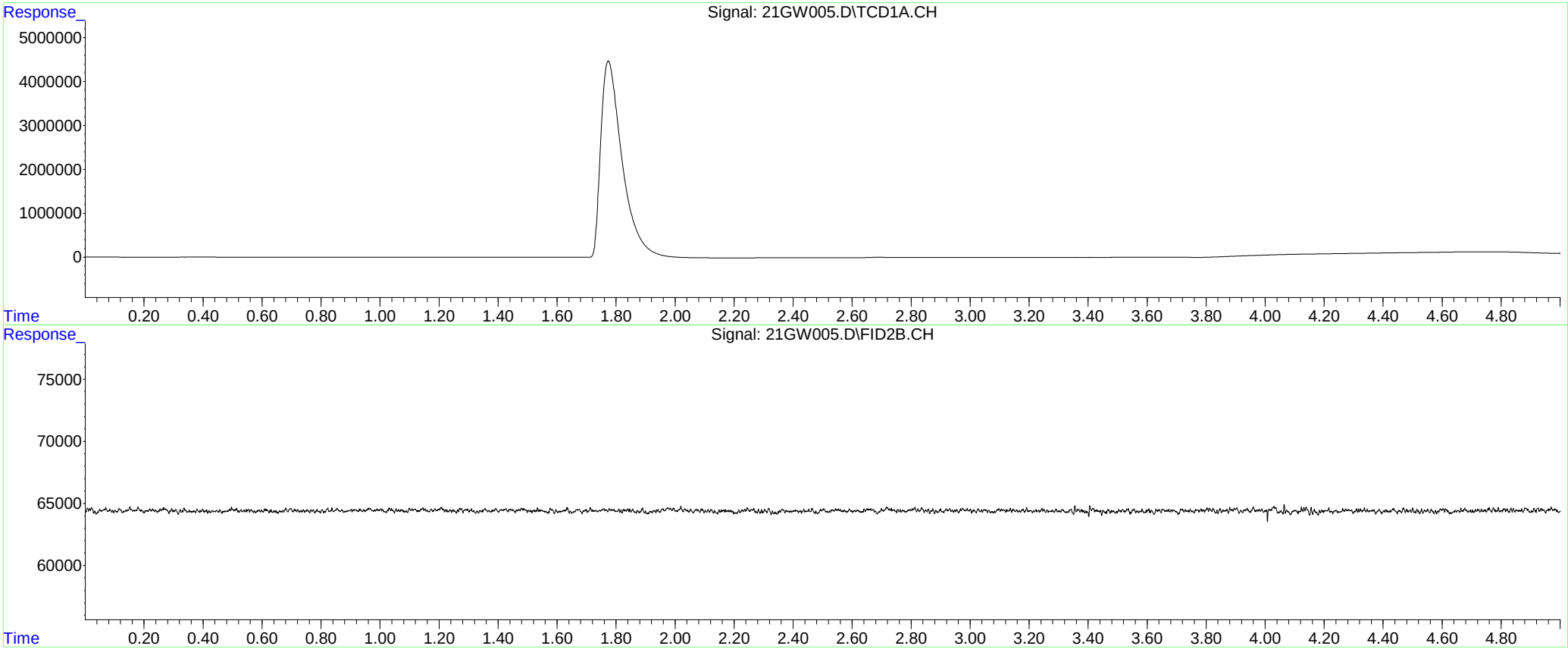
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW005.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 10:35 am
Operator : jmw
Sample : 1G28011-BLK1
Misc :
ALS Vial : 5 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 10:47:31 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW008.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 11:22 am
Operator : jmw
Sample : AE05483-02
Misc :
ALS Vial : 8 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 12:03:51 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.669	2.779	30452441	20178	48.094300	NoCal	#
2)	Methane	1.930f	1.966	11256669	137.8E6	NoCal	1.149523	#
3)	Ethene	3.697f	3.743f	168862	672037	NoCal	0.008425	#
4)	Ethyne	0.000	4.389	0	2747	N.D.	NoCal	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

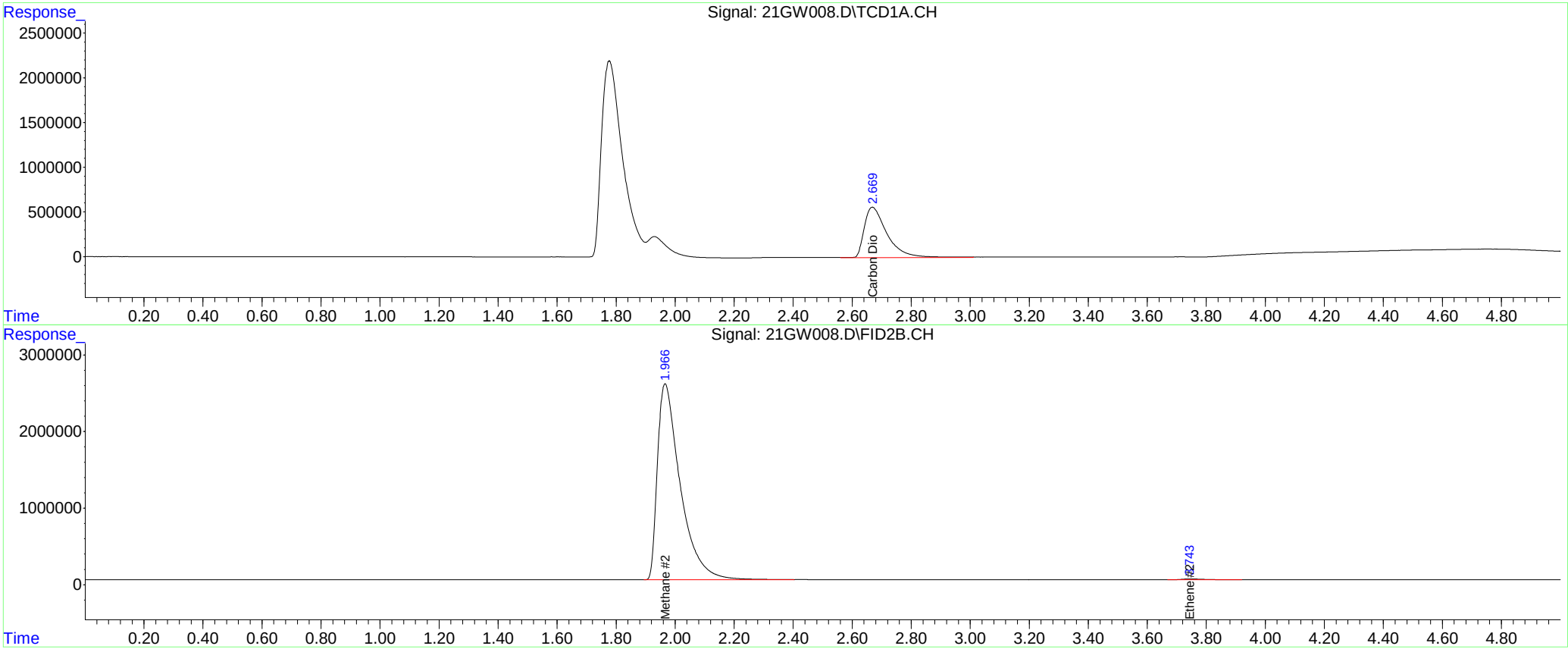
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW008.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 11:22 am
Operator : jmw
Sample : AE05483-02
Misc :
ALS Vial : 8 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 12:03:51 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW009.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 11:38 am
Operator : jmw
Sample : AE05483-06
Misc :
ALS Vial : 9 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 12:21:18 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.667	2.826	35103298	39601	55.439514	NoCal	#
2)	Methane	0.000	1.967	0	69823380	N.D.	0.582368	#
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	0.000	4.368f	0	6997	N.D.	NoCal	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

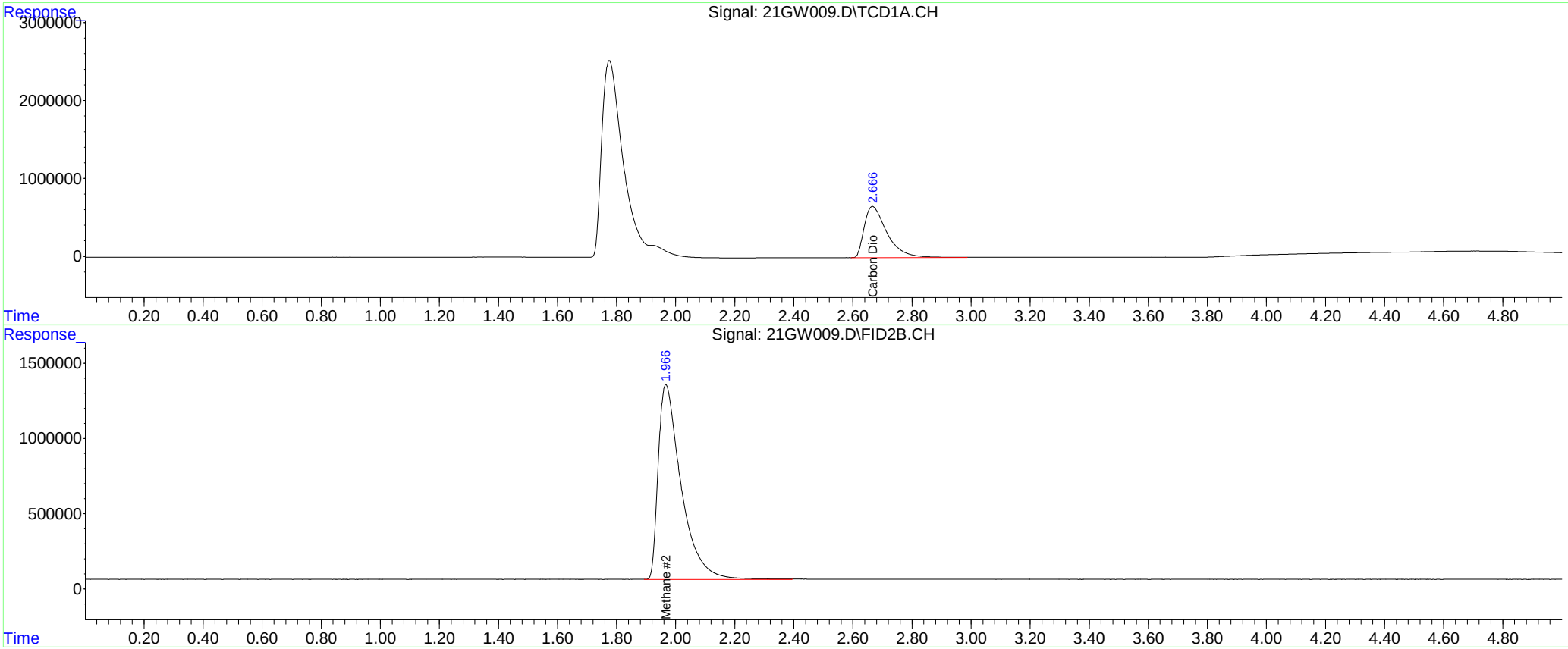
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW009.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 11:38 am
Operator : jmw
Sample : AE05483-06
Misc :
ALS Vial : 9 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 12:21:18 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW010.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 12:14 pm
Operator : jmw
Sample : AE05483-07
Misc :
ALS Vial : 10 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 12:21:46 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.673	2.795	14183423	16532	22.400235	NoCal	#
2)	Methane	0.000	1.963	0	24369268	N.D.	0.203254	#
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	0.000	4.400	0	40722	N.D.	NoCal	
5)	Ethane	4.706f	0.000	13748783	0	NoCal	N.D.	

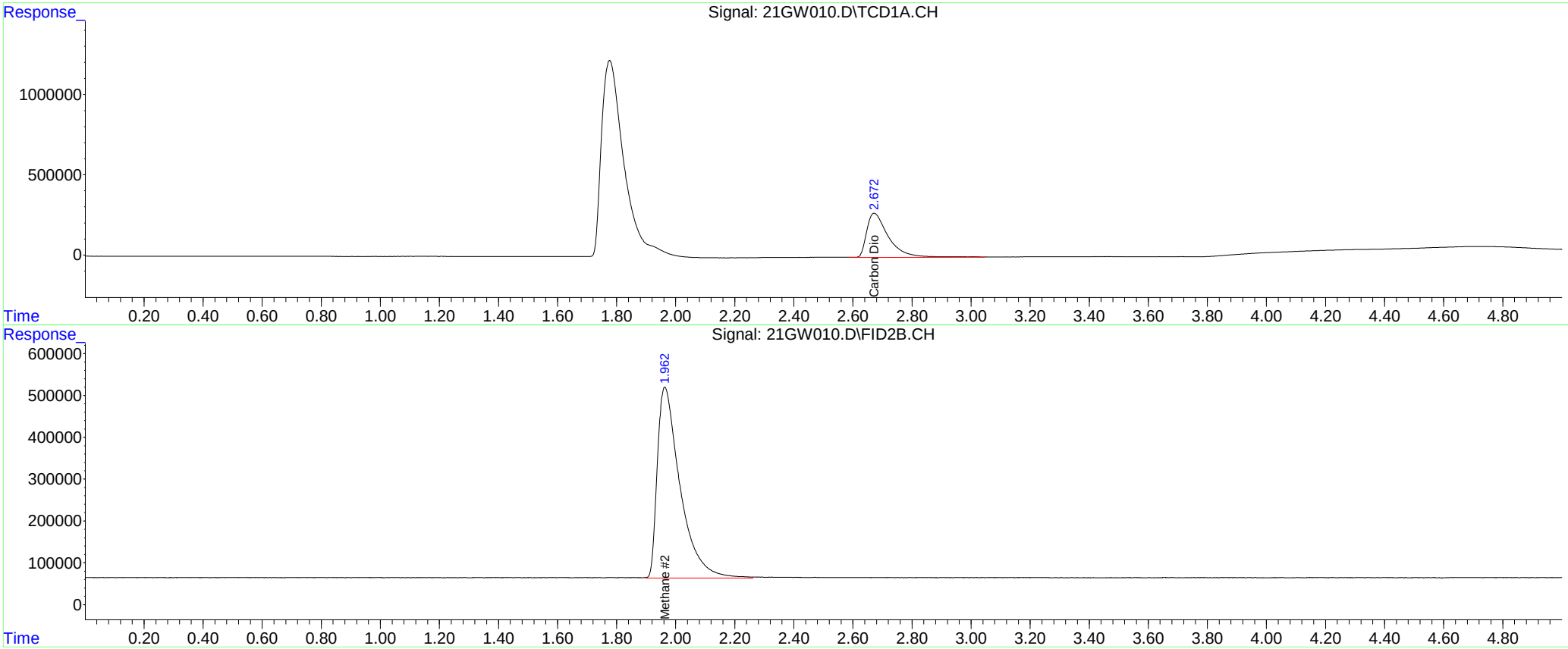
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW010.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 12:14 pm
Operator : jmw
Sample : AE05483-07
Misc :
ALS Vial : 10 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 12:21:46 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW014.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 1:15 pm
Operator : jmw
Sample : AE05483-02RE1
Misc : 15
ALS Vial : 14 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 13:21:46 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L
	Target Compounds						
1)	Carbon Di...	0.000	2.787	0	8260	N.D.	NoCal
2)	Methane	0.000	1.970	0	11279019	N.D.	0.094074 #
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d
4)	Ethyne	4.440f	4.389	4658969	6670	NoCal	NoCal
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d

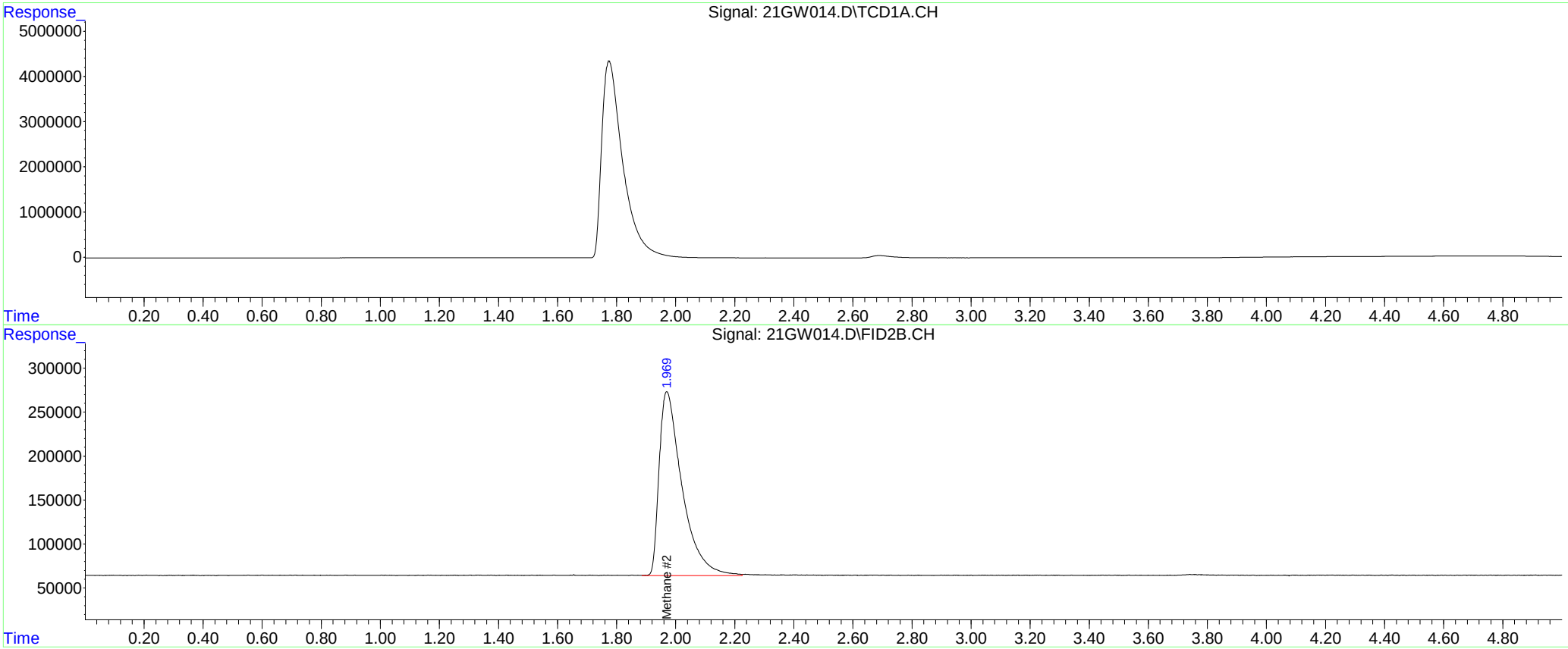
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW014.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 1:15 pm
Operator : jmw
Sample : AE05483-02RE1
Misc : 15
ALS Vial : 14 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 13:21:46 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW017.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 2:03 pm
Operator : jmw
Sample : 1G28011-DUP1
Misc :
ALS Vial : 17 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 14:17:06 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.680	2.808	8814174	7119	13.920445	NoCal	#
2)	Methane	0.000	1.966	0	14426426	N.D.	0.120325	#
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	0.000	4.389	0	4952	N.D.	NoCal	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

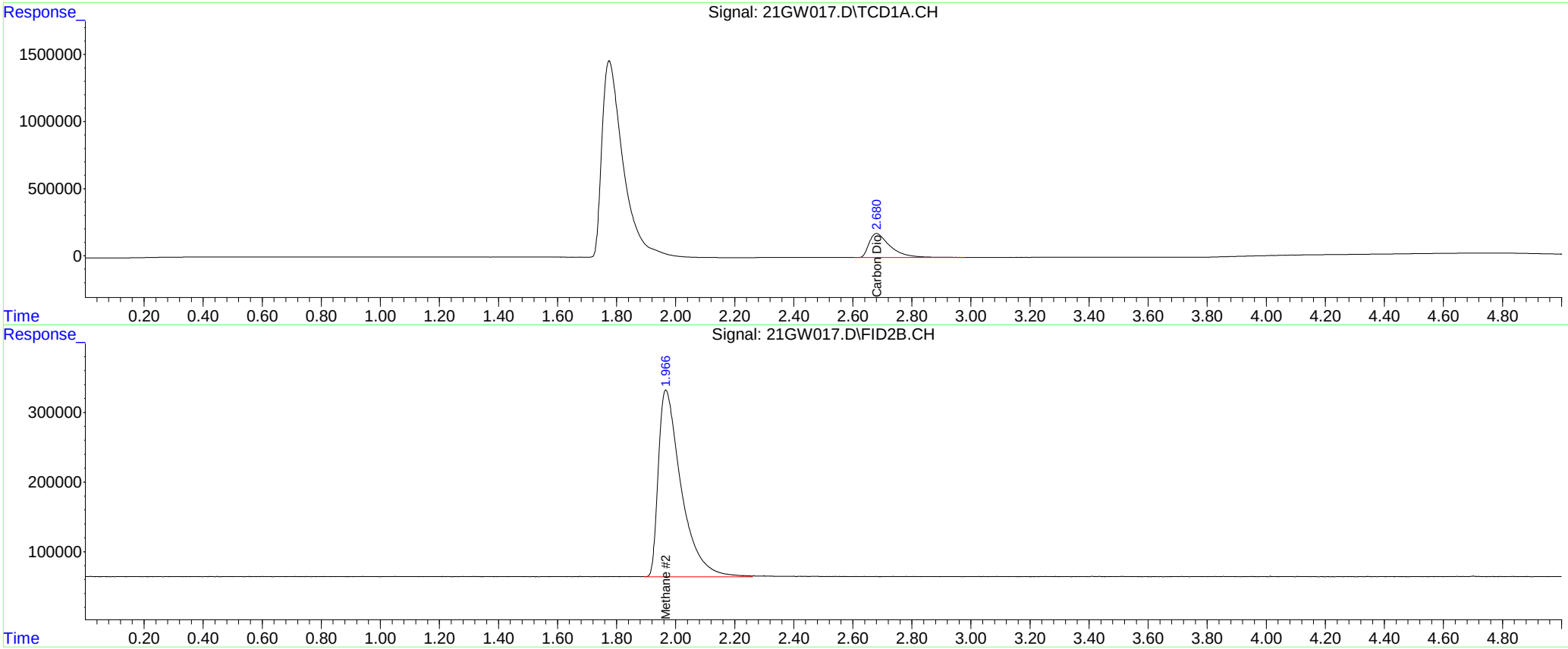
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW017.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 2:03 pm
Operator : jmw
Sample : 1G28011-DUP1
Misc :
ALS Vial : 17 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 14:17:06 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW021.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 3:07 pm
Operator : jmw
Sample : AA67536-CCV3
Misc :
ALS Vial : 21 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 15:15:51 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L
	Target Compounds						
1)	Carbon Di...	0.000	2.781	0	5133	N.D.	NoCal
2)	Methane	0.000	1.967	0	18653048	N.D.	0.155577 #
3)	Ethene	3.712	3.741f	989172	22526231	NoCal	0.282384 #
4)	Ethyne	4.381	4.409f	1003432	4785045	NoCal	NoCal
5)	Ethane	4.639	4.667f	3248462	32807921	NoCal	0.280395 #

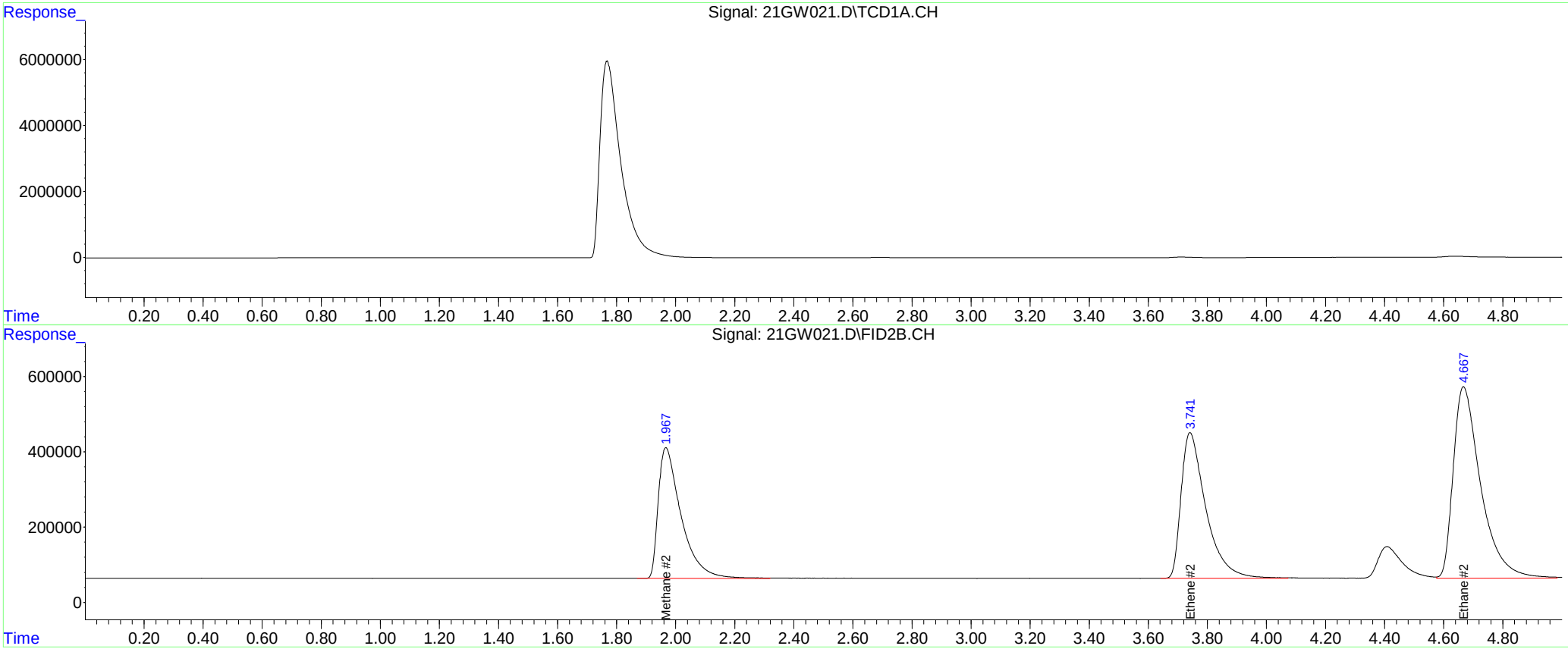
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW021.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 3:07 pm
Operator : jmw
Sample : AA67536-CCV3
Misc :
ALS Vial : 21 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 15:15:51 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW022.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 3:23 pm
Operator : jmw
Sample : AA67536-CCV4
Misc :
ALS Vial : 22 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 15:28:49 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.668	2.794	26933114	2215	42.536139	NoCal	#
2)	Methane	0.000	0.000	0	0	N.D. d	N.D. d	
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	4.445f	4.388	1268023	12614	NoCal	NoCal	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

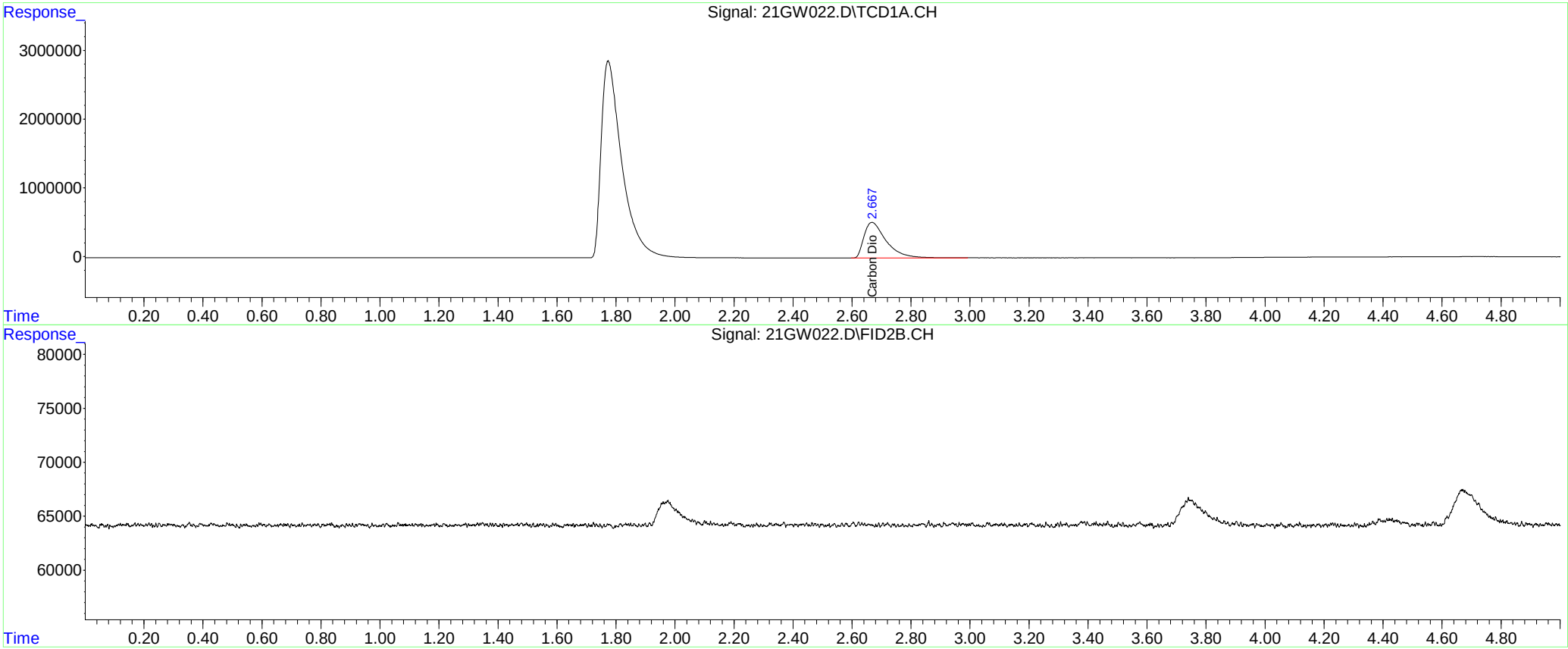
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\072821\
Data File : 21GW022.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 28 Jul 2021 3:23 pm
Operator : jmw
Sample : AA67536-CCV4
Misc :
ALS Vial : 22 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jul 28 15:28:49 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2102005::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



ANALYSIS SEQUENCE

AA64746

Instrument: OVGCFID2

Calibration ID: 2102005

Printed: 2/18/2021 10:57:40AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
AA64746-CAL1	QC		1	6	A1B0554			
AA64746-CAL2	QC		2	7	A1B0555			
AA64746-CAL3	QC		3	20	A1B0556			
AA64746-CAL4	QC		4	9	A1B0557			
AA64746-CAL5	QC		5	10	A1B0558			
AA64746-CAL6	QC		6	11	A1B0559			
AA64746-CAL7	QC		7	12	A1B0560			
AA64746-CAL8	QC		8	13	A1B0547			
AA64746-CAL9	QC		9	14	A1B0548			
AA64746-CALA	QC		10	21	A1B0549			
AA64746-CALB	QC		11	16	A1B0550			
AA64746-CALC	QC		12	17	A1B0551			
AA64746-CALD	QC		13	18	A1B0552			
AA64746-CALE	QC		14	19	A1B0553			
AA64746-SCV1	QC		15	22	A1A0933			

JMW 2/1/2021
Samples Loaded By Date

JMW 2/2/2021
Data Processed By Date

VOLATILES GC/MS LOGBOOK (EPA Method 624.1 / SW-846 Method 8260D)

Tune Start Date: 2/1/2021
Sequence: AA647446
Batch: 1B01007
Method: R5K
Analyst: JMW
Instrument EM Voltage: N/A

Surrogate: N/A
Internal: N/A
LCS Mix 2°: N/A A1A0923
LCS Acrolein 2°: N/A
LCS Gas 2°: N/A

8260 Mix: N/A
8260 Add: N/A A0J0838
8260 Ac/Ac: N/A A0L0607
8260 Gases: N/A
Instrument #: OV6CFID2

21B1

Filename	ENCO ID	Vial #	Dilution Factor	Pos.	pH (<2)	RC (Y/N)	Comments	LIMS
003	1B01007-BLK1			3			RR, CO_2 present, degas water	
004	1B01007-BLK2			4			CO_2 > MDL (2.14)	
005	1B01007-BLK2			4			CO_2 (2.96) - Degas again	
006	1B01007-BLK3			5			pass ✓	
007	AA647446-CAL1			6			✓	
008	AA647446-CAL2			7			✓	
009	AA647446-CAL3			8			Re-prep, Re-run	
010	AA647446-CAL4			9			✓	
011	AA647446-CAL5			10			✓	
012	AA647446-CAL6			11			✓	
013	AA647446-CAL7			12			✓	
014	AA647446-CAL8			13			✓	
015	AA647446-CAL9			14			✓	
016	AA647446-CALA			15			Re-prep, Re-run	
017	AA647446-CALB			16			✓	
018	AA647446-CALC			17			✓	
019	AA647446-CALD			18			✓	
020	AA647446-CALE			19			✓	
021	AA647446-CAL3			20			✓	
022	AA647446-CALA			21			✓	
023	AA647446-SCV			22			✓	

Manual Integration Review Form

ENVIRONMENTAL CONSERVATION LABORATORIES, INC. ☐ Cary ☐ Jacksonville ☑ Orlando

I hereby attest that the manual integrations contained in this package have been thoroughly reviewed and are in agreement with the associated hardcopy data.

The electronic files listed below have been reviewed for accuracy, completeness and comply with ENCO labs QA-11 Manual Integration Policy including:

- "Before" and "After" chromatograms are provided
- Manual integrations are indicated on expanded scale "after" chromatograms at a scale large enough to see the manual integration performed.
- Reintegration technique marked if available on the data system
- Technical justification for manual integration
- Appropriate flags indicating which analytes were manually integrated are included in the raw data
- Analyst's initials and date.

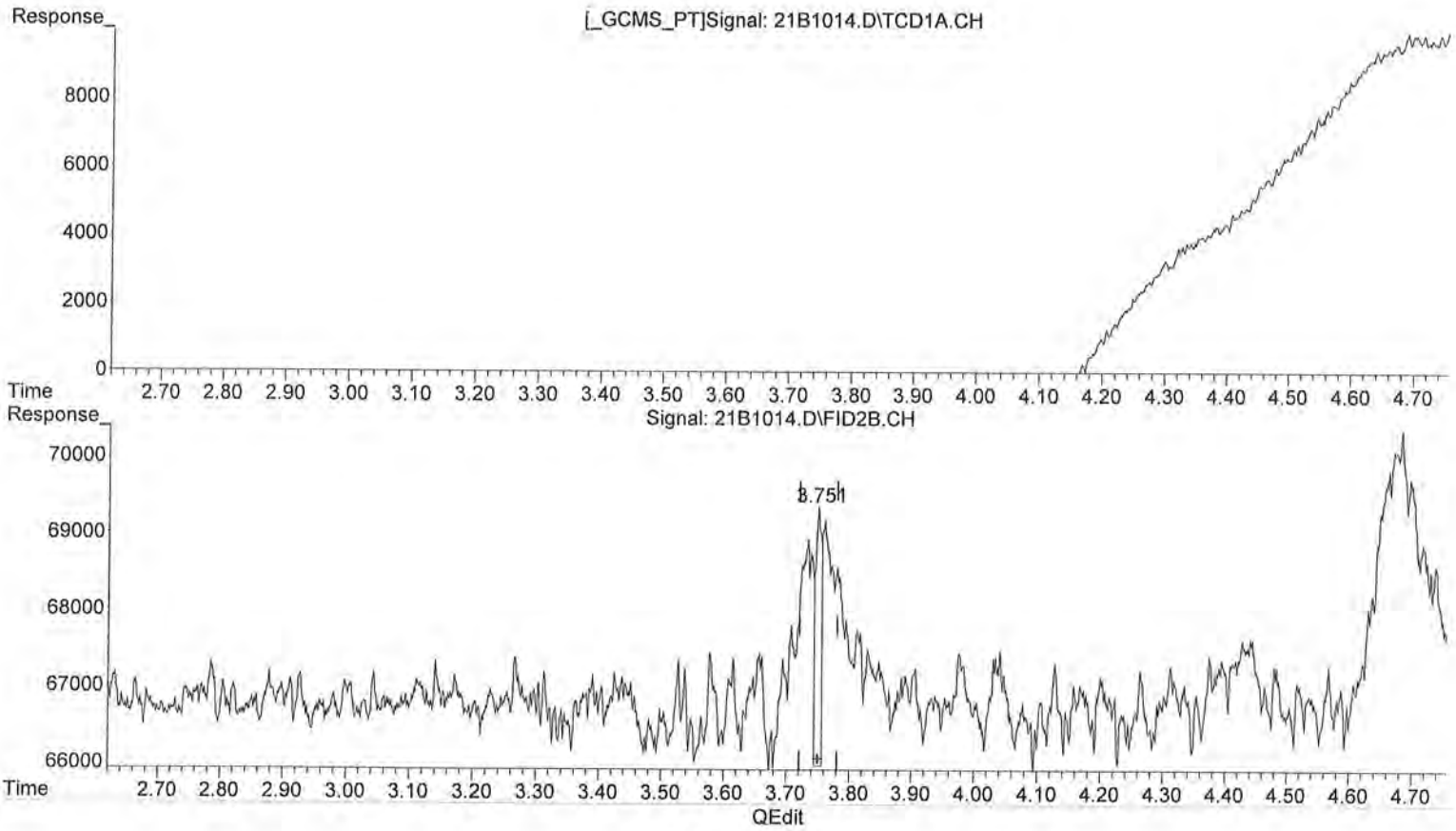
Instrument ID:	OVGCFID2
Sequence/Batch ID:	AA64746/1B01007
Data File Prefix:	21B1
Date and Time Range of MIs:	2/1/2021 14:26 - 2/2/2021 8:33
Reviewer Print Name:	Neil Christians
Reviewer Signature:	
Date of Review:	2/18/21

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1014.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 2:12 pm
Operator : JMW
Sample : AA64746-CAL8
Misc :
ALS Vial : 13 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 14:17:10 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(3) Ethene
3.714min 0.000 mg/L
response 30553

(3) Ethene #2
3.751min 0.000 mg/L
response 21443

Select One:
[✓] Original Integration [ ] Manual Integration
JMW 2/2/2021
[ ] Reason for manual integration:
X [ ] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Dump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date JMW 2/2/21
Review by/Date:

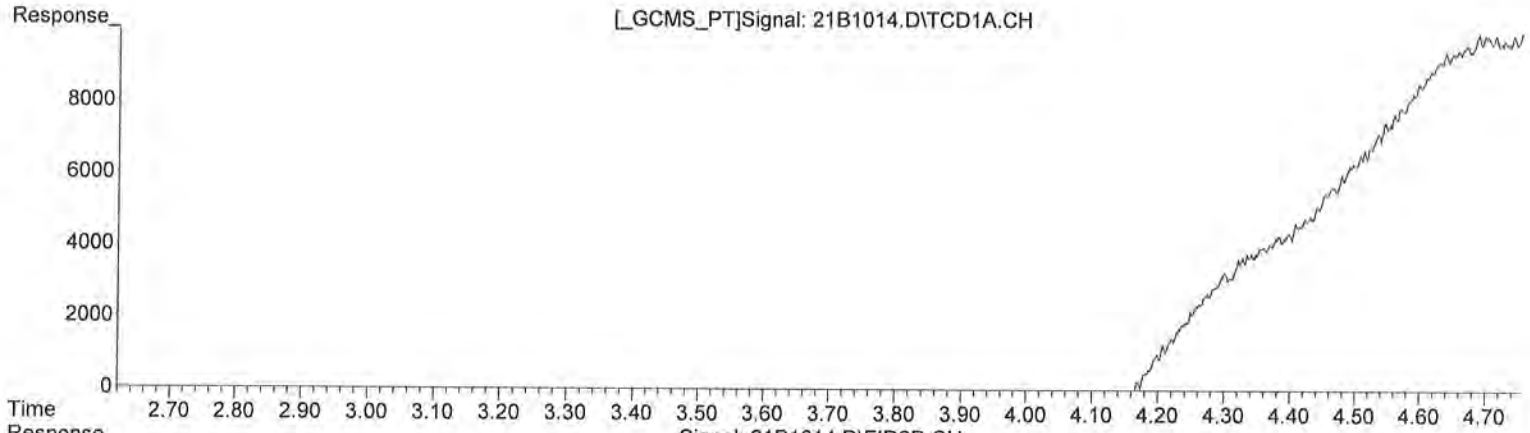
(+) = Expected Retention Time
060120.M Mon Feb 01 14:26:52 2021

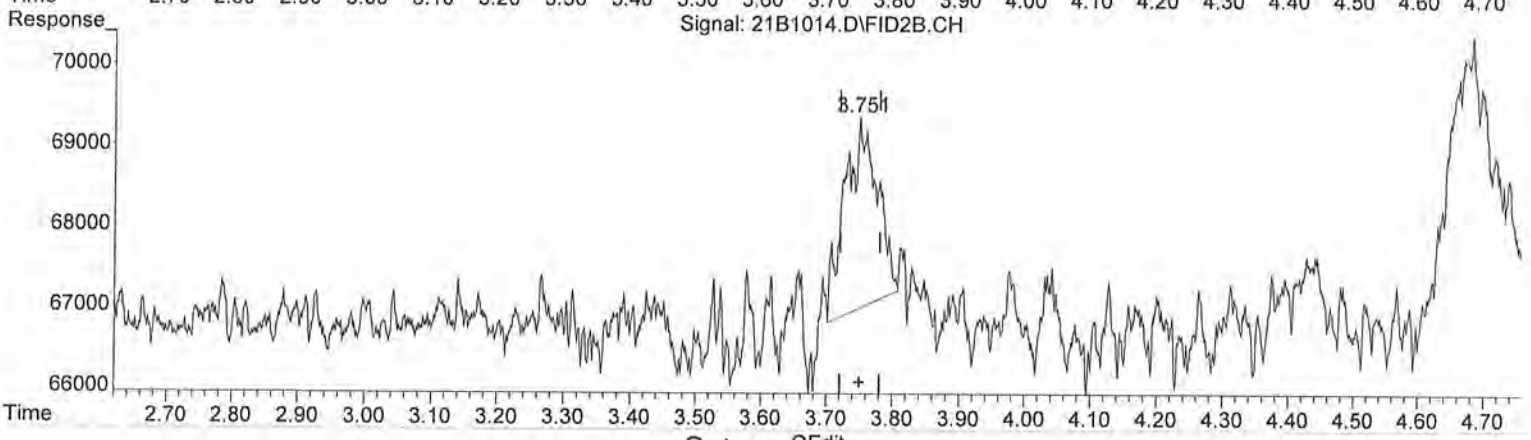
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1014.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 2:12 pm
Operator : JMW
Sample : AA64746-CAL8
Misc :
ALS Vial : 13 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 14:17:10 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





(3) Ethene
3.714min 0.000 mg/L
response 30553

(3) Ethene #2
3.751min 0.001 mg/L m
response 80262

(+) = Expected Retention Time
060120.M Mon Feb 01 14:27:10 2021

QEdit

Select One:

[ ] Original Integration [ ] Manual Integration

Select reason for manual integration:

[ ] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Bump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date JMJ 2/2/21

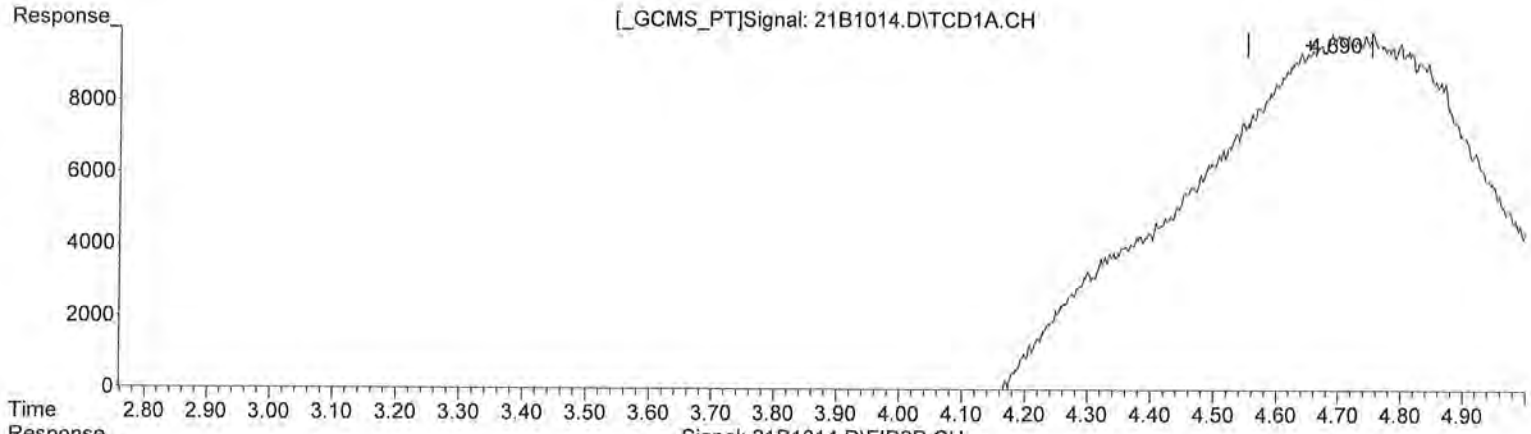
Review by/Date:

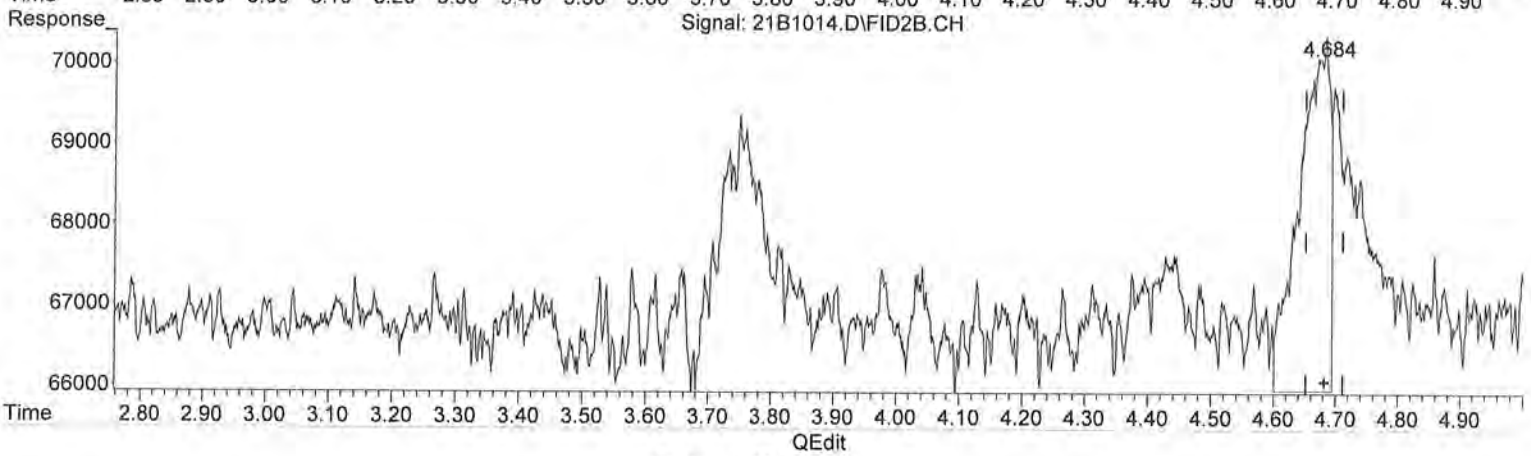
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1014.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 2:12 pm
Operator : JMW
Sample : AA64746-CAL8
Misc :
ALS Vial : 13 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 14:17:10 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





QEdit

(5) Ethane
4.703min 0.000 mg/L
response 4428569

(5) Ethane #2
4.684min 0.002 mg/L
response 149734

Select One:
[X] Original Integration [ ] Manual Integration
Select reason for manual integration:
[X] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date JMW 2/2/21
Review by/Date:

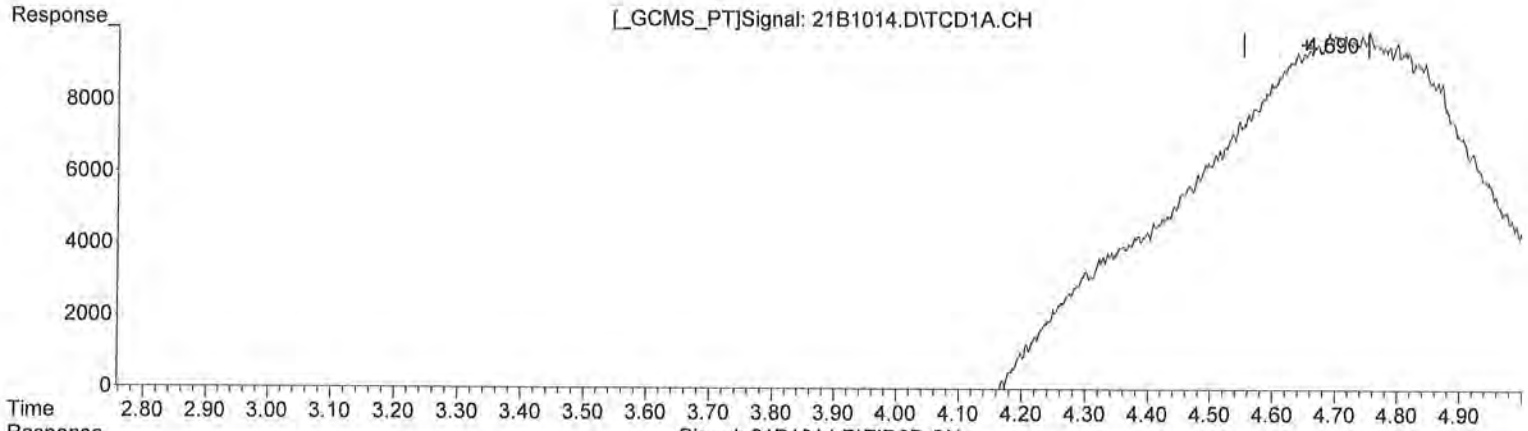
(+) = Expected Retention Time
060120.M Mon Feb 01 14:27:17 2021

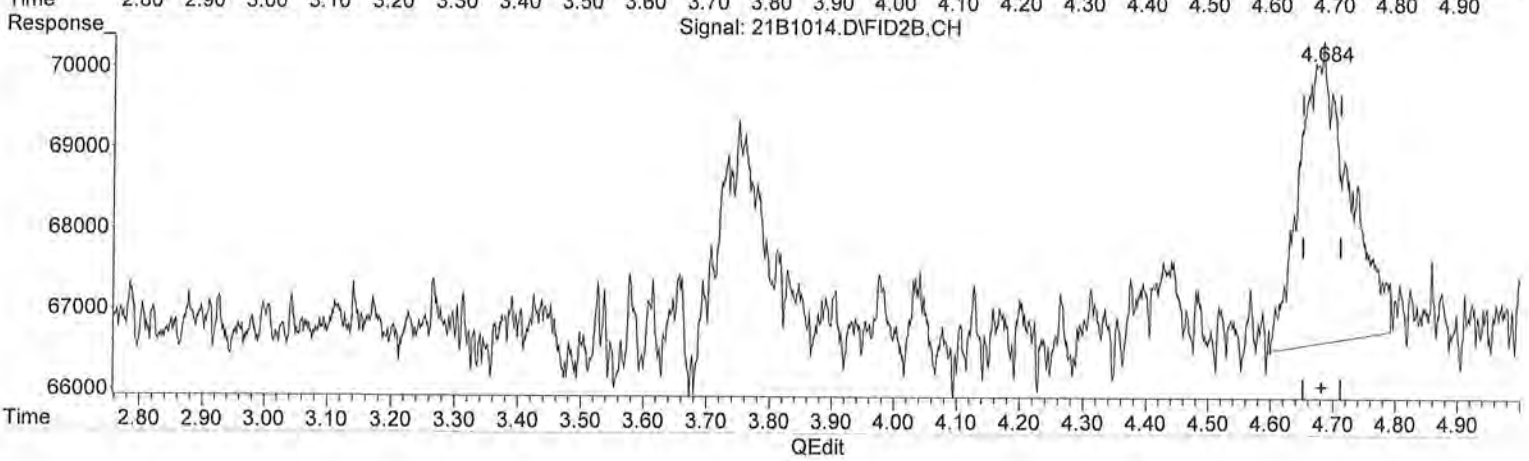
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1014.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 2:12 pm
Operator : JMW
Sample : AA64746-CAL8
Misc :
ALS Vial : 13 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 14:17:10 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





(5) Ethane
4.703min 0.000 mg/L
response 4428569

(5) Ethane #2
4.684min 0.002 mg/L m
response 203399

Select One:
[ ] Original Integration [X] Manual Integration
Select reason for manual integration:
[X] Poor integration (peak tailing, baseline selection)
[ ] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date JMW 2/2/21
Review by/Date:

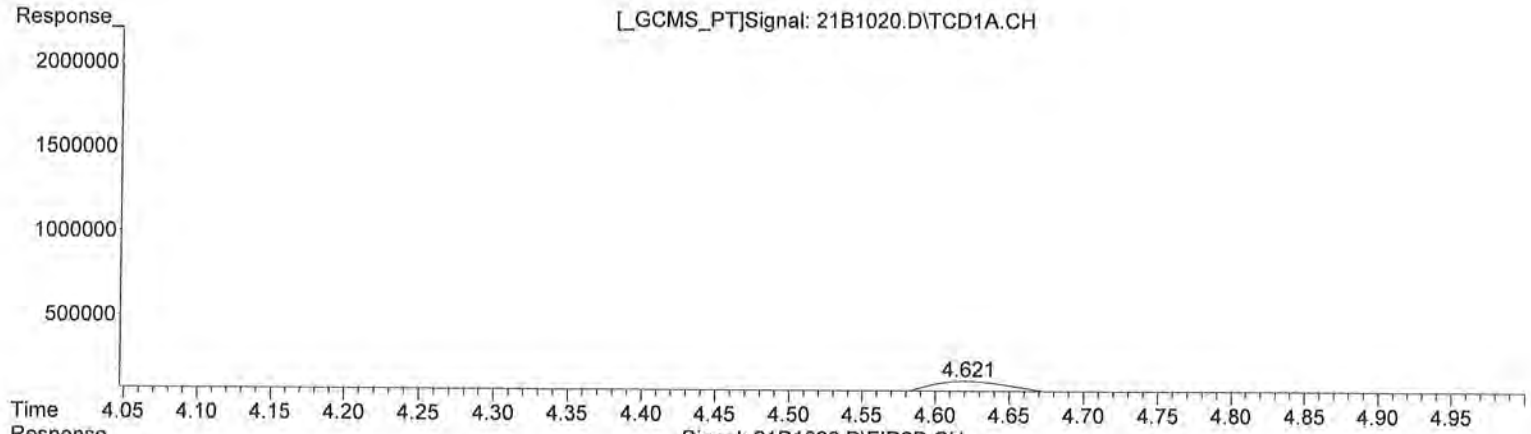
(+) = Expected Retention Time
060120.M Mon Feb 01 14:27:31 2021

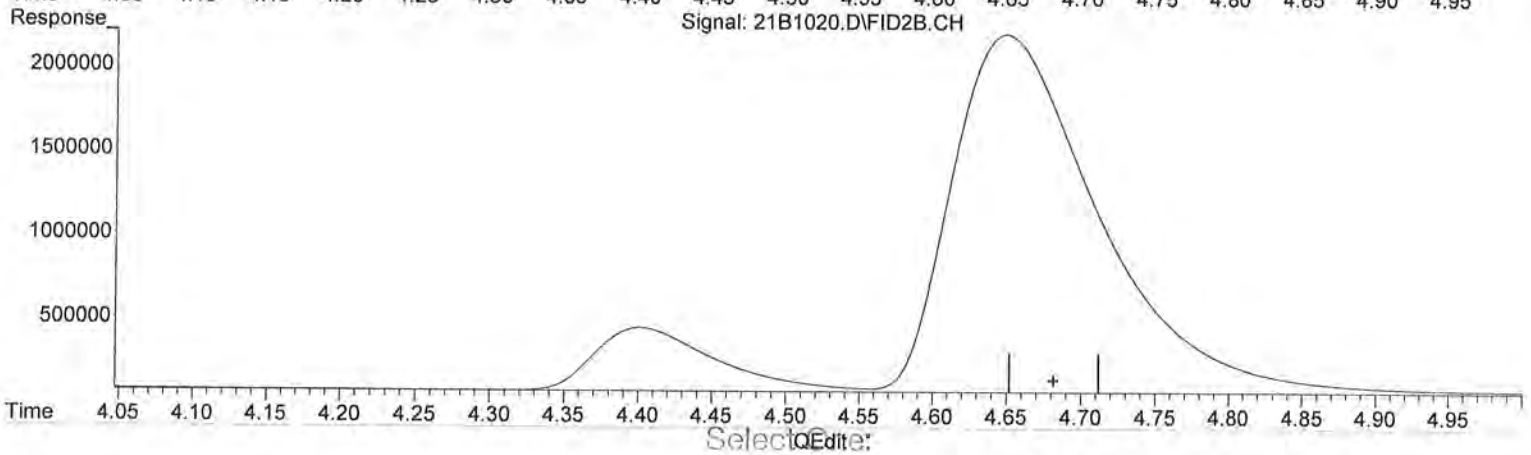
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1020.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 3:47 pm
Operator : JMW
Sample : AA64746-CALE
Misc :
ALS Vial : 19 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 15:52:21 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





(5) Ethane
4.621min 0.000 mg/L
response 8808275

(5) Ethane #2
0.000min 0.000 mg/L
response 0

Select QEdit:
[+] Original Integration [ ] Manual Integration
Select reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[+] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] [illegible] reintegration
[ ] [illegible]
[illegible] JMW 2/2/21

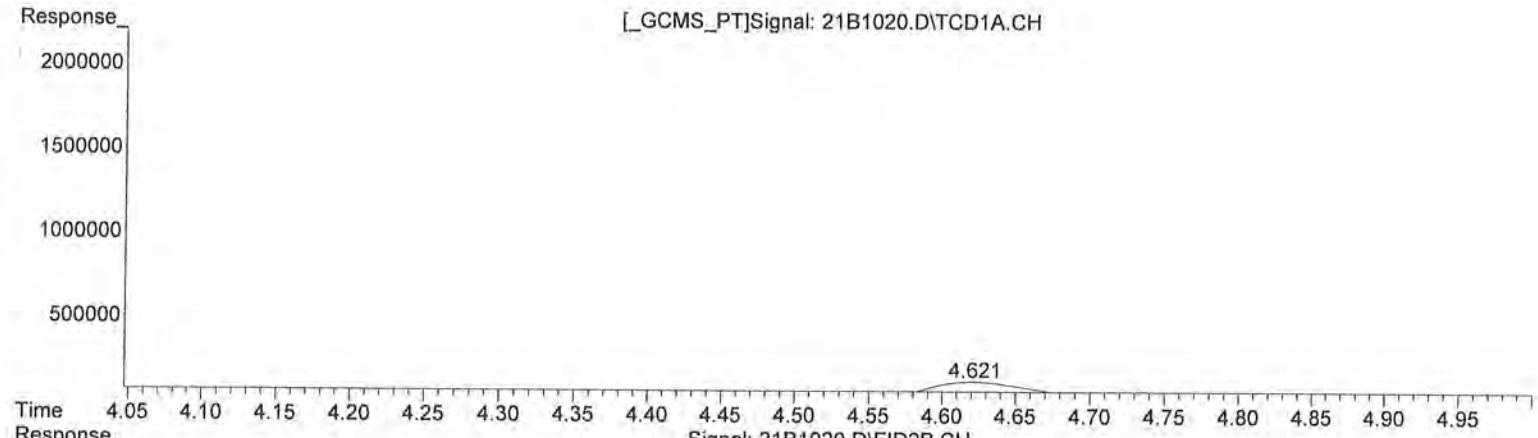
(+) = Expected Retention Time
060120.M Mon Feb 01 15:53:50 2021

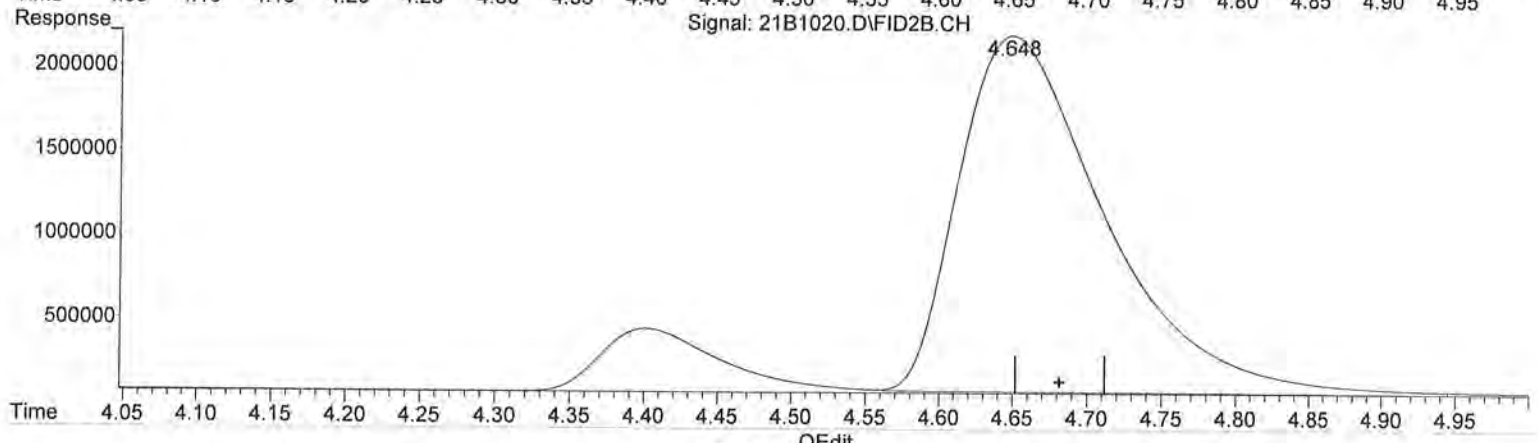
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1020.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 3:47 pm
Operator : JMW
Sample : AA64746-CALE
Misc :
ALS Vial : 19 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 15:52:21 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





QEdit

(5) Ethane
4.621min 0.000 mg/L
response 8808275

(5) Ethane #2
4.648min 1.511 mg/L m
response 145431677

Select One:
[ ] Original Integration [X] Manual Integration
Select reason for manual integration:
[ ] Poor integration (peak tailing, baseline selection)
[X] Incorrect peak selection/Peak not found
[ ] Hump integration
[ ] Baseline drop for split peaks
[ ] ISTD reintegration
[ ] Other:
Review by/Date: JMW 2/2/21
Review by/Date:

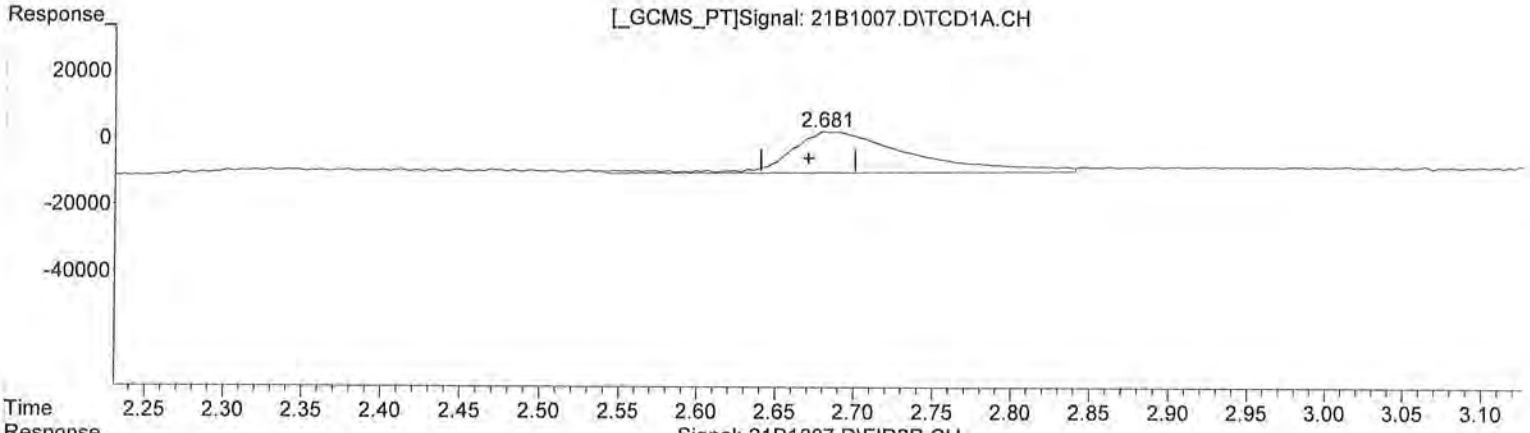
(+) = Expected Retention Time
060120.M Mon Feb 01 15:54:12 2021

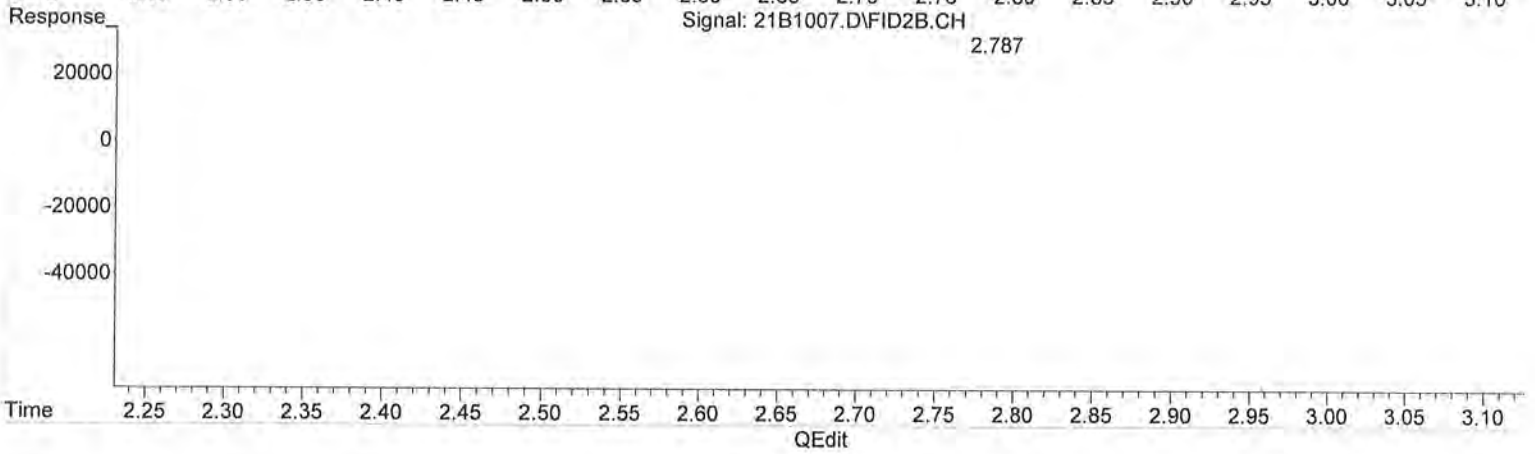
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1007.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 12:04 pm
Operator : JMW
Sample : AA64746-CAL1
Misc :
ALS Vial : 6 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 12:10:02 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





(1) Carbon Dioxide

2.684min 1.390 ppmv

response 682006

(1) Carbon Dioxide #2

2.788min 0.000 ppmv

response 10633

Select One:

[✓] Original Integration [ ] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date: JMW 2/2/21

Review by/Date:

(+) = Expected Retention Time

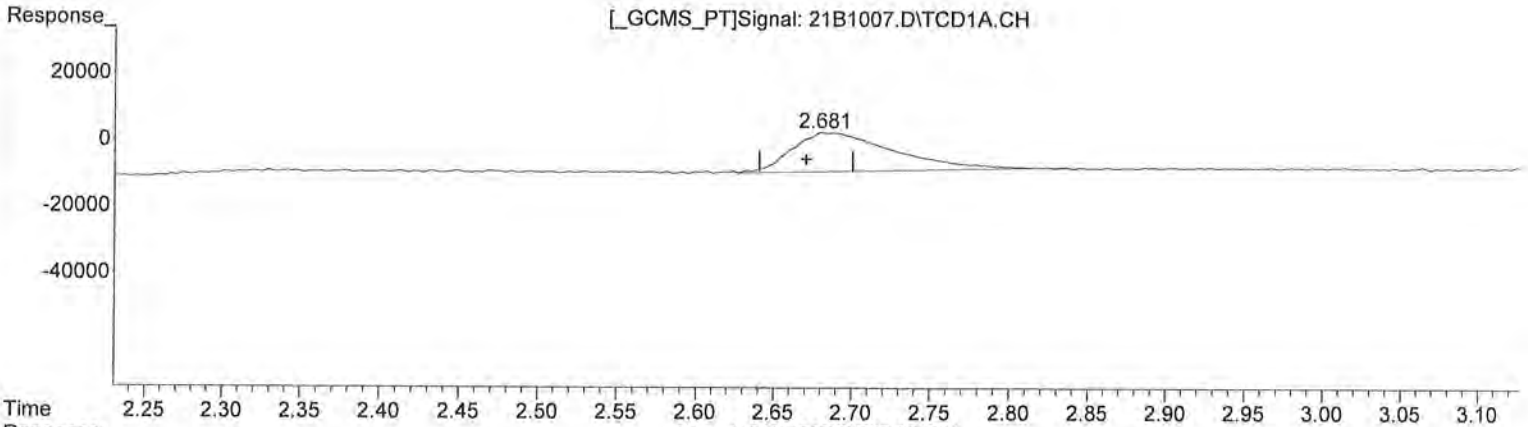
020121.M Tue Feb 02 08:22:10 2021

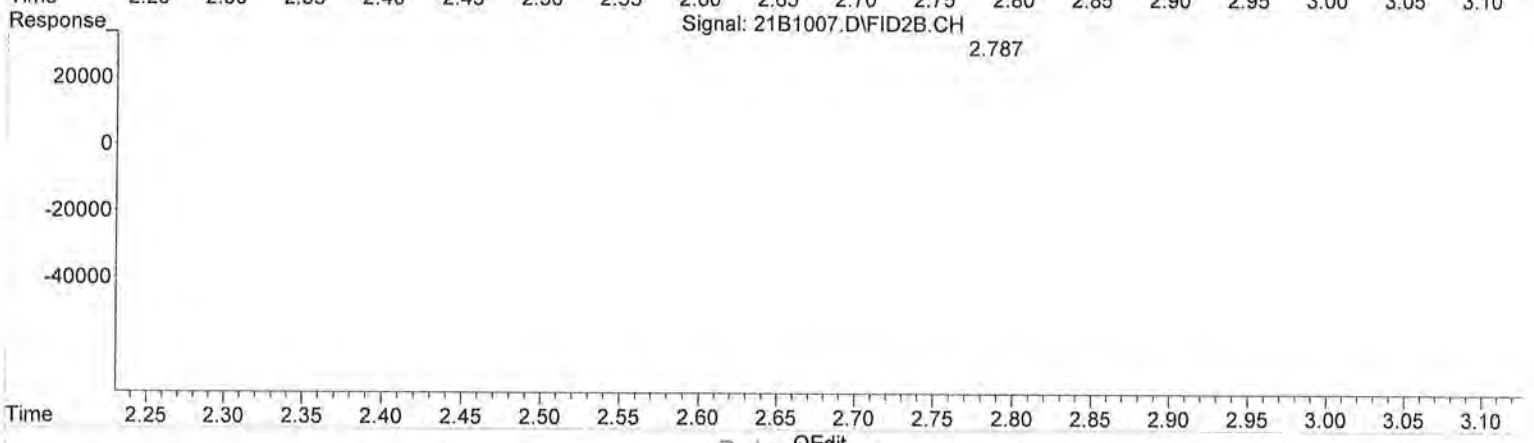
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1007.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 12:04 pm
Operator : JMW
Sample : AA64746-CAL1
Misc :
ALS Vial : 6 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 12:10:02 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





QEdit

(1) Carbon Dioxide

2.681min 1.086 mg/L m

response 532714

(1) Carbon Dioxide #2

2.788min 0.000 mg/L

response 10633

Select One:

[ ] Original Integration [✓] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] RTE reintegration

[ ] Other

JMW 2/2/21

(+) = Expected Retention Time

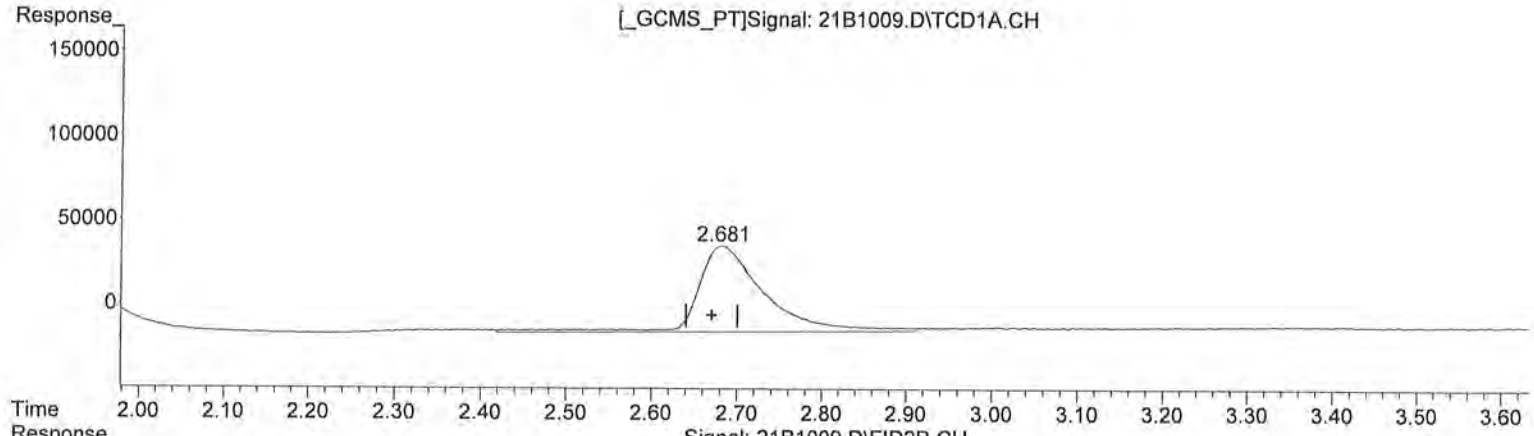
020121.M Tue Feb 02 08:22:20 2021

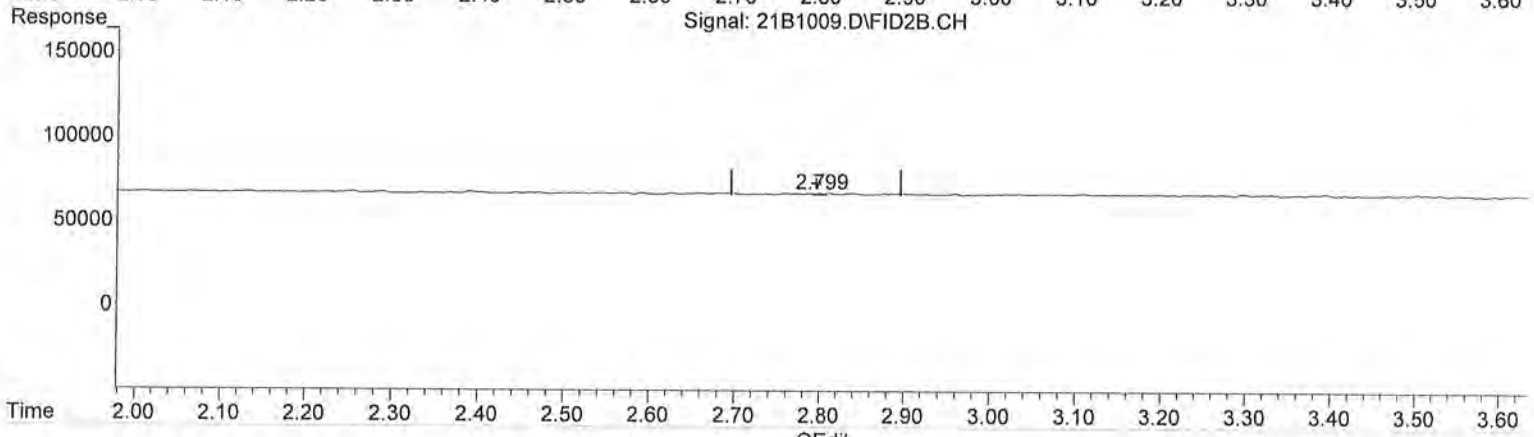
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1009.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 12:41 pm
Operator : JMW
Sample : AA64746-CAL3
Misc :
ALS Vial : 8 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 12:46:17 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





QEdit

(1) Carbon Dioxide

2.683min 5.718 ppmv

response 2805924

(1) Carbon Dioxide #2

2.800min 0.000 ppmv

response 6337

Select One: JMW 2/2/21

[✓] Original Integration [ ] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] Co-elution

JMW 2/2/21

(+) = Expected Retention Time

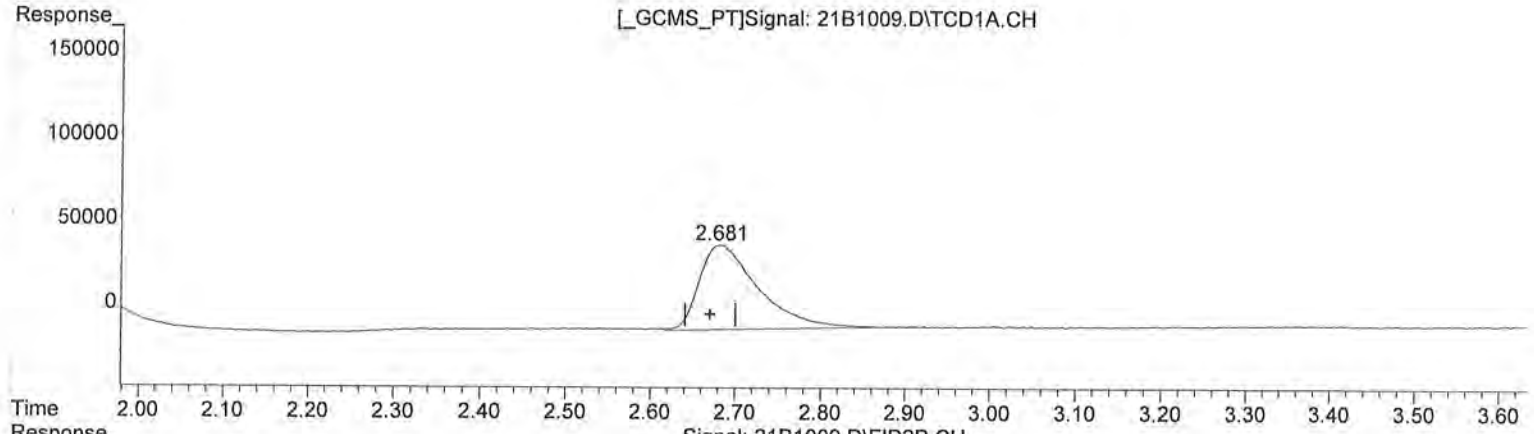
020121.M Tue Feb 02 08:23:31 2021

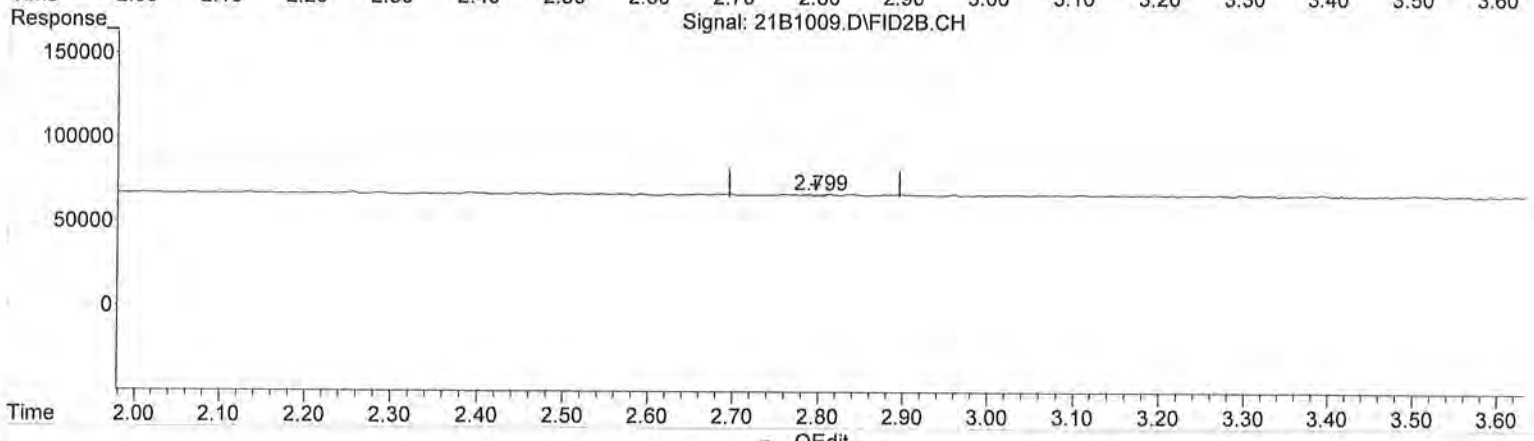
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1009.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 12:41 pm
Operator : JMW
Sample : AA64746-CAL3
Misc :
ALS Vial : 8 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 12:46:17 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





QEdit

(1) Carbon Dioxide

2.681min 4.913 mg/L m

response 2410843

(1) Carbon Dioxide #2

2.800min 0.000 mg/L

response 6337

Select One:

[] Original Integration [✓] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[] Incorrect peak selection/Peak not found

[] Hump integration

[] Baseline drop for split peaks

[] [illegible] concentration

[illegible] JMW 2/2/21

(+) = Expected Retention Time

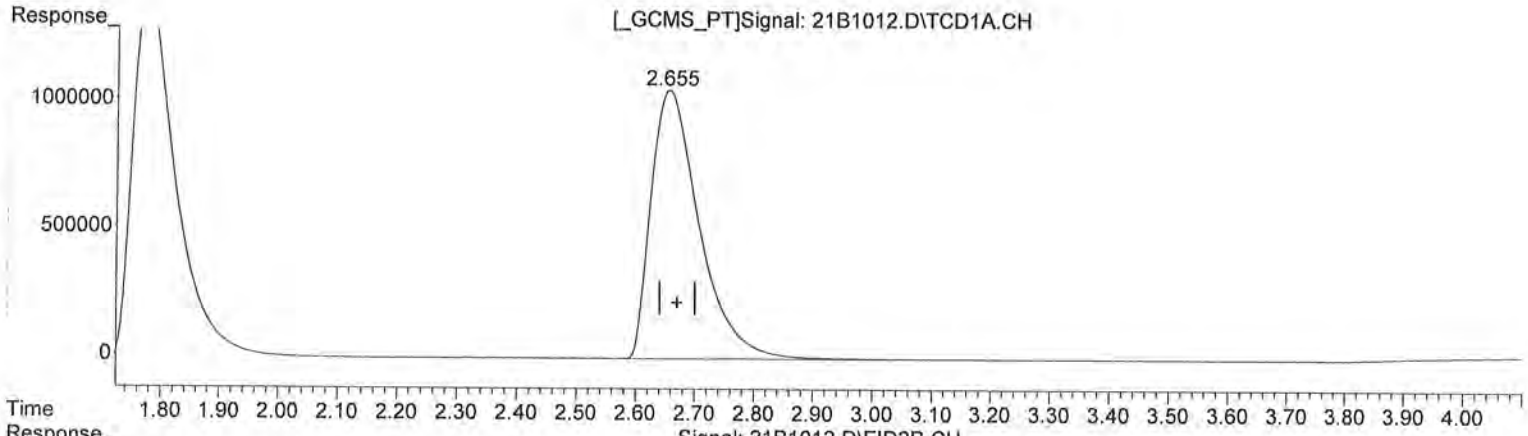
020121.M Tue Feb 02 08:23:46 2021

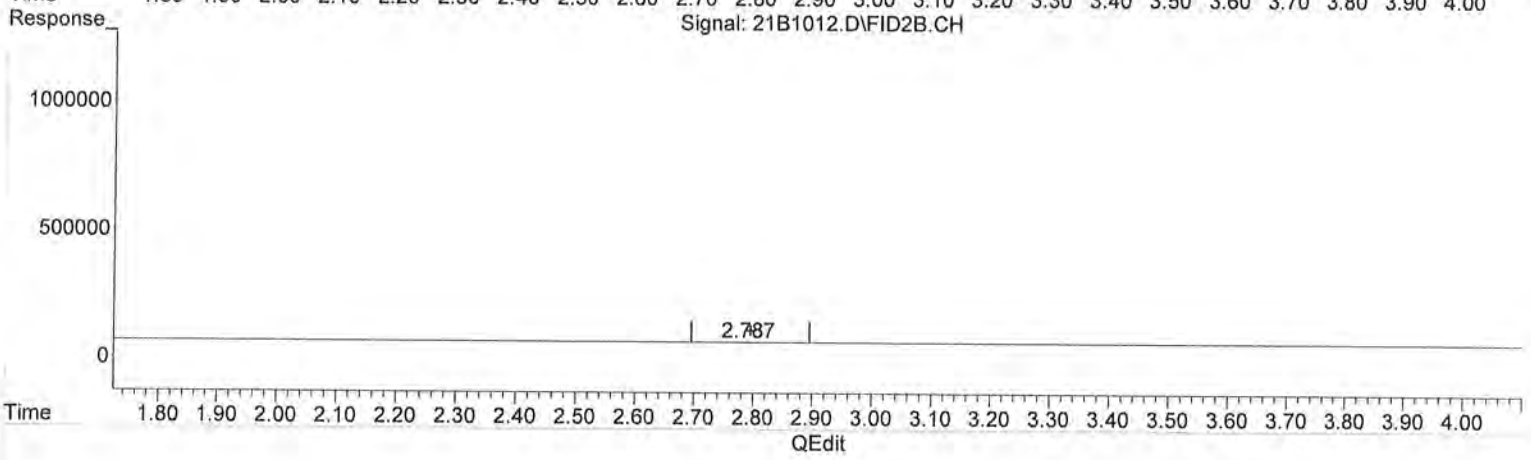
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1012.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 1:28 pm
Operator : JMW
Sample : AA64746-CAL6
Misc :
ALS Vial : 11 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 13:33:51 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





(1) Carbon Dioxide

2.656min 122.005 ppmv

response 59873024

(1) Carbon Dioxide #2

2.787min 0.000 ppmv

response 15408

Select One:

[✓] Original Integration [ ] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] Co-integration

JMW 2/2/21

(+) = Expected Retention Time

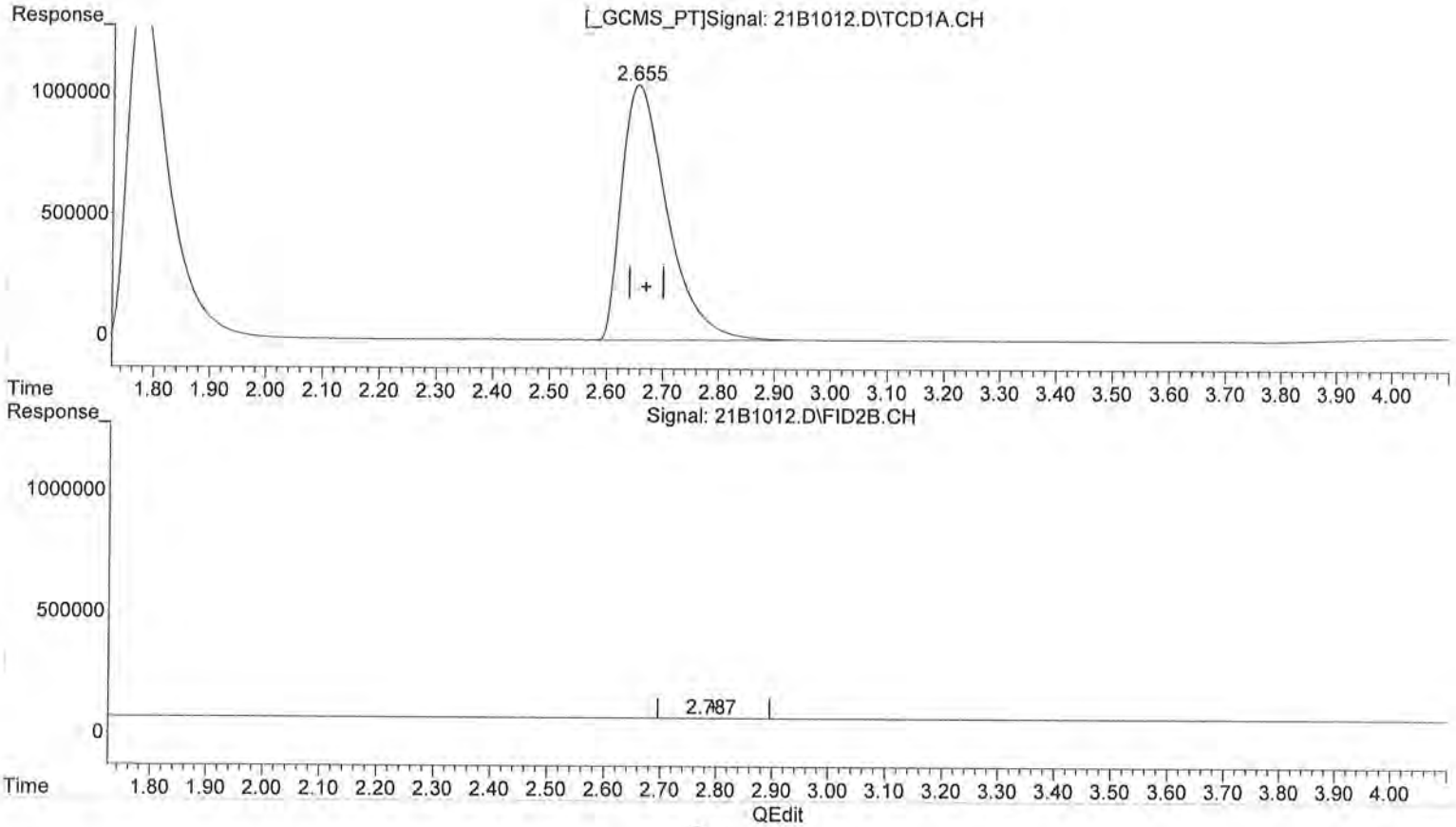
020121.M Tue Feb 02 08:26:28 2021

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1012.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 1:28 pm
Operator : JMW
Sample : AA64746-CAL6
Misc :
ALS Vial : 11 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 13:33:51 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(1) Carbon Dioxide

2.655min 121.763 mg/L m

response 59754008

(1) Carbon Dioxide #2

2.787min 0.000 mg/L

response 15408

Select One:

[ ] Original Integration [X] Manual Integration

Select reason for manual integration:

[X] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date JMW 2/2/21

Review by/Date:

(+) = Expected Retention Time

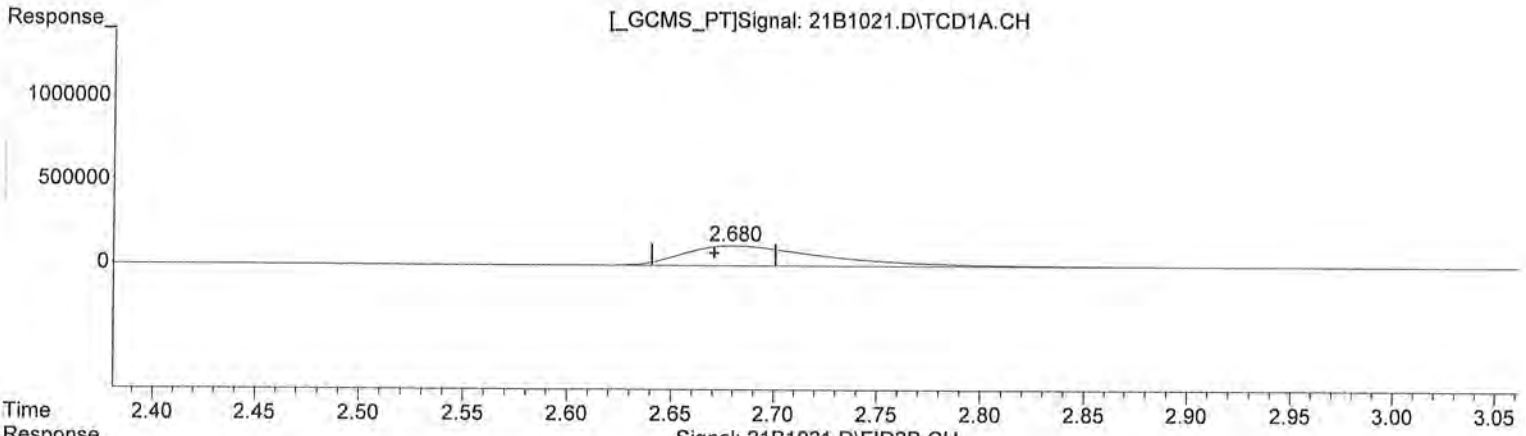
020121.M Tue Feb 02 08:26:45 2021

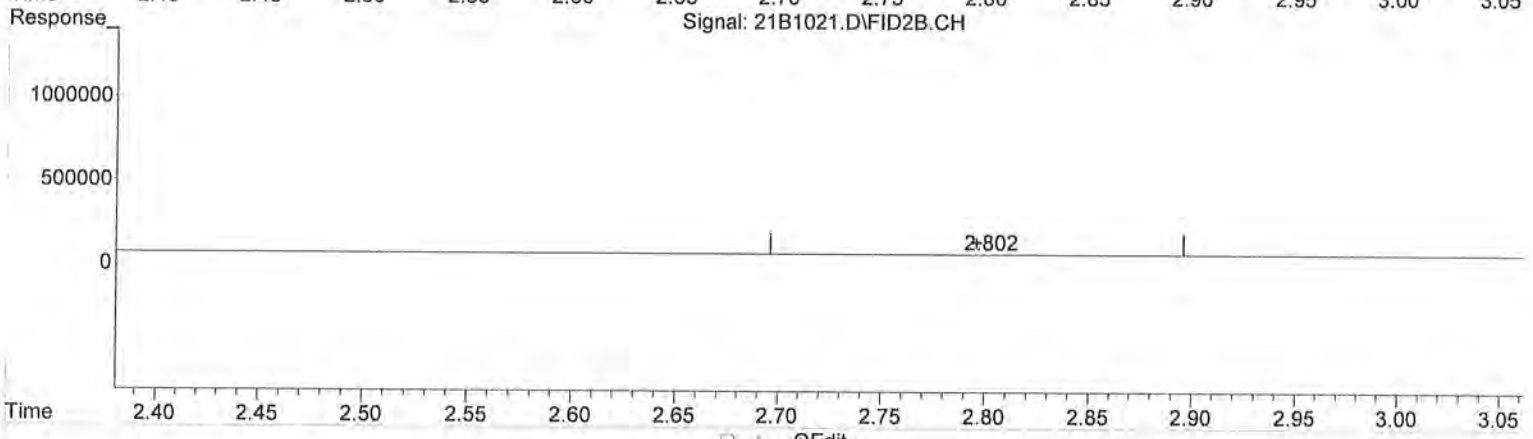
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1021.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 4:03 pm
Operator : JMW
Sample : AA64746-CAL3
Misc :
ALS Vial : 20 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 16:08:13 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





QEdit

(1) Carbon Dioxide

2.680min 12.150 ppmv

response 5962401

(1) Carbon Dioxide #2

2.802min 0.000 ppmv

response 12122

Select One:

[✓] Original Integration [ ] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] ISTD reintegration

[ ] Other:

Review by/Date JMW 2/2/21

Review by/Date:

(+) = Expected Retention Time

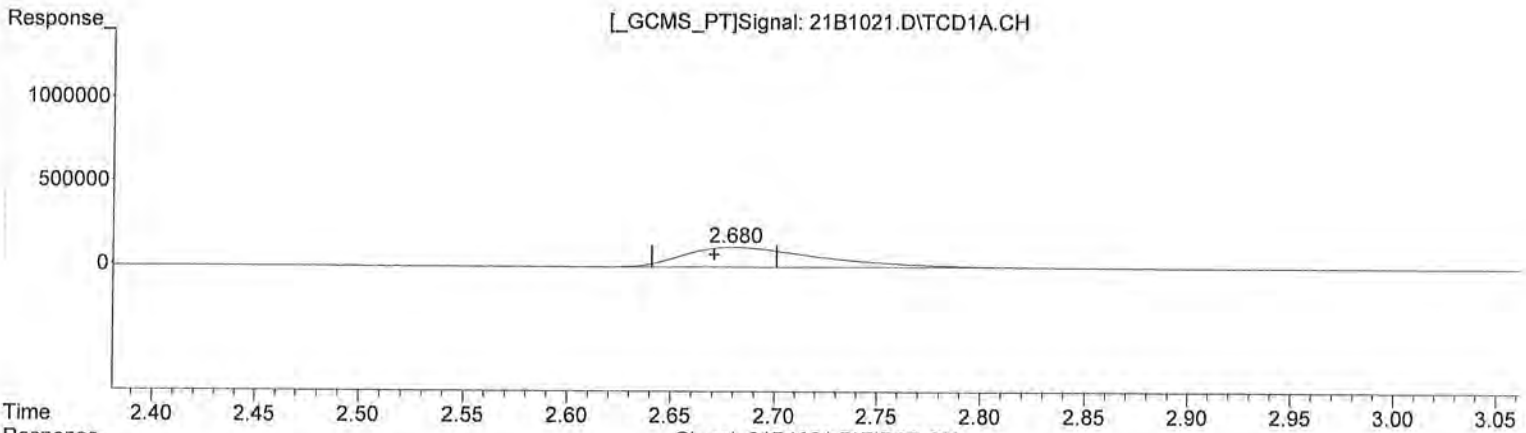
020121.M Tue Feb 02 08:33:24 2021

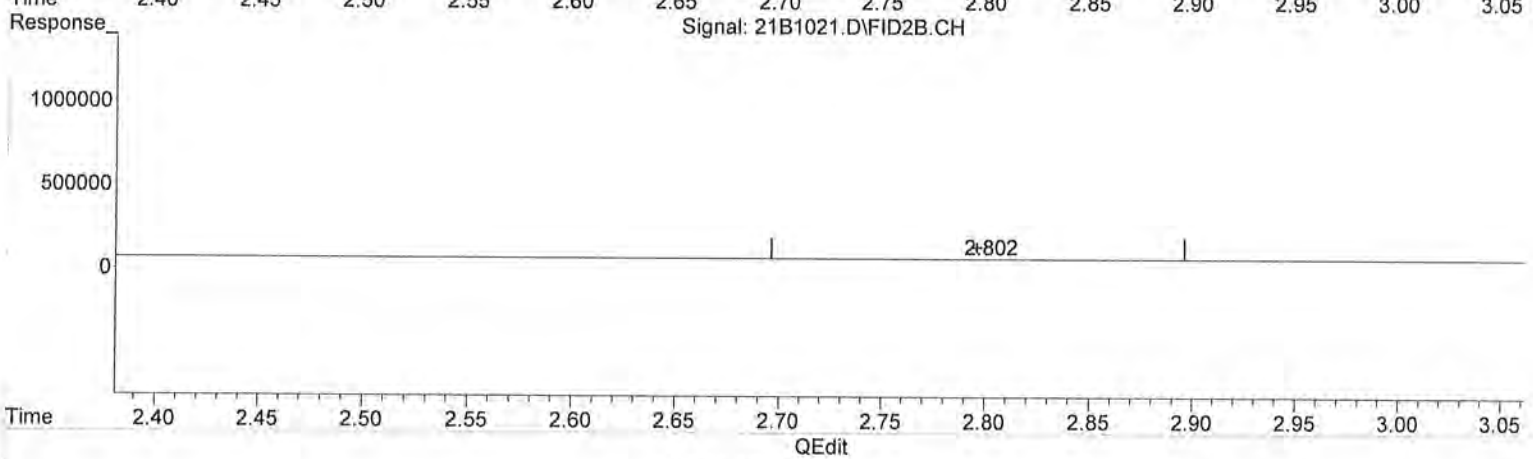
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1021.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 4:03 pm
Operator : JMW
Sample : AA64746-CAL3
Misc :
ALS Vial : 20 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 16:08:13 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





QEdit

(1) Carbon Dioxide

2.680min 11.040 mg/L m

response 5417580

(1) Carbon Dioxide #2

2.802min 0.000 mg/L

response 12122

Select One:

[ ] Original Integration [✓] Manual Integration

Select reason for manual integration:

[✓] Poor integration (peak tailing, baseline selection)

[ ] Incorrect peak selection/Peak not found

[ ] Hump integration

[ ] Baseline drop for split peaks

[ ] RT reintegration

[ ] Other:

Review by/Date: JMW 2/2/21

(+) = Expected Retention Time

020121.M Tue Feb 02 08:33:41 2021

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1006.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 11:33 am
Operator : JMW
Sample : 1B01007-BLK3
Misc :
ALS Vial : 5 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 11:38:22 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.682	2.767	134681	20978	0.274444m	NoCal	#
2)	Methane	0.000	0.000	0	0	N.D.	N.D.	
3)	Ethene	3.715	3.751	76171	10746	NoCal	0.000145	#
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d	
5)	Ethane	4.726f	4.671	15760632	18597	NoCal	0.000193	#

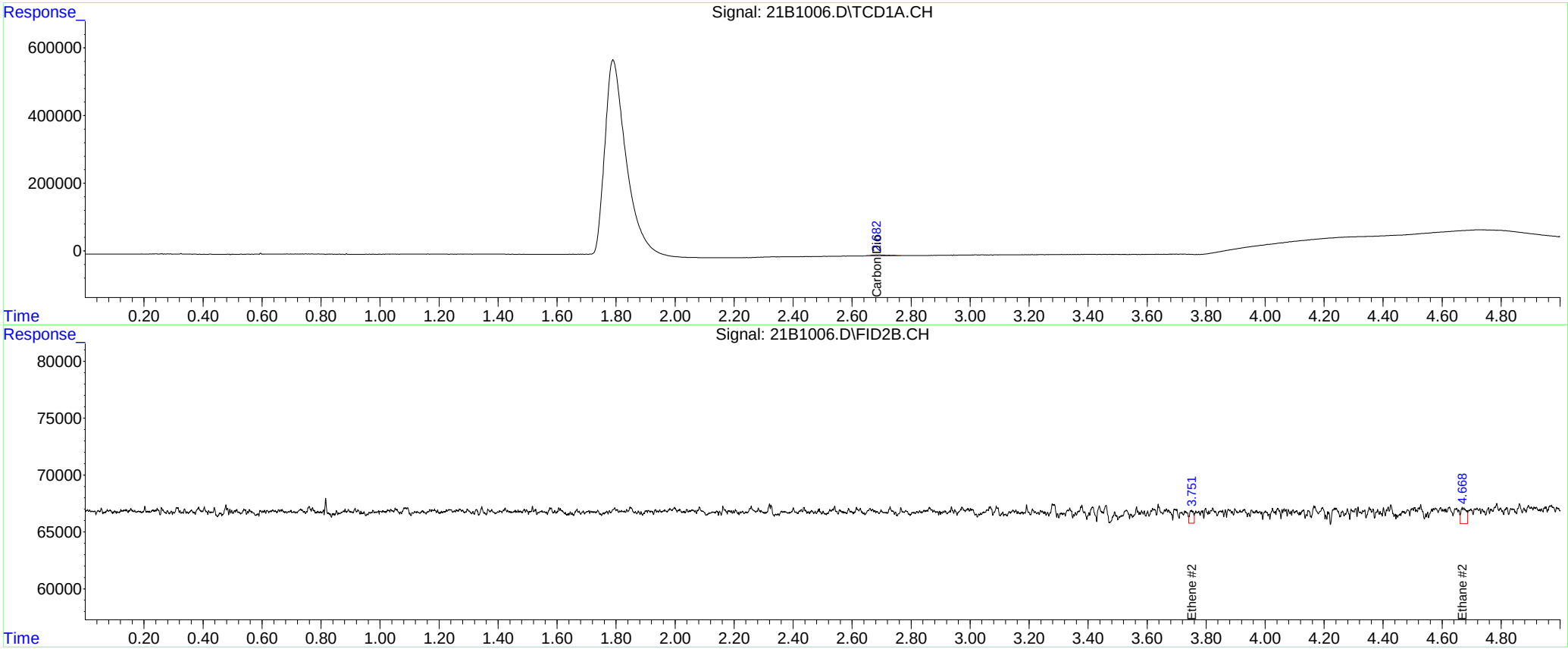
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1006.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 11:33 am
Operator : JMW
Sample : 1B01007-BLK3
Misc :
ALS Vial : 5 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 11:38:22 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1007.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 12:04 pm
Operator : JMW
Sample : AA64746-CAL1
Misc :
ALS Vial : 6 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 12:10:02 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.681	2.788	532714	10633	1.085528m	NoCal	#
2)	Methane	0.000	0.000	0	0	N.D. d	N.D. d	
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

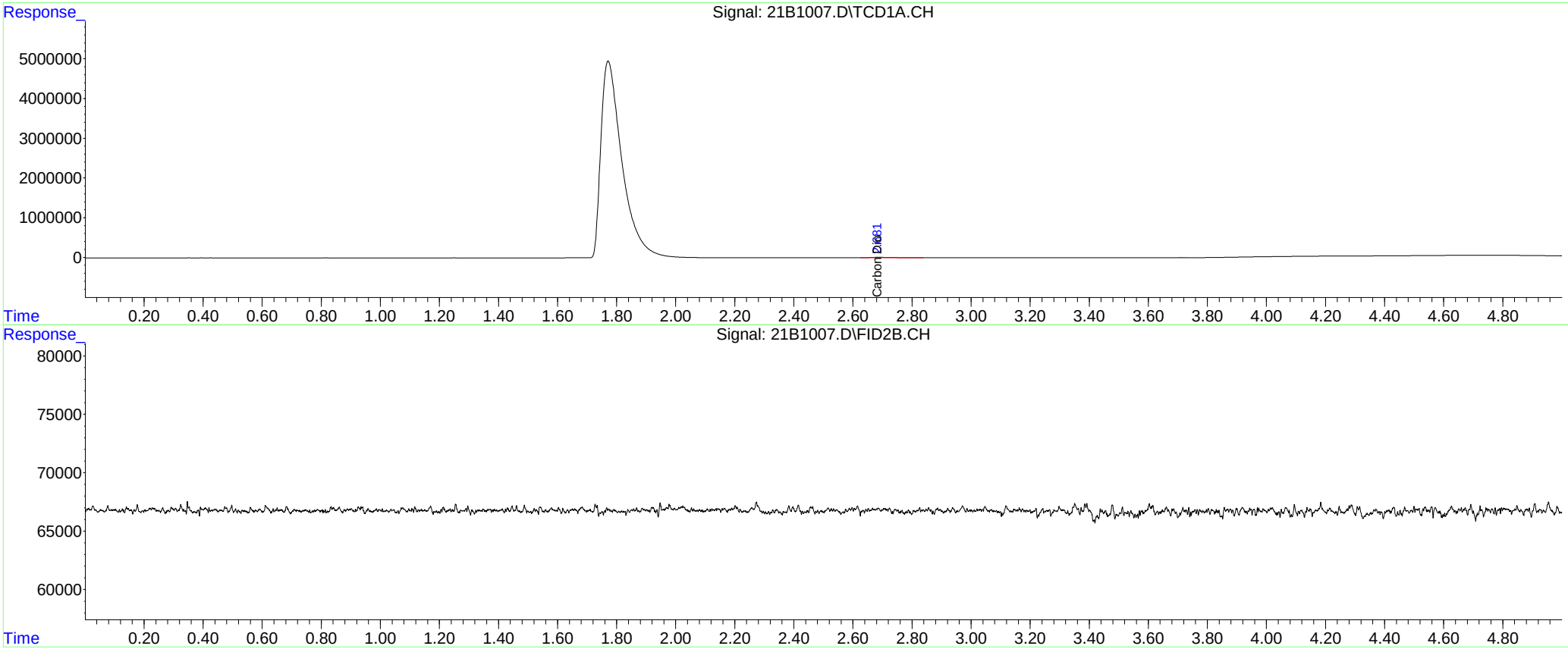
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1007.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 12:04 pm
Operator : JMW
Sample : AA64746-CAL1
Misc :
ALS Vial : 6 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 12:10:02 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1008.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 12:25 pm
Operator : JMW
Sample : AA64746-CAL2
Misc :
ALS Vial : 7 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 12:30:24 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.686	2.788	1427557	4761	2.908978m	NoCal	#
2)	Methane	0.000	0.000	0	0	N.D. d	N.D. d	
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

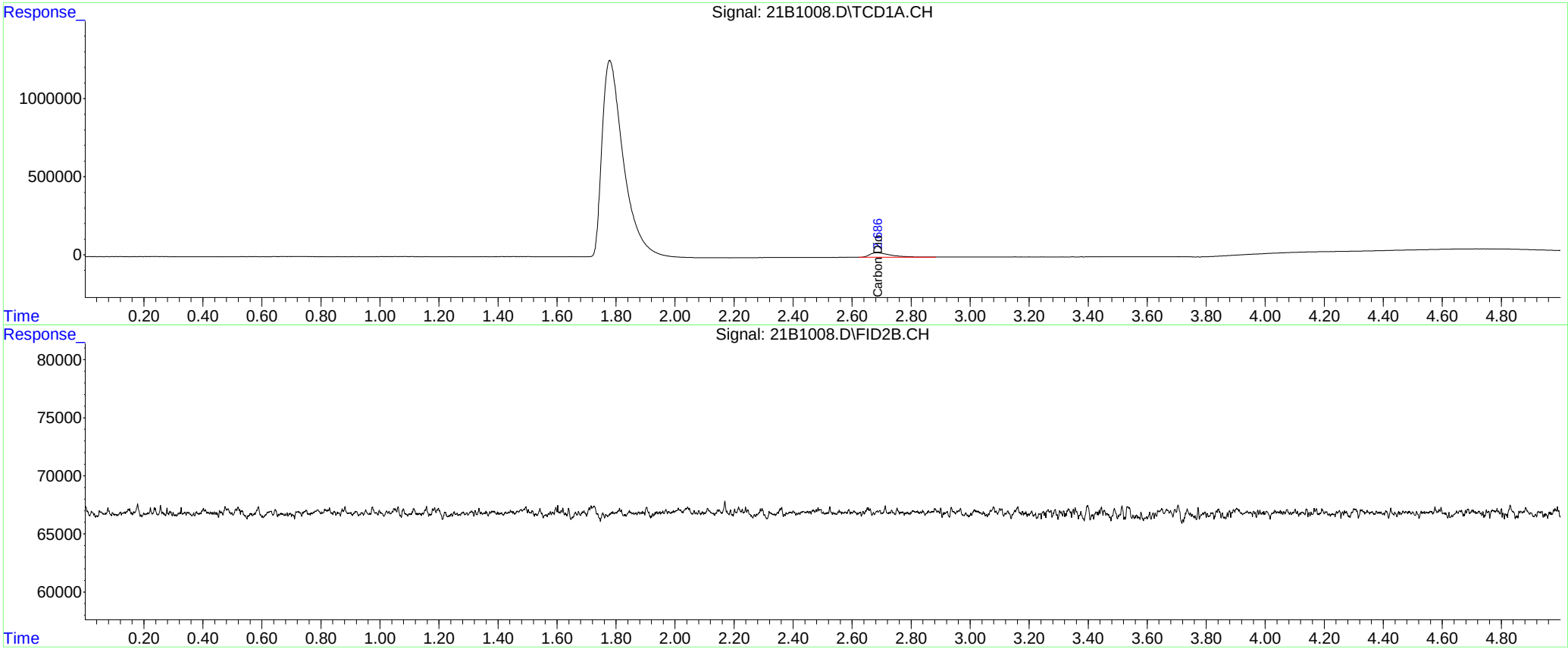
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1008.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 12:25 pm
Operator : JMW
Sample : AA64746-CAL2
Misc :
ALS Vial : 7 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 12:30:24 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1010.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 12:57 pm
Operator : JMW
Sample : AA64746-CAL4
Misc :
ALS Vial : 9 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 13:02:09 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.676	2.807	14250710	10383	29.039121	NoCal	#
2)	Methane	0.000	0.000	0	0	N.D. d	N.D. d	
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

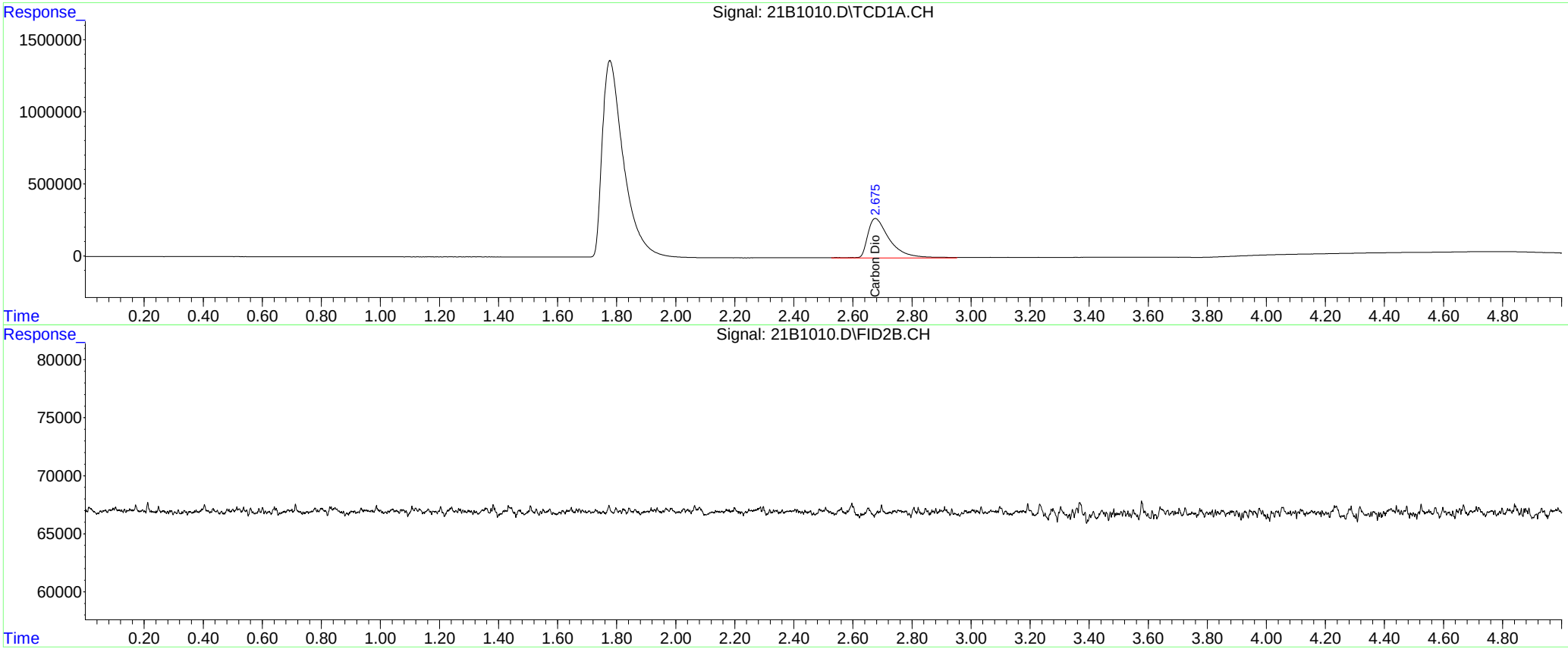
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1010.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 12:57 pm
Operator : JMW
Sample : AA64746-CAL4
Misc :
ALS Vial : 9 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 13:02:09 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1011.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 1:12 pm
Operator : JMW
Sample : AA64746-CAL5
Misc :
ALS Vial : 10 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 13:18:01 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.667	2.797	30307016	4590	61.757560	NoCal	#
2)	Methane	0.000	0.000	0	0	N.D. d	N.D. d	
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

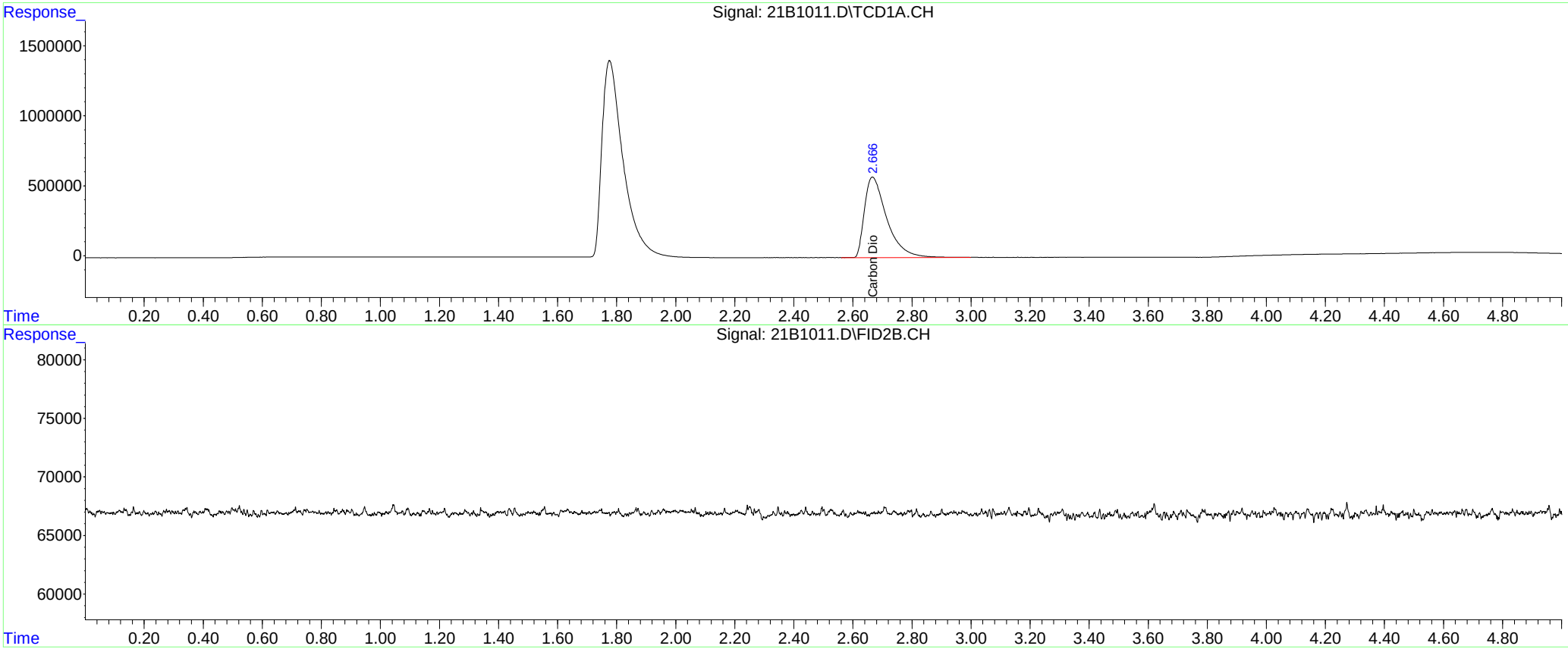
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1011.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 1:12 pm
Operator : JMW
Sample : AA64746-CAL5
Misc :
ALS Vial : 10 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 13:18:01 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1012.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 1:28 pm
Operator : JMW
Sample : AA64746-CAL6
Misc :
ALS Vial : 11 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 13:33:51 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.655	2.787	59754008	15408	121.762623m	NoCal	#
2)	Methane	0.000	0.000	0	0	N.D. d	N.D. d	
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

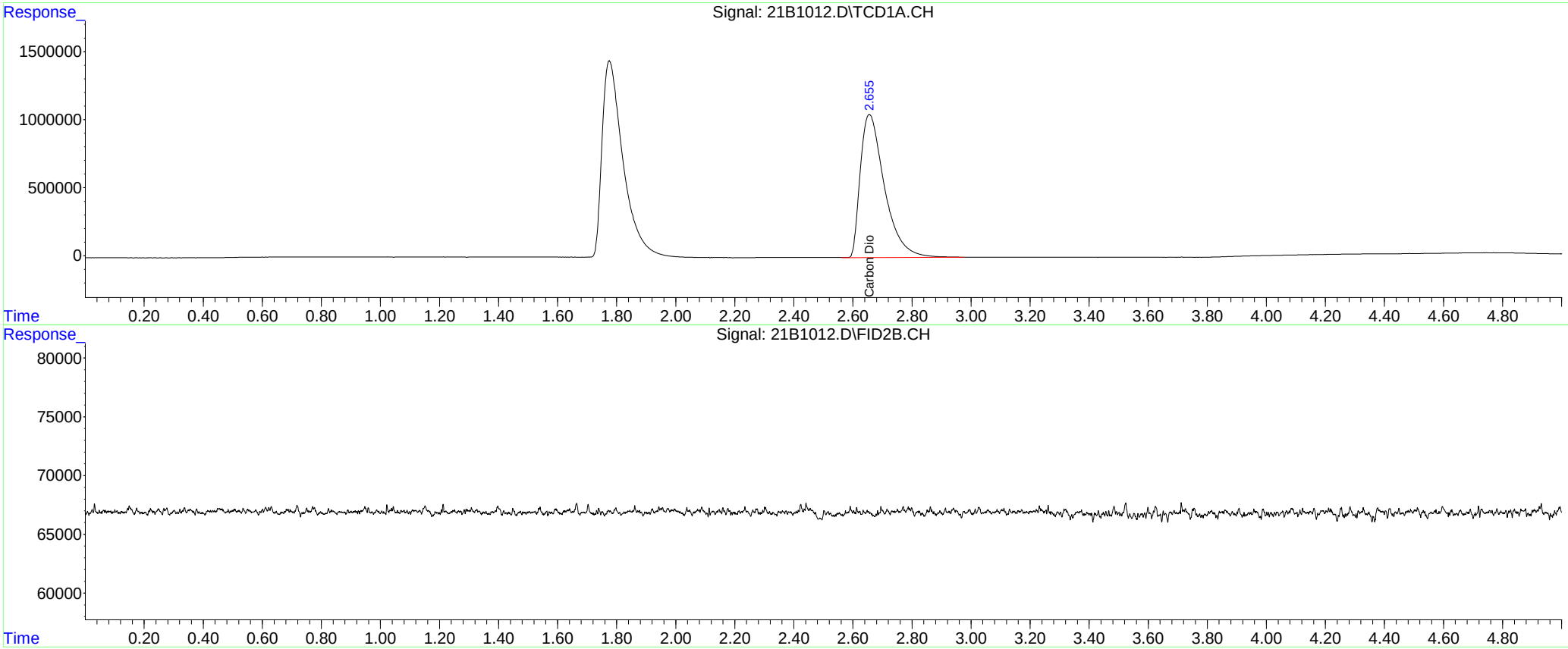
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1012.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 1:28 pm
Operator : JMW
Sample : AA64746-CAL6
Misc :
ALS Vial : 11 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 13:33:51 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1013.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 1:44 pm
Operator : JMW
Sample : AA64746-CAL7
Misc :
ALS Vial : 12 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 13:49:45 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.639	2.809	119.0E6	15003	242.529958m	NoCal	#
2)	Methane	0.000	0.000	0	0	N.D. d	N.D. d	
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

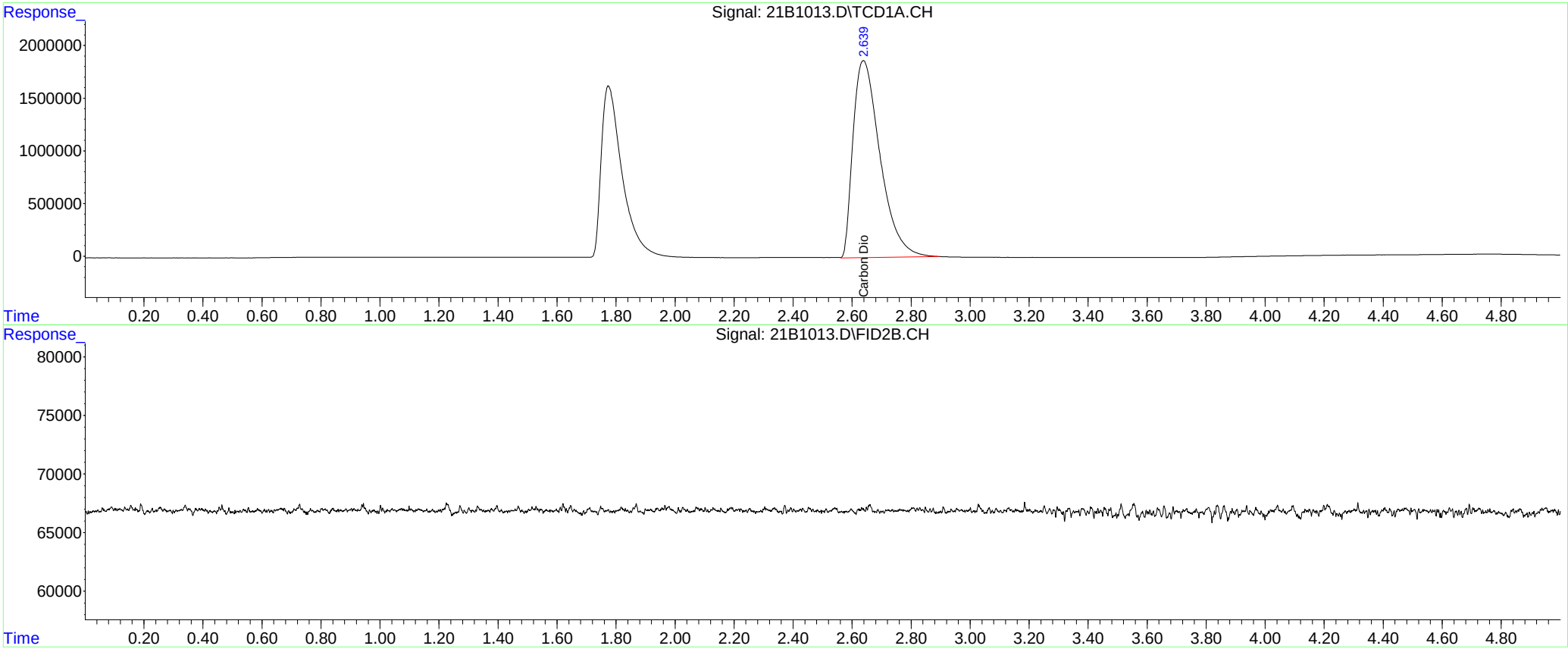
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1013.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 1:44 pm
Operator : JMW
Sample : AA64746-CAL7
Misc :
ALS Vial : 12 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 13:49:45 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1014.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 2:12 pm
Operator : JMW
Sample : AA64746-CAL8
Misc :
ALS Vial : 13 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 14:17:10 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L
	Target Compounds						
1)	Carbon Di...	0.000	0.000	0	0	N.D. d	N.D. d
2)	Methane	0.000	1.965	0	181034	N.D.	0.001606 #
3)	Ethene	3.714	3.751	30553	80262	NoCal	0.001081m#
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d
5)	Ethane	4.703f	4.684	4428569	203399	NoCal	0.002113m#

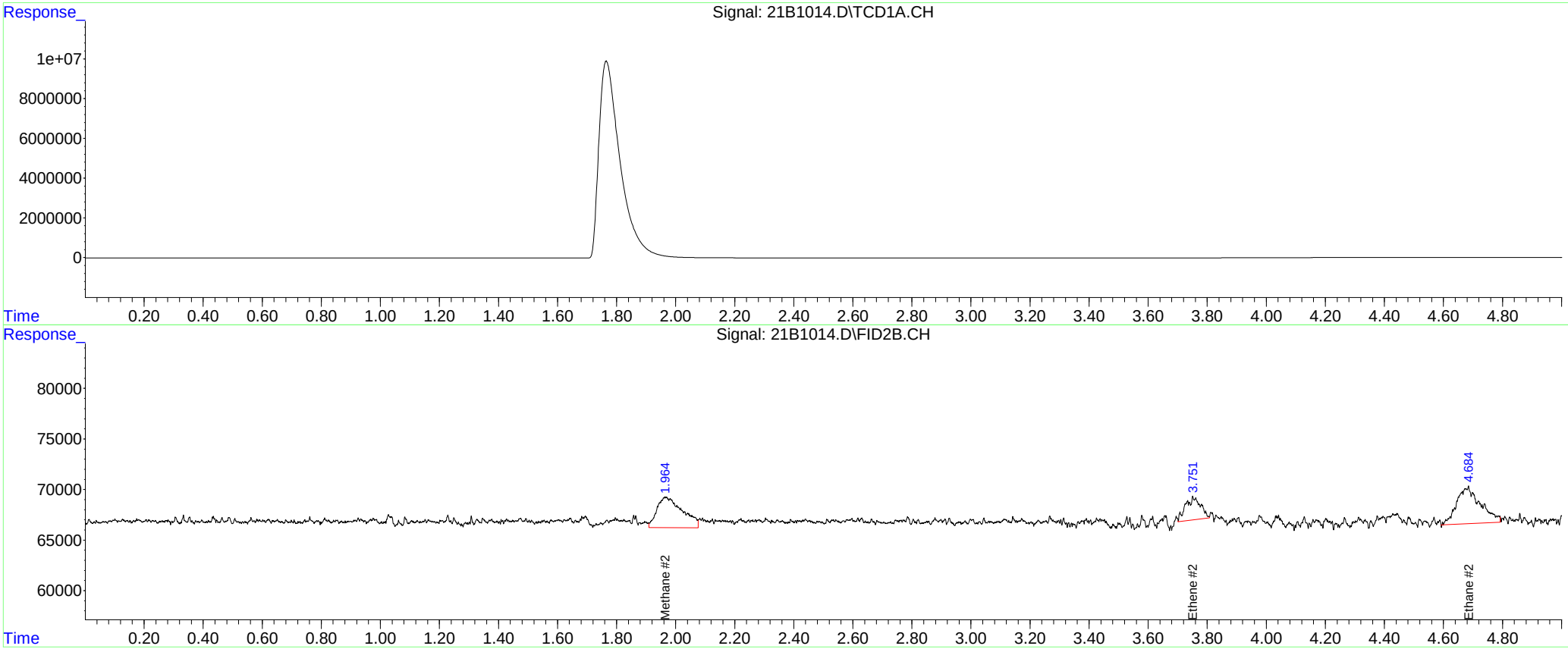
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1014.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 2:12 pm
Operator : JMW
Sample : AA64746-CAL8
Misc :
ALS Vial : 13 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 14:17:10 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1015.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 2:27 pm
Operator : JMW
Sample : AA64746-CAL9
Misc :
ALS Vial : 14 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 14:33:01 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L
	Target Compounds						
1)	Carbon Di...	0.000	0.000	0	0	N.D. d	N.D. d
2)	Methane	0.000	1.966	0	1139304	N.D.	0.010110 #
3)	Ethene	3.717	3.745	47257	1295547	NoCal	0.017453 #
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d
5)	Ethane	4.673f	4.677	1570170	1887916	NoCal	0.019615 #

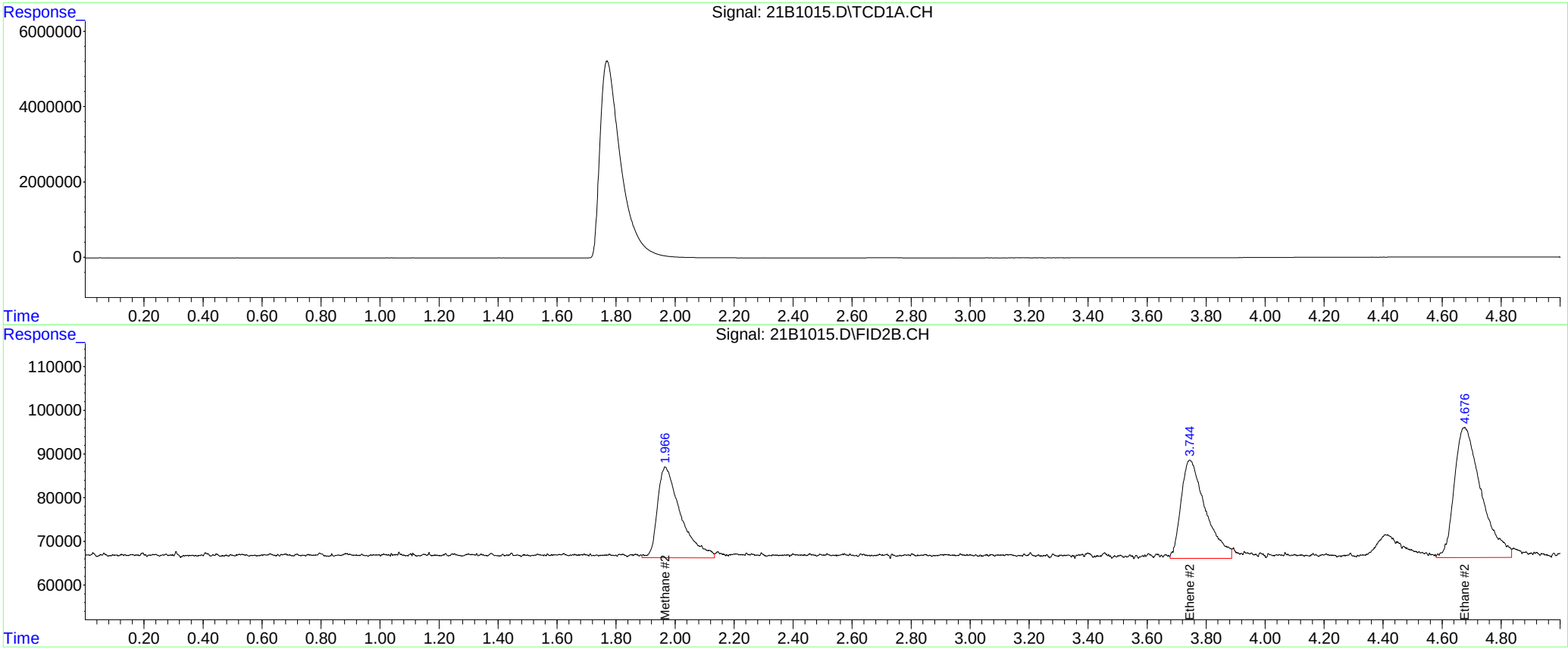
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1015.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 2:27 pm
Operator : JMW
Sample : AA64746-CAL9
Misc :
ALS Vial : 14 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 14:33:01 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1017.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 2:59 pm
Operator : JMW
Sample : AA64746-CALB
Misc :
ALS Vial : 16 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 15:04:46 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L
	Target Compounds						
1)	Carbon Di...	0.000	0.000	0	0	N.D. d	N.D. d
2)	Methane	0.000	1.966	0	11054062	N.D.	0.098092 #
3)	Ethene	3.715	3.743	419320	13215084	NoCal	0.178025 #
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d
5)	Ethane	4.644	4.672	2626416	19514566	NoCal	0.202749 #

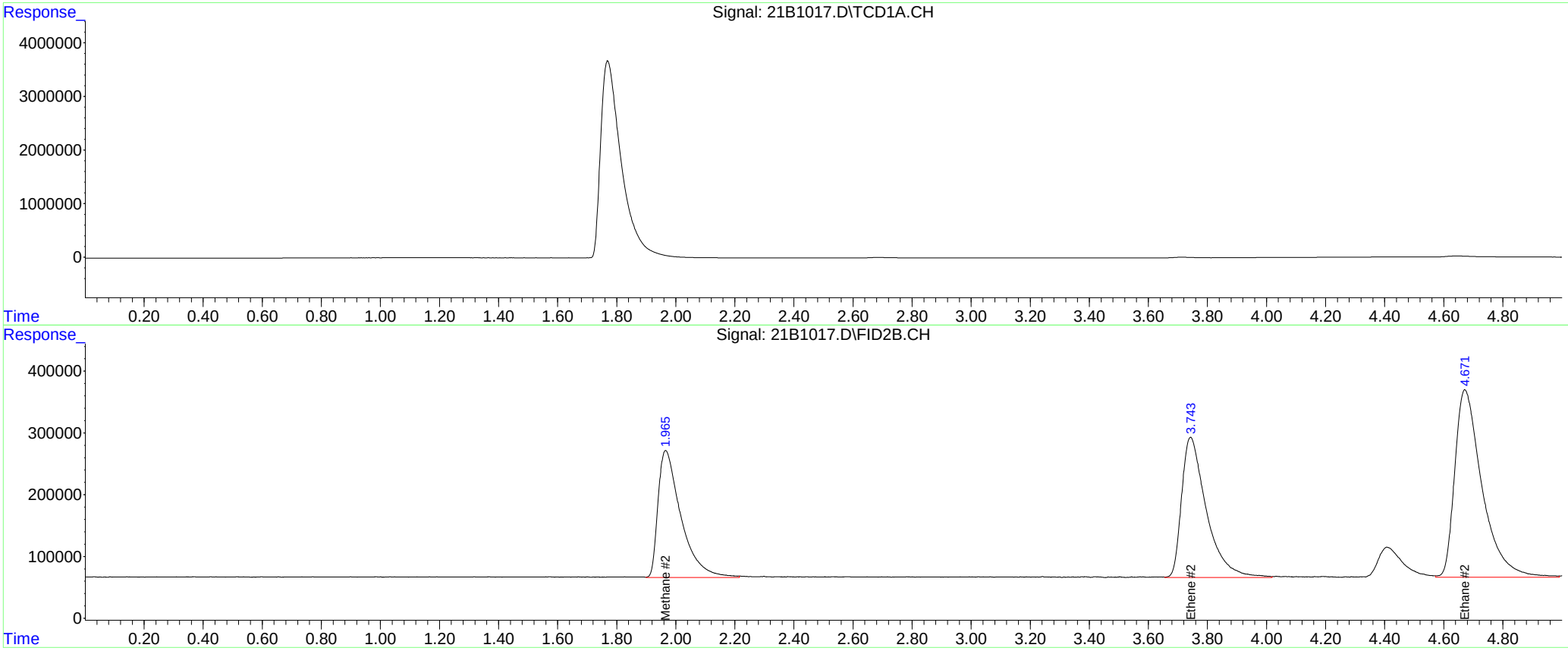
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1017.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 2:59 pm
Operator : JMW
Sample : AA64746-CALB
Misc :
ALS Vial : 16 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 15:04:46 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1018.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 3:15 pm
Operator : JMW
Sample : AA64746-CALC
Misc :
ALS Vial : 17 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 15:20:37 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L
	Target Compounds						
1)	Carbon Di...	0.000	0.000	0	0	N.D. d	N.D. d
2)	Methane	0.000	1.966	0	21984154	N.D.	0.195084 #
3)	Ethene	3.714	3.742	1110301	25639711	NoCal	0.345401 #
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d
5)	Ethane	4.642	4.669	3349236	37223535	NoCal	0.386739 #

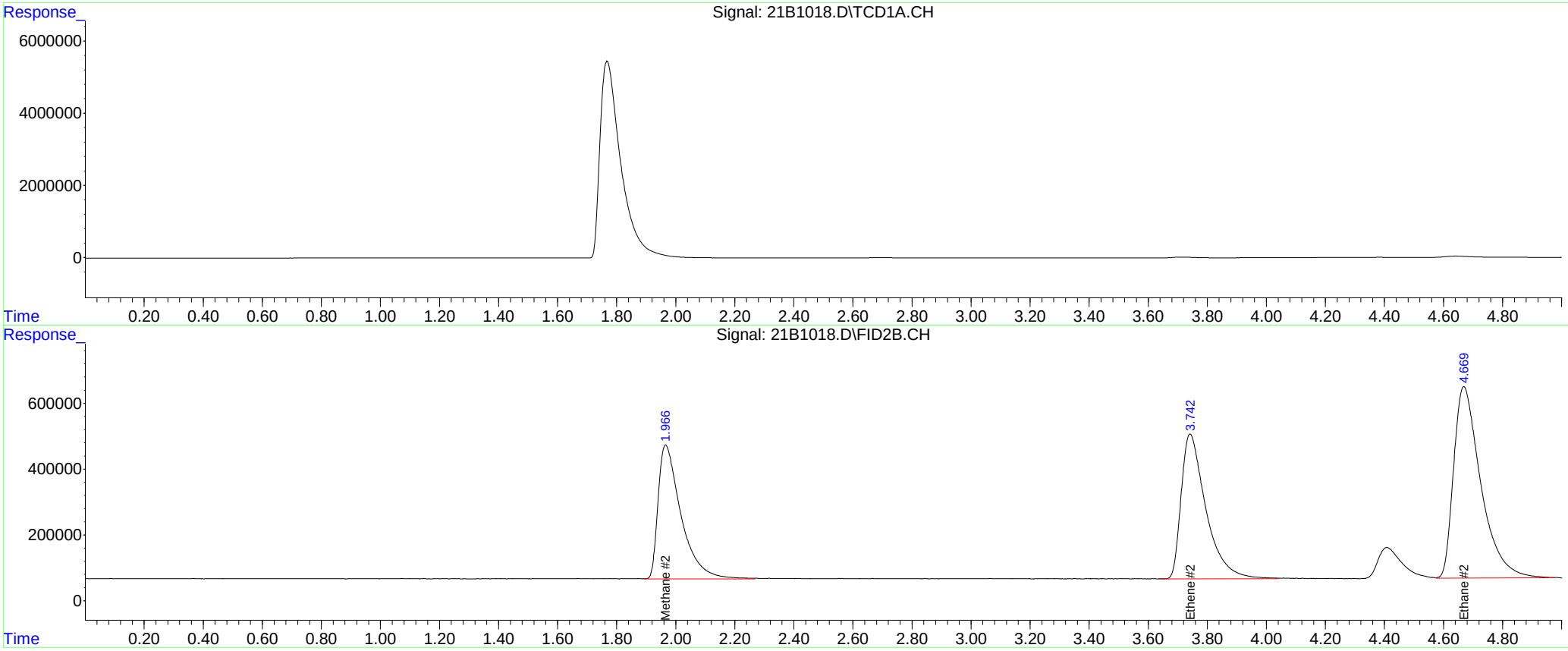
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1018.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 3:15 pm
Operator : JMW
Sample : AA64746-CALC
Misc :
ALS Vial : 17 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 15:20:37 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1019.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 3:31 pm
Operator : JMW
Sample : AA64746-CALD
Misc :
ALS Vial : 18 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 15:36:28 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L
	Target Compounds						
1)	Carbon Di...	0.000	0.000	0	0	N.D. d	N.D. d
2)	Methane	0.000	1.965	0	40635190	N.D.	0.360590 #
3)	Ethene	3.710	3.739	2107715	48394197	NoCal	0.651934 #
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d
5)	Ethane	4.635f	4.662f	4855540	70606275	NoCal	0.733574 #

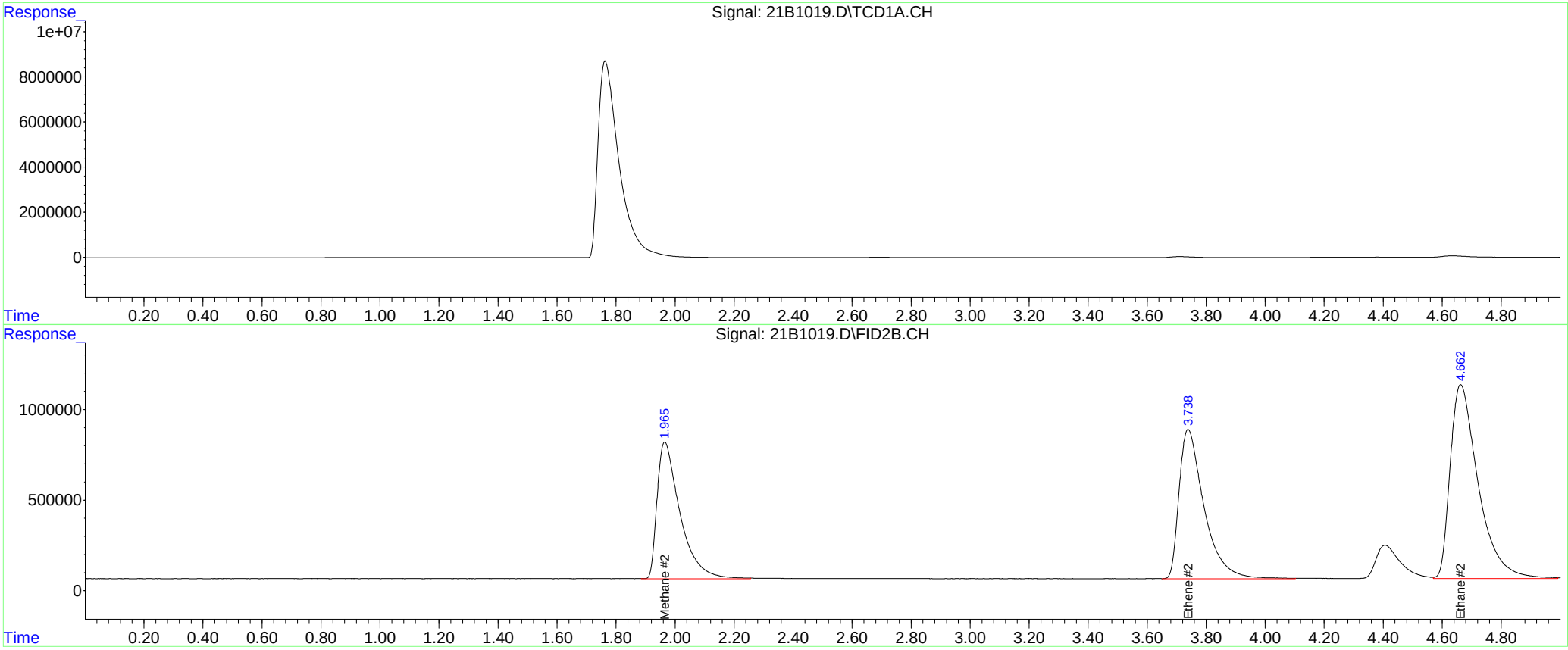
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1019.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 3:31 pm
Operator : JMW
Sample : AA64746-CALD
Misc :
ALS Vial : 18 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 15:36:28 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1020.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 3:47 pm
Operator : JMW
Sample : AA64746-CALE
Misc :
ALS Vial : 19 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 15:52:21 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L
	Target Compounds						
1)	Carbon Di...	0.000	0.000	0	0	N.D. d	N.D. d
2)	Methane	0.000	1.964	0	83504389	N.D.	0.741005 #
3)	Ethene	3.704f	3.732f	4771370	100.5E6	NoCal	1.353770 #
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d
5)	Ethane	4.621f	4.648f	8808275	145.4E6	NoCal	1.510984m#

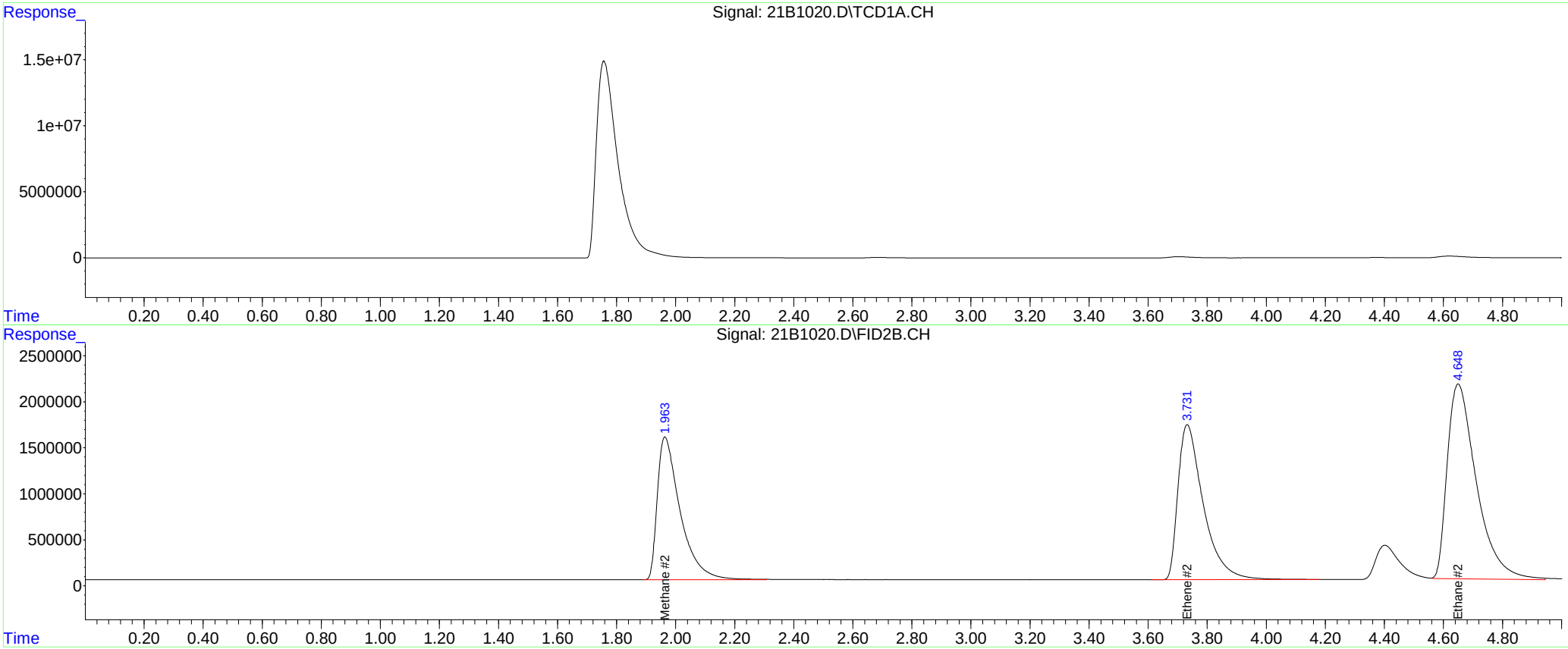
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1020.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 3:47 pm
Operator : JMW
Sample : AA64746-CALE
Misc :
ALS Vial : 19 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 15:52:21 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1021.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 4:03 pm
Operator : JMW
Sample : AA64746-CAL3
Misc :
ALS Vial : 20 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 16:08:13 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.680	2.802	5417580	12122	11.039573m	NoCal	#
2)	Methane	0.000	0.000	0	0	N.D. d	N.D. d	
3)	Ethene	0.000	0.000	0	0	N.D. d	N.D. d	
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d	
5)	Ethane	0.000	0.000	0	0	N.D. d	N.D. d	

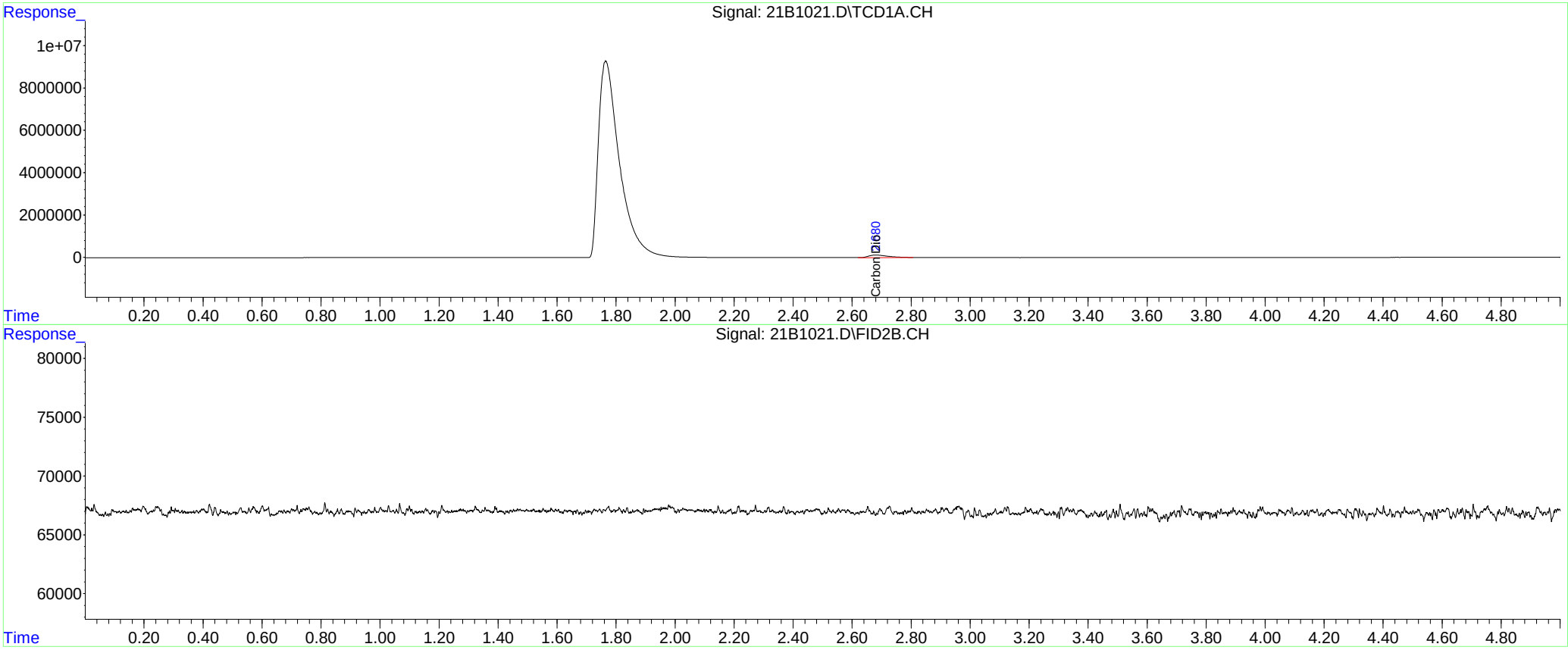
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1021.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 4:03 pm
Operator : JMW
Sample : AA64746-CAL3
Misc :
ALS Vial : 20 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 16:08:13 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1022.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 4:18 pm
Operator : JMW
Sample : AA64746-CALA
Misc :
ALS Vial : 21 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 16:24:06 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L
	Target Compounds						
1)	Carbon Di...	0.000	0.000	0	0	N.D. d	N.D. d
2)	Methane	0.000	1.966	0	4301086	N.D.	0.038167 #
3)	Ethene	3.714	3.744	193748	5048642	NoCal	0.068012 #
4)	Ethyne	0.000	0.000	0	0	N.D. d	N.D. d
5)	Ethane	4.651	4.675	1310372	7555534	NoCal	0.078499 #

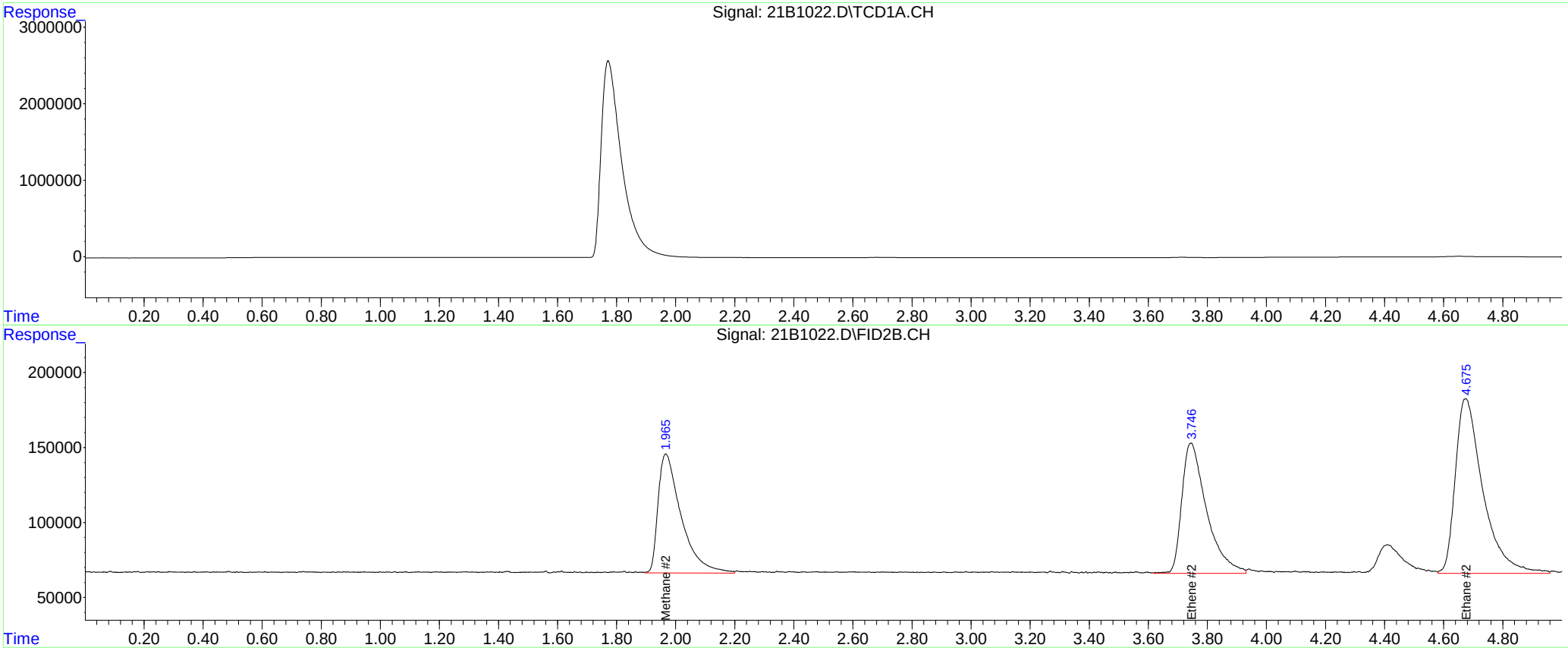
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1022.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 4:18 pm
Operator : JMW
Sample : AA64746-CALA
Misc :
ALS Vial : 21 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 01 16:24:06 2021
Quant Method : C:\MSDCHEM\1\METHODS\RSK.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Mon Jun 01 15:01:24 2020
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1023.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 5:03 pm
Operator : JMW
Sample : AA64746-SCV1
Misc :
ALS Vial : 22 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 02 09:24:15 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	mg/L	mg/L	
	Target Compounds							
1)	Carbon Di...	2.669	2.787	28390945	13805	44.838529	NoCal	#
2)	Methane	0.000	1.966	0	20471112	N.D.	0.170741	#
3)	Ethene	3.713	3.741	1131291	25114717	NoCal	0.314833	#
4)	Ethyne	4.378	4.409	534141	5227695	NoCal	NoCal	
5)	Ethane	4.639	4.668	2516430	36504007	NoCal	0.311984	#

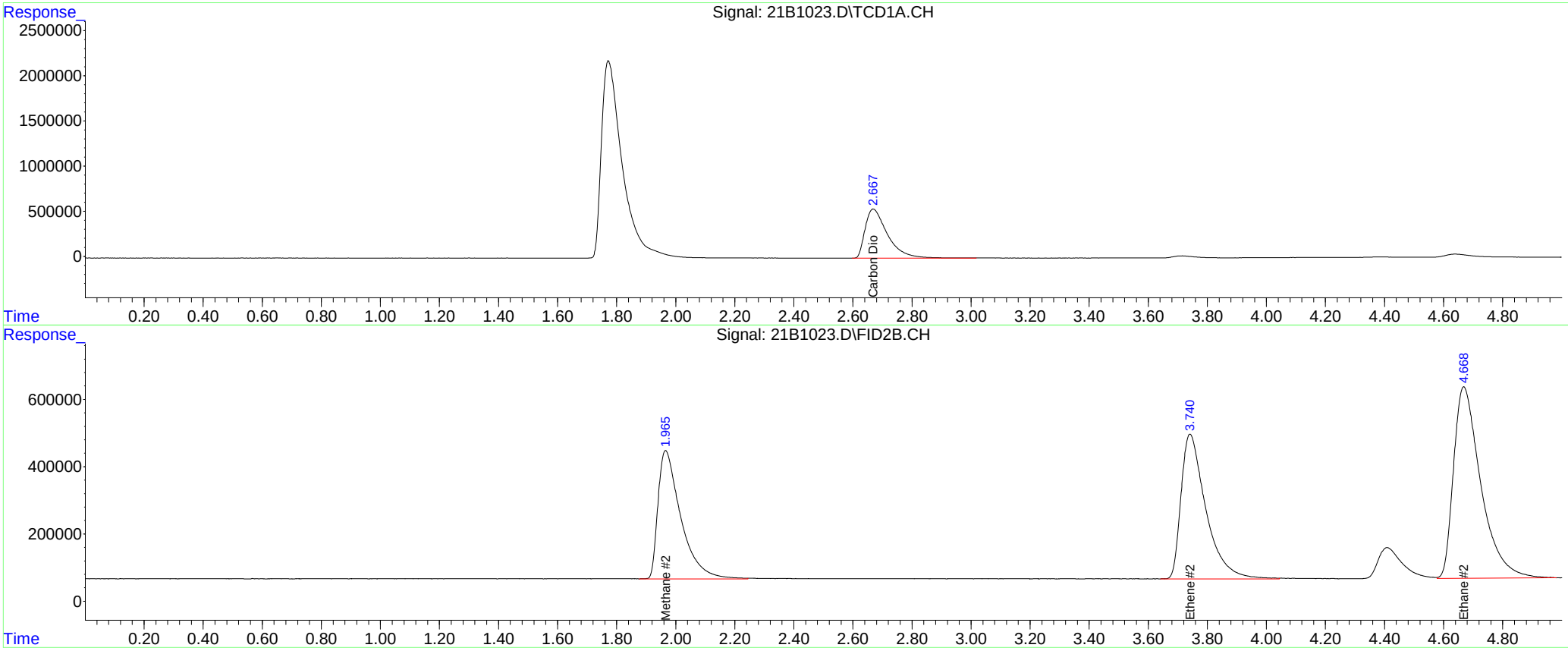
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\020121\
Data File : 21B1023.D
Signal(s) : Signal #1: TCD1A.CH Signal #2: FID2B.CH
Acq On : 01 Feb 2021 5:03 pm
Operator : JMW
Sample : AA64746-SCV1
Misc :
ALS Vial : 22 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Feb 02 09:24:15 2021
Quant Method : C:\MSDCHEM\1\METHODS\020121.M
Quant Title : VGC-2006012::OVGCFID2
QLast Update : Tue Feb 02 09:23:58 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



TETRA TECH ISG
TtEGS, Information Systems Group

Completion Ticket

On 8/20/2021 at 1:13 PM the following files were submitted to Tetra Tech by kdylnicki@encolabs.com with ENCO:

TE016AE05483A1.txt, TE016AE05483A3.txt

If you need to identify this session at a later date refer to Ticket Key:

2021820_624587146_ledd_ENCO

You may print this page by clicking on the "Print This Page" button

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I Lori S. Mangrum, as the designated Quality Assurance Officer, hereby attest that all electronic deliverables have been thoroughly reviewed and are in agreement with the associated hardcopy data. The enclosed electronic files have been reviewed for accuracy (including significant figures), completeness and format. The laboratory will be responsible for any labor time necessary to correct enclosed electronic deliverables that have been found to be in error. I can be reached at (407) 826-5314 if there are any questions or problems with the enclosed electronic deliverables.

Signature:_____ Title: Quality Assurance Manager Date: August 25, 2021

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ENCO Laboratories

Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Tuesday, August 3, 2021
Tetra Tech, Inc. (TE016)
Attn: Alex Murphy
11 Riverside Drive, Suite 204
Cocoa, FL 32922

RE: Laboratory Results for
Project Number: 112G08970, Project Name/Desc: NASA KSC CRCA
ENCO Workorder(s): AE05483

Dear Alex Murphy,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Tuesday, July 27, 2021.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

www.encolabs.com

Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Client PM: Alex Murphy
Project Number: 112G08970
ENCO Project ID: AE05483
SDG: AE05483-TE016

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling and processing will be discussed in the Remarks section below.

Remarks

List of instruments used:

Analytical Method / Preparation Method	SOP Reference Instrument
EPA 8260D / EPA_5030B_MS	OVGCMS5
RSK 175	OVGCFID2

Analysis: EPA 8260D

Manual integrations were performed on samples associated with EPA 8260D. All data & explanations are included in the raw data section of the report

Affected Samples: AA67540-CCV1, RCA-MW0002-032.5-20210726 [AE05483-01], CRCA-MW0018-058.0-20210726 [AE05483-02], CRCA-MW0013-027.5-20210726 [AE05483-03], CRCA-MW0012-027.5-20210726 [AE05483-04], CRCA-MW0015-027.5-20210726 [AE05483-05], CRCA-MW0031-058.0-20210726 [AE05483-06], CRCA-MW0019-058.0-20210726 [AE05483-07]
The associated calibration verification standard for bromomethane and dichlorodifluoromethane exhibited high bias. Analytes not detected in the sample.

Affected Batch: 1G28012
Due to instrument error the matrix spike duplicate was not analyzed.

Affected Samples: AA67540-CCV1
The continuing calibration verification standard exhibited low bias for chloroethane; the associated sample had ND (non-detect) results, but sensitivity was verified by analyzing a standard with a concentration equivalent to the reporting limit.

Affected Samples: AA66932-SCV1
Recovery for carbon disulfide and dichlorodifluoromethane was outside acceptance limits. Analyte was not detected in the samples.

Analysis: RSK 175

Manual integrations were performed on samples associated with RSK 175. All data & explanations are included in the raw data section of the report

Affected Samples: CCRCA-MW0018-058.0-20210726 [AE05483-02]
Result for methane was above the calibration range of the instrument. Sample was reanalyzed at a dilution.

Affected Samples: CRCA-MW0019-058.0-20210726 [AE05483-07], 1G28011-DUP1
Precision between duplicate samples was outside acceptance limits for methane.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Kaitlin Dylnicki
Project Manager

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: CRCA-MW0002-032.5-20210726 **Lab ID: AE05483-01** **Sampled: 07/26/21 09:25** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	08/09/21	07/28/21 08:53	07/28/21 10:16

Client ID: CRCA-MW0018-058.0-20210726 **Lab ID: AE05483-02** **Sampled: 07/26/21 10:00** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	08/09/21	07/28/21 08:53	07/28/21 10:44
RSK 175	Same	08/09/21	07/28/21 00:00	07/28/21 11:22

Client ID: CRCA-MW0018-058.0-20210726 **Lab ID: AE05483-02RE1** **Sampled: 07/26/21 10:00** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	08/09/21	07/28/21 00:00	07/28/21 13:15

Client ID: CRCA-MW0013-027.5-20210726 **Lab ID: AE05483-03** **Sampled: 07/26/21 10:40** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	08/09/21	07/28/21 08:53	07/28/21 11:12

Client ID: CRCA-MW0012-027.5-20210726 **Lab ID: AE05483-04** **Sampled: 07/26/21 11:15** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	08/09/21	07/28/21 08:53	07/28/21 11:40

Client ID: CRCA-MW0015-027.5-20210726 **Lab ID: AE05483-05** **Sampled: 07/26/21 12:25** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	08/09/21	07/28/21 08:53	07/28/21 12:08

Client ID: CRCA-MW0031-058.0-20210726 **Lab ID: AE05483-06** **Sampled: 07/26/21 13:15** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	08/09/21	07/28/21 08:53	07/28/21 12:37
RSK 175	Same	08/09/21	07/28/21 00:00	07/28/21 11:38

Client ID: CRCA-MW0019-058.0-20210726 **Lab ID: AE05483-07** **Sampled: 07/26/21 14:00** **Received: 07/27/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	08/09/21	07/28/21 08:53	07/28/21 13:05
RSK 175	Same	08/09/21	07/28/21 00:00	07/28/21 12:14

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: CRCA-MW0002-032.5-20210726 **Lab ID:** AE05483-01

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
trans-1,2-Dichloroethene	0.73	I	0.73	2.5	ug/L	EPA 8260D	
Vinyl chloride	7.4		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0018-058.0-20210726 **Lab ID:** AE05483-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethene	0.00842		0.00510	0.00600	mg/L	RSK 175	
Vinyl chloride	55		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0018-058.0-20210726 **Lab ID:** AE05483-02RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	1.41		0.0600	0.0750	mg/L	RSK 175	

Client ID: CRCA-MW0013-027.5-20210726 **Lab ID:** AE05483-03

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	1.4	I	0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0031-058.0-20210726 **Lab ID:** AE05483-06

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	0.582		0.00400	0.00500	mg/L	RSK 175	
Vinyl chloride	18		0.71	2.5	ug/L	EPA 8260D	

Client ID: CRCA-MW0019-058.0-20210726 **Lab ID:** AE05483-07

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	0.203		0.00400	0.00500	mg/L	RSK 175	QM-12
Vinyl chloride	1.4	I	0.71	2.5	ug/L	EPA 8260D	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0002-032.5-20210726 **Lab Sample ID:** AE05483-01 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 09:25 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1G28012	EPA 8260D	07/28/21 10:16	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 10:16	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
trans-1,2-Dichloroethene [156-60-5]^	**0.73**	I	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0002-032.5-20210726 **Lab Sample ID:** AE05483-01 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 09:25 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Vinyl chloride [75-01-4]^	**7.4**		ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 10:16	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 10:16	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*50*	*1*	*50.0*	*100 %*	*41-142*	*1G28012*	*EPA 8260D*	*07/28/21 10:16*	*kkw*	
Dibromofluoromethane	*51*	*1*	*50.0*	*102 %*	*53-146*	*1G28012*	*EPA 8260D*	*07/28/21 10:16*	*kkw*	
Toluene-d8	*52*	*1*	*50.0*	*104 %*	*41-146*	*1G28012*	*EPA 8260D*	*07/28/21 10:16*	*kkw*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0018-058.0-20210726 **Lab Sample ID:** AE05483-02 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 10:00 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1G28012	EPA 8260D	07/28/21 10:44	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 10:44	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0018-058.0-20210726 **Lab Sample ID:** AE05483-02 **Received:** 07/27/21 15:00
Matrix: Ground Water **Sampled:** 07/26/21 10:00 **Work Order:** AE05483
Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Vinyl chloride [75-01-4]^	**55**		ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 10:44	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 10:44	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*51*	*1*	*50.0*	*102 %*	*41-142*	*1G28012*	*EPA 8260D*	*07/28/21 10:44*	*kkw*	
Dibromofluoromethane	*53*	*1*	*50.0*	*106 %*	*53-146*	*1G28012*	*EPA 8260D*	*07/28/21 10:44*	*kkw*	
Toluene-d8	*51*	*1*	*50.0*	*102 %*	*41-146*	*1G28012*	*EPA 8260D*	*07/28/21 10:44*	*kkw*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1G28011	RSK 175	07/28/21 11:22	jmw	
Ethene [74-85-1]^	**0.00842**		mg/L	1	0.00510	0.00600	1G28011	RSK 175	07/28/21 11:22	jmw	
Methane [74-82-8]^	**1.41**		mg/L	15	0.0600	0.0750	1G28011	RSK 175	07/28/21 13:15	jmw	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0013-027.5-20210726 **Lab Sample ID:** AE05483-03 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 10:40 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1G28012	EPA 8260D	07/28/21 11:12	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 11:12	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0013-027.5-20210726 **Lab Sample ID:** AE05483-03 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 10:40 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Vinyl chloride [75-01-4]^	**1.4**	I	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 11:12	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 11:12	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*50*	*1*	*50.0*	*100 %*	*41-142*	*1G28012*	*EPA 8260D*	*07/28/21 11:12*	*kkw*	
Dibromofluoromethane	*51*	*1*	*50.0*	*102 %*	*53-146*	*1G28012*	*EPA 8260D*	*07/28/21 11:12*	*kkw*	
Toluene-d8	*51*	*1*	*50.0*	*102 %*	*41-146*	*1G28012*	*EPA 8260D*	*07/28/21 11:12*	*kkw*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0012-027.5-20210726 **Lab Sample ID:** AE05483-04 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 11:15 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1G28012	EPA 8260D	07/28/21 11:40	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 11:40	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0012-027.5-20210726 **Lab Sample ID:** AE05483-04 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 11:15 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 11:40	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 11:40	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*50*	*1*	*50.0*	*99 %*	*41-142*	*1G28012*	*EPA 8260D*	*07/28/21 11:40*	*kkw*	
Dibromofluoromethane	*51*	*1*	*50.0*	*102 %*	*53-146*	*1G28012*	*EPA 8260D*	*07/28/21 11:40*	*kkw*	
Toluene-d8	*52*	*1*	*50.0*	*103 %*	*41-146*	*1G28012*	*EPA 8260D*	*07/28/21 11:40*	*kkw*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0015-027.5-20210726 **Lab Sample ID:** AE05483-05 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 12:25 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1G28012	EPA 8260D	07/28/21 12:08	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 12:08	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0015-027.5-20210726 **Lab Sample ID:** AE05483-05 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 12:25 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 12:08	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 12:08	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*49*	*1*	*50.0*	*99 %*	*41-142*	*1G28012*	*EPA 8260D*	*07/28/21 12:08*	*kkw*	
Dibromofluoromethane	*51*	*1*	*50.0*	*101 %*	*53-146*	*1G28012*	*EPA 8260D*	*07/28/21 12:08*	*kkw*	
Toluene-d8	*51*	*1*	*50.0*	*102 %*	*41-146*	*1G28012*	*EPA 8260D*	*07/28/21 12:08*	*kkw*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0031-058.0-20210726 **Lab Sample ID:** AE05483-06 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 13:15 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1G28012	EPA 8260D	07/28/21 12:37	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 12:37	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	

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ANALYTICAL RESULTS

Description: CRCA-MW0031-058.0-20210726 **Lab Sample ID:** AE05483-06 **Received:** 07/27/21 15:00
Matrix: Ground Water **Sampled:** 07/26/21 13:15 **Work Order:** AE05483
Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Vinyl chloride [75-01-4]^	**18**		ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 12:37	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 12:37	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*51*	*1*	*50.0*	*102 %*	*41-142*	*1G28012*	*EPA 8260D*	*07/28/21 12:37*	*kkw*	
Dibromofluoromethane	*51*	*1*	*50.0*	*101 %*	*53-146*	*1G28012*	*EPA 8260D*	*07/28/21 12:37*	*kkw*	
Toluene-d8	*52*	*1*	*50.0*	*104 %*	*41-146*	*1G28012*	*EPA 8260D*	*07/28/21 12:37*	*kkw*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1G28011	RSK 175	07/28/21 11:38	jmw	
Ethene [74-85-1]^	0.00510	U	mg/L	1	0.00510	0.00600	1G28011	RSK 175	07/28/21 11:38	jmw	
Methane [74-82-8]^	**0.582**		mg/L	1	0.00400	0.00500	1G28011	RSK 175	07/28/21 11:38	jmw	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: CRCA-MW0019-058.0-20210726 **Lab Sample ID:** AE05483-07 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 14:00 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1,1-Trichloroethane [71-55-6]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,1,2,2-Tetrachloroethane [79-34-5]^	0.54	U	ug/L	1	0.54	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,1,2-Trichloroethane [79-00-5]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,1-Dichloroethane [75-34-3]^	0.62	U	ug/L	1	0.62	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,2,4-Trichlorobenzene [120-82-1]^	0.70	U	ug/L	1	0.70	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,2-Dibromo-3-chloropropane [96-12-8]^	0.96	U	ug/L	1	0.96	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,2-Dibromoethane [106-93-4]^	0.78	U	ug/L	1	0.78	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,2-Dichlorobenzene [95-50-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,2-Dichloroethane [107-06-2]^	0.63	U	ug/L	1	0.63	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,2-Dichloropropane [78-87-5]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,3-Dichlorobenzene [541-73-1]^	0.77	U	ug/L	1	0.77	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
1,4-Dichlorobenzene [106-46-7]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
2-Butanone [78-93-3]^	4.5	U	ug/L	1	4.5	12	1G28012	EPA 8260D	07/28/21 13:05	kkw	
2-Hexanone [591-78-6]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 13:05	kkw	
4-Methyl-2-pentanone [108-10-1]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Acetone [67-64-1]^	10	U	ug/L	1	10	25	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Benzene [71-43-2]^	0.71	U	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Bromodichloromethane [75-27-4]^	0.52	U	ug/L	1	0.52	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Bromoform [75-25-2]^	0.75	U	ug/L	1	0.75	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Bromomethane [74-83-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	QV-01
Carbon disulfide [75-15-0]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Carbon Tetrachloride [56-23-5]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Chlorobenzene [108-90-7]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Chloroethane [75-00-3]^	0.98	U	ug/L	1	0.98	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Chloroform [67-66-3]^	0.80	U	ug/L	1	0.80	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Chloromethane [74-87-3]^	0.82	U	ug/L	1	0.82	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
cis-1,3-Dichloropropene [10061-01-5]^	0.59	U	ug/L	1	0.59	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Cyclohexane [110-82-7]^	0.93	U	ug/L	1	0.93	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Dibromochloromethane [124-48-1]^	0.50	U	ug/L	1	0.50	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Dichlorodifluoromethane [75-71-8]^	0.74	U	ug/L	1	0.74	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	QV-01
Ethylbenzene [100-41-4]^	0.69	U	ug/L	1	0.69	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Isopropylbenzene [98-82-8]^	0.67	U	ug/L	1	0.67	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
m,p-Xylenes [108-38-3/106-42-3]^	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Methyl acetate [79-20-9]^	0.95	U	ug/L	1	0.95	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Methyl cyclohexane [108-87-2]^	0.64	U	ug/L	1	0.64	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Methylene Chloride [75-09-2]^	2.5	U	ug/L	1	2.5	12	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Methyl-tert-Butyl Ether [1634-04-4]^	0.60	U	ug/L	1	0.60	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
o-Xylene [95-47-6]^	0.53	U	ug/L	1	0.53	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Styrene [100-42-5]^	0.61	U	ug/L	1	0.61	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Toluene [108-88-3]^	0.72	U	ug/L	1	0.72	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
trans-1,3-Dichloropropene [10061-02-6]^	0.73	U	ug/L	1	0.73	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	

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ANALYTICAL RESULTS

Description: CRCA-MW0019-058.0-20210726 **Lab Sample ID:** AE05483-07 **Received:** 07/27/21 15:00

Matrix: Ground Water **Sampled:** 07/26/21 14:00 **Work Order:** AE05483

Project: NASA KSC CRCA **Sampled By:** Chuck Sorden

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4]^	0.94	U	ug/L	1	0.94	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Vinyl chloride [75-01-4]^	**1.4**	I	ug/L	1	0.71	2.5	1G28012	EPA 8260D	07/28/21 13:05	kkw	
Xylenes (Total) [1330-20-7]	1.3	U	ug/L	1	1.3	5.0	1G28012	EPA 8260D	07/28/21 13:05	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*50*	*1*	*50.0*	*100 %*	*41-142*	*1G28012*	*EPA 8260D*	*07/28/21 13:05*	*kkw*	
Dibromofluoromethane	*51*	*1*	*50.0*	*102 %*	*53-146*	*1G28012*	*EPA 8260D*	*07/28/21 13:05*	*kkw*	
Toluene-d8	*52*	*1*	*50.0*	*104 %*	*41-146*	*1G28012*	*EPA 8260D*	*07/28/21 13:05*	*kkw*	

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	0.00510	U	mg/L	1	0.00510	0.00600	1G28011	RSK 175	07/28/21 12:14	jmw	
Ethene [74-85-1]^	0.00510	U	mg/L	1	0.00510	0.00600	1G28011	RSK 175	07/28/21 12:14	jmw	
Methane [74-82-8]^	**0.203**		mg/L	1	0.00400	0.00500	1G28011	RSK 175	07/28/21 12:14	jmw	QM-12

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QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1G28012 - EPA 5030B_MS

Blank (1G28012-BLK1) Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 09:48

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	0.80	U	2.5	ug/L							
1,1,2,2-Tetrachloroethane	0.54	U	2.5	ug/L							
1,1,2-Trichloroethane	0.76	U	2.5	ug/L							
1,1-Dichloroethane	0.62	U	2.5	ug/L							
1,1-Dichloroethene	0.94	U	2.5	ug/L							
1,2,4-Trichlorobenzene	0.70	U	2.5	ug/L							
1,2-Dibromo-3-chloropropane	0.96	U	2.5	ug/L							
1,2-Dibromoethane	0.78	U	2.5	ug/L							
1,2-Dichlorobenzene	0.73	U	2.5	ug/L							
1,2-Dichloroethane	0.63	U	2.5	ug/L							
1,2-Dichloropropane	0.80	U	2.5	ug/L							
1,3-Dichlorobenzene	0.77	U	2.5	ug/L							
1,4-Dichlorobenzene	0.76	U	2.5	ug/L							
2-Butanone	4.5	U	12	ug/L							
2-Hexanone	2.5	U	12	ug/L							
4-Methyl-2-pentanone	2.5	U	12	ug/L							
Acetone	10	U	25	ug/L							
Benzene	0.71	U	2.5	ug/L							
Bromodichloromethane	0.52	U	2.5	ug/L							
Bromoform	0.75	U	2.5	ug/L							
Bromomethane	0.95	U	2.5	ug/L							
Carbon disulfide	2.5	U	12	ug/L							
Carbon Tetrachloride	0.94	U	2.5	ug/L							
Chlorobenzene	0.72	U	2.5	ug/L							
Chloroethane	0.98	U	2.5	ug/L							
Chloroform	0.80	U	2.5	ug/L							
Chloromethane	0.82	U	2.5	ug/L							
cis-1,2-Dichloroethene	0.53	U	2.5	ug/L							
cis-1,3-Dichloropropene	0.59	U	2.5	ug/L							
Cyclohexane	0.93	U	2.5	ug/L							
Dibromochloromethane	0.50	U	2.5	ug/L							
Dichlorodifluoromethane	0.74	U	2.5	ug/L							
Ethylbenzene	0.69	U	2.5	ug/L							
Freon 113	0.73	U	2.5	ug/L							
Isopropylbenzene	0.67	U	2.5	ug/L							
m,p-Xylenes	1.3	U	5.0	ug/L							
Methyl acetate	0.95	U	2.5	ug/L							
Methyl cyclohexane	0.64	U	2.5	ug/L							
Methylene Chloride	2.5	U	12	ug/L							
Methyl-tert-Butyl Ether	0.60	U	2.5	ug/L							
o-Xylene	0.53	U	2.5	ug/L							
Styrene	0.61	U	2.5	ug/L							
Tetrachloroethene	0.76	U	2.5	ug/L							
Toluene	0.72	U	2.5	ug/L							
trans-1,2-Dichloroethene	0.73	U	2.5	ug/L							
trans-1,3-Dichloropropene	0.73	U	2.5	ug/L							
Trichloroethene	0.89	U	2.5	ug/L							
Trichlorofluoromethane	0.94	U	2.5	ug/L							
Vinyl chloride	0.71	U	2.5	ug/L							

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1G28012 - EPA 5030B_MS - Continued

Blank (1G28012-BLK1) Continued Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 09:48

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Xylenes (Total)	1.3	U	5.0	ug/L							
4-Bromofluorobenzene	*50*			*ug/L*	*50.0*		*99*	*41-142*			
Dibromofluoromethane	*49*	*I*		*ug/L*	*50.0*		*99*	*53-146*			
Toluene-d8	*51*			*ug/L*	*50.0*		*103*	*41-146*			

LCS (1G28012-BS1) Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 08:52

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	22		2.5	ug/L	20.0		110	57-148			
1,1,2,2-Tetrachloroethane	20		2.5	ug/L	20.0		102	60-139			
1,1,2-Trichloroethane	20		2.5	ug/L	20.0		101	57-141			
1,1-Dichloroethane	21		2.5	ug/L	20.0		107	57-142			
1,1-Dichloroethene	21		2.5	ug/L	20.0		105	47-139			
1,2,4-Trichlorobenzene	27		2.5	ug/L	20.0		133	52-159			
1,2-Dibromo-3-chloropropane	23		2.5	ug/L	20.0		114	48-150			
1,2-Dibromoethane	20		2.5	ug/L	20.0		98	57-140			
1,2-Dichlorobenzene	20		2.5	ug/L	20.0		100	63-131			
1,2-Dichloroethane	19		2.5	ug/L	20.0		93	50-156			
1,2-Dichloropropane	20		2.5	ug/L	20.0		98	61-133			
1,3-Dichlorobenzene	22		2.5	ug/L	20.0		108	66-129			
1,4-Dichlorobenzene	21		2.5	ug/L	20.0		105	65-133			
2-Butanone	60		12	ug/L	50.0		119	10-180			
2-Hexanone	52		12	ug/L	50.0		104	12-180			
4-Methyl-2-pentanone	52		12	ug/L	50.0		103	19-180			
Acetone	51		25	ug/L	50.0		102	10-180			
Benzene	20		2.5	ug/L	20.0		102	56-136			
Bromodichloromethane	21		2.5	ug/L	20.0		103	58-135			
Bromoform	18		2.5	ug/L	20.0		91	46-148			
Bromomethane	14		2.5	ug/L	20.0		68	10-173			
Carbon disulfide	23		12	ug/L	20.0		117	43-153			
Carbon Tetrachloride	18		2.5	ug/L	20.0		91	54-156			
Chlorobenzene	20		2.5	ug/L	20.0		102	51-139			
Chloroethane	18		2.5	ug/L	20.0		92	27-180			
Chloroform	21		2.5	ug/L	20.0		106	58-139			
Chloromethane	20		2.5	ug/L	20.0		98	33-154			
cis-1,2-Dichloroethene	22		2.5	ug/L	20.0		108	56-128			
cis-1,3-Dichloropropene	20		2.5	ug/L	20.0		98	64-128			
Cyclohexane	22		2.5	ug/L	20.0		109	70-130			
Dibromochloromethane	19		2.5	ug/L	20.0		93	50-140			
Dichlorodifluoromethane	18		2.5	ug/L	20.0		88	10-180			
Ethylbenzene	21		2.5	ug/L	20.0		103	63-133			
Freon 113	19		2.5	ug/L	20.0		97	47-173			
Isopropylbenzene	19		2.5	ug/L	20.0		96	60-132			
m,p-Xylenes	41		5.0	ug/L	40.0		101	64-133			
Methyl acetate	22		2.5	ug/L	20.0		108	70-130			
Methyl cyclohexane	20		2.5	ug/L	20.0		99	70-130			
Methylene Chloride	21		12	ug/L	20.0		105	43-142			
Methyl-tert-Butyl Ether	21		2.5	ug/L	20.0		106	51-145			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1G28012 - EPA 5030B_MS - Continued

LCS (1G28012-BS1) Continued Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 08:52

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
o-Xylene	20		2.5	ug/L	20.0		100	61-129			
Styrene	19		2.5	ug/L	20.0		97	59-136			
Tetrachloroethene	20		2.5	ug/L	20.0		101	60-147			
Toluene	20		2.5	ug/L	20.0		100	64-131			
trans-1,2-Dichloroethene	20		2.5	ug/L	20.0		102	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0		107	65-149			
Trichloroethene	20		2.5	ug/L	20.0		101	62-135			
Trichlorofluoromethane	20		2.5	ug/L	20.0		98	56-155			
Vinyl chloride	19		2.5	ug/L	20.0		94	20-167			
4-Bromofluorobenzene	*50*			*ug/L*	*50.0*		*100*	*41-142*			
Dibromofluoromethane	*52*			*ug/L*	*50.0*		*105*	*53-146*			
Toluene-d8	*51*			*ug/L*	*50.0*		*103*	*41-146*			

Matrix Spike (1G28012-MS1) Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 19:08

Source: AE05483-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	23		2.5	ug/L	20.0	0.80 U	113	57-148			
1,1,2,2-Tetrachloroethane	20		2.5	ug/L	20.0	0.54 U	101	60-139			
1,1,2-Trichloroethane	20		2.5	ug/L	20.0	0.76 U	102	57-141			
1,1-Dichloroethane	22		2.5	ug/L	20.0	0.62 U	112	57-142			
1,1-Dichloroethene	23		2.5	ug/L	20.0	0.94 U	113	47-139			
1,2,4-Trichlorobenzene	23		2.5	ug/L	20.0	0.70 U	116	52-159			
1,2-Dibromo-3-chloropropane	22		2.5	ug/L	20.0	0.96 U	110	48-150			
1,2-Dibromoethane	19		2.5	ug/L	20.0	0.78 U	97	57-140			
1,2-Dichlorobenzene	20		2.5	ug/L	20.0	0.73 U	99	63-131			
1,2-Dichloroethane	19		2.5	ug/L	20.0	0.63 U	93	50-156			
1,2-Dichloropropane	20		2.5	ug/L	20.0	0.80 U	101	61-133			
1,3-Dichlorobenzene	21		2.5	ug/L	20.0	0.77 U	104	66-129			
1,4-Dichlorobenzene	20		2.5	ug/L	20.0	0.76 U	102	65-133			
2-Butanone	56		12	ug/L	50.0	4.5 U	113	10-180			
2-Hexanone	47		12	ug/L	50.0	2.5 U	94	12-180			
4-Methyl-2-pentanone	54		12	ug/L	50.0	2.5 U	108	19-180			
Acetone	45		25	ug/L	50.0	10 U	90	10-180			
Benzene	22		2.5	ug/L	20.0	0.71 U	110	56-136			
Bromodichloromethane	21		2.5	ug/L	20.0	0.52 U	103	58-135			
Bromoform	15		2.5	ug/L	20.0	0.75 U	74	46-148			
Bromomethane	8.3		2.5	ug/L	20.0	0.95 U	42	10-173			
Carbon disulfide	25		12	ug/L	20.0	2.5 U	125	43-153			
Carbon Tetrachloride	21		2.5	ug/L	20.0	0.94 U	106	54-156			
Chlorobenzene	22		2.5	ug/L	20.0	0.72 U	108	51-139			
Chloroethane	18		2.5	ug/L	20.0	0.98 U	92	27-180			
Chloroform	21		2.5	ug/L	20.0	0.80 U	106	58-139			
Chloromethane	17		2.5	ug/L	20.0	0.82 U	85	33-154			
cis-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.53 U	110	56-128			
cis-1,3-Dichloropropene	18		2.5	ug/L	20.0	0.59 U	92	64-128			
Cyclohexane	22		2.5	ug/L	20.0	0.93 U	111	70-130			
Dibromochloromethane	18		2.5	ug/L	20.0	0.50 U	91	50-140			
Dichlorodifluoromethane	19		2.5	ug/L	20.0	0.74 U	93	10-180			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1G28012 - EPA 5030B_MS - Continued

Matrix Spike (1G28012-MS1) Continued Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 19:08

Source: AE05483-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethylbenzene	21		2.5	ug/L	20.0	0.69 U	105	63-133			
Freon 113	21		2.5	ug/L	20.0	0.73 U	107	47-173			
Isopropylbenzene	21		2.5	ug/L	20.0	0.67 U	104	60-132			
m,p-Xylenes	43		5.0	ug/L	40.0	1.3 U	107	64-133			
Methyl acetate	17		2.5	ug/L	20.0	0.95 U	87	70-130			
Methyl cyclohexane	21		2.5	ug/L	20.0	0.64 U	104	70-130			
Methylene Chloride	19		12	ug/L	20.0	2.5 U	97	43-142			
Methyl-tert-Butyl Ether	19		2.5	ug/L	20.0	0.60 U	97	51-145			
o-Xylene	22		2.5	ug/L	20.0	0.53 U	110	61-129			
Styrene	20		2.5	ug/L	20.0	0.61 U	98	59-136			
Tetrachloroethene	20		2.5	ug/L	20.0	0.76 U	102	60-147			
Toluene	22		2.5	ug/L	20.0	0.72 U	110	64-131			
trans-1,2-Dichloroethene	22		2.5	ug/L	20.0	0.73	107	54-134			
trans-1,3-Dichloropropene	21		2.5	ug/L	20.0	0.73 U	106	65-149			
Trichloroethene	22		2.5	ug/L	20.0	0.89 U	109	62-135			
Trichlorofluoromethane	22		2.5	ug/L	20.0	0.94 U	111	56-155			
Vinyl chloride	25		2.5	ug/L	20.0	7.4	87	20-167			
4-Bromofluorobenzene	*52*			*ug/L*	*50.0*		*104*	*41-142*			
Dibromofluoromethane	*53*			*ug/L*	*50.0*		*106*	*53-146*			
Toluene-d8	*52*			*ug/L*	*50.0*		*104*	*41-146*			

Dissolved Gases by GC - Quality Control

Batch 1G28011 - Same

Blank (1G28011-BLK1) Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 10:35

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.00510	U	0.00600	mg/L							
Ethene	0.00510	U	0.00600	mg/L							
Methane	0.00400	U	0.00500	mg/L							

LCS (1G28011-BS1) Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 10:03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.322		0.00600	mg/L	0.323		100	70-130			
Ethene	0.324		0.00600	mg/L	0.302		107	70-130			
Methane	0.179		0.00500	mg/L	0.172		104	70-130			

LCS Dup (1G28011-BSD1) Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 10:19

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.326		0.00600	mg/L	0.323		101	70-130	1	30	
Ethene	0.326		0.00600	mg/L	0.302		108	70-130	0.5	30	
Methane	0.181		0.00500	mg/L	0.172		105	70-130	1	30	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Dissolved Gases by GC - Quality Control

Batch 1G28011 - Same - Continued

Duplicate (1G28011-DUP1) Prepared: 07/28/2021 00:00 Analyzed: 07/28/2021 14:03

Source: AE05483-07

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	0.00510	U	0.00600	mg/L		0.00510 U				30	
Ethene	0.00510	U	0.00600	mg/L		0.00510 U				30	
Methane	0.120		0.00500	mg/L		0.203			51	30	QM-12

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-12	Precision between duplicate samples was outside acceptance limits.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.

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B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported result is an estimated value.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence (85% or greater confidence) to make a “tentative identification".
Q	One or more quality control criteria failed.

AE-05483

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 2499 | PAGE 1 OF 1

PROJECT NO: 112G08570	FACILITY: KSL-CRCA	PROJECT MANAGER Alex Murphy	PHONE NUMBER (321) 292-0842	LABORATORY NAME AND CONTACT: ENCO – Kaitlin Dykiewicz
SAMPLERS (SIGNATURE) Chuck Sorden		FIELD OPERATIONS LEADER Chuck Sorden	PHONE NUMBER (321) 591-7580	ADDRESS 10775 Central Port Dr.
		CARRIER/WAYBILL NUMBER		CITY, STATE Orlando, FL

STANDARD TAT ☒
RUSH TAT ☐ ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2021	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TYPE OF ANALYSIS 8260DTLL SOM01	RSK175 MEE	COMMENTS
									G	G			
										HCl			
										4°C			
07/26	0925	CRCA-MW0002-032.5-2021	0726	30	35	GW	G	3	X				
	1000	CRCA-MW0018-058.0-2021	0726	53	63			6		X			
	1040	CRCA-MW0013-027.5-2021	0726	25	30			3					
	1115	CRCA-MW0012-027.5-2021	0726	25	30			3					
	1225	CRCA-MW0015-027.5-2021	0726	25	30			3					
	1315	CRCA-MW0031-058.0-2021	0726	53	63			6		X			
07/26	1400	CRCA-MW0019-058.0-2021	0726	53	63	GW	G	6	X	X			

1. RELINQUISHED BY	DATE	TIME	1. RECEIVED BY	DATE 7/27/21	TIME 1500
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS MDL-3331 0.3°C

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

7/27/2021

Environmental Conservation Labs, Inc.

Alex Murphy
Tetra Tech, Inc. (TE016)
11 Riverside Drive, Suite 204
Cocoa, FL 32922

Phone: (321) 636-6470
Fax: (321) 636-6473

Reference : **Sample Receipt Confirmation - *Please Review***
Project Name / Number : NASA KSC CRCA / 112G08970
Purchase Order # : 1165883

Lab Reference # : AE05483 Lab Receipt Date: 27-Jul-21 15:00
Anticipated ***(Estimated)*** Completion Date: 03-Aug-21 19:00

This is an automated notification from our laboratory information management system (LIMS), indicating the samples we have recently received and their associated analyses. Should any of the following information be in error, please contact us immediately.

Thank you for choosing Environmental Conservation Laboratories. Should any events occur that delay the processing of your samples or inhibit our ability to complete the project within the projected time frame you will be contacted.

Sincerely,

Kaitlin Dylnicki

Client: Tetra Tech, Inc. (TE016) **Project Name:** NASA KSC CRCA
Requested TAT: 5 **Project Number:** 112G08970

Analysis	TAT	Expires	Status
Sample ID: CRCA-MW0002-032.5-20210726(Lab ID: AE05483-01), Matrix: Ground Water, Sampled: 26-Jul-21 09:25 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	09-Aug-21 23:59	Received
Sample ID: CRCA-MW0018-058.0-20210726(Lab ID: AE05483-02), Matrix: Ground Water, Sampled: 26-Jul-21 10:00 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	09-Aug-21 23:59	Received
RSK175	5	09-Aug-21 23:59	Received
Sample ID: CRCA-MW0013-027.5-20210726(Lab ID: AE05483-03), Matrix: Ground Water, Sampled: 26-Jul-21 10:40 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	09-Aug-21 23:59	Received
Sample ID: CRCA-MW0012-027.5-20210726(Lab ID: AE05483-04), Matrix: Ground Water, Sampled: 26-Jul-21 11:15 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	09-Aug-21 23:59	Received
Sample ID: CRCA-MW0015-027.5-20210726(Lab ID: AE05483-05), Matrix: Ground Water, Sampled: 26-Jul-21 12:25 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	09-Aug-21 23:59	Received
Sample ID: CRCA-MW0031-058.0-20210726(Lab ID: AE05483-06), Matrix: Ground Water, Sampled: 26-Jul-21 13:15 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	09-Aug-21 23:59	Received
RSK175	5	09-Aug-21 23:59	Received
Sample ID: CRCA-MW0019-058.0-20210726(Lab ID: AE05483-07), Matrix: Ground Water, Sampled: 26-Jul-21 14:00 (GMT-05:00) Eastern Time (US &			
8260D TCL SOM01.2 CLP-LIKE	5	09-Aug-21 23:59	Received
RSK175	5	09-Aug-21 23:59	Received

Client: Tetra Tech, Inc. (TE016)	**Project Name:** NASA KSC CRCA
Requested TAT: 5	**Project Number:** 112G08970

Analysis Groups included in this work order

ENCO Orlando

SDG: AE05483-TE016

CLASS: 01_VOA_MS

METHOD: EPA 8260D

ANALYSES DATA PACKAGE COVER PAGE

EPA 8260D

Laboratory: ENCO Orlando

SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-MW0002-032.5-20210726	AE05483-01
CRCA-MW0018-058.0-20210726	AE05483-02
CRCA-MW0013-027.5-20210726	AE05483-03
CRCA-MW0012-027.5-20210726	AE05483-04
CRCA-MW0015-027.5-20210726	AE05483-05
CRCA-MW0031-058.0-20210726	AE05483-06
CRCA-MW0019-058.0-20210726	AE05483-07

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0002-032.5-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-01 File ID: 215GW007.D

Sampled: 07/26/21 09:25 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 10:16

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	7.4		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	J	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0002-032.5-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-01 File ID: 215GW007.D

Sampled: 07/26/21 09:25 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 10:16

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	51	102	53 - 146	
Toluene-d8	50.0	52	104	41 - 146	
4-Bromofluorobenzene	50.0	50	100	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1040767	9.857	1101889	9.851	
1,4-Difluorobenzene	2434148	10.45	2525815	10.444	
Chlorobenzene-d5	1534041	13.229	1610233	13.223	
1,4-Dichlorobenzene-d4	1160628	15.491	1271242	15.485	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0018-058.0-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-02 File ID: 215GW008.D

Sampled: 07/26/21 10:00 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 10:44

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	55		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0018-058.0-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-02 File ID: 215GW008.D

Sampled: 07/26/21 10:00 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 10:44

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	53	106	53 - 146	
Toluene-d8	50.0	51	102	41 - 146	
4-Bromofluorobenzene	50.0	51	102	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1010974	9.857	1101889	9.851	
1,4-Difluorobenzene	2428360	10.45	2525815	10.444	
Chlorobenzene-d5	1504622	13.229	1610233	13.223	
1,4-Dichlorobenzene-d4	1151894	15.491	1271242	15.485	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0013-027.5-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-03 File ID: 215GW009.D

Sampled: 07/26/21 10:40 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 11:12

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	1.4	J	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0013-027.5-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-03 File ID: 215GW009.D

Sampled: 07/26/21 10:40 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 11:12

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	51	102	53 - 146	
Toluene-d8	50.0	51	102	41 - 146	
4-Bromofluorobenzene	50.0	50	100	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1022104	9.857	1101889	9.851	
1,4-Difluorobenzene	2402398	10.45	2525815	10.444	
Chlorobenzene-d5	1514817	13.229	1610233	13.223	
1,4-Dichlorobenzene-d4	1127294	15.485	1271242	15.485	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0012-027.5-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-04 File ID: 215GW010.D

Sampled: 07/26/21 11:15 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 11:40

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0012-027.5-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-04 File ID: 215GW010.D

Sampled: 07/26/21 11:15 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 11:40

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	51	102	53 - 146	
Toluene-d8	50.0	52	103	41 - 146	
4-Bromofluorobenzene	50.0	50	99	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	990018	9.857	1101889	9.851	
1,4-Difluorobenzene	2368009	10.45	2525815	10.444	
Chlorobenzene-d5	1506429	13.229	1610233	13.223	
1,4-Dichlorobenzene-d4	1129481	15.486	1271242	15.485	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0015-027.5-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-05 File ID: 215GW011.D

Sampled: 07/26/21 12:25 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 12:08

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	0.71	U	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0015-027.5-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-05 File ID: 215GW011.D

Sampled: 07/26/21 12:25 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 12:08

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	51	101	53 - 146	
Toluene-d8	50.0	51	102	41 - 146	
4-Bromofluorobenzene	50.0	49	99	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	979486	9.857	1101889	9.851	
1,4-Difluorobenzene	2357320	10.45	2525815	10.444	
Chlorobenzene-d5	1479523	13.229	1610233	13.223	
1,4-Dichlorobenzene-d4	1121546	15.485	1271242	15.485	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0031-058.0-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-06 File ID: 215GW012.D

Sampled: 07/26/21 13:15 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 12:37

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	18		0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0031-058.0-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-06 File ID: 215GW012.D

Sampled: 07/26/21 13:15 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 12:37

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	51	101	53 - 146	
Toluene-d8	50.0	52	104	41 - 146	
4-Bromofluorobenzene	50.0	51	102	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	975384	9.857	1101889	9.851	
1,4-Difluorobenzene	2333021	10.45	2525815	10.444	
Chlorobenzene-d5	1444445	13.229	1610233	13.223	
1,4-Dichlorobenzene-d4	1110125	15.491	1271242	15.485	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0019-058.0-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-07 File ID: 215GW013.D

Sampled: 07/26/21 14:00 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 13:05

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	0.74	U	0.74	2.5
74-87-3	Chloromethane	1	0.82	U	0.82	2.5
75-01-4	Vinyl chloride	1	1.4	J	0.71	2.5
74-83-9	Bromomethane	1	0.95	U	0.95	2.5
75-00-3	Chloroethane	1	0.98	U	0.98	2.5
75-69-4	Trichlorofluoromethane	1	0.94	U	0.94	2.5
76-13-1	Freon 113	1	0.73	U	0.73	2.5
67-64-1	Acetone	1	10	U	10	25
75-35-4	1,1-Dichloroethene	1	0.94	U	0.94	2.5
75-15-0	Carbon disulfide	1	2.5	U	2.5	12
75-09-2	Methylene Chloride	1	2.5	U	2.5	12
1634-04-4	Methyl-tert-Butyl Ether	1	0.60	U	0.60	2.5
156-60-5	trans-1,2-Dichloroethene	1	0.73	U	0.73	2.5
156-59-2	cis-1,2-Dichloroethene	1	0.53	U	0.53	2.5
75-34-3	1,1-Dichloroethane	1	0.62	U	0.62	2.5
78-93-3	2-Butanone	1	4.5	U	4.5	12
67-66-3	Chloroform	1	0.80	U	0.80	2.5
71-55-6	1,1,1-Trichloroethane	1	0.80	U	0.80	2.5
79-20-9	Methyl acetate	1	0.95	U	0.95	2.5
110-82-7	Cyclohexane	1	0.93	U	0.93	2.5
108-87-2	Methyl cyclohexane	1	0.64	U	0.64	2.5
56-23-5	Carbon Tetrachloride	1	0.94	U	0.94	2.5
107-06-2	1,2-Dichloroethane	1	0.63	U	0.63	2.5
71-43-2	Benzene	1	0.71	U	0.71	2.5
79-01-6	Trichloroethene	1	0.89	U	0.89	2.5
78-87-5	1,2-Dichloropropane	1	0.80	U	0.80	2.5
75-27-4	Bromodichloromethane	1	0.52	U	0.52	2.5
108-10-1	4-Methyl-2-pentanone	1	2.5	U	2.5	12
591-78-6	2-Hexanone	1	2.5	U	2.5	12
10061-01-5	cis-1,3-Dichloropropene	1	0.59	U	0.59	2.5
108-88-3	Toluene	1	0.72	U	0.72	2.5
10061-02-6	trans-1,3-Dichloropropene	1	0.73	U	0.73	2.5
79-00-5	1,1,2-Trichloroethane	1	0.76	U	0.76	2.5
127-18-4	Tetrachloroethene	1	0.76	U	0.76	2.5
124-48-1	Dibromochloromethane	1	0.50	U	0.50	2.5
106-93-4	1,2-Dibromoethane	1	0.78	U	0.78	2.5
108-90-7	Chlorobenzene	1	0.72	U	0.72	2.5
100-41-4	Ethylbenzene	1	0.69	U	0.69	2.5
108-38-3/106-42-	m,p-Xylenes	1	1.3	U	1.3	5.0
95-47-6	o-Xylene	1	0.53	U	0.53	2.5
75-25-2	Bromoform	1	0.75	U	0.75	2.5

ORGANIC ANALYSIS DATA SHEET

EPA 8260D

CRCA-MW0019-058.0-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-07 File ID: 215GW013.D

Sampled: 07/26/21 14:00 Prepared: 07/28/21 08:53 Analyzed: 07/28/21 13:05

Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL

Batch: 1G28012 Sequence: AA67540 Calibration: 2106098 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
100-42-5	Styrene	1	0.61	U	0.61	2.5
98-82-8	Isopropylbenzene	1	0.67	U	0.67	2.5
79-34-5	1,1,2,2-Tetrachloroethane	1	0.54	U	0.54	2.5
120-82-1	1,2,4-Trichlorobenzene	1	0.70	U	0.70	2.5
541-73-1	1,3-Dichlorobenzene	1	0.77	U	0.77	2.5
106-46-7	1,4-Dichlorobenzene	1	0.76	U	0.76	2.5
95-50-1	1,2-Dichlorobenzene	1	0.73	U	0.73	2.5
96-12-8	1,2-Dibromo-3-chloropropane	1	0.96	U	0.96	2.5
1330-20-7	Xylenes (Total)	1	1.3	U	1.3	5.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	51	102	53 - 146	
Toluene-d8	50.0	52	104	41 - 146	
4-Bromofluorobenzene	50.0	50	100	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	971946	9.857	1101889	9.851	
1,4-Difluorobenzene	2288770	10.45	2525815	10.444	
Chlorobenzene-d5	1447392	13.229	1610233	13.223	
1,4-Dichlorobenzene-d4	1103226	15.491	1271242	15.485	

* Values outside of QC limits

HOLDING TIME SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-MW0002-032.5-20210726	07/26/21 09:25	07/27/21 15:00	07/28/21 08:53	1.98	NA	07/28/21 10:16	2.00	14.00	
CRCA-MW0018-058.0-20210726	07/26/21 10:00	07/27/21 15:00	07/28/21 08:53	1.95	NA	07/28/21 10:44	2.00	14.00	
CRCA-MW0013-027.5-20210726	07/26/21 10:40	07/27/21 15:00	07/28/21 08:53	1.93	NA	07/28/21 11:12	2.00	14.00	
CRCA-MW0012-027.5-20210726	07/26/21 11:15	07/27/21 15:00	07/28/21 08:53	1.90	NA	07/28/21 11:40	2.00	14.00	
CRCA-MW0015-027.5-20210726	07/26/21 12:25	07/27/21 15:00	07/28/21 08:53	1.85	NA	07/28/21 12:08	2.00	14.00	
CRCA-MW0031-058.0-20210726	07/26/21 13:15	07/27/21 15:00	07/28/21 08:53	1.82	NA	07/28/21 12:37	2.00	14.00	
CRCA-MW0019-058.0-20210726	07/26/21 14:00	07/27/21 15:00	07/28/21 08:53	1.79	NA	07/28/21 13:05	2.00	14.00	

PREPARATION BATCH SUMMARY

EPA 8260D

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1G28012 Batch Matrix: Water Preparation: EPA 5030B_MS

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1G28012-BLK1	215GW006.D	07/28/21 00:00	
LCS	1G28012-BS1	215GW004.D	07/28/21 00:00	
CRCA-MW0002-032.5-20210726	1G28012-MS1	215GW026.D	07/28/21 00:00	
CRCA-MW0002-032.5-20210726	AE05483-01	215GW007.D	07/28/21 08:53	
CRCA-MW0018-058.0-20210726	AE05483-02	215GW008.D	07/28/21 08:53	
CRCA-MW0013-027.5-20210726	AE05483-03	215GW009.D	07/28/21 08:53	
CRCA-MW0012-027.5-20210726	AE05483-04	215GW010.D	07/28/21 08:53	
CRCA-MW0015-027.5-20210726	AE05483-05	215GW011.D	07/28/21 08:53	
CRCA-MW0031-058.0-20210726	AE05483-06	215GW012.D	07/28/21 08:53	
CRCA-MW0019-058.0-20210726	AE05483-07	215GW013.D	07/28/21 08:53	

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1G28012-BLK1	File ID:	215GW006.D
Prepared:	07/28/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	07/28/21 09:48	Instrument:	OVGCMS5		
Batch:	1G28012	Sequence:	AA67540	Calibration:	2106098

CAS NO.	COMPOUND	CONC. (ug/L)	Q
75-71-8	Dichlorodifluoromethane	0.74	U
74-87-3	Chloromethane	0.82	U
75-01-4	Vinyl chloride	0.71	U
74-83-9	Bromomethane	0.95	U
75-00-3	Chloroethane	0.98	U
75-69-4	Trichlorofluoromethane	0.94	U
76-13-1	Freon 113	0.73	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	0.94	U
75-15-0	Carbon disulfide	2.5	U
75-09-2	Methylene Chloride	2.5	U
1634-04-4	Methyl-tert-Butyl Ether	0.60	U
156-60-5	trans-1,2-Dichloroethene	0.73	U
156-59-2	cis-1,2-Dichloroethene	0.53	U
75-34-3	1,1-Dichloroethane	0.62	U
78-93-3	2-Butanone	4.5	U
67-66-3	Chloroform	0.80	U
71-55-6	1,1,1-Trichloroethane	0.80	U
79-20-9	Methyl acetate	0.95	U
110-82-7	Cyclohexane	0.93	U
108-87-2	Methyl cyclohexane	0.64	U
56-23-5	Carbon Tetrachloride	0.94	U
107-06-2	1,2-Dichloroethane	0.63	U
71-43-2	Benzene	0.71	U
79-01-6	Trichloroethene	0.89	U
78-87-5	1,2-Dichloropropane	0.80	U
75-27-4	Bromodichloromethane	0.52	U
108-10-1	4-Methyl-2-pentanone	2.5	U
591-78-6	2-Hexanone	2.5	U
10061-01-5	cis-1,3-Dichloropropene	0.59	U

METHOD BLANK DATA SHEET
EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1G28012-BLK1	File ID:	215GW006.D
Prepared:	07/28/21 00:00	Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL
Analyzed:	07/28/21 09:48	Instrument:	OVGCMS5		
Batch:	1G28012	Sequence:	AA67540	Calibration:	2106098

CAS NO.	COMPOUND	CONC. (ug/L)	Q
108-88-3	Toluene	0.72	U
10061-02-6	trans-1,3-Dichloropropene	0.73	U
79-00-5	1,1,2-Trichloroethane	0.76	U
127-18-4	Tetrachloroethene	0.76	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.78	U
108-90-7	Chlorobenzene	0.72	U
100-41-4	Ethylbenzene	0.69	U
108-38-3/106-42-3	m,p-Xylenes	1.3	U
95-47-6	o-Xylene	0.53	U
75-25-2	Bromoform	0.75	U
100-42-5	Styrene	0.61	U
98-82-8	Isopropylbenzene	0.67	U
79-34-5	1,1,2,2-Tetrachloroethane	0.54	U
120-82-1	1,2,4-Trichlorobenzene	0.70	U
541-73-1	1,3-Dichlorobenzene	0.77	U
106-46-7	1,4-Dichlorobenzene	0.76	U
95-50-1	1,2-Dichlorobenzene	0.73	U
96-12-8	1,2-Dibromo-3-chloropropane	0.96	U
1330-20-7	Xylenes (Total)	1.3	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	49	99	53 - 146	
Toluene-d8	50.0	51	103	41 - 146	
4-Bromofluorobenzene	50.0	50	99	41 - 142	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	1058005	9.857	1101889	9.851	
1,4-Difluorobenzene	2459389	10.45	2525815	10.444	
Chlorobenzene-d5	1530623	13.229	1610233	13.223	
1,4-Dichlorobenzene-d4	1152122	15.485	1271242	15.485	

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1G28012	Laboratory ID:	1G28012-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	18	88	10 - 180
Chloromethane	20.0	20	98	33 - 154
Vinyl chloride	20.0	19	94	20 - 167
Bromomethane	20.0	14	68	10 - 173
Chloroethane	20.0	18	92	27 - 180
Trichlorofluoromethane	20.0	20	98	56 - 155
Freon 113	20.0	19	97	47 - 173
Acetone	50.0	51	102	10 - 180
1,1-Dichloroethene	20.0	21	105	47 - 139
Carbon disulfide	20.0	23	117	43 - 153
Methylene Chloride	20.0	21	105	43 - 142
Methyl-tert-Butyl Ether	20.0	21	106	51 - 145
trans-1,2-Dichloroethene	20.0	20	102	54 - 134
cis-1,2-Dichloroethene	20.0	22	108	56 - 128
1,1-Dichloroethane	20.0	21	107	57 - 142
2-Butanone	50.0	60	119	10 - 180
Chloroform	20.0	21	106	58 - 139
1,1,1-Trichloroethane	20.0	22	110	57 - 148
Methyl acetate	20.0	22	108	70 - 130
Cyclohexane	20.0	22	109	70 - 130
Methyl cyclohexane	20.0	20	99	70 - 130
Carbon Tetrachloride	20.0	18	91	54 - 156
1,2-Dichloroethane	20.0	19	93	50 - 156
Benzene	20.0	20	102	56 - 136
Trichloroethene	20.0	20	101	62 - 135
1,2-Dichloropropane	20.0	20	98	61 - 133
Bromodichloromethane	20.0	21	103	58 - 135
4-Methyl-2-pentanone	50.0	52	103	19 - 180
2-Hexanone	50.0	52	104	12 - 180
cis-1,3-Dichloropropene	20.0	20	98	64 - 128

LCS / LCS DUPLICATE RECOVERY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1G28012	Laboratory ID:	1G28012-BS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. #	QC LIMITS REC.
Toluene	20.0	20	100	64 - 131
trans-1,3-Dichloropropene	20.0	21	107	65 - 149
1,1,2-Trichloroethane	20.0	20	101	57 - 141
Tetrachloroethene	20.0	20	101	60 - 147
Dibromochloromethane	20.0	19	93	50 - 140
1,2-Dibromoethane	20.0	20	98	57 - 140
Chlorobenzene	20.0	20	102	51 - 139
Ethylbenzene	20.0	21	103	63 - 133
m,p-Xylenes	40.0	41	101	64 - 133
o-Xylene	20.0	20	100	61 - 129
Bromoform	20.0	18	91	46 - 148
Styrene	20.0	19	97	59 - 136
Isopropylbenzene	20.0	19	96	60 - 132
1,1,2,2-Tetrachloroethane	20.0	20	102	60 - 139
1,2,4-Trichlorobenzene	20.0	27	133	52 - 159
1,3-Dichlorobenzene	20.0	22	108	66 - 129
1,4-Dichlorobenzene	20.0	21	105	65 - 133
1,2-Dichlorobenzene	20.0	20	100	63 - 131
1,2-Dibromo-3-chloropropane	20.0	23	114	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0002-032.5-20210726

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Matrix: Water
Batch: 1G28012
Laboratory ID: 1G28012-MS1
Preparation: EPA 5030B_MS
Initial/Final: 5 mL / 5 mL
Source Sample Name: CRCA-MW0002-032.5-20210726

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
Dichlorodifluoromethane	20.0	ND	19	93	10 - 180
Chloromethane	20.0	ND	17	85	33 - 154
Vinyl chloride	20.0	7.4	25	87	20 - 167
Bromomethane	20.0	ND	8.3	42	10 - 173
Chloroethane	20.0	ND	18	92	27 - 180
Trichlorofluoromethane	20.0	ND	22	111	56 - 155
Freon 113	20.0	ND	21	107	47 - 173
Acetone	50.0	ND	45	90	10 - 180
1,1-Dichloroethene	20.0	ND	23	113	47 - 139
Carbon disulfide	20.0	ND	25	125	43 - 153
Methylene Chloride	20.0	ND	19	97	43 - 142
Methyl-tert-Butyl Ether	20.0	ND	19	97	51 - 145
trans-1,2-Dichloroethene	20.0	0.73	22	107	54 - 134
cis-1,2-Dichloroethene	20.0	ND	22	110	56 - 128
1,1-Dichloroethane	20.0	ND	22	112	57 - 142
2-Butanone	50.0	ND	56	113	10 - 180
Chloroform	20.0	ND	21	106	58 - 139
1,1,1-Trichloroethane	20.0	ND	23	113	57 - 148
Methyl acetate	20.0	ND	17	87	70 - 130
Cyclohexane	20.0	ND	22	111	70 - 130
Methyl cyclohexane	20.0	ND	21	104	70 - 130
Carbon Tetrachloride	20.0	ND	21	106	54 - 156
1,2-Dichloroethane	20.0	ND	19	93	50 - 156
Benzene	20.0	ND	22	110	56 - 136
Trichloroethene	20.0	ND	22	109	62 - 135
1,2-Dichloropropane	20.0	ND	20	101	61 - 133
Bromodichloromethane	20.0	ND	21	103	58 - 135
4-Methyl-2-pentanone	50.0	ND	54	108	19 - 180
2-Hexanone	50.0	ND	47	94	12 - 180
cis-1,3-Dichloropropene	20.0	ND	18	92	64 - 128
Toluene	20.0	ND	22	110	64 - 131

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260D

CRCA-MW0002-032.5-20210726

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1G28012	Laboratory ID:	1G28012-MS1
Preparation:	EPA 5030B_MS	Initial/Final:	5 mL / 5 mL

Source Sample Name: CRCA-MW0002-032.5-20210726

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. #	QC LIMITS REC.
trans-1,3-Dichloropropene	20.0	ND	21	106	65 - 149
1,1,2-Trichloroethane	20.0	ND	20	102	57 - 141
Tetrachloroethene	20.0	ND	20	102	60 - 147
Dibromochloromethane	20.0	ND	18	91	50 - 140
1,2-Dibromoethane	20.0	ND	19	97	57 - 140
Chlorobenzene	20.0	ND	22	108	51 - 139
Ethylbenzene	20.0	ND	21	105	63 - 133
m,p-Xylenes	40.0	ND	43	107	64 - 133
o-Xylene	20.0	ND	22	110	61 - 129
Bromoform	20.0	ND	15	74	46 - 148
Styrene	20.0	ND	20	98	59 - 136
Isopropylbenzene	20.0	ND	21	104	60 - 132
1,1,2,2-Tetrachloroethane	20.0	ND	20	101	60 - 139
1,2,4-Trichlorobenzene	20.0	ND	23	116	52 - 159
1,3-Dichlorobenzene	20.0	ND	21	104	66 - 129
1,4-Dichlorobenzene	20.0	ND	20	102	65 - 133
1,2-Dichlorobenzene	20.0	ND	20	99	63 - 131
1,2-Dibromo-3-chloropropane	20.0	ND	22	110	48 - 150

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA66932
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (AA66932-SCV1)			Lab File ID: 215FM013.D		Analyzed: 06/18/21 12:15			
Dibromofluoromethane	50.0	100	70 - 130	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	110	70 - 130	11.778	11.7795	-0.0015	+/-0.5	
4-Bromofluorobenzene	50.0	109	70 - 130	14.328	14.32875	-0.0008	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA67540
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
Calibration Check (AA67540-CCV1)				Lab File ID: 215GW003.D		Analyzed: 07/28/21 08:24		
Dibromofluoromethane	50.0	104	80 - 120	9.433	9.428	0.0050	+/-0.5	
Toluene-d8	50.0	106	80 - 120	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	104	80 - 120	14.334	14.32875	0.0053	+/-0.5	
LCS (1G28012-BS1)				Lab File ID: 215GW004.D		Analyzed: 07/28/21 08:52		
Dibromofluoromethane	50.0	105	53 - 146	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	103	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	100	41 - 142	14.328	14.32875	-0.0008	+/-0.5	
Instrument RL Check (AA67540-CRL1)				Lab File ID: 215GW005.D		Analyzed: 07/28/21 09:20		
Dibromofluoromethane	50.0	102	1 - 199	9.434	9.428	0.0060	+/-0.5	
Toluene-d8	50.0	101	1 - 199	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	100	1 - 199	14.328	14.32875	-0.0008	+/-0.5	
Blank (1G28012-BLK1)				Lab File ID: 215GW006.D		Analyzed: 07/28/21 09:48		
Dibromofluoromethane	50.0	99	53 - 146	9.434	9.428	0.0060	+/-0.5	
Toluene-d8	50.0	103	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	99	41 - 142	14.328	14.32875	-0.0008	+/-0.5	
CRCA-MW0002-032.5-20210726 (AE05483-01)				Lab File ID: 215GW007.D		Analyzed: 07/28/21 10:16		
Dibromofluoromethane	50.0	102	53 - 146	9.434	9.428	0.0060	+/-0.5	
Toluene-d8	50.0	104	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	100	41 - 142	14.334	14.32875	0.0053	+/-0.5	
CRCA-MW0018-058.0-20210726 (AE05483-02)				Lab File ID: 215GW008.D		Analyzed: 07/28/21 10:44		
Dibromofluoromethane	50.0	106	53 - 146	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	102	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	102	41 - 142	14.328	14.32875	-0.0008	+/-0.5	
CRCA-MW0013-027.5-20210726 (AE05483-03)				Lab File ID: 215GW009.D		Analyzed: 07/28/21 11:12		
Dibromofluoromethane	50.0	102	53 - 146	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	102	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	100	41 - 142	14.328	14.32875	-0.0008	+/-0.5	
CRCA-MW0012-027.5-20210726 (AE05483-04)				Lab File ID: 215GW010.D		Analyzed: 07/28/21 11:40		
Dibromofluoromethane	50.0	102	53 - 146	9.434	9.428	0.0060	+/-0.5	
Toluene-d8	50.0	103	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	99	41 - 142	14.334	14.32875	0.0053	+/-0.5	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA67540
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration RT	RT Diff	RT Diff Limit	Q
CRCA-MW0015-027.5-20210726 (AE05483-05)			Lab File ID: 215GW011.D		Analyzed: 07/28/21 12:08			
Dibromofluoromethane	50.0	101	53 - 146	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	102	41 - 146	11.778	11.7795	-0.0015	+/-0.5	
4-Bromofluorobenzene	50.0	99	41 - 142	14.328	14.32875	-0.0008	+/-0.5	
CRCA-MW0031-058.0-20210726 (AE05483-06)			Lab File ID: 215GW012.D		Analyzed: 07/28/21 12:37			
Dibromofluoromethane	50.0	101	53 - 146	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	104	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	102	41 - 142	14.334	14.32875	0.0053	+/-0.5	
CRCA-MW0019-058.0-20210726 (AE05483-07)			Lab File ID: 215GW013.D		Analyzed: 07/28/21 13:05			
Dibromofluoromethane	50.0	102	53 - 146	9.434	9.428	0.0060	+/-0.5	
Toluene-d8	50.0	104	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	100	41 - 142	14.334	14.32875	0.0053	+/-0.5	
Matrix Spike (1G28012-MS1)			Lab File ID: 215GW026.D		Analyzed: 07/28/21 19:08			
Dibromofluoromethane	50.0	106	53 - 146	9.428	9.428	0.0000	+/-0.5	
Toluene-d8	50.0	104	41 - 146	11.784	11.7795	0.0045	+/-0.5	
4-Bromofluorobenzene	50.0	104	41 - 142	14.334	14.32875	0.0053	+/-0.5	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Sequence: AA66932
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA66932-CAL1)			Lab File ID: 215FM004.D			Analyzed: 06/18/21 08:05			
Pentafluorobenzene	1201889	9.857	1101889	9.851	109	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2686237	10.45	2525815	10.444	106	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1505146	13.229	1610233	13.223	93	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1176558	15.491	1271242	15.485	93	50 - 200	0.0060	+/-0.50	
Cal Standard (AA66932-CAL2)			Lab File ID: 215FM005.D			Analyzed: 06/18/21 08:32			
Pentafluorobenzene	1226065	9.857	1101889	9.851	111	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2753498	10.45	2525815	10.444	109	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1619681	13.229	1610233	13.223	101	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1248669	15.491	1271242	15.485	98	50 - 200	0.0060	+/-0.50	
Cal Standard (AA66932-CAL3)			Lab File ID: 215FM006.D			Analyzed: 06/18/21 09:00			
Pentafluorobenzene	1047198	9.857	1101889	9.851	95	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2419754	10.45	2525815	10.444	96	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1545028	13.229	1610233	13.223	96	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1320874	15.486	1271242	15.485	104	50 - 200	0.0010	+/-0.50	
Cal Standard (AA66932-CAL4)			Lab File ID: 215FM007.D			Analyzed: 06/18/21 09:28			
Pentafluorobenzene	1235637	9.857	1101889	9.851	112	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2720919	10.45	2525815	10.444	108	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1709586	13.229	1610233	13.223	106	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1365508	15.485	1271242	15.485	107	50 - 200	0.0000	+/-0.50	
Cal Standard (AA66932-CAL5)			Lab File ID: 215FM008.D			Analyzed: 06/18/21 09:56			
Pentafluorobenzene	1048667	9.857	1101889	9.851	95	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2471790	10.444	2525815	10.444	98	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1553840	13.229	1610233	13.223	96	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1230662	15.485	1271242	15.485	97	50 - 200	0.0000	+/-0.50	
Cal Standard (AA66932-CAL6)			Lab File ID: 215FM009.D			Analyzed: 06/18/21 10:24			
Pentafluorobenzene	1101889	9.851	1101889	9.851	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2525815	10.444	2525815	10.444	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1610233	13.223	1610233	13.223	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1271242	15.485	1271242	15.485	100	50 - 200	0.0000	+/-0.50	
Cal Standard (AA66932-CAL7)			Lab File ID: 215FM010.D			Analyzed: 06/18/21 10:52			
Pentafluorobenzene	1123435	9.851	1101889	9.851	102	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2544231	10.444	2525815	10.444	101	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1714182	13.229	1610233	13.223	106	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1273276	15.485	1271242	15.485	100	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA66932
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (AA66932-CAL8)			Lab File ID: 215FM011.D			Analyzed: 06/18/21 11:20			
Pentafluorobenzene	1129487	9.851	1101889	9.851	103	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	2502919	10.444	2525815	10.444	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1697989	13.223	1610233	13.223	105	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	1266610	15.485	1271242	15.485	100	50 - 200	0.0000	+/-0.50	
Secondary Cal Check (AA66932-SCV1)			Lab File ID: 215FM013.D			Analyzed: 06/18/21 12:15			
Pentafluorobenzene	1128318	9.857	1101889	9.851	102	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2499257	10.444	2525815	10.444	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	1604968	13.229	1610233	13.223	100	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1259307	15.485	1271242	15.485	99	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA67540
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (AA67540-CCV1)			Lab File ID: 215GW003.D			Analyzed: 07/28/21 08:24			
Pentafluorobenzene	1146370	9.857	1101889	9.851	104	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2613862	10.45	2525815	10.444	103	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1696790	13.229	1610233	13.223	105	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1272980	15.491	1271242	15.485	100	50 - 200	0.0060	+/-0.50	
LCS (1G28012-BS1)			Lab File ID: 215GW004.D			Analyzed: 07/28/21 08:52			
Pentafluorobenzene	1095048	9.857	1101889	9.851	99	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2655898	10.45	2525815	10.444	105	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1705509	13.229	1610233	13.223	106	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1278565	15.485	1271242	15.485	101	50 - 200	0.0000	+/-0.50	
Instrument RL Check (AA67540-CRL1)			Lab File ID: 215GW005.D			Analyzed: 07/28/21 09:20			
Pentafluorobenzene	1105421	9.857	1101889	9.851	100	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2599785	10.45	2525815	10.444	103	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1608323	13.229	1610233	13.223	100	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1192315	15.491	1271242	15.485	94	50 - 200	0.0060	+/-0.50	
Blank (1G28012-BLK1)			Lab File ID: 215GW006.D			Analyzed: 07/28/21 09:48			
Pentafluorobenzene	1058005	9.857	1101889	9.851	96	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2459389	10.45	2525815	10.444	97	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1530623	13.229	1610233	13.223	95	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1152122	15.485	1271242	15.485	91	50 - 200	0.0000	+/-0.50	
CRCA-MW0002-032.5-20210726 (AE05483-01)			Lab File ID: 215GW007.D			Analyzed: 07/28/21 10:16			
Pentafluorobenzene	1040767	9.857	1101889	9.851	94	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2434148	10.45	2525815	10.444	96	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1534041	13.229	1610233	13.223	95	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1160628	15.491	1271242	15.485	91	50 - 200	0.0060	+/-0.50	
CRCA-MW0018-058.0-20210726 (AE05483-02)			Lab File ID: 215GW008.D			Analyzed: 07/28/21 10:44			
Pentafluorobenzene	1010974	9.857	1101889	9.851	92	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2428360	10.45	2525815	10.444	96	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1504622	13.229	1610233	13.223	93	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1151894	15.491	1271242	15.485	91	50 - 200	0.0060	+/-0.50	
CRCA-MW0013-027.5-20210726 (AE05483-03)			Lab File ID: 215GW009.D			Analyzed: 07/28/21 11:12			
Pentafluorobenzene	1022104	9.857	1101889	9.851	93	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2402398	10.45	2525815	10.444	95	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1514817	13.229	1610233	13.223	94	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1127294	15.485	1271242	15.485	89	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Sequence: AA67540
Instrument: OVGCMS5
Matrix: Water
Calibration: 2106098

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
CRCA-MW0012-027.5-20210726 (AE05483-04)			Lab File ID: 215GW010.D			Analyzed: 07/28/21 11:40			
Pentafluorobenzene	990018	9.857	1101889	9.851	90	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2368009	10.45	2525815	10.444	94	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1506429	13.229	1610233	13.223	94	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1129481	15.486	1271242	15.485	89	50 - 200	0.0010	+/-0.50	
CRCA-MW0015-027.5-20210726 (AE05483-05)			Lab File ID: 215GW011.D			Analyzed: 07/28/21 12:08			
Pentafluorobenzene	979486	9.857	1101889	9.851	89	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2357320	10.45	2525815	10.444	93	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1479523	13.229	1610233	13.223	92	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1121546	15.485	1271242	15.485	88	50 - 200	0.0000	+/-0.50	
CRCA-MW0031-058.0-20210726 (AE05483-06)			Lab File ID: 215GW012.D			Analyzed: 07/28/21 12:37			
Pentafluorobenzene	975384	9.857	1101889	9.851	89	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2333021	10.45	2525815	10.444	92	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1444445	13.229	1610233	13.223	90	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1110125	15.491	1271242	15.485	87	50 - 200	0.0060	+/-0.50	
CRCA-MW0019-058.0-20210726 (AE05483-07)			Lab File ID: 215GW013.D			Analyzed: 07/28/21 13:05			
Pentafluorobenzene	971946	9.857	1101889	9.851	88	50 - 200	0.0060	+/-0.50	
1,4-Difluorobenzene	2288770	10.45	2525815	10.444	91	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1447392	13.229	1610233	13.223	90	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1103226	15.491	1271242	15.485	87	50 - 200	0.0060	+/-0.50	
Matrix Spike (1G28012-MS1)			Lab File ID: 215GW026.D			Analyzed: 07/28/21 19:08			
Pentafluorobenzene	997249	9.856	1101889	9.851	91	50 - 200	0.0050	+/-0.50	
1,4-Difluorobenzene	2338476	10.45	2525815	10.444	93	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	1494708	13.229	1610233	13.223	93	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	1150265	15.491	1271242	15.485	90	50 - 200	0.0060	+/-0.50	

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA66932		
Calibration:	2106098	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	AA66932-TUN1	215FM003.D	06/18/21 07:34
Cal Standard	AA66932-CAL1	215FM004.D	06/18/21 08:05
Cal Standard	AA66932-CAL2	215FM005.D	06/18/21 08:32
Cal Standard	AA66932-CAL3	215FM006.D	06/18/21 09:00
Cal Standard	AA66932-CAL4	215FM007.D	06/18/21 09:28
Cal Standard	AA66932-CAL5	215FM008.D	06/18/21 09:56
Cal Standard	AA66932-CAL6	215FM009.D	06/18/21 10:24
Cal Standard	AA66932-CAL7	215FM010.D	06/18/21 10:52
Cal Standard	AA66932-CAL8	215FM011.D	06/18/21 11:20
Secondary Cal Check	AA66932-SCV1	215FM013.D	06/18/21 12:15

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA67540		
Calibration:	2106098	Instrument:	OVGCMS5

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA67540-CCV1	215GW003.D	07/28/21 08:24
LCS	1G28012-BS1	215GW004.D	07/28/21 08:52
Instrument RL Check	AA67540-CRL1	215GW005.D	07/28/21 09:20
Blank	1G28012-BLK1	215GW006.D	07/28/21 09:48
CRCA-MW0002-032.5-20210726	AE05483-01	215GW007.D	07/28/21 10:16
CRCA-MW0018-058.0-20210726	AE05483-02	215GW008.D	07/28/21 10:44
CRCA-MW0013-027.5-20210726	AE05483-03	215GW009.D	07/28/21 11:12
CRCA-MW0012-027.5-20210726	AE05483-04	215GW010.D	07/28/21 11:40
CRCA-MW0015-027.5-20210726	AE05483-05	215GW011.D	07/28/21 12:08
CRCA-MW0031-058.0-20210726	AE05483-06	215GW012.D	07/28/21 12:37
CRCA-MW0019-058.0-20210726	AE05483-07	215GW013.D	07/28/21 13:05
CRCA-MW0002-032.5-20210726	1G28012-MS1	215GW026.D	07/28/21 19:08

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Lab File ID:	215FM003.D	Injection Date:	06/18/21
Instrument ID:	OVGCMS5	Injection Time:	07:34
Sequence:	AA66932	Lab Sample ID:	AA66932-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	50 - 200% of 174	191	PASS
96	5 - 9% of 95	7.06	PASS
173	Less than 2% of 174	0.214	PASS
174	50 - 200% of 95	52.3	PASS
175	5 - 9% of 174	5.23	PASS
176	95 - 105% of 174	95.8	PASS
177	5 - 10% of 176	6.95	PASS

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2106098
Lab File ID:	215GW003.D	Calibration Date:	06/18/21 08:08
Sequence:	AA67540	Injection Date:	07/28/21
Lab Sample ID:	AA67540-CCV1	Injection Time:	08:24

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Dichlorodifluoromethane	A	20.0	25	0.5094763	0.6361602		24	20	*
Chloromethane	A	20.0	22	0.7825336	0.8585012		12	20	
Vinyl chloride	A	20.0	21	0.6650027	0.6942239		4.4	20	
Bromomethane	A	20.0	33	0.2460614	0.2897756		63	20	*
Chloroethane	A	20.0	13	0.3880182	0.2387689		-37	20	*
Trichlorofluoromethane	A	20.0	19	0.7609833	0.7073349		-7	20	
Freon 113	A	50.0	41	0.3222191	0.2611024		-19	20	
Acetone	A	250	240	0.1924489	0.2016049		-5	20	
1,1-Dichloroethene	A	50.0	41	0.5314554	0.4331734		-19	20	
Carbon disulfide	A	250	250	1.455719	1.528085		0.90	20	
Methylene Chloride	A	50.0	45	0.6815178	0.609387		-11	20	
Methyl-tert-Butyl Ether	A	50.0	51	1.537398	1.565024		1.8	20	
trans-1,2-Dichloroethene	A	50.0	47	0.6064423	0.570055		-6	20	
cis-1,2-Dichloroethene	A	50.0	52	0.6549615	0.6817677		4.1	20	
1,1-Dichloroethane	A	50.0	49	1.152866	1.134178		-1.6	20	
2-Butanone	A	250	260	9.841208E-02	0.1039277		5.6	20	
Chloroform	A	50.0	50	1.100938	1.099845		-0.1	20	
1,1,1-Trichloroethane	A	50.0	50	0.8164118	0.8233476		0.80	20	
Methyl acetate	A	50.0	51	0.573727	0.5725726		2.7	20	
Cyclohexane	A	50.0	48	1.148895	1.110131		-3.4	20	
Methyl cyclohexane	A	50.0	49	0.6594789	0.5222361		-2.2	20	
Carbon Tetrachloride	A	50.0	56	0.285844	0.3209668		12	20	
1,2-Dichloroethane	A	50.0	47	0.3513194	0.3335628		-5.1	20	
Benzene	A	50.0	49	1.184952	1.151618		-2.8	20	
Trichloroethene	A	50.0	49	0.2450156	0.2385757		-2.6	20	
1,2-Dichloropropane	A	50.0	50	0.3371891	0.3378927		0.20	20	
Bromodichloromethane	A	50.0	53	0.3308186	0.3537612		6.9	20	
4-Methyl-2-pentanone	A	250	280	4.594368E-02	5.137142E-02		12	20	
2-Hexanone	A	250	260	0.3312611	0.3997522		5.2	20	

CONTINUING CALIBRATION CHECK

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCMS5	Calibration:	2106098
Lab File ID:	215GW003.D	Calibration Date:	06/18/21 08:08
Sequence:	AA67540	Injection Date:	07/28/21
Lab Sample ID:	AA67540-CCV1	Injection Time:	08:24

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
cis-1,3-Dichloropropene	A	50.0	54	0.4967443	0.5404076		8.8	20
Toluene	A	50.0	50	1.222815	1.216614		-0.5	20
trans-1,3-Dichloropropene	A	50.0	54	0.6187986	0.6736721		8.9	20
1,1,2-Trichloroethane	A	50.0	49	0.420744	0.416312		-1.1	20
Tetrachloroethene	A	50.0	47	0.2798147	0.2630314		-6	20
Dibromochloromethane	A	50.0	49	0.3204024	0.365146		-2.5	20
1,2-Dibromoethane	A	50.0	50	0.4215299	0.4232227		0.40	20
Chlorobenzene	A	50.0	50	1.214708	1.207261		-0.6	20
Ethylbenzene	A	50.0	51	0.6898253	0.709607		2.9	20
m,p-Xylenes	A	100	99	0.8851906	0.8778579		-0.8	20
o-Xylene	A	50.0	52	0.8732591	0.9056418		3.7	20
Bromoform	A	50.0	49	0.175043	0.2084601		-2.4	20
Styrene	A	50.0	50	1.378538	1.541095		-0.3	20
Isopropylbenzene	A	50.0	50	2.223963	2.313458		-0.3	20
1,1,2,2-Tetrachloroethane	A	50.0	53	0.7197231	0.7629312		6.0	20
1,2,4-Trichlorobenzene	A	50.0	58	0.2087952	0.2989646		16	20
1,3-Dichlorobenzene	A	50.0	52	1.132817	1.185287		4.6	20
1,4-Dichlorobenzene	A	50.0	51	1.174038	1.20361		2.5	20
1,2-Dichlorobenzene	A	50.0	51	1.038218	1.111954		1.7	20
1,2-Dibromo-3-chloropropane	A	50.0	58	0.1005424	0.1301403		16	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

EPA 8260D

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA66932	Instrument:	OVGCMS5
Calibration:	2106098		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A1B1159	MS Tune (lower conc.)	AA66932-TUN1	215FM003.D	06/18/21 07:34
A1F0975	8260 1.0 PPB ms5	AA66932-CAL1	215FM004.D	06/18/21 08:05
A1F0976	8260 2.0 PPB ms5	AA66932-CAL2	215FM005.D	06/18/21 08:32
A1F0977	8260 5.0 PPB ms5	AA66932-CAL3	215FM006.D	06/18/21 09:00
A1F0978	8260 10 PPB ms5	AA66932-CAL4	215FM007.D	06/18/21 09:28
A1F0979	8260 20 PPB ms5	AA66932-CAL5	215FM008.D	06/18/21 09:56
A1F0980	8260 50 PPB ms5	AA66932-CAL6	215FM009.D	06/18/21 10:24
A1F0981	8260 80 PPB ms5	AA66932-CAL7	215FM010.D	06/18/21 10:52
A1F0982	8260 100 PPB ms5	AA66932-CAL8	215FM011.D	06/18/21 11:20
A1F0991	8260 SCV 50 PPB/20 gases (surr. lower conc.)	AA66932-SCV1	215FM013.D	06/18/21 12:15

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	1	0.5444762	2	0.4223063	5	0.5914354	10	0.4929725	20	0.4782643	50	0.5144729
Chloromethane	1	1.059332	2	0.6707638	5	0.8644306	10	0.7204098	20	0.7205409	50	0.6904153
Vinyl chloride	1	0.775862	2	0.5365335	5	0.6922473	10	0.650021	20	0.6440319	50	0.6499421
Bromomethane	1	0.3234076	2	0.3255129	5	0.3281328	10	0.219142	20	0.182968	50	0.1756765
Chloroethane	1	0.5053711	2	0.3404387	5	0.4826976	10	0.340112	20	0.3719102	50	0.2875798
Trichlorofluoromethane	1	0.7781085	2	0.6195022	5	0.8260138	10	0.7531864	20	0.7735416	50	0.7678532
Freon 113	1	0.2607978	2	0.3637858	5	0.3770729	10	0.3089054	20	0.3269222	50	0.3197173
Acetone	5	0.1268337	10	0.1831306	25	0.2239481	50	0.1920774	100	0.1898639	250	0.1957422
1,1-Dichloroethene	1	0.4355227	2	0.5684854	5	0.5852284	10	0.4930696	20	0.527627	50	0.5515247
Carbon disulfide	5	1.120095	10	1.355324	25	1.710983	50	1.475901	100	1.585499	250	1.52274
Methylene Chloride	1	0.5906119	2	0.7214544	5	0.7546519	10	0.6982431	20	0.6824497	50	0.6582142
Methyl-tert-Butyl Ether	1	1.228691	2	1.467826	5	1.698991	10	1.494367	20	1.514682	50	1.584127
trans-1,2-Dichloroethene	1	0.4844873	2	0.6339387	5	0.7476141	10	0.5671123	20	0.6072805	50	0.6066591
cis-1,2-Dichloroethene	1	0.5911944	2	0.6827126	5	0.6306257	10	0.6005607	20	0.6701389	50	0.6974786
1,1-Dichloroethane	1	0.9991355	2	1.197143	5	1.248112	10	1.143127	20	1.182508	50	1.151263
2-Butanone	5	8.611444E-02	10	9.231158E-02	25	0.1019234	50	0.0921379	100	0.0990753	250	9.898384E-02
Chloroform	1	0.9484237	2	1.219878	5	1.187922	10	1.043696	20	1.126225	50	1.095959
1,1,1-Trichloroethane	1	0.6124942	2	0.8466313	5	0.8294324	10	0.8444389	20	0.8295007	50	0.8605141
Methyl acetate	1	0.8340204	2	0.5208941	5	0.6154519	10	0.4900873	20	0.5014533	50	0.5008726
Cyclohexane	1	0.9308264	2	1.158299	5	1.12907	10	1.075644	20	1.216363	50	1.25072
Methyl cyclohexane	1	1.035333	2	0.8960511	5	0.6276093	10	0.5654248	20	0.5513575	50	0.5359486
Carbon Tetrachloride	1	0.2938125	2	0.272744	5	0.2453059	10	0.2456946	20	0.3170405	50	0.2849243
1,2-Dichloroethane	1	0.3728822	2	0.3760035	5	0.354193	10	0.3600144	20	0.3324898	50	0.3267591
Benzene	1	1.020889	2	1.335683	5	1.280419	10	1.205074	20	1.205519	50	1.154164
Trichloroethene	1	0.1995915	2	0.2675143	5	0.2457729	10	0.2576097	20	0.2522099	50	0.247163
1,2-Dichloropropane	1	0.3317094	2	0.3444437	5	0.3345588	10	0.3309305	20	0.32462	50	0.3363809
Bromodichloromethane	1	0.2784006	2	0.3158437	5	0.3279466	10	0.3133996	20	0.3348848	50	0.3464648
4-Methyl-2-pentanone	5	3.874193E-02	10	4.347198E-02	25	4.604022E-02	50	4.379807E-02	100	4.563434E-02	250	0.0479853
2-Hexanone	5	0.1920212	10	0.2973425	25	0.328939	50	0.3560921	100	0.3508167	250	0.3654472
cis-1,3-Dichloropropene	1	0.3791549	2	0.4859364	5	0.4863015	10	0.482609	20	0.5082976	50	0.531607
Toluene	1	1.215098	2	1.389193	5	1.235324	10	1.133236	20	1.24708	50	1.245802

INITIAL CALIBRATION DATA

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	1	0.5121762	2	0.6622446	5	0.6454576	10	0.5523355	20	0.6458741	50	0.6536197
1,1,2-Trichloroethane	1	0.3809597	2	0.4742446	5	0.4274421	10	0.3892404	20	0.4263599	50	0.4245764
Tetrachloroethene	1	0.2623334	2	0.3509024	5	0.3066935	10	0.246393	20	0.2806483	50	0.273779
Dibromochloromethane	1	0.1954628	2	0.3058781	5	0.2995091	10	0.3067263	20	0.3443887	50	0.3599448
1,2-Dibromoethane	1	0.387205	2	0.4152207	5	0.4139148	10	0.4117751	20	0.4205098	50	0.439896
Chlorobenzene	1	1.141484	2	1.300256	5	1.22289	10	1.222196	20	1.268013	50	1.234034
Ethylbenzene	1	0.5916037	2	0.6971589	5	0.6987964	10	0.7353856	20	0.7037018	50	0.7166845
m,p-Xylenes	2	0.8130441	4	0.9200809	10	0.9356853	20	0.9204158	40	0.9535119	100	0.8998223
o-Xylene	1	0.7031544	2	0.8522975	5	0.928378	10	0.8650837	20	0.9465502	50	0.9192626
Bromoform	1	0.129921	2	0.1507396	5	0.1403793	10	0.1654611	20	0.1852009	50	0.1967156
Styrene	1	0.7825155	2	1.203015	5	1.465928	10	1.317717	20	1.612473	50	1.562396
Isopropylbenzene	1	1.704453	2	2.252172	5	2.4154	10	2.193867	20	2.416191	50	2.372754
1,1,2,2-Tetrachloroethane	1	0.5720375	2	0.7488666	5	0.7870861	10	0.7104761	20	0.7506403	50	0.7288423
1,2,4-Trichlorobenzene	1	6.982231E-02	2	0.148378	5	0.2032745	10	0.2020054	20	0.2092492	50	0.2466564
1,3-Dichlorobenzene	1	0.948657	2	1.182099	5	1.105942	10	1.139155	20	1.151222	50	1.175941
1,4-Dichlorobenzene	1	1.112015	2	1.169665	5	1.232994	10	1.151103	20	1.196167	50	1.17052
1,2-Dichlorobenzene	1	0.834553	2	1.111243	5	1.040463	10	1.00277	20	1.046587	50	1.081676
1,2-Dibromo-3-chloropropane	1	3.782219E-02	2	0.1234915	5	9.587591E-02	10	8.741802E-02	20	9.065852E-02	50	0.1109498
Dibromofluoromethane	50	0.5913957	55	0.5857742	60	0.6050241	50	0.6090502	65	0.599548	50	0.6278028
Toluene-d8	50	1.156133	55	1.20606	60	1.22483	50	1.244223	65	1.198461	50	1.336655
4-Bromofluorobenzene	50	0.8721141	55	0.8442948	60	0.860972	50	0.8437756	65	0.8369979	50	0.9245401

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Dichlorodifluoromethane	80	0.5188117	100	0.513071								
Chloromethane	80	0.7237385	100	0.8106379								
Vinyl chloride	80	0.6784366	100	0.6929469								
Bromomethane	80	0.2018831	100	0.2117683								
Chloroethane	80	~~0.2324829~~	100	~~0.1721268~~								
Trichlorofluoromethane	80	0.7833297	100	0.7863313								
Freon 113	80	0.307747	100	0.3128048								
Acetone	400	0.2070738	500	0.2209217								
1,1-Dichloroethene	80	0.5362744	100	0.5539112								
Carbon disulfide	400	1.455013	500	1.4202								
Methylene Chloride	80	0.6765417	100	0.6699758								
Methyl-tert-Butyl Ether	80	1.611962	100	1.698542								
trans-1,2-Dichloroethene	80	0.5978528	100	0.6065935								
cis-1,2-Dichloroethene	80	0.6769028	100	0.6900783								
1,1-Dichloroethane	80	1.149155	100	1.152482								
2-Butanone	400	0.1060309	500	0.1107193								
Chloroform	80	1.088278	100	1.097122								
1,1,1-Trichloroethane	80	0.8538667	100	0.8544162								
Methyl acetate	80	0.543619	100	0.5834171								
Cyclohexane	80	1.217302	100	1.212934								
Methyl cyclohexane	80	0.5283242	100	0.5357824								
Carbon Tetrachloride	80	0.3354238	100	0.2918061								
1,2-Dichloroethane	80	0.3378516	100	0.3503619								
Benzene	80	1.128018	100	1.149851								
Trichloroethene	80	0.2419864	100	0.2482773								
1,2-Dichloropropane	80	0.3393545	100	0.3555149								
Bromodichloromethane	80	0.3580559	100	0.3715528								
4-Methyl-2-pentanone	400	4.872666E-02	500	0.0531509								
2-Hexanone	400	0.3642195	500	0.3952106								
cis-1,3-Dichloropropene	80	0.5418855	100	0.5581627								
Toluene	80	1.157336	100	1.159454								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
trans-1,3-Dichloropropene	80	0.6300793	100	0.648602								
1,1,2-Trichloroethane	80	0.4164825	100	0.4266462								
Tetrachloroethene	80	0.2557776	100	0.2619908								
Dibromochloromethane	80	0.3640785	100	0.3872307								
1,2-Dibromoethane	80	0.4359692	100	0.4477482								
Chlorobenzene	80	1.162731	100	1.166059								
Ethylbenzene	80	0.6822879	100	0.6929839								
m,p-Xylenes	160	0.8278378	200	0.8111269								
o-Xylene	80	0.8813923	100	0.8899545								
Bromoform	80	0.209795	100	0.2221316								
Styrene	80	1.533573	100	1.550684								
Isopropylbenzene	80	2.211864	100	2.225002								
1,1,2,2-Tetrachloroethane	80	0.7238183	100	0.7360177								
1,2,4-Trichlorobenzene	80	0.2835707	100	0.3074052								
1,3-Dichlorobenzene	80	1.171958	100	1.187558								
1,4-Dichlorobenzene	80	1.186322	100	1.17352								
1,2-Dichlorobenzene	80	1.084059	100	1.10439								
1,2-Dibromo-3-chloropropane	80	0.1211319	100	0.1369917								
Dibromofluoromethane	70	0.5842909	75	0.5832016								
Toluene-d8	70	1.244561	75	1.260871								
4-Bromofluorobenzene	70	0.8334529	75	0.8539871								

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dichlorodifluoromethane	0.5094763	9.647847	3.98025	5.556263E-02	0.9996769		0.99	
Chloromethane	0.7825336	16.46827	4.40925	0.135073	0.9923367		0.99	
Vinyl chloride	0.6650027	10.06966	4.5845	5.710391E-02			20	
Bromomethane	0.2460614	27.39954	5.228375	4.862762E-02		0.9963293	0.99	
Chloroethane	0.3880182	22.36143	5.459	0.1512648		0.9973848	0.99	
Trichlorofluoromethane	0.7609833	8.000491	5.701125	0.1864209			20	
Freon 113	0.3222191	11.13614	6.55825	9.342257E-02			20	
Acetone	0.1924489	15.74444	7.4	0.1278971	0.9960612		0.99	
1,1-Dichloroethene	0.5314554	8.963278	6.53325	4.564842E-02			20	
Carbon disulfide	1.455719	11.92334	6.625	6.868896E-02		0.9998954	0.99	
Methylene Chloride	0.6815178	7.056421	7.34125	0.0518812			20	
Methyl-tert-Butyl Ether	1.537398	9.90525	7.63075	2.123095E-02			20	
trans-1,2-Dichloroethene	0.6064423	12.01755	7.5505	0.1224101			20	
cis-1,2-Dichloroethene	0.6549615	6.358542	8.9505	6.797787E-02			20	
1,1-Dichloroethane	1.152866	6.19063	8.31475	5.035179E-02			20	
2-Butanone	9.841208E-02	8.151038	9.550125	0.1662186			20	
Chloroform	1.100938	7.606441	9.222	3.620673E-02			20	
1,1,1-Trichloroethane	0.8164118	10.18657	9.485375	5.345546E-02			20	
Methyl acetate	0.573727	19.85262	7.511375	0.5213447	0.9945246		0.99	
Cyclohexane	1.148895	9.134873	9.19225	5.174988E-02			20	
Methyl cyclohexane	0.6594789	29.58945	10.45075	3.931351E-02	0.9995099		0.99	
Carbon Tetrachloride	0.285844	11.02986	9.4145	6.564497E-02			20	
1,2-Dichloroethane	0.3513194	5.157523	10.08825	2.752186E-02			20	
Benzene	1.184952	8.132168	9.87925	4.856943E-02			20	
Trichloroethene	0.2450156	8.169892	10.453	4.611096E-02			20	
1,2-Dichloropropane	0.3371891	2.808828	10.98725	3.084346E-02			20	
Bromodichloromethane	0.3308186	8.809988	11.01775	4.062078E-02			20	
4-Methyl-2-pentanone	4.594368E-02	9.254212	12.13475	6.688867E-02			20	
2-Hexanone	0.3312611	19.05383	12.88125	4.379245E-02	0.9967168		0.99	
cis-1,3-Dichloropropene	0.4967443	11.13382	11.6105	4.251153E-02			20	

INITIAL CALIBRATION DATA (Continued)

EPA 8260D

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA
Calibration: 2106098
Instrument: OVGCMS5
Matrix: Water
Calibration Date: 06/18/21 08:08

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Toluene	1.222815	6.581686	11.83175	2.131752E-03			20	
trans-1,3-Dichloropropene	0.6187986	8.92381	12.19875	3.889151E-02			20	
1,1,2-Trichloroethane	0.420744	6.711427	12.36275	0.0322457			20	
Tetrachloroethene	0.2798147	12.18024	12.21	0.0317417			20	
Dibromochloromethane	0.3204024	18.63594	12.55363	2.959019E-02	0.9973738		0.99	
1,2-Dibromoethane	0.4215299	4.576784	12.81575	3.543673E-02			20	
Chlorobenzene	1.214708	4.518369	13.2455	1.871819E-02			20	
Ethylbenzene	0.6898253	6.208191	13.21175	3.216336E-02			20	
m,p-Xylenes	0.8851906	6.596866	13.329	4.748539E-02			20	
o-Xylene	0.8732591	8.690183	13.736	3.869105E-02			20	
Bromoform	0.175043	19.21377	13.87912	4.188187E-02	0.9953063		0.99	
Styrene	1.378538	20.14016	13.78075	3.574971E-02	0.9995972		0.99	
Isopropylbenzene	2.223963	10.30242	13.999	3.611421E-02		0.9994846	0.99	
1,1,2,2-Tetrachloroethane	0.7197231	8.881911	14.47125	2.257241E-02			20	
1,2,4-Trichlorobenzene	0.2087952	36.10883	18.155	0.111192		0.9993635	0.99	
1,3-Dichlorobenzene	1.132817	6.985412	15.41725	1.644861E-02			20	
1,4-Dichlorobenzene	1.174038	2.971778	15.50525	1.679585E-02			20	
1,2-Dichlorobenzene	1.038218	8.654341	16.02525	3.415201E-02	0.9996843		0.99	
1,2-Dibromo-3-chloropropane	0.1005424	30.57038	17.0955	0.1851555		0.9994421	0.99	
Dibromofluoromethane	0.5982609	2.57523	9.428	9.589849E-03			20	
Toluene-d8	1.233974	4.295517	11.7795	2.799324E-02			20	
4-Bromofluorobenzene	0.8587668	3.43207	14.32875	7.284017E-03			20	

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE05483-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2106098 **Laboratory ID:** AA66932-SCV1

Sequence: AA66932 **Standard ID:** A1F0991

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Cyclohexane	50.0	60	20.5	30.00
Ethylbenzene	50.0	60	19.7	30.00
Carbon Tetrachloride	50.0	55	10.0	30.00
1,3-Dichlorobenzene	50.0	60	19.3	30.00
4-Bromofluorobenzene	50.0	55	9.4	30.00
Toluene-d8	50.0	55	9.6	30.00
Dibromofluoromethane	50.0	50	0.06	30.00
Methyl-tert-Butyl Ether	50.0	56	12.6	30.00
trans-1,2-Dichloroethene	50.0	55	10.3	30.00
cis-1,2-Dichloroethene	50.0	56	12.7	30.00
Tetrachloroethene	50.0	56	11.2	30.00
Acetone	250	260	3.8	30.00
1,2,4-Trichlorobenzene	50.0	60	19.1	30.00
Chloroform	50.0	54	8.2	30.00
Chlorobenzene	50.0	57	14.7	30.00
Toluene	50.0	56	12.6	30.00
Methyl cyclohexane	50.0	57	14.2	30.00
m,p-Xylenes	100	110	11.2	30.00
4-Methyl-2-pentanone	250	300	20.0	30.00
1,2-Dichloroethane	50.0	53	5.4	30.00
1,2-Dibromoethane	50.0	58	15.2	30.00
1,4-Dichlorobenzene	50.0	57	13.3	30.00
trans-1,3-Dichloropropene	50.0	61	21.5	30.00
cis-1,3-Dichloropropene	50.0	57	13.0	30.00
Styrene	50.0	59	18.6	30.00
Dibromochloromethane	50.0	55	9.5	30.00
1,1-Dichloroethene	50.0	57	13.1	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260D

Laboratory: ENCO Orlando **SDG:** AE05483-TE016

Client: Tetra Tech, Inc. (TE016) **Project:** NASA KSC CRCA

Calibration: 2106098 **Laboratory ID:** AA66932-SCV1

Sequence: AA66932 **Standard ID:** A1F0991

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
1,2-Dibromo-3-chloropropane	50.0	59	17.5	30.00
1,2-Dichlorobenzene	50.0	57	14.1	30.00
o-Xylene	50.0	60	19.9	30.00
1,1,2,2-Tetrachloroethane	50.0	56	12.7	30.00
Methyl acetate	50.0	58	16.7	30.00
Trichloroethene	50.0	56	11.0	30.00
1,1,2-Trichloroethane	50.0	56	12.3	30.00
2-Butanone	250	280	13.7	30.00
1,2-Dichloropropane	50.0	55	11.0	30.00
Freon 113	50.0	57	13.2	30.00
2-Hexanone	250	280	12.6	30.00
Trichlorofluoromethane	20.0	20	1.2	30.00
Isopropylbenzene	50.0	58	16.4	30.00
1,1-Dichloroethane	50.0	56	12.5	30.00
Bromodichloromethane	50.0	60	19.7	30.00
Bromoform	50.0	55	10.2	30.00
Carbon disulfide	50.0	66	31.2 *	30.00
Methylene Chloride	50.0	51	2.5	30.00
Vinyl chloride	20.0	20	2.4	30.00
Chloroethane	20.0	16	-21.2	30.00
Chloromethane	20.0	23	14.0	30.00
Bromomethane	20.0	22	7.7	30.00
1,1,1-Trichloroethane	50.0	58	15.3	30.00
Benzene	50.0	57	13.8	30.00
Dichlorodifluoromethane	20.0	27	36.8 *	30.00

* Values outside of QC limits

ENCO Orlando

SDG: AE05483-TE016

CLASS: 06_VOA_AIR_RSK

METHOD: RSK 175

ANALYSES DATA PACKAGE COVER PAGE

RSK 175

Laboratory: ENCO Orlando

SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Client Sample Id:	Lab Sample Id:
CRCA-MW0018-058.0-20210726	AE05483-02
CRCA-MW0018-058.0-20210726	AE05483-02RE1
CRCA-MW0031-058.0-20210726	AE05483-06
CRCA-MW0019-058.0-20210726	AE05483-07

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0018-058.0-20210726

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE05483-02
File ID: 21GW008.D
Sampled: 07/26/21 10:00
Prepared: 07/28/21 00:00
Analyzed: 07/28/21 11:22
Solids:
Preparation: Same
Initial/Final: 1 mL / 1 mL
Batch: 1G28011
Sequence: AA67536
Calibration: 2102005
Instrument: OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-85-1	Ethene	1	0.00842		0.00510	0.00600
74-84-0	Ethane	1	0.00510	U	0.00510	0.00600

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0018-058.0-20210726

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Ground Water	Laboratory ID:	AE05483-02RE1	File ID:	21GW014.D
Sampled:	07/26/21 10:00	Prepared:	07/28/21 00:00	Analyzed:	07/28/21 13:15
Solids:		Preparation:	Same	Initial/Final:	1 mL / 1 mL
Batch:	1G28011	Sequence:	AA67536	Calibration:	2102005
				Instrument:	OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-82-8	Methane	15	1.41	D	0.0600	0.0750

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0031-058.0-20210726

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Ground Water
Laboratory ID: AE05483-06
File ID: 21GW009.D
Sampled: 07/26/21 13:15
Prepared: 07/28/21 00:00
Analyzed: 07/28/21 11:38
Solids:
Preparation: Same
Initial/Final: 1 mL / 1 mL
Batch: 1G28011
Sequence: AA67536
Calibration: 2102005
Instrument: OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-82-8	Methane	1	0.582		0.00400	0.00500
74-85-1	Ethene	1	0.00510	U	0.00510	0.00600
74-84-0	Ethane	1	0.00510	U	0.00510	0.00600

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

RSK 175

CRCA-MW0019-058.0-20210726

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Matrix: Ground Water Laboratory ID: AE05483-07 File ID: 21GW010.D

Sampled: 07/26/21 14:00 Prepared: 07/28/21 00:00 Analyzed: 07/28/21 12:14

Solids: Preparation: Same Initial/Final: 1 mL / 1 mL

Batch: 1G28011 Sequence: AA67536 Calibration: 2102005 Instrument: OVGCFID2

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	MDL	MRL
74-82-8	Methane	1	0.203		0.00400	0.00500
74-85-1	Ethene	1	0.00510	U	0.00510	0.00600
74-84-0	Ethane	1	0.00510	U	0.00510	0.00600

* Values outside of QC limits

HOLDING TIME SUMMARY

RSK 175

Laboratory: ENCO Orlando

SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CRCA-MW0018-058.0-20210726	07/26/21 10:00	07/27/21 15:00	07/28/21 00:00	1.58	NA	07/28/21 11:22	2.00	14.00	
CRCA-MW0018-058.0-20210726	07/26/21 10:00	07/27/21 15:00	07/28/21 00:00	1.58	NA	07/28/21 13:15	2.00	14.00	
CRCA-MW0031-058.0-20210726	07/26/21 13:15	07/27/21 15:00	07/28/21 00:00	1.45	NA	07/28/21 11:38	2.00	14.00	
CRCA-MW0019-058.0-20210726	07/26/21 14:00	07/27/21 15:00	07/28/21 00:00	1.42	NA	07/28/21 12:14	2.00	14.00	

PREPARATION BATCH SUMMARY

RSK 175

Laboratory: ENCO Orlando SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016) Project: NASA KSC CRCA

Batch: 1G28011 Batch Matrix: Water Preparation: Same

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	1G28011-BLK1	21GW005.D	07/28/21 00:00	
LCS	1G28011-BS1	21GW003.D	07/28/21 00:00	
LCS Dup	1G28011-BSD1	21GW004.D	07/28/21 00:00	
CRCA-MW0019-058.0-20210726	1G28011-DUP1	21GW017.D	07/28/21 00:00	
CRCA-MW0018-058.0-20210726	AE05483-02	21GW008.D	07/28/21 00:00	
CRCA-MW0018-058.0-20210726	AE05483-02RE1	21GW014.D	07/28/21 00:00	
CRCA-MW0031-058.0-20210726	AE05483-06	21GW009.D	07/28/21 00:00	
CRCA-MW0019-058.0-20210726	AE05483-07	21GW010.D	07/28/21 00:00	

METHOD BLANK DATA SHEET
RSK 175

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA

Matrix:	Water	Laboratory ID:	1G28011-BLK1	File ID:	21GW005.D
Prepared:	07/28/21 00:00	Preparation:	Same	Initial/Final:	1 mL / 1 mL
Analyzed:	07/28/21 10:35	Instrument:	OVGCFID2		
Batch:	1G28011	Sequence:	AA67536	Calibration:	2102005

CAS NO.	COMPOUND	CONC. (mg/L)	Q
74-82-8	Methane	0.00400	U
74-85-1	Ethene	0.00510	U
74-84-0	Ethane	0.00510	U

LCS / LCS DUPLICATE RECOVERY

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Matrix:	Water		
Batch:	1G28011	Laboratory ID:	1G28011-BS1
Preparation:	Same	Initial/Final:	1 mL / 1 mL

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC. #	QC LIMITS REC.
Methane	0.172	0.179	104	70 - 130
Ethene	0.302	0.324	107	70 - 130
Ethane	0.323	0.322	100	70 - 130

COMPOUND	SPIKE ADDED (mg/L)	LCSD CONCENTRATION (mg/L)	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Methane	0.172	0.181	105	1	30	70 - 130
Ethene	0.302	0.326	108	0.5	30	70 - 130
Ethane	0.323	0.326	101	1	30	70 - 130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

DUPLICATES

RSK 175

CRCA-MW0019-058.0-20210726

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Matrix: Water
Laboratory ID: 1G28011-DUP1
Batch: 1G28011
Lab Source ID: AE05483-07
Preparation: Same
Initial/Final: 1 mL / 1 mL
Source Sample Name: CRCA-MW0019-058.0-20210726
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/L)	C	DUPLICATE CONCENTRATION (mg/L)	C	RPD %	Q	METHOD
Methane	30	0.203		0.120		51	*	RSK 175
Ethene	30	0.00		ND				RSK 175
Ethane	30	0.00		ND				RSK 175

* Values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64746		
Calibration:	2102005	Instrument:	OVGCFID2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	AA64746-CAL8	21B1014.D	02/01/21 14:12
Cal Standard	AA64746-CAL9	21B1015.D	02/01/21 14:27
Cal Standard	AA64746-CALB	21B1017.D	02/01/21 14:59
Cal Standard	AA64746-CALC	21B1018.D	02/01/21 15:15
Cal Standard	AA64746-CALD	21B1019.D	02/01/21 15:31
Cal Standard	AA64746-CALE	21B1020.D	02/01/21 15:47
Cal Standard	AA64746-CALA	21B1022.D	02/01/21 16:18
Secondary Cal Check	AA64746-SCV1	21B1023.D	02/01/21 17:03

ANALYSIS BATCH (SEQUENCE) SUMMARY

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA67536		
Calibration:	2102005	Instrument:	OVGCFID2

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	AA67536-CCV1	21GW001.D	07/28/21 09:31
LCS	1G28011-BS1	21GW003.D	07/28/21 10:03
LCS Dup	1G28011-BSD1	21GW004.D	07/28/21 10:19
Blank	1G28011-BLK1	21GW005.D	07/28/21 10:35
CRCA-MW0018-058.0-20210726	AE05483-02	21GW008.D	07/28/21 11:22
CRCA-MW0031-058.0-20210726	AE05483-06	21GW009.D	07/28/21 11:38
CRCA-MW0019-058.0-20210726	AE05483-07	21GW010.D	07/28/21 12:14
CRCA-MW0018-058.0-20210726	AE05483-02RE1	21GW014.D	07/28/21 13:15
CRCA-MW0019-058.0-20210726	1G28011-DUP1	21GW017.D	07/28/21 14:03
Calibration Check	AA67536-CCV3	21GW021.D	07/28/21 15:07

CONTINUING CALIBRATION CHECK

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCFID2	Calibration:	2102005
Lab File ID:	21GW001.D	Calibration Date:	02/01/21 15:19
Sequence:	AA67536	Injection Date:	07/28/21
Lab Sample ID:	AA67536-CCV1	Injection Time:	09:31

		CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Methane	A	0.174	0.180	1.362132E+08	1.242828E+08		3.7	20
Ethene	A	0.302	0.327	7.977246E+07	8.627546E+07		8.2	20
Ethane	A	0.323	0.326	1.170026E+08	1.18272E+08		1.1	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

CONTINUING CALIBRATION CHECK

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Instrument ID:	OVGCFID2	Calibration:	2102005
Lab File ID:	21GW021.D	Calibration Date:	02/01/21 15:19
Sequence:	AA67536	Injection Date:	07/28/21
Lab Sample ID:	AA67536-CCV3	Injection Time:	15:07

		CONC. (mg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Methane	A	0.174	0.156	1.362132E+08	1.072014E+08		-11	20
Ethene	A	0.302	0.282	7.977246E+07	7.459017E+07		-6.5	20
Ethane	A	0.323	0.280	1.170026E+08	1.015725E+08		-13	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Sequence:	AA64746	Instrument:	OVGCFID2
Calibration:	2102005		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
A1B0547	RSK175-Cal 1 02/01/2021	AA64746-CAL8	21B1014.D	02/01/21 14:12
A1B0548	RSK175-Cal 2 02/01/2021	AA64746-CAL9	21B1015.D	02/01/21 14:27
A1B0550	RSK175-Cal 4 02/01/2021	AA64746-CALB	21B1017.D	02/01/21 14:59
A1B0551	RSK175-Cal 5 02/01/2021	AA64746-CALC	21B1018.D	02/01/21 15:15
A1B0552	RSK175-Cal 6 02/01/2021	AA64746-CALD	21B1019.D	02/01/21 15:31
A1B0553	RSK175-Cal 7 02/01/2021	AA64746-CALE	21B1020.D	02/01/21 15:47
A1B0549	RSK175-Cal 3 02/01/2021	AA64746-CALA	21B1022.D	02/01/21 16:18
A1A0933	RSK175- SCV/BS water CO2 and MEE	AA64746-SCV1	21B1023.D	02/01/21 17:03

INITIAL CALIBRATION DATA

RSK 175

Laboratory: ENCO Orlando

SDG: AE05483-TE016

Client: Tetra Tech, Inc. (TE016)

Project: NASA KSC CRCA

Calibration: 2102005

Instrument: OVGCFID2

Matrix: Water

Calibration Date: 02/01/21 15:19

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Methane												
Ethene												
Ethane												

INITIAL CALIBRATION DATA (Continued)

RSK 175

Laboratory:	ENCO Orlando	SDG:	AE05483-TE016
Client:	Tetra Tech, Inc. (TE016)	Project:	NASA KSC CRCA
Calibration:	2102005	Instrument:	OVGCFID2
Matrix:	Water	Calibration Date:	02/01/21 15:19

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Methane			0.000869	2.083245E+08	0.00869	1.311052E+08	0.0348	1.235944E+08	0.0869	1.272044E+08	0.174	1.263457E+08
Ethene			0.00151	5.315364E+07	0.0151	8.579782E+07	0.0603	8.372541E+07	0.151	8.751709E+07	0.302	8.48997E+07
Ethane			0.00161	1.263348E+08	0.0161	1.172619E+08	0.0646	1.169587E+08	0.161	1.212085E+08	0.323	1.152432E+08

INITIAL CALIBRATION DATA

RSK 175

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2102005
Instrument: OVGCFID2
Matrix: Water
Calibration Date: 02/01/21 15:19

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Methane	0.348	1.167678E+08	0.695	1.201502E+08								
Ethene	0.603	8.025572E+07	1.21	8.305785E+07								
Ethane	0.646	1.092976E+08	1.29	1.127132E+08								

INITIAL CALIBRATION DATA (Continued)

RSK 175

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2102005
Instrument: OVGCFID2
Matrix: Water
Calibration Date: 02/01/21 15:19

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Methane	1.362132E+08	23.59947	1.965429	4.209304E-02	0.9994672		0.99	
Ethene	7.977246E+07	14.9886	3.742286	0.1553695			20	
Ethane	1.170026E+08	4.754952	4.669571	0.2502584			20	

SECOND-SOURCE CALIBRATION VERIFICATION

RSK 175

Laboratory: ENCO Orlando
SDG: AE05483-TE016
Client: Tetra Tech, Inc. (TE016)
Project: NASA KSC CRCA

Calibration: 2102005
Laboratory ID: AA64746-SCV1
Sequence: AA64746
Standard ID: A1A0933

ANALYTE	EXPECTED (mg/L)	FOUND (mg/L)	% DRIFT	QC LIMIT
Ethene	0.302	0.315	4.2	25.00
Ethane	0.323	0.312	-3.4	25.00
Methane	0.172	0.171	-0.7	25.00

* Values outside of QC limits

TETRA TECH ISG
TtEGS, Information Systems Group

Completion Ticket

On 8/20/2021 at 1:13 PM the following files were submitted to Tetra Tech by kdylnicki@encolabs.com with ENCO:

TE016AE05483A1.txt, TE016AE05483A3.txt

If you need to identify this session at a later date refer to Ticket Key:

2021820_624587146_ledd_ENCO

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I Lori S. Mangrun, as the designated Quality Assurance Officer, hereby attest that all electronic deliverables have been thoroughly reviewed and are in agreement with the associated hardcopy data. The enclosed electronic files have been reviewed for accuracy (including significant figures), completeness and format. The laboratory will be responsible for any labor time necessary to correct enclosed electronic deliverables that have been found to be in error. I can be reached at (407) 826-5314 if there are any questions or problems with the enclosed electronic deliverables.

Signature:_____ Title: Quality Assurance Manager Date: August 25, 2021

APPENDIX D
O&M FIELD NOTES

Date	time	vapor				recovery wells														
						1					2					3				
		PID AS outlet	Blower Pressure	After Damper Pressure	AS Differential Pressure	Totalizer	Pressure	Flow Rate	Flow Rate	Pump Savor Calibration	Totalizer	Pressure	Flow Rate	Flow Rate	Pump Savor Calibration	Totalizer	Pressure	Flow Rate	Flow Rate	Pump Savor Calibration
		ppmv	in wc	in wc	in wc	gal	psi	sec	gpm	Check	gal	psi	sec	gpm	Check	gal	psi	sec	gpm	Check
07/22/19	7:30	0	0	0	0	0	0	6000	0.01	bad	0	0	6000	0.01	bad	0	0	6000	0.01	bad
07/23/19	7:30	0	21	21	20	2630	24	8.5	7.06	good	2630	30	8.5	7.06	good	2630	30	8.5	7.06	good
07/29/19	15:30	0	21	20.5	20	5141	24	8.5	7.06	good	4731	26	8.5	7.06	good	5387	28	8.5	7.06	good
08/09/19	7:00	0	21	20	20	11818	25	8.5	7.06	good	11489	28	8.5	7.06	good	11908	28	8.5	7.06	good
08/13/19	14:30	0	21	20	20	24866	24	8.5	7.06	good	24542	28	8.5	7.06	good	24808	28	8.5	7.06	good
08/16/19	14:00	0	21	20	20	48461	25	8.4	7.14	good	47890	28	8.5	7.06	good	47568	30	8.8	6.82	good
08/19/19	9:30	0	21	20	20	77322	25	8.4	7.14	good	76455	28	8.1	7.41	good	75413	28	8.6	6.98	good
08/26/19	12:00	0	21	19	20	149348	25	8.3	7.23	good	147613	30	8.5	7.06	good	145534	28	8.7	6.90	good
09/11/19	11:30	0	21	16	20	222768	25	8.8	6.82	good	219938	28	8.8	6.82	good	217486	30	8.8	6.82	good
10/03/19	12:30	0	21	16	20	393268	25	8.8	6.82	recaled	392264	28	8.6	6.98	good	387647	29	8.7	6.90	good
11/07/19	10:45	0	21	16	20	726973	25	8.6	6.98	good	733624	30	8.6	6.98	good	713331	26	8.5	7.06	good
12/10/19	7:30	0	21	16	20	959017	25	8.8	6.82	good	1001969	28	8.7	6.90	good	989308	27	8.5	7.06	good
01/14/20	8:00	0	21	21	21	1060912	25	8.65	6.94	good	1115779	28	8.4	7.14	good	1103493	27	8.7	6.90	good
02/13/20	12:00	0	21	21	21	1198882	25	8.7	6.90	good	1350492	28	8.8	6.82	good	1336679	27	8.6	6.98	good
04/09/20	14:30	0	21	21	21	1695616	24	8.75	6.86	good	1836189	29	8.8	6.82	good	1837863	27	8.78	6.83	good
05/14/20	7:30	0	21	20	20	2095090	24	8.7	6.90	good	2226678	28	8.7	6.90	good	2227509	27	8.7	6.90	good
06/04/20	15:15	0	20	20	20	2224488	24	8.7	6.90	good	2352477	30	8.5	7.06	good	2252151	30	9.5	6.32	good
07/13/20	7:30	0	20	20	20	2513663	24	8.6	6.98	good	2628965	28	8.5	7.06	good	2334764	32	8.7	6.90	good
08/11/20	13:30	0	20	20	20	2802838	25	8.6	6.98	good	2905452	28	8.5	7.06	good	2417377	32	8.7	6.90	good
09/15/20	17:00	0	20	20	20	3010147	25	8.8	6.82	good	3098691	28	8.6	6.98	good	2573860	25	8.7	6.90	good
10/21/20	14:00	0	20	20	20	3258940	25	8.8	6.82	good	3330570	29	8.6	6.98	good	2761631	22	8.7	6.90	good
11/23/20	9:00	0	20	20	20	3572540	24	8.8	6.82	good	3625583	32	8.6	6.98	good	2995119	38	8.7	6.90	good
12/15/20	13:00	0	20	20	20	3776198	22	8.5	7.06	good	3819990	28	8.6	6.98	good	3148850	26	8.6	6.98	good
01/18/21	15:00	0	20	20	20	4085132	24	8.5	7.06	good	4128186	24	8.5	7.06	good	3453454	28	8.5	7.06	good
02/16/21	16:00	0	20	20	20	4313428	30	8.5	7.06	good	4337220	34	8.5	7.06	good	3686863	28	8.5	7.06	good
03/14/21	15:00	0	20	20	20	4571305	28	8.5	7.06	good	4583369	32	8.5	7.06	good	3961882	28	8.6	6.98	good
04/17/21	18:00	0	20	20	20	4829182	26	8.6	6.98	good	4829519	32	8.6	6.98	good	4236902	28	8.5	7.06	good
05/18/21	14:00	0	20	20	20	5087060	26	8.6	6.98	good	5075669	32	8.6	6.98	good	4511922	30	8.6	6.98	good
06/14/21	15:00	0	20	20	20	5370063	24	8.6	6.98	good	5217417	34	8.4	7.14	good	4831905	30	8.6	6.98	good
07/30/21	13:00	0	20	20	20	5653066	22	8.7	6.90	good	5359166	34	8.4	7.14	good	5151888	30	8.6	6.98	good
08/19/21	13:00	0	20	20	20	5734800	24	8.9	6.74	good	5444533	33	8.8	6.82	good	5237244	28	8.8	6.82	good
10/07/21	8:30	0	21	20	20	5937475	20	8.5	7.06	good	5636662	30	8.4	7.14	good	5445500	26	8.5	7.06	good

Date	time	water																	
		EQ					AS pump					Bag filters							
												Infulent		Effluent		1			
		Totalizer	Pressure	Flow Rate	Flow Rate	Sensor Status	Totalizer	Pressure	Flow Rate	Flow Rate	Sensor Status	First Filter	Second Filter	First Filter	Second Filter	Totalizer	Pressure	Flow Rate	Flow Rate
		gal	psi	sec	gpm	Check	gal	psi	sec	gpm	Check	psi	psi	psi	psi	gal	psi	sec	gpm
07/22/19	7:30	0	0	6000	0.01	bad	0	0	6000	0.01	good	0	0	0	0	0	0	6000	0.01
07/23/19	7:30	7890	30	2	30.00	bad	7780	36	1.75	34.29	good	1	1	6	6	0	0	6000	0.01
07/29/19	15:30	14458	30	2	30.00	good	14503	38	1.8	33.33	good	1	0	20	20	1512	4	6.7	8.96
08/09/19	7:00	41705	30	2	30.00	good	42009	34	1.9	31.58	good	1	1	20	20	6660	5	6.7	8.96
08/13/19	14:30	80193	30	2	30.00	good	80890	34	1.7	35.29	good	1	1	20	20	11568	5	9	6.67
08/16/19	14:00	149193	28	1.94	30.93	good	150828	40	1.7	35.29	good	1	1	20	20	20959	4	8.7	6.90
08/19/19	9:30	233626	30	2.07	28.99	good	235658	40	1.7	35.29	good	1	1	20	20	35166	4	10	6.00
08/26/19	12:00	445076	28	2.1	28.57	good	448205	40	1.7	35.29	good	1	1	21	21	58754	8	28	2.14
09/11/19	11:30	664091	30	2.2	27.27	good	665511	40	1.7	35.29	good	1	1	22	22	77208	2	8	7.50
10/03/19	12:30	1201258	28	2.2	27.27	good	1175082	39	1.7	35.29	good	1	1	22	24	175336	11	7	8.57
11/07/19	10:45	2334155	28	2.1	28.57	good	2253219	38	1.5	40.00	good	1	1	22	25	276686	10	6	10.00
12/10/19	7:30	3416384	28	1.8	33.33	good	3103418	38	1.5	40.00	good	1	1	30	30	459922	13	7	8.57
01/14/20	8:00	3959892	28	1.5	40.00	good	3460705	38	1.3	46.15	good	1	1	30	35	538417	10	6	10.00
02/13/20	12:00	5114020	28	1.3	46.15	good	4127819	38	1.6	37.50	good	1	1	25	30	670951	4	8	7.50
04/09/20	14:30	8203623	28	1.2	50.00	good	5791342	35	1.3	46.15	good	1	1	30	30	995473	18	12	5.00
05/14/20	7:30	8325468	28	1.8	33.33	good	6504740	35	1.5	40.00	good	1	1	30	30	1197975	14	8	7.50
06/04/20	15:15	51412	28	2.5	24.00	replaced	49758	35	1.8	33.33	replaced	1	1	20	20	1263415	14	8	7.50
07/13/20	7:30	717428	28	1.8	33.33	good	674891	35	1.7	35.29	good	1	1	25	22	1416442	14	9	6.67
08/11/20	13:30	1383444	28	1.9	31.58	good	1300025	35	1.5	40.00	good	1	1	20	20	1569469	18	10	6.00
09/15/20	17:00	2022664	28	2.2	27.27	good	1861104	38	1.8	33.33	good	2	1	25	25	1693722	18	10	6.00
10/21/20	14:00	2789727	28	2.2	27.27	good	2534399	38	1.9	31.58	good	2	1	25	25	1842827	16	10	6.00
11/23/20	9:00	3666572	28	2	30.00	good	3427715	38	1.7	35.29	good	1	1	25	25	2033467	20	8	7.50
12/15/20	13:00	4247200	20	2	30.00	good	4034244	35	1.7	35.29	good	1	1	25	25	2167914	20	8	7.50
01/18/21	15:00	5453518	26	2.1	28.57	good	5031544	32	1.5	40.00	good	1	1	25	25	2395119	20	8	7.50
02/16/21	16:00	6239511	26	2	30.00	good	5734532	36	1.7	35.29	good	1	1	25	25	2547099	24	8	7.50
03/14/21	15:00	7076134	26	2	30.00	good	6564836	34	1.7	35.29	good	1	1	25	25	2702510	22	8	7.50
04/17/21	18:00	7912757	26	2.1	28.57	good	7395140	40	1.6	37.50	good	1	1	25	25	2857921	24	8	7.50
05/18/21	14:00	8749381	26	2	30.00	good	8225445	32	1.7	35.29	good	1	1	25	25	3013332	20	8	7.50
06/14/21	15:00	9532960	26	2	30.00	good	9023440	34	1.6	37.50	good	1	1	25	25	3169404	18	8	7.50
07/30/21	13:00	10316540	26	2	30.00	good	9821436	30	1.6	37.50	good	1	1	25	25	3325476	16	8	7.50
08/19/21	13:00	10577807	26	2	30.00	good	10095354	30	1.6	37.50	good	1	1	25	25	3383684	16	8	7.50
10/07/21	8:30	11191999	25	2.2	27.27	Good	10158410	30	1.6	37.50	Dirty	1	1	25	25	3507367	16	7.5	8.00

Date	time	Injection wells															
		2				3				4				5			
		Totalizer	Pressure	Flow Rate	Flow Rate	Totalizer	Pressure	Flow Rate	Flow Rate	Totalizer	Pressure	Flow Rate	Flow Rate	Totalizer	Pressure	Flow Rate	Flow Rate
		gal	psi	sec	gpm	gal	psi	sec	gpm	gal	psi	sec	gpm	gal	psi	sec	gpm
07/22/19	7:30	0	0	6000	0.01	0	0	6000	0.01	0	0	6000	0.01	0	0	6000	0.01
07/23/19	7:30	0	0	6000	0.01	0	0	6000	0.01	0	0	6000	0.01	0	0	6000	0.01
07/29/19	15:30	215	16	6.7	8.96	1667	7	6	10.00	146	12	6000	0.01	1627	4	7.5	8.00
08/09/19	7:00	4383	4	6.7	8.96	8078	9	6	10.00	239	14	6000	0.01	7940	8	7.5	8.00
08/13/19	14:30	11743	5	8	7.50	15861	9	14	4.29	271	12	6000	0.01	15278	6	9	6.67
08/16/19	14:00	25117	2	7.95	7.55	29482	10	73	0.82	349	16	6000	0.01	28427	4	8	7.50
08/19/19	9:30	40841	3	10	6.00	45402	4	9	6.67	384	12	6000	0.01	43870	4	9.3	6.45
08/26/19	12:00	85434	1	9	6.67	91377	6	8.2	7.32	1931	8	16.5	3.64	87113	2	10	6.00
09/11/19	11:30	126812	2	8	7.50	130518	18	6000	0.01	34521	12	35	1.71	130227	6	8	7.50
10/03/19	12:30	229376	6	7	8.57	226980	18	7	8.57	82125	12	20	3.00	194059	8	8	7.50
11/07/19	10:45	411749	10	7	8.57	320324	4	10	6.00	224094	12	9	6.67	227644	11	6000	0.01
12/10/19	7:30	540057	14	6	10.00	418838	6	10	6.00	353212	18	14.5	4.14	227644	14	6000	0.01
01/14/20	8:00	604893	11	8	7.50	432723	6	6000	0.01	410284	12	9	6.67	227644	14	6000	0.01
02/13/20	12:00	653339	6	8	7.50	501872	4	14	4.29	514298	6	10	6.00	309684	4	10	6.00
04/09/20	14:30	842375	18	12	5.00	755959	8	12	5.00	755696	12	8	7.50	537835	9	8	7.50
05/14/20	7:30	1036584	14	8	7.50	999789	8	10	6.00	954789	12	10	6.00	737432	8	8	7.50
06/04/20	15:15	1085565	12	9	6.67	1056257	10	8.5	7.06	1002399	15	10	6.00	782046	12	21	2.86
07/13/20	7:30	1198162	15	10	6.00	1191676	12	9	6.67	1110185	16	11	5.45	886853	8	12	5.00
08/11/20	13:30	1310759	20	15	4.00	1327092	22	12	5.00	1217971	23	12	5.00	991660	22	15	4.00
09/15/20	17:00	1410661	17	12	5.00	1456169	17	12	5.00	1311059	20	12	5.00	1092682	18	11	5.45
10/21/20	14:00	1530536	17	10	6.00	1611062	15	10	6.00	1422772	19	11	5.45	1213903	17	10	6.00
11/23/20	9:00	1692785	19	8	7.50	1832982	16	6	10.00	1574801	23	10	6.00	1369336	22	10	6.00
12/15/20	13:00	1806250	19	8	7.50	1981572	16	6	10.00	1669804	23	10	6.00	1467588	22	10	6.00
01/18/21	15:00	1989448	20	8	7.50	2201105	16	6	10.00	1838177	20	10	6.00	1623849	18	12	5.00
02/16/21	16:00	2116668	22	8	7.50	2321242	22	8	7.50	1970773	24	11	5.45	1734758	22	7	8.57
03/14/21	15:00	2263474	19	8	7.50	2454419	18	7	8.57	2123962	22	12	5.00	1865719	20	11	5.45
04/17/21	18:00	2410281	18	8	7.50	2587596	16	8	7.50	2277151	22	13	4.62	1996680	18	9	6.67
05/18/21	14:00	2557088	18	8	7.50	2720774	19	7	8.57	2430340	20	10	6.00	2127641	19	10	6.00
06/14/21	15:00	2686066	16	8	7.50	2859036	18	10	6.00	2534003	18	10	6.00	2252315	18	12	5.00
07/30/21	13:00	2815044	14	8	7.50	2997299	16	10	6.00	2637667	18	10	6.00	2376990	18	12	5.00
08/19/21	13:00	2861678	12	8	7.50	3044345	18	10	6.00	2686656	18	10	6.00	2420537	18	12	5.00
10/07/21	8:30	2971116	15	7.5	8.00	3154116	16	6	10.00	2802489	20	8	7.50	2526589	18	9	6.67

Date	time	6				7				Calculated values				Notes:								
		Totalizer	Pressure	Flow Rate	Flow Rate	Totalizer	Pressure	Flow Rate	Flow Rate	Total Totalizer Input	Flow meter extraction rate	Avg extraction rate	Air flow	Bag filters replaced	Air Stripper trays cleaned	Grease points NOT APPLICPALE						
		gal	psi	sec	gpm	gal	psi	sec	gpm	gpm	gpm	gpm	scfm	Date	date	date						
07/22/19	7:30	0	0	6000	0.01	0	0	6000	0.01	0	0.03			07/22/19	07/22/19	na						
07/23/19	7:30	0	0	6000	0.01	0	0	6000	0.01	7890	21.18	5.48		na	na	na						
07/29/19	15:30	158	17	120	0.50	1860	8	5.5	10.91	15259	21.18	0.81		na	na	na						
08/09/19	7:00	763	10	90	0.67	6805	4	5.5	10.91	35215	21.18	1.30		na	na	na						
08/13/19	14:30	6792	6	5.5	10.91	12464	6	5.5	10.91	74216	21.18	6.28		08/12/19	na	na						
08/16/19	14:00	17635	5	10.2	5.88	22421	3	11.2	5.36	143919	21.02	16.25		na	na	na	took effluent bag filters and took them from series to parallel					
08/19/19	9:30	31453	5	10	6.00	34514	2	12	5.00	229190	21.53	21.05		na	na	na						
08/26/19	12:00	70767	4	10	6.00	61888	0	18	3.33	442495	21.18	20.85		na	na	na						
09/11/19	11:30	110247	7	9	6.67	79524	10	6000	0.01	660192	20.45	9.46		09/11/19	09/11/19	na	monthly om as cleaned					
10/03/19	12:30	204488	8	30	2.00	85522	10	8	7.50	1173179	20.69	16.16		10/01/19	10/01/19	na	monthly om as cleaned, cleaned all ij flow meters and removed selionds guts.					
11/07/19	10:45	343320	11	6000	0.01	266542	8	10	6.00	2173928	21.01	19.90		11/04/19	11/04/19	na	monthly om as cleaned					
12/10/19	7:30	343320	18	6000	0.01	349620	16	8	7.50	2950294	20.77	16.40		12/09/19	12/09/19	na	monthly om as cleaned					
01/14/20	8:00	343320	18	6000	0.01	376022	16	6000	0.01	3280184	20.98	6.54				na						
02/13/20	12:00	445348	5	10	6.00	407270	4	10	6.00	3886053	20.69	13.95		02/11/20	02/11/20	na	all ij flow meters were cleaned in jan					
04/09/20	14:30	705275	9	10	6.00	473490	4	10	6.00	5369668	20.51	18.36		04/06/20	04/06/20	na						
05/14/20	7:30	897650	10	10	6.00	490057	8	10	6.00	6549277	20.69	23.60		05/13/20	05/13/20	na	EQ tank and AS totalizers are not counting need further review					
06/04/20	15:15	9500258	16	18	3.33	491265	14	600	0.10	6829116	20.27	9.11		06/04/20	06/04/20	na	ft301 &ft501 replaced 2jun20					
07/13/20	7:30	10332517	9	12	5.00	491265	18	6000	0.01	7477392	20.93	11.64		07/13/20	07/13/20	na	monthly om					
08/11/20	13:30	11164777	18	16	3.75	491265	20	6000	0.01	8125667	20.93	15.39		08/11/20	08/11/20	na	monthly om					
09/15/20	17:00	11252780	18	10	6.00	491266	20	6000	0.01	8682698	20.69	11.01		09/15/20	09/15/20	na	monthly om as cleaned					
10/21/20	14:00	11358345	14	12	5.00	491266	18	6000	0.01	9351141	20.69	12.94		10/19/20	10/19/20	na	monthly om as cleaned					
11/23/20	9:00	1504488	24	28	2.14	568379	20	12	5.00	10193242	20.69	17.83		11/06/20	11/06/20	na	monthly om as cleaned					
12/15/20	13:00	1597536	23	28	2.14	631547	20	12	5.00	10745038	21.01	17.29		12/15/20	12/15/20	na	monthly om as cleaned, floats cleaned, meters cleaned					
01/18/21	15:00	1752367	22	20	3.00	739835	18	15	4.00	11666772	21.18	18.78		01/18/21	01/18/21	na	monthly om as cleaned, floats cleaned, meters cleaned					
02/16/21	16:00	1851611	20	18	3.33	815827	16	10	6.00	12337511	21.18	16.04		02/16/21	02/16/21	na	monthly om as cleaned, floats cleaned, meters cleaned					
03/14/21	15:00	1974125	22	21	2.86	907984	18	15	4.00	13116556	21.09	20.84		03/14/21	03/14/21	na	monthly om as cleaned, floats cleaned, meters cleaned					
04/17/21	18:00	2096639	22	21	2.86	1000141	18	15	4.00	13895603	21.01	15.85		04/17/21	04/17/21	na	monthly om as cleaned, floats cleaned, meters cleaned					
05/18/21	14:00	2219154	21	20	3.00	1092298	18	16	3.75	14674651	20.93	17.55		05/18/21	05/18/21	na	monthly om as cleaned, floats cleaned, meters cleaned					
06/14/21	15:00	2342927	18	18	3.33	1184712	14	16	3.75	15419385	21.10	19.13		06/14/21	06/14/21	na	monthly om as cleaned, floats cleaned, meters cleaned					
07/30/21	13:00	2466700	14	14	4.29	1277126	12	14	4.29	16164120	21.02	11.26		07/30/21	07/30/21	na	monthly om as cleaned, floats cleaned, meters cleaned					
08/19/21	13:00	2506067	14	14	4.29	1308783	12	14	4.29	16416577	20.38	8.77		08/19/21	08/19/21	na	monthly om as cleaned, floats cleaned, meters cleaned					
10/07/21	8:30	2604503	17	10	6.00	1378100	15	12	5.00	17019637	21.26	8.58		09/13/21	09/13/21		monthly om as cleaned, floats cleaned, meters cleaned				September the blower motor was damaged and replaced system did not run 13 sep-4oct.	

APPENDIX E
SAMPLING FIELD NOTES

10-15-20 CRCA GW Sampling 112608970

Site CRCA
Objective GW + Air Sampling
Personnel MB
PPE level D
weather 84°F

0900 MB onsite CRCA,
0928o MB call to ENCO RE: Air Sampling 8-HR summa vs 8-HR regulator. A: Regulator only. Summas are identical.
0928 MB begin CRCA-~~M~~AMB-20201015
0935 MB Calibrating equipment.

1030 MB initiate purge at MW18
1100 CRCA-MW0018-058.0-20201015
1130 MB initiate purge at MW31
1200 CRCA-MW0031-058.0-20201015
1220 MB at MW32 everything underwater. Obtain tubing to run from well to car.
1300 MB initiate purge at MW32
1340 MB collect CRCA-MW0032-058.0-20201015
1400 MB initiate purge at MW019.
1410 battery died. could not collect sample
1430 MB cleaning and storing equipment.
1500 MB reading YSI manual and installing ysi software on ~~phone~~ laptop.
1530 need IT support to install. call to IT. cannot help due to phone used for hotspot while calling on same phone
1600 MB begin prep for UMP samples
1603 UMP01 placed
1608 UMP02 placed
1611 UMP03 placed
1623 UMP04 placed
1630 call to Matt Foto about UMP03 canister with pressure of 0. will send new one tommorow
1640 MB collect UMP03.
1703 MB collect UMP01
1708 MB collect UMP02
1723 MB collect UMP04
1728 MB collect AMB-20201015
1740 MB packing equipment and storing equipment
1800 MB offsite

歯医者さんにて。
クーラーが効きすぎていてちょっと寒かったので、
ひざ掛けを借りようとして、
「ひざまくら、借りていいですか？」
と聞いてしまった私。

10-20-20 CRCA Performance Mon. 112608470

Site CRCA
Objective GW monitoring + VMP
Personnel Melissa Bennett, MB, Tt, Env.Eng
PPE Level D + ~~+~~ facemask
Weather Overcast 80°F

1030 MB onsite preparing equipment
1101 MB set VMP03.
1110 MB calibrating YSI, LaMotte
1201 MB collect CRCA-VMP03-20201020
1210 MB initiate purge at MW0019
1240 MB collect CRCA-MW0019-0580-20201020
1300 MB packing samples for shipment and putting equipment away
1330 MB offsite
1410 MB at FedEx shipping samples to Microbial Insights.

そもそも子どもって、みんな「見立て」の天才です。
子どもはなにもなくても、
「見立て」だけで遊ぶことができます。
あの想像力こそ、お金ですべてを解決しようとする
大人たちが見習うべきものなんです。
—— 八木澤優記さんが『「かみてつ」ってな～に？』の中で

Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 2165 | PAGE 1 OF 1

PROJECT NO: KSC-CRCA ↔ 112G08970	PROJECT MANAGER: Chris Neumann	PHONE NUMBER: 321-637-8147	LABORATORY NAME AND CONTACT: ENCO, Kaitlin
SAMPLERS (SIGNATURE): [signature]	FIELD OPERATIONS LEADER: Melissa Bennett	PHONE NUMBER: 321-914-9394	ADDRESS:
	CARRIER/WAYBILL NUMBER:		CITY, STATE: Orlando, FL

STANDARD TAT ☑
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): G G G
PRESERVATIVE USED: 4°C HCl Summa

DATE YEAR 2020	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	TYPE OF ANALYSIS: MEE	VOC 8260	TO-15	COMMENTS
10/20	1201	CRCA-VMP03-20201020	VMP3	–	–	Air	C	1			X	
10/20	1240	CRCA-MW0019-058.0-20201020	MW19	53	63	GW	G	6	X	X		
10/15	1728	CRCA-AMB-20201015	AMB	–	–	Air	C	1			X	

1. RELINQUISHED BY: [signature]	DATE 10-21-20	TIME 1420	1. RECEIVED BY: [signature]	DATE 10/11/20	TIME 1420
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 2163 | PAGE 1 OF 1

PROJECT NO: 112G0110	FACILITY: KSC-CRCA	PROJECT MANAGER: Chris Neumann	PHONE NUMBER: 321-637-6447	LABORATORY NAME AND CONTACT: Microbial Insights
SAMPLERS (SIGNATURE): Melissa Bennett		FIELD OPERATIONS LEADER: Melissa Bennett	PHONE NUMBER: 321-914-0391	ADDRESS
		CARRIER/WAYBILL NUMBER		CITY, STATE: Knoxville, TN.

STANDARD TAT ☑
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2020	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TYPE OF ANALYSIS: DHC	VC reductase	4°C	4°C					COMMENTS
									P										
10/15	1110	CRCA-MW0018-058.0-20201015	18	53	63	GW	G	1			X	X							
10/19	1200	CRCA-MW0031-058.0-20201019	31	53	63	GW	G	1			X	X							
~~10/15~~	~~1340~~		~~3319~~																
10/20	~~1510~~	CRCA-MW0019-058.0-20201020	19	53	63	GW	G	1			X	X							

1. RELINQUISHED BY: Melissa Bennett	DATE 10-20-20	TIME 1600	1. RECEIVED BY: FedEx	DATE	TIME
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4102R
FORM NO. TINUS-001

Tetra Tech, Inc.

CHAIN OF CUSTODY | **NUMBER** No. 2164 | **PAGE** 1 **OF** 1

PROJECT NO: 117GO	**FACILITY:** KSC - CRCA	**PROJECT MANAGER** Neumann, Chris	**PHONE NUMBER** 412-862-7756	**LABORATORY NAME AND CONTACT:** ENCO
SAMPLERS (SIGNATURE) Melissa Bennett		**FIELD OPERATIONS LEADER** Melissa Bennett	**PHONE NUMBER** 329-914-0394	**ADDRESS**
		CARRIER/WAYBILL NUMBER		**CITY, STATE** Orlando, FL

STANDARD TAT ☒
RUSH TAT ☐ ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2020	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)									COMMENTS
									G	G	G							
									HCl	4°C	1							
									TYPE OF ANALYSIS: 8260 VOC	MEE	TO-15							
10/15	1100	CRCA-MW0018-058.0-20201015	18	53	63	GW	G	6	X	X								
10/15	1200	CRCA-MW0031-058.0-20201015	31	53	63	GW	G	6	X	X								
10/15	1310	CRCA-MW0032-058.0-20201015	32	53	63	GW	G	3	X									
10/15	1703	CRCA-UMP01-20201015	UMP1	—	—	Air	C	1			X							1 HR
10/15	1708	CRCA-UMP02-20201015	UMP2	—	—	Air	C	1			X							1HR
10/15	1723	CRCA-UMP04-20201015	UMP4	—	—	Air	C	1			X							1HR
10/15	1728	CRCA-AMB-20201015	AMB	-	-	Air	C	1			X							8 HR

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	10-15-20	1600	1. RECEIVED BY	10/16/20	1608
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

Tetra Tech / FDEP Groundwater Sampling Sheet

SITE NAME: CRCA		SITE LOCATION: Kennedy Space Center, Florida	
LOCATION ID: MW0018	SAMPLE ID: **CRCA-MW0018-058.0-20201015** Sample depth (ddd.d) = (bottom of screen - Top depth) - 0.5xbottom of screen		DATE: 10 15 2020

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 3.45	CASING HEIGHT (feet als): 0	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): 3.45	WELL SCREEN INTERVAL DEPTH (feet bls): 53-63
WELL DIAMETER (inches): 1"	TUBING DIAMETER (inches): 3/16"	PURGE PUMP TYPE: PP	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 53 / BOTTOM DEPTH (feet bls): 63

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

(-) x = Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0 + (0.005 x 71) + 0.25 = 0.605 Liters

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 58	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 58	PURGING INITIATED AT: 1030	PURGING ENDED AT: 1050	TOTAL VOLUME PURGED 5

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	Color
1036	1.50	1.50	250	3.50	7.67	24.90	1669	7.31	40.26	-33.3	hazy
1040	1.00	2.50	250	3.51	7.04	24.61	1545	2.39	6.27	-41.9	clear
1045	1.25	3.75	250	3.52	7.03	24.51	1572	2.42	6.55	-40.2	clear
1050	1.25	5.00	250	3.52	7.04	24.50	1573	2.43	5.21	-42.1	clear

WELL CAPACITY (Liters Per Foot): 0.75" = 0.076; 1" = 0.15; 1.25" = 0.23; 2" = 0.61; 3" = 1.40; 4" = 2.46; 5" = 3.86; 6" = 5.57; 12" = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Melissa Bennett /Tt	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1100	SAMPLING ENDED AT: 1115
PUMP OR TUBING DEPTH IN WELL (feet): 58	SAMPLE PUMP FLOW RATE (mL per minute): 100	TUBING MATERIAL CODE: Teflon	
FIELD DECONTAMINATION: N	FIELD-FILTERED: N / FILTER SIZE:	DUPLICATE: N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
	3	CG	40mL	HCl	0	<2	VOC	PP
	3	**CG**	**20mL**	**None**	**0**	**0**	**MEE**	**PP**
	1	**P**	**1L**	**None**	**0**	**0**	**DHC**	**PP**
	1	**P**	**1L**	**None**	**0**	**0**	**VC Reductase**	**PP**

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING APP = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump
EQUIPMENT COES: RFPP = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech / FDEP Groundwater Sampling Sheet

SITE NAME: CRCA		SITE LOCATION: Kennedy Space Center, Florida	
LOCATION ID: MW0019	SAMPLE ID: **CRCA-MW0019-058.0-20201020** Sample depth (ddd.d) = (bottom of screen - Top depth) - 0.5xbottom of screen		DATE: 10 20 2020

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 3.70	CASING HEIGHT (feet als): -0.1	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): 3.75		WELL SCREEN INTERVAL DEPTH (feet bls): 53-63	
WELL DIAMETER (inches): 1"	TUBING DIAMETER (inches): 3/16"	PURGE PUMP TYPE: PP	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 53	BOTTOM DEPTH (feet bls):	63

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

(-) x = Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0 + (0.005 x 71) + 0.25 = 0.605 Liters

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 58	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 58	PURGING INITIATED AT: 1210	PURGING ENDED AT: 1243	TOTAL VOLUME PURGED 8.25	

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	Color
1225	3.75	3.75	250	3.61	6.92	18.70	978	6.92	24.60	-70.5	clear
1228	0.75	4.50	250	3.62	6.95	18.80	946	6.95	19.50	-50.3	clear
1231	0.75	5.25	250	3.62	6.97	18.70	948	6.97	10.40	-49.2	clear
1234	0.75	6.00	250	3.62	7.02	18.70	967	7.02	5.62	-48.6	clear
1237	0.75	6.75	250	3.62	7.07	18.80	971	7.07	6.21	-47.2	clear
1240	0.75	7.50	250	3.62	7.08	18.80	973	7.08	6.23	-48.6	clear
1243	0.75	8.25	250	3.62	7.08	18.80	972	7.08	5.33	-48	clear

WELL CAPACITY (Liters Per Foot): 0.75" = 0.076; 1" = 0.15; 1.25" = 0.23; 2" = 0.61; 3" = 1.40; 4" = 2.46; 5" = 3.86; 6" = 5.57; 12" = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Melissa Bennett /Tt	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1240	SAMPLING ENDED AT: 1255
PUMP OR TUBING DEPTH IN WELL (feet): 58	SAMPLE PUMP FLOW RATE (mL per minute): 100	TUBING MATERIAL CODE: Teflon	
FIELD DECONTAMINATION: N	FIELD-FILTERED: N FILTER SIZE:	DUPLICATE: N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
	3	CG	40mL	HCl	0	<2	VOC	PP
	3	**CG**	**20mL**	**None**	**0**	**0**	**MEE**	**PP**
	1	**P**	**1L**	**None**	**0**	**0**	**DHC**	**PP**
	1	**P**	**1L**	**None**	**0**	**0**	**VC Reductase**	**PP**

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING APP = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump
EQUIPMENT COES: RFPP = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech / FDEP Groundwater Sampling Sheet

SITE NAME:	CRCA	SITE LOCATION:	Kennedy Space Center, Florida
LOCATION ID:	MW0031	SAMPLE ID: **CRCA- MW0031-058.0-20201015** Sample depth (ddd.d) = (bottom of screen - Top depth) - 0.5xbottom of screen	DATE: 10 15 2020

PURGING DATA

STATIC DEPTH TO WATER (feet btoc):	3.45	CASING HEIGHT (feet als):	#N/A	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als):	#N/A
WELL SCREEN INTERVAL DEPTH (feet bls):	53-63				
WELL DIAMETER (inches):	1"	TUBING DIAMETER (inches):	3/16"	PURGE PUMP TYPE:	PP
TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls):	53	BOTTOM DEPTH (feet bls):	63		

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

( ) x = Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0 + (.0 0 5 x 71) + 0.25 = 0.65 Liters

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	58	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	58	PURGING INITIATED AT: 1130	PURGING ENDED AT: 1155
TOTAL VOLUME PURGED	6.25				

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	color
1140	2.50	2.50	250	3.51	6.93	24.00	1022	0.15	10.66	-39.2	clear
1145	1.25	3.75	250	3.52	6.94	24.00	1022	0.15	4.51	-38.5	clear
1150	1.25	5.00	250	3.51	6.91	24.10	1021	0.14	4.62	-39.4	clear
1155	1.25	6.25	250	3.51	6.93	24.00	1021	0.11	3.54	-39.6	clear

WELL CAPACITY (Liters Per Foot): 0.75" = 0.076; 1" = 0.15; 1.25" = 0.23; 2" = 0.61; 3" = 1.40; 4" = 2.46; 5" = 3.86; 6" = 5.57; 12" = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Melissa Bennett /Tt	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1200	SAMPLING ENDED AT: 1215
PUMP OR TUBING DEPTH IN WELL (feet): 58	SAMPLE PUMP FLOW RATE (mL per minute): 100	TUBING MATERIAL CODE: Teflon	
FIELD DECONTAMINATION: N	FIELD-FILTERED: N	FILTER SIZE:	DUPLICATE: N

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
	3	CG	40mL	HCl	0	<2	VOC	PP
	3	**CG**	**20mL**	**None**	**0**	**0**	**MEE**	**PP**
	1	**P**	**1L**	**None**	**0**	**0**	**DHC**	**PP**
	1	**P**	**1L**	**None**	**0**	**0**	**VC Reductase**	**PP**

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING APP = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump
EQUIPMENT COES: RFPP = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech / FDEP Groundwater Sampling Sheet

SITE NAME: CRCA		SITE LOCATION: Kennedy Space Center, Florida	
LOCATION ID: MW0032	SAMPLE ID: **CRCA-MW0032-058.0-20201015** Sample depth (ddd.d) = (bottom of screen - Top depth) - 0.5xbottom of screen		DATE: 10 15 2020

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 2.62	CASING HEIGHT (feet als): 4	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): -1.38		WELL SCREEN INTERVAL DEPTH (feet bls): 53-63	
WELL DIAMETER (inches): 1"	TUBING DIAMETER (inches): 3/16"	PURGE PUMP TYPE: PP	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 53	BOTTOM DEPTH (feet bls):	63

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

(-) x = Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0 + (0.005 x 71) + 0.25 = 0.605 Liters

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 58	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 58	PURGING INITIATED AT: 1300	PURGING ENDED AT: 1333	TOTAL VOLUME PURGED 8.25	

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	color
1302	0.50	0.50	250	2.63	7.02	26.20	2851	1.29	26.20	8.6	clear
1307	1.25	1.75	250	2.62	7.07	26.82	2481	1.04	24.60	9.2	clear
1310	0.75	2.50	250	2.63	7.08	26.76	2501	0.87	19.40	8.1	clear
1313	0.75	3.25	250	2.63	7.08	27.00	2505	0.90	10.20	6.2	clear
1316	0.75	4.00	250	2.63	7.07	27.98	2654	0.84	9.61	5.3	clear
1320	1.00	5.00	250	2.63	7.07	28.94	2643	0.79	8.25	5.2	clear
1325	1.25	6.25	250	2.63	7.07	27.71	2611	0.63	7.11	5.4	clear
1330	1.25	7.50	250	2.63	7.08	27.68	2615	0.65	6.65	5.2	clear
1333	0.75	8.25	250	2.63	7.07	27.60	2604	0.64	5.74	5.5	clear

WELL CAPACITY (Liters Per Foot): 0.75" = 0.076; 1" = 0.15; 1.25" = 0.23; 2" = 0.61; 3" = 1.40; 4" = 2.46; 5" = 3.86; 6" = 5.57; 12" = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Melissa Bennett /Tt	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1340	SAMPLING ENDED AT: 1345
PUMP OR TUBING DEPTH IN WELL (feet): 58	SAMPLE PUMP FLOW RATE (mL per minute): 100	TUBING MATERIAL CODE: Teflon	
FIELD DECONTAMINATION: N	FIELD-FILTERED: N / FILTER SIZE:	DUPLICATE: N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
	3	CG	40mL	HCl	0	<2	VOC	PP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING APP = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump
EQUIPMENT COES: RFPP = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

YSI 556 EQUIPMENT CALIBRATION SHEET

Tetra Tech, Inc.

PROJECT NAME : CRCA **INSTRUMENT NAME/MODEL:** YSI 556 MPS

SITE NAME: Components Refurbishment and Chemical Analysis **MANUFACTURER:** YSI

PROJECT No.: 112G07637 **SERIAL NUMBER:** DN 1513-2219

Date of Calibration	Person Performing Calibration	pH			Cond.	Temp.	Dissolved Oxyden	ORP	Calibration Standard (Lot#/Expiration Date)	Comments
(mm/dd/yy)	(Name)	(S.U.)			(µS/cm)	(Celsius)	(%)	(mV)		
10/15/20	MB	3.96 / 4.0	6.69 / 7.0	9.57 / 10.0	1396 / 1409	19.2	99.3 / 100.5	223 / 221	Lot# 8GB044 Exp.Date: 5-21	Ph 4.0
10/20/20	MB	4.03 / 4.0	6.92 / 7.0	9.83 / 10.0	1385 / 1405	21.6	98.1 / 100.2	218 / 220	Lot# 8GE854 Exp.Date: 5-21	Ph 7.0
		/ 4.0	/ 7.0	/ 10.0	/		/	/	Lot# 8GE796 Exp.Date: 5-21	Ph 10.0
		/ 4.0	/ 7.0	/ 10.0	/		/	/	Lot# 7905530 Exp.Date: 5-21	ORP
		/ 4.0	/ 7.0	/ 10.0	/		/	/	Lot# 7901420 Exp.Date: 11-21	Conductivity
		/ 4.0	/ 7.0	/ 10.0	/		/	/		
		/ 4.0	/ 7.0	/ 10.0	/		/	/		
		/ 4.0	/ 7.0	/ 10.0	/		/	/		
		/ 4.0	/ 7.0	/ 10.0	/		/	/		
		/ 4.0	/ 7.0	/ 10.0	/		/	/		
		/ 4.0	/ 7.0	/ 10.0	/		/	/		
		/ 4.0	/ 7.0	/ 10.0	/		/	/		
		/ 4.0	/ 7.0	/ 10.0	/		/	/		
		/ 4.0	/ 7.0	/ 10.0	/		/	/		
		/ 4.0	/ 7.0	/ 10.0	/		/	/		
		/ 4.0	/ 7.0	/ 10.0	/		/	/		
		/ 4.0	/ 7.0	/ 10.0	/		/	/		

Environmental Conservation Laboratories, Inc.
10775 Central Port Drive, Orlando, FL 32824
4810 Executive Park Court, Suite 211,Jacksonville, FL 32216
102-A Woodwinds Industrial Ct, Cary, NC 27511

www.encolabs.com

COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

General Information

SITE LOCATION:	CRCA-
SITE ADDRESS:	
SAMPLER ID:	CRCA-VMP03- 20201020
SAMPLING DATE:	10-20-2020
OPERATOR:	MB
SHIPPING DATE:	10/16/20
CANISTER SERIAL NO.:	05014
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	JAV-PT13

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	73°F	-30mmHg	11:01	1HR
STOP	73°F	-8mmHg	12:01	1HR

Signature/Title: Env. Eng.

Environmental Conservation Laboratories, Inc.
10775 Central Port Drive, Orlando, FL 32824
4810 Executive Park Court, Suite 211,Jacksonville, FL 32216
102-A Woodwinds Industrial Ct, Cary, NC 27511

www.encolabs.com

COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

General Information

SITE LOCATION:	AMB
SITE ADDRESS:	
SAMPLER ID:	CRCA-AMB-20201015
SAMPLING DATE:	10-15-20
OPERATOR:	MB
SHIPPING DATE:	NA/ courier
CANISTER SERIAL NO.:	1197061
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	06984 (Inv.) (Inv.)

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	79 °F	-30	09.28	8+1R
STOP	85 °F	-1	~~5.28~~ 17.28	

Signature/Title: MB Env. Eng

Environmental Conservation Laboratories, Inc.
10775 Central Port Drive, Orlando, FL 32824
4810 Executive Park Court, Suite 211,Jacksonville, FL 32216
102-A Woodwinds Industrial Ct, Cary, NC 27511
www.encolabs.com

COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

General Information

SITE LOCATION:	CRCA-UMP01
SITE ADDRESS:	
SAMPLER ID:	CRCA-UMP01-20201015
SAMPLING DATE:	10-15-20
OPERATOR:	MB
SHIPPING DATE:	NAI courier
CANISTER SERIAL NO.:	13-084
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	IAV-TH058

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	83°F	-30	4:03	1HR
STOP	83°F	-12	5:03	1HR

Signature/Title: MB Env. Eng.

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10775 Central Port Drive, Orlando, FL 32824
4810 Executive Park Court, Suite 211,Jacksonville, FL 32216
102-A Woodwinds Industrial Ct, Cary, NC 27511

www.encolabs.com

COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

General Information

SITE LOCATION:	CRCA-VMP02
SITE ADDRESS:	
SAMPLER ID:	CRCA-VMP02-20201015
SAMPLING DATE:	10-15-20
OPERATOR:	MB
SHIPPING DATE:	NA (courier)
CANISTER SERIAL NO.:	03017
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	JAX-12-59

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	80°F	-27	4:08	1 HR
STOP	80°F	-4	5:08	1 HR

Signature/Title: MB Env. Eng

Environmental Conservation Laboratories, Inc.
10775 Central Port Drive, Orlando, FL 32824
4810 Executive Park Court, Suite 211,Jacksonville, FL 32216
102-A Woodwinds Industrial Ct, Cary, NC 27511

www.encolabs.com

COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

General Information

SITE LOCATION:	CRCA - UMP04-20201015
SITE ADDRESS:	KSC- CRCA
SAMPLER ID:	CRCA-UMP04-20201015
SAMPLING DATE:	10-15-20
OPERATOR:	MB
SHIPPING DATE:	NA / courier
CANISTER SERIAL NO.:	1520 (1hr)
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	JAP-R03 (1hr)

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	75°F	-30	4:23	1HR
STOP	75°F	-7	5:23	1HR

Signature/Title: MB Env. Eng

January 18, 2021 **CRCA WL** 112608970

Site CRCA

Objective GW sampling

Personnel MB, Melissa Bennett, T+ Env Engineer

Weather 64°F sunny

PPE Level D

1400 MB onsite CRCA. begin uncapping MW for equilibration

1520 MB begins collecting WLs. see attached WL sheet.

1750 MB finished collecting WLs. All WLs appeared to make sense in the field — no strange readings were encountered.

January 19, 2021 **CRCA GW** 11260870

Site CRCA

Objective GW sampling

Personnel MB, Melissa Bennett, T+ Env Engineer

Weather 55 °F sunny

PPE Level D

0830	MB at Cocoa office collecting bottleware.
0930	MB at LC34, collecting gloves and ice for samples.
1000	MB at CRCA, calibrating YSI, Lamotte.
1040	MB initate purge at MW30
1105	MB collect CRCA-MW0030-058.0-20210119 for VOC
1115	MB initiate purge at MW29
1140	MB collect CRCA-MW0029-035.0-20210119 for VOC
1150	MB initiate purge at MW 28
1220	MB collect CRCA-MW0028-058.0-20210119 for VOC
1230	MB initiate purge MW27
1300	CRCA-MW0027-035.0-20210119 collected for VOC
1315	MB initiate purge MW 15
1335	CRCA-MW0015-027.5-20210119 collected for VOC
1400	MB initiate purge at MW 13
1430	CRCA-MW0013-027.5-20210119 collected for VOC
1440	MB initiate purge at MW12
1510	CRCA-MW0012-027.5-20210119 collected for VOC
1520	MB initiate purge at MW002
1545	CRCA-MW0002-032.5-20210119 collected for VOC
1600	MB storing equipment and housekeeping. Emails
1630	MB offsite.

January 20, 2021 # CRCA GW 11260890

Site CRCA

Objective GW sampling

Personnel MB, Melissa Bennett, T+ Env Engineer

Weather 62 °F sunny

PPE Level D

0830 MB at CRCA, gathering air canisters and setting up of HR sample.

0900 MB set CRCA-SYSAIR-20210120, 55°F, -30mmHg.

0910 MB to LC34 for fresh ice

0930 MB at LC34 gathering ice. KH + DF onsite.

0940 MB to CRCA

0955 MB at CRCA

1001 MB set CRCA-VMP01-20210120, 60°F, -14 mmHg

1008 MB set CRCA-VMP02-20210120, 60°F, -30mmHg, gauge was at -14 before set in canister.

1014 MB set CRCA-VMP03-20210120, 60°F, -30mmHg

1022 MB set CRCA-VMP04-20210120, 60°F, -30mmHg

1103 MB collect CRCA-VMP01-20210120 78°F, -14 mmHg. (guage appears to be stuck)

1106 MB collect CRCA-VMP02-20210120, 78°F, -13 mmHg

1115 MB collect CRCA-VMP03-20210120 60°F, -9 mmHg

1122 MB collect CRCA-VMP04-20210120 60°F, -9 mmHg

1145 MB initiate purge at MW31, slight odor.

1215 MB collect CRCA-MW0031-0508.0-20210120

1230 MB initiate purge at MW32. not underwater.

1300 MB collect CRCA-MW0032-0508.0-20210120

1320 MB initiate purge at MW18

1400 MB collect CRCA-MW0018-0508.0-20210120

1520 MB initiate purge at MW19 (after lunch break - 1430 - 1500)

1600 MB collect CRCA-MW0019-0508.0-20210120, slight odor.

1630 MB QC COC + samples. Put away equipment.

1703 MB collect CRCA-sysair-20210120 0 mmHg, 72°F

1730 MB offsite CRCA

MB

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 2221 | PAGE 1 OF 1

PROJECT NO: 112G08970	FACILITY: KSC- CRCA	PROJECT MANAGER Alex Murphy	PHONE NUMBER 321-637-8530	LABORATORY NAME AND CONTACT: Microbial Insights
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER Melissa Bennett	PHONE NUMBER 321-914-9394.	ADDRESS
		CARRIER/WAYBILL NUMBER		CITY, STATE Knoxville, TN

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2021	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)								
									PRESERVATIVE USED		ice	ice					
									TYPE OF ANALYSIS	DHC	VC reductase						COMMENTS
1/20	1215	CRCA-MW0031-058.0-~~20200~~ 20210120	31	53	63	GW	G	1	X	X							
1/20	1400	CRCA-MW0018-058.0-2021 0120	18	53	63	GW	G	1	X	X							
1/20	1600	CRCA-MW0019-058.0-2021 0120	19	53	63	GW	G	1	X	X							

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	1-21-21	1000	1. RECEIVED BY Fed Ex	1-21-21	1000
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

Tetra Tech, Inc.

CHAIN OF CUSTODY

NUMBER No. 1410 | PAGE 1 OF 1

PROJECT NO: 112G08970	FACILITY: CFCA	PROJECT MANAGER: ALEX MURPHY	PHONE NUMBER: 321-292-0842
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER: JOAN FORESTER	PHONE NUMBER: 304-780-1426
		CARRIER/WAYBILL NUMBER	

LABORATORY NAME AND CONTACT: ENCO

ADDRESS

CITY, STATE: ORLANDO, FL

STANDARD TAT ☑
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2021	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TYPE OF ANALYSIS: 8260B TCL SOM01.2 CLP-LIKE CUSTOM LIST	COMMENTS: (COOLED) ON ICE
19JAN	1340	CFCA-A$GEFFLUENT-20210119	CFCA	/	/	GW	G	3	G	HCL	X	
19JAN	1350	CFCA-A$INFLUENT-20210119	CFCA	/	/	GW	G	3	G	HCL	X	

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	19JAN21	1400	1. RECEIVED BY	19JAN21	1400
2. RELINQUISHED BY	1-21-21	1500	2. RECEIVED BY KE	1/21/21	15:00
3. RELINQUISHED BY KE	1/21/21	15:00	3. RECEIVED BY	1/21/21	1500
COMMENTS	1-21-21	1500	James W Gregory	1/21/21	1510

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TINUS-001

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 2220 | PAGE 1 OF 2

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G08970	KSC- CRCA	Alex Murphy	321-292- 0842	ENCO, Kaitlin Dylnicki
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER: Melissa Bennett	PHONE NUMBER: 321-914-9394	ADDRESS
		CARRIER/WAYBILL NUMBER		CITY, STATE: Orlando, FL

STANDARD TAT ☑
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE (YEAR 2021)	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	TYPE OF ANALYSIS: VOC	MEE	CONTAINER TYPE PLASTIC (P) or GLASS (G): G	PRESERVATIVE USED: HCl	ice	G	COMMENTS
1/19	1105	CRCA-MW0030-058.0-20210119	30	53	63	GW	G	3	X						
1/19	1140	CRCA-MW0029-035.0-20210119	MW30029	MW40 30	40	GW	G	3	X						
1/19	1220	CRCA-MW0028-058.0-20210119	28	53	63	GW	G	3	X						
1/19	1300	CRCA-MW0027-035.0-20210119	27	30	40	GW	G	3	X						
1/19	1335	CRCA-MW0015-027.5-20210119	15	25	30	GW	G	3	X						
1/19	1430	CRCA-MW0013-027.5-20210119	13	25	30	GW	G	3	X						
1/19	1510	CRCA-MW0012-027.5-20210119	12	25	30	GW	G	3	X						
1/19	1545	CRCA-MW0002-032.5-20200119	2	30	35	GW	G	3	X						
1/20	1215	CRCA-MW0031-058.0-20210120	31	53	63	GW	G	6	X	X					
1/20	1300	CRCA-MW0032-058.0-20210120	32	53	63	GW	G	6	X	X mB					VOC analysis only
1/20	1400	CRCA-MW0018-058.0-20210120	18	53	63	GW	G	6	X	X					
1/20	1600	CRCA-MW0019-058.0-20210120	19	53	63	GW	G	6	X	X					

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	1-21-21	1500	1. RECEIVED BY KE	1/21/21	1510
2. RELINQUISHED BY KE	1/21/21	1500	2. RECEIVED BY	1/21/21	1500
3. RELINQUISHED BY	1/21/21		3. RECEIVED BY Jonathan Breyer	1/21/21	1510

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TINUS-001

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 2222 | PAGE 2 OF 2

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G08970	CRCA	Alex Murphy	321-292-0842	ENCO
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER: Melissa Bennett	PHONE NUMBER: 321-914-9394	ADDRESS
		CARRIER/WAYBILL NUMBER		CITY, STATE: Orlando FL

STANDARD TAT ☒
RUSH TAT ☐ ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2021	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TYPE OF ANALYSIS: VOC TO-15	Summa /	COMMENTS
1/20	1103	CRCA-VMP01-20210120	VMP1	—	—	air	G	1			X		1001-1103
1/20	1106	CRCA-VMP02-20210120	VMP2	—	—	air	G	1			X		1008-1106
1/20	1115	CRCA-VMP03-20210120	VMP3	—	—	air	G	1			X		1014-1115
1/20	1122	CRCA-VMP04-20210120	VMP4	—	—	air	G	1			X		1022-~~11~~ mg 2' 1122
1/20	1703	CRCA-SYSAIR-20210120	SYS	—	-	air	G	1			X		1900-1703

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	1-21-21	1502	1. RECEIVED BY KE	1/21/21	15:00
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY KE	1/21/21	15:00	3. RECEIVED BY	1-21-21	1500
COMMENTS	1-21-21	1510	Jessica W Gregory	1/21/21	1510

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

Tetra Tech NUS, Inc.

GROUNDWATER LEVEL MEASUREMENT SHEET

Project Name: NASA - CRCA
Project No.: 112G07637
Location: Kennedy Space Center, Florida
Personnel: Melissa Bennett
Weather Conditions: Sunny
Measuring Device: Heron Skinny Dipper
Tidally Influenced: Yes ___ No __X__
Remarks:

Well or Piezometer Number	Date	Time	Top of Casing Elevation (feet)*	Screened Interval (feet bls)	Water Level Indicator Reading (feet)*	Thickness of Free Product (feet)*	Groundwater Elevation (feet)*	Comments
MW0001	1-18-21	1540	6.11	5-15	4.23	None		
MW0002		1545	6.14	30-35	4.28	None		
MW0003		1543	6.99	5-15	5.24	None		
MW0004		1553	6.3	5-15	4.40	None		
MW0005		1520	6.69	5-15	4.95	None		
MW0005A		1522	6.55	5-10	4.68	None		
MW0005B		1525	6.69	12-17	4.90	None		
MW0005C		1527	6.85	2-7	4.85	None		
MW0006		1550	6.58	5-15	4.77	None		
MW0007		1552	6.54	5-15	4.73	None		
MW0008		1539	7.36	5-15	5.38	None		
MW0009		1537	6.84	5-15	4.80	None		
MW0010		1530	6.66	5-15	4.82	None		
MW0011		1540	7.40	5-10	5.26	None		
MW0012		1533	7.07	25-30	5.22	None		
MW0013		1643	7.46	25-30	592	None		
MW0014		1040	6.86	5-10	5.10	None		
MW0015		1650	6.82	25-30	5.26	None		
MW0016		1655	6.18	5-10	4.30	None		
MW0017		1658	6.16	25-30	4.36	None		
MW0018		1630	7.05	53-63	5.21	None		
MW0019		1634	7.13	53-63	5.43	None		
MW0020		1639	7.27	53-63	5.67	None		
MW0021		1012	7.54	30-40	5.85	None		
MW0022		1617	6.44	30-40	4.58	None		
MW0023		1620	6.50	53-63	4.62	None		
MW0024		1622	6.22	53-63	4.40	None		
MW0025		1626	6.91	53-63	5.28	None		
MW0026		1629	4.45	5-15	3.04	None		
MW0027		1601	4.33	30-40	3.03	None		
MW0028		1602	4.34	53-63	3.07	None		
MW0029		1604	4.79	30-40	3.54	None		
MW0030		1610	4.77	53-63	3.50	None		
MW0031		1617	6.92	53-63	5.55	None		
MW0032		1625	4.70	53-63		None		

* All measurements to the nearest 0.01 foot

Tetra Tech / FDEP Groundwater Sampling Sheet

SITE NAME:	CRCA	SITE LOCATION:	Kennedy Space Center, Florida

LOCATION ID:	MW0002	SAMPLE ID:	**CRCA-MW0002-032.5.0-** 20210119	DATE:	1-19-21
		Sample depth (ddd.d) = (bottom of screen - Top depth) - 0.5xbottom of screen			

PURGING DATA

STATIC DEPTH TO WATER (feet btoc):	4.34	CASING HEIGHT (feet als):	-0.5	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als):	4.84	WELL SCREEN INTERVAL DEPTH (feet bls):	30-35

WELL DIAMETER (inches):	1"	TUBING DIAMETER (inches):	1/4"	PURGE PUMP TYPE:	PP	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls):	30	BOTTOM DEPTH (feet bls):	35

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

(-) x = Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0 + (0.0098 x 43) + 0.45 = 0.8714 Liters

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	32.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	32.5	PURGING INITIATED AT:	1520	PURGING ENDED AT:	1540	TOTAL VOLUME PURGED	5.00

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR
1530	2.5	2.5	250	4.36	6.53	25.6	1219	0.43	9.52	-82.6	slightly yellow
1532	0.5	3.0	250	4.36	6.50	25.3	1222	0.25	6.13	-84.9	
1535	0.75	3.75	250	4.36	6.49	25.4	1216	0.20	4.97	-84.0	
1540	1.25	5.00	250	4.36	6.50	25.5	1210	0.19	4.66	-84.2	

WELL CAPACITY (Liters Per Foot): 0.75" = 0.076; 1" = 0.15; 1.25" = 0.23; 2" = 0.61; 3" = 1.40; 4" = 2.46; 5" = 3.86; 6" = 5.57; 12" = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	Melissa Bennett /Tt	SAMPLER(S) SIGNATURES:		SAMPLING INITIATED AT:	1545	SAMPLING ENDED AT:	1600

PUMP OR TUBING DEPTH IN WELL (feet):	32.5	SAMPLE PUMP FLOW RATE (mL per minute):	100	TUBING MATERIAL CODE:	T

FIELD DECONTAMINATION:	(N)	FIELD-FILTERED:	(N)	FILTER SIZE:	—	DUPLICATE:	(N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
VOC	3	CG	40mL	HCl	0	<2	8260B	PP

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump
EQUIPMENT COES: **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech / FDEP Groundwater Sampling Sheet

SITE NAME:	CRCA	SITE LOCATION:	Kennedy Space Center, Florida
LOCATION ID:	MW0012	SAMPLE ID: **CRCA-MW0012-027.5.0-** 20210119 Sample depth (ddd.d) = (bottom of screen - Top depth) - 0.5xbottom of screen	DATE: 1-19-21

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 5.03	CASING HEIGHT (feet als): -0.5	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): 4.47		WELL SCREEN INTERVAL DEPTH (feet bls):	25-30
WELL DIAMETER (inches): 1"	TUBING DIAMETER (inches): 1/4"	PURGE PUMP TYPE: PP	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 25	BOTTOM DEPTH (feet bls):	30

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

(-) x = Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0 + (0.0098 x 38) + 0.45 = 0.8224 Liters

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED
27.5	27.5	1440	1500	5.00

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR
1450	2.50	2.50	250	5.14	6.43	25.0	1240	0.28	15.9	-93.2	yellow
1455	1.25	3.75	250	5.14	6.44	25.1	1245	0.28	13.7	-94.1	↓
1500	1.25	5.00	250	5.14	6.44	25.0	1247	0.27	14.3	-97.3	↓

WELL CAPACITY (Liters Per Foot): 0.75" = 0.076; 1" = 0.15; 1.25" = 0.23; 2" = 0.61; 3" = 1.40; 4" = 2.46; 5" = 3.86; 6" = 5.57; 12" = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
Melissa Bennett /Tt		1510	1515

PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE:
27.5	100	T

FIELD DECONTAMINATION:	FIELD-FILTERED:	FILTER SIZE:	DUPLICATE:
N	N	—	N

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
VOC	3	CG	40mL	HCl	0	<2	8260B	PP

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING APP = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump
EQUIPMENT COES: RFPP = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech / FDEP Groundwater Sampling Sheet

SITE NAME:	CRCA	SITE LOCATION:	Kennedy Space Center, Florida

LOCATION ID:	MW0013	SAMPLE ID: **CRCA-MW0013-027.5.0-** 20210119 Sample depth (ddd.d) = (bottom of screen - Top depth) - 0.5xbottom of screen	DATE: 1-19-21

PURGING DATA

STATIC DEPTH TO WATER (feet btoc):	5.92	CASING HEIGHT (feet als):	-0.5	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als):	5.42	WELL SCREEN INTERVAL DEPTH (feet bls):	25-30

WELL DIAMETER (inches):	1"	TUBING DIAMETER (inches):	1/4"	PURGE PUMP TYPE:	PP	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls):	25	BOTTOM DEPTH (feet bls):	30

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

(-) x = Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0 + (0.0098 x 38) + 0.45 = 0.8224 Liters

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	27.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	27.5	PURGING INITIATED AT:	1400	PURGING ENDED AT:	1425	TOTAL VOLUME PURGED	6.25

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR
1410	2.5	2.5	250	6.24	6.42	22.6	1341	0.56	12.2	-91.3	clear
1415	1.25	3.75	250	6.61	6.37	22.6	1355	0.30	5.61	-86.1	↓
1420	1.25	5.0	250	6.92	6.35	22.6	1365	0.27	4.31	-82.7	
1425	1.25	6.25	250	7.05	6.34	22.6	1365	0.24	0.57	-84.2	↓

WELL CAPACITY (Liters Per Foot): 0.75" = 0.076; 1" = 0.15; 1.25" = 0.23; 2" = 0.61; 3" = 1.40; 4" = 2.46; 5" = 3.86; 6" = 5.57; 12" = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	Melissa Bennett /Tt	SAMPLER(S) SIGNATURES:		SAMPLING INITIATED AT:	1430	SAMPLING ENDED AT:	1435

PUMP OR TUBING DEPTH IN WELL (feet):	27.5	SAMPLE PUMP FLOW RATE (mL per minute):	100	TUBING MATERIAL CODE:	T

FIELD DECONTAMINATION:	N	FIELD-FILTERED:	N	FILTER SIZE:		DUPLICATE:	N

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
VOC	3	CG	40mL	HCl	0	<2	8260B	PP

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING APP = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump
EQUIPMENT COES: RFPP = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech / FDEP Groundwater Sampling Sheet

SITE NAME:	CRCA	SITE LOCATION:	Kennedy Space Center, Florida

LOCATION ID:	MW0015	SAMPLE ID:	CRCA-MW0015-027.5.0- 20210119	DATE:	1-19-21
		Sample depth (ddd.d) = (bottom of screen - Top depth) - 0.5xbottom of screen			

PURGING DATA

STATIC DEPTH TO WATER (feet btoc):	3.60	CASING HEIGHT (feet als):	-0.5	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als):	3.10	WELL SCREEN INTERVAL DEPTH (feet bls):	25-30

WELL DIAMETER (inches):	1"	TUBING DIAMETER (inches):	1/4"	PURGE PUMP TYPE:	PP	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls):	25	BOTTOM DEPTH (feet bls):	30

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

(-) x = Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0 + (0.0098 x 38) + 0.45 = 0.8224 Liters

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	27.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	27.5	PURGING INITIATED AT:	1315	PURGING ENDED AT:	1330	TOTAL VOLUME PURGED	5.0

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR
1320	2.50	2.50	250	3.06	6.86	26.0	963	0.31	18.3	-75.0	clear
1325	1.25	3.75	250	3.06	6.86	26.1	964	0.30	15.2	-75.7	clear
1330	1.25	5.0	250	3.06	6.85	26.2	965	0.28	14.7	-76.0	clear

WELL CAPACITY (Liters Per Foot): 0.75" = 0.076; 1" = 0.15; 1.25" = 0.23; 2" = 0.61; 3" = 1.40; 4" = 2.46; 5" = 3.86; 6" = 5.57; 12" = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	Melissa Bennett /Tt	SAMPLER(S) SIGNATURES:		SAMPLING INITIATED AT:	1335	SAMPLING ENDED AT:	1340

PUMP OR TUBING DEPTH IN WELL (feet):	27.5	SAMPLE PUMP FLOW RATE (mL per minute):	100	TUBING MATERIAL CODE:	Teflon

FIELD DECONTAMINATION:	(N)	FIELD-FILTERED:	(N)	FILTER SIZE:	—	DUPLICATE:	(N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
VOC	3	CG	40mL	HCl	0	<2	8260B	PP

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING APP = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump
EQUIPMENT COES: RFPP = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech / FDEP Groundwater Sampling Sheet

SITE NAME:	CRCA	SITE LOCATION:	Kennedy Space Center, Florida

LOCATION ID:	MW0018	SAMPLE ID: **CRCA-MW0018-058.0-** 20210120 Sample depth (ddd.d) = (bottom of screen - Top depth) - 0.5xbottom of screen	DATE: 1-20-21

PURGING DATA

STATIC DEPTH TO WATER (feet btoc):	5.01	CASING HEIGHT (feet als):	-0.5	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als):	4.51	WELL SCREEN INTERVAL DEPTH (feet bls):	53-63
WELL DIAMETER (inches):	1"	TUBING DIAMETER (inches):	1/4"	PURGE PUMP TYPE:	PP	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 53	BOTTOM DEPTH (feet bls): 63

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

(-) x = Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0 + (0.0098 x 71) + 0.45 = 1.1458 Liters

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	58	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	58	PURGING INITIATED AT:	1320	PURGING ENDED AT:	1350	TOTAL VOLUME PURGED	7.50

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR
1330	2.50	2.50	250	5.20	6.05	25.7	1744	0.52	128	-82.6	milky
1335	1.25	3.75	250	5.20	6.00	25.5	1736	0.43	57.0	-87.1	hazy
1340	1.25	5.00	250	5.20	6.08	25.0	1725	0.38	14.20	-95.1	clear
1345	1.25	6.25	250	5.20	6.09	24.9	1721	0.37	10.53	-98.2	clear
1350	1.25	7.50	250	5.20	6.09	24.9	1722	0.37	8.56	-106.6	clear

WELL CAPACITY (Liters Per Foot): 0.75" = 0.076; 1" = 0.15; 1.25" = 0.23; 2" = 0.61; 3" = 1.40; 4" = 2.46; 5" = 3.86; 6" = 5.57; 12" = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT:	1400	SAMPLING ENDED AT:	1400
Melissa Bennett /Tt					

PUMP OR TUBING DEPTH IN WELL (feet):	58	SAMPLE PUMP FLOW RATE (mL per minute):	100	TUBING MATERIAL CODE:	Teflon
FIELD DECONTAMINATION: (N)	FIELD-FILTERED: (N)	FILTER SIZE:		DUPLICATE: (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
VOC	3	CG	40mL	HCl	0	<2	8260B	PP
MEE	3	CG	10 mL	NA	0			PP

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING APP = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump
EQUIPMENT COES: RFPP = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech / FDEP Groundwater Sampling Sheet

SITE NAME:	CRCA	SITE LOCATION:	Kennedy Space Center, Florida

LOCATION ID:	MW0019	SAMPLE ID:	CRCA-MW0019-058.0- 20210120	DATE:	1-20-21

Sample depth (ddd.d) = (bottom of screen - Top depth) - 0.5xbottom of screen

PURGING DATA

STATIC DEPTH TO WATER (feet btoc):	5.43	CASING HEIGHT (feet als):	-0.5	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als):	0.5	WELL SCREEN INTERVAL DEPTH (feet bls):	53-63

WELL DIAMETER (inches):	1"	TUBING DIAMETER (inches):	1/4"	PURGE PUMP TYPE:	PP	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls):	53	BOTTOM DEPTH (feet bls):	63

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

(-) x = Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0 + (0.0098 x 71) + 0.45 = 1.1458 Liters

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	58	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	58	PURGING INITIATED AT:	1520	PURGING ENDED AT:	1555	TOTAL VOLUME PURGED	8.75

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR
1530	2.50	2.50	250	3.59	6.80	22.9	1176	0.67	107	-182.9	clear
1532	0.50	3.00	250	3.59	6.79	22.5	1100	0.65	95.6	-170.6	
1535	0.75	3.75	250	3.59	6.79	22.5	1127	0.57	81.2	-178.1	
1538	0.75	4.50	250	3.59	6.80	22.4	1136	0.46	74.3	-176.8	
1540	0.50	5.00	250	3.59	6.80	22.4	1129	0.40	61.0	-191.3	
1542	0.50	5.50	250	3.59	6.80	22.4	1111	0.47	36.9	-198.7	
1545	0.75	6.25	250	3.59	6.78	22.4	1125	0.31	25.5	-199.5	
1547	0.50	6.75	250	3.59	6.77	22.5	1119	0.27	14.9	-183.7	
1550	0.75	7.50	250	3.59	6.76	22.5	1115	0.24	12.6	-174.6	
1553	0.75	8.25	250	3.59	6.76	22.5	1114	0.22	9.05	-163.9	
1555	0.50	8.75	250	3.59	6.76	22.5	1113	0.21	8.76	-163.0	↓

WELL CAPACITY (Liters Per Foot): 0.75" = 0.076; 1" = 0.15; 1.25" = 0.23; 2" = 0.61; 3" = 1.40; 4" = 2.46; 5" = 3.86; 6" = 5.57; 12" = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	Melissa Bennett /Tt	SAMPLER(S) SIGNATURES:		SAMPLING INITIATED AT:	1600	SAMPLING ENDED AT:	1605

PUMP OR TUBING DEPTH IN WELL (feet):	58	SAMPLE PUMP FLOW RATE (mL per minute):	100	TUBING MATERIAL CODE:	Teflon

FIELD DECONTAMINATION:	N	FIELD-FILTERED:	N	FILTER SIZE:		DUPLICATE:	N

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
VOC	3	CG	40mL	HCl	0	<2	8260B	PP
MEE	3	CG	10 mL	NA	0			PP

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump
EQUIPMENT COES: **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

slight odor, like sulfur

Tetra Tech / FDEP Groundwater Sampling Sheet

SITE NAME: CRCA		SITE LOCATION: Kennedy Space Center, Florida	
LOCATION ID: MW0027	SAMPLE ID: **CRCA-MW0027-035.0-** 20210119 Sample depth (ddd.d) = (bottom of screen - Top depth) - 0.5xbottom of screen		DATE: 1-19-21

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 3.26	CASING HEIGHT (feet als): -0.5	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): 2.74		WELL SCREEN INTERVAL DEPTH (feet bls):	30-40
WELL DIAMETER (inches): 1"	TUBING DIAMETER (inches): 1/4"	PURGE PUMP TYPE: PP	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 30	BOTTOM DEPTH (feet bls):	40

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

(-) x = Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0 + (0.0098 x 48) + 0.45 = 0.9204 Liters

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 35	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 35	PURGING INITIATED AT: 1230	PURGING ENDED AT: 1255	TOTAL VOLUME PURGED 6.25	

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR
1240	2.50	2.50	250	3.30	7.33	26.0	359.8	0.11	5.66	-148.6	clear
1245	1.25	3.75	250	3.30	7.34	26.3	359.1	0.10	3.15	-144.3	↓
1250	1.25	5.00	250	3.30	7.34	26.2	358.7	0.11	2.11	-143.0	
1255	1.25	6.25	250	3.30	7.33	26.1	357.1	0.11	1.57	-145.2	

WELL CAPACITY (Liters Per Foot): 0.75" = 0.076; 1" = 0.15; 1.25" = 0.23; 2" = 0.61; 3" = 1.40; 4" = 2.46; 5" = 3.86; 6" = 5.57; 12" = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Melissa Bennett /Tt	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1300	SAMPLING ENDED AT: 1305
PUMP OR TUBING DEPTH IN WELL (feet): 35	SAMPLE PUMP FLOW RATE (mL per minute): 100	TUBING MATERIAL CODE:	
FIELD DECONTAMINATION: (N)	FIELD-FILTERED: (N) FILTER SIZE:	DUPLICATE: (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
VOC	3	CG	40mL	HCl	0	<2	8260B	PP

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING APP = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump
EQUIPMENT COES: RFPP = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

note: slight odor, like sulfur.

Tetra Tech / FDEP Groundwater Sampling Sheet

SITE NAME:	CRCA	SITE LOCATION:	Kennedy Space Center, Florida

LOCATION ID:	MW0028	SAMPLE ID:	**CRCA-MW0028-058.0-** 20210119	DATE:	1-19-21

Sample depth (ddd.d) = (bottom of screen - Top depth) - 0.5xbottom of screen

PURGING DATA

STATIC DEPTH TO WATER (feet btoc):	3.20	CASING HEIGHT (feet als):	-0.5	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als):	2.80	WELL SCREEN INTERVAL DEPTH (feet bls):	53-63

WELL DIAMETER (inches):	1"	TUBING DIAMETER (inches):	1/4"	PURGE PUMP TYPE:	PP	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls):	53	BOTTOM DEPTH (feet bls):	63

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

(-) x = Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0 + (0.0098 x 71) + 0.45 = 1.1458 Liters

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	58	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	58	PURGING INITIATED AT:	1150	PURGING ENDED AT:	1215	TOTAL VOLUME PURGED	6.25

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR
1200	2.50	2.50	250	3.23	6.84	24.9	794	0.19	3.67	-92.8	clear
1205	1.25	3.75	250	3.23	6.84	24.9	794	0.19	3.00	-92.8	clear
1210	1.25	5.00	250	3.23	6.84	24.9	795	0.20	4.03	-92.1	clear
1215	1.25	6.25	250	3.23	6.84	24.9	795	0.19	2.30	-91.7	clear

WELL CAPACITY (Liters Per Foot): 0.75" = 0.076; 1" = 0.15; 1.25" = 0.23; 2" = 0.61; 3" = 1.40; 4" = 2.46; 5" = 3.86; 6" = 5.57; 12" = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	Melissa Bennett /Tt	SAMPLER(S) SIGNATURES:		SAMPLING INITIATED AT:	1220	SAMPLING ENDED AT:	1225

PUMP OR TUBING DEPTH IN WELL (feet):	58	SAMPLE PUMP FLOW RATE (mL per minute):	100	TUBING MATERIAL CODE:	TEFLON

FIELD DECONTAMINATION:	(N)	FIELD-FILTERED:	(N)	FILTER SIZE:	—	DUPLICATE:	(N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
VOC	3	CG	40mL	HCl	0	<2	8260B	PP

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump
EQUIPMENT COES: **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech / FDEP Groundwater Sampling Sheet

SITE NAME:	CRCA	SITE LOCATION:	Kennedy Space Center, Florida

LOCATION ID:	MW0029	SAMPLE ID:	**CRCA-MW0029-035.0-** 20210119	DATE:	1-19-21
		Sample depth (ddd.d) = (bottom of screen - Top depth) - 0.5xbottom of screen			

PURGING DATA

STATIC DEPTH TO WATER (feet btoc):	3.60	CASING HEIGHT (feet als):	-0.5	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als):	3.10	WELL SCREEN INTERVAL DEPTH (feet bls):	30-40

WELL DIAMETER (inches):	1"	TUBING DIAMETER (inches):	1/4"	PURGE PUMP TYPE:	PP	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls):	30	BOTTOM DEPTH (feet bls):	40

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

(-) x = Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0 + (0.0098 x 48) + 0.45 = 0.9204 Liters

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	35	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	35	PURGING INITIATED AT:	1115	PURGING ENDED AT:	1135	TOTAL VOLUME PURGED	5.0

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR
1125	2.50	2.50	250	3.63	6.87	24.9	665	11.7	0.11	-165.9	clear
1130	1.25	3.75	250	3.63	6.90	24.9	665	10.9	0.46	-164.3	"
1135	1.25	5.0	250	3.63	6.95	25.0	665	10.0	0.10	-166.7	clear

WELL CAPACITY (Liters Per Foot): 0.75" = 0.076; 1" = 0.15; 1.25" = 0.23; 2" = 0.61; 3" = 1.40; 4" = 2.46; 5" = 3.86; 6" = 5.57; 12" = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	Melissa Bennett /Tt	SAMPLER(S) SIGNATURES:		SAMPLING INITIATED AT:	1140	SAMPLING ENDED AT:	1145

PUMP OR TUBING DEPTH IN WELL (feet):	35	SAMPLE PUMP FLOW RATE (mL per minute):	100	TUBING MATERIAL CODE:	T

FIELD DECONTAMINATION:	N	FIELD-FILTERED:	N	FILTER SIZE:	—	DUPLICATE:	N

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
VOC	3	CG	40mL	HCl	0	<2	8260B	PP

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING APP = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump
EQUIPMENT COES: RFPP = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech / FDEP Groundwater Sampling Sheet

SITE NAME:	CRCA	SITE LOCATION:	Kennedy Space Center, Florida

LOCATION ID:	MW0030	SAMPLE ID: **CRCA-MW0030-058.0-** 20210119 Sample depth (ddd.d) = (bottom of screen - Top depth) - 0.5xbottom of screen	DATE: 1-19-21

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 3.55	CASING HEIGHT (feet als): -0.5	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): 3.05	WELL SCREEN INTERVAL DEPTH (feet bls): 53-63

WELL DIAMETER (inches): 1"	TUBING DIAMETER (inches): 1/4"	PURGE PUMP TYPE: PP	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 53	BOTTOM DEPTH (feet bls): 63

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

(-) x = Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0 + (0.0098 x 71) + 0.45 = 1.1458 Liters

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 58	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 58	PURGING INITIATED AT: 1040	PURGING ENDED AT: 1100	TOTAL VOLUME PURGED 5.0

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR
1050	2.50	2.50	250	3.58	6.80	24.6	1027	0.22	8.7	-145.8	clear
1055	1.25	3.75	250	3.58	6.80	24.7	1033	0.22	7.5	-146.9	1
1100	1.25	5.0	250	3.58	6.80	24.8	1036	0.23	5.1	-139.9	clear

WELL CAPACITY (Liters Per Foot): 0.75" = 0.076; 1" = 0.15; 1.25" = 0.23; 2" = 0.61; 3" = 1.40; 4" = 2.46; 5" = 3.86; 6" = 5.57; 12" = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Melissa Bennett /Tt	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1105	SAMPLING ENDED AT: 1110

PUMP OR TUBING DEPTH IN WELL (feet): 58	SAMPLE PUMP FLOW RATE (mL per minute): 100	TUBING MATERIAL CODE: T

FIELD DECONTAMINATION: (N)	FIELD-FILTERED: (N)	FILTER SIZE:	DUPLICATE: (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
VOC	3	CG	40mL	HCl	0	<2	8260B	PP
MEE	3	CG	10 mL	NA	0			PP

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING APP = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump
EQUIPMENT COES: RFPP = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech / FDEP Groundwater Sampling Sheet

SITE NAME:	CRCA	SITE LOCATION:	Kennedy Space Center, Florida
LOCATION ID:	MW0031	SAMPLE ID: **CRCA-MW0031-058.0-** 20210120 Sample depth (ddd.d) = (bottom of screen - Top depth) - 0.5xbottom of screen	DATE: 1-20-21

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 38.1	CASING HEIGHT (feet als): -0.5	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): 37.61	WELL SCREEN INTERVAL DEPTH (feet bls): 53-63

WELL DIAMETER (inches): 1"	TUBING DIAMETER (inches): 3/16"	PURGE PUMP TYPE: PP	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 53	BOTTOM DEPTH (feet bls): 63

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

(-) x = Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0 + (0.005 x 71) + 0.45 = 0.805 Liters

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 58	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 58	PURGING INITIATED AT: 1145	PURGING ENDED AT: 1210	TOTAL VOLUME PURGED 6.25

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR
1155	2.50	2.50	250	3.90	6.84	26.3	1209	0.35	5.11	-40.2	clear
1200	1.25	3.75	250	3.90	6.84	25.9	1209	0.34	5.15	-38.1	
1205	1.25	5.0	250	3.90	6.84	25.8	1205	0.34	5.09	-37.3	
1210	1.25	6.25	250	3.90	6.84	25.8	1204	0.32	5.03	-36.1	

WELL CAPACITY (Liters Per Foot): 0.75" = 0.076; 1" = 0.15; 1.25" = 0.23; 2" = 0.61; 3" = 1.40; 4" = 2.46; 5" = 3.86; 6" = 5.57; 12" = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Melissa Bennett /Tt	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1215	SAMPLING ENDED AT: 1220

PUMP OR TUBING DEPTH IN WELL (feet): 58	SAMPLE PUMP FLOW RATE (mL per minute): 100	TUBING MATERIAL CODE: HDPE

FIELD DECONTAMINATION: (N)	FIELD-FILTERED: (N)	FILTER SIZE: —	DUPLICATE: (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
VOC	3	CG	40mL	HCl	0	<2	8260B	PP
MEE	3	CG	10 mL	NA	0			PP

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING APP = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump
EQUIPMENT COES: RFPP = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech / FDEP Groundwater Sampling Sheet

SITE NAME:	CRCA	SITE LOCATION:	Kennedy Space Center, Florida
LOCATION ID:	MW0032	SAMPLE ID: **CRCA-MW0032-058.0-** 20210120 Sample depth (ddd.d) = (bottom of screen - Top depth) - 0.5xbottom of screen	DATE: 1-20-21

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 3.06	CASING HEIGHT (feet als): 3.0	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): 0.60		WELL SCREEN INTERVAL DEPTH (feet bls):	53-63
WELL DIAMETER (inches): 1"	TUBING DIAMETER (inches): 1/4"	PURGE PUMP TYPE: PP	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 53	BOTTOM DEPTH (feet bls):	63

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

(-) x = Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0 + (0.0098 x 71) + 0.45 = 1.1458 Liters

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 58	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 58	PURGING INITIATED AT: 1230	PURGING ENDED AT: 1255	TOTAL VOLUME PURGED 6.25		

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR
1240	2.50	2.50	250	3.13	6.14	26.1	1209	0.97	800+	-82.1	milky
1245	1.25	3.75	250	3.25	6.33	26.2	1208	0.51	125	-88.7	murky
1248	0.50	4.25	250	3.32	6.36	26.3	1200	0.40	73.1	-89.2	mostly clear
1250	0.75	5.0	250	3.40	6.36	26.5	1197	0.26	32.6	-89.7	clear
1253	0.75	5.75	250	3.48	6.36	26.5	1199	0.24	30.2	-90.2	clear
1255	0.50	6.25	250	3.50	6.37	26.6	1195	0.23	36.4	-90.3	clear

WELL CAPACITY (Liters Per Foot): 0.75" = 0.076; 1" = 0.15; 1.25" = 0.23; 2" = 0.61; 3" = 1.40; 4" = 2.46; 5" = 3.86; 6" = 5.57; 12" = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Melissa Bennett /Tt	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1300	SAMPLING ENDED AT: 1305
PUMP OR TUBING DEPTH IN WELL (feet): 58	SAMPLE PUMP FLOW RATE (mL per minute): 100	TUBING MATERIAL CODE: Teflon	
FIELD DECONTAMINATION: (N)	FIELD-FILTERED: (N) FILTER SIZE: NA	DUPLICATE: (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
VOC	3	CG	40mL	HCl	0	<2	8260B	PP

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING APP = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump
EQUIPMENT COES: RFPP = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

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COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

1

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

General Information

SITE LOCATION:	KSC- CRCA ,
SITE ADDRESS:	Contractor Road
SAMPLER ID:	CRCA- VMP01- 20210120
SAMPLING DATE:	1-20-21
OPERATOR:	Tetra tech / Melissa Bennett
SHIPPING DATE:	1/13/21
CANISTER SERIAL NO.:	1S.08
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	JAX B-14

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	60°F	-14 mmHg	1001	1HR
STOP		-14 mmHg	1103	

Signature/Title: [signature] / Env. Engineer

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COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

2

General Information

SITE LOCATION:	KSC- CRCA
SITE ADDRESS:	Contractor Road
SAMPLER ID:	CRCA – VMP02-20210120
SAMPLING DATE:	1- 2021
OPERATOR:	Tetra tech / Melissa Bennett
SHIPPING DATE:	1113121
CANISTER SERIAL NO.:	15863
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	JAX-R-056

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	60°F	-30mmHg	1008	1HR
STOP		-13mmHg	1106	1HR

Signature/Title: [signature] / Env. Engineer

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COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

3

General Information

SITE LOCATION:	KSC- CRCA ,
SITE ADDRESS:	Contractor Road
SAMPLER ID:	CRCA- VMP03-20210120
SAMPLING DATE:	1-20-21
OPERATOR:	Tetra tech / Melissa Bennett
SHIPPING DATE:	1/13/21
CANISTER SERIAL NO.:	1S-069
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	0A10-14-059

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	60°F	-30mmHg	1014	1HR
STOP	60°F	-13 mmHg	1115	1HR

Signature/Title: [signature] / Env. Engineer

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COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

4

General Information

SITE LOCATION:	KSC- CRCA ,
SITE ADDRESS:	Contractor Road
SAMPLER ID:	CRCA-UMP04-20210120
SAMPLING DATE:	1-20-21
OPERATOR:	Tetra tech / Melissa Bennett
SHIPPING DATE:	111321
CANISTER SERIAL NO.:	05-070
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	JAV-R-04

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	60°F	-30 mm Hg	1022	1 HR
STOP	60°F	-9 mm Hg	1122	1 HR

Signature/Title: [signature] / Env. Engineer

Environmental Conservation Laboratories, Inc.
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4810 Executive Park Court, Suite 211,Jacksonville, FL 32216
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COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

SYSAIR

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

General Information

SITE LOCATION:	KSC- CRCA ,
SITE ADDRESS:	Contractor Road
SAMPLER ID:	CRCA- SYSAIR-20210120
SAMPLING DATE:	1-20-21
OPERATOR:	Tetra tech / Melissa Bennett
SHIPPING DATE:	1/13/21
CANISTER SERIAL NO.:	13-016
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	10685

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	55°F	-30mm Hg	0900	8HR
STOP	72°F	0mmHg	1703	8HR

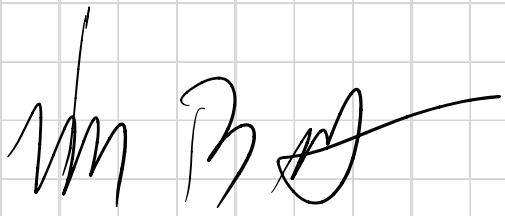
Signature/Title: [signature] / Env. Engineer

April 13, 2021

CRCA WL

Site CRCA
Objective WL Collection
Personnel Melissa Bennett, MB, Tetra tech, Env. Engineer.
PPE Level D
Weather Sunny 70°F

0700 MB to office to pickup summa canisters.
0730 MB at cocoa office going through boxes + labels to locate proper summa canisters. Locate 3 very large boxes and two smaller ones that are needed.
0745 MB reassemble dolly to transport boxes.
0800 MB loaded all boxes into vehicle, however no room for GW bottleware. MB plan to come back for bottles.
0815 MB to NASA to drop off boxes in proper trailers.
0850 MB at AOSB, guards have area closed off due to rocket with fuel at 39a. MB gets allowance to drop off boxes but not to sample.
0900 Canisters dropped in AOSB trailer. MB to CRCA to drop off boxes.
0915 MB at CRCA dropping boxes.
0925 MB to CHP to drop off boxes.
0935 MB at CHP dropping boxes.
0945 MB to CRCA to collect water levels + collect VMP samples.
1000 MB at CRCA.
1011 MB begin uncapping wells
1130 MB begin taking WLs.
1300 MB WL collection complete. Mild heat illness (due to asphalt?) resting in AC + drinking water.
1330 MB still feel lightheaded. Push VMP sampling to tomorrow.
1340 MB offsite



April 14, 2021

CRCA GW

Site	CRCA / CHP
Objective	MW Sampling and AMB air sampling.
Personnel	Melissa Bennett, MB, Tetra tech, Env. Engineer.
PPE	Level D
Weather	Sunny 70°F

0715	MB at cocoa office collecting CRCA bottleware.
0725	MB to NASA (stop for ice)
0745	MB at CHP collecting summa canisters
0753	MB place CHP-AMB01-20210414 (66°F, -29 mmHg, 8-HR)
0757	MB place CHP-AMB02-20210414 (66°F, -30 mmHg, 8-HR)
0759	MB place CHP-AMB03-20210414 (66°F, -30 mmHg, 8-HR)
0810	MB at CRCA collecting summa canister for AMB sample
0817	MB place CRCA-AMB01-20210414 (67°F, -30 mmHg, 8-HR)
0820	MB responding to emails
0850	MB begin collecting equipment for sampling + calibrating.
1030	Calibration complete. mobe to MW31.
1040	Initiate purge at MW31
1120	Stabilized. MB collecting CRCA-MW0031-058.0-20210414 For VOC MEE + Microbe.
1150	MB initiate purge at MW18
1230	MB collect CRCA-MW0018-058.0-20210414
1300	MB begin mobe to MW19
1320	MB begin purge at MW19
1400	MB collect CRCA-MW0019-058.0-20210414
1415	MB place CRCA-VMP01-20210414 (-26mmHg, 84°F)
1416	MB place CRCA-VMP02-20210414 (-30 mmHg, 76°F)
1419	MB place CRCA-VMP03-20210414 (-30 mmHg, 76°F)
1422	MB place CRCA-VMP04-20210414 (-30 mmHg, 78°F)
1430	MB putting away + cleaning GW sample equipment.
1527	MB pickup CRCA-VMP03-20210414
1530	MB pickup CRCA-VMP02-20210414

CRCA GW

April 14, 2021

1531 MB pickup CRCAUMP04-20210414

1532 MB pickup CRCAUMP01-20210414

1540 MB placing summas in respective packages + load car.

1555 MB mobe to CHP to collect air samples.

MB pickup CHP-AMB01-20210414

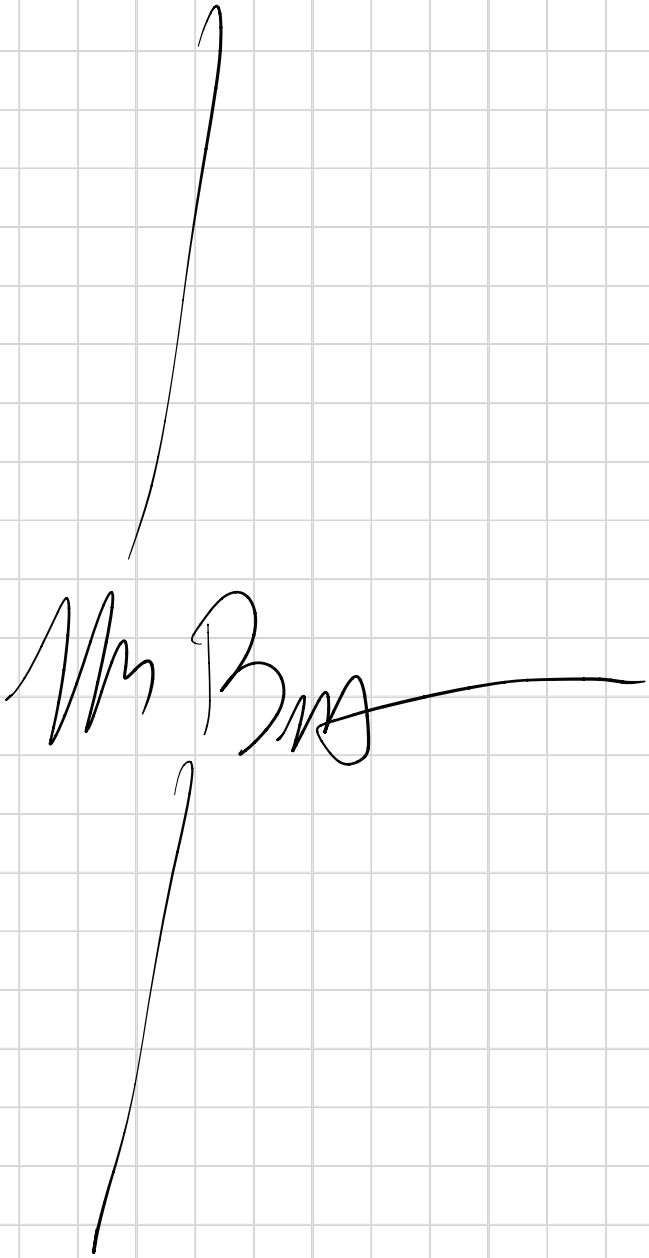
MB pickup CHP-AMB02-20210414

MB pickup CHP-AMB03-20210414

MB mobe to CRCA

1625 MB pickup CRCA-AMB-20210414

1640 MB offsite

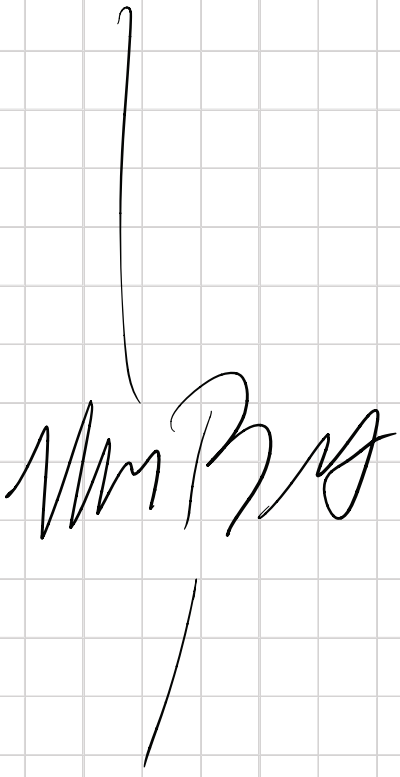


April 15, 2021

CRCA GW

Site	CRCA
Objective	MW Sampling
Personnel	Melissa Bennett, MB, Tetra tech, Env. Engineer.
PPE	Level D
Weather	Sunny 80°F

0800	MB to office to drop off summas (relinquish to Sue Rogers) and prep Microbial Insights samples for shipping. MB also answering emails + performing other various office tasks
1300	Cocoa Meeting
1330	MB to Fedex to drop off MI samples.
1340	MB at Fed Ex dropping off samples.
1400	MB to CRCA to collect final sample
1430	MB at CRCA, gathering equipment + calibrating
1510	MB make to MW32
1530	MB initiate purge at CRCA-MW32
1600	MB collect CRCA-MW0032-058.0-20210415
1610	MB replacing equipment.
1640	MB offsite



Tetra Tech / FDEP Groundwater Sampling Sheet

SITE NAME:	CRCA	SITE LOCATION:	Kennedy Space Center, Florida

LOCATION ID:	MW0018	SAMPLE ID:	CRCA-MW0018-058.0-20210414	DATE:	4-14-21

Sample depth (ddd.d) = (bottom of screen - Top depth) - 0.5xbottom of screen

PURGING DATA

STATIC DEPTH TO WATER (feet btoc):	4.51	CASING HEIGHT (feet als):	-0.5	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als):	0.5	WELL SCREEN INTERVAL DEPTH (feet bls):	53-63

WELL DIAMETER (inches):	1"	TUBING DIAMETER (inches):	1/4"	PURGE PUMP TYPE:	PP	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls):	53	BOTTOM DEPTH (feet bls):	63

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

(-) x = Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0 + (0.0098 x 71) + 0.45 = 1.1458 Liters

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	58	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	58	PURGING INITIATED AT:	1150	PURGING ENDED AT:	1225	TOTAL VOLUME PURGED	8.75

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR
1200	2.50	2.50	250	4.65	7.04	23.5	1309	0.33	9.66	-38.1	clear
1205	1.25	3.75	250	4.65	7.03	23.0	1310	0.21	7.51	-39.5	clear
1210	1.25	5.00	250	4.65	7.03	23.1	1318	0.20	5.07	-39.3	clear
1215	1.25	6.25	250	4.66	7.01	23.4	1321	0.18	7.04	-41.8	clear
1220	1.25	7.50	250	4.66	7.00	23.6	1328	0.17	5.16	-41.8	clear
1225	1.25	8.75	250	4.65	7.00	23.6	1339	0.15	3.13	-41.9	clear

WELL CAPACITY (Liters Per Foot): 0.75" = 0.076; 1" = 0.15; 1.25" = 0.23; 2" = 0.61; 3" = 1.40; 4" = 2.46; 5" = 3.86; 6" = 5.57; 12" = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	Melissa Bennett /Tt	SAMPLER(S) SIGNATURES:		SAMPLING INITIATED AT:	1230	SAMPLING ENDED AT:	1240

PUMP OR TUBING DEPTH IN WELL (feet):	58	SAMPLE PUMP FLOW RATE (mL per minute):	100	TUBING MATERIAL CODE:	HDPE

FIELD DECONTAMINATION:	N	FIELD-FILTERED:	N	FILTER SIZE:	DUPLICATE:	N

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
VOC	3	CG	40mL	HCl	0	<2	8260B	PP
MEE	3	CG	10 mL	NA	0			PP

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING APP = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump
EQUIPMENT COES: RFPP = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech / FDEP Groundwater Sampling Sheet

SITE NAME:	CRCA	SITE LOCATION:	Kennedy Space Center, Florida

LOCATION ID:	MW0019	SAMPLE ID:	**CRCA-MW0019-058.0-** 20210414 Sample depth (ddd.d) = (bottom of screen - Top depth) - 0.5xbottom of screen	DATE:	4-14-21

PURGING DATA

STATIC DEPTH TO WATER (feet btoc):	5.71	CASING HEIGHT (feet als):	-0.5	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als):	0.5	WELL SCREEN INTERVAL DEPTH (feet bls):	53-63

WELL DIAMETER (inches):	1"	TUBING DIAMETER (inches):	1/4"	PURGE PUMP TYPE:	PP	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls):	53	BOTTOM DEPTH (feet bls):	63

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

(-) x = Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0 + (0.0098 x 71) + 0.45 = 1.1458 Liters

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	58	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	58	PURGING INITIATED AT:	1320	PURGING ENDED AT:	1355	TOTAL VOLUME PURGED	8.75

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR
1330	2.50	2.50	250	5.78	6.78	19.0	854	1.99	41.5	-40.3	clear
1335	1.25	3.75	250	5.78	6.79	19.1	861	1.65	29.8	-39.9	clear
1340	1.25	5.00	250	5.71	6.81	19.2	880	1.38	26.7	-39.1	clear
1345	1.25	6.25	250	5.78	6.90	19.2	881	1.19	22.3	-40.9	clear
1350	1.25	7.50	250	5.78	6.91	19.3	880	1.06	19.4	-42.5	clear
1355	1.25	8.75	250	5.78	6.92	19.3	885	1.17	20.3	-42.4	clear

WELL CAPACITY (Liters Per Foot): 0.75" = 0.076; 1" = 0.15; 1.25" = 0.23; 2" = 0.61; 3" = 1.40; 4" = 2.46; 5" = 3.86; 6" = 5.57; 12" = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	Melissa Bennett /Tt	SAMPLER(S) SIGNATURES:		SAMPLING INITIATED AT:	1400	SAMPLING ENDED AT:	1405

PUMP OR TUBING DEPTH IN WELL (feet):	58	SAMPLE PUMP FLOW RATE (mL per minute):	100	TUBING MATERIAL CODE:	HDPE

FIELD DECONTAMINATION:	N	FIELD-FILTERED:	N	FILTER SIZE:		DUPLICATE:	N

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
VOC	3	CG	40mL	HCl	0	<2	8260B	PP
MEE	3	CG	10 mL	NA	0			PP

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING APP = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump
EQUIPMENT COES: RFPP = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech / FDEP Groundwater Sampling Sheet

SITE NAME:	CRCA	SITE LOCATION:	Kennedy Space Center, Florida

LOCATION ID:	MW0031	SAMPLE ID:	**CRCA-MW0031-058.0-** 20210414	DATE:	4-14-21

Sample depth (ddd.d) = (bottom of screen - Top depth) - 0.5xbottom of screen

PURGING DATA

STATIC DEPTH TO WATER (feet btoc):	4.61	CASING HEIGHT (feet als):	-0.5	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als):	0.5	WELL SCREEN INTERVAL DEPTH (feet bls):	53-63

WELL DIAMETER (inches):	1"	TUBING DIAMETER (inches):	3/16"	PURGE PUMP TYPE:	PP	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls):	53	BOTTOM DEPTH (feet bls):	63

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

(-) x = Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0 + (0.005 x 71) + 0.45 = 0.805 Liters

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	58	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	58	PURGING INITIATED AT:	1040	PURGING ENDED AT:	1115	TOTAL VOLUME PURGED	

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR
1050	2.50	2.50	250	4.78	6.57	21.0	881	1.21	39.3	34.7	clear
1055	1.25	3.75	250	4.78	6.61	21.0	899	1.17	25.6	32.1	
1100	1.25	5.00	250	4.78	6.63	21.1	893	1.23	22.1	33.6	
1105	1.25	6.25	250	4.78	6.79	21.1	917	1.13	19.7	34.9	
1110	1.25	7.50	250	4.78	6.79	21.2	901	0.89	12.9	34.1	
1112	0.50	8.00	250	4.78	6.81	21.3	913	0.92	9.31	33.7	
1115	0.75	8.75	250	4.78	6.82	21.3	929	0.93	11.6	32.0	

WELL CAPACITY (Liters Per Foot): 0.75" = 0.076; 1" = 0.15; 1.25" = 0.23; 2" = 0.61; 3" = 1.40; 4" = 2.46; 5" = 3.86; 6" = 5.57; 12" = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
Melissa Bennett /Tt	MBennett	1120	1125

PUMP OR TUBING DEPTH IN WELL (feet):	58	SAMPLE PUMP FLOW RATE (mL per minute):	100	TUBING MATERIAL CODE:	HDPE

FIELD DECONTAMINATION:	N	FIELD-FILTERED:	N	FILTER SIZE:	DUPLICATE:	N

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
VOC	3	CG	40mL	HCl	0	<2	8260B	PP
MEE	3	CG	10 mL	NA	0			PP

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING APP = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump
EQUIPMENT COES: RFPP = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech / FDEP Groundwater Sampling Sheet

SITE NAME:	CRCA	SITE LOCATION:	Kennedy Space Center, Florida
LOCATION ID:	MW0032	SAMPLE ID: **CRCA-MW0032-058.0-** 20210415 Sample depth (ddd.d) = (bottom of screen - Top depth) - 0.5xbottom of screen	DATE: 4-15-21

PURGING DATA

STATIC DEPTH TO WATER (feet btoc):	3.21	CASING HEIGHT (feet als):	3.0	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als):	0.5	WELL SCREEN INTERVAL DEPTH (feet bls):	53-63
WELL DIAMETER (inches):	1"	TUBING DIAMETER (inches):	1/4"	PURGE PUMP TYPE: PP	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 53	BOTTOM DEPTH (feet bls):	63

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

(-) x = Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0 + (0.0098 x 71) + 0.45 = 1.1458 Liters

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	58	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	58	PURGING INITIATED AT:	1530	PURGING ENDED AT:	1555	TOTAL VOLUME PURGED	6.25

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR
1540	2.50	2.50	250	3.31	7.01	22.6	613	2.06	21.6	-19.3	clear
1545	1.25	3.75	250	3.30	7.06	22.2	611	1.00	18.3	-17.1	clear
1550	1.25	5.00	250	3.31	7.08	22.1	607	0.93	16.0	-21.3	clear
1555	1.25	6.25	250	3.31	7.08	22.1	609	0.86	17.1	-20.7	clear

WELL CAPACITY (Liters Per Foot): 0.75" = 0.076; 1" = 0.15; 1.25" = 0.23; 2" = 0.61; 3" = 1.40; 4" = 2.46; 5" = 3.86; 6" = 5.57; 12" = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT:	1600	SAMPLING ENDED AT:	1605
Melissa Bennett /Tt	MnBnA				

PUMP OR TUBING DEPTH IN WELL (feet):	58	SAMPLE PUMP FLOW RATE (mL per minute):	100	TUBING MATERIAL CODE:	HDPE
FIELD DECONTAMINATION:	N	FIELD-FILTERED: N	FILTER SIZE:	DUPLICATE:	N

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
VOC	3	CG	40mL	HCl	0	<2	8260B	PP

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING APP = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump
EQUIPMENT COES: RFPP = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech NUS, Inc.

GROUNDWATER LEVEL MEASUREMENT SHEET

Project Name: NASA - CRCA
Project No.: 112G07637
Location: Kennedy Space Center, Florida
Personnel: Melissa Bennett
Weather Conditions: Sunny
Measuring Device: Heron Skinny Dipper
Tidally Influenced: Yes ___ No __X__
Remarks: —

Well or Piezometer Number	Date	Time	Top of Casing Elevation (feet)*	Screened Interval (feet bls)	Water Level Indicator Reading (feet)*	Thickness of Free Product (feet)*	Groundwater Elevation (feet)*	Comments
MW0001	4-13		6.11	5-15	3.31	None		
MW0002	4-13		6.14	30-35	3.32	None		
MW0003	4-13		6.99	5-15	4.29	None		
MW0004	4-13		6.3	5-15	3.49	None		
MW0005	4-13		6.69	5-15	3.98	None		
MW0005A	4-13		6.55	5-10	3.80	None		
MW0005B	4-13		6.69	12-17	3.94	None		
MW0005C	4-13		6.85	2-7	4.04	None		
MW0006	4-13		6.58	5-15	3.80	None		
MW0007	4-13		6.54	5-15	3.76	None		
MW0008	4-13		7.36	5-15	4.60	None		
MW0009	4-13		6.84	5-15	3.91	None		
MW0010	4-13		6.66	5-15	3.86	None		
MW0011	4-13		7.40	5-10	4.40	None		
MW0012	4-13		7.07	25-30	4.41	None		
MW0013	4-13		7.46	25-30	4.16	None		
MW0014	4-13		6.86	5-10	4.16	None		
MW0015	4-13		6.82	25-30	4.40	None		
MW0016	4-13		6.18	5-10	3.42	None		
MW0017	4-13		6.16	25-30	3.43	None		
MW0018	4-13		7.05	53-63	4.42	None		
MW0019	4-13		7.13	53-63	5.87	None		
MW0020	4-13		7.27	53-63	4.90	None		
MW0021	4-13		7.54	30-40	5.01	None		
MW0022	4-13		6.44	30-40	3.67	None		
MW0023	4-13		6.50	53-63	3.70	None		
MW0024	4-13		6.22	53-63	3.45	None		
MW0025	4-13		6.91	53-63	4.42	None		
MW0026	4-13		4.45	5-15	2.01	None		
MW0027	4-13		4.33	30-40	2.04	None		
MW0028	4-13		4.34	53-63	2.10	None		
MW0029	4-13		4.79	30-40	2.56	None		
MW0030	4-13		4.77	53-63	2.65	None		
MW0031	4-13		6.92	53-63	4.57	None		
MW0032	4-13		4.70	53-63	3.52	None		

* All measurements to the nearest 0.01 foot

Environmental Conservation Laboratories, Inc.
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102-A Woodwinds Industrial Ct, Cary, NC 27511

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COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

General Information

SITE LOCATION:	CRCA KSC NASA
SITE ADDRESS:	
SAMPLER ID:	CRCA-VMP02-20210414
SAMPLING DATE:	4-14-21
OPERATOR:	MB
SHIPPING DATE:	04/08/21
CANISTER SERIAL NO.:	JS-034
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	JAX-R-12

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	76°F	-30mmHg	1416	1HR
STOP	78°F	-4mmHg	1530	1 HR

Signature/Title: MB

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COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

General Information

SITE LOCATION:	CRCA ~~N~~ KSC-NASA
SITE ADDRESS:	
SAMPLER ID:	~~VM~~ CRCA-VMP01-20210414
SAMPLING DATE:	4-14-21
OPERATOR:	M.B.
SHIPPING DATE:	04-08-21
CANISTER SERIAL NO.:	JS-069
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	JAX-R-14

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	84°F	~~30~~ -26 mmHg	1415	1-HR
STOP	86°F	0 mmHg	1532	1-HR

Signature/Title: MBA

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COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

General Information

SITE LOCATION:	CRCA- KSC NASA
SITE ADDRESS:	
SAMPLER ID:	CRCA-VMP03-20210414
SAMPLING DATE:	4-14-21
OPERATOR:	MB
SHIPPING DATE:	04-08-21
CANISTER SERIAL NO.:	JS-14
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	JAX -R- 056

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	76°F	-30 mmHg	1419	1 hr
STOP	76°F	~~0 m~~ -11mmHg	1527	1 hr

Signature/Title: MB

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COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

General Information

SITE LOCATION:	CRCA- ICSC NASA
SITE ADDRESS:	
SAMPLER ID:	CRCA VMP04- 20210414
SAMPLING DATE:	4-14-21
OPERATOR:	MB
SHIPPING DATE:	04-08-21
CANISTER SERIAL NO.:	JS-060
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	JAX-R-59

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	78°F	-30 mmHg	1422	1HR
STOP	78°F	-4 mmHg	1531	1HR

Signature/Title: MB

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COMPENDIUM METHOD TO-14A/COMPENDIUM METHOD TO-15 CANISTER SAMPLING FIELD TEST DATA SHEET

General Sampling Information should be recorded for each SUMMA canister used to collect samples.

General Information

SITE LOCATION:	CRCA- KSC- ~~ERCA~~ NASA
SITE ADDRESS:	
SAMPLER ID:	CRCA- AMB01- 20210414
SAMPLING DATE:	4-14-21
OPERATOR:	M.B.
SHIPPING DATE:	04-08-21
CANISTER SERIAL NO.:	JS-062
CANISTER LEAK CHECK DATE:	Laboratory information on file.
REGULATOR SERIAL NO.:	6667

Sampling Information

	Temperature	Canister Pressure	Local Time	Regulator Flow Rate
START	67°F	-30	0817	8hr
STOP	78°F	D	1628	8hr

Signature/Title: MBeta

07/26/21

CRCA

Personnel : Chuck Sorden (CS) Geologist T+
Weather : Sunny 81°F
PPE : Level D
Objective : Complete CRCA Performance Monitoring

0730	CS on site; Calibrate / Daily prep		
0810	CRCA-AMB01 Deployed		
0905	Purge CRCA-MW0002		
0920	Purge Complete		
0925	Sample Collected	CRCA-MW0002-032.5-20210726	8260D TCL
0940	Purge CRCA-MW0018		
0955	Purge Complete		
1000	Sample Collected	CRCA-MW0018-058.0-20210726	8260D TCL/MEE/Bio
1015	Purge CRCA-MW0013		
1030	Deploy CRCA-VMP-01		
1035	Purge Complete		
1040	Sample Collected	CRCA-MW0013-027.5-20210726	8260D TCL
1055	Purge CRCA-MW0012		
1110	Purge Complete		
1115	Sample Collected	CRCA-MW0012-027.5-20210726	8260D TCL
1130	VMP-01 pulled 3" HG		
1105	VMP03 Deployed		
1140	VMP02 Deployed		
1205	Purge CRCA-MW0015		
1220	Purging Complete		
1225	Sample Collected	CRCA-MW0015-027.5-20210726	8260D TCL
1240	VMP02 pulled		
1245	VMP04 Deployed		
1255	Purge CRCA-MW0031		
1310	Purge Complete		
1315	Sample Collected	CRCA-MW0031-058.0-20210726	8260D TCL/MEE/Bio
1330	CS Checked on VMP04; tubing detached from VMP; Presume staff Buyout w/ cart		
1340	Purging CRCA-MW0019		
1345	VMP04 Pulled		
1355	Purge Complete	CRCA-MW0019-058.0-20210726	8260D TCL/MEE/Bio
1400	Sample Collected		
	- Phase II		
1525	Phase II terminated; AMB01 Pulled		
1630	CS offsite		

07/30/2021 CRCA 112G08570

Personnel : Chuck Sarder (CS) Geologist Jr

Weather : Sunny 89°F

PPE : Level D

Objective : Complete Quarterly Sampling

1100	CS on site; Calibrating / Set up		
1155	Purging CRCA-MW0032		
1310	Purging Complete		
1315	Sample Collected	CRCA-MW0032-058.0-20210730	8260D TCL
1325	Purging CRCA-MW0027		
1340	Purging Complete		
1345	Sample Collected	CRCA-MW0027-035.0-20210730	8260D TCL
1350	Purging CRCA-MW0028		
1405	Purging Complete		
1410	Sample Collected	CRCA-MW0028-058.0-20210730	8260D TCL
1420	Purging CRCA-MW0029		
1435	Purging Complete		
1440	Sample Collected	CRCA-MW0029-035.0-20210730	8260D TCL
1445	Purging CRCA-MW0030		
1500	Purging Complete		
1505	Sample Collected	CRCA-MW0030-058.0-20210730	8260D TCL
1525	Samples delivered to ENCO Courier; CS offsite		

Tetra Tech NUS, Inc.

GROUNDWATER LEVEL MEASUREMENT SHEET

Project Name: NASA - CRCA
Project No.: 112G08970
Location: Kennedy Space Center, Florida
Personnel: Chuck Sorden
Weather Conditions: Sunny 80 degrees F
Measuring Device: Heron Skinny Dipper
Tidally Influenced: Yes ___ No __X__
Remarks:

Well or Piezometer Number	Date	Time	Top of Casing Elevation (feet)*	Screened Interval (feet bls)	Water Level Indicator Reading (feet)*	Thickness of Free Product (feet)*	Groundwater Elevation (feet)*	Comments
MW0001	8/2/2021	913	6.11	5-15	1.84	None		
MW0002	8/2/2021	914	6.14	30-35	1.83	None		
MW0003	8/2/2021	915	6.99	5-15	2.87	None		
MW0004	8/2/2021	912	6.3	5-15	2.07	None		
MW0005	8/2/2021	907	6.69	5-15	2.57	None		
MW0005A	8/2/2021	909	6.55	5-10	2.45	None		
MW0005B	8/2/2021	906	6.69	12-17	2.51	None		
MW0005C	8/2/2021	908	6.85	2-7	2.36	None		
MW0006	8/2/2021	923	6.58	5-15	2.28	None		
MW0007	8/2/2021	928	6.54	5-15	2.33	None		
MW0008	8/2/2021	924	7.36	5-15	3.11	None		
MW0009	8/2/2021	922	6.84	5-15	2.44	None		
MW0010	8/2/2021	901	6.66	5-15	2.98	None		
MW0011	8/2/2021	919	7.40	5-10	3.06	None		
MW0012	8/2/2021	920	7.07	25-30	3.01	None		
MW0013	8/2/2021	916	7.46	25-30	3.53	None		
MW0014	8/2/2021	935	6.86	5-10	2.59	None		
MW0015	8/2/2021	936	6.82	25-30	2.6	None		
MW0016	8/2/2021	930	6.18	5-10	1.91	None		
MW0017	8/2/2021	931	6.16	25-30	1.86	None		
MW0018	8/2/2021	914	7.05	53-63	2.93	None		
MW0019	8/2/2021	954	7.13	53-63	3.2	None		
MW0020	8/2/2021	949	7.27	53-63	3.44	None		
MW0021	8/2/2021	948	7.54	30-40	3.67	None		
MW0022	8/2/2021	951	6.44	30-40	2.26	None		
MW0023	8/2/2021	950	6.50	53-63	2.33	None		
MW0024	8/2/2021	932	6.22	53-63	1.88	None		
MW0025	8/2/2021	935	6.91	53-63	2.8	None		
MW0026	8/2/2021	940	4.45	5-15	0.45	None		
MW0027	8/2/2021	941	4.33	30-40	0.59	None		
MW0028	8/2/2021	943	4.34	53-63	0.71	None		
MW0029	8/2/2021	944	4.79	30-40	1.14	None		
MW0030	8/2/2021	945	4.77	53-63	1.22	None		
MW0031	8/2/2021	938		53-63	3.12	None		
MW0032	8/2/2021	1008	4.70	53-63	1.61	None		

* All measurements to the nearest 0.01 foot

SITE NAME: Component Refurbishment & Chemical Analysis Facility (CRCA)	SITE LOCATION: Kennedy Space Center (KSC), Florida	
LOCATION ID: MW0002	SAMPLE ID: **CRCA-MW0002-032.5-20210726** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **07/26/2021**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 3.32	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 30 to 35

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: Peristaltic Pump	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 30	BOTTOM DEPTH (feet bls): 35

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters.

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.73 Liters. (0.005 x 45) + 0.475 = 0.71

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 32.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 32.5	PURGING INITIATED AT: 0905	PURGING ENDED AT: 0920	TOTAL VOLUME PURGED (Liters): 3.0

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
0915	2.0	2.0	200	3.65	6.54	27.4	1017	0.25	7.87	33.5	Yellow
0917	0.4	2.4	200	3.65	6.54	27.4	1020	0.25	5.81	30.7	Yellow
0920	0.6	3.0	200	3.65	6.54	27.4	1016	0.26	5.09	27.9	Yellow
0925	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Chuck Sorden/Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 0925	SAMPLING ENDED AT: 0930

PUMP OR TUBING DEPTH IN WELL (feet): 32.5	SAMPLE PUMP: FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: T

FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 ml	HCl	None	<2	8260D TCL	PP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

SITE NAME: Component Refurbishment & Chemical Analysis Facility (CRCA)	SITE LOCATION: Kennedy Space Center (KSC), Florida	
LOCATION ID: MW0012	SAMPLE ID: **CRCA-MW0012-027.5-20210726** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **07/26/2021**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 4.38	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 25 to 30

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: Peristaltic Pump	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 25	BOTTOM DEPTH (feet bls): 30

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters.

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.68 Liters. (0.005 x 40) + 0.475 = 0.68

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 27.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 27.5	PURGING INITIATED AT: 1055	PURGING ENDED AT: 1110	TOTAL VOLUME PURGED (Liters): 3.0

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1105	3.0	3.0	200	4.52	6.50	27.7	1036	0.15	9.76	3.4	Yellow
1107	0.4	3.4	200	4.52	6.50	27.8	1042	0.13	7.72	3.0	Yellow
1110	0.6	4.0	200	4.52	6.51	27.8	1050	0.12	6.65	2.7	Yellow
1115	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Chuck Sorden/Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1115	SAMPLING ENDED AT: 1120

PUMP OR TUBING DEPTH IN WELL (feet): 27.5	SAMPLE PUMP: FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: T

FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 mL	HCl	None	<2	8260D TCL	PP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

SITE NAME: Component Refurbishment & Chemical Analysis Facility (CRCA)	SITE LOCATION: Kennedy Space Center (KSC), Florida	
LOCATION ID: MW0013	SAMPLE ID: **CRCA-MW0013-027.5-20210726** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **07/26/2021**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 4.87	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 25 to 30

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: Peristaltic Pump	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 25	BOTTOM DEPTH (feet bls): 30

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters.

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.68 Liters. (0.005 x 40) + 0.475 = 0.68

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 27.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 27.5	PURGING INITIATED AT: 1015	PURGING ENDED AT: 1035	TOTAL VOLUME PURGED (Liters): 4.0

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1030	3.0	3.0	200	5.17	6.47	23.0	1061	0.14	5.81	-0.6	Clear
1032	0.4	3.4	200	5.17	6.47	23.1	1061	0.14	4.60	-1.1	Clear
1035	0.6	4.0	200	5.17	6.47	23.0	1061	0.14	4.34	-3.4	Clear
1040	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Chuck Sorden/Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1040	SAMPLING ENDED AT: 1045

PUMP OR TUBING DEPTH IN WELL (feet): 27.5	SAMPLE PUMP: FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: T

FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 mL	HCl	None	<2	8260D TCL	PP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

SITE NAME: Component Refurbishment & Chemical Analysis Facility (CRCA)	SITE LOCATION: Kennedy Space Center (KSC), Florida	
LOCATION ID: MW0015	SAMPLE ID: **CRCA-MW0015-027.5-20210726** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **07/26/2021**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 4.40	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 25 to 30

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: Peristaltic Pump	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 25	BOTTOM DEPTH (feet bls): 30

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters.

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.68 Liters. (0.005 x 40) + 0.475 = 0.68

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 27.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 27.5	PURGING INITIATED AT: 1205	PURGING ENDED AT: 1220	TOTAL VOLUME PURGED (Liters): 3.0

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1215	2.0	2.0	200	4.53	7.06	27.8	774	0.18	1.42	93.1	Yellow
1217	0.4	3.4	200	4.53	7.06	27.9	774	0.17	1.19	90.9	Yellow
1220	0.6	4.0	200	4.53	7.07	27.9	775	0.17	1.26	89.8	Yellow
1225	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Chuck Sorden/Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1225	SAMPLING ENDED AT: 1230

PUMP OR TUBING DEPTH IN WELL (feet): 27.5	SAMPLE PUMP: FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: T

FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 mL	HCl	None	<2	8260D TCL	PP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

SITE NAME: Component Refurbishment & Chemical Analysis Facility (CRCA)	SITE LOCATION: Kennedy Space Center (KSC), Florida	
LOCATION ID: MW0018	SAMPLE ID: **CRCA-MW0018-058.0-20210726** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **07/26/2021**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 4.40	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 53 to 63

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: Peristaltic Pump	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 53	BOTTOM DEPTH (feet bls): 63

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters.

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.71 Liters. (0.005 x 45) + 0.475 = 0.71

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 58	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 58	PURGING INITIATED AT: 0940	PURGING ENDED AT: 0955	TOTAL VOLUME PURGED (Liters): 3.0

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
0950	2.0	2.0	200	4.45	7.01	28.3	1312	0.16	3.17	-53.3	Clear
0952	0.4	2.4	200	4.45	7.02	28.3	1315	0.15	3.17	-54.1	Clear
0955	0.6	3.0	200	4.45	7.02	28.2	1313	0.16	2.29	-55.3	Clear
1000	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Chuck Sorden/Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1000	SAMPLING ENDED AT: 1010

PUMP OR TUBING DEPTH IN WELL (feet): 58	SAMPLE PUMP: FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: T

FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 mL	HCl	None	<2	8260D TCL	PP
2	3	CG	10 mL	None	None	See above	RSK 175 MEE	PP
3	1	PE	1 L	None	None	See Above	DHC / VC Reductase	PP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

SITE NAME: Component Refurbishment & Chemical Analysis Facility (CRCA)	SITE LOCATION: Kennedy Space Center (KSC), Florida	
LOCATION ID: MW0019	SAMPLE ID: **CRCA-MW0019-058.0-20210726** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **07/26/2021**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 4.80	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 53 to 63	
WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: Peristaltic Pump	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 53	BOTTOM DEPTH (feet bls): 63

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters.

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.84 Liters. (0.005 x 73) + 0.475 = 0.84

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 58	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 58	PURGING INITIATED AT: 1340	PURGING ENDED AT: 1355	TOTAL VOLUME PURGED (Liters): 3.0

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1350	2.0	2.0	200	5.70	6.95	22.8	803	0.13	18.9	-64.5	Clear
1352	0.4	2.4	200	5.70	6.96	22.8	803	0.12	18.5	-62.0	Clear
1355	0.6	3.0	200	5.70	6.97	22.8	803	0.14	18.0	-60.9	Clear
1400	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Chuck Sorden/Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1400	SAMPLING ENDED AT: 1410
PUMP OR TUBING DEPTH IN WELL (feet): 58	SAMPLE PUMP: FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: T	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 mL	HCl	None	<2	8260D TCL	PP
2	3	CG	10 mL	None	None	See above	RSK 175 MEE	PP
3	1	PE	1 L	None	None	See Above	DHC / VC Reductase	PP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

SITE NAME: Component Refurbishment & Chemical Analysis Facility (CRCA)	SITE LOCATION: Kennedy Space Center (KSC), Florida	
LOCATION ID: MW0027	SAMPLE ID: **CRCA-MW0027-035.0-20210730** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **07/30/2021**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 0.95	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 30 to 40

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): 1/4	PURGE PUMP TYPE OR BAILER: Peristaltic Pump	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 30	BOTTOM DEPTH (feet bls): 40

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters.

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

.0.97 Liters. (0.0098 x 50) + 0.475 = 0.97

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 35	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 35	PURGING INITIATED AT: 1325	PURGING ENDED AT: 11340	TOTAL VOLUME PURGED (Liters): 3.75

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1335	2.0	2.0	200	1.0	7.66	26.8	2872	0.10	16.2	-104.4	Clear
1337	0.4	2.4	200	1.0	7.67	26.7	2863	0.08	13.7	-105.6	Clear
1340	0.6	3.0	200	1.0	7.67	26.6	2851	0.06	11.9	-106.1	Clear
1345	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Chuck Sorden/Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1345	SAMPLING ENDED AT: 1350

PUMP OR TUBING DEPTH IN WELL (feet): 35	SAMPLE PUMP: FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: T

FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 mL	HCl	None	<2	8260D TCL	PP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

SITE NAME: Component Refurbishment & Chemical Analysis Facility (CRCA)	SITE LOCATION: Kennedy Space Center (KSC), Florida	
LOCATION ID: MW0028	SAMPLE ID: **CRCA-MW0028-058.0-20210730** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **07/30/2021**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 1.02	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 53 to 63

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): 1/4	PURGE PUMP TYPE OR BAILER: Peristaltic Pump	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 53	BOTTOM DEPTH (feet bls): 63

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters.

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.84 Liters. (0.0005 x 73) + 0.475 = 0.84

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 58	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 58	PURGING INITIATED AT: 1350	PURGING ENDED AT: 1405	TOTAL VOLUME PURGED (Liters): 3.0

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1400	2.0	2.0	200	1.07	6.96	26.8	825	0.04	2.49	-36.1	Clear
1402	0.4	2.4	200	1.07	6.96	26.8	827	0.04	1.89	-36.4	Clear
1405	0.6	3.0	200	1.07	6.97	26.8	825	0.04	1.22	-36.1	Clear
1410	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Chuck Sorden/Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1410	SAMPLING ENDED AT: 1415

PUMP OR TUBING DEPTH IN WELL (feet): 58	SAMPLE PUMP: FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: HDPE

FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 mL	HCl	None	<2	8260D TCL	PP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

SITE NAME: Component Refurbishment & Chemical Analysis Facility (CRCA)	SITE LOCATION: Kennedy Space Center (KSC), Florida	
LOCATION ID: MW0029	SAMPLE ID: **CRCA-MW0029-035.0-20210730** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **07/30/2021**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 1.50	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 30 to 40

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): 1/4	PURGE PUMP TYPE OR BAILER: Peristaltic Pump	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 30	BOTTOM DEPTH (feet bls): 40

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters.

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

.0.73 Liters. (0.005 x 50) + 0.475 = 0.73

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 35	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 35	PURGING INITIATED AT: 1420	PURGING ENDED AT: 1435	TOTAL VOLUME PURGED (Liters): 3.0

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1430	2.0	2.0	200	1.59	7.09	26.4	520	0.13	1.66	-47.4	Clear
1432	0.4	2.4	200	1.59	7.08	26.5	520	0.11	0.89	-478	Clear
1435	0.6	3.0	200	1?59	7.08	26.6	523	0.11	0.67	-48.1	Clear
1440	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Chuck Sorden/Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1440	SAMPLING ENDED AT: 1445

PUMP OR TUBING DEPTH IN WELL (feet): 35	SAMPLE PUMP: FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: T

FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 mL	HCl	None	<2	8260D TCL	PP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

SITE NAME: Component Refurbishment & Chemical Analysis Facility (CRCA)	SITE LOCATION: Kennedy Space Center (KSC), Florida	
LOCATION ID: MW0030	SAMPLE ID: **CRCA-MW0030-058.0-20210730** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **07/30/2021**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 1.59	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 53 to 63

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): 1/4	PURGE PUMP TYPE OR BAILER: Peristaltic Pump	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 53	BOTTOM DEPTH (feet bls): 63

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters.

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

1.19 Liters. (0.0098 x 73) + 0.475 = 1.19

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 58	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 58	PURGING INITIATED AT: 1445	PURGING ENDED AT: 1500	TOTAL VOLUME PURGED (Liters): 3.0

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1455	2.5	2.5	250	1.61	6.99	26.9	877	0.44	3.36	-45.1	Clear
1457	0.5	3.5	250	1.61	6.99	27.0	880	0.42	2.71	-44.9	Clear
1500	0.75	3.75	250	1.61	6.99	27.0	878	0.42	2.35	-44.7	Clear
1505	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Chuck Sorden/Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1505	SAMPLING ENDED AT: 1510

PUMP OR TUBING DEPTH IN WELL (feet): 58	SAMPLE PUMP: FLOW RATE (mL per minute): 250	TUBING MATERIAL CODE: HDPE

FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 mL	HCl	None	<2	8260D TCL	PP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

SITE NAME: Component Refurbishment & Chemical Analysis Facility (CRCA)	SITE LOCATION: Kennedy Space Center (KSC), Florida	
LOCATION ID: MW0031	SAMPLE ID: **CRCA-MW0031-058.0-20210726** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **07/26/2021**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 4.58	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 53 to 63	
WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: Peristaltic Pump	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 53	BOTTOM DEPTH (feet bls): 63

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters.

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.84 Liters. (0.005 x 73) + 0.475 = 0.84

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 58	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 58	PURGING INITIATED AT: 1255	PURGING ENDED AT: 1310	TOTAL VOLUME PURGED (Liters): 3.0

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1305	2.0	2.0	200	4.58	6.91	26.5	899	0.04	2.24	-23.8	Clear
1307	0.4	2.4	200	4.58	6.93	26.6	900	0.04	2.11	-22.6	Clear
1310	0.6	3.0	200	4.58	6.93	26.7	901	0.04	1.88	-23.0	Clear
1315	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Chuck Sorden/Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1315	SAMPLING ENDED AT: 1325
PUMP OR TUBING DEPTH IN WELL (feet): 58	SAMPLE PUMP: FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: T	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 mL	HCl	None	<2	8260D TCL	PP
2	3	CG	10 mL	None	None	See above	RSK 175 MEE	PP
3	1	PE	1 L	None	None	See Above	DHC / VC Reductase	PP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

SITE NAME: Component Refurbishment & Chemical Analysis Facility (CRCA)	SITE LOCATION: Kennedy Space Center (KSC), Florida	
LOCATION ID: MW0032	SAMPLE ID: **CRCA-MW0032-058.0-20210730** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **07/30/2021**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 1.75	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 53 to 63

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): 1/4	PURGE PUMP TYPE OR BAILER: Peristaltic Pump	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 53	BOTTOM DEPTH (feet bls): 63

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters.

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.84 Liters. (0.0098 x 73) + 0.475 = 1.19

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 58	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 58	PURGING INITIATED AT: 1155	PURGING ENDED AT: 1310	TOTAL VOLUME PURGED (Liters): 3.75

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1205	2.5	2.5	250	2.34	6.87	24.9	2225	0.08	Overrange	-10.5	Clear
1225	2.0	3.5	100	2.20	6.89	25.4	2373	0.10	105.9	-36.2	Clear
1245	2.0	5.5	100	2.20	6.90	25.5	2406	0.06	56.9	-41.9	Clear
1305	2.0	7.5	100	2.20	6.90	25.2	2406	0.09	12.1	-45.0	Clear
1307	0.2	7.7	100	2.20	6.90	25.4	2413	0.10	11.3	-44.9	Clear
1310	0.3	8.0	100	2.20	6.90	25.2	2406	0.11	12.2	-45.1	Clear
1315	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Chuck Sorden/Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1315	SAMPLING ENDED AT: 1320

PUMP OR TUBING DEPTH IN WELL (feet): 58	SAMPLE PUMP: FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: T

FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 mL	HCl	None	<2	8260D TCL	PP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)